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1968  
32nd Edition



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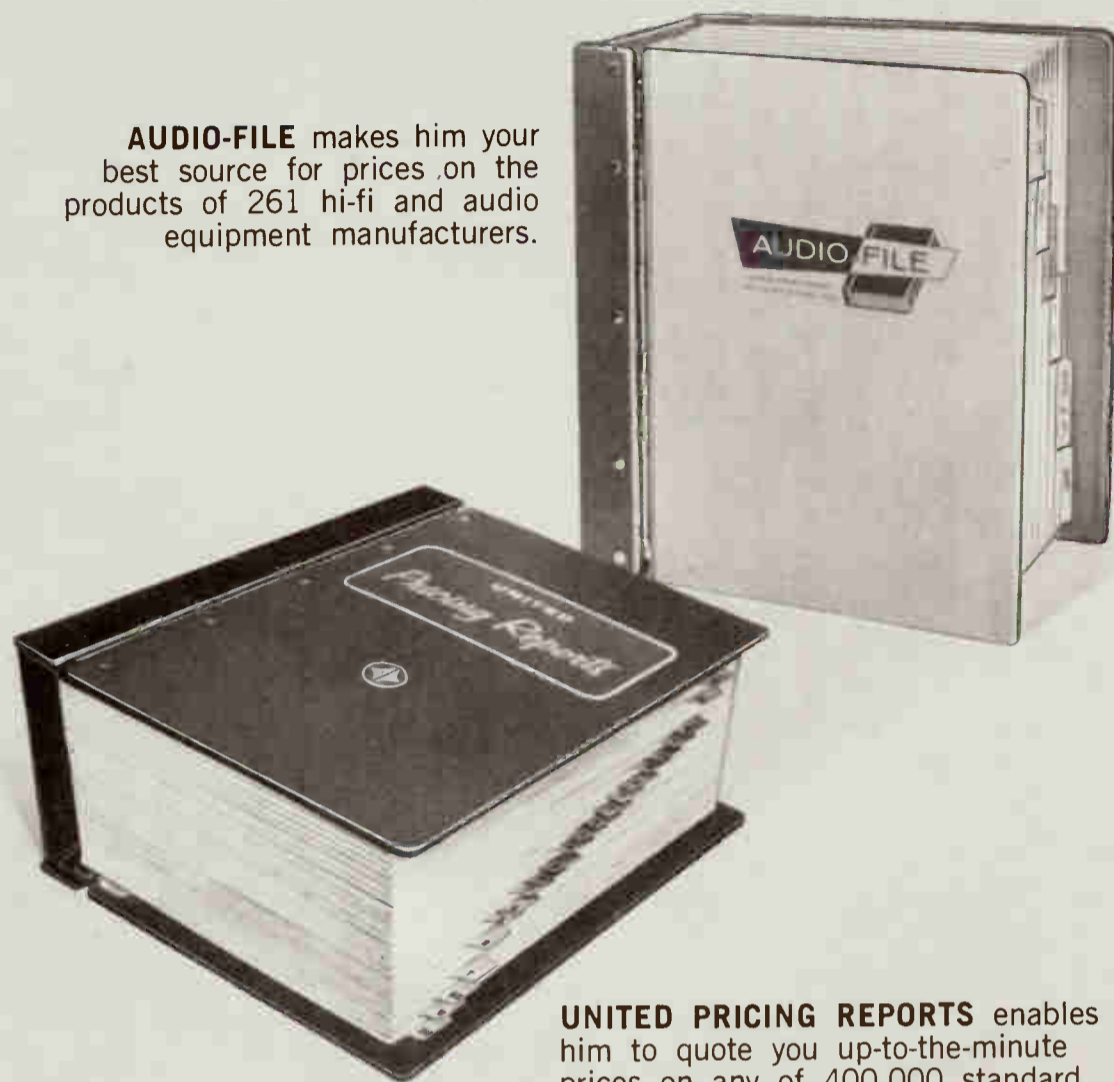
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1968

32nd EDITION

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# THE RADIO ELECTRONIC MASTER

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32<sup>nd</sup> EDITION

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# GUIDE TO PRODUCT SECTIONS

As publishers of The Radio-Electronic MASTER, we take great pride in the fact that this publication has reflected the progress and growth of the electronic industry for more than 30 years.

The 33 Product Sections listed below broadly categorize related electronic products and services so that you can quickly compare similar items within the sections. However, to locate specific products, always refer to the General Index. NOTE: Catalog pages are arranged alphabetically by manufacturers' names within each section.

<b>Sec. 1200</b> Pages 21 thru 37	Antennas & Accessories	<b>Sec. 2900</b> Pages 858 thru 945	Instruments (Electrical Measuring & Test)
<b>Sec. 1300</b> Pages 38 thru 75	Audio: High Fidelity Tuners, Amplifiers, Sound Systems, Intercoms, Kits	<b>Sec. 3100</b> Pages 946 thru 951	Insulators, Insulating Materials & Parts
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<b>Sec. 1340</b> Pages 126 thru 153	Audio: Recording & Playback Equipment, Accessories	<b>Sec. 3500</b> Pages 954 thru 957	Motors, Rotating Components, Accessories
<b>Sec. 1400</b> Pages 154 thru 259	Cabinets, Chassis, Racks, Boxes, Containers, etc.	<b>Sec. 3700</b> Pages 958 thru 967	Photoelectric Equipment & Components
<b>Sec. 1500</b> Pages 260 thru 448	Capacitors (All Types)	<b>Sec. 3900</b> Pages 968 thru 993	Pilot & Signal Lamps, Lights, Readouts, Accessories
<b>Sec. 1600</b> Pages 449 thru 456	Chemicals (Adhesives, Cleaners, Coatings, Paints, Varnishes, Lubricants)	<b>Sec. 4000</b> Pages 994 thru 1035	Power Supplies, Converters, Inverters, Vibrators, Batteries, Flashlights, etc.
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# BT BLONDER-TONGUE

## WORLD'S FIRST ALL-CHANNEL TV PRODUCT LINE

### ALL CHANNEL UHF/VHF AMPLIFIERS



**U/VAMP-2 WORLD'S FIRST MAST-MOUNTED UHF/VHF AMPLIFIER** The world's first channel 2 to 83 amplifier. Mounts at antenna to achieve optimum signal-to-noise ratio. Unique two transistor circuit provides power to turn fuzzy pictures into sharp, clear ones, and handle strong local TV signals without overloading. Built-in FM filter reduces overload caused by local FM stations. Remote AC power supply sends AC power up to the mast mounted amplifier on the same downlead that delivers the signal to the set. Stripless 300 ohm screws. Rugged weather-protected cast aluminum amplifier housing. Other U/Vamp-2 features: separate antenna inputs for UHF and VHF allow the use of the best antenna for each band. Built-in low-loss UHF/VHF splitter which means that no additional unit is required to separate the signals at the TV set or UHF converter antenna terminals. **Net \$35.25.**

**Coloramp U/V** Same as U/Vamp-2 except that it has a combined UHF/VHF input designed for use with single 300 ohm downlead with all-channel antennas like the Blonder-Tongue Color Ranger/U-Ranger combination. **Net \$30.00.**

**DA4-UV INDOOR UHF/VHF AMPLIFIER.** Powerful amplified divider features Blonder-Tongue's patent-applied-for I.C.E.F. circuit (Inductive Coupled Emitter Feedback) which delivers the maximum dynamic range possible from the silicon overlay type power transistor used. Excellent signal handling capability make it the best choice where there's a combination of very strong local signals and weak fringe signals. 300-ohm input, 300-ohm outputs for 4 sets. **Net \$37.17.**



**VU-ALL 2, WORLD'S FIRST INDOOR UHF/VHF AMPLIFIER** installs easily anywhere in the home. Unique two-transistor circuit design achieves excellent gain, low noise figure for superior reception on up to two TV sets. **Net \$26.85.**



Patent Pending

### ALL-CHANNEL ACCESSORIES

**300-OHM, 2-WAY UHF/VHF/FM COUPLER, TV-2** — Compact, economy indoor coupler for connecting 2 sets to single twin-lead cable. For strong signal areas only. **Net \$1.30.**

**DELUXE, 300-OHM, 2-WAY, UHF/VHF/FM COUPLER, A-102 U/V** — Weatherproof coupler for connecting 2 sets to single twin-lead cable, or coupling 2 antennas together. High isolation between sets with extremely low insertion loss. Backmatched. **Net \$2.20.**

**300-OHM 4-WAY, UHF/VHF/FM COUPLER, A-104 U/V** — Similar to A-102 U/V, but for connecting 4 sets to single twin-lead cable. (An A-102 U/V and 2 A-104 U/V's can be used together to provide 8-set operation). **Net \$3.35.**

**75-OHM 2-WAY, INDOOR UHF/VHF/FM COUPLER, MDC-2 VU** — Professional-quality. Connects single coaxial cables from 2 sets. May also be used as antenna combiner with baluns and coaxial cable. High isolation on VHF and UHF with very low insertion loss. **Net \$15.55.**

**75-OHM, 4-WAY INDOOR UHF/VHF/FM COUPLER, MDC-4VU** Professional quality. Similar to MDC-2VU except has (4) 74-ohm outputs. 8db maximum insertion loss. BTU-591 male connectors supplied. **Net \$18.00.**

**300-OHM HIGH-LOW VHF COMBINER/SPLITTER, A-105** — Weatherproof. Couples hi and lo band VHF antennas to single downlead. **Net \$4.10.**

**UHF/VHF COMBINER/SPLITTER, UV-C/S** — Indoor unit provides separate UHF and VHF outs from single 300-ohm cable carrying both signals, for connection to converter or all-channel TV set with separate UHF and VHF inputs. Low loss, high isolation. **Net \$2.25.**

**DELUXE UHF/VHF COMBINER/SPLITTER, A-107** — Weatherproof unit combines the outputs of separate UHF and VHF antennas to feed single 300-ohm downlead. Also provides separate UHF and VHF outputs from single cable carrying both types of signals. Low loss, high isolation. **Net \$3.60.**

**UHF/VHF/FM COMBINER/SPLITTER, UVF-C/S** — Weatherproof. Connects separate UHF, VHF, and FM antennas to feed single 300-ohm downlead. Also provides separate UHF, VHF and FM outputs from single cable carrying all 3 signals. Low loss, high isolation. **Net \$3.75.**

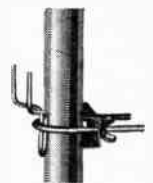
**DELUXE UHF/VHF/FM COMBINER/SPLITTER, UVF-1** — Weatherproof. Features extremely low loss. Provides separate UHF, VHF, and FM outputs from a single cable carrying all three types of signal and also enables a single downlead to be fed from separate UHF, VHF and FM antennas. Excellent isolation between UHF, VHF and FM sections. **Net \$9.00.**  
**JIFFY-MOUNT** — Easily installed, heavy-duty mast-mount for Blonder-Tongue combiner/splitters, couplers, baluns, etc. Accommodates both small (A-102 U/V etc.) and large (UVF-1, etc.) size cases. For masts of up to 1 1/2" O.D. **Net \$4.45.**

**UHF/VHF SPLITTER, XFMR, CO-MATCH II** — For use with separate UHF and VHF antennas where 75 ohm coax is used. Performs as a combination matching transformer and UHF/VHF splitter at set. Weatherproof. BTF connector with male connector supplies. Accepts 75-ohm coax at its input and provides separate 300 ohm U and V outputs at terminal of the all-channel set. **Net \$5.60.**

**UHF/VHF/FM MATCHING TRANSFORMER, MT-2B3** — High-quality indoor/outdoor network. Matches 300- to 75-ohm or 75- to 300-ohm impedance. Ideal for matching all-band antennas to coaxial downlead. Can also be used to match 300-ohm set impedance to 75-ohm downlead. Mast-mounting hardware and male connector supplied. **Net \$4.75.**

**UHF/VHF/FM INDOOR MATCHING TRANSFORMER, CABLEMATCH U/V** — Matches 75- to 300-ohm impedance. Especially suited for matching TV or FM sets inputs to a coax distribution system. Male connector supplied. **Net \$3.20.**

**UHF/VHF 300 OHM OUTLET PLATE, TF-331** — All-channel, COLOR APPROVED outlet fits standard AC receptacles. Designed to allow 300 ohm distribution systems to terminate at wall outlets for easy connect-disconnect functions, 300 ohm stripless screw output. **Net \$2.10.**



# BT BLONDER-TONGUE

## IN-THE-HOME VHF/FM SIGNAL AMPLIFIERS

### TRANSISTOR 4 SET TV/FM AMPLIFIER. HOMER HVB-3P (for use with 75-ohm coax) HOMER PS4-300

(for use with 300-ohm twinlead)

The Homers, Blonder-Tongue's newest amplified dividers feature B-T's patent-applied-for I.C.E.F. (Inductive Coupled Emitter Feedback) which delivers the maximum dynamic range possible from the low noise silicon transistor used. Extremely effective in defeating cross modulation, harmonic interference, windshield wiper effect, hash, herringbone and beat patterns. Substantially eliminates the problem of interaction between sets. The Homers have outputs to drive up to 4 sets. Triples signal strength when driving two sets. HVB-3P includes BTF-591 male coax connectors. Net \$16.50. PS4-300. Net \$11.97.

TRANSISTOR 4 SET TV/FM AMPLIFIER, DA4-V  
Power amplified divider with low noise cap-

able of driving up to 4 sets. Superior color and black-and-white reception channels 2 to 13 and on FM. Patent applied for I.C.E.F. circuit design gets maximum dynamic range from the silicon overlay type power transistor used. Excellent signal handling capability makes it the best choice where there's a combination of very strong local signals and weak fringe signals. 300 ohm input and 300-ohm outputs for 4 sets. Net \$23.70.

4-SET VHF/FM AMPLIFIER, B-24C. Still the most performance-proven amplifier available for areas with both strong signals and weak signals. Special frame-grid triode circuit signals handles input signals 2 times stronger than any other amplifier. Can be used 40% closer to the TV transmitter. Delivers brilliant color, crisp black-and-white on channels 2 to 13; rich, full reception on FM, 300-ohm outputs for 4 sets. Net \$16.70.



## MAST-MOUNTED VHF/FM SIGNAL AMPLIFIERS

(With Remote AC Indoor Power Supplies)

2-TRANSISTOR, 2-SET VHF/FM AMPLIFIER VAMP-2. Deluxe home TV amplifier. Powerful 2-transistor circuit brings in weak, distant channels with sparkling clarity. All new circuit minimizes overload from strong local TV or FM stations. When used with one set — amplifier increases signals five times. Convenient splitter at the power supply, provides connections to 2 sets. Excellent for color. Rugged, weatherproof cast aluminum amplifier housing. Stripless 300 ohm screws. Net \$24.62.

TRANSISTOR VHF/FM AMPLIFIER VAMP-1. Has a lower noise figure than any tubed booster on the market, lower than most transistor boosters. Provides clean snow-free reception. Special transistor circuit increases antenna signals up to five times. FM trap — reduces overload from strong local FM stations. Easy installation on any antenna mast in seconds. Patented 300 ohm stripless terminals. Net \$16.69.

75 OHM VHF/FM AMPLIFIER VAMP-2-75. Powerful, low-noise 2-transistor TV amplifier delivers all the signal power to bring in the weak signals. Will not overload due to strong local TV or FM stations. Excellent for color. For use with 75 ohm coax cable. Single 75 ohm output can be split to deliver signals to as many as 8 TV sets. Input is 300 ohm, no balun needed. Rugged, weatherproof cast-aluminum amplifier housing. Net \$27.65.

DELUXE TV/FM AMPLIFIER AB-3 — Low-noise amplifier for fringe area home installation, or as a pre-amplifier in a master TV system. Uses low noise frame-grid tubes. Provides 25 db minimum gain on all VHF-TV and FM stations. Choice of 300 ohm or 75 ohm output. Stripless terminals for 300 ohm twinlead; solderless "quick-disconnect" terminals for 75 ohm coax. 300 ohm input, no balun needed. Net \$91.15.

## LARGE HOME AND SMALL MATV SYSTEMS

BROADBAND SOLID STATE VHF/FM AMPLIFIER, COLORLINE® CVB-30P. Low noise, all silicon circuitry compact size and moderate cost make it the ideal amplifier for small MATV systems. Provides ample gain and output and independent gain control of high and low bands to assure high quality TV and FM reception. Gain: 28.5db min. (low band VHF and FM); 30db min. (high band VHF). Provides power for pre-amplifier. With solid state broadband UHF amplifier model CUB-29P, the CVB-30P forms foundation of compact moderate-cost, all-channel system. Net \$58.45.

BROADBAND SOLID STATE VHF/FM AMPLIFIER, COLORLINE® CVB-45P. Big-system amplifier has similar features to the CVB-30P but with extra gain, output capability and dynamic range. 43 min on low band VHF and FM; 43 min on high band VHF.

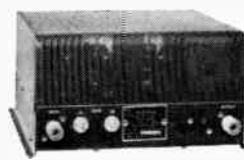
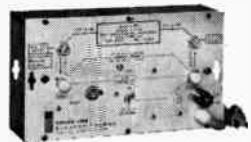
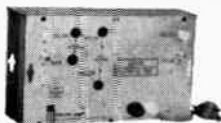
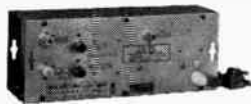
BROADBAND SOLID STATE UHF AMPLIFIER, COLORLINE® CUB-29P. Only MATV amplifier that offers: wide range gain control to eliminate overload; high output capability to overcome the higher distribution system losses at UHF frequencies; the industry's highest typical gain — 30 db (27db minimum.) Low noise and high output capability obtained by silicon transistors employed in a unique circuit. Built-in input and output

UHF/VHF multiplexers permit use of CUB-29P with companion VHF amplifier without the need for external mixing equipment. Can be used as a UHF line extender amplifier in very large all-channel systems. Net \$129.00.

INDOOR BROADBAND VHF/FM AMPLIFIER, MLA-FM. High-output. For continuous use in TV/FM systems of up to 200 outlets. Independent high- and low-band amplifying sections with individual gain controls. Control for tilting the bandpass to compensate for cable load. Gain: channel 2-6 & FM, 33 db; channel 7-13, 40db. Net \$113.95.

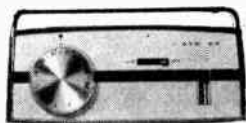
BROADBAND VHF/FM AMPLIFIER, HAB. For use in master, community and home TV systems. 25 db min. gain. Both 300 and 75 ohm inputs and outputs. Separate hi and lo band gain controls. Uses frame grid tubes. Net \$44.62.

8 OUTLET VHF DISTRIBUTION AMPLIFIER, DA8-B. Ideal for garden apartments, motels, TV showrooms, deluxe home installation and other small TV systems. Provides 8 amplified, isolated TV outlets from one input. Choice of 75 ohm or 300 ohm input and output. 10 db minimum gain on all channels at each outlet. 22 db isolation. Low noise, all triode circuitry. Prevents overload through 10:1 gain control range. Net \$68.85.



# BT BLONDER-TONGUE

## UHF CONVERTERS



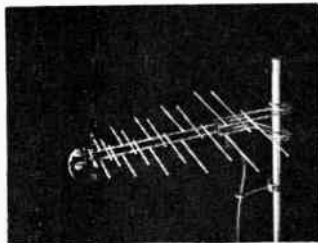
**Deluxe All-Channel, All Transistor UHF Converter/Amplifier, Model BTK-11A.** Adds all UHF channels (14 to 83) to any TV set. For Any Area, Strong Signal Or Fringe. This two-transistor UHF converter/amplifier is the most powerful, stable ever engineered for the home. In addition to adding channels 14 to 83, the BTK-11A incorporates a powerful low-noise amplifier to remove snow for fringe areas. TV performance is uniformly good on each and every channel from 14 to 83 — even on the higher channels where other converters perform poorly. Excellent reception in the difficult fringe and translator areas. In prime signal areas, special circuitry protects against interference from strong signals. Dual speed vernier tuning and illuminated dial makes it easy to zero in on any channel. Double-tuned UHF input circuits and shielded oscillators insure interference-free reception. UL Approved. Net \$31.20.

**All-Channel, All Transistor UHF Converter, Model BTX-99B.** Add all UHF channels (14 to 83) to any TV set. For Metropolitan Areas Up To 20 Miles From The Station. Can often provide excellent reception using only an indoor antenna. Drift-free performance and low-noise figure mean pictures of high quality. No matter what channel you tune, performance is excellent on all channels from 14 to 83. Vernier tuning and illuminated dial make it possible to pinpoint any channel easily and rapidly. The BTX-99B is your best bet for tuning weak signals where strong local stations exist. UL Approved. Net \$19.85.

**All-Channel Tunnel Diode UHF Converter, Model LTD-44A.** Adds UHF channels (14 to 83) to any TV set. For Metropolitan Areas, Within 20 Miles Of Station, At Moderate Cost. First economically-priced, quality converter. It outperforms the 'low-priced' wonders. Performance is excellent on all channels from 14 to 83. Patented tuner and its exclusive tunnel diode circuit speak highest reliability, finest performance. Highly selective, tuned RF stage minimizes multiple tuning problems — no drift or distortion. Uses modern cordless power for convenience and economy — operating from 9 to 12 months on an ordinary flash-light battery. Net \$13.20.

UHF Loop Antenna Supplied With All Models.

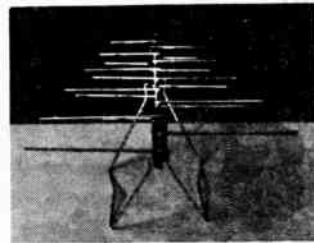
## UHF ANTENNAS



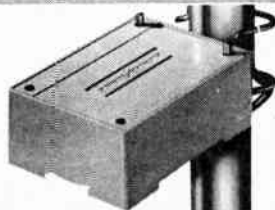
Blonder-Tongue UHF antennas are designed to match the high performance standards on all UHF channels of its famed UHF converters. They employ the well-known Periodic principle.

**GOLDEN DART OUTDOOR UHF ANTENNA**  
Uniform, high gain across the entire UHF spectrum for sharp, ghost-free pictures. Full bandwidth — makes the Golden Dart excellent for color and black & white TV. Completely pre-assembled. It's easy to piggyback with any VHF antenna. For deep fringe area reception, two Darts can be stacked with sturdy, easy-to-use stacking bars (model 3519).  
Dart Net \$4.15 Stacking bars Net \$1.00.

**GOLDEN ARROW INDOOR UHF ANTENNA**  
Outperforms other available indoor UHF antennas by providing peak performance on all UHF channels 14 - 83. The Golden Arrow employs 10 working elements to provide constant high gain and matched impedance on all channels. The excellent design minimizes ghosts and other interference. Full bandwidth, flat response means sharp black and white reception and true fidelity color. Net \$3.95.



## UHF AMPLIFIERS



**CHANNEL 14 to 83 MAST-MOUNTED UHF AMPLIFIER ABLE-U2,** Where black and white pictures are fuzzy, where color pictures lack brilliance, the addition of the Able-U2 will produce a dramatic improvement. The Able-U2 uses a 2 transistor circuit to provide maximum gain, excellent impedance match and assure low-noise, snow-free reception. Remote AC power supply sends a safe 15 volts to the mast mounted amplifier on the same down lead that delivers the signals to the set. 300 ohm striplless screws at terminals. Mast mounting hardware supplied. Net \$29.85.

## COLORTAPS TV/FM/SPEAKER OUTLET PLATES

Low-cost, attractive, trouble-free antenna outlets offer strong, unbreakable connections in any room. Colortap plates install flush on the wall and make possible easy connection and disconnection of antenna lead from the TV set. This radically improved outlet offers many conveniences available in no other product.

### FEATURES:

**Easy to Assemble** — Consists of a flush-mounting wall plate to which the antenna lead-in is attached via striplless screws. There's also a plug to which twinlead is attached with just a turn of one screw — no insulation stripping is required. Twinlead cannot vibrate loose.

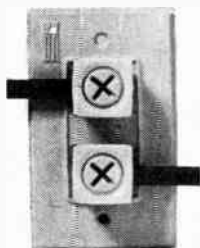
**Childproof, Rugged Connection** — Exclusive automatic detent locking plug holds twinlead secure and assures positive connection. Once the connection is made you just can't break it, pull it loose, or pull it apart. For long life, beryllium copper contact springs are used.

**Topflight Performance** — Carefully calculated spacing of the contact prongs on the plug assure a precise impedance match — essential to sharp, clear color and black-and-white TV pictures on VHF and UHF.

**Attractive Design** — Besides providing neat appearance by eliminating messy TV antenna wire, Colortaps are designed to match and enhance the decor of any room.

**Absolutely Safe** — The plug is provided with an extra prong making it impossible to insert into an AC outlet.

**Neat Antenna Lead-in Installations For Channels 2 To 83 Plus FM** — Blonder-Tongue Colortaps can be used to provide plug-in outlets all over the house. Model 3650 provides two independent outlets for TV sets, FM sets, speaker extensions. Net \$1.82. Model 3649 provides one outlet for a TV set, FM set or speaker. Net \$1.35. Model 3654 provides one TV feed-through outlet with an FM tapoff. Net \$2.14. Model 3653 consists of two extra plugs for operating or connecting extra sets to an outlet. Net \$.86.



# BT BLONDER-TONGUE

## COLOR RANGER UHF/VHF/FM LOG PERIODIC ANTENNAS

Color Ranger antennas deliver the finest picture any place that there is a signal in the air. Superb for color they are equally effective in bringing in sharp black-and-white pictures. Exclusive Blonder-Tongue modular system tailors the antenna to the performance requirements of your location. Rangers 5, 7, 10 and 15 are available either with direct connection for 300-ohm twinlead or 75-ohm coax; or for 300-ohm connection only. All other models have provision for 300-ohm connection.

**COLOR RANGER 15** — 15 active elements for superlative color/black-and-white reception on channels in suburban and fringe areas 2 to 13. Best gain and ghost rejection. No "band edge" performance fall-off. Extra sensitivity pulls signal in "difficult" areas. CR-15-300/75 connection for 300 and/or 75 ohm download. Net \$38.23; CR-15-300 300 ohm connection. Net \$35.20.

**COLOR RANGER 10** — 10 active elements ideal for color TV and FM stereo in all areas — prime and fringe — especially where ghosts are a problem. CR-10-300/75 connection for 300-ohm and/or 75-ohm download. Net \$25.95. CR-10-300 300 ohm connection only. Net \$22.95.

**COLOR RANGER 7** — 7 active elements provide outstanding color/black-and-white reception on channels 2 to 13, excellent FM/FM stereo in metropolitan and suburban areas where ghosting is a problem. CR-7-300/75 connection for 300 and/or 75-ohm download. Net \$19.35. CR-7-300 300-ohm connection Net \$17.60.

**COLOR RANGER 5** — 5 active elements Color TV and FM stereo. Strong-to-medium signal areas. CR-300/75 connection for 300 and/or 75-ohm download. Net \$15.15. CR-5-300 300-ohm connection only. Net \$13.47.

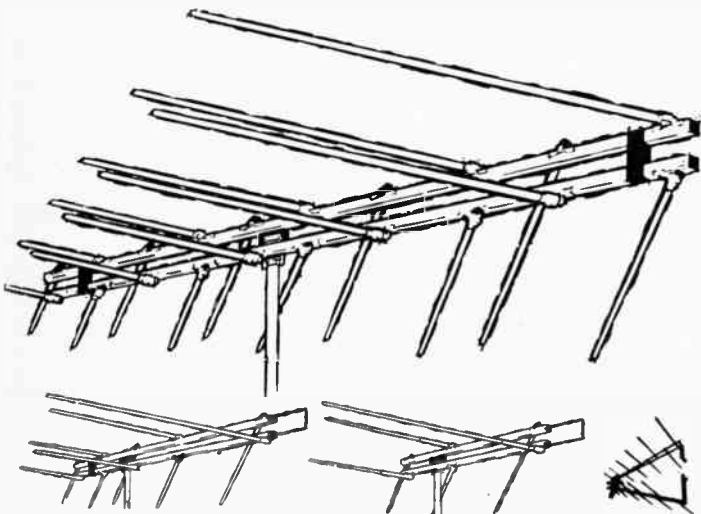
**COLOR RANGER 3** — 3 active elements. Color TV and FM stereo. Strong signal areas where there are no ghost problems. 300-ohm connection. Net \$8.10.

**U-RANGER 11** — 11-element UHF log-periodic adds on to any VHF Color Ranger or for channels 2 to 83 — one download for UHF/VHF/FM. Net \$5.37.

**U-RANGER 6** — 6-element UHF log-periodic adds on to any VHF Color Ranger for single download channel 2 to 83/FM stereo for suburban and metropolitan areas. Net \$3.55.

**FM STEREO RANGER 8** — 8-element log-periodic featuring exceptionally flat response over the entire FM band. Ideal for areas with weak signals and multi-path distortion. Net \$23.25.

**FM STEREO RANGER 5** — 5-element log-periodic with exceptionally flat response over the entire FM band. Net \$14.80.



## FEATURES

New patented spaced dual-boom log periodic design for better reception and greater durability than conventional antennas. Particularly effective for color TV reception or where back-pickup ghosting is a problem.

Uniform gain across the entire bandwidth. No station drop-outs, no color distortion. Every channel comes in clearly.

High front-to-back ratio for ghost rejection, especially on the low band for clearer undistorted pictures. High gain especially on the high band.

Easily convertible to channel 2 to 83 antennas — install a Color Ranger and U-Ranger now, or add the U-Ranger add-on at a later date. No couplers, no extra download required. One download carries channels 2 to 83 plus FM.

Most rugged of all antennas — no fragile line drives, patented dual  $\frac{1}{4}$ " square boom acts as transmission line. Exclusive dual-clamp hinge locks elements to boom, prevents loss of signal due to loose or corroded elements. Built-in support for download elements. Reinforced joints with 6" aluminum tubing. Spring loaded knife edge contact points maintain continuity of signal. Perma-Gold conductive coating for longer life, better reception.

Rapid easy assembly — no assembly required. Elements swivel out and snap-lock into place. Mounting hardware is pre-assembled (except on Color Ranger 15).

## "STANDARDS FOR INDUSTRY" LAB-LINE

Designed specifically for the cable distribution industry and for those working with RF research, development and production. All items are designed to match to 75-ohms and are not merely an adaptation of 50-ohm gear to our standard impedance. Units are of wide band design to cover all TV channels.

**4122 U/V Sweep Generator** — Solid-state all-channel sweep generator has two switch-selected, electronically swept ranges: entire UHF TV Spectrum (470 to 890 mc); entire VHF TV Spectrum including subchannels (20 to 240 mc). \$595.

**4114 UHF Sweep Generator** — Same features as Model 4122, but the range of 470-890 mc only. \$325.

**FSM-2 UHF/VHF Field Strength Meter** — Measures RF signals at 75-ohms impedance in two ranges: VHF (54-216 mc) and UHF (470-890 mc).

Sensitivity variable from 100 microvolts to 3 v. Reads both average and peak level. Solid-state circuitry. Battery and power line operation. \$395.

**4102 R. F. Switcher** — Double-pole, double-throw, 75-ohm coaxial switch with a frequency range of DC-900 mc. It can be operated manually or automatically at a 30-cps rate. \$250.

**4107 Delay Line** — \$125.

**4113 50/75-ohm Matchpad (DC-900 mc)** — \$25.

**4111 Fixed Attenuators (DC-900 mc)** — \$20.

**4121 UHF/VHF Switch Attenuator (DC-900 mc)** — \$40.

**4123 High Output Detector (20-216 mc)** — \$50.

**4124 VHF Return Loss Bridge (30-216 mc)** — \$50.

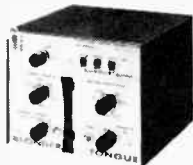
**4105 75/300-ohm Matching Transformer (10-216 mc)** — \$30.

**4104 75-ohm Detector (10-900 mc)** — \$40.

**4103 50-75-ohm Transformer (10-216 mc)** — \$30.

**4112 UHF Matching Transformer (470-900 mc)** — \$35.

**4106 75-ohm Two-Way Hybrid Splitter / Mixer (10-216 mc)** — \$30.



4122



FSM-2



4102

# BLONDER-TONGUE

## SPLITTERS, TAPOFFS, FEED-THRUS, BALUNS, CONNECTORS

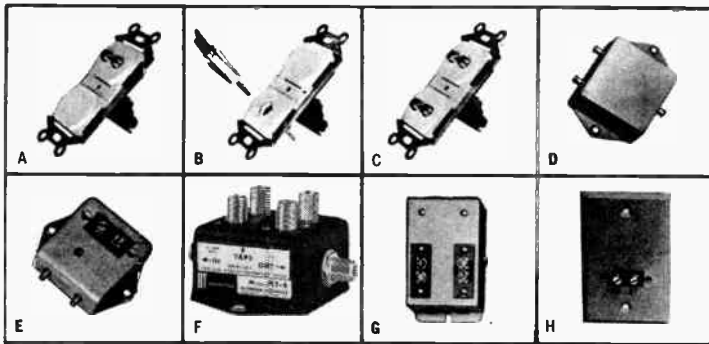
### TAPOFFS AND FEED-THROUGHS

Available with and without built-in matching transformers. Two basic types available — flush and surface-mounted. Below are just samples of the full Blonder-Tongue range of products. Many of those listed are available with 12db or 23db isolation.

Model	Fig.	Type	Input Impedance	Output Impedance	No. of Outlets	Output Connector	Isolation in db	Thru-line Loss in db	Mounting	Channels Passed	Net Price
V-1S17-X	A	Tapoff	75	300	1	Stripless Screws	17	0.7	Flush	2-13+FM	2.10
V-1P17	B	Tapoff	75	75	1	Solderless Autoplug	17	0.7	Flush	2-13+FM	2.30
V-2S-17X	C	Tapoff	75	300	2	Stripless Screws	17	0.7	Flush	2-13+FM*	3.45
TS-771B	D	Tapoff	75	75	1	QO†	17	0.7	Surface	2-13+FM	2.85
TS-731B	E	Tapoff	75	300	1	Stripless Screws	17	0.7	Surface	2-13+FM	2.90
TO-2-300	G	Tapoff	75	300	2	Stripless Screws	17	0.7	Surface	2-13+FM*	5.10
V-1P17-VU	B	Tapoff	75	75	1	Solderless Autoplug	17	0.6V 0.9U	Flush	2-83+FM	3.05
V-1S17-VUX	A	Tapoff	75	300	1	Stripless Screws	17	0.6V 1.0U	Flush	2-83+FM	3.35
V-3170-17	C	Tapoff	75	300	2	Stripless Screws	17	0.8V 1.1U	Flush	2-83+FM**	4.60
TF-331-M/V	H	Feed thru	300	300	1	Stripless Screws	None	1.5V 1.5U	Flush	2-83+FM	2.10
V-1PFT	B	Feed thru	75	75	1	Solderless Autoplug	None	NA	Flush	2-13+FM	1.80

\*Loss per outlet used

\*\*One outlet VHF/FM—one outlet UHF



### MT SERIES VHF, UHF, SUB-CHANNEL TAPOFFS

**MODEL MT-4** Indoor, surface-mounted 4-outlet tapoff. Typical through-loss: VHF, 0.8 db; UHF, 1.6 db; sub-channel, 0.6 db. Isolation: UHF, 17 db; VHF, 18 db; sub-channel, 19 db. Through-line input match: 21 db return loss typical. BTF Male connectors for RG-59U cable supplies. **Net \$9.00.**

**MODEL MT-2** similar to MT-4 except 2 outlets. **Net \$8.65.**

**MODEL MT0-4** same as MT-4 except outdoor version. **Net \$15.10.**

### 3200 SERIES STINGER BACKMATCHED VHF PRESSURE TAPOFFS

Designed for insertion in Blonder-Tongue MTB tapoff body or the bodies of other tapoff makes. Easy to install VHF taps cover channel 2 thru 13, FM and sub-channels. Available in these isolation values: 12, 15, 20, 25, 30, 35, 40, 45, and 50 db.

### MTB SERIES CABLE BLOCKS

Accepts Blonder-Tongue Stinger Series pressure taps as well as similar isolation inserts of other manufacturers. A block for each of the cable types commonly used in CATV installations — 412 and 1/2" diameter aluminum cables and RG-11.

### TOOLS



**MODEL S-1** Rotary coax Cutter and Stripper. **Net \$3.65.**



**MODEL CR-2** Crimping tool and cutting pliers for QD connectors. **Net \$8.40.**

### CABLE CONNECTORS

<b>P-11T</b>	"UHF" type solderless male plug for RG-11/U cable.	<b>Net \$1.15</b>
<b>P-59T</b>	"UHF" type solderless male plug for RG-59U cable.	<b>Net 1.15</b>
<b>MC</b>	"UHF" type cable connector. Connects two male plugs or one plug and an MPT-75 terminator.	<b>Net 1.90</b>
<b>CL-1111</b>	Couples two RG-11/U cables together.	<b>Net 2.00</b>
<b>CL-1159</b>	Couples RG-11U cable to RG-59/U cable.	<b>Net 2.00</b>
<b>CL-5959</b>	Couples two RG-59/U cables together.	<b>Net 2.00</b>
<b>AC-1000</b>	Feed-thru bushing. Use with CL-5959, CL-1159.	<b>Net 2.55</b>
<b>AD-1</b>	Adapts. Q.D. to UHF SO-239 connectors.	<b>Net 2.70</b>
<b>AD-2</b>	Type BT-"F" to SO-239 adaptor	<b>Net 4.10</b>
<b>P-75T</b>	Male solderless auto type plug	<b>Net .45</b>
<b>POU-59</b>	Push-on UHF plug for RG-59/u.	<b>Net 2.40</b>
<b>P0B-59TP</b>	Push-on 75 ohm terminating plug	<b>Net 2.00</b>
<b>QDP</b>	Solderless "Quick-Disconnect" plug	<b>Net .25</b>
<b>BTF-591</b>	F-type solderless connector for RG-59 type cable. Silver-plated. Swivel allows threaded section of connector to turn independently of connector ferrule.	<b>Net .45</b>
<b>GAf-404/201</b>	F-type solderless connector for RG-11 type cable. Similar to BTF-591.	<b>Net 1.65</b>

### MATCHING TRANSFORMERS

<b>MBb</b>	Outdoor balun matches 75 ohms to 300 ohms or vice versa.	<b>Net \$6.50</b>
<b>Cablematch 3334</b>	Indoor, 75 ohm to 300 ohm. VHF and FM	<b>Net 2.00</b>
<b>Cablematch F</b>	Indoor. 75 to 300 ohm. VHF and FM. Type F. socket.	<b>Net 2.05</b>
<b>Cablematch U/V</b>	Indoor. 75 to 300 ohm. VHF and FM.	<b>Net 3.20</b>
<b>TS-731</b>	Indoor, surface mounted. Matches 75 ohms to 300 ohms or vice versa.	<b>Net 3.30</b>
<b>TF-731</b>	Indoor, flush mounted. Matches 75 ohms to 300 ohms or vice versa.	<b>Net 3.00</b>
<b>MT-283</b>	UHF/VHF indoor/outdoor. Matches 300 ohms to 75 ohms or vice versa.	<b>Net 4.75</b>
<b>V-1SMT</b>	Flush-mounted. Versatop design. Matches 75-ohm (RG-11/u or RG-59u) cable to 300-ohm TV set. 300 ohm stripless output.	<b>Net 3.30</b>

### SPLITTERS

<b>MODEL TS-772.</b> Indoor surface mounted 2-way Hybrid Splitter. Splits or combines two 75 ohm cables. QD connectors. <b>Net \$4.50.</b>	<b>MODEL Tsb-774.</b> Indoor surface mounted 4-way splitter. Splits four 5 ohm cables. QD connectors. <b>Net \$5.30.</b>
<b>MODEL TS-772F</b> with F connector. <b>Net \$5.40.</b>	<b>MODEL TS-774F</b> with F connector. <b>Net \$8.45.</b>

### 75 OHM TRAPS & ATTENUATORS

<b>MODEL MWT-2</b> LO-BAND/FM TRAP. Can be tuned to attenuate any frequency from 54 thru 108 mHz by 60 db. <b>Net \$43.75.</b>	<b>MODEL MWT-3</b> HI-BAND TRAP. Can be tuned to attenuate any frequency from 174 thru 216 mHz by 60 db. <b>Net \$43.75.</b>
<b>MODEL SA-3</b> VARIABLE ATTENUATOR. 0 to 38 db. Lab. accuracy. Steps of 6 db, 12 db and 20 db. 75 ohm input and output. QD connectors. <b>Net \$12.70.</b>	<b>MODEL 4121</b> VARIABLE ATTENUATOR. 0 to 62 db in steps of 1 db. Lab. accuracy. 75 ohm input and output. Type F connectors. DC-900 mHz. <b>Net \$44.50.</b>

JONTZ MFG. CO.

# SELF-SUPPORTING

## *Super Kwick-Climb*

# TOWERS

**SELF-SUPPORTING UP TO 60 FEET HIGH**  
**HOT DIP GALVANIZED HEAVY DUTY MODELS**  
**ZINC ELECTROPLATED ECONOMY MODELS**  
**NO LOST TOWER FOOTAGE**  
**FAST, EASY SECTIONAL ERECTING**

With these two Jontz Tower models you can fill any tower needs... from small suburban to heavy-duty commercial installations. Sectional construction and special drive-in bases make erection fast and simple. The Zinc Electroplated Economy Model No. 300 will easily withstand high wind loads normally encountered in most parts of the country. The Hot Dip Galvanized Heavy Duty Model No. 500 will withstand hurricane force winds having been tested at wind loads of 80 mph.

Model No. 500 is self-supporting up to 60 feet high. Model 300 can be extended to 200 ft. by use of guys every 20 feet and Model 500 up to 500 ft. by use of guys every 20 feet. There is no lost tower footage when mounting in either concrete or the special drive-in base. Since the tower is separate from the base, it may be moved to another location without impairing strength.

Both towers are fabricated in 10'0" sections and can be erected in one piece or by sections. Model 300 is made from 1½"x18

ga. tubular uprights and is zinc electroplated and dipped in clear Butyrate lacquer. The Model 500 is made from 1¼" x 16 ga. tubular uprights and is hot dip galvanized.

New, extra-wide corrugated cross-braces give 75% more weld contact with uprights. Tower sections lock together with 2 self-locking ⅜" bolts in each leg. The splined bolts prevent thread damage and stop hole stretch when tower moves in the wind.

**HOW TO ORDER:** 1. Specify if to be mounted in concrete or drive-in base. 2. Order by specific sections, starting at the base. See illustration for section numbers.

**SHIPPING:** For best freight rates, 40 ft. and over towers will be shipped in section combinations permitting 2 telescoped bundles, unless otherwise specified. (Example: a 60 ft. tower will consist of section A, C, D, E, and 2 F's.)

### ZINC ELECTROPLATED ECONOMY MODEL NO. 300

Size	Net	Ship Wt.
40'0"	\$ 67.40	130 lbs.
50'0"	86.65	172 lbs.
60'0"	105.90	215 lbs.
70'0"	121.95	245 lbs.
80'0"	141.20	292 lbs.

### HOT DIP GALVANIZED HEAVY-DUTY MODEL NO. 500

Size	Net	Ship Wt.
40'0"	\$ 93.00	160 lbs.
50'0"	117.00	211 lbs.
60'0"	141.00	262 lbs.
70'0"	164.00	302 lbs.
80'0"	188.00	357 lbs.

Add 15 lbs. per Tower for hardware.

Add approximately 3 lbs. per section for galvanized No. 300 Towers.

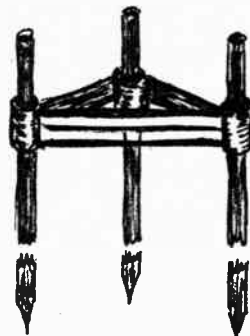
### DRIVE IN TEMPLATE

For Jontz self-supporting towers

#### Specifications:

- 1—Drive-in legs: 1¼" x 16 gauge x 36".
- 2—Template: 18" triangle for 40' towers — 22" triangle for 50' or higher — state tower height.
- 3—Driving cap: 2" x 1¼" to drive individual legs.

2—TEMPLATE: 18" triangle for 40'



TOWER SECTIONS AVAILABLE AS ILLUSTRATED

SECTION  
300A or 500A  
11½"x10'  
7 Crossbraces

SECTION  
300B or 500B  
11½"x10'  
8 Crossbraces

SECTION  
300C or 500C  
11½"—16"x10'  
8 Crossbraces

SECTION  
300D or 500D  
16"x10'  
8 Crossbraces

SECTION  
300E or 500E  
16"—20¼"x10'  
8 Crossbraces

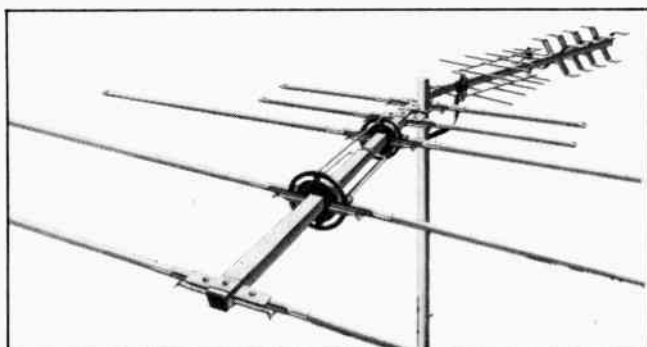
SECTION  
300F or 500F  
20¼"x10'  
9 Crossbraces

**JERROLD**®**TV-FM RECEPTION PRODUCTS****COLORAXIAL® ANTENNAS**

Why coloraxial? The signals from these excellent antennas deserve to be delivered to the set in the best possible way—by coaxial cable. Strong signals assured even in bad weather. No interference from auto ignition or home appliances. Gets rid of line ghosts and color changes.

**COLORAXIAL *Pathfinder*™****82-CHANNEL TV & FM ANTENNAS**

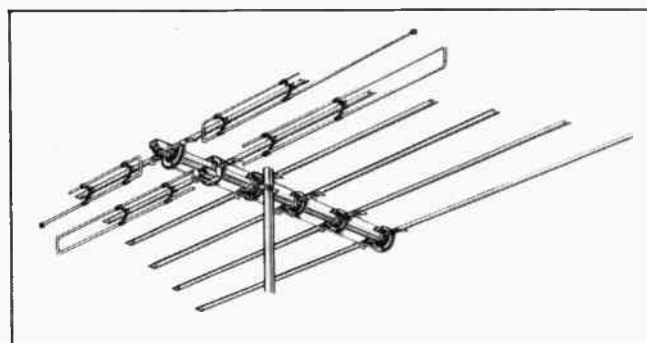
Each of the seven antennas in this series is unique, combining a periodic VHF antenna with an advanced design UHF section. VHF and UHF sections are coupled with a hinged joint\* allowing each to be individually oriented for maximum directivity.



Model PXB-30* Local area.....	Net \$11.10
Model PXB-45* Suburban area.....	Net \$15.90
Model PXB-48 Difficult suburban area.....	Net \$15.90
Model PXB-50* Difficult suburban area.....	Net \$21.90
Model PXB-65 Semi-fringe area.....	Net \$27.90
Model PXB-70* Semi-fringe area.....	Net \$33.90
Model PXB-90 Fringe area.....	Net \$39.90

**COLORAXIAL PARALOG *Plus*™****VHF-TV & FM ANTENNAS**

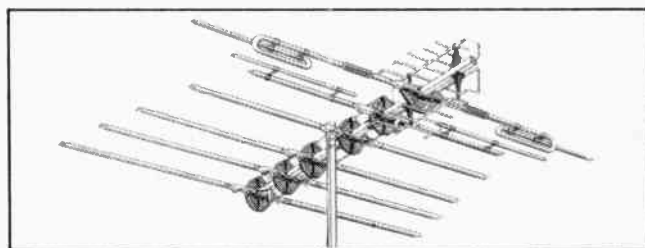
Series of seven high-performance antennas providing strong, clear signals for excellent color TV pictures and FM stereo reception. Bi-modal directors allow a compact parasitic array giving a shorter, easier-to-install antenna than others of comparable gain.



Model PIX-35 Local area.....	Net \$10.77
Model PIX-45 Suburban area.....	Net \$15.57
Model PIX-75 Difficult suburban area.....	Net \$20.37
Model PIX-105 Difficult suburban area.....	Net \$26.37
Model PIX-135 Fringe area.....	Net \$31.17
Model PIX-165 Deep fringe area.....	Net \$37.17
Model PIX-225 Deepest fringe area.....	Net \$49.17

**NEW 300-OHM ANTENNAS****VU FINDER****82-CHANNEL TV & FM ANTENNAS**

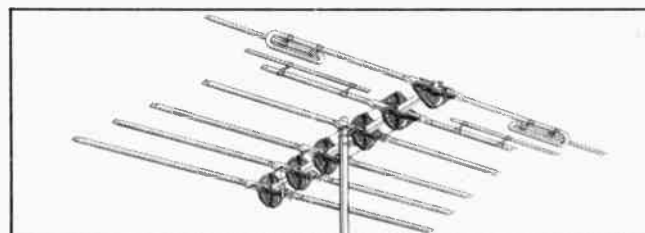
Series of five, high-gain, periodic-type antennas. Unusually flat response across the entire TV and FM spectrum. Each VUfinder shipped complete with a Model FS-1314 frequency splitter to split VHF from UHF for separate inputs to the TV set.



Model VU-831 Local area.....	Net \$10.77
Model VU-832 Metropolitan area.....	Net \$17.37
Model VU-833 Suburban area.....	Net \$23.97
Model VU-834 Fringe area.....	Net \$29.97
Model VU-836 Deep fringe area.....	Net \$47.97

**COLORPEAK****VHF-TV & FM ANTENNAS**

Series of seven high-gain, periodic-type antennas similar to VUfinder series but for VHF-TV channels and all FM stations. Unusually flat response across the full frequency range. Colorpeak antennas provide strong, clear signals, even in difficult reception areas.



Model V-301 Local area.....	Net \$ 9.57
Model V-302 Metropolitan area.....	Net \$14.37
Model V-303 Suburban area.....	Net \$19.17
Model V-304 Difficult suburban area.....	Net \$25.17
Model V-305 Fringe area.....	Net \$29.97
Model V-306 Deep fringe area.....	Net \$35.97
Model V-307 Deepest fringe area.....	Net \$47.97

**COLORAXIAL® CABLE**

This is the heart of the Coloraxial installation—the reason for it all. All Jerrold Coloraxial CAC cable is guaranteed to have been factory swept-tested to eliminate any flaws over its entire length. Each 50-, 75- or 100-foot length is complete with F-56A fittings attached, plus a weatherboot for the outdoor connection. Very easy to install—just screw fittings to connectors.



Model CAC-50 50-foot length of 82-channel coaxial cable. Fittings and weatherboot attached.....	Net \$ 7.08
Model CAC-75 75-foot length of 82-channel coaxial cable. Fittings and weatherboot attached.....	Net \$ 9.84
Model CAC-100 100-foot length of 82-channel coaxial cable. Fittings and weatherboot attached.....	Net \$12.60



# TV-FM RECEPTION PRODUCTS

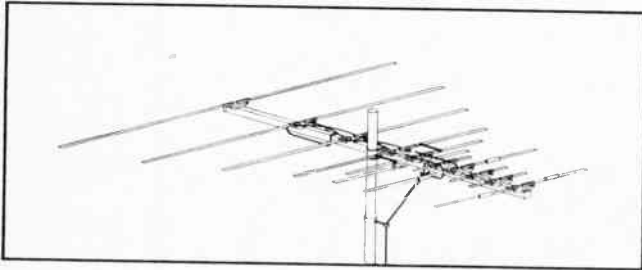
## ANTENNAS

A complete line of the finest antennas for VHF, UHF & FM reception in any area.



### VHF-TV & FM ANTENNAS

Maximum reception at minimum price. 300-ohm as well as Coloraxial models.

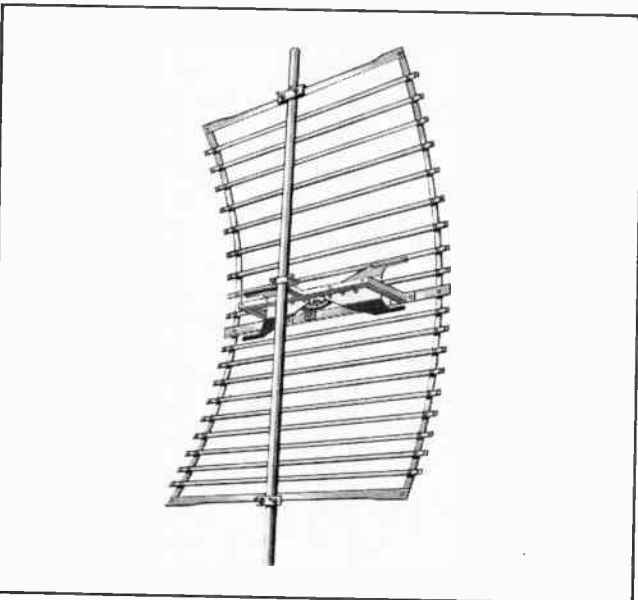


Model C-13	4 element VHF 300-ohm	Net \$ 5.97
Model C-13K	Complete kit (C-13, 799 tri-mount, 50-foot 300-ohm lead, all other accessories for normal installation)	Net \$ 8.70
Model CG-81	82 channel, 6 element 300-ohm	Net \$ 8.97
Model CG-82	82 channel, 11 element 300-ohm	Net \$14.37
Model CAX-16	4 element VHF Coloraxial	Net \$ 7.17
Model CAX-16K	Complete kit (CAX-16, 50-foot Coloraxial cable, 5-foot mast and mount)	Net \$17.97
Model CGX-81	82 channel, 6-element Coloraxial	Net \$ 8.97
Model CGX-82	82 channel, 11 element Coloraxial	Net \$14.37



### 300-OHM UHF ANTENNAS

Five models to cover every UHF-TV reception requirement from local to deep fringe areas.

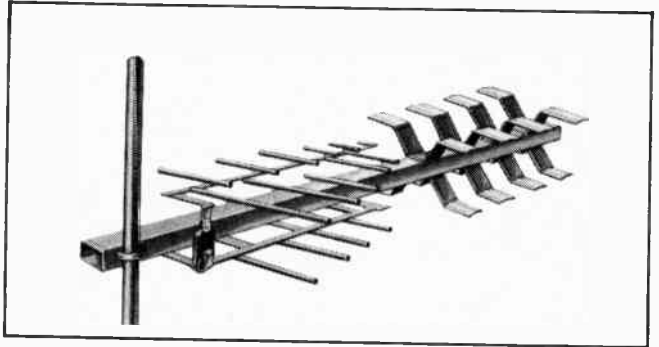


Model JUP-1	Local area	Net \$ 4.17
Model JUP-2	Suburban area	Net \$ 6.57
Model JUP-3	Difficult suburban area	Net \$17.97
Model JUP-4	Fringe area	Net \$23.97
Model JUP-5	Deep fringe area	Net \$32.70



### 300/75-OHM UHF ANTENNAS

Five models, each with both 300 and 75-ohm outputs. Ideal add-ons to existing VHF antennas.



Model PUX-300	Local area	Net \$ 4.77
Model PUX-450	Metropolitan area	Net \$ 6.57
Model PUX-500	Suburban area	Net \$ 8.37
Model PUX-700	Difficult suburban area	Net \$11.37
Model PUX-900	Fringe area	Net \$20.37



### 75/300-OHM ANTENNAS

Ghost-killing antennas for strong signal areas.

Model MCX-13	VHF-TV & FM	Net \$10.17
Model MCX-82	UHF, VHF-TV & FM	Net \$17.97

## OTHER ANTENNAS

J-55-Lo	75-ohm Ruggedized Yagi, low band	Net \$74.25
J-55-*	75-ohm Ruggedized 5 element Yagi, any low-band channel or FM	Net \$37.50
J-105-Hi	75-ohm Ruggedized Yagi, high band	Net \$74.25
J-105-*	75-ohm Ruggedized 10 element Yagi, any high-band channel	Net \$37.50
JLB-26	10-element twin-driven Yagi, ch. 2-6	Net \$20.25
JTH-10*	10-element Yagi, high band, cut channel	Net \$ 5.61
JTL5-2	5-element Yagi, ch. 2	Net \$ 7.70
JTL5-3	5-element Yagi, ch. 3	Net \$ 6.57
JTL5-4	5-element Yagi, ch. 4	Net \$ 6.30
JTL5-5	5-element Yagi, ch. 5	Net \$ 5.97
JTL5-6	5-element Yagi, ch. 6	Net \$ 5.83
1972T	UHF Parapro, designed especially for Translater use, ch. 70-83	Net \$13.95
3025(14-46)	Triple-driven Yagi for ch. 14-46	Net \$ 5.37
3025(16-73)	Triple-driven Yagi for ch. 16-73	Net \$ 5.37
3025T	Triple-driven Yagi for Translater ch. 70-83	Net \$ 5.37
3044	4-Bay Bow for ch. 14-70	Net \$ 4.59
3044T	4-Bay Bow for ch. 70-83	Net \$ 4.59
3088	8-Bay Bow for ch. 14-70	Net \$11.97
3088T	8-Bay Bow for ch. 70-83	Net \$11.97

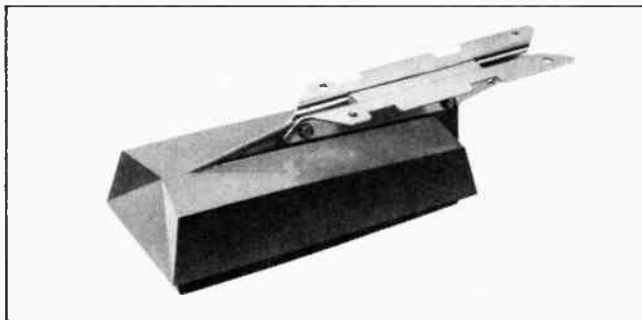
\*Specify channel when ordering.



**JERROLD**®**TV-FM RECEPTION PRODUCTS****POWERMATE AMPLIFIERS**

Powermate solid-state antenna amplifiers each comprise a universal-mounting (Mast, boom or flat surface) amplifier and a remote power supply (usually mounted on back of TV set). High gain and low noise assure finest color and black and white reception.

**Model SPC-107A.** This is an improved version of the famous Jerrold Super-Powermate coaxial Model SPC-103 amplifier, which brings in far-distant TV stations clear as a bell but doesn't overload with strong local signals. The Model SPC-107 has built-in match both at the antenna and at the receiver end of the cable, making the use of separate matching transformers unnecessary. Remote power supply, installed on or near receiver, gives you the choice of 75-ohm coax or 300-ohm twinlead output to associated equipment, depending on this equipment's impedance. . . . . **Net \$31.97**



**Model SPC-132A.** Most powerful of all Powermate antenna amplifiers, the "De-Snow" is recommended for deepest fringe-area reception and for master antenna installations in apartment houses, motels, and hotels. In addition to complete coaxial-cable operation, the Model SPC-132A offers twin-transistorized preamplification at the antenna plus a three-transistor post-amplifier integral to the remote power supply. . . . . **Net \$65.50**

**Model UPC-105.** This hi-gain UHF Powermate amplifier Model UPC provides a choice of 75- or 300-ohm antenna inputs and has a 75-ohm COLORAXIAL output. Model 105 has a 75-ohm input and output. Used for individual homes in extreme fringe areas. Model UPC-105 may also be used in master antenna systems. . . . . **Net \$43.95**

**Model APM-106A (TV-FM).** Super-gain, low-noise, single-transistor Powermate for fringe areas with no overload problems. . . . . **Net \$26.63**

**Model SPM-106A (TV).** Super-overload, hi-gain, low-noise, twin-transistor Super Powermate for overload problem areas. . . . . **Net \$29.95**

**Model UPM-104 (UHF).** Super-gain (13.7 dB av.), twin-transistor UHF Powermate for fringe and deep-fringe areas. . . . . **Net \$33.50**



**Model ULP-104 (UHF).** Hi-gain (4.7 dB av.), single-transistor, UHF Powermate Special for better viewing on UHF receivers. . . . . **Net \$23.30**

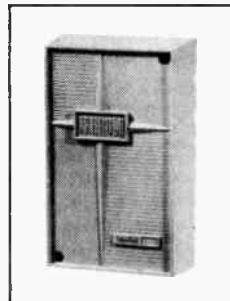
**Model DSS-\*** Solid-state De-Snow, pre-amplifier  
Single channel 7-13. . . . . **Net \$85.00**  
Single channel 2-6 and FM. . . . . **Net \$75.00**

\*Specify channel when ordering.

**HOME AMPLIFIERS**

Jerrold home TV distribution system amplifiers and amplified couplers improve reception of weak, fringe-area signals. Models are available for connecting 2 to 4 sets, 75 or 300 ohms, VHF, FM, UHF, or All-channel (VHF/FM/UHF).

**New Model TAC-4.** A TAC-4 Colorcaster Home TV System Amplifier brings in all 82 channels—VHF and UHF—as well as the full FM bands. Because it is solid-state and uses coaxial cable it is reliable and trouble-free. Handles 4 sets at once—anywhere in the house—from the same antenna. Provides a full 3 dB gain for each 75-ohm outlet and excellent overload stability in the presence of strong signals. . . . . **Net \$48.50**



**Model TC-88.** Covers VHF-TV band (channels 2 through 13), and FM. Handles 4 sets. Similar to TAC-4. . . . . **Net \$26.63**

**Model TA-24.** Powermate Indoor 4-set coupler uses special transistor to provide sufficient gain (2.2 dB average at low band, 3.6 dB average at high band) to supply 4 TV sets from one antenna. Uses 300-ohm twinlead. Gain is higher with fewer sets. Handles both VHF-TV and FM channels. . . . . **Net \$16.75**

**Model TA-66.** Super Powermate Indoor 4-set coupler is solid-state, twin transistor unit that provides 7.5 dB gain at low band and 6.3 dB gain at high band. Uses 300-ohm twinlead. Supplies 4 TV sets. Gain is higher with fewer sets. . . . . **Net \$22.95**

**Model TAU-12.** Powermate Special—2-set coupler provides sufficient gain (2.7 dB average) to adequately supply 2 UHF tuners. For areas where VHF signal is received off-the-air and only UHF requires amplification. Solid state. . . . . **Net \$19.95**

**SYSTEM AMPLIFIERS**

Jerrold TV/FM distribution system amplifiers are the result of unmatched experience in solid-state technology. The "Gibraltar" series is the result. Now you can have a complete solid-state, all-channel system from antennas to TV and FM receiver outlets, with assurance of guaranteed performance through Jerrold's policy of using only minimum specifications.

**Model 3440.** Solid-state "Gibraltar" high-gain, low-noise, broadband VHF amplifier for small TV distribution systems. Capable of 12-channel operation. Handles up to 40 TV outlets. Flat response. Provisions for both 300-ohm and 75-ohm input terminals. Provides 22 dB minimum gain and better than +42 dBmV minimum output, TV and FM bands. Output impedance is 75 ohms for coaxial distribution. . . . . **Net \$53.70**



**Model 3550.** New solid-state, high-gain, broadband "Gibraltar" VHF amplifier for medium size distribution systems. Similar to Model 3440. Provides 33 dB minimum gain and better than +45.5 dBmV output, TV and FM bands. Input and output impedance 75 ohms. . . . . **Net \$68.95**

**Model 3660.** Solid-state, high-gain, broadband "Gibraltar" amplifier for large TV distribution systems such as those in hotels, apartment houses, and schools. Provides 40 dB of gain and better than +50 dBmV output, TV and FM bands. Easily handles more than 100 sets. Capable of 12-channel operation. Flat response across all bands. Separate gain controls for high and low bands. Wall or 19-inch rack mounting. . . . . **Net \$130.00**

**Model 2880.** Broadband, vacuum tube amplifier famous for its high output capability (+60 dBmV). One volt per channel for each 7 channels. Provides 41 dB of low band and 44 dB of high band gain. . . . . **Net \$222.75**

**JERROLD****TV-FM RECEPTION PRODUCTS****UHF CONVERTERS**

Jerrold UV-Series Single Channel UHF to VHF Converters are designed for Master Antenna Systems, for metropolitan to deep-fringe installations.



**Model U3V\***. For outdoor use, Model U3V converts any single UHF channel (14 through 83) to any single VHF channel (2 through 12) with a loss of only 12 dB maximum. Used in metropolitan or strong signal areas. It uses a mast-mounted, weatherized Converter Unit, Model 454, at the UHF antenna for optimum signal-to-noise ratio. Both DC power and oscillator input are from a remote Oscillator/Power Supply, Model 463. Impedance is 75- or 300-ohm input (specify), 75-ohm output. **Net \$150.00**

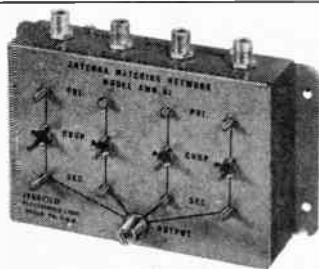
**Model U4V\***. For outdoor use, Model U4V permits a conversion similar to the U3V but with an overall conversion gain that makes it excellent for fringe area reception of UHF signals. Weatherproof-housed, mast-mounted, solid-state, cavity-tuned Converter-Amplifier Unit, Model 454T assures optimum signal-to-noise ratio. The indoor remote Oscillator Power Supply, Model 463 is used to supply oscillator and DC power to the mixer head. Conversion gain of 7 dB (low band) and 5 dB (high band). Impedance is 75- or 300-ohm input (specify when 75-ohm is desired), 75-ohm output. Noise figure is 14 dB maximum, 10 dB typical. Bandwidth is 8 MHz. **Net \$135.00**

**Model U5V\***. For indoor use, the U5V consists of a Converter-Amplifier Unit, Model 454T, mounted with an Oscillator/Power Supply, Model 464-SS—all solid-state—all in a single compact housing. It's the ideal indoor converter for metropolitan to deep-fringe installations. Specifications are the same as Model U4V. **Net \$121.45**

\*Specify channel or FM when ordering.

**MIXING NETWORKS**

**Model AMN-HI**. A VHF low-loss mixing network for combining into a single output up to 4 non-adjacent, high-band television channels (7 through 13) received from single-channel antennas or amplifiers. May also be used in reverse as a channel splitter. 75-ohm impedance. Insertion loss is 2.0 dB maximum. Field tunable. Designed for indoor mounting at the system head end. **Net \$21.00**



**Model AMN-LO**. Basically the same as Model AMN-HI for up to 3 non-adjacent, low-band channels (2 through 6). Impedance is 75 ohms. Insertion loss is 2.5 dB maximum. **Net \$21.00**

**TX SERIES**

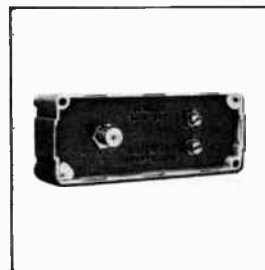
These 300-ohm mixing networks are available in models for each TV channel, 2 through 13, and one FM band model. They combine single-channel antenna outputs into a common line, or may be used in reverse as channel splitters. Each unit is a fixed filter for the specified channel, and is complete with matched mixing jumpers. Designed for indoor or outdoor mounting.

**Model TX-FM**. Provides FM from TV antenna with no separation loss. **Net \$ 3.92**

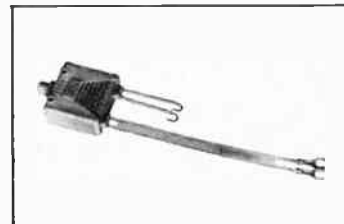
**ANTENNA MATCHING NETWORKS**

**Model MUV-374**. An 82-channel, 300/75-ohm matching transformer for use with all-channel antennas. Mountable outdoors, matches 300-ohm antenna output to 75-ohm coaxial cable. AC passing. Complete with weatherboot, mast mounting, bracket and stainless steel strap. **Net \$ 3.57**

**Model TO-374A**. A VHF outdoor, mast-mounted transformer that matches 300-ohm VHF antenna to 75-ohm coaxial cable downlead. AC passing. **Net \$ 2.95**

**INDOOR MATCHING TRANSFORMER**

**Model T-380 A**. An all-channel (54 to 890 MHz) transformer-type splitting network for rear-of-set mounting. Matches 75-ohm coaxial cable to 300-ohm TV sets. Splits signal providing separate UHF and VHF antenna inputs to TV set. Input: 75 ohms, all-channel (54 to 890 MHz). Output: 300 ohms, individual VHF (54-890 MHz), UHF (470-890 MHz). **Net \$ 4.77**



**Model T-378**. Rugged, matching transformer for installation at the back of a TV receiver. High impact plastic case, has a type "F" fitting for a 75-ohm coaxial input, and special break-resistant twin lead on the 300-ohm end. Features 60 Hz AC isolation. A-F-59A connector is provided (VHF 54-216 MHz only). **Net \$ 1.95**

**Model T-372**. A VHF 300/75-ohm matching transformer with a flat response across the frequency range of 54-216 MHz, and provides AC-DC isolation. For indoor surface mounting. Housed in blister can, with C-61 input connector. C-52 male connector provided. **Net \$ 3.00**

**Model T-373**. Flush-mounted version of Model T-372. B-59 cable bushing provided. **Net \$ 3.00**



# TV-FM DISTRIBUTION EQUIPMENT

## TRAPS

**High "Q" Traps.** Each trap consists of two tunable L-C circuits in a modified bridged-tee network. Tuning of units is by means of Teflon-dielectric trimmers with screwdriver adjustment. When both circuits are tuned to an interfering signal, rejection is a minimum of 40 dB. Insertion loss at 1.5 MHz off the interfering frequency is only 3 dB. Impedance 75 ohms. Indoor mounts. Shipped with two F-59A connectors for use with RG-59/U coaxial cable.



- Model TLB-1.**  
For low-band channels 2-6 (59.75-83.75 MHz) ..... **Net \$39.55**
- Model TFM-1.**  
For FM band (88-108 MHz) ..... **Net \$38.55**
- Model THB-1.**  
For high-band channels 7-13 (179.75-211.25 MHz) ..... **Net \$38.55**

**Series 1435\*.** Multi-section, wideband traps provide a minimum of 20 dB (average 23.0 dB) rejection of any specified VHF-TV channel, or the full FM band. Provide sharp cut-off and prevent strong TV or FM channels from causing overloading of the TV set and resulting in sound distortion, cross modulation, or herringbone pattern on the TV screen. VSWR is 1.5:1. Weather-proof housing. Mountable directly to antenna crossing. Can be used with either amplified or non-amplified antennas. **Net \$ 4.77**

\*Specify channel number of FM band.

## TAPS AND OUTLETS

The Jerrold Variable Tap is a new concept in flush-mounted tap-offs. Model VT-75 is for 75-ohm use and Model VT-300 is for 300-ohm use. The same model is used at every outlet location. A printed circuit incorporates all three isolation values. These values are color-coded red, yellow, and green. The particular isolation value required is selected by merely positioning the isolation screw according to color-code. Separate cover plate included. Taps, like electrical outlets, are installed without the cover plates and the system checked out—before the walls are painted. Ivory colored. Attached with single screw.

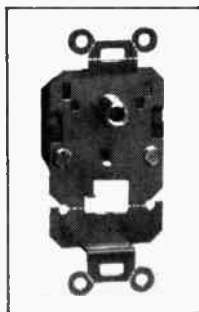


- Model VT-75** ..... **Net \$ 2.35**
- Model VT-300** ..... **Net \$ 2.15**

**Model FT-75.** New unit for small distribution systems carrying VHF, FM, and UHF television channels with flat 12 dB isolation. Can be flush-mounted in a regular electrical outlet box. Accepts CAC, RG-59/U or RG-6/U coaxial cable. Solderless feeder line connections are made through a twin cable clamp and a single binder screen. Plug, ferrule and ivory-colored plate are provided. Impedance is 75 ohms. **Net \$ 2.12**

## ULTRA-TAPS

These TV signal tap-offs are the finest on the market for master antenna systems in hotels, motels, schools, apartment houses, or other commercial and industrial buildings. Each tap is matched which insures the absence of discontinuities which might create standing-waves and degrade the overall system performance. Equipped with "Gamma" receptacles, units accept Jerrold 75- and 300-ohm push-on plugs. Simple crimp-on bushings and positive gripping clutch permit fast solderless connections to the feeder. Units can be flush mounted in standard 2" x 4" (or combination) wall boxes and used with Jerrold or other cover plates.



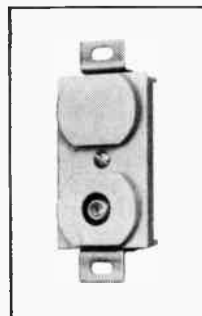
**Models UT-82-59, UT-82-CAC.** All-channel (20-890 MHz) tap-off units that provide a choice of 3 isolation and feed-thru values, each color-coded. Two models for either RG-59 (UT-82-59) or Jerrold "CAC" Cable (UT-82-CAC). Simple crimp-on bushings and positive-gripping clutch permit fast, solderless connections to the feeder. The tap terminal accepts G-59, PG-59, and G-56 push-on connectors. Specifications are shown on table.

- Model UT-82-59 (Specify W, R, Y)** ..... **Net \$ 3.60**
- Model UT-82-CAC (Specify W, R, Y)** ..... **Net \$ 3.60**

**Model UT-22.** For VHF-TV or FM. Provides choice of three isolation and feed-thru values (color-coded). Taps signals from RF-59-type feeder cables. Provide single "Gamma" receptacle for connecting a TV or FM receiver. Accepts G-59, PG-59, and G-56 75-ohm, and G-300 75-300-ohm adapter, push-on connectors. Specifications are on the table.

- Model UT-22 (Specify W, R, Y)** ..... **Net \$ 2.70**

**Model UT-18\*.** All-channel TV feed-thru unit (dc-890 MHz) provides flush-mounted terminal outlet for splitter or tap-off units only. Male connections not supplied but may be purchased for cable used. The output terminal accepts G-59, PG-59, and G-56 push-on connectors. **Net \$ 2.10**



**Model UT-33.** Combination tap-off unit for VHF-TV and FM, unit is available in some isolation and feed-thru values as Model UT-22. Additional isolation to separate TV and FM signals for simultaneous connection of both TV and FM receiver. TV output, 75-ohm "Gamma" fitting. FM—300-ohm screw terminal. Specify W, R, Y ..... **Net \$ 3.30**

**Model UT-13\*.** Similar in function to Model UT-18 except provides an additional FM outlet attenuated 10 dB below the TV signal level. **Net \$ 2.86**  
\*Not to be used as a line termination. No isolation or feed through.

- Model UT-PL.** Single outlet cover plate of molded ivory plastic. **Net \$ .21**
- Model UT-PS.** Single outlet cover plate of brushed stainless steel. **Net \$ .60**
- Model UT-SH.** Single outlet surface-mounting, ivory-colored plastic housing for use with Ultra Tap Models UT-12 and UT-22. **Net \$ .30**

### ISOLATION AND FEED-THRU LOSS CHART

A = Isolation B = Feed-Thru Loss (values in dB)

ULTRA-TAP, MODELS UT-22 AND UT-33					
FREQUENCY	CHANNEL NUMBER		WHITE (W)	RED (R)	YELLOW (Y)
55.25 MHz	2	A	35.0	27.0	22.5
		B	0.2	0.4	0.2
83.25 MHz	6	A	34.0	25.0	19.0
		B	0.2	0.4	0.3
175.25 MHz	7	A	31.0	21.0	13.0
		B	0.25	0.5	0.4
211.25 MHz	13	A	30.0	20.0	11.5
		B	0.25	0.5	1.0
ULTRA-TAP, MODELS UT-82-CAC AND UT-82-59					
55.25 MHz	2	A	34.0	26.5	22.0
		B	0.5	1.0	1.25
211.25 MHz	13	A	29.5	25.5	20.5
		B	0.5	1.0	1.25
471.25 MHz	14	A	29.5	24.0	17.0
		B	0.5	1.0	1.25
801.25 MHz	69	A	29.5	21.0	14.0
		B	0.5	1.0	1.25
885.25 MHz	83	A	29.5	21.0	14.0
		B	0.75	1.0	1.5

**JERROLD**®**TV-FM DISTRIBUTION  
SYSTEMS EQUIPMENT****ATTENUATORS**

**Model A-21 Attenuator.** VHF precision switch-type. 75 ohms. VSWR 1.05. Power handling up to 500 milliwatts or .5 amp. 0-21 dB in 3 dB steps. Net \$12.87

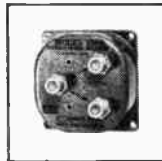


**PDL-In-Line Attenuators.** Available in 1, 3, 6, 10 or 20 dB. Models 1, 3 and 6 are all-channel. Models 10 and 20 are VHF only. Net \$ 3.50

**VHF Directional Couplers, Models DC-8, DC-12, DC-16.** Model DC-8 (Insertion loss 1.5 dB—Tap loss 8 dB). DC-12 (1 dB-12 dB), DC-16 (¾ dB-15 dB). High isolation from tap to output. Net \$ 8.47



**82-Channel Directional Couplers, Model DC-12UV**  
Insertion loss: VHF, 1.75 dB ±0.5; UHF, 2.24 dB-10.5. Tap loss: 10-54 MHz, 13.0 dB ±0.5; 54-216 MHz, 12.0 dB ±0.5; 470-890 MHz, 12.4 dB ±0.5. High isolation from tap to output. Net \$12.80

**75-OHM LINE SPLITTERS**

- Model 1562A** VHF, 2-way, Hybrid. B-59 fittings. Just push RG-59/U-cable on and crimp. Net \$ 5.20
- Model 1592** VHF, 2-way, Hybrid. "F" fittings. Net \$ 7.87
- Model 1514A** VHF, 4-way, "F" fittings. Net \$ 9.14
- Model 1584** VHF, 4-way, Hybrid. "F" fittings. Net \$10.55
- Model G-1518** VHF, 8-way, "G" fittings. Net \$18.58
- Model 1502A** UHF/VHF, 2-way, "F" fittings. Net \$ 6.45
- Model SCX-2** UHF/VHF, Outdoor, "F" fittings. Net \$ 3.95
- Model 1596** UHF/VHF, 2-way, Hybrid. "F" fittings. Net \$14.30

**SPECIFICATIONS—75-OHM LINE SPLITTERS**

MODEL	VHF					VHF/UHF		
	1562A	1592	1514A	1584	G-1518	1502A	SCX-2	1596
DESCRIPTION	2-way	2-way	4-way	4-way	8-way	2-way	2-way	2-way
CONNECTOR FITTINGS	B-59	"F"	"F"	"F"	"G"	"F"	"F"	"F"
BANDWIDTH (MHz)	54-216	4-216	54-216	20-216	54-216	0-890	0-890	20-890
MAXIMUM SPLITTING LOSS (dB)	4.0	3.5	7.0	7.0	10.5	6.0	6.0	5.0
MINIMUM ISOLATION BETWEEN OUTPUTS (dB)	15-20	18-20	12	18-26	8-17	6.5	6	12-18
SHIPPED WITH CONNECTORS	NR	F-59	F-59	F-59A	G-59	F-59	no	F-59A
SHIPPING WEIGHT	6 oz.	8 oz.	7 oz.	7 oz.	1½ lbs.	6 oz.	6 oz.	8 oz.

**FIELD STRENGTH METERS**

**Model AIM-718.** Jerrold's new Signal Strength Meter is the first designed specifically for the installer. Solid-state all-channel (UHF/VHF/FM) direct-reading in dBmV (microvolts). Completely portable, battery operated. Continuously covers 54-216 MHz for VHF-TV/FM, 470 to 890 MHz for UHF-TV. Input impedance VHF/UHF 300-ohms. Comes equipped with 300/75 ohm 82 channel matching balun. Sensitivity: 20 uV at 75 ohms, 40 uV at 300 ohms. Accuracy: 3 dB on VHF, 6 dB on UHF. Net \$198.50



**Model 720.** Portable, battery operated solid-state Field Strength Meter for VHF-TV and FM. Accuracy ±1.75 dB. Low sensitivity ranges 10 mV to 1V, -33 to +60 dB. Frequency range 54-108, 174-220 MHz. Input impedance 75 ohms. Net \$295.00

**ACCESSORIES**

A complete line of 75-ohm Coloraxial and 300-ohm antenna and reception aid accessories is available from Jerrold. Write for catalog.

# telrex "The-performance-line" WITH A MATERIAL DIFFERENCE!

"BEAMED-POWER" — "BALANCED-PATTERN" — "PERFECT-MATCH" ARRAYS

LABORATORY TUNED, MATCHED, & CALIBRATED TO ASSURE PROPER AND EXACT ASSEMBLY

for "TOP-MAN"-ON-THE-FREQUENCY-RESULTS, AT YOUR SITE!\*

10, 15 and 20 Meter MODEL TC-99D Amateur net price \$298.00

**TC-99D**  
49 LBS. OF EDUCATED-ALUMINUM

EXCLUSIVE DESIGN!  
3 OPTIMUM SPACED, OPTIMUM TUNED, REFLECTORS, PROVIDE OPTIMUM GAIN, F/B RATIO AND GOOD SWR GAIN-BANDWIDTH ON 10, 15 AND 20 METERS.

TC-99D SPECIFICATIONS

FREQ. RANGE 10, 15 AND 20 METERS	POLARIZATION LINEAR-HORIZONTAL	GAIN - MEASURED 8.5 DB - AVERAGE
SIDE MAILS 35 DB	F/B RATIO 28 DB*	131' AT RESONANCE, 3 BANDS
WEIGHT 48 LBS.	ENVIRONMENTAL 90 MPH	BEAMWIDTH TO 1/2 POWER PT 60° - 3 BANDS
SHIPPING WT 60 LBS.	WIND SURFACE AREA 48 SQ FT	WIND LOAD AT 100 MPH 50 LBS.
LONGEST EL. LGTH. 38 FT	TURNING RADIUS 8 FT	RECOMMENDED SUPPORT MAST 2" O.D.
POWER RATING 2 KW PEP	CONSTRUCTION HEAVY-DUTY GALV. STEEL STAINLESS STEEL ELEC. HWY HEAVY-DUTY GALV. STEEL RUSSET PLATE ALUMINUM	RECOMMENDED ROTATOR TELEX MODEL A 1922 RIG
ALUM 2" O.D. X 28' LONG		TELEX MODEL A 1922 RIG

TM-30D SPECIFICATIONS

FREQ. RANGE 10, 15 AND 20 METERS	POLARIZATION LINEAR-HORIZONTAL	GAIN - MEASURED 8.5 DB - AVERAGE
SIDE MAILS 35 DB	F/B RATIO 28 DB*	131' AT RESONANCE, 3 BANDS
WEIGHT 48 LBS.	ENVIRONMENTAL 90 MPH	BEAMWIDTH TO 1/2 POWER PT 60° - 3 BANDS
SHIPPING WT 60 LBS.	WIND SURFACE AREA 48 SQ FT	WIND LOAD AT 100 MPH 50 LBS.
LONGEST EL. LGTH. 38 FT	TURNING RADIUS 8 FT	RECOMMENDED SUPPORT MAST 2" O.D.
POWER RATING 2 KW PEP	CONSTRUCTION HEAVY-DUTY GALV. STEEL STAINLESS STEEL ELEC. HWY HEAVY-DUTY GALV. STEEL RUSSET PLATE ALUMINUM	RECOMMENDED ROTATOR TELEX MODEL A 1922 RIG
ALUM 2" O.D. X 28' LONG		TELEX MODEL A 1922 RIG

10, 15 and 20 Meter MODEL TM-30D Amateur net price \$448.00

**TM-30D**  
85 LBS. OF EDUCATED-ALUMINUM

THE BEST THAT MONEY AND LOVE OF THE GAME CAN PRODUCE FOR THE AMATEUR!

MODEL TC88D—"TRI-BAND"® 2EL10, 2EL15, 2EL20..... \$175.00  
4 BAND SINGLE TRANS-LINE ARRAY.  
4 EL on 10, 4 EL on 15, 3 EL on 20 & 3 EL on 40.....\$999.99

"DUO-BAND" MODEL DC-105, 3 EL on 10 & 3 EL on 15M..... \$225.00  
"DUO-BAND" MODEL DB-99D, 3 EL on 15 & 3 EL on 20M..... 298.00  
"DUO-BAND" MODEL DB-30D, 4 EL on 15 & 3 EL on 20M..... 448.00

## OPTIMUM-DESIGN - 10 - 15 - 20 - 40 METER MONO-BANDS

"BALUN" FED, LABORATORY TUNED, MATCHED & CALIBRATED TO PROVIDE OPTIMUM PERFORMANCE & BANDWIDTH PER ELEMENT, PER DOLLAR!

Price	Model	10 METER FULL SIZE ARRAYS	Gain	F/B
\$ 99.95	10M310	10M De-Luxe 3 Element Yagi	8.5 DB	24 DB
\$135.00	10M313	10M Optimum-Design 3 Element "Monarch"	10.0 DB	28 DB
\$185.00	10M518	10M "Super-De-Luxe" 5 Element "Monarch"	12.0 DB	28 DB
\$285.00	10M523	10M Optimum-Design 5 Element "Monarch"	13.5 DB	28 DB
\$445.00	10M636	10M Optimum-Design 6 Element "Monarch"	15.0 DB	28 DB
\$795.00	10M947	10M Optimum-Design 9 Element "Monarch"	17.5 DB	28 DB
15 METER FULL SIZE ARRAYS				
\$ 99.95	15M312	15M De-Luxe 3-Element Yagi	8.5 DB	28 DB
\$165.00	15M317	15M Optimum-Design 3 Element "Monarch"	10.0 DB	28 DB
\$315.00	15M525	15M "Super-De-Luxe" 5 Element "Monarch"	11.6 DB	28 DB
\$435.00	15M532	15M Optimum-Design 5 Element "Monarch"	13.0 DB	28 DB
\$795.00	15M647	15M Optimum-Design 6 Element "Monarch"	15.0 DB	28 DB
20 METER FULL SIZE ARRAYS				
\$175.00	20M317	20M De-Luxe 3 Element Yagi	8.5 DB	30 DB
\$295.00	20M326	20M Optimum-Design 3 Element "Monarch"	10.0 DB	30 DB
\$410.00	20M436	20M Optimum-Design 4 Element "Monarch"	11.0 DB	28 DB
\$465.00	20M536	20M "Super-De-Luxe" 5 Element Yagi	12.0 DB	40 DB
\$695.00	20M546	20M Optimum-Design 5 Element "Monarch"	13.0 DB	30 DB
\$795.00	20M646	20M Optimum-Design 6 Element "Monarch"	14.0 DB	30 DB
40 METER FULL SIZE ARRAYS				
\$365.00	40M214	40M De-Luxe 2-Element Yagi	5.6 DB	14 DB
\$545.00	40M329	40M De-Luxe 3-Element Yagi	8.3 DB	32 DB
\$745.00	40M335	40M "Super-De-Luxe 3 Element	8.7 DB	30 DB
\$895.00	40M346	40M Optimum-Design 3 Element "Monarch"	9.0 DB	30 DB

**MODEL 40M-346**  
\$895.00  
CUSTOM-BUILT TO ORDER

SPECIFICATIONS	
GAIN IN DB OVER WAVE DIPOLE	9.0
F/B RATIO IN DB	30
BEAMWIDTH TO 1/2 POWER POINT	53°
WIND AREA IN SQ FT	1350
WIND LOAD AT 100 MPH IN LBS	427
LONGEST EL. LGTH. FEET	40 X 35 FT
TURNING RADIUS FEET	40'
NET WEIGHT LBS. APPROX	177
SHIPPING WT LBS. APPROX	222

MANY MORE WRITE FOR SPEC & PRICE LIST PL68

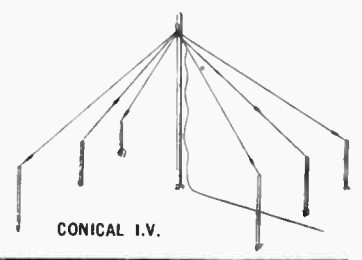
"QUALITY ENGINEERED", PRECISION TUNED MATCHED, & "BALUN" FED TO PROVIDE OPTIMUM PERFORMANCE PER ELEMENT, PER DOLLAR!

TELREX "BALUN" FED "INVERTED-V-ANTENNA" KITS

MONO-BAND KIT 1.5K - PEP - \$23.95; 2.5K - PEP - \$29.95  
"TRAPPED" 2 BAND 1.5K - PEP - \$39.95; 2.5K - PEP - \$49.95  
"TRAPPED" 3 BAND 1.5K - PEP - \$49.95; 2.5K - PEP - \$67.95  
. 5 Band - 80-10M "Conical-Inverted-V" 2.5K - PEP - \$55.95  
. 4 Band - 40-10M "Conical-Inverted-V" 2.5K - PEP - \$53.95  
. 3 Band - 20-10M "Conical-Inverted-V" 2.5K - PEP - \$52.95  
\*\*5DB to 10DB "EMPIRICAL-LOG - I.V." ----S.A.S.E.  
Mfd. Under Telrex Pat. #2,576,929

TELREX "BALUN" FED "INVERTED-V-ANTENNA" KITS

MONO-BAND KIT 1.5K - PEP - \$23.95; 2.5K - PEP - \$29.95  
"TRAPPED" 2 BAND 1.5K - PEP - \$39.95; 2.5K - PEP - \$49.95  
"TRAPPED" 3 BAND 1.5K - PEP - \$49.95; 2.5K - PEP - \$67.95  
. 5 Band - 80-10M "Conical-Inverted-V" 2.5K - PEP - \$55.95  
. 4 Band - 40-10M "Conical-Inverted-V" 2.5K - PEP - \$53.95  
. 3 Band - 20-10M "Conical-Inverted-V" 2.5K - PEP - \$52.95  
\*\*5DB to 10DB "EMPIRICAL-LOG - I.V." ----S.A.S.E.  
Mfd. Under Telrex Pat. #2,576,929



**TELREX ROTATOR SELSYN INDICATOR System MODEL A1312RIS**

**Mast, Feeds Thru Rotator For Safe, Easier, Installation**

- 1200 IN/LBS ROTATION TORQUE
- SELF LOCKING BY STURDY WORM GEARS
- SELSYN AZIMUTH INDICATION
- ACCOMMODATES 2" O.D. MASTING
- MALLEABLE CAST MASTING CLAMP SUPPLIED

**\$325.00**  
f.o.b. A. P.

ALSO

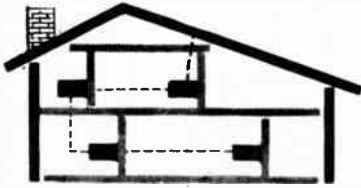
A1822RIS .....\$415.00  
A2140RIS .....\$495.00  
A2675RIS .....\$595.00  
A2695RIS .....\$695.00  
BA1514RHS. \$465.00  
BA2024RHS. \$545.00  
BA2345RHS. \$625.00

And More — Send for Brochure

**TELREX COMMUNICATION ENGINEERING LABORATORIES**

## TV Antenna and Wiring Kits










For 4-Set and 8-Set Connections



Whole house television wiring — a comprehensive, factory-engineered system in kit form — enables several television and fm radio sets to be operated simultaneously from a single antenna without interaction. Reception is flawless, whether over uhf/vhf channels, in black and white, or in color.

Model 1-4BK kit is designed for one-family homes or multiple dwellings of from one to four families. Model 5-8BK, which is used to wire in from five to eight sets, has been designed for apartment houses, motels hotels, and larger dwellings.

The kits include gold-anodized, performance-proven television antennas, 300-ohm distribution systems, and non-electrical outlets. Additional 300-ohm line may be needed.

1	FAS-6		5	263-S	
2	FAV-1		6	624	
3	FSS-1		7	PC-2	
4	FAS-1PK		8	F-1	
			9	AC-1-PK	

FREE catalog shows complete line of TV antenna accessories. Information also available on the newest line of solderless TV antenna accessories for use with shielded and other 300 ohm cable.

## Audio Accessories

1 Deluxe Six Position Switch Plate designed for installation at a central point and control any speaker or combination of speakers installed in remote locations. Available in two models. Mosley FAS-6 will control one speaker from each of the six switches. Mosley FST-6 has the same outward appearance as FAS-6 but has six dual channel switches for stereo installations. Both are easily installed with F-9 mounting brackets.

2 Attenuator Plate Model FAV-1. Used to assemble L-pad, T-pad, Fader etc. for Audio and Hi-Fi systems. Less control. Model FAV-2 has the added feature of plug and jack supplied for additional external speakers.

3 Three Position Speaker Switch. This Model, No. FSS-1 is a complete remote system for Hi-Fi or Stereo speaker systems. The three position switch will operate single speaker system, remote system or both. Model FSS-2 has the advantage of external plug & jack, supplied for additional external speakers. Mounting brackets & instructions included.

4 Speaker Wall Plate Outlet. This Model No. FAS-1PK is a flush mounting outlet. Speaker socket and plug are polarized and solderless. Ideal for custom Hi-Fi installation where remote speakers are not permanently installed. Complete with mounting brackets and instructions. Model FAS-11PK has the double advantage of two outlets.

## Television Antenna Accessories

For 300 ohm

5 Mosley Y-TY: Strain relief connectors eliminates lead-in breakage at TV Antenna elements. For antennas where distance between terminals is 4" & 6" use model 263L and 4" or less, model 263S.

6 Mosley Roof-Thru: A weather-proof roof entrance for TV lead-in. Model No. 624. Also available are Models 625 (Wall-Thru) and 626PK (Wall Feed).

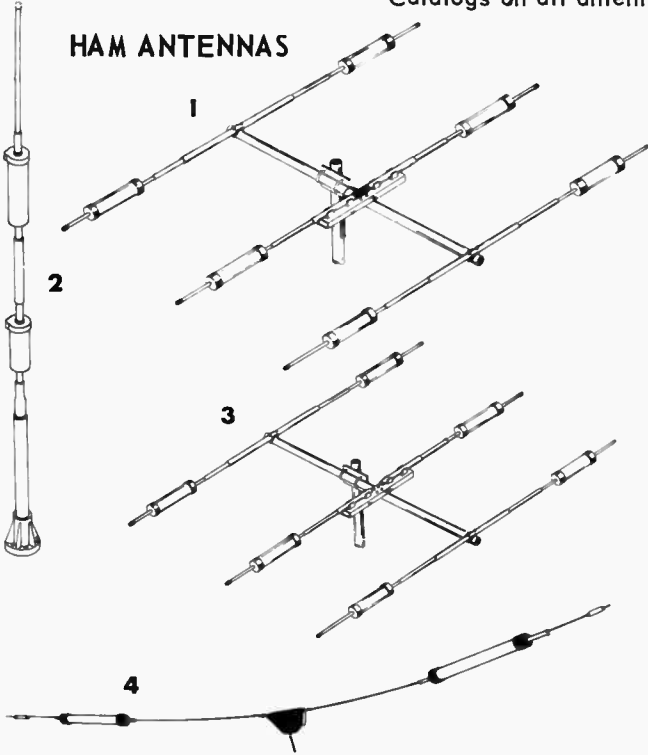
7 Mosley Dual Match TV Coupler: This PC-2 is a compact two set coupler designed to minimize set interaction and radiation. Housed in sturdy brown or ivory polystyrene case.

8 Flush Mounted Sockets & Accessories. The F-1 (as illustrated) is a single flush socket used for TV or FM installations utilizing single 300 ohm antenna lead-in without rotator. Items available in this series include the Multiple TV Lead-In Flush Sockets, Combination Lead-In with Rotator Cable Flush Socket and Flush Mounting Hardware.

9 Combination AC-TV Wall Plate Sockets These sockets provide plug-in connection for 300 ohm TV lead-in and multi-wire rotor cables as well as mating wall plates for double AC outlets. TV lead-in sockets mate with three pin plugs which cannot be accidentally inserted into AC sockets. Wall Plate No. AC-1PK.

Mosley offers a wide selection of amateur radio, citizens band, and commercial antennas from which to choose. Catalogs on all antenna lines available upon request.

### HAM ANTENNAS



#### 1 Model CL-33 (Classic-33)

Broadband Trap-Master 10, 15, 20 meter beam. Broadband capacitive match. Rated 1 KW AM/CW, 2 KW P.E.P. SSB input. Full 10.1 db. gain (over isotrop. source). Front-to-back, 20 db. or better on 15 and 20; 15 db. on 10. SWR 1.5/1 or better. Max. el. length, 27 ft. Wind surface, 6 sq. ft. Shipping wt., 47 lbs.

Model CL-33 . . . . . Net \$131.95

#### 2 Model RV-4

Ideal for installations where space is an important factor. Power rated 750 watts AM/CW, 2 KW P.E.P. SSB input. Requires four 32' radials. Antenna for 10, 15, 20 and 40 meters. SWR 1.5/1 or better. Exceptionally flat response over full bandwidth. Antenna height, 20' 8 5/8" above insulator. Shipping wt., 11 lbs. Roof mount with RV-4RK kit available.

Model RV-4 . . . . . Net \$35.13

#### 3 Model TA-33

Broadband Trap-Master 10, 15, 20 meter beam. Use on 40 meters also with TA-40KR kit. Full KW AM/CW, 2 KW P.E.P. SSB input. Forward gain up to 10.1 db. (over isotrop. source). Front-to-back, 20 db. or better. SWR 1.5/1 or better. Mosley match. Max. el. length, 28'. Wind surface, 5.7 sq. ft. Shipping wt., 53 lbs.

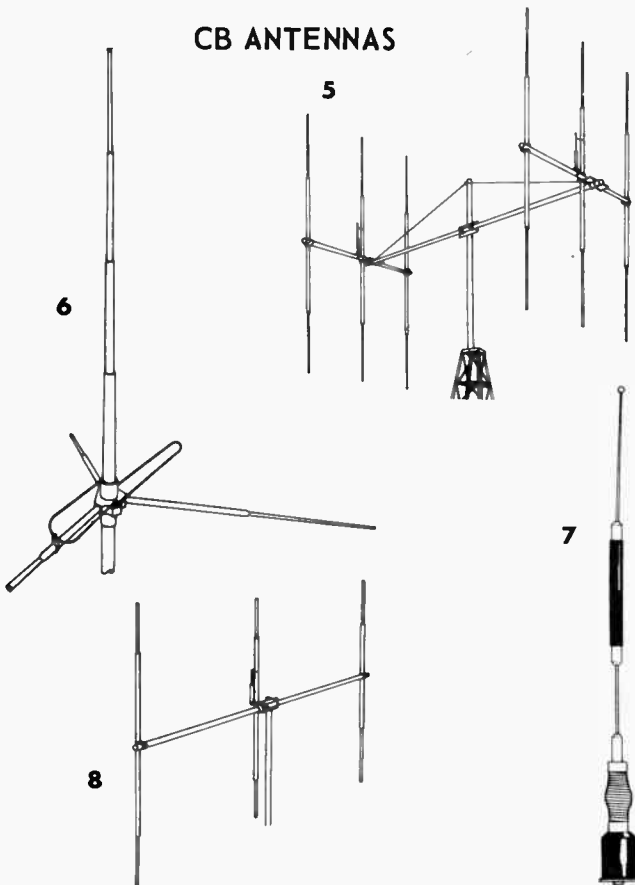
Model TA-33 . . . . . Net \$120.99

#### 4 Model TD-2

Doublet resonates at 40 and 80 meters. Parallel resonant trap circuit automatically selects proper electrical length of each band. SWR, 1.5/1 or better. Power rated, 1 KW AM/CW, 2 KW P.E.P. SSB input. Max. overall length, 114 feet. Shipping wt., 9 lbs.

Model TD-2 . . . . . Net \$45.53

### CB ANTENNAS



#### 5 Stack'it antennas

Mount (stack) two beams on the same mast for added gain over a single beam. Stack'it beam kits included everything needed for the stacking job . . . from two beams, coax yoke, hardware, guy rope, boom, to concise assembly instructions. Feed with 52 ohm coax (not included). Built to withstand 80 MPH winds. Three beam kits available:

STACK'IT 3, model SKT-3 . . . . . Net \$80.25  
 STACK'IT 4, model SKT-4 . . . . . Net \$93.45  
 STACK'IT 5, model SKT-5 . . . . . Net \$109.95

#### 6 Model Devant 1

Performance proven 5/8 wave vertical antenna. Gain 5.9 db. SWR 1.5/1 or better. Assembled weight, 7.5 lbs. Height, 19' 7 1/2". Wind surface area, 2 sq. ft. 'Induct-O-Match' matching system. Low angle radiation. Mounts on mast up to 1 1/4" outside diameter.

Model Devant 1 . . . . . Net \$25.04

#### 7 Model DP-27 (Deputy)

Base loaded mobile antenna. Easy to disconnect. Supplied with roof top mount; however, accessory mount 'Mobilmate' available for trunk groove or drip rail installation. Complete with S/S whip, 18' of coax, chrome plated spring and hw. supplied. Length 43 3/4".

Model DP-27 (Deputy) . . . . . Net \$17.59

#### 8 Model A-311-S

Scotch-Master beam. VSWR 1.5/1 or better. Front-to-back, 20 db. Vertical wind load, 60 lbs. Forward gain, 10.5 db. (over isotrop. source). Gamma matched. Feed point impedance 52 ohms. Wind surface area, 3 sq. ft. Shipping wt., 14 lbs.

Model A-311-S . . . . . Net \$38.50

**PREMAX**

**ANTENNAS--MOUNTINGS--ACCESSORIES**

**SERIES C CENTER-LOADED MARINE ANTENNAS**

A Center-Loaded Collapsible type Antenna, consisting of two telescoping, adjustable base sections on which the loading coil is mounted, with a tapered top whip section, giving a total extended length of about 19 feet. This Antenna collapses to a single unit with the whip section telescoping through the coil into the lower section, making a collapsed length of 7 feet. The sections are of seamless aluminum, or stainless steel and the coil is wound on low-loss bakelite tubing and treated after assembly with weatherproof coating.

No.	Type	Base O.D.	Base I.D.	Wt. Lbs.	List Price
CLA-819	Aluminum	1.000"	.834"	5	\$55.00
CLS-1119	Stainless	1.000"	.900"	7	110.00

**SERIES B CENTER-LOADED ANTENNAS FOR MOBILE & MARINE USE**

Center-Loaded Whip-Type Antennas consist of a standard base section or spring-type on which is mounted a special Premax coil. The top is a taper-ground stainless steel whip 6 ft. in length, giving a total overall height of 9 ft. Various coils are available or the standard 75-meter coil can be adapted by shorting out turns on the coil. Antennas can be used with any of the Standard Premax Mountings shown below, or will fit any 3/8" x 24-thread mounting.

NO.	FREQ.	PRICE
BXS-14	14,000 kc. (20M.)	\$24.00
BXS-23	2374 kc. (CAP)	24.75
BXS-31	3105 kc. (APT)	24.75
HXS-38	3800 kc. (75M)	24.75
BXS-43	4325 kc. (CAP)	24.75
BXS-46	4585 kc. (CAP)	24.75
BXM-25	2000 to 3000 kc. (Marine)	24.75

(Same as BXS but with Spring)

BSS-14	14,000 kc. (20M.)	39.75
BSS-23	2374 kc. (CAP)	41.25
BSS-31	3105 kc. (APT)	41.25
BSS-38	3800 kc. (75M.)	41.25
BSS-43	4325 kc. (CAP)	41.25
BSS-46	4585 kc. (CAP)	41.25
BSM-25	2000 to 3000 kc. (Marine)	41.25

**SERIES B COILS**  
Premax also supplies the Series "B" coils in the standard frequencies above. Special frequencies available on request.  
List Price .....\$13.50 ea.

**MAST EXTENSIONS**

Polished Stainless Mast Extensions—threaded 3/8"-24 on both ends and supplied with stainless nuts and lockwashers. Available in 12", 18", 24", 30" and 36" lengths.

Prices range from \$6.00 to \$12.00 list each



BX Mast Type Extension BXS  
Type BSS

**MOBILE VHF WHIPS**

Style CD-11 Series—Permanent type. Porcelain insulator mounts thru 1/2" hole in rooftop.

Style CD-21 Series—Emergency type. Attaches by heavy duty suction cup.

NO.	FREQ.	PRICE
CD-112	108 to 120 mc.	\$6.00
CD-114	144 mc.	8.00
CD-115	152 to 162 mc.	6.00
CD-212	108 to 120 mc.	4.20
CD-214	144 mc.	4.20
CD-215	152 to 162 mc.	4.20



CD-11

**GROUND PLANE ANTENNAS FOR POINT-TO-POINT USE**

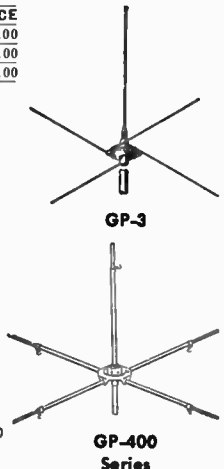
For point-to-point installations, Premax has two VHF Antennas: The Style GP-3 which has elements of heavily-plated spring steel with skirt wires that can be bent down to any angle to match coax cable. Mounting is within a water-proof housing that fits standard 1/2" pipe. Cable carries down thru pipe.

NO.	FREQ.	USE	PRICE
GP-312	120 mc.	For aircraft and CAP.	\$12.00
GP-314	140 mc.	For 2 meter and CD.	12.00
GP-315	150 mc.	For police and taxi	12.00

**PREMAX ADJUSTABLE GROUND PLANE ANTENNAS 20-60 mc**

Another low-cost type Ground Plane Antenna is adjustable from 20 to 40 mc. or 40 to 60 mc. Standing wave ratio matching to 52-ohm line is 1.07 to 1.13 and to 72-ohm line is 1.27 to 1.23 depending on type of transformer cable. All-aluminum construction employing adjustable tubular elements.

GP-430	Adjustable 20-40 mc.	\$75.00
GP-450	Adjustable 40-60 mc.	60.00



GP-400 Series

**MOBILE MOUNTINGS FOR USE WITH WHIPS WITH 3/8"-24 MALE THREAD**

**CA BUMPER MOUNTING**

"Chain Style" — claims on any bumper with 1" clearance; no drilling; theft-proof.

Price .....\$15.00



Type CA

**SA-2 SPRING ADAPTOR**

Stainless steel Spring Adaptor—can be attached to types R-2, R-3, L-1, CA and NA-1 to provide greater flexibility. Height 4 1/4", diameter 2 3/4".

Price .....\$15.00



Type SA-2

**R-2 UNIVERSAL COAX TYPE MOUNTING**

Solid Polished Aluminum split-ball can be adjusted to any angle. Has shielded coax connection and stainless hardware.

Price .....\$18.00



Type R-2



Type R-3

**R-3 UNIVERSAL MOUNTING**

Solid Polished Aluminum Swivel Ball. Heavy stainless steel back-up plate with grounding screws. Stainless steel hardware.

Price .....\$22.50

**TYPE NA-1**

Bumper mounting with ceramic cone insulator and steel bracket.

Price .....\$12.75



Type NA-1

**TYPE L-1**

Bumper mounting, 2 pairs ceramic cone insulators with steel bracket. 10" adjustment.

Price .....\$21.00



Type L-1



Type RS-2

**TYPE RS-2 COMBINATION**

Similar to R-2 except has spring as shown under SA-2.

Price .....\$37.50



Type F

**TYPE F**

30° adjustable mounting for fender, cowl or gravel pan. Chrome-plated brass with phenolic insulation.

Price .....\$21.75



Type V

**TYPE V**

Thru-deck mounting designed for Style BX and BS Center-Loaded Marine Antennas. White porcelain cones with a maximum opening for 1-1/2" deck. Stud threaded 7/16"-24.

Price .....\$13.00



# PREMAX ANTENNAS--MOUNTINGS--ACCESSORIES

## VERTICAL TELESCOPING ANTENNAS PREMAX STAINLESS STEEL ANTENNAS


Premax stainless steel antennas, fully telescoping and adjustable, have a locking device that holds the sections firmly at any desired point insuring a perfect electrical contact. Made of a high grade polished stainless steel tubing, hard-drawn to an extremely high tensile and yield strength, they are well suited for the most severe strains from high seas or winds.

## PREMAX ALUMINUM ANTENNAS

Premax aluminum antennas are lightweight, corrosion resistant and have adequate strength to meet practically all needs for marine, commercial and mobile installations that demand convenience in erecting and dependable performance. They are constructed of highly polished, specially tempered aluminum tubing engineered to withstand wind velocities up to 60 miles per hour.

## SPECIFICATIONS & DESCRIPTIONS OF TELESCOPING VERTICALS

NO.	DESCRIPTION	EXTD.	COLL.	BASE O.D.	BASE I.D.	WGT.	LIST PRICE
SS-1118	3-Sec. Stainless	18'4"	6'3"	.750"	.680"	6	\$ 90.00
SS-1124	4-Sec. Stainless	24'3"	6'3"	1.000"	.900"	9	135.00
SS-1130	5-Sec. Stainless	30'0"	6'4"	1.250"	1.120"	13	185.00
SS-1135	6-Sec. Stainless	35'7"	6'4"	1.500"	1.370"	19	255.00
AL-312	2-Sec. Aluminum	12'4"	6'4"	.500"	.334"	1½	15.00
AL-518	3-Sec. Aluminum	18'5"	6'4"	.750"	.584"	3	25.00
AL-324	4-Sec. Aluminum	24'4"	6'4"	1.000"	.834"	5	35.00
AL-530	5-Sec. Aluminum	30'0"	6'5"	1.250"	1.084"	7	55.00
AL-535	6-Sec. Aluminum	35'8"	6'5"	1.500"	1.310"	12	75.00



### GET POSITIVE PROTECTION FOR YOUR EQUIPMENT WITH A PREMAX GROUND ROD

High quality, low cost Premax Ground Rods make it impractical to fuss with makeshift grounding methods. Made of smooth drawn steel with newly designed pencil-point tip for easier driving. Heavy copper plate prevents rust and assures sensitive electrical contact. Available in 4 ft. to 8 ft. lengths; 3/8", 1/2" and 5/8" diameters. Styles J and G have simple clamp with set-screw for attaching ground lead. Style H has a 1/8" hole drilled in rod through which ground lead can be fastened. Style X is a plain rod to which ground lead can be clamped or soldered.

Weight per 100 Pcs	STYLE J & G		STYLE H		STYLE X	
	No.	List	No.	List	No.	List
3/8"x4'	160	J-64T 1.25				
3/8"x6'	230	J-68T 1.65				
3/8"x8'	320	J-68T 2.00				
1/2"x6'	400	G-86T 2.90	H-86T 2.95	X-86T 2.70		
1/2"x8'	540	G-88T 3.50	H-88T 3.55	X-88T 3.25		
5/8"x6'	630	G-106T 4.25	H-106T 4.30	X-106T 4.10		
5/8"x8'	840	G-108T 5.25	H-108T 5.30	X-108T 5.10		

**GALVANIZED RODS QUOTED ON REQUEST**  
Freight Allowance of up to \$2.00 per cwt. granted on all Ground Rods based on lowest rail freight rate.

**STANDARD PACKAGING**

- All 3/8" x 4' Rods — 25 per carton
- All 3/8" x 6' and 3/8" x 8' Rods — 25 per bundle
- All 1/2" Dia. Rods — 20 per bundle
- All 5/8" Dia. Rods — 10 per bundle

## BASE MOUNTINGS FOR VERTICALS



### TYPE 1 BASE INSULATOR

Heavy-duty type Base Mounting Insulator with compression rating up to 10,000 lbs. Has wet-process brown-glazed porcelain cones. Available in galvanized malleable iron, and chrome-plated brass, in rigid-post, hinged-post. Ht. to post base, 7 to 9 inches. Wt. 8 lbs.

List Price .....\$52.00 to \$105.00



### TYPE 6 BASE INSULATOR

For marine, mobile unit, roof-top or tower. Lead-thru construction permits connections below deck. Flanges 6" in diameter with 6 bolts on a 5" circle. For 1/2" to 3" deck. Available in galvanized malleable iron, and chrome-plated brass. Rigid post, and hinged post styles. Ht. from flange to post base, 3" to 5". Wt., 11 1/2 lbs.

List Price .....\$78.00 to \$170.00

## STANDOFF INSULATORS



### TYPE 10-S

A heavy-duty Insulator with chrome-plated brass base and head caps—regular or hinged clamps. Insulator is brown-glazed porcelain in extra heavy style. Ht. to center of clamp, about 4 1/2". Wt., 3 lbs.

List Price .....\$60.00 to \$102.50



### TYPE 13-S

Heavy, rugged cast caps and base plates in aluminum, or chrome-plated brass. Heavy brown-glazed porcelain insulator, 3 inches in diameter. Ht. to center of clamp, 4 3/4". Wt., 2 1/2 lbs.

List Price .....\$17.50 to \$55.00

## MOBILE WHIP ANTENNAS

### HEAVY DUTY TAPERED STAINLESS—TYPE ES

Solid one-piece taper-ground whips, 1/4" at base tapering to 3/32" at tip with top ball. High-tensile stainless steel fabricated by special formula, comparing favorably with the best spring steel, yet having excellent corrosion-resistant properties.

### HEAVY DUTY TAPERED CHROME-SILICON—TYPE EC

Same as above only fabricated from chrome-silicon steel of exceptionally high-tensile strength and uniformity of temper, with high fatigue values developed by special heat treatment during fabrication.

### STANDARD WEIGHT TAPERED STAINLESS WHIP WITH NON-REMOVABLE ADAPTOR—TYPE TS

Stainless steel whips of extremely high tensile strength with a permanent type stainless adaptor, with 3/8" male thread.

### STANDARD WEIGHT WHIP WITH REMOVABLE ADAPTOR— TYPE VS

Same whip as above except supplied with a removable adaptor locked in place by dual set screws.

NO.	LENGTH	PRICE	NO.	LENGTH	PRICE
ES-760	60"	\$10.50	TS-860	60"	\$10.50
ES-772	72"	10.50	TS-872	72"	10.50
ES-784	84"	12.00	TS-884	84"	11.25
ES-796	96"	12.00	TS-896	96"	11.25
EC-660	60"	8.25	TS-8108	108"	12.00
EC-672	72"	8.25	VS-960	60"	12.00
EC-684	84"	9.75	VS-972	72"	12.00
EC-696	96"	9.75	VS-984	84"	12.75
			VS-996	96"	12.75
			VS-9108	108"	13.50

AD-700 — Separate Stainless Adaptor with 3/8" male thread for ES and ES series whips. \$3.40

AD-900 Same as AD-700 except drilled for VS series whips. \$3.40

ALL PRICES SHOWN ARE LIST PRICES SUBJECT TO USUAL COMMERCIAL DISCOUNTS.

PRICES EFFECTIVE AT TIME OF PRINTING AND ARE SUBJECT TO CHANGE WITHOUT NOTICE.

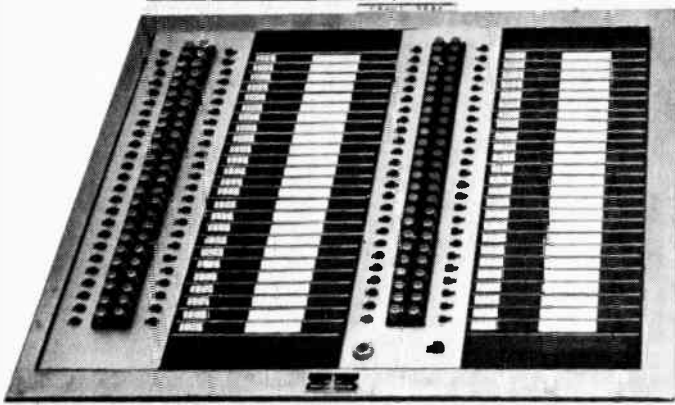
PREMAX PRODUCTS, DIV. CHISHOLM-RYDER CO., INC.

# AUDIO/VISUAL/SIGNAL SYSTEMS & PARTS FOR HOTELS - MOTELS - INSTITUTIONS

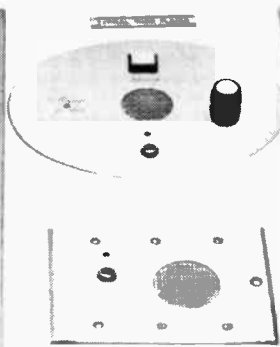
## ROOM STATUS CONTROLS

ONLY ONE CONTROL WIRE REQUIRED PER ROOM!  
LITERATURE AVAILABLE (SPECIFY NUMBER OF ROOMS).

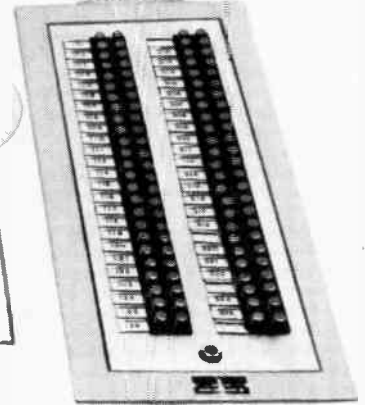
Typical Front Office Board



Typical Room Plates



Typical Housekeeper's Board



THESE SYSTEMS ARE PROTECTED BY  
U. S. PATENTS 3,214,747 and 3,230,520

**Model 2L — 2 Lights, 2 Switches per Room**  
Status Control System Between Front Office,  
Housekeeper & Guest Rooms:

- (1) Green Light — Room for Sale — Available
- (2) No Light — Room Occupied
- (3) Red Light — Room on Change (Check Out)

On condition (3) Check Out, a small light appears on guest room plate indicating to Maid that room is Check Out. Maid inserts her plug into plate jack causing lights at Front Desk and Housekeeper to blink. This informs them that Maid is making up room. When Maid completes room, she removes her plug. This turns off blinking red light and turns on the steady green light. This alerts Front Desk that room is ready again and available for sale.

A microphone jack on both Front Office and Housekeeper's panels allow for direct communication (one way only) to Maid in guest room. Maids location, and presence, is indicated by blinking light, so both Front Desk and Housekeeper instantly know where Maid is working.

(t) Net — Model 2L

Front Office Board .....	\$14.25 per room
Housekeeper Board .....	9.25 per room
Guest Room Plate .....	7.50 per room

Does not include cable or wires



Model 4L, 4 Lights, 2 switches, section detail of board.

**Model 4L — 4 Lights, 2 Switches per Room**

This system is based on American's original design patent and has been installed in the finest hotels all over the world, including the 900 room Las Vegas Dunes Hotel.

Status Control between Front Desk, Housekeeper (Cashier if wanted) and Guest Room.

- (1) Green Light — Room for Sale — Available
- (2) Amber Light — Room Occupied
- (3) Red Light — Room on Change — Check Out
- (4) White Light — Maid's Light, independent of status

Operation of Maid in room is similar to Model 2L except that white light is separate circuit which indicates to both Front Office and Housekeeper when room is completed, by steady white light. Status is changed to green by either Housekeeper or Front Office. This is a dual system, which may be operated from either Front Office or Housekeeper's boards, therefore does not depend on Housekeeper being present to operate system. This system allows for direct communication (one way) between Front Office, Housekeeper and Maid in Guest Room.

(t) Net — Model 4L

Front Office Board.....	\$18.00 per room
Housekeeper Board.....	13.00 per room
Guest Room Plate.....	7.50 per room

Does not include cable or wires

(t) Priced per room, up to 100 rooms; less cable, Room Unit (where required). \* All switching, signalling systems in these pages protected by Patent Nos. 3,214,747 & 3,230,520.

**Single Light Maid Status System**

Maid Call System "MC" is the use of the white light or maid's control light of Status Control System 4L as an independent, separate system. This system may be installed alone, and functions to notify the Front Office or Housekeeper when the room has been completed.

**Operation:**

- (1) On Check Out, Room Clerk turns on light on Guest Room Panel.
- (2) Light indicates to Maid that room is Check Out.
- (3) Light blinks at Front Office and/or Housekeeper's board when Maid inserts plug in room jack.
- (4) Light goes off when Maid removes plug.
- (5) Room Clerk now knows room is ready for Sale.

As with other systems, Front Office and Housekeeper are in direct communication (one way) with Maid in room.

(t) Net — Model MC

Front Office Board.....	\$8.75 per room
Housekeeper Board.....	5.25 per room
Guest Room.....	7.50 per room

Does not include wire or cable



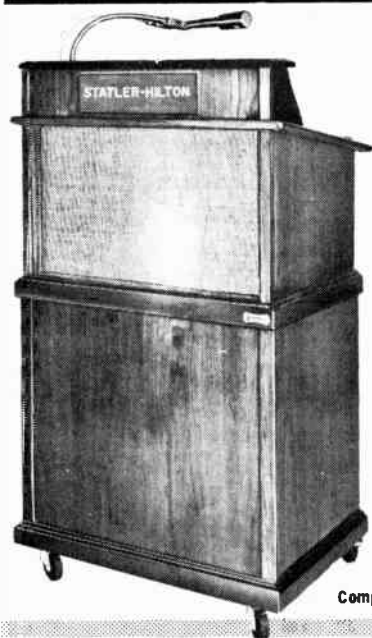
A-P5-A Room Unit, includes Centralized Radio Controls plus jack and light for "blink light" Room Status and Maid Call. Net \$15.00/room.



# AMERICAN COMMUNICATIONS CORPORATION

# AUDIO / VISUAL / SIGNAL SYSTEMS & PARTS FOR HOTELS - MOTELS - INSTITUTIONS

## NEW PORTABLE ELECTRONIC LECTERN



Completely Suspended Speaker System

### UNQUESTIONABLY THE BEST HEAVY-DUTY ELECTRONIC LECTERN MADE

- The greatest advance in Lecterns — anechoic speaker suspension system!
- Completely self-contained. Demountable Base is optional!
- Use anywhere. More built-in features than any other make!
- Most RUGGED, RELIABLE Portable Electronic Lectern on the market!
- IDEAL for banquets, conventions, auctions, sales meetings, dances, at Churches, Schools, Hospitals, etc.

AMERICAN'S improved No. A-203 Electronic Lectern is efficient, portable and unified — nothing else to buy (includes microphone, amplifier, anechoic speaker suspension system and long line fluorescent reading light, with provision for optional equipment). When combined with Base, it constitutes a Podium, High-quality cardioid microphone, w/Off-On switch, is adjustable in height and position; side mounted for maximum desk room. Amplifier is high-quality, reliable, high-fidelity type, w/separate Bass and Treble controls to suit any acoustic situation of speaker or

audience, and for maximum voice fidelity and minimum feedback. Lectern (top section) lifts off Base (bottom section) for table top use, and has space for reference material under sloped reading desk. Base folds for easy, convenient storage!

Optional equipment: (1) jack with extra speaker for covering large audiences; (2) extra mike jack; (3) neck microphone with long lead, for speaking away from Lectern (as for audience participation, etc.); (4) built-in or remote timer, and signal light. Engraved bakelite Nameplate is extra, Net: \$15.00.

#### SPECIFICATIONS

No. A-203A Lectern (only) is fully equipped, ready to use, as described. A-203B is above Lectern, plus Base; latter has quiet, ballbearing casters. Made of selected hard wood, in rich walnut. A-203B, overall: 28" x 19" x 50" high. Approx. weights: A-203A, 75 lbs.; A-203B, 105 lbs. Microphone has gooseneck stand. Amplifier audio output, 35 watts. Junction box for A-C linecord. Operates on 115 V., 60 cy. No. A-203C is A-203B w/jack for second, auxiliary speaker (supplied).

	Net Prices		
A-203A, \$305.00	A-203B, \$405.00	A-203C, \$435.00	

## SIGNAL MAIL RACK & MESSAGE-AT-DESK

REQUIRES ONLY ONE CONTROL WIRE PER GUEST ROOM

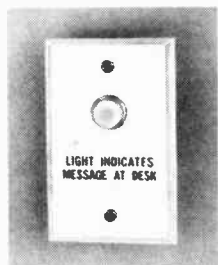
AMERICAN COMMUNICATIONS manufactures two signal systems, either of which may be used to expedite message and/or mail handling in hotels, motels, schools, factories, hospitals, and other institutions.

The Mail (and Message) Rack Signal System is comprised of numbered pockets, one for each room with a push button light switch, or light and switch for each pocket. Each pocket is wired to a guest-room. When clerk files mail (or message) in pocket, he lights corresponding lamp; simultaneously, a duplicate lamp in the guest room lights, and advises guest he has a message at main desk.

Long-life bayonet lamps in Signal Mail Racks and Message-at-Desk units are easily replaced from front.

A new 2-Way model, No. A-MR2, with access from either side and lamps and switches on both, enables Mail Clerk to insert mail from one side and silently signal guest and for Telephone Operator to insert messages from the opposite side (and also signal the guest).

The Message-at-Desk Unit is identical with the Mail Rack System, except that there are no pockets — only push button light switches or lamps and switches mounted on a control panel. Message clerk — usually the telephone operator — signals to guest that there is a message (or mail) by moving a switch as above described. Model A-MD1/85 (illus.), for example, is a desk-top model for 85 guest rooms.

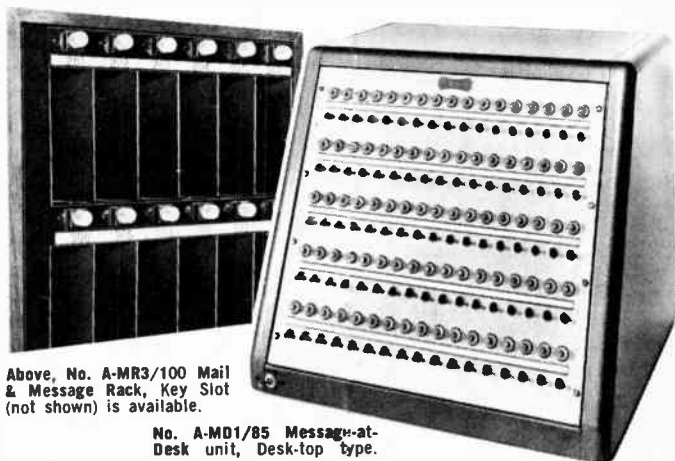


No. A-P20-3-A Signal Plate, in guest room, mounts on standard 1-gang outlet box.

The Racks and Panels are available in a variety of constructions to suit individual requirements as to location and number of rooms, and in standard or special finishes as decor dictates. The Mail Rack is available with key slots.

If guest room is not wired for radio, a separate wall plate, A-P20-3-A, is provided for the signal lamp; otherwise, it can be included on the radio control panel or the TV Remote Control Unit.

They may be made for Flush-wall (recessed), Surface-wall or Desk (table-top) mounting. An easily removable end cover plate permits access to wiring. Power Supply unit (included) is controlled by a switch.



Above, No. A-MR3/100 Mail & Message Rack, Key Slot (not shown) is available.

No. A-MD1/85 Message-at-Desk unit, Desk-top type.

#### SPECIFICATIONS — Signal Mail/Message Racks

Standard finish, velvet black enamel. Material is steel. Standard pocket measurements: approx. 8" deep x 7 3/4" high (incl. 1 1/8" for Key Shelf, where used) x 2" wide. Specify whether wiring termination board is to be placed at left or right end of Rack.

#### NET PRICE

A-MR3/Signal Mail Rack System, standard, \*\$13.50 per pocket with American push button switches.

The foregoing Net Price is less connecting wire and Room unit, but including Power Supply for up to 100 rooms. Discounts apply on larger installations.

#### SPECIFICATIONS — Message-at-Desk

Standard finish, Flush or Surface mounting; type, velvet black or grey enamel; Desk-top type, grey enamel. Other colors to suit decor are special. Material is steel.

#### NET PRICE

A-MD1/- Message-at-Desk System, Desk type; and, A-MD2/- Message-at-Desk System, Flush Panel type, \$7.50 per room with American push button switches. Above Net Price is less connecting wire and Room Unit, but including Power Supply.

AMERICAN MANUFACTURES A COMPLETE LINE OF CATV AND MATV EQUIPMENT. ASK FOR CATALOG 12P.



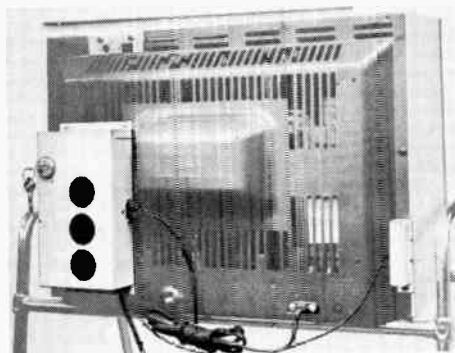
# AMERICAN COMMUNICATIONS CORPORATION

# AUDIO / VISUAL / SIGNAL SYSTEMS & PARTS FOR HOTELS — MOTELS — INSTITUTIONS

## AMERICAN'S New TV-set THEFT ALARMS\*



A-TA-B/50 TV-set Theft Alarm for Hotels.



TV-3, SELF-CONTAINED TV THEFT ALARM.

AMERICAN'S TV-set Theft Alarm is now available in designs that meet the needs of occupancies of any size; in addition to the Model B, for hotels of 50 rooms or more, there is the new Model C, for motels of under 50 room units.

Both models operate to signal the front desk of any attempt to steal the television set it protects.

Installation may be made by any technician, following detailed instructions supplied with each System (Console, and Room Units). Requires only one control wire per guest room.

**Operation:** Equipment under protection (TV-set, appliance, etc.) is electronically protected. Any attempt to remove connection from wall outlet, or cut power cord, starts alarm signal. This signal is indicated at the Front Office as a flashing light, and loud buzz.

There is no alarm in the guest room to alert the thief, but the Front Office signal, once triggered, cannot be stopped until Front Office attendant has operated a Reset switch (which cancels buzz); a room indicator lamp remains lit, however, until house

personnel has checked the guest room and restored the circuit to its normal alert condition.

Apartment House owners can now offer their tenants maximum security at negligible cost. Tenant is protected against an unlawful entry.

### SPECIFICATIONS

No. A-TA-B/- TV-set Theft Alarm, including Front Office Control Console, complete w/room lights, loud-sounding buzzer, alarm light, flasher, alarm reset and power on-off switches, solid state devices, and power supply; and, Room Kit (Conversion Cord, Conversion Outlet, one each per room). Control Console (A-TA-B/50) measures approx. 15" x 7 $\frac{3}{4}$ " x 9" deep; wt., approx. 30 lbs.; finish, gray crackle enameled steel. Operates on 115 V., 60 cy. A-C. **Net Price, A-TA-B/-, \$12.00/room.** Price is for a maximum of 50 rooms. Cable not included.

**TV-3, SELF-CONTAINED TV THEFT ALARM.** The TV-3 Theft Alarm mounts on the back of each TV set. Should anyone attempt to cut the power line, pull out the power plug or remove the Theft Alarm, an

extremely shrill piercing alarm is set off. The alarm, which is audible throughout the entire building, will run for about an hour. Two options are available to the owner. Option 1 requires the management's presence to shut the alarm off. Option 2 — If the plug is re-inserted in the receptacle, the alarm will shut off by itself. This option allows for a test of the alarm.

The TV-3 is held in place by screws. No internal connections have to be made to the set. All that's required is to plug the TV set's power cord into the TV-3 and then plug the TV-3 into any power receptacle.

**NOTE:** If Power goes off, Alarm will not be set off.

**Net: TV-3, \$14.00.** Quantity discounts.

No. A-TVB1 Bracket (left). Swivel wall-mounted support for 19" TV sets, particularly the Designer series, or equivalent, for hospitals, hotels, etc. Saves floor space. Set easily positioned for best viewing. **Net \$9.75.** (Other sizes to order.)



No. A-RW1 Radio Wall-plate.

## PATIENT'S RADIO WALL-PLATE

Although designed for use by patients in hospitals, the No. A-RW1 Radio Wall-plate shown here, is a convenience wherever used. Operates by pull chain or Nylon cord. Has stepper switch and a jack. Switch has continuous rotation through "Off", 5 positions for selection of radio programs, and back to "Off", and so-on. Jack provides connection for pillow speaker.

### SPECIFICATIONS

No. A-RW1 Radio Wall-plate. Switch is pull-chain actuated, continuous rotation, single-pole. 5 positions and "Off". Either single-circuit or seize-type jack can be supplied, for PL-55 plug; specify which desired. Plate is stainless steel, 2 $\frac{3}{4}$  x 4 $\frac{1}{2}$ " high; overall depth, from front of plate, 2 $\frac{1}{4}$ ". Fits standard outlet box. Bead chain or nylon cord. 3 ft long; cut to desired length. **Net Price, \$7.35**

No. A-RW2 Radio Wall-plate. Dual unit placed between two beds for two patients' use. Size: 4 $\frac{3}{8}$ " x 4 $\frac{3}{8}$ ". **Net Price, \$12.85**

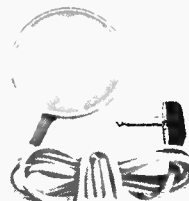
## TV MOUNTS

No. A-TVS Roll-away TV Stand (right). Easily positioned under, for example, a hospital bed. Shelf holds set over bed. Hard-rubber casters, bolted 7/8-in. diam. steel tubing. Shipped KD. Bar holds pillow speaker cord or, as shown, TV Remote Control Cord. **Net \$25.49.**



\* Protected by Pending Patents.

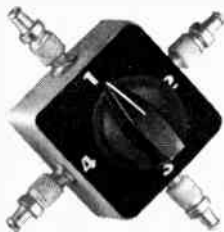
## PILLOW SPEAKER / "MIKE"



No. A-S/M Pillow Speaker, may serve also as Microphone! Ideal for hospital use: Water-resistant, stainless steel case, rugged construction, exceptional fidelity, has bedclothes clip and chain (not shown), and special flat-to-wall plug. Alnico magnet; available voice coil impedances: 3.2, 2,000, 5,000 and 10,000 ohms. Measures 7/8" x 3" dia. Cord is 100 ft. long (other lengths to order). **Net Price, \$10.50.** Quantity discounts.

# AMERICAN COMMUNICATIONS CORPORATION

# NEW! COAX. SWITCHES | DB ATTENUATORS



**No. A-SW/4 Coaxial Switch.** Inexpensive, functional equivalent of lab-type switching units, for general-purpose use.

**No. A-SW/- Coaxial Switch.** Low-cost, small-space, light-weight coaxial switch; with positive detent action; C, F or BN connectors for coax. cable. Illustrated is a 1-pole, 4-position unit for switching one input to four circuits (antennas, transmitters, exciters, receivers, test equipment, etc.). Almost any number of circuits can be switched with 72Ω terminations on all unused circuits. Power rating up to 1 kw., amplitude modulated; impedance, 52-75 ohms. Approx. 2" x 2" diam. Supplied w/hardware (pointer knob, mounting bushing, and C, F or BN connectors w/ferrules). **ASW/2**, 1-pole 2-position, Net \$7.75. **ASW/4** (illus.), Net \$8.50 (with C or F connectors — others extra).



**No. A-DB/39 Attenuator.** Pays for itself in the time it saves determining loss required for best TV picture, etc. Slide switches are used.

**AMERICAN'S No. A-DB/39 and No. A-DB/58 Attenuators** (the latter not illustrated) provide at low cost, quick and convenient means for determining losses in a number of essential tests in TV installations. These include: measurement of amplifier gain, and equipment losses.

#### SPECIFICATIONS

Insertion loss of **A-DB/39** is in fixed steps of 3 to 39 db, and of the **A-DB/58**, 3 to 59 db, for TV frequencies, when used in 75-ohm circuits. Two **A-CH61** solderless TV connectors afford connection to 75-ohm coaxial connectors. Housing is steel, ecru enameled; overall, 2" x 2" x 1" deep (**A-DB/39**).

Net: **A-DB/39**, \$9.75; **A-DB/58**, \$19.90.



#### ALTERNATE ACTION PUSH BUTTON SWITCH

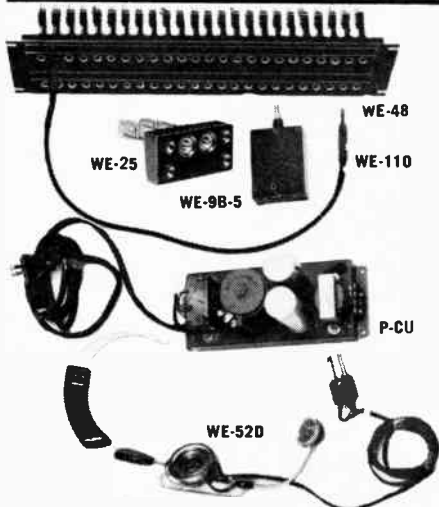
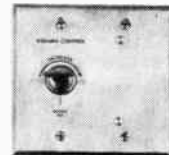
Uses standard bayonet type lamps of any voltage from 6 V. to 110 V. A-C or D-C, either incandescent or neon. Switch and lamp are each on separate circuits. Switch can be supplied with either SPST or SPDT. Switching is UL Approved. Lamps can be replaced from front. Lamp does not move when button is pressed, avoiding lamp burnout due to vibration. Normally supplied with SPST and 28 V., 40 Ma. bayonet lamp. Net 1 to 25, \$3.00; 25 to 100, \$2.75; 100 to 500, \$2.50; 500 to 1M, \$2.35. Other quantities write.

#### TAPPED TRANSFORMER VOLUME CONTROL

Mounted on 2-gang S. S. plate. Handles up to 10 watts. Can be used for either 25 V. or 70 V. circuit to voice coils. Heavy duty selector switch taps any of 6 positions. For perfectly balanced impedance matching. Model **TTVC**, \$12.50.

## ALL NEW — KEY LOCK CONTROLS P.A. VOLUME

**No. AKTVC/1** Complete transformer volume control. Step-less locks at any position. Handles 10 watts. Net \$12.35.



#### CUE PHONE SYSTEM EQUIPMENT

**P-CU Power Supply.** As many as 10 head sets can be powered simultaneously by this supply. Supply has proper retard coil for phone operation. Used extensively in hotel ball rooms and other large public areas for communications between control room and personnel. **P-CU** is supplied with a dust cover. Net: **P-CU** \$48.75.

**Type WE-52D Operator's Head Set** for intercommunication. Signals can be transmitted over extremely long distances on an ordinary pair of wires when used with **P-CU** Cue Phone Power Supply. Net: **WE-52D** \$38.75.

Not Shown — **WE-52 DLS**, 15' coiled cord, including integral switch for mike and 289B plug. Net \$54.40.

**Type WE-9B-5 Adapter.** Adapts the **WE-289-B** Plug to a Cue Phone **A-SJ-1** Seize Jack. Net: **WE-9B-5** \$15.40.

**Type WE-238-A Jack Panel WE-48.** Uses 48 type **WE-238-A** open circuited telephone jacks with tip ring and sleeve connections. Can be supplied with double-circuited type **WE-239-A** at additional cost of \$1.25 per jack. Size 3½" x 19" for standard rack panel.

Net: **WE-48** with type **WE-238-A** jacks \$118.00.

**Type WE-110 Telephone Patch Cord.** Uses tip ring and sleeve plug. Designed for use with type **WE-238-A** jack as used in **WE-48** Jack Panel. Supplied in 2 ft. lengths. Other lengths to 10 ft. available. Net: **Type WE-110**, 2 ft. \$7.10.

**A-SJ-1 Seize Jack** (circuit opening), wired, Net \$2.70.

**WE-25 Dual Jack Mounting** to accept **WE-289B** dual plug on Operator's Head Set **WE-52D**. Net \$7.50.



#### TELEPHONE HANDSET

**No. SH-500 Standard Telephone Handset Model 500** is complete with carbon microphone and receiver, plus 6 ft. length coiled cord (other lengths available). Net \$14.75.

#### UNIVERSAL HANDSET HOLDER

**No. UHH** can be obtained with spring action for double pole, double throw or other switch configurations as required. Stainless steel double gang plate, heavy duty die cast switch mechanism chrome plated. Other finishes available. For use with standard **Model 500** Handset and others. Net \$7.85.



## WEATHERPROOF MICROPHONE

**No. A-WM Weatherproof Microphone.** New! Rugged, high-fidelity dynamic microphone in diecast aluminum housing. Supplied complete w/coupling to fit all standard stanes and with neoprene cable gland, and nut. Grille opening protected by metallic screen and non-resonant, waterproof covering. Waterproof push-to-talk button permits talk-back for intercom use; signal light indicates "Microphone in Use". Available without switch or light. Impedance 35-50 ohms; can be supplied w/built-in matching transformer tapped for 200/600 ohm lines (other impedances to order). Frequency response 40-15,000 cps. Approx. 3¾" x 6¼" x 2¾" deep, overall, (less fittings); approx. wt. 3 lbs. Net \$45.85.



## TV REMOTE CONTROL

**A-RC America TV Remote Control.** Switches channels, controls volume, wired, operates with any remote control TV. Net: \$12.00



# AMERICAN COMMUNICATIONS CORPORATION

# BOGEN SOUND SYSTEMS

## FLEX-PAK PA AMPLIFIERS

Combining operational flexibility, sound quality and dependability, Bogen professional amplifiers offer functions and features unmatched at any price, by any maker. Adaptable to a wide variety of applications once served only by custom designed, custom fabricated equipment, these amplifiers will accommodate virtually any audio signal source, providing a degree of intelligibility and control not previously obtainable in a single chassis amplifier. They include facilities for a host of accessories, engineered to satisfy specific require-

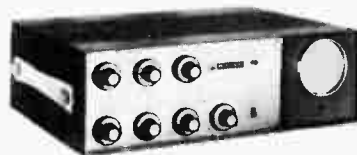
ments: two and four channel remote controllers, peak limiters, standby controllers for microphone or music channels; optional monitor and speaker units to allow checking of sound levels by both ear and eye; 600-ohm balanced line transformers; high-fidelity phono tops; plug-in microphone transformers, control locking plates, wall mounting kits and many more. All models include output jacks for driving tape recorders and booster amplifiers.



MX60A/MX30A/MTX30B Shown with MMS-1



M330A/M60A Shown with MSK-1



M120

	*MTX30B All Transistor	MX60A	MX30A	M330A	M60A	M120
<b>POWER OUTPUT</b>	30 w. @ 2% (Full pwr: 30 - 20,000 cps)	60 w. @ 2% (Full pwr: 21 - 30,000 cps ±1 db)	30 w. @ 2% (Full pwr: 21-40,000 cps ±1½db)	30 w. @ 2%	60 w. @ 3%	120 w. @ 3%
<b>PEAK POWER</b>	50 watts	85 watts	50 watts	50 watts	100 watts	200 watts
<b>POWER CONSUM.</b>	60 watts	180 watts	125 watts	120 watts	160 watts	320 watts
<b>FREQ. RESPONSE</b>	±1 db, 15-25,000 cps	±1½ db, 10-38,000 cps	±2 db, 10 - 40,000 cps	±2 db, 20-20,000 cps	±2 db, 20-20,000 cps	±1 db, 20-20,000 cps
<b>SENSITIVITY</b>	Mic.: 2 MV (high imp.); Mag.: 3 MV; Aux.: 0.3-v	Mic.: 3.5 MV (high imp.); Mag.: 2 MV; Aux.: 0.15-v	Mic.: 3.5 MV (high imp.); Mag.: 2 MV; Aux.: 0.15-v	Mic.: 6 MV; Mag.: 50 MV; Aux.: 0.3-v	Mic.: 24 MV; Mag.: 24 MV; Aux.: 0.4-v	Mic.: 9 MV; Mag.: 24 MV; Aux.: 0.4-v
<b>GAIN</b>	Mic.: 125 db; Mag.: 120 db; Aux.: 95 db	Mic.: 125 db; Mag.: 120 db; Aux.: 85 db	Mic.: 125 db; Mag.: 120 db; Aux.: 85 db	Mic.: 120 db; Mag.: 105 db; Aux.: 95 db	Mic.: 122 db; Mag.: 115 db; Aux.: 96 db	Mic.: 125 db; Mag.: 118 db; Aux.: 99 db
<b>HUM and NOISE (below rated output)</b>	Mic. - 70 db; Mag. - 65 db; Aux. - 85 db.	Mic. - 70 db	Mic. - 70 db	Mic. - 65 db; Aux. - 80 db	Mic. - 65 db; Aux. - 80 db	Mic. - 65 db; Mag. - 65 db; Aux. - 80 db
<b>INPUTS</b>	4 mic. (convert to low impedance, with T200, T500 or T50 transformer); 2 mic. (high imp.); 2 mag. phono or tape playback heads; 2 aux. (high imp., high level); 1 600-ohm balanced telephone line with WMT1 transformer; 2 bridging. Note: 4 mics. and any two of the other nine inputs may be simultaneously mixed and faded.	4 mic. (convert to low impedance with T200, T500 or T50 transformer); 1 mic. (high imp. or mag. tape); 2 aux. (high imp. high level/fader); 1 600-ohm balanced telephone line with WMT1 transformer; 1 bridging input/output. Note: 6 inputs can be simultaneously mixed and faded.	4 mic. (convert to low impedance with T200, T500 or T50 transformer); 1 mic. (high imp. or mag. tape); 2 aux. (high imp. high level/fader); 1 600-ohm balanced telephone line with WMT1 transformer; 1 bridging input/output. Note: 6 inputs can be simultaneously mixed and faded.	3 mic. (convert to low impedance with T200, T500 or T50 transformer or 2 convert to mag.); 1 aux. channel (2 inputs/fader control); 1 600-ohm balanced telephone line with WMT1 transformer. Note: 4 inputs can be simultaneously mixed and faded.	3 mic. (convert to low impedance with T200, T500 or T50 transformer or 2 convert to mag.); 1 aux. channel (2 inputs/fader control); 1 600-ohm balanced telephone line with WMT1 transformer. Note: 4 inputs can be simultaneously mixed and faded.	3 mic. (convert to low impedance with T200, T500 or T50 transformer or 2 convert to mag.); 1 aux. channel (2 inputs/fader control); 1 600-ohm balanced telephone line with WMT1 transformer. Note: 4 inputs can be simultaneously mixed and faded.
<b>OUTPUT IMPEDANCE</b>	4, 8, 16 ohms, tape and booster jack, 25-v. balanced (21 ohms), 70-v. balanced (163 ohms)	4, 8, 16 and 83 ohms, balanced 25-v. line, balanced 70-v. line; tape/booster jack	4, 8, 16 and 163 ohms, balanced 25-v. line, balanced 70-v. line; tape/booster jack	4, 8, 16 ohms, balanced 25-v (16 ohms), 70-v (163 ohms); tape /booster jack	4, 8, 16 ohms, balanced 25-v (16 ohms), balanced 70-v (82 ohms); tape/booster jack	8, 16 ohms, bal'd 25-v (5 ohms), bal'd 70-v (41 ohms), bal'd 25-v center tap (1.25 ohms); tape/booster jack
<b>CONTROLS</b>	4 individual mic. (each with speech filter or wide-range switch) • 1 high imp. mic./mag. phono/tape head/aux.-fader control with speech filter switch • 1 high imp. mic./mag. phono/tape head/aux.-600 ohm line fader control with speech filter switch • master vol. • bass • treble • power switch • calibrated low freq. filter (variable) determines low freq. cut-off of any of 6 inputs • provision for remote control or precedence of all six inputs and master vol.	4 individual mic. (each with speech filter switch) • 1 mic. /mag./tape with speech filter switch • aux. 1/aux. 2 • master vol. • bass • treble • power switch • calibrated low freq. filter (variable) determines low freq. cut-off of all inputs • provision for remote control or precedence of all six inputs and master vol.	4 individual mic. (each with speech filter switch) • 1 mic. /mag./tape with speech filter switch • aux. 1/aux. 2 • master vol. • bass • treble • power switch • calibrated low freq. filter (variable) determines low freq. cut-off of all inputs • provision for remote control or precedence of all six inputs and master vol.	3 mic. • aux. 1/2 • master vol. • bass • treble • power switch • provision for remote control or precedence for mic.	3 mic. • aux. 1/2 • master vol. • bass • treble • power switch • provision for remote control or precedence for mic.	3 mic. • aux. 1/2 • master vol. • bass • treble • power switch • provision for remote control or precedence for mic.
<b>TONE CONTROL ACTION</b>	Treble (10 kc) + 12 db to -14 db; Bass (50 c) + 15 db to -9 db	Treble (10 kc) + 13 db to -15 db; Bass (50 c) + 15 db to -10 db	Treble (10 kc) + 13 db to -15 db; Bass (60 c) + 15 db to -10 db	Treble (10 kc) + 10.5 db to -14.5 db; Bass (50 c) + 13.5 db to -9 db	Treble (10 kc) + 12 db to -15.5 db; Bass (50 c) + 15 db to -9.5 db	Treble (10 kc) + 12 db to -14.5 db; Bass (50 c) + 15 db to -9.5 db
<b>TRANSISTORS or TUBES</b>	All Silicon 32-transistors, 3-diodes, 2-zener diodes	8 tubes: 3-12AX7A, 3-7247, 2-8417 plus 5-silicon rectifiers	8 tubes: 3-12AX7A, 3-7247, 2-7868 plus 5-silicon rectifiers	5 tubes: 2-7868, 1-7247, 2-6EU7 plus 2-silicon rectifiers and 1-bias silicon diode	5 tubes: 2-8417, 1-7247, 2-6EU7 plus 2-silicon rectifiers and 1-bias silicon diode	7 tubes: 4-8417, 1-7247, 2-6EU7 plus 3-silicon rectifiers
<b>DIMENSIONS</b>	16½" W, 12" D, 4¾" H	16½" W, 12" D, 4¾" H	16½" W, 12" D, 4¾" H	14¾" W, 9¾" D, 5¾" H	14¾" W, 9¾" D, 5¾" H	16½" W, 12" D, 4¾" H
<b>SHIP. WEIGHT</b>	28 lbs.	33 lbs.	29 lbs.	20 lbs.	28 lbs.	43 lbs.
<b>NET EACH</b>	\$239.25 (Zone 2: \$241.80)	\$202.45 (Zone 2: \$205.40)	\$164.95 (Zone 2: \$167.55)	\$119.95 (Zone 2: \$121.75)	\$149.95 (Zone 2: \$152.45)	\$194.90 (Zone 2: \$197.25)

\* Operates on 105-125 VAC or 12-15 VDC - from -20°C to +70°C (158°F)

(SOLID STATE)

LEAR SIEGLER, INC.



BOGEN COMMUNICATIONS DIVISION

# BOGEN SOUND SYSTEMS

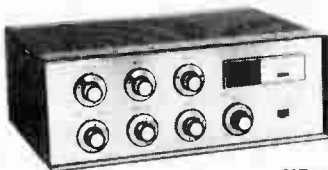
## "MTA" SOLID STATE AMPLIFIERS

First packaged amplifier line of its kind in commercial sound. Advanced solid state circuitry (all-silicon except MTA10 output stage) provides consistent performance over a lifetime of use. Plug-in circuit boards allow for highest possible quality

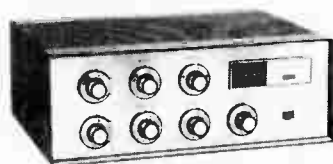
control. Chimney-type heat sinks and heat-sensing "thermo-guards" permit safe continuous operation to 158°F. Tantalum capacitors in all critical circuits; built-in protection against shorted or open speaker lines. Complete line of accessories.



MTA10



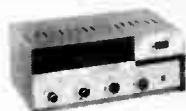
MTA30



MTA60

	MTA10	MTA30	MTA60
<b>POWER OUTPUT</b>	10 w. rms @ less than 3% distortion	30 w. rms @ less than 3% distortion	60 w. rms @ less than 3% distortion
<b>PEAK POWER</b>	20 w.	60 w.	110 w.
<b>POWER RESPONSE</b>	±2 db, 50-16,000 cps @ 10 w. with less than 5% distortion	±2 db, 40-12,000 cps @ 30 w. with less than 5% distortion	±2 db, 40-10,000 cps @ 60 w. with less than 5% distortion
<b>FREQUENCY RESPONSE</b>	±2 db, 50-20,000 cps	±1 db, 30-20,000 cps	±1 db, 7-20,000 cps
<b>GAIN</b>	Mic: 105 db Aux: 95 db	Mic: 125 db Aux: 110 db	Mic: 125 db Aux: 110 db
<b>HUM &amp; NOISE (below rated output)</b>	Mic: -60 db (weighted) Aux: -80 db (weighted)	Mic: -58 db Aux: -70 db	Mic: -60 db Aux: -72 db
<b>SENSITIVITY</b>	Mic: 0.4 mV Aux: 0.2 V	Mic: 0.33 mV Aux: 0.15 V	Mic: 0.38 mV Aux: 0.15 V
<b>TONE CONTROLS</b>	Treble (10kc) -23 db	Treble (10 kc) +10.5 db to -10 db Bass (50 cps) +10 db to -10.5 db	Treble (10 kc) +9 db to -11 db Bass (50 cps) +12 db to -10 db
<b>INPUTS</b>	1 mic. (low-imp), 1 aux. (hi-imp, hi-level) 1 for optional WMT-1 (500/600 ohms) transformer 1 bridging	3 mic. (200 ohm unbal.) converts to 200 ohm bal. with T525U or to mag phono/tape head with plug-in PMC-1 2 aux. on fader	3 mic. (200 ohm unbal.) converts to 200 ohm bal. with T525U or to mag phono/tape head with plug-in PMC-1 2 aux. on fader
<b>OUTPUT IMPEDANCE</b>	4 and 8 ohms; 16 ohms bal; 25 VC.T. (62 ohms) bal; 70 V (500 ohms) bal; tape/booster jack	(Bal.) 4, 8, 16 ohms; 25 VC.T. (16 ohms) bal; 70 V (163 ohms) bal; tape/booster jack	(Bal.) 2.6, 8 and 16 ohms; 25 VC.T. (10.4 ohms) bal; 70 V (82 ohms) bal; tape/booster jack
<b>PRINTED CIRCUIT BOARDS</b>	2 plug-in	5 plug-in	5 plug-in
<b>SEMI-CONDUCTORS</b>	3 silicon; 2 germanium; 2 silicon diode rectifiers	13 All silicon transistors; 6 diodes	13 All silicon transistors; 7 diodes
<b>POWER REQUIRED</b>	30 w., 120 VAC, 50/60 cps	75 w., 105-125 VAC, 50/60 cps or 24-30 VDC	115 w., 105-125 VAC, 50/60 cps
<b>DIMENSIONS</b>	10 5/8" W, 6 1/2" D, 5" H	12 1/2" W, 9 3/4" D, 4 1/2" H	12 1/2" W, 9 3/4" D, 4 1/2" H
<b>SHIPPING WEIGHT</b>	10 lbs.	17 lbs.	20 lbs.
<b>NET EACH</b>	\$71.95 (Zone 2: \$72.85)	\$119.90 (Zone 2: \$121.45)	\$149.95 (Zone 2: \$151.75)

## BACKGROUND MUSIC AMPLIFIERS



**MU130-30w.**  
AMPLIFIER 1MIC. INPUT

A handsomely styled 30-watt amplifier featuring one microphone input and provision for playing records, tapes, and adding an additional booster amplifier. Accessories include matching phono top, control-guard locking plate, rack panel mounting kit, carrying case, remote volume controls... and more (see pages 8 and 9). **Power Output:** 30 w. at less than 2% distortion. **Peak Power:** 50 watts. **Power Consumption:** 120 w. **Freq. Response:** ±2 db 20 to 20,000 cps. **Gain:** Mic. 122 db; Aux. 95 db. **Hum and Noise (below rated output):** Mic. -65 db; Aux. -80 db. **Output Imped.:** 4, 8 and 16 ohms (16 ohms Bal.); 25 V. Bal. (use 16 ohm tap), 70 V. 163 ohms; tape/booster jack. **Inputs:** 1 mic. (hi-imped. converts to low-imped. with T200, T500 or T50 transformers); 1 aux. (hi-imped., hi-level). **Tubes:** Total of 4 and silicon rectifiers. **Tone Controls:** Treble (10 KC) +12 db to -14 db; Bass (50 cps) +15 db to -9 db. **Dimen.:** 15 3/4" W, 10" D, 6 3/4" H. **Ship. Wt.:** 20 lbs. **Net Each:** \$89.95 (Zone 2: \$91.75)



**RP150-BM-15w.**  
TUNER/AMPLIFIER  
1MIC. INPUT

A 15-watt, high-fidelity, AM-FM radio/amplifier. Can power from 1 to 60 loudspeakers... and more by addition of a Bogen auxiliary booster amplifier. For paging and announcements, a touch of a button silences music and amplifies voice. Provision for playing records, tapes, and automatic tape. **Radio Frequency Range:** FM: 88-108 MC; AM: 530-1640 KC. **Power Output:** 15 watts at less than 2% distortion; 30 watts peak. **Inputs:** Mic. Phono (Mag.), Phono (Xtal-ceramic), Aux. **Audio Frequency Response:** FM: 20-20,000 cps ± 1 db; AM: 20-4,500 cps ± 1 db; Phono, Aux: 20-20,000 cps ± 1 db; Mic: 50-12,000 cps ± 1 db. **Sensitivity:** FM: 1.25 uv for 20 db quieting; I.H.F.: 3 uv; AM: Loop Sensitivity - 120 uv/m for 20 db s/n; Terminal Sensitivity - 5 uv for 20 db s/n. **Selectivity:** FM: 180 KC, 3 db down; AM: 8 KC, 3 db down. **Audio Sensitivity:** Phono: mag.-005 v, crystal-25 v; Aux: .5 v; Mic: .04 v. **Hum and Noise:** -55 db. **Controls:** Power, Program Vol, Mic. Vol, Mic. Selector, Program Selector, Bass, Treble, Tuning. **Outputs:** Speaker - 8 ohms, 16 ohms, 25 v line for matching line transformers; tape output, multiplex output. **Tubes:** 13 plus 3 crystal diodes. **Power Requirements:** 85 amps, @ 117 v, 60 cycles AC. **Dimensions:** 15" x 4 3/4" x 11 3/4". **Weight:** 21 lbs. **Prices:** Model RP150-BM (less enclosure), **Net:** \$179.95 (Zone 2: \$181.95). Model EN12 vinyl-clad Metal Enclosure, **Net:** \$14.25 (Zone 2: \$15.55). RY2 Precedence Relay (plug-in), **Net:** \$11.90 (Zone 2: \$12.00). Microphone Assembly, Transcription Player, and Rack Panel Kit are available.

( SOLID STATE)

All prices and specifications subject to change without notice. Zone 2 includes the states of Ariz., Ark., Cal., Col., Ida., La., Miss., Mont., Nev., N.M., Okla., Oreg., Tex., Utah, Wash. and Wyo. Alaska and Hawaii run slightly higher.

**"CHS" SOLID STATE PA AMPLIFIERS****BOGEN  
SOUND SYSTEMS**

These new "CHS" p.a. amplifiers feature ruggedness, flexibility and dependable performance. Every day their systems-tested circuitry and unique features gain growing acclaim from users in professional sound studios, government, industry, churches and schools throughout the world.

The degree of reliability achieved through advanced, conservative solid-state design could not be realized with conventional tube amplifiers . . . so, Bogen created "CHS" . . . the popular-priced series of solid-state amplifiers to suit every p.a. need. Safe continuous operations from  $-20^{\circ}\text{C}$ . ( $-4^{\circ}\text{F}$ .) to  $+65^{\circ}\text{C}$ . ( $149^{\circ}\text{F}$ .)

Unique features: optional panel-mounted preamp. provides 2 additional mic. inputs • hi or lo imp. mic. inputs (no transformer required) • all solid-state (CHS100, CHS50 are all-silicon) • automatic wave-soldered printed circuit boards • AC/DC operation (12 v. battery) with CHS35, CHS20 • provision for mic. precedence and remote vol. control.



	<b>CHS 100</b>	<b>CHS 50</b>	<b>CHS 35</b>	<b>CHS 20</b>
<b>POWER OUTPUT</b>	100 W. @ 5%	50 W. @ 5%	35 W. @ 5%	20 W. @ 5%
<b>PEAK POWER</b>	200 W.	100 W.	70 W.	40 W.
<b>FREQ. RESPONSE</b>	40-20,000 Hz $\pm 2\text{db}$	40-20,000 Hz $\pm 2\text{db}$	60-15,000 Hz $\pm 2\text{db}$	50-15,000 Hz $\pm 2\text{db}$
<b>SENSITIVITY</b>	Mic. (Lo-imp.): 0.3 mv. Mic. (Hi-imp.): 4.0 mv. Aux.: 0.3 v. Bridging: 1.0 v.	Mic. (Lo-imp.): 0.5 mv. Mic. (Hi-imp.): 3.0 mv. Aux.: 0.2 v. Bridging: 1.0 v.	Mic. (Lo-imp.): 0.6 mv. Mic. (Hi-imp.): 4.0 mv. Aux.: 0.5 v. Bridging: 1.0 v.	Mic. (Lo-imp.): 0.6 mv. Mic. (Hi-imp.): 4.0 mv. Aux.: 0.5 v. Bridging: 1.0 v.
<b>INPUTS</b> (impedance)	2 Mic. (Hi or Lo imp. unbal.) Hi imp.: 100k ohms Lo imp.: 200 ohms Aux.: (2 inputs on fader): 300k ohms Bridging: Hi imp. (1.0 v.)	2 Mic. (Hi or Lo imp. unbal.) Hi imp.: 100k ohms Lo imp.: 200 ohms Aux.: (2 inputs on fader): 300k ohms Bridging: Hi imp. (1.0 v.)	2 Mic. (Hi or Lo imp. unbal.) Hi imp.: 100k ohms Lo imp.: 200 ohms Aux.: (2 inputs on fader): 300k ohms Bridging: Hi imp. (0.6 v.)	1 Mic. (Hi or Lo imp. unbal.) Hi imp.: 100k ohms Lo imp.: 200 ohms Aux.: (2 inputs on fader): 300k ohms Bridging: Hi imp. (1.0 v.)
<b>CONTROLS</b>	2 indiv. mic. (plus 2 on PMA-2 preamp.) 1 vol. (fader) for Aux. 1 and 2 Master Volume Bass Treble Power Switch Provision for remote control or mic. precedence (all inputs)	2 indiv. mic. (plus 2 on PMA-2 preamp.) 1 vol. (fader) for Aux. 1 and 2 Master Volume Bass Treble Power Switch Provision for remote control or mic. precedence (all inputs)	2 indiv. mic. (plus 2 on PMA-2 preamp.) 1 vol. (fader) for Aux. 1 and 2 Master Volume Bass Treble Power Switch Provision for remote control or mic. precedence (all inputs)	1 mic. (plus 2 on PMA-2 preamp.) 1 vol. (fader) for Aux. 1 and 2 Master Volume Bass Treble Power Switch Provision for remote control or mic. precedence (all inputs)
<b>OUTPUT IMPEOANCE</b>	2, 8, 16 ohms 25 v. bal. (c.t.) = 6 ohms 70 v. bal. = 49 ohms 2 quick-disconnect sockets and screw terminals. Tape/Booster: 10k ohms 5.0 v. Bridging: Hi imp. at 0.5v.	4, 8, 16 ohms 25 v. bal. (c.t.) = 12 ohms 70 v. bal. = 100 ohms 2 quick-disconnect sockets and screw terminals Tape/Booster: 10k ohms 5.0 v. Bridging: Hi imp. at 0.5v.	4, 8, 16 ohms 25 v. = 16 ohms 70 v. = 143 ohms 2 quick-disconnect sockets and screw terminals Tape/Booster: 10k ohms 5.0 v. Bridging: Hi imp. at 0.5v.	4, 8, 16 ohms 25 v. = 31 ohms 70 v. = 250 ohms 2 quick-disconnect sockets and screw terminals Tape/Booster: 10k ohms 5.0 v. Bridging: Hi imp. at 0.5v.
<b>TONE CONTROLS</b>	Bass: +10db to -10db at 50 Hz Treble: +10db to -10db at 10 KHz	Bass: +10db to -10db at 50 Hz Treble: +11db to -12db at 10 KHz	Bass: +8db to -23db at 50 Hz Treble: +8db to -15db at 10 KHz	Bass: +8db to -19db at 50 Hz Treble: +12db to -15db at 10 KHz
<b>HUM &amp; NOISE</b> (below rated output)	Mic.: 65db Aux.: 70db	Mic.: 67db Aux.: 70db	Mic.: 64db Aux.: 67db	Mic.: 66db Aux.: 70db
<b>POWER CONSUMPTION</b>	105-125 v. 50-60 Hz	105-125 v. 50-60 Hz	105-125 v. 50-60 Hz 12-15 VDC at 3A	105-125 v. 50-60 Hz 12-15 VDC at 2A
<b>SEMI-CONDUCTORS</b>	Total 14 All-silicon	Total 12 All-silicon	Total 11: 9 silicon 2 germanium	Total 10: 8 silicon 2 germanium
<b>OIMENSIONS</b>	5½"Hx10½"Dx15¼"W	5½"Hx10½"Dx15¼"W	5½"Hx10½"Dx15¼"W	5½"Hx10½"Dx15¼"W
<b>SHIPPING WEIGHT</b>	24 lbs.	21 lbs.	17 lbs.	15 lbs.
<b>NET EACH</b>	\$157.15 (Zone 2: \$159.20)	\$127.45 (Zone 2: \$129.35)	\$104.95 (Zone 2: \$106.50)	\$92.25 (Zone 2: \$93.60)

Accessories: PMA-2 Preamplifier — panel mounts to provide 2 additional high or low impedance microphone inputs (no transformers required for low impedance). Knobs come through front panel of amplifier.

Matching phono-top. Control-guard locking plate. Plug-in remote volume controllers. Rack panel mounting kits. Carrying cases. WMT-1 transformer—provides 500/600 ohm telephone line input for wired background music.

(  SOLID STATE )

LEAR SIEGLER, INC.



BOGEN COMMUNICATIONS DIVISION



# "CHB" SERIES PA AMPLIFIERS

# BOGEN SOUND SYSTEMS

Models CHB100, CHB50 and CHB35A share these outstanding features: systems-tested circuitry for continuous, heavy-duty operation; protected against circuit damage caused by accidental shorting or disconnecting of loudspeaker lines; no

"double duty" control devices; built-in remote control circuit permits volume adjustment from up to 2,000 feet away; Memory Level Markers; tape output/booster jack.



CHB100 Shown  
with phono-top



CHB50/CHB35A



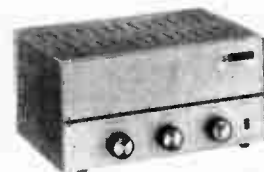
CHB20A



CHB1225



CHB14A



CHB10A

	CHB100	CHB50	CHB35A	CHB1225*	CHB20A	CHB14A	CHB10A
<b>POWER OUTPUT</b>	100 w. at 5% distortion	50 w. at 5% distortion	35 w. at 5% distortion	20 w. at 10% continuous	20 w. at 5% distortion	14 w. at 5% distortion	10 w.
<b>FREQUENCY RESPONSE</b>	±2 db, 20 to 20,000 cps	±2 db, 20 to 20,000 cps	±2 db, 20 to 20,000 cps	±2 db, 60 to 20,000 cps	±2 db, 20 to 20,000 cps	±2 db, 20 to 20,000 cps	±2 db, 40 to 12,000 cps
<b>INPUTS</b>	2 Mic. (hi-imp.) 1 Mag. Phono 2 Aux. (hi-imp. hi-level) Provision for WMT-1	2 Mic. (hi-imp.) 1 Mag. Phono 2 Aux. (hi-imp. hi-level) Provision for WMT-1	2 Mic. (hi-imp.) 1 Mag. Phono 2 Aux. (hi-imp. hi-level) Provision for WMT-1	2 Mic. (hi or low imp.) 2 Aux. (hi-imp., hi-level)	1 Mic. (hi-imp.) 2 Aux. (hi-imp. hi-level) Provision for WMT-1	1 Mic. (hi-imp.) 2 Aux. (hi-imp. hi-level) Provision for WMT-1	1 Mic. (hi-imp.) 1 Phono (hi-imp. hi-level) Provision for WMT-1
<b>HUM &amp; NOISE (below rated output)</b>	Mic. -70 db Aux. -80 db	Mic. -70 db Aux. -80 db	Mic. -65 db Aux. -80 db	Mic. -65 db Aux. -70 db	Mic. -65 db Aux. -80 db	Mic. -55 db Aux. -80 db	Mic. -60 db Phono -75 db
<b>SENSITIVITY</b>	Mic. 5 mv Aux. .3-v Mag. Phono 15 mv	Mic. 5 mv Aux. .3-v Mag. Phono 15 mv	Mic. 4 mv Aux. .2-v Mag. Phono 12 mv	Mic. 3 mv (hi-imp.) Mic. 2 mv (low imp.) Aux. 0.5-v	Mic. 3 mv Aux. .5-v	Mic. 4 mv Aux. .4-v	Mic. 6 mv Phono .2-v
<b>GAIN</b>	Mic. 125 db Aux. 100 db Mag. Phono 115 db	Mic. 120 db Aux. 95 db Mag. Phono 110 db	Mic. 125 db Aux. 100 db Mag. Phono 115 db	Mic. 120 db Aux. 90 db	Mic. 125 db Aux. 100 db	Mic. 120 db Aux. 95 db	Mic. 110 db Phono 90 db
<b>OUTPUT IMPEDANCE</b>	4, 8 and 16 ohms, 25-v line bal., (6 ohms) 70-v line (50 ohms) 2 speaker sockets, screw terminals, tape/booster jack	4, 8 and 16 ohms, 25-v line (12 ohms) 70-v line (100 ohms) 2 speaker sockets, screw terminals, tape/booster jack	4, 8 and 16 ohms, 25-v line (18 ohms) 70-v line (143 ohms) 2 speaker sockets, screw terminals, tape/booster jack	4, 8 and 16 ohms, 25-v (25 ohms) balanced, 70-v (196 ohms) balanced	4, 8 and 16 ohms, 25-v line balanced (31 ohms), 70-v line (250 ohms) 2 speaker sockets, screw terminals, tape/booster jack	4, 8 and 16 ohms, 25-v line (45 ohms) 70-v (355 ohms) 2 speaker sockets, screw terminals, tape/booster jack	4, 8 and 16 ohms, 25-v line (62 ohms), 70-v (500 ohms) 1-speaker socket and screw terminal, tape/booster jack
<b>tone CONTROL ACTION</b>	Treble (10 kc) +12 db to -15 db Bass (50 cps) +14 db to -9 db	Treble (10 kc) +10 db to -15 db Bass (50 cps) +11 db to -10 db	Treble (10 kc) +10 db to -16 db Bass (50 cps) +14 db to -10 db	Treble (10 kc) -11 db Bass (50 cps) +9 db to -9 db	Treble (10 kc) +10 db to -16 db Bass (50 cps) +14 db to -10 db	Treble (10 kc) -15 db Bass (50 cps) -17 db	Treble (10 kc) -24 db
<b>TUBES or TRAN-SISTORS</b>	Total of 7 tubes and silicon rectifier: 1-6EU7, 1-12AX7, 4-7868, 1-6C4	Total of 5 tubes and silicon rectifier: 1-6EU7, 1-12AX7, 2-6L6GC, 1-6C4	Total of 5 tubes, 2 silicon rectifiers and 1-silicon diode: 1-6EU7, 2-7868, 1-12AX7, 1-6C4	Total of 11 transistors and 3 silicon rectifiers: 9-2N2712, 2-RCA 40050 (matched) 1-50D100D 2-50D100A	Total of 3 tubes, 2 silicon rectifiers and 1-silicon diode: 1-6EU7, 2-6GW8	Total of 3 tubes, 2 silicon rectifiers: 1-6EU7, 2-ECL86	Total of 2 tubes and silicon rectifier: 1-12AX7/ECC 83, 1-7868
<b>POWER CONSUMPTION</b>	300 w. 105-125 VAC 50-60 cycles	150 w. 105-125 VAC 50-60 cycles	125 w. 105-125 VAC 50-60 cycles	No Signal 12 w. (117 VAC) 0.3A (14 VDC) Max. Signal 50 w. (117 VAC) 2.5A (14 VDC)	90 w. 105-125 VAC 50-60 cycles	70 w. 105-125 VAC 50-60 cycles	50 w. 105-125 VAC 50-60 cycles
<b>DIMENSIONS</b>	6¾" H, 15¾" W, 10" D	6¾" H, 15¾" W, 10" D	6¾" H, 15¾" W, 10" D	4-7/16" H, 13¾" W, 10" D	6¾" H, 15¾" W, 10" D	6¾" H, 15¾" W, 10" D	5¾" H, 11¼" W, 8¼" D
<b>SHIPPING WEIGHT</b>	25 lbs.	21 lbs.	20 lbs.	15 lbs.	17 lbs.	17 lbs.	Model CHB10A 12 lbs. Model CHB10A-LC (less cage) 10 lbs.
<b>NET EACH</b>	\$122.95 (Zone 2: \$125.20)	\$91.45 (Zone 2: \$93.35)	\$77.25 (Zone 2: \$79.05)	\$110.85 (Zone 2: \$112.20)	\$63.75 (Zone 2: \$65.30)	\$49.45 (Zone 2: \$51.00)	Model CHB10A \$40.35 (Zone 2: \$41.45) Model CHB10A-LC (less cage) \$37.50 (Zone 2: \$38.40)

\* Operates on 12-15 VDC and 117 VAC

Accessories: matching phono-top, control-guard locking plate, rack panel mounting kits, carrying cases, remote volume controls... and more. WMT-1 transformer provides 500/600 ohm telephone line input for wired background music.

( SOLID STATE)

All prices and specifications subject to change without notice. Zone 2 includes the states of Ariz., Ark., Cal., Col., Ida., La., Miss., Mont., Nev., N.M., Okla., Ore., Tex., Utah, Wash. and Wyo. Alaska and Hawaii run slightly higher.

# BOGEN SOUND SYSTEMS

## MIXER-PREAMPLIFIERS

### MXM-A MIXER-PREAMPLIFIER



MXM-A

Professional, broadcast quality, self-powered unit which accommodates 7 mixed input signals simultaneously (5 may be from high or low impedance mics). One mic. input converts to an equalized mag. phono cartridge or tape playback head. Two aux. (high imped., high level) are connected to a fader control. Bridging input accepts signals from a remote preamplifier or a zero level line. Up to 3 MXM-A's may be paralleled to provide 21 inputs (up to 15 mics.). Output level may be monitored aurally and visually by headset and built-in VU meter. Panel-controlled speech filters for all mic. inputs; separate bass and treble tone controls. Provision for converting high imped. to balanced low imped. microphone inputs by using plug-in transformers. Sockets accept remote control and precedence plug-in units. Panel-controlled calibrated low frequency (notch) filter effectively "tunes out" hum, turntable rumble, etc. Output: 20 V. into high imped. load at 1%; 4 V. into 600 ohms at 1%; (from bridging output) 0.1 V. into 1 Meg. Freq. Response: 18-38,000 cps  $\pm$  1 db. Output Imped.: high imped. (less than 3,000 ohms); 500 600 ohms with TL 600 (broadcast quality) plug-in transformer. Sensitivity: high imped. 2 MV; low imped. 0.1 V; Mag., 1 MV; bridging 0.5 V; Aux., 0.1 V. Hum: (below rated output) Mic. 60 db. Tone Controls: treble: (10 KC) + 12 db to - 12 db; bass: (50 cps) + 14 db to - 8 db. Tubes: 4-12AX7A, 1-7247, 1-12AU7A plus 3 silicon rectifiers. Power Consumption: 47 watts, 117 VAC; 50/60 cps. Dimen.: 16 $\frac{1}{2}$ " W, 12" D, 4 $\frac{1}{2}$ " H. Ship. Wt.: 20 lbs Net Each: \$164.95 (Zone 2: \$167.20)

### MTM ALL-SILICON TRANSISTOR MIXER-PREAMPLIFIER



MTM

Professional, all-silicon transistor, self-powered unit (operates from 120 VAC or 12-15 VDC). Mixes 6 input signals (4 may be low impedance microphones). Unbalanced low impedance microphone inputs convert to balanced (50-600 ohms) with T525U plug-in transformer—or convert to mag. phono/tape input with PMC-15 plug-in module. 2 aux. (high impedance, high level) are connected to a fader control. Up to 3 MTM's may be paralleled to provide 18 inputs. Output level may be monitored aurally (head set) and visually (built-in meter). Sockets accept individual remote control, precedence and compressor plug-in units. Speech filters in mic. channels 1 and 2. R.F. filters in all mic. channels. Output: at 0 db: 1.8 V. into 500 ohms (0.5%); at +12 db: 7 V. into 500 ohms (2.5%); output transformer is built-in; no high impedance output. Freq. Response: 40-15,000 cps  $\pm$  1 $\frac{1}{2}$  db. Output Imped.: (split output) 125/150 ohms and 125/150 ohms or 500/600 ohms balanced. Input Imped.: Mic. low imped. unbalanced (balanced with T525U transformer); Aux.: 0.2 Meg. Sensitivity: low imped. Mic. 0.1 MV; Aux. 0.15 V. Gain: Mic. 75 db; Aux. 60 db; Bridging 60 db. Bass Cut: -15 db at 50 cps. Treble Cut: -15 db at 10 KC. Hum: Mic.: -65 db; Aux.: -70 db. Power Consum.: 5 watts at 117 VAC 50/60 cps; 12 A at 12 VDC. Transistors: 11 silicon plus 5 silicon diodes. Dimen.: 16 $\frac{1}{4}$ " W, 8 $\frac{1}{2}$ " D, 3 $\frac{3}{4}$ " H. Ship. Wt.: 9 lbs. Net Each: \$134.95 (Zone 2: \$135.75)

### RTP-1 ALL-SILICON TRANSISTOR PREAMPLIFIER



RTP-1

Designed for true broadcast quality, the RTP-1 will drive any number of booster amplifiers or packaged amplifiers over a 500/600 ohm line—even several miles away. Inputs include 2 Mic. (high or low impedance), 2 Aux. on fader control, 1 bridging. Two RTP-1's can be paralleled to provide 6 mixed inputs. Extremely low battery drain. Features include: Headphone monitor jack on front panel; built-in output meter calibrated in VU and db; 117 VAC or 12 VDC operation with internal batteries or external DC power supply; built-in battery tester. Output: at 0 db: 1.8 V. into 500 ohms (1%); at +12 db: 7 V. into 500 ohms (2.5%); output transformer is built-in; no high impedance output. Freq. Response: 20-20,000 cps  $\pm$  1 db. Output Imped.: (split output) 125/150 ohms & 125/150 ohms or 500/600 ohms balanced. Input Imped.: Mic. high or low imped. (with T50, T200, T500 transformers); Aux.: 0.1 Meg. Sensitivity: low imped. (500 ohms) Mic. 0.5 MV; high imped. Mic. 5 MV; Aux. .25 V. Gain: Mic. 72 db; Aux. 55 db; Bridging 60 db. Bass Cut: -12 db at 50 cps. Hum: Mic.: -65 db; Aux.: -70 db. Power Consum.: 5 watts at 117 VAC 50/60 cps; 0.3 amps at 12 VDC. Transistors: 9 silicon plus 3 silicon diodes. Dimen.: 9" W, 9 $\frac{1}{4}$ " D, 3 $\frac{1}{2}$ " H. Ship. Wt.: 6 $\frac{1}{2}$  lbs. Net Each: \$114.95 (Zone 2: \$115.60)

### RP-2... LOW-NOISE PROGRAM PREAMPLIFIER



RP-2

Shown with  
CAGVU2

For use at remote pickup points. Features: separate input channels for 1 mic. and 1 phono; separate vol. controls for each channel permit input mixing; output feeds either booster amplifier or a low impedance line separately or simultaneously; bass cut-off switch for speech clarity. Enclosure with VU meter is available. Power Consumption: 20 W.; 117 VAC; 60 cps. Gain: mic., 76 db; phono, 35 db. Sensitivity: mic., 3.5 MV; phono, 0.4 V. Bass Cut: 20 db. Output Imped.: hi-imped., cathode follower driven (min. recommended load resistance 10,000 ohms); lo-imped.: 600 ohms (50 and 200 ohms). Input Imped.: hi-impedance,  $\frac{1}{2}$  megohm convertible to lo-imped. by use of plug-in transformers for 50, 150-250 or 600 ohms. Tubes: total of 4 (2-6SF5, 1-6J5, 1-6X5GT). Dimen.: 11" W, 7 $\frac{1}{2}$ " D, 5 $\frac{1}{4}$ " H. With cage, height is 6 $\frac{1}{4}$ ". Ship. Wt.: 8 lbs. RP-2 (Cage CAGVU2 optional extra). Net Each: \$72.00 (Zone 2: \$72.80) CAGVU2 Net Each: \$26.90 (Zone 2: \$27.35)

### MX6A-T MIXER-PREAMPLIFIER



MX6A-T

Adds inputs to any amplifier. Ultra reliability is assured by use of all-silicon semiconductors and printed circuits. The MX6A-T has inputs for 4 high or low impedance microphones with individual volume controls. Two of the four channels will accept tuner or crystal cartridge signals. This mixer is excellent for electric guitars and other electronic musical instruments. The output of the MX6A-T is adequate to drive any packaged amplifier. Up to three MX6A-T units may be paralleled to provide 12 inputs with individual volume controls. Freq. Response: 50-20 kc  $\pm$  2 db. Output: 6 v. at 2%; 4 v. at 1%; 2 v. at 0.5%. Inputs: 4 mic. (hi-imp. 150 K) (low-imp. 200 ohms nominal; works well with 50 ohm or 500 ohm mics.) 2 aux. (250 K). Gain: mic. (hi-imp. -60 db) -4 mv. at 4 v. output, (low-imp. -80 db) -0.4 mv. at 4 v. output. Aux. -20 db -0.4 v. at 4 v. output. Power Consum.: 1.2 w. at 117 VAC 50-60 cps (Hz). Hum/Noise: 68 db below 5 v. Dimen.: 9 $\frac{1}{4}$ " x 6 $\frac{1}{2}$ " x 2 $\frac{3}{4}$ ". Ship. Wt.: 5 lbs. Net Each: \$44.90 (Zone 2: \$45.35)

## MOBILE AMPLIFIERS



### BT20A; 25w. TRANSISTOR MOBILE PA AMPLIFIER

Power Output: 25 watts @ less than 10% (continuous). Power Consumption: Full power: 2.8 amps; Quiescent: .26 amps; 6-15 VDC (6 w. output on 6 VDC). Inputs: 1 mic. (low impedance); 1 aux. (tuner, tape, phono). Gain: mic., 110 db; aux., 90 db. Hum and Noise: mic. -90 db (below rated output); aux. -95 db (below rated output). Sensitivity: mic., 1 MV; aux., 0.4 volts. Output Impedance: 4, 8, 16 ohms. Controls: 1 mic.; 1 aux./power. Transistors: (5): 2-2N2926, 1-40234, 2-DTG-110. Dimensions: 4 $\frac{1}{2}$ " W, 4 $\frac{1}{2}$ " D, 6 $\frac{1}{2}$ " H. Shipping Weight: 5 lbs. Net Each: \$59.95 (Zone 2: \$60.50)



### BT35A; 40w. COMPACT TRANSISTOR MOBILE PA AMPLIFIER

55-watts when used as electronic siren

Excellent for police, fire, CD, and boats; radio receiver connects easily to aux. input. Splash-proof gasket seals chassis in cabinet. Temperature range -20°C. to +85°C. (149°F.). Polarity protection. Accessory siren tone - fog horn generator. Adjustable fixed-lock bracket. Built-in RF/line filters.

Power Output: 40 w. at less than 10% (continuous); 55 w. with siren generator. Peak Power: 55 w. Power Consumption: Full power: 3.6 amps; Quiescent: .42 amps 12-15 VDC. Freq. Response: 150-15,000 cps  $\pm$  3 db. Inputs: 1 mic. (low imped.); 1 aux. =1 (high level) tuner/tape/phono, 1 aux. =2 (high level) accessory (tone signal). Gain: mic. 110 db; aux. 90 db. Hum and Noise: (below rated output) mic. -90 db; aux. -95 db. Sensitivity: mic.: 1 MV; aux.: 0.4 V. Output Imped.: 4, 8, 16 ohms (output socket for accessory siren/fog horn generator). Controls: 1 mic.; 1 aux. volume; 1 selector switch/power (4 position); power off, mic., radio, aux. Transistors: 5 transistors, 1 silicon diode. Dimen.: 8" W, 6 $\frac{1}{4}$ " D, 3" H. Ship. Wt.: 8 lbs. Net Each: \$80.90 (Zone 2: \$81.65)

SF-1 SIREN/FOG HORN GENERATOR. All-silicon transistor, easily attaches to dashboard or bottom of BT35A. Furnished with 6 ft. cable and plug for attaching to BT35A. Provision for remote/accessory foot switch for generator activation. Siren may be operated automatically or manually. Net Each: \$54.70 (Zone 2: \$54.95)

(SOLID STATE)

LEAR SIEGLER, INC.



BOGEN COMMUNICATIONS DIVISION

# BOOSTER AMPLIFIERS



Bogen's booster amplifiers embody the most advanced developments in design and techniques of construction. These units deliver maximum power from a small package. They are ideal for sound systems in industrial plants, airports, stadia, schools . . . wherever undistorted power is required. Note their exceptionally wide-range response characteristics. Built-in provision permits paralleling any number of power amplifiers to multiply power output. The models described on the preceding page are ideal preamplifiers for these boosters. The MO200A, MO100A, and MT100 units are unsurpassed for both PA and industrial uses. Their 115-volt output makes them adaptable to

unique applications. With a variable frequency audio generator input, they represent relatively inexpensive power sources — any frequency or voltage — capable of driving servos, motors, vibration (shake) tables, ultrasonic equipment. The unique all-silicon transistor model MT100 may be operated from a 12-16 VDC source as well as from 117 VAC. Highly flexible in combination, inputs of identical amplifiers can be paralleled; outputs can be wired in series or parallel to provide any reasonable voltage or power (except MBT60 outputs).

No cage is furnished with MO200A.



MO200A



MO100A  
MO30A  
MBT60



MT100

	MO200A	MO100A	MO30A	ALL-SILICON TRANSISTOR	
				MBT60	MT100
<b>POWER OUTPUT</b>	200 w. at less than 2% distortion (Full power: 21-50,000 cps ±1 db at 5%)	100 w. at less than 2% distortion (Full power: 21-50,000 cps ±1 db at 5%)	30 w. at less than 2% distortion (Full power: 21-40,000 cps ±1½ db at 5%)	60 w. rms at less than 3% distortion	100 w. rms at less than 1% distortion
<b>FREQ. RESPONSE</b>	8-50,000 cps ±1 db	8-50,000 cps ±1 db	10-40,000 cps ±2 db	12-20,000 cps ±1 db	15-35,000 cps ±1 db
<b>OUTPUT IMPEDANCE</b>	Bal. 8 ohms, bal. 25-v (3 ohms) C.T., bal. 70-v (25 ohms) C.T. and 115-v (16 ohms) (for industrial uses)	Bal. 16 ohms, bal. 25-v (6.25 ohms) C.T., bal. 70-v (49 ohms) C.T. and 115-v (132 ohms) (for industrial uses)	Bal. 4, 8, 16 ohms, bal. 25-v (21 ohms), bal. 70-v (163 ohms)	Bal. 2.6, 8 and 16 ohms, bal. 25-v (10.4 ohms) C.T., bal. 70-v (82 ohms)	16 ohms, bal. 25-v (6 ohms) C.T., bal. 70-v (49 ohms) C.T., and 115-v (132 ohms) bal. (for industrial uses)
<b>INPUTS</b>	High imp.: 0.5 meg-ohms. Low imp.: 500/600 ohms with T161 or T165B line transformer	High imp.: 0.5 meg-ohms. Low imp.: 500/600 ohms with T161 or T165B line transformer	High imp.: 0.5 meg-ohms. Low imp.: 600 ohms with T161 or T165B line transformer	High imp.: 0.1 meg-ohms. Low imp.: 500/600 ohms with TL600 transformer; 10,000 ohms with TL10K transformer	High imp.: 0.1 meg-ohms. Low imp.: 500/600 ohms with TL600 transformer; 10,000 ohms with TL10K transformer
<b>SENSITIVITY</b>	High imp.: better than 2-v. Low imp.: with T161 transformer, better than 0.5-v	High imp.: better than 2-v. Low imp.: with T161 transformer, better than 0.5-v	High imp.: better than 2-v. Low imp.: with T161 transformer, better than 0.5-v	High imp.: 0.15-v. Low imp.: with TL600 transformer, 0.04-v	High imp.: 0.75-v. Low imp.: with TL600 transformer, 0.2-v
<b>HUM (below rated output)</b>	-80 db	-80 db	-80 db	-78 db	-80 db
<b>TUBES or TRANSISTORS</b>	(10) tubes and (3) silicon rectifiers: 2-7247, 8-8417	(5) tubes and (3) silicon rectifiers: 1-7247, 4-8417	(3) tubes and (2) silicon rectifiers: (1) bias sil.-diode 1-7247, 2-7868	(7) all silicon transistors and (7) diodes	(14) all silicon transistors: (1) Zener diode and (2) silicon rectifiers
<b>POWER CONSUM.</b>	500 watts	250 watts	105 watts	115 watts 105-125 VAC, 50/60 cps	215 watts 105-125 VAC, 50/60 cps 12 A. at 16 VDC
<b>DIMENSIONS</b>	16" W, 11½" D, 6" H	8" W, 13" D, 6¾" H	8" W, 13" D, 6¾" H	8" W, 13" D, 6¼" H	8" W, 13" D, 6" H
<b>SHIP. WEIGHT</b>	45 lbs.	33 lbs.	23 lbs.	18 lbs.	31 lbs.
<b>NET EACH</b>	\$247.50 (Zone 2: \$251.55)	\$142.40 (Zone 2: \$145.40)	\$89.95 (Zone 2: \$92.00)	\$112.40 (Zone 2: \$114.05)	\$220.45 (Zone 2: \$223.25)

# MOBILE AMPLIFIERS



**MU1250; 50w. MOBILE TRANSISTOR PA AMPLIFIER** □



**BT500; 450w. TRANSISTOR MOBILE PA AMPLIFIER** □

Universal PA amplifier, operates on 12 VDC or 117 VAC, within a temperature range of -20°C. to +65°C. (-4°F. to 149°F.). This amplifier offers a variety of inputs: 2 mic., 2 aux., and 1 mag. phono/tape. A host of matching accessories are available: phono-top, control-guard locking plate, rack panel mounting kit, carrying case, remote volume controls and more. **Power Output:** 50 w. at 10% (continuous). **Peak Power:** 70 w. **Power Consumption:** Full power: 116 w. (117 VAC); 6.7 amps. (12 VDC). **Quiescent:** 16 w. (117 VAC); .3 amps. (12 VDC). **Freq. Response:** 30 to 15,000 cps ±2 db. **Gain:** Mic. 125 db; Aux. 95 db. **Hum and Noise (below rated output):** Mic. -65 db; Aux. -70 db. **Output Imped.:** 4, 8 and 16 ohms; 25 V. bal. line; 70 V. (122 ohms) bal. **Inputs:** 2 mic. (hi or low imp., no transformer required); 2 aux.; 1 mag. phono/tape. **Transistors:** 11 transistors and 3 silicon rectifiers. **Tone Controls:** Treble (10 KC) -17 db; Bass (50 cps) +10 db to -17 db. **Dimen.:** 15¾" W, 10" D, 6¾" H. **Ship. Wt.:** 23 lbs. **Net Each:** \$149.95 (Zone 2: \$151.20). **Note:** for a similar amplifier, but with a 20 w. output, refer to the CHB1225

Ideal for use in aircraft for directing ground operations, for emergency police and fire vehicles, boats, and as a standby P.A. amplifier. Choice of square or sine wave operation. Operates at 14 or 28 Volts D.C. Full output from -20°C. (-4°F.) to +65°C. (+149°F.). Equipped with a low impedance mic. input, a high impedance, high level aux. input, and a siren/fog horn input. RF filter in microphone circuit. **Power Output:** Square wave: 450 w. with 28 VDC input, 150 w. with 14 VDC input. Sine wave: 390 w. with 28 VDC input, 100 w. with 14 VDC input. **Power Consumption:** with 28 VDC power input: square wave, 25 amp; sine wave, 21 amp; quiescent, 1.5 amp. With 14 VDC power input: square wave, 13 amp; sine wave, 11 amp; quiescent, 2.5 amp. Pos. or neg. ground with polarity protection. **Inputs:** 1 mic. (low imp.); 1 aux. (high level, high imp.); 1 siren/fog horn generator. **Output Imped.:** With 28 VDC power input: 32, 16, 8, 4, 2 ohms. With 14 VDC power input: 16, 8, 4, 2, 1 ohms. **Controls:** Mic. volume, aux. volume, high frequency roll-off switch (at 3 KC or 12 KC), sine-square wave switch, power switch. **Transistors:** 20 (all silicon). **Dimen.:** 3¾" W, 14½" D, 7¾" H. **Ship. Wt.:** 11 lbs. **Net Each:** \$742.50 (Zone 2: \$744.30) **Microphone:** Use Shure 488B noise-cancelling, close talking 150 ohm (or equivalent). **Loudspeakers:** Use minimum of 4 Bogen model BP-5 reflex horn/driver units. (Write for eng. spec. sheet.)

☐ SOLID STATE

All prices and specifications subject to change without notice. Zone 2 includes the states of Ariz., Ark., Cal., Col., Ida., La., Miss., Mont., Nev., N.M., Okla., Ore., Tex., Utah, Wash. and Wyo. Alaska and Hawaii run slightly higher.

# BOGEN INTERCOMS

## EXECUTIVE SERIES "9" INTERCOMS □

For systems with up to 9 master and remote stations in any combination; featuring fully transistorized central amplifier; push-button convenience, simplified installation, with attractively styled brushed aluminum control panel in walnut wood cabinet. Selective call-common talk. "Hands free" answering.

**OMW-9 MASTER STATION** can call up to 8 master stations or remotes; 8 selector push-buttons; talk-listen lever; in-use light; volume control; 8-ohm speaker; walnut wood cabinet, brushed aluminum panel. Dimen.: 12 $\frac{3}{4}$ " W x 5 $\frac{1}{2}$ " H x 5" D. Ship. Wt.: 5 lbs. Net Each: \$49.95 (Zone 2: \$50.40)

**OMF-9 MASTER STATION** similar to OMW-9, but in metal box for flush mounting. Dimen.: 12" W x 4 $\frac{3}{4}$ " H x 3 $\frac{1}{2}$ " D. Ship. Wt.: 5 lbs. Net Each: \$43.95 (Zone 2: \$46.40)

**OA-1 AMPLIFIER** Fully transistorized, 105-125 VAC, 50/60 cps; 8 watts power consumption; 8-ohm imped.; Vol. control; power on/off. Mounts in any convenient location. Dimen.: 8 $\frac{1}{2}$ " W x 4 $\frac{3}{4}$ " H x 2 $\frac{3}{4}$ " D. Ship. Wt.: 4 lbs. Net Each: \$48.75 (Zone 2: \$49.10)

**TBS-8 REMOTE STATION** for indoors or outdoors. 8-ohm weatherproof speaker. Dimen.: 7-13/16" dia., 6 $\frac{7}{8}$ " deep. Ship. Wt.: 4 lbs. Net Each: \$17.85 (Zone 2: \$17.85)

**WB 4/L115-A REMOTE STATION** walnut wood surface-mounting baffle; Bogen 6" cone speaker, 8-ohm impedance. Dimen.: 7 $\frac{1}{2}$ " W, 9" H, 5" top, 3" base. Ship. Wt.: 4 lbs. Net Each: \$7.23 (Zone 2: \$7.56)

**HCR-1 REMOTE STATION** mounts in flush or surface box; for indoor or outdoor use. Stainless steel panel; 8-ohm speaker. Dimen.: 6 $\frac{3}{8}$ " W x 4 $\frac{1}{2}$ " H. Ship. Wt.: 1 lb. Net Each: \$8.85 (Zone 2: \$9.05)

Back boxes for HCR-1: **RBR-F** (flush mounting). Dimen.: 5-11/32" W, 3 $\frac{3}{4}$ " H, 2 $\frac{3}{8}$ " D. Ship. Wt.: 1 lb. Net Each: \$2.85 (Zone 2: \$3.05)

**RBR-S** (surface mounting) Dimen.: 6 $\frac{3}{8}$ " W, 4 $\frac{1}{2}$ " H, 2" D. Ship. Wt.: 1 lb. Net Each: \$7.90 (Zone 2: \$8.10)

## SERIES "T" INTERCOMS □

Fully transistorized intercoms of unlimited flexibility, high intelligibility, simple installation and unique styling. Permit multiple simultaneous conversations.

**TIA-6 MASTER STATION** (can call any other station). For systems up to 6 stations — all masters or one master plus remotes. Vol. control, talk-listen bar and 7-position selector (including "mute" and "all-call" positions.) Operates from 117 v. AC; 8 w. power consumption, 8 ohm speaker impedance. Dimen.: 7 $\frac{3}{4}$ " W, 7" D, 4" H. Ship. Wt.: 4 lbs. Net Each: \$35.65 (Zone 2: \$36.00)

**TIA-12 MASTER STATION**. For systems up to 12 stations. Similar to TIA-6 in design and operation but does not permit calling all stations simultaneously. Dimen. and Ship. Wt. same as TIA-6. Net Each: \$39.75 (Zone 2: \$40.10)

**RIA-1 REMOTE STATION** (can call only 1 pre-selected master and reply when called). Similar in appearance to TIA-6 with matching loudspeaker. Dimen.: same as TIA-6. Ship. Wt.: 3 lbs. Net Each: \$10.85 (Zone 2: \$11.15)

**TIM-12 MASTER STATION**. For intermix systems combining up to 12 masters and remotes in any combination. Same features as TIA-12; dimensions and ship. wt.: same as TIA-6. Net Each: \$47.95 (Zone 2: \$48.30)

**RIM-6 SELECTIVE REMOTE STATION** (can call any of 6 pre-selected masters). Features, dimensions same as TIM-12. Ship. Wt.: 3 lbs. Net Each: \$23.90 (Zone 2: \$24.20)

## SERIES "X" INTERCOMS

Rugged utility intercoms, used in an 11 or 22 station system (all masters or mixed masters and remotes); featuring push-button convenience, high intelligibility, and simple installation, housed in handsome tan and gold steel cabinets. Permit multiple simultaneous conversations.

Power Supply: 117 v. AC, 35 w. Output Impedance: 50 ohms balanced. Tubes: 3 (1 — 12AX7, 1 — 6W6GT, 1 — 6X4). Dimen.: X120B & X220B — 10" W, 7 $\frac{1}{2}$ " D, 7" H.

**X120B MASTER STATION** can call up to 10 masters or remotes. 10 selector push-buttons, 6 ft. master cable ending in plug for solderless connections to junction box, complete with tubes. Ship. Wt.: 15 lbs. Net Each: \$93.45 (Zone 2: \$94.80)

**X220B MASTER STATION** can call up to 21 masters or remotes. 21 selector push-buttons, same features as X120B. Ship. Wt.: 16 lbs. Net Each: \$114.75 (Zone 2: \$116.20)

**REM-1A REMOTE** with call-initiating switch to 1 master — with vol. control and 6-ft. cable. Ship. Wt.: 3 lbs. Net Each: \$20.55 (Zone 2: \$20.80)

**REM-3A REMOTE** with selective call-initiating switch to 3 masters — with vol. control and 6-ft. cable. Ship. Wt.: 3 lbs. Net Each: \$25.05 (Zone 2: \$25.30)

**HSX HANDSET** for private conversation — attaches to X120B and X220B. Net Each: \$52.50 (Zone 2: \$52.60)

**JB-2 JUNCTION BOX** (one required for X120B; two for X220B) Net Each: \$6.40 (Zone 2: \$6.55)

## INTERNAL PHONE SYSTEMS

**TSL-BOGEN-PHONES** — a unique and extremely flexible telephone system that provides multiple, simultaneous conversations without a costly central exchange. To call, lift phone, press selector button, and then ring-button . . . buzzer sounds at called station, person called lifts phone and starts conversation . . . no switching, no dialing, no switchboard delay. System provides 100% trunkage.

**TSL-16** with 1 ring button and 15 station selector buttons. Dimen.: 9 $\frac{1}{2}$ " W, 3 $\frac{1}{4}$ " D, 3 $\frac{3}{4}$ " H. Ship. Wt.: 4 lbs. Net Each: \$47.00 (Zone 2: \$47.35)

**TSL-8** with 1 ring button and 7 station selector buttons. Same dimensions and Ship. Wt. as TSL-16. Net each: \$39.50 (Zone 2: \$39.85)

**PRS-16 Power Supply** (1 required for each telephone system). Dimen.: 6" W, 2" D, 3 $\frac{1}{2}$ " H. Ship. Wt.: 5 lbs. Net Each: \$41.55 (Zone 2: \$42.00)

**TRC Phone-Page Adapter** allows paging from Series TSL phones. Net Each: \$31.65 (Zone 2: \$31.90)

**TQ BOGEN-PHONES** — low-cost telephone system. To call, lift phone, press station button . . . buzzer sounds at called station . . . bypassing the switchboard. Selective ringing with common talk line. Handset with base is 9 $\frac{1}{2}$ " x 3 $\frac{1}{4}$ " x 3 $\frac{1}{4}$ " H. Ship. Wt.: 5 lbs.; comes supplied with 4' snarlproof cord and junction box.

**TQ-1A** (pair) for 2-station systems. Net Per Pair: \$42.50 (Zone 2: \$43.15)

**TO-6A** phone for up to 7-station system. Net Each: \$27.80 (Zone 2: \$28.15)

**TQ-12A** phone up to 13-station system. Net Each: \$31.35 (Zone 2: \$31.70)

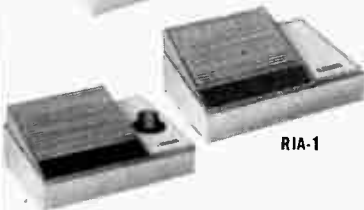
**PRS-1A Power Supply** (1 required for each system) Net Each: \$23.65 (Zone 2: \$23.95)

**TRA Phone-Page Adapter** allows paging from Series TQ phones. Net Each: \$31.65 (Zone 2: \$31.90)

**PRS-5 Multi-mix Power Adapter** to combine TQ-12A or TQ-6A phones with trumpets and PA amplifier. Net Each: \$57.30 (Zone 2: \$58.20)



OMW-9

TIA-6  
TIA-12

RIA-1

RIM-6



X220B



REM-1A



REM-3A



TSL-16



TQ-12A



TQ-1A



# GELOSO SOUND PRODUCTS



## INDUSTRIAL AMPLIFIERS FOR PUBLIC ADDRESS-MUSIC

The Geloso G3200 industrial amplifier series incorporates the latest and most advanced circuitry designs with a wide frequency response of 20 to 20,000 Hz. Five models are available with an output power ranging from 35 to 200 watts. These amplifiers can be used for speech as well as excellent music reproduction when connected with High Fidelity speakers and sound columns.

Compare these features: two separate microphone inputs and 4 auxiliary inputs (except model G3215-A) that can be simultaneously mixed and faded. Other features include a standby and operating switch, 14 adjustable output impedances from 1.25 to 500 ohms, balanced line outputs for 70 and 100 volts,



G 3262-A



G 3272-A



G 3215-A

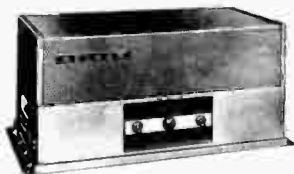
3 separate volume controls, bass and treble controls, heavy duty power and output transformers, power supply uses high reliability silicon rectifiers with overload protective circuit, inverse feedback circuit for stable output power under different load conditions.

## INDUSTRIAL AMPLIFIERS (TUBES)

	G3215-A	G3227-A	G3262-A	G3272 A	G3296-A
<b>POWER OUTPUT</b>	20W @ 5%	60W @ 5%	80W @ 5%	100W @5%	135W @ 5%
<b>PEAK POWER</b>	35W	80W	130W	150W	200W
<b>FREQUENCY RESPONSE</b>	20÷20,000 Hz ±2 DB	20÷20,000 Hz ±2 DB		20 ÷ 20,000 Hz ±2 DB	
<b>SENSITIVITY</b>	MIC. 4 MV (0.5 MΩ) AUX. 150 MV (1 MΩ)	MIC. 4 MV (0.5 MΩ) AUX. 200 MV (1 MΩ)	MIC. 4 MV (0.5 MΩ) AUX. 150 MV (1 MΩ)	MIC. 4 MV (0.5 MΩ) AUX. 150 MV (1 MΩ)	MIC. 4 MV (0.5 MΩ) AUX. 250 MV (1MΩ)
<b>GAIN</b>	MIC. +116.8 DB AUX. +88.2 DB	MIC. +119 DB AUX. +88.7 DB	MIC. +122 DB AUX. +93.4 DB	MIC. +123.8 DB AUX. +95.2 DB	MIC. +125 DB AUX. +92 DB
<b>HUM &amp; NOISE (Below rated output)</b>	MIC. -70 DB AUX. -80 DB	MIC. -75 DB AUX. -85 DB		MIC. -75 DB AUX. -85 DB	
<b>INPUTS</b>	2 MIC. (IN PARALLEL) 2 AUX. (IN PARALLEL)	2 MIC. HIGH IMP. 2 AUX. HIGH IMP. HIGH LEVEL WITH SELECTOR SWITCH			
<b>OUTPUT IMPEDANCE</b>	FROM 1.25 TO 500Ω ADJUSTABLE 70 VOLTS LINE (300Ω) BALANCED	FROM 1.25 TO 500Ω ADJUSTABLE 100 VOLTS LINE (400Ω) BALANCED	FROM 1.25 TO 500Ω ADJUSTABLE 70 V. LINE (100Ω) BALANCED	FROM 1.25 TO 500Ω ADJUSTABLE 70 V. LINE (75Ω) BALANCED	FROM 1.25 TO 500Ω ADJUSTABLE 100 V. LINE (100Ω) BALANCED
<b>CONTROLS</b>	1 MIC. VOLUME 1 AUX. VOLUME 1 TONE	VOLUME MIC. 1 VOLUME MIC. 2 VOLUME AUX. AUX. SELECTOR SWITCH BASS TREBLE STANDBY-OPERATING SWITCH			
<b>STONE CONTROLS</b>	TREBLE AT 10 KHz 0 TO -23 DB	BASS AT 50 Hz -10 TO +10 DB TREBLE AT 10 KHz -20 TO +10 DB	BASS AT 50 Hz -10 TO +10 DB TREBLE AT 10 KHz -20 TO +10 DB	BASS AT 50 Hz -10 TO +10 DB TREBLE AT 10 KHz -20 TO +8 DB	BASS AT 50 Hz -15 TO +16 DB TREBLE AT 10 KHz -16 TO +14 DB
<b>DIMENSIONS</b>	13"W., 7"D., 6"H.	16"W., 9"D., 8"H.	17"W., 10"D., 8"H.	17"W., 11"D., 8"H.	17"W., 10"D., 8"H.
<b>POWER CONSUMPTION</b>	50÷80 VA	120÷140 VA.	110÷200 VA.	165÷280 VA.	145÷320 VA.
<b>WEIGHT</b>	15.8 LBS.	25 LBS.	34 LBS.	40 LBS.	42 LBS.
<b>POWER REQUIRED</b>	110 OR 220 V. AC 50÷60 Hz				



G276-AN



G269A

## HIGH POWER AMPLIFIERS

For High power application Geloso engineers have designed one of the most powerful amplification systems available today. Excellence in design, reliability, versatility have been the top aim in the construction of these amplifiers. Amplification systems with output power up to 4,000 watts can be easily arranged by connecting up to 20 G269-A boosters to the G276-AN control driver amplifier.

G276-AN PREAMP. DRIVER— G269A-200 WATTS BOOSTER AMP.

**AMERICAN GELOSO ELECTRONICS, INC.**

**FANON**



**INTERCOMS FOR HOME AND BUSINESS**

**"FI" SERIES — DELUXE INTERCOM SYSTEM**

- Solid state circuits
- Push-button operation
- New styling



Refer to Catalog 15 for details

<b>FIC-3</b>	Trans. deluxe 2 station system with 50' cable	Net 35.50
<b>FIS</b>	Transistorized deluxe staff station for FIC-3	Net 27.75
<b>FIC</b>	Additional indoor remote for FIC-3	Net 10.75
<b>FID-3</b>	Transistorized deluxe 2 station door intercom system with 50' cable	Net 33.95
<b>FID</b>	Additional outdoor remote for "FI" series	Net 7.65
<b>FI-3</b>	Transistorized deluxe master only	Net 27.75
<b>FI-7</b>	Transistorized deluxe 7 station master for all-master or master to remote installation	Net 30.95
<b>FI-13</b>	Transistorized deluxe 13 station master for all master or master to remote installation	Net 42.95
<b>FIR</b>	Transistorized deluxe remote for FI-7, FI-13	Net 9.95
<b>FIW-2</b>	Transistorized deluxe 2 station, 2 channel wireless intercom system	Net 59.95
<b>FIW-1</b>	Additional wireless intercom station for FIW-2	Net 30.75
<b>TPA</b>	Telephone amplifier accessory for "FI" masters	Net 11.25
<b>BM-3</b>	Temperature fire-sensing device for FIC-3, FID-3, FI-3	Net 3.95
<b>BM-4</b>	Temperature and rate of rise fire detector for FIC-3, FID-3, FI-3	Net 7.75
<b>PR-15</b>	Paging and talkback relay accessory for FI-7, FI-13 master. Used with any PA system.	Net 19.95

Refer to Catalog 12 for details

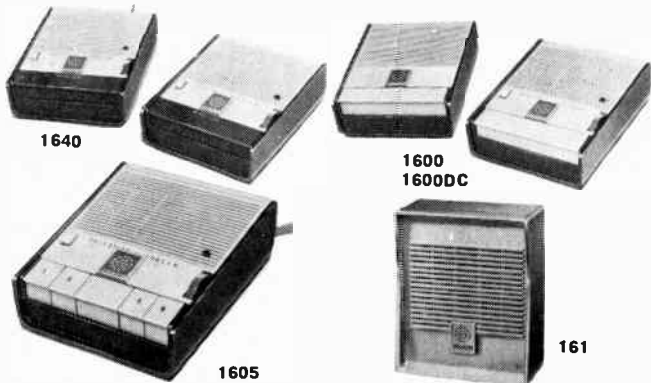


**EXECUTIVE SERIES INTERCOMS**

<b>X-600</b>	Deluxe two-station system with 50 ft. cable.	Net 37.50
<b>X-610</b>	Two station system, with 50 ft. cable, with X-601 master and, FSB remote.	Net 29.95
<b>X-604</b>	Deluxe two-station, 4 tube wireless intercom.	Net 62.95
<b>X-602</b>	Additional single station for X-604.	Net 32.95
<b>X-601</b>	Single station master for master-to-remote.	Net 23.95
<b>X-606</b>	Six station master for all master or master-to-remote. List	29.95
<b>XR-01</b>	Remote for X-600, X-601 and X-606.	Net 14.95

**TWO-STATION "PACKAGED" INTERCOMS  
1600 SERIES — SOLID STATE INTERCOMS**

New economy series — Blister-packed for standard cartons



Refer to Catalog 16 for details

<b>1600</b>	Transistorized 2 station system w/built-in AC power supply and 50' cable	Net 19.95
<b>1600DC</b>	Same as above less AC power supply.	Net 17.75
<b>ES-16</b>	Transistorized 2 station door intercom w/built-in AC power supply and 50' cable	Net 19.95
<b>ES-16DC</b>	Same as above less A.C. power supply	Net 17.75
<b>PS-16</b>	AC power supply for 1600DC and ES-16DC.	Net 5.25
<b>1605</b>	Single 5 station master for master to remote instal. Net	15.95
<b>(BL)16SY</b>	"Starter system" — one 1605 master two 162 remotes and two 2WP cable	Net 29.95
<b>161</b>	Additional outdoor remote for above systems	Net 5.25
<b>162</b>	Additional indoor remote for above systems	Net 4.50
<b>2WP</b>	50' 2 conductor cable with plug terminations	Net 2.00
<b>2WP-100</b>	100' 2 conductor cable with plug terminations	Net 3.40
<b>1640</b>	Transistorized 2 station wireless intercom	Net 29.95
<b>1641</b>	Additional single wireless station for 1640	Net 15.95



**ECONOMY "ECHO" INTERCOMS**

<b>EC-2</b>	Transistorized battery operated two-station system with 50 ft. cable. Less battery	Net 9.95
<b>EC-3</b>	Transistorized, AC operated 2-station system	Net 11.95
<b>EW-3</b>	Transistorized, AC, 2-station wireless system	Net 19.95



**DELUXE "FX" INTERCOMS**

<b>FM-5B</b>	Five station master for master-to-remote installations with "remote-to-remote" talking feature.	Net 26.95
<b>FX-6C</b>	Six station master for all master or master-to-remote. Net	25.45
<b>FX-2B</b>	Deluxe two-station system with 50 ft. cable	Net 26.95
<b>FW-50B</b>	Deluxe two-station, 4 tube wireless intercom system. Net	49.95
<b>RB-1</b>	One station-wireless radio intercom	Net 14.50
<b>FSB</b>	Additional remote with 50 ft. cable for FX-2B	Net 9.50
<b>FW-51B</b>	Additional station for FW-50B	Net 25.45

Refer to Catalog 1 for details

# FANON



## INTERCOMS

# FANON



## BUILT-IN INTERCOMS



Refer to Catalog 2 for details

JIM - MF - CAM Series



### INDUSTRIAL INTERCOMS

JMR	Two station system with 50 ft. cable. ....	Net 44.95
WF-2	WIRELESS FONE. Two station wireless system. ....	Net 82.50
SSW	Additional single station for WF-2. ....	Net 41.95
IJM-5	Six station master for all master or master-to-remote installations. ....	Net 37.50
IJM-10	Eleven station master for all master or master-to-remote installations. ....	Net 42.75

### AC-DC Balanced Line Types:

MF-5	MULTIFONE. Six station master for all master, master-to-remote or intermixed installations. ....	Net 49.50
MF-10	MULTIFONE. Eleven station master for all master, master-to-remote or intermixed installations. ....	Net 56.25

### AC Transformer Powered, Balanced Line Types:

CAM-5	MASCOFONE. Six station master for all master, master-to-remote or intermixed installations. ....	Net 56.95
CAM-10	MASCOFINE. Eleven station master for all master, master-to-remote or intermixed installations. ....	Net 62.95
JR	Remote with call switch used with JMR, IJM-5, IJM-10. ....	Net 14.25
JL	Remote less call switch (non-private). Used with all above industrial intercoms. ....	Net 13.50
JS	Remote with call switch. Used with MF-5, MF-10, CAM-5, CAM-10. ....	Net 17.25
JS-6	Remote with call switch and six-station selector switch. ....	Net 26.95
JL	Used with MF-5, MF-10, CAM-5, CAM-10. ....	Net 26.95



8807



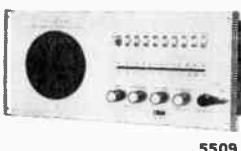
1120

### TELEPHONE INTERCOM SYSTEMS

8811A	An eleven station capacity phone with ten selector buttons. ....	List \$64.95
8807A	A seven-station capacity phone with six selector buttons. ....	List 52.50
8801A	Single button telephone used with any multi-station telephone. ....	List 39.95
PSA-88	Power supply used in conjunction with "88" Series and. ....	List 29.95
PR-12	Paging relay for "88" and "1100" phones. ....	List 37.50
PR-13	Paging and talkback for "88" and "1100" phones. ....	List 74.95
EB-881	Loud buzzer for optional use with any "88" phone. ....	List 3.75
1110	Master station. Dial interphone. Eleven station capacity. For all-master or intermixed. With terminal box. ....	List \$83.10
1120	Master station. Dial interphone. Twenty station capacity. For all-master or intermixed. With terminal box. ....	List 99.95
1101	Remote Station Telephone for Master-to-Remote or Intermix system. With terminal box. ....	List 66.70
WB-11	Wall bracket adapts any 1100 Series telephone for wall mounting. ....	List 6.25
PR-12	Paging relay for "88" and "1100" phones. Used with any P.A. system. ....	List 37.50
PR-13	Paging and talkback relay for "88" and "1100" phones. ....	List 74.95
PS-111	POWER SUPPLY for 1100 Series Telephone Systems. One power supply required for every 12 phones in a system. ....	List 43.10

### PRIVATE AUTOMATIC EXCHANGES — PAX

FAS-162	Sixteen line capacity switchboard with two trunks.	All Specifications Upon Request
FAS-304	Thirty line capacity switchboard with four trunks.	
FAS-506	Fifty line capacity switchboard with six trunks—can be expanded.	
FA-42	Automatic dial desk phone, used with all switchboards.	
FA-42P	Same as FA-42 but with priority button.	
FA-43	Automatic dial wall phone used with all switchboards.	
FA-43P	Same as FA-43, but with priority button.	



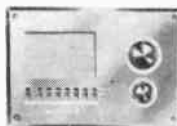
5509



56



BC



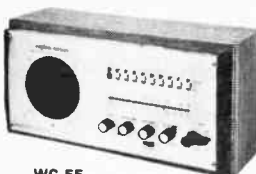
MCL



4405



BD



WC-55



WC-56



Refer to Catalog 6 for details

Masters	Specify copper or chrome finish.
4405	Six station, transistorized master with plaster box. Net 37.50
MCL	Seven station master, less radio, with plaster box. Net 34.25
MC	Seven station master with AM radio, and plaster box. Net 52.50
5509	Ten station master with AM-FM radio and plaster box. Net 107.25
WC-55	Walnut table top cabinet for 5509 master. Net 23.95
WC-56	Walnut cabinet for 56 remote, for desk or wall. Net 9.75
Remotes	
BC	Indoor remote. With plaster ring. Used with 4405, MCL and MC. Net 6.50
BD	Outdoor remote. With plaster ring. Used with 4405, MCL, MC and 5509. Net 6.50
BDR	Outdoor remote with bell button. With plaster ring. Used with 4405, MCL, MC and 5509. Net 7.95
BJ	Indoor remote with phono jack. With plaster ring. Used with 4405, MCL and MC. Net 8.95
56	Indoor remote. With plaster ring. Used with 5509. Net 10.50
FMB	Surface mount wall box for DRPB, FB and FO. Net 6.75
WJT	Phono input assembly & wall box, used with 5509 master. Net 3.00

A system is made up of a "roughing-in" package and its respective "electronic" package.

### "Roughing-In" Packages

IK	Consists of all plaster boxes and wire required for EKL, or EK. Net 13.50
44-IK	Consists of all plaster boxes and wire required for 44-EK. Net 13.50
55-IK	Consists of all plaster boxes and wire required for 55-EK. Net 18.75

### "Electronic Equipment" Packages

Specify copper or chrome

EKL	Consists of MCL, three BC and one BD. Less plaster boxes and wire. Net 53.95
EK	Consists of MC, three BC and one BD. Less plaster boxes and wire. Net 62.95
44-EK	Consists of 4405, three BC and one BD. Less plaster boxes and wire. Net 44.95
55-EK	Consists of 5509, three 56 and one BD. Less plaster boxes and wire. Net 127.50

### TELEPHONE AMPLIFIER

Refer to Catalog 7 for details



FTA-4 Telephone amplifier, transistorized with extension speaker Net 14.95

**FANON**

**AMPLIFIERS, P.A. SYSTEMS, HORNS & SPEAKERS**

Refer to Catalog 3D for details



MA-100	100 watt, POWER-FLEX P.A. amplifier. ....	Net 125.95
MA-65	65 watt, POWER-FLEX P.A. amplifier. ....	Net 110.95
MA-35	35 watt, POWER-FLEX P.A. amplifier. ....	Net 82.95
MA-20	20 watt, POWER-FLEX P.A. amplifier. ....	Net 65.95
MA-11	11 watt, POWER-FLEX P.A. amplifier. ....	Net 47.95
MB-100	100 watt, POWER-FLEX booster amplifier. ....	Net 116.95
MB-65	65 watt, POWER-FLEX booster amplifier. ....	Net 100.50
ARM	Above amplifiers mounted on 19" rack panel, add:	14.95
BC-350	35 watt FM/AM receiver and P.A. amplifier. ....	Net 179.95
MH-3	Metal cover for BC-350. ....	Net 14.95
ASC-10	Speaker area selector control. ....	Net 20.25
BMT	600 ohm balanced line transformer. ....	Net 20.95
CCP-1	Control cover for 100, 65 and 35 w. amplifiers	Net 7.50
LZT	Low impedance microphone transformer. ....	Net 17.25
MP-2	Two channel microphone preamplifier. ....	Net 21.75
PPC-1	Priority paging control. ....	Net 10.45
RMC-2	Remote microphone volume control. ....	Net 9.75
3600	Phono turntable, 117v AC. ....	Net 27.00
3604	Automatic 4-speed changer with base. ....	Net 44.95
S-2	Systems case with two 12" speakers, cables, plugs.	Net 62.95
MM-4	4 channel microphone mixer. ....	Net 20.25



3512	12 watt, transistorized P.A. for 12v DC. ....	Net 52.50
3527	27 watt, transistorized P.A. for 12v DC. ....	Net 62.95
FMM-35AD	35 watt, transistorized P.A. for 12v DC or 117v AC.	Net 110.25
PS-27	117v AC power supply for 3512 and 3527. ....	Net 38.95
3612	Phono turntable for 12v DC. ....	Net 37.45

Refer to Catalog C-6 for details



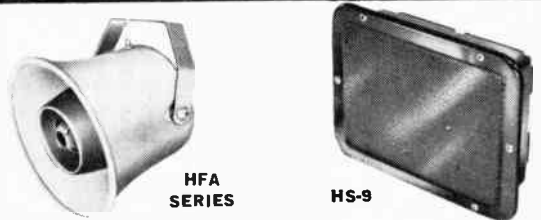
MV-1	Electric, battery powered megaphone. ....	Net 26.95
MV-2	Transistorized, 1 watt battery powered megaphone.	Net 12.95
MV-4	Transistorized, 4 watt battery powered megaphone.	Net 44.95
MV-8S	Transistorized, 8 watt battery powered megaphone.	Net 59.95
MV-16S	Transistorized, 16 watt battery powered megaphone with built-in siren alarm. ....	Net 74.95
MVS-5	Transistorized, 8 watt portable P.A. system. ....	Net 67.50
CL-16	Auto cigarette lighter adaptor cord for MV-16S. ....	Net 4.50
MVR	Auto window rack holder for MVS-5. ....	Net 3.00
STM-16	Mtg. bracket for MV-16S, MV-8S, MV-4, MV-1. ....	Net 11.95

Refer to Catalog 11 for details



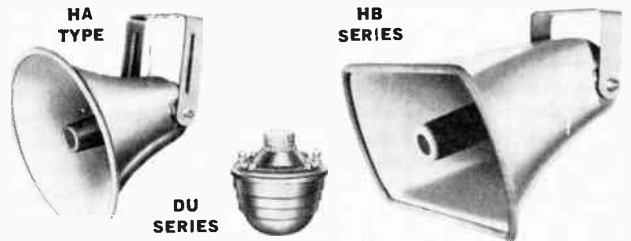
**FANON PAGING AND TALKBACK SPEAKERS**

HDA-5A-8	15 watt—swivel base—5¼" bell, 8 ohms	Net 7.45
HDA-5A-45	15 watt—swivel base—5¼" bell, 45 ohms	Net 7.90
HDA-5-8	15 watt—swivel base—6" bell, 8 ohms	Net 9.95
HDA-5-45	15 watt—swivel base—6" bell, 45 ohms	Net 10.40
HDA-6-8	15 watt—swivel base—6½" bell, 8 ohms	Net 13.30
HDA-6-45	15 watt—swivel base—6½" bell, 45 ohms	Net 13.75
HDA-10-8	30 watt—swivel base—10" bell, 8 ohms	Net 18.25
HDA-10-45	30 watt—swivel base—10" bell, 45 ohms	Net 18.75
HDB-8-8	25 watt—wide angle—8½x5½" bell, 8 ohms	Net 18.25
HDB-8-45	25 watt—wide angle—8½x5½" bell, 45 ohms	Net 18.75
HDB-12-8	30 watt—wide angle—11x6½" bell, 8 ohms	Net 24.95
HDB-12-45	30 watt—wide angle—11x6½" bell, 45 ohms	Net 25.40



**FANON HI-FIDELITY AND SPECIAL PURPOSE**

HFA-8	5 watt—swivel base—8" bell, 4 ohms	Net 13.75
HFA-12	10 watt—co-axial—12" bell, 8 ohms	Net 29.95
HS-9	10 watt—flush mount—6x9", 8 ohms	Net 16.60



**FANON REFLEX TRUMPETS**

HA-15	2½ ft. air column—15" bell	Net 16.60
HA-20	3½ ft. air column—20" bell	Net 19.95
HB-15	2½ ft. air column—15x 8" wide angle	Net 21.60
HB-20	3½ ft. air column—20x10" wide angle	Net 23.25

**FANON HIGH POWER DRIVERS**

DU-25	25 watt, deluxe weatherproof driver, 16 ohms.	Net 12.50
DU-35	35 watt, deluxe weatherproof driver, 16 ohms.	Net 16.60
DU-45	45 watt, deluxe weatherproof driver, 16 ohms.	Net 21.60
DU-60	60 watt, deluxe weatherproof driver, 16 ohms.	Net 26.60
DU-35T	35 watt with transformer, weatherproof 16 ohms.	Net 23.25
DU-60T	60 watt with transformer, weatherproof, 16 ohms	Net 32.25



**FANON**

**WALKIE-TALKIES**

**FANON**

Refer to Catalog C-2 for details

**TWO WATTS  
THREE CHANNELS**

**L-2000 "CHIEFTAN"  
13 TRANSISTORS**

The ultimate in professional quality hand-held transceivers. For performance, range, selectivity and sensitivity, "Chieftan" is the finest.

- 3 Channel operation (equipped for ch. 9).
- RF output and battery strength meter
- Separate mike and speaker
- Variable squelch control
- Jack for external 12v. power source
- Jack for external antenna
- "Beep" Tone signal to call other units
- Selective calling with optional CT-5 adapter to signal up to 5 on Channel A and 5 on Channel B



L-2000



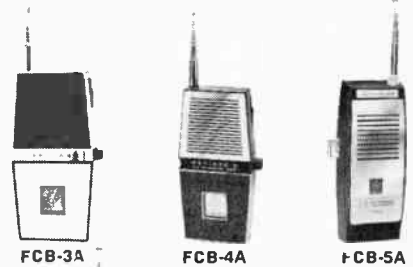
L-1000

**ONE WATT  
THREE CHANNELS  
"PLAINSMAN"— 11 Transistors**

Three channel operation (equipped for channel 9) in a full one watt professional unit. Basically the same as L-2000, but without the RF output meter. All other features are same as L-2000 and can be used with the same accessories.

L-1000 — "Plainsman" 11 transistors. 1 watt. Single transceiver. Earphone, batteries, strap. Net 52.50

L-2000	"Chieftan" 13 transistors, 2 watts. Single transceiver. Earphone, batteries, strap	Net 79.95
<b>OPTIONAL ACCESSORIES FOR L-2000 AND L-1000</b>		
CT-5	5 Station Call-Tone Selector	Net 16.50
PS-150	Transistorized AC power supply and battery recharger	Net 17.95
RBP-10	Rechargeable nickel-cadmium batteries (10) in interchangeable holder-pack	Net 19.50
LC-6	Leather carrying case	Net 4.50



FCB-3A

FCB-4A

FCB-5A



FCB-6



FCB-90



FCB-91



DCB-92

**TRANSCEIVERS (PAIRS)**

FCB-33A	"Explorer" 3 transistors, 2 transceivers. Batteries and cases included	Net 14.95
FCB-44A	"Mariner 4" 4 transistors 2 transceivers. Batteries, and cases included	Net 17.95
FCB-55A	"Adventurer" 5 transistors, 2 transceivers. Batteries, earphones and cases included	Net 22.50
FCB-66	"Vagabond" Superhet, 5 transistors, 2 transceivers. Batteries, earphones and cases included	Net 29.95
FCB-900	"Voyager" 9 transistors, 2 transceivers, 100 mw. Batteries, earphones and cases included	Net 39.95
FCB-910	"Wanderer" 9 transistors 2 deluxe transceivers, 100mw. Batteries, earphones and straps included	Net 44.95
DCB-920	"Scout" 9 transistors, 2 deluxe transceivers, 100 mw. 3 Channels. Batteries, earphones and straps included	Net 59.95

**TRANSCEIVERS (SINGLES)**

FCB-3A	"Explorer" 3 transistors. Single transceiver. Battery and case	Net 7.50
FCB-4A	"Mariner 4" 4 transistors. Single transceiver. Battery and case	Net 9.00
FCB-5A	"Adventurer" 5 transistors. Single transceiver. Battery, earphone and case	Net 11.25
FCB-6	"Vagabond" Superhet 6 transistors. Single transceiver. Earphone, case and battery	Net 15.00
FCB-90	"Voyager" 9 transistors; 100mw. Single transceiver. Battery, earphone and case	Net 19.95
FCB-91	"Wanderer" 9 transistors. Single deluxe transceiver. 100mw. Batteries, earphone and strap	Net 22.50
DCB-92	"Scout" 9 transistors, Deluxe single transceiver. 100mw. 3 Channels. Batteries, earphone and strap	Net 29.95

**ACCESSORIES FOR C. B. TRANSCEIVERS**

PS-140	A.C. power supply for FCB-92 and DCB-11	Net \$4.95
LC-3	Leather case for FCB-91	Net 3.00
LC-4	Leather case for DCB-92, DCB-11 and DCL-50	Net 3.75
RBP-8	Rechargeable nickel-cadmium batteries (8) in interchangeable holder-pack for DCB-92	Net 15.75

**500 MILLIWATT  
DCL-50 "PATHFINDER"  
11 TRANSISTORS**

- 3 Channel operation, (equipped for ch. 9)
- Battery strength meter
- Variable squelch control
- "Beep" Tone signal
- Selective calling with optional CT-5

DCL-500	"Pathfinder" 11 transistors, 500mw. Pair of transceivers. Earphones, batteries, strap	Net 79.95
DCL-50	Single transceiver with earphone, battery and strap	Net 39.95



DCL-50

**DCB-11 "OUTRIDER"  
11 Transistors**

Basically the same as DCL-50 but rated at 100 milliwatts. Same features as DCL-50 and can be used with same accessories.

DCB-111	"Outrider" 11 transistors, 100mw. Pair of transceivers. Earphones, battery, strap	Net 67.50
DCB-11	Single transceiver with earphone, battery and strap	Net 33.75
<b>OPTIONAL ACCESSORIES for DCL-50 and DCB-11</b>		
PS-150	AC power supply and batt. rech.	Net 17.95
CT-5	5 Station Call-Tone Selector	Net 16.50
RBP-8	Rechargeable nickel-cadmium batteries (8) in interchangeable holder-pack	Net 15.75
LC-4	Leather carrying case	Net 3.75



DCB-11

**5 STATION CALL-TONE SELECTOR**

Signals 5 transceivers selectively on each channel

A compatible unit that fits built-in plugs in L-2000, L-1000, DCL-50 and DCB-11. Eliminates listening to unwanted calls and constant background "noise." Frequency controlled tone selectively chooses just the party being called... completely bypasses all others. Up to 15 transceivers can be called (5 on each of the channels A, B and C). Other units must be equipped with CT-5 for this exclusive feature.

CT-5	5 Station Call-Tone Selector	Net 16.50
LC-5	Optional leather case	Net 1.90



CT-5



# Take it from Mickey Mantle†

**"ON LAND...AT SEA...  
there's a new wonderful,  
exciting world of sound...  
at your command!"**



## POWERHOUSE MEGAPHONES

### FEDTRO MEG-3600 DELUXE POWERHOUSE TRANSISTORIZED MEGAPHONE

• Waterproof • Impactproof • Rustproof



**NEW!**  
BUILT-IN EXCLUSIVE  
MARINE & SPORTS  
BLAST  
SIGNAL

#### SPECIAL FEATURES

- Superior Power Range
- Tonal Quality and Clarity of the Highest Fidelity
- Perfectly Balanced Pistol Grip with Trigger Switch and Fingertip Volume Control
- All Aluminum Construction
- All Weather Durable Handy Carrying Strap
- Instant Battery Loading

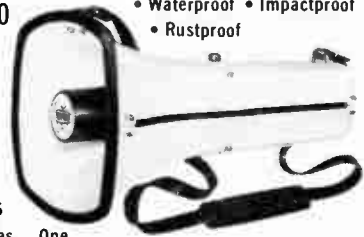
- Special Blast Signal Stops and Starts the Action... Marine Signal... Boat Horn... Fog Horn... "Mayday" ... Designed to meet U.S. Coast Guard Distress Signalling Regulations

**\$79.95\***

*magnificently finished in gleaming harmonious tones of brilliant red and lustrous ivory* \*Suggested selling price. Slightly higher in Western states.

### FEDTRO MEG-3300 DELUXE POWERHOUSE TRANSISTORIZED MEGAPHONE

• Waterproof • Impactproof • Rustproof



#### SPECIAL FEATURES

- Two Dynamic Microphones... One Built-In and Additional "Plug-In" Detachable Microphone
- Use 4 Ways:  
• Over Shoulder • Trumpet Grip  
• Thru Regular Mike  
• Thru Detachable Mike
- Super Power Range
- Superior Clarity
- Perfect Tonal Quality

- Hi-Impact PVC Construction
- Fingertip Volume Control
- Adjustable Carrying Strap & Shoulder Cushion
- Instant Battery Loading

**\$59.95\***

\*Suggested selling price. Slightly higher in Western states.

*magnificently finished in gleaming harmonious tones of lustrous ivory and ebony black*

### FEDTRO MEG-1200 MICRO-MEG POWERHOUSE TRANSISTORIZED MEGAPHONE

• Waterproof • Impactproof • Rustproof



the ultimate in transistorized miniaturization

#### SPECIAL FEATURES

- Transistorized
- Miniaturized... only 8 1/2 inches long
- Power Packed Amplification

- All Aluminum Construction
- Fingertip Volume Control
- Elegant Wrist-Strap Swivel Chain
- Noise-Cancelling Microphone

**\$39.95\***

\*Suggested selling price. Slightly higher in Western states.

*magnificently finished in gleaming harmonious tones of iridescent Imperial silver smartly trimmed with ebony black*

### FEDTRO MEG-1000b POWERHOUSE TRANSISTORIZED MEGAPHONE

• Waterproof • Impactproof • Rustproof



#### SPECIAL FEATURES

- All Aluminum Construction
- Superior Clarity and Tonal Quality
- Durable Handy Carrying Strap
- Instant Battery Loading
- Noise-Cancelling Microphone
- Fingertip Volume Control
- Power Packed Amplification

**\$39.95\***

\*Suggested selling price. Slightly higher in Western states.

*magnificently finished in gleaming harmonious tones of brilliant red and elegant ebony black*



# proven sound around the world®

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†MICKEY MANTLE ENDORSES ALL FEDTRO AUDIO PRODUCTS

# "FEDTRO...the proven sound of champions"

## THE WORLD'S LEADING SUPPLIER OF TRANSISTORIZED MEGAPHONES



FEDTRO POWERHOUSE MEGAPHONE SPECIFICATION GUIDE					
MODEL NO.	FEDTRO MEG-5000	FEDTRO MEG-3600	FEDTRO MEG-3300	FEDTRO MEG-1200	FEDTRO MEG-1000B
<b>ELECTRIC POWER SOURCE</b>	9 Volts	6 Volts	6 Volts	6 Volts	6 Volts
<b>OUTPUT</b>	25 Watts	16 Watts	14 Watts	5 Watts	5 Watts
<b>BATTERIES</b>	6 Flashlight "C" cells*	4 Flashlight "D" cells*	4 Flashlight "D" cells*	4 Flashlight "C" cells*	4 Flashlight "D" cells*
<b>DIMENSIONS</b>	Diameter 8 3/4", Length 13 1/2"	Diameter 7 1/4", Length 12 3/4"	Diameter 7", Length 12 1/4"	Diameter 5 1/4", Length 8 1/2"	Diameter 7 1/4", Length 12 1/4"
<b>WEIGHT</b>	5 1/2 lbs.	3 lbs.	2 1/4 lbs.	1 lb. 10 ozs.	2.7 lbs.
<b>POWER RANGE</b>	Up to 5000 feet†	Up to 3600 feet†	Up to 3300 feet†	Up to 1200 feet†	Up to 1200 feet†
<b>EXCLUSIVES</b>	Built-in Blast-Signal	Built-in Blast-Signal	Two Dynamic Microphones	Ultra Miniaturization	Economy plus

### FEDTRO MEG-5000 ULTRA DELUXE POWERHOUSE TRANSISTORIZED MEGAPHONE

the finest instrument of its kind in the world

- Waterproof • Rustproof • Impactproof

**SPECIAL FEATURES**

- Super Range & Power
- The Ultimate in Clarity and Tonal Quality
- Versatility • Detachable Mike
- All Aluminum Construction
- Fingertip Volume Control
- Adjustable Carrying Strap and Shoulder Cushion
- Instant Battery Loading
- Special Blast Signal Stops and Starts the Action... Boat Horn... Fog Horn... "Mayday"... Designed to meet U.S. Coast Guard Distress Signalling Regulations

magnificently finished in brilliant red and lustrous ivory

**\$119.95\***

\*Suggested selling price. Slightly higher in Western states.

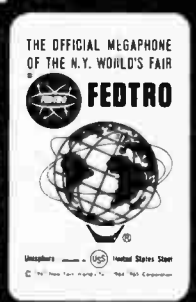


\*Eveready #1035 or equivalent.  
 \*\*Eveready #950, Burgess #2 or equivalent.  
 †Depending on environment, climatic conditions and existing area noise levels.  
 The bell of Fedtro Powerhouse Megaphone model numbers 5000, 3600, 3300 and 1000B are protected and cushioned with a rubber bumper rim, and the bell of model number 1200 is protected and cushioned with a poly-vinylchloride bumper rim.  
 All Fedtro Powerhouse Megaphones are magnificently packaged in an attractive re-usable, multi-color, sturdy compartment... ideal for quick, easy storage of the unit.



# proven sound around the world®

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take it  
from **Mickey Mantle**†

**ENJOY NEW  
WONDERFUL CONVENIENCE**

# WIRELESS INTERCOMS! JUST PLUG IN... AND TALK!



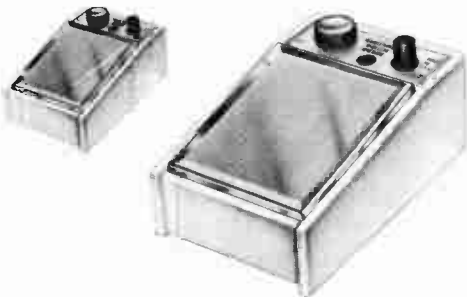
the **EXECUTIVE DELUXE**  
the finest instrument of its kind in the world!

The most desirable, functional, elegant 2-channel, 2-station transistorized wireless intercom... magnificently packaged. Designed for the most discriminating taste. 2-channel selectivity permits private conversation between rooms of your choice. By merely the flick of a switch you can select and talk on either one of two "private lines". No wires to connect! No installation! Input: 100/120 Volt AC, 50/60 cycles, 4 watts. Carrier frequency: Channel "A"—200 KC  $\pm 5\%$ , Channel "B"—165 KC  $\pm 5\%$ .

**MODEL INT-2C2W (Set of 2) \$59.95\***

**MODEL INT-SW2C (Extra Single Station) \$29.95\***

\*Suggested selling price.



the **DIRECTOR**

Wonderful... effortless 2-way communication. A quality wireless intercom magnificently packaged. The set of 2 units are elegantly designed and superbly engineered for total efficiency. No wires to connect! No installation! Fully transistorized. As many stations as necessary can be added... three, four, five and up. Input: 100/120 Volt AC, 50/60 cycles, 3.5 watts. Carrier frequency: 200 KC  $\pm 5\%$ .

**MODEL INT-2WR (Set of 2) \$39.95\***

\*Suggested selling price.



the **AMBASSADOR**  
the lowest priced quality WIRELESS!

A fully transistorized wireless intercom, at a price that can't be beat. Nothing to connect! No wires, no installation. Just plug in... and talk. Wonderful 2-way communication between any 2 rooms, house to house, office to office... any two areas. Additional stations can be added as needed. Input: 100/120 Volts AC, 50/60 cycles, 3.5 watts. Carrier frequency: 200 KC  $\pm 5\%$ .

**MODEL INT-2LPW (Set of 2) \$24.95\***

\*Suggested selling price.



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†MICKEY MANTLE ENDORSES ALL FEDTRO AUDIO PRODUCTS

# with QUALITY TRANSISTORIZED INTERCOMS by



## BATTERY OPERATED! HOOKS UP IN SECONDS!



### the **COMMANDANT DELUXE**

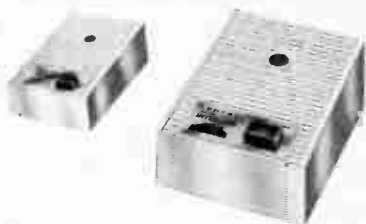
Deluxe transistorized 2-station intercom, handsomely designed and superbly packaged. Special signal buzzer lets you call even when units are off! Complete with 50 feet of cable. Operates off one standard 9 Volt transistor radio battery.

**MODEL INT-2S (2-Station) \$14.95\***

**MODEL INT-RE (Extra Remote Station) \$4.95\***

**MODEL INT-WA (Outdoor/Indoor Door Station) \$4.95\***

\*Suggested selling price.



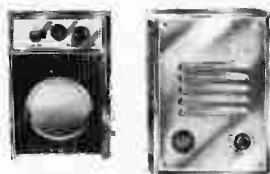
### the **BROADCASTER**

#### the lowest priced quality intercom in the world!

An economy quality fully transistorized intercom... budget priced. Signal buzzer lets you call even when units are off. Hooks up in seconds. The 50 feet of cable supplied with this unit is designed with plugs on each end. Thus each end of the cable simply plugs into each intercom station. Operates off one standard 9 Volt transistor radio battery.

**MODEL INT-2EC (2-Station) \$9.95\***

\*Suggested selling price.

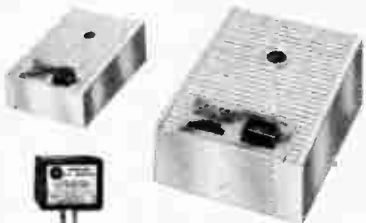


### the **"BUTLER"**

A transistorized "door-answering" intercom with built-in "electronic buzzer" door signal. New safety and convenience. Permits answering front or back door "electronically". Special signal buzzer lets you call even when units are off! Complete with 50 feet of cable.

**MODEL INT-DR (2-Station) \$15.95\***

\*Suggested selling price.



### **A.C. 110 VOLT OPERATED**

#### the **CONTROLLER**

This fully transistorized intercom plugs into any wall outlet. Operates off house current for less than a penny per day. Complete with 50 feet of cable that just plugs into units. Nothing to hook-up. Input: 110/120 Volts AC, 50/60 cycles, one watt. Output: 9 Volts DC

**MODEL INT-2ACEC (2-Station) \$10.95\***

\*Suggested selling price.



### **INTERCOM A.C. ADAPTOR**

Instantly converts your battery operated intercom to plug-in household current. No wires to connect! No installation. Simply clips into your transistor intercom... and permits you to plug your battery operated intercom into any ordinary household AC outlet. Replaces 9 Volt batteries such as Eveready 216 and Burgess 2U6. Input: 110/120 Volt AC, 50/60 cycles, one watt. Output: 9 Volts DC.

**MODEL INT-110AC \$2.95\***

\*Suggested selling price.



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FOR FEDTRO POWERHOUSE TRAN-  
SISTORIZED MEGAPHONES, SEE  
PAGES 54 & 55  
FOR POWERHOUSE TRUMPET  
SPEAKERS, SEE PAGE 104



# TUNERS • AMPLIFIERS • SPEAKERS

MOST HONORED OF THEM ALL



S-7800-FET



S-8800-FET



S-7600-FET



S-8600-FET

**140-WATT ALL-SILICON FM-AM STEREO RECEIVER** combines in one unit the famed performance and features of Sherwood's All-Silicon 0.1% distortion amplifiers and All-Silicon AM-FM Stereo tuner with Field-Effect-Transistors. Features: front-panel rocker-action switches which permit independent or simultaneous listening to two pairs of stereo speakers, automatic FM stereo/mono switching, professional-type zero-center tuning meter, interchannel hush, stereo indicator light, inertia tuning, preamp level control, high filter, and a front-panel stereo headphone jack. Instamatic Overload Protection guards transistors against damage from shorted output terminals and other overload conditions. Inputs for tape head, tape monitor, magnetic phono, and auxiliary high level sources. Outputs for recording and two pairs of 4 to 16-ohm speakers. Provisions for powered mono center channel or extension speakers.

**GENERAL SPECIFICATIONS** — Music power output: 140 watts at 4 ohms, 100 watts at 8 ohms for 0.6% Harmonic Distortion. 0.1% IM Distortion at normal listening levels. FM sensitivity.  $1.8\mu\text{V}$  (IHF). FM cross-modulation rejection: -95 db. Power Bandwidth: 12-35,000 Hz. Sensitivity: Aux. 0.2v, phono 1.8mv tape head 1.4mv. Max. Hum and Noise: (below rated output, weighted) Auxiliary input -75 db, phono input -63 db. Inputs: 2 pr. high-level, 2 pr. low-level. AM sensitivity  $2.0\mu\text{V}$  AM bandwidth 7.5 KHz. FM signal-to-noise: 70 db. FM capture ratio: 2.4 db. Selectivity: FM 250 KHz @ -6 db. FM Detector: 800 KHz peak-to-peak. FM distortion:  $1/3\%$  @ 100% mod. FM Stability:  $\pm 10$  KHz (.01%). 45 silicon transistors (2 Field Effect) 16 silicon diodes and rectifiers. Power Consumption: 115-125v, 60 Hz fused, 30 to 160 watts. Chassis size:  $16\frac{1}{2}'' \times 14'' \times 4\frac{1}{2}''$  high.

S-7800-FET (less case) Fair Trade Net .....\$409.50  
S-8800-FET, as above but less AM circuitry, (less case) Fair Trade Net .....\$369.50

**80-WATT ALL-SILICON FM-AM STEREO RECEIVER WITH FET'S:** The S-7600-FET is similar to the S-7800-FET (above) less tape head input, interchannel hush, high filter, and Instamatic Overload Protection, but has front-panel switch to defeat loudness compensation.

**GENERAL SPECIFICATIONS** — Same as S-7800-FET but Music Power output: 80 watts at 4 ohms, 50 watts at 8 ohms for 1.0% Harmonic Distortion. 38 silicon transistors (2 Field-Effect), 21 silicon diodes and rectifiers. Power consumption: 15-125v, 60 Hz, 30-120 watts fused. Chassis size:  $15\frac{1}{2}'' \times 12'' \times 4\frac{1}{2}''$  high.

S-7600-FET (less case) Fair Trade Net .....\$339.50  
S-8600 FET, as above less AM circuitry and loudness defeat switch, (less case) Fair Trade Net.....\$299.50



S-2300-FET



S-3300-FET



S-3500-FET



S-2000 IV

Sherwood is best known for its outstanding FM tuners, the first ever to achieve  $0.95\mu\text{V}$  sensitivity. All four models S-2300-FET, S-3300-FET, S-3500-FET, S-2000 IV feature: FM Interchannel Hush, Inertia Tuning, professional-type zero-center tuning meter,  $8\frac{1}{4}$  inch expanded slide-rule tuning scale, front panel level control. Stereo models feature automatic stereo/mono switching and Sherwood's "can't-be-fooled" Stereo Indicator Light.

**GENERAL SPECIFICATIONS:**

FM Sensitivity: (IHF)  $1.8\mu\text{V}$  for -30 db noise and distortion below 100% mod. AM Sensitivity:  $2\mu\text{V}$  at 60% mod. for 6 db S/N. Typical Selectivity: FM, 250KC at -6 db; 820KC at -60 db. AM, 4KC at -6 db. Stereo Separation: 35 db. FM Detector: 800KC peak/peak. FM Capture Ratio: 2.2 db. FM Stability:  $\pm 10$  KC ( $\pm 0.1\%$ ). FM Cross-Modulation Rejection: -95 db. FM Distortion: 0.15% Harmonic at 100% mod. Hum and Noise Level: FM, 70 db below 100% mod. AM, 56 db below 100% mod.

S-2300-FET FM-AM ALL-Silicon Multiplex Tuner: 18 silicon transistors (2 Field-Effect), 16 silicon diodes and rectifiers.

S-2300-FET (less case) Fair Trade Net .....\$209.50

S-3300-FET FM ALL-Silicon Stereo Multiplex Tuner: Stereo noise filter. 16 silicon transistors (2 Field-Effect), 12 silicon diodes and rectifiers.

S-3300-FET (less case) Fair Trade Net .....\$177.50

S-3500-FET FM ALL-Silicon Monophonic Tuner: Automatic frequency control (AFC) to follow portable wireless microphone FM oscillators. Tuning meter switchable for zero center tuning or relative signal strength. 11 silicon transistors (2 Field-Effect), 8 silicon diodes and rectifiers.

S-3500-FET (less case) Fair Trade Net .....\$139.50

S-2000 IV FM-AM Monophonic Tuner: 9 tubes, 2 silicon rectifiers.

S-2000 IV (less case) Fair Trade Net .....\$162.50



S-9000a



S-9900a



S-9500a

Sherwood presented the industry's first ALL-SILICON solid-state amplifiers. SILICON transistors possess a heat reserve three times greater than lower-cost germanium transistors. They are used exclusively in all Sherwood amplifier circuits.

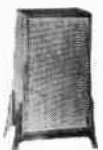
These amplifiers feature extremely low distortion (0.1%), at normal listening levels (under 10 watts), high phono input overload capabilities, and audio power to drive a mono 3rd (center) channel or remote single-channel accessory speaker systems. Speaker power-output protection circuits are provided in all units. The S-9900a and S-9500a each also feature front-panel rocker action switches which permit independent or simultaneous listening to two pairs of stereo speakers.

**GENERAL SPECIFICATIONS:** Power Bandwidth (@ 0.5% harmonic distortion): 12-25,000 cps. Harmonic Distortion: 0.25% @ rated output, 0.05% @ 10 watts or below. Intermodulation Distortion: 0.25% at rated output, 0.1% @ 10 watts or below. Damping Factor: 40: 1 at 8 ohms. Maximum Hum and Noise: (below rated output, IHF weighted): Phono: -70 db. Tuner: -80 db. Sensitivity: Tape Head: 0.6 mv, Phono: 1.6 mv, Tuner: 0.25 v. Tone Circuits: Baxandall. Inputs: Hi: 3 pair, Low: 2 pair. Outputs: 4 to 16-ohm speakers, stereo record, stereo headphones. Power Consumption: (115-125v, 60 cps. fused) 30 - 150 watts.

S-9000a, 160 watts at 8 or 4 ohms: Fair Trade Net (less case) .....\$309.50

S-9900a, 140 watts at 4 ohms, 100 watts at 8 ohms: Fair Trade Net (less case) .....\$229.50

S-9500a, 70 watts at 4 ohms, 50 watts at 8 ohms: Fair Trade Net .....\$179.50



SR-2



SR-3



SR-1



SR-4

**"TANGLEWOOD II" 4-WAY SPEAKER SYSTEM.** Response: 29-17,500 cps  $\pm 2\frac{1}{2}$  db. Power: handles 75-watts program. Features two 10" woofers with staggered  $17\frac{1}{2}$  and  $18\frac{1}{2}$  cps resonance, 8" midwoofer, 8" midrange, and Omni-Polar Tweeter. Crossovers at 200, 600, and 3,500 cps. Size:  $13\frac{1}{2}'' \times 24'' \times 13''$  deep. SR-4, hand-rubbed Walnut finish .....\$219.50

**"RAVINIA" 3-WAY SPEAKER SYSTEM.** Response: 48 cps to 17,500 cps  $\pm 2\frac{1}{2}$  db. Power: handles 60-watts program. High compliance 12" woofer, 8" mid range, and Omni-Polar Tweeter. Crossovers at 600 and 3,500 cps. Size:  $26\frac{1}{4}'' \times 15'' \times 13\frac{1}{4}''$  deep. SR-3, hand-rubbed Walnut finish .....\$139.50

**"BERKSHIRE" 3-WAY SPEAKER SYSTEM.** Response: 53 cps to 17,500 cps  $\pm 2\frac{1}{2}$  db. Power: handles 50-watts program material. High compliance 10" woofer. Mid range and tweeter same as Ravinia. Same crossover network. Size:  $24'' \times 13'' \times 9\frac{1}{2}''$  deep. SR-2, hand-rubbed Walnut finish .....\$99.50

**"NEWPORT" 2-WAY SPEAKER SYSTEM.** Response: 53-17,000 cps  $\pm 2\frac{1}{2}$  db. Power: handles 45-watts. Has 10" woofer and 4" midtweeter. Crossover at 1800 cps. Size:  $24'' \times 13'' \times 9\frac{1}{2}''$  deep. SR-1, hand-rubbed Walnut finish .....\$84.50

**CASES (Walnut tone leatherette)** Amplifiers and tuners .....\$7.50  
Receivers .....9.00

**GENUINE WALNUT WOOD CASES** For receivers. Richly finished. \$28.00

**RACK PANEL MOUNTING** — For tuners. Fits standard relay racks. Panel Size  $3\frac{1}{2}'' \times 19''$  .....\$7.50

ALL SILICON solid-state units carry a full THREE-YEAR warranty covering defective parts (including transistors). Vacuum tube units: one year (except tubes 90-days).

Sherwood Electronic Laboratories, Inc.

# NEWCOMB

PORTABLE PHONOGRAPHS &  
TRANSCRIPTION  
PLAYER / P. A. SYSTEMS

**R&RT**  
SERIES

**R SERIES ARE VACUUM TUBE MODELS,** teaching tools of moderate cost and proven reliability. They are built for intensive usage with maximum reliability, optimum performance, and minimum maintenance; they include many convenience, performance, and safety features.

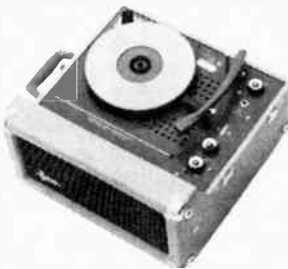
**RUGGEDLY BUILT,** both R and RT Series models have cases made of crack-proof, warp-proof, glue-blocked plywood covered with warm gray, washable, scratch-resistant vinyl. They are further protected with metal corners and kick-proof, die-formed, perforated metal grilles and vent plates. Come-apart hinges obviate the most vulnerable part of case construction. Ready access for servicing is provided. Cases rest on spring-floated feet. All are transformer powered for maximum safety and best performance. All are UL approved. Made in the U.S.A. Handy bid specifications are available from the factory to authorized personnel. Condensed operating instructions in large type and clearly illustrated are plastic-coated and permanently mounted in lids. **SPECIFICATIONS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.**

**RT SERIES MODELS WITH TRANSPECTRUM SOUND ARE FULLY TRANSISTORIZED.** The purity and range of Transpectrum Sound is not only the result of using transistors properly in completely new and original circuitry, but more importantly it is the result of Newcomb interrelationship engineering — the precise matching and balancing of all parts of the system so that the performance of the whole machine exceeds what might be expected from summing up the contributions made by the various components. All RT phono-graphs are equipped with Newcomb's lighted Instant Stop-Pause-Go control, the finest instructional pause device on the market.

## MODEL R-124

### Monophonic Phonograph

The Newcomb Model R-124 high fidelity, transformer-powered phonograph is an extraordinary combination of ruggedness and high fidelity sound — in every respect an outstanding value. It has an instant-start, 4-speed motor. Idler release is interlocked with a separate motor switch. A "Bi-Coupled" 12 watt vacuum tube output system drives a weighty 6" x 9" oval dual-cone high fidelity loudspeaker. High fidelity cartridge is the "Power Point" plug-in type. Turntable has a rubber mat and "twist-up" 45 center spindle. There is a standard phone jack for external speaker, headphones, or Newcomb Headphone Listening Center accessory. Power cord stows in a Hideaway compartment on side of case. Dual-acting bass-treble tone control matches source material to listening requirements. Volume control is compensated for realistic balance at low sound levels. Dimensions: 8 1/4" x 14 3/4" x 14 3/4"; weight 20 pounds. 117 volts, 60 cycles a.c. Transformer powered. UL approved. **MODEL R-124, fixed speed, 4 speed, PROFESSIONAL NET \$69.50**  
**MODEL R-124V, variable speed, 4 speed, with tempo control to vary speed as much as 20%, PROFESSIONAL NET \$85.95**



## MODEL R12-C4

### Monophonic Phonograph

A transformer-powered ten-watt utility model, the R12-C4 provides safety, dependability, and high performance at low cost. The powerful output system is stabilized with inverse feedback to maintain intelligibility at all volume levels. It is carefully matched to a 9" oval dual-cone loudspeaker. The tweeter cone markedly improves distribution and treble response. Cartridge is heat- and moisture-resistant ceramic "Power Point" type with turnover dual-sapphire styli. The R12-C4 is equipped with a rubber record mat and "twist-up" 45 center post, output jack for headphones or external speaker, drop pad to protect pickup, positive tone arm lock screw, pilot light, and a tuckaway compartment in deck for cord storage. It has a bass-treble tone control, compensated volume control, and main power switch that turns off everything including idler pressure. Dimensions: 8 1/4" x 14 3/4" x 14 3/4"; weight 19 pounds. 117 volts, 60 cycles a.c. Transformer powered. UL approved. **MODEL R12-C4, fixed speed, 4 speed, PROFESSIONAL NET \$62.50**



## MODEL R-164

### Monophonic Portable Combination Transcription Player P.A. System

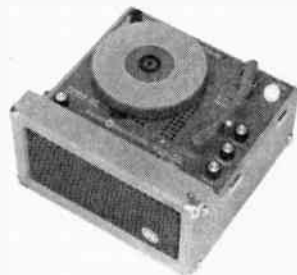
The R-164 is a versatile, medium-powered, portable combination transcription player/p.a. system that will play any size record up to 17 1/4" masters. Carefully matched to the 12 watt "Bi-Coupled" output system is a round 12" dual-cone high fidelity loudspeaker with 25' cord whose enclosure forms the top lid of the case. On the slanted, lighted operating panel are volume-mixing controls, separate treble control, and bass control that does not affect voice. There is a mike input jack, and an output jack for the speaker, headphones, or Newcomb Listening Center Accessory. The R-164 has a long tone arm of cast metal, "Power Point" type plug-in ceramic high fidelity cartridge, rubber record mat, "twist-up" 45 spindle, pickup stop post, drop pad, lock screw, jeweled pilot light, Hideaway cord storage, idler-retracting separate power switch. Dimensions 11" x 15 1/4" x 15 1/4"; weight 25 pounds. 117 volts, 60 cycles a.c. Transformer powered. UL approved. **MODEL R-164, fixed speed, 4 speed, PROFESSIONAL NET \$93.25**  
**MODEL R-164V, variable speed, 4 speed, with tempo control to vary speed as much as 20%, PROFESSIONAL NET \$107.50**



## MODEL RT-20

### Transistorized Monophonic Phonograph

A deluxe, high quality, transformer-powered phonograph, the RT-20 has a 20 watt amplifier with 7 solid-state elements and 20-20,000 cycle response. Loudspeaker is a 6" x 9" oval unit of exceptional efficiency and fidelity. Transistors are mounted on a chimney-shaped aluminum heat sink which concentrate air flow for efficient cooling. The high compliance, high fidelity cartridge with jewel styli is the ceramic turnover plug-in type proven preferable for school use. It safely plays stereo as well as mono discs. The RT-20 has separate wide-range bass and treble tone controls which adjust to provide best reproduction of all program material from voice narration to symphonic music, compensated volume control, numbered calibrations on controls for instant return to previously selected settings. There is an output-to-tape jack, a headphone output pack, a new and improved pickup arm mount, new arm-and-stylus guard of advanced design. Hideaway a.c. storage compartment. Bright pilot light is in the Newcomb Instant Stop-Pause-Go control. Dimensions: 14" x 14" x 8"; weight 17 1/2 pounds. 117 volts, 60 cycles a.c. Transformer powered. UL approved. **MODEL RT-20, fixed speed, 4 speed, PROFESSIONAL NET \$78.50**  
**MODEL RT-20V, variable speed, 4 speed, with tempo control to vary speed from +5% to -15% and lighted strobe, PROFESSIONAL NET \$93.50**



## MODEL RT-20B

### Transistorized Monophonic Phonograph

An economical unit that retains Newcomb's matchless dependability and delivers fine sound, the RT-20B has a transformer-powered 20 watt amplifier utilizing 7 solid-state elements with a 20-20,000 cycle frequency response and a 6" x 9" oval dual-cone high fidelity loudspeaker. The high fidelity, high compliance cartridge safely plays either stereo or mono records. A rubber mat is bonded to the 8" turntable which includes a non-tilt "twist-up" 45 adapter. The RT-20B includes separate wide-range bass and treble tone controls, compensated volume control, numbered calibrations, headphone jack, Hideaway a.c. cord storage compartment, advanced-design arm-and-stylus guard. Dimensions: 14" x 14" x 8"; weight 17 pounds. 117 volts, 60 cycles a.c. Transformer powered. UL approved. **MODEL RT-20B, fixed speed, 4 speed, PROFESSIONAL NET \$73.50**  
**MODEL RT-20BV, variable speed, 4 speed, with tempo control to vary speed from +5% to -15% and lighted strobe, PROFESSIONAL NET \$88.50**



## MODEL RTS-40

### 10 transistor Stereophonic Phonograph

Compact and easily carried, the RTS-40 is an all-solid-state transformer-powered phonograph that will reproduce stereophonic records in full stereo with outstanding realism and play monophonic discs as well. Amplifiers deliver 40 watts with 20-20,000 cycle response to two high fidelity dual-cone 6" x 9" oval loudspeakers. The ceramic phono pickup is a durable, high compliance, turnover, plug-in type mounted in a cast metal tone arm. A unique guard protects stylus against dropping and wrong placement. The precision-balanced 4-speed, fixed-speed motor drives an 8" metal turntable with bonded rubber mat and "twist-up" non-tilt 45 adapter. Controls are ganged for both channels and have numbered calibrations. Separate wide-range bass and dual-range treble tone controls and compensated volume control permit best reproduction of all material from speech to symphony. The RTS-40 includes Newcomb's Instant Stop-Pause-Go control, Hideaway cord compartment, output-to-tape recorder jack, and two headphone jacks with special circuits to protect 8-ohm dynamic sets. Dimensions: 9 3/4" x 10 1/2" x 16 1/4"; weight 20 pounds. 117 volts, 60 cycles a.c. Transformer powered. UL approved. **PROFESSIONAL NET \$139.50**



NEWCOMB AUDIO PRODUCTS CO.

**NEWCOMB**

# NEWCOMB

STEREO PHONOGRAPHS,  
TRANSCRIPTION PLAYERS,  
HEADPHONE LISTENING  
CENTERS, TABLE RADIOS

**R**  
SERIES

**RS-1620V** 4 speed, variable speed

**RS-1620** 4 speed, fixed speed



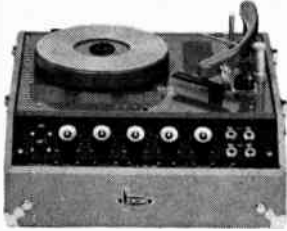
**STEREOPHONIC**

PORTABLE  
COMBINATION  
TRANSCRIPTION  
PLAYER  
P.A. SYSTEM



Newcomb RS-1620V stereophonic/monophonic portable combination transcription player/public address systems are simple to operate, durable, economical. Stereo or mono at the flip of a switch. Bi-Coupled output system delivers 10 watts peak per channel, 20 watts peak combined. Compatible cartridge is a turnover ceramic, plug-in type with jeweled styli. Rubber-matted turntable plays records to 17 1/4" masters. Tempo control +5% to -15%. Two mike inputs and left and right input jacks for radio or tape. On lighted, slanted panel are separate mixers for each mike and phono, voice filters, separate bass and treble tone controls ganged for both channels, but bass does not affect voice. Player unit measures 8" x 15 1/2" x 16 1/2". For use on 117 volts, 60 cycles a.c.

**20 WATTS  
PEAK**



Shown with  
Acra-Set tone  
arm lifting  
accessory  
available  
at additional  
cost

	Variable Speed Model Number	Prof. Net	Fixed Speed Model Number	Prof. Net
With S-212 split case containing two 12" dual cone hi-fi drivers. Closed case: 16 3/4" x 16 1/4" x 13 1/8". 21 lbs.	RS-1620V-2	\$215.00	RS-1620-2	\$205.00
With S-212HF split case containing two 2-way systems — 12" woofers, 3 1/2" tweeters. Closed: 16 3/4" x 16 1/4" x 13 1/8". 23 lbs.	RS-1620V-HF2	\$239.00	RS-1620-HF2	\$229.00
With 2 C-100 2-way reproducers ea. in sep. encl. Each measures 10 1/4" x 14 3/4" x 20", 19 1/2 lbs.	RS-1624V-C2	\$309.50	RS-1620-C2	\$299.50

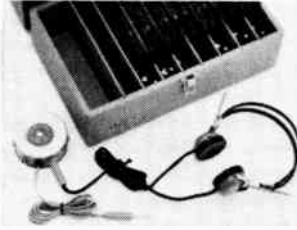
## NEWCOMB HEADPHONES AND LISTENING CENTER ACCESSORIES

**MODEL  
HDPB**  
monophonic  
headphones



Good sound, rugged construction, low cost, HDPB phones are colored red and black, have 6' cords, standard phone plugs. Plated metal parts, plastic-covered spring headband. Vertical adjustment springs are tubular sleeves with large friction-contact area for maximum life. **NET \$4.60**

**MODEL  
LC8BP**  
listening  
center



Kit includes an 8BP adapter, 8 sets of HDPB phones, compartmented carrying case. 14 1/4" x 8 1/2" x 7 3/4", 10 pounds. **NET \$67.30**

**MODEL 8BP circular adapter**

More convenient and space saving than panel-in-case type, the 8 BP free-standing adapter has 10' cord and phone jack for source connection, 8 jacks for HDPB phones, an additional jack for another adapter. **NET \$17.50**

**MODEL  
HDPB**  
stereophonic  
headphones



Economical, general purpose stereo phones with good response, colored red and black, have plastic-covered cables, plated hardware, standard stereo phone plugs, soft neoprene ear cushions that are comfortable on ears, form sound-tight seal. **NET \$7.75**

**MODEL  
R-HDB8C**  
listening  
center



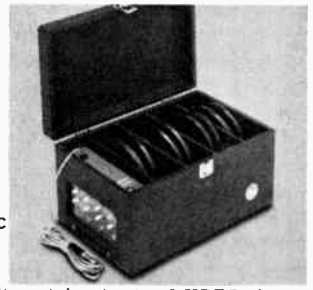
Eight sets of HDPB headphones in vinyl-covered compartmented case with 8 standard headphone jacks and 8 level controls in end panel; 10' source cord and output jack for additional adapter. 14 1/4" x 8 1/2" x 7 3/4", 11 pounds. **NET \$69.95**

**MODEL  
R-HDB8**  
listening  
center



Kit with 8 HDPB phones, compartmented case with terminal panel at end containing 8 standard phone jacks, has 10' source connection cord, jack for additional kit, measures 14 1/4" x 8 1/2" x 7 3/4", 11 pounds. **NET \$59.55**

**MODEL  
RHS-4C**  
stereophonic  
listening  
center



This deluxe kit contains 4 sets of HDPB phones in compartmented case that has connector panel at one end. There are 4 standard stereo phone jacks on panel and 8 level controls providing volume adjustment for each ear. 10' source cord and plug. Output jack for additional kit. 14 1/4" x 8 1/2" x 7 3/4", 10 pounds. **NET \$69.95**

## TABLE MODEL RADIOS

**AFM-1500**  
AM & FM



Highly sensitive, rendered very stable by a.f.c. and temperature-compensated oscillators, the AFM-1500 provides high fidelity sound through its 15 watts peak push-pull amplifier and 20 watt, 9" oval, dual-cone loudspeaker. It has a telescoping FM antenna, "Hi-Q" ferrite rod AM antenna, tuning eye, reference scale, large tuning knob, compensated volume control, external antenna terminals, jack for external speaker or headphones, jack for external amplifier, p.a. or tape recorder. 16 3/4" x 9 3/4" x 8 3/8", 20 1/4 lbs. 70 watts, 117 volts, 60 cycles a.c. **PROF. NET: \$164.50**

**AM-500**  
AM



Trim, rugged, easy to carry, the AM-500 is an economical, continuous-duty transformer-powered radio with a 5 watts peak, inverse-feedback amplifier and 8" oval, dual-cone loudspeaker whose special tweeter cone gives improved distribution and high frequency response. It has a built-in "Hi-Q" antenna and terminals for external antenna. Pilot light index illuminates direct-driven dial. Same jacks as AFM-1500. Neat power cord stowage on back of both 6 1/2" x 8" x 15 1/2", 10 lbs. 40 watts, 117 volts, 60 cycles a.c. **PROF. NET: \$59.95**

NEWCOMB AUDIO PRODUCTS CO.

**NEWCOMB**



# NEWCOMB

**TR**  
 SERIES

*HIGH POWER, PORTABLE, COMBINATION  
 TRANSCRIPTION PLAYER  
 PUBLIC ADDRESS SYSTEMS*

*...outstanding for their  
 highest quality sound,  
 intelligibility, portability, versatility,  
 and simplicity of operation...*

## *features common to all TR models:*

**FOUR SPEED, VARIABLE SPEED**, play any size record up to 17 $\frac{1}{4}$ " masters.

**AMERICAN-MADE MOTOR** delivers full starting torque at any speed setting, no warm-up required, stable under all conditions, requires no more attention than conventional fixed-speed motors.

**INDEPENDENT MOTOR SWITCH** automatically retracts idler.

**TEMPO CONTROL**, separate from speed selector, varies speed +5% to -15%. No flutter-producing friction discs or cone drives.

**SPEED-O-SCOPE** neon strobe.

**BIG TURNTABLE**—10", 2 lbs.

**STA-KLEEN**, deep-ribbed rubber mat, special groove for handling 45's.

**LONG TONE ARM**, one-piece, cast metal, raises upright for stylus inspection, mounted on resilient acoustical filter, has stylus pressure adjustment for 78's or LP's.

**RUGGED STOP POST** prevents putting arm in wrong position.

**LOCK SCREW** secures arm during transportation.

**DROP PAD**, rubber-covered, protects stylus and cartridge.

**PHONO PICK-UPS**: GE twist-needle with individually replaceable sapphire styli in "M" models. High fidelity ceramic in others.

**STEREO CONVERSION**: ceramic cartridge may be replaced with stereo cartridge. Then a patch cord is connected between stereo output jack to auxiliary input jack on second player for perfectly balanced, fully controllable stereo.

**HIGH POWER AMPLIFIERS**, low distortion, inverse feedback, some have ultra-linear circuits, all engineered for optimum performance with speakers used. Frequency response  $\pm 2$  db 20—20,000 cycles.

**TRANSFORMER-POWERED** for safety and performance.

**BROAD-BAND OUTPUT TRANSFORMERS** humidity-protected with mylar or acetate. Impedance selector—4 or 8 ohms (16, 8, & 4 on TRS-1680).

**FUSE POST** accessible from front panel.

**COMPLETE, FLEXIBLE CONTROLS**: separate volume mixers for phono and mike; voice filter, scratch filter; phono bass control does not affect voice mike; bass control electrically interlocked with phono volume to automatically protect against bass overload at high levels, greatly reducing operating experience required for perfect results.

**OUTPUT JACKS**: "ALL" used to feed entire program to external amplifier, amplified monitor, or tape recorder. "PHONO" delivers phono signal only; useful for caller or m.c. who wants to monitor music only without interference from own voice. "STEREO" on ceramic models.

**INPUT JACKS**: One for each mike; number depends on model. "AUXILIARY" for signal from radio, tape machine, or stereo channel.

**ILLUMINATED, SLOPING OPERATING PANEL**.

**TWO JEWELLED PILOT LIGHTS**.

**RUGGED CASE** made of warp-proof, crack proof  $\frac{3}{8}$ " plywood, glue-blocked, covered with scratch-resistant, washable, gray vinyl.

**METAL CORNER PROTECTORS**.

**COME APART HINGES**.

**SPRING-FLOATED FEET**.

**HEAVY #18 GAUGE STEEL MOTOR BOARD**, reinforced.

**THROUGH VENTILATION** for long parts life.

**EASY ACCESS**. Hinged motor board raises to reach tubes and motor. Perforated bottom plate unscrews to check wiring.

**KICKPROOF GRILLES** of die-formed metal and armored baskets protect speakers.

**25' SPEAKER CORDS** with stowage provisions. Straps for wall hanging.

**HIDEAWAY COMPARTMENT** for 8' power cord.

**FULL-SIZE HANDLES** on all cases and a hand-hold slot on player units for assistant carrier.

**PERMANENT SERIAL NUMBER** stamped in metal and riveted to motor board.

**TRANSPARENT PLASTIC CARD HOLDER** on each case.

**PRINTED INSTRUCTION BOOK** with each system.

**CONDENSED INSTRUCTIONS** sealed in plastic permanently attached inside lid.

**BID SPECIFICATIONS AVAILABLE** from factory to authorized personnel.

MADE IN U.S.A.



### TR-1625 SERIES 25 WATT CERAMIC PICKUP STEREO JACK

 PROF.  
 NET

TR-1625 Series player-amplifier units are carefully matched to the reproducers for great efficiency and better coverage than has heretofore been possible with a system in this class. It is equipped with a plug-in, "power point" type, high fidelity ceramic cartridge with separate jeweled standard and microgroove styli. It has a separate treble tone control, bass control that does not affect mike, phono volume mixer, mike volume mixer, scratch filter switch, voice filter switch. There are output jacks for 2 speakers, "Phono," "All," stereo; input jacks for one mike and another for auxiliary equipment.

MODEL TR-1625 in a single split case with one 12" dual-cone 30-watt speaker, 35 lbs. ....	139.50
MODEL TR-1625-2, two cases, includes one S-212, 50 lbs. ....	172.50
MODEL TR-1625-NE2, three cases, two N-12ET, 63 lbs. ....	237.00
MODEL TR-1625-CS2, three cases, two CS-48, 73 lbs. ....	247.00
MODEL TR-1625-SCS2, three cases, two SCS-412, 124 lbs. ....	387.00

Stereo compatible pickup safely plays stereo records monophonically.



### TR-1625M SERIES 25 WATT MAGNETIC PICKUP

 PROF.  
 NET

When monophonic music reproduction is to be a player's primary function, a Newcomb TR model equipped with a magnetic cartridge is your best choice. The TR-1625M is equipped with a GE variable reluctance, twist-needle cartridge with sapphire styli and necessary preamplifier built in. Motor is a 4-pole deluxe unit. Player has a separate treble tone control, bass control that does not affect mike, phono volume mixer, mike volume mixer, scratch filter switch, voice filter switch. There are output jacks for 2 speakers, "Phono," and "All"; input jacks for mike and auxiliary.

MODEL TR-1625M in a single split case with one 12" dual-cone 30-watt speaker, 36 lbs. ....	154.50
MODEL TR-1625M-2, two cases, includes one S-212, 51 lbs. ....	187.50
MODEL TR-1625M-NE2, three cases, two N12ET, 64 lbs. ....	252.00
MODEL TR-1625M-RHF, two cases with one 2-way speaker system in base reflex enclosure, 18" x 24" x 12 $\frac{1}{2}$ ", 65 lbs. ....	211.50
MODEL TR-1625M-CS2, three cases, two CS48, 74 lbs. ....	262.00
MODEL TR-1625M-SCS2, three cases, two SCS-412, 125 lbs. ....	402.00

SPECIFICATIONS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

NEWCOMB AUDIO PRODUCTS CO.

NEWCOMB

# NEWCOMB

HIGH POWER PORTABLE  
TRANSCRIPTION PLAYER  
P. A. SYSTEMS

**TR**  
SERIES

## TR-1640 SERIES 40 WATT CERAMIC PICKUP STEREO JACK

PROF.  
NET



TR-1640 models provide impressive audience coverage at moderate cost. Motor is a heavy-duty, four-pole unit. Player is equipped with a plug-in, "power point" type, high fidelity ceramic cartridge with separate jeweled standard and microgroove styli, ultra-linear amplifier. It has a treble tone control for all channels, bass tone for phono, phono volume mixer, mike volume mixer, bass tone for mike, impedance switch for speakers, scratch filter switch. There are output jacks for 2 speakers, "Phono," "All," stereo. Inputs for one mike auxiliary.

MODEL TR-1640 in a single split case with one 12" 50-watt speaker, 36 lbs.	169.95
MODEL TR-1640-E2, two cases, includes one S-212, 51 lbs.	196.50
MODEL TR-1640-E4, three cases, one S-212, one S-212E, 72 lbs.	261.00
MODEL TR-1640-2, two cases, one S-212H, 51½ lbs.	209.50
MODEL TR-1640-4, three cases, one S-212H, one S-212E, 72½ lbs.	273.05
MODEL TR-1640-NE2, three cases two N12ET, 64 lbs.	261.00
MODEL TR-1640-NE4, five cases, four N12ET, 98 lbs.	390.00
MODEL TR-1640-NH2, three cases, two N12HT, 78 lbs.	331.00
MODEL TR-1640-NH4, five cases, four N12HT, 126 lbs.	530.00
MODEL TR-1640-CS2, three cases, two CS48, 74 lbs.	271.00
MODEL TR-1640-CS4, five cases, four CS48, 118 lbs.	410.00
MODEL TR-1640-SCS2, three cases, two SCS-412, 125 lbs.	411.00
MODEL TR-1640-SCS4, five cases, four SCS-412, 220 lbs.	690.00

Stereo compatible pickup safely plays stereo records monophonically.

## TR-1640M SERIES 40 WATT MAGNETIC PICKUP

PROF.  
NET



A more powerful music room model which handles with ease four speakers, the TR-1640M player unit has an ultra-linear output system, two-way crossover-network loud-speaker systems, and the GE variable reluctance cartridge. The phono circuit is converted to a second mike channel by flipping a selector switch. It has a treble tone control for all channels, phono volume mixer, phono bass tone control, mike bass tone, mike volume mixer, impedance switch for speakers, scratch filter. There are output jacks for 2 speakers, "Phono," and "All"; input jacks for 2 mikes and auxiliary.

MODEL TR-1640M-HF in a single split case with 2-way speaker system including a 12" 50-watt woofer, crossover and separate 3¼" tweeter, 36½ lbs.	205.00
MODEL TR-1640M-E2, two cases, includes one S-212, 52 lbs.	220.00
MODEL TR-1640M-E4, three cases, one S-212, one S-212E, 73 lbs.	284.50
MODEL TR-1640M-HF2, two cases, one S-212HF, 54 lbs.	244.00
MODEL TR-1640M-HF4, three cases, one S-212HF, one S-212E, 75½ lbs.	309.50
MODEL TR-1640M-KN, two cases, one KN-200, 66 lbs.	288.25
MODEL TR-1640M-KN2, three cases, two KN-200, 101 lbs.	421.00
MODEL TR-1640M-NE2, three cases, two N12ET, 65 lbs.	284.50
MODEL TR-1640M-NE4, five cases, four N12ET, 99 lbs.	413.50
MODEL TR-1640M-NH2, three cases, two N12HT, 79 lbs.	354.50
MODEL TR-1640M-NH4, five cases, four N12HT, 127 lbs.	553.50
MODEL TR-1640M-NN2, three cases, two N12NT, 86 lbs.	394.50
MODEL TR-1640M-NN4, five cases, four N12NT, 141 lbs.	633.50
MODEL TR-1640M-CS2, three cases, two CS48, 75 lbs.	294.50
MODEL TR-1640M-CS4, five cases, four CS48, 119 lbs.	433.50
MODEL TR-1640M-SCS2, three cases, two SCS-412, 126 lbs.	434.50
MODEL TR-1640M-SCS4, five cases, four SCS-412, 221 lbs.	713.50

## TR-1656M SERIES 56 WATT MAGNETIC PICKUP

PROF.  
NET



These fully integrated systems achieve phenomenal acoustic output. They include 56 watts peak output system, four-pole deluxe motor, GE variable reluctance cartridge. The phono channel converts to a third microphone channel by flipping a switch. First mike channel has separate bass attenuating control for voice clarity. Second mike is flat. Phono tone controls regulate third mike. There are a separate treble tone control for all channels, bass tone for phono, phono volume mixer, mike 2 mixer, mike 1 mixer, mike 1 bass tone, speaker impedance switch, scratch filter. Output jacks for 2 speakers, "Phono," and "All"; input jacks for 3 mikes and auxiliary.

MODEL TR-1656M-HF2, two cases, includes one S-212HF, 57 lbs.	288.50
MODEL TR-1656M-HF4, three cases, one S-212HF, one S-212HFE, 80 lbs.	377.00
MODEL TR-1656M-X2, two cases, one S-212X, 59 lbs.	311.00
MODEL TR-1656M-X4, three cases, one S-212X, one S-212XE, 84 lbs.	421.50
MODEL TR-1656M-NF2, two cases, one S-212NF, 63 lbs.	329.85
MODEL TR-1656M-NF4, three cases, one S-212NF, one S-212NFE, 92 lbs.	459.35
MODEL TR-1656M-KN2, three cases, two KN-200, 104 lbs.	465.85
MODEL TR-1656M-KN4, five cases, four KN200, 176 lbs.	731.35
MODEL TR-1656M-NE2, three cases, two N12ET, 68 lbs.	329.00
MODEL TR-1656M-NE4, five cases, four N12ET, 102 lbs.	458.00
MODEL TR-1656M-NH2, three cases, two N12HT, 82 lbs.	399.00
MODEL TR-1656M-NH4, five cases, four N12HT, 130 lbs.	598.00
MODEL TR-1656M-NN2, three cases, two N12NT, 89 lbs.	439.00
MODEL TR-1656M-NN4, five cases, four N12NT, 144 lbs.	678.00
MODEL TR-1656M-CS2, three cases, two CS48, 78 lbs.	339.00
MODEL TR-1656M-CS4, five cases, four CS48, 122 lbs.	478.00
MODEL TR-1656M-SCS2, three cases, two SCS-412, 129 lbs.	479.00
MODEL TR-1656M-SCS4, five cases, four SCS-412, 224 lbs.	758.00

### DIMENSIONS OF NEWCOMB TR PLAYERS

Single speaker TR players form a single case with the speaker mounting used as the lid. They measure 16¾" x 16¼" x 13¼". In multiple-speaker models (except TRS-1680) the phono-

amplifier unit closed measures 16¾" x 16¼" x 8½". Speaker dimensions are given on facing page. Accessory speakers may be added to one- or two-speaker models at any time.

SPECIFICATIONS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

NEWCOMB AUDIO PRODUCTS CO.

**NEWCOMB**

# NEWCOMB

PORTABLE  
LOUDSPEAKERS**TR**  
SERIES

Newcomb makes many types of portable loudspeakers for use with Newcomb Portable Combination Transcription Player/Public Address Systems. They vary in portability, directivity, efficiency, and frequency response. For example, the column speaker is highly directive, but not nearly as easy to carry as the compact S-212 Series models. The KN-200 reproducer combines widest frequency range with highest efficiency and exceptional intelligibility. The N-12 Series speakers are highly efficient, directive, intelligible and portable. All are excellent instruments, built to withstand rough treatment. Construction and finish matches player units.

## ON THIS PAGE ARE SHOWN THE VARIOUS LOUDSPEAKER MODELS USED WITH NEWCOMB TR SERIES SYSTEMS



### NEWCOMB S-212 SERIES

These open-back designs are the most popular of all square dance system reproducers because they provide a unique combination of light weight, high output per watt input, and low cost. Their wide-range response makes them ideal for general use. Each model includes two independent reproducers in a split case. Speakers snap together back-to-back for carrying. Case size: 16 1/4" x 16 1/4" x 13 1/2". 25' cords stow on hooks inside case.

- MODEL S-212 includes two 12" dual-cone wide range 30 watts peak reproducers of good conversion efficiency. Impedance per speaker is 8 ohms. Weight: 21 lbs. **PROFESSIONAL NET: \$64.50**
- MODEL S-212E is same as S-212 but has series extension jacks. **PROFESSIONAL NET: \$64.50**
- MODEL S-212H includes two 50 watts peak 12" reproducers of wide-range and excellent conversion efficiency. Impedance per speaker is 8 ohms. Weight 2 1/2 lbs. **PROFESSIONAL NET: \$77.50**
- MODEL S-212HE is same as S-212H but has series extension jacks. **PROFESSIONAL NET: \$77.50**
- MODEL S-212HF includes two 50 watt speak 12" woofers and two 3 1/2" tweeters with crossover. Impedance per reproducer is 8 ohms. Weight 23 lbs. **PROFESSIONAL NET: \$88.50**
- MODEL S-212HFE is same as S-212HF but has series extension jacks. **PROFESSIONAL NET: \$88.50**
- MODEL S-212X includes two 60 watts peak super-power, aluminum-dome 12" dual-cone loudspeakers of superior efficiency and very wide range. Impedance per speaker is 8 ohms. Weight: 25 lbs. **PROFESSIONAL NET: \$110.65**
- MODEL S-212XE is same as S-212X but has series extension jacks. **PROFESSIONAL NET: \$110.65**
- MODEL S-212NF includes two 60 watts peak super-power woofers and two 3 1/2" tweeters with crossover. These systems combine exceptional response range with super efficiency. Impedance per reproducer is 8 ohms. Weight: 29 lbs. **PROFESSIONAL NET: \$129.50**
- MODEL S-212NFE is same as S-212NF but has series extension jacks. **PROFESSIONAL NET: \$129.50**

MODELS WITH "E" SUFFIX are only for use with other speakers and are not intended for use alone.



### NEWCOMB KN-200 REPRODUCER

Designed to give you all the sound, all the quality, all the range, all the coverage inherent in your fine Newcomb sound system, the KN-200 is a fully-enclosed, ducted-port, two-way speaker system of advanced design. It is highly efficient, delivers the widest frequency response possible with a portable speaker... full music reproduction plus crisp high frequency intelligibility. The KN-200 includes a massive 12" woofer, crossover, horn tweeter and treble control. It includes a parallel extension jack and impedance change switch for 8 or 16 ohms. 25 foot cord stows into "Hideaway" compartment. Size: 10 1/4" x 16 1/2" x 23 1/2". Weight: 35 lbs. **PROFESSIONAL NET: \$132.75**



### NEWCOMB N-12 SERIES SPEAKERS

Most unusual for a portable speaker, Newcomb N-12 models are back-loaded, dual-labyrinth reproducers for those who want high directivity, firm bass, crisp and clean highs. They provide the advantages of a closed-back reproducer in problem halls and auditoriums. 25 foot cord stows in "Hideaway" compartment. Enclosure measures 7 7/8" x 18 1/4" x 19 1/2". Offered in three models...

- MODEL N12ET is a 30 watts peak system using an efficient 12" woofer and two 3 1/2" tweeters and crossover. Included is a series-type extension jack with shorting switch which permits using the N12ET as either a regular or extension speaker. Impedance is 8 ohms. Weight 17 pounds. **PROFESSIONAL NET: \$64.50**
- MODEL N12HT is a 50 watts reproducer with a 12" heavy duty woofer, a directional horn tweeter and crossover network. This reproducer provides highest sound output per watt input. Included are a parallel extension jack and impedance changing switch. Impedance: 8 and 16 ohms. Weight: 24 pounds. **PROFESSIONAL NET: \$99.50**
- MODEL N12NT is a 60 watts peak reproducer with an extra heavy duty 12" woofer, a directional horn tweeter and crossover network. This reproducer provides highest sound output per watt input. Included are a parallel extension jack and an impedance changing switch. Impedances: 8 and 16 ohms. Weight 27 1/2 pounds. **PROFESSIONAL NET: \$119.50**



### NEWCOMB COLUMN SPEAKER, MODEL CS48

This is one of the most practical of all column speakers. It combines exceptional directivity with portability, has good efficiency and greater effective range than most columns. Power handling capacity is 60 watts peak. 25 foot cord and plug tuck into "Hideaway" cord compartment. It has an extension jack and switch for use with extension speakers. Size: 39 1/8" x 11 1/4" x 6 3/8". Weight: 22 lbs. **PROFESSIONAL NET: \$69.50**

### NEWCOMB SUPER COLUMN, MODEL SCS-412

Here's the best column speaker you've ever heard. The Newcomb SCS-412 gives you super intelligibility, super efficiency, super power handling capacity. It contains four *twelve-inch* speakers specially developed for column use. Its peak power handling capacity of 120 watts makes for dependability and unusually low distortion when used with conventionally-powered systems. Each amplifier watt is converted into more sound than is available from any other column. The SCS-412 makes small amplifiers sound like big ones. It will project your voice clear as crystal, syllable-perfect over the noisiest big crowd. It takes a man-size system to produce these results. The SCS-412 stands 56" high, is 15" wide, 7 1/2" deep, weighs 42 1/2 pounds. Impedance is 3 ohms. It has a 25 foot cord, "Hideaway" cord compartment, series type jack with shorting switch. **PROFESSIONAL NET: \$139.50**

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NEWCOMB AUDIO PRODUCTS CO.

**NEWCOMB**

# NEWCOMB

STEREOPHONIC SYSTEMS  
MICROPHONES, ACCESSORIES

**TR**  
SERIES



STEREOPHONIC  
MONOPHONIC

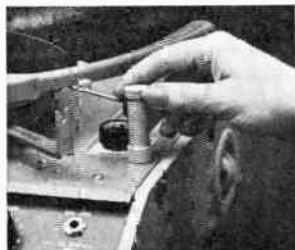
## TRS-1680 SERIES 80 WATT

It has three mike channels. The central mike puts the speaker or square dance caller in the middle, midway between the reproducers. There are separate treble, bass, and volume controls for phono or other reproduced sound. Each mike channel has its own, individual tone and volume controls. Mike tone controls are rotated for treble adjustment, pushed or pulled for bass. There is a blend control to provide any degree of stereo you wish. There are "Left" and "Right" inputs for radio, tape, or auxiliary; a scratch filter; "All" or "Phono" monitor jacks; jacks for two or four speakers with an impedance-matching switch. Turntable-amplifier unit DIMENSIONS: 9 1/4" x 17 1/8" x 18 1/2"; 43 lbs. POWER CONSUMPTION: 180 watts, 117 volts, 60 cycles a.c. A wide choice of reproducers to meet specific assignments is offered...

Built with a great reserve of power for most uses — 40 watts peak per channel — the Newcomb TRS-1680 is perhaps the most complete and flexible portable sound system ever built. It reproduces stereo or mono with the turn of a knob. Stereo or mono tape or radio can be fed to the system. Live music and speech are reproduced either stereo- or monophonically.

	PROF. NET
MODEL TRS-1680-NF2, two cases, includes one S-212NF, 72 lbs.	\$429.00
MODEL TRS-1680-NF4, three cases, two S212NF, 101 lbs.	\$558.50
MODEL TRS-1680-KN2, three cases, two KN-200, 113 lbs.	\$565.00
MODEL TRS-1680-KN4, five cases, four KN-200, 183 lbs.	\$830.50
MODEL TRS-1680-NH2, three cases, two N12HT, 91 lbs.	\$498.50
MODEL TRS-1680-NH4, five cases, four N12HT, 139 lbs.	\$697.50
MODEL TRS-1680-NN2, three cases, two N12NT, 98 lbs.	\$538.50
MODEL TRS-1680-NN4, five cases, four N12NT, 153 lbs.	\$777.50
MODEL TRS-1680-CS2, three cases, two CS48, 87 lbs.	\$438.50
MODEL TRS-1680-CS4, five cases, four CS48, 131 lbs.	\$577.50
MODEL TRS-1680-SCS2, three cases, two SCS-412, 138 lbs.	\$578.50
MODEL TRS-1680-SCS4, five cases, four SCS-412, 233 lbs.	\$857.50

## ACRA-SET TONE ARM LIFTER AND RECORD-CUEING DEVICE



MODEL A-1

Acra-Set is an accessory available at additional cost for repeating passages and protecting records. You simply twist the knob on top to gently lift or lower tone arm. Lifter has a 100-division scale and a traveling stop with a pointer. It is simply installed by drilling a 3/16" hole which is readily located with a template. Holes are pre-drilled at the factory on current transcription players. Specify your model number when ordering; correct template and C-1 cue sheets will be supplied. PROF. NET: \$12.50

## MODEL VU-1 PORTABLE VISUAL OUTPUT METER



Model VU-1 Output Meter permits you to see that your voice is being amplified to the proper level, helps you make the most of your fine Newcomb TR system. Meter is high quality instrument with jeweled d'Arsonval movement and a scale calibrated in both db and volume units from 0 to 100 over the working range of the system. Also indicates overloading. Simple internal adjustment matches meter to any TR player; instructions are permanently mounted in lid. One end of the supplied patch cord connects player to "All" monitor jack, other end to "Input" on meter. Supplementary "All" monitor jack on meter. PROF. NET: \$29.95

## AMPLIFIED MUSIC MONITORS



With a Newcomb Amplified Monitor you can hear reproduced music without interference or feedback squeal from caller's or speaker's voice. Connected to

"Phono" channel of transcription player, monitor reproduces music only, not mike channels. Or, it may be connected to "All" jack to reproduce voice and music. It can also be used as a stereo channel with a TR-1625 or TR-1640.

MODEL M-12: 12" speaker; 10 watt amplifier; 17 1/8" x 13 1/4" x 7 1/2"; 17 1/4 lbs. PROF. NET: \$79.50

MODEL M-9: 9" oval, dual-cone speaker; 10 watt amplifier; 13 1/4" x 10 1/4" x 7"; 10 lbs. PROF. NET: \$69.50

## PROTECTIVE CANVAS COVERS



Made of tightly woven, fleece-lined, rubberized mackintosh covert, with stout zipper closure and flap that tucks under handle. Transparent slot for identification.

No. CA-102 for use with TR-1625, TR-1625M, TR-1640, TR-1640M amplifier sections only. PROF. NET: \$5.95

No. CA-103 for use with S-212 type split case speaker assemblies and all TR series systems with single speaker in case lid. PROF. NET: \$5.95

No. CA-104 for use with TRS-1680 amplifier section only. PROF. NET: \$5.95

No. CA-110 for use with KN-200 or K-400 reproducers. PROF. NET: \$6.63

No. CA-111 for use with C-100 or J-200 reproducers. PROF. NET: \$5.95

No. CA-119 for use with M-12 monitor. PROF. NET: \$5.95

No. CA-132 for use with M-9 monitor. PROF. NET: \$5.95

No. CA-136 for use with all N-12 series reproducers. PROF. NET: \$5.95

No. CA-137 for use with CS48 column speaker. PROF. NET: \$9.30

No. SCS-412 for use with SCS-412 column speaker. PROF. NET: \$12.63

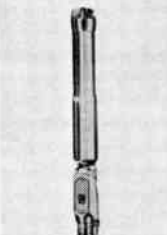
## MICROPHONES



Model M-30 Crystal Microphone with lavalier cord, stand adapter, switch, and shielded plug.

PRO. NET 13.95

Model M-30D Desk Mounting for M-30 only. PROF. NET 1.85



Model M-36 Dynamic Professional Quality Microphone is the perfectionist's choice with any TR system, especially intended for use with TR-1640M, TR-1656M and TRS-1680 series models. Supplied with shielded cord and plug and on-off switch. PROF. NET 50.00



Model M-23 Dynamic Microphone of very high quality with switch and shielded plug, recommended for general purpose use with all TR series systems. PROF. NET 39.50



Model MS-23 Accessory Bag of heavy plastic, zipped, for microphones, etc., can be attached inside lid of speaker case. PROF. NET 2.10

Model PP-61 Stereo Conversion Pickup Cartridge, plug-in type, for any TR series player equipped with stereo output jack and plug-in ceramic cartridge. PROF. NET 4.65

Model WC-64 Connecting Cable, four feet long with plugs for connecting two TR ceramic models together for stereo. PROF. NET 4.65

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NEWCOMB AUDIO PRODUCTS CO.

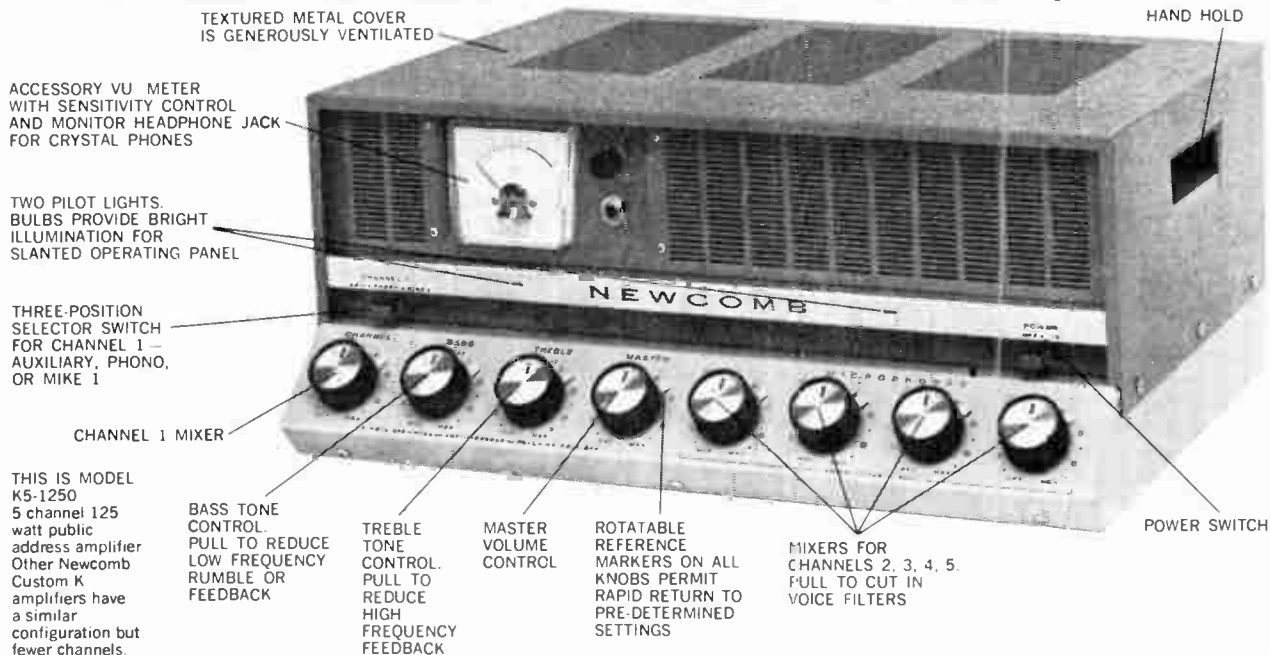
**NEWCOMB**

# NEWCOMB

MODULAR  
PUBLIC ADDRESS  
AMPLIFIERS

CUSTOM  
SERIES K

## MODULAR PUBLIC ADDRESS AMPLIFIERS OF THE VERY BEST QUALITY



ACCESSORY VU METER WITH SENSITIVITY CONTROL AND MONITOR HEADPHONE JACK FOR CRYSTAL PHONES

TWO PILOT LIGHTS. BULBS PROVIDE BRIGHT ILLUMINATION FOR SLANTED OPERATING PANEL

THREE-POSITION SELECTOR SWITCH FOR CHANNEL 1—AUXILIARY, PHONO, OR MIKE 1

CHANNEL 1 MIXER

THIS IS MODEL K5-1250 5 channel 125 watt public address amplifier. Other Newcomb Custom K amplifiers have a similar configuration but fewer channels.

BASS TONE CONTROL. PULL TO REDUCE LOW FREQUENCY RUMBLE OR FEEDBACK

TREBLE TONE CONTROL. PULL TO REDUCE HIGH FREQUENCY FEEDBACK

MASTER VOLUME CONTROL

ROTATABLE REFERENCE MARKERS ON ALL KNOBS PERMIT RAPID RETURN TO PRE-DETERMINED SETTINGS

MIXERS FOR CHANNELS 2, 3, 4, 5. FULL TO CUT IN VOICE FILTERS

POWER SWITCH

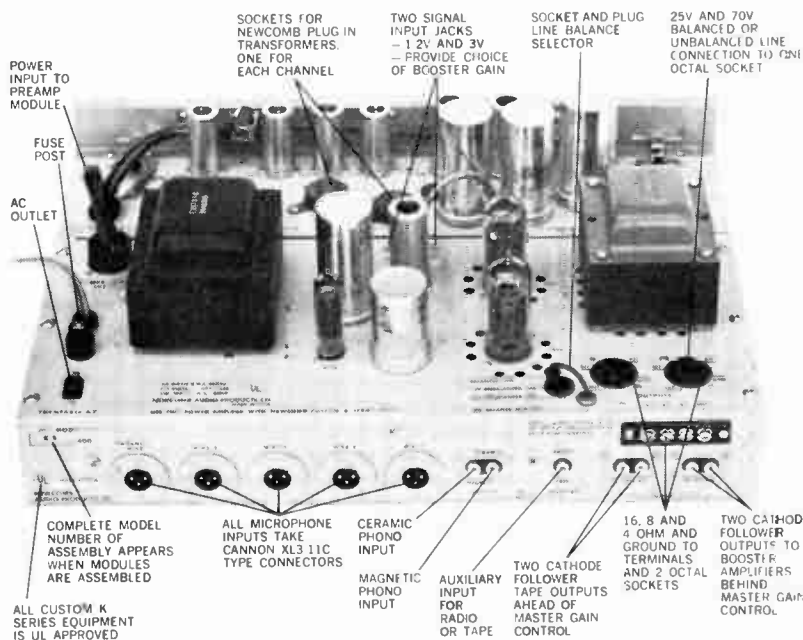
Flexibility and performance without equal are provided by Newcomb Custom K Series public address amplifiers. "Custom" has a very real meaning in this instance. Within minutes you can assemble exactly the right combination of channels, power and features to custom fit a particular situation. You are not faced with the hours of assembly labor and testing necessary with conventional modular designs. You simply select the Newcomb Custom K mixer/preamplifier with the number of channels — three, four, or five — you need. Then choose the power amplifier module — 40, 60, or 125 Watts — needed for the location. Drop the power amplifier into the preamplifier chassis. Two plug-in connections. No soldering. Drive a few sheet metal screws and you're in business. Take your choice of a well-ventilated cabinet cover or a rack panel mount. A VU meter accessory with a phone jack is available and can be quickly added to any front end. A remote control accessory is available for the four-channel module.

Any preamplifier may be used as a mixer by itself by inserting a Model P Power Supply instead of a power amplifier module. Any power output module becomes a straight power amplifier when it is mounted in the Newcomb Model KB Booster Chassis. The Newcomb Custom K modular system is so simple and straightforward that it's a wonder public address

amplifiers weren't made this way to begin with. All modules are completely interchangeable.

The latest developments in vacuum tube technology and skilled hand craftsmanship are united to produce superb performance. Performance of Newcomb Custom K Series amplifiers has no equal. They operate with extremely low distortion at all power levels; supply unusually high useful power, run unbelievably cool. Vacuum tube design was chosen for the Custom K Series because no other method of amplification today provides the same combination of maximum performance, stability, reliability, extended life, and outright value. With vacuum tubes, repairs are easier and faster to make, cost less.

Visually, Custom K Series assemblies are exceedingly handsome, finished in soft, light shades of green. The control panel is slanted for convenient operation either seated or standing, and it is well illuminated. Custom K Series models abound with such refinements as movable reference markers on all knobs. To cut in a voice filter you simply pull the appropriate mixer knob. To kill feedback, pull tone control knobs. When you're out to prove what you can do, when you're putting in a model job, a job you'll be proud to put your nameplate on, that's the time to build with Newcomb Custom K.



POWER INPUT TO PREAMP MODULE

FUSE POST

AC OUTLET

SOCKETS FOR NEWCOMB PLUG-IN TRANSFORMERS. ONE FOR EACH CHANNEL

TWO SIGNAL INPUT JACKS — 1 2V AND 3V — PROVIDE CHOICE OF BOOSTER GAIN

SOCKET AND PLUG LINE BALANCE SELECTOR

25V AND 70V BALANCED OR UNBALANCED LINE CONNECTION TO 500 OHM OCTAL SOCKET

COMPLETE MODEL NUMBER OF ASSEMBLY APPEARS WHEN MODULES ARE ASSEMBLED

ALL MICROPHONE INPUTS TAKE CANNON XL3 11C TYPE CONNECTORS

CERAMIC PHONO INPUT

MAGNETIC PHONO INPUT

AUXILIARY INPUT FOR RADIO OR TAPE

TWO CATHODE FOLLOWER TAPE OUTPUTS AHEAD OF MASTER GAIN CONTROL

16, 8 AND 4 OHM AND GROUND TO TERMINALS AND 2 OCTAL SOCKETS

TWO CATHODE FOLLOWER OUTPUTS TO BOOSTER AMPLIFIERS BEHIND MASTER GAIN CONTROL

ALL CUSTOM K SERIES EQUIPMENT IS UL APPROVED

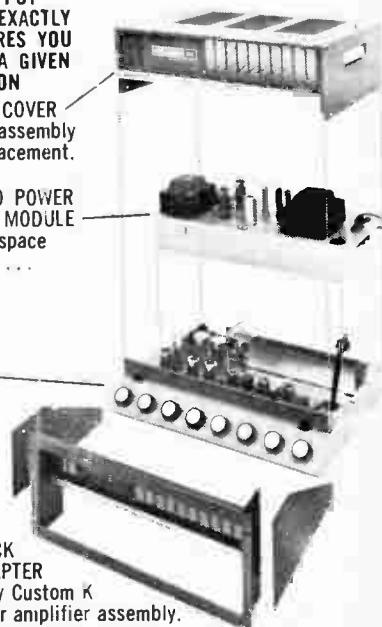
INSTANTLY PUT TOGETHER EXACTLY THE FEATURES YOU NEED FOR A GIVEN INSTALLATION

MODEL KC COVER drops over assembly for shelf placement.

MODEL 600 POWER AMPLIFIER MODULE drops into space provided in...

MODEL K5 MIXER/PREAMP MODULE

MODEL KR-875 RACK PANEL ADAPTER accepts any Custom K mixer-power amplifier assembly.



NEWCOMB AUDIO PRODUCTS CO.

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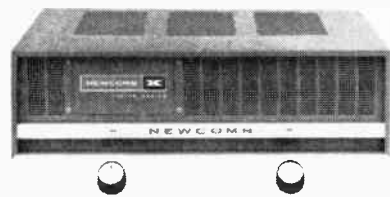
# NEWCOMB

MODULAR  
PUBLIC ADDRESS  
AMPLIFIERS

CUSTOM  
SERIES **K**

## 70 COMBINATIONS FROM 14 UNITS

The modular concept makes it possible for you to get exactly the features you need without delay. Four chassis and four power units combine to form 15 basic assemblies. The VU meter may be added to 12 assemblies. 8 models (K4R assemblies with and without VU meter) become remote-control units with the addition of the RB4 accessory. All 35 may be rack panel mounted or covered for free-standing use. (UL requires that they be purchased with one or the other.)



MODEL KB BOOSTER CHASSIS  
WITH MODEL KCB COVER

## SPECIFICATIONS — K3, K4R, K5 MIXER-PREAMPLIFIERS

All of the Newcomb Custom K mixer-preamplifier modules have space at the back of the chassis into which may be inserted either a Model 400, 600 or 1250 power amplifiers or the Model P power supply. Power is normally supplied to the front end by the power amplifier module; Model P is used when the preamp section is to be used as a separate mixer-control unit. Mixer models differ principally in the number of input channels. Each has one mike channel that is convertible by switch to use with a magnetic or ceramic phono pickup (preamp provides full RIAA response curve) or with a flat tuner or tape input. Outputs: 2 from each of two cathode followers, one before and one after the master control. Maximum output from followers: 10 volts into high impedance load. Distortion: less than 1/2%. D.C. on all filaments. Frequency response: ±1 db 20-20,000 cycles. Bass tone control range: -18 db to +18 db. Low frequency roll off: 3 db at 100 cycles, -12 db at 20 cycles. Treble tone control range: -18 db to +18 db. High frequency roll off: 3 db at 5,000 cycles, -12 db at 20,000 cycles. Microphone impedance: 2 megohms convertible to low impedance by Newcomb hum-free plug-in transformer. Input volts required for 1 volt output from cathode followers: Mikes, .0028 volts, gain 54° db, 2 megohms. Magnetic, .0022 volts, 100,000 ohms. Equalized to full RIAA curve. Ceramic pickup, .086 volts. Equalized to RIAA curve. Tuner or Tape input (Aux.), .34 volts, 1/2 meg., gain 6.4° db. Gain stated is with 1 meg. output load. With 600 ohm output using TR-100 add 13 db. Hum below 10 volts output (inputs shorted): Mikes, -80 db. Magnetic pickup, 70 db. Aux. input, 80 db. All controls off, -100 db. Socket supplies power for VU-2T volume indicating meter. Note: K4R provides for remote control of all inputs. Dimensions, all models: 17" x 13 3/8" x 7 3/8" (height dimension includes KC cover). Weight, all models: 7 pounds. All microphone inputs require Cannon XL3-11C type connectors.

	Model K3	Model K4R	Model K5
Number of Channels and mixing controls	3	4	5
Number of Channels with voice filters	2	3	4
Tubes	two 6AB4 three 12AX7	three 6AB4 three 12AX7	four 6AB4 three 12AX7
LIST: (with tubes, without cover)	\$199.50	\$225.00	\$239.50

### FOR SEPARATE MIXER-PREAMPLIFIER ONLY...

MODEL P POWER SUPPLY takes the place of the power amplifier in the space provided in the K3, K4R, and K5 preamp modules, and supplies power to them through an octal socket. (It is never needed when a Model 400, 600, or 1250 power amplifier is used.) Model P includes a socket for a plug-in output transformer and output terminals for a balanced or unbalanced 600 ohm line. Maximum 600 ohm output = 0 VU. Input power: 117 volts, 60 cycles, 22 watts. Wt. 4 1/2 lbs. List: (with tubes) \$37.50.

## AS SIMPLE TO SPECIFY AS THEY ARE TO ASSEMBLE

Model number of a basic assembly consists of a combination of preamp model number and power amplifier model number as follows:

Preamp Mixer ↓ / Power Amp →	Model 1250 125 watts	Model 600 60 watts	Model 400 40 watts	Model P Power Supply
Model K5 5 Channel	K5-1250 \$439.00	K5-600 \$399.00	K5-400 \$369.00	K5-P \$277.00
Model K4R 4 Channel	K4R-1250 \$424.50	K4R-600 \$384.50	K4R-400 \$354.50	K4R-P \$262.50
Model K3 3 Channel	K3-1250 \$399.00	K3-600 \$359.00	K3-400 \$329.00	K3-P \$237.00
Model KB Booster Chassis	KB-1250 \$237.00	KB-600 \$197.00	KB-400 \$167.00	Complete Mixer-Preamp Only Complete Power Amplifier Only

Specifications For Complete Mixer-Preamplifier Power Amplifier Assemblies	Mike Gain	133 db	130 db	128 db
	Auxiliary Gain	85.4 db	82.4 db	80.4 db
	Hum, input shorted: Mike, -60 db below full output Magnetic pickup, -50 db below full output Auxiliary input, -60 db below full output All controls off, -80 db below full output			

List prices of combinations are shown without cover, rack mounting or VU meter.

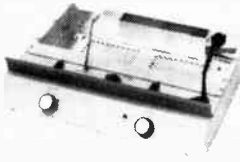
## SPECIFICATIONS — 400, 600, 1250 POWER AMPLIFIER MODULES

The power amplifier modules in Newcomb's Custom K Series are not usable alone; they must be installed in a K3, K4R, or K5 mixer-preamplifier chassis. If they are to be used simply as a booster amplifier, they can be mounted in a Model KB Booster Chassis. Circuits in all power amplifier modules are resistance-capacity coupled, screen-regulated, with fixed bias and inverse feedback. They include power supply for K3, K4R, and K5 preamps. All have an a.c. outlet and an external fuse post. All three models have some identical specifications: Input impedance: 1 megohm convertible to low impedance with hum-free plug-in line or bridging transformers. Output impedances: 4, 8, and 16 ohms to a terminal strip and two octal sockets; 25 and 70 volts balanced or unbalanced line to one octal socket. Hum and noise: 80 db below steady state power rating.

	Model 400	Model 600	Model 1250
POWER OUTPUT: steady state RMS at less than 5% T.H.D.	40 watts	60 watts	125 watts
POWER OUTPUT: at less than 1% T.H.D.	35 watts	50 watts	110 watts
PEAK POWER: (Note: Music power peak rating is higher)	80 watts	120 watts	250 watts
INPUT—1.2 V or 3 V required for maximum rated steady state power output			
GAIN: at 1 meg. 1.2 V input tap 3 V input tap	74 db 70 db	76 db 72 db	79 db 75 db
GAIN: at 600 ohms input using TR-100 and 1.2 V input tap 3 V input tap	61 db 57 db	63 db 59 db	66 db 62 db
FREQUENCY RESPONSE: ±2 db 25-15,000 cps at all ±0 db 20-20,000 cps at	35 watts 1 watt	50 watts 1 watt	110 watts 1 watt
POWER CONSUMPTION: 117 volts, 60 cycles a.c.	110 watts	145 watts	185 watts
TUBES: All models include 5 silicon rectifiers	one 7199 two 6B87 one 6CU5	one 7199 two 6L6GC one 6CU5	two 12AU7 two 6550 one 6CU5
WEIGHT:	16 1/2 lbs.	21 1/4 lbs.	30 1/2 lbs.
LIST: (with tubes)	\$129.50	\$159.50	\$199.50

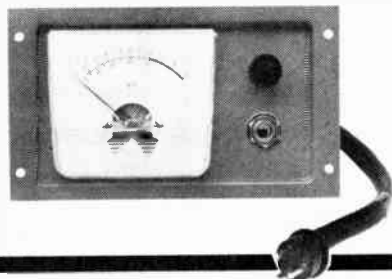
### FOR COMPLETE POWER AMPLIFIER ONLY

MODEL KB CHASSIS is the same size as the K3, K4R, and K5 preamp modules and accommodates Model 400, 600, or 1250 power amplifier modules when they are to be used as boosters. Model KB includes volume control, low frequency roll-off switch, power switch, and pilot lights. It has a lighted, slanted operating panel and factory-wired socket for Newcomb plug-in, hum-free transformers. Dim.: 17" x 13 3/8" x 7 3/8". Wt.: 5 lbs. (without cover). List: \$37.50.



NEWCOMB AUDIO PRODUCTS CO.

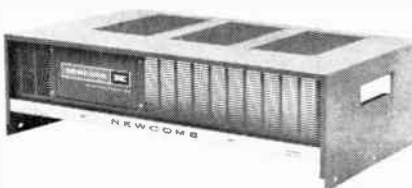
NEWCOMB

**NEWCOMB**MODULAR  
PUBLIC ADDRESS  
AMPLIFIERS**CUSTOM  
SERIES K****MODEL VU-2T ACCESSORY  
TRANSISTORIZED VU METER**

for use with Newcomb Custom K Model K3, K4R or K5 mixer/preamp, the VU-2T has sensitivity control and a monitor head-phone jack for wide-band crystal headphones only. The VU-2T obtains power from the preamp, is installed in place of the removable front plate, simply plugs into the socket provided. LIST: \$49.50

**MODEL RB4 ACCESSORY  
REMOTE CONTROL UNIT**

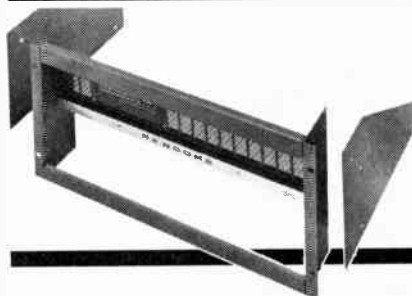
for use with the K4R only. A four-channel unit, it may be placed up to 2,000 feet from the amplifier. A 5 wire unshielded cable is required. Cable extra. Dimensions: 3" x 9" x 1 1/4". Weight: 1 1/2 pounds. LIST: \$19.50

**MODEL KC COVER**

for assemblies incorporating Model K3, K4R, or K5 mixer-preamplifier modules. Size: 17 1/4" x 12 1/4" x 5 1/4". Weight: 5 pounds. LIST: \$25.00

**MODEL KCB COVER**

for booster amplifier assemblies incorporating Model KB Booster Chassis. Size: 17 1/4" x 12 1/4" x 5 1/4". Weight: 5 pounds. LIST: \$25.00

**MODEL KR-875 RACK PANEL ADAPTER**

for assemblies incorporating Model K3, K4R, or K5 mixer-preamplifier modules. Size: 19" x 8 3/4". Weight: 5 pounds. LIST: \$25.00

**MODEL KR-875B RACK PANEL ADAPTER**

for assemblies incorporating Model KB Booster Chassis. Size: 19" x 8 3/4". Weight: 5 pounds. LIST: \$25.00

**HUM-FREE PLUG-IN TRANSFORMERS**

MODEL TR-91 input transformers are designed for all Newcomb amplifiers wired to accept them. They provide 30/50 ohms or 200/250 ohms input impedance depending on wiring of transformer socket. Normal Newcomb amplifier wiring connects the TR-91 for 30/50 ohms. Frequency response: 20 to 20,000 cycles. Wt: 1 1/4 lbs. LIST: \$25.

MODEL TR-100 input transformers are identical to TR-91 models. They provide 125/150 ohms or 500/600 ohms impedance depending upon wiring of socket with 125/150 ohms normal. Frequency response: 20 to 20,000 cycles. Weight: 1 1/4 pounds. LIST: \$37.50

MODEL TR-92B is a bridging transformer, otherwise identical to above models. Weight: 1 1/4 pounds. LIST: \$37.50

**CONNECTORS**

MODEL PW-157 is a phono, tape, or radio input plug for all Custom K mixer/pre-amplifiers. LIST: \$.75

MODEL PW-139 is a Cannon XL3-11C type microphone connector. LIST: \$2.50

MODEL PW-156 is an octal plug for speaker line outputs. LIST: \$.45

MODEL PW-142 is a two-contact shielded phone plug for monitor phones. LIST: \$1.50

**THE RICHEST-LOOKING  
RACK PANEL INSTALLATIONS IMAGINEABLE**

are provided by Newcomb Custom K amplifiers. The two-tone soft green tints of the finish, recessed panels, the stimulating design of the equipment combine to give an impression of professionalism and permanence. Mounted in the Model 70-19 Cabinet Rack illustrated above, top to bottom, are a Newcomb louvered panel, Newcomb TB2-525G Intercom, K3 Mixer-preamp, lever key panel, AFM-750-875G AM-FM Radio, E2-525G Industrial Preamplifier, two KB-1250 complete power amplifiers, 1050CG Phono Changer Drawer, louvered panel. All Newcomb rack panel equipment, except Custom K series, is listed in the last two Newcomb Pathfinder pages in this section.

NEWCOMB AUDIO PRODUCTS CO.

**NEWCOMB**

# NEWCOMB

STEREO TAPE RECORDERS,  
TWO-CHANNEL AMPLIFIER,  
SYSTEMS

TAPE  
RECORDERS



## NEW TX-10 SERIES

CYBERNETICALLY ENGINEERED FOR INTUITIVE OPERATION ■ SOUND ON SOUND RECORDING ■ THREE HEADS ■ HYSTERESIS MOTOR ■ MONITOR BEFORE OR AFTER RECORDING ■ ANY SIZE REELS—3" TO 10½" ■ MIXING CONTROLS ■ POINTER-TO-POINTER METERS ■ DIFFERENTIAL BRAKING

Essentially a machine for the perfectionist, the Newcomb TX-10 incorporates virtually all of the features professional users have said they would like to see in a portable recorder. The TX-10 is thoroughly dependable, a high precision instrument, with a transport mechanism that is probably the most foolproof, the gentlest on tape of any machine in the world. Tape movement is controlled with a telescoping joy stick. Operation is intuitive. The natural thing to do is the right thing to do. You can record sound ad infinitum. For example, you first record on track one. Twist the selector and you record on track two while the signal from track one is being transferred to track two. Twist the switch again and you are adding new material to track one while the previously combined signal from track two is being re-recorded on track one. There is no limit to the number of times this can be done. Tape loads in a straight line. No pressure pads on heads. All tape guides are stainless steel. Shuts off automatically at reel's end. Head covers remove for easy cleaning and editing. A pause-

edit position of the joystick permits inching tape to exact location desired. The TX-10 is a two-speed machine—7½ ips and 3¾ ips—selected by push button with automatic speed-frequency correction. (15/7½ ips machines available on special order.) A relatively powerful, cool-running hysteresis synchronous motor and dynamically-balanced flywheel drive keep flutter and wow below .2% at 7½, .25% at 3¾, or .1% at 15 ips. The TX-10 has three heads—record, playback, and erase. 100KC bias and erase oscillators with indicators. Response is ±2 db 30-18,000 cps at 7½ ips, or ±3 db 30-13,000 cps at 3¾ ips. The TX-10 may be operated either vertically or horizontally. The dual volume indicating meters are illuminated, arranged pointer-to-pointer, show playback as well as recording levels. To prevent accidental erasure, you must push a separate interlock button to record. The four-digit counter permits close measurements even with a 10½" reel fully loaded with thin-base tape. There are separate "mike" and "line" input mixing controls for each channel, a balance control, a ganged volume control, a pilot light. A roomy opening on the left-hand side of the case provides for all inputs and power cord stowage. There are sockets for Cannon XLR-3-12C male connectors, easily accessible sockets for Newcomb plug-in input transformers to permit use of low impedance microphones. Outputs are on the right side of the case.

Dimensions: 12¾" x 16¾" x 9½". Weight: 36½ lbs. Power requirements: 95 watts, 117 volts, 60 cycles a.c.

PROFESSIONAL USERS NET: \$750.00. Unmounted CA-133 carrying case \$25.00

## MODEL SA-80B

2 CHANNEL POWER AMPLIFIER WITH TONE, VOLUME, AND BALANCE CONTROLS

The Newcomb SA-80B is a two channel, stereo/monaural, portable, power amplifier designed especially for use with the Newcomb TX-10 Series Tape Recorders. The amplifier puts out 40 watts peak per channel, a total of 80 watts peak. The controls are conveniently grouped on a slanted operating panel that is brightly illuminated by two pilot lights. Controls are ganged. They consist of a bass boost and attenuation control, treble boost and attenuation, volume control, and a balance control. There is an input jack for each channel, a stereo/monaural selector switch, output impedance selectors, and two speaker sockets for each channel. The removable cover carries tape reels of all sizes up to and including 10½". A plastic zippered bag for miscellaneous cords is included. Frequency response—20-20,000 cycles ±1 db. Distortion per channel at 20 watts r.m.s.—less than 1%. Hum below -65 db. Output impedances per channel—16, 8, 4 ohms. 8½" x 16¾" x 16¾"; 32 pounds. PROFESSIONAL USERS NET: \$199.50.

## PORTABLE AMPLIFIER-REPRODUCER SYSTEMS

MODEL SA-80B-J2 consists of one SA-80B and two Model J-200 Reproducers. Latter are two-way speaker systems with tweeter level controls, enclosed in compact cases, use latest techniques to provide excellent, full-range coverage in music rooms and small auditoriums. Each measures 14¾" x 20" x 10¼". Three-case system weighs 71 pounds. PROFESSIONAL NET: \$368.40.

MODEL SA-80B-K2 consists of one SA-80B and two Model K-400 Reproducers. Latter are three-way loud-speaker systems developed for those who seek the very best possible reproduction that can be provided by translating advanced engineering concepts into portable form. Each measures 16¾" x 23½" x 10¼". Three-case system weighs 102 pounds. PROFESSIONAL NET: \$468.40.

## MOUNTING HARDWARE FOR THE TX-10



MODEL SR-85 is a custom frame for mounting the TX-10 in home high fidelity installations. PROFESSIONAL NET: \$10.



MODEL SR-86 is a frame for rack mounting the TX-10 in Newcomb Model 35-19 or 70-19 cabinet racks. (cannot be used with door.) PROFESSIONAL NET: \$15.95.



MODEL SR-97 is a pair of rack brackets for mounting the TX-10 in standard 19" racks. (Cannot be used in Newcomb Models 35-19 and 70-19 cabinets.) PROFESSIONAL NET: \$3.95.

SPECIFICATIONS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE

NEWCOMB AUDIO PRODUCTS CO.

NEWCOMB



**NEWCOMB****PATHFINDER**  
PUBLIC ADDRESS EQUIPMENT**MODEL E-10B**

10 watt  
amplifier  
Low priced, deluxe,  
full push-pull output

The Newcomb E-10B offers a surprising number of deluxe features for so compact and economical an amplifier. It has the slanted operating panel and control markers which distinguish all Pathfinder models. The E-10B has separate mixers for microphone and ceramic phono pickup (or radio or tape). Mike input is a standard 3-contact phone jack suitable for high or low impedance mike. The E-10B is wired for plug-in transformers for instant conversion for use with low impedance mike. Output impedances to socket are 4, 8, 16 ohms, plus 25 and 70 volt line taps. Output jack for recorder or booster amplifier. Unit has a wide-range treble tone control, 25,000 hour pilot light. UL approved.

**SPECIFICATIONS:** Power Output: 10 watts RMS, 20 watts peak at less than 5% distortion. Frequency Response:  $\pm 2$  db 30 through 15,000 cycles. Mike Gain: 118 db at 2 meg. .0055 volts delivers full power. Phono Gain: 79 db at 1 meg.; 33 volts delivers full power. Output To Tape Jack: Delivers 4.4 volts max. or 1 volt at  $\frac{1}{2}$  watt output. Hum: Fundamental, 70 db below rated output. Power Response:  $\pm 3$  db, 70 through 13,000 cycles at 5% distortion. Size:  $10\frac{1}{4}'' \times 6\frac{1}{2}'' \times 5\frac{3}{4}''$  high. Weight: 9 lbs. Power Consumption: 60 watts, 117 volts, 60 cycles A.C. Tubes: 1-12AX7, 1-6AU6, 2-6V6, 1-6X4. LIST: (with tubes) \$75.00.



**MODEL E-5P**  
5-channel  
mixer  
preamplifier

The Newcomb E-5P is a high performance, low-priced, multi-purpose mixer-preamplifier with 4 microphone channels (one convertible to magnetic phono), one high level channel with two inputs (chosen by selector switch) — one for ceramic phono pickup, the other for tape or radio. Master gain control. Each mike input jack is standard 3-contact phone jack. Each mike channel is wired for plug-in transformers for instant conversion to low impedance microphone usage. The E-5P has a vU meter with concealed sensitivity adjustment, outputs for tape, booster, and a.c., 25,000-hour pilot lamp. Operating panel is slanted for easy viewing and operating sitting or standing. Performance is excellent with individual mike input tubes for minimum crosstalk and d.c. on all filaments. UL approved.

**SPECIFICATIONS:** Cathode Follower Outputs: 6 volts at less than 2% into high impedance load. Volume Indicating Meter: Adjustable from 2 to 6 volts. Frequency Response:  $\pm 2$  db 30 through 20,000 cycles. Mike Inputs: 2 meg.; .0025 volts for 2 volts out. Ceramic Phono or Radio or Tape Input: 1 meg. .32 volts for 2 volts output. Magnetic Phono Input: .011 volts for 2 volts output. Hum: Fundamental, 80 db below 6 volts output. Size:  $14\frac{1}{4}'' \times 8\frac{3}{16}'' \times 5''$  high. Weight:  $11\frac{1}{4}$  lbs. Power Consumption: 31 watts 117 volts 60 cycles A.C. Tubes: 4-12AV6, 1-12AU6, 5-0C5, 1 power silicon rectifier. LIST: (with tubes) \$139.50.

**HIGH QUALITY, LOW PRICE PUBLIC ADDRESS AMPLIFIERS WITH MANY DELUXE FEATURES****MODEL P-4**  
PHONO TOP

The Newcomb P-4 is a 4-speed record player that is designed to fit on top of the E-20, E-40 or E-75 Pathfinder amplifier.

It includes an automatic idler release on the power switch to prevent flat spots, a plug-in turnover-type dual-sapphire-stylus ceramic cartridge, pickup hold-down screw and drop pad. Dimensions:  $8\frac{5}{16}'' \times 14'' \times 5''$  high over all. Weight: 6 lbs. LIST: \$39.95.



All Newcomb Pathfinder power amplifiers and the E-5P preamplifier have slanted operating panels for convenient control in either a sitting or standing position. This feature is important, too, with rack mounted installations where units may be mounted near the floor as well as at eye level. All control knobs have white, rotatable reference markers for quick return to a pre-determined setting. All have a 25,000 hour pilot light. All are UL approved. Newcomb public address amplifiers Models E-20, E-40, and E-75 all have the following features: Each has two microphone channels with mixer controls and one high level channel with mixer for ceramic phono pickup, radio or tape. Mike channels are wired for Newcomb plug-in transformers for instant conversion to use with low impedance microphones. High level control is compensated; as volume is reduced, bass is proportionately sustained. Mike not affected by this control. There are separate bass and treble master tone controls. Output taps on terminal strip and two sockets are for 25 volt balanced or unbalanced line plus 70 ohms unbalanced, and 16, 8, and 4 ohms. There is an output jack for recorder or booster and an a.c. output receptacle. Pathfinder equipment has a distinctive two-tone finish in soft tints of olive-gray and spruce.

**MODEL E-20**  
20 watt

**SPECIFICATIONS:** Power Output: 20 watts RMS, 40 watts peak at less than 5% distortion. Frequency Response:  $\pm 2$  db 30 through 15,000 cycles. Mike Gain: 122 db at 2 meg.; .005 volts delivers full power. Phono Gain: 83 db at 1 meg. .315 volts delivers full power. Output To Tape Jack: Delivers 6 volts max. or 1 volt at  $\frac{1}{2}$  watt output. Hum: Fundamental, 70 db below rated output. Power Response:  $\pm 3$  db 50 through 20,000 cycles at 5% distortion. Size:  $14\frac{1}{8}'' \times 9\frac{1}{2}'' \times 5\frac{3}{4}''$  high. Weight: 14 $\frac{1}{4}$  lbs. Power Consumption: 80 watts, 117 volts, 60 cycles A.C. Tubes: 1-12AX7, 1-6BR8, 2-EL84, 1-5Y3. LIST: (with tubes) \$99.50.

**MODEL E-40**  
40 watt

**SPECIFICATIONS:** Power Output: 40 watts RMS, 80 watts peak at less than 5% distortion. Frequency Response:  $\pm 2$  db 30 through 15,000 cycles. Mike Gain: 125 db at 2 meg.; .005 volts delivers full power. Output To Tape Jack: Delivers 6 volts max. or 1 volt at 1 watt output. Hum: Fundamental, 70 db below rated output. Power Response:  $\pm 2$  db 40 through 20,000 cycles at 5% distortion. Size:  $14\frac{1}{8}'' \times 9\frac{1}{2}'' \times 6\frac{3}{4}''$  high. Weight: 19 $\frac{1}{4}$  lbs. Power Consumption: 160 watts, 117 volts, 60 cycles A.C. Tubes: 1-12AX7, 1-6BR8, 4-EL84, 1-5U4. LIST: (with tubes) \$129.50.

**MODEL E-75**  
75 watt

**SPECIFICATIONS:** Power Output: 75 watts RMS, 150 watts peak at less than 5% distortion from a fixed bias, screen regulated, output system. Frequency Response:  $\pm 2$  db 30 through 15,000 cycles. Mike Gain: 128 db at 2 meg.; .005 volts delivers full power. Phono Gain: 88 db at 1 meg.; 3 volts delivers full power. Output To Tape Jack: Delivers 6 volts max. or 1 volt at 1.87 watts output. Hum: Fundamental, 70 db below rated output. Power Response:  $\pm 2$  db 50 through 20,000 cycles at 5% distortion. Size:  $7'' \times 13\frac{1}{2}'' \times 14\frac{1}{8}''$ . Weight: 26 lbs. Power Consumption: 185 watts, 117 volts 60 cycles. Tubes: 2-12AX7, 1-6CA, 2-7C27A, 1-6V6GT, 3 power silicon rectifiers. LIST: (with tubes) \$189.50.

SPECIFICATIONS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

**NEWCOMB AUDIO PRODUCTS CO.****NEWCOMB**

**NEWCOMB****PATHFINDER**  
PUBLIC ADDRESS SYSTEMS

**MODEL E-1008S**  
10 watt  
PORTABLE  
system

The Newcomb E-1008S System consists of one E-10B amplifier and one P-108 speaker assembly. The P-108 contains an efficient 8" loudspeaker protected by a kickproof, perforated metal grille, microphone carrying straps (but no mike), and space for carrying the E-10B amplifier. Size: 11¼" x 14¾" x 9" deep. System weight: 17½ lbs.  
**LIST: \$115.00.**

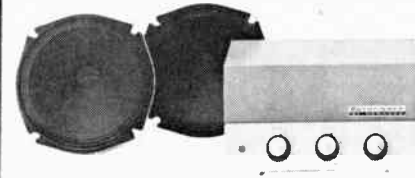


**MODEL E-20-212R**  
20 watt  
PORTABLE  
system



This 20 watt system consists of one Newcomb E-20 amplifier and one P-212R dual speaker assembly which also acts as a carrying case for the amplifier. The P-212R includes two efficient 12" dual-cone loudspeakers, each with a 25 foot cord and plug. Speaker baffles snap together back to back. Inside are mike carrying straps but no microphone. Speakers are protected by kickproof perforated metal grilles. System closed measures 13½" x 15¼" x 23", weighs 37 lbs.  
**LIST: \$199.50**

**MODEL E-40-212H 40 watt PORTABLE system.** Included in the E-40-212H are one Newcomb E-40 amplifier and one P-212H dual speaker case assembly which also acts as a carrying case for the amplifier. There are two 12" heavy duty loudspeakers each with a 25 foot cord and plug, kick-proof perforated metal grilles and mike carrying straps but no microphone. Size 13½" x 15¼" x 23", weight 44 lbs.  
**LIST: \$242.00.**



**MODEL E-10-28F**  
10 watt  
PERMANENT  
system

This system includes one Newcomb Model E-10B amplifier, two eight-inch extended range loudspeakers, and 100 feet of speaker cord. No microphone included. System weight: 12 lbs.  
**LIST: \$99.00.**

### MODEL E-20-48F

This is a 20 watt sound system for permanent installation consisting of one Newcomb Model E-20 amplifier, four 8" extended range loudspeakers, and 200 feet of speaker cord. No microphone. System weight: 20¼ lbs.  
**LIST: \$147.50.**



**MODEL E-20-212F**  
20 watt  
PERMANENT  
system

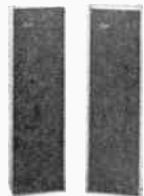
This twenty watt system includes one Newcomb E-20 amplifier, two 12" dual-cone loudspeakers, and 100 feet of speaker cord. No microphone included. System weight: 20¾ lbs.  
**LIST: \$143.50.**

**MODEL E-40-212FH 40 watt PERMANENT system** includes one Newcomb E-40 amplifier, two heavy duty 12" loudspeakers, and 100 feet of speaker cord. No microphone. System weight: 28 lbs.  
**LIST: \$184.50.**

**MODEL E-40-412F 40 watt PERMANENT system** includes one Newcomb E-40 amplifier, four dual-cone loudspeakers, and 200 feet of speaker cord. No microphone. System weight: 32½ lbs.  
**LIST: \$217.50**

**MODEL E-75-412FH 75 watt PERMANENT system** includes one Newcomb E-75 amplifier, four heavy duty 12" loudspeakers, and 200 feet of speaker cord. No microphone. System weight: 43 lbs.  
**LIST: \$299.50**

## COLUMN SPEAKER PERMANENT SYSTEMS



**MODEL E-20-2C8F 20 watt** consists of one E-20 amplifier, two Model C-8 column speakers, and 100 feet of speaker cord. No microphone. Weight: 54¾ lbs.  
**LIST: \$336.20.**

**MODEL E-40-2C8F 40 watt** consists of one E-40 amplifier, two Model C-8 column speakers, and 100 feet of speaker cord. No microphone. Weight: 60 lbs.  
**LIST: \$366.20.**

**MODEL E-75-4C8F 75 watt** consists of one E-75 amplifier, four Model C-8 column speakers, and 200 feet of speaker cord. No microphone. Weight: 107 lbs.  
**LIST: \$662.90.**

**MODEL E-20-2C12F 20 watt** consists of one E-20 amplifier, two model C-12 super column speakers, and 100 feet of speaker cord. No microphone. Weight: 93¼ lbs.  
**LIST: \$569.50.**

**MODEL E-40-2C12F 40 watt** consists of one E-40 amplifier, two model C-12 super column speakers, and 100 feet of speaker cord. No microphone. Weight: 98½ lbs.  
**LIST: \$599.50.**

**MODEL E-75-2C12F** consists of one E-75 amplifier, two model C-12 super column speakers, and 100 feet of speaker cord. No microphone. Weight: 105 lbs.  
**LIST: \$659.50.**

**MODEL E-75-4C12F 75 watt** consists of one E-75 amplifier, four model C-12 super column speakers and 200 feet of speaker cord. No microphone. Weight: 184 lbs.  
**LIST: \$1129.50.**

## SPEAKER ASSEMBLIES

**MODEL P-108** is an 8" speaker in a portable case fitted for carrying the Newcomb E-10B amplifier. It has a kickproof, perforated metal grille, 25 foot cord with octal plug and microphone straps. Dimensions: 11¼" x 14¾" x 9" deep. Weight: 9 lbs.  
**LIST: \$40.00.**

**MODEL P-212R** consists of two efficient 12" dual-cone speakers, each with 25 foot cord and octal plug, in a split portable case designed to carry the E-20 amplifier with or without the P-4 phone top. Case is covered with gray vinyl, has kickproof, perforated metal grilles, and microphone-carrying straps. Dimensions: 13½" x 15¼" x 23". Weight: 22½ lbs.  
**LIST: \$100.00.**

**MODEL P-212H** consists of two heavy duty 12" loudspeakers, each with 25 foot cord and octal plug, in a split portable case designed to carry the E-40 amplifier with or without the P-4 phone top. Case is covered with gray vinyl, has kickproof, perforated metal grilles, and microphone-carrying straps. Dimensions: 13½" x 15¼" x 23". Weight: 24½ lbs.  
**LIST: \$112.50.**

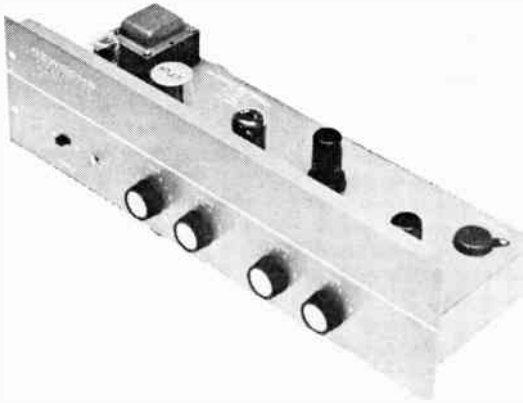
**MODEL C-8 COLUMN SPEAKER** combines exceptional vertical directivity with broad horizontal coverage. Enclosure tapered front to back for ganging. Contains four efficient 8" speakers. Dimensions: 6½" D x 11¼" W 40" H. Weight: 20¼ lbs.  
**LIST: \$115.85.**

**MODEL C-12 SUPER COLUMN SPEAKER** with four 12" speakers provides super intelligibility, super efficiency, super power handling capacity—120 watts peak. Dimensions: 7½" D x 15¼" W x 56" H. Weight: 39½ lbs.  
**LIST: \$232.50.**

SPECIFICATIONS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE

NEWCOMB AUDIO PRODUCTS CO.

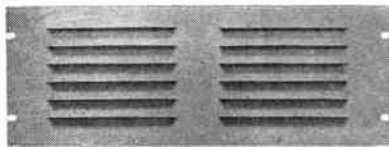
**NEWCOMB**

**NEWCOMB****PATHFINDER**  
PUBLIC ADDRESS EQUIPMENT**MODEL E2-525G INDUSTRIAL PREAMPLIFIER**

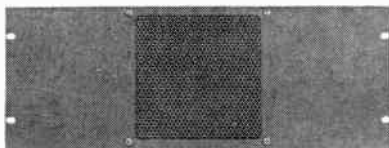
Designed for industrial sound systems, the Newcomb E2-525G has 125 to 600 ohm balanced line output. Maximum output at 600 ohms = 10 volts line output. Inputs: one mike at 2 meg impedance, convertible to low impedance by means of Newcomb plug-in transformer (socket provided) one high level crystal phono; one radio or tape. At 600 ohm line output: mike output of .0015 volts delivers 1 volt; phono input of .15 volts delivers 1 volt out. Frequency response:  $\pm 2$  db 30 to 15,000 cycles. Electronic remote switching turns mike on and music off when paging. Remote switching line may be unshielded 3-conductor cable up to several thousand feet long. No relays required. There are separate tone controls for mike and phono. Mike input socket is a standard 3-contact phone jack usable with low or high impedance microphones. Tubes: 1-6SF5, 1-6SN7, 1-6J5, 1-6X5, 25 watts, 117 volts, 60 cycles a.c. Dimensions: 19" x 5 $\frac{1}{4}$ " x 6 $\frac{1}{8}$ " deep. Weight: 9 lbs. LIST: \$129.50.

**PANELS FOR CABINET RACK****BLANK  
PANELS**

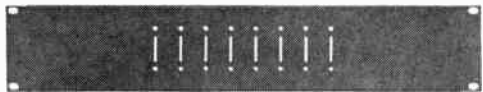
Model Number	Dimensions	Weight lbs.	List
175G	1 $\frac{3}{4}$ " x 19"	1 $\frac{3}{4}$	\$3.00
350G	3 $\frac{1}{2}$ " x 19"	1 $\frac{3}{4}$	\$3.50
525G	5 $\frac{1}{4}$ " x 19"	2 $\frac{1}{2}$	\$4.00
700G	7" x 19"	3	\$4.50
875G	8 $\frac{3}{4}$ " x 19"	3 $\frac{1}{2}$	\$5.00
1050G	10 $\frac{1}{2}$ " x 19"	4 $\frac{1}{4}$	\$5.50

**LOUVERED  
PANELS**

Model Number	Dimensions	Weight lbs.	List
L-525G	5 $\frac{1}{4}$ " x 19"	2 $\frac{1}{2}$	\$5.00
L-700G	7" x 19"	3	\$5.75
L-875G	8 $\frac{3}{4}$ " x 19"	3 $\frac{1}{2}$	\$6.50
L-1050G	10 $\frac{1}{2}$ " x 19"	4 $\frac{1}{4}$	\$7.25

**MONITOR  
PANEL**

MODEL 700MPG measures 7" x 19", has perforated metal grille, requires 6" speaker, weight 3 lbs. (See also radio panels.) LIST: \$10.00.

**LEVER KEY  
PANELS**

All lever key panels have 1" slots 1" apart with 1 $\frac{1}{8}$ " mounting holes. Each panel measures 3 $\frac{1}{2}$ " x 19". Weight of each panel is 1 $\frac{3}{4}$  lbs.

Model No.	No. of slots	LIST	Name strip Model No.	LIST
LK-350-6G	6	\$5.00	SR-6	\$2.50
LK-350-8G	8	\$5.50	SR-8	\$2.60
LK-350-10G	10	\$6.00	SR-10	\$2.70
LK-350-12G	12	\$6.50	SR-12	\$2.80
LK-350-14G	14	\$7.00	SR-14	\$2.90
LK-350-16G	16	\$7.50	SR-16	\$3.00

**HUM-FREE PLUG-IN TRANSFORMERS**

MODEL TR-91 input transformers are designed for all Newcomb amplifiers wired to accept them. They provide 30/50 ohms or 200/500 ohms input impedance depending on wiring of transformer socket. Normal Newcomb amplifier wiring connects the TR-91 for 30/50 ohms. Frequency response: 20 to 20,000 cycles. Wt: 1 $\frac{1}{4}$  lbs. LIST: \$25.00.

MODEL TR-100 input transformers are identical to TR-91 models. They provide 125/150 ohms or 500/600 ohms impedance depending upon wiring of socket with 125/150 ohms normal. Frequency response: 20 to 20,000 cycles. Weight: 1 $\frac{1}{4}$  lbs. LIST: \$37.50.

MODEL TR-92B is a bridging transformer, otherwise identical to above models. Weight: 1 $\frac{1}{4}$  lbs. LIST: \$37.50.

**CONNECTORS**

MODEL PW-156 is an octal speaker plug for all Pathfinder models. LIST: \$.45.

MODEL PW-157 is a phono tap or radio input plug for all Pathfinder models. LIST: \$.75.

MODEL PW-144 is a three contact, shielded mike plug for all Pathfinder models. LIST: \$1.75.



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**NEWCOMB AUDIO PRODUCTS CO.****NEWCOMB**

**NEWCOMB****PATHFINDER**  
PUBLIC ADDRESS EQUIPMENT**RACK AND PANEL EQUIPMENT****AMPLIFIER PANELS — MODEL E-10-700PG**

Panel only for rack mounting a standard Newcomb E-10B amplifier. Dimensions: 19" x 7". Weight: 3 lbs. LIST: \$17.50.

**MODEL E-52040-700PG**

Panel only for either the Newcomb E-5P pre-amplifier, the E-20 or E-40 amplifier. Dimensions: 19" x 7". Weight: 3½ lbs. LIST: \$18.50.

**MODEL E75-875PG**

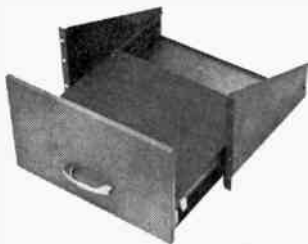
Panel only for rack mounting a standard Newcomb E-75 amplifier. Dimensions: 19" x 8¾". Weight: 4 lbs. LIST: \$19.50.

**PANEL MOUNTED RADIOS — MODEL AM-500-875G AM RADIO**

This is a complete, transformer-powered AM radio in which the output amplifier and 8" oval speaker act as a monitor. The output to external amplifiers is taken off ahead of the volume control so adjustment of monitor volume has no effect on output to sound system or tape recorder. The AM-500-875G is a dependable, rugged, continuous duty receiver with a large, direct-driven tuning dial with conelrad markings, lighted index. 40 watts, 117 volts, 60 cycles a.c. Dimensions: 19" x 8¾" x 7½" deep. Weight: 12¼ lbs. LIST: \$109.00.

**MODEL AFM-750-875G AM-FM RADIO**

A complete, transformer-powered AM-FM radio in which the output amplifier and 8" oval speaker act as a monitor, the AFM-750-875 has AFC (and defeat switch) and temperature-compensated oscillators for exceptionally stable performance. Output to external amplifier is taken off ahead of the volume control so adjustment of monitor volume has no effect on output to sound system or recorder. 54 watts, 117 volts, 60 cycles a.c. Dimensions: 19" x 8¾" x 7½" deep. Weight 14½ lbs. LIST: \$249.00.

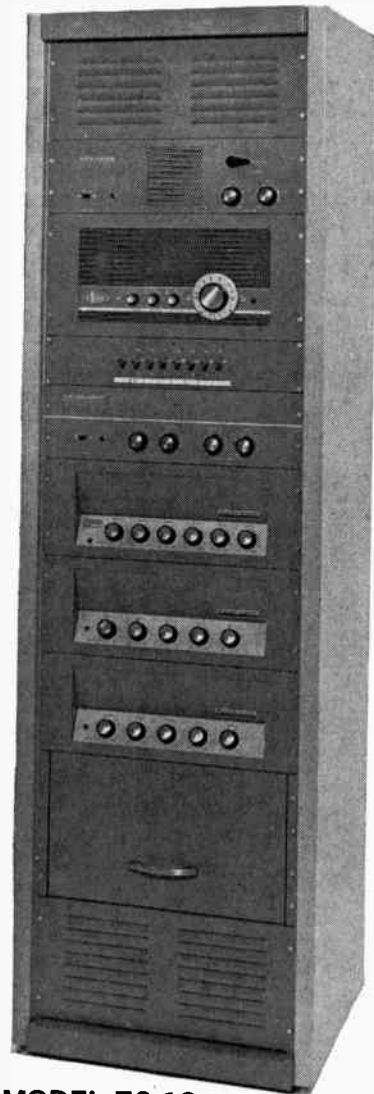
**MODEL 1050CG  
PHONO CHANGER DRAWER**

The front panel dimensions of the 1050CG phonograph changer drawer is 19" x 10½". It has a 16½" x 15" removable motor board. Depth from the top of the motor is 3¾". Clearance above top of motor board is 6½". Weight 19¼ lbs. Finest double-extension, roller bearing glides provide a stable level platform for player. LIST: \$65.00.

**MODEL TB-525G  
PANEL-MOUNTED  
INTERCOM**

A complete intercom amplifier and speaker, the TB-525G is designed for industrial installations wherein paging speakers are used for intercommunication. Input and outgoing impedances: 500 ohms. Separate incoming and

outgoing volume controls. Talk-listen switch. Pilot light. Tubes: (3) 1-6SL7, 1-6v6, 1-6X5. 40 watts, 117 volts, 60 cycles a.c. Dimensions: 19" x 5¼" x 6¼" deep. Weight: 9¼ lbs. LIST: \$183.50.

**MODEL 70-19  
CABINET RACK**

Contemporarily styled, solidly built, beautifully finished in an olive-gray tint compatible with Newcomb Pathfinder equipment, the 70-19 has a ventilated back, provides 70" of panel space. Panels are standard 19" width. Last three digits of model number indicate panel depth, e.g. "875" stands for 8¾" panel depth. Dimensions: 21 7/8" x 74" x 18½" deep. Weight 84 lbs. LIST: \$262.00.



MODEL 70D Door with lock for front of 70-19 cabinet. Weight: 23 lbs. LIST: \$50.00.

MODEL 35-19 CABINET RACK A short cabinet rack with ventilated back, 35" of panel space. Dimensions: 21 7/8" x 39" x 18½" deep. Weight: 52 lbs. LIST: \$187.50.

MODEL 35D Door with lock for front of 35-19 cabinet. Weight: 12 lbs. LIST: \$29.50.

**NEWCOMB AUDIO PRODUCTS CO.****NEWCOMB**

# NEW TALK-A-PHONE WIRELESS AND HOME INTERCOM SYSTEMS

**TWO NEW WIRELESS SYSTEMS**

Two NEW, high-quality wireless intercoms, featuring the exclusive TALK-A-PHONE "SONIC GATE" circuit. Provides dependable communication where permanent, wired systems are not practical. Ideal for use in offices, factories, stores, homes, apartments, nurseries, farms, etc. Distinctively styled cabinets combine the look and feel of fine grained leather with the strength and rigidity of steel. Beautifully finished in charcoal gray with brushed chrome side panels. Each station has a translucent indicator which illuminates when "On." All stations must be connected to outlets on the same electric company service transformer. Built-in Ground Adapter provides greater sensitivity where electrical wiring is routed over long paths. U.L. Approved.

## NEW TALK-A-PHONE 12-STATION SELECTIVE WIRELESS\* SYSTEM



**Featuring the TALK-A-PHONE "SONIC-GATE"**

Your Voice Goes Through . . . Noise and Hum are Screened Out . . .

The Sonic Gate circuit effectively suppresses line noises and hum by 30 db while system is in actual operation, as well as when in Stand-By position.

- No Installation
- No Wiring
- No Cables
- Just Plug-in and Talk

- 6 Separate 2-Way Conversations Simultaneously
- Selective Paging with Reply • Push-Button Channel Selector
- Start a System with any number of Masters and Staffs

Provides selective communication. Each Master is equipped with a 6 or 12-channel selector; can converse with any other station selectively; can receive calls on any channel Master elects to use. As many as 6 separate conversations may be held simultaneously, with 12 Masters. Masters can talk with any station in system; can also set up conferences.

Wireless Staff Stations are for use where calls need not be originated, but where reply must be made. They are available for operation on any single channel desired—to match that of Master. They also can be used to receive Paging Calls from any Selective Wireless Master in the system . . . use as many Wireless Staffs as needed (all Staffs must operate on same channel for this purpose). Two or more Wireless Staffs on the same channel will function as a 2-Station System (without Master); they can originate calls and reply to each other.

**T-LCM-8912, 12-Station Selective Wireless Master.** Complete, with tubes and instructions, ready to use. Operates on 110-120 volts, AC or DC. Size 14"wx8 3/4"dx3 1/4". Shipping weight, 12 1/2 lbs. List Price Per Station \$179.00. . . . . Net **104.50**

**T-LCM-8906, 6-Station Selective Wireless Master.** As above except for 6-Station Capacity. Shpg. Wt. 10 lbs. List Price Per Station \$159.00. . . . . Net **93.00**

**Wireless Staff Stations.** Receive and reply on a single channel only

T-LCS-901 Channel 1	T-LCS-903 Channel 3	T-LCS-905 Channel 5
T-LCS-902 Channel 2	T-LCS-904 Channel 4	T-LCS-906 Channel 6

Complete with tubes and instructions, ready to use. Operates on 110-120 volts, AC or DC. Size, 10 1/2"wx8 3/4"dx3 1/4". Shipping weight, 7 lbs. List Price Per Station \$91.50. . . . . Net **53.50**

## NEW TALK-A-PHONE 2-STATION WIRELESS\* SYSTEM

A complete system of 2 stations, ready to use. Simply place each unit where desired, plug each into nearest electrical outlet, and talk! Add more stations anytime. All stations will receive any messages transmitted from any point. Move units anywhere, plug into electrical outlet and use—no re-wiring or new installation necessary. The original TALK-A-PHONE UNI-TRANS is built in—provides continuous one-way transmission; ideal for dictation, or listening-in on baby. 110-120 V. AC-DC. Size, 10 1/2"wx8 3/4"dx3 1/4".

**T-LC-33.** Complete with tubes and instructions. Weight 16 lbs. List Price Per System \$159.00. . . . . Net **93.00**

**T-LC-17.** Additional Single Station. Weight 8 lbs. List Price Each \$ 9.50. . . . . Net **46.50**

**CRADLEPHONE**—Optional for all units above. Add H to model No. when ordering. List Price per Station add \$65.00. . . . . Net add **38.00**

## NEW TALK-A-PHONE All-Transistor HOME INTERCOM-RADIO SYSTEMS



**HI-9 or HI-8**      **HI-9R or HI-29R**      **HI-SM**      **HI-4**      **HI-1**      **T-LR-2R**

This new TALK-A-PHONE Intercom System saves the housewife and homeowner miles of tiresome steps, hours of time . . . Makes home life easier, more comfortable and more enjoyable . . .

**LISTEN-IN ON BABY, CHILDREN OR SICK ROOM . . .** from any room in the house, day or night • **ANSWER OUTSIDE DOORS FROM ANY ROOM . . .** in any part of the house—without opening doors to strangers • **TALK FROM ROOM TO ROOM . . .** back and forth, upstairs or downstairs, any time, day or night • **YOUR FAVORITE RADIO PROGRAMS . . .** follow you throughout the house with the flick of a switch.

TALK-A-PHONE All-Transistor Home Intercom units are beautifully finished in gold, polished and satin silver tones. All Masters and Staff Stations are designed for flush mounting; or with optional Housing Assembly, these stations can be mounted on walls, cabinets, or set on tables, shelves, etc. Plaster Ring included for 8 and 16-Station units require 14 1/2" h, 4 3/4" w, 3 1/2" d wall opening. Front panel size: 15 1/4" w, 5 1/2" h. HI-4 requires 4 1/4" w, 6 1/4" h, 2" d wall opening. Front Panel size: 4 1/4" w x 7 3/4" h. Sub-Stations are designed for flush mounting only, do not need Plaster Ring. Requires 2" square wall opening, 2" deep. Front Panel size: 3 3/4" w, 5 3/4" h. Stations do not plug into electrical outlet. Operates from Battery or HI-PS Power Supply Unit. Total capacity: up to 16 stations including Central Master. With full instructions.

**CENTRAL MASTER STATIONS.** Only one used per system. Contains the All-Transistor Amplifier (and radio when built-in). Place in any room. Master can call and converse with any other station (or stations) in system; can listen-in to any Station that user makes "non-private". If system has Model HI-9R Central Master (built-in radio), the Master and any Staff can listen to standard AM radio broadcasts. "Additional" Masters can be used in rooms where it is desired to listen to AM radio programs different from those tuned in at Central Master.

**HI-9 Central Master Station.** Without radio, less battery. List Price, Each, \$101.00. . . . . Net Each **59.00**

**HI-9R Central Master Station.** With built-in radio. Less battery. List Price, Each, \$157.00. . . . . Net Each **92.00**

**HI-17 Central Master Station.** Same as HI-9 except has total 16 station capacity. Without built-in radio. List Price Each \$149.00. . . . . Net Each **87.50**

**HI-29R Additional Master Station.** With built-in radio. Less battery. List Price, Each, \$157.00. . . . . Net Each **92.00**

**STAFF STATIONS.** 4, 8 and 16-Station Capacity Staff Stations can be combined within the same system and used with choice of one 8-station capacity or one 16-station capacity Central Master Station. (When HI-9R is used, any HI-4, HI-8 and HI-16 staff, can listen to radio of HI-9R).

**HI-4 Staff Station.** Provides same facilities as HI-8 but has 4-Station capacity. For flush mounting in wall, with accessory T-SM-L, can be surface mounted. List Price Each \$32.00. . . . . Net Each **18.80**

**HI-8 Staff Station.** Use as needed to call and converse with one or more Staff, Master or Sub-Stations. Can be switched to "private" or "non-private" operation as desired. When "non-private", as in baby or sick room use, another Staff or Master can listen in. Staff can listen to standard AM radio programs of HI-9R Central Master. List Price Each \$55.50. . . . . Net Each **32.50**

**HI-16 Staff Station.** Same as HI-8 except has total 16 station capacity. List Price Each \$102.00. . . . . Net Each **59.50**

**HI-SM HOUSING ASSEMBLY.** For enclosing any 8 or 16-Station Capacity Master or Staff, to permit mounting on walls or cabinets, or placing on tables, shelves, etc. List Price Each \$19.95. . . . . Net Each **11.70**

**HI-1 OUTDOOR SUB-STATION.** For front and rear entrance applications. Complete with push-button for connection to regular house chime, bell or buzzer. Has illuminated nameplate. When caller rings bells, any Master or Staff may reply and converse with caller. Caller operates no controls. List Price Each \$28.50. . . . . Net Each **16.70**

**O-SM Surface Mounting Accessory for HI-1.** Custom-molded metal casting of satin silver finish. Provides an attractive, coordinated base for mounting HI-1 on surface of wall, 3 3/4"wx5 1/2"dx3 3/4". List Price Each \$5.75. . . . . Net Each **3.35**

**T-LR-2R ALTERNATE OUTDOOR SUB-STATION.** For flush mounting. Requires wall opening 4 1/2" square, 2" deep. Stainless steel front panel measures 4 1/8" square. Complete with plaster ring. Without push button or illuminated nameplate. List Price Each \$24.50. . . . . Net Each **14.40**

**Model T-SM** Optional accessory for surface mounting T-LR-2R on wall. List Price Each \$7.40. . . . . Net each **4.35**

**Model TSM-L** Optional accessory for Surface mounting HI-4 Staff on wall. List Price Each \$8.50. . . . . Net Each **4.95**

**HI-JB8 JUNCTION BOX** for connecting Masters and Staffs up to a total of 8 stations. See #2 of "How to Determine Cable Needs." List Price Each \$8.50. . . . . Net Each **4.95**

**HI-JB16 JUNCTION BOX** Same as above except for up to 16 stations. List Price Each \$14.50. . . . . Net Each **8.50**

**BATTERY.** Use any 9-volt dry battery, such as ignition or telephone battery; or six standard #6 dry cells in series—available from local sources. Note: When battery is used, power supply is not required.

**HI-PS POWER SUPPLY UNIT.** One required per system (only when battery is not used). Plugs into any 110-120 volt, 60 cycle AC electrical outlet in basement, attic, etc. List Price Each \$28.50. . . . . Net Each **16.70**

**HOW TO DETERMINE CABLE NEEDS**  
Masters and Staff Stations. Use #6226 cable in one of 2 ways: (1) Measure from 1st unit to 2nd unit only; from 2nd unit to 3rd unit only, etc., until last unit is reached—then total. Cable between last and 1st unit not needed. (2) Place a Common Junction Box (Model HI-JB) in attic, basement, closet, etc. Measure from each Master and Staff to Junction Box and total. Double length #6226 required for 16-Station units. Connect HI-4 to nearest 8 or 16-Station unit or to HI-JB with #6214 cable.

**Outdoor Sub-Stations:** Connect to nearest Master or Staff only with #6202 cable

**Battery or Power Supply Unit:** Connect with #6202 cable to Master Stations only. CABLE. For indoor or outdoor use.

**Type No. No. Pairs Approx. O.D. LIST, Per Ft. NET, Per Ft.**

6226	13	3/8"	76c	44c
6214	7	5/8"	59c	23c
6202	1	3/4"	8c	4 3/4c



All prices slightly higher west of Rockies. All prices and specifications subject to change without notice. Manufactured under exclusive TALK-A-PHONE Patents.

TALK-A-PHONE CO.



# NEW TALK-A-PHONE Deluxe Intercom Systems



Quality Intercommunication systems designed for the Office, Business, Plant, House, Farm, Professional Man, or any other private or commercial application. A flick-of-a-finger gives you instant and direct two-way conversation between any two points—anywhere. Masters have translucent indicator which illuminates when system is "on." In cabinets

that combine the look and feel of fine grained leather with the strength and rigidity of steel. Beautifully finished in charcoal gray and brushed chrome. Resists industrial liquids and atmospheres. Size: Masters, 10 1/2" w x 8 1/2" d x 3 1/2" h.; Subs, 7 1/2" w x 8 1/2" d x 2 1/2" h. U.L. Approved.

**2-way voice communication between any two points**



**T-LC-2** A complete, high-quality intercommunication system. Includes a Master Station, a Sub-Station and 50 feet of interconnecting cable. Additional cable available for distances up to 2000 feet. Easy to install and operate. Master and Sub-Station can originate calls to each other and carry on a 2-way conversation. Sub-Stations can be used "privately" or "non-privately." When "private," Master cannot listen-in on Sub-Station; yet Sub can answer and originate calls. When "non-private," persons at Sub-Station can answer calls at a distance without operating controls, as well as originate calls. Master is equipped with a translucent indicator, illuminated by permanent-type bulb, to show when system is "on." Rugged, high-gain amplifier is built to withstand continuous use and to require a minimum of maintenance. Adjustable Volume. Only Master plugs into electrical outlet, 110-120 volts, AC or DC. Master in deluxe cabinet finish. Sub-Station cabinet is of same

style and color, but is in grained, baked enamel finish. U.L. Approved.

**Model T-LC-2 2-Station System complete with tubes, easy-to-follow instructions, and 50 feet of cable. Wt. 13 lbs. List Price complete \$73.00 . . . . . Net complete 42.50**  
**No. 6303 (3 conductor) cable. 175' F.** Individually covered conductors with overall plastic jacket and milar shield. Provides noise-free cable lines in Industry, Office and Home. For indoor and outdoor use where additional lengths are required between the Master and Sub-Station. List Price per foot 11c . . . . . Net per foot 6 1/2c  
**No. 5303 (3 conductor) cable for indoor use. List Price per foot 7c . . . . . Net per foot 4c**  
 Optional Wall Mounting Brackets for Model T-LC-2 Sub-Station are available. See description below.

**A system of one Master Station which can communicate with from one to ten Sub-Stations. Subs can call Master, but not each other.**



**T-LM** A new system consisting of one Master Station and from one to ten Sub-Stations. Master Station can talk and listen to any one Sub-Station, several Sub-Stations or with all Subs simultaneously. Sub-Stations do not communicate with each other. Only the Master Station plugs into an electrical outlet. You may start with only one Master and one or two Sub-Stations and then add later when necessary. Installations of systems having Sub-Stations which Sub-Stations can be connected "privately," or "non-privately," and still originate calls to the Master under either application. Once a conversation has been initiated with a "non-private" system, persons at Sub-Stations need operate no controls and can reply from a distance. When the system is connected "privately," Master unit cannot "listen in" on Sub-Station. However, they can reply when called, and also originate calls to the Master. Operates universally on 110-120 volts, AC-DC. U.L. Approved.

## TALK-A-PHONE MASTER SELECTIVE SYSTEMS

**Model T-LR-3M** Sub-Station (in cabinet of same style, color and size as above, but in grained, baked enamel finish) for use with any of above Masters. Wt. 6 lbs. List Price each \$24.50 . . . . . Net each 14.40  
**Model T-LR-3R** Flush mounted Sub-Station for use with any of above Masters. Requires wall opening 4 1/4" W. x 6 1/2" H. Stainless steel front panel measures 4 1/2" W. x 7 1/4" H. Complete with plaster ring. List Price each \$24.50 . . . . . Net each 14.40  
**Model T-SM-L** Optional accessory for surface mounting T-LR-3R on wall. List Price each \$8.50 . . . Net each 4.95  
**Model T-HP-3** Hi-Power Staff Station for wall mounting. Charcoal Gray metal case. Wt. 8 lbs. List Price each \$33.00 . . . . . Net each 19.40  
**Model T-HP-3V** Same as above, but with built-in volume control, adjustable to full output. List Price each \$42.00 . . . . . Net each 24.60  
**Model T-C-20** Nine-inch weatherproof re-entrant horn. Charcoal Gray color. Wt. 5 lbs. List Price each \$49.95 . . . . . Net each 29.25  
**Model T-C-20V** Same as above, but with built-in weather-resistant volume control, adjustable to full output. List Price each \$66.00 . . . . . Net each 38.80  
**T-S-100** Wall Switch for origination of call through T-C-20 or T-HP-3. List Price each \$7.00 . . . . . Net each 4.10  
**Model T-S-111** Wall Mounted Cradle Phone. (Optional accessory). For noisy areas and listening privacy. Use with T-HP-3, T-C-20 and T-S-100. Speaker disconnects when in use. List Price each \$75.00 . . . . . Net each 44.00  
**No. 6303 (3 conductor) cable. 175' F.** Individually covered conductors with overall plastic jacket and milar shield. Provides noise-free cable lines in Industry, Office and Home. For indoor and outdoor use to connect Sub-Station to Master. List Price per foot 11c . . . . . Net per foot 6 1/2c  
**No. 5303 (3 conductor) cable for indoor use. List Price per foot 7c . . . . . Net per foot 4c**

**T-AC** The T-AC-5406 and T-AC-5411 Master Stations operate as above with the added feature of 10 times volume output. A desirable feature for large or noisy areas and for paging. Operates on 110-120 volts, AC only.

**Use only one Master in each System.**

Optional Wall Mounting Brackets for Models T-LR-3 and T-LR-3M are available. See description below.

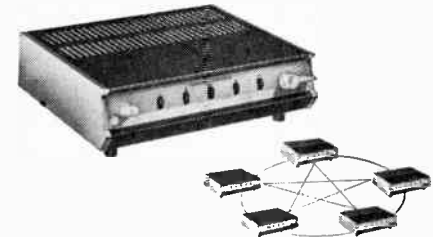
**Model T-LM-5** Master selective Station for 5 Sub-Stations, complete with tubes and easy-to-follow instructions. Wt. 8 lbs. List Price each \$70.00 . . . . . Net each 41.00  
**Model T-LM-10** Master Selective Station for 10 Sub-Stations, complete with tubes and easy-to-follow instructions. Wt. 8 lbs. List Price each \$86.00 . . . . . Net each 50.40

**Model T-AC-5406** Master Station, 5 sub-station capacity. High Volume Output. Wt. 8 lbs. List Price each \$86.00 . . . . . Net each 50.40

**Model T-AC-5411** Master Station, 10 sub-station capacity. High Volume Output. Wt. 8 lbs. List Price each \$104.00 . . . . . Net each 61.20

**Model T-LR-3** Sub-Station (in same deluxe finish as Masters) for use with any of above Masters. Wt. 6 lbs. List Price each \$31.50 . . . . . Net each 18.50

**A system of up to ten Master Stations. Each station can call and communicate with any other.**



## TALK-A-PHONE SUPER SELECTIVE SYSTEMS

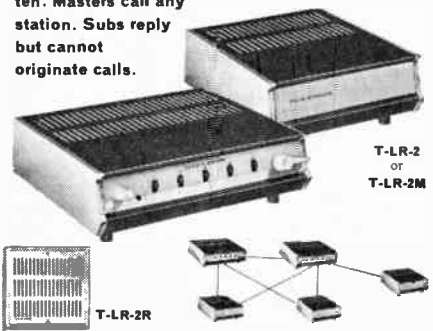
**T-LS** A new system of all Master Stations. Any Station can call any other Station in system. Several completely private 2-way conversations are possible at same time. A versatile, low cost intercom system offering extreme flexibility, meeting many requirements in industry, offices, homes, etc. Any Station can call and carry on a conversation with any other Station or Stations in the system with absolute "privacy." Have a visitor in your office and your mind is at ease that no one can eavesdrop on your conversation. Stations can be located even 1000 feet apart. Variable volume, adjustable at each unit, controls incoming volume. You can start with two or three masters, and then add later as required. Operates universally on 110-120 volts, AC-DC. U.L. Approved.

T-AC-510 Masters cannot be intermixed with any other master. For 110-120 volts, AC only.

**Model T-LS-5** Super Selective Station for five Masters, complete with tubes and easy-to-follow instructions. Wt. 8 lbs. List Price each \$70.00 . . . . . Net each 41.00  
**Model T-LS-10** Super Selective Station for ten Masters, complete with tubes and easy-to-follow instructions. Wt. 8 lbs. List Price each \$86.00 . . . . . Net each 50.40  
**Model T-AC-505** Super-Selective Station for 5 Masters. Hi-Volume Output. Wt. 8 lbs. Complete with instructions. List Price \$86.00 . . . . . Net each 50.40  
**Model T-AC-510** Same as T-AC-505 except for 10 Masters. List Price each \$104.00 . . . . . Net each 61.20  
**No. 5806 (6-conductor) Cable** for connecting T-LS-5 or T-AC-505 Masters. List Price per foot 19c Net per foot 11c  
**No. 9911 (11-conductor) Cable** for connecting T-LS-10 or T-AC-510 Masters. List Price per foot 36c/Net per foot 21c

**T-AC** The T-AC-505 and T-AC-510 Master Stations operate as above but provides a system with the added feature of 10 times volume output. A desirable feature, for large or noisy areas and for calling many stations at once. T-AC-505 and T-AC-510 Masters cannot be intermixed with any other master. For 110-120 volts, AC only.

**A system combining one or more Master Stations with one or more Sub-Stations up to a combined total of ten. Masters call any station. Subs reply but cannot originate calls.**



**T-CL** For the more flexible type of communication system requiring the operation of more than one Master Station, along with Sub-Stations which need not originate calls. Personnel can answer incoming calls even though they are 25 to 400 feet from the unit. Master Stations may talk to each other and to all Sub-Stations in the system selectively; or you can have one or more Sub-Stations which are exclusive to only one Master Station (as illustrated in the diagram at left). Master Stations have the option of making themselves "private" or "non-private" at will. You can begin with two stations (at least one must be a Master) and add other units as required. Model T-CL-5 Master Station has a total inter-connecting capacity of five stations, including Masters and Sub-Stations; while Model T-CL-10 Master Station has a total capacity of ten stations. Sub-Stations are not plugged into electric current. U.L. Approved. 110-120 volts, AC-DC.

## TALK-A-PHONE COMBINATION SYSTEMS

**Model T-LR-2M** Sub-Station (in cabinet of same style, color and size as above, but in grained, baked enamel finish) for use with any of above Masters. Wt. 6 lbs. List Price each \$24.50 . . . . . Net each 14.40  
**Model T-LR-2R** Flush mounted Sub-Station for use with any of above Masters. Requires wall opening 4 1/4" square. Stainless steel front panel measures 4 1/2" square. Complete with plaster ring. List Price each \$24.50 . . . . . Net each 14.40  
**Model T-SM** Optional accessory for surface mounting T-LR-2R on wall. List Price each \$7.40 . . . Net each 4.35  
**Model T-HP-3** Hi-Power Sub-Station for wall mounting in charcoal gray metal case. Wt. 8 lbs. List Price each \$33.00 . . . . . Net each 19.40  
**Model T-HP-3V** Same as above, but with built-in volume control, adjustable to full output. List Price each \$42.00 . . . . . Net each 24.60  
**Model T-C-20** Nine-inch weather proof re-entrant horn. Charcoal gray color. List Price each \$49.95 . . . Net each 29.25  
**Model T-C-20V** Same as above, but with built-in weather-resistant volume control, adjustable to full output. List Price each \$66.00 . . . . . Net each 38.80  
**Model T-S-111** Wall Mounted Cradle Phone. (Optional accessory). For noisy areas and listening privacy. Use with T-HP-3 and T-C-20. Speaker disconnects when in use. List Price each \$75.00 . . . . . Net each 44.00  
**No. 6210 (5 pair) Cable** for interconnecting T-CL-5 or T-AC-605 Masters. List Price per foot 34c . . . . . Net per foot 20c  
**No. 6226 (13 pair) Cable** for interconnecting T-CL-10 or T-AC-610 Masters. List Price per foot 76c . . . . . Net per foot 44c  
**No. 8903 (2-conductor) Cable** for connecting Sub-Station to T-CL-5, T-CL-10, T-AC-605 or T-AC-610. List Price per foot 4 3/4c . . . . . Net per foot 2 3/4c

**T-AC** The T-AC-605 and T-AC-610 Master Stations operate as above but provides a system with the added feature of 10 times volume output. A desirable feature for large or noisy areas and for calling many stations at once. T-AC-605 and T-AC-610 Masters cannot be intermixed with any other master. For 110-120 volts, AC only.

**Model T-CL-5** Combination Master for five station use, complete with tubes and easy-to-follow instructions. Wt. 8 lbs. List Price each \$84.00 . . . . . Net each 49.40  
**Model T-CL-10** Combination Master for ten station use, complete with tubes and easy-to-follow instructions. Wt. 8 lbs. List Price each \$101.00 . . . . . Net each 59.30  
**T-AC-605** Combination Master for 5-Station use. Hi-Volume Output. Wt. 8 lbs. Complete with instructions. List Price each \$101.00 . . . . . Net each 59.30  
**T-AC-610** Same as T-AC-605 except for 10-Station use. List Price each \$117.00 . . . . . Net each 68.60  
**Model T-LR-2** Sub-Station (in same deluxe finish as Masters) for use with any of above Masters. Wt. 6 lbs. List Price each \$31.50 . . . . . Net each 18.50

**A. CRADLEPHONE**—Optional for any unit above (except T-CL-5, T-CL-10, T-AC-605, T-AC-610, T-C-20, T-HP-3, T-LR-3R and T-LR-2R). Add "H" to Model No. when ordering. List Price Per Station, add \$65.00 . . . . . Net, add 38.00

**B. WALL MOUNTING BRACKETS**—Optional accessory for use with TALK-A-PHONE Models T-LR-3, T-LR-3M, T-LR-2, T-LR-2M, T-C-41, T-C-41M, T-C-42, T-C-42M, and T-CL-2 Sub Station to enable mounting on wall, side of desk, etc. One pair required per station. Permits mounting with front panel upward, downward or sideward.

**Model T-W1** Mounting Brackets, per pair. List Price \$1.00 Net 60c All Prices Slightly Higher West of Rockies—All Prices and Specifications Subject to Change Without Notice. Manufactured under exclusive TALK-A-PHONE Patents.

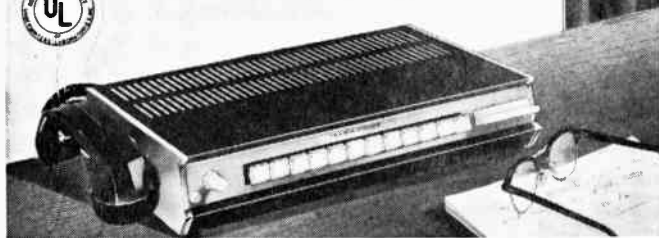
**HOW TO DETERMINE CABLE REQUIREMENTS**  
 For Master Selective Systems measure from each Sub-Station to the Master and order total. For Super Selective Systems—measure from first Master to second Master only, from second Master to third Master only, etc., and total. Cable between first and last Master not necessary. For Combination Systems—Master cable: measure from first Master to second Master only, from second Master to third Master only, etc., and total; Sub-Station cable: measure from each Sub-Station to nearest Master only. Connect T-S-111 at any convenient point between remote speaker and Master Station.

## TALK-A-PHONE CO.

# THE ALL-NEW, ALL-TRANSISTOR TALK-A-PHONE "CHIEF" AND "CHIEF REDI-POWER" INTERCOMMUNICATION SYSTEMS



"Has Everything . . . Does Everything"



One Model Meets Every Requirement



Setting a new standard in quality, design and performance, the new TALK-A-PHONE "CHIEF" and "CHIEF REDI-POWER" meets every intercom need of office, factory, institution, or any other commercial or private application. "CHIEF" Master Stations of 6, 12, 20, 30, 40 or 50 station capacity can be intermixed with "CHIEF REDI-POWER" Masters of different capacities, together with Staff Stations and Horns within the same system in any desired combination. Masters can talk with any other Master or Staff . . . page . . . and can utilize other optional equipment shown as well. Staffs can answer any Master and can originate calls to one Master, or to two Masters selectively.

## ONLY THE TALK-A-PHONE "CHIEF" AND "CHIEF REDI-POWER" GIVE YOU ALL THESE FEATURES

- **DISTINCTIVELY STYLED**—Less than 3-inches high. In cabinets that combine the look and feel of fine-grained leather with the strength and rigidity of steel. Attractively finished in charcoal gray and brushed chrome.
- **"PRIVATE" OR "NON-PRIVATE" MASTERS AND STAFFS** Exclusive Dynasonic Design enables stations to perform "privately" (so no one can listen-in), or "non-privately" (for reply without use of controls). The same station can be "private" to one or more Masters and "non-private" to others, and retain full communication facilities.
- **INCOMING CALL CHIME**—A standard feature of Masters. Indicates that your station is being called. Caller talks, you reply.
- **MONITORING SIGNAL**—A standard feature of Masters and Staffs. Visually indicates to a "non-private" station that it is being monitored.
- **BUSY SIGNAL**—A standard feature of Masters and Staffs. Visually indicates when station you call is "busy." All units have facility to override "busy signal" for important calls.
- **DYNASONIC SELECTOR**—An exclusive TALK-A-PHONE feature that permits intermixing of stations and variation of performance. Add to system at anytime without discarding original equipment.
- **MULTI-MAGIC STATION SELECTOR**—A patented, exclusive TALK-A-PHONE feature that enables selection of up to 30 stations with only 12 push buttons . . . 40 and 50 stations with 14 push buttons . . . in the same attractive cabinet style and size.
- **UNI-TRANS DICTATION CONTROL**—No need to operate or hold down controls when one-way transmission is desired or when Cradle Phone is used.
- **EXTERNAL RELAY CONTROL**—A standard built-in feature of Masters. Enables Master to activate external relays for operating siren, gong, light, etc. For use in extremely high noise level areas to signal personnel, who can then communicate with caller from Master in quieter location or in sound booth.
- **RECIPROCAL POWER SUPPLY**—Each Master operates on 110-120 volts, AC only, and should be plugged-in. Where no electrical outlet is available, up to 30% of the Masters in the system can operate without being plugged-in.
- **NOISE-FREE VOICE RANGE POWER**—The rugged, all-transistor high-gain amplifier provides unsurpassed clarity and naturalness of tone. The exclusive, patented TALK-A-PHONE circuit enables performance without noise, hum or distortion when used with TALK-A-PHONE cable.
- **HI-POWER STAFF STATIONS AND HORNS**—For use with any TALK-A-PHONE Master where exceptionally high volume at Staff locations is needed. Ideal for paging speakers. T-HP-3 provides more than twice the volume of universal Staff; T-C-20 provides about 4 times greater volume . . . more with REDI-POWER Masters.
- **WALL SWITCH**—Combine with TALK-A-PHONE Horn or Hi-Power Staff to add origination-of-call feature.
- **"LD" LONG DISTANCE**—(optional accessory on "CHIEF" Masters). For use over cable lines of 2,000 ft., 5,000 ft., 10,000 ft. or more without loss of volume. Functions only between Masters with LD . . . not between an LD Master and Staff. Built-in at factory at additional cost.
- **CRADLE PHONE**—(optional accessory on Masters or Staffs). Has live microphone. Provides listening privacy and greater speaking convenience. Diminishes background noises in noisy areas. Eliminates use of controls in conversation between Masters. Cuts off incoming voice from loudspeaker when in use.
- **WALL MOUNTED CRADLE PHONE**—(optional accessory). For noisy areas and listening privacy. Use with T-HP-3, T-C-20 and T-S-101 or T-S-102. Speaker disconnects when in use.
- **RIGHT-OF-WAY RELAY**—(optional accessory). Use with "CHIEF REDI-POWER" Masters to page any group of stations with a single button. Paged stations can also be used for intercommunication. RW-10 capacity, 10 stations. For greater capacity use more RW-10's. Connects to one Master, other Masters also utilize facilities.
- **POWER PAGING BOOSTER**—(Optional accessory). Use with "CHIEF" Masters to page a group of speakers with a single button, 30 watts output. Requires its own paging speakers (as T-C-20, T-HP-3). Provides paging facility only . . . paged stations cannot reply or originate calls through paging speakers. Connects to one Master, other Masters can also utilize facilities.

All "CHIEF" and "CHIEF REDI-POWER" Master Stations come complete with junction box and built-in power supply attached by 6' flexible cable. Master size: 14" w, 3 1/2" h, 8 3/4" d. For 110-120 volts, AC only, U.L. Approved.

T-C-4906 Master 6 station capacity. Wt. 13 lbs. List Price Per Station \$159.00	Net 93.00
T-C-4912 Master 12 station capacity. Wt. 14 lbs. List Price Per Station \$179.00	Net 104.50
T-C-4920 Master 20 station capacity. Wt. 17 lbs. List Price Per Station \$212.00	Net 124.00
T-C-4930 Master 30 station capacity. Wt. 20 lbs. List Price Per Station \$245.00	Net 143.50
T-C-4940 Master 40 station capacity. Wt. 23 lbs. List Price Per Station \$278.00	Net 163.00
T-C-4950 Master 50 station capacity. Wt. 26 lbs. List Price Per Station \$311.00	Net 182.50

**How to Determine Cable Requirements.** To inter-connect Master Stations, measure from first Master to second Master only, from second to third Master only, etc., until the last unit in the system is reached, and total. For T-C-4920 and T-C-RP-5920, use two lengths of 8226 Cable and for T-C-4930 use three lengths of 8226 Cable, etc. To connect T-C-41, T-C-20, T-C-42 or T-HP-3 Staff Stations, measure from Staff Station to the one Master to which Staff Station originates calls. To connect the T-C-42 Staff Station measure a separate length of cable from Staff Station to each Master Station to which Staff originates calls (for each T-C-41 or T-C-42, follow same procedure). Connect T-S-111 at any convenient point between remote speaker and Master Station.

All Prices Slightly Higher West of Rockies—All Prices and Specifications Subject to Change Without Notice. Manufactured under exclusive TALK-A-PHONE Patents

**TALK-A-PHONE ALL-TRANSISTOR "CHIEF REDI-POWER" MASTERS**  
These units have all the operational features of the "CHIEF," plus the additional feature of built-in extra power (up to 20 watts) for use when and as needed. Provides additional volume for calling many stations at once, or noisy locations singly. Needs no separate power booster, which would eliminate return speech. Return speech is received at normal room volume. REDI-POWER Masters have a self-compensating amount of volume, whether you call 2, 10 or 20 stations simultaneously. Each station receives its pre-determined volume with no division of output as you call more stations at once. Use REDI-POWER Masters with "CHIEF" Masters and Staffs in same system. Add RW-10 and REDI-POWER Masters can page any group of stations with a single selector button. Paged stations can also be used for intercommunication. Operates on 110-120 volts, AC only. U.L. Approved.

T-C-RP-5912 Redi-Power Master 12 station capacity. Wt. 18 lbs. List Price Per Station \$269.00	Net 158.00
T-C-RP-5920 Redi-Power Master 20 station capacity. Wt. 21 lbs. List Price Per Station \$302.00	Net 177.50



**TALK-A-PHONE "CHIEF" UNIVERSAL STAFF STATIONS** For use with any "CHIEF" or "CHIEF REDI-POWER" Master. Like Masters, Staff Stations can be connected "privately" or "non-privately", and can originate calls. When "non-private", calls can be answered at a distance from Staff without using controls. Persons at "non-private" Staffs may reply to all Masters in the system (whether directly connected to them or not) and can originate calls to one Master or two Masters, depending upon Staff's capacity. Connected "privately" no one can listen-in to Staff, but any Master can call. "Private" Staffs can originate calls and reply to one or two Masters. Each Staff has "busy signal" and "monitoring signal" features. Staffs do not connect to an electrical outlet . . . are distinctively styled in modern cabinets that combine the look and feel of fine grained leather with the strength and rigidity of steel. Attractively finished in charcoal gray and brushed chrome. Size: 7 1/2" w x 8 3/4" x 2 3/8".

T-C-41. Staff Station for origination-of-call to one Master. Wt. 8 lbs. List Price, Each \$42.00	Net 24.50
T-C-41M. Same operation as T-C-41 and in cabinet of same style, color and size, but in grained baked enamel finish. Wt. 8 lbs. List Price, Each \$34.25	Net 19.95
T-C-42. Staff Station for origination-of-call to two Masters. Wt. 8 lbs. List Price, Each \$52.50	Net 30.50
T-C-42M. Same operation as T-C-42 and in cabinet of same style, color and size, but in grained baked enamel finish. Wt. 8 lbs. List Price, Each \$44.95	Net 26.25
T-C-42R. Same as T-C-42, but for flush wall mounting. Stainless Steel Front Panel, 4 1/8" x 7 1/8". Wall Opening: 4 1/8" x 6 1/2" x 2" d. Wt., 5 lbs. List Price, Each \$44.95	Net 26.25
T-C-41R Flush mounted Staff Station for use with any of above Masters. Requires wall opening 4 1/8" W. x 6 1/2" H. Stainless steel front panel measures 4 1/8" W. x 7 3/8" H. Complete with plaster ring. List Price Each \$34.25	Net each 19.95
T-SM-L Optional accessory for surface mounting T-C-41R on wall. List Price each \$8.50	Net each 4.95
T-HP-3. Hi-Power Sub-Station for wall mounting in charcoal gray metal case. Wt. 8 lbs. List Price, Each \$33.00	Net 19.40
T-HP-3V. Same as above, but with built-in volume control, adjustable to full output. List Price, Each \$42.00	Net 24.60
T-C-20. Nine-inch weatherproof re-entrant horn. List Price, Each \$49.95	Net 29.25
T-C-20V. Same as above, but with built in weather resistant volume control, adjustable to full output. List Price, Each \$66.00	Net 38.80

### Optional Equipment

Cradle Phone Available on all Models. Add "H" to Model No. when ordering. List Price, Each—add \$65.00. . . . . Net add 38.00  
 Model T-S-111 Wall Mounted Cradle Phone. List Price, Each \$75.00. . . . . Net 44.00  
 LD—Long Distance Feature Available on "CHIEF" Master Stations. Add "LD" to Model No. when ordering. List Price, Each—add \$22.50. . . . . Net add 12.95  
 T-S-101 Wall Switch For origination of call to one Master through T-C-20, or T-HP-3 in Chief systems. List Price, Each \$13.95. . . . . Net 8.20  
 T-S-102 Wall Switch For origination of call to two Masters through T-C-20, or T-HP-3 in Chief systems. List Price, Each \$23.00. . . . . Net 13.50  
 T-RW-10 Right-of-Way Relay. List Price, Each \$74.00. . . . . Net 43.20  
 T-HP-30 Power Booster. List Price, Each \$149.50. . . . . Net 87.50

### Cable (For Indoor and Outdoor Use)

6206 Cable for connecting T-C-41, T-C-42, T-HP-3, T-C-20 with origination of call List Price per Ft. 19c. . . . . Net per Ft. 11c  
 6214 Cable for inter-connecting T-C-4906 Masters. List Price per Ft. 39c. Net per Ft. 23c  
 6226 Cable for inter-connecting T-C-41/2, T-C-4920, T-C-4930, T-C-4940, T-C-4950, T-C-RP-5912 and T-C-RP-5920 Masters. List Price per Ft. 76c. . . . . Net per Ft. 44c  
 6902 Cable for connecting T-HP-3, T-C-20 without origination of call. List Price per Ft. 4 1/2c. . . . . Net per Ft. 2 1/2c

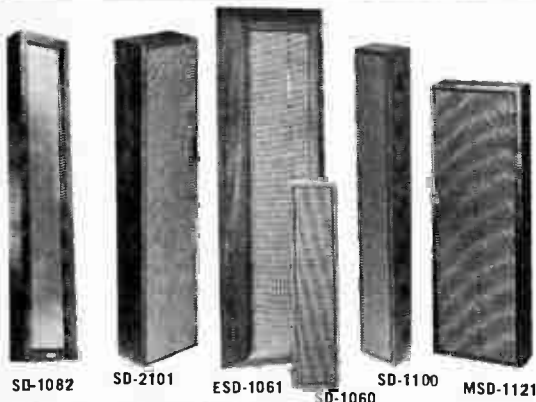
*New* TALK-A-PHONE Apartment House Intercom System. With 1 or 2 selective talking circuits; with 1 or 2 independent door opener buttons. Ask for catalog.

TALK-A-PHONE CO.

# Argos Quality

PRODUCTS COMPANY

## SOUND COLUMNS • PORTABLE SYSTEMS LECTERNS • SPECIAL PURPOSE SPEAKERS



### SOUND DIRECTOR Sound Columns

Provide completely intelligible PA system coverage of large audiences in churches, auditoriums, schools, hotel meeting rooms, etc. Simple installation. Available in 6 and 10 speaker columns with 8 speaker option. Models for voice, music or combined use. For complete data, send for free book all about sound columns.

#### For voice

**Model SD-1060** — Six speakers, 16 ohms. For small rooms up to 60 feet. 30 watts. Walnut vinyl finish cane grill. Size: 30 1/4" x 7" x 3 1/8". Ship. Wt. 10 lbs. List Price \$74.40

**Model SD-1100** — Ten speakers, 16 ohms, 50 watts. For rooms up to 200'. Converts to eight speakers, for rooms up to 125'. Walnut grain vinyl finish; cane grill. Entire column tilts to focus. Size: 49 1/4" x 7" x 6". Ship. Wt. 26 1/2 lbs.

List Price \$111.50

**Model SD-1101** — Same as SD-1100 except the deluxe housing is oiled, hand-rubbed walnut. Ship. Wt. 29 lbs.

List Price \$133.25

**Model SD-2100** — Ten speakers, 16 ohms, 50 watts. Some characteristics as SD-1100, except that speaker column may be tilted inside the housing for focusing. Walnut vinyl finish; cane grill. Size: 50 1/2" x 10 3/4" x 8 1/4". Ship. Wt. 43 lbs.

List Price \$140.85

**Model SD-2101** — Same as SD-2100, except the deluxe housing is oiled, hand-rubbed walnut. Ship. Wt. 50 lbs.

List Price \$165.00

#### For full range voice and music

**New! Model ESD-1061** — Primarily for voice, but an extended lower range makes it great for music, also. For smaller rooms, up to about 60 feet. 100 to 12,000 cps response. 30 watts, six speakers, 16 ohms. In genuine walnut. Size 10 1/2" w. x 33 3/4" h. x 4" d. Ship. Wt. 16 lbs. List Price \$83.25 each.

**Model MSD-1060** — For voice and music under auditorium conditions. Extremely popular with folk music groups. 70 to 15,000 cps, 60 watts. Six 8" speakers, 16 ohms. Walnut vinyl finish. Cane grill. Size: 10 3/4" x 50 1/2" x 8 1/4". Ship. Wt. 38 lbs.

List Price \$136.60

**Model MSD-1061** — Same as model MSD-1060, except has deluxe oiled walnut housing. Ship. Wt. 45 lbs.

List Price \$165.00

#### For high-fidelity music

**Model MSD-1121** — Projects high-fidelity music over a large area like nothing else ever created. Focused sound beam controls reverberation, keeps uniform audio levels. 12 speakers, 6 woofers, 6 tweeters with crossover network provide 50 to 17,000 cps at 30 watts. Genuine American walnut, with handsome cane grill. Dimensions: 14 1/2" w. x 42" h. x 5" d. Ship. Wt. 43 lbs. List Price \$199.85

#### For Custom installations

Concealed or back mounted installations can be made using the internal column element without cabinet. All electrical elements included, less outside housing.

**Model SDBB-6**: 6 speakers, 30 watts, 16 ohms. Ship. Wt. 8 lbs. 5 1/4" w. x 29" h. x 3" d. List Price \$49.95

**Model SDBB-10**: 10 speakers, 50 watts. Ship. Wt. 17 1/2 lbs. 5 1/4" w. x 47 3/4" h. x 5 1/4" d. List Price \$77.50

#### For outdoor use

**Model SD-1082** — "Argonaut" . . . certified by Inland Testing Laboratories to meet rugged environmental standards of U.S. Military Specifications MIL-E-4970A, is warranted as to performance for 3 years in every kind of climate, from tropic to Antarctic. (Send for complete free test report.) Heavy duty vinyl clad. 8 speakers, 40 watts-200 to 10,000 cps response. 9 1/8" w. x 49 1/2" h. x 4 1/2" d. Ship. Wt. 37 lbs.

List Price \$282.50

### SOUND CADDY SYSTEM

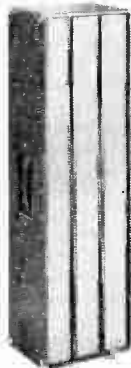
Has two Jensen 12-in. heavy-duty 18-watt PA speakers, 8 ohms. Space below for amplifiers with turntable up to 35 watts, and many of greater power. Amplifier mounting board can slip out when case is opened but holds firmly in place when closed. Heavy plywood construction, steel corner angles, grey vinyl covering, matching plastic grill. 17 3/4" W x 22" H x 13 1/8" D. Wt. 28 1/2 lbs.



SC-2DS List Price \$4.25

Same as above without speakers. Wt. 20 lbs. List Price \$44.85

SC-2D List Price \$44.85



### MEET THE NEW "THUNDER COLUMN"!

## BAND DIRECTOR "300"

### Music Reproduction Speaker Column

Never before has a sound reproduction device been designed to handle enormous power with such effortless ease and safety! The BAND DIRECTOR "300" is conservatively rated at 150 watts music power while accommodating up to 300 watts on peaks with excellent and undistorted reproduction across the entire spectrum from 40 to 8000 cps.

300 watts peak music power. 4 Jensen electronic instrument speakers with 1 3/4 lb. magnets. Excellent response—40-8000 cps. Speakers protected by hidden steel mesh. Upholstery-grade vinyl covering. Fused against overload. Plug or terminal connections.

Model MSD 4040 . . . . . Professional Net: \$189.95

### VOICE DIRECTOR Portable Sound Column

Performs like a "sound truck in a suitcase". Has unique audience reaching characteristics of a sound column, plus portability of a battery powered transistor amplifier. Ideal for public speakers of every type because it provides:

25 watts output from flashlight "D" cells . . . all transistor amplifier.

200 hours operation. (400 hours from electronic alkaline batteries.)

Uniform sound coverage over large audiences, indoors or out, like all Argos sound columns.

50% to 100% greater effective power than any other system of like power output, indoors and out. 6 speakers.

Includes microphone, stand, 18 ft. cable and lavalier. Case measures 30" x 10" x 7". Weight 27 lbs.

PSD-5060, professional net (less batteries) . . . \$169.95

PSD-5060-1, identical to above but with deluxe microphone incorporating a built-in volume control. Wt. 30 lbs. Professional net. (less batteries) . . . \$199.50

**Extension Satellite SOUND DIRECTOR.** Use with VOICE DIRECTOR for extended coverage or with any P.A. system. 6 speakers; 30 watts; 16 ohms has self-storing stand and 50 feet of cable. Size: 30 5/8" x 6 7/8" x 3 3/4". SD-4160 Wt. 12 1/2 lbs. . . . . Professional net \$54.95

SD-4060



PSD-5060

### SPEECH DIRECTOR Portable Lectern

4 speakers. AC/DC amplifier in all solid-state, delivers 12 watts from its own batteries, 15 watts from AC. 2 low impedance microphone inputs, 1 high impedance auxiliary. Miniature unidirectional microphone has built-in volume control, flexible 9" gooseneck stand, lavalier adaptor. Case measures 21" h. x 16" w. x 7 5/8" d. Weight, less batteries, 20 lbs. LSD-6040 . . . . . professional net \$229.95



### NEW MULTI-Baffles

#### for walls, ceilings

Size 10 3/4" sq. x 3 1/2" d. Mount on ceiling with screws, on walls with clips. 8" speaker, 4.8 oz. magnet, 8 ohms, 10 watts. Antique birch or dusk walnut furniture finish.

**DMBX-8S** — Baffle with speaker. Ship. Wt. 4 3/4 lbs. List Price \$17.85

**DMBX-8SV** — Baffle, speaker, volume control. Ship. Wt. 4 3/4 lbs. List Price \$21.35

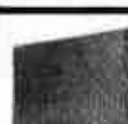
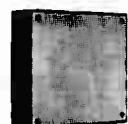
**DMBX-8VTV** — Baffle, speaker, 70.7-V.\* transformer, volume control. Ship. Wt. 5 1/4 lbs. List Price \$25.35

**DMBX-8** — Multi-Baffle only. Max. spkr. depth 3 1/4". Ship. Wt., 3 lbs. List Price \$9.90 each.

\*Also available w/25V. transformer at same price on special order. 12 unit minimum.

### New bi-directional "Hallmark"

Talks 2 ways at once for corridor paging, etc. Mounts on wall or ceiling. 8" dual cone spkr. 4.8 oz. magnet, 10 watts, 8 ohms. Dusk Walnut or Antique Birch. 10 3/4" sq. x 3 1/2" d. Ship. Wt. 6 lbs. TCB-8S. List Price \$24.90



### New "Troubador" system

Extension speaker with flair design hangs square or as a diamond. Dual cone 8" speaker, 8 ohms, 15 watts. Antique Birch or Dusk Walnut. 13 1/4" sq. 3 1/2" d. Ship. Wt. 5 1/4 lbs. TSW-8S. Audiophile net, each \$13.95

### "PATIO" OUTDOOR SPEAKER

Durable redwood and cane have been combined with special moisture-resistant full-range 8" speaker. 10 watts, 8 ohms. Volume control. 3/4" redwood enclosure has sealer coat; can be stained or painted. Baffle-board of marine grade plywood. Size: 14" x 10 1/2" x 3 1/2". Wt. 5 1/2 lbs.

PAT-10 Audiophile net, each \$14.95

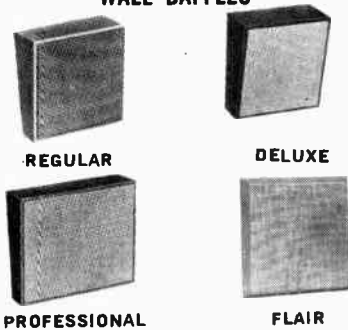


# Argos

PRODUCTS COMPANY

- Quality Speaker-Baffle Combinations
- Wall Baffles
- High Fidelity Speaker Systems

## WALL BAFFLES



Argos offers 4 wall baffle lines to meet every need. All utilize Argos famous Speedy Mounting Clip for fastest installation:

**Regular Wall Baffles (WB series)** are the standard of the industry for quality. In blond or walnut wood-grained vinyl with cane grill.

**Deluxe Wall Baffles (DWB series)** are furniture finished wood in Antique Birch or Dusk Walnut.

**Professional Wall Baffle (PWB)** is a large cubic capacity baffle for use with 8" speakers only. In blond or walnut wood grained vinyl.

**Flair Baffle (FMB)** is a stylish new flush mounting wall or ceiling baffle with concealed mounting screws. In Dusk Walnut or Antique Birch furniture finished wood.

Model	Spkr. Cap.	Width, Depth, Inches	Height, Inches	Cubic Inches	Shp. Lbs.	List Price Each
WB-4/5D	4/5	6 1/2 x 6 3/4 x 4	100	2 3/4	\$5.38	
WB-6D	6	8 1/2 x 8 3/4 x 5	210	4 1/2	6.50	
WB-6/9D	6/9	10 x 10 3/4 x 6 1/2	400	6 1/4	7.75	
WB-8D	8	10 x 10 3/4 x 6 1/2	400	6 1/4	7.75	
WB-10D	10	12 1/2 x 12 1/2 x 7 1/2	800	8	9.25	
WB-12D	12	13 7/8 x 14 1/4 x 9 1/8	1180	11	10.63	
DWB-8A	8	9 3/4 x 10 1/2 x 6 1/2	400	5 1/2	10.00	
DWB-12A	12	13 3/8 x 14 x 9 1/8	1180	9	14.00	
PWB-8C	8	16 1/4 x 14 x 6 1/4	1000	6	10.83	
FMB-8	8	11 3/8 sq. x 1 1/4	—	2 1/4	9.25	

\*Ship. Wt. of 2 in carton

## HIGH FIDELITY SPEAKER SYSTEMS

### Magnificent new "Astra"



Looks beautiful, sounds excitingly different! Sound-column design uses scientific focusing principle to add extra projection to high tones, re-create music with startling fidelity. Ideal for stereo. 33 1/4" x 10 1/2" x 4" d. 4 speakers — 2 Jensen woofers, 2 direct radiator tweeters. 50 to 17,000 cps response. Cabinet of genuine walnut with hand-rubbed oil finish. AHF-1 Ship. Wt. 15 lbs. Audiophile net, each \$49.95

**The tiny new "Solitaire"**  
A delight to see and hear, "Solitaire" offers extraordinary tonal brilliance, yet measures only 18" w x 12" h x 3 1/4" d. It's designed for desk, table, or wall to carry high fidelity music everywhere in home or office. Genuine walnut cabinet has hand-rubbed oil finish, grill cloth is neutral Belgian linen. Rests on its own miniature legs or hangs like a picture. Contains high-compliance Jensen woofer and separate direct-radiator tweeter give 50 to 17,000 cps. Stereo phased. Built-in volume control. SHF-1 Ship. Wt. 8 3/4 lbs. Audiophile net, each \$29.95

**Argos' finest — magnificent new TX-400**  
Argos' incomparable craftsmanship is blended with the industry's most advanced speaker technology for the sophisticated high fidelity requirement. Three-way system employs 12" Jensen woofer, 8" solid-back mid-range and horn-loaded compression driver. Distortion-free response from 35-18,000 cps. Genuine 3/4" hand-rubbed, oiled walnut cabinet with Belgian linen grill cloth. Size: 25" x 14 1/4" x 9". Ship. Wt. 31 lbs. Audiophile net, each \$79.95

## SPEAKER-BAFFLE COMBINATIONS



Now there are four complete lines of Argos speaker-baffles. Each comes to you completely wired, ready to install. Prestige (PB series) — our finest, with handsome wood furniture finishes in Dusk Walnut and Antique Birch and cane grill. 8" speaker, 15 watts. Thin line Dual Cone (WB-408 series) — Slender, hand-somely clad in blond or walnut wood-grained vinyl, almost undistinguishable from wood. 8" dual cone speaker, 10 watts, 8 ohms.

"Thinline Heavy-Duty" (WB-212 series) has 12" Jensen speaker with 10 oz. ceramic magnet. 18 watt capacity, 8 ohms impedance. Dimensions: 14" h x 16 1/4" w. x 6 1/4" d. Blond or walnut vinyl-clad. Thin line Low Level (WB-108 series) Has 8" speaker, 6 watts, 8 ohms, blond or walnut vinyl covering.

PB-508CS — Baffle with speaker. Ship. Wt. 5 1/2 lbs. (11" x 9 3/4" x 5 3/8") ..... List Price \$19.90

PB-508CSL — Baffle, speaker, L pad. Ship. Wt. 5 1/2 lbs. ..... List Price \$23.55

PB-508CST — Baffle, speaker, 70.7V.\* transformer. Ship. Wt. 6 1/4 lbs. ..... List Price \$24.50

PB-508CSLT — Baffle, speaker, L pad. 70.7V.\* transformer. Ship. Wt. 6 1/4 lbs. List Price \$27.85

PB-508C — Baffle only. Max. spkr. depth 4 1/4". Ship. Wt. of two 6 lbs. List Price each \$8.60

PB-512C — 12" Prestige Baffle only, max. spkr. depth 6". Ship. Wt. of two 11 lbs. List Price each \$12.00

WB-408CS — Baffle with speaker. Ship. Wt. 5 lbs. (12 1/4" x 9 3/4" x 4 3/8") ..... List Price \$16.25

WB-408CSL — Baffle, speaker, L pad. Ship. Wt. 5 lbs. ..... List Price \$19.90

WB-408CST — Baffle, speaker, 70.7V.\* transformer. Ship. Wt. 5 1/2 lbs. List Price \$20.85

WB-408CSLT — Baffle, speaker, L pad. 70.7V.\* transformer. Ship. Wt. 5 1/2 lbs. List Price \$24.15

WB-212CS — Baffle with speaker. Ship. Wt. 9 3/4 lbs. List Price \$26.25

WB-212CSL — Baffle, speaker, L pad. Ship. Wt. 9 3/4 lbs. List Price \$29.95

WB-212CST — Baffle, speaker, and 70.7V.\* transformer. Ship. Wt. 10 1/4 lbs. List Price \$31.25

WB-212CSLT — Baffle, speaker, L pad. 70.7V.\* transformer. Ship. Wt. 10 1/4 lbs. List Price \$34.25

WB-212C — 12" baffle only. Maximum speaker depth 4 1/2". Ship. Wt. 5 1/2 lbs. List Price \$10.63

WB-108CS — Baffle with speaker. Ship. Wt. 4 1/2 lbs. (12 1/4" x 9 3/4" x 4 3/8") ..... List Price \$13.25

WB-108CSV — Baffle, speaker, volume control. Ship. Wt. 4 1/2 lbs. List Price \$16.65

WB-108CST — Baffle, speaker, 70.7V.\* transformer. Ship. Wt. 5 lbs. List Price \$17.85

WB-108CSVT — Baffle, speaker, volume control, 70.7V.\* transformer. Ship. Wt. 5 lbs. List Price \$20.60

WB-208C — 8" Thinline Baffle only. Max. spkr. depth 3". Ship. Wt. 3 1/4 lbs. List Price \$7.75

\*Also available w/25V. transformer at same price on special order. 12 unit minimum.

## CORNER BAFFLES



Thinline Slanting Corner Baffle

Favorites for their mounting ease and over-all high quality. Argos corner baffles are now available in 3 series to fill every need. Corner location and bass reflex design provide excellent tone. All have quick clip-on front, are held to walls with Argos Speedy Mounting Clips. Coverings are wood-grained vinyl, walnut or blond, with cane grills.

### Thinline Slanting Corner Speaker-Baffle combination

Heavy-duty PA performance in a thin, slanting baffle complete with 8" speaker. 15 watts, 8 ohms. Transformers and L-pads available on special order, min. 12 units. SCB-208S Ship. Wt. 6 lbs. List Price \$23.25

### Slanting Corner Baffles

SCB-8D — Take 8" spkr. up to 5 1/2" deep. Internal volume: 680 cubic inches. Size: 15" H x 17 3/4" W x 9" D. Ship. Wt. 6 lbs. List Price \$15.25

SCB-12D — Takes 12" spkr. up to 6 1/2" deep. Volume: 1240 cubic inches. Size: 20" H x 20 3/4" W x 10 1/2" D. Ship. Wt. 8 lbs. List Price \$21.60

### Regular Corner Baffles

CB-8D — Takes 8" spkr. up to 4 1/2" deep. Volume: 525 cubic inches. Size: 14" H x 12 1/4" W x 6 1/2" D. Ship. Wt. 4 1/2 lbs. List Price \$12.75

CB-12D — Takes 12" spkr. up to 6 1/4" deep. Volume: 1420 cubic inches. Size: 20" H x 17 3/4" W x 9" D. Ship. Wt. 8 1/2 lbs. List Price \$19.75

## Space Saver Extension Speaker System



Has 8" woofer, 3 1/2" tweeter, crossover network. 12 watts, 8 ohms. Volume control. Furniture-finished hardwood enclosure 18"x12"x3 3/8". Dusk Walnut or Antique Birch finish.

MFB-8SV — Wt. 6 1/2 lbs. Audiophile net, each \$17.95

### TX-12 High Fidelity Speaker System

Has superb tonal realism from full-bass to the most crisp, high frequency passages. Features 12" woofer, 8" solid back midrange, 3 1/2" tweeter. Response from 40 to 17,000 cycles. Enclosure is oiled and hand-rubbed 3/4" American walnut. 24"x19"x5 7/8" deep. Graceful metal legs. Impedance 8 ohms; terminals marked for stereo phasing.

TX-12 — Wt. 25 lbs. Audiophile net, each \$54.95

Brass legs furnished with TX-12 available as accessory for any speaker system.

Model HFA-1 — Set of cabinet legs. Audiophile net, \$2.95

## VINYL-CLAD TUBE CADDIES



TC-5 \$22.85 Super Tube Caddy. Our largest... has over 3300 cu. in. volume, roughly 1/2 larger than TC-4. Holds countless tubes and tools, soldering gun, meter, accessories. Tray clearance 2 3/4". Brown vinyl covering. Size: 24" W x 16 1/2" H x 8 1/2" D. Ship. Wt. 19 lbs.

TC-4 \$16.85 Carry-All Tube Caddy — most popular ever made. Gives quick access to all sections. Holds up to 262 tubes... less with tools. Brown vinyl covering. Size: 21" W x 15" H x 8" D. Ship. Wt. 12 lbs.

TC-100 \$14.75 Pacemaker Tube Caddy. Same size as TC-4 but built for the thrifty buyer. Break-away design gives quick access. Up to 262 tubes... less with tools. Brown vinyl covering. Size: 21" W x 15" H x 8" D. Ship. Wt. 11 lbs.

TC-201 \$10.45 Pacemaker Junior. Smaller, easy-to-carry size for quick trips or as companion to other Argos Tube Caddies. Up to 143 tubes, less with tools. Brown vinyl covering. Size: 15 3/4" W x 12 1/2" H x 8" D. Ship. Wt. 8 lbs.

## Argos Products Co.

600 S. SYCAMORE, GENOA, ILL. 60135

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# ASTATIC Microphones, Accessories



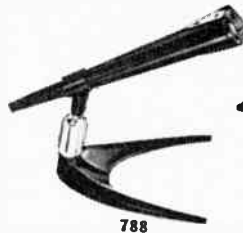
330-GS Series



77



77-L



788



888



988

## SERIES 330-GS GOOSENECK MICROPHONES

Professional performing, all purpose gooseneck microphones for intercommunications, tape recording, amateur language laboratories and many other applications. Gooseneck is permanently attached, 13" in length. Satin chrome finish for both microphone and gooseneck assembly. Complete with 7' single conductor, shielded cable (335L-GS, 2-cond. for balanced line).

**Model 332-GS Crystal**—Output, -54 db; response, 30-15,000 cps. List Price... **\$24.50**

**Model 333-GS Ceramic**—Output, -58 db; response, 30-10,000 cps. List Price... **\$24.50**

**Model 335H-GS Dynamic Hi-Z**—Output, -56 db; response, 100-12,000 cps. List Price... **\$33.00**

**Model 335L-GS Dynamic Lo-Z**—Output, -57 db; response, 100-12,000 cps. List Price... **\$30.00**

## MODEL 77 DYNAMIC CARDIOID

Most positive anti-feedback mike ever built. Also available in gold finish. Unidirectional design has suspended cartridge; eliminates external shock mounts. Built-in impedance selector. **Front-to-Back Pick-up:** 18 db differential. **Output:** -48 db. **Frequency Response:** 30-15,000 cps. **Impedance:** Low-Z, 30-50 ohms; medium, 150-250 ohms; high, 40,000 ohms. Shipping Weight, approximately 3/4 lb., less stand.

**Model 77**—With on-off switch and provisions for locking in "on" position. List Price... **\$82.50**

**Model 77 Gold Finish**—List Price... **\$92.50**

**Model 77-L**—Head only for mounting on G Stand. List... **72.50**

**Model 77-L Gold Finish**—List Price... **82.50**

**Model G-77**—Includes G Stand and 8' cable. List Price... **97.45**

## MODEL 788 "METRO" DYNAMIC

Wide range and rugged construction for voice and music reproduction in PA, recording and TV, indoor or outdoor. **Response:** 60-13,000 cps. **Output:** -58 db, lo-Z; -56 db, hi-Z. Black die cast alloy housing with brushed gold trim. Omnidirectional. Balanced high or low imp. by simple change. Max. dia. 1 1/2" x 8 3/4" h. Built-in On-Off switch. Desk-floor stand adapter, lavalier cord and assembly, belt clip, 20' cable. Net Weight, 8 oz. **Model 788**—Dynamic Microphone. List Price... **\$79.50**

## MODEL 888 "TEMPO" DYNAMIC

High fidelity and advance styling for applications in color TV, sound stage and deluxe PA systems. **Response:** 50-15,000 cps. Multi-impedance, 50-200, balanced, and hi-Z. **Output Level:** -58 db, lo-Z; -56 db, hi-Z. Die cast alloy housing in satin black with brushed chrome finish; 9 1/2" long x 1 1/2" max. dia. Includes SA-8 desk-floor stand adapter, lavalier cord and assembly with belt clip and 20' two-wire shielded cable. Weight, 9 oz. **Model 888**—Dynamic Microphone. List Price... **\$110.00**

## MODEL 988 "VOGUE" DYNAMIC

Beauty and high fidelity for the most exacting color TV and broadcast requirements. **Response:** 40-17,000 cps. **Output Level:** -56 db, hi-Z. Adjustable imp.: 50, 150 or 250 ohms for balanced line. Black housing with brushed gold finish. 9 1/2" long x 1 1/2" max. dia. With desk-floor stand adapter, lavalier cord and assembly and 20' cable. Net Weight, 8 3/4 oz. **Model 988**—Dynamic Microphone. List Price... **\$150.00**

## MODEL A-8 "FUTURA" DESK STAND

For Models 788, 888, and 988 mikes. Has 3/4"-27 thread. **Model A-8 Desk Stand** (illus. on Models listed)—List... **\$82.50**



330 Series



A-7



DN-50



JT-30



10-C, 10-D



D-104

## SERIES 330 MICROPHONES

Small, slim mikes with quality performance for various applications at real low price. Model 331 has momentary on, spring-return switch, furnished with hang-up bracket. Cable provides for audio and relay connections. All other models have slide switch with "lock-on" position complete with lavalier and stand adapter with 3/4"-27 thread. High impedance except No. 335L.

Model	Type	Output	Freq.	Body	Grille	Cap	List
331	Ceramic	-58 db	300-7000	Black	Black	Chrome	\$17.90
332	Crystal	-54 db	30-15000	Chrome	Black	Chrome	\$17.90
333	Ceramic	-58 db	30-10000	Black	Black	Chrome	\$17.90
335H	Dynamic	-56 db	100-12kc	TV Gray	Chrome	Chrome	26.50
335L	Dynamic	-57 db	100-12kc	TV Gray	Chrome	Chrome	23.50

**Model A-7 Desk Stand**—With adjustable swivel. List... **\$2.45**

## MODEL DN-50 "THE COMMENTATOR"

General purpose. Unitary moving coil system, carefully proportioned acoustic circuit. **Response:** 50-10,000 cps. **Output:** DN-50, -51 db; DN-HZ, -52 db. Semi- or non-directional. Opalescent gray and bright chrome finish. With 10' cable. **Size:** 6 1/2" h. 2 1/4" grille dia. 4 1/2" d. Net Wt., 1 lb., 12 oz. (mike only). **Model DN-50**—Dynamic Mike, 50 ohms imp. List... **\$33.50**

**Model GDN-50**—Same as above with grip-to-talk stand, 6' two conductor shielded cable. List Price... **\$52.70**

**Model UG8-DN50**—Same as above, but balanced. List... **57.70**

**Model DN-HZ**—Same, but Hi-Z. List Price... **39.70**

**Model GDN-HZ**—Same as DN-HZ with grip-to-talk stand, 6' two conductor shielded cable. List Price... **\$59.90**

**Model G Stand**—With grip-to-talk On-Off switch. List... **24.95**

**Model UG8 Stand**—Same as Model G; use with DN balanced line. List Price... **\$29.95**

## SERIES JT-30 "SPOKESMAN"

Streamline die-cast alloy housing; gray Hammerlin finish with chrome grille and fittings; includes handle and interlocking base. Concentric cable connector. For general PA, recording and communication. 8" high, 2 1/4" grille dia., 5 1/2" base dia. Weight, 21 oz.

**Model JT-30 Crystal**—Output, -49 db; impedance, 1-5 megs; response 30-10,000 cps. Complete with 8' single-conductor shielded cable. List Price... **\$18.40**

**Model JT-30-C Ceramic**—Same as JT-30 except with -54 db output and 5' cable. List Price... **\$18.90**

**Model JT-30-F Crystal (Head Only)**—Same as Model JT-30, except less handle and desk stand. Threaded 3/4"-27 for mounting. List Price... **\$15.90**

**Model JT-30-CF Ceramic (Head Only)**—Same as Model JT-30-C, except less handle and desk stand. Threaded 3/4"-27 for mounting. List Price... **\$16.40**

## MODELS 10-C, 10-D "THE VOICE"

Ideal for SSB, AM transmitters, paging and industrial applications. High impedance. **Output:** -52 db, Model 10-D; -54 db, Model 10-C. **Range:** 300-3,000 cps. Plug-in 3/4"-27 thread mounting with 5' cable. **Model 10-C Ceramic**—Gray chrome grille. List Price... **\$29.70**

**Model G-10-C Ceramic**—Same as above, but with "G" (grip-to-talk) stand. List Price... **\$49.90**

**Model 10-D Dynamic**—Chrome body and grille. List... **39.70**

**Model G-10-D Dynamic**—Same as above, but with "G" (grip-to-talk) stand. List Price... **\$59.90**

## SERIES D-104 "PREMIER"

The radio amateur's first choice. Balanced performance. Machined brass parts; heavy mesh grille; chrome finish. Standard 3/4"-27 thread mounting; adaptable to SC-11 lock-switch adapter or can be mounted on Model G (grip-to-talk) stand. Metal seal crystal offers protection against moisture and dryness. Ceramic immune to excessive heat and humidity. 3" dia., 1 1/2" deep. Weight, 14 oz. Complete with 5' single conductor shielded cable.

**Model D-104 Crystal**—Output, -46 db; impedance, 1-5 megs; response, 30-7,500 cps rising 500-4,000 cps. List... **\$31.00**

**Model D-104C Ceramic**—Output, -49 db; all other characteristics similar to D-104. List Price... **\$31.00**

**Model SC-11 Adapter**—List Price... **9.00**

**Model G Stand**—With grip-to-talk On-Off switch. List... **24.95**

### ASTATIC PHONO CARTRIDGES

For over 25 years Astatic has maintained its number one position as the world's leader in supplying the most complete line of phonograph pickup cartridges for both original equipment manufacturers and distributors.



### THE ASTATIC CORP.

MANUFACTURERS OF PHONOGRAPH CARTRIDGES • NEEDLES • PICKUPS • MICROPHONES  
RECORDING TAPE • ELECTRONIC DEVICES

# ASTATIC Microphones, Accessories

## MICROPHONES



**MODEL 513H MOBILE MICROPHONE**  
 Dynamic mike for Citizens' Band and other communications. Low background noise, feedback and hum. Semi-directional polar pattern. Wide temperature range; humidity-proof. **Frequency Response:** 200-9,000 cps. **Output Level:** -50 db at 1 v./dyne/cm<sup>2</sup>. **Impedance:** 40,000 ohms. With press-to-talk switch, snap-removal mounting bracket and three-conductor (one shielded) coiled cable 5½' long, extended. **Size:** 2¼" w. x 2¼" d. x 6" h. Weight, 10 oz. **Model 513H Mobile Mike—List Price..... \$34.50**

**MODEL 511 MOBILE MICROPHONE**  
 Ceramic element mike for Citizens' Band and similar uses. Low background noise, feedback and hum. Semi-directional polar pattern. **Frequency Response:** 200-4,000 cps. **Output Level:** -50 db at 1 v./dyne/cm<sup>2</sup>. **Impedance:** 250,000 ohms (1000 cps). With press-to-talk switch, snap-removal mounting bracket and three-conductor (one shielded) coiled cable extending to 5½' long. **Size:** 2¼" w. x 2¼" d. x 6" h. Weight, 7 oz. **Model 511 Ceramic Mike—List Price..... \$19.95**

**MODEL 531 MOBILE MICROPHONE**  
 High performance ceramic mike for amateur and Citizens' Band applications. Carefully calculated response characteristic for maximum clarity and intelligibility. Semi-directional polar pattern. Fully shielded to minimize hum pickup. **Frequency Response:** 150-3,500 cps with 6 db rise in 2,000 cps range. **Output Level:** -50 db at 1 v./dyne/cm<sup>2</sup>. **Impedance:** 250,000 ohms, approx. at 1,000 cps (EIA, 100,000 ohms). With press-to-talk switch, molded high impact plastic housing and three-conductor (one shielded) coiled vinyl cord, 5' long extended. **Size:** 2¾" w. x 1¼" d. x 3¾" h. Weight, 7½ oz. **Model 531 Mobile Mike—List Price..... \$12.75**

**NEW MODEL 539 NOISE CANCELLING MIKE**  
 Super talk power, ceramic mike is highly recommended for CB or ham operations. High output for effective use in noisy locations. Features 360° differential cancellation of background noise for sharp, clear speech. Lip bar maintains uniform, close spacing for high output modulation and maximum cancellation. **Frequency Response:** 100-3,500 cps with mike held for close talking using lip bar. **Output Level:** -50 db at 1 volt/dyne/cm<sup>2</sup>. **Impedance:** 250,000 ohms, approx. at 1 kc (EIA, 100,000 ohms). With press-to-talk DPDT switch; wired for relay or electronic switching. Coiled 3-cond. (one cond. shielded) cable extends to 5 ft. High impact plastic housing. **Size:** 2¾" w. x 1¾" d. x 3¾" h. **Model 539 Noise Cancelling Mike—List Price..... \$17.50**

**MODEL 10M5A "COMMUNICATOR"**  
 For mobile, ship-shore, etc. Sensitive and rugged. **Response:** 100-4,000 cps. Press-to-talk DPST switch. Retracting cable 12-in. coiled extends to 8'. Gray finish. **Model 10M5A Carbon Microphone—List Price..... \$29.50**

**SERIES 150 RECORDER MIKES**  
 For tape recorder use. Low cost; high output; outstanding performance; compact in size. **Size:** 2¼" sq. x 1¼" d. Plastic housing with rigid metal grille. With 5' cable.  
**Model 150 Crystal Mike—Frequency response, 30-10,000 cps. Output, -44 db. List Price..... \$6.50**  
**Model 151 Ceramic Mike—Frequency response, 30-8,000 cps. Output, -48 db. List Price..... \$6.50**

**MODEL L-1 CRYSTAL LAPEL MIKE**  
 Tiny dual diaphragm with spring clip and 15' of small diameter single conductor shielded cable. Machined brass housing with wire mesh front and rear grilles; black melamine finish. **Output:** -62 db. **Impedance:** 1-5 megohms. **Response:** 30-10,000 cps. 1½" dia., ½" deep. Weight, 7 oz. **Model L-1 Crystal Lapel Microphone—List Price..... \$27.35**

**MODEL T-3 CRYSTAL**  
 For studios, intercom, amateur, PA, recording. **Response:** 30-10,000 cps. **Output Level:** -54 db. Semi- or non-directional. With connector, 10' cable. All chrome finish. **Model T-3 Crystal Microphone—List Price..... \$29.30**

**"VELVET VOICE" CRYSTAL MICROPHONES**  
 For PA, home recording, ham, paging, radio. Use with floor or desk stand or in hand. Gold finished housing and handle; chrome grille; brown detachable base. ¾"-2" mounting. 8" high, 2½" grille dia. 5¼" base dia. Weight, 24 oz.  
**Model 200—Output, -50 db; impedance, 1-5 mcgs; \$19.50 response, 30-7,000 cps. With 8' cable. List Price.....**  
**Model 200-S—With on-off switch in handle. List Price... \$21.50**  
**Model 241-S—Same as 200-S, except response 30-10,000 cps with rising response from 1,500-5,500 cps. List Price..... \$21.50**

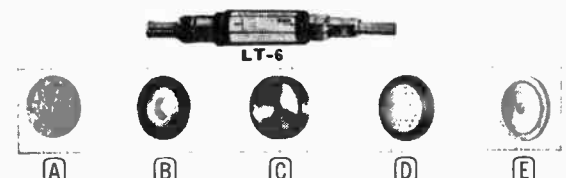
**MODEL 551 INDUSTRIAL MICROPHONE**  
 Dynamic industrial mike provides high intelligibility in noisy areas. Housing and transformer shielded. Withstands temperatures to 200° F; 180° F indefinitely. Moisture-sealed. Semi-directional polar pattern. **Frequency Response:** 300-6,000 cps. high impedance; 300-6,500 cps, low impedance. **Output Level:** -50 db at 1 mw/10 dynes/cm<sup>2</sup>; 1-w impedance; -48 db at 1 v./dyne/cm<sup>2</sup>; high impedance; both open circuit, 1000 cps. **Impedance:** 150 or 40,000 ohms, adjustable. With press-to-talk switch, virtually unbreakable Delrin® housing, and four-conductor (shielded mike, two relay) coiled cord extends to 8' long. **Size:** 1½" x 2" x 6¾". Weight, 20 oz. **Model 551 Industrial Mike—List Price..... \$69.50**  
 \*DuPont trademark.

## STANDS, CARTRIDGES AND LINE TRANSFORMER



**Models G, UG8**      **Models E-5-G, E-5-B**      **Model E-1**

**MICROPHONE STANDS**  
**Model G Desk Stand**—Has grip-to-talk SPST on-off switch, sliding bar for "lock-on". Use with DN-50, DN-HZ, T3, D-104, D-104-C, 10-C, 10-D and 77L. Finish: Bright chrome, gray Hammerlin base. List Price..... **\$24.95**  
**Model UG8 Stand**—Same as Model G with DPDT switch for balanced or unbalanced line. Thread, ¼" x 27; eight-terminal strip in base adapts to any circuit. List Price..... **\$29.95**  
**Model E-5-G and E-5-B Desk Stands**—Finish: Gray or brown Hammerlin base with bright chrome stem. Has ¾"-27 thread. Overall height 8". List Price..... **\$7.75**  
**Model E-1 Desk Stand**—Finish: Gray Hammerlin base, bright chrome trim. Has ¾"-27 thread. Overall hgt., 5½". List..... **\$8.25**



**REPLACEMENT MICROPHONE CARTRIDGES**

Model	Fig.	Use with Astatic Mike Model	List
MC 151	D	CX, CX-1, 200, 241, JT-30, JT-30-F, JT-40, T-3	\$7.00
MC 127	D	CC, CC-1, VC, VE-1, JT-30-C, JT-30-CF, JT-40-C, T-3C	7.00
MC 451	E	10M5, 10M5A, 11M5	8.75
MC 563	B	DN-50, DN-500, LN-HZ, DN-MZ, 10-D	16.50
MC 320	A	D-104	9.00
MC 321	A	D-104-C	9.00
MC 551	C	M-301	7.00
MC 558*	...	332	7.00
MC 559-2*	...	331	7.00
MC 560*	...	335H, 335L	7.75

\*Mikes without screw-fastened caps should be returned to factory for repairs.

### MODEL LT-6 LINE-MATCHING TRANSFORMER

Matches low impedance microphone to high impedance amplifier input; or high impedance dynamic microphone to low impedance amplifier input. Permits long length of cable on the low impedance side of the transformer. Eliminates high frequency loss and objectionable hum pickup. Completely shielded. **Input:** 30-50 or

150-250 ohms. **Output:** 40,000 ohms or higher. **Response:** ±1 db, 20-20,000 cps. Supplied with Anphenol 91-852 and 75-MC1F end connectors. Opalescent gray body with chrome finish connectors. **Size:** ½" dia. **Model LT-6 Transformer—List Price..... \$17.50**

598XL-65A



THE ASTATIC CORP.

MANUFACTURERS OF PHONOGRAPH CARTRIDGES • NEEDLES • PICKUPS • MICROPHONES  
 RECORDING TAPE • ELECTRONIC DEVICES

### ASTATIC PHONO NEEDLES

Needle for needle. Astatic always has the highest quality with the most complete stocks of any maker anywhere. No matter who the original equipment maker of the phonograph, Astatic has just the needle made for that particular cartridge on hand, ready for immediate delivery.



# ATLAS SOUND



## ATLAS PAGING AND TALK BACK SPEAKERS

The HU and CJ models listed below are all equipped with the well-known "Versalock" mounting bracket. This rigid, rugged and dependable bracket is completely adjustable on both a horizontal and vertical plane, affording "pin-point" directivity and simple secure mounting. The HU and TP horns are constructed of aluminum, while the CJ horns are molded of indestructible Fiberglass. Rugged diecastings and tough steel parts add strength wherever necessary. All models are 100% weatherproof under all climatic conditions.

**HU-12N** Small in size and low in cost. Excellent for low power paging and talk-back systems where limited coverage is required.

**HU-15N** The famous ATLAS SOUND "work horse," HU-15N is the most popular all-purpose, trouble-free speaker of its type and size.

**HU-24N** Similar to HU-15N. The larger horn improves low frequency response and increases over-all efficiency. For paging and talk-back systems that are also required to reproduce music.

**CJ-14N** A wide angle speaker with a rectangular horn opening which gives broad sound dispersion in the horizontal plane while maintaining good vertical coverage.

**EC-10** The lowest priced American-made speaker designed specially for low power systems requiring limited coverage. Made possible by a breakthrough in design, materials and performance, EC-10 gives improved results and high efficiency for intercom and other applications formerly using cone speakers.

Horn sections are molded of a new, tough, all-weather, acrylic plastic and the handsome beige-brown color combination blends with any decor. The tough steel bracket is adjustable and makes mounting simple and secure. Model EC-10 is unmatched where size, weight, appearance and high efficiency combined with low cost are factors.

**CJ-30N** Similar to CJ-14N, except the power handling capacity is increased and the larger, wide angle horn improves low frequency response.

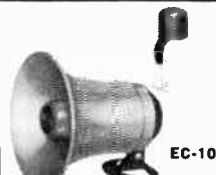
**TP-15N** One high efficiency driver unit does the work of two for low cost bi-directional coverage in long corridors and outdoors. The universal bracket mounts the dual horns at a 10° angle down or out from wall surface or pole.

MODEL	POWER	IMPEDANCE (specify)	FREQUENCY cps	SOUND LEVEL#	DISPERSION	DIMENSIONS	SHIPPING WEIGHT	NET PRICE
EC-10	6 Watts	8 or 45 ohms	400-13,000	112 db	125°	6 1/4" Bell dia. 6 3/4" deep	2 1/2 lbs.	8Ω \$14.70 45Ω \$16.20
* HU-12N	7.5 Watts	8 or 45 ohms	350-13,000	115 db	120°	7 1/2" Bell dia. 7 1/4" deep	3 1/2 lbs.	8Ω \$17.85 45Ω \$19.35
* HU-15N	25 Watts	8 or 45 ohms	250-13,000	123 db	100°	9 3/4" Bell dia. 8 3/4" deep	6 lbs.	8Ω \$21.90 45Ω \$23.40
HU-24N	25 Watts	8 or 45 ohms	200-13,000	124 db	95°	11 1/4" Bell dia. 12" deep	6 lbs.	8Ω \$24.60 45Ω \$26.10
CJ-14N	7.5 Watts	8 or 45 ohms	350-13,000	115 db	120° x 60°	5 1/2" high 9 1/2" wide 8" deep	3 1/2 lbs.	8Ω \$20.25 45Ω \$21.75
CJ-30N	25 Watts	8 or 45 ohms	250-13,000	121 db	120° x 60°	6" high 14" wide 11 1/4" deep	7 lbs.	8Ω \$27.60 45Ω \$29.10
TP-15N	25 Watts	8 or 45 ohms	250-13,000	120 db Each horn	100° Each horn	9 3/4" Bell dia. 16 1/2" long	7 1/2 lbs.	8Ω \$34.80 45Ω \$36.30
TP-24N	25 Watts	8 or 45 ohms	200-13,000	121 db Each horn	95° Each horn	11 1/4" Bell dia. 23" long	8 lbs.	8Ω \$39.00 45Ω \$40.50
DU-12N	7.5 Watts	8 or 45 ohms	350-13,000	115 db	110°	7" Bell dia. 14" long	4 lbs.	8Ω \$23.70 45Ω \$25.20
DC-5	6 Watts	8 ohms	120-7,000	105 db	—	7" Bell dia. 14" long	3 lbs.	8Ω \$15.00

Available with factory preassembled and prewired T-11 weatherproof line transformer. Model HU-12NT: Net Price \$24.60  
Model HU-15NT: Net Price \$28.65

\* Measured at 4 ft. on axis rated power.

LINE TRANSFORMERS IN COMPLETE ATLAS SOUND CATALOG



EC-10



HU-12N



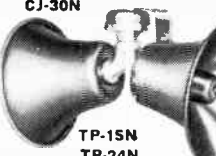
HU-15N



HU-24N



CJ-14N



CJ-30N



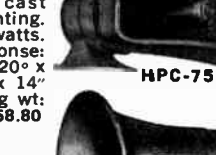
TP-15N



TP-24N



DU-12N



DC-5

## ATLAS Columair SOUND COLUMNS

(with exclusive EASY-MOUNT Universal Bracket)

The "Columair" consists of an in-line array of six frequency adjusted cone speakers. The in-line configuration produces a sound pattern having a broad horizontal and narrow vertical distribution. Provides uniform sound intensity even at varying distances from the sound column. EASY-MOUNT swivel bracket permits optimum adjustment of critical beam pattern. Transformer cover plate located at top of enclosure. Constructed of heavy gauge steel finished in light beige two tone spatter. Plastic grill cloth in contrasting shade covers front plywood panel. Interior lined with "Tufflex" acoustic padding. Fine appearance blends with most décors.

SPECIFICATIONS	C-46	C-66
Speaker Array	Six, Four-Inch	Six, Six-Inch
Frequency Range	200-10,000 cps	125-10,000 cps
*Power Capacity	20 Watts	40 Watts
**Vert. Distribution Angle	26-36 Degrees	22-32 Degrees
**Hor. Distribution Angle	120-160 Degrees	120-160 Degrees
Impedance (Total)	16 Ohms	16 ohms
Dimensions	28" x 5 1/4" x 5"	42" x 7 3/4" x 6"
Net Weight	8 1/4 Lbs.	18 1/2 Lbs.
Net Price	\$40.50	\$61.20

Model MK-1 Columair stand attachment kit. Net Price \$ 1.50  
Model SS-4 Speaker stand for Columair. Net Price \$15.00

## ATLAS WR-7 TWO-WAY SPEAKER SYSTEM

**WR-7** A high fidelity design woofer/tweeter system for speech and music installations requiring above average sound quality. Positions horizontally or vertically on concealed wall brackets. Beige finish and grill cloth match ATLAS SOUND Columair. Construction is similar to C-46 and C-66. Ideal for auxiliary use with sound columns. Net Price \$23.40

**WR-7 Specifications:** Power: 15 watts. Impedance: 8 ohms. Response: 70-15,000 cps. Speakers: special 5" x 7" ellipsoid woofer with 6 oz. ceramic magnet, special 3" tweeter. Dimensions: 18" long, 8" wide, 5 1/2" thin. Shipping wt. 8 lbs.

## ATLAS HIGH POWER ELECTRONIC SIREN AND MOBILE SPEAKERS

**HPC-75** Designed specially for electronic siren applications and high power mobile public address use. Low silhouette, fiber glass, cobra-flare horn gives wide dispersion. Rigid, one-piece cast bracket for fail-safe mounting. Weatherproof. Power: 75 watts. Impedance: 16 ohms. Response: 225-8,000 cps. Dispersion: 120° x 160°. Dimensions 6" high x 14" wide x 11 1/4" deep. Shipping wt: 8 1/2 lbs. Net Price \$58.80

**HPR-75** Same as HPC-75 except with round horn and 100° dispersion. Dimensions: 9" bell diameter, 8 3/4" deep. Wt.: 7 lbs. Net Price \$51.90

**HP-75** High power public address and electronic siren driver unit only. 1 3/8"-18 driver threads for use on any industry-standard horn. Power: 75 watts. Impedance: 16 ohms. Response: 125-8,000 cps. Dimensions: 4 3/8" diameter, 3 3/4" deep including threads. Shipping wt.: 4 1/4 lbs. Net Price \$36.00



HPC-75



HPR-75



HP-75



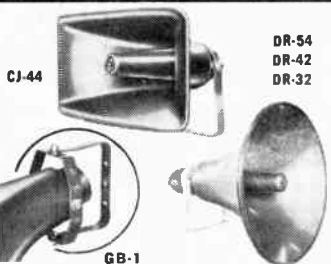
# ATLAS SOUND



## ATLAS COBRA-JECTOR

MODEL CJ-44 ALL PURPOSE WIDE ANGLE PROJECTOR — COMPLETE WITH SUPER POWER DRIVER — POLYESTER FIBRE GLASS CONSTRUCTION

All weather speaker with "Acousti-Matched" built in driver unit. The projector and reproducer is a single package, matched design resulting in maximum conversion efficiency. (Power input in watts versus sound pressure output.) The CJ-44 controlled response has been carefully restricted within frequency limits most useful in PA and high level music reproduction. Power: 40 watts continuous, 60 watts equalized response.\* Impedance: 16 ohms. Response: 115-12,000 cps. Dispersion: 120° x 60°. Dimensions: 23" wide, 13" high, 19" deep. Shipping wt. 19 lbs. Net Price \$52.20



## ATLAS DR PROJECTORS

NON-RESONANT — STUFOY — WEATHERPROOF

Atlas DR projectors are the result of many years of acoustic research. This costly engineering and elaborate tooling has resulted in projectors that are without acoustical or mechanical equal. All acoustical sound paths are clean and uniform without steps or pockets to disturb the normal function of the horn. These critical design features eliminate conditions of turbulence, frequency cancellation and resultant signal distortion. All models are equipped with a heavy duty "U" bracket. This bracket is securely fastened to a main body casting which will not fail when subjected to extreme conditions of stress, strain and vibration.

SPECIFICATIONS	DR-54	DR-42	DR-32
Air Column	4 1/2 ft.	3 1/2 ft.	2 1/2 ft.
Low Frequency	115 cps	140 cps	190 cps
Bell Diameter	26 inches	21 inches	16 1/2 inches
Length (less driver)	19 inches	16 inches	12 1/2 inches
Shipping Weight	23 lbs.	14 lbs.	10 lbs.
Net Price	\$31.80	\$24.90	\$21.60

## NEW ATLAS AP-30 PROFESSIONAL SPEAKERS

BUILT-IN TRANSFORMERS • WATTS/IMPEDANCE SWITCH • SCREW-TO-LINE TERMINALS

A screwdriver is the only tool required to mount, connect and adjust new AP-30 Series with exclusive ATLAS SOUND VARI-TAP CONTROL/CENTER. Screw line terminals, built-in transformers and externally adjustable watts/impedance switch save time and costs of installation. Silver plated switch contacts, varnish impregnated transformers and AP-30 driver units are sealed in against water, dirt and corrosion. Terminal/switch cover plate is cable strain relief and omni-directional mounting bracket adjusts in three planes.

New driver unit provides high efficiency needed with low wattage amplifiers, rugged 30 watt power handling when needed for noise penetration and distance coverage. Professional, metal construction with special corrosion-proofing and melamine enamel finish. Voice/coil diaphragm assembly field replaceable without soldering.

## NEW ATLAS APC-30T WIDE ANGLE SPEAKER

APC-30T Cobra-Flare, fiber glass horn version of AP-30T for wide angle, 120° horizontal and 60° vertical dispersion. Includes all the exclusive, Professional Series design features and screwdriver adjustable watts/impedance switch. Built-in combination 70.7/25 volt line transformer has 45 ohm intercom tap.

BX-1 Armored cable adaptor for all Series AP-30. Net Price \$1.50

MODEL	POWER	IMPEDANCE	POWER TAPS	SHIPPING WT.	NET PRICE
AP-30	30 watts	8 or 45 ohms	—	5 lbs.	8! \$24.30 45! \$25.80
AP-30T	30 watts 70.7V line	4,000, 2000, 1000, 666, 333, 167 Ω	1.2, 2.5, 5, 7.5, 15, 30	6 lbs.	\$30.30
AP-30T-25	30 watts 25V line	500, 250, 125, 83, 42, 21 Ω	1.2, 2.5, 5, 7.5, 15, 30	6 lbs.	\$30.30
APC-30T	30 watts 70.7V line	2500, 1300, 666 333, 167, 89, 45 Ω	1.8, 3.7, 7.5, 15, 30	8 3/4 lbs.	\$34.80

Series AP-30: FREQUENCY RESPONSE: 225-14,000 cps. SOUND LEVEL: 125 db. DISPERSION: 100° DIMENSIONS: 10" wide, 9 1/2" high, 10 1/2" deep.  
APC-30T 25V LINE WATTS: 1.8, 3.7, 7.5, 15. FREQUENCY RESPONSE: 250-14,000 cps. SOUND LEVEL: 126 db. DISPERSION: 120° x 60°. DIMENSIONS: 6" high x 14" wide x 12 3/4" deep.

## ATLAS EXPLOSION-PROOF HIGH EFFICIENCY SPEAKERS

APPROVED BY UNDERWRITERS LABORATORIES FOR USE IN HAZARDOUS LOCATIONS WHERE EXPLOSIVE ATMOSPHERES EXIST

Highly efficient due to exclusive design of explosion barrier. Class 1 speakers for use in atmospheres containing ethyl ether, cyclopropane, gasoline, naphtha, benzene, butane, acetone, lacquer, natural gas, etc. Class 2 can be used in Class 1 conditions as well as in atmospheres containing dust of magnesium, coal, coke, flour, starch, grain, etc.

Complete specification in ATLAS SOUND catalog. Net Prices from \$76.20 to \$98.40.



GB-1 Accessory omni-directional bracket for CJ-44 and DR trumpets. 160° horizontal, 65° vertical adjustment. Attached to U bracket. Net Price \$4.20

## ATLAS HEAVY DUTY SPEAKERS

SPB-1 Industrial duty speaker with heavy gaug. bell, protective screen and fully adjustable Versalock bracket. Weatherproof. Power: 25 watts. Impedance: 8 ohms. Response: 300-13,000 cps. Dispersion: 110°. Dimensions: 7 1/4" bell diameter, 6 1/8" deep. Shipping wt. 5 1/2 lbs. Net Price \$27.00

SPB-3C Ruggedized, weatherproof speaker with cast aluminum conduit/armored cable box for industrial service. Combination bulkhead mounting plate and adjustable U bracket adapts to any surface. Power: 25 watts. Impedance: 16 ohms. Response: 300-13,000 cps. Dispersion: 130°. Dimensions: 6 1/4" wide, 9 3/8" high, 4 3/4" deep. Shipping wt. 6 1/2 lbs. Net Price \$34.80

## ATLAS MOBILE SPEAKERS

MO-1 Weatherproof speaker with special, rigid, one-piece cast bracket for fail-safe use on vehicles. Concealed wiring and special, one-piece horn discourage tampering. High efficiency for use with mobile radio transceivers. Power: 25 watts. Impedance: 8 ohms. Response: 300-13,000 cps. Dispersion: 120°. Dimensions: 7 1/4" bell diameter, 6 3/8" deep. Shipping wt. 4 1/2 lbs. Net Price \$26.40

MO-2 Compact mobile communications speaker with welded steel bracket for concealed, limited space use in vehicles. Power: 25 watts. Impedance: 8 ohms. Response: 300-13,000 cps. Dispersion: 130°. Dimensions: 6 5/8" wide, 8" high, 4 3/4" deep. Shipping wt. 5 lbs. Net Price \$26.40

## ATLAS ALL WEATHER HI-FI SPEAKERS

WT-6 Weatherproof, high fidelity type two-way system. Attractive beige color for indoor and outdoor use wherever wide range, clean music reproduction is important. Adjustable bracket. Power: 15 watts. Impedance: 8 ohms. Response: 100-15,000 cps. Dispersion: 120°. Dimensions: 15" bell diameter, 12" deep. Shipping wt. 16 lbs. Net Price \$38.70

MODEL W-6 identical to WT-6, but less tweeter. Extended range to 8,000 cps with special cone speaker. Shipping wt. 14 lbs. Net Price \$29.70

## ATLAS BI-DIRECTIONAL BAFFLES

TW-8 Grill openings on both sides gives coverage in opposite directions with any 8" cone speaker. Decorative beige finish, 9" diameter and 5" thin, adjustable bracket. Less speaker. Shipping wt. 3 1/2 lbs. Net Price \$7.50



TW-10 Same as TW-8, but with speaker. Net Price \$10.80  
TW-9 with 5" x 6" bracket. Less speaker. Shipping wt. 4 lbs. Net Price \$9.30  
TW-11 Same as TW-9, but with speaker. Net Price \$12.60

## ATLAS DRIVER UNITS • SUPER POWER — SUPER EFFICIENT

Lifetime guarantee against electro-acoustical failure when operated to specifications. New designs, materials and double weather sealing give the ultimate in response, efficiency and trouble-free, reliable service. Models PD-5VH, PD-5VT, PD-60 and PD-60T feature self-aligning, field replaceable diaphragm assemblies. Excellent for replacement in any trumpet with standard 1 3/8" x 18" driver threads.

SPECIFICATIONS	PD-60T	PD-5VT	PD-4	PD-20	PD-30T
Power (continuous)*	60 watts	40 watts	40 watts	30 watts	30 watts
Power (equalized response)†	100 watts	60 watts	60 watts	50 watts	40 watts
Voice Coil Impedance	16 ohms	16 ohms	16 ohms	16 ohms	8 ohms
Sound Intensity#	136 db	131 db	131 db	128 db	126 db
Frequency Response cps	70-12,000	80-12,000	80-12,000	85-7,000	120-7,000
Transformer Imp. ohms	16, 85, 125, 250, 500, 1000, 2000	16, 125, 250, 500, 1000, 2000			
Trans. Power Taps, Watts 70 Volt Line	60, 40, 20, 10, 5, 2.5	40, 20, 10, 5, 2.5			
Shipping Weight	8 lbs.	7 lbs.	5 lbs.	4 lbs.	2 3/4 lbs.
Net Price	\$41.40	\$33.30	\$24.60	\$19.50	\$15.60

PD-60 Same as PD-60T Less Transformer \$33.60 PD-30T 25V line watts: 1.8, 3.7, 7.5, 15.  
\* Integrated speech and music full range. † Input range limited to frequencies above horn cut off.  
# Measured 4 ft. on axis 6 ft. air column with integrated full power input.



ATLAS SOUND, Division of AMERICAN TRADING AND PRODUCTION CORPORATION, In Canada: Atlas Radio Corp.



# ATLAS SOUND



## ATLAS MICROPHONE STANDS AND ACCESSORIES

ATLAS SOUND microphone stands and accessories are noted for variety, quality and reliable performance. The famous, extra-long clutch for secure, full hand grip is standard on all manual models. Clutch operation is velvet-smooth, wear proof parts are jam free and positive locking; the adjustable tube cannot slip and drop unexpectedly.

New, low profile bases with modern, slim silhouettes are less conspicuous and more functional. Improved designs concentrate base weight at the outer edge for maximum stability. Additional anti-tip bumpers are located between self-leveling, shock-absorbing pads which protect desk, table and floor.

Superchrome plated finishes are lifetime wear and rust resistant. Stand parts and accessories are precision threaded for easy assembly and versatile interchangeability. All models have standard 5/8"-27 threads for microphone attachment.

**MS-10C** Popular, budget-priced floor stand for low cost applications. Sturdy, wrinkle gray base with stability for average weight microphones.

**MS-4** Three tubes with two clutches adjust from standard height for adults to special low of 25" for children and seated performers. Ideal for instrumentalists requiring low microphone placement. New, low silhouette base with dark gray wrinkle finish.

**MS-11C** General purpose, all chrome design with new, low profile base contour and more weight for greater stability. Slim, inconspicuous silhouette is both elegant and modern, suits any decor where styling and appearance are important.

**MS-14G** Identical to MS-11C, but all gold finished for special decor requirements. Complements both black and gold model microphones.

**MS-11S** Self-locking version of MS-11C with unique, automatic clutch for effortless, instantaneous changes in height. The stand is adjusted by simply grasping the decorative black control sleeve and raising or lowering the microphone. Removing the hand automatically locks the position. All chrome with new, low profile base.

**MS-12C** Same general purpose, stable design as new MS-11C, with base finished in dark gray wrinkle.

**MS-12S** Special, automatic clutch action for easy, quick height adjustments. Identical in size, unique operation and applications to MS-11S, except with wrinkle gray base.

**MS-20** Rugged, heavy duty combination for safer support of any microphone. Larger 12", low contour base has more anti-tip weight at the outer edge for maximum stability. Oversize 1 1/4"-7/8" tube assembly includes adaptor for 5/8"-27 threads.

**MS-25** Professional floor stand. Integral air suspension system counterbalances microphone weight to prevent out of control crashdown, take effort out of height changes. Air cushioning action is adjustable, floats microphone tube gently down without severe mechanical shock if clutch is accidentally not tightened or released. Heavy duty, gray and chrome base contacts floor on large, 17" circle. Triangular shape and concave sides permit standing close for easy handling without stepping on base. Oversize 1 1/4"-7/8" tube combination includes 5/8"-27 thread adaptor. MS-25 gives maximum stability and safety for all microphones, including the finest and most expensive — at home, on stage and in the studio.

**CS-1** Tripod base infinitely adjustable from 10" diameter standing, to 42" circle flat on floor. Reverse-collapses to compact 23" for storage. Useful in restricted space, on uneven surfaces, for clustering microphones and indoor/outdoor portability.

**CS-52** Handsome, three-legged floor stand. Combines the slim, less conspicuous appearance of modern, low profile design with large, 15" base stability. Packaged in one, reshippable carton.

**CS-42** Similar to CS-52 in design, except that base is readily collapsible for portable use or convenient storage. Packaged in one, reshippable carton.

Model	Type	Height	Base	Tube	Weight	Net Price
MS-10C	Economy	35" to 63"	10" Gray	Chrome	10 lbs.	\$ 6.90
MS-4	Wide range	25" to 65"	10" Gray	Chrome	10 lbs.	10.65
MS-11C	General use	34" to 62"	10" Chrome	Chrome	13 lbs.	9.15
MS-14G	Gold Special	34" to 62"	10" Gold	Gold	12 lbs.	11.70
MS-11S	Auto-locking	39" to 62"	10" Chrome	Chrome	13 lbs.	16.20
MS-12C	General use	34" to 62"	10" Gray	Chrome	12 lbs.	7.35
MS-12S	Auto-locking	39" to 62"	10" Gray	Chrome	12 lbs.	14.70
MS-20	Heavy duty	37" to 66"	12" Gray	Chrome	15 lbs.	11.40
MS-25	Professional	38" to 67"	17" Gray	Chrome	22 lbs.	18.60
CS-1	Collapsible	23" to 62"	Cadmium	Chrome	5 lbs.	14.25
CS-52	Three-legged	34" to 62"	15" Gray	Chrome	9 lbs.	7.95
CS-42	Portable	34" to 62"	16" Gray	Chrome	9 lbs.	9.15

NEW

New Low Profile Bases

**CS Type Demountable Microphone Floor Stands**—with full grip—"Velvet Action," fully collapsible—quick and simple "Come Apart" base design. This new and revolutionary design in microphone stands is ideal for fixed as well as portable applications. Excellent for use when it is desired to contain the stand within the amplifier or speaker carrying case. The stability of the assembled stand is equal to many types employing heavy cast iron base construction. The base legs are easily removed to permit minimum size, lightweight transportation. The spring lock leg-holding mechanism of this ingenious design offers a quick and simple "Come Apart" feature. No tools or screw fastenings are required to hold the base assembly together. No small parts to become lost. The self-leveling legs are chrome plated, tipped with skid-proof rubber shock absorbent bumpers—eliminates vibrational conductivity... protects polished floor surfaces against damage.

Model	Finish	Height Adj.	Shipping Weight	Net Price
CS-32	Full Chrome	36" to 64"	5 lbs.	\$8.40
CS-33	Full Chrome	26" to 64"	4 lbs.	9.90

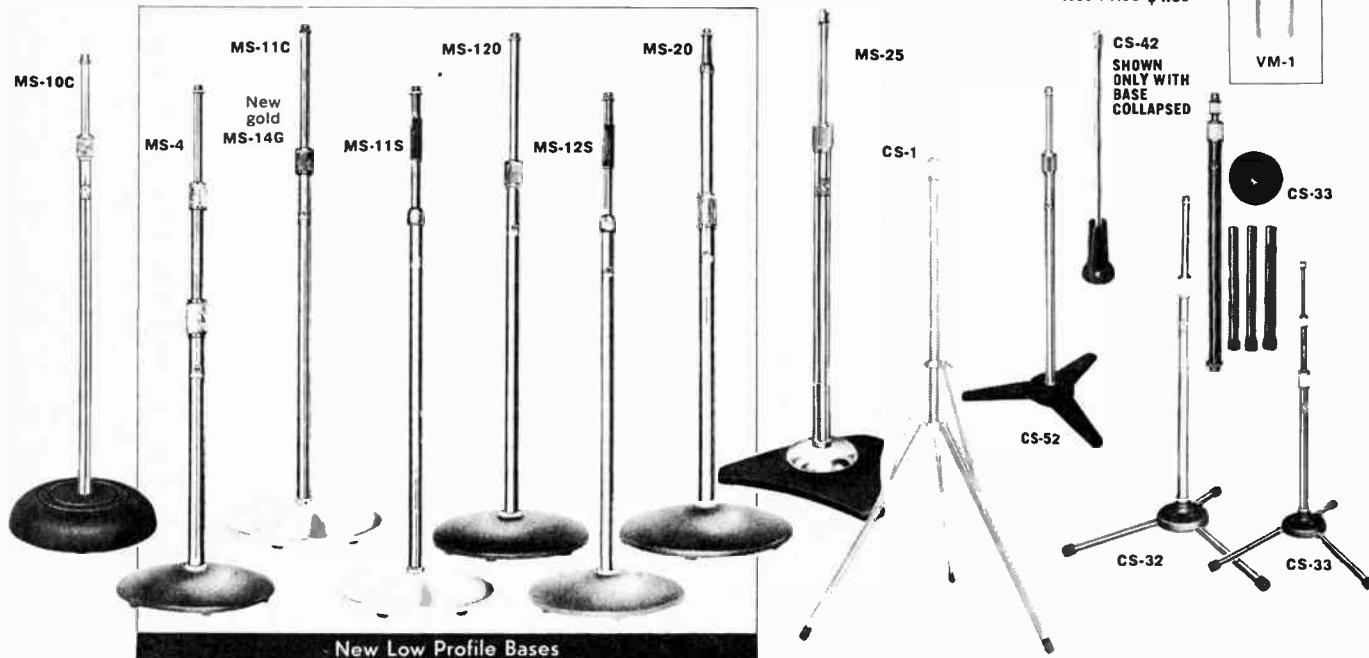
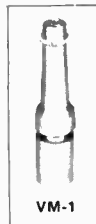
Each stand is individually packed complete in a single carton. Model CS33 can be collapsed to a total length of only 22 1/2".

**VM-1 SHOCK MOUNT** The VM-1 shock mount will eliminate or greatly reduce microphone pickup of external mechanical shock and stand vibrations.

The shock mount is equipped with male and female 5/8"-27 threads permitting convenient insertion between the microphone and the microphone stand.

The VM-1 is constructed of die castings and brass turnings finished in bright polished chrome — overall length 4 3/4", diameter 1"

Net Price \$4.80



New Low Profile Bases

ATLAS SOUND, Division of AMERICAN TRADING AND PRODUCTION CORPORATION, In Canada: Atlas Radio Corp.



# ATLAS SOUND



## ATLAS MICROPHONE DESK STANDS AND ACCESSORIES

**DS-4** Highly polished molded phenolic base is light beige in color with chrome upright tube. The smooth base will not scratch or mar table tops. Upright tube can be easily removed from base. Base diameter 5", height of tube 4", thread size 5/8"-27. Shipping weight 1/2 lb. **Net Price \$1.50**

**DS-5** Non-Adjustable Desk Stand. Base cast iron, finished in gun metal shrivel. Stable base is equipped with pads to prevent damage to desk or table tops. Base diameter 6", tube height 4" chrome finish. Shipping Weight 2 lbs. **Net Price \$2.25**

**DS-7** Same as above but equipped with upright adjustable from 8 to 13 inches. Equipped with standard "Velvet Action" clutch adjustment. Thread 5/8"-27. Shipping Weight 3 lbs. **Net Price \$3.75**

**DS-10** "Stream Liner" Desk Stand. Features "Rear Cable Exit". Mike cable is concealed under center section of chrome trim and directed out at rear of base; results in added stability and improved appearance. Constructed of precision die castings, finish gun metal grey, bright chrome trim. Rubber bumpers prevent damage. 5/8"-27 thread. Shipping Weight 1 1/2 lbs. **Net Price \$3.90**

**TS-8** Adjustable Banquet Stand. Low silhouette base is a trim, modern design. Upright adjustable from 14 1/2" to 26". Both base and upright finished in full super-chrome. Shipping wt. 5 1/2 lbs. **Net Price \$6.90**

**DS-9** Professional Desk Stand. Handsome appearance of modern, low silhouette base and tapered upright, both finished in satin chrome, complements the finest microphones. Stable 8" diameter base protects against accidental microphone damage. 4" upright tube. 5 felt base pads (4 lbs.) **Net Price \$5.40**

**DS-14** Desk stand is functionally and aesthetically suited to slim, elongated microphones. Gun-metal shrivel finished base with protective felt pads and 3" polished chrome upright tube with 5/8"-27 thread (2 lbs.) **Net Price \$2.85**

**SB-1** Dispatcher and Switchboard Mike Support. For use over telephone switchboards, dispatcher's desk, dais, banquet table, etc. 12 inch long, flexible, chrome plated "goose neck" arm is mounted on a spring loaded swivel, can be swung aside when not in use. A feed thru hole is located at the mike end of the "goose neck" so that the mike cable can be concealed within the flexible arm. Base casting is rear loaded so that the base will not tip forward. Finish grey shrivel. Shipping Weight 13 lbs. **Net Price \$11.40**

**SW-1** Gyromatic Swivel permits microphone to be adjusted to any angle, up, down, around. Locks in any position. Die cast finished in chrome. **Net Price \$3.45**

**LO-2** "Lock-On" accessory for instantaneous microphone attachment or removal without threading on or off any stand or support. One half of LO-2 remains fastened to the microphone the other half stays on the stand. Excellent for floor show, sports announcing and similar uses where microphones must often be removed. Positive lock holds microphone safely in hanging positions on booms, ceiling supports and stage battens. Chrome finish. **Net Price \$2.40**

**SO-1** "Snap-On" accessory. Identical to LO-2 but less locking feature. Spring loaded, ball bearing design for secure, safe microphone attachment and quick disconnect on any upright floor stand. **Net Price \$1.95**

**FS-1** Foot Switch for press-to-talk paging applications using any microphone with a single ended input. May also be hand operated on desks and switchboards. Easily rewired for press-to-open circuit requirements. **Net Price \$8.85**

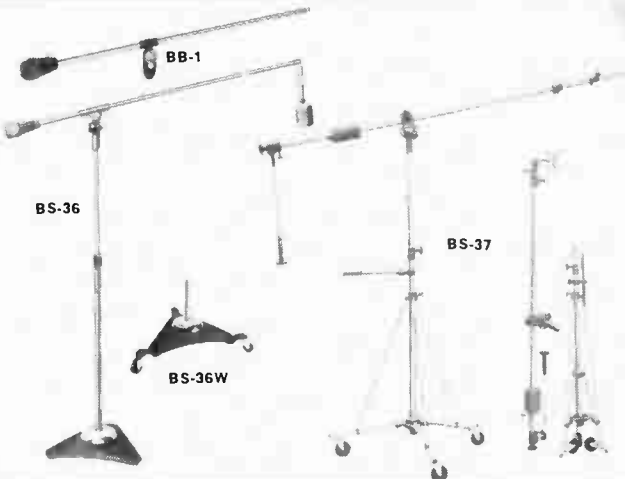
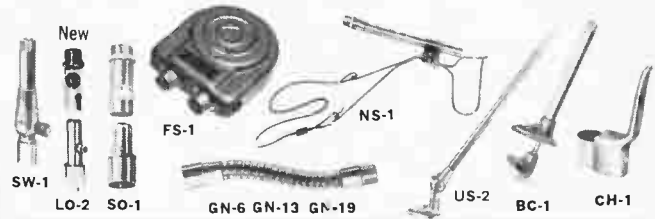
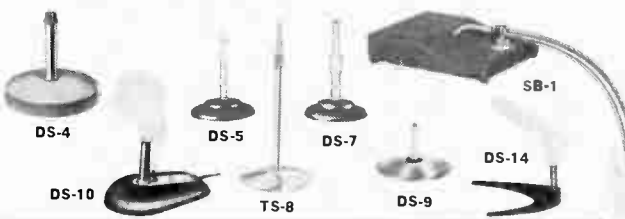
**NS-1** "The Chesty" Neck Supported Mike Holder. Permits a quick and simple "three way" adjustment. Mike is always in a suitably "close talking" position reducing acoustic feedback problems. Wide comfortable chest support prevents rolling due to sudden movement. Cool and lightweight, weighing only 6 oz. **Net Price \$4.20**

**GN** "Goose Necks" can be attached to any microphone stand or fixture; ends have 5/8"-27 male and female thread—all finished in bright chrome, model number indicates overall length of "goose neck" in inches. **Net Price GN-6 \$1.35, GN-13 \$1.80, GN-19 \$2.55**

**US-2** The Atlas US-2 Multi-Purpose microphone support. Excellent for use with language laboratories, dispatcher desks, telephone switchboards, pulpits, etc. The boom arm vertical adjustment and the rotation motion is spring loaded and will "float" the mike in the desired position without requiring a locking adjustment. The microphone cable may be concealed within the boom arm and will feed thru the swivel assembly and base flange. A small opening is provided at the microphone end of the boom for cable entry. Finished in "super-chrome". Specifications—Boom arm length 12 3/4"; vertical adjustment of boom 180°; rotation 360°; base length 2 5/8". **Net Price \$6.00**

**BC-1** Bracket Clamp. A multitude of useful applications. Can be used with a boom arm, goose neck, etc. Chrome tube 6" long. Clamp can be removed and top flange screwed or bolted in position. 5/8"-27 thread. **Net Price \$2.55**

**CH-1** Cable Hanger. Fits all tubes 7/8" to 1 1/4" diameter. The mike cable can be quickly coiled and looped over the cable hanger when moving, storing or transporting the mike and stand. Finished in polished chromium. **Net Price \$1.80**



## ATLAS BOOM STANDS

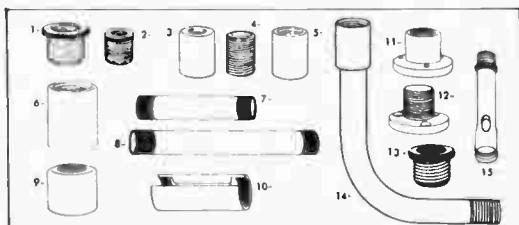
**BB-1** "Baby Boom" Attachment. Versatile device that can be attached to any type of floor stand. All swivel parts are precision die castings resulting in smooth operation and secure positioning. Length of boom 31"—Chrome plated 5/8"-27 thread. Shipping weight 3 1/2 lbs. **Net Price \$5.55**

**BS-36** Professional Boom Stand with "Safety Air Lock Cushion" offers all the advantages of "Floating Action" plus a secure and dependable locking adjustment. The Air Lock built into the vertical section prevents any accidental or sudden slippage of the upright section. A gyromatic swivel joint is provided at the microphone end. The base casting is equipped with shock absorbent chrome plated, "domes of silence". Specifications: Boom length 62" (extension may be added). Vertical extension from 48" to 72". All tubular sections super-chrome plated. Base finished in polished chrome and gun metal. Shipping weight 36 lbs. **Net Price \$45.00**

**BS-36W** Mobile Model. Identical to the BS-36 except that the base is supplied with ball bearing swivel casters, permitting the entire stand to be wheeled to various positions in the studio. Shipping weight 40 lbs. **Net Price \$51.00**

**BS-37** Porto Boom. For most exacting TV studio, sound motion picture application, etc., ideal for portable service. Fully collapsible down to dimensions permitting its transportation in all automobiles. Air check prevents any accidental collapse of the upright. Detailed description sheet available. Specifications: Upright retracted 5 1/4 ft., extended 9 ft. Boom retracted 7 ft., extended 18 ft. All tubular sections aluminum processed in "Alumilite". Counter weight cast iron with bronze locking mechanism. Base casters 4" swivel type. Base spread 42" on radius. Shipping weight 73 lbs. **Net Price \$465.00**

## ATLAS MICROPHONE ADAPTORS AND FITTINGS



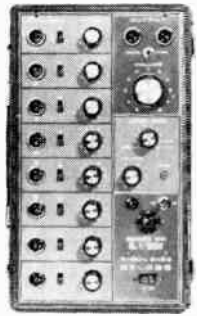
Model	Description	Net Price
AD-1	1/8"-27 female to 1/2" pipe thread male (RCA Adaptor)	.63
AD-2	1/8"-27 female to 3/8"-27 male	.45
AD-3	1/8"-27 female to 5/8"-27 female	.48
AD-4	3/4" long, 5/8"-27 male running thread	.36
AD-5	5/8"-27 female to 5/8"-27 female, coupling	.48
AD-6	7/8"-27 female to 7/8"-27 female, coupling	.90
AD-7	3" long tube 5/8"-27 male each end	.60
AD-8	6" long tube 5/8"-27 male each end	.60
AD-9	9" long tube 5/8"-27 female	.66
AD-10	5/8"-24 female to 5/8"-27 female (W. L. Adaptor)	.99
AD-11	Flange, 5/8"-27 female. Base Diameter: 1 3/4"	.66
AD-12	Flange, 5/8"-27 male. Base holes on 1/4" mounting centers	.66
AD-13	7/8"-27 male to 5/8"-27 female	.66
AD-14	Right angle bent tube: 5/8"-27 male and female each end	1.05
AD-15	Cable "Feed-Thru" adaptor: 5/8"-27 male and female each end	.99

Note: Thread sizes specified as 1/8" pipe is I.P.S. (Electrical fitting) Measures Approx. 3/8" dia. All adaptors chrome plated.

ATLAS SOUND, Division of AMERICAN TRADING AND PRODUCTION CORPORATION, In Canada: Atlas Radio Corp.

# GELOSO SOUND PRODUCTS

**PROFESSIONAL MICROPHONES • MICROPHONE MIXERS  
MICROPHONE STANDS • MUSICAL INSTRUMENT SPEAKER**



G1/501U



G300U

The Geloso microphone mixers will accept low, medium, or high impedance microphones without any variation in performance. Microphones of different impedances may be mixed in any combination without altering the over-all performance of the mike mixer. Operates on self contained batteries or built in AC adapter.

### G1/501U

- 4 Medium impedance input channels with individual level controls
- Input for reverberation unit
- High level input
- 1 Medium impedance output
- Output master volume control — built-in A.C. supply—carrying case individual pre-amplifier for each input

### G300U

- 8 Medium impedance input channels with individual level controls
- Monitor earphone output with level control
- 2 Medium impedance output
- ON-OFF Switch on each channel

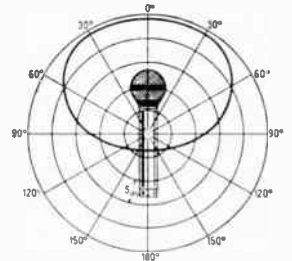
A truly professional "cardioid" directional microphone. Expressly engineered to counteract feedback and echo. Produced under the most rigid specifications to provide the ultimate in broadcast, studio and recording standards.



11/107

11/110

### TYPICAL SENSITIVITY PATTERN



11/255

11/255

11/251

11/250

11/250

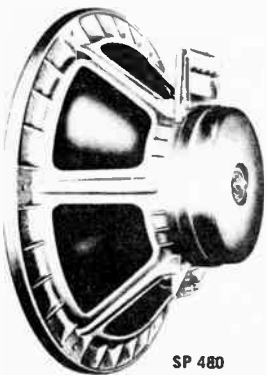
11/251

- Frequency response 30 ÷ 20,000 Hz.
- Output Level: —55 DB
- Impedance—250 ohms
- ON-OFF Switch (11/110 only)
- 11/250 Floor stand, self-adjusting umbrella action legs
- 11/251 Floor stand, heavy duty, self-adjusting
- 11/255 Boom with knob control adjustment for 11/250 and 11/251

Full line Microphone Brochure available on request.

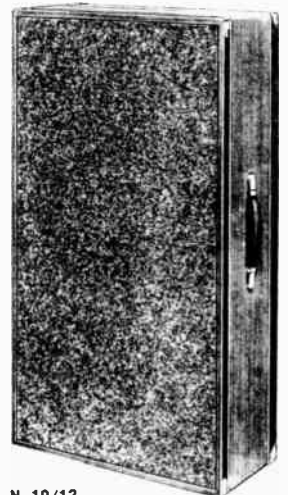
## "MUSIC-HALL" SERIES

The GELOSO Music Hall Series Speakers, internationally acclaimed for its outstanding performance, design and construction, is specifically engineered for bass guitars, electronic organs and musical instruments.



SP 480

- SP 325—Wide range 12" speaker. 50 watts—30 to 15,000 Hz.
- SP 380—Wide range 15" speaker. 75 watts—30 to 12,000 Hz.
- SP 420—Heavy-duty 16" bass guitar speaker—100 watts.
- SP 480—Heavy-duty 19" bass guitar speaker—150 watts.
- 10/12—Portable loudspeaker system, includes SP 380 speaker, carrying case with reinforced metallic corners and handle. 125 watts—8 ohms.



N. 10/12

**AMERICAN GELOSO ELECTRONICS, INC.**



# GELOSO SOUND PRODUCTS

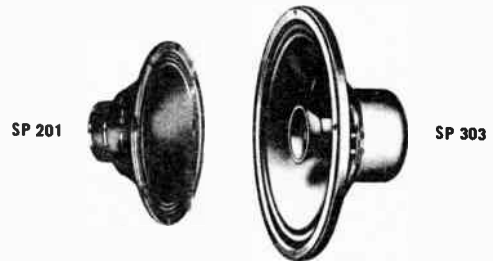
**HI-FIDELITY SPEAKERS • LOW-LEVEL SOUND SPEAKERS  
MOBILE SOUND SYSTEMS • INTERCOMS AND HEADSETS  
CENTRALIZED DISTRIBUTION SYSTEMS**



## HI-FIDELITY SPEAKERS

Geloso High Fidelity Speakers have been created to satisfy the discriminating audio listener. Full performance with concert hall realism.

- TW 109—4" Tweeter—Response 2,000 to 20,000 Hz.
- SP 201—8" Woofer—Response 40 to 10,000 Hz. 15 watts—6 ohms.
- SP 303—Wide range 12" Speaker with coaxial tweeter and built in cross over network—30 to 20,000 Hz.—25 watts—16 ohms.



## LOW LEVEL SOUND SPEAKERS

Geloso baffles and enclosures with speaker for low level sound.

- 3092—Molded nylon enclosure with 2 elliptical speakers. 4 ohms, 13½x3x2, 8 watts
- 3093—Molded nylon enclosure with 8" speaker. 4 ohms, 10x10x4, 15 watts
- 3081—Molded nylon recessed mount ceiling baffle with 8" speaker. 4 ohms—15 watts
- 3082—Molded nylon surface mount ceiling baffle —with 8" speaker. 4 ohms—15 watts



## CENTRALIZED PAGING AND MUSIC DISTRIBUTION SYSTEM

75 Watts—30 Remote Stations—AM-FM Short Wave-Tape-Phono-Mike inputs—Paging cut-in feature—All call and master to individual remote station features—Ideal for schools, plants, restaurants, hotels, bowling alleys.

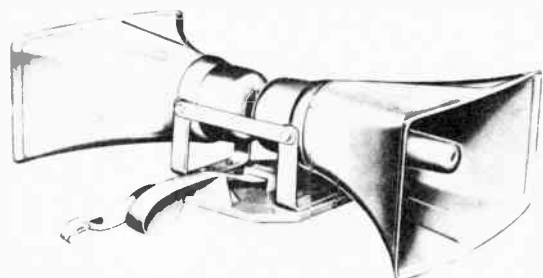


G1528-C

## MOBILE SOUND SYSTEMS

Complete with reflex trumpets, solid state amplifier, dynamic microphone, mounting bracket assembly — Weatherproof — Quick mount installation.

- MS 15—15 watts system
- MS 35—35 watts system
- MS 50—50 watts system



MS 35



FULL LINE PORTABLE SOUND SYSTEMS  
BROCHURE AVAILABLE ON REQUEST.

**AMERICAN GELOSO ELECTRONICS, INC.**

# GELOSO SOUND PRODUCTS



## REFLEX TRUMPETS • DRIVERS PAGING, TALK-BACK SPEAKERS

### REFLEX TRUMPETS

A FULL RANGE OF REFLEX TRUMPETS FOR VARIED COMMERCIAL SOUND INSTALLATIONS. WEATHER PROOF, HIGHLY EFFICIENT LONG LIFE CONSTRUCTION.

### PAGING TALK-BACK SPEAKERS

- 2549/2564—Low to medium power Paging Talk-Back Speaker for indoor-outdoor use. 20 watts max. 16-20 ohms.
- 2536/2567—High efficiency Reflex Talk-Back Speaker for fixed and mobile installation. 30 watts. 16-20 ohms.
- 2537/2567—Rectangular re-entrant Horn Speaker designed for maximum intelligibility and high efficiency in high noise level ambient. 30 watts.
- 2535—Radial re-entrant Speaker ideal for installation where uniform sound diffusion is required. 30 watts. 8 ohms.

### SPECIAL PURPOSE HIGH POWER SPEAKERS

- 2557/2567—Compact 4 drivers Power Speaker. 120 watts.
- 2579—Single Horn Super Power Long Range Speaker. 100 watts. 16-20 ohms.

### DRIVERS

GELOSO Drivers are weather proof. Heavy Duty Construction with baked enamel finish.

- 2564—20 watts—16-20 ohms
- 2567—30 watts—16-20 ohms
- 2531—40 watts—16 ohms
- 2521—60 watts—16 ohms

Drivers with built-in line transformer—

- 2532—40 watts—16-125-250-500-1000 ohms
- 2533—40 watts—16-500-1000-2000-5000 ohms
- 2522—60 watts—16-125-250-500-1000 ohms
- 2523—60 watts—16-500-1000-2000-5000 ohms

### MOBILE SPEAKER SYSTEMS

Instant quick mounting installation. Completely Weather-Proof. Molded high impact construction. Complete with mounting bracket assembly, 2 reflex trumpet and drivers.

- 2506—75 watts—8 ohms
- 2507—100 watts—8 ohms

### UNIVERSAL STAND-SUPPORT FOR TRUMPETS

Collapsible legs, adjustable brackets, rugged sturdy metal construction. 360° Orientation. 8½" height.



### TECHNICAL DATA

Complete Trumpet Cat. #	Impedance Ohms	Frequency Response	Low Frequency Cut-Off	Power Rating Watts*	Sound Diffusion Angle	Type	Dimension Inches	
							L.	Ø
2549/2564	16-20	450-7500	450	20 max.	90°	Round	8	9.5
2536/2567	16-20	300-9000	300	30	65°	Round	12	9.5
2536/2531	16	300-9000	300	40	65°	Round	12	9.5
2536/2532	16-125-250-500-1000	300-9000	300	40	65°	Round	12	9.5
2536/2533	16-500-1000-2000-5000	300-9000	300	40	65°	Round	12	9.5
2537/2567	16-20	300-9000	300	30	HORIZONTAL 120° VERTICAL 60°	Rectangle	12	14
2537/2531	16	300-9000	300	40		Rectangle	12	14
2537/2532	16-125-250-500-1000	300-9000	300	40		Rectangle	12	14
2537/2533	16-500-1000-2000-5000	300-9000	300	40		Rectangle	12	14
2556/2567	16-20	180-9000	180	30		Rectangle	18	19
2556/2531	16	300-9000	300	40		Rectangle	18	19
2556/2532	16-125-250-500-1000	300-9000	300	40		Rectangle	18	19
2556/2533	16-500-1000-2000-5000	300-9000	300	40		Rectangle	18	19
2556/2521	16-20	150-9000	150	60		Rectangle	18	19
2556/2522	16-125-250-1000-500-1000	160-7500	160	60		Rectangle	18	19
2556/2523	16-500-1000-2000-5000	160-7500	160	60		Rectangle	18	19
2551/2567	16-20	250-7500	250	30		75°	Round	17
2551/2531	16	300-9000	300	40	75°	Round	17	18
2551/2532	16-125-250-500-1000	300-9000	300	40	75°	Round	17	18
2551/2533	16-500-1000-2000-5000	300-9000	300	40	75°	Round	17	18
2551/2521	16-20	150-9000	150	60	75°	Round	17	18
2551/2522	16-125-250-500-1000	160-7500	160	60	75°	Round	17	18
2551/2523	16-500-1000-2000-5000	160-7500	160	60	75°	Round	17	18
2552/2567	16-20	300-9000	300	30	80°	Round	20	22
2552/2531	16	300-9000	300	40	80°	Round	20	22
2552/2532	16-125-250-500-1000	300-9000	300	40	80°	Round	20	22
2552/2533	16-500-1000-2000-5000	300-9000	300	40	80°	Round	20	22
2552/2521	16-20	150-9000	150	60	80°	Round	20	22
2552/2522	16-125-250-500-1000	160-7500	160	60	80°	Round	20	22
2552/2523	16-500-1000-2000-5000	160-7500	160	60	80°	Round	20	22

\*In Watts IPM (Music Power)

**AMERICAN GELOSO ELECTRONICS, INC.**

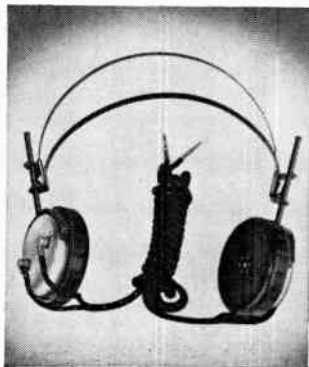
# HEADPHONES By C. F. CANNON CO.



**THE "CHIEF"**  
**Cannon-Ball Bakelite Headset**

A high quality headset of durable molded black plastic. Attractive in appearance, it is a sensitive and practical phone for every headset use. Inside terminals. Diameter of diaphragm is 2 1/8". Double coils, two in each receiver. Alnico permanent magnets. Supplied with vinyl plastic covered headband with permanent adjustment and no removable parts. Cotton covered cord, 4 1/2 ft. long.

CC-2—2000 ohms D.C.....	Net \$2.88
CC-3—3000 ohms D.C.....	Net 3.03
CC-5—5000 ohms D.C.....	Net 3.54
CC-11—11 ohms D. C.....	Net 2.88



**BRANDES "SUPERIOR"**  
**Matched Tone Headset**

A rugged headset, millions of which are in use all over the world. Large size diaphragms of 2 1/8" diameter assure efficient performance. Outside terminals, with polished aluminum cases and bakelite caps. Double coils, two in each receiver. Chrome steel magnets. Steel headband with permanent adjustment. 4 1/2 ft. cotton covered cord.

BS-2—2000 ohms D.C. List \$4.30 Net \$2.58

**BRANDES "ADMIRAL"**  
**Matched Tone Headset**

The Brandes "Admiral" is of the same general construction as the Brandes Superior, but has terminals on the inside.

BA-2—2000 ohms D.C.....	Net \$2.97
BA-3—3000 ohms D.C.....	Net 3.15
BA-5—5000 ohms D.C.....	Net 3.69



**CANNON-BALL**  
**ALNICO MAGNETIC No. 25**

A New Headset of Unusual Quality, Efficiency and Durability, powered by Alnico V magnets.

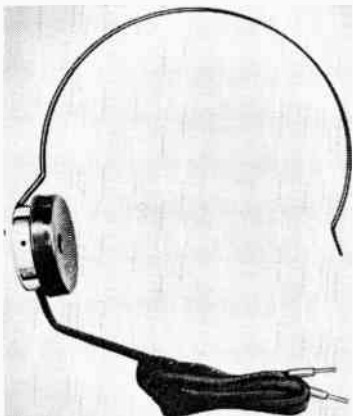
The headband is covered by attractive black extruded vinylite and provides utmost wearing comfort. Limits turn of phone to prevent twisting of cord. Cap and case of molded plastic. Large size diaphragm 2 1/8". Equipped with sanitary moisture-resistant plastic cord with riveted crotch piece.

AM-25-2 .....	Net \$4.14
AM-25-3 .....	Net 4.44
AM-25-5 .....	Net 5.10

## ALNICO MAGNETIC No. 15

A new, small size, extra sensitive double headset, light in weight. Diameter of diaphragm 1 3/8". Molded cap and case. Steel adjustable headband. 4 1/2 ft. cord.

AM-15-2 .....	Net \$2.58
AM-15-3 .....	Net 2.73



**CANNON-BALL "ALNICO"**  
**Single Headphone**

Equal in clarity and volume to most double headsets, efficient and attractive. Permits listening while being addressed by others. Concealed terminals. Diaphragm 1 3/8". Bakelite case and caps. Alnico magnet, double coils. 4 1/2 ft. cord. Spring steel headband permanently attached.

AM-15-1—1000 ohms D.C.....	Net \$1.41
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## THE "MASTER"

**Cannon-Ball Headset**

Used extensively in hospitals and other institutions as well as for general purposes, and is especially recommended for institutions. Inside terminals Aluminum cases with black bakelite caps. Spring steel adjustable headband with no removable parts. Diaphragm 2 1/8" diameter. Double coils. Chrome steel magnets. 4 1/2 ft. cotton-covered cord.

MC-2—2000 ohms D.C.....	Net \$2.97
MC-3—3000 ohms D.C.....	Net 3.18
MC-5—5000 ohms D.C.....	Net 3.69

## CANNON-BALL "EMPIRE"

**Lightweight Headset**

A low-priced light-weight headset with large magnet and double coils. Reproduces with clarity and good volume. Diameter of diaphragm is 1 3/8". Polished aluminum cases with bakelite caps. Steel adjustable headband. 4 1/2 ft. cord. Inside terminal connections.

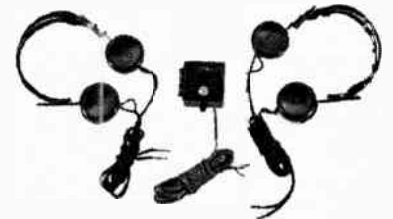
EC-2—2000 ohms D.C.....	Net \$2.67
EC-3—3000 ohms D.C.....	Net 2.82

## THE "DIXIE"

**Cannon-Ball Headset**

The "Dixie" is of the same general construction as the "Master" headset except that the terminals are on the outside. Bakelite case Alnico magnets.

CD-2—2000 ohms D.C.....	Net \$2.73
CD-3—3000 ohms D.C.....	Net 2.88



**CANNON-BALL HEARING AID**  
**FOR TELEVISION**

Provides private listening without disturbing others. Excellent for persons hard of hearing. Can be attached to any television set and permits listening to phones alone, speaker alone, or both together.

### FOR TELEVISION

Kit complete with 15 foot cord and phone volume control.

With 2 headsets.....	Net \$10.50
With 1 headset.....	Net 7.95

## MOLDED RUBBER CUSHIONS

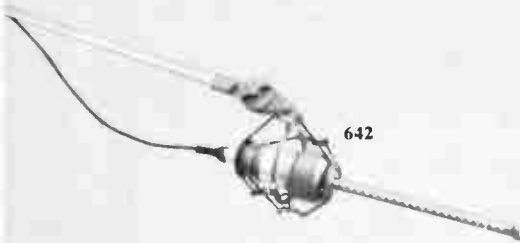


Fit standard size headsets. Molded-in air chamber provides maximum wearing comfort.

per pair.....	Net \$ .60
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Phones can be supplied with any resistance required or with variations to meet special requirements.

Sanitary plastic covered cords available for institutional use. Write for special quotation.



642

**PROFESSIONAL BROADCAST AND RECORDING MICROPHONES—DYNAMICS**

**Cardiline® Unidirectional Microphones**

**MODEL 642**—A highly directional dynamic microphone combining the best characteristics of cardioid and distributed front-opening designs. Essentially cardioid unidirectional up to 500 Hz; highly directional over balance of range. Working distance is 2 to 3 (or more) times that of conventional types. Excellent for boom use with Model 356 shock mount. Minimum mechanical shock transfer and wind noise interference. Response: Flat from 40 to 10,000 Hz or choice of 5 or 10 db low frequency reduction steps by screwdriver adjustment. Acoustalloy® diaphragm. Impedance: 50, 150 and 250 ohms, externally adjustable. Output level: —48 db. Cast aluminum case with non-reflecting gray finish. Supplied with Cannon UA-3-14 connector. 20' 3-conductor shielded broadcast cable and UA-3-11 Cannon connector. Length, 17<sup>3</sup>/<sub>16</sub>" ; max. diameter, 3<sup>3</sup>/<sub>16</sub>". Must be used with Model 356 or 327. Net weight, 3 lbs., 4 oz.

**Net — \$234.00**

**MODEL 643** — A highly directional dynamic microphone combining the best characteristics of cardioid and distributed front-opening principle, for more specialized and extended long-range pickup. Provides cardioid pickup pattern to 100 Hz and is highly directional over balance of range. Includes integral 3-position switch for selecting flat response or one of two bass tilt-down positions. Integral 100 Hz cutoff filter. Impedance: 50, 150, or 250 ohms, selected by changing internal connector pin. Light weight extruded and cast aluminum case with integral shock mount and removable wind filter. Output: —48 db. Response: 30 to 10,000 Hz. Length, 7<sup>7</sup>/<sub>16</sub>". Maximum diameter, 4". Cannon UA-3-14 and UA-3-11 connectors. Supplied with 20' cable and storage case. Fits 5/8"-27 pipe threads. Net weight, 12 lbs.

**Net — \$936.00**

**Cardioid Unidirectional Microphones**

**MODEL RE15 SUPER CARDIOID** — New, for exacting professional applications. Super-cardioid directional pattern provides maximum rejection at 150° off axis, maintains essential cardioid pattern at other positions. Response virtually identical at any position around microphone, eliminating off-axis coloration. With

\*U.S. Patent No. 3,095,084



668 / 667A

"bass tilt" switch. Rugged case and inner construction. Non-reflecting matte satin nickel finish. Response: 60 to 15,000 Hz. Impedance: Lo-Z. Output: —55 db. 18' 2-conductor shielded broadcast cable with Cannon X1.R3-11 connector. 6<sup>7</sup>/<sub>16</sub>" L. 1<sup>3</sup>/<sub>8</sub>" Dia., (Shank 3/4" Dia.). With metal case and 310 clamp. Net weight, 8 oz.

**Net — \$153.00**

**MODEL 666 CARDIOID** — A Variable-D<sup>3</sup> microphone† for high discrimination against sounds from back. Permits close talking without bass accentuation. Working distance increased by 1.7:1 over pressure microphones. Single moving element is exclusive, rugged Acoustalloy® diaphragm. Response: 40 to 15,000 Hz. Output: —58 db. Internal connector pin impedance change. Wired for 150 ohms; taps at 50 and 250 ohms. Non-reflecting gray finished aluminum case. Built-in Cannon UA-3 connector. Model 300 stand mount with 5/8"-27 thread and 20' cable furnished. Length, 7<sup>3</sup>/<sub>4</sub>". Diameter, 1<sup>3</sup>/<sub>4</sub>" (Shank 1" dia.)

**Net — \$153.00**

**MODEL 666R RISING RESPONSE CARDIOID**—Like Model 666, but with response which rises 4<sup>1</sup>/<sub>2</sub> db from 100 to 1,000 Hz, reducing pickup of low-frequency reverberations, room "rumble" and prop noise. Particularly suited to boom use. Output: —58 db.

**Net — \$153.00**

**MODEL 665 CARDIOID**—Similar in design and function to the Model 666, but for less exacting applications. Uniform response 70 to 13,000 Hz. Recessed switch in stud provides 50 or 250 ohms. Pressure-cast zinc case. Non-reflecting gray finish. Diameter, 1<sup>7</sup>/<sub>8</sub>"; length 7<sup>3</sup>/<sub>16</sub>"; 18' cable. Fits 5/8"-27 threaded stand.

**Net — \$90.00**

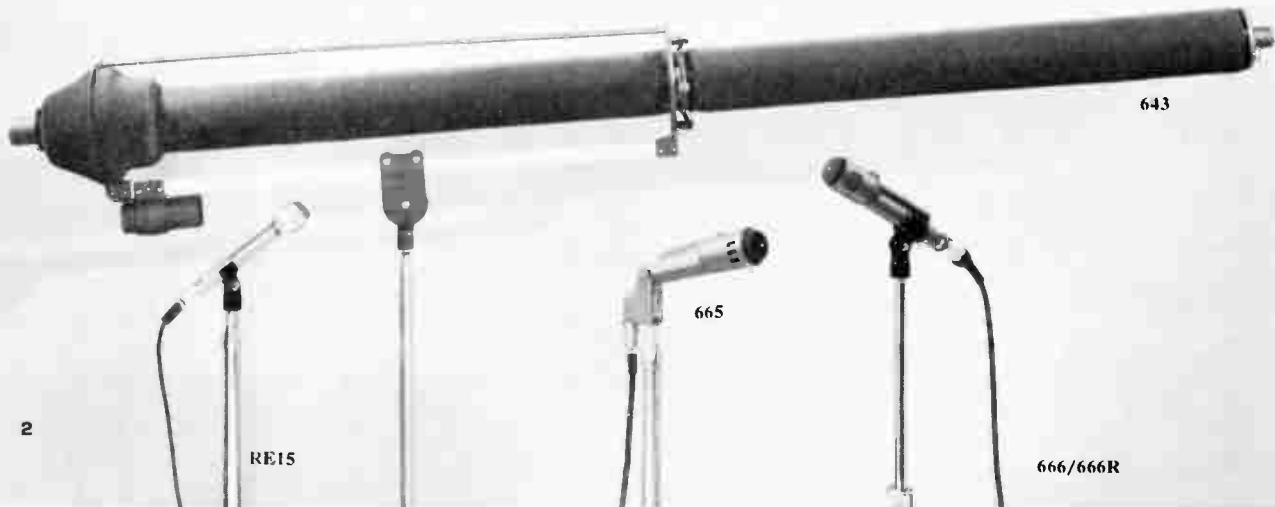
**MODEL 668** — Entirely new Continuously Variable-D<sup>3</sup> cardioid‡ designed specifically for boom use in broadcasting and recording. Extremely smooth cardioid pattern for maximum reduction of ambient noise and reverberation. Integral wind-screen eliminates noise caused by motion of boom-mounted microphone through the air. Built-in equalizer provides choice of 36 response variations. Acoustalloy® diaphragm. Response: 40 to 10,000 Hz. Output: —51 db. Internal impedance selector permits 50, 150 or 250 ohm connection. Non-reflecting gray finished aluminum case. Two-foot mechanical isolation cable and twenty-foot three-conductor shielded broadcast type cable included. Supplied complete with shock isolating boom mount. Length: 9<sup>5</sup>/<sub>8</sub>". Diameter, 3<sup>1</sup>/<sub>4</sub>". Net weight, 1 lb. 11 oz.

**Net — \$297.00**

**MODEL 667A** — Identical to Model 668 except incorporates selection of six different response curves.

**Net — \$207.00**

†U.S. Patent No. 3,115,207



643

665

666/666R

RE15



### Omnidirectional Microphones

**MODEL 655C SLIM-TRIM TV DYNAMIC**—Frequency response, 40 to 20,000 Hz. Output level, —57db. Excellent level affords high signal-to-noise ratio. Can be used on stand, in hand or on boom. Easily concealed in studio props. Acoustalloy® diaphragm. Pop-proof grille. Impedance: 50, 150 and 250 ohms. Impedance easily changed. Non-reflecting gray finish. Cannon UA-3 connector. Model 300 clamp-on stand mount included, has  $\frac{3}{8}$ "-27 thread. Length,  $10\frac{3}{4}$ " less connector. Diameter,  $1\frac{1}{8}$ ". 20' cable. Net weight, 7 oz. **Net — \$120.00**

**MODEL 654A SLIM-TRIM BROADCAST DYNAMIC**—Frequency Response, 50 to 15,000 Hz. Output level: —57 db. Can be used stand-mounted, hand-held or as lavalier. Matches all low impedance inputs. Built-in Cannon XLR-3 connector. Acoustalloy® diaphragm. 18' cable. Length,  $6\frac{1}{8}$ ". Diameter,  $1\frac{1}{8}$ ". Non-reflecting gray finish. Net weight, 7 oz. Supplied with Model 300 clamp and lavalier neck cord. **Net — \$60.00**

**MODEL 635A BROADCAST DYNAMIC** — Completely redesigned and improved omni-directional microphone, perfect for hand and stand use by entertainers and vocalists. Light weight turned steel case is extremely rugged and provides magnetic shielding. Finished in non-reflecting matte satin nickel. Effective four-stage pop and dust filter virtually eliminates need for external wind screen. Response: 80 to 13,000 Hz (rising). Output, —55 db. Acoustalloy® diaphragm. Low impedance. Cannon XL-3 connector. 2-conductor, 18' cable. Supplied with model 310 clamp and lavalier neck cord assembly. Microphone size:  $6\frac{1}{2}$ " l. x  $1\frac{3}{8}$ " diameter (head),  $\frac{3}{4}$ " shank diameter. Net weight, 6 oz. **Net — \$49.20**

**MODEL 649B MINIATURE LAVALIER**—Smallest dynamic lavalier—weighs only 31 grams without cable; length,  $2\frac{1}{4}$ "; diameter,  $\frac{3}{4}$ ". Ideal for programming where unobtrusive or concealed microphone placement is desirable. Frequency response: 70 to 10,000 Hz (rising). Output: —61 db. Acoustalloy® diaphragm. Omnidirectional. Matches all low impedance inputs. 30' shielded cable. Aluminum case finished in non-reflecting gray. Complete with neck cord, belt clip, model 310 stand mounting clamp, and suede pouch. **Net — \$63.00**

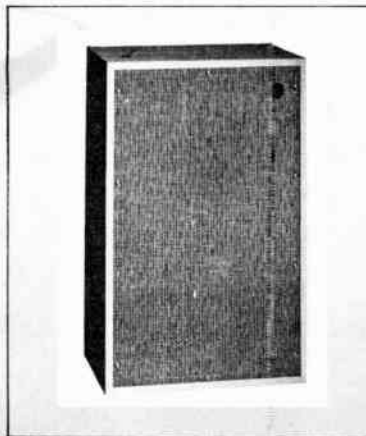
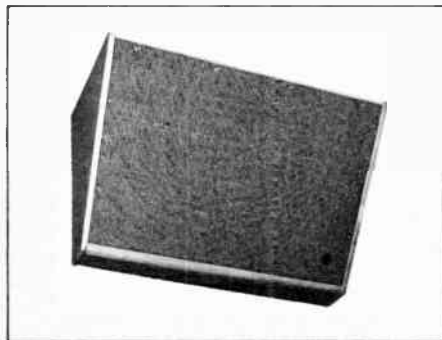
### Sentry Series Studio Monitor Speaker Systems

**SENTRY I WALL OR CEILING MODEL** — The first loudspeaker system designed specifically for monitor use in recording and broadcast studios. Permits precise monitoring and equalization uncolored by monitor speaker. Extremely wide, flat response allows use as studio reference standard. Precision driver components include 12" Radax™ loudspeaker, Diffraction Horn high frequency driver and special crossover. Provides smooth frequency response from 30 to 20,000 Hz. Internal matching transformer accommodates 16, 150, and 600-ohm amplifier impedances. Quality hardwood cabinet, smooth sanded and sealed, ready for finishing in your choice of colors if desired. Neutral cane grille cloth. Dimensions:  $21\frac{1}{2}$ " h.  $37"$  w. x  $16\frac{1}{8}"$  d. Net weight, 82 lbs. **Net — \$165.00**

**SENTRY II FLOOR MODEL** — Same specifications as those shown for Sentry I. Finished on all four sides to permit vertical or horizontal mounting. Includes protective metal trunk-type corners which may be attached for portable applications. Dimensions:  $32"$  x  $20"$  x  $13"$  deep. Net Wt. 63 lbs. **Net — \$174.00**



SENTRY I



SENTRY II



## GENERAL PURPOSE MICROPHONES

### Cardioid Unidirectional Dynamic Microphones

**NEW MODEL 674 CARDIOID DYNAMIC**—Radically new design brings truly professional quality to public address, recording, communications, and other general purpose microphone applications. An exclusive Continuously Variable-D<sup>®</sup> microphone† which assures uniform symmetrical cardioid pattern at all frequencies. Frequency response 60 to 15,000 Hz. Highest discrimination against feedback and unwanted sound. Exclusive three position switch offers controlled low-frequency attenuation to overcome rumble and feedback when microphone is used at a distance. Stud-mount for use on floor or desk stand with 5/8"-27 threads. Incorporates on/off switch. Slim design permits full view of person speaking. Rugged high pressure die-cast construction. Acoustalloy<sup>®</sup> diaphragm. Dual Lo-Z and Hi-Z. New E-V QC<sup>™</sup>-4M cable connector allows easy change of impedance without tools by moving a single pin. Output—57 db. Satin chrome finish. 15' cable. Size: 7 3/8" l. x 1 1/4" dia. (not including stud). **Net — \$60.00**

**MODEL 674A**—Non-reflecting Gray finish. Shipped wired for Lo-Z. **Net — \$60.00**

**MODEL 674G**—Gold finish. **Net — \$66.00**

**MODEL 676 CARDIOID DYNAMIC**—Similar to 674 microphone, above, except less mounting stud and on/off switch. For use with stand mounting clamp (Model 300 supplied) so microphone can easily be removed and used hand-held during performance. Response 60 to 15,000 Hz. with low-frequency attenuation switch. Output—57 db. Dual Lo-Z and Hi-Z. New E-V QC<sup>™</sup>-4M cable connector allows easy change of impedance without tools by moving a single pin. Satin chrome finish. 15' cable. Size: 7 3/8" l. x 1 1/4" dia. (Shank 1" dia.) Net weight, 12 oz.

**MODEL 676A**—Non-reflecting Gray finish. Shipped wired for Lo-Z. **Net — \$60.00**

**MODEL 676G**—Gold finish. **Net — \$66.00**

**MODEL 664 CARDIOID DYNAMIC**—Similar to Model 666 in function, but designed for quality tape recording, communications, and public address applications. Cardioid pattern at all

frequencies, with Variable-D<sup>®</sup> feature†. Permits close talking without "booming" or bass accentuation. Provides better discrimination against unwanted sound. Blast filter minimizes wind effect. Acoustalloy<sup>®</sup> diaphragm shielded from dust and magnetic particles. Response 60-15,000 Hz. Output—58 db. On-off switch. Dual Lo-Z and Hi-Z. New E-V QC<sup>™</sup>-4M cable connector allows easy change of impedance without tools by moving a single pin. Pressure-cast case. Chrome finish. 15' cable. Size: 7 1/4" l., less connector: 1 3/8" dia. Net weight, 1 lb. 10 oz.

**Net — \$51.00**

**MODEL 664A**—Non-reflecting Gray finish. Shipped wired for Lo-Z. **Net — \$51.00**

**MODEL 664G**—Gold finish. **Net — \$54.00**

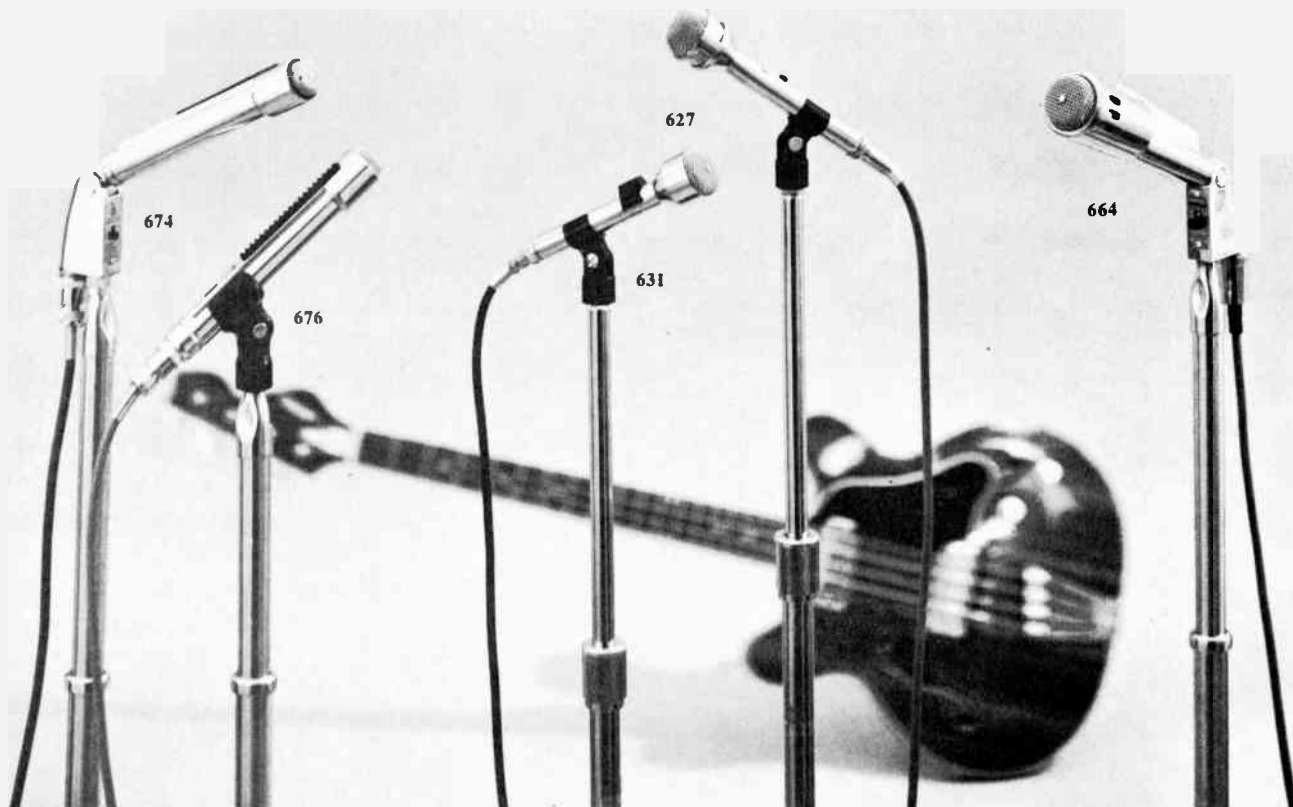
**MODEL 627 "HAND-AND-STAND" CARDIOID DYNAMIC**—"Single-D" entertainer's microphone which emphasizes low-frequencies when used "close up". Lightweight, rugged construction, with built-in pop and dust filter. Smooth, peak-free response, shaped for presence. With on/off switch. Satin chrome finish. Response: 80-11,000 Hz. Output:—58 db. Hi-Z or Lo-Z must be specified. With cable and 310 stand clamp. Size: 6 7/16" l. x 1 5/8" head dia., 3/4" shank dia. Net wt., 6 oz. **Net — \$36.00**

**MODEL 627N**—Same as 627 with matte satin nickel finish. **Net — \$36.00**

### Unidirectional Line Microphone

**MODEL 644 SOUND SPOT<sup>®</sup>**—A combination cardioid and distributed front opening<sup>®</sup> instrument, making it the most directional P.A. microphone available. Better than 2 1/2 times working distance of pressure types with virtually no change in response. Extremely high rejection of noise from sides and rear, reducing reverberation and feedback. Narrow front angle of acceptance for best isolation. Very low response to wind noise and shock. Response smooth from 40 to 10,000 Hz. Output—53 db. Dual Lo-Z and Hi-Z selected by moving one wire in cable connector. High pressure die-cast zinc case, satin chrome finish. 3/4" dia. aluminum tube. Head dia. 2 5/16", length 16". Cable 15'. Net Wt. 2 lbs. 9 oz. **Net — \$66.00**

\*U.S. Patent No. 3,095,084 †U.S. Patent No. 3,115,207



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664

**Omnidirectional Dynamic Microphones**

**MODEL 631 "HAND AND STAND" DYNAMIC** — High quality entertainer's microphone. Omnidirectional. Lightweight, rugged, and shockproof. Effective 4-stage filter allows use close up without blasting, pops, or distortion. Silent, magnetic on/off switch with removable actuator button. Satin chrome one piece case. Response: 80-13,000 Hz. Output: —55 db. Hi-Z or Lo-Z must be specified. With cable and 310 stand clamp. Size: 6" l. x 1 3/8" head dia., 3/4" shank dia. Net wt., 6 oz. **Net — \$36.00**

**MODEL 631N** — Same as 631 with matte satin nickel finish. **Net — \$36.00**

**MODEL 636 "SLIMAIR" DYNAMIC**—Exceptionally fine for PA, recording and general use. Response 60-13,000 Hz. Output —58 db. Pop-proof head. Wide pickup range. On-Off switch. Satin chrome finish. Tilttable head, 3/8"-27 thread. Dual Hi-Z or Lo-Z selected by changing one wire in connector. 15' cable. Length: 10 1/4" including stud. 1 1/2" maximum diameter. Net weight, 15 oz. **Net — \$43.50**

**MODEL 636G**—Gold finish. **Net — \$46.50**

**MODEL 630 HIGH FIDELITY, HIGH-OUTPUT DYNAMIC**—Famous for quality at low cost. Response 60-11,000 Hz; output level—55 db. Unaffected by heat or humidity. Acoustalloy® diaphragm. Tilttable head. Built-in MC-3 connector. On-Off switch. Satin chrome finish. Available in Hi-Z or balanced Lo-Z, must be specified. Size: 6 1/4" h. x 2" dia. 15' cable. Net weight, 1 lb. **Net — \$31.50**

**MODEL 623 SLIM DYNAMIC**—Ideal for PA, recording and general use. Use on stand or in hand. Omnidirectional. Response 60-12,000 Hz; output level —56 db. Acoustalloy® diaphragm. Dual Hi-Z or Lo-Z selected by changing one wire in connector. Pressure-cast case, satin chrome finish. Tilttable head. On-off switch, 5/8"-27 thread. Size: 7 1/2" l. x 1 3/16" dia. 15' cable. Net weight, 15 oz. **Net — \$34.20**

**MODEL 611 "MERCURY" DYNAMIC**—Traditional styling, fine performance for general sound pickup. Response 50-9000 Hz; output level —55 db. Omnidirectional. Acoustalloy® diaphragm. Tilttable head. On-Off Switch. Built-in MC-3 connector. 5/8"-27 thread. Satin chrome finish. Available in Hi-Z or balanced Lo-Z, must be specified. 15' cable. Size: 2 3/4" w. x 6 3/4" h. x 2 3/4" d. Net weight 1 lb. 4 oz. **Net — \$27.00**

(Also see Page 6)

**Dynamic Lavalier Microphones**

**MODEL 647A DYNAMIC LAVALIER**—Smallest high quality microphone in the entire public address field delivers big microphone performance. Extremely rugged dynamic construction

assures long life. Frequency response, 70 to 10,000 Hz. Acoustalloy® diaphragm. Hi-Z or balanced Lo-Z, must be specified. Output: —60 db. Non-reflecting gray finish. 18' cable. Complete with neck cord, clip, and stand mounting clamp. Size: 3 3/4" l. x 3/4" dia. Net weight, 2 oz. **Net — \$49.50**

**MODEL 624 DYNAMIC LAVALIER**—Most economical dynamic lavalier on the market. For chest or hand use. Supplied with neck cord, support clip and 18' cable. Non-reflecting gray finish. Wire mesh head acoustically treated for wind and moisture protection. Output —56 db, response 100-7,000 Hz. Acoustalloy® diaphragm. Available in Hi-Z or Lo-Z (not balanced to ground), must be specified. Cable has integral strain relief. Size: 3 3/8" l. x 1 1/4" dia. Net weight, 14 oz. **Net — \$27.00**

**Crystal Microphones**

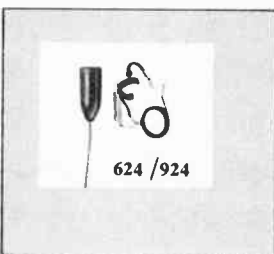
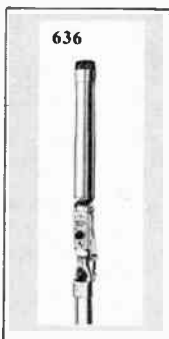
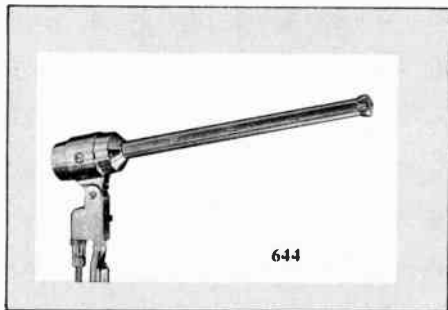
**MODEL 951 CARDIOID CRYSTAL**—A Variable-D\* microphone† like E-V's BC-TV cardioids, obtains uniform directivity at all frequencies, high discrimination against unwanted sound. The 951 is an excellent wide-range, all-purpose PA microphone for a great variety of acoustic conditions, and especially useful where background noise and reverberation are a problem. Response 50-11,000 Hz. Output —55 db. Hi-Z. On-Off switch. Pressure-cast case. Non-reflecting gray finish. 15' cable. MC-1 connector. 5 3/8" l. (excluding stud), 1 3/4" dia. overall. Net wt., less cable, 1 1/4 lbs. **Net — \$32.70**

**MODEL 911 CRYSTAL**—Same smart design and fine performance as Model 611. Response 50-10,000 Hz. Output —50 db. Metal Seal Crystal. MC-1 connector. Hi-Z. 15' cable. Net weight 1 1/2 lbs. **Net — \$22.50**

**MODEL 920 "SPHEREX" CRYSTAL**—Omnidirectional pickup. Response 60-10,000 Hz; output level —50 db. Strong wire-mesh head acoustically treated for wind and moisture protection. High capacity, moisture sealed crystal. Hi-Z. AC-DC insulated (case not grounded). Satin chrome. 5/8"-27 thread. Diam. 2 1/4". 15' cable. Net Weight 8 oz. **Net — \$16.50**

**MODEL 924 LAVALIER CRYSTAL**—Unique crystal lavalier for chest or hand use. Supplied with neck cord, support clip and 18' cable. Satin Chrome. Wire mesh head acoustically treated for wind and moisture protection. Output—60 db. Response 60-8,000 Hz. Hi-Z. 3 3/8" l. x 1 1/8" dia. Cable has integral strain relief. Net weight 8 oz. **Net — \$14.10**

**MODEL 805 CONTACT**—For guitar, banjo, other stringed instruments. Hi-Z. Sealed crystal. Chrome finish. 15' cable. **Net — \$12.00**



†U.S. Patent No. 3,115,207

**COMMUNICATIONS MICROPHONES—  
PAGING AND TWO-WAY**



**Transistorized Compressor Microphone**

**MODEL 619TR TRANSISTORIZED COMPRESSOR DYNAMIC**—Unique base-station microphone with built-in transistor amplifier and speech compressor. Increases gain and provides maximum average output level (P.E.P.). Separate controls for gain and compression. Invaluable for ham, c.b., business radio or paging under difficult conditions. Rugged die-cast stand in nonreflecting gray and chrome plated die-cast head. Grip-to-talk switch in stand riser, compression meter in base. Switch completes battery circuit in "on" position and provides for relay operation. Response: 150-10,000 Hz. Output: —40 db at or above compression threshold (maximum). Hi-Z. Coiled cord cable extends to 5'. Size: 4½" w. x 9¾" h. x 4¾" d. Net wt., 2 lbs. **Net — \$39.90**

**Dynamic Base Station Microphones**

**MODEL 619**—Similar to 619TR less amplifier and compressor. Press-to-talk switch located in base may be moved into upper part of stand for grip-to-talk use. Switch shorts microphone in "off" position and provides for relay operation. Response: 70-10,000 Hz. Output: —57 db. Hi-Z or balanced Lo-Z must be specified. Cable: 15' (Lo-Z). 6½" (Hi-Z). **Net — \$28.50**

**MODEL 619KK**—Same as 619 with coiled cord cable, extends to 5'. Hi-Z only. **Net — \$28.50**

**MODEL 606 DIFFERENTIAL DYNAMIC**—Close talking, noise cancelling. Accepts sounds of close origin (¼") and rejects sounds of distant origin. Response: 100 to 5,000 Hz. Output at ¼": —55 db. Acoustalloy® diaphragm. 5/8"-27 thread. Built-in connector. Satin Chrome finish. Size: 3¼" h. including stud x 2" dia. Hi-Z or balanced Lo-Z. must be specified. 15' cable. Net weight, 8 oz. less cable. **Net — \$31.50**

**Dynamic Paging Microphones**

**MODEL 641**—Modern two-tone design dynamic microphone. High output level, wide-range response. For public address, home recording, communications, electronic teaching aids, paging systems. Integral On-Off switch, wide frequency response. 70 to 10,000 Hz. Output —57 db. 15 foot cable. Case is chrome plated die-cast zinc and gray high impact plastic. Standard 5/8"-27 stand connector. Available in Hi-Z or balanced Lo-Z. must be specified. Size: 4½" l. x 1¾" dia., not including stud. Net weight, 8 oz. less cable. **Net — \$23.70**

**MODEL 634A**—Similar to Model 641 (above) except furnished without stand mounting stud or on-off switch. Fits any stand, boom or gooseneck with complete cable concealment. Ideal for desk mounting on electronic teaching aids, amateur and commercial communications and switchboard mounting for paging systems. 6 foot cable and standard 5/8"-27 threads in rear of case. Hi-Z or balanced Lo-Z. must be specified. Size: 4" l. x 1¾" dia. Net weight, 8 oz. **Net — \$18.00**

**MODEL 648 TALKBACK MICROPHONE**—Extremely versatile paging, intercom, or talk-back microphone. Omnidirectional. Acoustalloy® diaphragm. Non-reflecting gray. Does not include cable. Response: 50-10,000 Hz. Output: —58 db. Hi-Z or Lo-Z. must be specified. Size: 6" l. x 1" dia., including 5/8"-27 thread adapter. Net weight, 8½ oz. **Net — \$33.60**

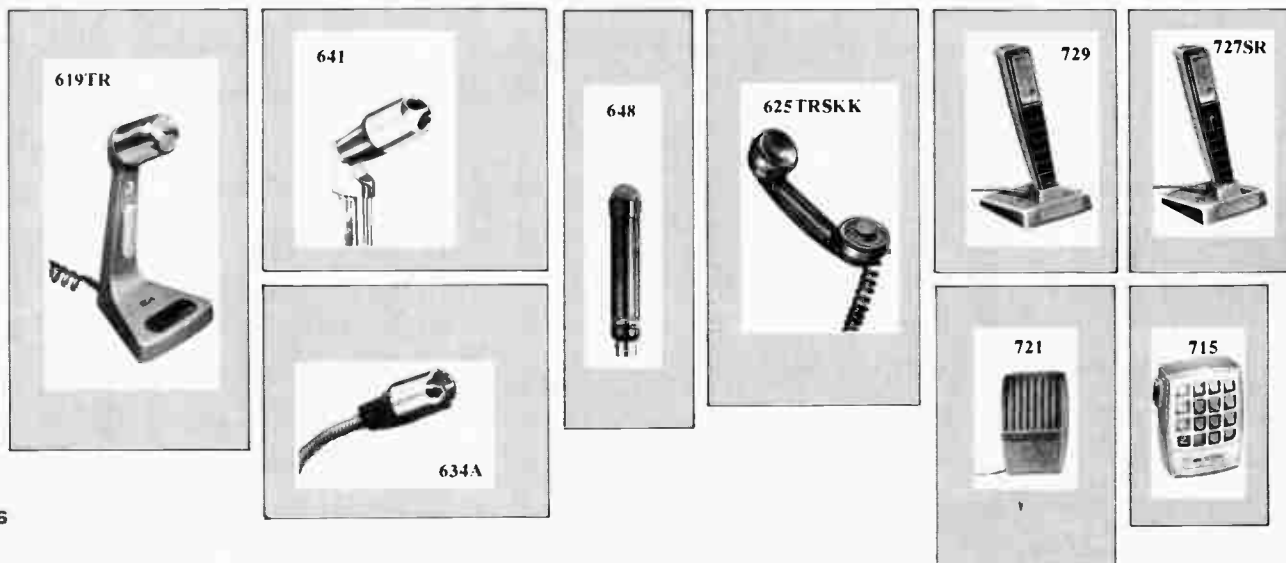
**Dynamic Transistorized Hand-held Microphones**

**MODEL 603TR TRANSISTORIZED NOISE CANCELLING MOBILE**—Developed especially for aircraft applications, the 603TR is a superior, highly reliable microphone providing all dynamic advantages for direct replacement of carbon units. Rejects sounds originating more than ¼" away for elimination of high ambient background noise. Built-in transistor amplifier with 48 db. gain matches output level of carbon circuits. Output adjustable with internal potentiometer up to —44 db. (carbon equiv.). Magnetic hanger bracket furnished, holds face of microphone. Acoustalloy® diaphragm. Response: 200-4,000 Hz. Coiled cord extends to 5'. Press-to-talk switch shorts microphone in "off" position and provides relay control. Lo-Z. Size: 2¼" w. x 3¾" h. x 1¾" d. FAA approved. Net weight, 8 oz. **Net — \$84.00**

**MODEL 602TR**—Similar to 603TR with different case design, uses conventional hanger which is supplied. Fixed output level, —48 db. (carbon equiv.). Response: 100-5,000 Hz. Size: 2¾" w. x 4" h. x 2" d. Net weight, 13 oz. FAA approved. **Net — \$55.80**

**MODEL 602FTR TRANSISTORIZED NOISE CANCELLING DYNAMIC MOBILE MICROPHONE**—Built-in transistor amplifier provides level for direct replacement of carbon units. Close-talking, superior rejection of unwanted background noise. Output: at ¼ inch —50 db (carbon equiv.) Response: 200-5,000 Hz. High impact, rugged Cycloac case, communications gray. Press-to-talk switch energizes battery circuit and closes relay circuit. Coiled cord extends to 5'. Lo-Z. Size: 2½" w. x 4" h. x 1¾" d. Net wt., 14 oz. **Net — \$39.00**

**MODEL 625TRSKK TRANSISTORIZED NOISE CANCELLING HANDSET**—For intercom and communications on aircraft or other applications demanding rejection of high-level background noise. No changes required in carbon circuits. Sturdy phenolic case contains dynamic differential Lo-Z microphone and 150 ohm magnetic receiver. Two-stage transistor amplifier has gain of 35 db with low distortion, smooth response, and high reliability. Output —48 db (carbon equiv.). Response: 100-5,000 Hz. DPST grip-to-talk switch closes microphone and relay circuits. Five-conductor coiled cord extends to 5'. Size: 2½" w. x 8½" l. x 3" d. Net Weight 1 lb. 8 oz. FAA approved. **Net — \$73.50**





### Dynamic Hand-held Microphones

**MODEL 602F NOISE CANCELLING DYNAMIC**—Similar to 602FTR but less transistor amplifier, for circuits designed for dynamic microphones. Output: —55 db. Switch shorts microphone in off position and closes relay contacts in "on". Hi-Z or balanced Lo-Z must be specified. Net wt., 10 oz. **Net — \$34.50**

**MODEL 600E DYNAMIC MOBILE MIKE**—Reliability factors have been improved over all previous designs. High-impact Cyclocac case and rugged dynamic construction assure protection against shock damage. Easy-action switch provides years of use. Lo-Z model provides "open circuit" switch wiring for multiple paging installation. Hi-Z provides "straight-through" circuit for VOX operation. In both models switch also closes relay circuit when depressed. High output level —55 db. Response 100 to 7,000 Hz specifically matched to high intelligibility requirements. Size: 2½" w. x 4" h. x 1½" d. Color, communications gray. Shielded coiled cord extends to 5'. Complete with hang-up bracket. Hi-Z or balanced Lo-Z, must be specified. Net weight, 10 oz. **Net — \$23.40**

**MODEL 625SKK DIFFERENTIAL HANDSET**—Same as 625TRSKK without transistor amplifier. For paging, intercom, and communications where reduction in background noise is essential. Output —55 db. **Net — \$51.00**

### Carbon Hand-held Microphones

**MODEL 205STCKK Differential Carbon**—Close-talking, noise-cancelling, single button carbon. For aircraft and emergency communications. FAA approved—Certificate No. 1040. Blastproof, waterproof and shock resistant. Output at ¼": —50 db. Lo-Z. Black phenolic case. Press-to-talk switch closes microphone and relay circuit. Mounting bracket furnished. Coiled cord extends to 5'. Size: 2¼" w. x 4" h. x 2" d. Net weight 12 oz. **Net — \$30.00**

**MODEL 205STCKKP**—Same as above with PJ-068 plug. **Net — \$32.85**

**MODEL 210E CARBON**—Similar to 600E but single-button carbon. Output —50 db. Lo-Z. Press-to-talk switch closes microphone and relay circuit. Coiled cord extends to 5'. **Net — \$21.00**

### Ceramic Base Station Microphones

**MODEL 719 "PRESS-TO-TALK" CERAMIC**—Versatile, modest cost base-station microphone for any communications or paging work. Integral stand and head are both die cast, non-reflecting gray and chrome plated, respectively. Switch may be used for press-to-talk in base, or moved to upper part of stand for grip-to-talk use. Switch shorts microphone in "off" position, allows relay operation or electronic switching. Hi-Z. Output: —58 db. Response: 70-7,000 Hz. 4' cable. Size: 4¾" w. x 9" h. x 4¾" d. Net weight, 2 lbs. 2 oz. **Net — \$16.50**

**MODEL 719KK**—Same as 719 with coiled cord cable, extends to 5'. **Net — \$16.50**

**MODEL 729 CERAMIC CARDIOID**—The Model 729 is the lowest priced cardioid ever built. Random noise, reverberation

and feedback reduced by a factor of 67%. Front pickup range nearly double that of pressure microphones. For public address, call and paging systems, home recorders, especially stereo, and general communications. Discrimination against sound from the rear makes the 729 excellent for amateur radio VOX operations. Tailored for single sideband. Output: —60 db. Response: 60 to 8,000 Hz. High impedance only. Metalustre gray front with medium gray back. 8½' cable. Attractive desk stand and floor stand adapter supplied. Size: 1½" w. x 8¼" h. x 1¾" d. Net weight, 9 oz. less cable and stand. **Net — \$14.70**

**MODEL 729SR**—With relay control switch. **Net — \$15.90**

**MODEL 727 SLIM OMNIDIRECTIONAL CERAMIC**—A new approach to the design of ceramic microphones for communications, PA, recording and general use; similar in appearance to Model 729. Withstands extremes of temperature and humidity. Response 60-8,000 Hz. Output —55 db. High impedance only. 8½' cable. Metalustre gray front with medium gray back. Supplied with attractive desk stand and floor stand adapter. Size: 1½" w. x 7¾" h. x 1¾" d. Net weight, 9 oz. less cable and stand. **Net — \$12.00**

**MODEL 727SR**—With relay control switch. **Net — \$14.10**

### Ceramic Hand-held Microphones

**MODEL 714**—A high output, ceramic hand-held communications microphone for paging, ham radio, and Citizens Band use. Molded, tough, gray Cyclocac case, usually found only in most expensive mobile microphones, assures long life and protection from accidental shock damage. Response tailored for maximum intelligibility. High level, high impedance output —55 db over range of 100 to 7,000 Hz. DPDT switch shorts microphone in "off" position and closes relay circuit in "on" position, may be used for electronic switching. 3-conductor coiled cord extends to 5'. Size: 2½" w. x 3¾" h. x 1½" d. Net weight, 8 oz. including cable. Complete with hang-up bracket. **Net — \$9.90**

**MODEL 717**—Similar to Model 714 above except close talking cardioid pickup pattern for rejection of unwanted background noise and feed-back. Specially designed ceramic element with apertures on either side of diaphragm provides effective attenuation of sounds arriving from the rear and sides. Output level —55 db. Frequency response 100 to 7,000 Hz. **Net — \$11.70**

### Low-cost Ceramic Microphones

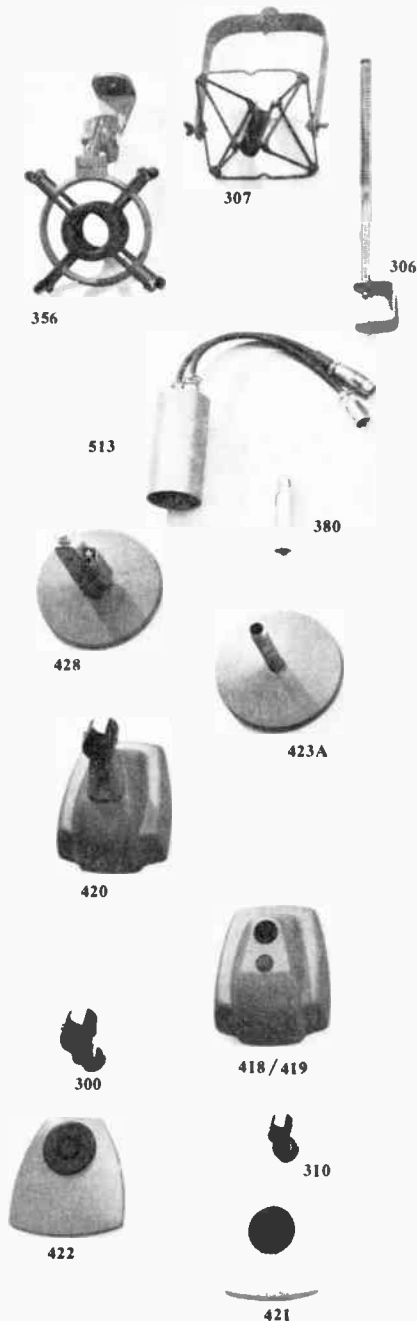
**MODEL 715 "CENTURY" CERAMIC**—Use in any position—in hand, on table, on stand or overhead. Ceramic element. 60-7,000 Hz; output —55 db. Hi-Z. 5' cable. Omnidirectional. Non-reflecting gray finish. Rugged, lightweight. AC-DC insulated. With ⅝"-27 adapter. Size: 2¼" w. x 3" h. x 1" d. Net weight, 6 oz. **Net — \$8.85**

**MODEL 721 CERAMIC**—New amazingly inexpensive microphone featuring high output level and light weight for recording, experimenting, and general use. High impact gray plastic case. Use handheld or with integral fold-out stand. Response 100-5,000 Hz. Output: —52 db. Hi-Z. 5' cable. Size: 2¼" w., 3¾" h., 1" d. Net Weight: 3 oz. **Net — \$3.90**





## MICROPHONE ACCESSORIES



## Suspension Shock Mounts

**MODEL 307 SUSPENSION MOUNT** — Adapts any microphone with  $\frac{3}{4}$ " shank for boom use. Can also be stand mounted. Use with RE15, 635A, 627, 631, etc. **Net — \$20.00**

**MODEL 306 EXTENSION** — Use with 307. Length  $13\frac{7}{8}$ ". **Net — \$7.50**

**MODEL 356 SUSPENSION SHOCK MOUNT** — For use with Model 642 on boom or floor stand when no windscreen is used. **Net — \$30.00**

**MODEL 324 SHOCK MOUNT** — Suspension mount for Model 642 microphone. Will accept Model 326 windscreen. **Net — \$39.00**

## Windscreens

**MODEL 326 WINDSCREEN KIT** — Acoustifoam® windscreen for Model 642 microphone. Compatible with Model 324 Shock mount. **Net — \$27.00**

**MODEL 327 WINDSCREEN PACKAGE** — Consists of 324 shock mount and 326 windscreen, for use with Model 642 microphone. Fabricated of Acoustifoam®, eliminates "blast" caused by fast panning of boom, or when used outdoors. Net weight, 1 lb., 8 oz. **Net — \$60.00**

**MODEL 335A WINDSCREEN** — Acoustifoam® windscreen fits 630, 641, 634 microphones. Net weight,  $\frac{1}{2}$  oz. **Net — \$7.50**

**MODEL 337 WINDSCREEN** — For use with 627 microphone. **Net — \$4.50**

**MODEL 355 WINDSCREEN** — Designed to reduce or eliminate wind noise, this windscreen is constructed of Electro-Voice Acoustifoam®, a material which will not alter frequency response or polar characteristics of microphone. Also protects against mechanical shock damage and pickup of dust and magnetic particles. For use with models 655C, 654A, 636, and 623. Size,  $9" \times 3\frac{3}{4}"$ . Net weight,  $\frac{1}{2}$  oz. Color: gray. **Net — \$6.60**

**MODEL 368 WINDSCREEN** — For 667A or 668 microphone. Fits over standard integral windscreen for outdoor use. **Net — \$54.00**

**MODEL 376 WINDSCREEN** — One piece Acoustifoam® sleeve for 676 and 674 microphones. Gray. Size:  $2\frac{1}{2}"$  dia. x  $6\frac{1}{2}"$  l. Net weight,  $\frac{1}{4}$  oz. **Net — \$9.00**

**MODEL 524A WINDSCREEN** — Designed specifically for use with Model 666 microphone. Minimizes wind effect on boom operation or when used outdoors. Made of Acoustifoam.® Net weight,  $\frac{1}{2}$  oz. **Net — \$7.20**

## Transformers and Filters

**MODEL 502B MATCHING TRANSFORMER** — Designed for use in series with mike line. Transformer windings have low distributed capacity and are amply shielded against inductive hum by a shield inside steel case. 150 ohm input (matches all Lo-Z microphones) to Hi-Z output. Broadcast fidelity — response 30-20,000 Hz  $\pm$  1 db. Size  $3\frac{3}{4}"$  long, 1" dia. **Net — \$9.90**

**MODEL 513 FILTER** — Designed for use with low impedance microphones, has switch to match 50, 150 or 250 ohms. When used in line between microphone and preamp., it rejects unwanted noise below 100 Hz. Terminals provided for cable connections. Size:  $5\frac{1}{2}"$  l. x  $2\frac{1}{4}"$  dia. Net weight, 1 lb. 10 oz. **Net — \$57.00**

**MODEL 380 ATTENUATOR** — Use in microphone line. attenuates signal 10 db. **Net — \$15.00**

## Clamps

**MODEL 300 DETACHABLE MICROPHONE CLAMP** — Light weight adapter fits any 1" to  $1\frac{1}{8}"$  dia. cylindrical microphone providing positive mounting to  $\frac{5}{8}"$ -27 desk or floor stand. **Net — \$4.50**

**MODEL 310 DETACHABLE MICROPHONE CLAMP** — Similar to Model 300 above, but designed for  $\frac{3}{4}"$  diameter microphones. **Net — \$3.60**

**MODEL 311 SNAP-IN CLAMP** — Similar to Model 310, but cut back for easy snap in, snap out of microphone **Net — \$3.60**

**MODEL 305 PIPE ADAPTER** — Permits mounting  $\frac{5}{8}"$ -27 threads on  $\frac{1}{2}"$  stand. **Net — \$1.50**

## Microphone Stands

**MODEL 418 DESK STAND** — Use with microphones having small-type stud such as Models 611, 623, 630, 641, 636, 674, 911, and 951. Die-cast base. Non-reflecting gray finish. **Net — \$7.80**

**MODEL 418S** — With switch. **Net — \$10.50**

**MODEL 419 DESK STAND** — Similar to Model 418 but for use with microphones using large-type stud such as Models 644, 664, and 665. **Net — \$7.80**

**MODEL 419S** — With switch. **Net — \$10.50**

**MODEL 419G** — Same as Model 419, except gold finish to match 664G microphone. **Net — \$9.75**

**MODEL 402 DESK STAND** — Heavy die-cast stand finished in non-reflecting gray. Specifically designed for use with E-V 666, 655C, 654A, 652, 652A, 676 or other microphones with 1" diameter. Clamp attachment for mounting 1" to  $1\frac{1}{8}"$  dia. cylindrical mikes, without tools. Base holds mike in position when subjected to ordinary strain. Net weight, 3 lbs. **Net — \$12.00**

**MODEL 420G** — Same as 420, except gold finish to match 676G microphone. **Net — \$15.75**

**MODEL 421 DESK STAND** — Small size stand for inconspicuous use. Reversible rubber shock mount accepts  $\frac{3}{4}"$  or 1" stand clamps. Size:  $3\frac{3}{4}"$  d. x  $3\frac{1}{2}"$  w. x  $\frac{7}{8}"$  h. Matte satin nickel finish. **Net — \$10.00**

**MODEL 422 DESK STAND** — Similar to 421, but slightly larger and heavier to accommodate heavier microphones. Size:  $4\frac{1}{2}"$  d. x  $4\frac{1}{4}"$  w. x  $\frac{7}{8}"$  h. **Net — \$10.00**

**MODEL 423A DESK STAND** — Sturdy  $5\frac{1}{4}"$  dia. round die-cast base with 5" riser. Non-reflecting gray. Resists firmly on rubber base buttons.  $\frac{5}{8}"$ -27 thread. Net weight, 1 lb. **Net — \$3.60**

**MODEL 428 TOUCH-TO-TALK STAND** — Fits standard  $\frac{5}{8}"$ -27 thread. Lever-type DPDT switch for relay operation or microphone On-Off — closes or opens instantly or locks in "talk" position. Non-reflecting gray; gray plastic switch lever with locking button. 7" high,  $5\frac{1}{4}"$  base diameter. Net weight,  $1\frac{3}{4}"$  lbs. **Net — \$18.00**

®Electro-Voice Trademark

## SOUND REINFORCEMENT LOUDSPEAKERS

**Multicellular Horn**

The Multicellular Horn's dispersion characteristics are virtually independent of frequency, making it ideal for sound reinforcement where precise dispersion and wide, smooth frequency response are required.

**MODEL M253**—Completely weatherproofed Multicellular Horn (less driver), for indoor or outdoor use. Dispersion is essentially uniform at all useful frequencies. (60° vertical, 120° horizontal). Utilizes two rows of five identical cells. Construction is steel, with cells jig assembled and covered with special black damping compound. Use with any E-V driver with 1 $\frac{3}{8}$ -18 threads. Low-frequency cutoff 300 Hz. Supplied with mounting hardware. Driver-throat built in. No special assembly required. Dimensions: 17 $\frac{1}{2}$ " h., 30 $\frac{1}{2}$ " w., 36 $\frac{1}{2}$ " d. Net weight 26 lbs.

Net — \$180.00

**Line Radiator™ Loudspeakers**

Three new, wide-angle speaker designs permit wide horizontal dispersion while almost eliminating sound output above or below speaker. Superb for voice-reinforcement systems. Unusually wide frequency range coverage.

**MODEL LR4A**—Curved design\* overcomes unwanted high-frequency dispersion at ends, eliminating echo and feedback. Contains nine 3" x 5" and three 3 $\frac{1}{2}$ " cone speakers. 160° horizontal dispersion; 60° vertical dispersion. Frequency response: 200–10,000 Hz. Power handling capacity: 25 watts program, 50 watts peak. Nominal impedance: 8 ohms. Size 49" h. x 7" w. x 13" d. Mesa tan finished wooden enclosure. Net weight, 26 lbs.

Net — \$120.00

**MODEL LR4SA**—All new, completely weatherproofed Line Radiator loudspeaker for outside or indoor sound installations. Extruded aluminum case is lightweight, rugged, and attractive. Finished in Faun metallic, the speaker fits with any decor. Electrical filters remove end speakers from circuit as frequencies increase, eliminating high-frequency lobes at ends. Smooth, carefully tailored frequency response from 200 to 10,000 Hz for true high fidelity sound reinforcement at greatly increased sound pressure levels. Impedance: 8 ohms. Power handling capacity: 40 watts program. Dispersion: 30° vertical, 160° horizontal. Sound pressure level: 116 db (at 4' with 40 watts input 750-1250 Hz.) Size: 48 $\frac{3}{8}$ " l., 6 $\frac{5}{8}$ " w., 4 $\frac{7}{8}$ " d. Net weight 25 lbs. Complete with universal mounting bracket and chain.

Net — \$90.00

**MODEL LR7**—The largest of the revolutionary Electro-Voice Line Radiators. Both low- and high-frequency response extended. Utilizes nine 5" x 7" loudspeakers and two T35 vhf drivers for frequency range of 200 to 17,000 Hz. Full half-section crossover at 3500 Hz. Horizontal coverage 160°, vertical coverage 60°. Power handling capacity 50 watts, impedance 8 ohms. Non-resonant, curved\* wood enclosure finished in Mesa Tan. Universal mounting brackets supplied. Dimensions: 60" high x 11" wide x 14" deep. Net weight, 59 lbs.

Net — \$195.00

\*U.S. Patent No. 3,125,181

LR7

LR4A

LR4SA

M253



## Paging Speakers

**MODEL PA7 REENTRANT PROJECTOR** — Attractively styled horn is constructed completely of Implex — virtually indestructible. Non-resonant horn won't dent, finish can't wear off. Electro-Voice diaphragm design eliminates loading problems, provides cleanliness of reproduction never before achieved in small projectors. Handles  $7\frac{1}{2}$  watts over a range of 400 to 13,000 Hz. Wide 120° dispersion angle provides excellent coverage. Mounting bracket allows horn to be positioned at any angle.  $6\frac{3}{4}$ " diameter by 6" deep. Net weight, 2 lbs.

**Net — \$17.85**

**PA7-45**—Same as above but with 45-ohm voice coil.

**Net — \$18.60**

**MODEL PA30AT**—Thirty watt paging projector with integral 70.7-volt line transformer. Easily selected line power taps at 30, 15, 8, 4 and 2 watts. Rectangular horn design for maximum versatility and wide dispersion. Rugged, high-impact Implex horn and conservatively rated driver assure maximum reliability. Smooth response for voice and music. Universal swivel bracket permits placement in any position or rotating horn without dismounting. Response: 250-14,000 Hz. Power handling capacity: 30 watts. Dispersion: 120 degrees by 90 degrees. EIA sensitivity rating: 60 db. Sound pressure level: 127 db. Dimensions: 11" h. x  $6\frac{1}{2}$ " w. x  $8\frac{1}{2}$ " d. Net weight: 6 $\frac{3}{4}$  lbs.

**Net — \$28.50**

**MODEL PA30A**—Same as PA30AT, above, except without line transformer. Will accept any type TR3 transformer. Nominal impedance, 8 ohms. Net weight  $5\frac{1}{2}$  lbs.

**Net — \$21.90**

**MODEL PA30A-45**—Same as standard PA30A, but with 45 ohm voice coil for simple installation in intercom systems.

**Net — \$23.10**

**MODEL PA30R**—Thirty watt reentrant paging projector, similar to PA30A except with round spun-aluminum bell. For applications in which local codes require metal construction. Resistant to chemical atmospheres and weather extremes. High efficiency, wide response range. Response: 250-14,000 Hz. Power handling capacity: 30 watts. Impedance 8 ohms. Dispersion 105°. EIA sens. rtg. 60 db. Sound pressure level 127 db. Dimensions: **\$23.70**

**Net — \$23.70**

**MODEL PA30R-45**—Same as PA30R with 45 ohm voice coil.

**Net — \$24.90**

**MODEL 844A**—For medium-angle sound distribution. Features smooth response with better lows to provide natural paging without feedback. Handles 30 watts—to reduce costs. Rugged die-cast horn, plus field-replaceable voice coil keeps service costs at a minimum. Frequency response, 250-13,000 Hz;

power handling capacity, 30 watts program; nominal impedance, 8 ohms; nom. dispersion, 90°; EIA sensitivity rating, 54 db; sound pressure level, 123 db; dimensions,  $9\frac{7}{8}$ " diameter x  $7\frac{7}{8}$ "

**Net — \$24.90**

**MODEL 847**—Utilizing the famous CDP® Principle—this wide-angle speaker provides higher articulation without annoying "peaked" response over a uniform 120° x 90° area. Low distortion results from use of TWO diffraction horns. 25-watt power handling capacity. Fiberglass horn has mesa tan color molded in. Frequency response, 250-10,000 Hz; power handling capacity, 25 watts; sound pressure level, 114 db; dispersion, 90° x 120°; impedance, 16 ohms; dimensions,  $11\frac{3}{4}$ " x  $7\frac{3}{4}$ " x  $10\frac{1}{4}$ "

**Net — \$35.40**

## Underwater Loudspeaker

**MODEL DU30** — Pool Speaker. For use in swimming pools to provide voice and music audible underwater. May be mounted at any depth down to 4 feet. Specifications: Impedance, 16 ohms. Power handling capacity, 30 watts. Frequency response, 40 to 10,000 Hz. Size,  $5\frac{3}{4}$ " diameter x  $2\frac{3}{8}$ " deep. Net weight (with cable),  $8\frac{1}{4}$  lbs. Twelve-foot Underwriters approved cable. Resistant to chlorine, bromine, salt water, oil, grease, gasoline.

**Net — \$58.50**

## E-V Musicaster™ Hi-Fi Outdoor Weatherproof Speaker Systems

**MUSICASTER**—Provides high fidelity performance in a compact, portable system. Sturdy aluminum diecast housing protects weatherproof cone speaker and extends bass response through back-loaded folded horn. Dual Radax™ cone radiates smooth useful highs through 120° angle. Provision for mtg. 70.7-volt line transformer inside. Specifications: Frequency response, 60-13,000 Hz; nominal impedance, 8 ohms; dispersion, 120°, power handling capacity, 30 watts program; sound pressure level, 110 db; dimensions,  $21\frac{1}{2}$ " x  $21\frac{1}{2}$ " x  $8\frac{1}{2}$ " depth. Net weight, 31 lbs.

**Net — \$72.00**

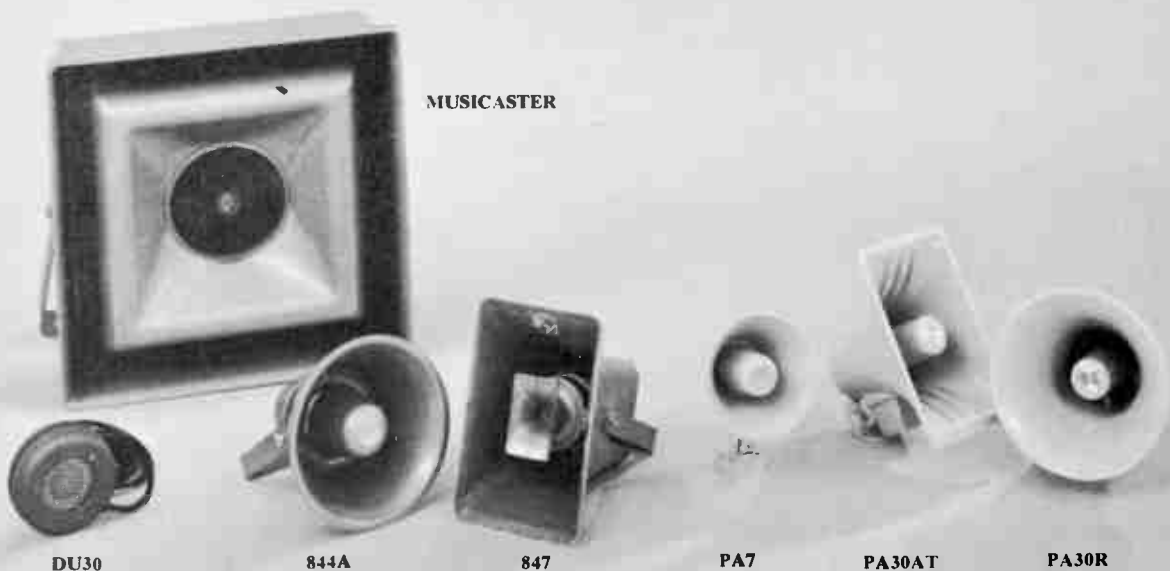
**MUSICASTER II**—Same fine performance as the Musicaster except has added brilliance and wider coverage from Very-High-Frequency Range Extender. Smooth response to 18,000 Hz. Complete with crossover. Net weight, 33 lbs.

**Net — \$90.00**

**MODEL MB-1**—Surface mounting bracket allows mounting of any Musicaster flat against wall for neat unobtrusive installation.

**Net — \$3.60**

**Note:** Sound Pressure Level is measured at 4' on-axis with full rated power from 750 to 1250 cps.



**MUSICASTER**

**DU30**

**844A**

**847**

**PA7**

**PA30AT**

**PA30R**

## PA TRANSFORMERS AND ACCESSORIES

### Transformers

**MODEL TR5**—5-watt 70.7-volt line transformer. 5, 2.5, 1.25 and .625-watt line power taps. 4, 8 and 16 ohms secondary impedances. Accepts solderless terminals in TH housing. Frequency response  $\pm 2$  db, 35–20,000 cps. Insertion loss 0.8 db. Overall dimensions 2" x 1 $\frac{1}{16}$ " x 1 $\frac{3}{8}$ ". Mounting hole centers, 1 $\frac{3}{4}$ ".

**Net — \$3.30**

**MODEL TR15**—Same as TR5 except 15-watt capacity with 15, 10, 5, 2.5-watt line power taps. Overall dimensions 1 $\frac{3}{4}$ " h., 2 $\frac{3}{8}$ " w., 2 $\frac{5}{16}$ " d.

**Net — \$3.60**

**MODEL TR30**—Same as TR5 except 30-watt capacity with 30, 20, 10 and 5-watt line power taps. Overall dimensions 1 $\frac{3}{4}$ " h., 2 $\frac{3}{8}$ " w., 2 $\frac{5}{16}$ " d. Mounting hole centers, 2 $\frac{3}{8}$ ".

**Net — \$4.20**

**MODEL TR50**—Same as TR5 except 50-watt capacity with 50, 40, 25 and 15-watt line power taps. Overall dimensions 2 $\frac{1}{4}$ " h., 2 $\frac{5}{16}$ " w., 2 $\frac{1}{4}$ " d. Mounting hole centers, 2 $\frac{3}{8}$ ".

**Net — \$5.40**

**MODEL TM5**—Universal 5-watt 25- and 70.7-volt line transformer. Primary line power taps 5, 2.5, 1.25, .625 watts. Secondary impedance 8, 16 ohms. Accepts solderless terminals in TH housing. Frequency response  $\pm 2$  db, 35–20,000 cps. Insertion loss 0.8 db. Overall dimensions 2 $\frac{3}{8}$ " x 1 $\frac{15}{16}$ " x 1 $\frac{3}{8}$ ". Mounting hole centers, 2".

**Net — \$4.20**

**MODEL TM15**—Same as TM5 except 15-watt capacity with 15, 7.5, 3.75, 1.875 watt line power taps. Overall dimensions, 2 $\frac{7}{8}$ " x 2 $\frac{3}{8}$ " x 1 $\frac{7}{8}$ ". Mounting hole centers, 2 $\frac{3}{8}$ ".

**Net — \$5.25**

**MODEL TM30**—Same as TM5 except 30-watt capacity with 30, 15, 7.5, 3.75 watt line power taps. Overall dimensions 3 $\frac{1}{8}$ " x 2 $\frac{3}{4}$ " x 2". Mounting hole centers, 2 $\frac{1}{16}$ ".

**Net — \$5.40**

**MODEL TM60**—Same as TM5 except 60-watt capacity with 60, 30, 15, 7.5 watt line power taps. Overall dimensions 3 $\frac{9}{16}$ " x 3 $\frac{1}{16}$ " x 2 $\frac{1}{2}$ ". Mounting hole centers, 3 $\frac{1}{8}$ ".

**Net — \$7.20**

**MODEL TR7-2**—7 $\frac{1}{2}$ -watt 25-volt line transformer and weatherproof housing designed specifically for use with the Model PA7. Mounts quickly and easily inside PA7 bracket. Primary impedance taps 83, 156, 312, 624, and 1248 ohms; 7 $\frac{1}{2}$ , 4, 2, 1, and  $\frac{1}{2}$  watt line power taps. 8 ohms secondary impedance.

**Net — \$6.60**

**MODEL TR7-7**—Same as TR7-2 above except designed for 70.7 volt line applications. Primary impedance taps 660, 1250, 2500, 5000 and 10,000 ohms; 7 $\frac{1}{2}$ , 4, 2, 1 and  $\frac{1}{2}$  watt line power taps. 8 ohms secondary impedance.

**Net — \$6.60**

**MODEL TR3-2**—30-watt 25-volt line transformer and weatherproof housing designed specifically for use with Models PA30 and PA30A. Line power taps at 30, 15, 8, 4, 2 watts. Secondary impedance 8 ohms.

**Net — \$9.00**

**MODEL TR3-7**—Same as TR3-2 above except designed for 70.7-volt line applications.

**Net — \$9.00**

**MODEL TR30-7**—30-watt, 70.7-volt line transformer for PA30. Fits under base for neat, easy installation. Line power taps at 30, 15, 8, 4, and 2 watts. Secondary impedance 8 ohms.

**Net — \$9.00**

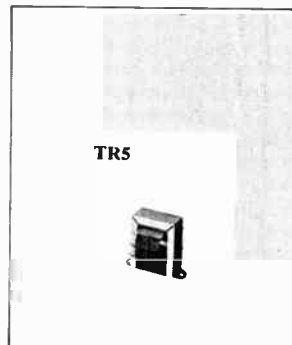
**MODEL TR30-2**—Same as TR30-7 above except designed for 25-volt line applications.

**Net — \$9.00**

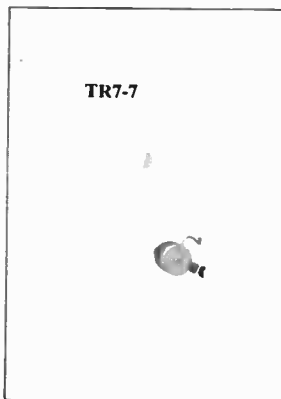
### Accessories

**MODEL TH**—Transformer Housing provides neat weatherproof mounting of any E-V transformer. Mount vertically or horizontally on any flat surface or on horn bracket. Exclusive wattage indicator tells power setting at a glance. No soldering required with E-V transformers. Size: 4" h., 5" w., 3 $\frac{1}{2}$ " d. Net weight, 1 $\frac{3}{4}$  lbs.

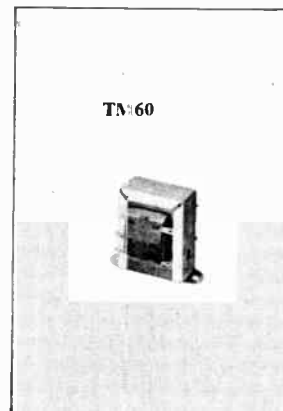
**Net — \$5.85**



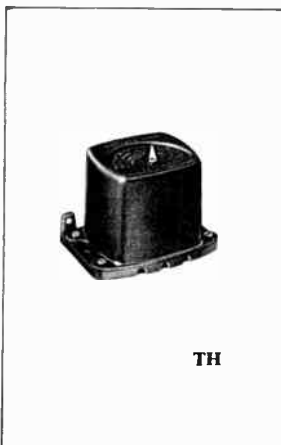
TR5



TR7-7



TM60



TH



AR150



AC100



FR150



HC400



348A



1829



1829T



FC100



1828T



1828C

## PUBLIC ADDRESS HORNS AND DRIVERS

### Compound Diffraction Projector

**MODEL 848A**—Combines FC100 Compound Diffraction Horn plus 1828C Compound Driver for finest wide-angle sound, lowest distortion, highest quality of any projector. Specifications: Frequency response, 150-10,000 Hz; impedance, 8 ohms; dispersion, 90° x 120°; power handling capacity, 30 watts; sound pressure level, 120 db; dimensions, 10½" x 20½" x 20". Net Weight, 13½ lbs. complete. **Net — \$53.40**

### Projector Horns

Completely new designs assure finest performance with Electro-Voice projector horns. Two basic types from which to choose . . . compound and reentrant.

**EXCLUSIVE COMPOUND HORNS** permit widest range at lowest distortion, plus complete directional control of both highs and lows. Best wide-angle coverage with exclusive diffraction horns means better sound through entire coverage area. Concentrating compound horn provides highest efficiency at lowest distortion. Natural voice and music reproduction result in higher intelligibility without annoying peaks.

**MODEL FC100**—Similar to the famous CDP®, the FC100 provides two diffraction horns for uniform wide-angle coverage. Frequency response is not compromised since both horns are ideally designed to handle a specific portion of the range. Compound horn reduces distortion far below any other projector design. Flexible coverage control provided by individual adjustment of each horn. Large horn is fiberglass with Mesa Tan finish molded in. Use any E-V convertible driver. Specifications: Low-frequency horn — cut-off, 100 Hz; taper, 100 Hz; air column length, 58"; sound distribution, 90° x 120°. High frequency sound distribution, 90° x 120°; crossover, 1,000 Hz. Mouth size 10½" x 20½", depth (less driver), 20". Net Wt. (less driver), 10¾ lbs. **Net — \$32.10**

**MODEL AC100**—Concentrating version of CDP®. Has all of the quality advantages of FC100, except utilizes round horns for most concentrated coverage with greatest efficiency. Retains compound design for lowest distortion—widest range. Use any E-V convertible driver. Specifications: Low-frequency horn—cut-off, 100 Hz; taper, 100 Hz; air column length, 56"; sound distribution, 80°. High-frequency sound distribution, 30°; crossover, 1,000 Hz. Diameter, 21"; depth (less driver), 21"; Net Wt. (less driver), 11½ lbs. **Net — \$53.40**

**REENTRANT HORNS** provide wider range than ever before at lowest cost. Unique E-V ring reflector design provides better balanced highs than possible with conventional exponential designs, by reducing high-frequency losses often encountered in reentrant horns. Smoother response plus added useful range increases intelligibility and adds to more natural sound. Rugged aluminum die-cast mounting plate plus precision die-cast reentrant tubes assure long-lasting performance. Heavy spun aluminum round bell or fiberglass rectangular horn provides either concentrated coverage or medium angle coverage. Electro-Voice Reentrant Horns accept any standard driver with 1¾"-18 threads.

**MODEL FR150**—Reentrant Horn. Medium-angle low-cost rectangular horn provides good coverage at low cost. Virtually indestructible fiberglass horn has Mesa Tan color molded in. Adjustable mounting angle allows best coverage. Can be stacked for multiple speaker applications. Ideal for car-top installation or wherever low silhouette is needed, and where bass response cannot be sacrificed. Accepts Electro-Voice convertible drivers or any standard driver with 1¾"-18 thread. Specifications: Low-frequency cut-off, 150 Hz; taper, 150 Hz; air column length, 45"; sound distribution, 70° x 100°; mouth size, 10½" x 20½"; depth (less driver), 21"; Net Wt. (less driver), 9½ lbs. Shpg. Wt., 12 lbs. **Net — \$27.60**

**MODEL AR150**—Reentrant Horn. Round concentrating horn for maximum penetration at lowest cost. E-V ring reflector plus precision new exponential design contributes to widest range yet achieved from this horn type. Smoother curve results in high intelligibility, and remarkably natural voice and music quality. Rubber edge-damping ring eliminates resonances. High-efficiency design allows more useful volume from driver over entire range. Accepts Electro-Voice Convertible drivers or any standard driver with 1¾"-18 thread. Specifications: Low-frequency horn—cut-off, 150 Hz; taper, 150 Hz; air column length, 41"; sound distribution, 85°; diameter, 21"; depth (less driver), 17". Net Weight (less driver), 6½ lbs. **Net — \$31.20**

**MODEL HC400**—Features wide-angle dispersion in a round reentrant horn. Same horn, less driver, as used in 844A. May be combined with any E-V driver listed on next page. High articulation for difficult paging jobs. Ruggedly constructed die-cast body. Completely weatherproofed and trop-calized. Nom. dispersion: 90°. Low frequency cutoff: 250 Hz. Taper: 250 Hz. Air column length: 16". Finished in Mesa Tan baked enamel. 10" dia., 5¼" deep. Net weight: 4½ lbs. **Net — \$9.00**

### Versatile Convertible Drivers

Designed for smooth peak-free response with maximum efficiency, Electro-Voice public address drivers offer the greatest possible long term economy with a consistently high level of performance.

The Reentrant Driver Model 1828R (30 watts) will produce maximum intelligibility when used with such Electro-Voice horns as the AR150 & FR150, and HC400, yet its freedom from severe response peaks assures improved results even when installed on other Reentrant Horns.

The versatile Convertible Drivers listed below are easily adapted for use with all Reentrant-type Horns (E-V and others), but are especially effective when used with the exclusive Electro-Voice Compound Diffraction Projectors (CDP®), FC100, and AC100.

For use in constant voltage systems, order 1828T or 1829T.

All drivers have 1¾"-18 threads for attaching horn.

E-V Diaphragm replacement kits (easily field replaceable) are available for all Electro-Voice public address drivers.

	1828R* (DC30R)	1828C (DC30C)	1828T (DC30CT)	1829 (DC60)	1829T (DC60T)
Frequency Response-Hz	150-10,000	150-10,000	150-10,000	140-11,000	140-11,000
Program Power Capacity-watts	30	30	30	60	60
Sound Pressure Level†					
FC100		120 db	120 db	127 db	127 db
AR150	127 db	127 db	127 db	133 db	133 db
Voice Coil Impedance-ohms	8	8	8	16	16
Transformer Impedance-ohms	.....	.....	167,333,607 1337	.....	83,167 333,667
Transformer Power Taps-watts	.....	.....	30, 15, 8, 4	.....	60, 30, 15, 8
Dimensions (overall)	4" dia., 2¾" d	4" dia., 3¼" d	5" h 4" w 5¼" d	5½" dia., 4½" d	5½" dia., 6¾" d
<b>Net Price</b>	<b>\$19.50</b>	<b>\$20.10</b>	<b>\$27.90</b>	<b>\$34.50</b>	<b>\$41.10</b>

†Measured at 4 feet on axis with full rated power from 750-1250 cps.

\*Reentrant style only.

### Diaphragm Replacement Kits

Model	Use For	Net Price
8642	DS30 (844)	<b>\$7.20</b>
8643	DS30-45 (844-45)	<b>9.00</b>
82015	DC30-45 (848-45 & 848LT-45)	<b>9.00</b>
82016	828 (848, 848LT)	<b>7.20</b>
82087	DC30, DC30T	<b>7.20</b>
8617	DC30-45	<b>9.00</b>
82088	DC40, DC40T	<b>7.20</b>
8618	DC40-45	<b>9.00</b>
82089	DC50, DC50T	<b>7.20</b>
8619	DC50-45	<b>9.00</b>
84434	1828C, 1828R (844A)	<b>9.90</b>
84433	1828T	<b>9.90</b>
84431	1829	<b>9.90</b>
84432	1829T	<b>9.90</b>





# Jensen

## SHOW PACK & COMMUNICATION/ AIRCRAFT SPEAKERS



### JENSEN "Show Pack" REPLACEMENT SPEAKERS FOR AUTOMOTIVE, RADIO, TV REPLACEMENT

Jensen replacement loudspeakers sealed on attractive visual display cards are ideal for handy display rack sale by Electronics and Automotive parts distributors. In addition to radio and TV replacement the line includes the most popular and most commonly required loudspeakers for automotive front and rear deck replacement. A convenient detailed tabulation on back of display card shows which JENSEN speaker to choose for any automobile. The attractive packaging of transparent film keep speakers dust free and provides instant model identification.

Nominal Size, Inches	Jensen Number	DP Alnico-5 Magnet Wt., Oz.	Impedance, Ohms	V.C. Dia., Inches	Net Each
4	B4K5	.55	3.2	3/16	\$1.84
4	B4K7	.68	3.2	3/16	2.23
5	B5K5	.55	3.2	3/16	2.06
5	B5K7	.68	3.2	3/16	2.38
6	B6K73	.68	3.2	3/16	2.59
6	B6K78	.68	8-10	3/16	2.59
8	B8W3	1.00	3.2	3/16	3.80
8	B8W8	1.00	8-10	3/16	3.80
3 x 5	B3X5K5	.55	3.2	3/16	2.53
4 x 10	B4X10W3	1.00	3.2	3/16	4.02
4 x 10	B4X10WM	1.00	8-10, 20, 40	3/16	5.14
5 x 7	B5X7W3	1.00	3.2	3/16	3.22
5 x 7	B5X7WM	1.00	8-10, 20, 40	3/16	3.91
5 x 7	B5X7V3	1.47	3.2	3/16	3.30
5 x 7	B5X7VM	1.47	8-10, 20, 40	3/16	3.99
6 x 9	B6X9W3	1.00	3.2	3/16	3.49
6 x 9	B6X9WM	1.00	8-10, 20, 40	3/16	4.29
6 x 9	B6X9V3	1.47	3.2	3/16	3.90
6 x 9	B6X9VM	1.47	8-10, 20, 40	3/16	4.57

### JENSEN "Show Pack" REAR DECK SPEAKER KITS

All kits complete with speaker, fader control, cable and mounting hardware. 5" x 7" and 6" x 9" kits also contain grille.

Nominal Size, Inches	Jensen Number	DP Alnico-5 Magnet Wt., Oz.	Impedance, Ohms	Voice Coil Diameter, In.	Net Each
6	AK6K73	.68	3.2	3/16	\$ 7.41
6	AK6K7M	.68	8-10, 20, 40	3/16	8.91
6	AK6T3	5.4*	3.2	3/4	9.42
6	AK6TM	5.4*	8-10, 20, 40	3/4	10.50
5 x 7	AK5T5M	6.0*	8-10, 20, 40	1	12.33
6 x 9	AK69W3	1.00	3.2	3/16	8.40
6 x 9	AK69WM	1.00	8-10, 20, 40	3/16	9.30
6 x 9	AK69S3	6.0*	3.2	1	13.05
6 x 9	AK69SM	6.0*	8-10, 20, 40	1	13.68



### INTERCOM GROUP

Designed for effective pickup and reproduction of speech in Intercom replacement and original equipment. Supplied with DP-Alnico 5 magnets.

Nom. Size, Inches	Jensen Number	Mag. Wt., Oz.	Voice Coil			Dimensions, Inches				Net Each
			Imp., Ohms	Power, Watts	Dia., In.	H. x W.	Depth	Baffle Opening		
2 x 6	P2X6V45	1.47	45	4.0	3/16	2 1/4 x 6 1/4	2 1/2	1 3/4 x 5 3/4	\$3.84	
3 x 5	P3X5V45	1.47	45	4.0	3/16	3 1/4 x 5 1/4	2	2 1/4 x 4 3/4	3.18	
3 1/2	P35V45	1.47	45	4.5	3/16	3 1/2	2 1/2	3 1/2	2.97	
4	P4W45	1	45	4.5	3/16	4 1/4	2 1/2	3 1/2	3.18	
5	P5W45	1	45	5.0	3/16	4 1/4	2 1/2	4	3.42	
8	P8U45	1.73*	45	9.0	1	7 1/4	3	6 3/4	5.01	
8	P8T45	2.5‡	45	10.0	1	7 1/4	3 1/2	6 3/4	5.97	

\*Performance equivalent to EIA 2.15 oz. ‡Performance equivalent to EIA 3.16 oz.

### COMMUNICATION AND AIRCRAFT GROUP

Feature special response characteristics for maximum speech intelligibility in high noise conditions. Widely used in amateur, CB and aircraft equipment. Aircraft types referred to particular makes are for cabin music and announce systems. Where specification number is shown, unit is original equipment item. No. CA6T3 has special voice response widely used in private aircraft. DP-Alnico 5 magnet unless otherwise noted.



AP-10



8J10

#### COMMUNICATION TYPES

Nom. Size, Inches	Jensen Number	Mag. Wt., Oz.	Voice Coil			Dimensions, Inches				Each
			Imp., Ohms	Power, Watts	Dia., In.	H. x W.	Depth	Baffle Opening		
3 x 5	PC3X5V3	1.47	3.2	5.0	3/16	3 1/4 x 5 1/4	2	2 1/4 x 4 1/4	\$ 3.33	
3 1/2	PC35V3	1.47	3.2	5.0	3/16	3 1/2	2 1/2	3 1/2	3.03	
4	PC4V3	1.47	3.2	5.0	3/16	4 1/4	2 1/2	3 1/2	3.03	
5	PC5V3	1.47	3.2	5.0	3/16	4 1/4	2 1/2	4	3.18	
6	CA6T3	5.4*	3.2	7.5	3/4	6 1/4	3	5 1/2	6.15	
.....	AP-10 (ST-590)	1.47	3.2	5.0	3/16	6 3/4 x 5	5 1/2	.....	19.80	
.....	AP-10 (ST-591)	1.47	45	5.0	3/16	6 3/4 x 5	5 1/2	.....	19.80	

#### AIRCRAFT TYPES

	Jensen Number	Mag. Wt., Oz.	Imp., Ohms	Power, Watts	V.C. Dia., In.	H. x W.	Depth	Baffle Opening	Net Each
4	4K7(C8292)†‡§	.68	12	4.5	3/16	4 1/4	1 1/2	3 1/2	\$ 5.01
6	P6-T(C6323)*	3.16	45	7.5	3/4	6 3/4	3 3/4	5 1/4	8.97
8	8J10(V1321)§	1.73	12	9.0	1	7 1/4	3 1/2	6 3/4	14.28
8	C8U5(C7885)*	2.8*	8	9.0	1	8 1/2	3 1/2	6 3/4	14.28
8	C8S5(C8268)*	6.0*	0	11.0	1	8 1/2	3 1/2	6 3/4	28.44
8	C8R(C7430)*	10.0*	1	12.0	1	7 1/4	3	6 3/4	19.11

\*SYNTOX-6E magnet. †For Vicoount. ‡For Douglas DC6-B. §For Douglas DC-8. ¶For Fairchild F-27. \*For Douglas DC-9. \*For Boeing 737. \*For Boeing 727 †With pre-attached transformer tapped at 1000, 2000, 4000 ohms; 8-ohm V.C. ‡With pre-attached transformer tapped at 1000, 2000, 4000 and 8000 ohms; 8-ohm V.C.

FOR PROFESSIONAL SERIES COMMERCIAL SOUND HORNS, DRIVERS & ACCESSORIES... SEE JENSEN CATALOG 1070

FOR CONCERT, VIKING AND WEATHERMASTER SERIES REPLACEMENT LOUSPEAKERS... SEE JENSEN CATALOG 1090

FOR HIGH FIDELITY UNITARY AND COMPONENT LOUSPEAKERS, LOUSPEAKER SYSTEMS AND HEADPHONES...

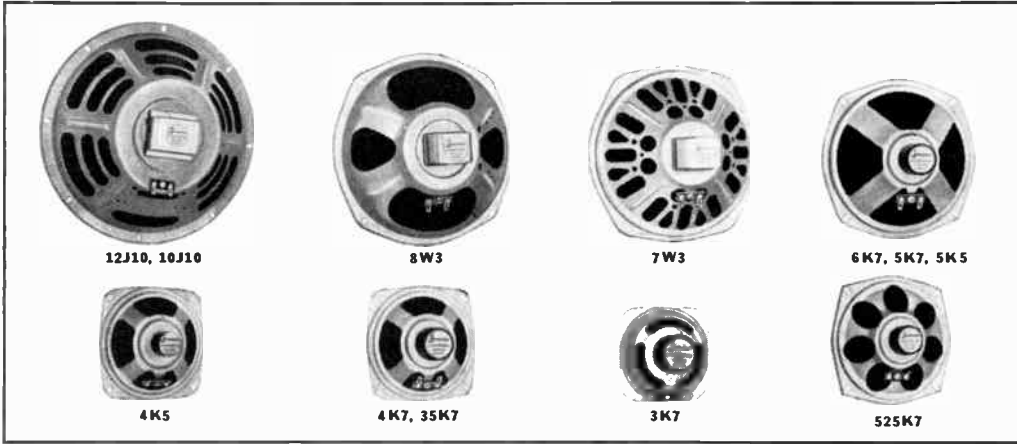
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# Jensen VIKING SERIES REPLACEMENT SPEAKERS

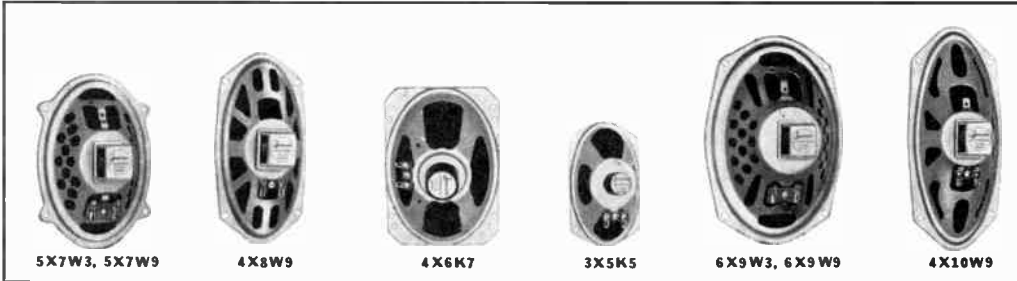
Dependable, economical service replacement speakers used by countless manufacturers in original equipment such as home and auto radios, and even jet aircraft. Employ D1-Alnico 5 magnets, precision wound voice coils and heavily plated metal parts.

## CIRCULAR RADIATOR GROUP



Nominal Size, Inches	Jensen No.	Magnet Weight, Ounces	Voice Coil			Dimensions, Inches				Net Each
			Imp., Ohms	Power Watts	Dia., Inches	H. x W.	Depth	Baffle Opening		
3	3K7	.68	3.2	3.5	3/8	3	1 1/2	2 3/8	\$2.17	
3 1/2	35K7	.68	3.2	4.0	7/8	3 1/2	1 1/2	3 1/8	2.17	
4	4K5	.55	3.2	4.0	7/8	4 1/2	1 1/2	3 1/2	1.62	
4	4K7	.68	3.2	4.5	7/8	4 1/2	1 1/2	3 3/8	1.85	
5	5K5	.55	3.2	5.0	7/8	4 1/2	1 1/2	4	1.79	
5	5K7	.68	3.2	5.5	7/8	4 1/2	1 1/2	4 1/8	2.15	
5 1/2	525K7	.68	3.2	5.5	7/8	6 1/4	2 1/2	5 1/2	2.39	
6	6K73	.68	3.2	6.0	7/8	6 1/4	2 3/8	5 1/2	3.39	
6	6K78	.68	8	6.0	7/8	6 1/4	2 3/8	5 1/2	3.39	
7	7W3	1.00	3.2	7.0	7/8	7	3	6 3/8	3.60	
7	7WM	1.00	8-10, 20, 40	7.0	7/8	7	3	6 3/8	4.46	
8	8W3	1.00	3.2	8.0	7/8	7 1/4	3 1/4	6 3/8	3.25	
8	8W8	1.00	8	8.0	7/8	7 1/4	3 1/4	6 3/8	3.25	
10	10J10	1.73	3.2	10.0	1	10 1/4	4	8 1/2	4.95	
12	12J10	1.73	3.2	11.0	1	12 1/2	4 1/2	10 1/2	5.83	

## OVAL RADIATOR GROUP



Nominal Size, Inches	Jensen No.	Magnet Weight, Ounces	Voice Coil			Dimensions, Inches				Net Each
			Imp., Ohms	Power Watts	Dia., Inches	H. x W.	Depth	Baffle Opening		
3 x 5	3X5K5	.55	3.2	4.0	3/8	3 1/4 x 5 1/4	1 1/2	2 1/2 x 4 1/2	\$2.28	
4 x 6	4X6K7	.68	3.2	4.5	7/8	4 1/4 x 6 3/8	1 1/2	3 1/4 x 5 1/4	2.67	
4 x 8	4X8W3*	1.00	3.2	6.0	7/8	4 x 8	2 3/8	3 1/2 x 7 1/2	3.25	
4 x 8	4X8W9*	1.00	8-10	6.0	7/8	4 x 8	2 3/8	3 1/2 x 7 1/2	3.25	
4 x 10	4X10W3*	1.00	3.2	6.0	7/8	4 1/2 x 10 1/2	3	3 3/8 x 9 3/8	3.49	
4 x 10	4X10W9*	1.00	8-10	6.0	7/8	4 1/2 x 10 1/2	3	3 3/8 x 9 3/8	3.49	
4 x 10	4X10WM*	1.00	8-10, 20, 40	6.0	7/8	4 1/2 x 10 1/2	3	3 3/8 x 9 3/8	4.43	
5 x 7	5X7W3*	1.00	3.2	6.0	7/8	5 x 7 1/4	2 11/16	4 1/4 x 6 1/4	2.84	
5 x 7	5X7W9*	1.00	8-10	6.0	7/8	5 x 7 1/4	2 11/16	4 1/4 x 6 1/4	2.84	
5 x 7	5X7WM*	1.00	8-10, 20, 40	6.0	7/8	5 x 7 1/4	2 11/16	4 1/4 x 6 1/4	3.60	
5 x 7	5X7V3	1.47	3.2	6.0	7/8	5 x 7 1/4	2 17/32	4 1/4 x 6 1/4	2.87	
5 x 7	5X7V9	1.47	8-10	6.0	7/8	5 x 7 1/4	2 17/32	4 1/4 x 6 1/4	2.87	
5 x 7	5X7VM	1.47	8-10, 20, 40	6.0	7/8	5 x 7 1/4	2 17/32	4 1/4 x 6 1/4	3.77	
6 x 9	6X9W3*	1.00	3.2	7.5	7/8	6 3/4 x 9 1/4	2 3/8	5 1/4 x 8 1/4	3.30	
6 x 9	6X9W9*	1.00	8-10	7.5	7/8	6 3/4 x 9 1/4	2 3/8	5 1/4 x 8 1/4	3.30	
6 x 9	6X9WM*	1.00	8-10, 20, 40	7.5	7/8	6 3/4 x 9 1/4	2 3/8	5 1/4 x 8 1/4	3.66	
6 x 9	6X9V3	1.47	3.2	7.5	7/8	6 3/4 x 9 1/4	2 3/8	5 1/4 x 8 1/4	3.44	
6 x 9	6X9V9	1.47	8-10	7.5	7/8	6 3/4 x 9 1/4	2 3/8	5 1/4 x 8 1/4	3.44	
6 x 9	6X9VM	1.47	8-10, 20, 40	7.5	7/8	6 3/4 x 9 1/4	2 3/8	5 1/4 x 8 1/4	3.91	

\*With combination pin-jack and solder-lug terminals; wide use as auto replacement.

FOR PROFESSIONAL SERIES COMMERCIAL SOUND HORNS, DRIVERS & ACCESSORIES... SEE JENSEN CATALOG 1070  
 FOR CONCERT, VIKING AND WEATHERMASTER SERIES REPLACEMENT LOUDSPEAKERS... SEE JENSEN CATALOG 1090  
 FOR HIGH FIDELITY UNITARY AND COMPONENT LOUDSPEAKERS, LOUDSPEAKER SYSTEMS AND HEADPHONES...  
 SEE JENSEN CATALOG 165



# Jensen

## PROFESSIONAL SERIES

## SPEAKERS



### THE NEW VH-100 SERIES RECTANGULAR HORN SPEAKER

HANG IT FAST AND EASY... THEN FORGET IT!

The VH-100 Series are compression-driver loudspeakers designed for high efficiency sound reproduction and fast, low cost installation.

Rated power of 32 watts cuts through the din and clatter of high noise level applications. Permits you to use fewer speakers to do the job.

Specially designed for commercial sound, public address, sound reinforcement; these speakers are ideal for factory, warehouse, shipping dock, storage yard, stadiums, playgrounds, parking lots, carnivals, mobile and marine applications—for every place and purpose.

#### SPECIFICATIONS

**Mouth Size:** Rectangular, 11" wide by 7 3/4" high.

**Horn Length:** 10 3/4".

**Air Column Length:** 18 3/4".

**Power Rating:** 32 watts.

**Frequency Range:** 250-13,000 Hz.

**Coverage Angle:** 120° x 90°.

**Sensitivity:** 98.5 db (10 ft., 1 watt); 59 db (ELA).

**Talk-back Sensitivity:** -19 db (10 dynes/sq. cm).

**Net Weight:** 5 lbs.

**VH-100**—With 8-ohm voice coil. Net Each. . . . . **\$26.70**

**VH-100T**—Input 70-volt line tapped 32, 16, 8, 4, 2, and 1 watts. Net Each. . . . . **\$32.70**

**VH-100V**—With 45-ohm voice coil. Net Each. . . . . **28.20**

1. Rugged, injection-molded, high impact construction is attractive, durable and weatherproof.
2. Rotatable horn permits horizontal or vertical adjustment of sound dispersion.
3. Optional pre-integrated transformer

inside cover completely protected from weather and elements.

4. Easy sound level adjustment with accessible power control.

5. Locks in any position with universal angle adjustment. No teeth slots to limit angle choice.

6. Input wiring choice of pigtail or base housed screw terminals makes installation fast and easy.

7. Horn unit is easily detached from mounting base for simplified installation.

### MODEL RT-20 RECTANGULAR HORN

These versatile horns may be used in a variety of ways to provide projector systems of almost any desired directional characteristics and total power rating. They may be used singly just as round horns are used and in such cases, the rectangular shape is frequently an advantage in appearance, minimizing obstruction to vision, and facilitating mounting.

RT-20 Horns are designed so that they may be stacked in plane or circular arrays. Eight units, each with a geometric sector angle of 45 degrees, form a complete circle with a diameter of 5' 9 1/2", giving 360° horizontal coverage. Fewer units are used where less than 360° coverage is required as indicated below:

Number of Units	Horizontal Coverage Angle
1	80°
2	125°
3	170°
4	215°
5	260°
6	305°
8	360°

Horns may be "double decked," which will concentrate the sound in a narrower angle in the vertical plane. A stack two units high will give a vertical coverage angle of approximately 30 degrees; at the same time, there is a gain in sound pressure on the axis of 2.5 db, due to the restricted angle of radiation.

The horn is molded of high impact strength glass fibre reinforced polyester. Natural molded finish in Modern Tan color.

#### SPECIFICATIONS—RT-20

**Mouth Size:** 26" wide by 13 1/2" high.

**Horn Length:** Overall, less driver, 16 3/4".

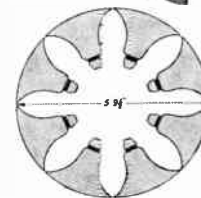
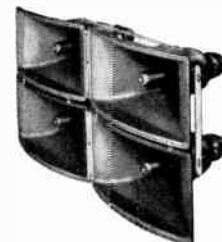
**Air Column Length:** 41".

**Low Frequency Cutoff:** 140 Hz.

**Rated Coverage Angle:** 80° horizontal. (See data for arrays.)

**Shipping Weight:** 15 lbs.

**RT-20**—Horn only. Net Each. . . . . **\$30.90**



### ACCESSORIES

#### MA-1 PIPE ADAPTER

A sturdy malleable iron casting which bolts to the "U" bracket of Hypex® Projector Horns and provides 3/4" pipe thread for pipe mast mounting. Baked tan enamel finish. Net Weight: 3/4 lb.

Shipping Weight: 1 lb.

**MA-1**—Net Each. . . . . **\$1.65**

#### MA-3 STACKING HARDWARE

Complete set of hardware for joining two RT-20 horns side by side.

Net Weight: 2 1/4 lbs.

Shipping Weight: 2 3/4 lbs.

**MA-3**—Net Each. . . . . **\$3.60**

#### MA-4 STACKING HARDWARE

Complete set of hardware for joining two RT-20 horns double decked.

Net Weight: 1 1/2 lbs.

Shipping Weight: 2 lbs.

**MA-4**—Net Each. . . . . **\$3.00**

\*T. M. Reg. Jensen Mfg. Co.

### BV-1 BLAST VALVE



The BV-1 Blast Valve is an accessory device for protecting the driver unit from high pressures due to explosive forces. Valve is the same as used in Jensen military blastproof loudspeakers. Under the positive blast pressure phase, the valve moves inward to seal off the driver unit from the horn throat. On the negative phase the valve moves out-

ward, again effecting a seal. With the valve in neutral position, attenuation of sound is negligible. Screws between horn and driver unit. Overall diameter 3". Fits all Jensen driver units and horns.

Net Weight, 1/2 lb. Shipping Weight, 3/4 lb.

**BV-1**—Net Each. . . . . **\$9.90**

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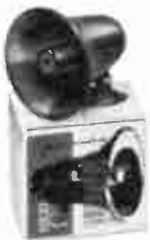
# POWERHOUSE TRUMPET SPEAKERS

proven sound around the world<sup>®</sup>



*Take it from Mickey Mantle<sup>†</sup>*  
**"FEDTRO...the proven sound of champions"**

"proven sound around the world"<sup>®</sup> from the blistering humid depths of Equatorial Africa... to the frigid waters of the Arctic Seas, Fedtro Powerhouse Speakers are ruggedly constructed to guarantee optimum performance, even under the most brutal of climatic extremes.  Shockproof, rustproof, and totally weatherized, the entire Fedtro series is ideally suited for the most trying applications of Marine and Mobile use... Public Address, Paging and Talkback Systems. The diaphragm is constructed with a special resinification process, which permits it to withstand higher than 30% power input overloads.  Engineered and designed to afford the highest degree of clarity and intelligibility over the complete frequency spectrum, from the compact S-5RD to the mammoth S-16RD, there's a perfect Powerhouse available for your specific needs.  Greater efficiency... increased power output... higher intelligibility... and almost indestructible durability... all add up to why they are "proven sound around the world"<sup>®</sup>.



MODEL S-5RD



MODEL S-6RD



MODEL S-8RD



MODEL S-8BX



MODEL S-12RD



MODEL S-16RD



Ruggedly Constructed for Outdoor, Indoor, Marine and Mobile Use

- WATERPROOF ■ SHOCKPROOF
- RUSTPROOF ■ CORROSIONPROOF

DYNAMIC 3-COLOR CUSTOM PACKAGING

FEDTRO POWERHOUSE TRUMPET SPEAKER SPECIFICATION CHART	Model No.	Power Rating		Voice Coil Impedance	Frequency Range	Bell Diameter (Horn Opening)	Overall Length	Net Weight
		Program	Peak					
	S-5RD	8 watts	12 watts	8 ohms	200 to 13,000 cps.	5 inches	5 inches	approx. 1 lb.
	S-6RD	10 watts	15 watts	8 ohms	200 to 13,000 cps.	6 inches	6½ inches	approx. 2 lbs.
	S-8RD	15 watts	25 watts	8 ohms	200 to 13,000 cps.	8 inches	8½ inches	approx. 2½ lbs.
	S-8BX	15 watts	25 watts	8 ohms	200 to 13,000 cps.	8 inches x 5 inches	8 inches	approx. 2.4 lbs.
	S-12RD	30 watts	65 watts	8 ohms	150 to 13,000 cps.	12 inches	13¼ inches	approx. 4.4 lbs.
	S-16RD	40 watts	75 watts	8 ohms	150 to 13,000 cps.	16 inches	13 inches	approx. 5.3 lbs.

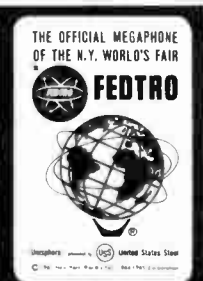
GET MORE SOUND FOR YOUR DOLLAR WITH FEDTRO POWERHOUSE SPEAKERS!

**SUPERIOR QUALITY...** at the lowest prices in the industry



proven sound around the world<sup>®</sup>

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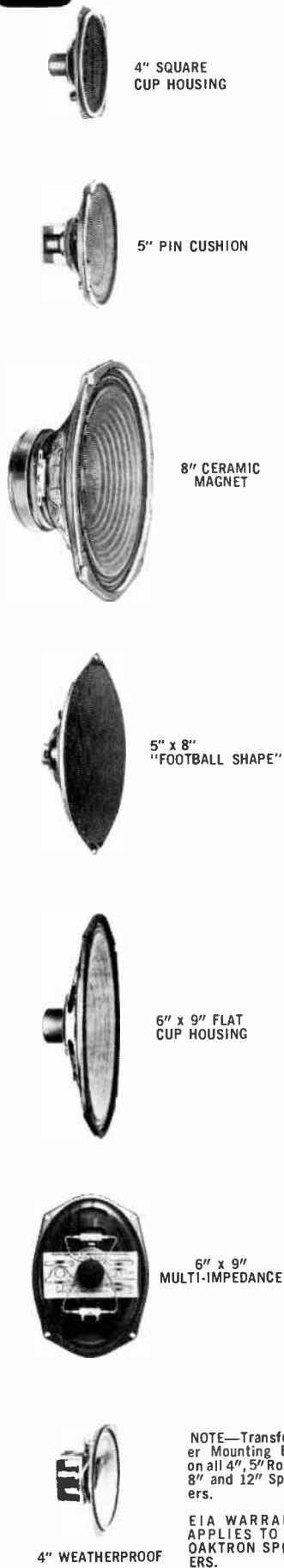
†MICKEY MANTLE ENDORSES ALL FEDTRO AUDIO PRODUCTS

FOR FEDTRO POWERHOUSE TRANSISTORIZED MEGAPHONES, SEE PAGES 54 & 55  
 FOR FEDTRO TRANSISTORIZED INTERCOMS, SEE PAGES 56 & 57



# AKTRON REPLACEMENT SPEAKERS

• ALUMINUM VOICE COILS • ALNICO 5 MAGNETS • SPECIALLY TREATED BLUE CONES • BLUE LUMINESCENT BAKED ENAMEL FINISH



Size and Shape	Part No.	Magnet Weight Ounces	Dia. Inches	VOICE COIL Impedance (Ohms)	Power in Watts	Max. Depth in Inches	Suggested Dealer Prices
4" SQUARE CUP HOUSING	2 1/4" Round	23A8C	.53 cup	3/16	8	1	\$1.77
	2 3/4" Round	28A8C	.53 cup	3/16	8	2	1.77
	3" Square	3A3C	.53 cup	3/16	3.2	2	1 13/16
	3" Square	3C3	1.00	3/16	3.2	3	1 11/16
	3 1/2" Square	35A3C	.53 cup	3/16	3.2	2	1 3/8
	3 1/2" Square	35C3C	1.00	3/16	3.2	4	1 1/8
	4" Square	4A3C	.53 cup	3/16	3.2	2	1 3/8
	4" Square	4B3	.68	3/16	3.2	2	1 1/8
	4" Square	4C3C	1.00 cup	3/16	3.2	4	1 11/16
	4" Square	4D3	1.47	3/16	3.2	3	2 3/16
	4" Square	4C8C	1.00 cup	3/4	8	4	1 11/16
	5" Pin Cushion	5A3C	.53 cup	3/16	3.2	2	1 11/16
	5" Pin Cushion	5B3	.68	3/16	3.2	2	2
	5" Pin Cushion	5C3C	1.00 cup	3/4	3.2	4	1 13/16
	5" Pin Cushion	5D3	1.47	3/16	3.2	4	2 3/16
	5" Pin Cushion	5D8S	1.47	3/16	8	5	2 3/16
	5" Round	R5A3C	.53 cup	3/16	3.2	2	1 3/4
	5" Round	R5B3	.68	3/16	3.2	2	2 1/8
	5" Round	R5D3	1.47	3/16	3.2	4	2 3/8
	5" Round	R5EU8	*3.00	3/4	8	5	1 3/4
	5 1/4" Pin Cushion	53B3	.68	3/16	3.2	2	2 1/8
	5 1/4" Pin Cushion	53C3C	1.00 cup	3/4	3.2	4	1 13/16
	6" Pin Cushion	6B3	.68	3/16	3.2	3	2 3/8
	6" Pin Cushion	6C3C	1.00 cup	3/4	3.2	5	2 3/16
	6" Pin Cushion	6D3	1.47	3/16	3.2	5	2 3/4
	6" Pin Cushion	6E3C	2.18 cup	1	3.2	7	2 3/8
	6" Pin Cushion	6E8C	2.18 cup	1	8	7	2 3/8
	8" Pin Cushion	8C3C	1.00 cup	3/4	3.2	5	2 3/16
	8" Pin Cushion	8E3C	2.18 cup	1	3.2	6	2 3/16
	8" Pin Cushion	8F3	3.16	3/4	3.2	8	3 3/16
	8" Pin Cushion	8H3	6.80	1	3.2	12	4 1/16
	8" Pin Cushion	8C8C	1.00 cup	3/4	8	5	2 3/16
	8" Pin Cushion	8E8	2.15	3/4	8	6	3 1/16
	8" Pin Cushion	8E8C	2.18 cup	1	8	7	2 3/16
	8" Pin Cushion	8E8CF	2.18 cup	1	8	7	2
	8" Pin Cushion	8EU8	*3.00	3/4	8	6	2 3/8
	8" Pin Cushion	8F8	3.16	3/4	8	8	3 3/16
	8" Pin Cushion	8G8	4.64	1	8	10	4
	8" Pin Cushion	8GU8	*6.00	1	8	10	2 7/8
	8" Pin Cushion	†8GU8D	*6.00	1	8	10	2 7/8
	8" Pin Cushion	8H8	6.80	1	8	12	4
	8" Pin Cushion	8HU8	*10.00	1	8	12	3
	10" Round	8K8	10.10	1 1/4	8	20	4 3/16
	10" Round	10F3	10.10	3/4	3.2	8	4 3/16
	10" Round	10F8	3.16	3/4	8	8	4 3/16
	10" Round	10H8	6.80	1	8	12	4 13/16
	12" Round	12F3	3.16	3/4	3.2	8	4 3/16
	12" Round	12H3	6.80	1	3.2	12	5 1/2
	12" Round	12F8	3.16	3/4	8	8	4 7/8
	12" Round	12H8	6.80	1	8	12	5 1/2
	12" Round	12HU8	*10.00	1	8	12	4 1/2
	12" Round	12K8	10.10	1 1/4	8	20	5 13/16
	15" Round	15K8	10.10	1 1/4	8	20	7 1/4
	2" x 6"	26A3C	.53 cup	3/16	3.2	2	1 1/16
	3" x 5"	135A3C	.53 cup	3/16	3.2	2	1 3/8
	3" x 5"	135C3C	1.00 cup	3/4	3.2	4	1 11/16
	2 1/2" x 10"	210D3	1.47	3/16	3.2	5	2 3/8
	4" x 6"	46A3C	.53 cup	3/16	3.2	2	1 1/2
	4" x 6"	46B3	.68	3/16	3.2	3	1 7/8
	4" x 6"	46C3C	1.00 cup	3/4	3.2	5	1 9/16
	4" x 8"	48E3C	2.18 cup	1	3.2	5	2 1/8
	4" x 10"	410E3C	2.18 cup	1	3.2	6	3
	4" x 10"	410E8C	2.18 cup	1	8	6	3
	5" x 7"	57A3C	.53 cup	3/16	3.2	2	2 1/8
	5" x 7"	57C3C	1.00 cup	3/4	3.2	5	2 3/16
	5" x 7"	57D3	1.47	3/16	3.2	5	2 3/4
	5" x 7"	57E3C	2.18 cup	1	3.2	7	2 3/8
	5" x 7" Flat	57E3CF	2.18 cup	1	3.2	7	2 1/8
	5" x 7"	57F3X	3.16	1	3.2	8	3 1/16
	5" x 7"	57C8C	1.00 cup	3/4	8	5	2 3/16
	5" x 8"	†57C8C	1.00 cup	3/4	8	5	2 3/16
	6" x 9"	69A3C	.53 cup	3/16	3.2	2	2 11/16
	6" x 9"	69C3C	1.00 cup	3/4	3.2	5	2 13/16
	6" x 9"	69D3	1.47	3/16	3.2	5	3 3/8
	6" x 9"	69E3C	2.18 cup	1	3.2	7	2 7/8
	6" x 9" Flat	69E3CF	2.18 cup	1	3.2	7	2 1/8
	6" x 9"	69H3	6.80	1	3.2	10	4 1/4
	6" x 9"	69C8C	1.00 cup	3/4	8	5	2 3/16
	6" x 9"	69E8C	2.18 cup	1	8	7	2 7/8
	6" x 10"	†69E8C	2.18 cup	1	8	7	3 1/8

\*Ceramic Magnet—All others Alnico 5. †Has two mounting holes—Crinoline dust screen, "Football Shape" §Shielded Magnet Assembly Shallow Profile. •Indicates New Item

## MULTI-IMPEDANCE SPEAKERS 10-20-40 OHM

Oaktron's new "three in one" multi-impedance series

- Specially developed heavy voice coil winding for maximum power handling.
- Dual solderless terminal strip arrangement with jumpers for simplified hook up.
- Complete wiring diagram accompanies each speaker.

6" x Pin Cushion	6EMC	2.18 cup	1	10-20-40	6	2 1/4	\$3.03
4" x 6"	46CMC	1.00 cup	3/4	10-20-40	5	1 11/16	2.52
4" x 8"	48EMC	2.18 cup	1	10-20-40	5	2 3/8	3.54
4" x 10"	410EMC	2.18 cup	1	10-20-40	6	3	3.69
5" x 7"	57EMCF	2.18 cup	1	10-20-40	7	2 3/4	3.36
6" x 9" Flat	69EMCF	2.18 cup	1	10-20-40	7	2 1/4	3.69
6" x 9" Free Edge Cone	FE69UMW	*10.00 oz.	1	10-20-40	10	3 3/8	7.17

NOTE—Transformer Mounting Boss on all 4", 5" Round, 8" and 12" Speakers.

EIA WARRANTY APPLIES TO ALL OAKTRON SPEAKERS.

## WEATHERPROOF SPEAKERS

Specially Impregnated Cones, Gaskets and Dust Caps

3 1/2" Square	35D8M	1.47	3/16	8	3	2	\$2.34
4" Square	4A3M	.53 cup	3/16	3.2	2	1 1/8	1.77
4" Square	4D8M	1.47	3/16	8	3	2 3/16	2.34
5" Round	R5D8M	1.47	3/16	8	3	2 3/8	2.43
8" Pin Cushion	8F8M	3.16	3/4	8	8	3 3/16	4.23
8" Pin Cushion	8F45M	3.16	3/4	45	8	3 3/16	4.41
6" x 9"	69H8M	6.80	1	8	12	4 1/4	5.73

## REAR SEAT SPEAKER KITS

### and Accessories

Featuring Oaktron's High Energy cup housing speakers. Solderless hookup — No special tools required for installation. Includes all necessary hardware.



6" x 9" CUP



TWIN CONE

Model	Speaker	Grille	Control	Speaker	Max. Depth in Inches	Sugg. Dealer Price
RK57	5 x 7	Gray	3 Pos. Switch	57C3C	2 3/8	\$4.89
RK57C	5 x 7	Chrome	3 Pos. Switch	57C3C	2 3/8	5.16
RK57F	5 x 7	Gray	Fader	57C3C	2 3/8	5.16
RK57CF	5 x 7	Chrome	Fader	57C3C	2 3/8	5.43
AK69	6 x 9	Gray	3 Pos. Switch	69A3C	2 1/8	4.77
AK69C	6 x 9	Chrome	3 Pos. Switch	69A3C	2 1/8	5.04
AK69F	6 x 9	Gray	Fader	69A3C	2 1/8	5.04
AK69CF	6 x 9	Chrome	Fader	69A3C	2 1/8	5.31
RK69	6 x 9	Gray	3 Pos. Switch	69C3C	2 3/8	5.07
RK69C	6 x 9	Chrome	3 Pos. Switch	69C3C	2 3/8	5.37
RK69F	6 x 9	Gray	Fader	69C3C	2 3/8	5.37
RK69CF	6 x 9	Chrome	Fader	69C3C	2 3/8	5.67
WK69	6 x 9	Twin Cone	3 Pos. Switch	69E8WC	2 7/8	6.09
WK69C	6 x 9		3 Pos. Switch	69E8WC	2 7/8	6.36
WK69F	6 x 9		Fader	69E8WC	2 7/8	6.36
WK69CF	6 x 9		Fader	69E8WC	2 7/8	6.66
MK69	6 x 9	Multi-Impedance	3 Pos. Switch	69EMCF	2 1/4	6.27
MK69C			3 Pos. Switch	69EMCF	2 1/4	6.54
MK69F			Fader	69EMCF	2 1/4	6.54
MK69CF			Fader	69EMCF	2 1/4	6.84

ACCESSORIES:

Part No.	Description	Sugg. Dealer Price
FA-1	Fader Control with Presoldered Wire and Hardware	\$1.49
SW-1	Switch Control with Presoldered Wire and Hardware	1.22
CH57	5 x 7 Chrome Grill with Hardware	1.31
CH69	6 x 9 Chrome Grill with Hardware	1.31
GY57	5 x 7 Gray Grill with Hardware	1.04
GY69	6 x 9 Gray Grill with Hardware	1.04

NOTE—Kits can be supplied with other Oaktron Speakers. Please request prices.

## TWIN CONE SPEAKERS

Matched dual cones for true high fidelity sound reproduction.



6" x 9" TWIN CONE



12" ROUND TWIN CONE

Size and Shape	Part Number	Magnet Weight Ounces	Voice Coil Impedance (Ohms)	Power in Watts	Max. Depth in Inches	Sugg. Dealer Price
8" Pin Cushion	8E8WC	2.18 cup	1	8	2 1/8	\$3.87
8" Pin Cushion	8F8W	3.16	3/4	8	3 3/8	4.23
8" Pin Cushion	8H8W	6.80	1	8	12	4
8" Pin Cushion	8HU8W	*10.00	1	8	12	3
12" Round	12H8W	6.80	1	8	12	5 1/2
5" x 7"	57E8W	2.15	3/4	8	6	1 1/2
6" x 9"	69E8WC	2.18 cup	1	8	6	2 7/8
6" x 9"	68HU8W	*10.00	1	8	10	3 3/8

\* Ceramic Magnet — all others Alnico 5

## INTERCOM SPEAKERS

Size and Shape	Part No.	Magnet Weight Ounces	Voice Coil Impedance (Ohms)	Power in Watts	Max. Depth in Inches	Sugg. Dealer Price
3 1/2" Square	35A45C	.53 cup	3/8	45	2	1 1/8
4" Square	4A45C	.53 cup	3/8	45	2	1 1/8
4" Square	4D45	1.47	3/8	45	3	2 1/8
5" Pin Cushion	5D45	1.47	3/8	45	3	2 1/8
8" Pin Cushion	8F45	3.16	3/4	45	8	3 3/8

## TWEETER SPEAKERS

These speakers are true compression type, using totally enclosed baskets and molded curvilinear cones for maximum high frequency radiation, 8 ohm aluminum voice coils and Alnico 5 magnets—Blue luminescent enamel finish.

Size and Shape	Part Number	Impedance	Magnet Weight	V.C. Dia.	Power Watts	Frequency Response	Max. Depth in Inches	Sugg. Dealer Price
3" Square	3C8T	8 Ohms	1.00 oz.	3/8"	4	3000-16,000	1 1/8	\$1.98
3 1/2" Square	35D8T		1.47 oz.	3/8"	5	3000-16,000	2	2.25
4" Square	4D8T		1.47 oz.	3/8"	5	3000-15,000	2 3/8	2.25
5" Round	5D8T		1.47 oz.	3/8"	5	2000-15,000	2 3/8	2.31
4" x 6"	46D8T		1.47 oz.	3/8"	6	2000-17,000	2 3/8	2.43

## SYSTEMS — HIGH FIDELITY

Matched Trio for Multi-Speaker Application

Size in Inches	Part Number	Impedance	Magnet Weight	V.C. Dia.	Power Watts	Frequency Response	Max. Depth in Inches	Sugg. Dealer Price
12 6x9 4x6 Harness with Crossover	ST-124	8 Ohms	12" Woofer 6.80 oz. 6"x9" Mid Range 3.16 oz. 4"x6" Tweeter 1.47 oz.	1" 3/4" 3/8"	12	35-15,000	5 3/8 3 3/8 2 3/8	\$16.77

## HIGH FIDELITY SPEAKERS

ALL OAKTRON HI-FIDELITY SPEAKERS ARE ENCLOSED IN A PLASTIC COVERING AND INDIVIDUALLY BOXED TO INSURE MAXIMUM PROTECTION.

### COAXIAL SPEAKERS

Oaktron's coaxial type speakers are superbly engineered to produce a flat response over a wide range of frequencies. These speakers are finished in a glossy royal blue luminescent enamel and feature a unique cross over network, solid basket compression type tweeters, specially treated aluminum voice coils and Alnico 5 magnets. These features combined with Oaktron's superior workmanship offer the finest in coaxial speakers.



12" COAXIAL

Size in Inches	Part Number	Impedance	Magnet Weight	V.C. Dia.	Power Watts	Frequency Response	Max. Speaker Depth in Inches	Sugg. Dealer Price
8	CA-8	8 Ohms	8" Woofer 3.16 oz. 3" Tweeter .53 oz.	3/4" 1 1/8"	8	60-14,000	4 1/2	\$ 8.01
8	CA-8-HD	8 Ohms	8" Woofer 6.80 oz. 3" Tweeter .53 oz.	1" 3/8"	10	50-14,000	4 1/2	10.35
12	CA-12	8 Ohms	12" Woofer 6.80 oz. 3" Tweeter 1.00 oz.	3/8" 1"	12	35-14,000	6 3/8	11.97
12	CA-12-HD	8 Ohms	12" Woofer 10.10 oz. 3 1/2" Tweeter 1.00 oz.	1 1/4" 1 1/8"	20	25-14,000	6 3/8	15.87
15	CA-15	8 Ohms	15" Woofer 6.80 oz. 5" Tweeter 1.00 oz.	3/8" 3/4"	14	30-13,000	7 3/8	16.38
15	CA-15-HD	8 Ohms	15" Woofer 10.10 oz. 5" Tweeter 1.00 oz.	1 1/4" 3/4"	20	20-13,000	7 3/8	21.42
6x9	CA-69	8 Ohms	6x9" Woofer 2.15 oz. 3" Tweeter .53 oz.	3/4" 1"	6	70-14,000	3 3/8	7.17
6x9	CA-69-HD	8 Ohms	6x9" Woofer 6.80 oz. 3" Tweeter .53 oz.	1" 3/8"	10	60-14,000	4 3/8	9.81

## CLASSIC SERIES

Twin cone speakers:

- Perfectly matched dual cones
- Smooth Response
- Heavy magnets
- Large voice coils



6" TWIN CONE



8" TWIN CONE

SAME GENERAL APPEARANCE AS COAXIAL SPEAKERS  
Excellent woofer characteristics combined with a perfectly matched twin cone to complete a truly exceptional full range high fidelity speaker.

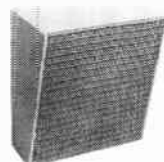
Size in Inches	Part Number	Impedance	Magnet Weight	V.C. Dia.	Power Watts	Frequency Response	Max. Speaker Depth in Inches	Sugg. Dealer Price
6	FF6GW	8 Ohms	*6.00 oz.	1"	12	40-15,000	3 3/8	\$ 8.07
8	Free Edge Cone FF8KW	8 Ohms	10.10 oz.	1 1/4"	20	30-14,000	4 3/8	11.97
8	Free Edge FF8W	8 Ohms	6.80 oz.	1"	12	40-16,000	4 1/2	9.57
12	FF8W Twin Cone	8 Ohms	10.10 oz.	1 1/4"	20	25-13,000	6 3/8	14.31
15	FF15KW	8 Ohms	10.10 oz.	1 1/2"	20	20-13,000	7 3/8	19.53
6x9	FF69UW Twin Cone	8 Ohms	*10.00 oz.	1"	10	35-16,000	3 3/8	7.41

‡Chrome Finished Dust Cover.

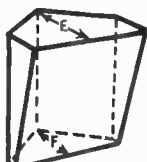
\*Ceramic Magnet.

Oaktron Baffles are smartly designed to complement any decor. Rugged one half inch cabinet hardwood construction assures longer service even under the most severe conditions. Beautifully finished in a natural

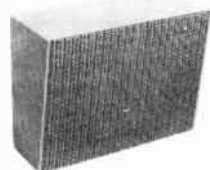
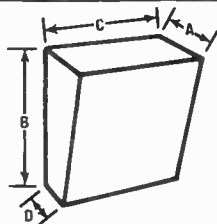
blonde or walnut these baffles represent the ultimate in appearance and sound reproduction. Speaker and baffle mounting hardware included.



DELUXE WALL BAFFLE



DELUXE "KORNER" BAFFLE



CUSTOM WALL BAFFLE

DELUXE WALL BAFFLES

Speaker Size	Part No.	Furniture Finish	Material	DIMENSIONS				Sugg. Dealer Price
				A	B	C	D	
4" & 5"	WB4/5-B	Blonde	Cabinet Hardwood	4 1/2"	6 1/4"	6 1/2"	2 1/2"	\$3.25
4" & 5"	WB4/5-W	Walnut	Cabinet Hardwood	4 1/2"	6 1/4"	6 1/2"	2 1/2"	3.25
6"	WB6-B	Blonde	Cabinet Hardwood	4 5/8"	8"	9 3/8"	2 5/8"	4.10
6"	WB6-W	Walnut	Cabinet Hardwood	4 5/8"	8"	9 3/8"	2 5/8"	4.10
* 8"	WB8-B	Blonde	Cabinet Hardwood	6 1/4"	10 5/8"	9 1/2"	3 1/2"	4.45
* 8"	WB8-W	Walnut	Cabinet Hardwood	6 1/4"	10 5/8"	9 1/2"	3 1/2"	4.45
12"	WB12-B	Blonde	Cabinet Hardwood	9 1/8"	14 1/8"	13 3/4"	5 3/8"	6.99
12"	WB12-W	Walnut	Cabinet Hardwood	9 1/8"	14 1/8"	13 3/4"	5 3/8"	6.99

\* Also available notched for use with B-8 baffle bracket. Add 15¢ per unit to baffle price. Specify notched when ordering.

DELUXE "KORNER" BAFFLES

Speaker Size	Model	Furniture Finish	Material	DIMENSIONS						Sugg. Dealer Price
				A	B	C	D	E	F	
8"	KB8-B	Blonde	Cabinet Hardwood	4"	10 5/8"	9 1/2"	1"	8 1/4"	5 1/8"	\$7.40
8"	KB8-W	Walnut	Cabinet Hardwood	4"	10 5/8"	9 1/2"	1"	8 1/4"	5 1/8"	7.40
12"	KB12-B	Blonde	Cabinet Hardwood	5 3/8"	14"	13 1/2"	1 3/4"	11 3/4"	8 1/8"	9.97
12"	KB12-W	Walnut	Cabinet Hardwood	5 3/8"	14"	13 1/2"	1 3/4"	11 3/4"	8 1/8"	9.97

CUSTOM WALL BAFFLES

Speaker Size	Part No.	Furniture Finish	Material	DIMENSIONS				Sugg. Dealer Price
				A	B	C	D	
‡ 8"	CWB8-B	Blonde	Cabinet Hardwood	6"	9 5/8"	12"	4 1/4"	\$5.35
‡ 8"	CWB8-W	Walnut	Cabinet Hardwood	6"	9 5/8"	12"	4 1/4"	5.35

SLIMLINE WALL BAFFLES



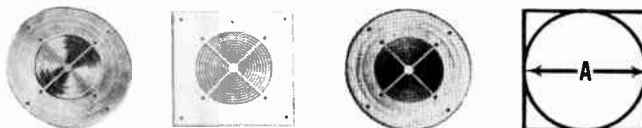
Speaker Size	Part No.	Furniture Finish	Material	DIMENSIONS				Sugg. Dealer Price
				A	B	C	D	
‡ 8"	SWB8-B	Blonde	Cabinet Hardwood	4 1/2"	9 5/8"	12"	2 7/8"	\$5.35
‡ 8"	SWB8-W	Walnut	Cabinet Hardwood	4 1/2"	9 5/8"	12"	2 7/8"	5.35

‡ Also available notched for use with B-8A baffle bracket. Add 15¢ per unit to baffle price. Specify notched when ordering.

REDUCER RINGS

Model	Speaker Size	Material	Sugg. Dealer Price
R12/8	Reduces 12" to 8"	Tempered Presdwood	\$1.25
R12/10	Reduces 12" to 10"	Tempered Presdwood	1.25

CEILING BAFFLES



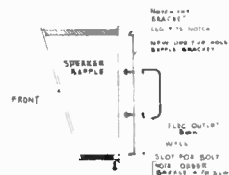
Oaktron's Ceiling Baffles possess qualities and design achieved only after years of engineering in this field. The extremely high efficiency and wide sound dispersion of these units result in superior acoustical sound reproduction. One piece construction eliminates vibration and rattle. Mount directly to the ceiling or to the convenient plaster ring. Available in satin aluminum and white baked enamel steel. Speaker mounting hardware included.

Speaker Size	Model	Finish	Shape	Material	Dimension A	Sugg. Dealer Price
8"	CR8-S	Satin	Round	Aluminum	12 3/4"	\$3.30
8"	CR8-W	White	Round	Steel	12 3/4"	3.10
8"	CS8-S	Satin	Square	Aluminum	12 1/8"	3.30
8"	CS8-W	White	Square	Steel	12 1/8"	3.10

PLASTER RING

Speaker Size	Model	Finish	Material	Sugg. Dealer Price
8"	PR8	Grey	Steel	\$1.71

NEW, POSITIVE HOLD, BAFFLE BRACKET



Used To Mount Notched Deluxe Wall Baffle to Standard Electrical Outlet Box

Part No.	Material	Finish	Sugg. Dealer Price
B-8	3/32" Steel	Aluminum Painted	\$ .60
‡B-8A	3/32" Steel	Blue Painted	\$ .60

‡ Used To Mount Notched Custom And Notched Slimline Wall Baffles To Standard Electrical Outlet Box.

Note — Baffles can be supplied with speaker and transformer installed at a total cost of the units supplied plus 60¢ for installation.

OAKTRON INDUSTRIES, INC.

**OXFORD TRANSDUCER COMPANY**  
Division of OXFORD ELECTRIC CORPORATION

*Quality Speakers  
for Every  
Application*

**A OP SPECIALIST SERIES**

Models OP-6 and OP-8 represent the most advanced weatherproof paging and talkback speakers. They incorporate new design innovations with new materials to provide the highest efficiency with the lowest distortion factors of any competitive units available.

**B OH-10 WEATHERPROOF DUAL SPEAKER SOUND SYSTEM**

A high efficiency co-axial speaker that reproduces music and voice with the fidelity of an expensive indoor high-fidelity speaker system yet, the OH-10 is rugged and completely weatherproof. Components are housed in die-cast aluminum inclosure which is designed to compliment every setting from the shopping center to the patio.

**C PUBLIC ADDRESS SPEAKERS**

Oxford public address speakers are designed for higher output, with less power input. This maximum conversion efficiency in power and coverage permits a reduction in the number of speakers usually required in an installation. And, lower rated power amplifiers may be used with a substantial savings in cost.

**D INTER-COM SPEAKERS**

Oxford high efficiency Inter-com speakers are designed to give round, full and clear reproduction in the voice frequency range and at the same time suppress unwanted background noises. Even whispers will be reproduced with great clarity in areas with high background noise levels . . . shouts are reproduced without distortion.

**E ALL WEATHER SPEAKERS**

Oxford offers a complete line of All Weather speakers specifically designed for maximum operating performance regardless of weather conditions. They feature exclusive Oxford HYDRO-PRUF cones for full environmental protection. Special moisture protected voice coils prevent humidity damage. Extra heavy cadmium plating, inside and out, resists corrosion.

**F CERAMIC SPEAKERS**

Featuring shallow construction, these speakers are ideal for in-wall, stereo wing, picture frame, and other installations where space is at a premium. In addition to the standard models, Oxford also offers ceramic units with exclusive Oxford Hidden Magnet design. The magnet is mounted between the basket and the cone, permitting use of the dual cone for extended range while retaining the thin silhouette.

**G EXACT REPLACEMENT AUTOMOTIVE RADIO SPEAKERS**

A complete line is available, including exact replacement speakers, universal speakers, special units for custom automobiles, and speakers specifically designed for transistorized automobile radios.

**H REPLACEMENT SPEAKERS**

Oxford manufactures the most complete line of standard replacement speakers available for original equipment, including, phonographs, tape recorders, radios and television sets. The speaker sizes range from 2" through 15", in dimensions to insure a perfect installation.

**I HIGH FIDELITY SPEAKERS**

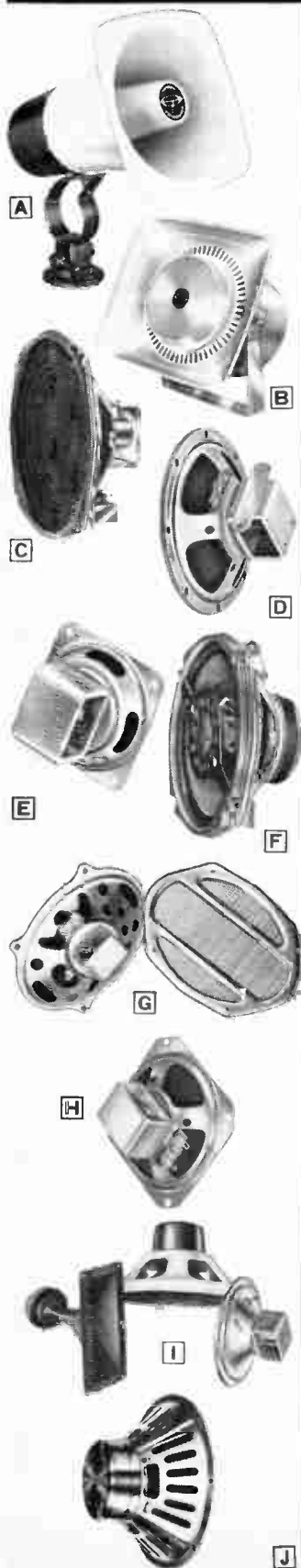
The Oxford line offers a full range of woofers, tweeters, extended range and co-axial speakers. They are all designed to reproduce the entire audio spectrum with true high fidelity so necessary for fine stereo reproduction. For the price conscious hi-fi equipment buyer, Oxford offers the most outstanding value.

**J SPECIAL PURPOSE SPEAKERS**

As a "full line" loudspeaker manufacturer, Oxford also produces speakers for many "special purposes." The most popular of these is a series designed for use with electric musical instruments, such as guitars and electronic organs. It is only with a speaker designed for this particular application that the full quality of the instrument and performance can be appreciated.

Manufacturers, Write for Quotes on OEM Quantities.

**OXFORD TRANSDUCER COMPANY**  
A Division of OXFORD ELECTRIC CORPORATION







# MICROPHONES

BK-11A



## POLYDIRECTIONAL RIBBON MICROPHONE—77DX

The quality microphone standard of the broadcast industry, the RCA 77-DX, is available in two models; one with a low gloss finish for TV, the other a satin chrome finish for AM and FM. The 77-DX offers a choice of unidirectional, bidirectional, or nondirectional pickup patterns which are easily changed by a selector switch. Three frequency response variations on the basic pickup patterns may also be obtained, thus a total of nine different directional characteristics may be utilized. The 30-20,000 cycle frequency response of the 77-DX makes it suitable for every high fidelity broadcasting and recording application. Output impedance is factory connected for 250 ohms; however, it may be easily reconnected for a 30 to 150 ohm output impedance.

This 77-DX mounts on a standard 1/2-inch pipe thread, and comes with 30 feet of three conductor shielded cable, less plug.

77-DX Satin Chrome Finish .....\$290.00\*  
77-DX-G Low Luster Gray Finish .....\$275.00\*

## BI-DIRECTIONAL RIBBON MICROPHONE—BK-11A

In the studio or at indoor remotes, whether a simple interview program or full orchestra pickup, the bi-directional characteristics and excellent frequency response (20 to 20,000 Hz) make the BK-11A an extremely useful production tool. The output can be connected for 30, 150, and 250 ohm operation. A three position switch permits selection of desired frequency ranges for voice and music.

The BK-11A has been designed for use with the inexpensive MA-06 desk stand, and it can also be used with any standard 1/2-inch pipe thread desk or floor stand. Thirty feet of three conductor cable is supplied without a connector.

BK-11A .....\$107.00\*

## UNIAXIAL RIBBON MICROPHONE—BK-5B

The BK-5B is a high quality ribbon instrument designed especially for use in high noise areas, as well as being suitable for general studio purposes. Maximum sensitivity of the BK-5B is in the major mechanical axis, and this produces an extremely directional cardioid pattern. Frequency response from 30 to 20,000 Hz permits using the BK-5B for all types of high fidelity voice and music pickups. The output is connected for 250 ohms, but may easily be changed to 30 or 150 ohms. The low-luster amber gray finish makes it ideal for TV.

It is supplied with thirty feet of three conductor cable, less connector. A wind-screen is available for outdoor use. The BK-5B is supported by a fork mounting which has 1/8-inch pipe thread.

BK-5B .....\$158.00\*

## LAVALIER MICROPHONE—BK-6B

The BK-6B is a lightweight microphone with excellent speech balance, ideal for remotes, interviews, and other applications where an inconspicuous microphone is needed. The 2.3 ounce unit is only 2 9/16 by 1 1/16 inches. Wide range frequency response (60-15,000 Hz) permits using the microphone for all speech applications. The 250 ohm output impedance may be changed to 30 or 150 ohms by a simple change of cable connections.

The small size and lanyard mounting make the BK-6B extremely versatile. Thirty feet of three conductor cable is supplied, less connector.

BK-6B with lanyard and fastener .....\$86.00\*

## SUBMINIATURE LAVALIER MICROPHONE—BK-12A

The RCA BK-12A is a high-quality subminiature microphone weighing just 20 grams and measuring only 3/8" x 1 1/2". It has a wide-frequency response of 60 to 18,000 Hz, which has been tailored for proper speech balance. The BK-12A is essentially non-directional to 6,000 cycles, and as a result, ordinary errors in orientation have negligible effect upon response. The microphone comes complete with lanyard, tie clip holder, cable clip and 30-feet of 2-conductor cable (less connector).

BK-12A .....\$95.00\*

## BI-DIRECTIONAL RIBBON MICROPHONE—SK-46

The SK-46 is designed for high quality indoor use. It has excellent frequency response 40-15,000 Hz and bidirectional pickup characteristics. Output impedance is 200 ohms, but it may be reconnected to produce a 15,000 ohm output. Dependable performance as well as attractive styling make the SK-46 an ideal choice for high fidelity applications. The SK-46 has a 5/8-inch-27 mounting thread and is supplied with 25 feet of two conductor cable (less connector).

SK-46 .....\$54.95\*

## NON-DIRECTIONAL DYNAMIC MICROPHONE—BK-1A

Ideal for outdoor use or wherever constant handling is required the BK-1A offers smooth response for both voice and music. The BK-1A is also an excellent unit for sports, panel shows, interviews, and remotes. It provides uniform response from 50 to 15,000 Hz. The swivel mounting of the BK-1A can be used to control directional characteristics. The vertical position is nondirectional; the horizontal position is semidirectional. The output impedance is 250 ohms, but 30 and 150 ohm connections are included.

The BK-1A may be mounted on any type stand having 1/2-inch pipe thread and is perfect for use with the MA-06 desk stand. Thirty feet of three conductor cable is supplied, less connector.

BK-1A .....\$86.00\*

## GENERAL PURPOSE DYNAMIC MICROPHONE—SK-30/SK-31

Here is an excellent non-directional general purpose microphone available as a low-impedance (SK-30) or high-impedance (SK-31) unit. It is rugged and lightweight with good response to voice and music (50-14,000 Hz). In addition to being hand held, it may be swivel mounted on a desk or floor stand or it may be mounted on a goose-neck stand. A 5/8-inch-27 thread swivel adaptor is available for floor or desk stand mounting. The microphone comes complete with 20-feet of shielded cable (less connector).

SK-30 .....\$30.00\*  
SK-31 .....\$31.00\*

## NON-DIRECTIONAL DYNAMIC MICROPHONE—SK-45B

Ideal for talk-back, cue, and public address use, the rugged lightweight SK-45B microphone offers good voice reproduction. It may be connected for a 150 to 200 ohm balanced output, for a 15,000 ohm output. Response is from 70 to 12,000 Hz. Mounting with any 5/8-inch-27 fixture thread permits the use of low cost stands. Finish is low gloss gray, and the SK-45B is supplied with 25 feet of two conductor cable less connector.

SK-45B .....\$37.00\*

## NON-DIRECTIONAL DYNAMIC MICROPHONE—SK-39B/SK-40B (Low Z—High Z)

Cue and talk-back applications are perfect for this inexpensive dynamic microphone. The SK-39 is rugged and relatively insensitive to mechanical shock and wind. Frequency response is 60 to 10,000 Hz. It may be mounted on any 5/8-inch-27 fixture thread, and is supplied with 7 feet of three conductor cable (less connector).

SK-39B/SK-40B .....\$33.00\*

## STAND AND ACCESSORIES

Windscreen—MA-25—For use with BK-5B microphone .....\$16.50\*

Boom Mount—MA-24—Shock mounting to isolate BK-5B microphone from vibration .....\$36.50\*

Holder—MA-07—5/8"-27 female thread. For use with BK-6B microphone .....\$3.35\*

Adaptor—MA-08—5/8" female fitting—1/2" male pipe thread, to adapt a 5/8"-27 microphone to a 1/2" pipe thread stand .....\$.60\*

Adaptor—MA-09—1/2" female pipe thread, 5/8"-27 male fitting, to adapt 1 1/2" microphone to a 5/8"-27 stand .....\$.90\*

Desk Stand—MA-06—1/2" pipe fit—male 4 3/8" dia., 1 3/8" h. For use with BK-1A and BK-11A microphones. ....\$7.75\*

Desk Stand—MA-05—1/2" pipe fit—male 4 1/2" wide, 6 5/8" long, 3/4" high or 1 3/8" (incl. Stem). Crinkle and chrome finish, 4 lbs. For use with 77-DX and BK-5B Microphones .....\$16.75\*

Desk Stand—MA-01—5/8"-27 male thread, 7" to 11" chrome tube, 8" dia. Crinkle base, About 2 1/2 lbs. ....\$ 5.20\*

Banquet Stand—MA-02—5/8"-27 male thread, 13" to 25" chrome tube, 8" dia. Crinkle base. About 6 lbs. ....\$ 5.85\*

Floor Stand—MA-03—5/8"-27 male thread, 7/8" dia., 35" to 65" chrome tube, 12" dia. Crinkle base. ....\$ 9.00\*

Floor Stand ( deluxe)—MA-04—5/8"-27 male thread, 1 1/4" dia., 37" to 66" chrome tube. Triangular 17" dia. Crinkle base .....\$16.50\*

Swivel Adaptor—MA-32—for SK-30/SK-31 microphone. (Fits conventional 5/8"-27 thread floor and desk stands) .....\$ 3.40\*

\*Optional distributor resale price.

SK-45B



BK-1A



SK-46



BK-6B



SK-39B/  
SK-40B

77DX



BK-12A



SK-30/  
SK-31



BK-5B

# QUAM *Quality Line* SPEAKERS

These speakers are engineered and manufactured solely for replacement, public address, high fidelity and outdoor applications. EIA standard dimensions. Fully dust-proofed. Baked gold enamel finish. EIA service guarantee. Only Quam speakers have the U shaped coil pot construction which provides an unbroken flux path of sufficient cross section to carry the full energy of the magnetic field.

## SPECIAL REPLACEMENT SPEAKERS FOR COLOR TV

MODEL No.	SIZE	FIGURE	MAGNET WEIGHT OR FIELD	POWER HANDLING WATTS	DEPTH	SHIP WT., LBS.	DEALER NET
35A2C*	3"x5"	R‡	1.1 oz. Alnico V	4	1-11/16	3/4	\$3.00
4A2C*	4"	R‡	1.1 oz. Alnico V	4	1-5/8	3/4	2.86
46A2C*	4"x6"	R‡	1.1 oz. Alnico V	4	1-11/16	1	3.14
52A2C*	5 1/4"	R‡	1.1 oz. Alnico V	5	1-7/8	1	3.27



Fig. R

## REPLACEMENT SPEAKERS Voice coil impedance 3.2 ohms ±10% except as noted.

22A06Z8**	2 1/4"	J	.45 oz. Alnico V	.25	1	1/4	\$ 2.85
22A06Z100**	2 1/4"	J	.45 oz. Alnico V	.25	1	1/4	3.15
25A07	2 1/2"	A	.65 oz. Alnico V	1.5	1-1/4	1/4	2.18
26A07	2"x6"	R	.65 oz. Alnico V	2	1-19/32	1/2	2.35
27A06Z12**	2 3/4"	J	.55 oz. Alnico V	.25	1	1/4	2.82
30A05	3"	I	.55 oz. Alnico V	2	1-3/16	1/2	1.72
3A05Z8**	3 1/2"	I	.55 oz. Alnico V	2	1-9/32	1/4	2.10
3A05*	3 1/2"	I	.55 oz. Alnico V	2	1-9/32	1/4	1.72
3A07*	3 1/2"	A	.55 oz. Alnico V	2.5	1-11/16	1/2	2.18
3A07Z20**	3 1/2"	I	.55 oz. Alnico V	2.5	1-33/64	1/2	2.58
35A05*	3"x5"	R	.55 oz. Alnico V	2	1-1/2	1/2	2.29
35A05Z8**	3"x5"	R	.55 oz. Alnico V	2	1-1/2	1/2	2.67
4A05*	4"	I	.55 oz. Alnico V	2.5	1-1/2	1/4	1.61
4A07*	4"	A	.65 oz. Alnico V	3	1-3/4	1/2	2.35
4A1	4"	A	1.0 oz. Alnico V	3	1-3/4	3/4	2.51
4A15	4"	A	1.47 oz. Alnico V	3	2-1/16	3/4	2.75
46A07*	4"x6"	E	.65 oz. Alnico V	3.5	1-15/16	3/4	2.59
46A1	4"x6"	E	1.0 oz. Alnico V	3.5	1-15/16	1	2.78
46A1Z10**	4"	A	1.0 oz. Alnico V	3	1-9/16	3/4	4.85
46A15	4"x6"	E	1.47 oz. Alnico V	3.5	2-1/4	1	3.00
410A2MT#	4"x10"	M	1.4 oz. Alnico V	6	2-11/16	1	5.97
410A2Z10§	4"x10"	M	1.4 oz. Alnico V	6	2-11/16	1	5.67
48A2*	4"x8"	M	1.4 oz. Alnico V	4.5	2-1/16	1	4.34
48A2Z20C†	4"x8"	M	1.4 oz. Alnico V	4.5	2-1/16	1	4.95
410A2*	4"x10"	M	1.4 oz. Alnico V	6	2-11/16	1 1/4	4.88
5A05*	5"	I	.55 oz. Alnico V	3	1-11/16	1/2	1.91
5A07*	5"	C	.65 oz. Alnico V	3.5	2	3/4	2.45
5A1	5"	C	1.0 oz. Alnico V	3.5	2	1	2.64
5A1Z8**	5"	C	1.0 oz. Alnico V	3.5	2-5/16	1	3.03
5A15	5"	C	1.47 oz. Alnico V	3.5	2-5/16	1	2.86
52A1	5 1/4"	C	1.0 oz. Alnico V	4	2-1/16	1	2.70
52A1Z8**	5 1/4"	C	1.0 oz. Alnico V	4	1-7/8	1	3.09
52C10#	5 1/4"	N	10.0 oz. Ceramic	10	2-1/4	2-1/8	5.43
57A1	5"x7"	D	1.0 oz. Alnico V	5	2-3/8	1	3.00
57A15	5"x7"	D	1.47 oz. Alnico V	5	2-11/16	1	3.33
57A2MT#	5"x7"	D	1.2 oz. Alnico V	5	2-5/16	1	3.90
57A21	5"x7"	D	2.15 oz. Alnico V	5	2-61/64	1-1/4	3.68
58A15Z8	5"x8"	F	1.47 oz. Alnico V	5	2-3/4	1-1/4	4.26
6A1	6 1/2"	C	1.0 oz. Alnico V	5	2-5/8	1	2.89
6A15	6 1/2"	C	1.47 oz. Alnico V	5	2-5/8	1	3.14
6A31	6 1/2"	C	3.16 oz. Alnico V	6	3-11/64	1-3/4	4.14
69A1*	6"x9"	D	1.2 oz. Alnico V	6	2-3/4	1-1/4	3.27
69A1S*	6"x9"	D	1.2 oz. Alnico V	6	2-1/16	1	4.64
69A2*	6"x9"	D	1.4 oz. Alnico V	8	2-15/16	1-1/2	4.09
69A2MT#	6"x9"	D	1.4 oz.	8	2-15/16	1-1/4	5.04
69A2Z10§	6"x9"	D	1.4 oz.	8	2-15/16	1-1/4	4.77
69A3	6"x9"	D	3.2 oz. Alnico V	10	3-5/16	2	5.02
610A1Z8	6"x10"	F	1.2 oz. Alnico V	8	2-13/16	1-3/4	5.10
7A21*	7"	C	1.4 oz. Alnico V	6	2-31/32	1	3.95
8A1	8"	C	1 oz. Alnico V	6	3-1/2	1	3.24
8A21	8"	C	2.15 oz. Alnico V	7	3-13/32	1-1/2	4.23
8A31	8"	C	3.16 oz. Alnico V	9	3-21/32	2	4.91
10CS	10"	L	4.8 oz. Ceramic	9	3-17/32	2-1/4	6.27
12A31	12"	B	3.16 oz. Alnico V	10	4-19/32	3-3/4	6.52
12A6A	12"	B	6.8 oz. Alnico V	14	5-1/4	4-1/2	8.70

\* Cup pot; very shallow construction.

\*\* Impedance is designated by number following the letter "Z".

# Ceramic magnet. \* Dual cone.

† 20 ohms, center tapped

■ Multi-tap; 10-20-40 ohms

‡ Illustrates magnet construction; see same size standard speaker for basket shape.

§ 8-12 ohms



Fig. F



Fig. G

# QUAM *Quality Line* SPEAKERS

## OUTDOOR SPEAKERS

Voice coil impedance 3.2 ohms ±10%

These long-life speakers have the improved Humi-Gard Cone which utilizes a Mylar plastic film to provide maximum resistance to moisture and dirt and sand abrasion, yet does not interfere with response characteristics. Air gap surfaces cadmium plated and enameled. Quantity quotations on request.

All Quam speakers are available weather-proofed for an additional 70¢ list. When ordering weather-proofed speakers use part numbers appearing in this catalog and add suffix "OT" to part number. (Humi-Gard Cone available only on 3½", 4" 5", and 6½" speakers.)



Fig. H



Fig. I



Fig. J



Fig. K



Fig. L



Fig. M

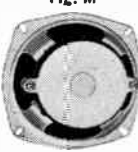


Fig. N

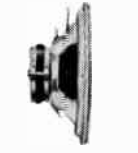


Fig. O



Fig. P



Fig. Q

MODEL No.	SIZE	FIGURE	MAGNET WEIGHT OR FIELD	POWER HANDLING WATTS	DEPTH	SHIP. WT., LBS.	DEALER NET
3A07 OT*	3½"	A	.65 oz. Alnico V	2.5	1-33/64	1/2	2.35
4A05 OT*	4"	I	.55 oz. Alnico V	2½	1-1/2	1/4	2.18
5A05 OT*	5"	I	.55 oz. Alnico V	3	1-11/16	1/2	2.45
8A31PA OT	8"		3.16 oz.	10	3¾	2	5.34

## PUBLIC ADDRESS SPEAKERS

Voice coil impedance 8 ohms ± 10%

MODEL No.	SIZE	FIGURE	MAGNET WEIGHT OR FIELD	POWER HANDLING WATTS	DEPTH	SHIP. WT., LBS.	DEALER NET
8A1PA	8"	C	1 oz. Alnico V	8	3-1/2	1-1/4	\$3.84
8A21PA	8"	C	2.15 oz. Alnico V	10	3-9/16	2	4.92
8A31PA	8"	C	3.16 oz. Alnico V	10	3-9/16	2	5.70
8A4PA	8"	B	4.64 oz. Alnico V	12	3-3/4	2-3/4	6.60
8A6PA	8"	B	6.8 oz. Alnico V	12	3-7/8	3-1/4	7.80
8C6PA#	8"	O	6.0 oz. Ceramic	12	3	2-1/2	6.00
8C10PA#	8"	O	10.0 oz. Ceramic	12	3-1/8	3	7.17
10C10PA	10"	L	10.0 oz. Ceramic	14	3-25/32	3-1/4	8.70
12A31PA	12"	B	3.16 oz. Alnico V	12	5	3-1/4	7.17
12A4PA	12"	B	4.64 oz. Alnico V	15	5-1/8	3-3/4	8.55
12A6PA	12"	B	6.8 oz. Alnico V	15	5-1/4	4	9.57
12C12PA#	12"	O	12 oz. Ceramic	25	4-1/2	4-1/2	11.97

## BACKGROUND MUSIC SPEAKERS

Voice coil impedance 8 ohms

MODEL NUMBER	SIZE	FIGURE	FREQUENCY RESPONSE (CPS)	MAGNET WEIGHT	POWER HANDLING WATTS	DEPTH	SHPG. WEIGHT POUNDS	DEALER NET
8C5PAX#	8"	P	50-20000	4.8	10	2-25/32"	2	6.00
8C6PAX#	8"	P	50-20000	6.0 oz.	12	3"	2	6.57
8C10PAX#	8"	P	50-20000	10.0 oz.	15	3-1/8"	2-1/2	7.77
8C6PAS#	8"	Q	50-6000	6.0 oz.	10	2-1/8"	2-1/4	8.97
12C6PAS#	12"	Q	40-12000	6.0 oz.	15	3-1/2"	2-3/4	6.00
12C10PAX#	12"	P	50-15000	10.0 oz.	15	4-3/8"	4	10.17

## INTERCOM SPEAKERS

Voice coil impedance 45 ohms ±10%

MODEL No.	SIZE	FIGURE	MAGNET WEIGHT	POWER HANDLING WATTS	DEPTH	SHIP. WT., LBS.	DEALER NET
3A07Z45*	3½"	A	.65 oz. Alnico V	2.5	1-33/64	1/2	2.55
4A07Z45*	4"	A	.65 oz. Alnico V	3.0	1-9/16	1/2	2.73
4A1Z45	4"	A	1.0 oz. Alnico V	3.0	1-9/16	3/4	2.91
5A1Z45	5"	C	1.0 oz. Alnico V	3.5	2-5/16	1	3.06

## HIGH FIDELITY SPEAKERS

MODEL No.	SIZE	FIGURE	SPEAKER TYPE	FREQUENCY RESPONSE CPS	Pwr Hndlg Watt:	V.C. Impedance	Shippg Wt. Lbs.	DEALER NET
15C12CO#	15"	G	Coaxial, 2000cps. Xover	25-18,000	25	8	8	31.50
12A6CO	12"	G	Coaxial, 2000cps. Xover	50-15,000	14	8	6-1/2	20.70
8A4CO	8"	G	Coaxial, 2000cps. Xover	50-15,000	10	8	2-3/4	13.77
12C12X#	12"	H	Extended range dual cone	30-16,000	18	8	5-1/2	15.60
8C12X#	8"	H	Extended range	50-14,000	15	8	3-1/4	12.00
69C6X#	6" x 9"	D	Extended Range dual cone	50-15,000	12	8	2-1/2	8.37
15C12L#	15"	H	Low frequency woofer	20-4,000	15	8	7	21.00
12C12L#	12"	H	Low frequency woofer	30-3,000	15	8	5-1/2	15.60
5A15T	5"	A	High frequency tweeter	2,000-15,000	10	14	1	3.90
3A15T	3½"	A	High frequency tweeter	2,000-15,000	10	14	3/4	3.45
C02-50			Crossover Unit for use with 5A15T&3A15T				1/8	1.20

## REAR SEAT AUTO SPEAKER KITS

These kits contain everything required for the installation of the speaker. They include a dash-mounting fader control, cable, flocked screen grill, baffle plate, all necessary hardware and complete installation instructions.

†Chrome plated grill.      ■ Multi-Tap Speaker  
 ▲ Sponge rubber baffle plate gasket

MODEL NUMBER	SIZE	FIELD OR MAGNET WEIGHT	POWER HANDLING WATTS	VOICE-COIL IMPEDANCE (OHMS)	SHPG. WEIGHT POUNDS	DEALER NET
AS-1	6-1/2"	1.47 oz.	5	3.2	2	5.43
AS1MT ■	6-1/2"	1.47 oz.	5	10-20-40	2	6.57
AS-2▲	6" x 9"	2.15 oz.	9	3.2	3-1/2	7.61
AS-4	6" x 9"	1.2 oz.	6	8	1-3/4	4.09
AS5MT ■	6" x 9"	1.4 oz.	8	10-20-40	1-3/4	8.37

## UNIVERSAL REPLACEMENT SPEAKERS

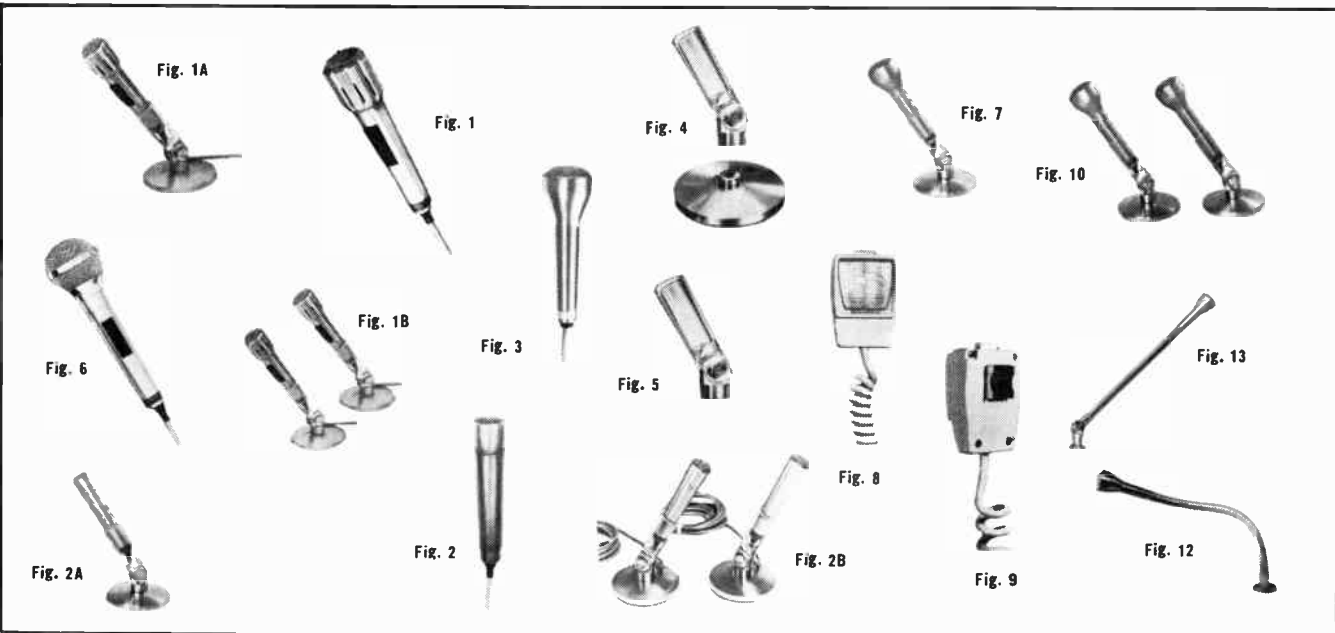
These ingeniously designed speakers fit directly into original equipment without sheering or notching. This eliminates the creation of metallic particles which might otherwise lodge in the voice coil gap.

MODEL No.	SIZE	FIGURE	MAGNET WEIGHT	POWER HANDLING WATTS	SHIP WT., LBS.	DEPTH INCHES	DEALER NET
26A07U	2" x 6"	K	.65 oz.	2	1/2	1-19/32	\$2.46
3A05U	3½"	K	.55 oz.	2	1/2	1-19/32	1.83
35A05U	3" x 5"	K	.55 oz.	2	1/4	1-1/2	1.68
4A05U	4"	K	.55 oz.	2.5	1/4	1-1/2	2.34
4A05XR*	4" x 6"	K	.55 oz.	2.5	1/4	1-1/2	2.22
46A07U	4"	K	.65 oz.	3.5	3/4	1-15/16	2.73

\* Includes premounted 2500 ohm transformer

# SONOTONE®

## DYNAMIC AND CERAMIC MICROPHONES



**SONOTONE STUDIO "70" PROFESSIONAL DYNAMIC MICROPHONE.** Slim metal case, 18' of deluxe cord and cord clip; complete with table stand and floor stand adapter. Plus, new lavalier and adjustable neck strap all packaged in an attractive stitched leather-like storage and carrying case with handle. Response is 40 to 18,000 Hz; Sensitivity is -83 db re 1 mw per 10 dyne/cm<sup>2</sup> and output is 200 ohms — \$47.40. Fig. 2.

**SONOTONE DYNAMIC "BALL" MICROPHONE DM70-B.** Sonotone's new dynamic "ball" type microphone features a wire-mesh, chrome-plate ball grille and has a built-in wind blast screen for close miking control. The model DM70-550B features a slim "mike" handle and on-off switch; response is 40 to 18,000 Hz; impedance is 200 ohms and sensitivity is -62 db re 1 mw per 10 dyne/cm<sup>2</sup> — \$25.50. The "ball" microphone is available in three other models: Model DM70-100-B, 50 k — \$23.40; Model DM70-200-B, 10k — \$23.40 and Model DM70-500-B, 200 ohms — \$23.40. Fig. 6.

**SONOTONE DYNAMIC CARDIOID MICROPHONE CDM-80 (Dual Impedance).** Features discriminating, front-to-back rejection and unidirectional pattern preferred by professionals; on-off switch and dual impedance. Ideal for PA systems, TV use, professional use, tape recordings. Equipped with 15' three-conductor cable plus shield. No plug. Net \$26.10. Fig. 1.

**SPECIFICATIONS:** Response: 80 to 12,000 cps; Sensitivity: 50,000 ohms — 59 db @ 1kc, 200 ohms — 83 db @ 1kc; Front-to-back rejection: 16 to 20 db; Impedance: 50,000/200 ohms.

**SONOTONE DYNAMIC CARDIOID CDM80. (Dual Impedance - microphone and stand).** Complete package consisting of CDM80 mike and CMS-10 table stand. Net \$29.25. Fig. 1A.

**SONOTONE DYNAMIC CARDIOID CDMT80. (Dual Impedance matched microphones).** Matched CDM80 microphones. Net \$52.50. Fig. 1B. Illustrated with optional stands.

**SONOTONE DYNAMIC MICROPHONE DM70-100, DM70-200 AND DM70-500.** High performance low and high impedance for PA systems, tape recording and professional use. Free-suspension design cuts handling and clothing noises. Equipped with shielded strain relief cable. Net \$16.50. DM70-550 Dynamic microphone with switch. Impedance: 200 ohms. Net \$17.70. Fig. 2.

**SPECIFICATIONS:** Response: 40 to 15,000 cps; Sensitivity: -60 to -83 db @ 1kc; Impedance: 50,000, 10,000 and 200 ohms.

**SONOTONE DYNAMIC MICROPHONE DMC70.** Complete package consisting of DM70 mike and CMS-10 table stand. DMC70-100 Net \$19.65. DMC70-200 Net \$19.65. DMC70-500 Net \$19.65. DMC70-550 Net \$20.85. Fig. 2A.

**SONOTONE DYNAMIC MICROPHONE DMT70.** Matched DM70 microphones. DMT70-100 Net \$33.30. DMT70-200 Net \$33.30. DMT70-500 Net \$33.30. DMT70-550 Net \$35.70. DMT70-550 Net \$35.70. Fig. 2B. Illustrated with optional stands.

**SONOTONE DYNAMIC MICROPHONE DM10-100, DM10-200 AND DM10-500.** Low and high impedance, omnidirectional for tape recordings, PA systems and professional use. Cartridge cup mounted in rubber sleeve. 7' single conductor shielded cable with standard phone plug. Net \$14.70. DM10-550 Dynamic microphone with switch. Impedance: 200 ohms. Net \$15.30. Fig. 3.

**SPECIFICATIONS:** Response: 80 to 16,000 cps; Sensitivity: -57 to -80 db @ 1kc; Impedance: 50,000, 10,000 and 200 ohms.

**SONOTONE DYNAMIC MICROPHONE DMC10.** Complete package consisting of DM10 mike and CMS-10 stand. DMC10-100 Net \$17.85. DMC10-200 Net \$17.85. DMC10-500 Net \$17.85. DMC10-550 Net \$18.45. Fig. 7.

**SONOTONE DYNAMIC MICROPHONE DMT10.** Matched DM10 microphones complete with stands. DMT10-100 Net \$29.70. DMT10-200 Net \$29.70. DMT10-500 Net \$29.70. DMT10-550 Net \$30.90. Fig. 10. Stands optional.

**MATCHING TABLE STAND CMS-10.** With 5/8" No. 27 thread for floor stand mounting. Net \$3.25. Fig. 4.

**FLOOR STAND ADAPTER AD-10.** Rotates 180°, Standard 5/8" No. 27 thread — fits all floor stands. Net \$2.70. Fig. 5.

**MATCHING TABLE STAND LA-20.** Black plastic lavalier; adjustable strap for desk or body use. For all DM and CM mike series. Net \$2.25.

**SONOTONE CERAMIC CM-10A.** Natural, clean reproduction for tape recording, home movies, PA systems and conference pickups. 7' shielded cable with phone plug. Net \$11.03. Fig. 3.

Response: ..... 50 to over 11,000 cps  
Sensitivity: ..... -56 db ± 2 db  
Damping grid: ..... Lanced, lowered metal grid

**SONOTONE CERAMIC CMC-10A.** Combination package consisting of CM-10A mike and CMS-10 table stand. Net \$14.19. Fig. 7.

**SONOTONE CERAMIC CM-3050.** Low-impedance CB mike. "Push-to-talk" button, shatterproof case, lightweight. Coiled 4-conductor shielded cable. Net \$8.45. Fig. 8.

**SONOTONE CERAMIC CM3050M.** Same as CM-3050, with magnetic dashboard mount. Net \$11.03. Fig. 9.

**SONOTONE CERAMIC CM-1050WR.** Wire-range, low-impedance. For voice and music applications. Stand not included. Net \$11.67. Fig. 3.

Response: ..... 50 to 10,000 cps  
Sensitivity: ..... -58 db  
Recommended impedance: 250K (useable to 33K)  
Damping grid: ..... Lanced, lowered metal grid

**SONOTONE CERAMIC CM-1050SR.** Speech-range, low-impedance for speech applications, as tape recording and communications. Net \$11.67. Fig. 3.

**SONOTONE CERAMIC CMT-1050WR (matched twins).** For music and speech taping in stereo. Each mike is matched to within ±2 db. Stands not included. Spec same as CM-1050WR. Net \$23.63 pair. Fig. 10. Stands optional.

**SONOTONE CERAMIC CM-1050WR (combination stand and mike).** For taping, PA systems and learning labs. Low-impedance, wire-range. Specs same as Model CM-1050WR. Net \$14.81. Fig. 7.

**SONOTONE CERAMIC CM-30.** For mobile units. Intelligence unsurpassed. Favors voice frequency range. Ruggedly built. Lightweight, shatterproof plastic case. Convenient "push-to-talk" button and dashboard mounting bracket. Spring-spiraled 4-conductor shielded cable. Net \$8.82. Fig. 8.

**SONOTONE CERAMIC CM-30M.** With new magnetic dashboard mount — no holes to drill. Net \$10.40. Fig. 9.

Response: ..... 60 to 7,000, 7,000 cps  
Sensitivity: ..... -56 db ± 2 db  
Case: ..... Shatterproof plastic

**SONOTONE CERAMIC CM-17A.** Omnidirectional high impedance for audio-visual labs, language labs, PA systems. 13" flexible gooseneck keeps hands free for writing and taking messages. For all speech needs. 6' shielded cable. Net \$15.44. Fig. 12.

Response: ..... 50 to over 11,000 cps  
Sensitivity: ..... -56 db ± 2 db  
Damping grid: ..... Lanced, lowered metal grid

Models utilizing the CM-17A element available in a variety of mountings as follows:

**SONOTONE CERAMIC CM-17B.** 13" boom mike. Fixed boom mounted with 350° swivel. 7' mike cable. Net \$17.96. Fig. 13.

**SONOTONE CERAMIC CMT-10A (matched twin).** For taping live stereo. Every CMT-10A set is electronically matched at the factory to a tolerance of ±2 db. 7' shielded cable and phone plug. Per pair, net \$22.37. Fig. 10. Stands optional.

Response: ..... 50 to over 11,000 cps  
Sensitivity: ..... -40 db ± 2 db  
Damping grid: ..... Lanced, lowered metal grid

**SONOTONE DYNAMIC MICROPHONE DM17A-500.** Omnidirectional low impedance — 200 ohms, dynamic microphone. For learning labs, PA systems. 13" flexible gooseneck; 6' of shielded cable. Net \$20.70. Fig. 12.

Response: ..... 60 to 16,000 Hz  
Impedance: ..... 200 ohms  
Sensitivity: ..... -58 db Re: 1 mw per 10 dyne/cm<sup>2</sup> at 1kc

**SONOTONE DYNAMIC MICROPHONE DM17B-500.** Omnidirectional low impedance — 200 ohms, dynamic microphone for learning labs, PA systems. 13" solid boom, fixed swivel base. Moves to 350°; 6' of shielded cable. Net \$23.10. Fig. 13.

**SPECIFICATIONS** are the same as for Model DM17A-500.



SHURE

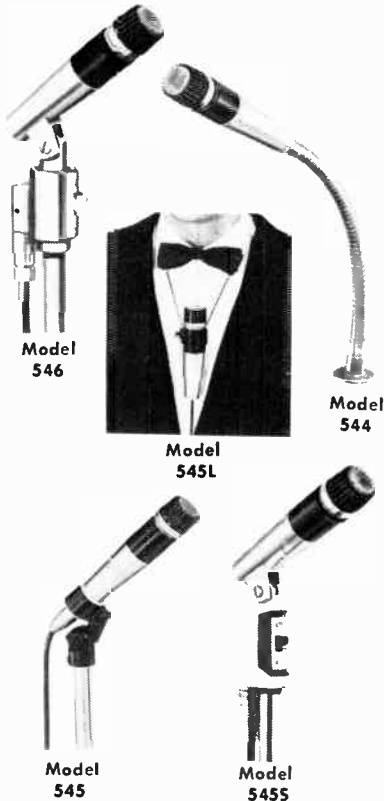
# FAMOUS UNIDYNE MICROPHONES

## UNIDYNE III Microphones

### MODELS 545 • 545S • 545L • 544 • 546

Recommended for use in any location where feedback prevents good sound reproduction.

Small and strikingly handsome, the acoustical design of the Unidyne III Microphones approaches the theoretical ideal of the uniform cardioid pickup pattern. Reproduces the human voice with remarkable fidelity. A favorite choice for singers and entertainers. Low frequency characteristics eliminate boominess, making them especially good for pickup of drums and bass instruments.



**Model 545 Unidyne III:** For hand or stand usage. Includes an A25B Swivel adapter. **List Price: \$85.00**

**Model 545S Unidyne III:** Mounted on a lifetime swivel that also contains the On-Off switch. **List Price: \$89.95**

**Model 545L Unidyne III:** Designed for lavalier use. Lavalier cord included. Can also be mounted on a flexible gooseneck. **List Price: \$70.00**

**Model 544 Unidyne III:** The basic microphone for "gooseneck" mounting. **List Price: \$80.00.** To obtain microphones complete with "goosenecks," order Models 544-G6 (\$83.00), or 544-G12 (\$83.75), or 544-G18 (\$85.00), for 6-inch, 12-inch, or 18-inch goosenecks.

**Model 546 Unidyne III:** Features a special live-rubber, vibration-isolating shock mount. Recommended for high quality public address systems and tape recording—especially where floor or stage is "shaky." **List Price: \$135.00**

#### SPECIFICATIONS

**Frequency Response:** 50 to 15,000 Hz

**Impedance and Output Level:**

Models 545, 545S, 544: Dual. Model 545L: Low. Low —57db (0 db = 1 milliwatt per 10 microbars); .141 millivolts/microbar. High —55 db (0 db = 1 volt per microbar); 1.760 millivolts/microbar.

Model 546—Dual: L (50 ohms) —56 db (0 db = 1 milliwatt per 10 microbars); .067 millivolts/microbar. M (250 ohms) —56 db (0 db = 1 milli-

watt per 10 microbars); .149 millivolts/microbar.

**Cable:**

Model 545, 545S: 15-foot, 3-conductor shielded with an Amphenol MC4M Type Plug connector.

Model 545L: Attached 20-foot, 2-conductor shielded.

Model 544: Attached 7-foot, 3-conductor shielded.

Model 546: 20-foot, 2-conductor shielded with a Cannon XL-3-1 Type Connector.

## UNIDYNE II Series

### MODELS 555 • 55SW • 556S

Famed Throughout the World for Ruggedness and Reliability.

The Unidynes are the largest selling microphones throughout the world—used consistently by famed celebrities for those important events where the faithfulness of sound reproduction is critical. Model 555 Unidyne II is highly recommended for fine quality public-address, theater-stage sound systems, recording and remote broadcasting, and low-gain tape recording.

Model 556S Unidyne II is specially constructed and tested to meet the requirements of the broadcast and television studio, and is held within close tolerances in frequency response and directivity. The Model 556S is provided with vibration-isolation unit of live rubber construction in the stand connector. Includes multi-impedance switch for high, medium or low impedance.

**Model 555 Unidyne II:** Without On-Off Switch. **List Price: \$83.00**

**Model 55SW Unidyne II:** With On-Off Switch. **List Price: \$85.00**

**Model 556S Unidyne II:** Features a special live-rubber, vibration-isolating shock mount. **List Price: \$135.00**



#### SPECIFICATIONS

**Frequency Response:** Models 555 and 55SW—50 to 15,000 Hz.

Model 556S—40 to 15,000 Hz.

**Impedance and Output Level:**

Models 555 and 55SW: Low (30 to 50 ohms) —55.5 db (0 db = 1 milliwatt per 10 microbars); .071 millivolts/microbar. Medium (150 to 250 ohms) —56.5 db (0 db = 1 milliwatt per 10 microbars); .141 millivolts/microbar. High —55.5 db (0 db = 1 volt per microbar); 1.68 millivolts/microbar.

Model 556S: Low (30 to 50 ohms) —56.5 db (0 db

= 1 milliwatt per 10 microbars); .067 millivolts/microbar. Medium (150 to 250 ohms) —57.5 db (0 db = 1 milliwatt per 10 microbars); .130 millivolts/microbar. High —56 db (0 db = 1 volt per microbar); 1.38 millivolts/microbar.

**Cable:**

Models 555 and 55SW: 15-foot, 2-conductor shielded with an Amphenol MC3M Type Connector.

Model 556S: 20-foot, 2-conductor shielded with a Cannon XL-3-11 Type Connector.

# SHURE UNISPHERE & UNIDYNE "A" MICROPHONES

## UNISPHERE I Microphones **MODELS 565 • 565S • 566**

Now! You can get all the superb feedback-control and uniform cardioid pickup pattern features that have made the Unidyne family of microphones world-renowned for solving difficult public-address problems—with the added problem-solving ability achieved through special filter assemblies that effectively control explosive breath sounds ("POP") and minimize wind noise in outdoor locations (eliminating the need for windscreens). The Unisphere I provides excellent reproduction of voice and music—can be effectively used outdoors and indoors.

**Model 565 Unisphere I:** For stand or hand usage. Includes an A25B swivel adapter. **List Price: \$95.00**

**Model 565S Unisphere I:** On-Off switch included as part of the swivel connector assembly.  
**List Price: \$100.00**

**Model 566 Unisphere I:** Features a built-in vibration-isolation shock mount. **List Price: \$140.00**

### SPECIFICATIONS

**Frequency Response:** 50 to 15,000 Hz.

**Impedance and Output Level:**

Models 565 and 565S: Dual: Low —57 db (0 db = 1 milliwatt per 10 microbars); .141 millivolts/microbar. High —54.5 db (0 db = 1 volt per microbar); 1.88 millivolts/microbar.

Model 566 Dual: Low (30 to 50 ohms) —55 db (0 db = 1 milliwatt per 10 microbars); .075 milli-

volts/microbar. Medium (250 ohms) —55 db. (0 db = 1 milliwatt per 10 microbars); .158 millivolts/microbars.

**Cable:**

Model 565 and 565S: 15-foot, three-conductor shielded with Amphenol MC4M Type Connector.

Model 566: 18-foot, two-conductor shielded with Cannon XL-3-11 Type Connector.



Model 566

Model 565S

Model 565

## UNISPHERE A Microphones

### **MODELS 585SA • 585SB • 585SAV**

The Unisphere A Series of Microphones are economical unidirectional dynamic microphones featuring special filters that provide protection from wind and "pop" (explosive breath sounds). They also eliminate annoying loudspeaker "squeal" caused by feedback. These models are particularly suitable for use in locations where omnidirectional microphones may not operate properly because of poor acoustics or where wind creates a problem. The Model 585 Series comes complete with shock-mounted cartridge, On-Off switch, detachable cable, and a Model A25B swivel adapter.

The Model 585SAV is one of the most ingenious microphones ever designed because the volume control on the microphone case enables the user to change the loudness of the P.A. system at the microphone location. Ideal for applications where the amplifier controls are inaccessible or where the speaker or singer wants to control his own volume for dramatic effects.

**Model 585SA Unisphere A:** High impedance. **List Price: \$65.00**

**Model 585SB Unisphere A:** Low impedance. **List Price: \$58.00**

**Model 585SAV Unisphere A** with adjustable volume control; High impedance. **List Price: \$72.50**

### SPECIFICATIONS

**Frequency Response:** 50 to 12,000 Hz.

**Impedance and Output Level:**

Models 585SA and 585SAV: High —56.5 db (0 db = 1 volt per microbar); 1.48 millivolts/microbar.

Model 585SB: Low —56.5 db (0 db = 1 milliwatt per 10 microbars); .105 millivolts/microbar.

**Cable:**

Models 585SA and 585SAV: 15-foot, one-conductor, shielded with an Amphenol MC1F Type Connector.

Model 585SB: 15-foot, two-conductor shielded with an Amphenol MC2M Type Connector.



Model 585SA

Model 585SB

Model 585SAV

## UNIDYNE A Microphones

### **MODELS 580SA • 580SB**

The Unidyne A Series of microphones offers unidirectional problem-solving ability at a moderate cost with a highly effective cardioid pickup pattern—permits microphones to be located unusually close to loudspeakers. Solves feedback and boominess problems in low-budget sound systems. Built-in On-Off switch. Versatile: can be used on a stand, or in the hand, indoors or out. Includes A25B Swivel Adapter (3/8" stand thread). The case is satin chrome with stainless steel grille.

**Model 580SA Unidyne A:** High impedance. **List Price: \$59.00**

**Model 580SB Unidyne A:** Low impedance. **List Price: \$52.00**

### SPECIFICATIONS

**Frequency Response:** 50 to 12,000 Hz.

**Impedance and Output Level:**

Model 580SA: High —56.5 db (0 db = 1 volt per microbar); 1.48 millivolts/microbar.

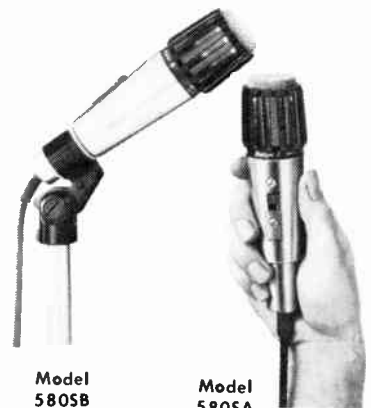
Model 580SB: Low (150 to 250 ohm) —57 db (0 db

= 1 milliwatt per 10 microbars); .105 millivolts/microbar.

**Cable:**

Model 580SA: Non-detachable 15-foot, one-conductor shielded.

Model 580SB: Non-detachable 15-foot, two-conductor shielded.



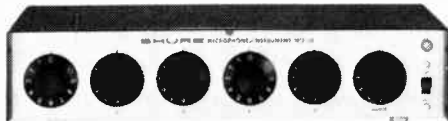
Model 580SB

Model 580SA

SHURE

# MICROPHONE MIXERS

## SHURE M68 MICROPHONE MIXER (TRANSISTORIZED—PORTABLE)



**PRACTICAL**—The Shure M68 Mixer is a practical, efficient and economical way of increasing the efficiency, usefulness and flexibility of public-address and paging systems, or tape recorders, by making it possible to use more than one microphone or other sound source. You can strategically place microphones so that everybody who should be heard will have a microphone close at hand. It is particularly useful where additional microphones are needed for panels or for audience Question-and-Answer sessions.

**UNIQUE**—This new mixer is unique in that it satisfies the needs of most public-address systems and serious tape recording enthusiasts, while being light enough to be portable, simple to operate and modest in cost. It is the only mixer which strikes a happy medium between the expensive heavy and complex permanent-installation type mixer and the extremely low-cost units of limited usefulness.

With the M68, each microphone (or other sound source) can be cut in or out of the system (and independently balanced for volume) with no loss in microphone output level. In addition to independent volume controls, a master volume control simultaneously controls the gain of all inputs. The M68 can, therefore, be used as a conveniently "at-hand" P.A. system volume control in situations where the regular amplifier is located some distance away.

**VERSATILE**—You can use high or low impedance microphones, in any mix, with any type amplifier without need for expensive line transformers.

You can tape record from multiple sound sources or record sound-on-sound with two recorders, or conveniently record important meetings with full assurance that every voice will be intelligible.

Frequency response is 30-20,000 Hz (cps)

Underwriters Laboratory listed for use in commercial applications. Easily portable . . . 2 3/8" x 11 3/8" x 5 3/8", weighs only 4 lbs. 105-125 V. A.C. 50/60 cps. List Price \$125.00

### MICROPHONE MIXER ACCESSORIES.

**ATTACHE-TYPE CARRYING CASE**—Makes M68 mixer, microphones and cables conveniently portable. . . . \$37.50 List Price

**A68B BATTERY POWER SUPPLY**—Eliminates need for 115 V. A.C. hookup . . . \$10.00 List Price

**A68L LOCKING PANEL**—Prevents tampering with the controls. . . . \$8.00 List Price

**A68C OUTPUT CABLE KIT** to connect mixer to any amplifier. . . . \$25.00 List Price

**A68P PHONO PREAMP** to connect magnetic or ceramic phonograph. . . . \$25.00 List Price

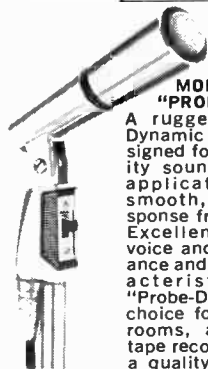
**A68S STACKING KIT** to connect 2 or more M68's together for use with more than four microphones. . . \$5.00 List Price

**A68SC INTERCONNECTING CABLE ONLY** . . \$1.25 List Price

**A68R RACK PANEL KIT** to mount mixer in a standard rack panel. . . . \$12.50 List Price

SHURE

# P. A. SYSTEM MICROPHONES



**MODEL 550S— "PROBE-DYNAMIC"**

A rugged, high quality Dynamic Microphone designed for use in top-quality sound reinforcement applications. Features smooth, wide-range response from 50-15,000 Hz. Excellent for pickup of voice and music. Performance and appearance characteristics make the "Probe-Dynamic" a wise choice for use in meeting rooms, auditoriums, for tape recording or wherever a quality omni-directional microphone is required, and moderate cost is an important consideration. Dual impedance. Comes complete with on-off switch, swivel and 18 ft. 2-conductor cable. Model 550S in satin chrome finish. Model 550S (Gold) in gold finish. Available in matched pairs for stereo recording. (Matched to ± 1 db in level and 1 1/2 db in frequency response.)

List Price: Model 550S \$69.00  
Model 550S (Gold) \$79.00  
Dynamic

Type: Dynamic  
Frequency Response: 50 to 15,000 Hz  
Impedance: Dual: Choice of 50 to 250 ohms and High

Output: High: —57.5 db (0 db = 1 volt/microbar); 1.18 millivolts/microbar  
Low: —57.0 db (0 db = 1 volt/microbar); 1.18 millivolts/microbar

Diaphragm: Shure Duracoustic  
Case: Model 550S—Satin finished chrome case, stainless steel mesh grille  
Model 550S (Gold)—Gold finished case and grille

Dimensions: (not including swivel) 1 1/2" diameter, 6 1/2" long  
Net Weight: (less cable) 15. oz.



### SONODYNE II

**MODEL 540S.** A compact, modernistic microphone with high output dynamic element at moderate cost. The "Sonodyne II" features adjustable frequency response which allows the user to tailor the microphone to the application—One of the most versatile microphones on the market! High output Dynamic element Omni-Directional pick-up pattern. Frequency response: 50 to 13,000 Hz with provisions for alternate response for voice intelligibility in paging and communications systems. Reliable on-off switch. Model 540 also available without switch. Improved positive action lifetime swivel permits tilting head 150°. 15 ft. 2-conductor shielded cable, equivalent to Amphenol MC3M connector.

gibility in paging and communications systems. Reliable on-off switch. Model 540 also available without switch. Improved positive action lifetime swivel permits tilting head 150°. 15 ft. 2-conductor shielded cable, equivalent to Amphenol MC3M connector.

IMPEDANCE TABLE	OUTPUT LEVEL
L—50-250 Ohm	—56 db (0 db = 1 Milliwatt per microbar); .149 millivolts/microbar
H—High	—53.5 db (0 db = 1 volt per microbar); 1.76 millivolts/microbar

LIST PRICE	Model 540S (with switch)	\$49.95
	Model 540 (without switch)	\$47.95



### SONODYNE

**MODEL 51.** The "Sonodyne" is ideal for all general purposes, including public address, wire and tape recording, and similar applications. Ideal high-quality, moderately-priced replacement for the conventional microphone supplied with tape recorders. The wide range frequency response is 60 to 10,000 Hz. This rugged microphone is one of the pressure type, with conventional semi-directional characteristics, and it may be used for close-talking without undue low frequency emphasis. Multi-impedance—for low, medium and high impedance. Has built-in receptacle and a 15-foot, two-conductor shielded cable with microphone plug attached. Satin chrome finish. Model 51S is same as Model 51; except it has on-off switch.

IMPEDANCE TABLE	OUTPUT LEVEL
L—35-50 Ohms	—51 db (0 db = 1 Milliwatt per 10 microbars); .118 millivolts/microbar
M—150-250 Ohms	—51 db (0 db = 1 Milliwatt per 10 microbars); .265 millivolts/microbar
H—High	—48.5 db (0 db = 1 volt per microbar); 3.75 millivolts/microbar

LIST PRICE	51	\$49.50
	51S	\$51.50

SHURE

## DYNAMIC LAVALIER MICROPHONE

## MODELS 570 • 570S

These professional lavalier microphones are designed for use in television and for lectures—feature special “shaped” response for superior lavalier performance and reduction of pickup of clothing and cable noise. Designed for inconspicuous use with “Flex-Grip” lavalier assembly. These microphones are the most versatile available because the “Flex-Grip” design holds the microphone firmly, yet permits easy and quick removal. The lavalier clip opens right or left or can be removed. The case is nonreflecting gray metal with a stainless steel grille.

**Model 570:** Without “On-Off” switch. List Price: \$95.00

**Model 570S:** With “On-Off” switch. List Price: \$105.00

## SPECIFICATIONS

**Frequency Response:** 50 to 12,000 Hz.

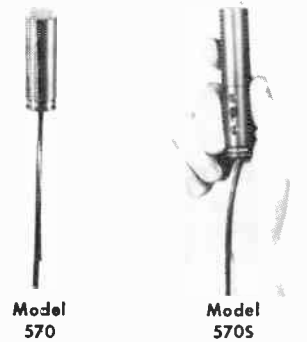
bars); .085 millivolts/microbar.

**Impedance and Output Level:**

**Cable:**

Low —60.5 db (0 db = 1 milliwatt per 10 micro-

30-foot non-detachable, two-conductor shielded.



Model  
570

Model  
570S

## MODEL 560

A dual impedance, dynamic microphone with a specially tailored response specifically designed for virtually every lavalier application. This is a good, general-purpose lavalier microphone at a very modest price. The compact and lightweight modern black satin all-metal case has a stainless steel grille. Impedance can be quickly changed from High to Low by simply moving pin jacks. The clip-grip lavalier assembly holds the microphone securely to the wearer. List Price: \$42.50

## SPECIFICATIONS

**Frequency Response:** 40 to 10,000 Hz.

Low —55.5 db (0 db = 1 milliwatt per 10 micro-bars); .149 millivolt/microbar.

**Impedance and Output Level:** Dual.

**Cable:**

High —56.5 db (0 db = 1 volt per microbar;  
1.48 millivolts/microbar.

18-foot, non-detachable, two-conductor shielded.



Model  
560

SHURE

## PROFESSIONAL NOISE CANCELLING MICROPHONES



## MODEL 488 “SONOBAR” . . .

## A MAJOR BREAKTHROUGH IN MICROPHONE DESIGN

Stated by users to outperform and obsolete all others . . . its quality confirmed by extensive laboratory and field comparison tests! Provides highly intelligible speech communication where high volume background noise is found, such as airplanes, helicopters, motorcycles, trucks, fire engines, power boats, sporting events, drop forges, press-rooms, factories, canneries, mills, printing plants, etc. Incorporates the patented Shure Controlled Reluctance Cartridge into a distance-discriminating microphone that effectively cancels background noise . . . gets the message through *EVEN WHEN THE SPEAKER CAN'T HEAR HIMSELF!* Correct placement for close-talk assured by convenient lipguard. Rugged, impact-resistant “Armo-Dur” case. Four versions available: 488A—high impedance; 488B—low impedance; and 488C and 488T—transistorized for direct replacement of carbon microphones (488T FAA Certified for Aircraft applications). All models equipped with coiled-cord and “million-cycle” push-to-talk, blade-type switches. With mounting bracket.

## SPECIFICATIONS

Model	488A High Impedance	488B Low Impedance	488C Transistorized	488T Transistorized Aircraft
Frequency Response	(SPECIALLY TAILORED FOR BEST INTELLIGIBILITY) 200 to 4,000 Hz.			
Output Level (0 db = 1 volt per 100 microbar field)	.141 volts (—17 db)	.014 volts (—37 db)	0.45 volts (—7 db) using 6 volts d.c. and 500 ohm load	0.71 volts (—3 db) using 12 volts and 500 ohm load
Impedance	High: Recommended Load 100,000 ohms or more	150-250 ohms	Recommended Load 100 to 500 ohms	Recommended AC Load 100 to 800 ohms
Cable, 5½' extended	Three-conductor (One-conductor shielded) cadmium copper coiled cord	Four-conductor (Two-conductor shielded) cadmium copper coiled cord	Four-conductor cadmium copper coiled cord	Three-conductor tinsel coiled cord with PJ 068—plug attached
Switch Mic Circuit Relay Circuit	Normally closed* Normally open	Normally open** Normally open	Normally open Normally open	Normally open Normally open
Dimensions and Weight	3¾" HIGH x 2½" WIDE x 2½" DEEP; ¾ LB.			
List Price	\$57.50	\$57.50	\$62.50	\$72.50

\*Provision for simple change to normally open

\*\*Provision for simple change to normally closed



# SHURE NEW! COMPACT COMMUNICATIONS MICROPHONES

## RANGER II WITH HIGH-IMPACT ARMO-DUR CASE



Only about half the size and weight of conventional mobile communications microphones, yet performs as well as or better than the "big boys." Only 6¾ oz., less cable . . . 2¼" wide, 2½" deep, 2⅞" high. Ideal for miniaturized or portable communications. Neoprene-jacketed coil cord. Revolutionary molded-rubber Flex-Relief cable connection. Positive action single throw, double pole million-cycle switch. Controlled Magnetic cartridge. Frequency response from 400 to 4000 Hz, especially tailored for voice communication use. Model 414A is high impedance, 414E is low impedance and 414C is transistorized.

MODEL	OUTPUT LEVEL	IMPEDANCE	CABLE TYPE	SWITCH MIC. CIRC.	RELAY CIRC.	LIST PRICE
414A	—14.5 db (0 db = 1 volt per 100 microbars)	High— 100,000 Ohms or more	3-cond., one shielded	Closed	Open	\$33.00
414B	—52.5 db (0 db = 1 milliwatt with 10 microbars)	150-250 Ohms	4-cond., two shielded	Open	Open	\$33.00
414C		100—1,000 Ohms	4-cond., coil cord	Open	Open	\$48.50

## RANGER II NOISE CANCELLING FOR HIGH SPEECH INTELLIGIBILITY

Gets the message through even when the ambient noise is so loud the operator can't hear himself! Significantly superior speech intelligibility to any other brand of so-called "noise cancelling" microphone. Specially tailored response for highest intelligibility—200 to 4000 Hz. Same size, cable, cable relief, switch and case as Ranger II (at left) . . . only 7 oz., less cable.



MODEL	OUTPUT LEVEL	IMPEDANCE	CABLE TYPE	SWITCH MIC. CIRC.	RELAY CIRC.	LIST PRICE
419A	.12 volt (—18.5 db) (0 db = 1 volt per 100 microbars)	High— 100,000 Ohms or more	3-cond., one shielded	Closed	Open	\$62.50
419B	.014 volt (—37 db) (0 db = 1 volt per 100 microbars)	150-200 Ohms	4-cond., two shielded	Open	Open	\$62.50

# SHURE DISPATCHING .. GENERAL PURPOSE MICROPHONES

## MODEL 450 "DISPATCHER" MICROPHONE\*

Made of Rugged "ARMO-DUR"—Won't Crack—Peel—Rust—Dent.

New modern design fits every decor for paging use. Integrated case design, made of gray "Armo-Dur", features telescoping height adjustment for maximum convenience. Rugged Controlled Magnetic element with impedance switch for low or high impedance. Push-to-talk switch bar with optional features provide every desired switching option.

**SPECIFICATIONS—ELEMENT TYPE:** Controlled Magnetic. **FREQUENCY RESPONSE:** 100 to 10,000 Hz. **CASE:** Two-tone Gray "Armo-Dur." **CABLE:** 7 ft., four-conductor (two-conductor shielded). **SWITCH:** Push-to-talk switch button with optional locking feature to operate independent microphone and relay circuits. Relay portion of switch is normally open. Microphone portion of switch is normally open or normally closed as required. **DIMENSIONS:** 4" wide, 5¼" deep, 10⅞" high (adjustable). **NET WEIGHT:** 1½ lbs.

MODEL	IMPEDANCE	OUTPUT LEVEL	LIST PRICE
450	High	High —54 db (0 db = 1 volt per microbar); 2.00 millivolts/microbar	\$49.50
	50-250	Low —53 db (0 db = 1 milliwatt per 10 microbars); .225 millivolts/microbar	



ADJUSTABLE HEIGHT

U.S. Patent  
D198,850

## ACCESSORIES

### NEW CABLE TYPE TRANSFORMER



Model A95A is a high-quality, cable-type transformer which makes it possible to connect a low impedance microphone (35-50 ohm and 150-250 ohm) to a high impedance amplifier. It is housed in a compact, sturdy and magnetically-shielded case, 2½" long x ¾" diameter. Use

of this transformer solves the problem of excessive high frequency loss and objectionable hum when long lengths of microphone cable are necessary. Model A95A may also be used in specialized applications requiring high impedance to low impedance circuit connections. Attractive gray and black case furnished with Cannon XL-3-11 input and Amphenol MC1F output plugs installed. Frequency response: 20 to 20,000 Hz, plus or minus 1 db.

List Price: \$17.50

## AMATEUR RADIO AND CB

### NEW! MODEL 444T

Transistorized with Variable Output Level

For AM, FM, or single sideband units. Features built-in two-transistor preamplifier with volume control to give variable high output. Self-contained battery operates up to 300 hours before replacement. Enables you to maintain maximum modulation. Adjustable height design "Armo-Dur" case.



#### SPECIFICATIONS

**FREQUENCY RESPONSE:** 200 to 6,000 Hz. **OUTPUT LEVEL:** Adjustable from 2 mv to 45 mv for 1 microbar input. **IMPEDANCE:** Less than 1,000 ohms. **BATTERY TYPE:** Burgess 2U6 or equivalent included. **CABLE:** Four-conductor, plastic jacketed non-shielded coiled cord, 5-feet extended. **SWITCH:** Press-to-talk switch. Locking or non-locking operation—to operate microphone circuit or external control circuit. Close circuit to talk and/or open circuit to talk. Relay or switching circuits can be selected by simply cutting designated wire on switch assembly. **DIMENSIONS AND WEIGHT:** 10⅞" high (adjustable), 4" wide, 5¾" deep, 1½ lbs. **LIST PRICE:** \$49.50.

# TRIMM / INC.

A SELECTED LISTING FROM OVER 2500 TRIMM-MANUFACTURED COMPONENTS.

## HEADSETS: GENERAL PURPOSE, COMMERCIAL, MILITARY, AMATEUR, EDUCATIONAL, STEREO

Since 1922 TRIMM has manufactured a complete line of the finest electro-acoustic equipment and components. Engineered to fill the broadest applications; from the experimental crystal set to rugged field use, from industrial test equipment to home high-fidelity and stereo — these headsets are quality constructed and value priced.

### ACME 24, 25, 27

A superior low-cost headset most suitable for Geiger counters, crystal sets, toys and radio systems. Black bakelite shell and cap. No. 24 has a black vinyl covered double headband and cotton tinsel conductor "Y" cord with pin tips. No. 25 headband is black enameled. No. 27 has a black enameled single headband and plastic covered stranded wire cord with pin tips.

### REX 30, 32

Lowest cost BIPOLAR type headset. Increased sensitivity. A 6 oz. lightweight for code training and institutional radio systems. Black bakelite shell and cap. Black vinyl covered headband. No. 32 has a single headband and plastic covered stranded wire with pin tips.

### DEPENDABLE 70, 71, 72

Combines the best qualities of Acme and Rex; simple, rugged, sensitive and low cost. Ideal for electronic organs, code training and language labs. Black bakelite shell and cap, black vinyl covered headband, mercerized cotton tinsel "Y" cord and pin tips. No. 70 has double headband; No. 71 has plastic covered stranded wire cord; and No. 72 has single headband and single cord with pin tips.

### STEREO

Four stereo models are available. They range from the least expensive Acme to the top quality, extended range "L" headset. All models have a special cord that terminated with the No. 513 or 516 three-circuit plug. All stereo listings have been expanded to include four-conductor cords and two separated No. 501 plugs. These are identified by the number 15 following the model number.



### ACME

24-03	\$3.95	25-2K	\$3.65	With 511 plug	
25-03	3.50	24-4K	4.45	24-9-03	\$4.85
27-03*	2.10	25-4K	4.00	24-9-2K	5.00
24-15	4.00	27-1K*	2.25		
24-2K	4.10	27-2K*	2.45		

### STEREO

24-14-03	\$6.20	24-15-03	\$7.20
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### REX

30-03	\$4.60	32-03*	\$2.60	With 511 plug	
30-2K	4.80	32-1K*	2.70	30-9-03	\$5.50
30-3K	5.10			30-9-2K	5.70
				32-9-03*	3.50

### DEPENDABLE

70-03	\$5.25	70-3K	\$5.85	With 511 plug	
70-06	5.35	70-4K	6.15	70-9-03	\$6.10
70-15	5.45	72-03*	3.60	70-9-2K	6.40
70-2K	5.55	72-1K*	3.70	70-9-4K	7.00
71-2K	6.55	72-2K*	3.85		

### STEREO

70-14-03	\$7.20	70-14-2K	\$8.10
70-15-03	8.25	70-15-2K	9.15

Headsets are listed by their model number and by their impedance or D.C. resistance; 3.2 ohms (03); 8 ohms (08); 600 ohms (06); 1500 ohms (15); 2000 ohms D.C. (2K); 2000 ohms (2M); 3000 ohms D.C. (3K); 4000 ohms D.C. (4K); 5000 ohms (5M); 12000 ohms (12M); 17000 ohms (17M); and 24000 ohms (24M). Single earphones (\*). List prices included are for single purchases at retail. Consult your distributor for quantity discounts.

## FEATHERWEIGHT 5 OZ.! WORLD FAMOUS-PROVEN IN USE

### 100, 104, 106, 107

Highly recommended for amateur radio use, language training and electronic testing. Nos. 100 and 106 have a fully adjustable nickel plated single headband. Black bakelite shell and cap. Waterproof mercerized cotton tinsel conductor "Y" cord with pin tips. Nos. 104 and 107 have black vinyl covered double headband at no increase in price.

\$11.50 List  
With Pin Tips

100-03	100-2K
104-03	104-2K
100-06	100-4K
104-06	104-4K
100-15	106
104-15	107

### STEREO

104-14-03	\$14.40
104-15-03	15.50

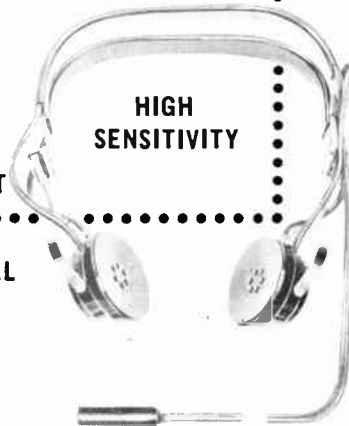
\$13.40 List  
With 501 Plug

100-9-03	100-9-4K
104-9-03	104-9-4K
100-9-06	106-9
104-9-06	107-9
100-9-2K	
104-9-2K	

104-14-2K	\$14.40
104-15-2K	15.50



'L'  
HEADSET  
IDEAL  
STEREO  
INSTRUMENT



EXCEPTIONAL  
RESPONSE

### No. 50, 56

Highest quality headset of conventional construction. Individually tuned acoustic cavities assures faithful sound reproduction. Top performance under all environmental conditions. Black bakelite shell and cap. No. 50 has black rubber covered double headband and waterproof nylon tinsel conductor, "Y" cord and No. 501 plug. No. 56 has a vinyl covered double headband with over-the-head molded neoprene cord and No. 501 plug.

### STANDARD "L"

50-08	\$23.00	56-2M	\$27.65
56-08	27.65	50-5M	23.00
50-06	23.00	56-5M	27.65
56-06	27.65	50-12M	24.00
50-2M	23.00	56-12M	28.65

### STEREO "L"

50-14-08	27.00	50-14-16	27.00
56-14-08	31.65	50-14-6M	28.00
50-14-16	27.00	56-14-6M	32.65
50-15-08	28.00	56-15-16	32.65
56-15-08	32.65	50-15-6M	29.00
50-15-16	28.00	56-15-6M	33.65

## REPLACEMENT PARTS

For a nominal charge all TRIMM manufactured products can be restored to top working condition at the factory. Nearly any part that is required for manufacture is also available as a replacement part. In addition, worn or broken headset cords for almost any make can be made to order.



### ARMY — NAVY 28, 29

Built for severe use. Satin chrome brass shell, black bakelite cap. Black rubber covered double headband with thumbscrew lock for yoke adjustment. Waterproof nylon tinsel conductor "Y" cord, pin tips or plug.

With Pin Tips		With 501 Plug	
28 (W) 600 ohm	\$20.00	28-9 (W) 600 ohm	\$21.65
29 (K) 20M ohm	20.00	29-9 (K) 20M ohm	21.65

### COMMERCIAL 151, 152, 155, 159

Very rugged TRIMM headset — yet very lightweight. Developed for marine and aircraft radio use. All types have black bakelite shell and cap, waterproof mercerized cotton tinsel conductor cord. The most popular, No. 156 (600 ohm) and No. 157 (17M ohm), have a black rubber covered double headband with a "Y" cord and 501 plug. Other models in standard impedances. No. 151 has nickel plated double headband, over-the-head cord with pin tips. No. 152 has black fabric covered double headband, over-the-head cord and pin tips. No. 158 (600 ohm) and No. 159 (17M ohm) have black rubber covered double headband, "Y" cord with pin tips.

\$12.50 List With Pin Tips	\$14.40 List With 501 Plug		
151-03	152-06	151-9-03	152-9-06
152-03	151-2K	152-9-03	151-9-2K
151-06	152-2K	151-9-06	152-9-2K
			156
			157
			158
			159
			14.00
			15.75
			17.75
			14.00
			14.00

# TRIMM / INC.

A SELECTED LISTING FROM OVER 2500 TRIMM-MANUFACTURED COMPONENTS.

## HEADSETS: GROUP AND INDIVIDUAL LISTENING, AUDIO KITS, STEREO



120,  
124,  
52

110,  
114,  
51

252AW

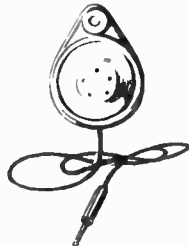
### Telephone Operators Headset

A high quality transmitter/receiver unit commonly used in switchboard applications. Lightweight construction and complete adjustability assures wearing comfort and proper transmitter positioning.

- RECEIVER 275 ohm impedance at 1000 cps.
- TRANSMITTER 25 ohm impedance, carbon type. Frequency range—300 to 5000 cps.
- PLUG Standard twin 2 circuit plug, TRIMM No. 505

252AW List \$77.75

### "85" PILLOW PHONE



Sealed, waterproof ultra-thin disk for very local listening applications. Highly sensitive magnetic unit only 2" in diameter, 3/16" thick. Stainless steel face, pearl gray plastic shell. Replaceable vinyl tinsel cord with plug. Gray neoprene snap-on hanger ring, as shown: \$0.50

With 514 plug		With 536 plug	
85-03 3.2 ohm	\$11.30	86-03 3.2 ohm	\$11.30
85-2M 2M ohm	11.30	86-2M 2M ohm	11.30

### GROUP HEARING AID COMPONENTS—SINGLE EARPHONES

For installations where the listening requirements of many individuals must be served two basic types of earphones are used: the headband model for theatres and auditoriums and the hand held Lorgnette for churches and mortuaries. Both Featherweight and "L" models are used. All have a 6 ft. waterproof mercerized cotton linsel conductor cord. Standard impedances: 3.2, 8, 300, 1K and 2K ohms.

"L" Model (With 512 flat plug)		FEATHERWEIGHT (With 512 flat plug)	
Headband	Lorgnette		
51-08	\$12.00	52-08	\$14.00
51-3	12.00	52-3	14.00
51-1K	12.50	52-1K	14.50

FEATHERWEIGHT (With pin tips)			
Headband		Lorgnette	
110-03	\$8.00	120-03	\$10.50
110-3	8.00	120-3	10.50
110-1K	8.00	120-1K	10.50
110-2K	8.00	120-2K	10.50

### VOLUME CONTROL AND OUTLET BOXES

Formed metal boxes measuring 3 3/4" x 2 1/8" x 1 1/4". All edges and corners are rounded. Available in Brown or Gray Hammertone and in Gloss Ivory.

#### Single Control — Single Jack Outlet Boxes

Resistance	Brown	Ivory	Gray	
1K	460-1K	461-1K	462-1K	\$5.80
10K	460-10K	461-10K	462-10K	5.80
25K, 50K				
100K, 500K	460-25K (etc.)	461-100K		6.50
				6.50

#### Dual Control — Dual Jack Outlet Boxes

1K	467-1K	469-1K	\$9.75
10K	467-10K	469-10K	9.75
25K	467-25K	469-25K	11.40

#### Dual Jacks — No Control

477	Brown	\$4.00
478	Ivory	4.00

(With load resistor)

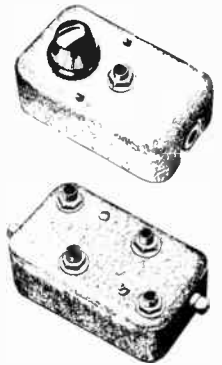
480	Brown	\$5.00
481	Ivory	5.00
482	Gray	5.00

#### Single Jacks — No Control

484	Brown	\$3.50
485	Ivory	3.50
486	Gray	3.50

#### Audio Junction Box — Four Jacks

490	Brown	\$4.50
491	Ivory	4.50
492	Gray	4.50



### Headset Kits For TV and Radio

Provides a simple means of attaching headsets or extension speakers to TV or radio sets. Has remote on-off switch for loudspeaker, a volume control for the headset and two jacks for multiple listening. Complete kit includes headset or single earphone with plug, control box and 15 ft. of connecting cord.

KIT		
632	(Double ACME Headset)	\$12.15
632-1	(Single ACME Headset)	10.50
632-2	(Two double ACME Headsets)	17.00
633	(Double DEPENDABLE Headset)	13.60
634	(Double FEATHERWEIGHT Headset)	21.00
635	Single FEATHERWEIGHT Headset)	16.40
637	(Single PILLOW-PHONE)	18.80
631	Control Box Only	7.50

### STEREO CONTROL BOX

Designed for stereo headsets with No. 513/516 three circuit plugs. Has two volume controls of suitable value for independent volume adjustment or both channels.

464-1C Brown Hammertone \$10.00

### EAR CUSHIONS



For comfort, cleanliness and noise control. Formed of sponge rubber, solid rubber, sponge and solid rubber, or chamois. Prices, per pair, range from \$1.60 to \$16.95 list.

654	Sponge rubber, Military type MC-162. Fits all TRIMM headsets but Dependable and Army-Navy.	\$1.60
660	Sponge rubber. Fits Dependable and Army-Navy.	\$2.50



# UNIVERSITY SOUND

A DIVISION OF LTV LING ALTEC INC

## Drivers

**MODEL ID-20 (20 watts)** For speech and music systems requiring moderate sound power. Designed to deliver maximum output, the ID-20 is highly efficient, produces a clear, penetrating and distortion-free sound.

**MODEL ID-30/ID-30T (30 watts)** Exceptional for installations requiring single medium power units or multiple driver/horn combinations. These high quality drivers produce musical balance and speech penetration with a performance superior to higher cost competitive models. Tropicalized voice coil, completely weatherproof. Model ID-30T has a built-in line matching transformer tapped for impedances of 167/335/500/1000/2000/4000 ohms and 25 and 70 volt power taps at 30/20/10/5/2.5 watts.

**MODEL ID-40/ID-40T (40 watts)** Extended range, high quality and excellent efficiency produce an essentially uniform response and natural quality of speech and music reproduction. Moderately high power for penetrating through high ambient noise levels. Tropicalized voice coil and fully weatherproofed. Model ID-40T has a built-in line matching transformer tapped for impedances of 45/122/250/500/1000/2000 ohms and 25 and 70 volt power taps at 40/20/10/5/2.5 watts. ID-40T housing is rugged, die-cast aluminum with dural gland nut water tight cable entrance.

**MODEL ID-60/ID-60T (60 watts)** A premium high power compression driver. Wide range response, high efficiency and high quality construction for natural speech and music reproduction with maximum penetration in high noise areas. Rugged, weatherproof housing for trouble-free performance in any environmental application. Model ID-60T has high impact cyclac outer case and built-in line matching transformer tapped for impedances of 16/80/165/500/1000/2000 ohms and 25 and 70 volt power taps at 60/30/20/10/5/2.5 watts.

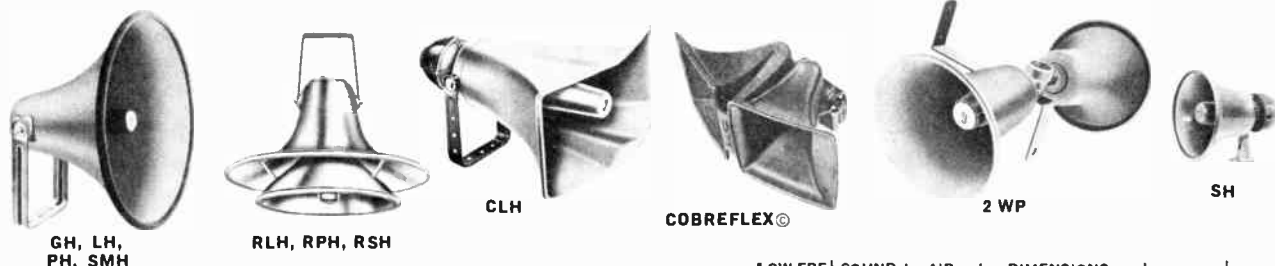
**MODEL ID-75 (75 watts)** New, higher power in a compact case. Ideal for both Public Address and electronic siren applications. Peak efficiency, super power for effective penetration into exceptionally high noise areas.



DRIVER MODEL	FREQUENCY RESPONSE	POWER RATING	VOICE COIL IMPEDANCE	DIMENSIONS (Overall)	SHIP. WT.	NET PRICE
ID-20	120-6500 Hz	20 watts	16 ohms	3 1/2" dia. 3 3/4" d.	2 1/2 lbs.	16.50
ID-30	85-7500 Hz	30 watts	16 ohms	4 1/8" dia. 3 3/4" d.	3 lbs.	19.50
ID-30T	85-7500 Hz	30 watts	variable*	4 1/8" dia. 6" d.	4 lbs.	27.90
ID-40	80-12000 Hz	40 watts	16 ohms	4 1/2" dia. 4 7/8" d.	4 1/4 lbs.	24.90
ID-40T	80-12000 Hz	40 watts	variable*	5" dia. 6 1/4" d.	5 1/4 lbs.	33.60
ID-60	70-12000 Hz	60 watts	16 ohms	4-11 1/16" dia. 5" d.	5 3/4 lbs.	34.50
ID-60T	70-12000 Hz	60 watts	variable*	6 3/4" dia. 6 3/4" d.	6 3/4 lbs.	41.70
ID-75*	150-7000 Hz	75 watts	16 ohms	4 1/4" dia. 3 3/4" d.	5 lbs.	44.70

\*Also available in 8 ohms order as model ID-75-8.

## Trumpets



**DIRECTIONAL MODELS GH, LH, PH, SMH** For maximum noise penetration and distance of projected sound. Reflex design for highest conversion efficiency. Fully weatherproof, baked finish.

**RADIAL MODELS RLH, RPH, RSH** For uniform 360° overhead dispersion in high ceiling installations. Rugged construction, baked finish.

**WIDE ANGLE COBREFLEX** Patented twin folded exponential horns with two air columns in a single assembly. High efficiency and smooth radiation pattern. Can be used in cluster arrays. Rugged, fully weatherproof.

**WIDE ANGLE MODEL CLH** Patented design and construction. Wide angle bell and long air column for maximum low frequency response. Omnidirectional bracket for vertical and horizontal rotation to eliminate feedback and overshoot "dead spots". Can be used in cluster arrays. Rugged fiberglass horn.

HORN MODEL	LOW FREQUENCY CUT-OFF	SOUND DISTRIBUTION	AIR COLUMN LENGTH	DIMENSIONS (Overall)		SHIP. WT.	Net Price
				BELL			
GH	85 Hz	65°	6 1/2 ft.	28"	31"	22 lbs.	50.70
LH	120 Hz	75°	4 1/2 ft.	19"	25 3/4"	16 1/2 lbs.	31.20
PH	150 Hz	85°	3 1/2 ft.	15 3/4"	20 3/4"	11 3/4 lbs.	24.90
SMH	200 Hz	95°	2 1/2 ft.	12"	16 1/4"	8 1/4 lbs.	21.60
RLH	120 Hz	360°	5 ft.	18 1/2"	28 1/2"	25 lbs.	40.50
RPH	140 Hz	360°	4 ft.	13 3/4"	25 1/2"	19 lbs.	32.40
RSH	180 Hz	360°	3 ft.	11"	19"	13 lbs.	31.80
COBREFLEX	200 Hz	120°x60°	2 1/2 ft.	10 1/4"	18 1/2"x9 1/4"	10 1/4 lbs.	27.60
CLH	120 Hz	120°x60°	4 1/2 ft.	20"	21 1/2"x11 1/2"	13 1/4 lbs.	30.00
SH	350 Hz	100°	1 1/2 ft.	7"	8 3/4"	2 3/4 lbs.	21.60
2WP	350 Hz	120° each horn	1 1/2 ft.	20 1/2"	8 1/2"	4 1/2 lbs.	21.60

## Accessories



**PMA ADAPTER** Fits standard 1/2" dia. threaded pipe to any University "U" mounting bracket—for special applications requiring pipe mounting. Net \$2.97

**RTA ADAPTER** Fits University trumpets to Western Electric and RCA drivers having 1 7/16—16 threads. Shpg. wt., 1/2 lb. Net \$2.40

**WEA ADAPTER** Fits University drivers to Western Electric and RCA trumpets having 1 7/16—16 threads. Shpg. wt., 1/2 lb. Net \$1.89

**MODEL 5433 TRANSFORMER** 30 watt capacity. Use with ID-20, ID-30 or to feed a number of smaller paging speakers. Primary impedance: 45/165/200/250/500/1000

/2000 ohms. Secondary impedance: 4/8/16 ohms. 70 v. line power taps: 30/25/20/10/5/2.5 watts. Dimensions: 1 15/16" x 2 5/16" x 1 1/4". Mtg. hole centers: 2 3/8". Shpg. wt., 1 lb. Net \$5.46

**MODEL CTR TRANSFORMER/JUNCTION HOUSING** Die cast aluminum. Weatherproof. Houses models 5433, 5434, or other transformers up to 2 3/8" x 2 3/8" x 2 7/8". Adjustable slotted adapter mounts transformer with centers 1 1/2" to 2 7/8". Junction box for speaker lines. Bar strap for mounting to "U" brackets. Screws to wall. Also holds University paging speakers. Shpg. wt., 1 1/2 lbs. Net \$6.27

**2YC CONNECTOR** Allows use of two driver units on a single radial, directional, or wide-angle trumpet. Shpg. wt., 1 lb. Net \$8.97



# Paging/Talk-Back Speakers



DLC



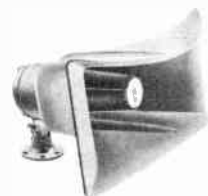
DLCT



IB-A/MIL-A



IB-T/MIL-T



CIB-A/CMIL-A



CIB-T/CMIL-T



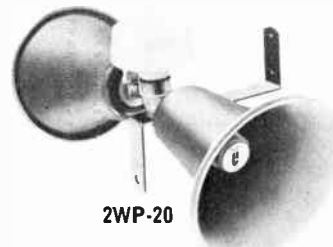
IBR-A



IBR-T



MIS



ZWP-20

MODEL	FREQUENCY RESPONSE	POWER RATING (1)	IMPEDANCE (VOICE COIL)	DISPERSION	SOUND PRESSURE LEVEL (5)	SENSITIVITY AS MICRO (6)	DIMENSIONS (7)	SHIPPING WEIGHT	NET PRICE
DLC-8	400-10,000 Hz	7½ w.	8 ohms	120°	104 dB	-30 DBM	5⅞" dia. x 4" d. (A)	1¾ lbs.	10.77
DLC-45			45 ohms						10.77
DLC-T			8 ohms (2)						13.77
IB-A4	250-13,000 Hz	30 w.	4 ohms	105°	126 dB	-20 DBM	10¼" dia. x 9" d. (A)	4½ lbs.	24.09
IB-A8			8 ohms						21.90
IB-A45			45 ohms						24.09
IB-T			8 ohms (3)						27.90
CIB-A4	250-13,000 Hz	30 w.	4 ohms	120°x60°	126 dB	-22 DBM	14" w. x 7¾" h. x 12" d. (A)	6 lbs.	30.36
CIB-A8			8 ohms						27.60
CIB-A45			45 ohms						30.36
CIB-T			8 ohms (3)						33.60
MIL-A4	350-13,000 Hz	10 w.	4 ohms	120°	119 dB	-23 DBM	7 13/16" dia. x 6⅞" d. (A)	3¼ lbs.	19.65
MIL-A8			8 ohms						17.85
MIL-A45			45 ohms						19.65
MIL-T			8 ohms (4)						24.60
CMIL-A4	350-13,000 Hz	10 w.	4 ohms	120°x60°	119 dB	-26 DBM	9½" w. x 6¼" h. x 8½" d. (P)	4 lbs.	22.29
CMIL-A8			8 ohms						20.25
CMIL-A45			45 ohms						22.29
CMIL-T			8 ohms (4)						27.00
IBR-A4	300-10,000 Hz	30 w.	4 ohms	360°	120 dB	-28 DBM	13" dia. x 10¼" d. (A)	5½ lbs.	34.32
IBR-A8			8 ohms						31.20
IBR-A45			45 ohms						34.32
IBR-T			8 ohms (3)						35.85
MIS-4	500-13,000 Hz	7½ w.	4 ohms	150°	115 dB	-22 DBM	5½" o.d., 4 7/16" d. (P) 5 Holes on 4⅞" mtg. dia.	2½ lbs.	22.77
MIS-8			8 ohms						20.70
MIS-45			45 ohms						22.77
ZWP-20	350-6,500 Hz	20 w.	16 ohms	120° ea. Horn	123 dB	-25 DBM	8½" dia. x 20½" d. (A)	7½ lbs.	36.60

1) Capacity in watts IPM (Music Power).

2) Voice coil impedance 8 ohms. Integral transformer terminals are labeled in wattage consumed and impedance on 70.7 and 25 volt constant voltage lines. Taps: 7.5/5/2.5/1.25/.65 watts.

3) Voice coil impedance 8 ohms. Integral transformer terminals are labeled in wattage consumed and impedance on 70.7 and 25 v. "constant voltage" lines. Wattage Taps: 30/15/10/5/2.5/1.25 w. Transformer Impedances: 167/335/500/1000/2000/4000 ohms.

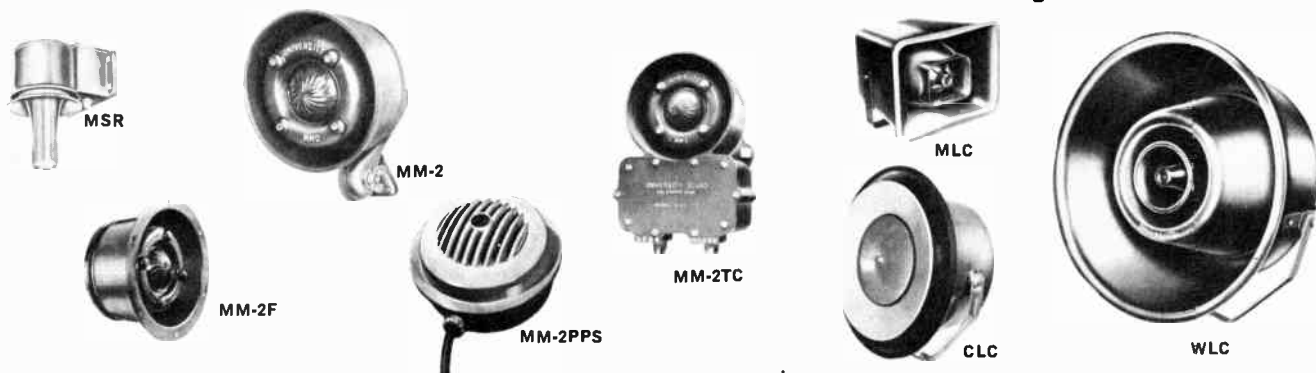
4) Voice Coil impedance 8 ohms. Integral transformer terminals are labeled in wattage consumed and impedance on 70.7 and 25 v. "constant voltage" lines. Wattage Taps: 10/7.5/5/2.5/1.25/.65 Transformer Impedances: 500/667/1000/2000/4000/8000 ohms.

5) SPL reading taken 4 ft. on axis with "Full-Range" power input. Reduce by 6 dB each time distance is doubled. Reduce by 3dB if power input is halved; increase by 3dB when power input is doubled.

6) DBM re 10 dynes/cm<sup>2</sup>.

7) An (A) after a dimension indicates a horn of spun aluminum with baked-on acrylic paint. A (P) after a dimension indicates a horn of color-impregnated high-impact plastic.

# Special Purpose Loudspeakers



	Frequency Response	Power Rating (1)	Impedance (2)	Dispersion	Sound Pressure Level (3)	Dimensions	Shipping Weight	Net Price
ES-75	400-7,000 Hz	75 watts	16 ohms	90°	126 dB	9 1/2" h. x 8 3/4" w. x 10" l.	9 lb.	58.50
MSR	250-10,000 Hz	25 watts	16 ohms	360°	114 dB	10 3/4" h. x 6 7/16" w. x 8 1/4" d.	10 1/4 lb.	53.70
MSR-T			16 ohms (4)				11 1/4 lb.	61.65
MM-2	350-10,000 Hz	25 watts	16 ohms	150°	117 dB	6" dia. x 5" d.	5 1/4 lb.	33.90
MM-2F			7 1/4" dia. x 3 3/4" d.			35.70		
MM-2TC	350-10,000 Hz	25 watts	16 ohms	120°	117 dB	10" h. x 6 7/16" w. x 4 7/16" d.	8 3/4 lb.	53.70
MM-2TC-T			16 ohms (4)				9 3/4 lb.	61.20
MM-2PPS	100-10,000 Hz	25 watts	16 ohms			7 3/16" dia. x 3 5/8" d.	5 1/4 lb.	46.50
MLC	150-15,000 Hz	15 watts	8 ohms	120°	117 dB	12 3/4" x 9 1/8" x 10 5/8" d.	10 lb.	38.70
CLC	55-14,000 Hz	30 watts	8 ohms	120°	118 dB	22 3/4" dia. x 12 3/4" d.	23 lb.	59.70
WLC	50-15,000 Hz	30 watts	8 ohms	90°	120 dB	33 1/2" dia. x 20" d.	68 lb.	177.00

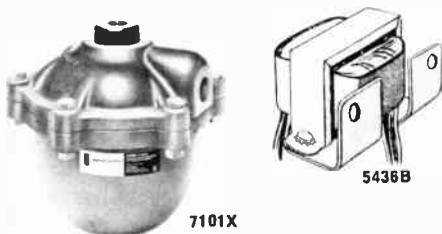
1) Capacity in watts IPM (Music Power).

2) Voice coil impedance.

3) SPL reading taken 4 ft. on axis with "Full-Range" power input. Reduce by 6 dB each time distance is doubled. Reduce by 3dB if power input is halved; increase by 3dB when power input is doubled.

4) Matching transformer primary impedances: 45/325/500/1000/2000/4000-8000 ohms.

## EXPLOSION PROOF DRIVERS



7101X, 7102X, 7105X are UL approved explosion-proof drivers, for use in 100% safe systems where flammable liquids, gases, dust, etc., are present. The 7105X is approved for use in hydrogen-air atmospheres. In compliance with Government safety regulations, these units have provisions for mounting a line-matching transformer (optional\*). 7101X is approved for Class I, Groups C & D. 7102X is approved for the same, plus Class II, Groups E, F & G. 7105X is approved for Class I, Groups B, C & D and Class II, Groups E, F & G. All units have 16 ohm voice coils. Frequency response is to 12,000 Hz and power capacity is 65 watts. Dimensions are 7 7/8" in dia., 7 3/8" long. Shipping weight is 14 lb.

These UNIVERSITY explosion-proof drivers may be used with any UNIVERSITY trumpet, but are most often used and recommended for use with the UNIVERSITY SOUND Models PH, SMH and Cobreflex.

\* University Model 5436B 65 watt transformer kit is complete with transformer, mounting bracket and hardware for installation inside the explosion-proof driver housing. Prices: Model 7101X \$64.80; Model 7102X \$76.50; Model 7105X \$130.80; Model 5436B \$15.42.

## Slim profile 3-way high fidelity speaker

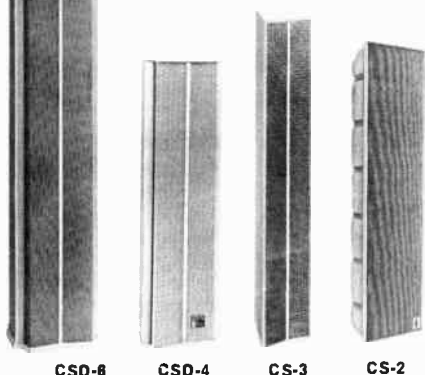


MODEL 8M2C 3-WAY SPEAKER A slim profile multi-speaker for public address and commercial sound applications. High quality, high efficiency performance for background music. Response to 50-20,000 Hz. Handles 15 watts of IPM. Model 8M2CT has built-in line matching transformer for 25 and 70 volt lines, tapped for 15/10/5/2.5/1.25/.65 watts. Only 3" deep.

MODEL 8M2CT Same as 8M2C with transformer

Net \$12.60  
Net \$14.97

## UNILINE (TM) SOUND COLUMNS



Model	CS-2	CS-3	CSD-4	CSD-8
Speakers	6 wide-range 5"	6-4"x6" Plus 2 Tweeters	2-8" plus 2-8" Dual Cone	4-8" plus 2-8" Dual Cone
Frequency Range	175-12,000 Hz	150-10,000 Hz	70-17,000 Hz	65-14,000 Hz
Power Capacity	30 watts IPM**	25 watts IPM	75 watts IMP	120 watts IPM
Impedance	8 ohms	16 ohms	8 ohms	16 ohms
S.P.L.*	101 dB	92dB	94dB	95dB
Dispersion	Vertical	20°	18°	16°
	Horizontal	165°	120°	120°
Dimensions	31"x5"x5 1/2"	7 1/2"x8 3/4"x47 7/8"	11 7/8"x7 3/4"x41 3/8"	11 7/8"x7 3/4"x60 1/4"
Shipping Weight	14 lb.	33 lb.	40 lb.	63 lb.
Net Price	59.70	89.70	149.40	207.00

\*10 ft. on axis, re .0002 dynes/cm<sup>2</sup>, 1 watt at 1000 Hz



**UNIVERSITY SOUND**  
A DIVISION OF LTV LING ALTEC INC

# High Fidelity Component Speakers

## Wide-Range High Compliance Models

### SERIES 200 Wide-Range High Compliance Models

Model	Frequency Response (Hz)	Power Capacity (Watts IPM**)	Imp. (Ohms)*	Dimensions (Dia.-Depth)	Shipping Wt. (Pounds)	Net Price
315-C	25-20,000	50	8-16	15 1/4" x 12"	3 1/2	\$175.00
312	28-40,000	35	8-16	13" x 6 5/8"	10 1/4	\$ 84.50
6201	28-18,500	35	8-16	13" x 6 5/8"	10 1/4	69.50
Diff-12	25-15,000	35	8-16	13" x 6 5/8"	9	42.50
308	30-17,000	35	8-16	9 3/8" x 6 1/8"	7 1/2	47.50
Diff-8	30-15,000	35	8-16	9 3/8" x 4 5/16"	5	32.50

M-12T	35-40,000	30	8-16	12 15/16 x 3 3/8"	9	39.50
M-12D	35-15,000	30	8-16	12 15/16" x 3 3/8"	7 1/2	27.95
M-12	35-12,000	30	8-16	12 15/16" x 3 3/8"	7 1/2	21.50
M-8D	50-15,000	30	8-16	8 1/4" x 2 1/2"	9	22.80
M-8	50-12,000	30	8-16	8 1/4" x 2 1/2"	5 1/2	17.00
MS	3000-40,000	30	8-16	3 1/8" x 3-1/16"	1 1/2	17.40

\*May be used with amplifiers with output impedance of 8 or 16 ohms.

\*\*Integrated Program Material.

University Series 200 component speakers represent the ultimate in quality and engineering knowhow in the industry. Their high power-handling capacity and ruggedness of construction using modern die-cast baskets and molded seamless cones assures long-life adherence to original performance standards. These speakers are designed for use in any pre-finished or custom built enclosure and may be mounted from either the front or rear of the baffle panel. Where baffle mounting space is at a premium and high quality music reproduction is desired, Series 200 University component speakers are the logical choice for the discriminating music lover or audiophile.

### WOOFERS, MID-RANGES and TWEETERS

#### Dual Voice Coil Woofers High Compliance Models

Model	Frequency Response (Hz)	Power Capacity (Watts IPM)*	Impedance (Ohms)**	Dimensions (Dia.-Depth)	Shipping Wt. (Pounds)	Net Price
C-15HC	15-800	60	4-20**	15" x 8 1/8"	24 3/4	\$95.00
C-12HC	20-3,030	50	4-20**	13" x 6 7/8"	13 3/4	54.00

#### High Efficiency Models

C-15W	25-1,500	50	4-20**	15 3/8" x 10 1/2"	27	99.50
C-12SW+	30-6,000	30	8-16	13" x 6 3/4"	8 3/4	43.20
C-8W	50-5,000	25	8-16	8 1/4" x 4 1/4"	3	21.00

\*Integrated Program Material

\*\*Impedance Range Depending on Strapping of Voice Coils.

†Equipped with Built-in Crossover Network for 5,000, 2500, and 700 Hz Crossover

#### Mid-Range Speakers, Horns and Drivers

C-8M Cone Speaker	500-5,000	50	8	8 1/4" Dia. x 4" Depth	3	\$ 18.20
Cobreflex Horn	200 Hz cutoff			10 1/4" L. x 18 1/2" W. x 9 1/4" D.	10 1/4	27.60
H-600 Horn	600 Hz cutoff			7 3/4" L. x 8 3/4" W. x 4 3/4" D.	1 3/4	23.80
T-30 Driver*	350-18,000	50	8	3 1/2" Dia. x 3 3/4" Depth	2 1/4	33.40
T-50 Driver*	350-20,000	50	8	4 1/4" Dia. x 4 1/8" Depth	5 1/4	53.20

\*For use with Cobreflex and H-600 horns.

#### Tweeters

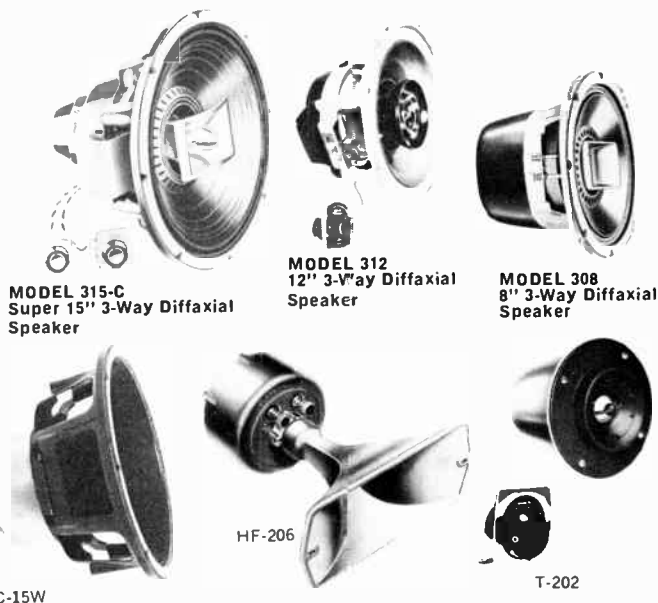
T-202 Sphericon	3,000-40,000	30	4-16	4 5/8" x 4"	2 1/2	\$ 27.00
T-203E & W†	3,000-40,000	30	4-16	6 3/4" L. x 5 1/4" W. x 2 3/4" D.	2 3/4	27.00
HF-206	3,500-22,000	50	8	6" L. x 3 3/8" W. x 6 5/8" D.	3 1/2	39.50
4401	2,000-15,000	50	8	6" L. x 2 3/4" W. x 6 5/8" D.	2 1/4	22.50
UXT-5	4,500-17,500	50	8	4 1/4" L. x 2 1/2" W. x 4" D.	2 1/4	29.50

†Models T-203 E & W equipped with case for use outside of enclosure; available in ebony and walnut. Both equipped with built-in crossover network and brilliance control. For use with amplifiers having 4-8-16 ohm outputs.

#### Crossover Network and Attenuators

Model	Crossover Frequencies (Hz)	Impedance (Ohms)	Dimensions (L.x.W.x.D.)	Shipping Wt. (Pounds)	Net Price
N-1*	1250, 2500, 5000, 10000	4-8-16	3 3/8" x 3 1/4" x 3"	2	\$ 15.00
N-2A	350, 700	4-8-16	3 5/8" x 3 1/4" x 3"	2 1/2	20.40
N-2B	1250, 2500, 5000	4-8-16	3 5/8" x 3 1/4" x 3"	2 1/2	15.00
N-3*	350, 700, 5000	8	7" x 5" x 3"	5 1/4	34.60
AP-8	L pad for presence and brilliance controls.				4.20

\*Model N-1 equipped with built-in brilliance control. N-3 equipped with built-in brilliance and presence controls.



MODEL 315-C  
Super 15" 3-Way Diffaxial  
Speaker

MODEL 312  
12" 3-Way Diffaxial  
Speaker

MODEL 308  
8" 3-Way Diffaxial  
Speaker

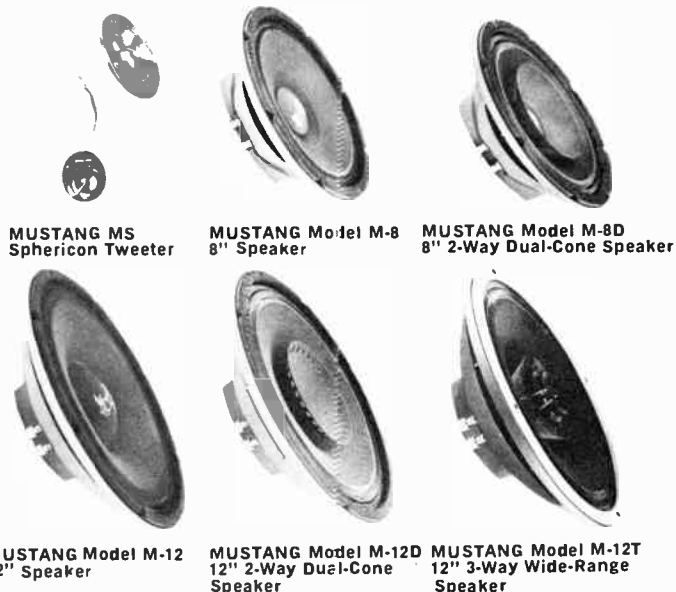
C-15W

HF-206

T-202

## University MUSTANG Series Thin-Line High Fidelity Component Speakers

The newest addition to University's line of component speakers—the Mustang Series. These completely new speakers represent the latest engineering development in the industry. As in the Series 200 models, the Mustangs are constructed using strong die cast baskets and molded seamless cones to assure long life and adherence to original performance. Mustangs are ideal for in-wall mounting for background music systems and home high fidelity installations. For quality sound at an economical price where space is at a premium, choose a Mustang.



MUSTANG MS  
Sphericon Tweeter

MUSTANG Model M-8  
8" Speaker

MUSTANG Model M-8D  
8" 2-Way Dual-Cone Speaker

MUSTANG Model M-12  
12" Speaker

MUSTANG Model M-12D  
12" 2-Way Dual-Cone  
Speaker

MUSTANG Model M-12T  
12" 3-Way Wide-Range  
Speaker



**UNIVERSITY SOUND**  
A DIVISION OF LTV LING ALTEC, INC.

# Dynamic Microphones

Broadcasting, Recording, Home Entertainment and General Purpose Applications

UNIVERSITY'S new series of dynamic microphones embraces every possible need in the audio field. Widely acclaimed in the industry, each UNIVERSITY microphone is designed and engineered to maintain the same exacting quality standards for which UNIVERSITY is famous the world over. Each and every UNIVERSITY microphone, from the economically priced Model 2000 to the top of the line 5000 Series, is covered by UNIVERSITY'S exclusive warranty to assure reliable trouble free operation for many years. To own the finest—choose UNIVERSITY!



**NEW Model 5000 Shock-Mounted Super-Cardioid Dynamic** New spherical shaped 5000 Series has a wide-angle pickup pattern with a precise taper characteristic that rejects all unwanted sound at the rear hemisphere of the unit. Rugged die-cast housing. For all applications—soundcasting, broadcasting, recording. 200 and 20,000 ohms. Response from 25 to 20,000 Hz. Output at 200 ohms -54 dB/1 mw/10 microbar; at 20,000 ohms 13 mv/10 microbar. 2 3/16" max. diameter, 9 5/8" max. length. 15' wired-in 2 cond. shielded cable and SA-10 Stand Adapter supplied. Net \$51.60

**Model 5020** Same as 5000 with detachable 15' cable and Amphenol Connector. Net \$56.95

**Model 5050** Same as 5000 with swivel stand adapter and 15' detachable cable. Net \$59.95

**Model 8000 Attache' Cardioid Lavalier** The 6000 is the world's smallest cardioid microphone. Its wide-range cardioid pickup pattern and inconspicuous appearance make it ideal for churches, night club, studio and remote broadcasting applications. It can be used as a lavalier, hand-held, mounted on a desk or floor stand, a boom or gooseneck fixture. Response is 50-15,000 Hz. Low impedance 50-500 ohms. Output at 150 ohms is -57 dB/1 mw/10 microbar. 1 1/6" diameter, 3 11/16" long. Supplied with lavalier neck cord, cable. Net Price \$39.75

**Model 8000 Shock Mounted Cardioid Dynamic** Highly directional wide angle pick-up pattern. Shock mounted for on-the-move applications. Ideal for church sound systems, industrial and commercial p.a. systems, and home tape recording. Response is 70-15,000 Hz. Impedance 250 and 20,000 ohms. Output at 250 ohms is -60 dB/1 mw/10 microbar; at 20,000 ohms is 8.5 mv/10 microbar. 1 3/4" diameter, 6 3/8" long. Equipped with 15', 3 cond. shielded cable and Cannon XLR-4-11-C connector. Supplied with stand adaptor. Net \$34.95

**Model 8100** Same as Model 8000 with switch. Net \$37.95

**Model 2000 Omni-directional Dynamic** For general soundcasting and recording applications. Omni-directional pick-up pattern is ideal for groups and audience participation programs. Response is 50-14,000 Hz. Impedance 50 and 20,000 ohms. Output at 50 ohms is -50 dB/1 mw/10 microbar; at 20,000 ohms is 28 mv/10 microbar. 15' 3 cond. shielded cable is wired-in. 1 5/32" dia., 6" long. With SA-10 Stand Adaptor. Net \$26.85

**Model 2040** Same as Model 2000 with switch and detachable 15' cable. Cannon Connector. Net \$30.60

**Model 2050** Same as Model 2000 with switch and swivel stand adaptor, 15' detachable cable and Cannon Connector. Net \$33.45

## MICROPHONE STANDS

**Model DS-10 Desk Stand** Heavy base sculptured stand may be used with any microphone. Standard 7/8-27 NPSM thread. 4 1/2" high x 7 7/8" wide x 4 3/4" deep. Black wrinkle finish. Net \$7.65

**Model SA-10 Slide-on Stand Adaptor.** Net \$2.85

**Model DS-1 Desk Stand** Contemporary design, slim profile desk stand with extruded aluminum base in black oxide finish. Perfectly balanced, will hold large microphones. Standard 3/8-27 thread. 6"x4"x3 3/4". Knurled locking washer. Net \$2.85

**Model FS-7 Floor Stand** A new concept in microphone stands. New fluted tubes are easy to adjust. Doesn't show hand marks, won't slip. Velvet action movement of upper tube, no twisting or turning. Positive lock clutch, jam-free one hand operation. Non-reflecting finish. Adjustable from 34" to 63". Black wrinkle base weighs 7 pounds and is 10" diameter. Natural satin fluted aluminum. Net \$11.95

**Model FS-7B Blue Anodized.** Net \$12.60

**Model FS-7G Gold Anodized.** Net \$12.60

**Model FS-10 Floor Stand** Same as Model FS-7 except for 10 pound, 12" diameter base. Natural Fluted aluminum. Net \$13.15

**Model FS-10B Blue Anodized.** Net \$13.75

**Model FS-10G Gold Anodized.** Net \$13.75



**NEW**

# Wharfedale

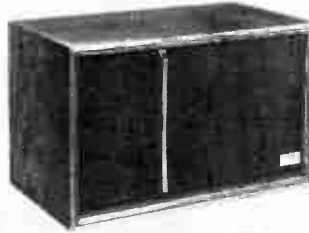
## ACHROMATIC SPEAKER SYSTEMS



**NEW ACHROMATIC W900** DELUXE SIX-SPEAKER, FOUR-WAY CONSOLE/ETTE SPEAKER SYSTEM Exclusive Sand-filled Enclosure

The truly remarkable sound of the W900 is due both to the particularly high quality of its components and to the design used in putting them to best use. The fine furniture quality of the W900 cabinet will enhance any room setting. The front grille assembly is removable for facilitating decorative changes, if desired.

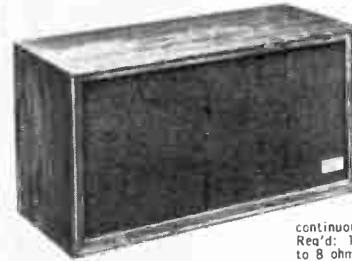
• Speakers: Woofers—One 12½" with 75 sq. in. Polystyrene piston radiator; One 12½" with conical cone; Midrange: two 5" acoustically isolated; Treble: Two 3" omnidirectional, mylar dome • Controls: treble, continuously variable; midrange, continuously variable • Minimum Power Required: 10 watts (per channel) IHF • System Impedance: 4 to 8 ohms • Dimensions: Finished Model—23¾" x 30" x 13½" (includes table top); Utility Model: 23¼" x 27¾" x 12½" (no table top, flat mouldings) • Finishes/Prices: Oiled Walnut, \$294.00; utility, \$279.00; Polished Walnut, \$315.00\*.



**NEW ACHROMATIC W600** BOOKSHELF AND FLOOR-STANDING THREE-WAY SPEAKER SYSTEM Exclusive Sand-filled Enclosure

This latest version of the very popular W600 enjoys important benefits derived from its 3-way configuration and newly upgraded components. Removable grille.

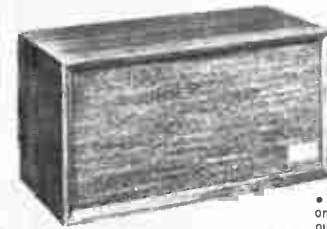
• Speakers: Woofers: 12½" heavy duty woofer with 9½ lbs. magnet assembly; Midrange: 5" acoustically isolated; Treble: 3" omnidirectional mylar dome tweeter • Controls: Individual continuously variable treble and midrange • Min. Power Req'd: 8 watts (per channel) IHF • System Impedance: 4 to 8 ohms • Dim.: 14¼" x 24" x 13" deep. Finishes: Prices: Oiled Walnut, \$135.25; Utility, \$123.00; Polished Walnut, \$146.75\*.



**NEW ACHROMATIC W400** THREE-WAY BOOKSHELF SPEAKER SYSTEM WITH ACOUSTIC SUSPENSION

The new W400 is a full three-way multiple speaker system yielding a carefully tailored, ultra-linear frequency response with minimum distortion. Using the acoustic suspension principle, the handsomely appointed cabinet is airtight and sturdily constructed. The front grille assembly is removable to facilitate decor changes, and the nameplate is rotatable to accommodate the speaker in either a vertical or horizontal position.

• Speakers: Woofer: Heavy duty 10"; Midrange: 5" acoustically isolated; Treble: 3" omnidirectional mylar dome tweeter • Controls: Individual continuously variable treble and midrange • Min. Power Req'd: 10 watts (per channel) IHF • System Impedance: 4 to 8 ohms • Dim.: 17½" x 23½" x 10½" deep • Finishes: Prices: Oiled Walnut, \$94.00; Utility, \$86.00; Polished Walnut, \$98.70\*.



**NEW ACHROMATIC W300** TWO-WAY COMPACT SPEAKER SYSTEM WITH ACOUSTIC SUSPENSION

The new Model W300 solves the problems encountered by modern speaker systems intended for use with either tube or transistor amplifiers and receivers. It is suitable for use with any amplifier having an output of 4 to 8 ohms. The cabinet uses the acoustic suspension principle, with heavy, airtight construction for maximum performance. The grille assembly is removable to facilitate changes in cloth; nameplate is rotatable either vertically or horizontally.

• Speakers: Woofer: Heavy duty, long-throw 8"; treble: 3" omnidirectional mylar dome tweeter • Control: Continuously variable treble • Min. Power Req'd: 10 watts (per channel) IHF • System Impedance: 4 to 8 ohms • Dim.: 10" x 19" x 9¼" deep • Finishes/Prices: Scuff resistant Oiled Walnut Vinyl finish, \$59.95.

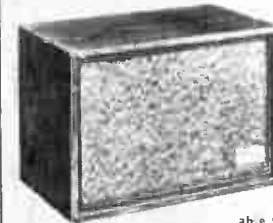


**NEW ACHROMATIC W700**

VERSATILE HI AND LOW BOY DELUXE FOUR-WAY SPEAKER SYSTEM Exclusive Sand-filled Enclosure

The new W700 incorporates the finest components available for multiple speaker systems. The versatile design permits use either as a "high boy" when placed on end, or as a "low boy" when placed on its side. The front grille is removable for decorative changes; nameplate is rotatable to accommodate different positions.

• Speakers: Woofer: 12½" extra heavy duty; Midrange: 8" upper bass/lower midrange; 5" upper midrange; Treble: 3" omnidirectional mylar dome tweeter • Controls: Individual continuously variable treble and midrange • Minimum Power Required: 8 watts (per channel) IHF • System Impedance: 4 to 8 ohms • Dimensions: Finished model: 24" x 22¾" x 13¾" (includes table top); Utility model: 24" x 24¾" x 12¾" (no table top, flat mouldings) • Finishes/Prices: Oiled Walnut, \$188.00; Utility, \$175.00; Polished Walnut, \$203.00\*.



**NEW ACHROMATIC W200** TWO-WAY MINORETTE SPEAKER SYSTEM WITH ACOUSTIC SUSPENSION

Enthusiastically acclaimed in trade magazine test reports, the W200 Minorette set its sights on sound above all... with dimensions and cost a secondary consideration. It features a sturdily constructed, handsomely appointed cabinet (acoustic suspension principle) with easily removed front grille. Small overall dimensions make it suitable for either stand-up or horizontal positioning with the position of the nameplate changeable, too. Ideal also for placement inside the speaker compartment of stereo "consoles."

• Speakers: Woofer: High-compliance 8"; Treble: 3" omnidirectional mylar dome tweeter • Control: continuously variable treble • Min. Power Req'd: 10 watts (per channel) IHF • System Impedance: 4 to 8 ohms • D.m.: 9¾" x 14" x 8½" deep • Finishes/Prices: Scuff resistant, Oiled Walnut Vinyl finish, \$49.95.



**Model K60W** OILED WALNUT ACOUSTIC SUSPENSION ENCLOSURE

This high-quality enclosure is recommended for use with the Wharfedale Full Range Super 12 RS DD (12½") speaker, or the combination of W12RS (12½") Woofer and Super 3 Tweeter. Features:

- Acoustic suspension principle • Genuine Walnut veneer • Separate compartment for acoustic isolation of tweeter (if used) • Removable, buzz-free front grille assembly • Cabinet interior lined with thick "Tufflex" • "Hi-density" ¾" thick stock for maximum sturdiness and resonance absorption • Tongue and groove construction for airtight seal and freedom from vibration • Nameplate adjusts for cabinet positioning • Pre-installed speaker mounting bolts for perfect speaker alignment • 23¼" x 14¼" x 12" deep • \$39.95.

**COMPONENT LOUDSPEAKERS**



**SUPER 8/RS/DD** Full Range 8" \$26.50



**SUPER 10/RS/DD** Full Range 10" \$47.50



**SUPER 12/RS/DD** Full Range 12" \$89.50



**W12/RS** Woofer \$52.50



**W15/RS** Woofer \$89.50

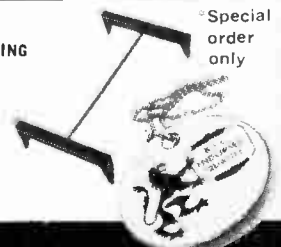


**SUPER 3** Tweeter \$26.50



**MODEL B67** UNIVERSAL MOUNTING BASE

Optional for the W600 and W900 Speaker System: Oiled Walnut, \$10.50; Unfinished, \$9.50; Polished Walnut, \$11.03\*.



**Wharfedale, Div. British Industries Corp.**



# Hi Fi & Stereo ACCESSORIES

## PHONO ACCESSORIES

### MINIATURE EARPHONE

For private listening to radios, TV, and hi-fi. Electro-dynamic type with frequency range 30-4000 cps. Lightweight metal clip holds phone to either ear.  
Cat. No. 30-154 15 ohm List 2.95  
Cat. No. 30-156 2000 ohm List 2.95

### ENGINEER'S HI-FI SERVICE TOOL KIT

Heavy duty plastic pouch contains miniature-tip soldering iron; precision tweezer neolite circuit tester; phono & recorder oil; set of jeweler's screwdrivers; Phillips screwdriver; miniature screw holding screwdriver; wire stripper and cutter and solder.  
Cat. No. 30-244 List 16.50

### PHONO AND RECORDER OIL

Specially compounded non-gumming oil in handy plastic drop-by-drop applicator. Contains rust inhibitor.  
Cat. No. 30-250 List .65

### STEREO AND MONOPHONIC HEADPHONES

Hi-quality stereo earphones for private enjoyment of Stereo tapes and records. Complete with 62 inch cord and standard 3 conductor Stereo plug.  
No. 30-157 Head Set. List 21.95  
(Std. Ctn. 3 boxes)

### AUDIOTEX DISC WHISK

Cleaning surface is especially treated with a New Miracle record protector. Insert centering pin of the Audiotex Disc Whisk into the spindle hole of any record; close the upper arm of the cleaner and rotate record several times under light pressure. In just 5 seconds both sides of records are positively clean and static free. Fits all records up to 12" in diameter.  
No. 30-023 (Std. Ctn. 12 bags) List 1.59

### DRAWER SLIDES (For Bottom or Side Mounting)

All steel construction, these universal ball-bearing drawer slides will fit most applications. 13" long, will fit drawers from 15" to 17" long.  
(Std. Ctn. 3 boxes) No. 30-348 (One Pair) List 5.00

### RECORD BRUSH

Camel hair brush clips on tone arm; sweeps grooves while record is playing. Adjustable swivel permits use with any record player.  
Cat. No. 30-000 List .75

### ATOMIC STAT-ELIM

Anti-static dust eliminator drains static charge by ionizing air surface of record. Contains mildly radio-active element; lightweight holder attaches to tone arm.  
Cat. No. 30-002 List 3.95

### STYLUS BRUSH

Automatically cleans stylus each time tone arm is moved from rest position. Self-adhesive bottom attaches to turntable; adjustable.  
Cat. No. 30-004 List 1.40

### ALL PURPOSE HI FI BRUSH

Gently remove harmful dust and dirt from valuable equipment with this soft nylon bristle brush with 4" handle  
Cat. No. 30-005 (pack of 2) List 1.08

### ANTI-STATIC RECORD SATIN

One application cleans, lubricates, and adds an antistatic agent to your record. Application lasts several playings. The highest quality product of its type for your most precious discs.  
No. 30-006 6 ounce spray List 1.65

### RECOR-DE-STAT KIT

Cleaner, pad and brush. Velvet pad applicator fibers reach bottom of record grooves. Anti-static detergent cleans records; leaves dust-repelling film.  
Cat. No. 30-010 List 2.00

### DUST OFF

Record cleaner and static eliminator. Applies cleaning fluid, brushes dirt from grooves, picks up loosened dirt, eliminates static charge while record is playing.  
Cat. No. 30-013 Player model List 4.95  
Cat. No. 30-016 Fluid refill List 1.95  
Cat. No. 30-018 Plush pad replace List 1.40

### 45 RPM RECORD ADAPTOR

Plastic adaptor slips over standard spindle to play any 45 RPM disc.  
Cat. No. 30-034 List .25

### DISK-O-KLEEN

Silicone treated record cleaning cloth eliminates static charge; has extra length nap to reach bottom of grooves.  
Cat. No. 30-022 List 1.40

### RECORD POWDER PUFF (Removes Harmful Dust and Dirt)

Keeps your records clean and free of harmful dust and dirt. Velvet-soft material reaches down into record grooves to remove foreign particles. When used regularly, the Audiotex Record Powder Puff will keep your record collection like new.  
(Std. Ctn. 12 cards) No. 30-011 List 1.00

### RECORD SAVERS

Heavy duty polyethylene envelopes protect records when not in use. Pkg. of 15.  
Cat. No. 30-050 Pack of 6, 10" List .49  
Cat. No. 30-052 Pack of 5, 12" List .55  
Cat. No. 30-064 Pack of 15, 12" List 1.00

### 45 RPM RECORD INSERTS

Plastic snap-in inserts adapt large hole 7" records for play on 3 speed changers. Spring-like construction holds insert firmly in place.  
Cat. No. 30-030 Pkg of 5 List .25  
Cat. No. 30-031 Pkg. of 10 List .50

### TURNTABLE RECORD CUSHIONS

Thick plastic sponge cushions eliminate record slip, reduce magnetic pull, prolong record life.  
Cat. No. 30-040 10" List 1.00  
Cat. No. 30-042 12" List 1.25

### TURNTABLE RUBBER MAT KIT

Heavy rubber mat fits any 12" turntable. Has tapered ridges 7", 10", and 12" in diameter. Supports any size record by its blank outside rim, keeping grooves from touching. Strobe disc and 45 RPM adaptor included.  
Cat. No. 30-044 List 5.25

### TONE ARM LIFT

Provides precise control of tone arm. Made of spring metal, plastic coated; attaches to tone arm.  
Cat. No. 30-066 List .75

### RECORD TONE ARM LIFT AND BRUSH KIT

Kit fits all tone arms. Fine camels hair brush cleans records as they play. Tone arm lift is the only sure way to lift or place arm on records.  
Cat. No. 30-068 List 1.00

### 45 RPM RECORD REPEATERS

Automatically plays favorite records again. One disc placed on top of records will use record to play twice; 2 discs - 3 times.  
Cat. No. 30-036 (pack of 6) List .97

### PHONO ACCESSORY KIT

Complete phono and record care kit contains record brush, recor-de-stat, 12" record savers, tone arm lift, stylus microscope, stylus weigh gauge, strobe disc, and phono and recorder oil.  
Cat. No. 30-098 List 9.95

### AUDIOTESTER TEST RECORD

12" plastic LP has stereo tests on Side 1; mono on Side 2. Side 1: metronome balance, pickup alignment, channel separation, frequency response, RIAA equalization, turntable rumble. Side 2: stylus wear frequency response, RIAA equalization IM distortion, turntable rumble, tone arm resonance.  
Cat. No. 30-200 List 4.98

### RECORD STYLUS MICROSCOPE

Economy model for examination of stylus condition. Ample magnification - for occasional or limited usage  
Cat. No. 30-216 List 1.25

### STYLUS MICROSCOPE

Optical instrument for checking stylus wear. Has adjustable focus and magnifying power of 50. Complete with pen-type pocket clip.  
Cat. No. 30-218 List 2.50

### MUSI-KLEEN Tape Cartridge Player Head Cleaner

Cleans 8 track stereo cartridge player heads in a single operation. Plug it in, turn it on, the heads are cleaned. The kit contains extra cleaning belts and fluid.  
No. 30-620 List 5.95  
No. 30-620-1 Five replacement tapes List .75  
No. 30-620-2 Replacement Cleaning fluid List 1.00

### BLAST OFF Tape Head Cleaner

Aerosol head cleaner removes dust and oxide particles from tape heads. 3 oz. can.  
No. 30-630 List 1.95



# Hi Fi & Stereo ACCESSORIES

## PHONO ACCESSORIES

### TAPE PHONO NON SLIP COMPOUND

Applied to phono tape drive wheels and belts, this chemical prevents slippage, insures uniform speeds. With brush applicator in cap.  
Cat. No. 30-121 ..... List 1.00

### STYLUS WEIGHT GAUGE

Accurately gauges correct stylus pressure.  
Cat. No. 30-220 ..... List 2.80

### DECI-GRAM STYLUS PRESSURE GAUGE

1 to 10 gram pressure gauge measures stylus pressure within 1/2 gram. DECI-GRAM is built to close tolerances for years of service.  
Cat. No. 30-222 ..... List 1.65

### PHONO LEVEL

Bubble-type gauge for precise measurement of phonograph level. Accurate to better than 1 degree.  
Cat. No. 30-224 ..... List 2.50

### STROBE DISC

New design shows not only correct speed but also 2% and 4% deviations.  
Cat. No. 30-228 Carboard ..... List .55  
Cat. No. 30-230 Plastic ..... List 1.65

### TAPE HEAD PRESSURE PADS

May be cut to desired size. Package contains 4 pads: 2-1/4" x 1-3/16" in both 1/16" and 3/32" thickness.  
Cat. No. 30-119 ..... List .99

### CLEAN STIKS

Ideal for cleaning lubricating hard-to-reach places. Cotton tipped - package of 100.  
Cat. No. 30-127 ..... List .98

### TAPE REELS

Molded of durable clear styrene in five sizes. Will fit all domestic and imported tape recorders and players.  
(Std. Ctn. 6 cards)

	Pkg. of	List
No. 30-191 2" reels	6	List 1.00
No. 30-193 2-3/8" reels	6	List 1.00
No. 30-195 3" reels	6	List 1.00
No. 30-197 5" reels	2	List 1.00
No. 30-199 7" reels	2	List 1.00

## TAPE ACCESSORIES

### TAPE SPLICER EZE SPLICE MODEL

For fixing broken tape and editing. Provides easy-to-repair mitre cut.  
Cat. No. 30-100 ..... List 2.75

### TAPE SPLICER STANDARD MODEL

Easy to use, precise cutter splicer with pair of curved cutting blades. Leaves tape edges free of adhesive. For use with any 1/4" tape.  
Cat. No. 30-104 ..... List 7.95

### TAPE RECORDER STROBE

Tests accuracy and consistency of recorder speed. Tests speed of 7-1/4 and 3-3/4 IPS. Compact, easy to use. Instructions included.  
Cat. No. 30-234 ..... List 5.95

### TAPERASER

Removes all traces of signal and noise from audio tapes and 16 of 35 mm magnetic sound film. Powerful erase action (to -52 db) lowers residual noise level below that of some virgin tape. Erases tape on reels up to 10 1/2" diameter.  
Cat. No. 30-114 ..... List 33.00

### LANGUAGE LAB ACCESSORY AND SERVICE KIT

Includes tape and record labels, splicing tape, tape threading leader, Hi-Fi service tool kit, tape strobe, head cleaner, head lubricant, Kleen-tape head demagnetizer, and a standard model tape splicer.  
Cat. No. 30-099 ..... List 54.95

### HEAD-DEMAG TAPE HEAD DEMAGNETIZER

Safely removes all trace of magnetism from recording heads. Curved, flat tip is plastic-covered. Reaches most heads with cover left on; on-off switch eliminates unplugging when device is not in use.  
Cat. No. 30-112 ..... List 12.10

### TAPE END CLIPS

Stops straying tape ends. Reusable plastic clip, works with any reel.  
Cat. No. 30-116 Pkg. of 18 ..... List .60

### AUDIOTESTER TAPE

(Evaluate Your Tape Recorder and Sound System) 3" tape for portables for either 1-7/8 and 3-3/4 IPS

Tape conforms to official industry standards - checks both stereo and monaural, head alignment, resonances, frequency response and NAB equalization, intermodulation, flutter stereo balance (metronome) and distortion by means of piano chords. Available at 7.5 IPS on 5" plastic reel.

No. 30-211 (New 3" Tape for Portables) .....	List 4.95
No. 30-206 (Standard) .....	List 6.50
No. 30-208 (Professional) .....	List 8.25
No. 30-210 (4-Track) .....	List 6.50

### TAPE CUEING LABELS

Color coded pressure-sensitive numbered tabs for marking selections anywhere on a tape. Package contains five sheets, six tabs to a sheet and includes identification labels for the reel or box.  
Cat. No. 30-120 ..... List 1.65

### TAPE THREADING LEADER

Can be written on for quick identification. 100' spool of durable, 1/4" tape for splicing and preventing wear on tape ends. Brightly colored for easy recognition.  
Cat. No. 30-134 ..... List \$1.25

## DELUXE TAPE SPLICER

With built in splicing tape dispenser. Cuts and splices tape automatically. Holds any size splicing tape.  
Cat. No. 30-106 ..... List 8.95

## KLEEN-TAPE

30' of specially impregnated cloth tape on 3" reel for cleaning tape heads. "Plays" through any standard tape recorder in less than 2 minutes. Pat. No. 30-8852  
Cat. No. 30-126 ..... List 2.21

## SPLICING TAPE

For use with any tape splicer. Special cold setting, non-flowing adhesive on Mylar\* base. Available in 3 widths on 100' spools.  
Cat. No. 30-110 1 1/2" tape ..... List .50  
Cat. No. 30-111 3 4" tape ..... List .75  
Cat. No. 30-113 3 8" tape ..... List .45

\*TM of DuPont

## TAPE RECORDER CARE KIT

Includes tape splicer, splicing tape, head cleaner and lubricant, reel holders, end clips, cleaning brush and swabs, cleaning cloth, tape cueing and indexing labels. Plastic container  
Cat. No. 30-125 ..... List 14.95

## CARE KIT FOR AUTO TAPE PLAYER

For 4 and 8 track players. Kit contains head cleaner, head lubricant, cleaning brushes and plastic pouches to protect tapes.  
No. 30-636 ..... List 3.49

## TAPE HEAD CLEANER SPRAY

Simply spray tape heads - wipe dry. Remove harmful dust, dirt, grease. Will not harm finished surfaces.  
6 oz can.  
Cat. No. 30-128 ..... List 1.95

## TAPE CARE KIT JR.

Contains 2 oz. bottle of recorder head cleaner, cotton swabs and cleaning cloth. Leaves a light protective film on tape head.  
Cat. No. 30-129 ..... List 1.60

## TAPE HEAD CLEANER AND LUBRICANT

For cleaning and lubricating tape heads. Removes harmful dirt and grease. Lubricant contains silicone. Stops tape squeal, reduces friction. Tapes last longer, give better fidelity.  
Cat. No. 30-124-1 2 oz. cleaner ..... List 1.00  
Cat. No. 30-124-2 2 oz. lubricant ..... List 1.00

# BURGESS MAGNETIC RECORDING TAPE

by the makers of BURGESS BATTERIES

40 years of successful developments in acoustics, coatings and coating processes, and solid state physics have enabled Burgess engineers to produce a superlative magnetic tape characterized by these quality features . . .



- SUPERB FREQUENCY RESPONSES
- LOW NOISE LEVEL • HIGH SENSITIVITY
- UNIFORM, TROUBLE-FREE PERFORMANCES ASSURED BY BURGESS QUALITY CONTROL

BURGESS NUMBER	TAPE LENGTH	REEL SIZE	†SUGG. DEALER PRICE	LIST PRICE	DESCRIPTION
<b>SERIES NO. 111</b>					
1.5 mil 1/4"					
<b>ALL-PURPOSE PLASTIC</b>					
111-1.5	150'	3"	\$.42	\$.70	1.5 mil cellulose acetate for all general recording needs. Recognized throughout the recording industry as perfect for flawless recordings at minimum cost. The popular standard series tape.
111-2.5	250'	3 1/4"	.75	1.25	
111-3	300'	4"	.81	1.35	
*111-6	600'	5"	1.35	2.25	
111-8.5	850'	5 3/4"	1.71	2.85	
*111-12	1200'	7"	2.10	3.50	
111-24R	2400'	10 1/2" M	6.54	10.90	
111-24H	2400'	10 1/2"	5.10	8.50	
111-50HPB	5000'	14"	8.91	14.85	

BURGESS NUMBER	TAPE LENGTH	REEL SIZE	†SUGG. DEALER PRICE	LIST PRICE	DESCRIPTION
<b>SERIES NO. 150</b>					
1.0 mil 1/4"					
<b>EXTRA-PLAY POLYESTER MYLAR*</b>					
150-2.25	225'	3"	\$.60	\$1.00	1.0 mil polyester mylar* for trouble-free operation in all weather. Performs brilliantly, unaffected by heat or humidity. 50% more recording time per reel.
150-3.75	375'	3 1/4"	1.05	1.75	
150-9	900'	5"	2.16	3.60	
150-12	1200'	5 3/4"	2.79	4.65	
150-15	1500'	7"	3.10	5.15	
150-18	1800'	7"	3.72	6.20	
150-36R	3600'	10 1/2" M	8.64	14.40	
150-36H	3600'	10 1/2"	7.20	12.00	
150-36RPS	3600'	10 1/2"	8.64	14.40	

BURGESS NUMBER	TAPE LENGTH	REEL SIZE	†SUGG. DEALER PRICE	LIST PRICE	DESCRIPTION
<b>SERIES NO. 190</b>					
1.0 mil 1/4"					
<b>EXTRA-PLAY PLASTIC</b>					
190-2.25	225'	3"	.54	.90	1.0 mil cellulose acetate for maximum economy. Superb reproduction with full frequency response and 50% more recording time.
190-9	900'	5"	2.10	3.50	
190-12	1200'	5 3/4"	2.55	4.25	
190-15	1500'	7"	2.70	4.50	
190-18	1800'	7"	3.30	5.50	
190-36R	3600'	10 1/2" M	7.71	12.85	
190-36H	3600'	10 1/2"	6.00	10.00	

BURGESS NUMBER	TAPE LENGTH	REEL SIZE	†SUGG. DEALER PRICE	LIST PRICE	DESCRIPTION
<b>SERIES NO. 200 &amp; 290</b>					
.5 mil 1/4"					
<b>DOUBLE LENGTH TENSILIZED POLYESTER MYLAR*</b>					
200-3	300'	3"	.96	1.60	.5 mil double length tensilized polyester mylar* gives double the recording time of conventional tape. Twice the strength of conventional thin tape. Ideal for use under adverse conditions. Won't stretch or become brittle.
200-6	600'	4"	1.83	3.05	
200-12	1200'	5"	3.27	5.45	
200-17	1700'	5 3/4"	4.24	7.05	
200-24	2400'	7"	5.70	9.50	
200-48R	4800'	10 1/2"	13.20	22.00	
200-48H	4800'	10 1/2"	11.70	19.50	
200-48RPS	4800'	10 1/2"	13.20	22.00	
290-6	600'	3 1/4"	1.50	2.50	
290-18	1800'	5"	4.17	6.95	
290-36	3600'	7"	7.17	11.95	

BURGESS NUMBER	TAPE LENGTH	REEL SIZE	†SUGG. DEALER PRICE	LIST PRICE	DESCRIPTION
<b>SERIES NO. 102</b>					
1.5 mil 1/4"					
<b>ALL-PURPOSE MYLAR*</b>					
**102-6	600'	5"	1.59	2.65	1.5 mil mylar* for super toughness, flawless performance under all conditions. Immune to heat or humidity, will not dry out or become brittle.
102-8.5	850'	5 3/4"	2.55	4.25	
**102-12	1200'	7"	2.55	4.25	
102-24R	2400'	10 1/2" M	6.72	11.20	
102-24H	2400'	10 1/2"	5.28	8.80	
102-24RPS	2400'	10 1/2"	6.73	11.20	
102-25HPB	2500'	10 1/2"	4.98	8.30	
102-48R	4800'	14"	14.70	24.50	
102-48H	4800'	14"	11.10	18.50	

BURGESS NUMBER	TAPE LENGTH	REEL SIZE	†SUGG. DEALER PRICE	LIST PRICE	DESCRIPTION
<b>SERIES NO. 131</b>					
1.5 mil 1/4"					
<b>LOW PRINT THROUGH PROFESSIONAL QUALITY PLASTIC</b>					
131-12	1200'	7"	2.64	4.40	1.5 mil cellulose acetate. Provides absolute minimum layer-to-layer signal transfer.
131-24R	2400'	10 1/2"	7.44	12.40	
131-24H	2400'	10 1/2"	6.00	10.00	
131-48R	4800'	14"	15.60	26.00	
131-48H	4800'	14"	12.00	20.00	

BURGESS NUMBER	TAPE LENGTH	REEL SIZE	†SUGG. DEALER PRICE	LIST PRICE	DESCRIPTION
<b>SERIES NO. 175</b>					
1.5 mil 1/4"					
<b>ALL-PURPOSE MYLAR*</b>					
175-6M	600'	5"	1.44	2.40	More tear resistant than acetate. For heavy duty recording applications.
175-12M	1200'	7"	2.25	3.75	

BURGESS NUMBER	TAPE LENGTH	REEL SIZE	†SUGG. DEALER PRICE	LIST PRICE	DESCRIPTION
<b>SERIES NO. 138</b>					
1.5 mil 1/4"					
<b>LOW PRINT THROUGH PROFESSIONAL QUALITY ALL-PURPOSE MYLAR*</b>					
138-12	1200'	7"	3.06	5.10	1.5 mil mylar* insures good strength and storage characteristics. Provides absolute minimum layer-to-layer signal transfer.
138-24R	2400'	10 1/2"	8.10	13.50	
138-24H	2400'	10 1/2"	6.66	11.10	

† Price each in quantities of 12 or more reels.

Letter "R" designates tape on NAB Reel with 3" center hole, letter "H" designates tape on metal hub.

\*HPB" designates tape on plastic hub, bulk packaged. "RPS" designates plastic reel with 3/4" EIA center hole.

## ACCESSORIES

BURGESS NUMBER	SIZE	†SUGG. DEALER PRICE	LIST PRICE	DESCRIPTION
LT-15 White	150'L 1/4"W (White tape)	\$.75	\$1.25	Mylar* Leader Tape
LT-15 Red	150'L 1/4"W (Red tape)	.75	1.25	
LT-15 Blue	150'L 1/4"W (Blue tape)	.75	1.25	
LT-15 Green	150'L 1/4"W (Green tape)	.75	1.25	
LT-15 Yellow	150'L 1/4"W (Yellow Tape)	.75	1.25	
LT-15M	150'L 1/4"W	.95	1.60	Metalized Mylar* Leader Tape
ST-5	150"L 1/2"W	.74	.98	Splicing Tape
RB-3	Clear Plastic 3" Reel	.18	.30	Empty Reel, Boxed
RB-3 1/4	Clear Plastic 3 1/4" Reel	.27	.45	Empty Reel, Boxed
RB-4	Clear Plastic 4" Reel	.38	.65	Empty Reel, Boxed
*RB-5	Clear Plastic 5" Reel	.42	.70	Empty Reel, Boxed
RB-5 1/4	Clear Plastic 5 1/4" Reel	.53	.90	Empty Reel, Boxed
*RB-7	Clear Plastic 7" Reel	.53	.90	Empty Reel, Boxed

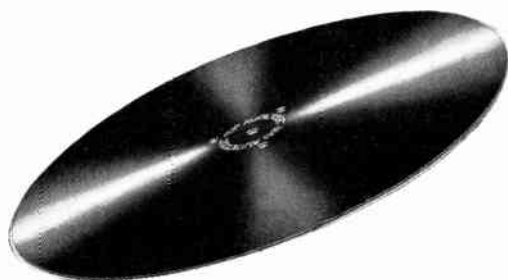
BURGESS NUMBER	SIZE	†SUGG. DEALER PRICE	LIST PRICE	DESCRIPTION
B-3	For 3" Reel	\$.18	\$.30	Empty Box
B-3 1/4	For 3 1/4" Reel	.18	.30	Empty Box
B-4	For 4" Reel	.32	.53	Empty Box
B-5	For 5" Reel	.32	.53	Empty Box
B-5 1/4	For 5 1/4" Reel	.32	.53	Empty Box
B-7	For 7" Reel	.32	.53	Empty Box
MB-4	For 4" Reel & Box	.16	.27	Corrugated Mailing Carton
MB-5	For 5" Reel & Box	.23	.38	Corrugated Mailing Carton
MB-7	For 7" Reel & Box	.27	.45	Corrugated Mailing Carton

† Price each in quantities of 12 or more accessories.

\*\* Also available in colored reels Red, Blue, Green, Yellow or Violet.

\* Trade Mark of DuPont

# audiodiscs<sup>®</sup>



Audi discs have kept pace with the constantly increasing demands of the recording industry for over a quarter of a century. Today's Audi disc — in keeping with high professional standards of the modern recording engineer — is the finest ever, produced by the most advanced facilities and techniques.

New Audi discs feature: Consistent, Uniform Thickness; Superior Tracking Qualities; Extended Stylus Life; Brilliant H.F. Response; Freedom from Background Noise; Positive Thread Throw; No "Groove Tearing"; Unblemished Surface; No Advance Ball Score; Micro-Mirror Surface.

Audi discs provide a complete line of recording blanks, to meet the full range of requirements of discriminating professional recordists. To fulfill the varying needs of the recording engineer, Audi discs are available in a broad range of types. Each type is intended to satisfy a specific requirement and is manufactured to provide complete satisfaction.

DESCRIPTION	Size Inches	Suggested Resale	Carton Contains
<b>MASTER</b>			
<b>FOR MASTER RECORDINGS:</b>			
The overwhelming choice of the recording engineer where pressings are to be made by the electroplating process. Aluminum base. Available in single face with center hole only.	10	\$2.78	25
	12	3.16	25
	13¼	4.68	25
	14	5.00	25
<b>RED LABEL</b>			
<b>FOR PROFESSIONAL USE:</b>			
Standard throughout the recording industry, Red Label Audi discs exceed the most exacting demands for optimum quality and dependability. Aluminum base. All double faced. Imprinted (except on 7").	7*	\$1.46	25
	8	1.08	25
	10	1.39	25
	12	2.97	25
<b>YELLOW LABEL</b>			
<b>FOR GENERAL USE:</b>			
A popular choice for all general purpose recording which requires high, uniform quality. Aluminum base. Double sided. Imprinted or yellow paper labels available upon request.	7*	\$1.33	25
	8	1.00	25
	10	1.20	25
	10**	1.90	25
	12	2.53	25
<b>BLUE LABEL</b>			
<b>FOR AMATEUR USE:</b>			
Ideal for schools, home, amateur and demonstration work. Same high quality for the very best in recording, but on a thinner aluminum base. Double sided. Blue paper labels available upon request.	6½	\$ .51	50
	8	.76	50
	10	1.01	50

\*Standard 45 rpm disc with 1½" diameter center hole. Also available with conventional center hole. To specify, indicate "Small Center Hole" on orders.

All Prices and Items Subject to Change Without Notice.

\*\*Supplied with extra heavy base.

## audiopoints

Audiopoints meet the exacting requirements of the recording engineer for standard or microgroove recording.

**RECORDING  
AUDIPOINTS**



**SAPPHIRE No. 14** — long recognized as the finest recording stylus made. Short or long dural shank. 87° included angle.

**Suggested Resale \$5.34**

**SAPPHIRE No. 20** — especially designed for professional microgroove recording. Short or long dural shank. **Suggested Resale \$5.34**

**STELLITE No. 34** — a favorite with many professional and non-professional users. Short or long shank. 87° included angle.

**Suggested Resale \$1.74**

Shipments: Freight will be paid anywhere in the U.S.A. on shipments of 100 lbs. or more. All other shipments are F.O.B. Stamford, Conn. or N.Y.C.

# THE COMPLETE LINE OF PROFESSIONAL QUALITY audiotape

Description	Type No.	Length	Reel†	Suggested Resale	
 <p><b>STANDARD RECORDING</b> on 1½-mil Acetate</p>	151	150 ft.	3" Plastic Reel	\$0.42	
	151MB	150 ft.	3" Plastic Reel in Mailing Box	0.42	
	351	300 ft.	4" Plastic Reel	0.81	
	651	600 ft.	5" Plastic "C-Slot" Reel	1.35	
	851	850 ft.	5¾" Plastic Reel	1.77	
	1251	1200 ft.	7" Plastic "C-Slot" Reel	2.10	
	2551H	2500 ft.	NARTB Hub	4.71	
	2551R	2500 ft.	10½" Aluminum Reel	6.48	
	‡2551FS	2500 ft.	10½" Fiberglass Reel	6.48	
	5051H	5000 ft.	NARTB Hub	8.64	
	5051R	5000 ft.	14" Aluminum Reel	12.81	
<p><b>audiotape</b></p> <p><b>LONGER RECORDING</b> on 1 mil Mylar*</p>	261	225 ft.	3" Plastic in Self-Mailer Pkg.	0.60	
	961	900 ft.	5" Plastic "C-Slot" Reel	2.16	
	1261	1200 ft.	5¾" Plastic Reel	2.49	
	1861	1800 ft.	7" Plastic "C-Slot" Reel	3.72	
	2461	2400 ft.	8¼" Plastic Reel	5.65	
	3661H	3600 ft.	NARTB Hub	6.84	
	3661R	3600 ft.	10½" Aluminum Reel	8.61	
	‡3661FS	3600 ft.	10½" Fiberglass Reel	8.61	
	7261H	7200 ft.	NARTB Hub	14.40	
	7261R	7200 ft.	14" Aluminum Reel	18.00	
	<p><b>audiotape</b></p> <p><b>LONGER RECORDING</b> on 1 mil Acetate</p>	941	900 ft.	5" Plastic "C-Slot" Reel	2.10
1241		1200 ft.	5¾" Plastic Reel	2.25	
1841		1800 ft.	7" Plastic "C-Slot" Reel	3.30	
3641H		3600 ft.	NARTB Hub	5.91	
3641R		3600 ft.	10½" Aluminum Reel	7.68	
‡3641FS		3600 ft.	10½" Fiberglass Reel	7.68	
7241H		7200 ft.	NARTB Hub	11.04	
7241R		7200 ft.	14" Aluminum Reel	15.21	
<p><b>audiotape</b></p> <p><b>DOUBLE RECORDING</b> on ½ mil Mylar*</p>		331	300 ft.	3" Plastic Reel	0.82
		1231	1200 ft.	5" Plastic "C-Slot" Reel	2.10
		1831	1800 ft.	5¾" Plastic Reel	3.00
	2431	2400 ft.	7" Plastic "C-Slot" Reel	3.90	
	<p><b>audiotape</b></p> <p><b>DOUBLE RECORDING</b> on "Tempered" Mylar*</p>	331T	300 ft.	3" Plastic in Self-Mailer Pkg.	0.96
1231T		1200 ft.	5" Plastic "C-Slot" Reel	3.27	
1831T		1800 ft.	5¾" Plastic Reel	4.05	
2431T		2400 ft.	7" Plastic "C-Slot" Reel	5.70	
4831T-R		4800 ft.	10½" Aluminum Reel	13.20	
‡4831T-FS		4800 ft.	10½" Fiberglass Reel	13.20	
<p><b>audiotape</b></p> <p><b>STANDARD RECORDING</b> on 1½ mil Mylar*</p>		671	600 ft.	5" Plastic "C-Slot" Reel	1.59
	1271	1200 ft.	7" Plastic "C-Slot" Reel	2.55	
	2571H	2500 ft.	NARTB Hub	4.98	
	2571R	2500 ft.	10½" Aluminum Reel	6.72	
	‡2571FS	2500 ft.	10½" Fiberglass Reel	6.72	
	5071H	5000 ft.	NARTB Hub	9.99	
	5071R	5000 ft.	14" Aluminum Reel	14.70	
	<p><b>audiotape</b></p> <p><b>MASTER RECORDING</b> on 1½ mil Acetate</p>	651-M	600 ft.	5" Plastic "C-Slot" Reel	1.65
		1251-M	1200 ft.	7" Plastic "C-Slot" Reel	2.58
2551H-M		2500 ft.	NARTB Hub	5.55	
2551R-M		2500 ft.	10½" Aluminum Reel	7.32	
‡2551FS-M		2500 ft.	10½" Fiberglass Reel	7.32	
5051H-M		5000 ft.	NARTB Hub	10.17	
5051R-M		5000 ft.	14" Aluminum Reel	14.34	
<p><b>audiotape</b></p> <p><b>MASTER RECORDING</b> on 1½ mil Mylar*</p>		671-M	600 ft.	5" Plastic "C-Slot" Reel	1.92
	1271-M	1200 ft.	7" Plastic "C-Slot" Reel	3.06	
	2571H-M	2500 ft.	NARTB Hub	6.60	
	2571R-M	2500 ft.	10½" Aluminum Reel	8.10	
	‡2571FS-M	2500 ft.	10½" Fiberglass Reel	8.10	

†COLORED PLASTIC REELS. Audiotape on 5" and 7" reels can be supplied on colored reels at no increase in price. To designate color (Red, Yellow, Green or Blue) add "RR" and "YR", and "GR" or "BR" to Type No. E.g. — Type 1251YR covers 1200 feet of plastic-base tape on Yellow Reel.

‡"FS" in Type No. indicates Fiberglass reel with solid hub and ¼" center hole

\*"Mylar" is the registered DuPont trade mark for its polyester film.

**SECTION 1340**

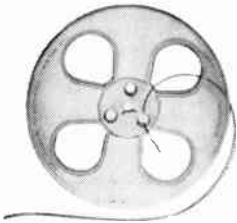
Description	Type No.	Length	Reel	Suggested Resale
<b>audiotape TRIPLE RECORDING on "Tempered" Mylar*</b> Three times as much recording time per reel as standard-plastic-base tape, plus the same extra strength as other "Tempered" Mylar Audiotapes. Formula 11, in the olive box.	633T	600'	3¼" Plastic in Self-Mailer Pkg.	\$1.77
	1833T	1800'	5" Plastic "C-Slot" Reel	4.17
	3633T	3600'	7" Plastic "C-Slot" Reel	7.17
<b>audiotape LOW NOISE on 1½ mil Acetate</b> An excellent Low Noise tape providing high signal to noise ratio and drastically lowered hiss level without sacrificing other properties needed for critical professional recording. On 1½-mil Plastic Base, Formula 15 in the Red Box.	1257	1200'	7" Plastic "C-Slot" Reel	\$2.58
	2557H	2500'	NARTB Hub	5.55
	2557R	2500'	10½" Aluminum Reel	7.32
<b>LOW NOISE on 1½ mil Mylar*</b> Maintains a high signal to noise ratio with immunity to temperature and humidity without sacrificing other properties. Formula 15, in the green box.	1277	1200'	7" Plastic "C-Slot" Reel	\$3.06
	2577H	2500'	NARTB Hub	6.60
	2577R	2500'	10½" Aluminum Reel	8.10
<b>LOW NOISE on 1 mil Mylar*</b> 50% more recoding time per reel; provides a strong durable base assuring trouble free operation. Formula 15, in the orange box.	1867	1800'	7" Plastic "C-Slot" Reel	\$4.41
	3667H	3600'	NARTB Hub	8.52
	3667R	3600'	10½" Aluminum Reel	10.29

**FORMULA 17 — LUBRICATED**

LUBRICATED TAPE on 1-mil polyester film	Type No.	Length	Reel	Suggested Resale
Designed for use in Audiopak and other continuous loop cartridges. Offers high frequency response. Edges resist nicking. Unaffected by humidity and temperature changes. Formula 17, in the orange box.	1761-LUBE	1700'	7" Plastic "C-Slot" Reel	\$3.52

**OTHER AUDIOTAPE ITEMS**

Item	Type No.	Reel	Sug. Resale		
<b>EMPTY AUDIOTAPE REELS IN INDIVIDUAL BOXES</b> All Audiotape reels, the complete range of sizes and types, are available, individually packaged in standard Audio boxes. Five and seven-inch reels feature the popular C-slot design for fast, easy threading. In addition to the standard clear plastic, C-Slot reels are available in four attractive jeweltone colors, at no extra cost.	3PMB	3" Plastic Reel in Mailing Box	\$0.15		
	3.25PB	3¼" Plastic Reel in Mailing Box	0.24		
	4PB	4" Plastic Reel in Box	0.33		
	5PB	5" Plastic C-Slot Reel in Box	0.39		
	7PB	7" Plastic C-Slot Reel in Box	0.45		
	10RB	10½" Aluminum Reel in Box	2.70		
	10FS	10½" Fiberglass Reel in Box	2.70		
	10H	NARTB Metal Hub	0.45		
	10S	Pr. 10½" Alum. Flanges (WAB) w. screws	2.28		
	14RB	14" Aluminum Reel in Box	5.22		
	<b>Colored Plastic Reels</b>	5PBR	Red Yellow Green Blue	5" Plastic C-Slot Reel in Box	0.39
		5PBY			
		5PBG			
		5PBB	Red Yellow Green Blue	7" Plastic C-Slot Reel in Box	0.45
7PBR					
7PBY					
7PBG					
7PBB					



\* "Mylar" is the registered DuPont trade mark for its polyester film.

**Audiotape Accessories**

Items	Type No.	Suggested Resale	Items	Type No.	Suggested Resale		
<b>EMPTY AUDIOTAPE BOXES</b> Standard, durably - constructed, Audiotape boxes are available in all the popular sizes for filing and storing tapes.	3MB	\$0.09	<b>AUDIO HEAD CLEANER</b> Especially formulated for use on magnetic recording heads. Contains silicone solvent for sharper sound.	2HC	\$0.60		
	3.25B	0.09					
	4B	0.12					
	5B	0.12					
	7B	0.12					
	10B	0.45					
14B	0.60						
<b>AUDIOTAPE CORRUGATED MAILING BOXES</b> Strong, re-usable containers	5M	0.09	<b>AUDIO ADHESIVE REEL LABELS</b> Provide positive identification of your tapes, right on the reel. Simply press to apply, pull to remove.	30AL	0.12		
	7M	0.12					
	10M	0.18					
<b>AUDIO SELF-TIMING LEADER TAPE</b> A strong, durable leader tape of white Mylar* material with spaced markings to permit accurate timing of leader intervals.	3L	0.54	<b>AUDIO HEAD DEMAGNETIZER</b> Removes all permanent magnetism from recording and reproducing heads in a matter of seconds.	400	6.00		
						<b>AUDIO HEAD ALIGNING TAPE</b> Pre-recorded at 2,000, 10,000 and 15,000 cps (15"/sec) with precisely correct head alignment. Individually boxed, with instructions. Base material, 1½-mil Mylar.*	200
<b>"HOW TO MAKE GOOD TAPE RECORDINGS" — NEW STEREO EDITION</b> Complete handbook of tape recording. Over 160 pages of interesting information of practical value to every recordist. Liberally illustrated.	15P	0.90					
			ST-0.25-66	0.35			
			ST-0.50-100	0.39			
			ST-50-66	1.05			
ST-75-66	1.50						

# New Garrard Synchro-Lab™ automatic turntables with synchronous speed

Now Garrard introduces the revolutionary new SYNCHRO-LAB™ motor — starts instantly at precise speed and rigidly maintains

that speed regardless of voltage fluctuations. It powers all four new Synchro-Lab Series turntables and incorporates the best

features of both induction and synchronous motors: instant start... constant speed.

## SL 95 3-speed Automatic Transcription Turntable, \$129.50.

For the finest music systems and most discriminating listeners. Features include:

- NEW advanced, one-piece, ultra low-mass tonearm with Afrormosia wood for low resonance • NEW anti-skating control calibrated in 1/2 grams and infinitely variable • NEW stylus force adjustment dial with detent stops of 1/4 grams • NEW combined manual-cueing-pause control: single lever starts turntable, activates cueing, lifts and lowers arm gently to record • NEW Auto-Rise Safety platform for automatic play—disappears into unit for single play • NEW interchangeable cartridge clip—no need for plug-in shells • NEW versatile automatic lever controls all automatic and manual functions • NEW combined speed and record size selector • NEW full 12" turntable, kinetically matched to synchronous motor • NEW single play spindle rotates with record.



## SL 65 4-speed Automatic Turntable, \$79.50.

With the brilliant new SYNCHRO-LAB motor and a host of advanced features:

- Tubular, dynamically balanced tonearm • Resiliently mounted counterbalance weight • Automatic anti-skate assembly • Stylus pressure adjustment assembly with knurled "optical" type knob • Cueing and pause control • Lightweight, cutaway shell with new cueing pointer • Super-sensitive Du Pont Delrin® trip • Cast, balanced, oversized turntable • Interchangeable spindles; automatic intermix operation when desired.



## SL 75 3-speed Automatic Transcription Turntable, \$109.50.

A brilliant combination of revolutionary new features, with new Synchro-Lab motor.

- NEW low mass, one-piece tonearm of twin-braced aluminum for extra rigidity and freedom from resonance • NEW interchangeable cartridge clip—no need for plug-in shells • NEW patented, adjustable anti-skating control, infinitely variable • NEW adjustable counterweight, suspended in resonance-absorbing plastic • NEW stylus pressure adjustment assembly with "optical" knob • NEW Auto-Rise Safety platform for automatic play; disappears into unit when not in use • NEW one-lever manual and cueing control starts turntable, activates cueing, lifts and lowers arm gently to record • NEW full 12" aluminum turntable • NEW combined speed and record size selector • NEW single play spindle rotates with record.



## SL 55 4-speed Automatic Turntable, \$59.50.

With the Synchro-Lab motor. Unmatchable value in a synchronous-speed automatic turntable. Features include:

- Lightweight tubular tonearm with resiliently mounted counterbalance weight • Stylus pressure adjustment with gram markings • Manual cueing and pause control • Lightweight plug-in shell with cueing pointer • Oversized turntable with distinctive trim ring • Two spindles; automatic intermix operation when desired.



## 40 MK II 4-speed Automatic Turntable, \$44.50.

The Model 40 Mk II is undoubtedly the most widely-featured automatic in preselected music systems throughout the country. Its features include:

- Cast aluminum, counterbalanced tonearm • Simple, accessible stylus pressure adjustment • Lightweight cutaway shell with extended finger lift • Intermix automatic operation • Super-sensitive Du Pont Delrin® trip • 4-pole shaded "induction surge" motor • Oversized turntable • Two spindles: short for manual; center drop for automatic play when desired • Ultra-compact size fits easily into any record changer space.



## Model 30 4-speed Automatic Turntable, \$39.50.

This excellent new model comes complete with a ceramic diamond stylus cartridge, as well as the finest quality and superior features:

- Simple accessible stylus pressure adjustment • NEW one-piece cast aluminum tonearm • Super-sensitive Du Pont Delrin® trip • Garrard-built motor • Intermix automatic operation • Ultra compact size • NEW oversized, weighted turntable • Two spindles: short for manual; center drop for automatic play when desired.



## SP 20 4-speed Manual Record Playing Unit, \$37.50.

An efficient, low-priced compact manual player; ideal for basic stereo music systems and quality audio visual applications.

- Semi-counterbalanced arm with adjustable stylus pressure • Interchangeable plug-in head • Garrard-built motor • Full size turntable • Du Pont Delrin® trip • Compact size.



Accessories: Coordinated bases including the new Power-Matic series; dust covers, mounting boards, automatic "45" spindles.



Garrard, Div. British Industries Corp.





# AUDIO COMPONENTS CARTRIDGES



	Cat. No.	Stylus Radius (Inches)	Application	Repl't Stylus	Resistance	Freq. Resp. (Cy/Sec)	Output	Price Each ‡
	VR-1000-3	Elliptical Diamond	Stereo	DR-3D DR-5D DR-7D	1100 ohms per channel nominal	20-20,000 ±3 db	1 mv per cm/sec min	\$34.95
	VR-1000-5	.0005 Diamond	Stereo					29.95
	VR-1000-7	.0005 Diamond	Stereo					24.95
	4G-052	.001 Diam and .003 Saph*	Mono	4G-01D 4G-02D 4G-03D 4G-01S 4G-02S 4G-03S	600 ohms nominal	20-20,000	10 mv at 5.5 cm/sec @ 1,000 cycles	16.95
	4G-053	.001 Diam and .003 Diam	Mono					19.95
	4G-061	.001 Diamond	Mono					13.95
	4G-063	.003 Diamond	Mono					13.95
	4G-050	.001 Saph* and .003 Saph*	Mono					12.95
	4G-040	.003 Sapphire*	Mono					9.95
	4G-041	.001 Sapphire*	Mono					9.95
	4GS-01D	.001 Diamond	Mono					13.95
	4GS-02D	.0025 Diamond	Mono					13.95
	4GD-01D-02D	.001 Diam and .0025 Diam	Mono					19.95
	4GD-01D-02S	.001 Diam and .0025 Saph*	Mono					16.95
	4GS-01S	.001 Sapphire*	Mono					9.95
	4GS-02S	.0025 Sapphire*	Mono					9.95
	4GD-01S-02S	.001 Saph* and .0025 Saph*	Mono					12.95
	C100A	.0007 Diam and .003 Saph*	Stereo	TA-1	.....	20-12,000	450 mv	15.90
	C200	.0007 Diam and .003 Saph*	Stereo	TA-1	.....	20-17,000	300 mv	15.90

## STYLI

	Cat. No.	Stylus Radius (Inches)	Application	Price Each ‡
<b>VR-1000 STEREO STYLI</b>				
	DR-7D	.0007 Diamond	Stereo	\$ 9.95
	DR-5D	.0005 Diamond	Stereo	11.95
	DR-3D	Elliptical Diamond	Stereo	18.95
<b>VR-22 STEREO STYLI</b>				
	VR-221	.0005 Diamond	Stereo	\$7.95
	VR-222	.0007 Diamond	Stereo	6.95
	VR-223	.0007 Sapphire*	Stereo	2.99
<b>"STEREO CLASSIC" "GOLDEN CLASSIC" STYLI</b>				
	ST-5D	.0005 Diamond	Stereo	\$7.95
	ST-7D	.0007 Diamond	Stereo	6.95
	ST-7S	.0007 Sapphire*	Stereo	2.99
<b>VR-11 STYLI</b>				
	4G-01D	.001 Diamond	Monaural	\$5.95
	4G-02D	.0025 Diamond	Monaural	5.95
	4G-03D	.003 Diamond	Monaural	5.95
	4G-01S	.001 Sapphire*	Monaural	2.29
	4G-02S	.0025 Sapphire*	Monaural	2.29
	4G-03S	.003 Sapphire*	Monaural	2.29

	Cat. No.	Stylus Radius (Inches)	Application	Price Each ‡
<b>RPX STYLI</b>				
	RPJ-010A	.001 Saph* and .003 Saph*	Monaural	\$4.95
	RPJ-012A	.001 Diam and .003 Diam	Monaural	11.95
	RPJ-013A	.001 Diam and .003 Saph*	Monaural	6.95
	RPJ-007A	.001 Saph* and .0025 Saph*	Monaural	4.95
	RPJ-011A	.001 Diam and .0025 Diam	Monaural	11.95
	RPJ-01D	.001 Diamond	Monaural	\$5.95
	RPJ-02D	.0025 Diamond	Monaural	5.95
	RPJ-03D	.003 Diamond	Monaural	5.95
	RPJ-01S	.001 Sapphire*	Monaural	2.29
	RPJ-02S	.0025 Sapphire*	Monaural	2.29
	RPJ-03S	.003 Sapphire*	Monaural	2.29
		RPJ-004	.001 Diamond	Monaural
RPJ-002		.0025 Diamond	Monaural	5.95
RPJ-003		.003 Diamond	Monaural	5.95
RPJ-005		.001 Sapphire*	Monaural	2.29
RPJ-006		.0025 Sapphire*	Monaural	2.29
RPJ-001		.003 Sapphire*	Monaural	2.29
<b>TA-1</b>				
	TA-1	.0007 Diamond .003 Saph*	Stereo	\$9.95

## ACCESSORIES

	Cat. No.	Description	Output Impedance	Price Each ‡
	UPX-003C	Self-powered Phone Preamp 3 5/8" W, 3 5/8" L, 3 3/8" H	At 30 cycles 120,000 ohms At 15,000 cycles 1700 ohms	\$14.95

	Cat. No.	Description	Application	Price Each ‡
	RX209	45-rpm Adapter (Short)	and VM Record Changers	\$2.50

\* All sapphires are synthetic. ‡ Manufacturer's suggested retail price.

GENERAL ELECTRIC

# Scotch® Brand Recording Tape



**No. 102 All Purpose, Extra Strength:** For all general recording—especially suited for irreplaceable recordings or long term storage. On super-tough, weather balanced 1½ mil polyester backing.

**No. 111® All Purpose:** For all general recording. International standard of the recording industry—provides flawless sound reproduction at low cost. 1½ mil plastic backing.

**No. 120 High Output:** Over 100% more output, greater dynamic range and freedom from distortion on signal peaks. 1½ mil plastic backing.

**No. 131 Low-Print:** Reduces print-through (signal transfer from layer to layer) to a point below the noise level of most professional machines. Has excellent recording characteristics and allows long time storage. 1½ mil plastic backing.

**No. 138 Low Print, Extra Strength:** Same recording qualities as No. 131 on strong 1½ mil polyester backing.

**No. 150 Extra Length, Extra Strength:** 50% more playing time—withstanding temperature and humidity extremes. High potency oxide on 1 mil polyester backing.

**No. 175® Heavy Duty Tenzar:** This new, longer-wearing tape shrugs off hard use, rough handling... lasts 15 times longer than ordinary tapes. Made with a wear-resistant high potency oxide coating of the type proved exceedingly durable in heavy duty tapes for high speed computers. Available in red, blue, green, yellow or clear reels.

**No. 190 Extra Length:** 50% more tape—as much recording time as 1½ reels of standard tape. High potency oxide offers complete purity of sound. 1 mil plastic backing.

**No. 200 Double Length, Double Strength:** As much playing time as two reels of standard tape—enough to record an entire opera, concert or conference. High potency oxide on tensilized polyester backing.

**Nos. 201, 202, and 203 Dynarange® Series:** Dynarange® Tapes are products which were engineered primarily for professional use (and are now available to consumers for home recording use). Their unique qualities make them especially useful for the mastering and sub-mastering of pre-recorded tapes and records. Available in 1½ mil plastic (No. 201) and polyester backings (No. 202), as well as 1 mil polyester (No. 203).

**No. 282 Sandwich:** With exclusive micro-thin protective plastic shield over oxide coating. Eliminates oxide rub-off, wears up to 30 times longer, drastically reduces machine maintenance and provides superb sound fidelity. Strong, weatherproof 1½ mil polyester backing.

**No. 290 Triple Length:** The tape that gives maximum playing time for each reel size. Especially suitable for continuous recording of lengthy conferences, meetings, conventions. ½ mil tensilized polyester backing.

**No. 8000 Quick-Load Cartridge:** These compact cartridges slip into place in seconds and are ready to play. Completely self-contained. No threading. No loose ends. For use in home, education and industry. Available in 320' or 560' of high potency No. 150 tape in transparent or opaque cases.

**"Living Letters" Tapes (in Plastic Containers):** Three tape lengths available for a variety of uses, providing up to maximum recording time on a 3" reel. Plastic container provides excellent re-useable mailer or dust-free storage unit.

## ACCESSORIES

**Empty Self Threading Reel in a Plastic Collar:** A tape reel that threads itself. Holds tape firmly, but gently, when you start recorder. Threads up automatically—accommodates all tape thicknesses or leader tape. Reel comes complete with a snap-tight plastic collar that seals reel edges against dust, makes reel self-storing without a box. List Price—7" reel \$1.50.

**No. 24 Colored Leader & Timing Tapes:** Used to identify ends of tape and selections within a roll. Yellow and White in handy dispenser packages. List Price—¼" x 100'—\$.90.

**No. 41 Splicing Tape:** A self-sticking tape expressly made for neat noiseless splices. On metal dispensers. List Price—½" x 150' \$.39.

**No. 51 Conductive Sensing Tape:** For recorders with electronic sensing controls. Sticks tight, stays clean. On dispenser card. List Price — 7/32" x 150' \$1.89.

**No. 12 End-of-Reel Tape Clips:** Prevent tape spilling. 10 clips per package — \$.35.

**Empty Reels and Boxes:** Empty 3", 5" and 7" plastic reels, plus boxes, are a must for editing and extra take-up reel needs. List Price — 3" \$.25 to 7" \$.75.

CATALOG NO.	LENGTH	REEL	LIST PRICE
102-¼-600	600'	5"	\$ 2.65
102-¼-1200	1200'	7"	4.25
102-¼-2500H	2500'	HUB	8.55
111-¼-150	150'	3"	.70
111-¼-600	600'	5"	2.25
111-¼-1200	1200'	7"	3.50
111-¼-2500H	2500'	HUB	7.85
111-¼-2500R	2500'	10½"	10.80
120-¼-600	600'	5"	2.25
120-¼-1200	1200'	7"	3.50
131-¼-600	600'	5"	2.80
131-¼-1200	1200'	7"	4.40
131-¼-2500H	2500'	HUB	9.25
131-¼-2500R	2500'	10½"	12.20
138-¼-1200	1200'	7"	5.10
138-¼-2500H	2500'	HUB	9.25
138-¼-2500R	2500'	10½"	12.20
150-¼-900	900'	5"	3.60
150-¼-1800	1800'	7"	6.20
150-¼-3600H	3600'	HUB	11.40
150-¼-3600R	3600'	10½"	14.35
175-¼-600	600'	5"	2.40
175-¼-1200	1200'	7"	3.75
190-¼-900	900'	5"	3.50
190-¼-1800	1800'	7"	5.50
190-¼-3600H	3600'	HUB	9.85
190-¼-3600R	3600'	10½"	12.80
200-¼-1200	1200'	5"	5.45
200-¼-2400	2400'	7"	9.50
200-¼-4800RPS	4800'	10½"	22.00
201-¼-600	600'	5"	2.80
201-¼-1200	1200'	7"	4.40
201-¼-2500-RO	2500'	10½"	12.20
202-¼-600	600'	5"	2.85
202-¼-1200	1200'	7"	5.10
202-¼-2500-RO	2500'	10½"	12.20
203-¼-900	900'	5"	4.25
203-¼-1800	1800'	7"	7.35
203-¼-3600-RO	3600'	10½"	17.15
282-¼-600	600'	5"	3.10
282-¼-1200	1200'	7"	4.95
290-¼-1800	1800'	5"	6.95
290-¼-3600	3600'	7"	11.95
8000-¼-320 C	320'	CARTRIDGE	4.00
8000-¼-560 O	560'	CARTRIDGE	4.50
8000-¼-560 C	560'	CARTRIDGE	4.50
111-¼-150-LL	150'	3"	.90
200-¼-300-LL	300'	3"	1.85
290-¼-600-LL	600'	3"	2.95
271 (C-60)	60 MIN.	CASSETTE	3.20

Magnetic Products Division **3M** COMPANY

"SCOTCH", "TENZAR", "DYNARANGE", "111", "175" AND THE PLAID DESIGN ARE REGISTERED TRADEMARKS OF MINNESOTA MINING AND MANUFACTURING COMPANY

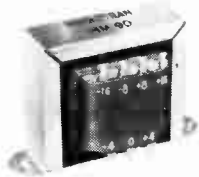


# MICROTRAN

## PRECISION HI-FI ACCESSORIES

### Mixing Transformer - Stereo - Mono

Combines stereo channels into balanced mono output



#### Model HM-90

- Add third speaker to fill "hole in the middle."
- Add mono extension speakers.
- Add and match any combination of mono and extension speakers.
- Assures exact impedance matching
- Simple hookup: connections made to numbered terminals.
- Power: 30 watts.
- Peak Power: 100 watts.
- Frequency Response (Power) 40 to 20,000 Hz.
- Impedance matching Range:  $\pm 4$  thru  $\pm 16\Omega$ .
- Finish: Vacuum Varnish impregnation.
- Size:  $3\frac{3}{4}'' \times 2\frac{1}{2}'' \times 2\frac{3}{4}''$  hi:  $3\frac{1}{4}''$  mtg. ctrs.
- Weight: 2 lbs.
- Model HM-90 User Net

### Magnetic Tape Eraser - Model HD-11M



A heavy duty bulk tape demagnetizer. Develops high intensity field. Noise level reduced below level of standard erase heads. Restores up to  $\frac{1}{2}''$  tape to like-new condition or better. Spindle mounting of reel prevents missed spots.

- Reel size range: 5" through 10 $\frac{1}{2}''$  (spindle removable for other sizes).
- Rating: 117 Volts AC, 5 Amps.
- Finish: Cast Epoxy
- Size: 7" Lx3 $\frac{1}{2}''$  Wx3 $\frac{1}{4}''$  H
- Weight: 9 lbs.
- HD-11M User Net: \$23.50
- Universal Use: May be used for Demagnetizing Record Playback-Erase Heads, and other metal objects.
- Accessory: Adapter Hub for use with N.A.B. 10 $\frac{1}{2}''$  reels. (Model HD-11AD—User Net \$2.30)

A Must for Stereo Recording.  
(Most stereo recorders do not provide complete erasure facilities)

### Tape Head Demagnetizer - Model HD-40M For Tape Recording Heads

Reduce hum, noise and distortion caused by magnetized heads. Removes any residual permanent magnetism from the heads.



- Safeguards valuable tape libraries.
- Insures high frequency response.
- Special finish on pole piece prevents damaging recording head.
- Extended tapered pole piece for easy access.
- Ratings: 117 Volts AC, 1 Amp.
- Finish: High Impact molded epoxy
- Size: 4" Lx1 $\frac{1}{2}''$  Diameter
- Weight: 7 ozs.
- Model HD-40M User Net: \$6.15

### Magnetic Tape Eraser - Model HD-15

A compact tape demagnetizer that erases signals and noise instantly without rewinding. Removes background noise below level of new tape or sound film.



- Universal unit for any reel size.
- Demagnetizes guide posts, tools, watches, other metal objects, etc.
- Lightweight—hand held—easy to use.
- Tape Width Range:  $\frac{1}{4}''$  and  $\frac{1}{2}''$ .
- Sound Film Range: 8, 16, and 35mm.
- Rating: 117 Volts 50/60 cycle, 4 amps.
- Finish: High impact plastic case.
- Size: 4 $\frac{1}{8}''$  Lx2 $\frac{1}{2}''$  Wx4 $\frac{3}{8}''$  H
- Line Cord: 8' with molded plug.
- Weight: 2 $\frac{1}{2}$  lbs.
- Model HD-15 User Net: \$11.95

### Telephone Pick-up Coil - Model HP-61

For transcribing telephone conversations with tape recorder or dictation machine or making messages audible on amplifier. May also be used as probe for locating sources of hum.



- Equalized Level: Local and distant conversations recorded with more constant signal level than base mounted units.
- Suction Cup: Mounting on telephone receiver.
- Universal Model: One unit suitable for all types of telephones.
- Plug-In Use: Supplied with 68" shielded cable, terminated with standard phone plug for mike input of recorder or amplifier.
- Finish: Optical Black.
- Size: Only  $\frac{5}{8}''$  diameter x 2" long.
- Weight: 1 $\frac{1}{2}$  ounces.
- Model HP-61 User Net: \$6.15



### Hum-Bucking Telephone Pick-up Coil Model HP-70

For transcribing telephone conversations. Symmetrical pick up coils eliminate high stray hum-pick up caused by fluorescent lights and appliances. For use with tape recorders or dictation machines or making messages audible on amplifier.

- Mounting: Double Suction cup.
- Cable Length: 5 feet.
- Termination: Tinned Leads.
- Shipping Weight: 2 ozs.
- Case: Hi impact plastic.
- Finish: Grey
- Size: 2 $\frac{1}{2}''$  Lx $\frac{7}{8}''$  Wx $\frac{3}{8}''$  H
- Model HP-70: User Net: \$6.95



As above with Molded Phone Plug Termination.  
Model HP-71 User Net: \$7.50

### In-Line Microphone Transformer Model M8027

Matches low-impedance mike to high impedance amplifier input. Minimizes loss on long cable runs. Mu metal and electrostatic shield suppresses hum. Simple in-line installation on microphone cable.



- Impedance Ratio: 1:400
- Pri. Imp.: 150 through 250 ohms.
- Sec. Imp.: 40,000 ohms nominal.
- Freq. Resp.: 50-20,000 cps  $\pm 2$ db.
- Cable: 20" shielded cable.
- Cable Termination: Tinned Leads.
- Color: Grey.
- Case: Hi impact plastic.
- Size: 2 $\frac{3}{4}''$  Lx1 $\frac{1}{8}''$  Wx $\frac{3}{8}''$  D
- Weight: 2 ozs.
- Model M8027 User Net \$9.00

### Low Level Input Transformers

Broadcast fidelity — microphone transformers — 65 db mu-metal shielding



Fig. A—  
Size: 2 $\frac{1}{8}''$  Hx1 $\frac{1}{4}''$  D



Fig. B—  
Size: 1 $\frac{1}{32}''$  Hx1 $\frac{1}{8}''$  D—M.C.—1 $\frac{1}{32}''$

Part Number	Pri. Imp.	Sec. Imp.	Freq. Resp. $\pm 2$ db	Figure	User Net
M8030*	200/50 C.T.	50,000	20-20,000	A	\$13.50
M8031	600 C.T./150	50,000	30-20,000	A	13.35
M8032†	250 C.T.	50,000	20-20,000	A	13.05
M8033†	50 C.T.	50,000	20-20,000	A	13.05
M1-S	50/250 C.T./600 C.T.	50,000	20-20,000	B	10.95

M8030-1 have 8 pins. M8032-3 have 9 pins.  
\*M8030 is designed as a replacement for Ampex No. 1733-1.  
†M8032 and M8033 mates with sockets on many RCA amplifiers.



# MICROTRAN

Write for CATALOG  
showing complete specifications

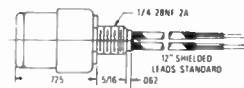


# MAGNETIC TAPE HEADS AND QUIK-KITS

Designed and manufactured to highest standards of excellence, Nortronics tape heads are used as "original" equipment by more than 75% of the nation's tape recorder manufacturers. Nortronics now offers a complete line of heads, available in a wide selection of track styles, functions and sizes in PROFESSIONAL, PREMIUM or STANDARD versions.

**ABOUT THIS LISTING**—The magnetic heads, hardware and accessories listed on these four pages is only a partial listing of the complete Nortronics line. For information on more than 1500 replacements and more than 1500 possible conversions, see your Nortronics Distributor. His comprehensive listings contain cross-reference data by: 1.) Manufacturer's Name and Model 2.) Recorder Manufacturer's Head Part Number and 3.) Head Manufacturer's Part Number.

**REAR MOUNT HEADS**—All heads listed below are No-Mount styles. Rear-Mount styles are also available, except on "Combos," and may be ordered by simply adding 50 to last two digits of No-Mount model number. (i.e.: 1203 No-Mount becomes 1253 to indicate same head with Rear-Mount.) For Rear-Mount prices, see footnote under charts.



## Record/Play and Record-Only Heads

**"B" Style Case** dimensions: 585, 490, 14", 300R, 575

**"C" Style Case** dimensions: 585, 553, 4", 300R, 466

Head Description	Nortronics Model No.		Head Function	Application (See Notes)	1 KHz Inductance MHY	1 KHz Impedance OHMS	DC Resistance OHMS	Net Each (No Mount)
	No Mount	Case Style						
Standard 4-Track Stereo Hyperbolic Metal Face Laminated Cores	1000	B	Record/Play	1	800	5000	700	\$21.00
	1001	B	Record/Play	2	400	2500	390	21.00
	1002	B	Record/Play	3	100	650	90	21.00
Premium 4-Track Stereo Hyperbolic Metal Face Laminated Cores	1200	B	Record/Play	1	800	5000	700	\$28.20
	1201	B	Record/Play	2	400	2500	390	28.20
	1202	B	Record/Play	3	100	650	90	28.20
Standard 2-Track Stereo Hyperbolic Metal Face Laminated Cores	1800	B	Record/Play	1	800	5000	720	\$23.30
	1801	B	Record/Play	2	400	2500	410	23.30
	1802	B	Record/Play	3	100	650	130	23.30
Premium 2-Track Stereo Hyperbolic Metal Face Laminated Cores	2000	B	Record/Play	1	800	5000	720	\$30.30
	2001	B	Record/Play	2	400	2500	410	30.30
	2002	B	Record/Play	3	100	650	130	30.30
Premium 2-Track Mono Hyperbolic Metal Face Laminated Cores	2600	B	Record/Play	1	800	5000	400	\$15.90
	2601	B	Record/Play	2	400	2500	390	15.90
	2602	B	Record/Play	3	100	650	70	15.90
Standard 2-Track Mono Hyperbolic Metal Face Laminated Cores	3000	G	Record/Play	1	800	5000	400	\$ 8.40
	3001	G	Record/Play	2	400	2500	165	8.40
	3002	G	Record/Play	3	100	650	70	8.40
2-Track Mono (Center Tr.) Cylindrical Metal Face Solid Cores	3100	G	Record/Play	1	1000	6300	625	\$ 8.40
	3101	G	Record/Play	2	400	2500	350	8.40
Premium 2-Track Mono Hyperbolic Metal Face Laminated Cores	3200	G	Record/Play	1	800	5000	400	\$15.90
	3201	G	Record/Play	2	400	2500	165	15.90
Premium Full-Track Hyperbolic Metal Face Laminated Cores	4100	B	Record/Play	2	250	1500	200	\$34.70
	4101	B	Record/Play	5	55	330	125	34.70
Premium 4-Channel Hyperbolic Metal Face Laminated Cores	5601	B	Record Only	5	50	320	150	\$99.00
	5602	B	Record/Play	3	90	600	160	99.00
Premium 3-Channel Hyperbolic Metal Face Laminated Cores	5701	B	Record/Play	2	340	2000	800	\$99.00
	5702	B	Record/Play	3	100	650	260	99.00
Premium 8-Track Stereo Hyperbolic Metal Face Laminated Cores	5810	B	Record Only	4	10	2500	700	\$15.00
	5813	B	Record Only	5	50	400	220	21.00
Premium 8-Track Stereo (for high speed duplicating or instrumentation)	5832	B	Record/Play	2	200	1400	500	\$1.00
	5833	B	Record/Play	3	100	700	250	81.00
	5834	B	Record Only	5	50	400	250	81.00
	5835	B	Op. Record	4	6	80	60	81.00
	5836	B	Op. Record	4	6	20	16	81.00

\*Note: For Rear Mount add \$1.50, except on 5650 and 5750 series add \$6.00.

## APPLICATION NOTES:

1. High-impedance general-purpose record/play or playback-only head for vacuum-tube circuits. 2. Medium-impedance record/play head for vacuum-tube or transistor circuits. 3. Low-impedance record/play for transistor circuits. 4. Special low-impedance record-only for vacuum-tube or transistor circuits in duplicators and professional recorders. 5. Low-impedance record-only for vacuum-tube or transistor circuits. 6. For bias frequencies up to 750 KHz.

## Erase Heads

**"L" Style Case** dimensions: 623, 550, 218R, 375

**"S" Style Case** dimensions: 505, 560, 218R, 290

Typical 2-Track and Full Track Erase Heads

Head Description	Nortronics No Mount Model Nos.		Imped.	1 KHz Induct. MHY	60 KHz Imped. OHMS	Operating Current mA	DC Resist. OHMS	60 KHz Operating Voltage VOLTS	Net Each
	Standard "S" Case	Large "L" Case							
4-Track Stereo Erase Full Metal Face	1400	1400L	Hi	80	30,000	3-5	270	90-150	\$12.00
	1401	1401L	Med	10	2,800	10-15	40	28-42	12.00
	1402	—	Lo	0.13	40	80-140	2	3-6	12.00
2-Track Stereo Erase Full Metal Face	2200	2200L	Hi	80	25,000	4.5-7.0	205	100-150	\$12.00
	2201	2201L	Med	B	2,000	16-24	35	32-48	12.00
2-Track Mono Erase Full Metal Face	3600	3600L	Hi	80	25,000	4.5-7.0	205	100-150	\$ 8.00
	3601	3601L	Med	B	2,000	16-24	35	32-48	8.00
Full-Track Mono Erase Full Metal Face	4400	4400L	Hi	40	12,000	10-15	88	100-150	\$14.00
	4401	4401L	Med	3.6	1,000	32-48	25	32-48	14.00

\*For 60 db erasure of saturated tape. Voltages shown are RMS. †For Rear Mount, add \$1.50.

## Combo Heads

**"A" Style Case** dimensions: 585, 1.250R, 490, 575

Typical Mono and Stereo "Combos"

Head Description	Nortronics No Mount Model No.	Head Function	Equivalent Head Specification Reference	Net Each
4-Track Stereo "Combo" Metal Face	6000	Record/Play, Erase	1201, 1400	\$33.00
	6001	Record/Play, Erase	1203, 1400	33.00
	6002	Record/Play, Erase	1201, 1401	33.00
	6003	Record/Play, Erase	1000, 1402	33.00
4-Track Mono "Combo" Metal Face, Center Track	6025	Record/Play, Erase	1000, 1402	\$18.00
	6026	Record/Play, Erase	1001, 1401	18.00
2-Track Stereo "Combo" Metal Face	6100	Record/Play, Erase*	2001, 2201	\$36.00
2-Track Mono "Combo" Metal Face, Center Track	6125	Record/Play, Erase	3000, 3600	\$21.00

## Quik-Kit Mounting Hardware

Nortronics Quik-Kits consist of packaged hardware and complete instructions for installation of a Nortronics tape head on a recorder. Most Quik-Kits are universal in design to fit most recorders—special Quik-Kits are for use on recorders requiring a mounting niche to that machine type only.



Quik-Kit	Description	Net	Quik-Kit	Description	Net
QK-18	Erase—Side Mount, "S" Cases	\$1.00	QK-100	Pentron R/P Mount	\$ 2.00
QK-19	Erase—Base Mount, "S" Cases	1.00	QK-102	Sony R/P Mount	1.75
QK-20	R/P—Side Mount, "G" Cases	1.00	QK-114	2—"B" Head Stereo Cart. Mt.	13.60
QK-21	R/P—Base Mount, "G" Cases	1.00	QK-115	2—"G" Head Mono Cart. Mt.	13.60
QK-25	Spec. Base Mt., "A"; "B" Cases	2.00	QK-117	2-1 "B" Stereo, 1 "G" Mono Cart. Mt.	13.60
QK-3B	Side Mount, "A"; "B" Cases	1.00	QK-118	Webcor R/P Mount	4.00
QK-36	Base Mount, "A"; "B" Cases	1.00	QK-119	Sony R/P Strap Mount	1.00
QK-76	Amplex Mounting Block	12.00	QK-300	Pentron Erase Mount	2.25
			QK-305	Sony Erase Mount	3.00

**Northronics**  
COMPANY, INC.



**DIRECT REPLACEMENT HEADS FOR:  
POPULAR TAPE RECORDERS**

■ **Listing by Manufacturer and Model Number**

Manufacturer and Model Numbers	Function	Northronics Head + Q-Kit	Net,† Less Quik-Kit
<b>BELL SOUND</b> (some prefixed T, BT, RT, TB) 171, 200, 201, 202, 203, 205-OB, 206, 207-S, 208, 210 201, 202, 205-1B, 206, 212, 216 All above except 201, 203, 205-OB, 207-S, 208 203, 207-S, 208, 211, 213, 218, 223, 228, 233, 238, 238-A All above except 211, 233, 238, 238-A 401, 402, 403, 404, 405, 406 223, 228, 233, 238, 238-A, 337, 347, 401, 402, 403, 404, 405, 406, 601, 603 All above except 223, 228 221 360, 367 deck with 360 amp Use with above 65B, 75, 76, 88, 204, 205-OB, 2260, 2261	RP RP E RP E RP E P RPE P RPE	3000 + 20 1800 + 38 3601 + 18 1800 - 38 2201 + 18 1002 + 38 1009 + 38 1401 + 18 1801 + 38 6002 + 38 1000 + 38 RPE-23 + none	\$ 8.40 23.30 8.00 23.30 12.00 21.00 21.00 23.30 33.00 21.00 15.60
<b>PENTRON</b> HF-400, HT-225, P-4, PB-1, PBA-2, PMC, PMD-1, 9T-3C, 9T-3M, T-90, TM-56, TR-4, PT-1, TM-1, NL-1, CT-1, RWN, PT-72, PT-74, PT-W3, NL-2, NL-3, TR-10 All above models except PBA-2 and PB-1 NL-4, GR-1500 GR15A/B/S, AR-62, XP60 XP-60S AR62S PR-65 ST-3 NL-1S, NL-2S, NL-3S, PT-1S, PT-72S, PT-74S, PT-74S, PT-W3S, TM-4	R/P E R/P E R/P E R/P/E R/P E R/P E	3000 + 100 3600 + 300 1009 + 38 1401 + 18 3000 + 20 3601 + 18 1000 + 38 3601 + 18 1009 + 38 3601 + 18 6002 + None 1800 + 38 3600 + 18 1800 + 100 3600 + 300	\$ 8.40 8.00 21.00 12.00 8.40 8.00 21.00 8.00 21.00 8.00 33.00 23.30 8.00 23.30 8.00
<b>REVERE</b> T-10, T-11, T-100, T-202, T-700, T-700-D, T-900, T-1100, T-1400, T-2000, TR-200 thru TR-1200, (except TR-600), TR5-25 thru TRS-1226, TS-15 thru TS-2025 T-11-4, T-204-4 T-2200, TS-2205, TS-2225 5150 5200, 5250, 5280, 5300	RPE RPE RP E RP E RP E RP E	RPE-23+ None RPE-20+ None 7601 + None 7720 + None 7601 + None E-52 + None 6128 + 66 6005 + 66	15.60 18.60 28.50 11.00 28.50 16.25 21.00 33.00
<b>SONY</b> (some prefixed TC, SSA) 262 (D, SL), 464 (C, S, D, SL), 263, 263E 300, 500, 501, 521 200, 550, 260, 350, 530, 600 263-263E, 350, 600 260, 530 262 (CS, D, SL), 464 (CS, D, SL) 263-263E, 300, 500, 501, 521, 600, 200, 250, 350 101 101 102 123 135, 111 905A, 801A, 102	RP or P RP RP RP R E E RP RP RP RP	1000 + 102 1000 + 119 1007 + 102 1210 + 102 1401 + 306 1402 + 305 1402 + 306 2601 + 102 3602 + 305 3600 + 19 3002 + none 3003 + none 3001 + none	21.00 21.00 21.00 28.20 12.00 12.00 12.00 15.90 8.00 8.00 8.40 8.40 8.40
<b>V-M</b> 700, 701 700 701 720, 722, 755, 1001-1, 1001-2, 1002-1, 1002-2 710, 710A, 711, 711A, 714, 730, 750, 750A, 1000 714, 750A, 1000 (Only) For all above models 725-1 726, 735, 738-1, 1471-1, 1481-1 740, 740-1, 741 735, 740, 740-1, 741 754	R/P E E R/P Play E R/P Play E RPE RPE RPE RPE RPE	3000 + 20 3600 + 18 3601 + 18 1009 + 38 1801 + 38 1401 + 18 3101 + 20 1201 + 18 3601 + 18 6127 + 38 6009 + 38 6002 + 38 1009 + 38 6005 + 38	8.40 8.00 8.00 21.00 23.30 12.00 8.40 23.30 8.00 21.00 33.00 33.00 21.00 33.00
<b>WEBCOR</b> 2001-1, 2001-1A, 2001-1B, 2001-1C, 2009, 2810, 2811, 2812, 2816, 2819, 2820, 2820-1C, 2821, 2822, 2827, 2891, 2892, 2896, 2897, 2910, 2919, 2923, 2950, 2955, EP-2206-1 2101-1, 2200, 2200-1, 2202, 2205, 2205-1, 2300, 2303, 2402, 2402-1, 2500-1, 2500-10, 2502-1, 2502-10, CP-2500-1, CP-2502-1, EP-2202-1, EP-2300-1, EP-2302, EP-2302-1, EP-2303-1, EP-2400-1, LT-5400, TP-2302-1 2008, 2208, 2323, EP-2323-1, EP-2323-1A For all models above 2007, 2107, 2150, 2207, 2250, 2328, 2356, 2360, 2391, 3392, 3393, EP-2107-1, EP-2150, EP-2207-1, EP-2208-1, EP-2250-1, EP-2328-1, EP-2356-1, EP-2356-1A, EP-2356-1B, EP-2357, EP-2357-1, EP-2360-1, EP-4007-1 2456, CP-2520-1, CP-2522-1, REGENT, EP-2456-1, EP-2457, 2757-1 2503-1, EP-2403, EP-2403-1, PB-2503-1, VISCOUNT III	RP RP RP RP RP E RPE RPE RPE RPE RPE	7403 + 118 3100 + 118 1000 + None 7500 + None 1000 + None 1402 + 18 6003 + None 6025 + None	8.40 8.40 21.00 8.00 21.00 12.00 33.00 18.00
<b>WOLLENSAK</b> T-700D, T-1400-B, C, D, E, T-1500, T-1570, T-1600, T-1700, T-1800, TS-1520 and all older 2-track mono models T-1440-B, C, D, E, T-1515-4, T-1616-4, T-1818 1580, T-1780-B, C, D, E, T-1980-B, C, D, E, T-1981-B, C, D, E 524, 7500, T-540 1220 1280 5150 5200, 5250, 5280, 5300 1500SS, 1500AV, 1500D	RPE RPE R/P E R/P E RPE RPE RPE RPE RPE RPE	RPE-23+ None RPE-20+ None 7601 + None 7720 + None 7601 + None E59 + None 6125 + None 6026 + None 6002 + None 6128 + 66 6005 + 66 RPE-21 + none	15.60 18.60 28.50 11.00 28.50 17.75 21.00 18.00 33.00 21.00 33.00 22.80

†For prices of Quik-Kits, see listing on Page 1 of this section.

1. Replaces Shure Head 2. Replaces Northronics Head 3. Mount inside original head case

■ **Listing by Head Manufacturer**

ROBINS (MICH. MAG.) Part Numbers	Northronics Head + Q-Kit	Net,† Less Quik-Kit
08Q8, 5P17, 5Q08, 5Q3, 5Q17- (105, 300), 5QT17-(105, 300)	1009 + 103	\$21.00
09QT17, 7B17	1008 + 38	21.00
2L35, 2M40G, 3L20-101, 3L20S, 3M20A, 2120, 4N300	3001 + 20	8.40
2FM20-500, 3FM20-502, 2MV17-301, 7HV17-1C2, 7HV40-101, 10NV17	6127 + 38	21.00
3A20-101, 3F20-101, 3F20L	1851 + —	24.80
3F20-(105, 106)	1801 + 66	23.30
3FM20-(104, 107, 108, 320), 10FM20	3251 + —	17.40
5AV17, 6AV17 (200, 203)	6009 + 38	33.00
5B20LS, 10B20LS, 2E35741, 5FM20	1800 + 38	23.30
5L20, 5L20U, 7H17, 7H40, 7L17-(105, 108), 7L17U, 9L20S, 10H25, 10L17-104, 10L17B, 10L17S, 10L20S, 10L70, 10M20A, 10M70A	3000 + 20	8.40
5S1-103, 7EM12A, 5S1-115	3601 + 18	8.00
5SS1	2201 + 18	12.00
5TRB, HRE-1	RPE-23 + —	15.60
6AV17-203	6009 + 38	33.00
8BE30, 9EQ3-300, 9CE3, 9QTE3, 12EQ-200, 18HE6-201	1401 + 18	12.00
40EM12A, 50HE6-201	3600 + 18	8.00
40EQ3-101	1400 + 18	12.00
4NE-100, 300	5800 + —	15.00

†For prices of Quik-Kits, see listing on Page 1 of this section.

NOTE: All heads with a 100 Series dash number are interchangeable with heads with a 300 Series dash number. For example: 3L20-101 and 3L20-301 are interchangeable.

SHURE Part Numbers	Northronics Head + Q-Kit	Net,† Less Quik-Kit
815, TR5B, TR5B-J, TR5D, TR6H, TR5N	RPE-23 + —	\$15.60
815H, 816, TR5C, TR5K, TR5L, TR5Z-2, TR5Z2-J	RPE-24 + —	15.60
817, TR16A, TR21A, TR21C	3101 + 20	8.40
TE2, TE2-J, TE11C, TE11C-J	3601 + 18	8.00
TE30	3600 + 19	8.00
TE35	3650 + —	9.50
TK418	RPE-20 + —	15.60
TR16, TR16J, TR213, TR21C-J, TR26	3100 + 20	8.40
TR30	2601 + 66	15.90
TR40, TR40-J	2001 + 66	30.30
TR54, TR54-J	7601 + —	28.50

†For prices of Quik-Kits, see listing on Page 1 of this section.

■ **Conversion Kits—for Revere & Wollensak Models**

**WR-30**—Converts all monophonic Wollensak and Revere tape recorders to full-track Record/Play. Fully assembled..... Net Each **\$57.00**

**WR-35**—Retains monophonic Record/Play capabilities—converts 2-track stereo to 4-track stereo Play. Fully assembled..... Net Each **\$25.50**

**WR-40**—Converts monophonic machines to monophonic Record/4-track stereo Play. Fully assembled..... Net Each **\$32.50**

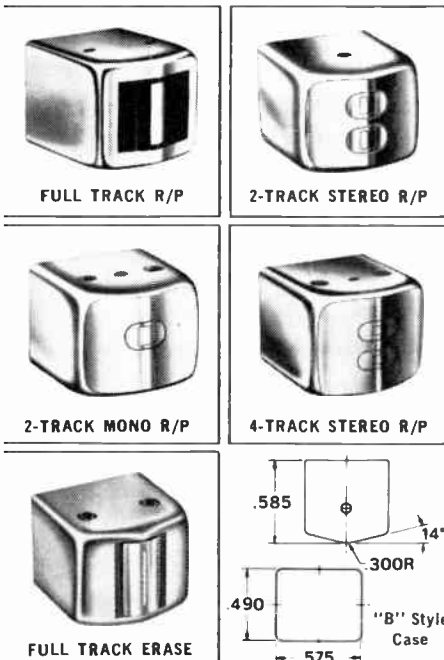
**WR-60**—Positive shifter provides four-channel monophonic Record/Play, 2- and 4-track stereo Erase/Record (requires additional second channel record pre-amp). Fully assembled..... Net Each **\$49.50**

**YOUR BEST AND MOST COMPLETE SOURCE FOR MAGNETIC TAPE HEADS**



**DIRECT REPLACEMENT HEADS FOR:  
PROFESSIONAL MACHINES**

**Replacement Head Listing for Professional Machines**



**Head Mounting Brackets for Professional Machines**



**QK-76** with Nortronics Head original Ampex equipment... Net Each **\$12.00**

**QK-35** is a special base-mount bracket kit for adapting Nortronics no-mount heads for replacement of Brush heads, or in any application requiring a large base-mounting stud. (Stud is 1/4" - 28 x 3/8") ..... Net Each **\$2.00**

Manufacturer and Model Numbers	Original Function	Nortronics Head + Quik-Kit	Net, ± Less Quik-Kit
<b>AMPEX</b> 300, 350, 354, 400 Series  NOTE: On PR-10, 600, 900 and 1200 Series, use QK-66 instead of QK-76.	Record, Full Track	8001 + 76	\$36.00
	Play, Full Track	8000 + 76	36.00
	Erase, Full Track (for all but 300 series)	8109 + 76	30.00
	Erase, Full Track (for 300 series only)	8106 + 76	30.00
	Record Mono, 2-Track	8401 + 76	22.00
	Play Mono, 2-Track	8400 + 76	22.00
	Erase Mono, 2-Track	8504 + 76	18.00
	Record Stereo, 2-Track	8201 + 76	32.00
	Play Stereo, 2-Track	8200 + 76	32.00
	Erase Stereo, 2-Track	8304 + 76	26.00
3200 (Record)	Record Stereo, 4-Track	8604 + 76	30.00
	Play Stereo, 4-Track	8600 + 76	30.00
	Erase Stereo, 4-Track	8701 + 76	26.00
	Full Track	8004 + 76	40.00
3300 (Play)	Stereo 2-Track	8214 + 76	32.99
	Mono 2-Track	8414 + 76	22.00
	Stereo 4-Track	8614 + 76	30.00
	Full Track	8008 + 76	36.00
701, 801, BX801, 1001, 1401	Stereo 2-Track	8210 + 76	32.00
	Mono 2-Track	8402 + 76	22.00
	Stereo 4-Track	8610 + 76	30.00
702, 802, BX802, 1002, 1402/8	Play only or Record/Play, Full Track	8006 + 35	36.00
	Record, Full Track	8001 + 35	36.00
	Erase, Full Track	8102 + 35	30.00
712, 822, BX822, 1022, 1422/8	Play only or Record/Play Stereo, 2-Track	8209 + 35	32.00
	Record Stereo, 2-Track	8201 + 35	32.00
	Erase Stereo, 2-Track	8304 + 38	26.00
702, 802, BX802, 1002, 1402/8	Play only or Record/Play Mono, 2-Track	8403 + 35	22.00
	Record Mono, 2-Track	8404 + 35	22.00
	Erase Mono, 2-Track	8504 + 38	18.00
A51, A314	Play only Mono, 2-Track	8406 + 66	22.00
A54, A324	Play only Stereo, 4-Track	8608 + 66	30.00
714C, 824, BX824, 1024, 1424	Play only or Record/Play Stereo, 4-Track	8608 + 66	30.00
	Record Stereo, 4-Track	8608 + 66	30.00
	Erase Stereo, 4-Track	8701 + 38	26.00
<b>MAGNECOR</b> 1021 *No QK required	Record, Full Track	8005 *	40.00
	Play Mono, 2-Track	8408 *	22.00
	Erase, Full Track	8102 *	30.00
	Play, Full Track (Optional)	8006 *	36.00
1022 *No QK required	Record Stereo, 2-Track	8203 *	35.00
	Play Stereo, 2-Track	8202 *	35.00
	Erase Stereo, 2-Track	8302 *	26.00
1024 *No QK required	Record Stereo, 4-Track	8602 *	30.00
	Play Stereo, 4-Track	8607 *	30.00
	Erase Stereo, 4-Track	8702 *	26.00
P60, P75, M90	Record, Full Track	8001 + 35	36.00
	Play, Full Track	8000 + 35	36.00
	Erase, Full Track	8105 + 35	30.00
<b>R.C.A.</b> RT21 *No QK required	Record, Full Track	8002 *	68.00
	Play, Full Track	8003 *	54.00
	Erase, Full Track	8110 *	68.00
	Record Stereo, 2-Track	8206 *	42.00
	Play Stereo, 2-Track	8205 *	54.00
	Erase Stereo, 2-Track	8307 *	48.00

†IMPORTANT—For prices of Quik-Kits, see listing on Page 1 of this section.

**TAPE RECORDING ACCESSORIES**



**'UNIVERSAL MOUNTS**  
**QUIK-KIT 74 Adjustable Head Mounting Assembly.** Unique design permits alignment of head for height, tilt and azimuth. Two TG-7 Guide Posts can be added if desired; if space does not permit, tabs for guide posts can be snapped off. Base has hole for mounting on recorder. For all Nortronics no mount, "B" case heads. Base Size (with tabs): 1 1/16" W. x 1 7/32" L. Without tabs: 1 1/16" W. x 1 1/32" L. .... Net Each **\$2.25**  
**QUIK-KIT 77 Adjustable Head Mounting Assembly.** Identical to (inc. dimensions) but for no mount, "G" case heads. Net Each **\$2.25**  
**QUIK-KIT 78 Adjustable Head Mounting Assembly.** Identical to (inc. dimensions) but for no mount, "S" case erase heads. Net Each **\$2.25**  
L-5, L-Bracket for side mts. (inc. Azimuthing Plate) ... Net Each **\$.50**  
L-6, As above but with narrow base, Right Bend. .... Net Each **\$.70**  
L-7, Identical to L-6, but with Left Bend. .... Net Each **\$.70**

**TAPE GUIDES**

**TG-7, Tape Guide Post.** Vertically adjustable with tapped mounting hole in base. Chrome-Plated brass for long life. .... Net Each **\$1.00**  
**TG-8, Tape Guide Plate.** For Side-Mount heads and L-5, L-6 or L-7 bracket; gives additional guiding. .... Net Each **\$.50**



**ALIGNMENT TAPE**  
**AT-100 Azimuth and Amplifier Alignment Tape.** A 7.5 IPS full track, direct oscillator master recording of frequencies from 40 to 10,000 Hertz for checking azimuth and NAB equalization. 1000 Hertz zero reference level tone included. Instructions are included. Net Each **\$4.95**

**CONNECTOR ASSEMBLIES**

**CC-70—18" plug and shielded insulated cable assembly for Nortronics heads (Except Mono Combo)..... Net Each \$2.00**  
**CC-77—18" plug and shielded insulated cable assembly for Nortronics Mono Combo heads..... Net Each \$2.00**



**BIAS OSCILLATOR TRANSFORMERS**

**T70-T2—For Transistor circuits; with plug in terminals for p.c. board mounting. Supplies 40-120 V. at 60-110 KHz. With instructions. Net each \$4.53**  
**T70-T6—Similar to T70-T2. Supplies 70 V. at 250-500 KHz for duplicators. Net each \$9.00**  
**T60-T2—For transistor circuits. Features Ferroxcube E-cores for high Q, maximum efficiency and distortion-free waveform. Supplies 40-120 volts at 60-100 KHz. With instructions. Net each \$4.50**

**T60-F—For vacuum tube circuits, push-pull erase and bias power at operating frequencies from 70-100 KHz; output 150 volts rms tapped at 60 volts for high and medium impedance erase heads. With instructions. Net each \$4.50**

**Nortronics**  
COMPANY, INC.



**DIRECT REPLACEMENT HEADS FOR:  
CARTRIDGE MACHINES**

**■ No-Mount Head Bracket Assembly for Cartridge Machines**

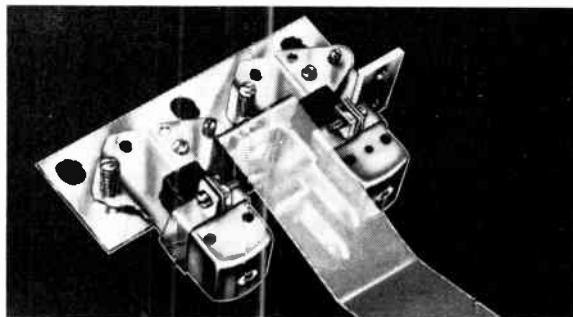
Furnished with cartridge hold-down spring and cartridge guide rail. Completely assembled and semi-aligned.

**QK-114** installs two no-mount dual channel heads for mono, or two no-mount three channel heads for stereo. Left head for recording; right head for playback. Requires heads similar to 2000 Series. **Net each \$13.60**

**QK-115** installs two no-mount mono 2-track heads (see monitor conversion information). Requires heads similar to 3000 Series. **Net each \$13.60**

**QK-117** installs one no-mount mono head and one no-mount dual channel head, and provides the advantages of monitoring program material during recording (see monitor conversion information). Requires one head similar to 2000 Series, and one head similar to 3000 Series. **Net each \$13.60**

**NAB Conversion to Monitor**—As all professional users of tape equipment know, superior results can be achieved by using a special record-only head plus a separate playback head. Professionals also appreciate the ability to be able to monitor a tape as it is being recorded. Nortronics offers a conversion to monitor operation to update cartridge machines as shown in the shaded (NAB Conversion) columns on the chart below.



**■ Replacement Head Listing for Cartridge Machines—By Manufacturer and Model Number**

NAME OF MFG.	MANUFACTURER'S MODEL NO.	MFG. HEAD NO.	NO-MOUNT HEADS				REAR-MOUNT HEADS				
			REPLACEMENT		NAB CONVERSION		MFG. HEAD NO.	REPLACEMENT		NAB CONVERSION	
			FUNCTION	NORTRONICS HEAD + QUIK KIT	FUNCTION	NORTRONICS HEAD + QUIK KIT		FUNCTION	NORT. HEAD	FUNCTION	NORT. HEAD
ATC	CP11 CP12 CP13 MONO		Rec.—Prog. & Cue Play—Prog. & Cue	2003 / 2007 +114	Unit is NAB Std.		20-1014 20-1011	Rec.—Prog. & Cue Play—Prog. & Cue	20E3 2057	Unit is NAB Std.	
	CP21 CP22 CP23 STEREO (3 Channel)		Rec.—Prog. & Cue Play—Prog. & Cue	5703 / 5707 +114	Unit is NAB Std.		20-1016 20-1015	Rec.—Prog. & Cue Play—Prog. & Cue	5753 5757	Unit is NAB Std.	
	P150 P190 PB150 PB190 PC150 PC190		Rec./Play—Prog Rec./Play—Cue	3201 / 3200 +115	Rec.—Prog. Play—Prog. R/P—Cue	3205 / 2000 +117	20-1001	Rec./Play—Prog. Rec./Play—Cue	3251 3250	Rec.—Prog. & Cue Play—Prog. & Cue	3255 2050
COLLINS	P150 P190 PB150 PB190		Rec./Play—Prog Rec./Play—Cue	3201 / 3200 +115	Rec.—Prog. Play—Prog. R/P—Cue	3205 / 2000 +117		Rec./Play—Prog. Rec./Play—Cue	3251 3250	Rec.—Prog. & Cue Play—Prog. & Cue	3255 2050
	642A 1 642A 2		Rec./Play—Prog Rec./Play—Cue	3201 / 3200 +115	Rec.—Prog. & Cue Play—Prog. & Cue	2005 / 2000 +114		Rec./Play—Prog. Rec./Play—Cue	3251 3250	Rec.—Prog. & Cue Play—Prog. & Cue	2055 2050
GATES	M5944		Rec./Play—Prog Rec./Play—Cue	3201 / 3200 +115	Rec.—Prog. & Cue Play—Prog. & Cue	2005 / 2000 +114		Rec./Play—Prog. Rec./Play—Cue	3251 3250	Rec.—Prog. & Cue Play—Prog. & Cue	2055 2050
	M5735 (SPOT TAPE)		Rec./Play—Erase	2601 / 8501 +35	none none			SEE LEFT SEE LEFT	none none	none none	none none
	M6211 SERIES (Play Only)	730 0343 730 0423 730 0729	Play—Prog. & Cue Play—Prog. & Cue Play—Prog. & Cue	2002 +114 2002 + —	Unit is NAB Std.		730-0343 730-0423	Play—Prog. & Cue Play—Prog. & Cue	7052	Unit is NAB Std.	
	M6212 SERIES (3 Channel) (Play Only)	730 0731	Play—Prog. & Cue	5701 +114	Unit is NAB Std.		730-0727	Play—Prog. & Cue	5751	Unit is NAB Std.	
	M6213 SERIES	730-0343 730 0423 730 0729 730 0729	Rec.—Prog. & Cue Play—Prog. & Cue Rec.—Prog. & Cue Play—Prog. & Cue	2002 / 2002 +114 2002 / 2002 + —	Unit is NAB Std.		730-0343 730-0423	Rec.—Prog. & Cue Play—Prog. & Cue	2052 2052	Unit is NAB Std.	
	M6214 SERIES (3 Channel)	730-0730 730-0731	Rec.—Prog. & Cue Play—Prog. & Cue	5703 / 5701 +114	Unit is NAB Std.		730-0727	Rec.—Prog. & Cue Rec./Play—Cue	5753 5751	Unit is NAB Std.	
KRS	REAR MOUNT HEADS MUST BE USED		Check original Nortronics OEM head numbers and replace from this listing	none	none		SLAH4L SLAH5L TLAH4L TLAH5L P-B2H4R P-B2H7K	Rec./Play—Mono Rec./Play—Mono Rec./Play—Stereo Rec./Play—Stereo Rec. Only—Stereo Playback—Stereo	3251 3252 2051 2052 2053 2051	none none none none none none	
MACARTA (Moulic Specialties)	105 108 PLAYBACK (4 Track)	P-G1H7K P-G1H7K	Play—Prog Play—Cue	3201 / 3201 +115		none	P-G1H7K-R	Play—Prog Play—Cue	3251 3251	none	
	708 STEREO PLAYBACK (4 Track)	P-B2Q7K P-B2Q7K	Play—Prog Play—Cue	1201 / 1201 +114	Unit is NAB Std.				none	none	
	748 CAROUSEL (Transistor)	P-B2H2K	Play—Prog. & Cue	2000 / 2000 +114	Unit is NAB Std.				none	none	
	500 PLAYBACK (Transistor)	P-B2H2K	Play—Prog. & Cue	2000 / 2000 +114	Unit is NAB Std.				none	none	
	560 RECORDER			none		Rec.—Prog. & Cue Play—Prog. & Cue	2005 / 2000 +114		none	Rec.—Prog. & Cue Play—Prog. & Cue	2055 2050
RCA	570 - 590 REC. PLAYBACK (Transistor)	P-B2H4R P-B2H2K	Rec.—Prog. & Cue Rec.—Prog. & Cue	2003 / 2000 +114	Unit is NAB Std.				none		none
	RT 7A Cue head is on left. Program head is next to capstan.		Rec./Play—Prog Rec./Play—Cue	3201 / 3201 +115	Rec.—Prog. & Cue Play—Prog. & Cue	2005 / 2001 +114	223320 223320	Rec./Play—Prog Rec./Play—Cue	3251 3251	Rec.—Prog. & Cue Play—Prog. & Cue	2055 2051
	RT 7B RT 7C Cue head is on left. Program head is next to capstan.		Rec./Play—Prog Rec./Play—Cue	3202 / 3201 +115	Rec.—Prog. & Cue Play—Prog. & Cue	3202 / 2047 +117	226517 223320	Rec./Play—Prog Rec./Play—Cue	3252 3251		none
	RT 17 MONO Quik Kit conversion to No Mount heads is not recommended.			none		none			2052 2052	Unit is NAB Std.	
	RT 37 STEREO (3 Channel) Quik Kit conversion to No Mount heads is not recommended.			none		none	626-143 626-143	Rec.—Prog. & Cue Play—Prog. & Cue	5752 5752	Unit is NAB Std.	
SPARTA	CD 15-2	P-A1HC47K	R/P/(Combo Hd)	6127 + —		none			none		none
	PB211 (Play Only)	P-B2H7K	Play—Prog. & Cue	2001 + —	Unit is NAB Std.				none		none
	200P 200RP 300P		Rec./Play—Prog Rec./Play—Cue	3201 / 3200 +115	Rec.—Prog. & Cue Play—Prog. & Cue	2005 / 2000 +114		Rec./Play—Prog Rec./Play—Cue	3251 3250	Rec.—Prog. & Cue Play—Prog. & Cue	2055 2050
	300B 400RP 800RP	P-B2H4R P-B2H7K	Rec.—Prog. & Cue Play—Prog. & Cue	2003 / 2001 +114	Unit is NAB Std.				none		none
	400P 800P		Play—Prog. & Cue	2001 +114	Unit is NAB Std.				none		none
	600P 600RP	P-B3Q7K P-B3Q7K	Rec.—Prog. & Cue Play—Prog. & Cue	5701 / 5701 +114	Unit is NAB Std.				none		none
TAPECASTER	600P 600RP		Rec./Play—Prog Rec./Play—Cue	3201 / 3200 +115	Rec.—Prog. & Cue Play—Prog. & Cue	2001 / 2000 +114	P-G1H7K-R G1H2K-R	Rec./Play—Prog Rec./Play—Cue	3251 3250	Rec.—Prog. & Cue Play—Prog. & Cue	2051 2050
	STEREO—700P 700RP		R/P—Prog. & Cue	5701 +114		none	P-B3Q7K-R	R/P—Prog. & Cue	5751		none

\*Complete NAB Conversion not possible. Converts program channel only, to monitor. No circuit changes required.

**YOUR BEST AND MOST COMPLETE SOURCE FOR MAGNETIC TAPE HEADS**

# ROBINS® RECORDING TAPE

## ROBINS® BRAND BALANCED SOUND RECORDING TAPE WITH ACTION PAIRED REELS



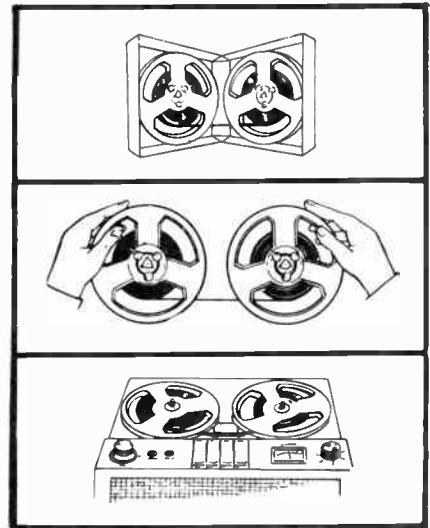
Best quality recording tape with "Action-Paired Reels". The matching reels provide smoother tape transport. Prevents tape stretching. Offers cartridge convenience without special equipment. No need to repeatedly thread tape or search to find a treasured passage. Tape is always ready for playing or recording. Just lift partially played reels of recorder together and place them in the convenient "Dual Compartment Library Box". To load recorder, reverse procedure.

**BONUS . . .** Empty matching Reel, Tape Log Disc, Tape Clips, and Self-Stick Title Labels included in every package . . . **PLUS** - Color-Coded Leader Tape prespliced to beginning and end of every 5", 5 3/4", and 7" reel of tape. Green leader indicates beginning of reel, Red leader, end.

**BALANCED SOUND RECORDING TAPE WITH ACTION PAIRED LOW TORQUE REELS . . .** Until now only pre-recorded tapes produced by major recording companies had low-torque reels because the larger hub reduces the force (torque) required to wind tape steadily and evenly, thus reducing wow and flutter. Now Professional Quality Recording Tape is available with "Action Paired" Low Torque Reels.

Cat. #	Reel Size	Length Feet	Playing Time per track in minutes at 3 3/4 ips	Material	List
15A5	5"	600'	30	1.5 mil Acetate	\$2.36
15A56	5 3/4"	800'	40		3.15
15A7	7"	1200'	60		3.80
15A74	7" LT	850'	42		3.30
10A5	5"	900'	45	1. mil Acetate	3.75
10A56	5 3/4"	1200'	60		4.95
10A7	7"	1800'	90		5.95
10A74	7" LT	1300'	65		5.20
10A5M	5"	900'	45	1. mil Polyester	3.90
10A56M	5 3/4"	1200'	60		5.25
10A7M	7"	1800'	90		6.70
10A74M	7" LT	1300'	65		5.60
5A32M	3 1/4"	400'	20	.5 mil Polyester	1.85
5A5M	5"	1200'	60	Double Play	4.70
5A56M	5 3/4"	1600'	80		6.10
5A7M	7"	2400'	120		8.10
5A74M	7" LT	1700'	85		6.50
5A32MT	3 1/4"	400'	20	.5 mil Polyester	2.25
5A5MT	5"	1200'	60	Tensitized	5.90
5A7MT	7"	2400'	120	Double Play	10.30
5A32MS	3 1/4"	600'	30	.5 mil Polyester	2.65
5A56MS	5 3/4"	2400'	120	Double Play	8.25
5A32MTS	3 1/4"	600'	30	.5 mil Polyester	3.30
5A56MTS	5 3/4"	2400'	120	Tensitized Triple Play	10.50

LT: Low Torque Reel      M: Polyester (Mylar or Celanar)      T: Tensitized  
S: Triple Play



### ROBINS® BRAND CORRESPONDENCE TAPE WITH REUSABLE IMPACT RESISTANT PLASTIC TAPE MAILING CANISTER

Best quality recording tape for tape correspondence. Supplied with reusable impact resistant plastic mailing canister and two sided address card.

Cat. #	Reel Size	Lgth. Feet	Playing Time per track in minutes at 3 3/4 ips	Material	List
15H3	3"	150'	7 1/2	1.5 mil A.	\$1.00
10H3	3"	225'	11	1. mil A.	1.15
10H3M	3"	225'	11	1. mil P.	1.40
5H3M	3"	300'	16	.5 mil P.	1.55
5H3MS	3"	450'	22 1/2"	.5mil P. TP	2.20
5H32MS	3 1/4"	600'	30	.5 mil P. TP	2.75

A: Acetate    P: Polyester    TP: Triple Play  
M: Polyester (Mylar or Celanar)    S: Triple Play

### "MAIL-A-TAPE" BRAND ECONOMICAL CORRESPONDENCE TAPE WITH REUSABLE IMPACT RESISTANT PLASTIC TAPE MAILERS

Quality recording tape with reusable impact resistant plastic mailing canister and two sided address cards.

Cat. #	Reel Size	Lgth. Feet	Playing Time per track in minutes at 3 3/4 ips	Material	List
15C3	3"	150'	7 1/2	1.5 mil A.	\$.89
10C3	3"	225'	11	1. mil A.	1.05
10C3M	3"	225'	11	1. mil P.	1.25
5C3M	3"	300'	15	.5 mil P.	1.45
5C3.2MS	3 1/4"	600'	30	.5 mil P. TP	2.50



**NEW BRAND FIVE "QUADRA-PLAY"  
1/4 MIL RECORDING TAPE**

Robins new "Quadra-Play" 1/4 mil Quality Tensilized Polyester Recording Tape gives recordists 4 times the normal length of tape . . . 4 times the normal recording and playing time . . . 4 times more enjoyment. Available on 3", 3 1/4", 5", and 7" reels. Has improved dry synthetic lubricant to eliminate squeal, stop gumming of heads, and reduce head wear.

Cat. #	Reel Size	Length Feet	Playing Time per track in minutes at 3 3/4 ips.	List
3C3MT	3"	800'	40	\$ 2.90
3C32MT	3 1/4"	1100'	55	4.00
3D5MT	5"	2400'	120	8.50
3D7MT	7"	4800'	240	16.80



**BRAND FIVE**

"Brand 5" derives its name from the fact that it is the fifth oldest brand of recording tape in the world. Dependable better quality, popular tape. Features new improved dry synthetic lubricant to eliminate squeal, stop gumming of heads, and reduce head wear. Offers increased output, reduced distortion at same recording level, better frequency response for sharper, brighter recordings, and improved uniformity for lower modulation noise.

Cat. #	Reel Size	Length Feet	Playing Time per track in minutes at 3 3/4 ips	Material	List
15D3	3"	150'	7 1/2	1.5 mil Acetate	\$ .72
15D5	5"	600'	30	Standard Play	1.65
15D7	7"	1200'	60		2.52
10D3	3"	225'	11	1. mil Acetate	.95
10D5	5"	900'	45		2.00
10D7	7"	1800'	90		3.35
10D3M	3"	225'	11	1. mil Polyester	1.05
10D5M	5"	900'	45		2.50
10D7M	7"	1800'	90		4.50
5D3M	3"	300'	15	.5 mil Polyester	1.08
5D5M	5"	1200'	60	Double Play	3.05
5D7M	7"	2400'	120		5.22

Cat. #	Reel Size	Length Feet	Playing Time per track in minutes at 3 3/4 ips	Material	List
5D3MT	3"	300'	15	.5 mil Tensilized	1.30
5D5MT	5"	1200'	60	Polyester	4.58
5D7MT	7"	2400'	120	Double Play	7.65
5D3MS	3"	450'	22 1/2	.5 mil Polyester	1.42
5D5MS	5"	1800'	90	Triple Play	4.85
5D7MS	7"	3600'	180		8.50
5D3MTS	3"	450'	22 1/2	.5 mil Tensilized	1.55
5D5MTS	5"	1800'	90	Polyester	6.25
5D7MTS	7"	3600'	180	Triple Play	11.10

M: Polyester (Mylar or Celanar) T: Tensilized S: Triple Play

**"SONORAMIC" BRAND RECORDING TAPE AND TAPE ACCESSORIES IN "MULTI-PAKS"**

A wide selection of recording tapes on 2" to 7" dia. reels, packaged in quantities of 2, 3, 4, and 6 to a "multi-pak". Tape mailing boxes included in line. Low priced for economy minded recordists and tape correspondents. Eye catching peg-packaging. Self-merchandising displays #DD-25F, #DD-29F, and #DD-32T are available to dealers.

**ECONOMICAL GOOD QUALITY RECORDING TAPE**

Cat. #	Reels per Pkg.	Reel Size	Length Feet Each Reel	Playing Time per track in minutes at 3 3/4 ips	Material	List
15S3-P4	4	3"	150'	7 1/2	1.5 mil Acetate	\$ 1.65
15S2P-6	6	2"	75'	3 3/4	1.5 mil Acetate	1.65
10S3-P3	3	3"	225'	11	1. mil Acetate	1.65
10S2-P4	4	2"	110'	5	1. mil Acetate	1.65
10S3M-P2	2	3"	250'	12 1/2	1. mil Polyester	1.65
10S2.5M-P3	3	2 1/2"	150'	7 1/2	1. mil Polyester	1.65
SS3M-P2	2	3"	300'	15	.5 mil Polyester Double Play	1.65
5S2.5M-P3	3	2 1/2"	200'	10	.5 mil Polyester Double Play	1.65
5S2.5MS-P2	2	2 1/2"	350'	17 1/2	.5 mil Polyester Triple Play	1.65
15S7-P2	2	7"	1200'	60	1.5 mil Acetate	4.35
10S7-P2	2	7"	1800'	60	1. mil Acetate	5.80
10S7M-P2	2	7"	1800'	90	1. mil Polyester	7.75
5S7M-P2	2	7"	2400'	120	.5 mil Polyester Double Play	9.25
5S7MS-P2	2	7"	3600'	180	.5 mil Polyester Triple Play	14.50
15S5-P2	2	5"	600'	30	1.5 mil Acetate	2.67
10S5-P2	2	5"	900'	45	1. mil Acetate	3.30

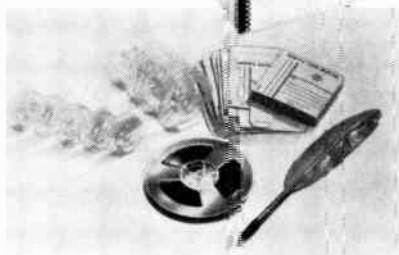


RMC-6	Package of 6 Reusable Impact Resistant Plastic Tape Mailing Canisters for up to 3 1/4" dia. tapes	1.65
TMC-30	Package of 30 Double-Sided Address Cards for RMC-6 mailers	1.15
TB-15	Package of 15 Cardboard Tape Mailing Boxes for up to 3 1/4" dia. reels	1.15

# ROBINS® RECORDING TAPE AND ACCESSORIES IN COMPLETE KITS



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**1. 21 PIECE DELUXE TAPE CORRESPONDENCE AND DICTATION KIT.** 21 items: Four 3" empty reels, five 2" empty reels, and a large 5" reel of 900 ft. 1. mil "Sonoramic" brand Recording Tape. Use only the footage you need while recording. Spool tape on small reels. No waste, save money. Kit includes 9 ready to address cardboard tape mailing boxes and a Simulated Feather Writing Pen. #TKC-2.....List \$3.35

**ECONOMY TAPE CORRESPONDENCE AND DICTATION KIT.** Three 3" reels of quality Recording Tape and 6 ready to address mailing boxes plus a Simulated Feather Pen. (Not illus.) #TKC-1.....List \$2.50

**LOW COST TAPE EDITING KIT.** "Semi-Pro" Tape Splicer has adhesive backed plastic tape guide to fasten to recorder and unique cutting blades. Includes roll of Splicing Tape and Editing Pencil. (Not illus.) #TK-21.....List \$2.75

**2. LOW COST TAPE RECORDING AND EDITING KIT.** Ideal kit for recordists having small portable recorders. Contains: Two 3" reels of Recording Tape, "Semi-Pro" Tape Splicer, roll of Splicing Tape, and Tape Editing and Cueing Pencil. #TK-26.....List \$3.30

**3. COMBINATION BOOK AND RECORDING TAPE VALUE PACK.** Robins highly informative book, "What You Should Know About Your Tape Recorder," and a 5" reel of quality 1. mil "Sonoramic" brand Recording Tape. #TK-15.....List \$2.75

**4. COMBINATION RECORDING TAPE AND "VAULT" VALUE PACKS.** Quality Recording Tape and durable metal, enamel finished "Vault" for safe storage of tape.

#TK-18... 7" reel of 1.5 mil "Sonoramic" Recording Tape and Vault.....List \$3.00  
#TK-17... 5" reel of 1.5 mil "Sonoramic" Tape and Vault...List \$1.65

**LOW COST TAPE EDITING AND CARE KIT.** Contains: "Hobbyist" Tape Splicer, Tape Jockey Cloth, roll of Splicing Tape, 12 Tape Clips, and Tape Editing and Splicing Guide Book. (Not illus.) #TK-4H...List \$3.25

**5. ECONOMY TAPE RECORDING AND EDITING KIT.** Deluxe TS-6 "Cut-N-Splice" Tape Splicer cuts tape at 30°, 45°, and 90° angles for all editing and repair requirements. Includes 25 self-stick Splicing Patches, 3 Tape Editing Pencils, Tape Editing Guide Book, 7" reel of quality 1.5 mil "Sonoramic" brand Recording Tape. #TK-22.....List \$7.80

**6. LOW COST TAPE RECORDING AND EDITING KIT.** TS-5 "Cut-N-Splice" Tape Splicing Block, 25 self-stick Splicing Patches, 3 Tape Editing Pencils, Tape Splicing Guide Book, and 7" reel of quality 1.5 mil "Sonoramic" brand Recording Tape. #TK-20.....List \$6.15

**LOW COST TAPE EDITING KIT.** TS-5 "Cut-N-Splice" Tape Splicing Block, 25 self-stick Splicing Patches, 3 Tape Editing Pencils, and Tape Splicing Guide Book. (Not illus.) #TK-19.....List \$4.15

**7. DELUXE TAPE RECORDING AND EDITING KIT IN CARRYING CASE.** Two 7" reels, total of 2400 ft., quality "Sonoramic" Recording Tape, TS-7S Standard "Stereo" Tape Splicer complete with Splicing Tape, 3" reel of "Tape-Clean" for cleaning and lubricating heads and guides of recorder, 12 Tape Clips, 3 Color-Coding Tape Editing Pencils, and Tape Editing and Splicing Guide Book. All in a convenient carrying case. #TK-23.....List \$16.65

**DELUXE TAPE RECORDING AND EDITING KIT IN CARRYING CASE.** Two 7" reels, total of 2400 ft., quality "Sonoramic" Recording Tape, TS-6 Deluxe "Cut-N-Splice" Tape Splicer, 25 self-stick Splicing Patches, 3" reel of "Tape-Clean," 3 Tape Editing Pencils, Tape Clips, and Tape Editing Guide Book. All in a convenient carrying case. (Not illus.) #TK-24.....List \$11.65

**8. DELUXE TAPE CARE AND EDITING ACCESSORY KIT.** TS-8D Deluxe "Stereo" Tape Splicer complete with Splicing Tape, Tape Threader, 12 Tape Clips, 2 oz. bottle of Head Cleaner, 2 oz. bottle of Head and Guide Lubricant, Tape Jockey Cloth, Pair of Reel Holders, 30 self-stick Title Labels, and Guide Book to Tape Editing and Splicing. #TK-8DLX.....List \$19.00

**9. "TUNE-UP" TAPE RECORDER MAINTENANCE KIT.** Everything to help avoid costly repair bills and loss of time in recording enjoyment. Easy to use Head Demagnetizer removes signal damaging residual magnetism from recorder heads for optimum recording and playback. 3 Tape Jockey Cloths to clean and lubricate tapes. 3" reel of "Tape-Clean," chemically treated cloth tape, cleans and lubricates heads and guides of recorder. #TK-14.....List \$6.75

**DELUXE AUDIO-VISUAL KITS FOR PROFESSIONAL RECORDISTS, BROADCAST STUDIOS, LANGUAGE LABS, AUDIO-VISUAL DEPARTMENTS.** Everything required to maintain recording equipment and tapes, and to edit and repair tapes. (Not illus.)

**KIT #TK-12** contains: TM-99 U.L. listed Bulk Tape Eraser, TS-8D Deluxe "Stereo" Tape Splicer, 6 rolls of 1/2" x 100" Splicing Tape, Tape Head and Guide Lubricant and Cleaner Kit, Tape Strobe and Light Kit, TD-6 U.L. listed Head Demagnetizer, Tape Threader, Tape Jockey Cloth, 180 Reel Title Labels, 75 Tape Clips, and 150 cleaning "Swabbs." List \$82.00

**KIT #TK-11** contains: TM-77 Bulk Tap Eraser, TS-7S "Stereo" Tape Splicer, roll of 3/8" x 275" Splicing Tape, Head and Guide Lubricant and Cleaner Kit, Tape Strobe and Light Kit, TD-3 Head Demagnetizer, Tape Threader, Tape Jockey Cloth, 180 Reel Title Labels, and 75 Tape Clips. List \$49.00

## TAPE SPLICERS AND ACCESSORIES

ROBINS®

1. **GIBSON GIRL® TAPE EDITING WORKSHOP.** Splice, edit, repair, and combine recording tapes on reels up to 7". Two Tape Winders and Deluxe Stereo Tape Splicer are attached to a sturdy, walnut grained, warp-proof base. Complete with Splicing Tape. Accurately calibrated Editing/Timing Scale on base indicates tape time being added or cut from tape. Size: 7" x 14" x 5½" ht. Free Editing Pencil and Splicing Guide Book included. #TK-9.....List \$24.00

**GIBSON GIRL® STEREO TAPE SPLICERS.** Precision splicing of 4 track tapes without loss of program material on the outside tracks. Excellent for single and multiple track tapes. Units have blade centering adjustment for lifetime accuracy, and replaceable cartridge and cutter pad.

2. **DELUXE "STEREO" TAPE SPLICER.** "See-thru" windows show "Cut" and "Trim" positions for easy operation. Tape guide and arms secure tape. Easy threading integral tape dispenser with roll of ½" x 100" Splicing Tape. Safety-lock protects blades when not in use. Space-Age design. Made of Cyclocac®. #TS-8D.....List \$12.75

3. **STANDARD "STEREO" TAPE SPLICER.** Same features as TS-8D. Integral tape dispenser has roll of ¾" x 100" Splicing Tape. "See-thru" windows for "Cut" and "Trim" positions. Made of metal and plastic. #TS-7S.....List \$10.00

**JUNIOR "STEREO" TAPE SPLICER.** Same as TS-7S without tape dispenser and splicing tape. #TS-7J (not illus.).....List \$8.00

**REPLACEMENT CUTTER KITS FOR ROBINS STEREO TAPE SPLICERS.** Each kit contains replacement cutter cartridge and 2 cutter pads. #TZ-2 for TS-4A series splicers. #TZ-3 for TS-4S, -4J, -7S, and -7J. #TZ-8 for TS-8D. #TZ-4 Cutter Pads for TS-4A series, TS-4S, -4J, -7S, and 7J. List Each.....\$1.65

4. **DELUXE "CUT-N-SPLICE."** Adjustable tape cutter control for cutting tapes at 30°, 45°, and 90°. 25 Self-Stick Splicing Patches included in handy tray built-into splicer base. #TS-6.....List \$5.00

5. **"CUT-N-SPLICE."** Metal Splicing Block has tape guide and cutting groove to guide hand-held blade. Sliding tray built-into the splicer holds 25 Self-Stick Splicing Patches and blade supplied. #TS-5.....List \$3.15

**"SEMI-PRO."** Compact, low cost splicer has tape alignment guide with adhesive back, hand held Gibson Girl® Cutter and Trimmer with blade cover. Plastic. (Not illus.) #TS-3.....List \$2.50

**"HOBBYIST."** Low cost, adhesive backed plastic tape guide fastens to recorder. Unique, curved cutting blades supplied. #TS-2..List \$1.25  
**ROBINS SPLICING TAPE.** Special formula, Mylar, tackiness, thickness, strength and cold flow carefully controlled. (Not illus.)

#TST-235 ¼" x 300" ..List \$1.00 #TT-234 ¼" x 100".....List .45  
#TST-376 ¾" x 275" ..List 1.00 #TT-375 ¾" x 100".....List .50  
#TST-501 ½" x 250" ..List 1.00 #TT-500 ½" x 100".....List .55  
#TST-751 ¾" x 150" ..List 1.15

#TST-233 Self-Stick Splicing Patches for TS-5 and TS-6 Splicers and other brands of splicers. Pkg. of 75 Patches.....List \$1.15

6. **"GIBSON GIRL"® AUDIO/VIDEO TAPE SPLICERS.** Heavy duty. Professional, precision features that are the accepted standard of the industry. Precise blade centering adjustment. Long life replaceable blades and cutter pads. Produces "Gibson Girl" trim at sides of splices to prevent adhesive from splicing tape from contacting critical parts of recorder. For audio, video, computer, industrial, special purpose tapes. #TS-250 for ¼" wide tapes. #TS-500 for ½" wide tape, Sony, Concord, etc. systems. #TS-1000 for 1" wide tape, Ampex systems. List each.....\$85.00

7. **AUDIO/VIDEO TAPE SPLICERS.** Heavy duty. Tape guide and arms secure tape. Precision diagonal cut. 25 self-stick Splicing Patches supplied. #TSV-50 for ½" wide tape, Sony, Concord, etc. systems. #TSV-100 for 1" wide tape. Ampex Systems. List each.....\$19.95

**AUDIO/VIDEO TAPE SPLICING PATCHES.** Pre-cut, self-stick.  
#TT-247 ½" Patches. Use with TSV-50 Splicer. Pkg. of 60..List \$1.65  
#TT-248 1" Patches. Use with TSV-100 Splicer. Pkg. of 48..List 1.65

**SENSING AND CUEING PATCHES.** Aluminum foil. ¼" wide x ¾" lengths. For recorders having automatic stop and reverse control and other electrical sensing devices. Pkg. of 50. (Not illus.) #TSP-50.....List \$1.65

**LEADER TAPE.** 1½ mil White Mylar. 100 ft. x ¼" wide on 2½" reel. Splice leader at beginning and end of tapes. Stops tape loss due to threading. Ideal for indexing between recorded sections of reel. (Not illus.) #TT-100.....List \$1.15

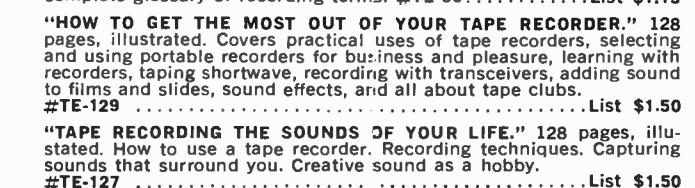
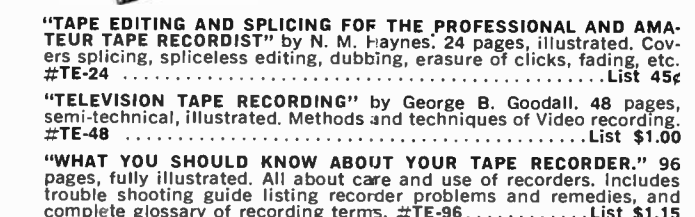
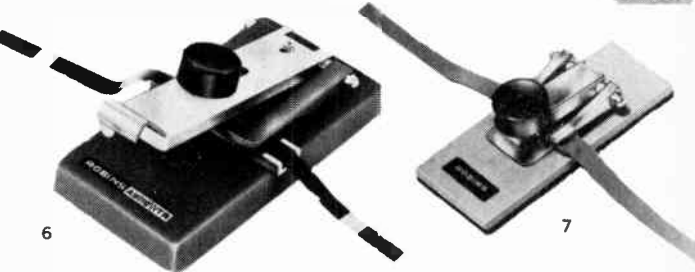
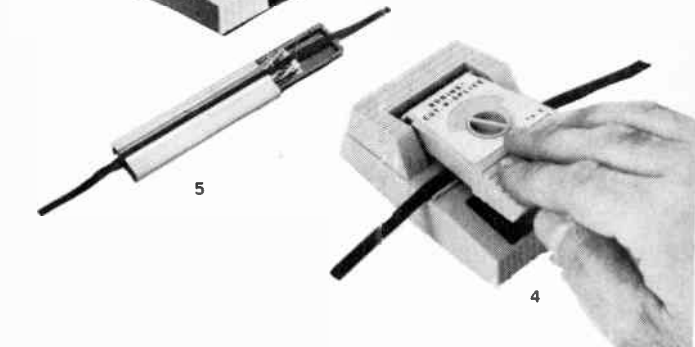
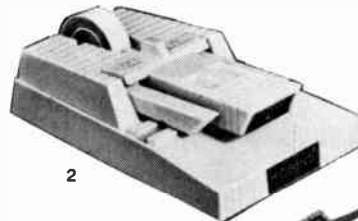
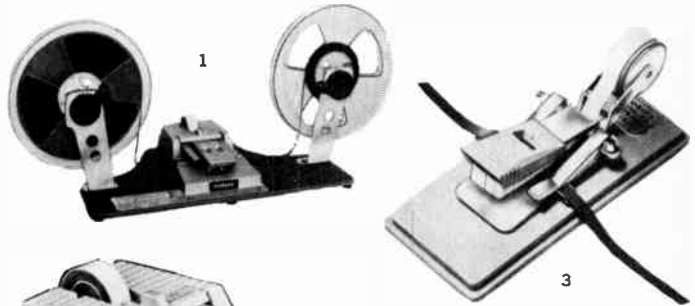
**LOW COST TAPE CARE KIT.** 12 reusable plastic Tape Clips and Tape Jockey Cloth. (Not illus.) #TG-7.....List \$1.30

**TAPE CLIPS.** Pkg. of 75 reusable plastic Tape Clips in handy plastic container. Keeps tape from unwinding. (Not illus.) #TC-75..List \$1.15

**TAPE THREADER.** Eliminates awkward fumbling. Provides easy threading of tape on reels. (Not illus.) #TG-4.....List \$1.00

**REEL HOLDERS.** Reduces reel wobbling. Holds reels in place regardless of position of recorder. (Not illus.) #TG-1 Pair.....List \$1.00

8. **RECORDIST'S COMPLETE LIBRARY.** 3 highly informative books describing and illustrating care and use of recorders. Books are: "What You Should Know About Your Tape Recorder," "Tape Recording The Sounds Of Your Life," and "How To Get The Most Out Of Your Tape Recorder." #TE-3 A \$4.15 Value.....List \$3.65



**"TAPE EDITING AND SPLICING FOR THE PROFESSIONAL AND AMATEUR TAPE RECORDIST"** by N. M. Haynes. 24 pages, illustrated. Covers splicing, spliceless editing, dubbing, erasure of clicks, fading, etc. #TE-24.....List 45¢

**"TELEVISION TAPE RECORDING"** by George B. Goodall. 48 pages, semi-technical, illustrated. Methods and techniques of video recording. #TE-48.....List \$1.00

**"WHAT YOU SHOULD KNOW ABOUT YOUR TAPE RECORDER."** 96 pages, fully illustrated. All about care and use of recorders. Includes trouble shooting guide listing recorder problems and remedies, and complete glossary of recording terms. #TE-96.....List \$1.15

**"HOW TO GET THE MOST OUT OF YOUR TAPE RECORDER."** 128 pages, illustrated. Covers practical uses of tape recorders, selecting and using portable recorders for business and pleasure, learning with recorders, taping shortwave, recording with transceivers, adding sound to films and slides, sound effects, and all about tape clubs. #TE-129.....List \$1.50

**"TAPE RECORDING THE SOUNDS OF YOUR LIFE."** 128 pages, illustrated. How to use a tape recorder. Recording techniques. Capturing sounds that surround you. Creative sound as a hobby. #TE-127.....List \$1.50

# ROBINS® TAPE ACCESSORIES



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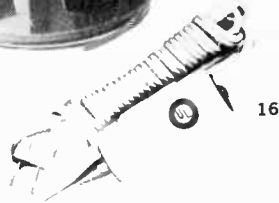


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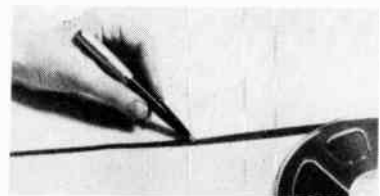
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**9. MAGNETIC BULK TAPE ERASER FOR AUDIO, VIDEO, COMPUTER AND INDUSTRIAL RECORDING TAPE UP TO 1" WIDE ON REELS TO 17" DIA.** (2" wide tapes erased by performing erase procedure on both sides of reel.) Reel is rotated slowly 3-4 seconds for erasure - 50 to 90 db below saturation level. 115 V. 50-60 cy. A.C. Duty cycle: 10 min. On/10 min. Off. Size: 3 3/4" x 12" x 14". Safety features: overheat indicator, individually fused circuits, blower system. #TM-120 ..... List \$175.00

**10. BULK TAPE ERASER FOR AUDIO, VIDEO, COMPUTER, INDUSTRIAL TAPE TO 1" WIDE ON REELS TO 10 1/2" DIA.** (2" wide tapes if erased on both sides.) Reel is rotated 3-4 seconds, erasure 50 to 90 db below saturation level. 115 V. 50-60 cy. A.C. Duty cycle: 5 min. On/15 min. Off. Size: 3 3/4" x 6" x 8". Safety features: overheat indicator, individually fused. #TM-100 ..... List \$90.00

**11. PROFESSIONAL BULK TAPE ERASER, U.L. LIST.** Heavy duty. Erase tapes to 1/2" wide on reels to 10 1/2". Erasure 3 to 6 db below normal erase head level. 110 V. 50-60 cy. A.C. Size: 5 1/4" x 6 3/4" x 3 3/4". #TM-99 ..... List \$46.00

**12. DELUXE BULK TAPE ERASER.** For 1/4" wide tape on reels to 7" dia. Erasure 2 to 4 db below normal erase head level. 110 V. 50-60 cy. A.C. Size: 2 3/8" x 3 3/4" x 6 1/4". #TM-77 ..... List \$26.50

**13. ECONOMY BULK TAPE ERASER.** For 1/4" wide tape on reels to 7". Erasure below normal erase head level. Size: 5 1/4" x 2 1/8" x 3 1/8". 110-120 V. 50-60 cy. A.C. Duty cycle: 1 min. On/5 min. off. #TM-44 ..... List \$17.70

**14. ECONOMY HAND-HELD BULK TAPE ERASER.** For 1/4" wide tape, any size reels. Unique handle has momentary contact switch. Erase tape in seconds by moving unit slowly over each side of reel. Erasure below normal erase head level. Size: 4" x 2 1/4" x 4 1/4". Wt. 2 lb. 4 oz. 4 amps, 110-120 V. 50-60 cy. A.C. #TM-88 ..... List \$17.50

**15. MAGNETIC TAPE EDITING PEN.** Removes single sound, noise, etc., from small areas of recordings when applied to tape. Use to fade-in and fade-out sounds for special effects. #TM-2 ..... List \$2.00

**16. DELUXE HEAD DEMAGNETIZER, U.L. LIST.** Removes signal damaging residual magnetism from tape heads for optimum signal to noise ratio. Easy to use. 110 V. 60 cy. A.C. Size: 4 5/8" x 1 1/4" dia. 6 ft. heavy duty line cord. #TD-6 ..... List \$11.00

**17. ECONOMY HEAD DEMAGNETIZER.** Components are fully encapsulated in hi-impact plastic. Angled probe has soft plastic shield for easy, safe contact with heads. 110 V. 60 cy. A.C. Size: 3 1/2" x 1 1/4" dia. #TD-3 ..... List \$6.50

**PROFESSIONAL TAPE STROBE.** Precision metal, chrome plated strobe. Checks speed accuracy, flutter and wow of 7 1/2 to 3 3/4 ips recorders. Precision machined. Precise needle bearings. (Not illus.) #TW-1 ..... List \$10.00

**TAPE STROBE AND LIGHT KIT.** Checks recorders for speed accuracy, wow and flutter operating at 15, 7 1/2 and 3 3/4 ips. Strobe tape and neon light. 110 V. 60 cy. A.C. (Not illus.) #TK-5 ..... List \$2.50

**HEAD AZIMUTH ALIGNMENT TAPE.** Accurate alignment of recorder heads to set head angle for maximum sound output. 100 ft. tape on 2 1/2" reel. Tape has 6 kc steady tone produced by a signal generator. Tape may be played in either direction. (Not illus.) #TAT-100 ..... List \$1.65

**18. TELE-TAPE DELUXE PHONE PICK-UP.** High efficiency ferrite core gives 3-5 db more gain, high signal to noise ratio. Fastens to phone with Easy-On mechanical spring. Has 6 ft. shielded cable. #TRP-1 ..... List \$6.25

**LOW COST PHONE PICK-UP.** Fastens to phone by suction cup. 5 ft. cable has stripped ends for attaching connector to fit recorder. (Not illus.) #TRP-2 ..... List \$3.15

**TAPE JOCKEY CLOTH.** Cleans, lubricates, and protects tape by depositing film of Silicone on tape. Reduces head and tape wear. Eliminates tape squeal and chatter. Pkg. of 3 Reuseable Cloths. (Not illus.) #TG-2 ..... List \$1.00

**HEAD-KLEEN POLISHING TAPE.** 225 ft. Polishing Tape on 3" reel. Removes oxides and particles from recorder heads and guides when played. (Not illus.) #THC-1 ..... List \$1.65

**TAPE-CLEAN.** Reuseable chemically treated cloth tape. Cleans and lubricates heads and guides when played. Deposits coating of Silicone for friction-free performance. #THC-5, 5" reel of Tape-Clean. List \$2.75 #THC-3, 3" reel of Tape-Clean. (Not illus.) ..... List \$1.65

**HEAD CLEANER.** Efficient solvent removes dirt, grime, and accumulated oxides from recorder heads. 2 oz. bottle. (Not illus.) #TX-20 ..... List \$1.00

**HEAD AND GUIDE LUBRICANT.** Silicone base liquid. Reduces head and tape wear. Provides friction-free tape path. 2 oz. bottle. (Not illus.) #TX-22 ..... List \$1.00

**TAPE AND PHONO DRIVE OIL.** Highly refined lubricant formulated especially for rotating and moving parts of drives. Inhibits rust and oxidation. 2 oz. bottle. (Not illus.) #TX-33 ..... List 75¢

**NON-SLIP FOR TAPE AND PHONO DRIVES.** Helps stop slippage of idler wheels, pulley belts, and cords. Fast drying and penetrating material dries to tack-free yet non-slip surface. 2 oz. bottle. (Not illus.) #TX-56 ..... List \$1.15

**"SWABBIES."** Soft cotton tips wound on 6" long applicators for convenient cleaning and oiling in hard to reach places. 1001 uses. Pkg. of 150. (Not illus.) #MSW-150 ..... List \$1.15

**19. HEAD CLEANER AND LUBE KIT.** 2 oz. bottles of Head Cleaner and Head and Guide Lubricant. Minimizes head, guide, and capstan wear. Reduces wow and flutter. #TK-6 ..... List \$1.90

**TAPE CARE KIT.** 2 oz. bottle of Head Cleaner and Tape Jockey Cloth. (Not illus.) #TK-2 ..... List \$1.90

**20. COMPLETE CHEMICAL TAPE CARE KIT.** 2 oz. bottles of Head Cleaner, Head and Guide Lubricant, Tape and Phono Drive Oil, Non-Slip for Tape and Phono Drives, and 50 cotton tipped "Swabbies" on 6" long applicators. #TK-7 ..... List \$3.75

# COLOR-CODING TAPE ACCESSORIES **ROBINS®**

**COLOR-CODING TAPE ACCESSORIES.** Increases tape enjoyment. Ends confusion of tape collecting. Provides instant identification. Index by title, artist, category — i.e.: Red to identify Jazz, Blue — Classical, etc.

**21. COMPLETE COLOR-CODING TAPE LOG KIT.** Accessories in six basic colors: Red, Blue, Orange, Green, Yellow, and White. Contains: 240 self-stick Title Labels, 40 each of 6 basic colors. 72 self-stick End Tabs for tapes. 12 each of 6 colors. 48 self-stick Numbered Cueing and Indexing Spots for tapes. 8 each of 6 colors. Numbered 1 to 8. 30 self-stick Tape Box Ends, 5 each of 6 colors. 120 page Log Book to record contents of each tape. Handsomely bound book is same size as 7" tape box. Pages are color-indexed and ruled for easy writing. Simulated Feather Writing Pen is included in kit. #TK-1.....List \$8.30

**COLOR-CODING TAPE END TABS.** Self-stick. Reinforces ends of tapes. Prevents tape unwinding on reels. Facilitates easy threading. Provides quick identification. Pkg. of 72. 12 each: Red, Blue, Orange, Green, Yellow, and White. (Not illus.) #TT-245.....List \$1.15

**COLOR-CODING INDEXING AND CUEING SPOTS FOR TAPES.** Self-stick. Numbered 1 to 8. Index and code selections on reels. Pkg. of 48. 8 each: Red, Blue, Orange, Green, Yellow, and White. (Not illus.) #TT-246.....List \$1.65

**COLOR-CODING TAPE BOX ENDS.** 30 self-stick, textured Book Binding Strips. Color-Code boxes. Reinforce lids, hinge separate boxes, add decor to tape library. 5 each: Red, Blue, Orange, Green, Yellow, and White. (Not illus.) #TL-5.....List \$2.50

**COLOR-CODING TAPE SPLICING PATCHES.** Splice between recorded sections on reels for easy indexing. Pkg. of 72. 12 each: Red, Blue, Orange, Green, Yellow, and White. (Not illus.) #TT-240.....List \$1.65

**COLOR-CODING LEADER TAPES.** Set of five 2½" reels. 100 ft. each of Red, Blue, Green, Yellow, and White, ½ mil Mylar Leader Tapes. Splice leaders to ends of tape to reinforce them. Ends tape waste. Index between recorded sections on reels. (Not illus.) #TT-16.....List \$4.00

**COLOR-CODING TAPE EDITING AND CUEING PENCILS.** Mark beginning and end of sections to be edited, re-recorded, etc. Cue in stops and starts. For film editing and other uses. Pkg. of 3 pencils: Black, White, and Yellow. (Not illus.) #TG-3.....List \$1.00

**COLOR-CODING TITLE LABELS.** 240 self-stick ½" x 2" Labels in Red, Blue, Orange, Green, Yellow, and White. Supplied in sheets of 10 labels for writing or typewriter. Label tape reels, boxes, canisters, books, parts, etc. (Not illus.) #TL-240.....List \$1.65

**WHITE SELF-STICK TITLE LABELS.** Pkg. of 180, ½" x 2" labels. (Not illus.) #TL-180.....List \$1.30

**LONG TITLE LABELS.** Self-stick, 9½" x ¾" white labels supplied in sheets of 10. Type or write. Pkg. of 50. (Not illus.) #TL-9.....List \$1.00

**TAPE LOG DISCS.** Easy indexing of recording on reels. Write titles on circular lines of discs. Center of discs provide space for recording date, speed, reel number, and name of recordist. Indexing scales along edges of die-cut openings in discs are used to mark off beginning and end of each section. Detailed notes can be written on reverse side of the discs. (Not illus.) #TLD-15 — Pkg. of 15 discs for 7" tapes.....List \$1.15 #TLD-18 — Pkg. of 18 discs for 5" tapes.....List \$1.15

**22. EMPTY TAPE REELS FOR EVERY RECORDING NEED.** Package of 6-3" reels, 2 each: Red, Yellow, Blue. #TR36.....List \$1.15

5" COLOR-CODED REELS				7" COLOR-CODED REELS			
Cat. #	Color	Pkg. Qty.	List	Cat. #	Color	Pkg. Qty.	List
#TR51-2B	Blue	2	\$1.30	#TR71-2B	Blue	2	\$1.57
#TR51-2G	Green	2	1.30	#TR71-2G	Green	2	1.57
#TR51-2R	Red	2	1.30	#TR71-2R	Red	2	1.57
#TR51-2Y	Yellow	2	1.30	#TR71-2Y	Yellow	2	1.57

REEL MULTI-PAKS				REELS IN BOXES			
Cat. #	Size	Qty.	List	Cat. #	Size	Qty.	List
#TR20-6	2"	6	\$1.00	TRB-2	2"	1	.42
#TR25-6	2½"	6	1.00	TRB-2.5	2½"	1	.42
#TR30-6	3"	6	1.00	TRB-3	3"	1	.42
#TR32-4	3¼"	4	1.00	TRB-3.2	3¼"	1	.42
#TR40-4	4"	4	1.15	TR-50	5"	1	.65
#TR50-2	5"	2	1.00	TR-70	7"	1	.75
#TR70-2	7"	2	1.15				

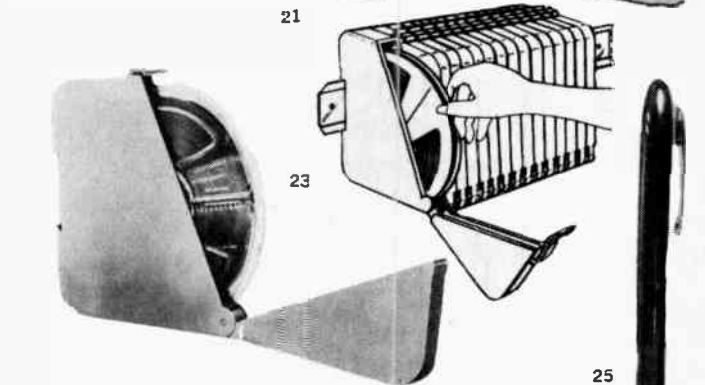
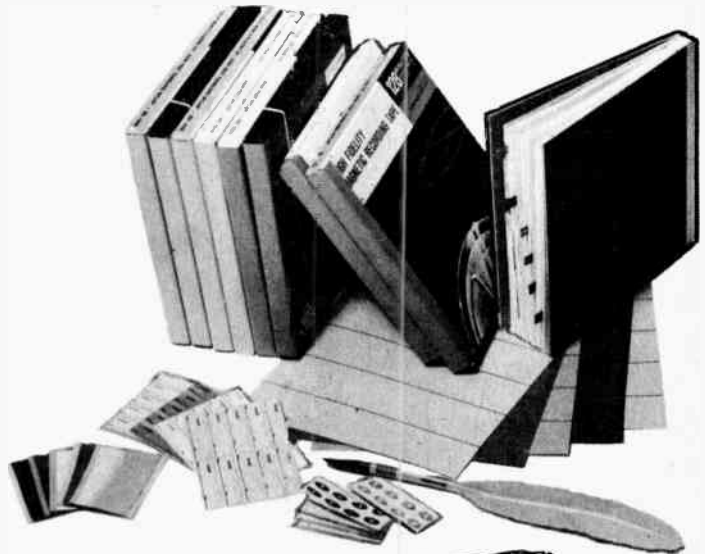
**EMPTY BOXES FOR RECORDING TAPE**  
#TB-5 5" Size.....List 34¢ #TB-7 7" Size.....List 39¢

**LOW TORQUE REELS.** Used by all major recording companies because the larger hub reduces the force (torque) required to wind tape steadily and evenly, thus reducing wow and flutter. (Not illus.) #TR74-2 Pkg. of 2 7" dia. Low Torque Reels. Tape capacity each reel: 1700 ft. ½ mil tape, 1300 ft. 1 mil, and 800 ft. 1½ mil. List \$1.98

#TR53-2 Pkg. of 2 5" dia. Low Torque Reels. Tape capacity each reel: 850 ft. ½ mil tape. 650 ft. 1 mil and 400 ft. 1½ mil.....List \$1.65

**VIDEO TAPE REEL.** 7" dia. for ½" wide VTR tape. Use with Sony, Concord, etc. systems. Clear plastic. Tape footage guide on flange on both sides of reel. Supplied with box. (Not illus.) #TRV-15.....List \$2.50

**23. WALL MOUNTED TAPE LIBRARY.** Set of 12 "Tape-Safes" for storing and protecting 7" tapes. Molded hi-impact plastic safes have hinge covers and dovetail grooves to fit metal mounting bracket. Metal bracked included. (Reels not included.) #TCP-12.....List \$18.25



**TAPE "VAULTS".** Durable metal, enamel finished canisters protect tapes. Ribs on cans nest for neat stacking. #TC7-2 Pkg. of 2 Vault for 7" tapes.....List \$1.80 #TC5-2 Pkg. of 2 Vaults for 5" tapes. (not illus.).....List \$1.30

**24. REUSEABLE IMPACT RESISTANT TAPE MAILING CANISTERS.** Pkg. of 6 hi-impact plastic mailing canisters for up to 3¼" reels. Included 2-sided address cards. #RMC-6.....List \$1.65

#TMC-30 ADDITIONAL 2-SIDED ADDRESS CARDS FOR RMC-6 CANISTERS. Pkg. of 30.....List \$1.15

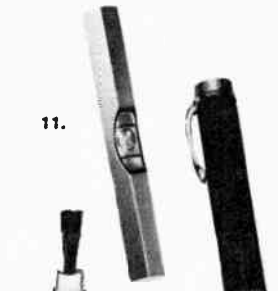
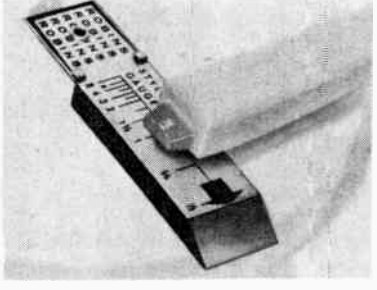
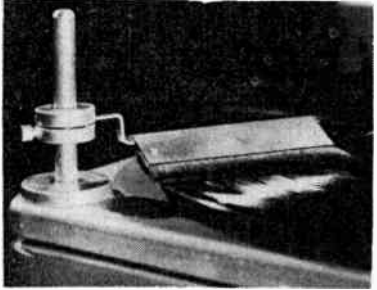
**ECONOMY CARDBOARD TAPE MAILERS.** Pkg. of 15 Boxes for up to 3¼" tapes. Ready for addressing and mailing. (Not illus.) #TB-15.....List \$1.15

**25. HANDY ALL-PURPOSE BRUSH.** Soft camel's hair brush in Gold tone telescoping case with cover and pocket clip for convenient carrying. Safe for dusting and removing particles from delicate tape heads and guides, fine optical lenses, phono stylus, delicate parts. Fits pocket or purse. #MRB-1.....List \$1.65

**SEI-F-STICK RECORDER REPLACEMENT PRESSURE PADS.** (Not illus.) #TPP-2 Package of 44 self-stick, pre-cut pads in two thicknesses to fit most recorders. Includes U-Cut-It pads for odd makes and models. No glue or cement required. Remove backing and apply. List \$1.15

#TP-1 Non-self-sticking pressure pads. Over 50 per-cut and U-Cut-It pads.....List \$1.00

# ROBINS® PHONO AND RECORD ACCESSORY KITS



1. **LOW COST RECORD CARE KIT.** 18 Plastic Protective Record Covers and Combination Record Brush and Tone-Arm Lift to clip onto tone-arm of phono. #PK-15 .....List \$2.00
- RECORD CARE KIT.** 18 Plastic Protective Record Covers and a Jockey Cloth to clean records. Special Anti-Static ingredient in Jockey Cloth reduces accumulation of dust on records. (Not illus.) #PK-19 .....List \$1.65
- LOW-COST STYLUS AND RECORD CARE KIT.** New improved Adjustable "KleeNeedle" Stylus Brush and 18 Plastic Protective Record Covers. (Not illus.) #PK-14 .....List \$2.15
2. **ROB-O-STAT RECORD CLEANING KIT.** Contains: super-soft velvet and foam applicator mitt; 1½ oz. plastic bottle of Anti-Static cleaner and lubricant, and a polyfoam pad for cleaning velvet side of mitt. #PK-6 .....List \$2.15
- STYLUS AND RECORD CARE KIT.** New improved Adjustable "Klee-Needle" Stylus Brush; new PSG-3 Stylus Pressure Gauge; and Record Jockey Cloth for cleaning records. (Not illus.) #PK-17 .....List \$2.75
3. **DISK-WHISK KIT.** Triple action automatic record cleaner clips on to tone-arm. Light weight floating nylon brush and mohair cylinder loosens dirt and removes it from record grooves while record plays. Bottle of Anti-Static fluid with Silicone cleans and lubricates records. #PK-7 .....List \$3.15
- RENEWAL KIT FOR PK-7.** Bottle of Anti-Static fluid and two replacement mohair cylinders. (Not illus.) #PK-8 .....List \$2.00
- PHONO STYLUS CARE KIT.** PSG-3 Stylus Pressure Gauge; Stylus Inspection Microscope, and Adjustable Stylus and All Purpose "Handy" pocket size Brush. #PK-16 ..... (Not illus.) .....List \$5.50
4. **DELUXE PHONO AND RECORD CARE KIT.** Contains: PSG-2 Stylus Pressure Gauge; Record Jockey Cloth; Turntable Level; Strobe Disk to check speed accuracy of phono; Adjustable "KleeNeedle" Stylus Brush; 18 Plastic Protective Record Covers; and Combination Tone-Arm Lift and Record Brush to clip to tone-arm of phono. #PK-9 .....List \$6.65
5. **COMPLETE DELUXE PHONO AND RECORD CARE KIT.** Contains: 10" Foam Phono Cushion; Strobe and Light Kit; 18 Plastic Record Covers; Record Cleaning Kit containing applicator mitt and 1½ oz. Anti-Static Cleaner and Lubricant; Stylus Brush; Stylus Pressure Gauge; Stylus Inspection Microscope; Disk-Whisk Kit; Round Turntable Level; 144 Friction Spots for application to records to prevent scratching; 12 "Platter-Pusses" for safe handling of records; and complete instructions. #PK-10 .....List \$18.50
6. **CLEAN-SWEEP FOR PHONOS.** Large soft hair brush supported on a machined aluminum support, sweeps entire tracking surface of records with each revolution. Removes dust and particles from grooves. Helps protect stylus and records from dust damage. Pressure sensitive adhesive base for secure mount to any phono. Can be swung out of the way when not in use. #PB-88 .....List \$6.75
- COMBINATION TONE-ARM LIFT AND RECORD BRUSH.** Clips to tone-arm. Floating action nylon brush gently sweeps dust and particles from record grooves. Convenient finger lift minimizes record scratching. (Not illus.) #PB-2 .....List \$1.00
- CLIP-ON RECORD BRUSH.** Clips to tone-arm and sweeps dust from records automatically. (Not illus.) #PB-75 .....List 65¢
7. **NEW ADJUSTABLE STYLUS BRUSH FOR ALL PHONOS AND TURNTABLES.** "KleeNeedle" Brush adjusts from ¾" to 2¼" height to meet requirements of all U.S. made and imported phonos. Spring secured flexible mounted brush adjusts to height of tone-arm. Automatically removes dust blob accumulation on stylus when tone-arm is cycled. Pressure-sensitive base for easy mounting. #PB-3 .....List \$1.25
8. **NEW STYLUS PRESSURE GAUGE.** Sturdy, accurately calibrated and balanced Gauge and counter balance weight. Measures stylus pressure to ½ gram. Correct stylus pressure assures proper tracking for optimum fidelity, less stylus and record wear. #PSG-3 .....List \$1.50
9. **STYLUS PRESSURE GAUGE.** Sturdy, balanced Gauge. Accurately calibrated to measure stylus pressure from ½ gram to 8 grams. #PSG-2 .....List \$1.25
10. **STYLUS INSPECTION MICROSCOPE.** Precision ground lenses for clear 50X magnification. Knurled focusing adjustment. Convenient slot at end of scope secures needle for inspection to detect signs of wear, chips, etc., that ruin records. Scope has pen type pocket clip. Size: 3¾" long x ½" dia. Imported. #PM-1 .....List \$3.00
11. **TURNTABLE LEVEL.** Assures accurate leveling of turntable. Has Gold anodized aluminum case. #PL-1 .....List \$1.50
- ROUND TURNTABLE LEVEL.** Pressure sensitive backing for simple mounting to top deck of changer or turntable. A must for Stereo output balance. (Not illus.) #PL-2 .....List \$2.50
- "HANDY" ALL-PURPOSE BRUSH.** Safe dusting and removing of particles from equipment, phono stylus, records, delicate parts, optical lenses, etc. Telescoping soft Camel's hair brush in Gold tone case with pocket clip. Fits pocket or purse. (Not illus.) #MRB-1 .....List \$1.65
- TURNTABLE LEVELING KIT.** Accurate leveling of turntable to prevent record and stylus wear. Kit contains: four adjustable rubber feet to mount under turntable base. Circular Level for permanent mount on top deck of turntable. (Not illus.) #PK-4 .....List \$4.50
12. **PHONO STROBE AND LIGHT KIT.** Checks phono for correct speeds. Easy to use Stroboscopic Disc and Neon Lamp. 110-120 V. 50-60 cy. A.C. Instructions included. #PK-5 .....List \$2.30
- METAL PHONO STROBE DISKS.** Accurate testing of phonos for correct speed. #PSD-4 - 4 speed, 5" dia. metal Disk. Checks 16⅓, 33⅓, 45 and 78 RPM speeds, for use with any phono. (Not illus.) .....List \$1.65
- #PSD-3 - 3 speed, 3¼" dia. Checks 33⅓, 45 and 78 RPM speeds. (Not illus.) .....List \$1.00

## PHONO AND RECORD ACCESSORY KITS

ROBINS®

**"PLATTER PUSSES" FOR SAFE HANDLING OF RECORDS.** 2½" dia. soft felt flocked leatherette disks, folded for convenient handling of records. Prevents fingerprints, grease, perspiration, etc., from damaging records. Package of 12. (Not illus.) #PRM-12.....List \$1.00

**FRICTION SPOTS PROTECTS RECORDS AGAINST SCRATCHING AND SLIPPAGE.** Thin ½" Polyfoam disks for placement on and around inner circumference of label areas of records. Disks have pressure-sensitive backing for easy application. Pkg. of 144. Mounting jig supplied. (Not illus.) #PSF-1.....List \$1.15

**13. PHONO CARE KIT.** 2 oz. bottles of Phono Drive Oil and Non-Slip for Phono Drives. #PK-12.....List \$1.80

**JOCKEY CLOTH FOR RECORDS.** Anti-Static cleaning cloth contains Silicone. Cleans and lubricates. Reduces record wear. Washable. Reuseable. (Not illus.) #PG-1.....List 75¢

**PHONO DRIVE OIL.** Highly refined lubricant formulated especially for rotating and moving parts. Inhibits rust and oxidation. 2 oz. bottle with applicator cap. (Not illus.) #TX-33.....List 75¢

**NON-SLIP FOR PHONO DRIVES.** Helps stop slippage of drive wheels, belts, etc. Fast drying, stable and penetrating material dries to a tack-free yet non-slip surface. (Not illus.) #TX-56.....List \$1.15

**"SWABBIES" FOR SAFE CLEANING AND OILING IN HARD TO REACH PLACES.** 6" long applicators with soft cotton tips. Pkg. of 150. (Not illus.) #MSW-150.....List \$1.15

**45 RPM SPINDLE ADAPTOR.** Fits most GE and VM Changers using short spindle. No twisting or jamming. (Not illus.) #PSA-35.....List \$4.00

**14. RIM-REST PHONO CUSHION.** Graduated ridges for 7", 10", and 12" records. Records rest on rims only. Delicate sound grooves never touch Rim-Rest. Fits all changers. Made of supply Polyethylene. 12" dia. #PC-33.....List \$2.25

**POLYESTER PHONO CUSHIONS.** Cushions record drop. Reduces slippage. Cushion includes Strobe Disk. (Not illus.) #PC-12 - 11¾" dia. ....List \$1.15  
#PC-10 - 9¾" dia. Cushion.....List \$1.00

**15. ROUND BOTTOM RECORD COVERS.** Polyethylene Plastic covers for 12" records. Prevents scratches, seals out dust and moisture. Package of 18. #PJ-18.....List \$1.15

**16. SQUARE RECORD JACKET COVERS.** Polyethylene covers for 12" records or standard 12" Albums. Package of 18. #PJ-19.....List \$1.15

**17. RECORD BROWSER.** Handy, compact. Fast selection of records. No need to pull records out, just flip through and select. Sturdy, metal brass plated storage rack holds large quantity of 12" records in their original jackets and albums. Folds flat for storage. #PR-1.....List \$2.50

**MULTI-PAK OF TWO "MIRACLE" RECORD CLEANING CLOTHS AND CLIP-ON RECORD BRUSH.** Cloths contain special Anti-Static ingredient to reduce formation of dust on records. Record Brush clips to tone-arm of phono and sweeps dust from records automatically. (Not illus.) #PC-2.....List \$1.15

**MULTI-PAK OF TWO "MIRACLE" RECORD CLOTHS AND 45 RPM SPINDLE ADAPTOR.** Cloths have special Anti-Static ingredient to reduce dust formation and clean records. Plastic conical spindle adaptor permits easy loading of 45 RPM records. (Not illus.) #PC-4.....List \$1.15

**18. MULTI-PAK OF THREE HI-FI/STEREO RECORD CLEANING CLOTHS.** Special Anti-Static ingredient reduces dust formation on records. #PC-3.....List \$1.15

**19. MULTI-PAK OF 50 RECORD SPIDERS.** Reusable, hi-impact plastic adaptors. Easy insertion in 45 RPM records. #PRA-50.....List \$1.15

**20. HI-FI STOP-O-MATIC.** Changer and amplifier plug into outlets of the Stop-O-Matic. Permits you to fall asleep to your favorite music without "burning-up" equipment. Automatically turns off amplifiers when last record has played and automatic changer stops. Switch control permits use of amplifier without changer. Two models. Size: 6" x 2" x 1½".

#PS-1 requires minimum of 10 watts to operate. For European changers, Garrard, Collaro, Thorens, etc.....List \$11.50

#PS-2 requires minimum of 25 watts to operate. For U.S. made changers, Webcor, etc.....List \$11.50

**CHANGER AND TURNTABLE COVERS.** Heavy gauge plastic. Fits nearly all models. Protects changer from dust and moisture. (Not illus.)

CHANGER COVERS	List	TURNTABLE COVERS	List
#PJ-1 13" x 13½" x 8"	\$2.15	#PJ-3 22" x 16½" x 9"	\$2.65
#PJ-2 12½" x 15" x 8"	2.15	#PJ-4 17¼" x 17½" x 9"	2.65
#PJ-5 17" x 15" x 8¾"	2.65		

**ISOLATION PAD FOR RECORD CHANGER.** Absorbs vibration, minimizes acoustic feedback, reduces excessive noise and rumble. Use for recorders, TV chassis, test equipment, typewriters, duplicating equipment, etc. 13¾" x 16" resilient foam rubber pad backed by durable fabric. (Not illus.) #PG-16.....List \$2.00

**ACOUSTIC FIBERGLASS INSULATION.** Line speaker cabinets, record changers, tape decks, etc. 36" x 36" x 1". Damps "boom" and distortion causing standing waves inside speaker enclosures. (Not illus.) #PG-9.....List \$2.25

**DELUXE ALUMINUM COMPONENT SLIDES.** Easy to install. For record changers and other equipment, cabinet drawers, etc. Supports up to 30 lbs. Length is 13". Travel 14". Ball bearing action for smooth sliding. (Not illus.) #MS-13 Pair.....List \$5.50

**21. HEAVY GAUGE STEEL COMPONENT SLIDES.** Ball bearing action. Supports up to 75 lbs.

#MS-15 Lgth.: 13". Travel lgth. 9". Extends to 21". Pair. ....List \$3.75  
#MS-17 Lgth.: 13". Travel lgth. 11". Extends to 22½". Pair. List \$3.75



17.



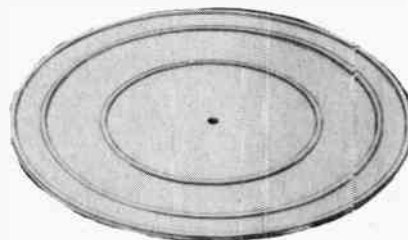
13.



18.



19.



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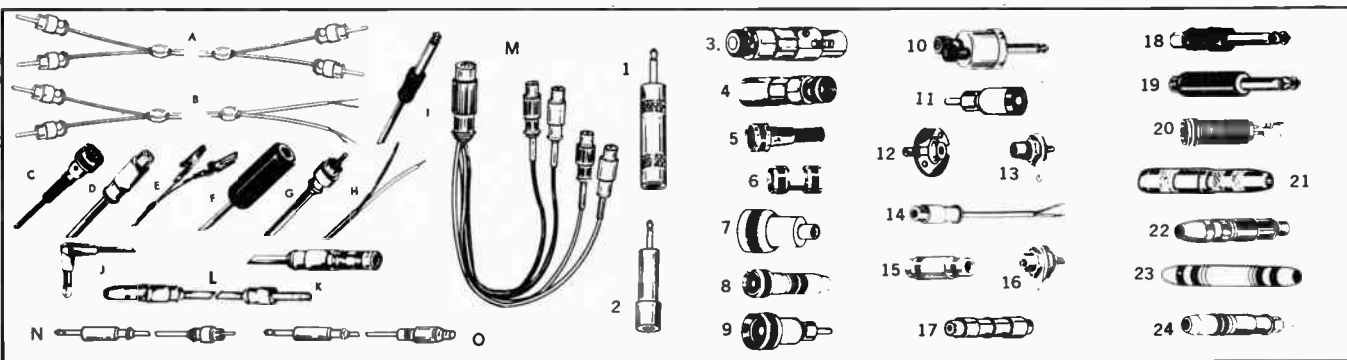


20.



21.

# ROBINS® PATCH CORDS AND ADAPTORS



### STEREO CABLE ASSEMBLIES

Fig.	Cat. No.	Length	List	Fig.	Cat. No.	Length	List
A	SMM-36	36"	\$3.45	B	SMS-36	36"	\$3.10
A	SMM-72	72"	4.05	B	SMS-72	72"	3.45
A	SMM-120	120"	4.85	B	SMS-120	120"	4.05

L—SJT-300 Stereo extension cable. Phono plug (3 cond.) to extension jack (3 cond.) 25 ft. shielded cable. For Stereo headphones and other Stereo adaptations. List \$10.55

M—AS-8 Stereo Adaptor Cable, 5 pin European plug, two 1 ft. lengths of shielded cable to 4 connectors. Color coded for connection. Plugs into European 5 pin sockets of Norelco, Korling, Grundig, Elber, and Sony tape recorders, Grundig radios, models SO-240U, TM-42, TM-45, and many others. Use to interconnect preamps and crystal or ceramic high impeded phono cartridges to imported tape recorders. List \$6.60

### MOLDED CABLE ASSEMBLIES

Cat. No.	Adaptor at One End		Length in inches	List	Cat. No.	Adaptor at One End		Length in inches	List
	Fig.	Fig.				Fig.	Fig.		
BS-120	C	H	120"	\$2.50	MS-72	G	H	72"	\$1.50
FF-72	D	D	72"	2.15	MS-120	G	H	120"	1.90
MC-120	G	E	120"	2.45	MT-72	G	I	72"	2.40
MF-18	G	D	18"	1.35	MT-120	G	I	120"	2.95
MF-36	G	D	36"	1.60	TC-72	I	E	72"	2.10
MF-72	G	D	72"	1.95	TC-120	I	E	120"	2.65
MF-120	G	H	120"	2.35	TJ-72	I	D	72"	2.40
MJ-72	G	F	72"	3.15	TJ-120	I	F	120"	3.95
MM-18	G	G	18"	1.10	TS-72	I	H	72"	1.90
MM-36	G	G	36"	1.30	TS-120	I	H	120"	2.50
MM-72	G	G	72"	1.65	TT-72	I	I	72"	2.80
MM-120	G	G	120"	2.15	TT-120	I	I	120"	3.80
MS-18	G	H	18"	.85	XJ-180	J	K	180"	6.00
MS-36	G	H	36"	1.10	XM-120	I	G	120"	4.35

N—AC-32-6 Straight Tini-Plug to Straight Phono Plug; 2-Cond. 6 ft. shielded cable. List \$2.90

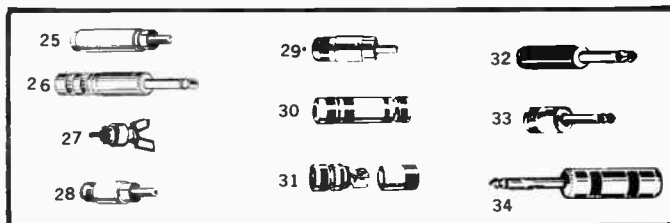
O—AC-34-6 Straight Tini-Plug to Tini-Extension Jack; 2-Cond. 6 ft. shielded cable. List \$3.15

### ADAPTORS

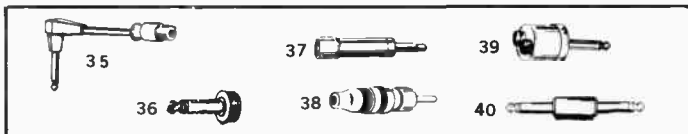
Fig.	Cat. No.	Description	List
1.	AA-66	Adapts standard Phone-Plug to "Tini-Jax" Phone Jack	\$ 2.10
2.	AA-68	Adapts standard Phono Plug to "Micro-Jax" Phone Jack	1.85
3.	AC-1	2-Cond. has input connector (#D-2), output connector, with unsoldered internal wire permitting connection to terminal	3.45
4.	AC-2	Female Mic. Connect. to input Connect.	3.45
5.	B-1	Microphone Connector, female	.90
6.	BB-1	Mic. Connect., double female, for connecting 2 cables with male connectors	1.70
7.	BF-1	Phono Jack input to female Mic. Connect. output Outside dia. main body—1/2"	1.55
8.	BJ-1	2-Cond. Phone Jack input to female Mic. output. Removeable coupler ring, converts connector to male type. Body O.D. 1/2"	2.20
9.	BP-1	Phono Plug—female microphone connector	1.40
10.	BPJT-1	Binding Post, dual purpose, Banana Jack input to Phone plug output	3.35
11.	DP-1	Phono Plug—male Mic. Connector	1.30
12.	F-1	Phono Jack. Pkg. of 3	.85
13.	F-2	Phono Jack—back of panel mount. 2-Cond.	1.05
14.	F-3	2-Cond., long handle, Phono Jack to 3" shld'd cable. Converts screw or solder type terminals to std. Phono Jack. Mates with #M-2 adaptor.	2.00
15.	F-4	Phono Extension Jack, removeable handle, shld'd. cable clamp	1.60

### ADAPTORS

Fig.	Cat. No.	Description	List
16.	F-5	RF Phono Jack for front of panel mount	\$1.35
17.	FF-1	Phono Plug to Phono Plug	1.20
18.	FT-1	Phono Plug Output—Phono Jack input	1.50
19.	FTR-1	Phone Adapt., female Phono Jack end of handle. Has internal resistor circuit for connection between crystal phono pickup or radio or TV set and input of tape recorder. May be used as adaptor with magnetic phono by opening plug and twisting leads of resistor together	2.15
20.	J-1	Phone Jack w/long bushing. Mounts in panels up to 1/4" thick. Mates with "Littel plugs." Ideal for Mic. Connector. 2-Cond.	1.75
21.	J-2	1/4" 2-Cond. Extension Phone Jack with Solder Terminals. Completely shielded	2.20
20.	J-3	Same as J-1, except 3-Cond.	2.00
22.	JF-1	2-Cond. Phone Jack input to Phono Jack output	2.05



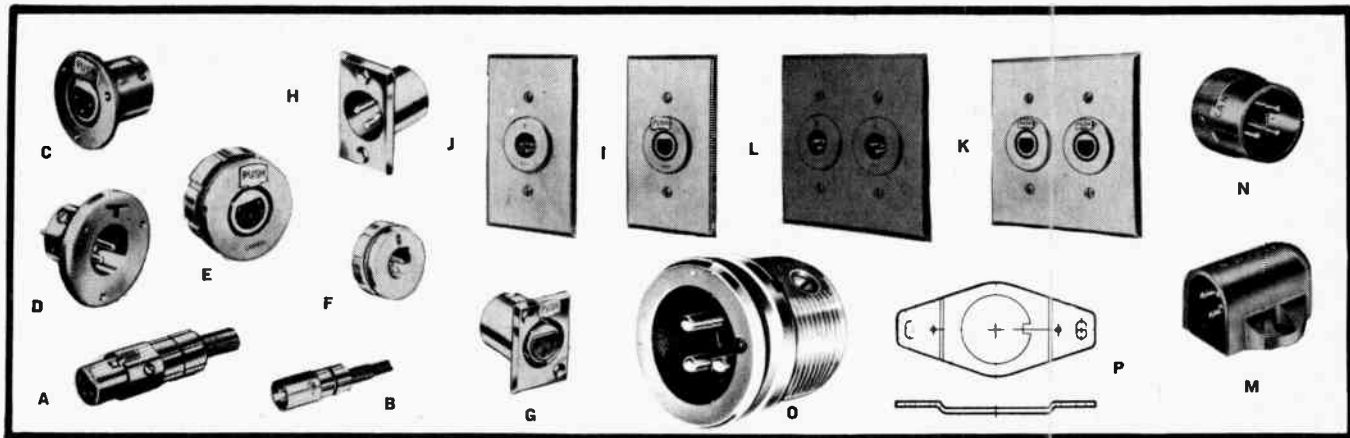
23.	JJ-1	Coupler. 2-cond. Phone Jack each end. Connects 2 cables having phone plug terminations	2.90
23.	JJ-3	Same as JJ-1, except 3-Cond.	3.45
24.	JM-1	2-Cond. Phone Jack input to Phono Plug output	2.05
25.	JM-2	Compact Adapt., Phono Jack input to Phono Plug output, connects Ceramic Phono Cartridge to audio amplifier which was designed for magnetic cartridge	3.65
26.	JR-1	Std. 2-Cond. Phone Plug to 2-cond. short extension Jack. Use with late models Revere and Wollensak recorders	2.55
27.	M-1	Phono Plug. Pkg. of 4	.65
28.	M-2	Phono Plug, 2-Cond. w/long screw-on handle. Cable clamp	1.30
29.	RF-1	RF Plug, 2-cond. long screw on handle, cable clamp	.90
30.	SC-1	Straight Connect. w/2 screw terminals. Single contact female, 2-piece handle w/built-in cable clamp. Connects cable with stripped ends without solder.	3.05
31.	SC-2	Straight Connect., same as SC-1, short handle, no cable clamp	2.20
32.	T-1	Phone Plug	.90
33.	T-1S	"Silent Phone Plug", 2-cond. w/1" lgth. shld'd. Phenolic handle. Features circuit closing device when plug is removed. Ideal for use with musical instruments.	2.65
34.	T-3	1/4" Phone Plug, 3-cond with Solder Terminals, shld'd. Metal Handle	2.20
35.	TAF-1	Phone Plug, right angle, 2-cond. w/long handle molded to 2" shld'd. cable. Adapts Phone Jack to Phono Plugs	2.10
36.	TD-1	Mic. input, male to Phone Plug output	1.40
37.	TJF-1	Std. Phono Plug to "Tini-Plug" (3/16") output	1.55
38.	TJM-1	2-Cond. "Tini-Jack" input to Phono Plug output	1.75
39.	TJT-1	Tip Jack input to Phone Plug output	3.05
40.	TTS-2	Coupler, 2-Cond. Phone Plugs connect 2 assemblies having extension Jack terminations	2.20





**XL\* AUDIO AND ELECTRONIC CONNECTORS**

**ROBINS®**



**INTERCHANGEABLE WITH AND MATE WITH CANNON XLP AND XLR CONNECTORS. STRAIGHT CORD PLUG.** Cable relief spring entry. Zinc alloy shell, Phenolic insulator. Satin Nickel finish.

**Fig. A SOCKET CONTACTS - Latch Lock.**  
 #XL-3-11\* 3 Contacts. List \$2.30  
 #XL-4-11\* 4 Contacts. List 3.10

**Fig. B PIN CONTACTS**  
 #XL-3-12\* 3 Contacts. List \$2.20  
 #XL-4-12\* 4 Contacts. List 2.90

**RECEPTACLE.** Wall mount. Has mounting holes. Zinc alloy shell, Phenolic insulator. Satin Nickel finish.

**Fig. C-SOCKET CONTACTS - Latch Lock.**  
 #XL-3-13\* 3 Contacts. List \$2.30  
 #XL-4-13\* 4 Contacts. List 3.10

**Fig. D PIN CONTACTS**  
 #XL-3-14\* 3 Contacts. List \$1.80  
 #XL-4-14\* 4 Contacts. List 2.50

**RECEPTACLE.** Panel mount. The mounting nut accommodates 1/2" Panel. Reversing the nut permits mounting on panel up to 3/8" thick. Zinc alloy shell. Satin Nickel finish.

**Fig. E SOCKET CONTACTS - Latch Lock.**  
 #XL-3-13N\* 3 Contacts .....List \$2.50

**Fig. F PIN CONTACTS**  
 #XL-3-14N\* 3 Contacts .....List \$2.50  
 #XL-4-14N\* 4 Contacts .....List 3.15

**RECEPTACLE.** Wall mount. Compact rectangular flange saves mounting space. Zinc alloy shell. Satin Nickel finish.

**Fig. G. SOCKET CONTACTS - Latch lock.**  
 #XL-3-31\* 3 Contacts. List \$2.50  
 #XL-4-31\* 4 Contacts. List 3.40

**Fig. H PIN CONTACTS**  
 #XL-3-32\* 3 Contacts. List \$1.90  
 #XL-4-32\* 4 Contacts. List 2.50

**SINGLE GANG RECEPTACLE.** Wall Mount. Consists of XL-3-13N Socket Receptacle and mounting bracket XLMB-1 assembled to wall plate.  
 Fig. I #XL-3-35\* 3 SOCKET CONTACTS-Latch Lock....List \$5.50

**SINGLE GANG RECEPTACLE.** Wall mount. Consists of XL-()14N Pin Receptacle and mounting bracket XLMB-1 assembled to wall plate.

Fig. J #XL-3-36\* 3 PIN CONTACTS.....List \$5.50  
 #XL-4-36\* 4 PIN CONTACTS.....List 7.00

**TWO GANG RECEPTACLE.** Wall mount. Consists of 2 XL-3-13N Socket Receptacles and 2 mounting brackets XLMB-1 assembled to double wall plate.

Fig. K #XL-3-35-2G\* 3 SOCKET CONTACTS-Latch Lock. List \$11.00

**TWO GANG RECEPTACLE.** Wall mount. Consists of 2 XL-()14N and 2 mounting brackets XLMB-1 assembled to double wall plate.

Fig. L #XL-3-36-2G\* 3 PIN CONTACTS.....List \$11.00  
 #XL-4-36-2G\* 4 PIN CONTACTS.....List 14.05

**RECEPTACLE.** Microphone or 90° mounting receptacle. Two mounting holes. Removable insert for soldering, inspection, etc. Zinc alloy shell. Satin Nickel finish.

Fig. M #XL-3-42\* 3 PIN CONTACTS.....List \$2.40  
 #XL-4-42\* 4 PIN CONTACTS.....List 3.05

**ADAPTOR RECEPTACLE.** Mounts directly in or on to microphone and other units or surfaces where they can be adequately supported. Threads to mate into unit of equipment. Satin Nickel finish.

Fig. N #XL-3-50T 3 PIN CONTACTS.....List \$3.05

**BULKHEAD MOUNTING RECEPTACLE.** Panel mount. Compact. Five flush mount appearance. Mounts up to 1/2" thick panel. Zinc alloy shell. Satin Nickel finish.

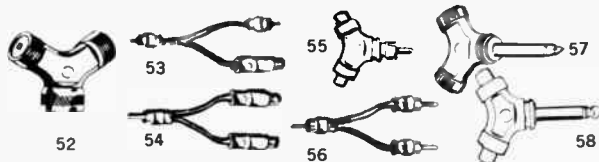
Fig. O #XL-3-52\* 3 PIN CONTACTS #XL-4-52\* 4 PIN CONTACTS  
**MOUNTING BRACKET.** XL-()13N and XL-()14N Receptacles can be installed in the floor or at other convenient locations using this bracket for mounting receptacles in a Russel and Stoll Box 2503 and other boxes.  
 Fig. P #XLMB-1\*.....List \$1.10

Prices are subject to change without notice.

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 ®"CANNON" IS A TRADEMARK REGISTERED IN THE U.S. PATENT OFFICE AND IN OTHER COUNTRIES BY CANNON ELECTRIC CO.  
**XL INSERTS ONLY. FOR SPECIAL APPLICATIONS ARE AVAILABLE ON SPECIAL ORDER.**

"Y" ADAPTORS-Phono Jack and Plug type, Microphone Connectors.

52. YBDD-1 Light weight die cast, connects 2 cables (with std. mic. connectors) in parallel to one single connector 2.10



- 53. YFMM-1 1 Phono Plug connect. in parallel to 1 Phono Jack and 1 Phono Plug., shielded cable, 4" length ..... 2.50
- 54. YMFF-1 Phono Plug connect. to 2 Phono Jacks, 4" shld'd. cable ..... 2.50
- 55. YMFF-2 2 Phono Jacks connect. in parallel to std. Phono Plug ..... 2.15
- 56. YMMM-1 3 Phono Plugs connect. together. 4" shld'd. cable. .... 2.60
- 57. YTDD-1 2 male Mic. Connectors connected in parallel to std. 2-cond. Phone Plug ..... 2.40
- 58. YTFF-1 2 Phono Jacks connect. in parallel to std. 2-cond. Phone Plug ..... 2.40

**FM INDOOR ANTENNA-FOLDED DIPOLE.** Eliminates need for outdoor antenna in most locations. Easily concealed under rug or back of cabinet. (Not illus.) # MA-1 .....List \$2.00



**ROBINS IS YOUR ONLY COMPLETE SOURCE FOR QUALITY AMERICAN MADE RECORDING TAPE, TAPE ACCESSORIES, PHONO ACCESSORIES, PATCH CORDS AND ADAPTORS, AND XL AUDIO CONNECTORS, (made in Australia).**

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"Gibson Girl" Tape Splicers are made under one or more of the following patents: 2,778,420; 3,077,808; 3,043,364; 3,050,184; D196,154; 3,110,210; 2,991,955.

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## SONOTONE®

## REPLACEMENT CARTRIDGES



**VELOCITONE MARK V SOLID STATE HIGH COMPLIANCE STEREO.** Low stylus mass for improved tracking in professional tonearms, changers. New elliptical stylus for improved tracking force; also .7-mil, .5-mil diamond needles. Plug-in type matched equalizers permit direct feed into magnetic phono input of any stereo preamp. Universal terminal plug. Sono-Flex® needle.

**SPECIFICATIONS:** Response: 20 to 20,000 cps; Output Voltage: 6mv (with equalizers); Compliance: 15 x 10<sup>-4</sup> cm/dyne; Channel Separation: 27 db; Tracking force: 1 gram for high quality arms; 1.5-2.5 grams for changers. 100T-D7V diamond, net \$15.30; 100T-D5V diamond, net \$15.90; 100T-DEV diamond, net \$17.10.



**VELOCITONE MARK IV HIGH COMPLIANCE CERAMIC STEREO.** For professional tonearms and changers. High compliance, increased tracking ability. Matched equalizers feed directly into magnetic phono input of any stereo preamp. Universal terminal plug for fast, easy replacement. Sono-Flex needle.

**SPECIFICATIONS:** Response: 20 to 20,000 cps (±2 db to 17,000 cps); Output Voltage: 7mv (with equalizers); Compliance: 15 x 10<sup>-4</sup> cm/dyne; Channel Separation: 30 db; Tracking Force: 1.5-3 grams for professional arms; 3-4 grams for changers. 9TAFHC-SDV diamond/sapphire, net \$13.89. 9TAFHC-D77V dual diamond, net \$16.65.

**HIGH COMPLIANCE CERAMIC STEREO MODEL 9TAFHC.** Low stylus mass and high compliance for flawless, hum-free reproduction of stereo and mono records. New universal tonearm terminal plug. Sono-Flex needle.

**SPECIFICATIONS:** Response: 20 to 20,000 cps (±2 db to 17,000 cps); Output Voltage: 0.2 volt; Compliance: 15 x 10<sup>-4</sup> cm/dyne; Channel Separation: 30 db; Tracking Force: 1.5-3 grams for professional arms; 3-4 grams for changers. 9TAFHC-S dual sapphire, net \$7.04; 9TAFHC-SD diamond/sapphire, net \$9.07; 9TAFHC-D77 dual diamond, net \$9.88.

**MODEL 9TAF.** Features Sono-Flex needle. Ceramic stereo cartridge with low stylus mass and high compliance for flawless, hum-free reproduction. New universal tonearm terminal plug.

**SPECIFICATIONS:** Response: 20 to 20,000 cps ±2 db; Output Voltage: 0.4 volt; Compliance: 5.5; Channel Separation: 30 db; Tracking Force: 2-4 grams for professional arms; 3-5 grams for changers. 9TAF-S dual sapphire, net \$6.67; 9TAF-S77 dual sapphire, net \$6.67; 9TAF-SD sapphire/diamond, net \$8.74; 9TAF-D77 dual diamond, net \$9.50.



**MODEL 21T STEREO CERAMIC.** Complete with standard mounting bracket. Extra protection buttons to protect record and needle assembly. High output voltage. Sono-Flex needle. Available in 21TR. New, safe, retractable mounting bracket.

21TR equipped with retractable mounting bracket. Response: Entire audio range; Output Voltage: 0.6 volt; Compliance: 5.5 x 10<sup>-4</sup> cm/dyne; Channel Separation: 21 db; Tracking Force: 4-7 grams. 21TR-S dual sapphire, net \$5.24; 21T-S dual sapphire, net \$4.90; 21TR-S77 dual sapphire, net \$5.24; 21T-S77 dual sapphire, net \$4.90; 21TR-SD diamond/sapphire, net \$7.32; 21T-SD diamond/sapphire, net \$6.98.

**MODEL 22T HIGH COMPLIANCE STEREO CERAMIC.** New standard mounting bracket permits easy installation and servicing. Once installed, it snaps in and out of mounted bracket. Fits standard tonearms designed for many cross-reference replacements. Sono-Flex needle.

22T equipped with snap-in mounting bracket. Available in 22TR. New, safe, retractable mounting bracket. Response: Entire audio range; Output Voltage: 0.3 volt; Compliance: 10 x 10<sup>-4</sup> cm/dyne; Channel Separation: 24 db; Tracking Force: 2-4 grams. 22T-S dual sapphire, net \$5.24; 22T-S77 dual sapphire, net \$5.24; 22T-SD diamond/sapphire, net \$7.32; 22TR-S dual sapphire, net \$5.55; 22TR-S77 dual sapphire, net \$5.55; 22TR-SD diamond/sapphire, net \$7.62.

**MODEL 23T HIGH COMPLIANCE STEREO CERAMIC.** High compliance, high output voltage, standard snap-in mounting brackets and protective "bottoming" buttons. 23T equipped with snap-in mounting bracket. Response: Entire audio range; Output Voltage: 0.4 volt; Compliance: 10 x 10<sup>-4</sup> cm/dyne; Channel Separation: 26 db; Tracking Force: 2-4 grams. 23T-S dual sapphire, net \$5.78; 23T-S77 dual sapphire, net \$5.78; 23T-SD diamond/sapphire, net \$7.65.

**MODEL 24T.** For transistorized amplifiers. Rugged stereo ceramic cartridge. Available with a standard mounting bracket for fast, trouble-free servicing. Sono-Flex needle 4500 pf capacitance.

**SPECIFICATIONS:** Response: Smooth over entire audio range; Output Voltage: 0.25 volt; Compliance: 4.0 x 10<sup>-4</sup> cm/dyne; Channel Separation: 21.0 db; Tracking Force: 4-7 grams. 24T-S dual sapphire, net \$6.30; 24T-S77 dual sapphire, net \$6.30; 24T-SD diamond/sapphire, net \$8.37.

**SPECIFICATIONS:** Transistor applications 31TA: Response: Smooth over entire audio range; Output Voltage: 0.2 volt; Compliance: 3 x 10<sup>-4</sup> cm/dyne; Channel Separation: 24 db; Tracking Force: 4 to 7 grams; Capacitance: 5700 pf. 31TA-S dual sapphire, net \$6.30; 31TA-S77 dual sapphire, net \$6.30; 31TA-SD diamond/sapphire, net \$8.37.



**MODELS 25T, 26T, 28T, 32T, 39T MICRO-CERAMICS.** For lightweight tonearms. New, tiny, high compliance cartridges designed for low-mass, tubular tonearms. Just 1" end to end—weighs only one gram. Tracks light, responds smoothly and separation is sharp, definite. Standard mounting brackets permit easy updating of any two-hole boss mounting type arms. Sono-Flex needle. Model 27T for transistorized applications. 4100 pf capacitance.

**SPECIFICATIONS:** High compliance 25T: Response: Smooth over the entire audio range; Output Voltage: 0.5 volt; Compliance: 15.0 x 10<sup>-4</sup> cm/dyne; Channel Separation: 24 db; Tracking Force: 1-3 grams. 25T-MB-S\* dual sapphire, net \$6.75; 25T-MB-S77\* dual sapphire, net \$6.75; 25T-MB-SD\* diamond/sapphire, net \$8.82.

**SPECIFICATIONS:** High output 26T: Response: Smooth over the entire audio range; Output Voltage: 0.2 volt; Compliance: 6.0 x 10<sup>-4</sup> cm/dyne; Channel Separation: 21 db; Tracking Force: 3-5 grams. 26T-MB-S\* dual sapphire, net \$6.75; 26T-MB-S77\* dual sapphire, net \$6.75; 26T-MB-SD\* diamond/sapphire, net \$8.82.

**SPECIFICATIONS:** 28T: Response: Smooth over the entire audio range; Output Voltage: 0.35 volt; Compliance: 9.0 x 10<sup>-4</sup> cm/dyne; Tracking Force: 2-4 grams; Separation: 22 db. 28T-MB-S\* dual sapphire, net \$6.75; 28T-MB-S77\* dual sapphire, net \$6.75; 28T-MB-SD\* diamond/sapphire, net \$8.82.

**SPECIFICATIONS:** Transistor applications 32T: Response: Smooth over the entire audio range; Output Voltage: 0.2 volt; Compliance: 3 x 10<sup>-4</sup> cm/dyne; Channel Separation: 21 db; Tracking Force: 4 to 7 grams; Capacitance: 6000 pf. 32T-MB-S\* dual sapphire, net \$7.20; 32T-MD-S77\* dual sapphire, net \$7.20; 32T-MD-SD\* diamond/sapphire, net \$9.27.

**MODEL 35T.** High output stereo cartridge for replacement in popular-priced transistorized and tube amplifiers. Available with standard mounting bracket. Sono-Flex needle.

**SPECIFICATIONS:** Response: Smooth over entire audio range; Output Voltage: 1.0 volt; Compliance: 1.5 x 10<sup>-4</sup> cm/dyne; Channel Separation: 20 db; Tracking Force: 6-8 grams. 850 pf capacitance. 35T-S dual sapphire, net \$7.20; 35T-S77 dual sapphire, net \$7.20; 35T-SD diamond/sapphire, net \$9.27.

**SPECIFICATIONS:** 39T: Response: Smooth over the entire audio range; Output Voltage: 0.37 volt; Compliance: 3 x 10<sup>-4</sup> cm/dyne; Channel Separation: 21 db; Tracking Force: 4 to 7 grams; Capacitance: 1850 pf. 39T-MB-S\* dual sapphire, net \$6.15; 39T-MB-S77\* dual sapphire, net \$6.15; 39T-MB-SD\* diamond/sapphire, net \$8.22.

\*MB—Metal Bracket. LB—Less Bracket.



**MODELS 16TAF and 18TA CERAMIC STEREO.** Remarkable quality.

**SPECIFICATIONS:** Response: 20 to 10,000 cps flat (±1 db with smooth rolloff to 20,000 cps); Output: 0.65 V (16TAF), 1.0 V (18TA); Channel Separation: 25 db; Tracking Force: 5-7 grams. 16TAF-S dual sapphire, net \$4.90; 16TAF-S77 dual sapphire, net \$4.90; 16TAF-SD diamond/sapphire, net \$6.98; 18TA-S dual sapphire, net \$4.52; 18TA-S77 dual sapphire, net \$4.52; 18TA-SD sapphire/diamond, net \$6.60.



**MODEL 8TA CERAMIC STEREO TURNOVER.** Protects the quality of hi-fi stereo phonographs of more than 30 leading manufacturers.

**SPECIFICATIONS:** Response: 20 to 20,000 cps (±2.5 db, 20 to 15,000 cps); Output Voltage: 0.3 volt; Compliance: 3.0 x 10<sup>-4</sup> cm/dyne; Channel Separation: 20 db; Tracking Force: 4-6 grams for changers; 3-5 grams for professional arms. 8TA4-S dual sapphire, net \$6.60; 8TA4-S77 dual sapphire, net \$6.60; 8TA4-SD diamond/sapphire, net \$8.68.

**MODEL 10T2 CERAMIC STEREO.** Excellent for converting to stereo or replacing old stereo cartridges. Easy conversion package includes "fuse clip" mounting bracket and "jack-in" terminal plug with electrical contacts.



**SPECIFICATIONS:** Response: 20 to 15,000 cps ±2.5 db; Output Voltage: 0.5 volt; Compliance: 1.5 x 10<sup>-4</sup> cm/dyne; Channel Separation: 18 db; Tracking Force: 5-7 grams. 10T2-S dual sapphire, net \$5.24; 10T2-S77 dual sapphire, net \$5.24; 10T2-SD diamond/sapphire, net \$7.32; 10T2-S77 diamond/sapphire, net \$7.32.



**MODEL 2TA CERAMIC MONO.** Also plays stereo records. Improved version of the famous Sonotone 2T series. New needle assembly, plus increased compliance and lower tracking force.

**SPECIFICATIONS:** Response: 20 to 20,000 cps (flat to 12,000); Output Voltage: 1.0 volt; Compliance: 2.0 x 10<sup>-4</sup> cm/dyne; Tracking Force: 6 grams. 2TA-S dual sapphire, net \$4.44; 2TA-LB-S\* dual sapphire, net \$4.64; 2TA-SD diamond/sapphire, net \$6.48; 2TA-LB-SD\* diamond/sapphire, net \$6.48.



**MODEL 3T CERAMIC MONO.** Original equipment in many top quality phonographs. Available with or without brackets.

**SPECIFICATIONS:** Response: 20 to 20,000 cps (flat to 15,000); Output Voltage: 0.5 volt; Compliance: 2.0 x 10<sup>-4</sup> (minimum); Tracking Force: 4-6 grams. 3T-LB-S\* and 3T-S dual sapphire, net \$5.84; 3T-LB-SD\* and 3T-SD diamond/sapphire, net \$7.92.



**MODEL 1P CERAMIC MONO.** Single needle. Selected by leading high fidelity phonograph manufacturers to protect quality of their products.

**SPECIFICATIONS:** Response: 20 to 20,000 cps (flat to 12,000); Output Voltage: 1.0 volt; Compliance: 1.0 x 10<sup>-4</sup> cm/dyne; Tracking Force: 8-10 grams. 1P-IS sapphire, net \$3.65; 1P-LB-25\* and 1P-2S sapphire, net \$3.65; 1P-LB-35\* and 1P-3S sapphire, net \$3.65; 1P-LB-1D\* and 1P-1D diamond, net \$5.72; 1P-LB-3D\* and 1P-3D diamond, net \$5.72.

\*LB—Less bracket.

#### NEW! SONO-FLEX® 4EEDLE

Flick it—bend it—knock it—it springs back, ready to play.

N-9916 F-S 0.7-mil sapphire	net \$2.88
N-9916 F-S77 dual 0.7-mil sapphire	net \$2.88
N-9916 F-SD 0.7-mil diamond, 3.0-mil sapphire	net \$2.83
N-9916 F-SD77 dual 0.7-mil diamond	net \$3.58
N-9916 HC-S etc. (for Mark IV or 9TAFHC units)	
N-1007D etc. (for Mark V units)	
N-9916 HCS	net \$2.26
N-9916 HCS77	net \$2.26
N-9916 HCSD	net \$3.82
N-9916 HCS77	net \$3.77

#### NEW MONO AND STEREO CRYSTAL CARTRIDGES

**MODEL 12THR CRYSTAL CARTRIDGE.** Economy priced stereo crystal cartridge. Complete with mounting bracket; Turnover needle assembly.

**SPECIFICATIONS:** Response: Entire audio range; Output Voltage: 2.5 volts. 12THR-S dual sapphire, net \$4.77.

**MODEL 14T MONO CRYSTAL CARTRIDGE.** Direct replacement for thousands of Ronette and Vaco mono cartridges now on the market. Also replaces other cartridges of this type. Turnover type cartridge for LP, 45 and 78 records.

**SPECIFICATIONS:** Response: Entire audio range; Output Voltage: 3.6 volts. 14T-S dual sapphire, net \$1.88; 14TLB-S\* dual sapphire, net \$1.70.

**MODEL 15T MONO CRYSTAL CARTRIDGE.** High output crystal cartridge for mono replacements. Has standard type turnover (leverarm) mechanical features for replacement of boss mounted turnover type cartridges. Plays LP, 45 and 78 records.

**SPECIFICATIONS:** Response: Entire audio range; Output Voltage: 3.6 volts. 15T-S dual sapphire, net \$1.88.

**MODEL 19T2 STEREO CRYSTAL CARTRIDGE.** Has standard turnover (leverarm) mechanical features for replacement of boss mounted turnover type cartridges. Plays LP, 45 and 78 records.

**SPECIFICATIONS:** Response: Entire audio range; Output Voltage: 2 volts. 19T2-S dual sapphire, net \$2.64.

**MODEL 20T1 STEREO CRYSTAL CARTRIDGE.** Complete with mounting bracket. Turnover type cartridge for LP, 45 and 78's. Replacement for Ronette and Vaco. Without bracket. Model 20TL3.

**SPECIFICATIONS:** Response: Entire audio range; Output Voltage: 1.0 volt. Far 2-volt order Model 20T2: 20T1-S dual sapphire, net \$2.64; 20T-LB-S\*, net \$2.45; 20T2-S dual sapphire, net \$2.64; 20T2-LB-S\*, net \$2.45.



#### SLIM MANUAL TONEARM COMPLETE WITH CRYSTAL CARTRIDGE

- Prewired ready to use
- Spring mounting post
- Shielded cable
- Packaged with installation hardware


#### STEREO AND MONO

**STEREO T20T1-S.** Complete with 20T1 stereo crystal cartridge. Net \$3.40. **T20T2-S.** Complete with 20T2 stereo crystal cartridge. Net \$3.40. **MONO T14T-S.** Complete with 14T mono crystal cartridge. Net \$2.64.

\*LB—Less bracket.



# Walsco PHONO DRIVES

 <p><b>NEW IDLER WHEEL—1 1/8" D.D.</b> For use with RCA model 8TR-2/3 record changer. No. 1427-02 ..... Net 2.93</p>	 <p><b>IDLER WHEEL—1.9/16" O.D.</b> For use with VM Models 920 and 990, and Silvertone record changers No. 1452. .... Net 1.80</p>	 <p><b>IDLER WHEEL 1-3/16" O.D.</b> For use on VM models in the 1223 series, 314, 804. .... Net 1.60</p>	 <p><b>PRESSURE ROLLER 1-1/8" O.D.</b> For use on Recordio Models R-603. No. 1488-03. .... Net 2.60</p>
 <p><b>IDLER WHEEL — 2 1/4" O.D.</b> With bushing. Use on Gen. Ind., Seeburg, and other record players. No. 1430. .... Net 1.90</p>	 <p><b>IDLER WHEEL—1-11/32" D.D.</b> This is a molded rubber wheel for use on RCA Series RP-199 record changers. No. 1454. .... Net 3.40</p>	 <p><b>IDLER WHEEL—1-3/16" O.D.</b> For use on Norelco model AG1015. No. 1499-08. .... Net 2.80</p>	 <p><b>PRESSURE ROLLER 1-1/16" O.D.</b> For use on Knight Model KN4200. No. 1499-03. .... Net 2.25</p>
 <p><b>IDLER WHEEL — 2 1/4" O.D.</b> Used on Webcor model J10 record players. Replaces manufacturer's part number 45P1530. No. 1431. .... Net 2.82</p>	 <p><b>IDLER WHEEL — 1" O.D.</b> For use with all Zenith Cobra-Matic record changers. No. 1459. .... Net 3.23</p>	 <p><b>IDLER WHEEL—1-5/8" D.D.</b> For use on VM Model 1551. No. 1499-09. .... Net 2.08</p>	 <p><b>PRESSURE ROLLER 1-1/4" O.D.</b> For use on Webcor Models 2200-1. No. 1499-04. .... Net 2.78</p>
 <p><b>IDLER WHEEL — 2" O.D.</b> Use on Admiral, Columbia, Crescent, G.E., Motorola, Philco, RCA, Seeburg, Silvertone, VM. No. 1432 Bushing I.D. .... Net 1.00</p>	 <p><b>IDLER WHEEL—2-7/16" O.D.</b> For use on Zenith Models 169-128, 169-129. No. 1459-01. .... Net 4.92</p>	 <p><b>IDLER WHEEL—2 1/2" O.D.</b> For use on B.S.R. model TF-2. No. 1499-12. .... Net 2.77</p>	 <p><b>PRESSURE ROLLER 1/2" O.D.</b> For use on RCA Models 1YB26, 1YC11. No. 1499-05. .... Net 2.63</p>
 <p><b>IDLER WHEEL — 2" O.D.</b> With bushing. Use on VM and G.E. No. 1433. .... Net 1.17</p>	 <p><b>IDLER WHEEL — 2" O.D.</b> Universal type—for use on most low cost record changers. No. 1472-01. .... Net 2.03</p>	 <p><b>IDLER WHEEL—1-3/4" O.D.</b> For use on Webcor Models 2200-1. No. 1499-13. .... Net 3.73</p>	 <p><b>PRESSURE ROLLER 7/8" O.D.</b> For use on VM Models 730. No. 1499-06. .... Net 1.92</p>
 <p><b>IDLER WHEEL — 2" O.D.</b> With shaft. Use on Admiral, Crescent, Motorola, Philco, RCA, Seeburg, Silvertone and VM. No. 1434. .... Net 1.60</p>	 <p><b>IDLER WHEEL — 2" O.D.</b> Used on certain Eicor Tape recorders and Silvertone record changers. No. 1475. .... Net 2.40</p>	 <p><b>IDLER WHEEL—1-19/32" O.D.</b> For use on B.S.R. A101623. Shaft dia. .1507". No. 1499-34. .... Net 1.50</p>	 <p><b>PRESSURE ROLLER 1-1/8" O.D.</b> For use on Airline Models A625, GPL382A, GP1382BA, Westinghouse H-21R, H-24RS, H-22RS. No. 1499-07. .... Net 2.42</p>
 <p><b>IDLER WHEEL — 2" O.D.</b> With bushing. Use on Milwaukee Stamping, Philco, Zenith and Westinghouse. No. 1435. .... Net 1.50</p>	 <p><b>SECOND REWIND IDLER 1-11/16" D.D.</b> For use on Traveller models TT-5925, TT 595. No. 1475-01. .... Net 2.63</p>	 <p><b>IDLER WHEEL — 2" O.D.</b> For use on G.E. model EA80X61. Shaft dia. .1253". No. 1499-35. .... Net 2.50</p>	 <p><b>PRESSURE ROLLER 5/8" O.D.</b> For use on B. S. R. Model TD-2. No. 1499-11. .... Net 2.11</p>
 <p><b>IDLER WHEEL—2-1/8" O.D.</b> With bushing. Used on G.E. Motorola, Philco, Webcor. Similar to Item No. 1440 but has .160" tire thickness. No. 1437. .... Net 1.67</p>	 <p><b>TAKE-UP IDLER 1-11/16" O.D.</b> For use on Bell &amp; Howell models 785-4TS, 785, 785-C, 785-L, 785-X. No. 1475-02. .... Net 1.73</p>	 <p><b>PRESSURE ROLLER 27/32" O.D.</b> For use with Wollensak T1500 series and Revere models 202, 204, T7000, TR8000, T1100, T1120, TR1200. No. 1427-01. .... Net 1.90</p>	 <p><b>PRESSURE ROLLER 1-9/16" O.D.</b> For use on Roberts 40-K48. Shaft dia. .2257". No. 1599-25. .... Net 3.20</p>
 <p><b>IDLER WHEEL—2-1/8" O.D.</b> With bushing. Used on Columbia, G.E., Motorola, Webcor. No. 1438. .... Net 2.07</p>	 <p><b>IDLER WHEEL—2 1/4" O.D.</b> For use on Garrard RC-83, RC-98 and RC-121 4-speed changers. And RC-88, RC-98 3-speed changers Model "T", Mark II. No. 1479. .... Net 2.99</p>	 <p><b>PRESSURE ROLLER 27/32" O.D.</b> For use with Wollensak model T1600 record changer. No. 1428-01. .... Net 1.88</p>	 <p><b>TURRET DRIVE</b> For use on Crescent, G.E., Motorola, RCA, VM, etc. 78 RPM. No. 1460. .... Net 1.55</p>
 <p><b>IDLER WHEEL—2-1/8" O.D.</b> Comes with bushing. Similar to Item No. 1437 but has .140" tire thickness at the outer edge. Use on Webcor Model 1135 record changer. No. 1440. .... Net 1.75</p>	 <p><b>COLLARO IDLER WHEEL</b> For use with Collaro Models TC-340, TSC-640, and TSC-740. No. 1480-01. .... Net 2.58</p>	 <p><b>PRESSURE ROLLER 7/8" O.D.</b> For use with certain Webcor tape recorders. No. 1455. .... Net 2.42</p>	 <p><b>TURRET DRIVE</b> For use on Crescent, G.E., Motorola, RCA, VM, etc. 45 RPM. No. 1461. .... Net 1.65</p>
 <p><b>IDLER WHEEL — 2" O.D.</b> With bushing. For use on Webcor. Model 1134, 1136, 1151, 1121-1. No. 1439. .... Net 1.88</p>	 <p><b>IDLER WHEEL — 2" D.D.</b> For use with certain Pentron tape recorders. No. 1483. .... Net 2.65</p>	 <p><b>PRESSURE ROLLER 13/16" D.D.</b> For use on Webcor models EP2104. No. 1455-01. .... Net 1.92</p>	 <p><b>TURRET DRIVE</b> For use on Crescent, G.E., Motorola, RCA, VM, etc. 33-1/3 RPM. No. 1462. .... Net 1.80</p>
 <p><b>IDLER WHEEL—2-1/8" O.D.</b> Use on most Webcor tape recorders. No. 1441. .... Net 3.60</p>	 <p><b>REWIND DRIVE IDLER 2-1/8" O.D.</b> For use on Bell &amp; Howell models 785-4TS, 785-C, 785, 785-L, 785-X. No. 1483-02. .... Net 2.50</p>	 <p><b>PRESSURE ROLLER 3/4" O.D.</b> For certain RCA &amp; Wilcox-Gay tape recorders. No. 1457. .... Net 1.75</p>	 <p><b>TURRET DRIVE</b> For use on G.E. and Webcor changers. 78 RPM. No. 1463. .... Net 2.32</p>
 <p><b>GLASER-STEERS IDLER WHEEL</b> For use with Glaser-Steers Models GS-77, and 4-pole motors. No. 1442-02. .... Net 7.33</p>	 <p><b>FAST FORWARD IDLER 2-1/16" O.D.</b> For use on Bell &amp; Howell Models 785-4TS, 785, 785-C, 785-L, 785-X. No. 1483-03. .... Net 2.75</p>	 <p><b>PRESSURE ROLLER 3/4" O.D.</b> For use with VM Model 700, 701, 710, 711, 714 tape recorders. No. 1458. .... Net 1.75</p>	 <p><b>TURRET DRIVE</b> For use on G.E. and Webcor changers. 45 RPM. No. 1464. .... Net 2.38</p>
 <p><b>GLASER-STEERS IDLER WHEEL</b> For use with Glaser-Steers 2-pole motors. No. 1442-03. .... Net 7.20</p>	 <p><b>IDLER WHEEL—1-11/16" O.D.</b> For use on Bell &amp; Howell Models 785-4TS, 785, 785-C, 785-L, 785-X. No. 1483-03. .... Net 2.75</p>	 <p><b>FAST FORWARD DRIVE ROLLER 15/16" O.D.</b> For use on Columbia Models C-690-TR. No. 1458-01. .... Net 1.77</p>	 <p><b>TURRET DRIVE</b> For use on G.E. and Webcor changers. 33-1/3 RPM. No. 1465. .... Net 2.22</p>
 <p><b>IDLER WHEEL—1 1/2" O.D.</b> With bushing. For use with Philco &amp; Webcor. No. 1443. .... Net 1.00</p>	 <p><b>CAPSTAN IDLER—1 1/2" O.D.</b> For use with VM tape recorders in the 700 series. No. 1485. .... Net 1.67</p>	 <p><b>ROLLER — 1" O.D.</b> For use on Columbia Models C-690-TR. No. 1458-02. .... Net 1.83</p>	 <p><b>TURRET DRIVE</b> For use on Crescent, Motorola, VM, RCA, etc. changers. 78 RPM. No. 1466. .... Net 1.60</p>
 <p><b>MOLDED IDLER WHEEL — RCA 45 RPM</b> For use with RCA Series RP168 &amp; RP190. No. 1447. .... Net 1.38</p>	 <p><b>IDLER WHEEL — 2" O.D.</b> Bushing I.D.—.182, used on older Silvertone, etc. No. 1487. .... Net 1.40</p>	 <p><b>PRESSURE ROLLER 7/8" O.D.</b> For use on certain Webcor tape recorders. 220 series and 2614, 2615. No. 1482. .... Net 1.93</p>	 <p><b>TURRET DRIVE</b> For use on Crescent, Motorola, VM, RCA, etc. changers. 45 RPM. No. 1467. .... Net 1.58</p>
 <p><b>IDLER WHEEL—1-13/16" O.D.</b> For use on RCA Models 215-1. No. 1447-01. .... Net 1.38</p>	 <p><b>IDLER WHEEL 1-1/16" O.D.</b> For use on Recordio models 591, 592, 602, 692. No. 1488-04. .... Net 2.88</p>	 <p><b>PRESSURE ROLLER 1" O.D.</b> For use on Gemark Models 101. No. 1482-01. .... Net 2.50</p>	 <p><b>TURRET DRIVE</b> For use on Crescent, G.E., Motorola, RCA, VM, etc. 78 RPM. No. 1470. .... Net 1.75</p>
 <p><b>IDLER WHEEL — 2" O.D.</b> For use on RCA Models 215-1. No. 1447-03. .... Net 1.42</p>	 <p><b>IDLER — 2" O.D.</b> Used on Admiral models RC-644, 654, 664. No. 1490-02. .... Net 2.10</p>	 <p><b>PRESSURE ROLLER 13/16" O.D.</b> For use on Telectro Models 880. No. 1482-02. .... Net 1.95</p>	 <p><b>TURRET DRIVE</b> For use on Crescent, G.E., Motorola, RCA, VM, etc. 45 RPM. No. 1471. .... Net 1.50</p>
 <p><b>IDLER WHEEL — 2" O.D.</b> For use with Collaro record changers in the 520 series. No. 1448. .... Net 2.72</p>	 <p><b>IDLER WHEEL 2" O.D.</b> For use with Admiral models 606A, 606A1, 626A and 626A1. No. 1490-03. .... Net 1.60</p>	 <p><b>PRESSURE ROLLER 1" O.D.</b> For use on Telectro Models 556, MR-511, 1970, 1960, SA-121, SS-461, SR-441. No. 1482-04. .... Net 2.50</p>	 <p><b>TURRET DRIVE</b> For use on Crescent, G.E., Motorola, RCA, VM, etc. 33-1/3 RPM. No. 1472. .... Net 2.15</p>
 <p><b>IDLER WHEEL—2 1/4" O.D.</b> For use with all Collaro record changers in the 54 and 530 series. No. 1449. .... Net 2.00</p>	 <p><b>HIGH SPEED IDLER WHEEL 2-15/32" O.D.</b> For use with Revere model 202, 204, T7000, TR8000, T1100, T1120, TR1200 record changers. No. 1490-07. .... Net 2.43</p>	 <p><b>CAPSTAN PRESSURE ROLLER 1" O.D.</b> For use on many Pentron tape recorders. No. 1488. .... Net 2.18</p>	 <p><b>78 RPM TURRET DRIVE</b> Pulley for VM part number 3139 record changer. No. 1490-04. .... Net 1.85</p>
 <p><b>IDLER WHEEL—2 1/4" O.D.</b> For use on Wollensak models T-1600. No. 1449-01. .... Net 2.25</p>	 <p><b>FLYWHEEL IDLER 2-5/8" O.D.</b> With shaft. For use with Revere models T11, 202, 204, T7000, TR-8000, T1100, T1120, TR1200. No. 1490-08. .... Net 3.07</p>	 <p><b>PRESSURE ROLLER</b> For use on Telectro Tape Recorder Capstan pressure roller assembly. No. 1488-01. .... Net 1.93</p>	 <p><b>45 RPM TURRET DRIVE</b> Pulley for VM part number 3140 record changer. No. 1490-05. .... Net 1.75</p>
 <p><b>IDLER WHEEL — 1" O.D.</b> For use with Crescent. In Models of 550 Series. No. 1450. .... Net 1.85</p>	 <p><b>ROLLER — 1-1/8" O.D.</b> For use on Bell Sound System Models in the T300 series. No. 1488-02. .... Net 2.42</p>	 <p><b>33-1/3 RPM TURRET DRIVE</b> Pulley for VM part number 3141 Record Changer. No. 1490-06. .... Net 2.05</p>	 <p><b>33-1/3 RPM TURRET DRIVE</b> Pulley for VM part number 5373 Record Changer. No. 1495-05. .... Net 2.20</p>



# Walsco PHONO DRIVES

**45 RPM TURRET DRIVE**  
Pulley for VM part number 5374 Record Changer. No. 1495-06..... Net 2.20

**78 RPM TURRET DRIVE**  
Pulley for VM part number 5375 Record Changer. No. 1495-07..... Net 2.30

**IDLER PULLEY - 1 5/16" O.D.**  
A molded rubber wheel for use with VM record changers in the 1200 series having 4-pole motors. No. 1456..... Net 3.10

**IDLER PULLEY - 1.5/8" O.D.**  
This is a molded rubber wheel for use on VM record changers in 1200 series. Also used on other types. No. 1453..... Net 2.08

**IDLER PULLEY - 1.5/8" O.D.**  
This is a molded rubber wheel for use on certain VM record changers. No. 1486..... Net 2.17

**IDLER PULLEY - 1 3/4" O.D.**  
Used on Webcor models 1631 and 1641. Replaces Manufacturers part No. 11X1607. Also used on Philco model M-39. No. 1492-01..... Net 2.98

**IDLER PULLEY - 1 9/16" O.D.**  
Used on all Monarch 4-speed changers. No. 1492-03..... Net .86

**33-1/3 RPM PULLEY - 1 1/2" O.D.**  
Used on R.C.A. R.P.-205/190 series motors. Replaces Mfg's Part No. 102941. No. 1495-01..... Net 1.58

**45 RPM PULLEY - 1 1/2" O.D.**  
Used on R.C.A. R.P.-205/290 series motors. Replaces Mfg's Part No. 102942. No. 1495-02..... Net 1.58

**78 RPM PULLEY - 1 1/2" O.D.**  
Used on R.C.A. R.P.-205/190 series motors. Replaces Mfg's Part No. 102943. No. 1495-03..... Net 2.15

**16 RPM PULLEY - 9/16" O.D.**  
Used on R.C.A. R.P.-205/190 series motors. Replaces Mfg's Part No. 102944. No. 1495-04..... Net 1.42

**VM DRIVE WHEEL**  
For use with VM Models 710A, 714, and 750. No. 1441-01..... Net 4.33

**NEW GLASER-STEERS CYCLE DRIVE WHEEL**  
For use with Glaser-Steers all models. No. 1442-01..... Net 3.33

**DRIVE WHEEL - 1" O.D.**  
For use on Crescent changers of the 550 series. No. 1451..... Net 2.50

**DRIVE WHEEL - 3" O.O.**  
For use on Zenith Coblomatic Changers. Replaces Mfg's parts Nos. S-16922 and S-21754 which are interchangeable. No. 1473..... Net 5.16

**CYCLE DRIVE WHEEL 2-1/2" O.D.**  
Used on Collaro RC-54. No. 1491..... Net 2.53

**INTER WHEEL - 2" O.D.**  
For use with Garrard Model RC-80 record changers. No. 1444..... Net 2.45

**INTER WHEEL - 2" O.D.**  
Has a ball-bearing hub cap. For use with Garrard T & TA record players. No. 1445..... Net 2.38

**INTERWHEEL - 2" O.D.**  
For use on Garrard Models AT6 and Autolism 4HF. No. 1499-10..... Net 2.27

**INTERWHEEL - 2-1/2" O.D.**  
For use on Garrard Models AT6 and Autolism 4HF. No. 1499-14..... Net 3.05

**RUBBER BUMPERS**  
Used on VM record changers and Collaro RC-54 No. 1411..... Net .33 pair

**WALSCO RECORD ARM SLEEVE**  
For use on VM Record Changers. For Garrard. Protects record arm and reduces vibration. Resilient, long-lasting neoprene rubber. (2 required) No. 1412..... Net .25 pair

**WALSCO VELOCITY TRIP**  
For Webcor, precision-molded to manufacturers specifications. No. 1413..... Pair Net .25

**INDEX FINGER CUSHION**  
Used on Webcor 100, 121, 1124 series. Also used on Webcor 110 and 114 series. No. 1419..... Pair Net .33

**SPINDLE CUP TIRE**  
For use with Wollensak model T1600 record changer, I.D. 2-3/32"-O.D. 2-15/32"-3/16" thick No. 1420-01..... Net .40

**NEW PRESSURE ROLLER CAM TIRE 1" O.D.**  
For use with Wollensak model T1600 record changer. No. 1428-02..... Net .37

**CAM - 2-1/8" O.D.**  
For use on RCA 45 rpm changers. No. 1447-02..... Net 2.07

**3-STEP DRIVE SLEEVE**  
Used on Webcor model 135, 136, and other late record changers. No. 1469..... Net 1.60

**FLYWHEEL - 1-7/8" O.D.**  
For use on Columbia models C-690-TR. No. 1483-01..... Net 2.72

**TAKE-UP DRIVER**  
For use with VM tape recorder model 700. No. 1484..... Net 7.51

**CLUTCH HOUSING AND BEARING ASSEMBLY 1-15/16" O.D.**  
For use with Webcor 2800 series. Replaces Mfg's part No. 11X-1771. No. 1492-02..... Net 2.77

**TAPE PRESSURE ROLLER 1" O.D.**  
For use on Ampex Tape Recorders. Exact replacement for manufacturer's Part No. 404501-10. No. 1499-36..... Net 1.92

**TAPE IDLER WHEEL 1-9/16" O.D.**  
Exact replacement for Bell Sound Manufacturer's Part No. 83B60. No. 1499-38..... Net 1.84

**TAPE PRESSURE ROLLER 1-1/8" O.D.**  
For use on Pentron Tape Recorders. Exact replacement for manufacturer's Part No. 964A341. No. 1499-39..... Net 1.50

**TAPE BRAKE ROLLER 7/16" O.D.**  
For use on Pentron Tape Recorders. Exact replacement for manufacturer's Part No. 964A388. No. 1499-40..... Net 1.25

**PHONO IDLER WHEEL 2" O.D.**  
For use on Philco Phonographs. Manufacturer's Part No. 325-0143-41. No. 1499-41..... Net 2.45

**PHONO IDLER WHEEL 1-7/8" O.D.**  
For use on Philco Phonographs. Exact replacement for manufacturer's Part No. 35-801-3009. No. 1499-42..... Net 1.67

**PHONO IDLER WHEEL 2-1/2" O.D.**  
For use on Zenith Phonographs. Exact replacement for manufacturer's Part No. 61-254. No. 1499-43..... Net 2.15

**PHONO IDLER WHEEL 1-3/4" O.D.**  
Exact replacement for Zenith Phonographs. Manufacturer's Part No. 61-908-22. No. 1499-44..... Net 1.59

**PHONO IDLER WHEEL 1-9/16" O.D.**  
For use on Philco Phonographs. Exact replacement for manufacturer's Part No. 325-0125-41. No. 1499-45..... Net 1.25

**FLAT RUBBER BELTS** High Quality, Abrasion-resistant Neoprene Rubber

Part No.	ID	Inside Circum.	Width	Thickness	Used On	Net
1414	5.8	1-31 32	1.4	1.32	Admiral, G.E., V-M	.25
1415	21 32	2-1 16	1.4	1.32	Garrard, G.E., Philco	.25
1416	2-3 4	8-5 8	3 16	1 16	Zenith	.25
1417	1-1 2	4-23 32	3 16	5 32	Admiral, Garrard	.25
1418	13 16	2-9 16	3 16	1 8	Gen. Int., Wilcox-Gay	.25
1421-01	6-13 16	2-13 32	1 16	1 8	Zenith	.58
1424	2-7 8	9	1.4	1.4	Admiral, Crescent, RCA	.58
1424-01	3-15 16	12-13 32	1.4	1 16	Ampex	1.53
1476	15 16	2-15 16	1.4	1 32	Admiral	.25
1499-21	9-3 16	28-13 16	7 64	7 64	Norelco	2.08
1499 24	4	12-1 2	1.4	3 64	Apex	.58
1499 27	4-11 32	13-5 8	9 32	1 16	Roberts	.63
1499-29	4-1 2	14-1 8	1.4	1 8	Roberts	.75

\* Not shown because of size

**ROUND RUBBER BELTS** High Quality, Abrasion-resistant Neoprene Rubber

Part No.	ID	Inside Circum.	Thickness	Used On	Net
1410-06	2	6-9 32	9 64	Revere M2, VM700, 701, 711, 714 Tape Recorders	.62
1410-07	2-3 8	7-7 16	9 64	RCA SRT 301, 401, 402, 403, Wilcox-Gay 3A10, 3A11	.57
1410-08	2-3 4	8-5 8	9 64	Revere M2, Penton, Crestwood	.70
1410-10	3-13 32	10-23 32	9 64	Crescent	.67
1410-12	3-7 8	12-3 16	3 32	Ampex, Revere	.58
1410-14	4-5 8	14-9 16	9 64	Revere, Wollensak	1.07
1499-19	2-5 8	8-1 4	1 16	Airline, RCA	.90
1499-20	2-7 8	9	1 8	Airline, Westinghouse	1.07

**ROUND RUBBER BELTS** High Quality, Abrasion-resistant Neoprene Rubber

Part No.	ID	Inside Circum.	Thickness	Used On	Net
1410-51	5-1 8	16-7 32	1 8	Viking Tape Recorders	1.17
1410-53	2-3 32	6-9 16	7 32	Revere Tape Recorders	.52
1410-55	3-7 32	10-1 8	3 64	Ampex "A" Series, Ampex 960 Series, Telectrosnri-c	.60
1410-56	4-1 4	13-3 8	1 8	Telectro 556, 1900 Series	1.05
1410-57	2-7 8	9	1 8	Ampex "A" Series, Ampex 960 Series	.60
1410-58	3	9-13 32	3 32	Recordio	.92
1410-59	3-5 8	11-13 32	1 8	Recordio, Delmonico 4TR-205	.83
1410-61	4	12-19 32	1 16	Telectro, Roberts, V-M	1.05
1410-62	3-1 4	10-7 32	1 16	Telectro, Delmonico 4TR-205	1.05
1410-63	2-3 4	8-5 8	1 16	Telectro, Silvestone, Roberts	1.05
1410-64	2-3 8	7-7 16	1 16	Webcor	.67
1410-65	4-1 2	14-5 32	3 32	Webcor	1.42
1410-66	4-9 16	14-11 32	3 32	Webcor	1.25

**ROUND RUBBER BELTS** High Quality, Abrasion-resistant Neoprene Rubber

Part No.	ID	Inside Circum.	Thickness	Used On	Net	
1410-15	5-1 16	15-29 32	1 8	Webcor, Concord 220	1.07	
1410-18	5-15 16	18-11 16	1 8	Ampex Recorders	1.42	
1410-20	6-5 8	20-13 16	1 8	Ampex Recorders	1.75	
1410-21	6-15 16	21-13 16	1 8	Ampex, Gen. Int., Webcor	1.75	
1499-33	1410-50	3-11 32	10-17 32	3 16	Webcor, Revere, Concertone 403	.67
1410-52	1-7 8	5-7 8	1 8	Webcor 2700 Series	.95	
1410-54	4-1 2	14-5 32	7 64	Roberts, Traveler, Webcor Concord, Bell, Wollensak Recordio	.73	
1410-60	6-1 2	20-7 16	1 8	Recordio	1.67	
1474	3-3 32	9-11 16	9 64	Crestwood Recorders	.72	
1499-15	3-15 32	10-29 32	1 8	Webcor	1.07	
1499-17	2-19 32	8-1 8	9 64	Airline, Westinghouse	.75	
1499-18	4	12-19 32	7 64	Airline, Westinghouse	1.23	
1499-28	1-1 8	3-17 32	1 8	VM	.67	
1499-30	2-17 32	7-31 32	1 10	Revere	1.20	
1499-31	4-1 4	13-11 32	7 64	Gundig	1.33	
1499-32	2-17 64	7-1 16	1 8	Gundig	1.15	
1499-33	4-1 64	12-31 32	3 32	Gundig	1.50	

**RUBBER TIRES** High Quality, Abrasion-resistant Neoprene

Part No.	ID	Inside Circum.	Thickness	Used On	Net
1420-01	2-3 32	6-9 16	3 16	Wollensak T1600	.40
1428-02	29 32	2-27 32	1 8	Wollensak T1600	.37

**FABRIC DRIVE BELTS**

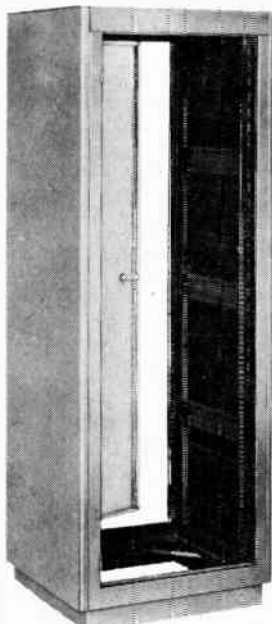
Part No.	ID	Inside Circum.	Width	Thickness	Used On	Net
1409-02	5-13 32	17	5 16	1 64	Pentron Recorders	4.02
1409-03	3-29 32	12-1 4	5 16	1 64	Pentron, Crescent Recorders	3.12
1409-04	4-1 32	12-5 8	5 16	1 64	VM 700, 701, 710, 711, 714	3.12
1409-05	5-13 32	17	3 16	1 64	Webcor Recorders	3.12
1409-06	3-5 16	10-3 8	7 32	1 64	Telectro 88C	2.08
1409-07	5-1 8	16-3 32	7 32	1 64	Telectro 880	2.08
1409-08	2-13 32	7-9 16	7 32	1 64	Telectro WR111, 556, 1960	2.00
1409-09	3-1 4	10-3 16	7 32	1 64	Telectro MR111, 556, 1960	2.06
1409-10	3	9-11 32	7 32	1 64	Telectro and Knight	2.00
1409-11	3-19 32	11-5 16	7 32	1 64	Telectro and Knight	2.08
1409-12	2-1 2	7-3 16	7 32	1 64	Telectro	1.83
1409-13	4-31 32	15-1 16	5 32	1 64	Webcor	2.42
1499-16	3-5 16	10-3 8	3 16	1 64	Webcor	3.00

**FABRIC DRIVE BELTS** High Quality, Abrasion-resistant Neoprene

Part No.	ID	Inside Circum.	Thickness	Used On	Net
1419-01	2-1 4	7-1 16	1 16	Webcor, Concertone 400	.58
1499-22	4-3 4	14-15 16	3 32	Knight and Viking	2.80



# Series "60" Cabinet Racks



**A** Upright Rack

Scientifically designed to meet all requirements for human needs as well as component physical specifications; the most practical cabinet rack developed for either a single piece of equipment or a large instrumentation system. Very economical to the user, units are shipped fully assembled and ready for immediate use.

Basic frame welded in a solid unit composed of 14-gauge cold-rolled steel channels. Sides have "U" braces with perforated channels for fastening vertical adjustable mounting rails. Rails also support other types of equipment such as brackets, shelves, slides, etc. Eliminates need of drilling holes in the rack. Sides and rear door made of 16 gauge steel. Door may be mounted to open left or right. Vertical channel, 6" wide, welded to door to prevent vibration or whip. Two pairs of panel mounting rails are supplied; fully adjustable. Panels may be mounted in front and rear at the same time. Front rails drilled and tapped 10-32 W.E. spacing. Rear rails are drilled according to universal spacing.

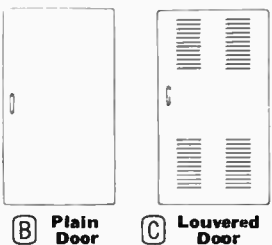
All Series Sixty enclosures may be quickly combined with each other to create units of any desired width as shown in the Add-A-Rack series. In addition, such accessories as desk tops, turrets, drawers, slides, sloping panel supports and front door are easily installed.

Standard finishes are smooth baked enamel over a primer. For two-tone gray, specify by adding suffix **SG**. For two-tone blue, add suffix **SB** to order number. Standard Bud relay rack panels are available for the Series Sixty racks in light gray and light blue; when ordering, add suffix **SG** for gray; **SB** for blue.

## UPRIGHT CABINET RACKS (FIG. A)

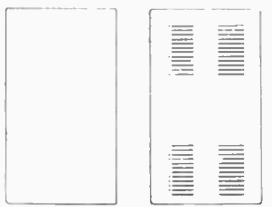
Completely assembled with sides, rear door and top. Standard units have plain sides and door; solid top. For greater ventilation, order units with louvered sides and/or rear door; both, with solid top. Width, 24 1/4", all units. Inside depth 20 1/2" clear on units with 22" outside depth; 23 3/4", all others. Top opening 18 1/2" w. x 17" d. on units with 22" outside depth; 18 1/2" w. x 20 1/2" d., all others. Specify Color When Ordering: Add suffix **SG** to number for gray; suffix **SB**, for blue.

With Plain Sides and Door				Height	Out-side Depth	Panel Space	Wt., Lbs.	Louvered Sides, Plain Door			
Bud No. 60-	Net Each, Lots of							Bud No. 60-	Net Each, Lots of.		
	1-3	4-6	7-9					1-3	4-6	7-9	
2300	\$106.30	\$ 95.67	\$ 85.05	29 3/8"	22"	21"	118	2600	\$112.00	\$100.80	\$ 89.60
2301	131.45	118.30	105.15	40 1/2"	22"	31 1/2"	156	2601	140.00	126.00	112.00
2302	146.05	131.45	116.85	50 3/8"	22"	42"	173	2602	156.50	140.85	125.20
2303	166.25	149.60	133.00	61 1/8"	22"	52 1/2"	197	2603	179.00	161.10	143.20
2304	180.25	162.20	144.20	69 1/2"	22"	61 1/2"	220	2604	194.75	175.28	155.80
2305	200.00	180.00	160.00	78 3/8"	22"	70"	235	2605	216.50	194.85	173.20
2306	218.65	196.80	174.90	87 3/8"	22"	78 3/4"	265	2606	235.15	211.64	188.12
2307	225.50	212.95	200.40	29 3/8"	25 1/2"	21"	156	2607	135.15	121.64	108.12
2308	151.20	136.10	120.95	40 1/2"	25 1/2"	31 1/2"	176	2608	159.80	143.82	127.84
2309	168.00	151.20	134.40	50 3/8"	25 1/2"	42"	185	2609	178.00	160.20	142.40
2310	186.50	167.85	149.20	61 1/8"	25 1/2"	52 1/2"	211	2610	203.70	183.33	162.96
2311	207.30	186.55	165.85	69 1/2"	25 1/2"	61 1/2"	240	2611	219.90	197.91	175.92
2312	230.30	207.25	184.25	78 3/8"	25 1/2"	70"	256	2612	244.20	219.78	195.36
2313	251.35	226.20	201.10	87 3/8"	25 1/2"	78 3/4"	267	2613	266.20	239.58	212.96
With Louvered Sides and Door				Height	Out-side Depth	Panel Space	Wt., Lbs.	Plain Sides, Louvered Door			
Bud No. 60-	Net Each, Lots of							Bud No. 60-	Net Each, Lots of.		
	1-3	4-6	7-9					1-3	4-6	7-9	
2700	\$110.20	\$ 99.18	\$ 88.16	29 3/8"	22"	21"	118	2800	\$108.50	\$ 97.65	\$ 86.80
2701	137.00	123.30	109.60	40 1/2"	22"	31 1/2"	156	2801	134.30	120.87	107.44
2702	153.40	138.06	122.72	50 3/8"	22"	42"	173	2802	149.20	134.28	119.36
2703	175.30	157.77	140.24	61 1/8"	22"	52 1/2"	197	2803	169.70	152.73	135.76
2704	190.80	171.72	152.64	69 1/2"	22"	61 1/2"	220	2804	184.10	165.69	147.28
2705	212.00	190.80	169.60	78 3/8"	22"	70"	235	2805	204.30	183.87	163.44
2706	230.20	207.18	184.16	87 3/8"	22"	78 3/4"	265	2806	223.40	201.06	178.72
2707	129.90	116.91	103.92	29 3/8"	25 1/2"	21"	156	2807	127.70	114.93	102.16
2708	156.90	141.21	125.52	40 1/2"	25 1/2"	31 1/2"	176	2808	145.00	130.50	116.00
2709	174.70	157.23	139.76	50 3/8"	25 1/2"	42"	185	2809	171.10	153.99	136.88
2710	194.30	174.87	155.44	61 1/8"	25 1/2"	52 1/2"	211	2810	190.00	171.00	152.00
2711	215.90	194.31	172.72	69 1/2"	25 1/2"	61 1/2"	240	2811	211.10	189.99	168.88
2712	239.80	215.82	191.84	78 3/8"	25 1/2"	70"	256	2812	234.60	211.14	187.68
2713	261.30	235.17	209.04	87 3/8"	25 1/2"	78 3/4"	267	2813	256.10	230.49	204.88



**B** Plain Door

**C** Louvered Door



**D** Plain Side

**E** Louvered Side

## ACCESSORY PERFORATED TOP

Bud No.	Width	Depth	Fits Upright Rack	Wt., Lbs.	Net Each, Lots of		
					1-3	4-6	7-9
60-2370	21 1/4"	17"	With overall depth of 22"	6	\$5.65	\$5.10	\$4.50
60-2371	21 1/4"	20 1/2"	With overall depth of 25 1/2"	7	6.00	5.40	4.80

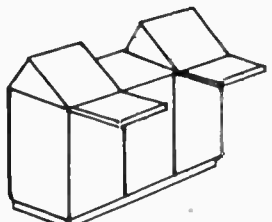
## ACCESSORY DOORS

Doors are interchangeable; may be used for front or rear of rack; mount to open either left or right.

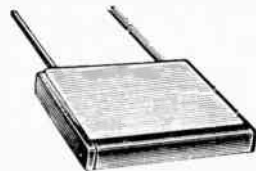
Plain Type (Fig. B)				Ht.	Width	Fits Rack With Panel Space of	Wt., Lbs.	Louvered Type (Fig. C)			
Bud No.	Net Each, Lots of							Bud No.	Net Each, Lots of		
	1-3	4-6	7-9					1-9	10-14	15-19	
60-2340	\$16.05	\$14.45	\$12.85	21 1/4"	18 1/8"	21"	8	60-2540	\$18.35	\$16.52	\$14.68
60-2341	19.80	17.80	15.85	31 1/2"	18 1/8"	31 1/2"	11 1/2	60-2541	22.70	20.43	18.16
60-2342	21.90	19.70	17.50	42"	18 1/8"	42"	15 1/2	60-2542	25.20	22.68	20.16
60-2343	24.30	21.85	19.45	52 1/2"	18 1/8"	52 1/2"	19	60-2543	27.95	25.16	22.36
60-2344	27.05	24.35	21.65	61 1/2"	18 1/8"	61 1/2"	22 1/2	60-2544	31.05	27.95	24.84
60-2345	30.05	27.05	24.05	70 3/8"	18 1/8"	70 3/8"	25 1/2	60-2545	34.50	31.05	27.60
60-2346	32.80	29.50	26.25	79 3/8"	18 1/8"	78 3/4"	29	60-2546	37.70	33.93	30.16

## ACCESSORY SIDES

Plain Type (Fig. D)				Ht.	Width	Fits Rack With Panel Space of	Wt., Lbs.	Louvered Type (Fig. E)			
Bud No.	Net Each Pair, Lots							Bud No.	Net Each Pair, Lots		
	1-3	4-6	7-9					1-3	4-6	7-9	
60-2560	\$24.10	\$21.70	\$19.30	26 3/8"	22"	21"	12 1/2	60-2580	\$28.10	\$25.30	\$22.50
60-2561	31.50	28.35	25.20	37 3/8"	22"	31 1/2"	17 1/2	60-2581	37.20	33.50	29.75
60-2562	36.65	33.00	29.30	47 3/8"	22"	42"	21	60-2582	44.20	39.80	35.35
60-2563	42.70	38.45	34.15	58 3/8"	22"	52 1/2"	26 1/2	60-2583	51.95	46.75	41.55
60-2564	46.70	42.05	37.35	67 3/8"	22"	61 1/2"	30	60-2584	57.40	51.65	45.90
60-2565	51.45	46.30	41.15	75 3/8"	22"	70"	34	60-2585	63.60	57.25	50.90
60-2566	59.00	53.10	47.20	84 3/8"	22"	78 3/4"	38	60-2586	70.75	63.70	56.60
60-2567	30.15	27.15	24.10	26 3/8"	25 1/2"	21"	14 1/2	60-2587	34.70	31.25	27.75
60-2568	39.40	35.45	31.50	37 3/8"	25 1/2"	31 1/2"	20	60-2588	45.30	40.75	36.25
60-2569	45.85	41.25	36.70	47 3/8"	25 1/2"	42"	24	60-2589	52.75	47.50	42.20
60-2570	53.35	48.00	42.70	58 3/8"	25 1/2"	52 1/2"	29 1/2	60-2590	61.35	55.20	49.10
60-2571	58.35	52.50	46.70	67 3/8"	25 1/2"	61 1/2"	34 1/2	60-2591	67.10	60.40	53.70
60-2572	64.30	57.90	51.45	75 3/8"	25 1/2"	70"	39	60-2592	73.95	66.55	59.15
60-2573	67.76	61.00	54.20	84 3/8"	25 1/2"	78 3/4"	43 1/2	60-2593	77.90	70.10	62.30



Typical Assembly



**F** Desk Top

## SERIES SIXTY DESK TOP (FIG. F)

May be used in connection with any Series Sixty enclosure. Furnished completely assembled with wood-grained Formica surface. Fastens to panel mounting rails by two pre-drilled channels. Will support in excess of 200 lbs. Surface 24 1/4" wide, 19 1/2" deep, 3 1/4" high. Available in two colors. Specify Color: Add suffix **SG** for gray; **SB** for blue.

Bud No.	Fits Series Sixty	Support Channel	Wt., Lbs.	Ea., 1-3	Ea., 4-6	Ea., 7-9
60-2360	With 22" depth	21 3/8" long	22	\$36.05	\$32.45	\$28.85
60-2362	With 25 1/2" depth	24 3/4" long	23	36.75	33.08	29.40



# Series "60" Cabinet Racks

## INCLINED PANEL CABINET RACKS (FIG. G)

Completely assembled with sides, rear door and solid top. Available in four combinations of plain or louvered sides and rear door. Size, 50 3/4" h. x 24 1/4" w. x 22" d., outside; 20 3/4" d., clear inside. Weight, 165 lbs. Specify Color When Ordering: Add suffix **SG** to number for gray; suffix **SB** for blue.

With Plain Sides and Door				Incline Panel Hgt.	Vert. Panel Hgt.	Top Opening W. x D.	Louvered Sides and Plain Door			
Bud No. 60-	1-3	4-6	7-9				Bud No. 60-	1-3	4-6	7-9
2330	\$165.25	\$148.70	\$132.20	10 1/2"	29 3/4"	18 1/2" x 11 3/4"	2630	\$147.20	\$132.48	\$117.76
2331	175.15	157.65	140.10	15 3/4"	24 1/2"	18 1/2" x 10"	2631	184.20	165.78	147.36
2332	175.15	157.65	140.10	17 1/2"	22 3/4"	18 1/2" x 9 3/4"	2632	184.20	165.78	147.36

With Louvered Sides and Door				Incline Panel Hgt.	Vert. Panel Hgt.	Top Opening W. x D.	Plain Sides, Louvered Door			
Bud No. 60-	1-3	4-6	7-9				Bud No. 60-	1-3	4-6	7-9
2730	\$170.90	\$153.81	\$136.72	10 1/2"	29 3/4"	18 1/2" x 11 3/4"	2830	\$168.50	\$151.65	\$134.80
2731	181.00	162.90	144.80	15 3/4"	24 1/2"	18 1/2" x 10"	2831	178.40	160.56	142.72
2732	181.00	162.90	144.80	17 1/2"	22 3/4"	18 1/2" x 9 3/4"	2832	178.40	160.56	142.72

## ACCESSORY FRONT DOORS

Plain Type (Fig. J)				Height	Width	Fits Rack Top Open. Size, In.	Wt., Lbs.	Louvered Type (Fig. K)			
Bud No.	1-3	4-6	7-9					Bud No.	1-3	4-6	7-9
60-2350	\$19.85	\$17.85	\$15.90	30 3/4"	18 1/2"	18 1/2" x 11 3/4"	11	60-2550	\$22.80	\$20.52	\$18.24
60-2351	18.55	16.70	14.85	25 1/2"	18 1/2"	18 1/2" x 10"	9 1/2	60-2551	21.30	19.17	17.04
60-2352	18.00	16.20	14.40	23 1/2"	18 1/2"	18 1/2" x 9 3/4"	9	60-2552	20.70	18.63	16.56

## ACCESSORY REAR DOORS

60-2342	\$21.90	\$19.70	\$17.50	42 1/4"	18 1/2"	All sizes	15 1/2	60-2542	\$25.20	\$22.68	\$20.16
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## ACCESSORY SIDES

Specify "L" for left side or "R" for right side, determined when facing front of rack.

60-2574*	\$38.45	\$34.60	\$30.75	47 3/4"	22"	18 1/2" x 11 3/4"	11	60-2594†	\$44.20	\$39.80	\$35.35
60-2575*	39.55	35.60	31.65	47 3/4"	22"	18 1/2" x 10"	9 1/2	60-2595†	45.50	40.95	36.40
60-2576*	39.55	35.60	31.65	47 3/4"	22"	18 1/2" x 9 3/4"	9	60-2596†	45.50	40.95	36.40

\*Fig. H. †Fig. I.

## ACCESSORY PERFORATED TOPS

Bud No.	Width	Depth	Fits Rack Top Size, In.	Wt., Lbs.	Net Each, Lots of		
					1-3	4-6	7-9
60-2372	21 1/2"	11 1/2"	18 1/2" x 11 3/4"	4	\$4.40	\$3.95	\$3.50
60-2373	21 1/2"	10"	18 1/2" x 10"	3	4.25	3.85	3.40
60-2374	21 1/2"	9 1/2"	18 1/2" x 9 3/4"	3	4.20	3.80	3.35

## ADD-A-RACK SERIES

Each assembly consists of frame, top, bottom, rear door and cowlings; used as an add-on unit to join any of the Series Sixty enclosures into a bank of two or more. One standard rack plus several Add-A-Racks make any desired number of racks combined for optimum width. Colors same as above Racks.

Plain Sides				Louvered Sides				Wt., Lbs.	
Bud No. 60-	For Add-on to Rack No. 60-	Net Each, Lots of 1-3	4-6	7-9	Bud No. 60-	For Add-on to Rack No. 60-	Net Each, Lots of 1-3		4-6
2500	2300, 2600	\$ 86.10	\$ 77.50	\$ 68.90	2900	2700, 2800	\$ 88.40	\$ 79.56	\$ 70.72
2501	2301, 2601	104.75	94.30	83.80	2901	2701, 2801	107.65	96.89	86.12
2502	2302, 2602	114.70	103.25	91.75	2902	2702, 2802	118.00	106.20	94.40
2503	2303, 2603	125.30	112.75	100.25	2903	2703, 2803	128.95	116.06	103.16
2504	2304, 2604	140.00	126.00	112.00	2904	2704, 2804	144.00	129.60	115.20
2505	2305, 2605	156.00	140.40	124.80	2905	2705, 2805	160.45	144.41	128.36
2506	2306, 2606	167.35	150.60	133.90	2906	2706, 2806	172.25	155.03	137.80
2507	2307, 2607	100.00	90.00	80.00	2907	2707, 2807	102.30	92.07	81.84
2508	2308, 2608	117.25	105.55	93.80	2908	2708, 2808	120.15	108.14	96.12
2509	2309, 2609	128.00	115.20	102.40	2909	2709, 2809	131.30	118.17	105.04
2510	2310, 2610	139.60	125.65	111.70	2910	2710, 2810	143.25	128.93	114.60
2511	2311, 2611	156.10	140.50	124.90	2911	2711, 2811	160.10	144.09	128.08
2512	2312, 2612	174.00	156.60	139.20	2912	2712, 2812	178.45	160.61	142.76
2513	2313, 2613	192.50	173.25	154.00	2913	2713, 2813	197.40	177.66	157.92
2530	2330, 2630	132.90	119.60	106.30	2930	2730, 2830	136.20	122.58	108.96
2531	2331, 2631	142.10	127.90	113.70	2931	2731, 2831	145.40	130.86	116.32
2532	2332, 2632	142.10	127.90	113.70	2932	2732, 2832	145.40	130.86	116.32

## SERIES SIXTY TURRETS (FIG. L)

Made of 16 gauge steel; designed so that any one of three sides may be attached to a Series Sixty upright rack or any horizontal surface. Accommodate standard 19" panels. All mounting rails have universal spacing. Sides easily removed when a series of interconnecting turrets are desired. Specify Color When Ordering: Add suffix **SG** for dark gray; **SB** for dark blue. For panels, order standard Bud panels with suffix **SG** for light gray; **SB** for light blue.

Bud No.	Width	Depth	Height	Panel Space			Wt., Lbs.	Net Each, Lots of		
				Sloping	Bottom	Rear		1-3	4-6	7-9
60-2364	22 1/2"	17 3/8"	12 3/4"	17 1/2"	14"	8 3/4"	17	\$39.05	\$35.15	\$31.25
60-2365	22 1/2"	14 3/8"	10 3/8"	12 3/4"	10 1/2"	7 3/8"	14	32.55	29.30	26.05
60-2366	22 1/2"	20 1/2"	14 3/8"	21"	17 3/4"	10 1/2"	20	41.00	36.90	32.80

## SERIES SIXTY DRAWER, DESK TOP, AND SHELF ACCESSORIES

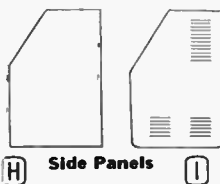
**No. 60-2368 Drawer:** Fits into any Series Sixty cabinet rack. Slides easily on nylon rollers. Will support heavy loads. Extends to full depth; stops prevent drawer from falling out. Slides easily attach to panel supporting rails. Silver anodized handles. Shipped completely assembled. **No. 60-2361 Sliding Desk Top:** Fits all Series Sixty racks. Has smooth Formica\* surface for writing, servicing or inspection. Fits flush with front of unit. Usable area when fully extended, 11" x 16 3/4". Occupies only 1 3/4" of panel height. Will support 75 lbs. Ball-bearing slide mechanism mounts directly in Series Sixty racks; brackets included to fit other Bud cabinets and consoles. **No. 60-2363 Desk Top Drawer:** Fits Series Sixty racks. Has Formica surface. Fits flush with front of unit. Hinged desk top on drawer holds small tools or parts. Special front-panel latch both locks and releases drawer or top as desired. Mounts to cabinet U-braces; slides travel on nylon rollers. Hardware supplied. **No. 60-2380 and 60-2381 Shelves:** Ideal for support of chassis, power supplies or other equipment; also may be used as base plate for bottom support. Of one-piece 16 gauge steel with flanged front and rear for extra strength and rigidity. Easily bolt to cabinet U-braces. Will support 200 lbs. Hardware supplied.

Bud No.	Fig.	Size, Inches	Wt., Lbs.	Net Each, Lots of		
				1-3	4-6	7-9
60-2368†	M	16 3/8" x 6 3/4" x 19 1/2" inside	28	\$32.05	\$28.85	\$25.65
60-2361†	N	16 3/8" x 15 3/8" x 1 3/4" with std. 19" panel	8	16.65	14.99	13.32
60-2363†	O	16 3/8" x 3 3/4" x 15 inside; 19 x 3 3/4" front panel	19	55.00	49.50	44.00
60-2380†	P	17 1/2" w. x 19 3/8" d.	7 1/2	6.80	6.12	5.44
60-2381†	P	17 1/2" w. x 22 3/4" d.	8 3/4	7.10	6.39	5.70

\*Synthane Corp. trademark. †Add suffix **SB** for smooth blue; **SG**, smooth gray. ‡Add suffix **B** for black wrinkle; **G**, gray wrinkle; **HG**, gray hammertone; **SB**, smooth blue; **SG**, smooth gray.

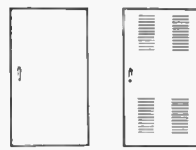


G Inclined Panel Rack



H Side Panels

I



J Doors

K



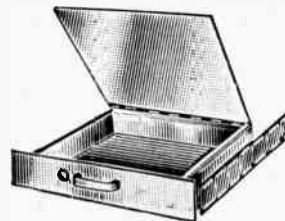
L Turret



M Drawer



N Sliding Desk Top



O Desk Top Drawer

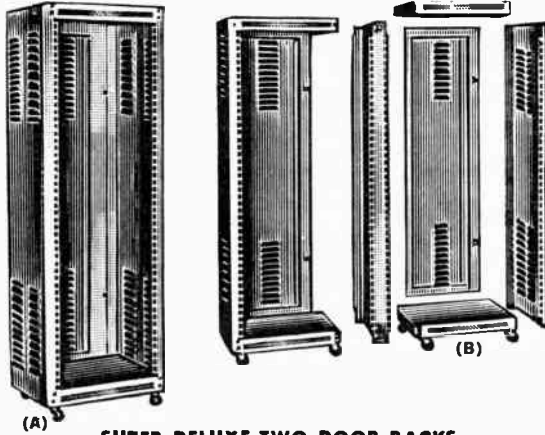


P Shelf



# Cabinet Racks, Accessories

## DELUXE RELAY RACKS WITH ADD-A-RACK



(A) **Deluxe Relay Racks** — High quality relay racks made of 16-gauge steel with  $\frac{3}{16}$ " panel supports. Panel mounting supports are recessed so that no panel edges will be exposed. Both back and sides are fully louvered for best ventilation. Snap catches are positioned on the door. Rounded corners and red-lined chrome trim give streamlined appearance. Base constructed with four special supports so that casters may be applied directly to base for mobility. All standard panels fit these racks: 22" wide for 19" panels; 27" wide for 24" panels.

**Super Deluxe Series Relay Racks** are equipped with adjustable panel mounting supports permitting forward and backward adjustment of panels for more efficient use of space. Adjustable points are at 1" intervals for 9" to 15" clearance behind panels. Super Deluxe Racks are fitted with both front and rear doors, the rear to cover any equipment behind the panel while making it easily accessible. The front door, not louvered, conceals controls on the front panel.

(B) **Add-A-Rack Series** — Where relay racks are to be joined in series. Provides additional strength and improved appearance. Includes door, top, bottom and coupling unit, all that is needed to make a double relay rack out of a single Deluxe series.

All Racks Listed are shipped knocked-down with all necessary hardware and assembly instructions. Casters optional. When ordering specify finish. Add suffix "HG" for gray hammertone; suffix "G" for gray wrinkle; and suffix "B" for black wrinkle.

### SUPER DELUXE TWO-DOOR RACKS WITH 19" WIDE PANEL SPACE

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of		
				1-9	10-14	15-19
CR-2174	42 $\frac{1}{2}$ "	36 $\frac{3}{4}$ "	102	\$ 70.70	\$ 63.65	\$56.55
CR-2171	47 $\frac{1}{2}$ "	42"	104	80.10	72.10	64.10
CR-2172	66 $\frac{3}{4}$ "	61 $\frac{1}{4}$ "	138	103.35	93.00	82.70
CR-2175	75 $\frac{1}{2}$ "	70"	150	105.85	95.25	84.70
CR-2173	82 $\frac{1}{2}$ "	77"	163	124.10	111.70	99.30

### WITH 24" WIDE PANEL SPACE

CR-2494	42 $\frac{1}{2}$ "	36 $\frac{3}{4}$ "	119	\$ 95.85	\$ 86.25	\$76.70
CR-2491	47 $\frac{1}{2}$ "	42"	122	107.40	96.65	85.90
CR-2492	66 $\frac{3}{4}$ "	61 $\frac{1}{4}$ "	160	139.75	125.80	111.80
CR-2495	75 $\frac{1}{2}$ "	70"	175	149.00	134.10	119.20
CR-2493	82 $\frac{1}{2}$ "	77"	190	167.50	150.75	134.00

### ADD-A-RACK ASSEMBLIES

Includes door, top, bottom and coupling unit for add-on use with racks indicated.

Bud No.	For Use With Rack No.	Wt., Lbs.	Net Each, Lots of		
			1-9	10-14	15-19
AR-1778	CR-1774	70	53.65	48.30	42.90
AR-1775	CR-1771	74	59.30	53.40	47.45
AR-1776	CR-1772	100	73.75	66.40	59.00
AR-1779	CR-1780	107	75.00	67.50	60.00
AR-1777	CR-1773	113	90.65	81.60	72.50
AR-4274	CR-2474	82	57.75	52.00	46.20
AR-4271	CR-2471	87	65.10	58.60	52.10
AR-4272	CR-2472	117	81.65	73.50	65.30
AR-4275	CR-2475	125	83.20	74.90	66.55
AR-4273	CR-2473	132	97.90	88.10	78.30
AR-2278*	CR-2074	102	63.15	56.85	50.50
AR-2275*	CR-2071	86	71.45	64.30	57.15
AR-2276*	CR-2072	110	89.40	80.45	71.50
AR-2279	CR-2075	120	91.35	82.20	73.10
AR-2277*	CR-2073	130	108.95	98.05	87.15
AR-3278	CR-2484	100	81.90	73.70	65.50
AR-3275	CR-2481	119	91.35	82.20	73.10
AR-3276	CR-2482	129	114.45	103.00	91.55
AR-3279	CR-2485	140	116.55	104.90	93.25
AR-3277	CR-2483	152	137.55	123.80	110.05

\*Gray hammertone standard; for black or gray wrinkle add 10% to price.

### "TEM-STAT" TEMPERATURE CONTROLS

Prevents costly damage to electronic components in enclosed cabinets, boxes, etc. Bimetal sensing element responds quickly to gradual or sudden temperature changes and actuates whatever warning device you use: Activates a light, bell, blower or other device; or, shuts off current. Activates snap-action, heavy-duty, normally open switch contacts. High electrical ratings up to 300° F; fully adjustable temperature ranges. Screw terminals for easy attachment. U/L Listed. Small size, 2 $\frac{1}{2}$ " x 1" w. x 1 $\frac{1}{2}$ " d., suitable for limited space applications. U/L Rating: 8 amps, full load.

Bud Model TS-15—For 80°-170° F range. Net Each. **\$5.00**  
 Bud Model TS-16—For 150°-240° F range. Net Each. **\$5.00**

### CASTERS

Bud No.	Height	Weight (Set of 4)	Net Each, Lots of		
			1-49	50-99	100-149
RC-7756	2 $\frac{3}{8}$ "	1 $\frac{1}{2}$ lbs.	\$1.10	\$1.00	\$.90
RC-7757	2"	1 lb.	.50	.45	.40
RC-7758	3 $\frac{1}{2}$ "	6 lbs.	2.65	2.40	2.10

• New product.

### DELUXE RELAY RACKS

17 $\frac{1}{2}$ " Overall Depth

### WITH 19" WIDE PANEL SPACE

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of		
				1-9	10-14	15-19
CR-1774	42 $\frac{1}{2}$ "	36 $\frac{3}{4}$ "	82	\$54.65	\$49.20	\$43.70
CR-1771	47 $\frac{1}{2}$ "	42"	92	61.80	55.15	49.45
CR-1772	66 $\frac{3}{4}$ "	61 $\frac{1}{4}$ "	115	77.40	69.65	61.90
CR-1780	75 $\frac{1}{2}$ "	70"	125	78.65	70.80	62.90
CR-1773	82 $\frac{1}{2}$ "	77"	135	92.70	83.45	74.15

### WITH 24" WIDE PANEL SPACE

CR-2474	42 $\frac{1}{2}$ "	36 $\frac{3}{4}$ "	96	\$66.55	\$59.90	\$53.25
CR-2471	47 $\frac{1}{2}$ "	42"	108	75.10	67.60	60.10
CR-2472	66 $\frac{3}{4}$ "	61 $\frac{1}{4}$ "	135	95.15	85.65	76.10
CR-2475	75 $\frac{1}{2}$ "	70"	146	95.85	86.25	76.70
CR-2473	82 $\frac{1}{2}$ "	77"	158	112.70	101.45	90.15

### EXTRA DEEP DELUXE RACKS

Same as above, except 22 $\frac{1}{2}$ " deep instead of 17 $\frac{1}{2}$ " deep. Gray hammertone finish standard; for black or gray wrinkle add 10% to price.

### WITH 19" WIDE PANEL SPACE

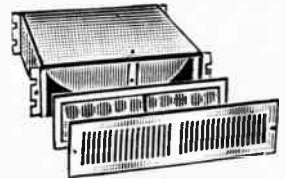
CR-2074	42 $\frac{1}{2}$ "	36 $\frac{3}{4}$ "	98	\$69.55	\$62.60	\$55.65
CR-2071	47 $\frac{1}{2}$ "	42"	102	78.70	70.85	62.95
CR-2072	66 $\frac{3}{4}$ "	61 $\frac{1}{4}$ "	137	98.50	89.65	78.80
CR-2075	75 $\frac{1}{2}$ "	70"	148	100.45	90.40	80.35
CR-2073	82 $\frac{1}{2}$ "	77"	159	117.00	105.50	93.60

### WITH 24" WIDE PANEL SPACE

CR-2484	42 $\frac{1}{2}$ "	36 $\frac{3}{4}$ "	115	\$93.55	\$84.20	\$74.85
CR-2481	47 $\frac{1}{2}$ "	42"	119	105.00	94.50	84.00
CR-2482	66 $\frac{3}{4}$ "	61 $\frac{1}{4}$ "	160	131.70	118.55	105.35
CR-2485	75 $\frac{1}{2}$ "	70"	173	134.00	120.60	107.20
CR-2483	82 $\frac{1}{2}$ "	77"	186	157.10	141.40	125.70

### TRANS-AIRE BLOWER

Ideal for use where excessive heat is generated by equipment in an enclosed rack, cabinet or console. Brings in fresh air or exhausts heated air, enabling use as an exhaust or intake blower, depending upon mounting position. Unit will operate in any position—vertical or horizontal. May be mounted to rails of standard cabinet or rack. Use of Bud Chassis Supporting Angles SA-1349, SA-1350 or CE-2219 is recommended when blower is mounted in rack or cabinet. Motor is rubber mounted to reduce vibration. Operating noise factor reduced to minimum. Thermal overload protection to prevent overheating. Automatic reset. Oil impregnated, fiberglass disposable filter can be changed without removing unit from cabinet. Three sizes provide air displacement from 100 c.f.m. to 750 c.f.m. at 0° static pressure. Complete with filter, chrome-plated grille and 18" three-wire cord. All dimensional and technical data in table below. **Weight:** B-23 17 $\frac{1}{2}$  lbs., B-25 33 lbs., B-27 35 $\frac{1}{2}$  lbs.; replacement filter 1 lb.



### BLOWERS

Bud No.	Panel Space	Depth	Air c.f.m.		Mot. hp	Net Each, Lots of		
			High	Low		1-9	10-14	15 Up
B23	3 $\frac{1}{2}$ "x19"	12"	200	100	1/20	\$57.75	\$52.00	\$46.20
B25	5 $\frac{1}{4}$ "x19"	14 $\frac{1}{2}$ "	500	250	1/6	66.00	59.40	52.80
B27	7" x19"	14 $\frac{1}{2}$ "	750	350	1/4	74.25	66.85	59.40

### FILTERS FOR ABOVE BLOWERS

Bud No.	Unit	Net Each, Lots of		
		1-24	25-49	50-99
BF-24	Filter for use with B-23	\$1.50	\$1.35	\$1.20
BF-26	Filter for use with B-25	1.65	1.50	1.30
BF-28	Filter for use with B-27	1.80	1.65	1.45

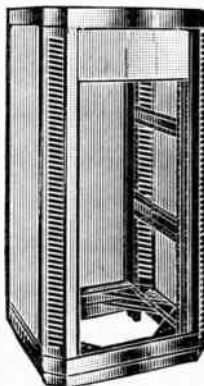




# Racks, Cabinets, Accessories

## NEW ZEPHYR 8 CABINET RACKS

Combine striking appearance with increased utility, extra ventilation, and unusually sturdy construction. Units are completely assembled with all-welded 14 gauge steel frames. Sides and reinforced rear door are of 16 gauge steel. Sides of frame are reinforced by channel braces to which panel mounting rails are attached; front and rear mounting rails are adjustable. Sides may be removed from outside of rack for easy access to interior. The octagonal shape and louvers placed in the four narrow sides permit exceptional ventilating capability. If corner placement is desired or combinations of racks are placed together, this shape allows for a "center ventilated system." Also, the outer shape surrounding the inner structural frame provides extra space for longitudinal or vertical placement of plenums, cable-track, buss ducts, etc. Casters may be attached to the base or removable sub-base. Front doors, available as optional accessories, are equipped with a flush-type latch. Available in two-tone gray finish only.



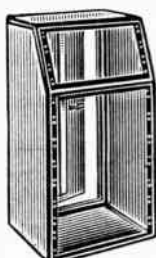
Bud No.	Overall Size, Inches W. x D. x H.	Vertical Panel Space, Inches	Weight, Lbs.
MD-1990	27 <sup>33</sup> / <sub>8</sub> x 24 x 50 <sup>1</sup> / <sub>2</sub>	19 x 42	160
MD-1991	27 <sup>33</sup> / <sub>8</sub> x 24 x 60 <sup>5</sup> / <sub>8</sub>	19 x 52 <sup>1</sup> / <sub>2</sub>	190
MD-1992	27 <sup>33</sup> / <sub>8</sub> x 24 x 69 <sup>3</sup> / <sub>8</sub>	19 x 61 <sup>1</sup> / <sub>2</sub>	215
MD-1993	27 <sup>33</sup> / <sub>8</sub> x 24 x 78 <sup>1</sup> / <sub>2</sub>	19 x 70	240
MD-1994	27 <sup>33</sup> / <sub>8</sub> x 24 x 85 <sup>1</sup> / <sub>2</sub>	19 x 77	260

Bud No.	Net Each, Lots of		
	1-4	5-9	10-14
MD-1990	\$185.00	\$166.50	\$148.00
MD-1991	206.00	185.40	164.80
MD-1992	229.00	206.10	183.20
MD-1993	255.00	229.50	204.00
MD-1994	278.00	250.00	222.00

### ACCESSORY FRONT DOORS

Bud No.	Fits Bud No.	Weight, Lbs.	Net Each, Lots of		
			1-4	5-9	10-14
MD-1995	MD-1990	19	\$23.40	\$21.05	\$18.70
MD-1996	MD-1991	25	26.00	23.40	20.80
MD-1997	MD-1992	30	28.90	26.00	23.10
MD-1998	MD-1993	35	32.20	29.00	25.75
MD-1999	MD-1994	39	35.00	31.60	28.10

## IMPERIAL INCLINED PANEL CONSOLE



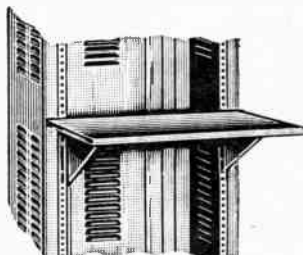
Smart looking all-aluminum console built for strength while keeping weight factor in mind. Assembly includes framework, top, bottom, two sides, and reinforced door with concealed hinges, and flush mounted latch. Joints are ball-cornered aluminum castings. Inclined panel set at 22<sup>1</sup>/<sub>2</sub>° angle. Cast brass, heavy duty hinges designed to enable components, blowers, etc., to be mounted on rear door. Framework for top, inclined panel area and front are extrusions, drilled and tapped to accept standard rack panels. Casters may be attached. Standard Bud aluminum panels may be used to enclose the front and inclined panel spaces. Sides, top, door are gray hammertone. Frame and bottom are smooth black.

Bud No.	Overall Size, Inches W. x D. x H.	Vertical Panel Size, Inches	Weight, Lbs.
BI-1828	20 <sup>15</sup> / <sub>8</sub> x 18 <sup>3</sup> / <sub>8</sub> x 40 <sup>11</sup> / <sub>4</sub>	19 <sup>1</sup> / <sub>4</sub> x 28 <sup>1</sup> / <sub>4</sub>	41
BI-2228	20 <sup>15</sup> / <sub>8</sub> x 22 <sup>3</sup> / <sub>8</sub> x 40 <sup>11</sup> / <sub>4</sub>	19 <sup>1</sup> / <sub>4</sub> x 28 <sup>1</sup> / <sub>4</sub>	47
BI-2419	20 <sup>15</sup> / <sub>8</sub> x 19 <sup>1</sup> / <sub>2</sub> x 43 <sup>3</sup> / <sub>8</sub>	19 <sup>1</sup> / <sub>4</sub> x 24 <sup>1</sup> / <sub>4</sub>	43
BI-2421	20 <sup>15</sup> / <sub>8</sub> x 21 <sup>3</sup> / <sub>8</sub> x 43 <sup>3</sup> / <sub>8</sub>	19 <sup>1</sup> / <sub>4</sub> x 24 <sup>1</sup> / <sub>4</sub>	46

Bud No.	Net Each, Lots of		
	1-9	10-14	15-19
BI-1828	\$162.75	\$146.50	\$130.20
BI-2228	170.00	153.00	136.00
BI-2419	190.00	171.00	152.00
BI-2421	200.00	180.00	160.00

## SHELF ASSEMBLY

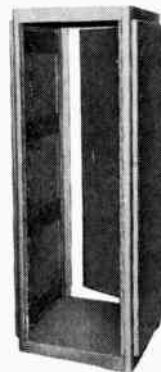
Useful as a desk, work space, etc. Can't fall off or tilt; will support any reasonable weight. Shelf portion supported by two brackets, punched to fit standard panel mounting strips. No panel support needed. Sides welded to bottom of shelf; mounting brackets slip into sides and fasten with two screws. 16 gauge steel; <sup>1</sup>/<sub>2</sub>" flange on all four sides; overall height, 7<sup>1</sup>/<sub>2</sub>". Brackets are 7" high. Specify black wrinkle (suffix "B"), gray wrinkle (suffix "G"), or light gray hammertone ("HG") finish.



Bud No.	Size, Inches D. x W.	Weight, Lbs.	Net Each, Lots of		
			1-14	15-24	25-34
SA-1719	16 x 22	14	\$12.00	\$10.80	9.60
SA-1720	20 x 22	15	12.15	10.95	9.70

## PRESTIGE BALL CORNER RACKS

Attractive, practical housing for permanent or mobile instrumentation. Consists of framework, top, bottom, two ball cornered sides, and a ball corner door. Sides attach to frame by means of a tongue-end-slot arrangement and two screws. Sides easily removable. Drilled and tapped adjustable panel mounting rails on all four vertical members of frame. Doors mount from either left or right. Base takes side panels on any of the four sides. Door and side clearance permits covering of equipment without damage to knobs or controls. Provision made for recessed casters. Extra doors available. Knockout holes for attaching two or more units together. Bottom will support 500 lbs. Panel rails 200 lbs. suspended vertically between rails. Units take Bud SD-1717 sliding drawer assembly or CD-2210 console drawer. Shipped knocked-down, with necessary hardware. Gray hammertone finish only.



Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of		
				1-9	10-14	15-19
CR-2280	66 <sup>1</sup> / <sub>2</sub> "	61 <sup>1</sup> / <sub>2</sub> "	179	\$125.15	\$112.65	\$100.10
CR-2281	71 <sup>1</sup> / <sub>2</sub> "	66 <sup>1</sup> / <sub>2</sub> "	186	133.45	120.10	106.75
CR-2282	82 <sup>1</sup> / <sub>2</sub> "	77"	213	149.90	134.90	119.90
DR-2290	Door for CR-2280		28	15.65	14.05	12.50
DR-2291	Door for CR-2281		33	16.65	15.00	13.30
DR-2292	Door for CR-2282		39	18.70	16.85	14.95

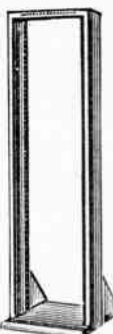
## PRESTIGE ADD-A-RACKS

Where relay racks are to be joined in series this assembly is lower in cost yet provides additional strength and improved appearance. Consists of top, bottom, rear door and framework. 16 gauge steel. Extra ball corner doors will fit adjustable panel mounting rails which are recessed. Gray hammertone.

Bud No.	Used to Add-A-Rack to	Net Each, Lots of		
		1-9	10-14	15-19
AR-2284	CR-2280	\$ 98.50	\$ 88.65	\$78.80
AR-2286	CR-2281	106.40	95.75	85.10
AR-2287	CR-2282	119.50	107.55	95.60

## DELUXE TELEPHONE-TYPE RELAY RACKS

Sturdy rack with extra strength and capacity. U-member is welded with ventilation at top. Panel-mounting rails, front and rear, tapped 10-32 with W.E. spacing. Made of 12 ga. steel. Chassis-type base drilled for RC-7716 casters. Brackets hold uprights to base; holes on both sides for bolting racks together. Add suffix H/G for gray hammertone; B for black wrinkle; or G for gray wrinkle. Nos. RR-1367-RR-1369 have 20<sup>1</sup>/<sub>4</sub>" base width and take 19" panels. Nos. RR-2467-RR-2469 have 25<sup>1</sup>/<sub>4</sub>" base width and take 24" panels.



Bud No.	Height, Overall	Panel Space	Net Each, Lots of		
			1-9	10-14	15-19
RR-1367	64 <sup>3</sup> / <sub>8</sub> "	61 <sup>1</sup> / <sub>2</sub> "	\$42.85	\$38.55	\$34.30
RR-1368	73 <sup>3</sup> / <sub>8</sub> "	70"	43.80	39.40	35.05
RR-1369	80 <sup>3</sup> / <sub>8</sub> "	77"	51.90	46.70	41.50
RR-2467	64 <sup>3</sup> / <sub>8</sub> "	61 <sup>1</sup> / <sub>2</sub> "	52.00	46.80	41.60
RR-2468	73 <sup>3</sup> / <sub>8</sub> "	70"	53.15	47.85	42.50
RR-2469	80 <sup>3</sup> / <sub>8</sub> "	77"	62.95	56.65	50.35

## TELEPHONE-TYPE RELAY RACKS

Standard Models: 3" channels and crossbars of 7/64" steel. Base is chassis type with side angles. Base drilled for RC-7756 casters. Black wrinkle (suffix "B") or gray hammertone (suffix "HG"). Heavy Duty Models RR-1265 and RR-1465: Two 3<sup>1</sup>/<sub>2</sub>" x 5" x 1<sup>1</sup>/<sub>4</sub>" 20<sup>1</sup>/<sub>4</sub>" long angles form base. Steel channels are 3" x 1<sup>1</sup>/<sub>2</sub>". 72<sup>1</sup>/<sub>4</sub>" long. Cross bars are 1<sup>1</sup>/<sub>2</sub>" x 2-3/32" angles. Panel holes tapped 12-24 with W.E. space. Black wrinkle finish only. Usually bolted to floor.

### FOR 19" WIDE PANELS

Bud No.	Height, Overall	Panel Space	Net Each, Lots of		
			1-9	10-14	15-19
RR-1263	35 <sup>3</sup> / <sub>8</sub> "	31 <sup>1</sup> / <sub>2</sub> "	\$25.10	\$22.60	\$20.10
RR-1363	40 <sup>3</sup> / <sub>8</sub> "	36 <sup>3</sup> / <sub>8</sub> "	24.20	21.80	19.35
RR-1264	70 <sup>3</sup> / <sub>8</sub> "	66 <sup>1</sup> / <sub>2</sub> "	28.65	25.80	22.90
RR-1364	75 <sup>3</sup> / <sub>8</sub> "	71 <sup>3</sup> / <sub>2</sub> "	27.70	24.95	22.15
RR-1366	81 <sup>1</sup> / <sub>4</sub> "	77"	33.00	29.70	26.40
RR-1265	72 <sup>1</sup> / <sub>4</sub> "	66 <sup>1</sup> / <sub>2</sub> "	66.15	59.55	52.90

### FOR 24" WIDE PANELS

RR-1463	35 <sup>3</sup> / <sub>8</sub> "	31 <sup>1</sup> / <sub>2</sub> "	\$30.85	\$27.75	\$24.70
RR-2463	40 <sup>3</sup> / <sub>8</sub> "	36 <sup>3</sup> / <sub>8</sub> "	33.50	30.15	26.50
RR-1464	70 <sup>3</sup> / <sub>8</sub> "	66 <sup>1</sup> / <sub>2</sub> "	35.00	31.75	26.80
RR-2464	75 <sup>3</sup> / <sub>8</sub> "	71 <sup>3</sup> / <sub>2</sub> "	35.00	31.75	28.25
RR-2466	81 <sup>1</sup> / <sub>4</sub> "	77"	45.05	40.55	36.05
RR-1465	72 <sup>1</sup> / <sub>4</sub> "	66 <sup>1</sup> / <sub>2</sub> "	78.00	70.45	62.65

## TABLE-MOUNT TELEPHONE RACK

Sturdy rack with chassis type base mounts heavy components on table where enclosures are not required. Panel mount rails recessed for flush mount of 19" panels. Shipped knocked down. Specify black wrinkle (suffix "B") or gray hammertone ("HG").

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of		
				1-14	15-24	25-34
RR-1248	24"	21"	15	\$11.05	\$ 9.95	\$ 8.85
RR-1249	31"	28"	18	13.50	12.15	10.80



# Relay Racks and Panels

## STANDARD RELAY RACK PANELS



Choice of 1/8" steel or 1/8" and 3/16" aluminum panels in both 19" and 24" widths. Specify color when ordering, use suffix B for black wrinkle; G for gray wrinkle; HG for gray hammertone; 5B for smooth blue; 5G for smooth gray. Aluminum panels 5005 H-36 or 2024 T-3 alloy.

### 19" WIDE PANELS

Ht., In.	1/8" STEEL				3/16" ALUMINUM			
	Bud No. PS-	Net Each, Lots of			Bud No. PA-	Net Each, Lots of		
		1-49	50-99	100-149		1-49	50-99	100-149
1 3/4	1250	\$1.00	\$ .90	\$ .80	1101	\$1.25	\$1.15	\$1.00
3 1/2	1251	1.20	1.10	.95	1102	1.65	1.50	1.30
5 1/4	1252	1.55	1.40	1.25	1103	2.20	2.00	1.75
7	1253	1.70	1.50	1.35	1104	2.80	2.50	2.25
8 3/4	1254	2.15	1.95	1.70	1105	3.25	2.95	2.60
10 1/2	1255	2.55	2.30	2.05	1106	4.15	3.75	3.30
12 1/4	1256	2.90	2.60	2.30	1107	4.75	4.30	3.80
14	1257	3.40	3.05	2.70	1108	5.50	4.95	4.40
15 1/2	1258	3.75	3.40	3.00	1109	6.15	5.55	4.90
17 1/2	1259	4.25	3.85	3.40	1110	6.75	6.10	5.40
19 1/4	1260	4.60	4.15	3.70	1111	7.35	6.65	5.90
21	1261	5.15	4.65	4.10	1112	8.10	7.30	6.50

### 24" WIDE PANELS

Ht., In.	1/8" STEEL				3/16" ALUMINUM			
	Bud No. SFA-	Net Each, Lots of			Bud No. PA-	Net Each, Lots of		
		1-49	50-99	100-149		1-49	50-99	100-149
1 3/4	3420	\$1.40	\$1.25	\$1.10	2401	\$1.80	\$1.60	\$1.45
3 1/2	3421	1.60	1.45	1.30	2402	2.30	2.05	1.85
5 1/4	3422	2.00	1.80	1.60	2403	3.15	2.85	2.50
7	3423	2.25	2.05	1.80	2404	3.95	3.55	3.15
8 3/4	3424	2.80	2.50	2.25	2405	4.60	4.15	3.70
10 1/2	3425	3.35	3.00	2.70	2406	5.90	5.30	4.70
12 1/4	3426	3.95	3.55	3.15	2407	6.65	6.00	5.30
14	3427	4.55	4.10	3.65	2408	7.75	7.00	6.20
15 1/2	3428	5.15	4.65	4.10	2409	8.70	7.85	6.95
17 1/2	3429	5.70	5.15	4.55	2410	9.55	8.60	7.65
19 1/4	3430	6.35	5.70	5.10	2411	10.50	9.45	8.40
21	3431	7.00	6.30	5.60	2412	11.55	10.40	9.25

## 3/16" 5005 H-36 ALUMINUM PANELS

Ht., In.	Standard 19" Wide Panels				Standard 24" Wide Panels			
	Bud No. PA-	Net Each, Lots of			Bud No. PA-	Net Each, Lots of		
		1-49	50-99	100-149		1-49	50-99	100-149
1 3/4	3101	\$2.00	\$1.80	\$1.60	2431	\$3.25	\$2.95	\$2.60
3 1/2	3102	2.65	2.40	2.10	2432	4.20	3.80	3.40
5 1/4	3103	3.55	3.20	2.85	2433	5.80	5.20	4.65
7	3104	4.45	4.00	3.55	2434	7.15	6.45	5.70
8 3/4	3105	5.25	4.75	4.20	2435	8.40	7.55	6.70
10 1/2	3106	6.60	5.95	5.30	2436	10.65	9.60	8.50
12 1/4	3107	7.55	6.80	6.05	2437	12.10	10.90	9.70
14	3108	8.80	7.90	7.05	2438	14.20	12.80	11.35
15 1/2	3109	9.85	8.85	7.90	2439	15.80	14.20	12.65
17 1/2	3110	10.80	9.70	8.65	2440	17.35	15.60	13.90
19 1/4	3111	11.85	10.65	9.50	2441	19.10	17.20	15.30
21	3112	12.95	11.65	10.35	2442	21.00	18.90	16.80

## 1/8" HARD ALUMINUM PANELS

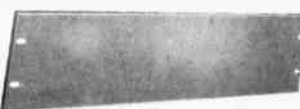
Ht., In.	19" Wide Panels				24" Wide Panels			
	Bud PA-	Net Each, Lots of			Bud PA-	Net Each, Lots of		
		1-49	50-99	100-149		1-49	50-99	100-149
1 3/4	1131	\$1.70	\$1.55	\$1.35	4221	\$2.40	\$2.15	\$1.90
3 1/2	1132	2.10	1.90	1.70	4222	3.10	2.80	2.50
5 1/4	1133	2.65	2.40	2.10	4223	3.90	3.50	3.10
7	1134	3.40	3.05	2.70	4224	5.05	4.55	4.05
8 3/4	1135	4.00	3.60	3.20	4225	5.90	5.30	4.70
10 1/2	1136	4.95	4.45	3.95	4226	7.30	6.60	5.85
12 1/4	1137	5.70	5.15	4.55	4227	8.45	7.60	6.75
14	1138	6.60	5.95	5.30	4228	9.70	8.75	7.75
15 1/2	1139	7.20	6.50	5.75	4229	10.60	9.55	8.50
17 1/2	1140	7.75	7.00	6.20	4230	11.50	10.35	9.20
19 1/4	1141	8.40	7.55	6.70	4231	12.40	11.15	9.90
21	1142	9.55	8.60	7.65	4232	14.25	12.85	11.40

## 3/16" HARD ALUMINUM PANELS

Ht., In.	19" Wide Panels				24" Wide Panels			
	Bud No. PA-	Net Each, Lots of			Bud No. PA-	Net Each, Lots of		
		1-49	50-99	100-149		1-49	50-99	100-149
1 3/4	3121	\$2.80	\$2.50	\$2.25	4280	\$4.50	\$4.05	\$3.60
3 1/2	3122	3.45	3.10	2.75	4281	5.55	5.00	4.45
5 1/4	3123	4.40	3.95	3.50	4282	7.15	6.45	5.75
7	3124	5.70	5.15	4.55	4283	9.15	8.25	7.30
8 3/4	3125	6.70	6.05	5.35	4284	10.70	9.65	8.55
10 1/2	3126	8.20	7.40	6.55	4285	13.15	11.85	10.50
12 1/4	3127	9.60	8.65	7.70	4286	15.35	13.80	12.30
14	3128	11.05	9.95	8.85	4287	17.85	16.05	14.30
15 1/2	3129	12.00	10.80	9.60	4288	19.25	17.35	15.40
17 1/2	3130	13.05	11.75	10.45	4289	20.90	18.80	16.70
19 1/4	3131	14.00	12.60	11.20	4290	22.60	20.35	18.10
21	3132	16.00	14.40	12.80	4291	25.95	23.35	20.75

## FLANGED PANELS 19" WIDE

Made of 16 gauge steel with a 1/2" flange all around. Elongated hole is .250" x .500". Spacing of holes is same as standard panel notching. Specify color when ordering; add suffix G, gray wrinkle; B, black wrinkle; M, gray hammertone; 5G, smooth light gray; SB, smooth light blue; CG, charcoal gray; 5, sand.



Bud No.	Height Inches	Weight Lbs.	Net Each, Lots of		
			1-49	50-99	100-149
FPS-1230	1 3/4	1	\$1.15	\$1.05	\$0.92
FPS-1231	3 1/2	1 1/2	1.20	1.10	.96
FPS-1232	5 1/4	2	1.40	1.25	1.12
FPS-1233	7	2 3/4	1.60	1.45	1.30
FPS-1234	8 3/4	3 1/4	2.00	1.80	1.60
FPS-1235	10 1/2	4	2.40	2.15	1.90
FPS-1236	12 1/4	4 1/2	2.80	2.50	2.25
FPS-1237	14	5	3.20	2.90	2.55
FPS-1238	15 3/4	5 3/4	3.65	3.30	2.90
FPS-1239	17 1/2	6 1/4	4.10	3.70	3.30
FPS-1240	19 1/4	6 3/4	4.50	4.05	3.60
FPS-1241	21	7 1/2	4.90	4.40	3.90

## SURFACE SHIELD PANELS

Bright aluminum alloy 5005 H-36 panels have blemish-free mill finish. Covered on both sides with sturdy, pressure-sensitive, white paper; protects against damage and useful for marking for drilling, positioning, etc. Standard notched sizes.

## STANDARD 19" WIDE PANELS

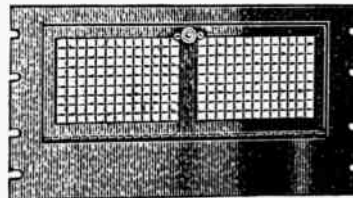
Ht., In.	1/8" ALUMINUM				3/16" ALUMINUM			
	Bud SFA-	Net Each, Lots of			Bud SFA-	Net Each, Lots of		
		1-49	50-99	100-149		1-49	50-99	100-149
1 3/4	1831	\$1.15	\$1.05	\$ .90	3161	\$2.05	\$1.85	\$1.65
3 1/2	1832	1.65	1.50	1.30	3162	2.75	2.50	2.20
5 1/4	1833	2.15	1.95	1.70	3163	3.70	3.35	2.95
7	1834	2.70	2.45	2.15	3164	4.50	4.05	3.60
8 3/4	1835	3.20	2.90	2.55	3165	5.40	4.85	4.30
10 1/2	1836	4.05	3.65	3.25	3166	6.85	6.15	5.40
12 1/4	1837	4.60	4.15	3.70	3167	7.90	7.10	6.30
14	1838	5.35	4.80	4.30	3168	9.10	8.20	7.30
15 1/2	1839	6.00	5.40	4.80	3169	10.15	9.15	8.10
17 1/2	1840	6.60	5.95	5.30	3170	11.20	10.10	8.95
19 1/4	1841	7.25	6.55	5.80	3171	12.25	11.05	9.80
21	1842	7.90	7.10	6.30	3172	13.30	12.00	10.65

## STANDARD 24" WIDE PANELS

Ht., In.	1/8" ALUMINUM				3/16" ALUMINUM			
	Bud SFA-	Net Each, Lots of			Bud SFA-	Net Each, Lots of		
		1-49	50-99	100-149		1-49	50-99	100-149
1 3/4	2451	\$2.00	\$1.80	\$1.60	3401	\$4.10	\$3.70	\$3.30
3 1/2	2452	2.65	2.40	2.10	3402	5.40	4.85	4.30
5 1/4	2453	3.45	3.10	2.75	3403	7.30	6.55	5.85
7	2454	4.40	3.95	3.50	3404	9.00	8.10	7.20
8 3/4	2455	5.15	4.65	4.10	3405	10.75	9.70	8.60
10 1/2	2456	6.50	5.85	5.20	3406	13.50	12.15	10.80
12 1/4	2457	7.35	6.60	5.90	3407	15.60	14.05	12.50
14	2458	8.60	7.75	6.90	3408	18.00	16.20	14.40
15 1/2	2459	9.65	8.70	7.70	3409	20.10	18.10	16.10
17 1/2	2460	10.50	9.45	8.40	3410	22.15	19.95	17.70
19 1/4	2461	11.55	10.40	9.25	3411	24.25	21.85	19.40
21	2462	12.65	11.40	10.15	3412	26.35	23.70	21.10

## VENTILATED DOOR RACK PANELS

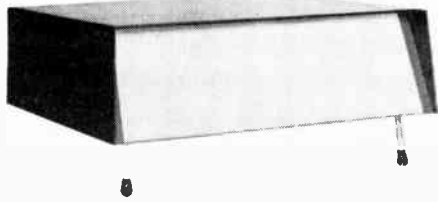
Perforated area in door provides adequate ventilation. Features a plunger type latch for positive locking and easy opening. Distance from hinged side of opening to bottom, 3 1/2"; from lock side of opening to top, 1". Available in black or gray wrinkle finish or gray hammertone finish (specify when ordering). 1/8" steel, 19" long.





# Cabinets and Accessories

## TILT-A-VIEW CABINETS



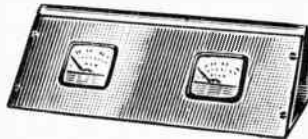
Affords selective vision to viewer who may be observing the action of meters or the position of dials and recorders. Employment of the detachable legs changes the position to any desired angle. Two piece construction permits immediate clear access to interior for installation and servicing.

Fabricated of 18 gauge steel. Lower segment slides into channels and flanges formed in top. Bottom is fastened by screws to the flanges on the lower edge of top. Hooded top shields sloping front panel from overhead glare. No screws appear in front or rear panels. Two 2" high plated legs with rubber feet. Legs screw into base on bottom section. Four rubber feet attached to bottom section. Vinyl texture finish. Charcoal gray body and light sand panels.

Catalog No.	Sizes, Inches H x W x D	Wgt. Lbs.	1-14	14-24	25-34
TV-2155	4½ x 15 x 10	8½	\$ 6.85	\$ 6.15	\$5.50
TV-2156	6½ x 16 x 12	13	8.00	7.20	6.40
TV-2157	8½ x 17 x 14	17	11.60	10.45	9.30

## DUAL-VIEW PANEL SUPPORT

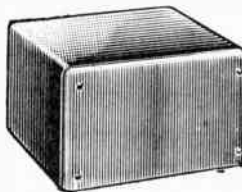
Designed for installation on a rack where an oblique view of instrument panel is desired. Engineered so that the entire assembly occupies no more space than size of supported panel. Panel support cover can be removed for easy servicing or installation of instruments. Made of heavy gauge steel with attractive contoured edges. Comes knocked-down with necessary assembly hardware, but without panels. Bud panels to fit these supports are PS-1253 (steel), and PA-1104 (aluminum) for Model IP-1120; PS-1255 (steel), and PA-1106 (aluminum) for IP-1121. Furnished in black wrinkle (add suffix "B"), gray hammertone (add suffix "HG"), gray wrinkle (add suffix "G"), smooth gray (suffix "SG"), or smooth blue (suffix "SB").



**Bud No. IP-1120** — Requires 19" x 7" panel space. Wt., 3½ lbs.  
 Net Each, Lots of 1-14 .....\$5.00  
 Lots of 15-24, Each.....\$4.50      Lots of 25-34, Each.....\$4.00  
**Bud No. IP-1121** — Requires 19" x 10½" panel space. Wt., 6¾ lbs.  
 Net Each, Lots of 1-14.....\$7.05  
 Lots of 15-24, Each.....\$6.35      Lots of 24-34, Each.....\$5.65  
 • New product.

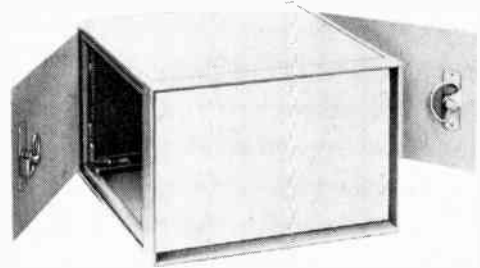
## CONTOUR UTILITY CABINETS

Attractively designed utility housing with rounded contour corners. Flanged panels also have rounded corners to preserve the symmetry of design. Constructed of 20 gauge steel. Both front and rear panels are removable; the front panel is solid while the rear panel is louvered for proper ventilation. Four rubber feet, attached to base, prevent scratching surface the unit is placed on. Body is smooth, dark gray enamel; panel is smooth light gray enamel.



Bud No.	Overall Size, inches			Net Each, Lots of		
	H.	D.	W.	1-24	25-49	50 & Over
CU-463	4½	6½	3¾	\$ 6.05	\$5.45	\$4.85
CU-465	4½	6½	5¾	7.00	6.30	5.60
CU-585	5½	8½	5¾	9.20	8.30	7.35
CU-587	5½	8½	7¾	10.00	9.00	8.00
CU-7125	7½	12½	5¾	10.20	9.20	8.15
CU-7127	7½	12½	7¾	10.85	9.75	8.70

## TUDOR CABINETS

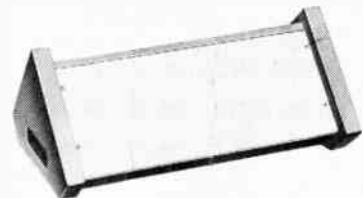


A top quality cabinet to compliment sophisticated equipment. Unique construction features and clean lines add to value and beauty.

Framework of Slimline Bud 901 aluminum extrusions and corner connectors. Side panels, top and bottom, are .030 aluminum; front panel is .090 aluminum; doors are 16 gauge steel. Recessing front panel affords protection to projecting knobs, dials, switches, etc. Cam action self adjusting spring latch holds doors securely against frame. Piano type hinge on doors. Four rubber feet furnished. Vinyl texture scratch resistant finish body and panel. Choice of charcoal gray (CG) or Sand (S). Specify when ordering.

Catalog No.	Size, in. HxWxD	Chassis No. Fits	Wt.	1-9	10-14	15-19
S-609	6x9½x8	AC-1413	4 lb. 4 oz.	\$49.25	\$44.35	\$39.40
S-612	8x12x10	AC-1418	7 lb.	54.20	48.80	43.35
S-614	10x14x12	AC-413	9 lb. 8 oz.	58.80	52.90	47.05

## MARK-T CABINETS



Designed particularly for a housing for controls, dials, meters, switches, lights, etc. Rear door swings open all the way for quick access to contents. Comfortable angle for easy viewing. All welded construction. 16 gauge steel. Removable front panel held by decorative screws. Cam action self adjusting spring latch holds door securely against frame. Piano-type hinge on door. Recessed, safety shielded carrying handles. Four rubber feet included. Charcoal grey, vinyl texture, scratch resistant finish body. Light gray enamel panel and door.

Catalog No.	Width	Panel or Door Area	Wgt. Lbs.	1-14	15-24	25-34
MT-214	16"	5¾" x 14"	9	\$26.75	\$24.10	\$21.40
MT-219	21"	5¾" x 19"	12	29.25	26.35	23.40
MT-224	26"	5¾" x 24"	14½	34.45	31.00	27.55

## POWER OUTLET STRIPS



For more convenient, safer wiring in cabinets and racks or wherever multiple 110-125 volt outlets are required. Each strip is a complete unit ready for use; no field wiring is required. Strip is installed by snapping into mounting clips at convenient locations. When used in cabinets, racks or consoles there is no danger of accidental contact between power cord and contents.



Wire capacity is No. 12AWG Solid TW conductor. Cross section of steel race way is ¾" x 1½" and receptacles are spaced on 6" centers except POS-4. Double wipe contact receptacle terminals and grounding terminal are 15 amp, 125 volt. Each length of strip includes a 15 amp overload breaker with push-button reset and 6" rubber covered cord and grounding plug. Two sheet metal spring clips furnished with each section. All components are UL approved. Finished in light gray enamel.

Catalog No.	No. of Outlets	Length	Wgt. Lbs.	1-S	6-11	12-17
POS-4	4	17½"	1¾	\$19.45	\$17.50	\$15.55
POS-7	7	48"	3¾	19.80	17.85	15.85
POS-9	9	60"	4¾	21.15	19.05	16.90
POS-11	11	72"	5	21.65	19.50	17.30



# Cabinets and Accessories

## PRESTIGE BALL CORNERED VERSA-CABINETS

A standard Prestige Versa-Cabinet consists of the framework, two ball cornered sides, perforated metal back, solid bottom plate and two supporting channels.

The front, back, top, and bottom may be quickly removed for access to interior for easy servicing.

Standard 19" panels may be attached to the top, bottom, front or back of cabinet to provide complete closure. Perforated top panel may also be used.

An opening is provided across bottom of back for cable leads, controls or knobs. Size of opening is 1 1/4" x 19". Bud Steel Panel PS-1250 or Aluminum Panel PA-1101 may be used to close opening if desired. Perforated back may be removed and a standard steel or aluminum panel may be used to close back opening entirely.

Sides are attached by means of holding flanges on the bottom of the frame and nut at top.

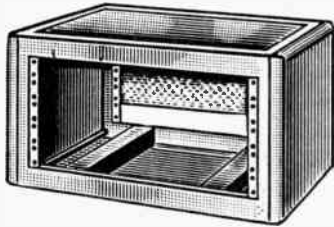
Handles may be fastened to sides. When the unit is carried by handles, the design of the flange mounting distributes the weight properly for safe carrying. Flange design eliminates possibility of sides becoming accidentally detached while equipment is being carried.

Cabinets may be fastened side-to-side in batteries of two or more or may be stacked one on another. Provision is made for fastening cabinets together either vertically or horizontally by means of four holes on each side and four holes in top and bottom of frame.

Four rubber feet are regularly supplied to prevent marring of the surface upon which cabinet may be placed.

Top may be closed by using PS-1256HG or PA-1107HG solid panels or by using PS-616HG or PS-815HG door panels or by PC-1710 perforated steel top plate.

Clear inside width — 22 1/4". Overall width — 23 3/16". Clear inside depth — 15". Overall depth — 15 25/32". Weight 28 to 35 lbs. Finished in gray hammertone.



## GRAND PRIX CABINETS

A concept in styling not elsewhere available in standard electronic cabinetry. Design compatible with every decor and ideal for use where appearance is important. Practical for audio equipment, also for medical and other electronic equipment and controls.

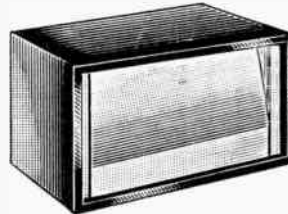
Engineered to make installation and servicing of contents easy. The upper and lower segments are held together by sturdy brushed aluminum extrusions. Each extrusion slides over the end flanges of the body segments and is held in place with set screws.

Body and front and rear panels made of 20 gauge steel. Four rubber feet are furnished.

Choice of light gray hammertone body with matching panels or smooth dark gray body with smooth light gray panels. Please specify (HG) or (SG) when ordering.

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of		
			1-24	25-49	50-99
MD-1	4 3/8 x 19 1/8 x 10 1/2	7 3/4	\$14.45	\$13.00	\$11.55
MD-2	7 1/8 x 19 1/8 x 10 1/2	7 3/4	15.00	13.50	12.00
MD-3	4 3/8 x 12 1/8 x 8 3/4	7	11.55	10.50	9.25

## FUTURA CABINETS



A multipurpose housing for small electronic equipment and devices. Its modern, rectangular design harmonizes with modular enclosures. Front panels are held in place by body flanges eliminating the use of panel mounting screws.

Top and sides are formed of one piece of steel to which is fastened the base, thus, the two parts may be quickly disassembled to expose the entire contents. Body and rear panel are of 20 gauge steel while front panels are 18 gauge. Four rubber feet attached to base. Chassis may be affixed to base, front or rear panels.

Choice of light gray hammertone body with smooth light gray panel or smooth dark blue body with smooth light blue panel. Please specify (HG) or (SB) when ordering.

### VERSA-CABINETS

Bud No.	Height, Overall	Panel Space	Rear Panel	Net Each, Lots of		
				1-14	15-24	25-34
PC-1700	8 3/4"	5 1/4"	3 3/8"	\$30.05	\$27.05	\$24.05
PC-1701	10 1/2"	7"	5 1/4"	31.85	28.65	25.50
PC-1702	12 1/2"	8 3/4"	7"	33.90	30.50	27.10
PC-1703	14"	10 1/2"	8 3/4"	36.95	33.25	29.55
PC-1704	15 3/4"	12 1/2"	10 3/8"	38.85	34.95	31.10

### PERFORATED STEEL TOP PLATE

Bud No.	Size, In.	Wt., Lbs.	Net Each, Lots of		
			1-14	15-24	25-34
PC-1710	12 1/4 x 19	2 1/2	\$3.15	\$2.85	\$2.50

• New product.

Bud No.	Overall Size, In. W. x H. x D.	Uses Bud Chassis No.	Net Each, Lots of		
			1-24	25-49	50-99
MD-1960	13 x 7 x 8	CB-40	\$8.25	\$7.45	\$6.60
MD-1961	14 x 8 x 9	CB-997	8.80	7.90	7.05
MD-1962	16 x 8 x 9	CB-998	9.15	8.25	7.30
MD-1963	13 x 7 x 8	CB-40	9.65	8.70	7.70
MD-1964	14 x 8 x 9	CB-997	10.30	9.25	8.25
MD-1965	16 x 8 x 9	CB-998	11.00	9.90	8.80

## CLASSIC CABINETS

Truly functional beauty establishes this cabinet as a new concept in enclosures. Patterned .050 aluminum panels and smooth extruded 6063-T5 aluminum structure. Has 18 gauge vertically adjustable chassis supports. Front and rear mounting rails tapped 10-32; W.E. spacing. Accepts 19" panels. Clear inside depth, panel to panel is 17". Furnished completely assembled with two heavy duty aluminum handles and four rubber feet. Finish is vinyl texture. Choice of charcoal gray (CG) or sand (\$). Specify when ordering.



Bud. No.	Panel Space, Inches		Weight Lbs.	Net Each, Lots of		
	Height In.	Space In.		1-4	5-9	10-14
AGC-266	4-57/64	3 1/2	17	\$80.90	\$72.80	\$64.70
AGC-267	6-41/64	5 1/4	19	83.00	74.70	66.40
AGC-268	8-25/64	7	20	87.50	78.75	70.00
AGC-269	10-9/64	8 3/4	22	89.60	80.65	71.70
AGC-270	11-57/64	10 1/2	23	92.70	83.45	74.15
AGC-271	13-41/64	12 1/4	25	96.35	86.70	77.10
AGC-272	15-25/64	14	26	99.35	89.40	79.50
AGC-273	17-9/64	15 3/4	28	103.00	92.70	82.40
AGC-274	18-57/64	17 1/2	29	106.00	95.40	84.80
AGC-275	20-41/64	19 1/4	31	108.50	97.65	86.80
AGC-276	22-25/64	21	32	112.00	101.00	89.60
AGC-277	24-9/64	22 3/4	34	115.00	103.50	92.00
AGC-278	25-57/64	24 1/2	35	118.00	106.20	94.40
AGC-279	27-41/64	26 1/4	37	121.00	108.90	96.80
AGC-280	29-25/64	28	38	123.75	111.40	99.00

## CLASSIC DOORS

Use on Classic Cabinets or any rack or cabinet with 19" panel space by attaching to panel mounting rails. Made of 1/8" 5005-H 36 aluminum alloy. Stop fits on one panel mounting rail, hinged door attaches to other mounting rail. If an opening is required above and/or below door, select a door whose height is smaller than the opening it is intended to cover. Equipped with plated, flush type latch. Finished in vinyl texture. Choice of charcoal gray (CG) or sand (\$). Use suffix when ordering.



Bud. No.	Height	Width	Weight Lbs.	1-4	5-9	10-14
AGD-366	3 1/2	19	1/2	\$ 6.00	\$ 5.40	\$ 4.80
AGD-367	5 1/4	19	3/4	7.30	6.55	5.85
AGD-368	7	19	2	8.50	7.65	6.80
AGD-369	8 3/4	19	2 3/4	9.50	8.55	7.60
AGD-370	10 1/2	19	3	10.40	9.35	8.50
AGD-371	12 1/4	19	3 3/4	11.40	10.25	9.10
AGD-372	14	19	3 1/2	12.20	11.00	9.75
AGD-373	15 3/4	19	4	13.00	11.70	10.40
AGD-374	17 1/2	19	4 1/2	14.00	12.60	11.20
AGD-375	19 1/4	19	5 1/4	14.90	13.40	11.90
AGD-376	21	19	6 1/4	15.90	14.30	12.70
AGD-377	22 3/4	19	6 1/2	16.70	15.00	13.35
AGD-378	24 1/2	19	7	17.50	15.75	14.00
AGD-379	26 1/4	19	7 1/2	18.70	16.85	14.95
AGD-380	28	19	8	19.90	17.90	15.90



# Cases, Racks, Chassis

## TRANSICASE PORTABLE INSTRUMENT CASES

Handsome, portable instrument case with unlimited applications. Contour design fabricated of .040" aluminum with flush-fitting aluminum panel. Foam-rubber lined lid protects instruments in case; mounted on two slide-open, bright nickel-plated hinges with toggle catches. Rubber feet a; both base and back; metal plugs supplied to fill holes if rubber feet are not used. Bright nickel-plated handle. Specify Color: Add suffix SB for smooth blue; SG, for smooth gray enamel.



Bud No.	Inside Panel Size, Inches	Clear Internal Space		Internal Aperture	Overall Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Lots of		
		Below Panel	Above Panel				1-9	10-14	15-19
TC-300	8 1/4 x 5 1/4	4 1/2	1 1/2	8" x 5 1/4"	10 1/4 x 7 x 6	3 3/4	\$26.20	\$23.60	\$20.95
TC-301	10 3/8 x 7 1/4	4 1/2	1 1/2	9 1/8 x 7 1/4"	11 3/8 x 8 1/4 x 6	4 1/2	26.80	24.10	21.45
TC-302	11 1/4 x 7 1/4	5 1/2	1 1/2	10 1/4 x 7 1/4"	13 x 9 x 7 1/2	5	27.30	24.60	21.85
TC-303	15 1/4 x 7 1/4	5 1/2	1 1/2	14 1/4 x 7 1/4"	16 1/2 x 9 x 7 1/2	6	27.85	25.05	22.30
TC-304	19 x 7	7 1/2	1 1/2	18 1/4 x 7 1/4"	20 1/4 x 8 x 9	10	29.30	26.35	23.45

## DELUXE CABINET RACKS

Rounded corners, red-lined chrome trim. There is a recessed, hinged door on the top with a snap catch. These racks are made of heavy gauge steel and are of sturdy construction. The five large sizes have a hinged rear door, while the small sizes have a welded panel in the rear. Adequate ventilation is assured by means of louvered sides and a 2 1/2 inch opening in the bottom of the back extends the entire width. "NO-SCRATCH" EXTENDED METAL FEET ARE EMBOSSED ON THE BOTTOM. In black wrinkle (add suffix "B" to number when ordering), gray wrinkle (suffix "G"), and hammertone gray (suffix "HG"). Size: 14 1/2" x 22" w. Flts 19" panels. Full size aluminum Relay Rack Panel supplied at no extra cost.



Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of		
				1-14	15-24	25-34
CR-1726	8 23/32"	7"	24	\$16.85	\$15.15	\$13.50
CR-1741	10 5/8"	8 3/8"	28	18.45	16.60	14.75
CR-1740	12 5/8"	10 1/2"	31	21.10	19.00	16.90
CR-1742	14 1/8"	12 1/2"	32	22.20	20.00	17.75
CR-1739	15 1/8"	14"	35	29.45	26.50	23.55
CR-1743*	19 3/8"	17 1/2"	40	28.95	26.05	23.15
CR-1727*	22 1/8"	21"	43	30.90	27.80	24.70
CR-1744*	28 1/8"	26 1/4"	51	33.25	29.90	26.60
CR-1728*	33 1/8"	31 1/2"	58	35.30	31.75	28.25
CR-1745*	36 1/8"	35"	63	37.10	33.40	29.70

\*These sizes have both top and rear doors.

## HEAVY DUTY CABINET RACKS

Similar to our Deluxe Cabinet Rack except with greater depth and extra strength. These racks are shipped knocked down with all necessary assembly hardware. Panel mounting rails are an integral part of the sides. Removable rear door. Louvered sides and 2 1/2" x 17 1/8" opening in bottom or back assure adequate ventilation. Made of 16 gauge steel. Where it is advantageous to have a bank of these cabinet racks, an Add-a-Cab feature is provided. The method of assembly is the same as our Add-a-Rack series. Specify gray hammertone (HG), black wrinkle (B), or gray wrinkle (G). Size 17 1/8" dia x 22" w.

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of		
				1-14	15-24	25-34
CR-1736	24 1/2"	19 1/2"	50	\$29.40	\$26.45	\$23.50
CR-1737	31 1/2"	26 1/4"	57	31.70	28.55	25.35
CR-1738	40 1/4"	35"	70	37.65	33.90	30.10
ACR-1936	Add-A-Cab for CR-1736		42	28.00	25.20	22.40
ACR-1937	Add-A-Cab for CR-1737		52	30.20	27.20	24.15
ACR-1938	Add-A-Cab for CR-1738		57	35.85	32.25	28.70

## PORTACAB INSTRUMENT CABINETS

### PORTACABS



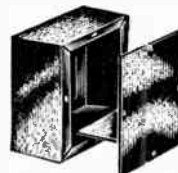
These attractive and versatile cabinets are desirable as housings for instrumentation requiring highly stylized appearance. The body is of one piece .050 aluminum with contoured corners. Panel is .062 aluminum.

Flexible recessed handle permits easy portability as well as vertical stacking. Well louvered for adequate ventilation. Since louvers point inward, side-to-side placement of cabinets is possible without space loss. Welded back has opening.

Front panel mounting flanges 1/2" wide. Aluminum front panel is recessed 1/2". The perimeter of the panel follows the contour of the body. Four detachable rubber feet furnished. Gray hammertone finish only.

Bud No.	Size, Inches W. x D. x H.	Wt., Lbs.	Bud Chassis	Net Each, Lots of		
				1-24	25-49	50-99
WA-1540	6 1/8 x 8 x 8	2 1/2	AC-402	\$10.60	\$ 9.55	\$ 8.50
WA-1541	8 1/8 x 12 x 9	3	AC-407	13.85	12.45	11.10
WA-1542	10 1/8 x 8 x 8	3 1/2	AC-406	12.30	11.05	9.85
WA-1543	11 1/8 x 18 x 11	6 1/2	AC-416	15.60	14.05	12.50
WA-1544	14 1/8 x 18 x 12	7 3/4	AC-420	17.95	16.15	14.35

## MINIATURE UTILITY CABINETS

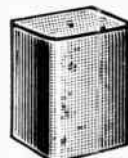


Ideal housing for construction of electronic devices using miniature tubes and transistorized circuitry. Front panel has a built-on chassis. Both front and rear panels are removable; fastened by self-tapping screws. Black wrinkle enamel finish.

Bud No.	Size, In. H. x W. x D.	Chassis W. x D., In.	Net Each, Lots of		
			1-49	50-99	100-149
C-1793	4 x 4 x 2	3 1/2 x 1 1/2"	\$1.60	\$1.45	\$1.30
C-1794	4 x 5 x 3	4 1/2 x 2 1/2"	1.80	1.60	1.45
C-1795	5 x 4 x 3	3 1/2 x 2 1/2"	2.00	1.80	1.60
C-1796	6 x 5 x 4	4 1/2 x 3 1/2"	2.05	1.85	1.65
C-1797	5 x 6 x 4	5 1/2 x 3 1/2"	2.30	2.05	1.85
C-1798	6 x 6 x 6	4 1/2 x 5 1/2"	2.65	2.40	2.10

\*1" high. †1 1/4" high. ‡1 1/2" high.

## STREAMLINED MULTI-PURPOSE CABINETS



Attractive cabinet with curved corners; uses chassis No. CB-1625. Back is entirely open for ventilation. Finished in light gray wrinkle only.

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of		
			1-49	50-99	100-149
C-1787	4 1/2 x 5 1/2 x 3 1/2	1	\$1.85	\$1.65	\$1.50
C-1788	6 1/2 x 5 1/2 x 3 1/2	1 1/2	1.95	1.75	1.55

## MINIATURE SPEAKER CASES

Safe, convenient steel housing for 2" and 3" speakers. Black wrinkle finish only.



Bud No.	For Size Speaker	Net Each, Lots of		
		1-24	25-49	50-99
CS-1685	2"	\$1.95	\$1.75	\$1.55
CS-1686	3"	1.95	1.75	1.55

## UNIVERSAL SLOPING PANEL CABINETS

Fully enclosed and shielded housing with one-piece detachable back and sides fastened to body with four self-tapping screws. Components may be mounted on back, bottom, sides or front. Will accommodate Bud Miniature Aluminum Chassis. Size: 4" d. x 4 1/4" h. Gray hammertone finish only.



### ALUMINUM MODELS

Bud No.	Uses Chassis	Width	Wt., Lbs.	Net Each, Lots of		
				1-49	50-99	100-149
AC-1610	CB-1617	4"	1 1/2	\$2.05	\$1.85	\$1.65
AC-1611	CB-1618	5"	5"	2.15	1.95	1.70
AC-1612	CB-1619	6"	3 1/2	2.30	2.05	1.85
AC-1613	CB-1620	7"	3 1/2	2.55	2.30	2.05

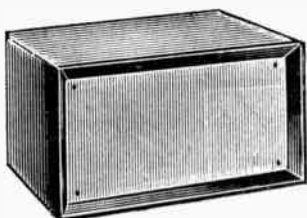
### STEEL MODELS

C-1606	CB-1617	4"	3 1/2	\$1.75	\$1.60	\$1.40
C-1607	CB-1618	5"	3 1/2	1.85	1.65	1.50
C-1608	CB-1619	6"	3 1/2	2.00	1.80	1.60
C-1609	CB-1620	7"	3 1/2	2.30	2.05	1.85



# Cabinets, Foundations

## SHADOW CABINETS



An extremely versatile housing since both front and rear panels as well as the bottom may be removed for installation or servicing purposes. Unusually attractive appearance is created by recessing the front panel one inch as well as by beveling the front edges of the body.

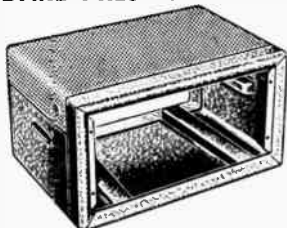
The recessed front panel prevents accidental movement of controls, knobs, and switches attached to it.

The two piece body of the shadow cabinet is made of 18 gauge steel and the panels of 16 gauge steel. Finish is light gray hammertone.

Four rubber feet attached to the bottom of the cabinet eliminate marring of the surface on which it may be placed.

Bud No.	Overall Size, In. W. x H. x D.	Uses Bud Chassis No.	Net Each, Lots of		
			1-24	25-49	50-99
SB-2140	14 1/4 x 8 x 10	AC-424, CB-704	\$7.55	\$6.80	\$6.05
SB-2141	13 1/4 x 7 1/2 x 9	AC-407, CB-1193	5.80	5.20	4.65
SB-2142	17 x 9 1/2 x 11	AC-411, CB-666	10.25	9.25	8.20
SB-2143	16 1/2 x 6 x 9	AC-409, CB-1194	5.60	5.05	4.50

## STANDARD PRESTIGE CABINETS

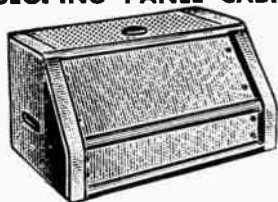


Has two supporting rails, laterally movable to fit any chassis width, and shielded handle slots. Finger holes in cover for easy lifting. Of 16 gauge steel. Takes 19" panels. With embossed feet. Size: 21 1/4" w. x 14 1/4" d. overall. Gray hammertone finish.

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of		
				1-14	15-24	25-34
C-1440	9 1/4"	7"	26	\$31.45	\$28.30	\$25.15
C-1441	11 1/4"	8 3/4"	27	33.15	29.85	26.50
C-1442	13 1/4"	10 1/2"	29	36.15	32.55	28.90
C-1550*	9 1/4"	7"	26	33.70	30.35	26.95
C-1551*	11 1/4"	8 3/4"	27	36.05	32.45	28.85
C-1552*	13 1/4"	10 1/2"	29	39.20	35.30	31.35

\*With perforated cover; others solid.

## PRESTIGE SLOPING PANEL CABINETS



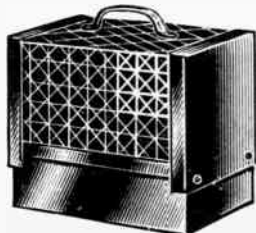
Ventilated top opens completely. Removable panel trim bar permits installation or removal of panels with chassis attached. Top panel is swept back for easy viewing. Takes standard 19" panels. Shielded lifting handles. Rear opening 2 1/2" x 18" for controls, etc.; panel recess 1 1/4"; bottom panel 3 1/2" high. Size: 22" w. x 9" top depth. Gray hammertone finish only. Weight, 26, 28 and 31 lbs.

Bud No.	Size, In. H. x D.	Slope Height	Net Each, Lots of		
			1-14	15-24	25-34
C-1555	11 1/4 x 14 3/4	7"	\$39.70	\$35.75	\$31.75
C-1556	13 1/4 x 15 1/4	8 3/4"	42.65	38.40	34.10
C-1557	14 1/4 x 16 1/4	10 1/2"	45.70	41.15	36.55

## MINIATURE AMPLIFIER FOUNDATION

With the increased use of miniature tubes, smaller cabinets can be used when designing a compact amplifier. This amplifier foundation was designed expressly for this purpose. The chassis is 5" x 7" x 2". Height, 6". The cover is made of perforated metal. A streamlined handle makes this cabinet portable. Black wrinkle only. 1 1/2 lbs.

Bud No.	Net Each, Lots of		
	1-24	25-49	50-99
CA-1754	\$4.85	\$4.35	\$3.90



## SLOPING PANEL CABINETS



Hinged top for easy access; front panel also removable. Specify black wrinkle (suffix "B") or gray hammertone (suffix "HG").

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of		
			1-24	25-49	50-99
C-1584	6 1/2 x 7 1/4 x 7 3/8	2 1/2	\$3.80	\$3.40	\$3.05
C-1587	8 x 8 1/2 x 8	2 3/4	5.25	4.75	4.20
C-1585	6 1/2 x 9 1/4 x 7 3/8	3	4.35	3.90	3.50
C-1588	8 x 10 1/4 x 8	3 1/4	5.80	5.20	4.65
C-1586	6 1/2 x 11 1/4 x 7 3/8	3 1/2	5.00	4.50	4.00
C-1894	8 x 14 1/4 x 8	4	6.15	5.55	4.90
C-1892	8 x 13 1/4 x 8 1/2	5 1/4	6.90	6.20	5.50
C-1896	9 x 18 1/4 x 8 1/2	7	8.85	7.95	7.10
C-1893	10 x 18 1/4 x 10 1/2	8 1/2	9.10	8.20	7.30

## SLOPING PANEL FOUNDATIONS



Removable top cover mounted on 3 1/2" sloping front chassis. Cover gray wrinkle, chrome trim; black wrinkle chassis. Overall ht., 9 1/2".

Bud No.	Chassis W. x D.	Top Depth	Wt., Lbs.	Net Each, Lots of		
				1-24	25-49	50-99
CA-1980	10" x 8"	5"	5	\$ 8.68	\$ 7.81	\$6.94
CA-1981	12" x 10"	7"	6	9.35	8.42	7.48
CA-1982	17" x 10"	7"	8	10.69	9.62	8.55
CA-1983	17" x 13"	10"	10	11.19	10.07	8.95

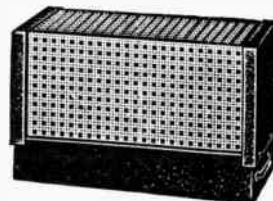
## STREAMLINED FOUNDATIONS



Attractive unit houses amplifiers and similar apparatus. Standard chassis with removable top cover with chrome trim. Slides and ends louvered. Handles attached to chassis. Overall height, 9"; chassis 2 1/4" high. Specify black wrinkle (suffix "B"), or gray wrinkle (suffix "G").

Bud No.	Size, In. W. x D.	Wt., Lbs.	Net Each, Lots of		
			1-24	25-49	50-99
CA-1750	10 1/4 x 5	4 3/4	\$ 8.20	\$ 7.40	\$6.55
CA-1751	12 1/4 x 7	5	9.70	8.75	7.75
CA-1752	17 1/4 x 7	8	10.30	9.25	8.25
CA-1753	17 1/4 x 10	9	11.20	10.10	8.95

## STANDARD FOUNDATIONS



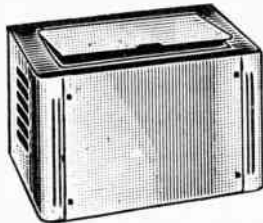
Standard chassis with perforated cover for maximum ventilation. Handles are attached to chassis. Chassis 2 1/2" h., except CA-1128. 3" h. Overall height, 8 3/4", except CA-1128, 8 13/16". Black wrinkle finish only.

Bud No.	Size, Inches W. x D.	Wt., Lbs.	Net Each, Lots of		
			1-24	25-49	50-99
CA-699	9 3/4 x 5 1/4	3	\$6.80	\$6.10	\$5.45
CA-1125	13 3/4 x 5 1/4	4 3/4	7.05	6.35	5.65
CA-1126	17 1/4 x 7 1/4	6	8.00	7.20	6.40
CA-1128	12 1/4 x 10 1/4	7	8.25	7.45	6.60



# Cabinets and Cases

## STREAMLINED CABINETS

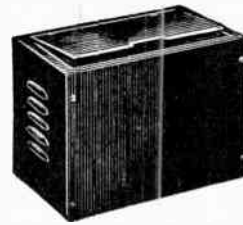


Ideal for housing devices not requiring excessive depth. Recessed, hinged cover with convenient finger lift for access. Panels fit flush with embossed, rounded corner fronts. Recommended for use with Bud Open End Chassis. Back opening 3 1/2" h. provides for cables or rear controls; louvered sides provide ample ventilation. **Size:** 8 1/2" d. x 8" h., overall. Specify black wrinkle (suffix "B") or gray wrinkle (suffix "G") or gray hammertone (suffix "HG") finish.

Bud No.	Width Overall	Panel Space	Wt., Lbs.	Net Each, Lots of		
				1-24	25-49	50-99
CD-1480	10 1/2"	8" x 8"	5 3/4	\$ 6.85	\$ 6.15	\$ 5.50
CD-1481	12 1/2"	8" x 10"	6	6.95	6.25	5.55
CD-1482	14 1/2"	8" x 12"	6 1/2	7.30	6.55	5.85
CD-1483	16 1/2"	8" x 14"	7	7.80	7.00	6.25
CD-1484	18 1/2"	8" x 16"	7 3/4	8.50	7.65	6.80
CD-1485*	20 1/2"	12" x 18"	15	17.25	15.55	13.80

\*Depth is 12"; has 1/2" vertical chrome strip at corners.

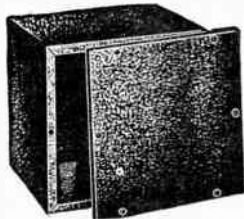
## INSTRUMENT AND RECEIVER CABINETS



Economy version of the Streamlined Cabinet series. Recessed, hinged cover provides access to contents. Front panel is attached with self-tapping screws. Louvers provide ample ventilation. Bud Open End Chassis are suited for use with these units. Black wrinkle finish only.

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of		
			1-24	25-49	50-99
C-973	7 x 8 x 3	5	\$ 5.05	\$ 4.55	\$ 4.05
C-993	7 x 10 x 3	5 1/2	5.85	5.25	4.70
C-994	7 x 12 x 3	5 3/4	6.05	5.45	4.85
C-995	7 x 14 x 3	6	6.40	5.75	5.10
C-1190	8 x 16 x 3	7	9.20	8.30	7.35
C-975	9 x 15 x 11	8	11.10	10.00	8.90
C-999	12 x 18 x 12	15	12.00	10.80	9.60

## METAL UTILITY CABINETS



Highly useful housing for all types of electronic equipment such as mixers, monitors, frequency meters, etc. Both front and back panels are removable for easy accessibility.

### STEEL CABINETS

Specify black wrinkle (suffix "B") or gray hammertone (suffix "HG") finish.

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of		
			1-49	50-99	100-149
CU-883	2 x 4 x 4	3/4	\$1.30	\$1.15	\$1.05
CU-728	3 x 5 x 4	1 1/8	1.50	1.35	1.20
CU-729	4 x 5 x 6	1 1/2	1.70	1.55	1.35
CU-1098	6 x 6 x 6	2 1/2	2.55	2.30	2.05
CU-1099	5 x 6 x 9	3	2.85	2.55	2.30
CU-879	7 x 8 x 10	5	4.05	3.65	3.25
CU-1124	6 x 7 x 12	4	3.95	3.55	3.15
CU-880	8 x 10 x 10	5 1/2	4.85	4.35	3.90
CU-881	8 x 11 x 12	6	5.30	4.75	4.25
CU-882	7 x 9 x 15	7 1/2	5.45	4.90	4.35

### NATURAL FINISH ALUMINUM CABINETS\*

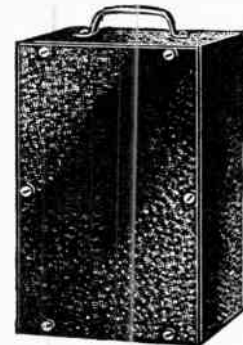
Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	1-49	50-99	100-149
AU-1083	2 x 4 x 4	1/2	\$1.55	\$1.40	\$1.25
AU-1028	3 x 5 x 4	1 1/8	1.65	1.50	1.30
AU-1029	4 x 5 x 6	1 1/2	1.80	1.60	1.45
AU-1039	6 x 6 x 6	2 1/2	2.65	2.40	2.10
AU-1040	5 x 6 x 9	3	3.05	2.75	2.45

### GRAY HAMMERTONE ALUMINUM CABINETS\*

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	1-49	50-99	100-149
AU-1083HG	2 x 4 x 4	1/2	\$1.80	\$1.60	\$1.45
AU-1028HG	3 x 5 x 4	1 1/8	2.05	1.85	1.65
AU-1029HG	4 x 5 x 6	1 1/2	2.20	2.00	1.75
AU-1039HG	6 x 6 x 6	2 1/2	2.90	2.60	2.30
AU-1040HG	5 x 6 x 9	3	3.40	3.05	2.70

\*Aluminum alloy 5005 H-14.

## CARRYING CASES



A versatile cabinet that accepts a variety of equipment. Removable front and back panels; handle may be attached to top. Available in sturdy steel or lightweight aluminum to suit your requirements.

### STEEL CASES

Specify black wrinkle (suffix "B") or gray hammertone (suffix "HG") finish when ordering.

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of		
			1-24	25-49	50-99
CC-1095	5 x 6 x 9	3 1/4	\$3.65	\$3.30	\$2.90
CC-1091	5 x 9 x 6	3 1/4	3.65	3.30	2.90
CC-1096	6 x 7 x 12	4	5.05	4.55	4.05
CC-1092	6 x 12 x 7	4	5.05	4.55	4.05
CC-1097	7 x 7 1/2 x 15	5	5.65	5.10	4.50
CC-1100	8 x 10 x 10	5	5.85	5.25	4.70
CC-1093	7 x 15 x 9	5	7.10	6.40	5.70

### NATURAL FINISH ALUMINUM CASES\*

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of		
			1-24	25-49	50-99
ACC-2095	5 x 6 x 9	1 1/8	\$3.75	\$3.40	\$3.00
ACC-2091	5 x 9 x 6	1 1/8	3.75	3.40	3.00
ACC-2096	6 x 7 x 12	1 1/8	5.45	4.90	4.35
ACC-2092	6 x 12 x 7	1 1/8	5.45	4.90	4.35

### GRAY HAMMERTONE ALUMINUM CASES\*

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of		
			1-24	25-49	50-99
ACC-2095HG	5 x 6 x 9	1 1/8	\$4.25	\$3.85	\$3.40
ACC-2091HG	5 x 9 x 6	1 1/8	4.25	3.85	3.40
ACC-2096HG	6 x 7 x 12	1 1/8	6.15	5.55	4.90
ACC-2092HG	6 x 12 x 7	1 1/8	6.15	5.55	4.90

\*Aluminum alloy 5005 H-14.



# Boxes, Baffles, Cases

## MINIBOXES, HANDY BOXES

Design of this box permits installation of more components than would be possible in the conventionally designed boxes the same size. Two-piece construction. Either snap-lock or screw type. The flange type construction assures adequate shielding. Made from heavy .040 ga. aluminum. Available in natural aluminum finish and gray hammertone finish.



### GRAY HAMMERTONE MINIBOXES

Bud No.	Size, Inches			Wt. Lbs.	Net Each, Lots of		
	L. x H. x W.	1-49	50-99		100-149		
CU-2100A	2 1/4 x 2 1/4 x 1 1/2	.80	.70	.65			
CU-2101A	3 1/4 x 2 1/4 x 1 1/2	.85	.75	.70			
CU-2102A	4 x 2 1/4 x 1 1/2	.90	.80	.70			
CU-2103A	4 x 2 1/4 x 2 1/4	1.00	.90	.80			
CU-2104A	5 x 2 1/4 x 2 1/4	1.05	.95	.85			
CU-2105A	5 x 4 x 3	1.40	1.25	1.10			
CU-2106A	5 1/2 x 3 x 2 1/2	1.10	1.00	.90			
CU-2107A	6 x 5 x 4	1.75	1.60	1.40			
CU-2108A*	7 x 5 x 3	2.00	1.80	1.60			
CU-2109A*	8 x 6 x 3 1/2	2.55	2.30	2.05			
CU-2110A*	10 x 6 x 3 1/2	2.85	2.55	2.30			
CU-2111A*	12 x 7 x 4	3.85	3.45	3.10			
CU-2112A*	17 x 5 x 4	3.85	3.45	3.10			
CU-2113A*	10 x 2 x 1 1/2	1.45	1.30	1.15			
CU-2114A*	12 x 2 1/2 x 2 1/2	1.85	1.65	1.50			
CU-2115A	4 x 2 x 2 1/2	1.00	.90	.80			
CU-2116A	4 1/4 x 2 1/4 x 1 1/2	1.00	.90	.80			
CU-2117A	3 1/2 x 2 1/4 x 1 1/2	.90	.80	.70			

\*.050" aluminum.

### NATURAL FINISH MINIBOXES

Bud No.	Size, Inches			Wt. Lbs.	Net Each, Lots of		
	L. x H. x W.	1-49	50-99		100-149		
CU-3000A	2 3/4 x 2 1/4 x 1 3/8	.70	.65	.55			
CU-3001A	3 1/4 x 2 1/4 x 1 3/8	.70	.65	.55			
CU-3002A	4 x 2 1/4 x 1 3/8	.75	.70	.60			
CU-3003A	4 x 2 1/4 x 2 1/4	.90	.80	.70			
CU-3004A	5 x 2 1/4 x 2 1/4	.95	.85	.75			
CU-3005A	5 x 4 x 3	1.15	1.05	.90			
CU-3006A	5 1/2 x 3 x 2 1/2	1.00	.90	.80			
CU-3007A	6 x 5 x 4	1.25	1.15	1.00			
CU-3008A	7 x 5 x 3	1.60	1.45	1.30			
CU-3009A	8 x 6 x 3 1/2	2.05	1.85	1.65			
CU-3010A	10 x 6 x 3 1/2	2.25	2.05	1.80			
CU-3011A	12 x 7 x 4	3.10	2.80	2.50			
CU-3012A	17 x 5 x 4	3.10	2.80	2.50			
CU-3013A	10 x 2 x 1 1/2	1.15	1.05	.90			
CU-3014A	12 x 2 1/2 x 2 1/2	1.50	1.35	1.20			
CU-3015A	4 x 2 x 2 1/2	.90	.80	.70			
CU-3016A	4 1/4 x 2 1/4 x 1 1/2	.90	.80	.70			
CU-3017A	3 1/2 x 2 1/4 x 1 1/2	.75	.70	.60			

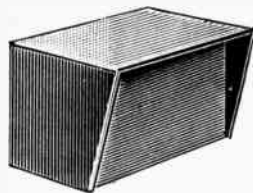
### HANDY BOXES

Similar to Miniboxes in design and construction, except made of 22 gauge steel. Black wrinkle finish only. Screw type only.

Bud No.	Size, Inches	1-49	50-99	100-149
HB-1621	4 1/4 x 2 1/4 x 1 1/2	\$1.40	\$1.25	\$1.10
HB-1622	4 x 2 x 2 1/2	1.45	1.30	1.15

### COWL-TYPE MINIBOXES

The cowl-type Minibox has a projecting cover to reduce glare on the panel from overhead lighting. It also provides protection for controls and dials. Cover has two box braces to which bottom is attached with sheet metal screws. When assembled, this type of construction results in a sturdy, rigid housing. Constructed of .040" aluminum and available in natural or light hammertone gray finish.

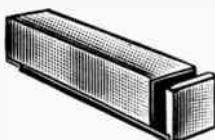


Bud No.	Overall Size, Inches			Net Each, Lots of		
	H.	W.	D.	1-49	50-99	100 & Over
SC-2130*	6	10	7	6.55	5.90	5.25
SC-2131*	7	12	8	7.15	6.45	5.70
SC-2132*	3	8	5	3.80	3.40	3.05
SC-2133*	5	5	5	3.95	3.55	3.15
SC-3030†	6	10	7	4.75	4.30	3.80
SC-3031†	7	12	8	5.15	4.65	4.10
SC-3032†	3	8	5	2.70	2.45	2.15
SC-3033†	5	5	5	2.85	2.55	2.30

\*Painted light gray hammertone. †Natural aluminum finish.

### MINISLIDES

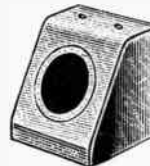
Ideal for housing components or assemblies where easy access to internally mounted parts is important. Can be mounted in a number of positions in a rack or cabinet. Accessibility achieved by removing sliding cover. Design of Minislide Box provides adequate shielding and protection from dust. Sturdily made of .050 aluminum. 4 self-tapping fastening screws included. Choice of gray hammertone (GH) or natural aluminum (NA).



Bud No.	Finish	Size, Inches			Wt. Lbs.	Net Each, Lots of		
		W. x D. x H.	1-49	50-99		100-149		
MS-2150	(GH)	3 1/4 x 13 x 2 3/8	1	\$4.15	\$3.75	\$3.30		
MS-2151	(GH)	5 1/4 x 13 x 2 3/8	1 1/2	4.75	4.30	3.80		
MS-2152	(GH)	3 1/4 x 17 x 2 3/8	1 1/4	4.55	4.10	3.65		
MS-3050	(NA)	3 1/4 x 13 x 2 3/8	1	3.15	2.85	2.50		
MS-3051	(NA)	5 1/4 x 13 x 2 3/8	1 1/2	3.85	3.45	3.10		
MS-3052	(NA)	3 1/4 x 17 x 2 3/8	1 1/4	3.70	3.35	2.95		

## UNIVERSAL METER CASES

Center hole punched for 2" meters, plus easily removed knock-out ring to provide fit for 3" meters. Single piece detachable back and sides fastened to case with self-tapping screws for easy installation and servicing. Two 3/4" knock-out holes in top provide for installation of feed-through insulators, switches, volume controls, etc. Gray hammertone finish only. Size: 4 1/4" h. x 4" w. x 4" d.



Bud No.	Construction	Weight, Lbs.	Net Each, Lots of		
			1-49	50-99	100-149
CM-1935	Steel	1	\$1.50	\$1.35	\$1.20
CMA-1936	Aluminum	3/4	1.75	1.60	1.40

## WIDE UNIVERSAL METER CASE

Same as above, except extra wide to permit installation of small components along with a meter or accommodate a 4" meter. Made of 5005 H-14 aluminum. Size: 4 1/4" h. x 6" w. x 4" d.

Bud No.	Construction	Weight, Lbs.	1-49	50-99	100-149
CMA-1930	Aluminum	3/4	\$2.90	\$2.60	\$2.30

## HEAT RADIATING PLATE AND GRID TUBE CONNECTORS

Fit all sizes of industrial and transmitting vacuum tubes. Dual purpose design permits use in making connections to plate or grid terminals, plus provide large heat radiating surface for heat dissipation from glass seal and tube element. Eight sizes fit all grid and plate leads; provide sufficient heat radiation for any tube in 50-2000 watt range. Machined from special aluminum rods. Edges rounded to minimize corona.



Bud No. TC-	Lead Hole	For Tube Types	Size L. x O.D.	Net Each
487	.062"	UH50, HK24, 304B, 829B, 832A, 834	.900" x .615"	.90
489	.072"	35T, 35GB, 75TH, HK-257B, HK254, 484, 8001, 4E27	.900" x .615"	.90
1923	.110"	HK57, 152TH	1.0" x .738"	.95
1924	.125"	HK57, 152TH	1.0" x .738"	.95
1920	.375"	4-125A, 150TH, 2-150D, 240R, 250TH, 250TL, 420A, 802, 803, 804, 807, 808 grid, 814, 815, 828, 2E24, 2E26, 3E22, 4-65A, 4-250A, 816, 6146, 1625, 41D32, 807W, 1B3GT, 6BG6G, 6CD6G	1.0" x .738"	.85
1925	.125"	304TH, 304TL	1.0" x .924"	1.00
1921	.570"	ZB60, HF60, HF100, 111H, 211H, 230H, HF175, HF300 grid, 100R, HK375C, 450TH, 454, 750TH, 805, 806, 808, 809, 810, 811, 812, 813, 828, 833, 866, 854, 1500T, 2000T, 1054, 5331, 5332, 8000, 8003, 2005	1.0" x .924"	1.00
1926	.810"	WL468, WL463, WL460, HF200, HF201, MF300	1.0" x 1.115"	1.25

## RACK SHELVES



Sturdily constructed of heavy-gauge steel. Have 1" flange to add rigidity and strength. Rest on chassis supporting angles. Available in black enamel finish only.

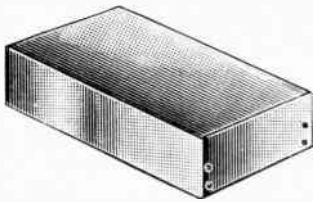
Bud No.	Size, Inches	Weight, Lbs.	Net Each, Lots of		
			1-24	25-49	50-99
CB-1976	19 x 15	6 1/2	\$3.80	\$3.40	\$3.05
CB-1977	19 x 12	5 1/2	2.90	2.60	2.30





# Chassis and Accessories

## ALUMINUM CHASSIS BASES



Each chassis is made from a single sheet of aluminum. All bases are welded on the latest type of welders by experienced operators. All corners are reinforced. Natural finish aluminum alloy 5005 H14. All four sides are folded at bottom for extra strength and rigidity. Now 63 sizes.

Bud No.	Width, In.	Lgth., In.	Ht., In.	Gauge	Net Each, Lots of		
					1-49	50-99	100-149
AC-1401*	2 1/2	4 1/2	1	18	\$1.15	\$1.05	\$ .90
AC-1402*	3 1/4	4 1/2	1	18	1.20	1.10	.95
AC-1403*	3 1/2	5 1/2	1	18	1.20	1.10	.95
AC-1404*	4	5	2	18	1.40	1.25	1.10
AC-1405*	4	6	1 1/2	18	1.30	1.20	1.05
AC-430	4	6	3	18	1.60	1.45	1.30
AC-431	4	6	2	18	1.40	1.25	1.10
AC-1406*	4	8	2	18	1.70	1.55	1.35
AC-432	4	17	3	16	2.85	2.55	2.30
AC-1407*	4 1/2	8	1 1/2	18	1.30	1.20	1.05
AC-402	5	7	2	18	1.45	1.30	1.15
AC-429	5	7	3	18	1.75	1.55	1.40
AC-1408*	5	9	1 1/2	18	1.40	1.25	1.10
AC-1409*	5	9 1/2	1 1/2	18	1.40	1.25	1.10
AC-403	5	9 1/2	2	18	1.55	1.40	1.25
AC-401	5	9 1/2	2 1/2	18	1.80	1.60	1.45
AC-421	5	9 1/2	3	18	2.00	1.80	1.60
AC-404	5	10	3	18	2.00	1.80	1.60
AC-422	5	13	3	18	2.30	2.05	1.85
AC-1410*	5	18 1/2	2 1/2	18	1.85	1.65	1.50
AC-1411*	5 1/2	5 1/2	1	18	1.30	1.20	1.05
AC-1412*	5 1/2	9 1/2	1 1/2	18	1.40	1.25	1.10
AC-1413*	6	8	2	18	1.70	1.55	1.35
AC-1414*	6	14	3	16	2.80	2.50	2.25
AC-433	6	17	3	16	3.30	2.95	2.65
AC-405	7	7	2	18	1.65	1.50	1.30
AC-406	7	9	2	18	1.75	1.60	1.40
AC-407	7	11	2	18	2.00	1.80	1.60
AC-408	7	12	3	18	2.40	2.15	1.90
AC-409	7	13	2	18	2.10	1.90	1.70
AC-1415*	7	15	2	16	2.65	2.40	2.10
AC-411	7	15	3	16	3.30	2.95	2.65
AC-1416*	7	17	2	16	2.90	2.60	2.30
AC-1417*	7	17	2 1/2	16	3.00	2.70	2.40
AC-423	7	17	3	16	3.35	3.00	2.70
AC-1418*	8	10	2 1/2	18	2.50	2.25	2.00
AC-1419*	8	12	2 1/2	16	2.80	2.50	2.25
AC-424	8	12	3	16	2.95	2.65	2.35
AC-425	8	17	2	16	3.10	2.80	2.50
AC-412	8	17	3	16	3.45	3.10	2.75
AC-1420*	8 1/2	15	3	16	2.90	2.60	2.30
AC-1421*	9	15	3	16	3.50	3.15	2.80
AC-413	10	12	3	16	3.30	2.95	2.65
AC-414	10	14	3	16	3.45	3.10	2.75
AC-415	10	17	2	16	3.30	2.95	2.65
AC-416	10	17	3	16	3.85	3.45	3.10
AC-427	10	17	4	14	5.50	4.95	4.40
AC-1422*	10	17	5	16	7.90	7.10	6.30
AC-1423*	10	23	3	14	5.40	4.85	4.30
AC-426	11	17	2	14	4.20	3.80	3.35
AC-417	11	17	3	14	4.85	4.35	3.90
AC-1424*	12	12	3	16	3.30	2.95	2.65
AC-1425*	12	17	2	16	4.40	3.95	3.55
AC-418	12	17	3	14	4.95	4.45	3.95
AC-419	13	17	2	14	4.30	3.85	3.45
AC-420	13	17	3	14	5.15	4.65	4.15
AC-428	13	17	4	14	6.40	5.75	5.10
AC-1426*	13	17	5	14	8.75	7.90	7.00
AC-1427*	14	17	3	14	6.15	5.55	4.90
AC-1428*	15	17	4	14	8.75	7.90	7.00
AC-1429*	15	17	6	14	11.90	10.70	9.50
AC-1430*	17	17	3	14	7.05	6.35	5.65
AC-1431*	17	17	4	14	10.25	9.30	8.30

\*Denotes new size

## CHASSIS MOUNTING BRACKETS

Mounts chassis to panels, essential when panel supports entire chassis weight. Heavy gauge steel 6 1/2" high, cut away at bottom to mount flush to panel. Black enamel finish.

Bud No.	Depth, In.	Net Per Pair, Lots of		
		1-49	50-99	100-149
MB-458	8	\$1.50	\$1.35	\$1.20
MB-448	10	1.50	1.35	1.20
MB-459	11	1.65	1.50	1.30
MB-449	12	1.95	1.75	1.55
MB-460	13	1.85	1.65	1.50
MB-450*	10	2.15	1.95	1.70
MB-451*	13	2.30	2.05	1.85



\*8 1/2" high for chassis height of 4".

## TRIANGULAR MOUNTING BRACKETS

Ideal for rigid support of shelves to take heavy loads. Heavy gauge steel with 3/4" flange. Black enamel finish only.

Bud No.	Height, In.	Depth, In.	Wt., Lbs.	Net Per Pair, Lots of		
				1-49	50-99	100-149
MB-1266	5	5	1	\$1.15	\$1.05	\$ .90
MB-1267	7	7	1	1.35	1.20	1.10
MB-1268	9	9	1 1/2	1.65	1.50	1.30

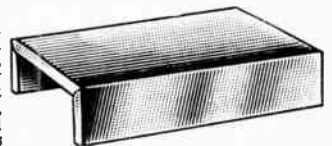
## ALUMINUM BOTTOM PLATES

42 sizes to fit all Bud chassis. Made of 5005 H14 aluminum alloy. Natural finish. Plates have four embossed feet to prevent damage to surface on which they rest. Fit snugly on bottom of chassis.

Bud No.	Fits Chassis		1-49	50-99	100-149
	Width, In.	Length, In.			
BPA-1501*	2 1/2	4 1/2	\$.60	\$.55	\$.50
BPA-1502*	3 1/2	4 1/2	.65	.60	.50
BPA-1503*	3 1/2	5 1/2	.70	.65	.55
BPA-1504*	4	5	.70	.65	.55
BPA-1505*	4	6	.75	.70	.60
BPA-1506*	4	8	.90	.80	.70
BPA-1532*	4	17	.90	.80	.70
BPA-1507*	4 1/2	8	1.00	.90	.80
BPA-1589	5	7	.80	.70	.65
BPA-1508*	5	9	.85	.75	.65
BPA-1590	5	9 1/2	.85	.75	.70
BPA-1591	5	10	.85	.75	.70
BPA-1509*	5	13	1.25	1.15	1.00
BPA-1510*	5	13 1/2	1.30	1.15	1.05
BPA-1511*	5 1/4	5 1/2	.80	.70	.65
BPA-1512*	5 1/2	9 1/2	.90	.80	.70
BPA-1513*	6	8	1.00	.90	.80
BPA-1514*	6	14	1.25	1.15	1.00
BPA-1515*	6	17	1.55	1.40	1.25
BPA-1592	7	7	.85	.75	.70
BPA-1593	7	9	.90	.80	.70
BPA-1594	7	11	1.00	.90	.80
BPA-1595	7	12	1.05	.95	.85
BPA-1596	7	13	1.25	1.15	1.00
BPA-1516*	7	15	1.45	1.30	1.15
BPA-1517*	7	17	1.45	1.30	1.15
BPA-1518*	8	10	1.30	1.15	1.05
BPA-1519*	8	12	1.65	1.50	1.30
BPA-1520*	8	17	1.70	1.55	1.35
BPA-1521*	8 1/2	15	1.95	1.75	1.55
BPA-1522*	9	15	2.00	1.80	1.60
BPA-1523*	10	12	1.65	1.50	1.30
BPA-1524*	10	14	1.65	1.50	1.30
BPA-1597	10	17	1.65	1.50	1.30
BPA-1525*	10	23	2.40	2.15	1.90
BPA-1526*	11	17	1.85	1.65	1.50
BPA-1527*	12	12	1.85	1.65	1.50
BPA-1528*	12	17	2.20	2.00	1.75
BPA-1598	13	17	2.30	2.05	1.85
BPA-1529*	14	17	2.30	2.05	1.85
BPA-1530*	15	17	3.15	2.85	2.50
BPA-1531*	17	17	3.20	2.90	2.55

## OPEN-END CHASSIS

Primarily intended to be used with the various sizes and styles of Bud metal cabinets, these chassis are ideal for any type of small built-up unit such as a record amplifier, code oscillator, etc. U-shaped construction is used with ends folded over 3/4" for additional strength. This unit is natural finish aluminum alloy 5005 H-14.



Bud No.	Size, Inches D. x W. x H.	Fits Cabinet Number	Net Each, Lots of		
			1-24	25-49	50-99
CB-38	7 x 6 x 2	C-1584	\$1.10	\$1.00	\$ .90
CB-30	5 x 7 x 1 1/2	C-1788	1.05	.95	.85
CB-41	7 x 7 x 1 1/2	C-977	1.35	1.20	1.10
CB-39	7 x 8 x 2	C-1585	1.30	1.15	1.05
CB-996	5 1/2 x 9 x 1 1/2	C-993	1.30	1.15	1.05
CB-976	7 1/2 x 9 x 1 1/2	C-999, CD-1481	1.70	1.55	1.35
CB-40	7 x 10 x 2	C-1586	1.50	1.35	1.20
CB-997	7 x 11 x 1 1/2	C-994, CD-1482	1.60	1.45	1.30
CB-998	7 x 13 x 1 1/2	C-995, CD-1483	1.95	1.75	1.55

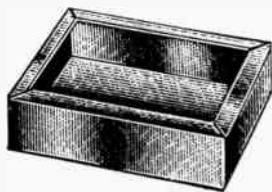
## MINIATURE ALUMINUM CHASSIS

Small versions of above with 1/2" flange on bottom for bottom plate or fastening. Ideal for limited space uses. Natural finish.

CB-1623	2 1/4 x 2 3/4 x 1 1/4	.....	\$.45	\$.40	\$.35
CB-1624	1 1/4 x 3 1/4 x 1	CU-883	.50	.45	.40
CB-1625	3 1/4 x 4 1/2 x 2	C-1788	.60	.55	.50
CB-1626	2 1/4 x 4 1/4 x 1	CU-728	.55	.50	.45
CB-1627	3 3/4 x 4 1/4 x 1 1/2	CU-729	.55	.50	.45
CB-1628	3 3/4 x 6 1/4 x 1 1/2	C-1788	.65	.60	.50
CB-1629	5 1/4 x 4 1/4 x 1 1/2	CU-1098	.70	.65	.55
CB-1617	4 x 3 1/4 x 1	C-1606, C-1610	.50	.45	.40
CB-1618	4 x 4 1/4 x 1	C-1607, C-1611	.60	.55	.50
CB-1619	4 x 5 1/4 x 1	C-1608, C-1612	.65	.60	.50
CB-1620	4 x 6 1/4 x 1	C-1609, C-1613	.70	.65	.55



# Chassis and Accessories



## STEEL CHASSIS BASES

Chassis are fabricated from a single sheet of steel, 20 gauge is used unless otherwise indicated. All four sides are folded at bottom for additional rigidity and strength. Available in zinc plate or black wrinkle finish.

## PANEL CHASSIS



Panel mounting chassis for vertical installation where depth is limited or front service is desired. Made of .062" aluminum alloy 5005 H-14 in natural finish. Front flange has standard notching. Fits standard 19" panel space.

Size, Inches D. x W. x H.	Zinc Plated Finish			Black Wrinkle Finish				
	Bud CB-	Net Each, Lots of		Bud CB-	Net Each, Lots of			
		1-24	25-49	50-99	1-24	25-49	50-99	
5 1/2 x 5 1/2 x 1	101*	\$1.60	\$1.45	\$1.30				
5 x 7 x 2	629*	1.60	1.45	1.30	628*	\$1.30	\$1.15	\$1.05
4 1/2 x 8 x 1 1/2	102*	1.75	1.60	1.40				
5 x 9 x 1 1/2	103*	1.55	1.40	1.25				
5 x 9 1/2 x 2 1/2	645*	2.05	1.85	1.65	644*	1.65	1.50	1.30
5 x 9 1/2 x 1 1/2	776*	2.05	1.85	1.65	788*	1.50	1.35	1.20
5 x 10 x 3	605*	2.25	2.05	1.80	604*	1.55	1.40	1.25
5 x 13 x 3	105	2.55	2.30	2.00				
6 x 8 x 2	104	1.75	1.60	1.40				
6 x 14 x 3	756	2.50	2.25	2.00	755	2.15	1.95	1.70
7 x 7 x 2	1191	1.80	1.60	1.45	789	1.50	1.35	1.20
7 x 9 x 2	1192	1.95	1.75	1.55	790	1.70	1.55	1.35
7 x 11 x 2	1193	2.05	1.85	1.60	791	1.75	1.60	1.40
7 x 12 x 3	793	2.55	2.30	2.05	792	1.95	1.75	1.55
7 x 13 x 2	1194	2.30	2.05	1.85	646	1.85	1.65	1.50
5 x 13 1/2 x 2 1/2	1198	2.65	2.40	2.10	647	2.15	1.95	1.70
7 x 15 x 3	1189	2.90	2.60	2.30	649	2.40	2.15	1.90
8 1/2 x 15 x 3	666	3.30	2.95	2.65	665	2.70	2.45	2.15
4 x 17 x 3	1066	2.60	2.35	2.10	1068	2.25	2.00	1.75
7 x 17 x 2 1/2	1199	2.85	2.55	2.30	648	2.40	2.15	1.90
7 x 17 x 3	758	3.15	2.85	2.50	757	2.65	2.40	2.10
8 x 10 x 2 1/2	702	2.40	2.15	1.90	701	2.10	1.90	1.70
8 x 12 x 2 1/2	704	2.70	2.45	2.15	703	2.15	1.95	1.70
8 x 12 x 3	760	2.85	2.55	2.30	759	2.25	2.05	1.80
8 x 17 x 2	774	2.85	2.55	2.30	650	2.10	1.90	1.70
8 x 17 x 3	775	3.20	2.90	2.55	651†	2.50	2.25	2.00
10 x 12 x 3	1195	2.75	2.50	2.20	652	2.30	2.05	1.85
12 x 12 x 3	106	3.65	3.30	2.90				
10 x 14 x 3	779	2.95	2.65	2.35	653	2.50	2.25	2.00
10 x 17 x 2	769	2.90	2.60	2.30	654	2.40	2.15	1.90
10 x 17 x 3	637	3.45	3.10	2.75	636	2.40	2.15	1.90
10 x 17 x 3	1196	3.70	3.35	2.95	655†	3.10	2.80	2.50
10 x 23 x 3	1197	4.15	3.75	3.30	656	3.45	3.10	2.75
11 x 17 x 2	770	3.40	3.05	2.70	657†	2.85	2.55	2.30
11 x 17 x 3	771	4.25	3.85	3.40	658†	3.35	3.00	2.70
12 x 17 x 2	661	3.75	3.40	3.00	663†	2.95	2.65	2.35
12 x 17 x 3	662	4.45	4.00	3.55	664†	3.50	3.15	2.80
13 x 17 x 2	772	4.50	4.05	3.60	659†	3.50	3.15	2.80
13 x 17 x 3	773	4.75	4.45	3.95	660†	4.15	3.75	3.30
10 x 17 x 4	641	4.30	3.85	3.45	640†	3.60	3.25	2.90
13 x 17 x 4	643	5.65	5.10	4.50	642†	4.75	4.30	3.80
10 x 17 x 5	624	6.50	5.85	5.20	623	5.50	4.95	4.40
13 x 17 x 5	626	7.20	6.50	5.75	625	6.00	5.40	4.80

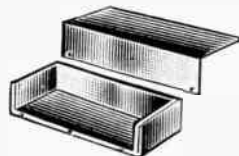
\*22 gauge. †Punched to accommodate chassis mounting brackets. ‡18 gauge.

Bud No.	Height, Inches	Weight, Lbs.	Net Each, Lots of		
			1-24	25-49	50-99
CB-1370	1 1/4	3/4	\$2.80	\$2.50	\$2.25
CB-1371	3 1/2	1 1/4	3.15	2.85	2.50
CB-1372	5 1/4	1 1/2	3.40	3.05	2.70
CB-1373	7	2	3.95	3.55	3.15
CB-1374	8 1/2	2 1/4	4.55	4.10	3.65
CB-1375	10 1/2	2 3/4	5.35	4.80	4.30
CB-1376	12 1/4	3	5.85	5.25	4.70
CB-1377	14	3 1/4	6.45	5.80	5.15

## CHASSIS SUPPORTING ANGLES

Distribute weight to sides of the rack to relieve the panel. Angles are 3" x 1 1/4" x 1/4" steel. Black enamel finish. No. CE-2219 designed for attachment to rails of Console Pedestal or Prestige Relay Racks. Slotted for infinite vertical adjustment; extend to full cabinet depth; 21" x 3" x 2 1/2".

Bud No.	Length, Inches	Weight, Lbs.	Net Per Pair, Lots of		
			1-24	25-49	50-99
SA-1349	14 1/2	4	\$2.45	\$2.20	\$1.95
SA-1350	12	3	2.40	2.15	1.90
CE-2219	21	7 1/2	3.00	2.70	2.40



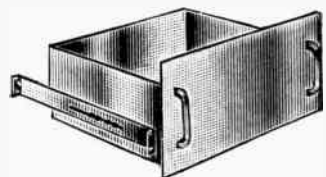
## CONVERT-A-BOXES

Versatile enclosure combines welded base and two-sided cover. Components or controls are easily mounted to any surface of the unit. All contents easily accessible. Cover and base are fastened by self-tapping screws. Rigid 20 ga. cadmium-plated steel.

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of		
			1-24	25-49	50-99
CU-341	1 1/2 x 4 x 3	1/2	\$2.10	\$1.90	\$1.70
CU-452	2 x 5 x 4	1	2.20	2.00	1.75
CU-482	2 x 8 x 4	1 1/2	2.30	2.05	1.85
CU-592	2 1/2 x 9 1/2 x 5	1 1/2	2.50	2.25	2.00
CU-622	2 1/2 x 12 x 6	2 1/2	2.75	2.50	2.20
CU-712	2 1/2 x 15 x 7	3 1/2	3.65	3.30	2.90

## DRAWER WITH ADJUSTABLE SLIDES

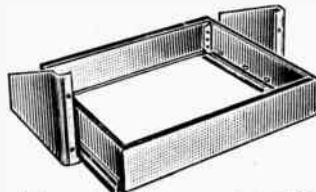
Fits any cabinet or cabinet rack with 19" panel space. Slide bracket adjustable 16 1/2" to 22 1/2" to fit any cabinet with depth 17" to 23". Fastens by bracket to panel mounting rail in front and rear of cabinet. Nylon rollers for smooth movement. Hardware supplied. Specify color when ordering: Add suffix HG for gray hammertone; B for black wrinkle; or G for gray wrinkle.



Bud No.	Inside Size, Inches	Wt., Lbs.	Net Each, Lots of		
			1-14	15-24	25-34
D-1721	16 1/2 x 6 1/2 x 16 1/2	19 1/2	\$45.00	\$40.50	\$36.00

## SLIDING DRAWER ASSEMBLY

Ideal for use as a record player mounting base, typewriter base, apparatus and instrument base, writing desk, etc. Installs quickly and simply in any standard rack. Can't fall out or tilt. Provides a completely safe mounting base for anything put on it. Ball bearing suspension for easy sliding. Chassis formed from one-piece 14 gauge aluminum; electro-welded. Support brackets formed from one-piece 1/4" steel. Slide rail fastens securely to chassis, slides in and out easily on channel ball bearings. Stop screw on slide rail prevents drawer from falling out of channel. Support brackets and channel finished in grey enamel; chassis, slide and plate finished in light grey hammertone. Will support up to 50 lbs. Chassis Size: 16 1/2" x 14" x 3", with 1/2" flange top and bottom. \*Fastens to top or bottom.



Bud No.	Description	Wt., Lbs.	Net Each, Lots of		
			1-14	15-24	25-34
SD-1717	Sliding drawer	5	\$13.20	\$11.20	\$10.55
TP-1718	Drawer plate*	1 1/2	2.95	2.65	2.35

## STEEL CHASSIS BOTTOM PLATES

Protect wiring and keep out dust from chassis bottom. Four embossed feet. Two finishes to match chassis finish.

Fits Chassis Size, In. W. x L.	Zinc Plated Finish				Black Wrinkle Finish			
	Bud BP-	Net Each, Lots of			Bud BP-	Net Each, Lots of		
		1-49	50-99	100-149		1-49	50-99	100-149
5 x 7	706	\$.75	\$.70	\$.60	705	\$.65	\$.60	\$.50
5 x 9 1/2	667	.85	.75	.70	680	.70	.65	.55
5 x 10	538	.90	.80	.70	536	.80	.70	.65
7 x 7	668	1.05	.95	.85	681	1.00	.90	.80
7 x 9	669	1.10	1.00	.90	682	1.05	.95	.85
7 x 11	670	1.20	1.10	.95	683	1.05	.95	.85
7 x 12	539	1.40	1.25	1.10	537	1.20	1.10	.95
7 x 13	671	1.30	1.15	1.05	684	1.10	1.00	.90
5 x 13 1/2	672	1.10	1.00	1.00	685	.90	.80	.70
4 x 17	1067	1.30	1.15	1.05	1069	1.00	.90	.80
7 x 17	673	1.50	1.35	1.20	686	1.00	.90	.80
8 x 10	708	1.15	1.05	.90	707	1.00	.90	.80
8 x 12	710	1.45	1.30	1.15	709	1.15	1.05	.90
8 x 17	674	1.70	1.55	1.35	687	1.05	.95	.85
10 x 12	675	1.75	1.60	1.40	688	1.05	.95	.85
10 x 14	514	1.65	1.50	1.30	517	1.55	1.40	1.25
10 x 17	676	1.75	1.60	1.40	689	1.30	1.15	1.05
11 x 17	677	1.75	1.60	1.40	690	1.30	1.15	1.05
12 x 17	678	2.05	1.85	1.65	691	1.40	1.25	1.10
13 x 17	679	2.45	2.20	1.95	692	1.60	1.45	1.30

## HEAVY DUTY CHASSIS

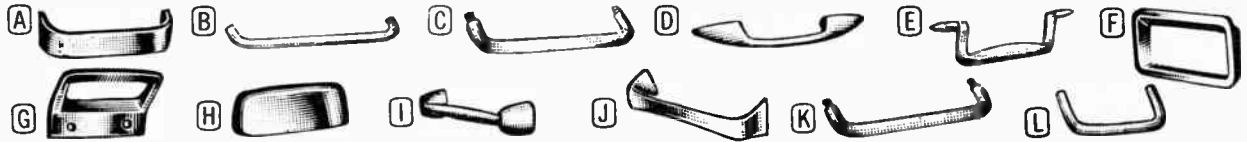
Complete with 20 ga. bottom plate for uses requiring extra strength to hold heavy weights. Made of 16 ga. steel; 17" wide.

Size, In. D. x H.	Zinc Plated Finish				Black Wrinkle Finish			
	Bud CB-	Net Each, Lots of			Bud CB-	Net Each, Lots of		
		1-24	25-49	50-99		1-24	25-49	50-99
8 x 3	1765	\$5.25	\$4.75	\$4.20	1758	\$4.70	\$4.25	\$3.75
11 x 3	1767	5.30	4.75	4.25	1760	4.75	4.30	3.80
13 x 2	1768	5.85	5.25	4.70	1761	5.30	4.75	4.25
13 x 3	1769	5.95	5.35	4.75	1762	5.40	4.85	4.30
13 x 4	1770	6.45	5.80	5.15	1763	5.80	5.20	4.65



# Cabinet Hardware

## BUD HANDLES



Fabricated from steel, brass or cast aluminum. Durable finish provides long wear and attractive appearance. Skin packed in pairs or bulk packed (priced singly) with all necessary mounting

hardware. Designed for rugged applications, they have unlimited use in electronic, electrical and other fields.

Bud No.	Fig.	Description	Net Per Pair, Lots of			Bulk Pack*: Net Each, Lots of		
			1-49	50-99	100-149	50-99	100-199	200-499
H-9100	A	1" x 1/2" chrome-plated solid brass; 4" x 1/2" mtg. ctrs.; 1" hand clearance; four 1/2" x 6-32 threaded screws	\$4.55	\$4.10	\$3.65	\$2.05	\$1.85	\$1.65
H-9101	A	Same, but 8" x 1/2" mtg. centers	7.05	6.35	5.65	3.20	2.90	2.55
H-9102	A	1 1/8" x 1/4" chrome-plated solid brass; 4" mtg. centers; 1 1/8" hand clearance; two 1/2" x 6-32 threaded screws	3.60	3.25	2.90	1.75	1.60	1.40
H-9103	A	Same, but has 6" mounting centers	4.15	3.75	3.30	1.75	1.65	1.50
H-9110	B	3/8" steel rod angular formed, chrome-plated; 6" mtg. ctrs.; 1 1/4" hand clearance; two 1/2" x 10-32 screws	3.20	2.90	2.55	1.15	1.05	.90
H-9111	B	3/8" steel rod, chrome plated; 4" mtg. ctrs.; 1" hand clearance; two 1/2" x 10-32 threaded screws	1.70	1.55	1.35	.65	.60	.50
H-9112	B	6" mtg. center version of H-9111	2.15	1.95	1.70	.80	.70	.65
H-9113	B	8" mtg. center version of H-9111	2.40	2.15	1.90	.90	.80	.70
H-9114	B	1 1/2" steel rod, chrome-plated; 8" mtg. centers; 1 1/2" hand clearance; two 1/2" x 1/4"-28 thd. screws	4.05	3.65	3.25	1.45	1.30	1.15
H-9115	C	3/8" steel rod, chrome-plated; 4" mtg. ctrs.; 1 1/4" hand clearance; two 1/2" x 10-32 thd. nuts	2.75	2.50	2.20	1.05	.95	.85
H-9116	C	Same, but has 6" mtg. centers	3.45	3.10	2.75	1.25	1.15	1.00
H-9120	D	Silver-anodized die-cast aluminum; 4 3/8" inside, 5 3/8" outside mtg. centers; 1" hand clearance; four 1/2" x 6-32 threaded screws	4.05	3.65	3.25	1.75	1.60	1.40
H-9121	D	Same, except chrome plated alloy	5.70	5.15	4.55	2.55	2.30	2.05
H-9123	D	Similar to H-9120 but 4 1/2" mtg. centers; 1" hand clearance; two 1/2" x 10-32 thd. screws	3.00	2.70	2.40	1.25	1.15	1.00
H-9122	E	Silver-anodized die-cast aluminum; hinged on 1/4" steel pins with 2 hinge blocks; 6 3/8" inside, 7 1/4" outside mtg. centers; 1 1/2" hand clearance; four 3/8" x 10-32 threaded screws	6.85	6.15	5.40	3.10	2.80	2.50
H-9130	F	Silver-anodized die-cast aluminum; 3" mtg. centers; two 3/8" x 10-32 thd. screws; size 4 1/4" x 3"	6.05	5.45	4.85	2.75	2.50	2.20
H-9131	G	Silver-anodized die-cast aluminum; size, 4" x 2 3/8"; 2 1/4" mtg. centers; two 3/4" x 1/4"-28 thd. raised, counter-sunk screws and nuts	4.50	4.05	3.60	1.95	1.75	1.55
H-9140	H	Silver-anodized die-cast aluminum; 3 1/2" mtg. centers; 3/4" hand clearance; two 1/2" x 10-32 threaded screws	2.70	2.45	2.15	1.20	1.10	.95
H-9150	I	Silver-anodized die-cast aluminum; 4" x 3/8" mtg. centers; 1 1/4" hand clearance; four 1/2" x 10-32 threaded screws	3.60	3.25	2.90	1.55	1.40	1.25
H-9151	J	Silver-anodized die-cast aluminum; 5 3/8" x 3/8" mtg. centers; 1 3/8" hand clearance; four 1/2" x 10-32 threaded screws	5.85	5.25	4.70	2.55	2.30	2.05
H-9152	J	Similar to above except 3 3/8" mtg. centers; 1 3/8" hand clearance; two 1/2" x 10-32 threaded screws	4.75	4.30	3.80	2.15	1.95	1.70
H-9160	K	Chrome-plated 3/8" steel rod; 3 1/2" mtg. centers; 1 1/4" hand clearance; two 1/4"-28 hex nuts	3.15	2.85	2.50	1.10	1.00	.90
H-9161	K	Same, but with 5 1/4" mounting centers	3.60	3.25	2.90	1.30	1.15	1.05
H-9162	K	Same, but with 7" mounting centers	3.75	3.40	3.00	1.35	1.20	1.10
H-9163	K	Same, but with 8 3/4" mounting centers	4.05	3.65	3.25	1.45	1.30	1.15
H-9164	K	Same, but with 10 1/4" mounting centers	4.55	4.10	3.65	1.50	1.35	1.20
H-9165	K	Same, but with 12 1/4" mounting centers	5.00	4.50	4.00	1.65	1.50	1.30
H-9166	L	Chrome-plated 1/4" brass rod; 1 3/8" mtg. centers; 1" hand clearance; two 1/2" x 6-32 thd. screws	1.40	1.25	1.10	.60	.55	.50
H-9168	L	Same, but 3" mtg. centers; two 1/2" x 6-32 thd. screws	1.55	1.40	1.25	.65	.60	.50

\*Number shown is for skin packed pairs. For bulk packed handles (priced singly), add suffix B to number (example: H-9100B).

## SPEAKER ENCLOSURE HANDLES

Attach to any small housing or speaker enclosure to achieve portability. Made of aluminum tubing with etched finish.

Bud No.	Length, Inches	Mtg. Ctrs., Inches	Net Each, Lots of		
			1-49	50-99	100-149
UH-70A	5 3/4	4 3/4	\$.45	\$.40	\$.35
UH-71A	3 3/4	3 3/4	.40	.35	.30

## DOOR HANDLES, CATCH SETS

No. 9347: Fits flush with cabinet door; exposed parts chrome plated. Nos. 9196 and 9223: Lever-type handles are chrome plated with steel spindle and cam; fit Super Deluxe racks.

Bud No.	Description	Net Each, Lots of		
		1-49	50-99	100-149
9196	Non-locking handle	\$2.95	\$2.65	\$2.35
9223	9196 with lock and key	5.50	4.95	4.40
9347	Flush-mount catch set	1.10	1.00	.90

## RUBBER FEET

No. F-7264A: Has recessed head with mounting stud; rubber portion 1 1/4" x 1 1/4" thick. No. F-8038: May be applied to any surface when glue coating is moistened with benzol base solution; 3/4" dia. x 1/4" thick. No. F-9653: Press-fit type for 1/4" hole.

Bud No.	Description	Net per 100, Lots of		
		1-49	50-99	100-149
F-7264A	High grade black rubber	\$8.90	\$8.00	\$7.10
F-8038	Sponge rubber pad	2.15	1.95	1.70
F-9653	Top grade gray rubber	4.15	3.75	3.30

\*Lots 100-199.

## MOUNTING BRACKETS

Permit mounting of midjet condensers, controls and other components in any position. Made of 3/4" wide, cadmium plated steel. Right-angle design with short side have two mounting holes; long side with 3/8" slot. No. AB-549 has additional 1/2" dia. hole centered on 3/8" slot.

Bud No.	Size	Wt. Per 100, Lbs.	Net Each, Lots of		
			1-99	100-199	200-299
MB-549	1 3/8" x 2"	2 1/4	\$11.00C	\$9.90C	\$8.80C
MB-550	1 3/8" x 2"	2	11.00C	9.90C	8.80C

## ANGLES AND BRACKETS

Similar to above; made of 3/4" wide, nickel-plated brass. Right-angle design; Type 1 has single hole at end of each angle; Type 2 has two holes on long side; single hole on short side.

Bud No.	Size, Inches	Type	Wt. Per 100, Lbs.	Net Per 100, Lots of		
				1-99	100-199	200-299
AB-444	1 1/2 x 1 1/2	1	1 1/2	\$4.45	\$4.00	\$3.55
AB-445	3/4 x 3/4	1	1 1/4	5.10	4.60	4.10
AB-446	1 x 1	1	2	6.75	6.10	5.40
AB-447	1 1/2 x 1 1/2	1	2 1/2	8.25	7.45	6.60
AB-631	1 x 1 1/2	1	1 1/4	5.60	5.05	4.50
AB-632	1 1/2 x 1 1/2	1	1 1/2	6.95	6.25	5.55
AB-633	2 x 2	2	1 3/4	9.10	8.20	7.30
AB-634	3 x 3	2	2 3/4	11.20	10.08	9.00
AB-635	4 x 4	2	3 3/4	13.25	11.95	10.60

## DIAL LOCK

Dual purpose design functions as both dial lock and position indicator. Completely eliminates problems of dial slippage and accidental movement. Nickel-plated brass construction.

Bud No. DL-1947 Dial Lock—Net Each..... **25¢**



# Imlok "Prototyper" Cabinets

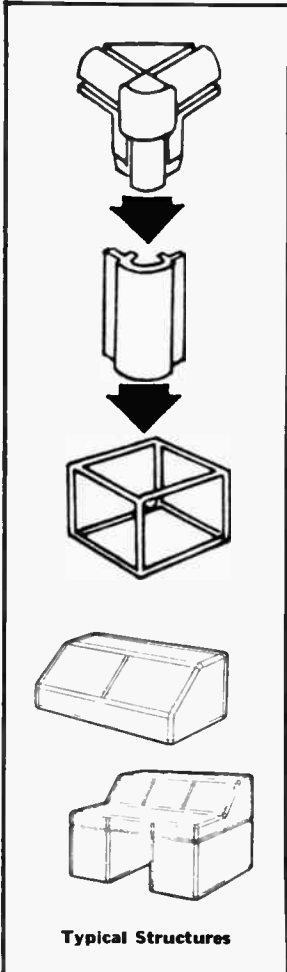
System of metal cabinet construction, ideal for research and prototype work, permits quick assembly of cases, cabinets and racks using the simplest of tools. Complex structures may be built to your design using a variety of corner castings and extrusions held rigidly with friction clips or screws. Panels may be cut to size from sheet aluminum or steel, fitted grooves or screw fastened. No grinding or welding needed.

## EXTERNAL CORNER CONNECTORS

Bud No.	Description	Net Each, Lots of		
		1-14	15-24	25 Up
BI-1001	90° basic corner connector for rectangular cabinets. Use with BI-2004, BI-2014, BI-2024, BI-2034, BI-2044, BI-2054 or BI-2064 extrusions.	\$1.05	\$ .95	\$ .85
BI-1016	67½° corner connector holds vertical wall and horizontal wall to a third rising at 67½° to the horizontal. One leg fits BI-2041 extrusion; other two fit any 90° external extrusion.	1.70	1.55	1.35
BI-1024	60° corner connector similar to BI-1016. One leg fits BI-2081; other legs fit any 90° external extrusion.	1.70	1.55	1.35
BI-1002	45° corner connector similar to BI-1016. One leg fits BI-2005, BI-2015, or BI-2025; other two legs fit any 90° external extrusion.	1.20	1.10	.95
BI-1020	30° corner connector similar to BI-1016. One leg fits BI-2061; other two legs fit any 90° external extrusion.	1.70	1.55	1.35
BI-1012	22½° corner connector similar to BI-1016. One leg fits BI-2021; other two legs fit any 90° external extrusion.	1.70	1.55	1.35

## EXTERNAL STANDARD EXTRUSIONS

Bud No.	Description	Net Each, Lots of		
		1-9	10-14	15 Up
BI-2004	12 ft. long, 90° external extrusion most used; has panel retaining groove on each flange for 0.050" panels. Ideal for small to medium sized structures with unbraced spaces up to 2 ft. long.	9.30	\$ 8.35	\$ 7.45
BI-2004-3	3 ft. length BI-2004	.85	2.55	2.30
BI-2004-6	6 ft. length BI-2004	5.35	4.80	4.30
BI-2004-9	9 ft. length BI-2004	7.60	6.85	6.10
BI-2064	12 ft. long, 90° extrusion with panel retaining flange to take 20 gauge panels.	9.15	8.25	7.30
BI-2064-3	3 ft. length BI-2064	2.75	2.50	2.20
BI-2064-6	6 ft. length BI-2064	5.20	4.70	4.15
BI-2064-9	9 ft. length BI-2064	7.45	6.70	5.95
BI-2041	12 ft. long, 67½° extrusion; companion to BI-1016 for unbraced spans up to 3 ft. long.	11.20	10.10	8.95
BI-2041-3	3 ft. length BI-2041	3.35	3.00	2.70
BI-2041-6	6 ft. length BI-2041	6.40	5.75	5.10
BI-2041-9	9 ft. length BI-2041	9.10	8.20	7.30
BI-2081	12 ft. long, 60° extrusion; companion to BI-1024 connector. For unbraced spans up to 3 ft. long.	11.20	10.10	8.95
BI-2081-3	3 ft. length BI-2081	3.30	2.95	2.65
BI-2081-6	6 ft. length BI-2081	6.40	5.75	5.10
BI-2081-9	9 ft. length BI-2081	9.10	8.20	7.30
BI-2005	12 ft. long, 45° extrusion used with BI-1002 connector; for spans up to 2 ft. long.	8.05	7.25	6.45
BI-2005-3	3 ft. length BI-2005	2.45	2.20	1.95
BI-2005-6	6 ft. length BI-2005	4.60	4.15	3.70
BI-2005-9	9 ft. length BI-2005	6.50	5.85	5.20
BI-2061	12 ft. long, 30° extrusion used with BI-1020 connector.	11.20	10.10	8.95
BI-2061-3	3 ft. length BI-2061	3.35	3.00	2.70
BI-2061-6	6 ft. length BI-2061	6.40	5.75	5.10
BI-2061-9	9 ft. length BI-2061	9.10	8.20	7.30
BI-2021	12 ft. long, 22½° extrusion used with BI-1012 connector.	11.65	10.50	9.30
BI-2021-3	3 ft. length BI-2021	3.50	3.15	2.80
BI-2021-6	6 ft. length BI-2021	6.65	6.00	5.30
BI-2021-9	9 ft. length BI-2021	9.50	8.55	7.60
BI-2014	12 ft. long, 90° strengthened extrusion similar to BI-2004 but stronger for use in unbraced spans up to 3 ft. long.	10.40	9.35	8.30
BI-2014-3	3 ft. length BI-2014	3.15	2.85	2.50
BI-2014-6	6 ft. length BI-2014	6.00	5.40	4.80
BI-2014-9	9 ft. length BI-2014	8.50	7.65	6.80
BI-2015	12 ft. long, 45° external strengthened extrusion used in place of BI-2005 in unbraced spans up to 3 ft. long.	9.15	8.25	7.30
BI-2015-3	3 ft. length BI-2015	2.75	2.50	2.20
BI-2015-6	6 ft. length BI-2015	5.20	4.70	4.15
BI-2015-9	9 ft. length BI-2015	7.45	6.70	5.95
BI-2054	12 ft. long, 90° strengthened extrusion with two 1¼" extended flanges to take standard ¼"; retaining groove at root of flanges.	12.90	11.60	10.30
BI-2054-3	3 ft. length BI-2054	3.90	3.50	3.10
BI-2054-6	6 ft. length BI-2054	7.40	6.65	5.90
BI-2054-9	9 ft. length BI-2054	10.60	9.55	8.50
BI-2024	12 ft. long, 90° strengthened extrusion with one flange extended ¾" to fit ¼" panel; other has normal panel-retaining groove.	10.55	9.50	8.45
BI-2024-3	3 ft. length BI-2024	3.20	2.90	2.55
BI-2024-6	6 ft. length BI-2024	6.05	5.45	4.85
BI-2024-9	9 ft. length BI-2024	8.60	7.75	6.90
BI-2025	12 ft. long, 45° strengthened extrusion with one ¾" extended flange for ¼" panel and one normal panel-retaining groove flange.	10.10	9.10	8.10
BI-2025-3	3 ft. length BI-2025	3.00	2.70	2.40
BI-2025-6	6 ft. length BI-2025	5.75	5.20	4.60
BI-2025-9	9 ft. length BI-2025	8.20	7.40	6.55
BI-2034	12 ft. long, 90° heavy-duty extrusion takes loadings for spans over 3 ft. long. Additional returns reinforce strength. Flanges are both ¾" deep.	18.60	16.75	14.90
BI-2034-3	3 ft. length BI-2034	5.55	5.00	4.45
BI-2034-6	6 ft. length BI-2034	10.60	9.55	8.50
BI-2034-9	9 ft. length BI-2034	15.15	13.65	12.10
BI-2044	12 ft. long, 90° reinforcing angle screws to return flanges of BI-2034 for extra rigid, boxed in section. Use with heavy-duty BI-1011 spacer bar and BI-2018 and BI-2028 extrusions to build almost any size structure.	6.95	6.25	5.55
BI-2044-3	3 ft. length BI-2044	2.10	1.90	1.70
BI-2044-6	6 ft. length BI-2044	3.95	3.55	3.15
BI-2044-9	9 ft. length BI-2044	5.65	5.10	4.50



Typical Structures

### SPECIAL CONNECTORS, ACCESSORIES

No. BI-1003—T-junction connector permits making "T" with 2 lengths of extrusions; also used for picture frame effect. Fits 90° external extrusions.

No. BI-1005—90° table-top or foot connector used in place of radiused corner; has well to hold glass or wood table-top. Used also as foot or as wall mount. One leg fits 90° external extrusion; other two fit BI-2009.

No. BI-1008—Stacking plate for use with BI-1005 to permit stacking.

No. BI-1009—90° spacer bar cruciform connector.

No. BI-4001—Package of 50 friction clips; for assembly without use of screws.

No. BI-4302—Concealed brass hinge fits 90° extrusions; 3 mounting holes take 6-32 or 10-32 screws.

No. BI-4601—Chrome plated ventilation ring for dress-up. Used in addition to slots and louvers. (Clips (supplied) into 2½" hole. Has stainless steel gasket.

Bud No.	Net Each, Lots of		
	1-14	15-24	25 Up
BI-1003	\$1.20	\$1.10	\$ .95
BI-1005	1.55	1.40	1.25
BI-1008	.85	.75	.70
BI-1009	2.20	2.00	1.75
BI-4302	2.20	2.00	1.75
BI-4601	3.30	3.00	2.65



# Imlok "Prototyper" Cabinets

## INTERNAL EXTRUSIONS

Bud No.	Description	Net Each, Lots of		
		1-9	10-14	15 Up
<b>BI-2032</b>	12 ft. long, 90° internal extrusion to fit BI-1028; has two panel retaining grooves; for unbraced spans up to 3 ft. long.	\$13.85	\$12.45	\$11.70
<b>BI-2032-3</b>	3 ft. length BI-2032	4.20	3.80	3.35
<b>BI-2032-6</b>	6 ft. length BI-2032	7.90	7.10	6.30
<b>BI-2032-9</b>	9 ft. length BI-2032	11.30	10.15	9.05
<b>BI-2051</b>	12 ft. long, 67½° internal extrusion to fit BI-1017 connector. For use in unbraced spans up to 3 ft.	13.25	11.95	10.60
<b>BI-2051-3</b>	3 ft. length BI-2051	3.95	3.55	3.15
<b>BI-2051-6</b>	6 ft. length BI-2051	7.55	6.80	6.05
<b>BI-2051-9</b>	9 ft. length BI-2051	10.80	9.70	8.65
<b>BI-2091</b>	12 ft. long, 60° internal extrusion; fits BI-1025 connector.	13.70	12.35	10.95
<b>BI-2091-3</b>	3 ft. length BI-2091	4.10	3.70	3.30
<b>BI-2091-6</b>	6 ft. length BI-2091	7.85	7.05	6.30
<b>BI-2091-9</b>	9 ft. length BI-2091	11.20	10.10	8.95
<b>BI-2006</b>	12 ft. long, 45° internal extrusion has two ⅝" flanges, one with panel-retaining groove. For flat-topped, sloping front cabinets.	11.80	10.60	9.45
<b>BI-2006-3</b>	3 ft. length BI-2006	3.55	3.20	2.85
<b>BI-2006-6</b>	6 ft. length BI-2006	6.75	6.10	5.40
<b>BI-2006-9</b>	9 ft. length BI-2006	9.65	8.70	7.70
<b>BI-2071</b>	12 ft. long, 30° internal extrusion; fits BI-1021 connector.	13.25	11.95	10.60
<b>BI-2071-3</b>	3 ft. length BI-2071	3.95	3.55	3.15
<b>BI-2071-6</b>	6 ft. length BI-2071	7.55	6.80	6.05
<b>BI-2071-9</b>	9 ft. length BI-2071	10.80	9.70	8.65
<b>BI-2031</b>	12 ft. long, 22½° internal extrusion; fits BI-1013 connector.	13.70	12.35	10.95
<b>BI-2031-3</b>	3 ft. length BI-2031	4.10	3.70	3.30
<b>BI-2031-6</b>	6 ft. length BI-2031	7.80	7.00	6.25
<b>BI-2031-9</b>	9 ft. length BI-2031	11.20	10.10	8.95

## SPACER BAR AND TABLE-TOP EXTRUSIONS

<b>BI-2008</b>	12 ft. long, spacer bar extrusion used to subdivide panels or act as cross-bracing members.	12.60	11.35	10.10
<b>BI-2008-3</b>	3 ft. length BI-2008	3.75	3.40	3.00
<b>BI-2008-6</b>	6 ft. length BI-2008	7.15	6.45	5.70
<b>BI-2008-9</b>	9 ft. length BI-2008	10.30	9.25	8.25
<b>BI-2009</b>	12 ft. long, table-top extrusion for use at base of cabinet, as vertical member where double radius between cabinets is undesirable. Has flange with normal retaining groove; other is 1" deep to support table or bench top.	10.40	9.35	8.30
<b>BI-2009-3</b>	3 ft. length BI-2009	3.15	2.85	2.50
<b>BI-2009-6</b>	6 ft. length BI-2009	6.00	5.40	4.80
<b>BI-2009-9</b>	9 ft. length BI-2009	8.50	7.65	6.80

## EXTERNAL SPACER BAR CONNECTORS

Bud No.	Description	Net Each, Lots of		
		1-14	15-24	25 Up
<b>BI-1011</b>	This connector specially designed for use with 90° external heavy duty extrusion BI-2034. One leg fits this extrusion as well as all other 90° external extrusions. The other two legs fit BI-2008.	1.70	1.55	1.35
<b>BI-1018</b>	67½° external spacer bar connector; brace or sub-divide walls where BI-1016 is used at corners. One leg fits BI-2041; other two fit any spacer bar extrusion.	1.70	1.55	1.35
<b>BI-1026</b>	60° version of BI-1018. One leg fits BI-2081; other two fit any spacer bar extrusion.	1.70	1.55	1.35
<b>BI-1007</b>	45° version of BI-1018. One leg fits BI-2005, BI-2015 or BI-2025; other two fit any spacer bar extrusion.	2.20	2.00	1.75
<b>BI-1022</b>	30° version of BI-1018. One leg fits BI-2061 extrusion; other two fit any spacer bar extrusion.	1.70	1.55	1.35
<b>BI-1014</b>	22½° version of BI-1018. One leg fits BI-2021; other two fit any spacer bar extrusion.	1.70	1.55	1.35

## INTERNAL CORNER CONNECTORS

<b>BI-1028</b>	90° internal connector gives an included angle of 90° for L-shaped structures. One leg fits BI-2032 extrusion; other two fit any 90° external extrusion, (BI-2004, BI-2014, BI-2024, BI-2034, BI-2054).	1.70	1.55	1.35
<b>BI-1017</b>	67½° internal connector used where two walls are to meet to include a 67½° angle. One leg fits BI-2051 extrusion; other two fit any 90° external extrusion.	1.70	1.55	1.35
<b>BI-1025</b>	60° version of BI-1017. One leg fits BI-2091; other two fit any 90° external extrusion.	1.70	1.55	1.35
<b>BI-1006</b>	45° version of BI-1017. One leg fits BI-2006; other two fit any 90° external extrusion. Helps make flat top, sloping front structure.	2.20	2.00	1.75
<b>BI-1021</b>	30° version of BI-1017. One leg fits BI-2071; other two fit any 90° external extrusion.	1.70	1.55	1.35
<b>BI-1013</b>	22½° version of BI-1017. One leg fits BI-2031; other two fit any 90° external extrusion.	1.70	1.55	1.35

## INTERNAL SPACER BAR CONNECTORS

<b>BI-1029</b>	90° internal spacer connector permits bracing or sub-division of spans of BI-2032. One leg fits BI-2032 internal extrusion; other two fit BI-2008 spacer bar extrusion.	1.70	1.55	1.35
<b>BI-1019</b>	67½° internal spacer bar connector is companion to BI-1017 for sub-dividing or cross-bracing. One leg fits BI-2051; other two fit any spacer bar extrusion.	1.70	1.55	1.35
<b>BI-1027</b>	60° version of BI-1019 above; companion for BI-1025. One leg fits BI-2091; other two fit any spacer bar extrusion.	2.30	2.05	1.85
<b>BI-1010</b>	45° version of BI-1019; companion for BI-1006. One leg fits BI-2006; other two fit any spacer bar extrusion.	1.70	1.55	1.35
<b>BI-1023</b>	30° version of BI-1019; companion to BI-1021. One leg fits BI-2071; other two fit any spacer bar extrusion.	2.30	2.05	1.85
<b>BI-1015</b>	22½° version of BI-1019; companion to BI-1013. One leg fits BI-2031; other two fit any spacer bar extrusion.	1.70	1.55	1.35

## CUTTING JIGS

Bud No.	Description	Net Each, Lots of		
		1-4	5-9	10 Up
<b>BI-3003</b>	90° cutting jig permits easy mitering of any 90° external extrusion. Makes assembly quick, easy.	14.95	13.45	11.95
<b>BI-3002</b>	45° cutting jig for mitering any 45° external extrusion.	17.35	15.60	13.90



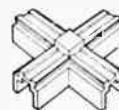
BI-1001



BI-1003



BI-2009



BI-1009



BI-1028



BI-1029



BI-2004



BI-2006



BI-1005



BI-2024



BI-2032



BI-2034



BI-2044



BI-2008



BI-3003



BI-4601



# Slimline 901 Imlok®

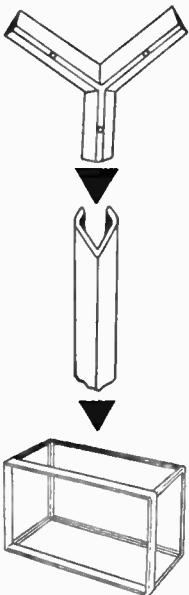
Bud Slimline 901 Imlok is based upon the same, proven principles as the Standard Imlok system. The basic difference is lighter weight and narrower appearance of the extrusions; corner connectors are smaller in size and are not visible in the completed housing. Connectors are 380 aluminum die castings; extrusions are 6063 aluminum. A really attractive small rectangular case, large elegant console or multiangular structure can be made with Slimline 901 Imlok. Whether for a production run or a single prototype, we can supply the material or make a complete enclosure.

## EXTRUSIONS (9-FT. LENGTH ONLY)

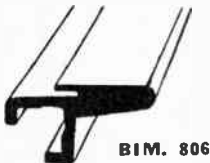
Bud No.	Description	Net Each, Lots of		
		1-9	10-14	15-19
BIM. 801	90° external extrusion suitable for light weight frameworks: when enclosed with panels it is not visible from the outside.	\$ 5.10	\$ 4.60	\$ 4.10
BIM. 802	90° external extrusion has retaining groove for 20-gauge panels.	5.40	4.85	4.30
BIM. 803	90° external extrusion; heavier extrusion with retaining grooves for 20-gauge panels.	6.30	5.65	5.00
BIM. 806	90° bezel extrusion; bezel frame for recessed panels; one side has panel retaining groove.	7.50	6.75	6.00
BIM. 807	90° bezel extrusion similar to BIM. 806, but heavier; thicker internal flange permits mounting of rack type panels.	10.05	9.05	8.05
BIM. 821	90° bezel extrusion similar to BIM. 806, but has much deeper recess that provides picture frame effect for the panel.	12.45	11.20	9.95
BIM. 826	90° internal extrusion used for all internal 90° applications; retaining grooves for 20-gauge panels.	15.70	14.15	12.55
BIM. 810	Spacer bar extrusion matches BIM. 801 for dividing and reinforcing panel areas.	5.70	5.15	4.55
BIM. 811	Spacer bar extrusion; visible face similar to BIM. 802; used with all extrusions except BIM. 801.	5.95	5.35	4.75
BIM. 812	Spacer bar extrusion similar to BIM. 811, but with wider visible area to match BIM. 803.	7.50	6.75	6.00
BIM. 601	15° external extrusion used for all 15° external corner applications; fits one leg of BIM. 915 and BIM. 91 connectors; used with BIM. 802, BIM. 803, BIM. 806, BIM. 807, BIM. 821 and BIM. 845 extrusions.	11.80	10.60	9.45
BIM. 611	15° internal extrusion used for all 15° internal corner applications; fits one leg of BIM. 951 connector; used with BIM. 802, BIM. 803, BIM. 806, BIM. 807 and BIM. 821 extrusions.	11.80	10.60	9.45
BIM. 641	45° external extrusion used for all 45° external corner applications; fits one leg of BIM. 945 and BIM. 94 connectors; used with same extrusions as BIM. 601.	11.80	10.60	9.45
BIM. 651	45° internal extrusion used for all 45° internal corner applications; fits one leg of BIM. 954; used with same extrusions as BIM. 611.	11.80	10.60	9.45
BIM. 681	75° external extrusion used for all 75° external corner applications with BIM. 975 or BIM. 97 connectors; used with same extrusions as BIM. 601.	11.80	10.60	9.45
BIM. 682	75° acute external extrusion.	11.80	10.60	9.45
BIM. 691	75° internal extrusion used for all 75° internal corner applications with BIM. 957 connector; used with same extrusions as BIM. 611.	11.80	10.60	9.45
BIM. 845	90° deep recess extrusion has 1/8" deep recess on one side and is similar to BIM. 803 on other; used with appropriate corner connectors.	11.30	10.15	9.05
BIM. 847	Deep recess conversion extrusion used where BIM. 845 is not suitable; used with extrusions BIM. 802, BIM. 803, BIM. 812, BIM. 826, BIM. 651, BIM. 691 and one side only on BIM. 806, BIM. 807, BIM. 811 and BIM. 821.	9.10	8.20	7.30
BIM. 610	Deep recess conversion extrusion similar to BIM. 847; used with BIM. 601 and BIM. 611 extrusions.	9.45	8.50	7.55
BIM. 690	Deep recess conversion extrusion similar to BIM. 847 and BIM. 610; used with extrusions BIM. 641, BIM. 681 and BIM. 682.	9.45	8.50	7.55
BIM. 846	Deep recess spacer bar extrusion matches deep recess on deep-recess conversion extrusions; inner flanges accept standard captive nuts suitable for 14-gauge material.	18.00	16.20	14.40
BIM. 834	90° glazing extrusion has retaining groove on both sides to accept 1/2" panels.	13.80	12.40	11.05
BIM. 835	90° glazing extrusion similar to BIM. 834, but will accept 1/2" panels.	12.50	11.25	10.00
BIM. 836	90° sliding door extrusion has twin channels on one side to accept 1/2" sliding doors; retaining groove on other side for 1/2" fixed panel.	19.20	17.30	15.35
BIM. 837	90° sliding door extrusion same as BIM. 836, except will accommodate 1/2" doors and 1/2" panel.	17.55	15.80	14.05
BIM. 822	1/2" sliding door conversion extrusion; used where 1/2" sliding doors are required without a side panel. May be added to either side of BIM. 802, BIM. 803, BIM. 812, BIM. 826, BIM. 651, and BIM. 691 extrusions; or, to one side only of BIM. 806, BIM. 807, BIM. 811, BIM. 821 and BIM. 845 extrusions.	8.55	7.70	6.85
BIM. 823	1/2" sliding door conversion extrusion similar to BIM. 822, except will accommodate 1/2" sliding doors; may be added to same extrusions as BIM. 822.	8.20	7.40	6.55
BIM. 832	Closure section may be added to inside of frameworks using 90° connectors to completely conceal them.	3.45	3.10	2.75
BIM. 818	90° door frame extrusion used for making double skinned doors.	7.15	6.45	5.70
BIM. 829	90° mounting flange extrusion; used in conjunction with frameworks made of BIM. 801 extrusion to provide a flange suitable for rack mounting.	7.10	6.40	5.70
BIM. 107	Panel mounting conversion extrusion; normally fitted to two vertical members to provide mountings for rack type panels.	10.40	9.35	8.30

## MITERING JIGS

Bud No.	Description	Net Each, Lots of		
		1-9	10-14	15-19
BIM. 101	90° mitering jig; external, double miter	\$ 8.45	\$ 7.60	\$ 6.75
BIM. 115	90° mitering jig; external, single miter	8.40	7.55	6.70
BIM. 116	90° mitering jig; internal, single miter	8.40	7.55	6.70
BIM. 117	15° mitering jig; external, single miter	8.40	7.55	6.70
BIM. 118	15° mitering jig; internal, single miter	8.40	7.55	6.70
BIM. 121	45° mitering jig; external, single miter	8.40	7.55	6.70
BIM. 122	45° mitering jig; internal, single miter	8.40	7.55	6.70
BIM. 125	75° mitering jig; external, single miter	6.25	5.65	5.00
BIM. 126	75° mitering jig; internal, single miter	8.40	7.55	6.70
BIM. 127	Acute 75° mitering jig; external, single miter	8.40	7.55	6.70
BIM. 129	Notch jig	32.35	29.10	25.90



BIM. 801



BIM. 806



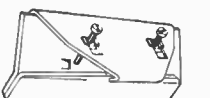
BIM. 826



BIM. 810



BIM. 601



BIM. 101



# Slimline 901 Imlok®

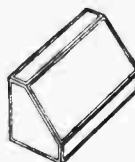
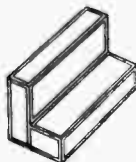
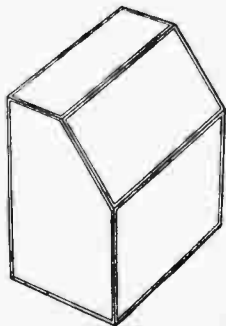
## CONNECTORS

Bud No.	Description	Net Each, Lots of		
		1-14	15-24	25-34
BIM. 902	90° external standard connector used for normal 90° external corners and for joining spacer bars to the various 90° external and bezel extrusions.	\$1.00	\$ .90	\$ .80
BIM. 901	90° external corner connector; a lighter duty model than BIM. 902; used with extrusions BIM. 801, BIM. 834, BIM. 835, BIM. 836 and BIM. 837; if one leg is removed use BIM. 818.	.85	.75	.70
BIM. 90	90° external slotted connector replaces BIM. 902 if an unobstructed aperture is required on framework involving extrusions BIM. 802, BIM. 806, BIM. 810, BIM. 811 and BIM. 821.	1.90	1.70	1.50
BIM. 909	90° internal connector; extrusion BIM. 826 is fitted to one leg and the other two legs accept extrusions BIM. 802, BIM. 803, BIM. 806, BIM. 807 and BIM. 821.	1.65	1.50	1.30
BIM. 090	90° internal spacer bar connector enables spacer bars BIM. 810, BIM. 811 or BIM. 812 to be fitted to extrusion BIM. 826.	1.90	1.70	1.50
BIM. 990	90° cruciform connector; used to join spacer bars BIM. 810, BIM. 811, or BIM. 812 where they cross to divide large panel areas.	1.85	1.65	1.50
BIM. 915	15° external corner connector; used for 15° external corners when two 90° frame extrusions are BIM. 803 or BIM. 845; extrusion BIM. 601 is always fitted to third leg.	1.60	1.45	1.30
BIM. 91	15° external slotted connector replaces BIM. 915 when 90° extrusions are BIM. 802, BIM. 806, BIM. 807 or BIM. 821; also used for joining spacer bars to BIM. 601.	1.90	1.70	1.50
BIM. 951	15° internal corner connector for all 15° internal corner applications; extrusion BIM. 611 is fitted to one leg; the other two will accept BIM. 802, BIM. 803, BIM. 806, BIM. 807 or BIM. 821.	1.60	1.45	1.30
BIM. 015	15° internal spacer bar connector permits spacer bars BIM. 810, BIM. 811 or BIM. 812 to be fitted to 15° internal extrusion BIM. 611.	1.90	1.70	1.50
BIM. 945	45° external corner connector; used for 45° external corners when extrusion is either BIM. 803 or BIM. 845; must be used with extrusion BIM. 641.	1.60	1.45	1.30
BIM. 94	45° external slotted connector replaces BIM. 945 when extrusions are either BIM. 802, BIM. 806, BIM. 807 or BIM. 821; also used for joining spacer bars to extrusion BIM. 641.	1.90	1.70	1.50
BIM. 954	45° internal corner connector; used for all 45° internal corners with extrusion BIM. 651; two legs accept 90° extrusions.	1.85	1.65	1.50
BIM. 045	45° internal spacer bar connector; used in fitting spacer bars to extrusion BIM. 651.	1.90	1.70	1.50
BIM. 975	75° external corner connector; used for 75° external corners with either 90° extrusion BIM. 803 or BIM. 845; BIM. 681 is always the third extrusion.	1.60	1.45	1.30
BIM. 97	75° external slotted connector; used to replace BIM. 975 when 90° extrusions are BIM. 802, BIM. 806, BIM. 807 or BIM. 821; connects spacer bars to extrusion BIM. 681.	1.90	1.70	1.50
BIM. 957	75° internal corner connector; used for all 75° internal corners with extrusion BIM. 691 fitted to one leg; use BIM. 802, BIM. 803, BIM. 806, BIM. 807 or BIM. 821 on other two legs.	1.65	1.50	1.30
BIM. 075	75° internal spacer bar connector enables spacer bars to be fitted to extrusion BIM. 691.	1.90	1.70	1.50
BIM. 750	75° acute external corner connector; used with extrusions BIM. 803 or BIM. 845; always used with extrusion BIM. 682.	1.75	1.60	1.40
BIM. 75	75° acute external slotted connector replaces BIM. 750 when extrusions BIM. 802, BIM. 806, BIM. 807 or BIM. 821 are used; also joins spacer bars to extrusion BIM. 682.	1.90	1.70	1.50

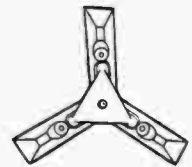
## ACCESSORIES

Bud No.	Description	Net Each, Lots of		
		1-14	15-24	25-34
BIM. 103	Tapped block 6-32 threaded for mounting panels with extrusions BIM. 801 and BIM. 810.	\$ .65	\$ .60	\$ .50
BIM. 104	Tapped block 10-32 threaded for mounting panels with extrusions BIM. 801 and BIM. 810.	.65	.60	.50
BIM. 106	Adjustable mounting bracket may be positioned as required to allow standard rack panel mountings on extrusions BIM. 801, BIM. 802, BIM. 803, BIM. 806, BIM. 807, BIM. 810, BIM. 811, BIM. 812, BIM. 821 and BIM. 845.	.35	.30	.28
BIM. 108	90° external corner gusset may be fitted to connectors BIM. 90 and BIM. 901.	.25	.23	.20
BIM. 109L	Lift-off butt hinge, left hand; chrome plated.	1.35	1.20	1.10
BIM. 109R	Lift-off butt hinge, right hand; chrome plated.	1.35	1.20	1.10
BIM. 134	45° corner gusset with 3 drilled holes (one .44", two .22") plus 4 holes tapped 12-24. For 90° corners only.	1.00	.90	.80
BIM. 135	45° corner gusset with 3 drilled holes (one .44", two .22").	.90	.80	.70
BIM. 136	23°-67° corner gusset drilled and tapped for use in any 90° corner; may be fitted after framework is completed.	1.00	.90	.80

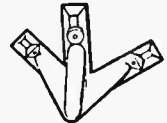
Bud No.	Description	Net Each, Lots of		
		1-9	10-14	15-19
BIM. 110	Open hinge, cadmium plated steel, undrilled, 4-ft. length for use with deep recess extrusions.	\$4.20	\$3.80	\$3.35
BIM. 130	Pivot hinge block and collar designed for use with either flush fitting or recessed doors; chrome plated.	1.70	1.55	1.35
BIM. 137	Bracing extrusion for internal bracing at any desired angle; particularly useful for strengthening non-90° corners.	9.15	8.25	7.30



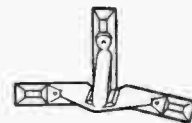
TYPICAL STRUCTURES



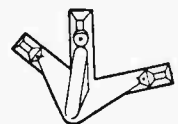
BIM. 902



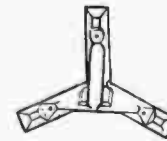
BIM. 909



BIM. 915



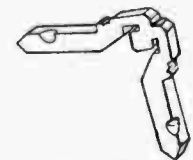
BIM. 954



BIM. 975



BIM. 750



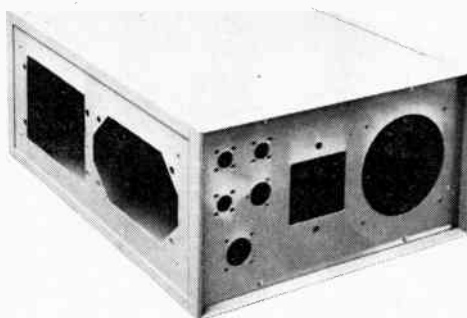
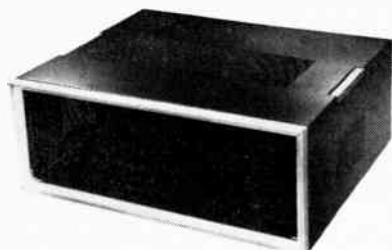
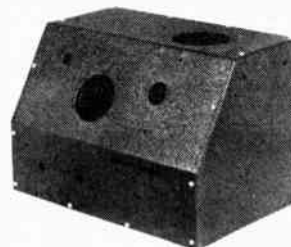
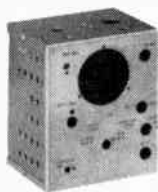
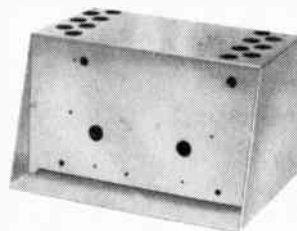
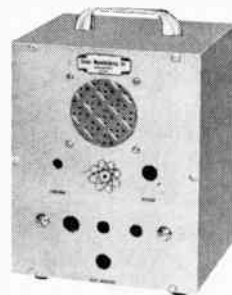
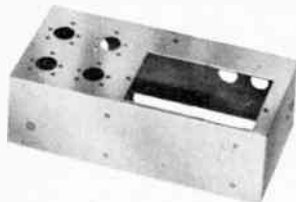
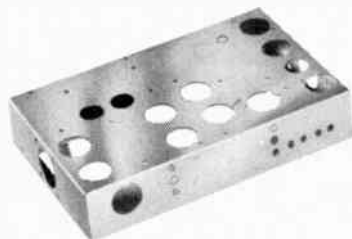
BIM. 075



# Modified Standard Products

Often a modification of a standard BUD product will create a "made to order" housing with a resulting savings in time and cost. This is when a special is not a special. Illustrated below are

enclosures which are adaptations from standard BUD products. Tell us your requirements we will suggest the most economical enclosure for you — modified standard or a special fabrication.







# Specially Fabricated Products

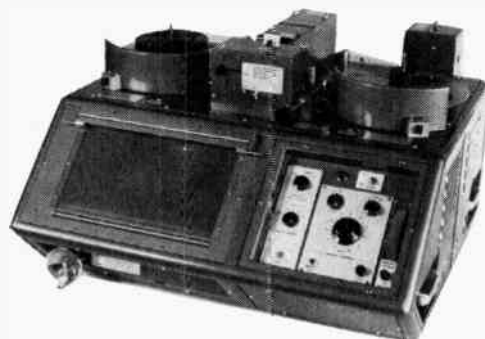
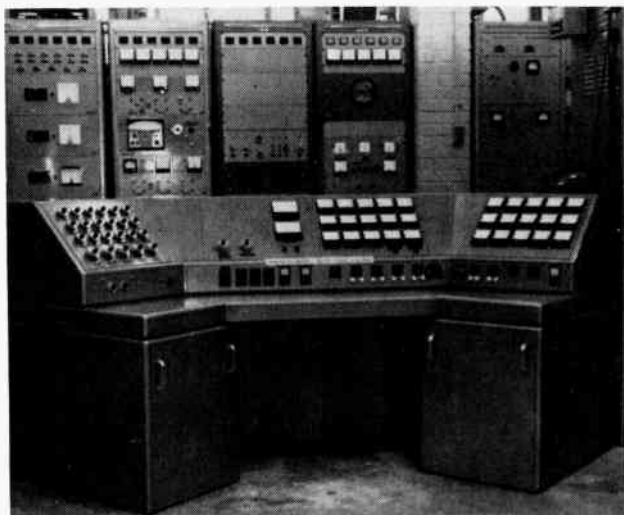
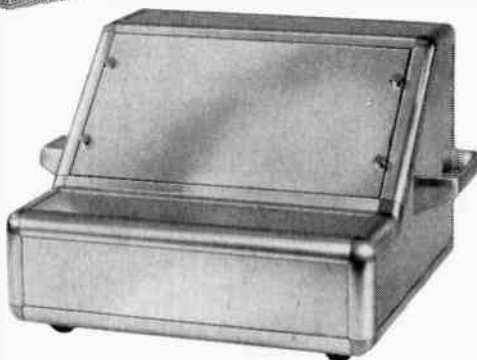
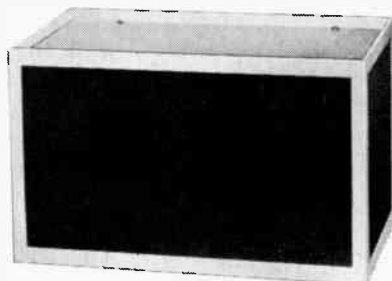
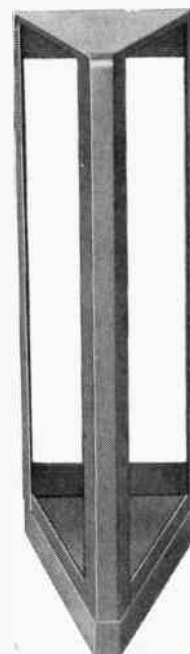
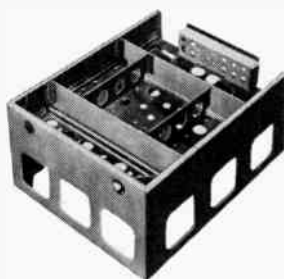
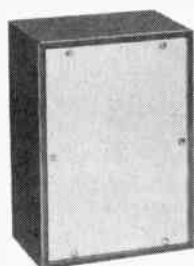
Consult your local Authorized Bud Distributor about your special enclosure problems. In reality, he is an extension of the factory's engineering department and can recommend the proper design and size for your equipment. His advice will save you time and money.

These are the services we perform:

1. Modification of our standard products.
2. Specially punched panels, chassis and boxes.
3. Standard construction employing steel or aluminum.
4. Special construction employing the Imlok system of aluminum extrusions, castings and sheets.
5. Original designs based upon your circuitry requirements.

Bud can supply you with a pilot model or a production run. Our more than 35 years of experience in the electronic industry assures you that we can readily understand your problems and solve them economically. 112,000 sq. ft. of completely integrated plant facilities — from engineering, tooling and fabrication to painting, assembly and packaging insure quick delivery. Almost every type of industry, branches of the armed forces, the Space Agency and the Nuclear Energy Commission use Bud products.

Whenever a special sheet metal enclosure is required, call in your local Authorized Bud Distributor. He is anxious to cooperate with you.



AKRO-MILS



# PARTS STORAGE CABINETS

## SYSTEMIZED MODULAR DESIGN

### 36 DRAWER CABINET

COMPACT DRAWERS

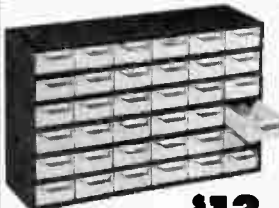
17-7/8" w. x 6" d. x 11-1/8" h.

Complete with 36 drawers size 2-3/4" w. x 5-7/8" d. x 1-7/16" h., each drawer capacity 23 cubic inches. Complete with 3 full-width and 1 lengthwise dividers with each 4 drawers, plus index labels. Shipping wt. 13 lbs.

Model 17-136 with transparent drawers

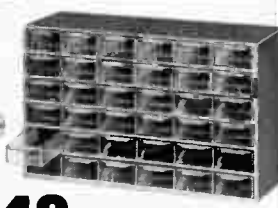
Model 18-136 with Hi-Impact gray drawers

## HEAVY DUTY DRAWERS



18-136

## TRANSPARENT DRAWERS



17-136

**'13.49** each

### 24 DRAWER CABINET

DEEP-COMPACT DRAWERS

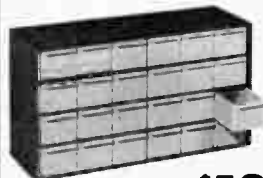
17-7/8" w. x 6" d. x 9-7/8" h.

Complete with 24 drawers size 2-3/4" w. x 5-3/4" d. x 2" h., each drawer capacity 31 cubic inches. Complete with one full-width divider per drawer plus index labels. Shipping wt. 11 lbs.

Model 17-024 with transparent drawers

Model 18-024 with Hi-Impact gray drawers

## HEAVY DUTY DRAWERS



18-024

## TRANSPARENT DRAWERS



17-024

**'13.49** each

### 20 DRAWER CABINET

LONG DRAWERS

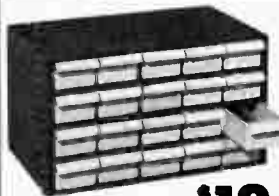
17-7/8" w. x 11" d. x 10-1/4" h.

Complete with 20 drawers size 3" w. x 11" d. x 2" h., each drawer capacity 66 cubic inches. Complete with 1 full-width divider per drawer, and 1 lengthwise and 10 half-width dividers per cabinet, plus index labels. Shipping wt. 16-1/2 lbs.

Model 17-320 with transparent drawers

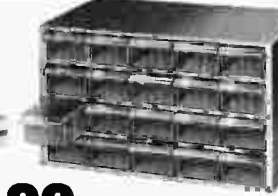
Model 18-320 with Hi-Impact gray drawers

## HEAVY DUTY DRAWERS



18-320

## TRANSPARENT DRAWERS



17-320

**'19.99** each

### 16 DRAWER CABINET

LONG-WIDE DRAWERS

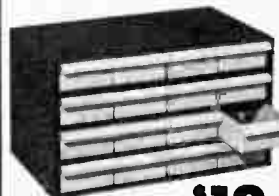
17-7/8" w. x 11" d. x 10-1/4" h.

Complete with 16 drawers size 4" w. x 11" d. x 2" h., each drawer capacity 88 cubic inches. Complete with 2 full-width dividers per drawer, and 5 notched full-width and 1 lengthwise dividers per cabinet, plus index labels. Shipping wt. 16-3/4 lbs.

Model 17-416 with transparent drawers

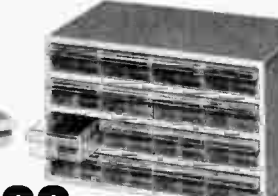
Model 18-416 with Hi-Impact gray drawers

## HEAVY DUTY DRAWERS



18-416

## TRANSPARENT DRAWERS



17-416

**'19.99** each

### 15 DRAWER CABINET

LONG-DEEP DRAWERS

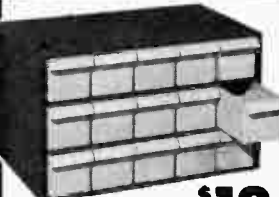
17-7/8" w. x 11" d. x 10-5/8" h.

Complete with 15 drawers size 3-1/8" w. x 11" d. x 3-1/32" h., each drawer capacity 104 cubic inches. Complete with 1 full-width divider per drawer, and 1 lengthwise and 6 half-width dividers per cabinet, plus index labels. Shipping wt. 17 lbs.

Model 17-715 with transparent drawers

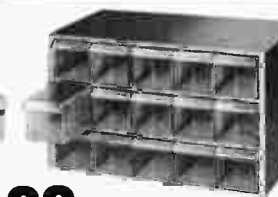
Model 18-715 with Hi-Impact gray drawers

## HEAVY DUTY DRAWERS



18-715

## TRANSPARENT DRAWERS



17-715

**'19.99** each

### 9 DRAWER CABINET

JUMBO DRAWERS

17-7/8" w. x 11" d. x 10-5/8" h.

Complete with 9 drawers size 5-1/4" w. x 11" d. x 3-1/32" h., each drawer capacity 175 cubic inches. Complete with 1 full-width divider per drawer, and one lengthwise and 6 half-width dividers per cabinet plus index labels. Shipping wt. 15-3/4 lbs.

Model 17-909 with transparent drawers

Model 18-909 with Hi-Impact gray drawers

## HEAVY DUTY DRAWERS



18-909

## TRANSPARENT DRAWERS



17-909

**'19.99** each

## Expandable SYSTEM

USE INDIVIDUALLY OR COMBINE MODELS TO CREATE A MINIATURE WAREHOUSE



### CABINET FEATURES:

One overall width of 17 7/8 inch steel frame for 6 models with varied drawers.

Expandable — cabinets can be stacked, hung on walls or placed on shelving or any flat surface.

QUALITY BUILT TO LAST

### DRAWERS HAVE ALL THESE FEATURES:



### Two Types of Drawers Six Sizes of Each Type

Rust and corrosion proof  
Open and close smoothly . . .

Safety feature: no cuts or scratches from sharp metal

Non-toxic; nonconductive  
60% lighter than steel, yet drawers cannot twist or spring out of shape; non-bend and non-warp

### LOCK-TIGHT DIVIDERS

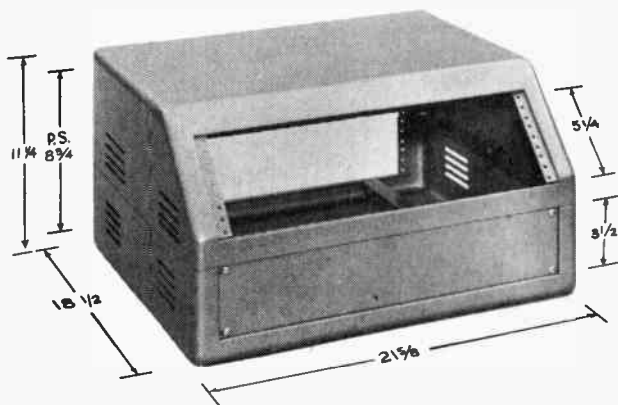
dovetailed to prevent drawers from spreading . . . move easily to new positions if desired.

ADJUSTABLE COMPARTMENT SIZES  
NO SPREAD SIDES  
NO CREEPAGE OF PARTS



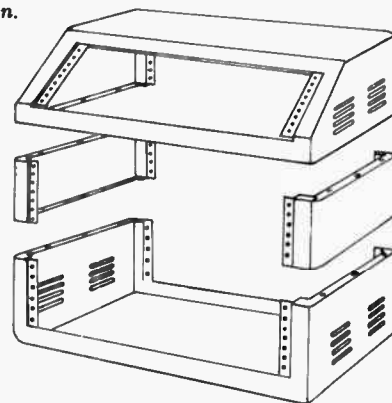
# CALIFORNIA CHASSIS CO.

## SLOPE-FRONT EXPANDABLE CABINET (MPXM)



	Width	Height	Depth
MPXM Cabinet without inserts	21 3/8 in.	11 1/4 in.	18 1/2 in.
Slope panel opening	19 1/8 in.	5 1/4 in.	—
Front panel opening	19 1/8 in.	3 1/2 in.	—
Back panel opening	19 1/8 in.	8 3/8 in.	—
Inserts (in increments of 1 3/4 to 28 inches.)	—	1 3/4 to 28 in.	18 1/2 in. (side)

*Recommended total panel height with inserts: 35 inches.  
This cabinet accepts standard relay rack panels and is drilled and tapped for universal panel mountings. 16-Gauge cold rolled steel construction.*

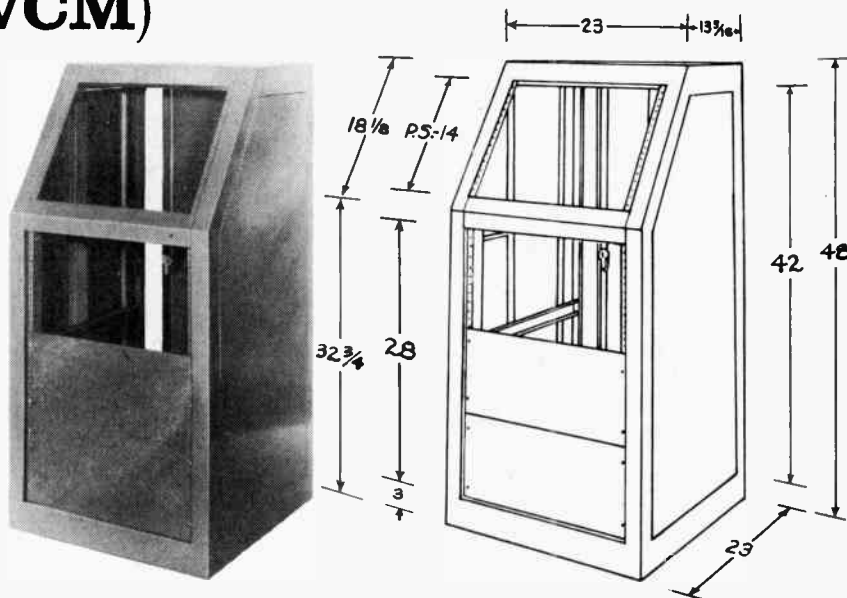


This latest addition to the popular California Chassis "Designer's Series" enclosures provide a functional 45° sloping front for convenience and easy viewing of meters, dials, control knobs and switches. The new slope front, combined with expandable inserts to meet the need of added circuitry and component requirements, enhances the functional design features of this attractive and rugged cabinet ■ Inserts are available to accommodate standard panel chassis sizes ■ Finished in silver-grey hammertone.

# SLOPE-FRONT, ALL STEEL WELDED CABINET (AWCM)

The California Chassis AWCM-42 Slope-Front Cabinet offers the ultimate in clean, functional lines and versatility in construction. It is available as a finished "package" or with separate components to satisfy your specific requirements ■ The basic all-steel welded rack is open on all sides to simplify installation and permit adequate service access ■ Doors have chrome key locking handles and special spring-loaded hinge pins for rapid removal ■ Side panels are removable without use of tools ■ Panel slope is 34° and provides a full 14 x 19 1/8 inch area for meters, dials and controls ■ Holes are provided in bottom for floor mounting ■ Panel mounting angles are drilled and tapped 10-32 with universal spacing to accept all standard panels ■ The AWCM-42 is attractively finished with our special low-maintenance, scratch resistant silver-grey hammertone formula. Other finishes optional. The AWCM-42 is shipped complete with two side panels and locking rear door.

	Width	Height	Depth
AWCM-42	23 in.	48 in.	23 in.
Slope panel opening	19 1/8 in.	14 in.	—
Front panel opening	19 1/8 in.	28 in.	—
Rear Door opening	19 1/8 in.	42 in.	—
Front panel slope: 34°			



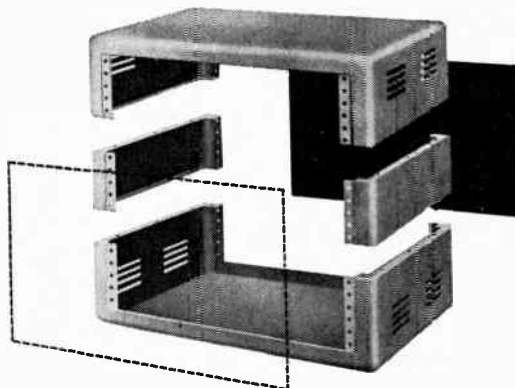
# CALIFORNIA CHASSIS CO.

# CALIFORNIA CHASSIS CO.



## MULTI-PURPOSE EXPANDABLE CABINET

The MPX enclosure combines clean design and attractive finish with utility, strength and versatility. Inserts permit vertical expansion of cabinet. Standard finish — gray hammer-tone; other finishes optional.



**MPX CABINET** — Consists of top, bottom, rear panel 5¼" high and assembly hardware. Basic cabinet provides 7" of panel space front and back.....\$29.75

**MPXF-10 1¾" FILLER** — each filler group listed consists of two sides, rear panel same height as sides and hardware..... 9.22

MPXF-11	3½"	FILLER.....	\$10.35	MPXF-18	15¾"	FILLER.....	\$17.35
MPXF-12	5¼"	FILLER.....	11.50	MPXF-19	17½"	FILLER.....	18.50
MPXF-13	7"	FILLER.....	12.50	MPXF-20	19¼"	FILLER.....	19.50
MPXF-14	8¾"	FILLER.....	13.60	MPXF-21	21"	FILLER.....	20.60
MPXF-15	10½"	FILLER.....	14.69	MPXF-22	24½"	FILLER.....	21.80
MPXF-16	12¼"	FILLER.....	15.80	MPXF-23	26¼"	FILLER.....	22.95
MPXF-17	14"	FILLER.....	16.95	MPXF-24	28"	FILLER.....	24.10

MPX Cabinet without Inserts	<b>Width</b>	<b>Height</b>	<b>Depth</b>
Front panel opening	21½ in.	9½ in.	18½ in.
Back panel opening	19½ in.	7 in.	—
Inserts (in increments of 1¾ to 26¼ in.)	—	1¾ to 26¼ in.	18½ in. (side)

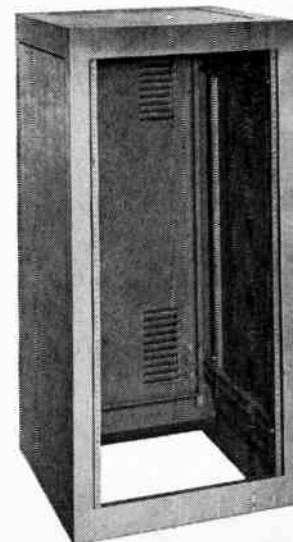
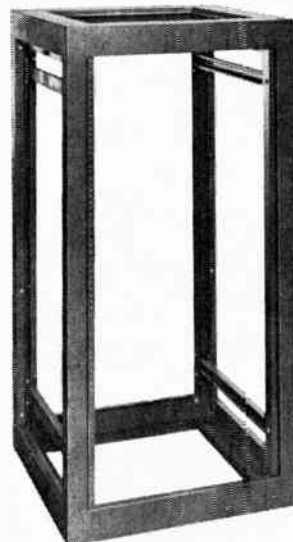
Recommended total panel height with inserts: 35 inches. This cabinet accepts standard relay rack panels and is drilled for universal panel mountings. 16 gauge cold rolled steel construction.



## ALL-STEEL WELDED CABINET

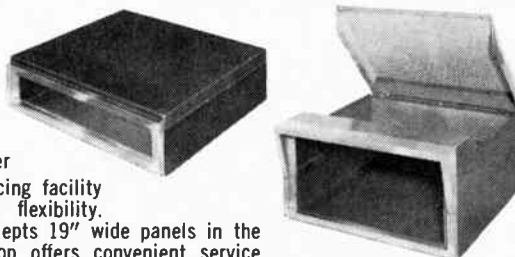
This flexible AWC cabinet is available as a complete package or as separate components to satisfy individual requirements. Doors and sides are interchangeable. Doors have chrome handles — spring loaded hinge pins provide rapid removal and servicing without tools. Panel mounting angles are tapped 10-32 with universal spacing for all standard panels. Louvers on doors and sides available. Standard finish — gray hammer-tone; other finishes optional.

AWC-42	Assembly consisting of 42 inch panel space frame, two sides, one door, top, one pair panel mounting angles and all necessary hardware.....	\$125.00
AWC-61	Same as above except 61¼ inch panel space frame.....	153.00
AWC-70	Same as above except 70 inch panel space frame.....	166.00
AWC-77	Same as above except 77 inch panel space frame.....	192.00
AWCF-42	Basic frame only — 42 inch panel space.....	60.40
AWCF-61	Basic frame only — 61¼ inch panel space.....	75.40
AWCF-70	Basic frame only — 70 inch panel space.....	80.40
AWCF-77	Basic frame only — 77 inch panel space.....	95.40



## NEW! "SWING-TOP CABINET MODULE"

Developed for the discriminating user in response to a demand for servicing facility coupled with modern design and flexibility. Basic cabinet is 18" deep and accepts 19" wide panels in the shadow boxed front. The swing top offers convenient service access to installed equipment. Unit may be expanded vertically by addition of special center sections — available from the factory to meet your requirements. Standard units stocked in gray hammer-tone, other finishes available.



ST-14	Double Section	8¾" Panel Space	.....	\$34.80 ea.
ST-12	Single Section	5¼" Panel Space	.....	\$29.50 ea.

## PM-11 POWER ENCLOSURE

The base section of the Swing-Top Module is available as a separate item and is most often used as a power supply enclosure. It offers a 3½" x 19" front panel area coupled with 18 inches of depth. The removable cover section serves as either top or bottom at users discretion. Panel space may be increased vertically by addition of special center sections, please contact factory with your requirements. Stocked in gray hammer-tone, custom finishes available .....\$24.50 ea.

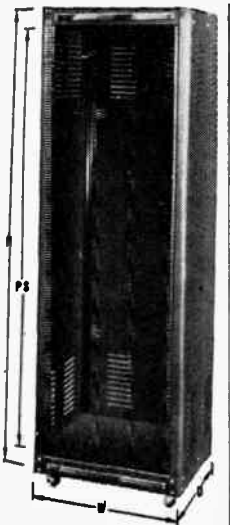
# CALIFORNIA CHASSIS CO.

## CABINET RACKS

These racks are made entirely of 16 gauge steel except for the heavy steel panel supports. They have universal spacing, the holes being tapped for 10/32" screws. Panels fit into a recess so that the edges do not show. Mounting plate on bottom of rack permits casters to be fastened directly to base for easy mobility. Casters are not included in price of rack but may be ordered separately. No. TC-10.

All standard 19" panels RETMA, Western Electric or Amateur will fit these racks. Double rows of louvers side and rear give ample ventilation.

Gray hammertone finish.



NO. CAT.	PANEL SPACE	HEIGHT	WIDTH	DEPTH	SHIP. INSIDE CLEAR.	WT. LBS.	NET PRICE
CR-36	36 3/4	42	22	17	15 1/2	90	52.00
CR-42	42	47 1/4	22	17	15 1/2	96	58.60
CR-61	61 1/4	66 1/2	22	17	15 1/2	120	74.00
CR-77	77	82 1/4	22	17	15 1/2	145	88.00
CRD-36	36 3/4	42	22	24	22 1/2	99	66.86
CRD-42	42	47 1/4	22	24	22 1/2	105	79.17
CRD-61	61 1/4	66 1/2	22	24	22 1/2	133	94.81
CRD-77	77	82 1/4	22	24	22 1/2	160	113.97



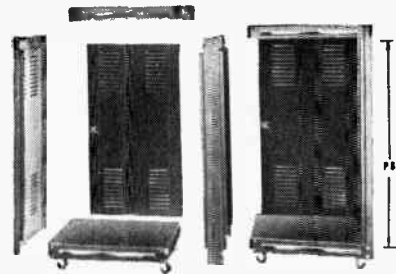
## DOOR SERIES

This open rack is made of 16 gauge steel. It is useful where the larger, heavier floor model is not necessary.

Mounting holes are on universal centers tapped 10/32" Gray hammertone finish.

Cat. No.	Panel Space	Overall Height	Width	Depth	Ship. Wt.	Net Price
DOR-21	21 x 19	25	21	12	18	9.66
DOR-28	28 x 19	32	21	12	19	11.92

## MULTI RACK SERIES



With this unit and a standard rack of the same size one can make a multiple rack or a series of connected racks. Each unit consists of a door, top, bottom, and a multi-rack connecting unit. This must have the same panel space as the unit it is to be used with. All hardware except casters is furnished. Colors to match mating units.

CAT. LOG NO.	PANEL SPACE	FITS RACK	SHIP. WT.	NET PRICE
MR-16	36 3/4	CR-36	75	\$52.00
MR-32	42	CR-42	80	58.60
MR-31	61 1/4	CR-61	100	74.00
MR-77	77	CR-77	118	88.00
MRE-36	36 3/4	CRD-36	80	66.86
MRE-42	42	CRD-42	85	79.17
MRE-61	61 1/4	CRD-61	108	94.81
MRE-77	77	CRD-77	128	113.97

## FRONT DOOR KIT

To convert CR, CRD, MR, MRD racks to Front Door type, formed of 16 gauge steel 1 3/4" deep to clear handles, knobs, etc. All corners seam welded and ground smooth. Supplied with locking handle with same keying as back door and all necessary hardware to mount on rack front. Finish grey hammertone.

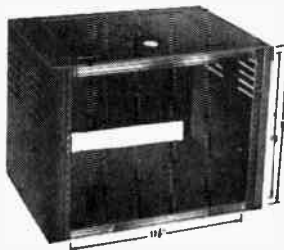
Cat. No.	Price	Cat. No.	Price
FD-36	\$21.50	FD-61	\$31.80
FD-42	26.00	FD-77	38.50

## DESK CABINET RACKS

This solid welded, rounded front, deluxe desk cabinet has a professional look as well as being a sturdy utility unit. Embossed feet are on all sizes to reduce marring.

Cabinets have universal punching, accommodating W. E.; RETMA; or Amateur notched panels. Unit is made from 16 ga. steel, having a 2" opening on bottom rear for ventilation in addition to side louvers.

The five smaller models have solid welded backs. The five larger models have a removable hinged rear door. All models clear 14 1/2" inside depth — Outside width is 21 1/2". Gray hammertone.

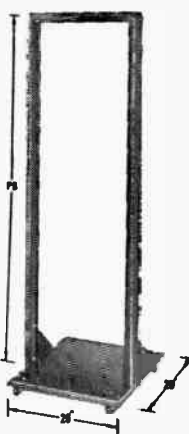


CATALOG NO.	PANEL SPACE	HEIGHT	SHIP. WT.	NET PRICE
DCR-7	7	8 1/4	25	18.00
DCR-8	8 3/4	10 1/4	27	18.37
DCR-10	10 1/2	12 1/4	29	21.00
DCR-12	12 1/4	14 1/4	31	22.06
DCR-14	14	15 1/4	33	24.05
DCR-17	17 1/2	19 1/4	37	28.78
DCR-21	21	22 1/4	39	30.80
DCR-26	26 1/4	28 3/4	47	33.00
DCR-31	31 1/2	33 3/4	51	35.05
DCR-35	35	36 1/4	58	37.00

## OR SERIES

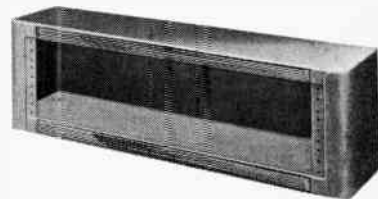
These open racks are constructed so the uppermost panel mounts at the top of the 1/8" steel upright. There is no loss of space at the top. Rack uprights are punched with universal spacing and tapped 10/32". Two brackets of 1/8" steel bind the uprights and a chassis like base into one solid unit. Gray hammertone.

CATALOG NO.	PANEL SPACE	OVERALL HEIGHT	SHIP. WT.	NET PRICE
OR-31	31 1/2	32 3/4	27	22.76
OR-36	36 3/4	38	28	22.97
OR-42	42	43 1/4	30	24.63
OR-61	61 1/4	62 1/2	37	25.45
OR-66	66 1/2	67 3/4	39	25.96
OR-71	71 3/4	73	41	26.88
OR-77	77	78 1/4	42	31.28



## MINIATURE CABINET RACKS

The MCR combines stylized function and compactness for desk-top use. Available in three sizes. Accepts standard relay rack panels and "PC" chassis units. Attractive grey hammertone with chrome trim.



MCR-12 CABINET — Panel space 19" x 5 1/4"	\$14.27
MCR-13 CABINET — Panel space 19" x 7"	14.57
MCR-14 CABINET — Panel space 19" x 8 3/4"	14.87

All above items available in gray hammertone finish. Other finishes available on special order. Contact factory for special finish prices.

All MCR units have embossed feet to protect desk tops.

TYPE	WIDTH	PANEL SPACE	DEPTH	HEIGHT	WT.
MCR-12	21 3/8	19 x 5 1/4	6 3/8	7 1/8	11 1/2 lb.
MCR-13	21 3/8	19 x 7	6 3/8	8 3/8	12 1/2 lb.
MCR-14	21 3/8	19 x 8 3/4	6 3/8	10 3/8	13 1/2 lb.

## LOW TEMPERATURE CABINETS

This cabinet made of perforated metal with 3/32 holes on 5/32 centers, solves most thermal problems. It is a real space saver, the chassis being almost the size of the cabinet.

Chassis is .063 aluminum and bolts to the rear panel which is welded to the perforated screen. Rear steel panel has rectangular hole in it to allow access to connectors in chassis. Front panel has no screws but is held on by control knobs mounted in chassis. Gray hammertone.

Chassis and front are one piece when unit is complete and can be easily removed yet cabinet chassis and front panel are solidly held together.

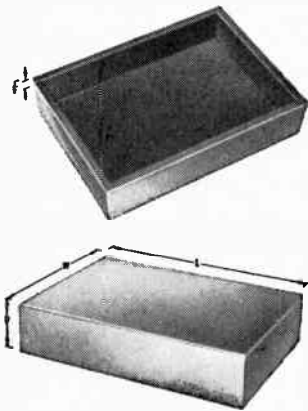
Catalog Number	Cabinet Size H W D	Front Panel	Chassis Size	Hole in Rear Panel	Net Price
LTC-463	4 1/2 x 7 1/8 x 9 1/8	4 1/2 x 7 1/8	6 1/8 x 8 1/8 x 1 1/2	7/8 x 4	10.00
LTC-464	4 1/2 x 9 1/8 x 7 1/8	4 1/2 x 9 1/8	8 1/8 x 6 1/8 x 1 1/2	7/8 x 5	10.00
LTC-469	5 1/8 x 8 3/4 x 11 1/8	5 1/8 x 8 3/4	8 1/8 x 10 1/8 x 1 1/2	1 1/2 x 5	11.64
LTC-470	5 1/8 x 11 1/8 x 8 1/8	5 1/8 x 11 1/8	10 1/8 x 8 1/8 x 2	1 1/2 x 6	11.64
LTC-472	9 1/2 x 16 1/4 x 11 1/8	9 1/2 x 16 1/4	11 x 16 x 3	2 x 8	18.60
LTC-474	12 x 17 1/4 x 12 3/8	12 x 17 1/4	12 x 17 x 4	2 1/2 x 12	21.70

# CALIFORNIA CHASSIS COMPANY

"ALL PRICES SUBJECT TO CHANGE W/O NOTICE"

# CALIFORNIA CHASSIS CO.

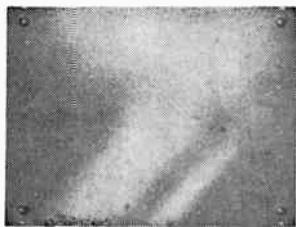
STANDARD ALUMINUM CHASSIS—All chassis are stamped and formed from one piece of material. All four corners welded and sides flanged to accommodate bottom plates.



Alu- minum	W	L	D	Gauge	App. Wt.	Net Price	Alu- minum	W	L	D	Gauge	App. Wt.	Net Price	Alu- minum	W	L	D	Gauge	App. Wt.	Net Price	
A-134	2 1/2	x 4 1/2	x 1	18	1/4	1.12	A-151	6	x 14	x 3	18	1	2.75	A-141	10	x 17	x 5	14	3/4	7.82	
A-135	3 1/2	x 4 1/2	x 1	18	1/4	1.22	A-114	7	x 13	x 2	18	3/4	1.87	A-146	11	x 17	x 5	16	1 1/2	3.71	
A-136	3 1/2	x 5 1/2	x 1	18	1/4	1.22	A-139	5	x 13	x 3	18	3/4	2.04	A-128	11	x 17	x 3	14	2 1/2	4.67	
A-137	4	x 6	x 1 1/2	18	1/4	1.34	A-107	8	x 12	x 2 1/2	18	1	2.77	A-127	12	x 17	x 2	14	2 1/2	4.22	
A-155	4	x 6	x 2	18	1/4	1.41	A-117	7	x 12	x 3	18	1	2.30	A-123	13	x 17	x 3	14	2 1/2	5.02	
A-149	4	x 6	x 3	18	1/4	1.53	A-124	8	x 12	x 3	18	1	2.55	A-126	13	x 17	x 2	14	2 1/2	4.50	
A-138	4	x 5	x 2	18	3/8	1.38	A-108	10	x 12	x 3	18	1 1/4	2.94	A-111	13	x 17	x 3	14	2 1/2	4.85	
A-121	5 1/2	x 5 1/2	x 1	18	1/4	1.45	A-129	12	x 12	x 3	18	1 1/2	3.28	A-112	13	x 17	x 4	14	3 1/4	7.48	
A-101	5	x 7	x 2	18	3/8	1.22	A-115	10	x 14	x 3	18	1 1/4	3.18	A-142	13	x 17	x 5	14	3 1/2	8.50	
A-150	5	x 7	x 3	18	3/8	1.62	A-130	7	x 15	x 3	18	1 1/4	2.90	A-156	15	x 17	x 3	14	3 1/2	6.13	
A-147	4	x 8	x 2	18	3/8	1.63	A-125	9	x 15	x 3	18	1 1/2	3.45	A-133	14	x 17	x 3	14	3 1/4	5.95	
A-119	4 1/2	x 8	x 1 1/2	18	3/8	1.31	A-118	4	x 17	x 3	18	1	2.62	A-131	15	x 17	x 4	14	3 3/4	8.42	
A-122	5	x 9	x 1 1/2	18	3/8	1.39	A-145	6	x 17	x 3	18	1 1/4	2.87	A-148	15	x 17	x 6	14	4	11.40	
A-102	5	x 9 1/2	x 2 1/2	18	3/8	1.96	A-144	7	x 17	x 2	18	1	2.81	A-132	10	x 23	x 3	16	2 1/2	5.27	
A-120	6	x 8	x 2	18	1/2	1.68	A-152	7	x 17	x 3	18	1 1/2	3.08	A-154	17	x 17	x 3	16	2 1/2	6.73	
A-103	5	x 10	x 3	18	1/2	1.82	A-109	8	x 17	x 2	18	1 1/2	2.90	A-143	17	x 17	x 4	14	4 1/4	10.00	
A-104	7	x 7	x 2	18	1/2	1.53	A-116	8	x 17	x 3	16	1 1/2	3.48	ENTIRE LINE OF CHASSIS DUPLICATED IN STEEL. USE PREFIX "C" INSTEAD OF "A" FOR ZINC STEEL CHASSIS							
A-105	7	x 9	x 2	18	3/4	1.63	A-140	10	x 17	x 2	16	2 1/4	3.57								
A-113	7	x 11	x 2	18	3/4	1.77	A-110	10	x 17	x 3	16	2 1/2	3.91								
A-106	8	x 10	x 2 1/2	18	1	2.48	A-153	10	x 17	x 4	16	3	5.02								

All aluminum chassis are etched finish. 1" and 1 1/2" chassis are flanged on long side only and contain no mounting holes.

CHASSIS BOTTOM PLATES



CATALOG NO.	SIZE	ALUM. WEIGHT	STEEL WEIGHT	Steel Net Price
BP-105	7 x 9	1/4 lb.	3/4 lb.	1.00
BP-113	7 x 11	1/2 lb.	1 lb.	1.19
BP-106	8 x 10	1/4 lb.	3/4 lb.	1.17
BP-139	5 x 13	1/4 lb.	1/2 lb.	1.16
BP-114	7 x 13	1/2 lb.	1 lb.	1.34
BP-107	8 x 12	3/4 lb.	1 1/4 lb.	1.50
BP-117	7 x 12	1/2 lb.	1 lb.	1.22
BP-108	10 x 12	3/4 lb.	1 1/2 lb.	1.56
BP-129	12 x 12	3/4 lb.	1 1/2 lb.	1.70
BP-115	10 x 14	3/4 lb.	2 lb.	1.63
BP-130	7 x 15	1/2 lb.	1 lb.	1.43
BP-125	9 x 15	3/4 lb.	1 1/2 lb.	1.87
BP-118	4 x 17	1/2 lb.	1 lb.	1.16
BP-145	6 x 17	1/2 lb.	1 lb.	1.41
BP-144	7 x 17	1/2 lb.	1 lb.	1.36
BP-109	8 x 17	1/2 lb.	1 1/4 lb.	1.53
BP-110	10 x 17	3/4 lb.	2 1/2 lb.	1.60
BP-128	11 x 17	1 lb.	2 lb.	1.68
BP-123	12 x 17	1 1/4 lb.	3 lb.	2.04
BP-111	13 x 17	1 1/2 lb.	3 1/4 lb.	2.24
BP-133	14 x 17	1 1/2 lb.	3 1/2 lb.	2.43
BP-131	15 x 17	1 1/2 lb.	3 1/2 lb.	2.47
BP-143	17 x 17	2 lb.	5 lb.	2.99
BP-132	10 x 23	1 1/2 lb.	3 1/4 lb.	2.24

Steel bottom plates supplied in zinc plate aluminum is caustic etched. Actual size of BP is 1/8" under chassis size which is shown. This allows 3/16" of set back when attached to bottom of chassis.

RELAY RACK PANELS

Regular panels are made from 1/8" aluminum or steel material. Aluminum is 3003 H 14. Notching is Western Electric (WE). Finish gray hammertone, or unpainted. 24" wide panels are available on special order in both aluminum and steel.

Notching Western Electric	Height	Width	Wt. Alum.	Wt. Steel	Net Price
PW-10	1 3/4	19	1 1/4	1 1/4	1.19
PW-11	3 1/2	19	3 1/4	2 1/4	1.79
PW-12	5 1/4	19	1 1/4	4	2.26
PW-13	7	19	1 1/2	4 3/4	3.08
PW-14	8 3/4	19	2	5	3.91
PW-15	10 1/2	19	2 1/2	6 3/4	4.73
PW-16	12 1/4	19	3	8 3/4	5.00
PW-17	14	19	3 1/2	9 3/4	5.64
PW-18	15 3/4	19	4	10 3/4	6.45
PW-19	17 1/2	19	4 1/2	12	7.30
PW-20	19 1/4	19	5	13	8.15
PW-21	21	19	5 1/2	15 3/4	8.75
PW-22	24 1/2	19	6	18 1/2	10.30
PW-23	26 1/4	19	7	20 1/4	11.30

HARD ALUMINUM PANELS

Cat. No.	Height	Width	Wt.	Net Price	Cat. No.	Height	Width	Wt.	Net Price
PWHA-10	1 3/4	19	1/2	1.63	PWHA-16	12 1/4	19	3	5.78
PWHA-11	3 1/2	19	3/4	2.22	PWHA-17	14	19	3 1/2	6.63
PWHA-12	5 1/4	19	1 1/4	2.80	PWHA-18	15 3/4	19	4	7.22
PWHA-13	7	19	1 1/2	3.48	PWHA-19	17 1/2	19	4 1/2	7.82
PWHA-14	8 3/4	19	2 1/2	4.08	PWHA-20	19 1/4	19	5	8.42
PWHA-15	10 1/2	19	2 1/2	4.93	PWHA-21	21	19	5 1/2	9.60
					PWHA-22	24 1/2	19	6	11.70
					PWHA-23	26 1/4	19	7	11.90

PWHA series supplied in both 1/8" and 3/16" thickness in the 2024T3 alloy which is considered most suitable for drilling, machining or engraving. Panels are stocked in unpainted or gray hammertone. Other finishes available on request. All panels available in 24" width, on special order.

CAT. NO.	STEEL	ALUM.	HEIGHT	WT. LBS.
PC-110	PCA-110	1 3/4	2	
PC-111	PCA-111	3 1/2	2 3/4	
PC-112	PCA-112	5 1/4	4	
PC-113	PCA-113	7	4 1/2	
PC-114	PCA-114	8 3/4	5 3/4	
PC-115	PCA-115	10 1/2	6 3/4	
PC-116	PCA-116	12 1/4	7 1/2	
PC-117	PCA-117	14	8 1/2	

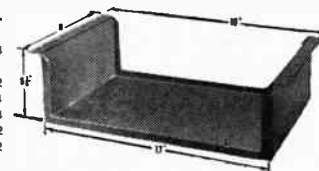
Larger Sizes on Request

These are constructed so the sharp rib corner is cut to a 45° angle protecting the user's wrist. Side flange is 3/16" O.D. Height is 1/2" under size to permit proper mounting in rack.  
PC Series is 16 GA—Zinc Plated Steel  
PCA Series is 14 GA—Etched Aluminum

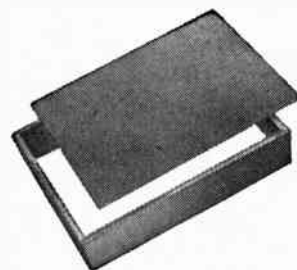
Cat. No.	Weight	Dimensions	Net Price
RT-1	5 1/4#	10x17x3	3.55
RT-2	7	13x17x3	4.42
RT-3	6 1/2	10x17x4	3.93
RT-4	9	13x17x4	4.90

Experimenters and the radio amateur when designing, will find it economical to use this type chassis, as the tops and bottoms may be easily replaced or discarded. Steel-Electro Zinc Only.

PANEL CHASSIS

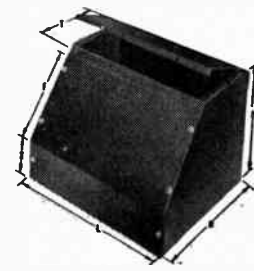


REMOVABLE TOP CHASSIS



HINGED TOP SLOPING CABINET

This 20 gauge steel cabinet provides for a complete opening of top and front. Chassis may be attached to the face as there is no inside flange on the front. Bottom has embossed feet. Rear has opening for connectors. Gray hammertone finish.

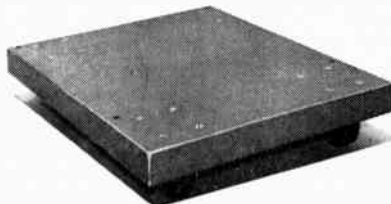


Catalog No.	H	L	O	X	F	T	WT.	Use Chassis Size	Net Price
HC-250	6 1/2	7 1/8	7 1/8	2 3/8	4 7/8	4 1/4	2 1/2	7 x 6x2	3.65
HC-251	8	8 1/8	8	2 3/8	6 5/8	3 7/8	2 3/4	7 x 7x2	4.45
HC-252	6 1/2	9 1/8	7 1/8	2 3/8	4 7/8	4 1/4	3	7 x 8x2	4.21
HC-253	8	10 1/8	8	2 3/8	6 5/8	3 7/8	3	7 x 9x2	4.95
HC-254	6 1/2	11 1/8	7 1/8	2 3/8	4 7/8	4 1/4	3 1/2	7x10x2	4.64
HC-255	8	14 1/8	8	2 3/8	6 5/8	3 7/8	4	7x13x2	5.35
HC-256	8	13 1/8	8 1/2	2 5/8	5 7/8	4 3/4	5 1/4	8x12x2 1/2	5.55
HC-257	9	18 1/8	8 1/2	3 3/8	6	4 3/4	7	7x17x3	7.65
HC-258	10	18 1/8	10 1/2	3 5/8	7 1/4	5 1/4	8 1/2	10x17x3	7.82

HEAVY DUTY ROLLER TRUCK

Formed of 12 gauge steel with seam welded corners. Supplied with heavy duty four inch swivel casters, mounting hardware, and drilled to fit the base of the "AWC" unit, offering ample stability to assemblies with a high center of gravity. Stocked in gray hammertone finish.

Cat. No. HDT Price: \$50.00



# CALIFORNIA CHASSIS COMPANY

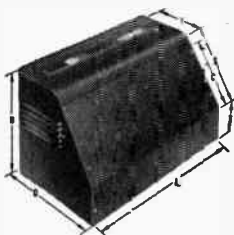
"ALL PRICES SUBJECT TO CHANGE W/O NOTICE"

# CALIFORNIA CHASSIS CO.

### SLOPING FRONT CABINETS

These deluxe all purpose steel cabinets are designed for wide use in the electronic field. Front and top corners are rounded, sides have stainless steel ventilators. Embossed feet to prevent scratching. Gray wrinkle or gray hammertone, please specify.

Catalog No.	D	H	L	T	X	S	C	Net Price
SFC-42	8	8	8	4 1/4	2 3/4	6	5 1/4 C-104	5.19
SFC-44	8	8	10	4 1/4	2 3/4	6	5 1/4 C-105	7.29
SFC-46	8	8	14	4 1/4	2 3/4	6	5 1/4 C-114	8.79
SFC-48	12	12	18	6	3 1/2	10 3/8	9 1/2 C-110	11.78



### LITE LINE SERIES

These all aluminum portable cabinets are found to be highly versatile for instrumentation housings. The "Lite Line" units are attractive and compact yet give proper ventilation with light weight. Panel is recessed 3/8". Finish: Gray hammertone.



### WALL SPEAKER ENCLOSURE

An attractive steel case suitable for wall mounting by use of Key slotted screw holes on back or may be used free standing on embossed feet in bottom. Supplied in gray hammertone finish.

Catalog No.	Speaker Size	Hole Size	H	L	D	Wt.	Net Price
WS-304	4	3 1/2	7 1/2	6 1/2	4 1/4	1 3/4	3.52
WS-305	5	4	1 1/2	6 1/2	4 1/4	1 3/4	3.71
WS-306	6	4 3/4	9 1/2	8	5 5/8	3	4.19
WS-308	8	6 1/2	11 1/2	9 1/2	7	4	5.15
WS-310	10	8 1/2	13 1/2	11 1/2	8 1/4	5	6.47
WS-312	12	10 1/2	15 1/2	13 1/2	9 3/4	6	8.12

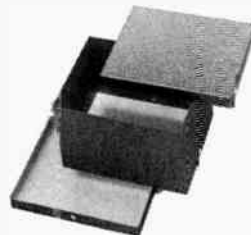
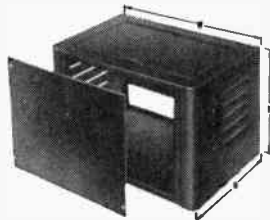


Catalog No.	H	Cabinet Size W	D	Wt.	Rear Opening 1/2 inch from base of cabinet
LLS-582	8	6 1/8	8	2	2 x 4 1/2
LLS-584	8	10 1/8	8	2 1/2	2 x 8 1/2
LLS-586	9	8 1/8	12	3 1/2	2 x 6 1/2

### AMPLIFIER FOUNDATIONS

These consist of a chassis and perforated metal cover. They have ample ventilation. Handles are included in each package. Gray hammertone finish.

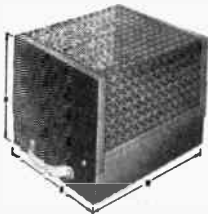
Catalog No.	Height	Width	Depth	Chassis Height	Shpg. Wt.	Net Price
AF-240*	8	7 3/8	5 1/8	2	2	4.49
AF-241	8 5/8	9 5/8	5 1/8	2 1/2	2	5.61
AF-242	8 5/8	13 5/8	5 1/8	2 1/2	4 3/8	6.43
AF-243	8 5/8	17 1/8	7 1/8	2 1/2	6	7.29
AF-244	8 5/8	17 1/8	10 1/8	3	8	10.01



### STREAMLINED INSTRUMENT CABINET

Miniature aluminum chassis MA series are usually used with this cabinet. Gray Hammertone finish.

Catalog No.	Panel Space	Height	Width	Depth	Wt.	Net Price
SC-31	8x8	8	10 1/2	8 1/4	6	4.37
SC-32	8x10	8	12 1/2	8 1/4	6	5.42
SC-33	8x12	8	14 1/2	8 1/4	6 1/2	5.88
SC-34	8x14	8	16 1/2	8 1/4	7	6.17
SC-35	8x16	8	18 1/2	8 1/4	7 3/4	6.77
SC-36	12x18	12	20 1/2	12	15	12.17



### FF UTILITY CABINETS

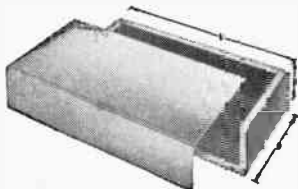
Flange-free construction is the keynote of this series — allowing complete use of the internal cabinet surfaces. Unit consists of a basic shell, two cap-type covers and assembly screws. Fabricated in .040 aluminum and studded in unpainted etched finish or gray hammertone baked enamel. Use suffix "UA" for unpainted or "GH" for gray hammertone.

CATALOG NO.	WEIGHT LBS.	DEPTH	WIDTH	LENGTH
F.F. CAB-1	3/8	2	4	4
F.F. CAB-2	1/2	3	5	4
F.F. CAB-3	3/4	4	5	6
F.F. CAB-4	1	6	6	6
F.F. CAB-5	1 1/4	5	6	9

### UTILITY BOX REMOVABLE COVER

This model allows complete accessibility to the interior of the unit. All work may be completed before cover is installed. Box supplied with covers. Steel box and cover electro-zinc only.

Cat. No.	D	L	H	Net Price
HA-10	3x4	x1 1/2	1.50	
HA-11	4x5	x2	1.96	
HA-12	4x8	x2	2.14	
HA-13	5x9 1/2	x2 1/2	2.15	
HA-14	6x12	x2 1/2	3.23	
HA-15	7x15	x2 1/2	3.82	



### INSTRUMENT CABINETS

This cabinet has a hinged access door on top and removable front cover. The elimination of the rounded corners gives more inside room. The rear has a 3 1/2" opening for ventilation plus louvers at each end. The open end chassis, E.C. series, is usually used with these cabinets. Gray Hammertone finish standard.

ners gives more inside room. The rear has a 3 1/2" opening for ventilation plus louvers at each end. The open end chassis, E.C. series, is usually used with these cabinets. Gray Hammertone finish standard.

Cat. No.	H	W	D	Ship. Wt.	Net Price
HTC-342	7	8	8	5	4.15
HTC-343	7	10	8	5 1/2	5.36
HTC-344	7	12	8	5 3/4	5.65
HTC-345	7	14	8	6	6.25
HTC-346	8	16	8	7	8.35
HTC-347	9	15	11	8	8.53
HTC-348	12	18	12	14 1/2	12.22



### UNIVERSAL SPEAKER HOUSING

As the name implies this unit is universal in application. Widely used in schools, factories, and stores, where good communication is required. Speaker openings both sides enable the unit to project sound 180°. Completely adjustable in position by use of a suitable bracket, or can be mounted directly on a standard outlet box. Unit is of all steel construction, supplied in gray hammertone finish.

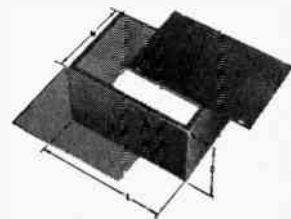
Cat. No.	Speaker Size	H	L	D	Wt.	Net Price
USH-534	4 or 5	7 1/4	6 3/4	3 1/2	2 1/2	5.51
USH-535	5 or 6	8 1/4	7 1/2	4	2 3/4	5.98
USH-536	6 or 8	10 1/4	9 1/2	5	4 1/2	9.62
USH-540	10 or 12	15	13 1/2	7 3/8	9	13.09



### METAL UTILITY CABINETS

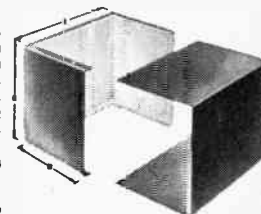
Catalog No.	Wt. Stl.	O	W	L	Alm.	Wt. Painted Alum.
CAB-1	3/4	2"	4"	4"	3/8	1.68
CAB-2	1	3"	5"	4"	1/2	1.87
CAB-3	1 1/4	4"	5"	6"	3/4	2.14
CAB-4	2 1/2	6"	6"	6"	1	2.56
CAB-5	3 1/4	5"	6"	9"	1 1/4	3.47
CAB-6	4 3/4	7"	8"	10"	2	5.10
CAB-7	5	6"	7"	12"	2	4.93
CAB-8	6	8"	10"	10"	2 1/2	7.15
CAB-9	7	8"	11"	12"	2 3/4	8.58
CAB-10	7	7"	9"	15"	2 3/4	8.75

Considered the "work horse" in the small cabinet field. This series is one of the most widely used. Supplied with two removable covers for easy access to cabinet interior. Available in both aluminum use suffix "A" and steel use suffix "S", complete with mounting hardware. Finished in gray hammertone. Aluminum units also available in unfinished etched condition — use suffix "UA".



### MINIATURE CABINETS

Aluminum Gray Hammertone Cat. No.	Net Price	Etched Aluminum Cat. No.	Net Price	L	H	W
M-51	.83	M-81	.61	2 3/4	2 1/8	1 5/8
M-52	.95	M-82	.85	2 3/4	2 1/8	2 3/4
M-53	.88	M-83	.61	3 1/4	2 1/8	1 1/8
M-54	1.04	M-84	.66	3 1/4	2 1/8	1 5/8
M-55	.92	M-85	.65	4	2 1/8	1 5/8
M-56	1.00	M-86	.83	4	x2 1/4	x2 1/4
M-57	1.16	M-87	.83	4	x2	x2 3/4
M-58	1.17	M-88	.87	4 1/4	x2 1/4	x1 1/2
M-59	1.21	M-89	.90	5	x2 1/4	x2 1/4
M-60	1.41	M-90	1.34	5	x4	x3
M-61	1.38	M-91	1.26	5 1/4	x3	x2 1/8
M-62	1.85	M-92	1.28	6	x5	x4
M-63	1.89	M-93	1.34	7	x5	x3
M-64	2.28	M-94	2.02	8	x6	x3 1/2
M-65	1.53	M-95	1.34	10	x2	x1 5/8
M-66	3.66	M-96	3.23	10	x6	x3 1/2
M-67	2.04	M-97	1.53	12	x2 1/2	x2 1/4
M-68	3.56	M-98	2.89	12	x7	x4
M-69	4.08	M-99	3.40	17	x5	x4



## CALIFORNIA CHASSIS COMPANY

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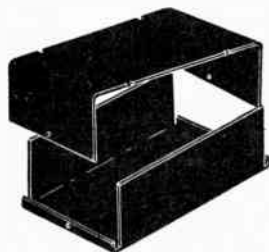
# LMB<sup>®</sup> Box Chassis

## The Engineered Precision Line with Interlocking and Flangelocking Construction

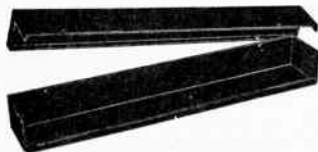
Here is the answer to box chassis needs, for the laboratory, manufacturer, experimenter, or builder. The following L. M. B.<sup>®</sup> Boxes are available from stock in either interlocking (screw fastened) or snap latch. All screw fastenings are drilled and tapped. Self tapping screws are not used. Available colors include natural aluminum, gray or brown hammertone, and black crackle. When ordering specify style and color.

Aluminum used in all LMB<sup>®</sup> products is aircraft quality specifications type 3003-H 14.

### Interlocking



### Flangelocking



### Endlock



SLIDE COVER



SHIELDED CHASSIS

### PRINTED CIRCUIT CHASSIS

Printed circuit chassis are made with a shallow base with a cap cover on the bottom so that it can be removed to work on the assembly without removing the printed circuit from the chassis. All printed circuit chassis are of plain aluminum.



All prices quoted are dealer net. Manufacturers Special Discounts on Application.

WRITE FOR COMPLETE CATALOGUE

## INTERLOCKING (SCREW-FASTENED OR SNAP LATCH)

Model	Size	Price	Model	Size	Price
M00	2 1/4" x 1 1/2" x 1 3/8"	.57	138	6 1/4" x 3 1/2" x 2 1/8"	1.32
00Z	2 3/8" x 2 1/8" x 1 3/8"	.64	139	5 1/2" x 3" x 1 1/4"	1.01
000	3 1/4" x 2 1/8" x 1 3/8"	.68	140PL	3" x 4" x 5"	1.29
00	4" x 2 1/8" x 1 3/8"	.71	140	3" x 4" x 5"	1.61
100	2 3/4" x 2 1/8" x 2 3/8"	.89	141PL	6" x 4" x 3"	1.44
101	4 1/4" x 2 1/4" x 1 1/4"	.87	141	6" x 4" x 3"	1.72
102	4" x 2" x 2 3/4"	1.02	142PL	6" x 4" x 5"	1.68
107	4" x 2 1/4" x 2 1/4"	.96	142	6" x 4" x 5"	2.11
108	5" x 2 1/4" x 2 1/4"	1.03	143	4" x 4" x 2"	1.33
135	3 3/4" x 3" x 2 1/8"	.97	144	10" x 4" x 2 1/2"	2.19
136	5 1/4" x 3" x 2 1/8"	1.08	145	7" x 5" x 3"	2.11
650	6 1/2" x 2 1/8" x 1 3/8"	1.05	146	8" x 6" x 4 1/2"	2.99
137	8" x 3" x 2 3/4"	1.61	15	12" x 2" x 1 3/4"	1.61
850	8 1/2" x 2 1/8" x 1 3/8"	1.35			

## SIDELOCK and ENDLOCK CONSTRUCTION

L. M. B.<sup>®</sup> aluminum Box chassis with sidelock and endlock construction are dust proof, semi-water, and rain proof. Sturdy construction and 100% shielded. The following models are available in plain aluminum, or finished in black, gray, or brown. Endlock or sidelock construction:

Model	Size	Price	Model	Size	Price
221	2 3/4" x 3 3/8" x 1 3/8"	1.13	654	6" x 5" x 4"	2.51
321	3 1/4" x 2 1/8" x 1 3/8"	1.13	666	6" x 6" x 6"	3.39
421	4" x 2 1/8" x 1 3/8"	1.13	686	6" x 8" x 6"	4.27
422	4" x 2 1/4" x 2 1/4"	1.29	695	6" x 9" x 5"	3.84
424	4" x 2" x 4"	1.98	753	7" x 5" x 3"	2.60
435	4" x 3" x 5"	2.19	754	7" x 5" x 4"	2.76
444	4" x 4" x 4"	1.89	863	8" x 6" x 3 1/2"	2.86
531	5 1/4" x 3" x 1 1/2"	1.29	865	8" x 6" x 5"	3.57
532	5 1/4" x 3" x 2 1/8"	1.47	1063	10" x 6" x 3 1/2"	3.57
534	5 3/8" x 3" x 4"	2.06	1085	10" x 8" x 5"	4.42
543	5" x 4" x 3"	1.87	1221	12" x 2" x 1 3/4"	1.87
546	5" x 4" x 6"	2.74	1274	12" x 7" x 4"	4.65
645	6" x 4" x 5"	2.60	1754	17" x 5" x 4"	5.27

## SLIDE COVER (or dust cover) BOXES

Designed by BROADCAST ENGINEERS

No.	L	W	H	Ea.	No.	L	W	H	Ea.
16—Natural Aluminum	13"	3 1/8"	2 3/8"	\$1.85	18—Natural Aluminum	13"	5 1/4"	2 3/8"	3.50
16—Gray, Black, Brown	13"	3 1/8"	2 3/8"	2.52	18—Gray, Black, Brown	13"	5 1/4"	2 3/8"	4.30
17—Natural Aluminum	13"	4 1/8"	2 3/8"	3.18	19—Natural Aluminum	17"	3 1/8"	2 3/8"	3.35
17—Gray, Black, Brown	13"	4 1/8"	2 3/8"	3.95	19—Gray, Black, Brown	17"	3 1/8"	2 3/8"	4.15

## SHIELDED CHASSIS

No.	L	W	H	Ea.	No.	L	W	H	Ea.
No. 20 Plain	7 1/2"	7"	2"	\$1.67	No. 21 Anodized	13"	10"	3"	\$5.81
No. 20 Anodized	7 1/2"	7"	2"	2.06	No. 22 Plain	17"	10"	3"	5.13
No. 21 Plain	13"	10"	3"	4.34	No. 22 Anodized	17"	10"	3"	6.67

## STANDARD SIZES

Model No.	L	W	D	Mounting Lip	Price
PC 325	3	2	1/2	3/16"	ea. .70
PC 635	6	3	1/2	3/16"	ea. .80
PC 645	6	4	1/2	3/16"	ea. .91
PC 855	8	5	1/2	3/16"	ea. 1.04
PC 10875	10	8	3/2	3/8"	ea. 1.52
PC 12975	12	9	3/4	3/8"	ea. 1.76

Model No.	Size	Mounting Lip	Model No.	Size	Mounting Lip
D 7131	7 x 13 x 1	1/2"	D 541	5 x 4 x 1	1/2"
for use in building with the Danco model			for use in building with the Danco model		
No. 14 printed amplifier circuit	ea. 1.17		No. 21, 31, 41 printed preamplifier circuit	ea. \$ .63	

WRITE FOR COMPLETE CATALOG

PRICES SUBJECT TO CHANGE

LMB<sup>®</sup>



L M B® Box Chassis (Continued)

Each	DEALER NET Gray, Black, Brown		Each	DEALER NET Gray, Black, Brown			
	Plain	Brown		Plain	Brown		
T-F 770	2 3/4 x 2 1/8 x 1 1/8	\$.62	\$.81	T-F 780	5 1/4 x 3 x 2 1/8	.82	\$1.12
T-F 771	2 3/4 x 2 1/8 x 2 3/4	.68	.95	T-F 781	6 x 5 x 4	1.47	1.83
T-F 772	3 1/4 x 2 1/8 x 1 1/8	.62	.84	T-F 782	7 x 5 x 3	1.40	1.86
T-F 773	3 1/2 x 2 1/8 x 1 1/8	.62	.84	T-F 783	8 x 6 x 3 1/2	1.72	2.25
T-F 774	4 x 2 1/8 x 1 1/8	.62	.95	T-F 784	10 x 6 x 3 1/2	2.02	2.54
T-F 775	4 x 2 1/4 x 2 1/4	.75	.97	T-F 785	10 x 2 x 1 1/8	1.15	1.57
T-F 776	4 x 2 x 2 3/4	.75	1.00	T-F 786	12 x 2 1/2 x 2 1/4	1.37	1.67
T-F 777	4 1/4 x 2 1/4 x 1 1/2	.72	1.00	T-F 787	12 x 7 x 4	2.71	3.43
T-F 778	5 x 2 1/4 x 2 1/4	.78	1.03	T-F 788	17 x 5 x 4	2.92	3.44
T-F 779	5 x 4 x 3	.94	1.32				

Each	PRICES Gray, Black, Brown		Each	PRICES Gray, Black, Brown			
	Plain	Brown		Plain	Brown		
J-870	2 3/4 x 2 1/8 x 1 1/8	.62	\$.81	J-880	5 1/4 x 3 x 2 1/8	\$.82	\$1.12
J-871	2 3/4 x 2 1/8 x 2 3/4	.68	.95	J-881	6 x 5 x 4	1.47	1.83
J-872	3 1/4 x 2 1/8 x 1 1/8	.62	.84	J-882	7 x 5 x 3	1.40	1.86
J-873	3 1/2 x 2 1/8 x 1 1/8	.62	.84	J-883	8 x 6 x 3 1/2	1.72	2.25
J-874	4 x 2 1/8 x 1 1/8	.62	.95	J-884	10 x 6 x 3 1/2	2.02	2.54
J-875	4 x 2 1/4 x 2 1/4	.75	.97	J-885	10 x 2 x 1 1/8	1.15	1.57
J-876	4 x 2 x 2 3/4	.75	1.00	J-886	12 x 2 1/2 x 2 1/4	1.37	1.67
J-877	4 1/4 x 2 1/4 x 1 1/2	.72	1.00	J-887	12 x 7 x 4	2.71	3.43
J-878	5 x 2 1/4 x 2 1/4	.78	1.03	J-888	17 x 5 x 4	2.92	3.44
J-879	5 x 4 x 3	.94	1.32				

Each	ALUM. GAUGE	PRICES Gray, Black, or Brown		Each	ALUM. GAUGE	PRICES Gray, Black, or Brown			
		Plain	Brown			Plain	Brown		
U-C 970	4x 4x2	.040	\$1.57	\$1.82	U-C 976	10x 8x7	.051	\$4.63	\$5.35
U-C 971	5x 4x3	.040	1.69	1.98	U-C 977	12x 7x6	.051	4.46	5.30
U-C 972	6x 5x4	.040	2.18	2.52	U-C 978	10x10x8	.051	5.90	6.85
U-C 973	6x 6x6	.040	2.55	3.02	U-C 979	12x11x8	.051	7.06	8.02
U-C 974	7x 5x3	.040	2.98	3.48	U-C 980	15x 9x7	.051	7.15	8.11
U-C 975	9x 6x5	.051	3.38	3.89					

Each	Dealer Net	Each	Dealer Net	Each	Dealer Net			
						M-01	1 1/8 x 1 x 1 1/8	\$.36
M-02	2 x 1 1/8 x 1 1/8	.30	M-012	2 x 1 1/4 x 1	.42	M-018A	2 x 2 x 1	.42
M-07	1 3/4 x 1 x 3/4	.38	M-013	1 1/8 x 1 x 1/2	.42	M-018B	2 x 2 x 7/8	.42
M-07A	1 3/4 x 1 x 5/8	.38	M-013A	1 1/8 x 1 x 5/8	.42	M-018C	2 x 2 x 3/4	.42
M-07B	1 3/4 x 1 x 7/8	.38	M-013B	1 1/8 x 1 x 3/4	.42	M-018D	2 x 2 x 5/8	.42
M-07C	1 3/4 x 1 x 1	.42	M-013C	1 1/8 x 1 x 7/8	.42	M-018E	2 x 2 x 1/2	.42
M-07D	1 3/4 x 1 x 1 1/8	.42	M-013D	1 1/8 x 1 x 1	.42	M-021	2 1/2 x 1 3/4 x 3/4	.62
M-010	1 3/4 x 1 1/4 x 1/2	.42	M-013E	1 1/8 x 1 x 1 1/8	.42	M-022	7/8 x 7/8 x 2 1/2	.84
M-010A	1 3/4 x 1 1/4 x 5/8	.42	M-016	2 x 1 3/4 x 3/4	.42	M-023	3/8 x 2 3/8 x 7/8	1.36
M-010B	1 3/4 x 1 1/4 x 7/8	.42	M-016A	2 x 1 3/4 x 7/8	.42	M-024	5 1/4 x 5 1/4 x 1 1/8 (aluminum)	2.10
M-010C	1 3/4 x 1 1/4 x 1	.42	M-017	2 x 1 3/4 x 1	.42			
M-010D	1 3/4 x 1 1/4 x 1 1/8	.42	M-017A	2 x 1 3/4 x 1 1/8	.42			

COVERS

M-01 to M-019	ea.	.12	M-023	ea.	.28
M-021 and M-022	ea.	.18	M-024	ea.	.48

UTILITY ENCLOSURES

No.	L	W	H	Plain	Gray
W-1A	7"	x 5"	x 4 1/2" with built in chassis	\$3.97	\$4.84
W-1B	10"	x 4"	x 3 1/2" with built in chassis	3.97	4.84
W-1C	8 1/2"	x 6 1/8"	x 5" with built in chassis	4.43	5.33
W-1D	18"	x 9"	x 11" will accommodate an 11" x 17" 2", 3" or 4" chassis	9.75	13.13

"AL-CAB" CABINETS for meter cases

or any application where outstanding appearance is needed

No.	L	W	H	Plain	Gray
W-2AP	3 1/2"	x 4"	x 3" with holes	\$1.88	\$2.18
W-2A	3 1/2"	x 4"	x 3 1/2" without holes	1.98	2.28
W-2B	3"	x 7"	x 3 1/2" with and without holes	2.25	2.67
W-2C	3 3/8"	x 7"	x 3 1/2" without holes	2.93	3.36
W-2E	4 1/2"	x 4 1/2"	x 3 1/2" without holes	2.30	2.60

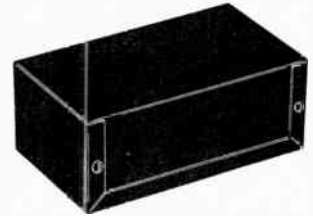
Holes in W-2AP, 2B are 2 1/4", 2 1/8". For 4" Meter holes and knock-out, add 10% to above prices.

W.M. "AL-CAB" Deluxe Series

All with Built-in Chassis

No.	L	W	H	Plain	Gray
W-2F	7 1/2"	x 5"	x 4 1/2"	\$4.40	\$5.18
W-2G	13"	x 10"	x 5 3/4"	9.36	11.06
W-2H	7"	x 11"	x 6 1/4"	7.38	8.63
W-2J	8"	x 11 1/2"	x 7 1/2"	8.10	9.35

TITE-FIT BOX CHASSIS



JIFY BOX CHASSIS



NO SCREWS

Just push together to close and the Catches snap into place—just a slight pressure of the fingers to open.

UTILITY BOXES

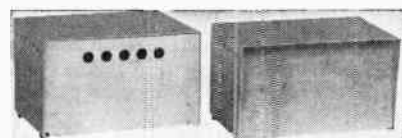
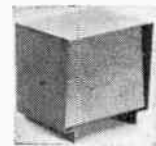
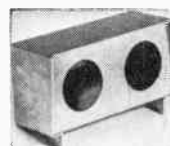
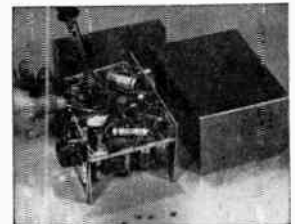


Give approximately 25% more usable space for building.

MINIATURE BOX CHASSIS

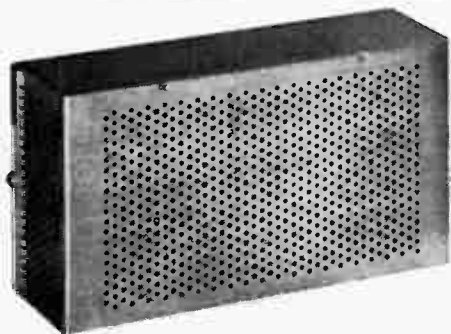


Precision made in steel only, cadmium plated. Made with or without mounting ears. Covers solder in when used in assembly.

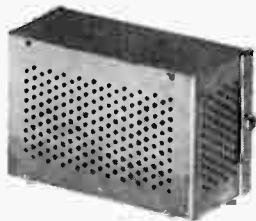


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## LMB® (Continued)



## LMB® PERFORATED BOX CHASSIS



LMB® Perforated Boxes are adaptable wherever heat dissipation is required as they are spaced in perforations that are set by laboratory research to give utmost heat dissipation and also give utmost shielding. They are die perforated on three sides and top of the box.

NO.	FINISH	SIZE	NET EA.	NO.	FINISH	SIZE	NET EA.
0CZ	Plain or Gray	2 $\frac{3}{4}$ x 2 $\frac{1}{8}$ x 1 $\frac{3}{4}$	\$ .83	138	Plain or Gray	6 $\frac{1}{4}$ x 3 $\frac{1}{2}$ x 2 $\frac{1}{8}$	\$1.82
00C	" "	3 $\frac{1}{4}$ x 2 $\frac{1}{8}$ x 1 $\frac{5}{8}$	.95	139	" "	5 $\frac{1}{2}$ x 3 x 1 $\frac{1}{4}$	1.36
0C	" "	4 x 2 $\frac{1}{8}$ x 1 $\frac{5}{8}$	1.02	140	" "	3 x 4 x 5	1.75
100	" "	2 $\frac{3}{4}$ x 2 $\frac{1}{8}$ x 2 $\frac{5}{8}$	1.20	141	" "	6 x 4 x 3	1.88
101	" "	4 $\frac{1}{4}$ x 2 $\frac{1}{4}$ x 1 $\frac{1}{4}$	1.12	142	" "	6 x 4 x 5	2.18
102	" "	4 x 2 x 2 $\frac{3}{4}$	1.41	143	" "	4 x 4 x 2	1.40
107	" "	4 x 2 $\frac{1}{4}$ x 2 $\frac{1}{4}$	1.09	144	" "	10 x 4 x 2 $\frac{1}{2}$	2.19
108	" "	5 x 2 $\frac{1}{4}$ x 2 $\frac{1}{4}$	1.50	650	" "	6 $\frac{1}{2}$ x 2 $\frac{1}{8}$ x 1 $\frac{5}{8}$	1.41
135	" "	3 $\frac{3}{4}$ x 3 x 2 $\frac{1}{8}$	1.36	850	" "	8 $\frac{1}{2}$ x 2 $\frac{1}{8}$ x 1 $\frac{5}{8}$	1.59
136	" "	5 $\frac{1}{4}$ x 3 x 2 $\frac{1}{8}$	1.50	15	" "	12 x 2 x 1 $\frac{3}{4}$	1.79
137	" "	8 x 3 x 2 $\frac{3}{4}$	2.14				

## THE CHASSIS WITH THE CAP COVERS AS ORIGINATED BY LMB®

LMB®  
PRESENTS SOMETHING NEW  
IN CHASSIS —

Built with the new original LMB® popular cap cover construction. This construction enables the builder to use either the top or the bottom of the chassis for construction. The Chassis can also be mounted on its side and construction can be on both top and bottom at the same time. Sturdily built from Aircraft quality aluminum, Type 3003, H-14, the same material as is used in the construction of all LMB® precision box chassis. Special technique in welding the corners makes for a stronger chassis than the orthodox type. Cap construction allows for using all the space inside the chassis without being hindered by the mounting flange, which takes from 10% to 20% of the mounting space out of the average chassis.

The P Series are perforated on all four sides and are ideal where heat dissipation is a factor. LMB® chassis — the better chassis, with the year's ahead advanced construction for your better project application. An advanced quality product competitively priced.



## ALUMINUM

WITHOUT COVER				WITH CAP COVER			PERFORATED		
NO.	SIZE L W H	GUAGE	NET	NO.	L W H	NET	NO.	L W H	NET
572	5x 7x2	18	\$1.17	572C	5x 7x2	\$1.75	572P	5x 7x2	\$2.05
573	5x 7x3	18	1.42	573C	5x 7x3	1.95	573P	5x 7x3	2.25
5952	5x9 $\frac{1}{2}$ x2	18	1.25	5952C	5x9 $\frac{1}{2}$ x2	1.85	5952P	5x9 $\frac{1}{2}$ x2	2.15
5103	5x10x3	18	1.65	5103C	5x10x3	2.25	5103P	5x10x3	2.55
5133	5x13x3	18	1.85	5133C	5x13x3	2.50	5133P	5x13x3	2.80
6173	6x17x3	18	2.67	6173C	6x17x3	3.40	6173P	6x17x3	3.70
772	7x 7x2	18	1.35	772C	7x 7x2	1.90	772P	7x 7x2	2.20
792	7x 9x2	18	1.46	792C	7x 9x2	1.95	792P	7x 9x2	2.25
7112	7x11x2	18	1.58	7112C	7x11x2	2.30	7112P	7x11x2	2.60
7123	7x12x3	18	2.03	7123C	7x12x3	2.75	7123P	7x12x3	3.05
7153	7x15x3	18	2.67	7153C	7x15x3	3.60	7153P	7x15x3	3.90
7173	7x17x3	18	2.75	7173C	7x17x3	3.70	7173P	7x17x3	4.00
8123	8x12x3	18	2.42	8123C	8x12x3	3.23	8123P	8x12x3	3.53
8172	8x17x2	18	2.52	8172C	8x17x2	3.50	8172P	8x17x2	3.80
8173	8x17x3	16	2.95	8173C	8x17x3	4.50	8173P	8x17x3	4.80
10123	10x12x3	18	2.70	10123C	10x12x3	3.60	10123P	10x12x3	4.30
10143	10x14x3	18	2.95	10143C	10x14x3	4.30	10143P	10x14x3	4.70
10172	10x17x2	16	2.85	10172C	10x17x2	4.37	10172P	10x17x2	4.77
10173	10x17x3	16	3.40	10173C	10x17x3	5.18	10173P	10x17x3	5.98
10174	10x17x4	16	4.85	10174C	10x17x4	6.37	10174P	10x17x4	7.17
11173	11x17x3	14	4.20	11173C	11x17x3	6.60	11173P	11x17x3	7.10
12172	12x17x2	14	4.50	12172C	11x17x2	6.60	12172P	12x17x2	7.20
12173	12x17x3	14	4.60	12173C	12x17x3	6.90	12173P	12x17x3	7.50
13172	13x17x2	14	4.50	13172C	13x17x2	6.60	13172P	13x17x2	7.30
13173	13x17x3	14	4.80	13173C	13x17x3	6.90	13173P	13x17x3	7.50
13174	13x17x4	14	5.95	13174C	13x17x4	7.95	13174P	13x17x4	8.55

WRITE FOR COMPLETE CATALOG

# QUALITY CABINETS by LMB®

Original designs in cabinets for the electronic industry, for quality products. Use an original by LMB® to dress up your product.



Perforated, removable top, 3 tone, body gray, trim ivory, recessed front panel blue gray.

	Net Ea. Plain	Net Ea. Gray
CO-1 14½" x 13" x 6½"	\$17.95	\$19.95
CO-2 12" x 10" x 6½"	15.75	17.95



Perforated 3 sides, built in chassis, recessed front panel. Color, body gray, panel dark gray.

	Net Ea. Plain	Net Ea. Gray
CO-3 7¼" x 5½" x 3⅞"	\$4.48	\$5.40



Slotted ventilation, front panel recessed. Colors — Gray, Bronze Hammetone, Black Crackle, Plain — with chassis.

	Net Ea. Plain	Net Ea. Colors
CB-1 8" x 10" x 4½"	\$4.47	\$5.35
CB-2 6" x 8" x 4½"	4.27	4.97



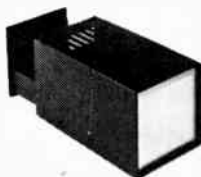
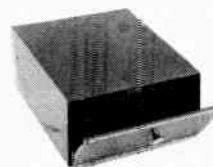
Aluminum with chassis contoured, hooded front recessed panel, slotted ventilation on bottom, louvers on side. Colors — Gold, Gray, Bronze Hammetone, Black Crackle, Plain — with chassis.

	Net Ea. Plain	Net Ea. Colors
B-1 10" x 8" x 6"	\$11.15	\$12.83
B-2 9" x 6" x 5"	10.02	11.48



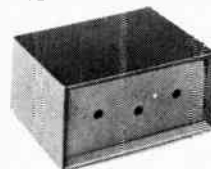
Hooded front, hinged door in rear, front panel removable by removing three screws. Chrome carrying handle. Colors blue, gray, bronze hammetone, black crackle, plain. Steel or aluminum.

	Net Ea. Plain	Net Ea. Colors
HA-1 (ALUM.) 11½" x 10½" x 5"	\$8.85	\$ 9.75
H5-1 (Steel) 11½" x 10½" x 5"	8.84	10.98



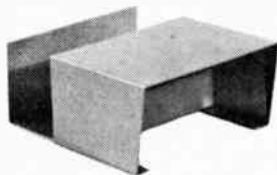
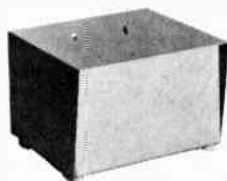
Slot ventilated, ventilation from underneath and sides, built in chassis, recessed panel. Chassis attached to back plate and is removable. Colors — Gray, Bronze Hammetone, Black Crackle, Plain.

	Net Ea. Plain	Net Ea. Colors
5Q-1 8½" x 4½" x 4½"	\$4.65	\$5.35



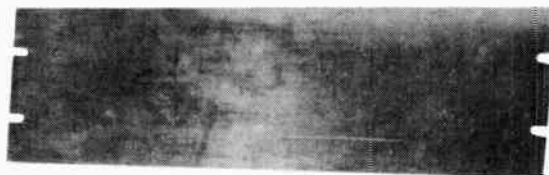
Double cabinet, inside cabinet fully shielded. Double recessed panel. Colors, Gray, Bronze Hammetone, Black crackle, Plain.

	Net Ea. Plain	Net Ea. Colors
CM-1 6" x 8" x 3⅞"	\$4.50	\$5.72



NEW SERIES. Original Construction. Cover slides off at bottom by removing 4 screws. Made of .040 aluminum. Finish: Plain or gray aluminum. Sensibly priced.

No.	D	W	H	Plain	Gray
275	2¾"	x 3"	x 4"	\$1.58	\$1.65
2754	2¾"	x 2¾"	x 4"	1.64	1.76
342	3"	x 4¼"	x 2⅝"	1.59	1.79
442	4"	x 4½"	x 2⅝"	1.71	1.95
444	4"	x 4"	x 4"	1.79	2.03
453	4"	x 5"	x 3"	1.85	2.06
463	4"	x 6"	x 3"	1.88	2.25
555	5"	x 5"	x 5"	2.40	2.75
564	5"	x 6"	x 4"	2.22	2.60
685	6"	x 8"	x 5"	3.33	3.75



## STANDARD RELAY RACK PANELS

⅝" Aluminum material. Aluminum 1100 H 14. Notching is Western Electric. Finish — BLACK WRINKLE, GRAY WRINKLE OR HAMMETONE. ALL PANELS 19" WIDE

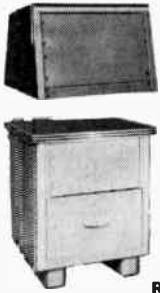
No.	Height	Width	Net Price
#175	1¾" x 19"		\$1.09
#350	3½" x 19"		1.42
#525	5¼" x 19"		1.92
#7	7" x 19"		2.42
#875	8¾" x 19"		2.84
#1050	10½" x 19"		3.59
#1225	12¼" x 19"		4.09

No.	Height	Width	Net Price
#14	14" x 19"		\$4.76
#1575	15¾" x 19"		5.34
#1750	17½" x 19"		5.85
#1925	19¼" x 19"		6.43
#21	21" x 19"		7.01
#2425	24¼" x 19"		9.00
#2625	26¼" x 19"		10.50



**METAL WORKS INCORPORATED**  
STANDARD & CUSTOM DESIGNS

**CONSOLES FOR INDUSTRY . . . SCHOOLS . . . AIRPORTS . . . BROADCASTING**  
**RECORDING . . . TESTING APPARATUS . . . FOR 19" RACK PANELS**

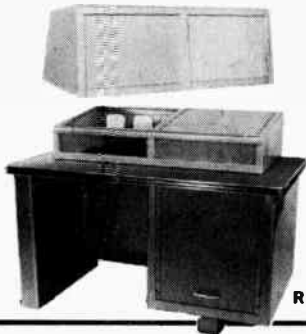


RB-100

**RB-101 DOUBLE PEDESTAL UNIT**

This unit is designed for economy in the smaller broadcast station, school lab, etc.; a low cost unit with a wide range of uses. This unit is equipped with a sliding drawer (PD-1050-16) built into the cabinet. A blank panel (PM-1610) is provided above or below the drawer for equipment. The top has office gray linoleum touched off by attractive metal trim.

NOTE: Drawers furnished with panel mtg. screws showing unless requested as pictured. Formica top can be supplied at additional cost.



RB-101

**RB-100 SINGLE PEDESTAL UNIT**

This console is designed for The Dual Turret RBT-101, equivalent to a 30 classroom unit. This unit is equipped with a sliding drawer (PD-1050-16) built in the upper or lower section of the cabinet. A blank panel (PM-1610) is provided in the remaining space. This console has a hard linoleum top trimmed with metal molding.

NOTE: Drawers furnished with panel mtg. screws showing unless requested as pictured. Formica top can be supplied at additional cost.



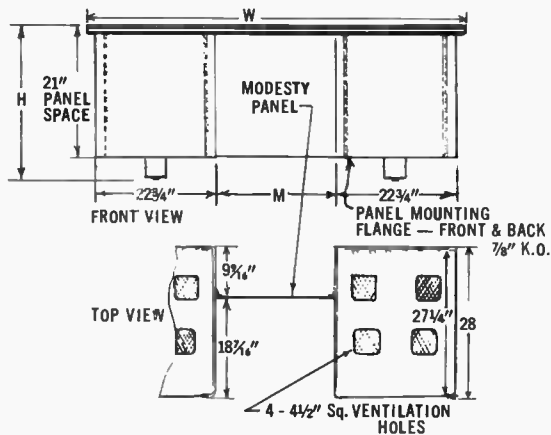
RB-102

**RB-102 TRIPLE PEDESTAL UNIT**

This unit is the ultimate in console design. It is able to handle equipment for a 60 classroom unit. Plenty of space is provided on this large top for work area. A sliding drawer (PD-1050-16) with sufficient room for a 16" Transcription turntable is provided in this unit. Three blank 10½" (PM-1610) panels are provided in the remaining space. The top is an attractive office gray set off by metal trim.

NOTE: Drawers furnished with panel mtg. screws showing unless requested as pictured. Formica top can be supplied at additional cost.

**ARCHITECTS AND ENGINEERS SPECIFICATIONS**



MATERIAL: 18 ga. CRS

CONSTRUCTION:

1. Spot weld throughout. 2. Tops are spot welded and fastened with sheet metal screws. 3. Corners, brazed for added strength and finish appearance. 4. Modesty panels in the two larger models are removable via sheet metal screws. 5. Each pedestal has 21" panel space both front and rear recessed 3/16". Rear panel furnished with (4) 4 1/2" screened ventilating holes same as bottom of each pedestal. 6. Panel mounting holes are punched on standard oval head screws, Tinnerman clips and finish washers furnished. 7. Six 7/8" wire knockouts are provided toward rear of bottom of each pedestal. These knockouts accommodate 1/2" conduit or pipe. 8. Top is covered with gray matching linoleum and trimmed with a special aluminum trim. Trim provides 2 spaces for plastic feature strips.

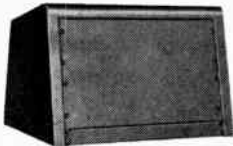
FINISH: Iron phosphate dipped and finished with Silver Gray Hammer-tone Bake On Enamel. Other colors available.

Model No.	H	D	W	M	Inside Pedestal Depth	Ship. Wt.
RB-100	29"	30"	26"		27 1/4"	125
RB-101	29"	30"	53"	23 1/4"	27 1/4"	190
RB-102	29"	30"	70"	21 1/2"	27 1/4"	250

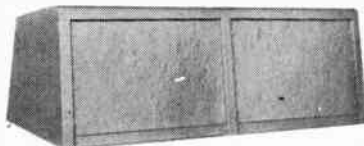


**METAL WORKS INCORPORATED**  
STANDARD & CUSTOM DESIGNS

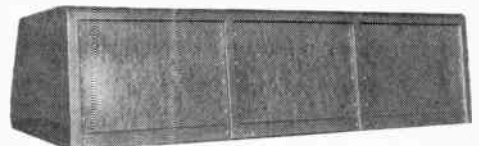
**TURRETS FOR USE WITH "RB" SERIES — 19" PANELS**



RBT-100 -100-1 -100-2



RBT-101 -101-1 -101-2



RBT-102 -102-1 -102-2

Turret console combinations are attractive instruments that accentuate any control room, office, etc., with their modern design.

Turrets featured in three different series and three sizes within each series offer a multiple of combinations that can be used in conjunction with our RB series of consoles. These combinations are readily adaptable to specialized applications in control equipment, testing facilities, sound systems, control units in language laboratories and many other applications in industry and entertainment services.

The standard turret which has 12 1/4" panel space is especially designed for use on the consoles (RB-100, RB-101, RB-102) and on equipment tables (RB-80-1, RB-80-3, RB-90-1, RB-90-3), although it has a wide variety of other uses.

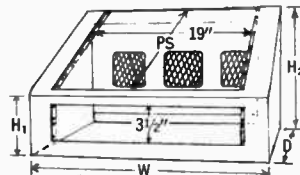
Panels included with turrets.

**MATERIAL:** 18 ga. CRS. **CONSTRUCTION:** 1. Spot weld throughout. 2. Corners brazed for added strength and finish appearance. 3. Removable rear panel for easy access to cabinet components. 4. Five 7/8" knockouts provided in rear of each panel space. These knockouts accommodate 1/2" conduit or pipe. 5. Two 6 1/8" channel irons formed from 18 ga. CRS comprise the bottom of each turret. This type construction adds rigidity. 6. Front panel space has 10° slope. Rear of turrets has 10° slope. 7. Panel mounting holes are punched on standard Western Electric spacing. 8. 10-32 oval head screws, Tinnerman clips and finishing washers are furnished. 9. Panel spacing is recessed 1/4". **FINISH:** Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

For front height add 2" to H dimension.

Model No.	W	H	WT	WB	PS	No. of Units	Shipping Weight
RBT-100	21 3/4	15 3/4	13 1/2	18	12 1/4	1	40 lbs.
RBT-101	42	15 3/4	13 1/2	18	12 1/4	2	65 lbs.
RBT-102	62 1/4	15 3/4	13 1/2	18	12 1/4	3	110 lbs.
RBT-100-1	21 3/4	17 5/8	12 3/4	18	14	1	50 lbs.
RBT-101-1	42	17 5/8	12 3/4	18	14	2	80 lbs.
RBT-102-1	62 1/4	17 5/8	12 3/4	18	14	3	130 lbs.
RBT-100-2	21 3/4	14	11 5/8	15 7/8	10 1/2	1	35 lbs.
RBT-101-2	42	14	11 5/8	15 7/8	10 1/2	2	60 lbs.
RBT-102-2	62 1/4	14	11 5/8	15 7/8	10 1/2	3	105 lbs.

**INSTRUCTORS TURRETS FOR USE WITH "RB" SERIES — 19" PANELS**



**\* SPECIFICATIONS**

**MATERIAL:** 18 ga. CRS. **CONSTRUCTION:** 1. Spot weld throughout. 2. Corners brazed for added strength and finished appearance. 3. Removable rear panel for easy access to cabinet components. 4. Five 7/8" knockouts provided in rear of each panel space. These knockouts accommodate 1/2" conduit or pipe. 5. Two 6 1/8" channel irons formed from 18 ga. CRS comprise the bottom of each turret. This construction adds rigidity. 6. Front panel, 3 1/2" x 19", is made especially for our SP-1635 switch panel. 7. 17 1/2" panel space in all bays provides ample space for most installations. 8. Panel mounting holes are punched on standard spacing. 9. 10-32 oval head screws, Tinnerman clips and finishing washers are furnished. 10. Panel spacing is recessed 1/4" to flush mount panel. **FINISH:** Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

The T-103-1, 103-2, 103-3 series of turrets are especially designed for the language lab control unit ensemble. The low slope affords easy vision of the classroom as well as the equipment installed therein. These turrets are the result of considerable study in the field of audio education and are designed with the instructor, as well as maintenance personnel, in mind. Other applications of this turret are feasible where low slope aids vision of dials, meters and switch panel from a standing position. Takes panels:—ARP-123; RP-123; PM-163 or PA-163—lower space. Upper space:—ARP-1217; RP-1217; PM-1617 or PA-1617. Panels not furnished—order separately.

CRS comprise the bottom of each turret. This construction adds rigidity. 6. Front panel, 3 1/2" x 19", is made especially for our SP-1635 switch panel. 7. 17 1/2" panel space in all bays provides ample space for most installations. 8. Panel mounting holes are punched on standard spacing. 9. 10-32 oval head screws, Tinnerman clips and finishing washers are furnished. 10. Panel spacing is recessed 1/4" to flush mount panel. **FINISH:** Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

Model No.	W	H1	H2	D	PS	Shipping Weight
T-103-1	22	6 3/8	10	20 1/2	17 1/2	40 lbs.
T-103-2	42 3/4	6 3/8	10	20 1/2	17 1/2	65 lbs.
T-103-3	63 3/8	6 3/8	10	20 1/2	17 1/2	95 lbs.

**EQUIPMENT TABLES FOR SMALL OR LARGE DESK EQUIPMENT**

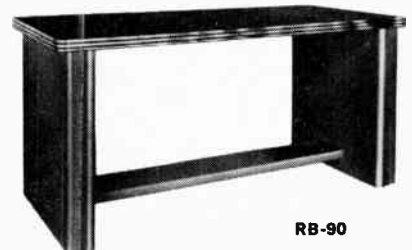
Equipment tables are exclusively in the line. They are very handy when small equipment is being used. Models 80-1—80-3 have an overhanging top and plenty of knee room and are used for the smaller equipment. Models 90-1—90-3 are for larger table mounting equipment and have larger tops for more working area. Top is attractive linoleum with bright metal trim. Finish is modern silver gray hammertone.

Formica top can be supplied at additional cost.

Model No.	Width-in.	Height-in.	Depth-in.	Ship. Wt. Lbs.
RB-80-1	26	29	26	75
RB-80-2	36	29	26	95
RB-80-3	46 1/2	29	26	120
RB-90-1	53	29	30	120
RB-90-2	60	29	30	130
RB-90-3	70	29	30	150



RB-80



RB-90



**METAL WORKS INCORPORATED**  
STANDARD & CUSTOM DESIGNS

**CONSOLES & TURRETS**

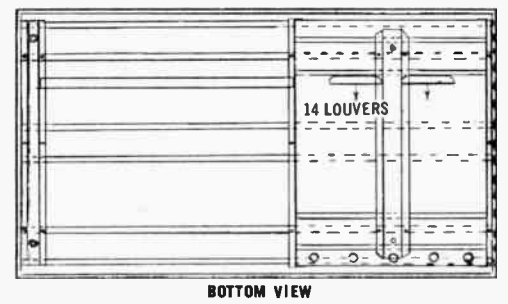
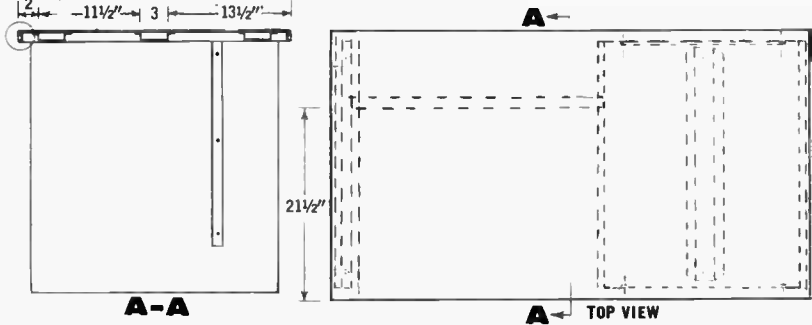
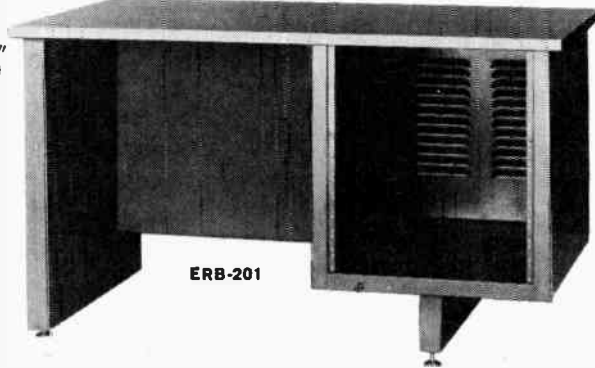
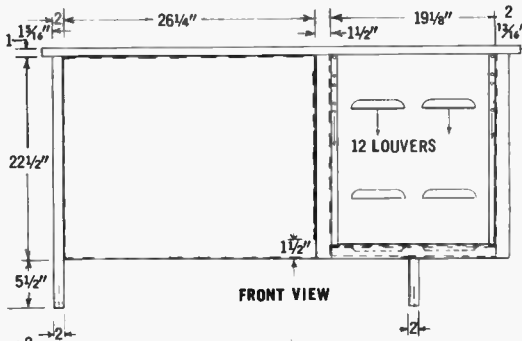
**CONSOLES ERB**

These units offer 21" of panel space in front and rear of each pedestal. The rear panel is removable and ventilated by two rows of six inch louvers. Both front and rear panel space is punched for Tinnerman speed clips.

No drawers or front panels are furnished with the consoles. These can be ordered as separate items. See pages 190 and 193. Standard grey linoleum top and stainless steel trim is furnished. Beige linoleum is also available where desired. Standard finish is #4719 Gray Hammerex.

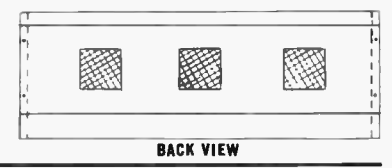
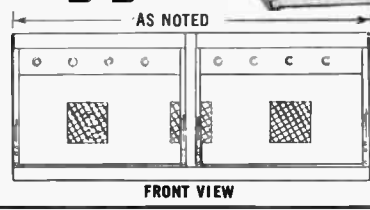
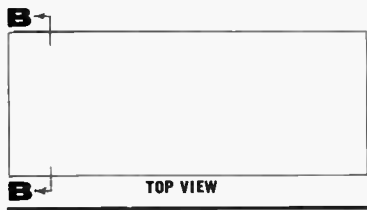
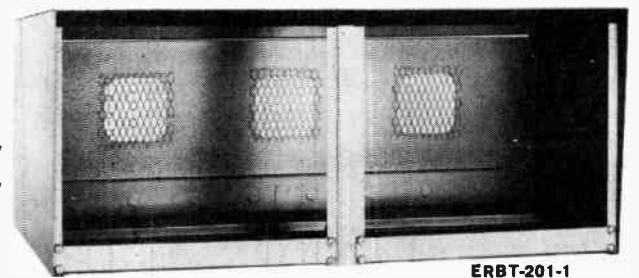
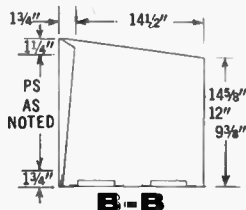
This line of consoles and turrets is offered as another of our Economy line of equipment, for budgets that are limited. Readily adaptable to specialized applications in control equipment test facilities, sound systems, master control units in language labs.

Each can be specialized to customer requirements such as the addition of holes, D & T panel holes, paint finish, formica top, etc. on quote requests.



**TURRETS ERBT**

Turrets are offered in three panel heights — 10 1/2", 12 1/4", 14" — in single, double or triple bay to be used with our ERB consoles. Panel space with shadow effect is punched for Tinnerman clips on Western Electric spacing (1/2"-1 1/4"). No front panels are furnished. Finished in #4719 Gray Hammerex.



**MATERIAL:** 20 gauge CRS  
**CONSTRUCTION:**

1. Consoles and turrets shall be welded throughout.
2. Consoles shall have four 3/8 x 16 swivel leg levelers. Turrets shall have 1/8" thick cork bumpers.
3. Console pedestal shall have 21" of panel space front and rear, recessed 3/8" and punched for 10-32 Tinnerman clips on W.E. spacing.
4. Turret panel space punched for 10-32 Tinnerman speed clips shall be recessed 1 3/4" at the top to flush mounting at bottom to facilitate a shadow effect. Shall be furnished in either of three vertical heights of 10 1/2", 12 1/4" or 14" and in single, double or triple bay.

5. Consoles shall have 7/8" K.O. for 1/2" conduit provided in bottom of each pedestal and turrets in rear of each bay immediately below removable rear panel.
6. Console tops shall be covered with #426 Gray desk top linoleum. Beige linoleum may be substituted.
7. Consoles and turrets shall be iron phosphate dipped and finished in #4719 Gray Hammerex bake-on enamel. Other colors available.

**CONSOLES**

Model No.	Height Less Levelers	Depth	Width	Modesty Panel Width	Inside Pedestal Depth	Ship. Wt.
ERB-200	29"	30"	26"	—	27 1/4"	100
ERB-201	29"	30"	53"	26 1/4"	27 1/4"	150
ERB-202	29"	30"	70"	26 1/8"	27 1/4"	200

**TURRETS**

Model No.	W	H Front	D	PS	No. Bays	Ship. Wt.
ERBT-200	19 1/2"	15 3/4"	16 1/4"	12 1/4"	1	25
ERBT-201	39 3/4"	15 3/4"	16 1/4"	12 1/4"	2	41
ERBT-202	59 1/2"	15 3/4"	16 1/4"	12 1/4"	3	69
ERBT-200-1	19 1/2"	17 1/2"	16 1/4"	14"	1	31
ERBT-201-1	39 3/4"	17 1/2"	16 1/4"	14"	2	50
ERBT-202-1	59 1/2"	17 1/2"	16 1/4"	14"	3	82
ERBT-200-2	19 1/2"	14"	16 1/4"	10 1/2"	1	22
ERBT-201-2	39 3/4"	14"	16 1/4"	10 1/2"	2	38
ERBT-202-2	59 1/2"	14"	16 1/4"	10 1/2"	3	66

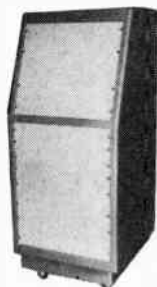


# METAL WORKS INCORPORATED

STANDARD & CUSTOM DESIGNS

## CABINET CONSOLES

### CR-1001



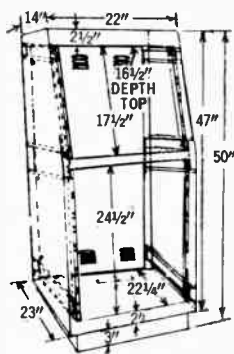
This is a combination console and rack cabinet for applications requiring a minimum of horizontal space. The upper panel space is large enough to mount a 17" television screen for testing equipment.

Lower panel area has sufficient space for control equipment.

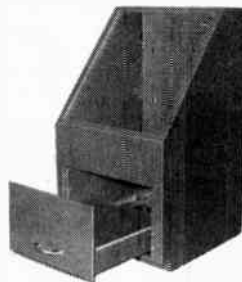
Furnished without panels.

### SPECIFICATIONS

**MATERIAL:** 16 ga. CRS except panel mounting angles and these are made of 11 ga. CRS. **CONSTRUCTION:** 1. Spot welded and brazed throughout. 2. Upper and lower panel mounting angles drilled and tapped to 10-32 thread and recessed  $\frac{3}{16}$ ". 3. Ball corner brazed for added strength and finish appearance. 4. Rear panel removable, attached with Tinnerman clips and screws. 5.  $1\frac{3}{4}$ " x 6" rectangle slot punched out of bottom and  $1\frac{1}{2}$ " dia. hole in rear bottom for wiring inlet. 6. All reinforced channel iron on sides (3 ea. side) formed from 18 ga. CRS. 7. Channel support panel mounting angles and are fastened with  $\frac{1}{4}$  x 20 binding head screws. 8. Upper panel space is on a 20° slope. 9. Two sets of four louvers each provided in top and bottom of rear panel. 10. Sides, front and back, and top, are formed with  $\frac{5}{8}$ " radius. 11. Sides and top have a  $\frac{1}{4}$ " flange turned in for added strength and smooth corners. 12. Four gussets — one on each corner, drilled for mounting  $2\frac{1}{2}$ " rubber casters. 13. Casters are guaranteed to hold up 100 lbs. of weight each; total load capacity per console is 400 lbs. Heavy duty casters available at extra cost. 14. Cabinet weight — 105 lbs. 15. Shipping weight — 140 lbs. Shipped assembled. **FINISH:** Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.



### CR-1005



This console rack fits in well where height might be a problem yet offers a sufficient amount of panel space for most applications.

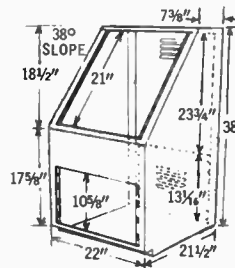
The base area contains a space for mounting a record player or an automatic turntable drawer. The control panel area has a 38° slope for good visibility.

Rear of console rack has a removable louvered panel for easy servicing of the unit.

Furnished without drawer.

### SPECIFICATIONS

**MATERIAL:** 16 ga. CRS. **CONSTRUCTION:** 1. Spot welded and brazed throughout. 2. Upper and lower panel mounting holes are punched to standard  $1\frac{1}{4}$ " x  $\frac{1}{2}$ " spacing and recessed  $\frac{3}{16}$ ". 3. 10-32 Tinnerman clips, 10-32 oval head screws and finishing washers furnished. 4. Rear panel removable; attached with sheet metal screws. 5. Upper panel space has a 38° slope. 6. All corners are square — not rounded. 7. Cabinet strength is accomplished via formed parts eliminating channels for supporting members. 8. Louvers in fixed lower rear panel are reversed and faced up to help dissipate heat. 9. Shipping weight — 110 lbs. **FINISH:** Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

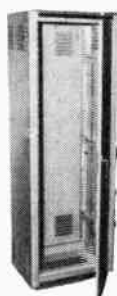


## TRANSMITTER RACKS

Transmitter racks are made to accommodate 19", 24" and 30" rack panels. All models are furnished with front and rear doors.

Rear door opening provides easy access for equipment maintenance and installation. Front door furnishes full covering for dials, knobs, etc., mounted on panels. Front door is provided with a locking handle and rear door with a flush mounted lock and handle. This gives added protection where it is necessary to lock all components.

Slotted channels (3 per side) permit panel mounting angles to be recessed to full cabinet depth by simply tightening screws that hold each angle in place. Stainless steel panel mounting trim available. Order separately.



STR Standard



DTR Deluxe

### SPECIFICATIONS

**MATERIAL:** 16 ga. CRS. Panel mounting angles 16 ga. CRS. Punch for Tinnerman Clips. **CONSTRUCTION:**

- Louvers are provided in sides and rear door — four sets of six louvers each.
- Assembled with  $\frac{1}{4}$ -20 bolts and nuts.
- Rear doors swing on rigid slip joint hinges. Front doors mounted on continuous hinges.
- All models furnished with stainless steel feature strip (colored) trim.
- Shipped knocked down unless otherwise requested.

**FINISH:** Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

### STANDARD

Size	Model No.	Width-in.	Height-in.	Depth-in.	Panel Space-in.	Ship. Wt. Lbs.
For 19" Panels	STR-3675	23	42	18½	36¾	130
	STR-4200	23	47¼	18½	42	140
	STR-6125	23	66½	18½	61¼	150
	STR-7000	23	75¼	18½	70	155
For 24" Panels	STR-7700	23	82¼	18½	77	160
	STR-7024	27⅞	75¼	24	70	230
For 30" Panels	STR-7724	27⅞	82¼	24	77	245
	STR-7030	33⅞	75¼	24	70	250
For 30" Panels	STR-7730	33⅞	82¼	24	77	265

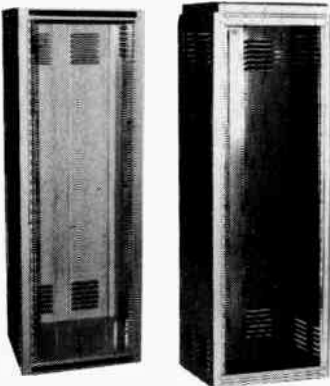
### DELUXE

Size	Model No.	Width-in.	Height-in.	Depth-in.	Panel Space-in.	Ship. Wt. Lbs.
For 19" Panels	DTR-3675	23	43⅞	18½	36¾	135
	DTR-4200	23	49⅞	18½	42	145
	DTR-6125	23	68⅞	18½	61¼	155
	DTR-7000	23	77⅞	18½	70	160
For 24" Panels	DTR-7700	23	84⅞	18½	77	160
	DTR-7024	27⅞	77⅞	24	70	235
For 30" Panels	DTR-7724	27⅞	84⅞	24	77	250
	DTR-7030	33⅞	77⅞	24	70	255
For 30" Panels	DTR-7730	33⅞	84⅞	24	77	270



**METAL WORKS INCORPORATED**  
STANDARD & CUSTOM DESIGNS

**CABINET RELAY RACKS FOR STANDARD 19" RACK PANELS**



SCR standard      DCR deluxe

Cabinet Relay Racks are rigidly constructed of 16 ga. steel. These racks are completely bolted together.

Panel mounting space is recessed 1/4" to give a more modernistic and pleasing appearance. The rear doors swing on rigid slip joint hinges which permit it to be easily removed. The standard type rack has square front vertical corners. The rounded type rack has rounded front vertical corners. The deluxe type rack has a dome top with rounded front vertical corners.

Front door with 1/4" depth furnished on request.

Corner trim or stainless steel mounting trim available. Order either separately.

	Model No.	Height-in.	Width-in.	Depth-in.	Panel Space-in.	Ship. Wt. Lbs.
Standard	SCR-3675	41 1/8	22 3/8	18 1/2	36 3/4	100
	SCR-4200	46 3/8	22 3/8	18 1/2	42	110
	SCR-6125	65 5/8	22 3/8	18 1/2	61 1/4	130
	SCR-7000	74 3/8	22 3/8	18 1/2	70	140
	SCR-7700	81 3/8	22 3/8	18 1/2	77	150
Round Corner	RCR-3675	41 1/8	22 3/8	18 1/2	36 3/4	100
	RCR-4200	46 3/8	22 3/8	18 1/2	42	110
	RCR-6125	65 5/8	22 3/8	18 1/2	61 1/4	130
	RCR-7000	74 3/8	22 3/8	18 1/2	70	140
	RCR-7700	81 3/8	22 3/8	18 1/2	77	150
DeLuxe	DCR-3675	43	22 3/8	18 1/2	36 3/4	105
	DCR-4200	48 1/4	22 3/8	18 1/2	42	115
	DCR-6125	67 1/2	22 3/8	18 1/2	61 1/4	135
	DCR-7000	76 1/4	22 3/8	18 1/2	70	145
	DCR-7700	83 1/4	22 3/8	18 1/2	77	155

MATERIAL: 16 ga. CRS.

**CONSTRUCTION:**

1. Panel mounting angles are punched to standard 1 1/4" x 1/2" spacings and are formed as part of the cabinet side.
2. Panel mounting offset is 1/4" deep (See Inset).
3. 10-32 Tinnerman clips, oval head screws and finishing washers furnished for panel space.
4. Louvers are provided in sides and rear door—Four sets of six louvers each.

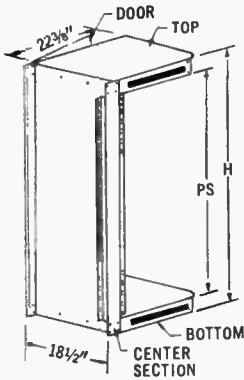
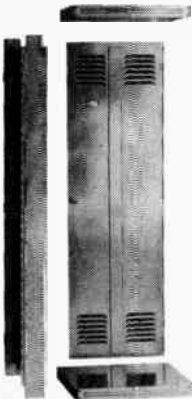
5. Assembled with 1/4-20 pan head bolts and nuts.

6. Rear doors swing on rigid slip joint hinges permitting easy removal.

7. All models furnished with stainless steel feature strip (colored) trim, top and bottom.

8. All models shipped knocked down unless assembled is requested.

FINISH: Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.



**MSCR      MRRCR      MDCR**

For use where our standard SCR-RCR-DCR cabinets are to be installed in series. Panel spacing for matching units in an installation must be the same.

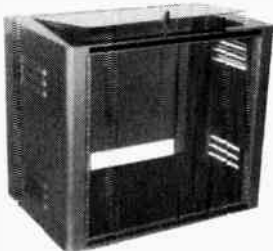
Where series installation is required, an SCR or RCR or DCR must be used as the basic unit. The multi-rack unit consists of a TOP-BOTTOM-CENTER SECTION and REAR DOOR. Priced to save you money. Stainless steel panel trim is also available; order separately. Front doors of 1/4" depth furnished at extra cost. Order separately.

MATERIAL: 16 ga. CRS

**CONSTRUCTION:**

1. Panel mounting holes are punched and formed as part of the center section and recessed 1/4".
2. 10-32 Tinnerman clips, oval head screws and finishing washers furnished for panel space.
3. Assembled w/1/420 pan head screws and nuts.
4. Rear door swings on slip joint hinges permitting easy removal.
5. Top and bottom furnished with a SS trim strip.
6. Furnished knocked down only.
7. FINISH: GRAY HAMMER—Other colors available on request.

**DELUXE DESK CABINET RACKS FOR STANDARD 19" RACK PANELS — 15" DEEP**



Hinged Door Back Type

**DC SERIES.** These cabinets are completely welded together for rigidity. 2. Rounded front corners. 3. Panels fastened with Tinnerman clips. 4. 10-24 screws, Tinnerman clips and finish washers furnished. 5. 1/4" recessed panel mounting flanges.

ARCHITECTS AND ENGINEERS SPECIFICATIONS—MATERIAL: 16 ga. CRS. CONSTRUCTION: 1. Completely welded together for rigidity. 2. Rounded front corners. 3. Panels fastened with Tinnerman clips. 4. 10-24 screws, Tinnerman clips and finish washers furnished. 5. 1/4" recessed panel mounting flanges. FINISH: Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

Model No.	Width-in.	Height-in.	Depth-in.	Panel Space-in.	Ship. Wt. Lbs.
DC-875*	22 3/4	10 7/8	15	8 3/4	26
DC-1050*	22 3/4	12 5/8	15	10 1/2	28
DC-1225*	22 3/4	14 3/8	15	12 1/4	30
DC-1400*	22 3/4	16 1/8	15	14	35
DC-1750	22 3/4	19 5/8	15	17 1/2	38
DC-2100	22 3/4	23 1/8	15	21	42
DC-2450	22 3/4	26 5/8	15	24 1/2	46
DC-2625	22 3/4	28 3/8	15	26 1/4	48
DC-3150	22 3/4	33 3/8	15	31 1/2	52
DC-3500	22 3/4	37 1/8	15	35	56

(\*) Solid back type.

standard 1 1/4" x 1/2" spacings. Enough 10-32 speed clips and machine screws are furnished to mount several rack panels. To give a more pleasing appearance, the mounting angles are constructed to permit recessing of rack panels. All models have a recessed door on top for easy access to equipment. The six largest sizes have a door in back which permits access from the back. All models have a bright chrome strip on top and bottom of front. Phono drawer PD-1050-14 can be mounted in these cabinets except DC-875.





**METAL WORKS INCORPORATED**  
STANDARD & CUSTOM DESIGNS

**AMPLIFIER CABINETS RACKS AND CONSOLES**

**For Recessed Application—TB Series**

The recessed type amplifier enclosure has a grille cover. The door is equipped with a lock and piano hinge. The grille has an opening in the top part to permit hot air to escape. The back enclosure is designed to reflect the hot air toward the front of the cabinet so that it may escape. Adequate knockouts are placed in back for all wiring purposes. All TB's are furnished complete with TBG-1000 grille.

**Surface Mounted—STB Series**

Same size and panel space as TB listed above. Made for those applications where surface mounting is required. STB Panel Mtg. Angles furnished on request.

**Heavy Duty—HTB Series**

This cabinet offers adequate panel mounting space for most applications where the above listed TB's are too small. The rack portion of the cabinet is completely removable and mounted on 4 nylon ball bearing slides. The rack will support a maximum of 200 lbs. of weight. Maintenance convenience is offered in that the rack can be pulled forward to afford easy access to all components. Sturdy construction features of this cabinet are incorporated to give you quality in an economical unit. Doors are furnished with locking handles.

**TB and STB**

**MATERIAL:** 16 ga. CRS body  
11 ga. CRS grille

**CONSTRUCTION:**

1. All spot weld and braze construction.
2. Panel mounting angles are supported in slotted bracket, adjustable 9½" front to rear, affording ample clearance for dials, tuning knobs, switches, etc., on TB only.
3. 10½" of maximum panel space.
4. Panel mounting angles are punched for use with Tinnerman clips.

**FINISH:** Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

**HTB**

**MATERIAL:** 16 ga. CRS cabinet  
½" thick angle iron with 11 ga. bracing on rack.

**CONSTRUCTION:**

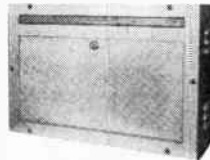
1. Spot weld and electric arc construction on cabinet. Electric arc weld on removable rack.
2. Panel mounting angles drilled and tapped for 10-32 thread.
3. Nylon ball bearing slides used on rack.
4. Complete panel mounting rack is removable.
5. Front door made to provide adequate clearance space for dials, knobs, etc.

**FINISH:** Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

**HTB Series**

**TB Series**

**STB Series**



Model No.	Model	Height	Width	Depth	Ship. Wt.
TBG-1000	Grille	16"	23"		13 lbs.
TB -1200	Encl.	13"	20"	12"	35 lbs.
TB -1500	Encl.	13"	20"	15"	38 lbs.
TB -1800	Encl.	13"	20"	18"	41 lbs.

Model No.	Inside			Outside		
	H	W	D	H	W	D
STB-1200	14"	21"	11 1/8"	16"	23"	12"
STB-1500	14"	21"	14 1/8"	16"	23"	15"
STB-1800	14"	21"	17 1/8"	16"	23"	18"

Model No.	Height	Cabinet Only Width	Depth	Height	Removable Rack		P.S.	Ship. Wt.
					Width	Depth		
HTB-1575	19"	21 1/8"	18"	18 3/8"	20 3/8"	16"	15 3/4"	85
HTB-2800	31 1/4"	21 1/8"	18"	30 3/8"	20 3/8"	16"	28"	125
HTB-4200	45 1/4"	21 1/8"	18"	44 3/8"	20 3/8"	16"	42"	175
HTB-6125	64 1/2"	21 1/8"	18"	63 3/8"	20 3/8"	16"	61 1/4"	225

Door frame is 2 1/4" wide or 2 3/4" wider each side than cabinet width. Add 6" to cabinet height for overall height of door frame.

**RVTB Series**

This series of cabinets is a compliment to Metal Works' TB—STB & HTB series. For serviceability of equipment the RVTB offers a swing out panel rack. The panel rack can also be recessed if necessary for knob, handle, etc., clearance.

A fully recessed cabinet which accepts standard 19" rack panels drilled and tapped 10-32 on WE spacing. The panel rack can be reversed to swing out from either side. A 4 3/4" wide full length ventilating partition is provided in the panel rack for maximum heat dissipation. Double cabinet doors are reinforced, double louvered (inside and outside). Doors lay flat against 2 1/4" door trim and are installed with full length piano hinges. Doors recess into trim or frame with no protruding handles or knobs and are locked in closed position with a two point (rods) flush lock.

Entire cabinet is made of steel and is finished in #4719 Gray Hammer-X. Other colors available on request.

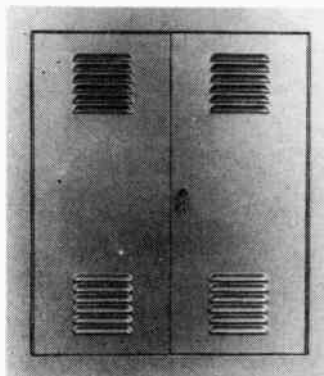
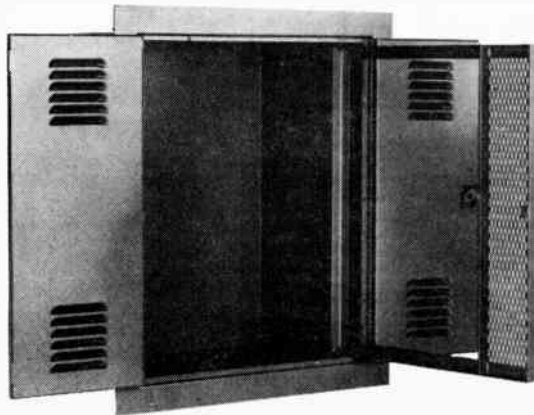
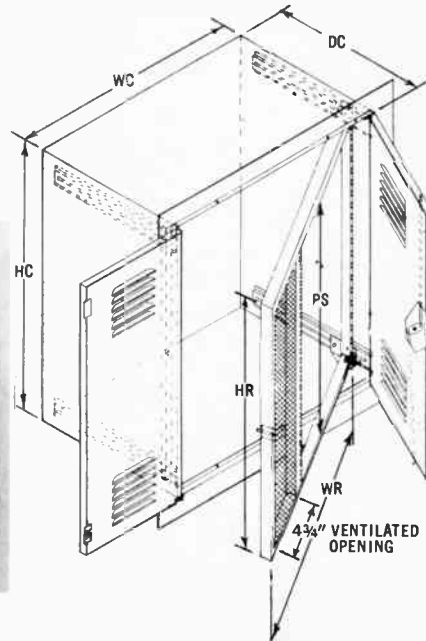
**MATERIAL:** Back Can—16 ga. CRS  
Panel Rack—1 1/4"x1 1/4" Structured steel angles  
Ventilated Opening—16-18 ga. Flat expanded CRS  
Door Frame—11 ga. HRPO

**CONSTRUCTION:**

1. Entire cabinet made of steel as specified above.
2. Constructed for full recess wall mounting installation.
3. Rack panel frame drilled and tapped 10-24 on WE spacing, and made of structured steel angle.
4. Rack panel frame provided so that it can swing from either right or left side.
5. Five 7/8" KO provided in top and bottom for 1/2" conduit.
6. Cabinet provided with reinforced double steel two point flush lock doors. Rack panel frame provided with camloc stud on side opposite hinged side so it can be locked in place.

**FINISH:** Iron phosphate dipped and finished in Silver Gray Hammer-X paint #4719.

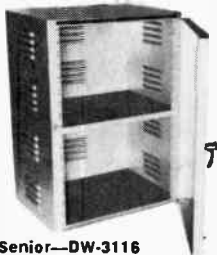
Model No.	Cabinet			Rack			Vent Size	Ship Wt.
	H/C	W/C	D/C	H/R	W/R	PS		
RVTB 2100	25 3/8"	28"	18 1/2"	23 3/8"	26 3/8"	21"	4 3/4"x21"	121
RVTB 2625	30 3/8"	28"	18 1/2"	28 3/8"	26 3/8"	26 1/4"	4 3/4"x26 1/4"	148
RVTB 3675	41 3/8"	28"	18 1/2"	39 3/8"	26 3/8"	36 3/4"	4 3/4"x36 3/4"	198
RVTB 5250	57 3/8"	28"	18 1/2"	55 3/8"	26 3/8"	52 1/2"	4 3/4"x52 1/2"	275





**METAL WORKS INCORPORATED**  
STANDARD & CUSTOM DESIGNS

**DELUXE WALL MOUNTING AMPLIFIER CABINET SENIOR MODEL... JUNIOR MODEL**



Senior—DW-3116

Here is a sturdy cabinet designed for housing the new style amplifiers. Completely welded construction with facilities for wall mounting. DW3116 comes complete with cabinet shelf and door with locking handle. Tamper proof inside hinges. Deep enough for the new larger amplifiers and wide enough for amplifiers using plugs on the side. Plenty of ventilation from louvers on sides and back. No shelf in DW-1616

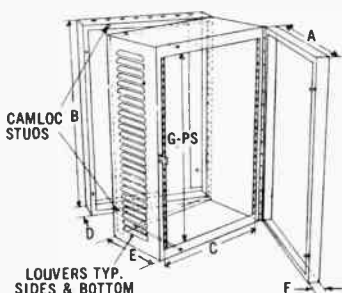
MATERIAL: 16 ga. CRS  
CONSTRUCTION:

1. Completely welded together for rigidity.
2. Panels fastened with Tinnerman clips.
3. 10-32 screws, Tinnerman clips and finish washers furnished.

Model No.	Height	Depth	Width	PS	Ship. Wt.
Senior DW-3116	31"	16"	21"	28"	75 lbs.
Junior DW-1616	16½"	16"	21"	14"	50 lbs.

FINISH: Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

**SECTIONAL WALL MOUNTING CABINET 193 SERIES**



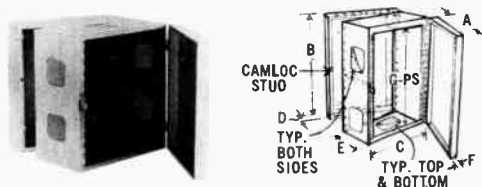
This series of cabinets is designed for maximum installation convenience. Swing out feature of cabinets permit less handling of components on the job or in the shop. Dowel pins and heavy hinge assure you of durability and a greater amount of weight acceptance of components. Camloc studs interlock two sections with a flush lock mounted on front door in sizes A & B and a locking handle in sizes C & D to complete a totally enclosed locking unit. The cabinets are available in four vertical panel sizes. If a phono drawer is required, order PD-1050-14. If a shelf is needed order CS-1207. Additional bracing is provided for rack mounting weight in excess of 250 lbs. Indicate this by prefix WT i.e. (WT 193) and letter size of cabinet. See specifications below.

**ARCHITECTS AND ENGINEERS SPECIFICATIONS**

MATERIAL: 16 ga. CRS, 11 ga. reinforced angle for wall mounting. CONSTRUCTION: 1. Each section shall be spot welded and brazed at corners for sturdiness. 2. Panel mounting holes shall be tapped for 10-32 threads. 3. Bottom and sides of middle section shall be louvered for maximum heat dissipation. 4. Dowel pins shall be provided to prevent sagging. 5. Each section shall be hinged with a heavy continuous steel hinge. 6. Extra bracing shall be provided when weight of components exceeds 250 lbs. 7. All louvers shall be 6" in length. FINISH: Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

Model No.	Dimensions								Ship. Weight
	A	B	C	D	E	F	G-ps	D-E-F	
193A	20%	18½%	19½%	4½"	11	1¾"	15¾"	17¼"	50##
193B	20%	31	19½%	4½"	11	1¾"	28	17¼"	75##
193C	20%	45	19½%	4½"	11	1¾"	42	17¼"	125##
193D	20%	64%	19½%	4½"	11	1¾"	61¼"	17¼"	175##

**SECTIONAL WALL MOUNTING CABINET EC SERIES**



This is the ECONOMY version of our 193 series Cabinets made for loads not exceeding 50-75 lbs. (depending on location in panel mtg.) where weight of components can be limited. Sections are hinged on the right side via slip joint hinges. Panel mounting holes are punched on W.E. spacing for Tinnermann clips. The panel holes are recessed only the thickness of 16 ga. CRS or about .059" which is the thickness of material on the cabinet's back. Front door is 2" deep for knob clearance and is locked with a FLUSH keyed lock. Center section is locked to back can via a camloc. Entire unit is locked with one FLUSH lock. If a phono drawer is required, order our PD 1050-14. Ventilation is provided by 4½" K.O. and cover w/perforated metal. K.O. for wiring is provided in back can at top and bottom.

Material: 16 ga. CRS

Construction:

1. All sections spot weld assembled.
  2. Panel mounting holes punched for Tinnermann clips.
  3. Center section 4½" K.O. covered on inside by perforated metal for maximum heat dissipation.
  4. Entire cabinet locks with one FLUSH lock.
  5. Center section locks via a camloc stud to back section.
  6. All hinges are a slip joint type.
  7. Center section reinforced with corner gussets.
  8. Standard finish #4719 Silver Gray Hammer-X.
- FINISH: Iron phosphate dipped and finished with #4719 Silver Gray Hammer-X. Other colors available.

Model No.	Dimensions								Ship. Weight
	A	B	C	D	E	F	G-ps	D-E-F	
EC-1750	20%	19½%	19½%	4½"	11	2	17½"	17½"	43
EC-2100	20%	22½%	19½%	4½"	11	2	21	17½"	52
EC-2625	20%	27½%	19½%	4½"	11	2	26¼"	17½"	65

**PANEL MOUNTING PHONO & STORAGE DRAWERS FOR 19" RACKS**

**With Ball Bearing Drawer Slides**

All drawers illustrated are made of 16 ga. steel. Phono drawer chassis has a ¾" flange to accommodate a plywood or masonite base for a record changer. Base is included with drawer.

Model No.	PS	Chassis Size	Ship. Wt.
PD-1050-14-E	10½"	15¾" W x 14" L x 3¼" H	16 lbs.
PD-1050-16-E	10½"	15¾" W x 16" L x 3¼" H	18 lbs.
PD-1050-14	10½"	16¾" W x 14" L x 3¼" H	16 lbs.
PD-1050-16	10½"	16¾" W x 16" L x 3¼" H	18 lbs.

Model No.	PS	Storage Area	Ship. Wt.
SD-1407	7"	16¾" W x 14" L x 6¼" D	16 lbs.
SD-1410	10½"	16¾" W x 14" L x 9¾" D	18 lbs.
SD-1607	7"	16¾" W x 14" L x 6¼" D	20 lbs.
SD-1610	10½"	16¾" W x 14" L x 9¾" D	22 lbs.
DSD-1207	7"	15¾" W x 16" L x 6¼" D	20 lbs.
DSD-1210	10½"	15¾" W x 16" L x 9¾" D	22 lbs.

Finished in Silver Gray Hammertone with an attractive chrome drawer pull.

**SERIES 4051 A&B — Phono cabinet swing down for recess wall mounting.**  
**SERIES 4048 A&B — Phono cabinet swing down for rack mounting.**



PD-1050-16 or 14 Phono Drawer. The phono drawer is obtainable in two sizes, 14¾" o/a depth and 16¾" o/a depth. The 14¾" o/a depth will fit all cabinets while the 16¾" o/a depth can be used in all cabinets except DC & 193 cabinets. Mounted on slides with nylon rim ball bearing rollers, this drawer pushes in and out with ease. Extends a full 12" from front of cabinet. If full extension slide is desired add suffix "E" to these part numbers. Weight load—75 lbs.

SD-1407 or SD-1410 — 14¾" o/a depth in 7" or 10½" height SD-1607 or SD-1610 — 16¾" o/a depth in 7" or 10½" height Standard Storage Drawers come in 4 sizes to accommodate extra tape reels, tools, and what have you. Same slides as illustrated in our PD-1050 shown above. Use SD-1410 or 1407 in any cabinets. Use SD-1610 or 1607 in all cabinets except DC & 193 cabinets.

DSD-1210 or 1207 Deluxe Storage Drawer. The ultimate in storage drawer capacity and convenience. These drawers feature a full extension slide permitting the drawer to be pulled out 15" from cabinet. Smooth operation is provided by ball bearing rollers. Instant drawer removal and positive stopping, positive closing are additional features offered. Weight load—150 lbs.



# METAL WORKS INCORPORATED

## STANDARD & CUSTOM DESIGNS

### DUPLI-RACK MODEL DR



Dupli-rack features a maximum of cabinet space in a minimum of floor space at a savings in cost. To increase the size of an installation, simply remove the detachable side panels, bolt the units together through holes provided, forming a sturdy unit, and slip the detachable side panels on each side. This becomes an attractive installation where the addition of units will always remain the same in color tone and freshness of appearance. Each unit is of weld construction, forming a sturdy and rigid piece of equipment. Basic unit consists of frame and rear door.

**SPECIFICATIONS MATERIAL:** 16 ga. CRS. Panel mounting angles 11 ga. CRS. **CONSTRUCTION:** (1) Braze and spotweld assembly. (2) Detachable side panels are formed and supported and fastened by brackets. (3) Louvers provided in rear door. (4) Panel mounting angles drilled and tapped to 10-32 thread on standard  $1\frac{1}{4}'' \times \frac{1}{2}''$  spacing. (5) Locking handle furnished on front door with flush mounted lock and separate handle on rear door.

Rack with Rear Door				Detachable Side Panels		Front Door	
Model No.	Overall Ht.	Panel Space	Ship. Wt. Lbs.	Model No.	Ship Wt. Lbs. (Pe - Pair)	Model No.	Ship. Wt. Lbs.
DR-3675	42 $\frac{7}{8}''$	36 $\frac{3}{4}''$	100	DSP-36	20	FDR-36	10
DR-4200	48 $\frac{1}{8}''$	42''	104	DSP-42	24	FDR-42	12
DR-6125	67 $\frac{3}{8}''$	61 $\frac{1}{4}''$	120	DSP-61	32	FDR-61	18
DR-7000	76 $\frac{1}{8}''$	70''	129	DSP-70	36	FDR-70	20
DR-7700	83 $\frac{1}{8}''$	77''	133	DSP-77	40	FDR-77	22

### HEAVY DUTY RACK MODEL DR-HD

Complimenting units to our Dupli Rack (DR) Series where component weight requires extra structural rigidity. No bolts or screws are visible from the outside.

The basic unit is of heli-arc weld construction and made from heavy 11 gauge (.119) steel to support weight of 1000# or more. Each unit can be bolted to an adjoining unit by removing the detachable side panels, bolting through holes provided, and then replacing the side panels on each end unit.

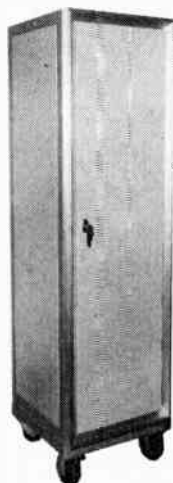
Supplied as part of the basic unit are a pair of 11 gauge drilled and tapped (10-32) panel angles (HD) plus two pair of support angles (SA-HD) drilled and tapped on same Western Elec.\* spacing as panel angles and a 16 gauge CRS reinforced louvered rear door. Support angles are mounted to rear of panel angles to support

heavy equipment and/or shelves (CS-HD 1922) made specifically for these cabinets. Shelves are accessory equipment. Detachable side panels (DSP-HD) fit between front and rear corner posts and are mounted with machine screws.

Front doors are box type reinforced with an internal channel and without louvers. Doors swing open on hidden hinges within an attractive anodized aluminum extrusion around entire cabinet front to give a distinct shadow effect.

#### MATERIAL:

11 gauge steel top — bottom — corner posts — panel angles — rear support angles — panel support channels — and caster base.  
16 gauge steel sides — doors.  
Trim — .090 thick clear anodized aluminum extrusion.



Model No.	Width	Height	Depth	Panel Space	Ship. Wt.	For Cabinet Number
<b>DUPLI RACK — HEAVY DUTY</b>						
DR-HD 3675	23 $\frac{5}{8}''$	*44 $\frac{3}{8}''$	24''	36 $\frac{3}{4}''$	210 #	
DR-HD 4200	23 $\frac{5}{8}''$	*49 $\frac{5}{8}''$	24''	42''	225 #	
DR-HD 6125	23 $\frac{5}{8}''$	*68 $\frac{7}{8}''$	24''	61 $\frac{1}{4}''$	275 #	
DR-HD 7000	23 $\frac{5}{8}''$	*77 $\frac{5}{8}''$	24''	70''	300 #	
DR-HD 7700	23 $\frac{5}{8}''$	*84 $\frac{5}{8}''$	24''	77''	320 #	
<b>FDR-HD FRONT DOORS</b>						
FDR-HD 36	19 $\frac{1}{2}''$	37''	1 $\frac{1}{4}''$	—	17 $\frac{1}{2}''$ #	DR-HD 3675
FDR-HD 42	19 $\frac{1}{2}''$	42 $\frac{1}{4}''$	1 $\frac{1}{4}''$	—	20 $\frac{3}{4}''$ #	DR-HD 4200
FDR-HD 61	19 $\frac{1}{2}''$	61 $\frac{1}{2}''$	1 $\frac{1}{4}''$	—	28 $\frac{1}{2}''$ #	DR-HD 6125
FDR-HD 70	19 $\frac{1}{2}''$	70 $\frac{1}{4}''$	1 $\frac{1}{4}''$	—	32 $\frac{3}{4}''$ #	DR-HD 7000
FDR-HD 77	19 $\frac{1}{2}''$	77 $\frac{1}{4}''$	1 $\frac{1}{4}''$	—	35 $\frac{3}{4}''$ #	DR-HD 7700
<b>DSP-HD DETACHABLE SIDE PANEL</b>						
DSP-HD 36	19 $\frac{3}{8}''$	36 $\frac{7}{8}''$	1 $\frac{1}{16}''$	—	36 # pr.	DR-HD 3675
DSP-HD 42	19 $\frac{3}{8}''$	42 $\frac{1}{8}''$	1 $\frac{1}{16}''$	—	40 # pr.	DR-HD 4200
DSP-HD 61	19 $\frac{3}{8}''$	61 $\frac{3}{8}''$	1 $\frac{1}{16}''$	—	56 # pr.	DR-HD 6125
DSP-HD 70	19 $\frac{3}{8}''$	70 $\frac{1}{8}''$	1 $\frac{1}{16}''$	—	62 $\frac{3}{4}''$ # pr.	DR-HD 7000
DSP-HD 77	19 $\frac{3}{8}''$	77 $\frac{1}{8}''$	1 $\frac{1}{16}''$	—	68 $\frac{1}{4}''$ # pr.	DR-HD 7700

\* Without casters. With casters add 6 $\frac{1}{2}''$ .

NOTE: Width and depth may be specified other than noted above for customer's needs.



## METAL WORKS INCORPORATED

### STANDARD & CUSTOM DESIGNS

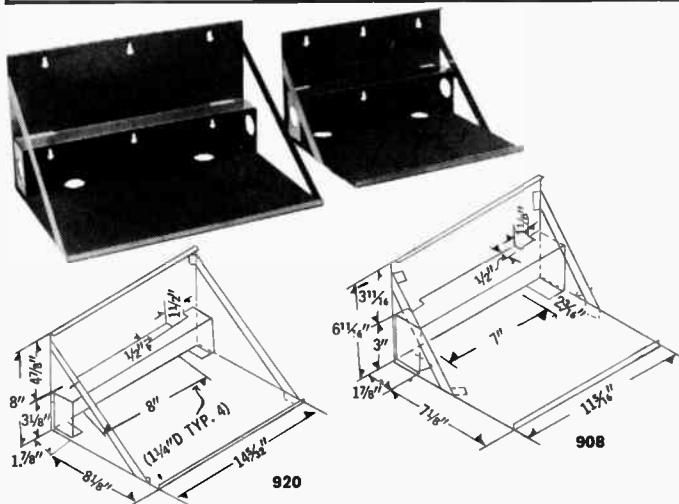
## CABINET RACK SHELF FOR CABINET RACKS, DESK RACKS AND CONSOLES



Constructed of one piece of No. 16 gauge sheet steel. Formed 1" high. Shelf has holes in side and front and back for mounting to cabinet or rack. Finished in brilliant silver gray hammertone unless otherwise specified.

Model No.	For:	Width-in.	Depth-in.	Ship. Wt. Lbs.
CS-1201	RB Models	22 $\frac{3}{8}$ "	26 $\frac{1}{8}$ "	14
CS-1202	DC Models	22 $\frac{3}{8}$ "	11 $\frac{1}{2}$ "	9
CS-1203	SCR Models	22 $\frac{1}{8}$ "	14 $\frac{3}{8}$ "	10
CS-1204	RCR and DCR Models	22 $\frac{1}{8}$ "	14 $\frac{3}{8}$ "	10
CS-1205	HTB Models	20 $\frac{1}{8}$ "	14 $\frac{3}{8}$ "	10
CS-1206	DR Models	18 $\frac{3}{8}$ "	14 $\frac{3}{8}$ "	10
CS-1207	193 Models	20 $\frac{3}{8}$ "	10 $\frac{3}{8}$ "	7
CS-1208	STR Models	19"	14 $\frac{3}{8}$ "	9

## AMPLIFIER SHELF MODEL #920 - 908 - 1220



These wall shelves are ideal for mounting amplifiers, radios, or television receivers in off-the-floor locations in stores, offices, and factories.

The shelf units are shipped two to a carton, and are ready to mount on the wall when removed from their cartons. Sizes can be modified if necessary, at small additional cost.

Also available — Model 1220, 12" D x 12" H x 20" W and reversible.

MATERIAL: 16 ga. CRS

### CONSTRUCTION:

1. Formed to give maximum strength and rigidity.
2. Has two braces spot welded in such a manner and position to give added strength for greater load carrying capacity.
3. Keyhole slots provided to facilitate mounting on wall.
4. A bracket provided, mounted to rear of horizontal leg of shelf to provide clearance for plugs, jacks, etc.
5. FINISH: Iron Phosphate, dipped and finished in #920 Dark Grey Metallic Baked On Enamel.

## RELAY RACKS CHANNEL AND TABLE TYPE



### TR DESK TYPE

These Table Racks are constructed of heavy No. 16 gauge steel and are completely welded together for strength. Mounting holes are drilled to standard 1 $\frac{1}{4}$ "— $\frac{1}{2}$ " spacings. All panel mounting hardware is supplied. Each rack is finished in silver gray hammertone and is trimmed with bright chrome molding.

All welded construction. E.I.A. panel hole spacing.

Series: 4057 — 19" Panel Width

Series: 4059 — 23" Panel Width

Model No.	Width-in.	Height-in.	Depth-in.	Panel Space-in.	Ship. Wt. Lbs.
TR-121	22	24	12	21	17
TR-128	22	31	12	28	20

### RR CHANNEL TYPE

Channel Relay Racks are constructed of No. 11 ga. steel. The vertical channels are drilled and tapped on 1 $\frac{1}{4}$ "— $\frac{1}{2}$ " spacing and for No. 10-32 machine screws. Racks are shipped knocked down or assembled. Hardware included. Each rack is finished in silver gray hammertone unless otherwise specified.

Model No.	Width-in.	Height-in.	Depth-in.	Panel Space-in.	Ship. Wt. Lbs.
RR-156	19 $\frac{1}{8}$ "	61 $\frac{3}{8}$ "	20	56	70
RR-163	19 $\frac{1}{8}$ "	68 $\frac{3}{8}$ "	20	63	80
RR-170	19 $\frac{1}{8}$ "	75 $\frac{3}{8}$ "	20	70	90
RR-177	19 $\frac{1}{8}$ "	82 $\frac{3}{8}$ "	20	77	100
RR-184	19 $\frac{1}{8}$ "	89 $\frac{3}{8}$ "	20	84	110

## ROLLER TRUCKS FOR CABINET AND TRANSMITTER RACKS



Made entirely from No. 16 gauge steel with reinforced corners for the 2 $\frac{1}{2}$ " dia. rollers. Trucks are completely assembled. They are finished in gray hammertone.

Casters — 2 $\frac{1}{2}$ " dia. ball bearing type. 400 lb. cap. Shipping wt. 2 $\frac{1}{4}$  lbs.

Model No.	For:	Inside Dimensions		Shipping Wt. Lbs.
		Width-in.	Depth-in.	
RT-500	"DC" Models	23	15 $\frac{1}{4}$ "	19
RT-501	"RR" Models	20 $\frac{1}{2}$ "	19 $\frac{1}{2}$ "	20
RT-502	"SCR", "RCR", "DCR" (19" Panels)	23	19	21
RT-503	"STR", "DTR"	23 $\frac{1}{2}$ "	19	24
RT-504	"DTR" and "STR" (24" Panels)	29	25	28
RT-505	"DTR" and "STR" (30" Panels)	35	25	30
RT-506	"DR" Models	24 $\frac{1}{4}$ "	19	25



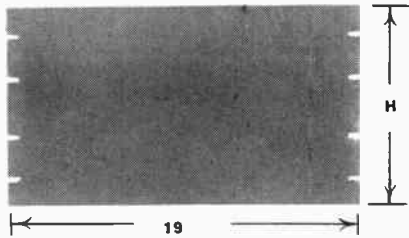
**METAL WORKS INCORPORATED**  
STANDARD & CUSTOM DESIGNS

**19" RACK PANELS**

Steel panels finished in Silver Gray Hammertone unless otherwise specified.

**1/8" Aluminum and Steel Blank Panels**

Aluminum Furnished Unpainted — Painted on Request, So States on Order.

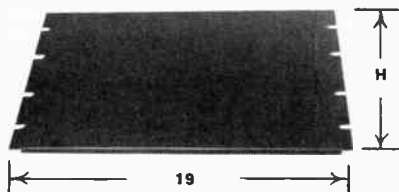


Aluminum		Steel		
Model No.	Ship. Wt. Lbs.	Model No.	Ship. Wt. Lbs.	Height-in.
ARP- 121	.4	RP- 121	2	1 3/4
ARP- 123	.8	RP- 123	5	3 1/2
ARP- 125	1.2	RP- 125	7	5 1/4
ARP- 127	1.6	RP- 127	8	7
ARP- 128	2.0	RP- 128	9	8 3/4
ARP-1210	2.5	RP-1210	10	10 1/2
ARP-1212	2.8	RP-1212	12	12 1/4
ARP-1214	3.3	RP-1214	13	14
ARP-1215	3.6	RP-1215	14	15 3/4
ARP-1217	4.1	RP-1217	15	17 1/2
ARP-1219	4.5	RP-1219	16	19 1/4
ARP-1221	4.9	RP-1221	16	21

Panels formed with 1/2" all round available.

**Formed 1/8" Thick Aluminum and Steel Blank Panels**

Aluminum Furnished Unpainted — Painted on Request, So States on Order.



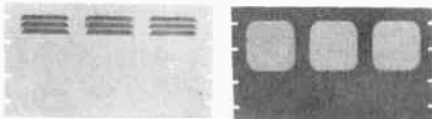
Aluminum		Steel		
Model No.	Ship. Wt. Lbs.	Model No.	Ship. Wt. Lbs.	Height-in.
PA- 161	1/2	PM- 161	1	1 3/4
PA- 163	1	PM- 163	2 1/2	3 1/2
PA- 165	1 1/4	PM- 165	3 1/2	5 1/4
PA- 167	1 1/2	PM- 167	4	7
PA- 168	1 1/2	PM- 168	4 1/2	8 3/4
PA-1610	1 3/4	PM-1610	5	10 1/2
PA-1612	2	PM-1612	6	12 1/4
PA-1614	2 1/4	PM-1614	6 1/2	14
PA-1615	2 1/2	PM-1615	7	15 3/4
PA-1617	2 1/2	PM-1617	7 1/2	17 1/2
PA-1619	2 3/4	PM-1619	8	19 1/4
PA-1621	3	PM-1621	8	21

Panels formed with 1/2" all round available.

**NEW SERIES PMF**

**Formed 1/8" Thick Steel Ventilated Panels**

Louvre Type



Grille Type		
Model No.	Height-in.	Shp. Wt. Lbs.
VP- 205	5 1/4 panel	3 1/2
VP- 207	7 panel	4
VP- 208	8 3/4 panel	4 1/2
VP-2010	10 1/2 panel	5
VP-2012	12 1/4 panel	6

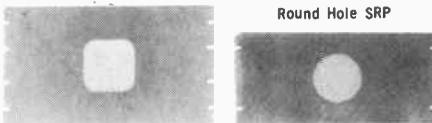
Louvre Type

Louvre Type		
Model No.	Height-in.	Shp. Wt. Lbs.
LP- 1C5	5 1/4 panel	3 1/2
LP- 1C7	7 panel	4
LP- 1C8	8 3/4 panel	4 1/2
LP-1010	10 1/2 panel	5
LP-1012	12 1/4 panel	6

**Formed 1/8" Thick Speaker Rack Panels 5 1/4" High**

Square Hole SRP-1

Round Hole SRP



Model No.	Speaker	Height-in.	Model No.	Ship. Wt. Lbs.
SRP- 68	6"	8 3/4" panel	SRP 68-1	4 1/2
SRP- 810	8"	10 1/2" panel	SRP 810-1	5
SRP-1012	10"	12 1/4" panel	SRP1012-1	6
SRP-1214	12"	14" panel	SRP1214-1	6 1/2

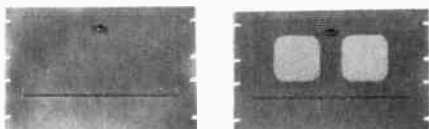
**Formed 1/8" Thick Steel Meter Panels**



Model No.	Size and Style	Ship. Wt. Lbs.
MP-23	For 2" meter with 3 holes	3 1/2
MP-25	For 2" meter with 5 holes	3 1/2
MP-33	For 3" meter with 3 holes	3 1/2
MP-35	For 3" meter with 5 holes	3 1/2

Standard Type

Grille Type



**1/8" Thick Steel Door Panels**

Panels have flush doors, with piano hinge and are equipped with spring catch and chrome knob — All doors are located 1" from top, to allow space for chassis at bottom.

Standard Door Panel	Height-in.	Ship. Wt. Lbs.	Grille Panel	Door Opening
DP- 875	8 3/4" Panel	5	GDP- 875	4 1/2" x 15 3/8"
DP-1050	10 1/2" Panel	5 1/2	GDP-1C50	6" x 15 3/8"
DP-1225	12 1/4" Panel	6	GDP-1225	7 1/2" x 15 3/8"

**Switch Panels**

Furnished with 16 slots 1" apart unless otherwise specified.



Model No.	Height-in.	Ship. Wt. Lbs.
SP-1635	3 1/2	2

Slots 3/8" W x 1 1/8" L Screw Holes 1 1/8" Centers

ALL ABOVE PANELS ARE AVAILABLE 30" AND 24" WIDE

**Desk Panel to fit 19" Racks**



The Desk Panel is constructed of No. 16 gauge steel and is entirely spotwelded together for strength. The front corners of the top are rounded to give a pleasing appearance. This model is finished in the standard silver gray hammertone lacquer.

Catalog No.	Panel Size-in.	Top Size-in.	Ship. Wt.
DT-1050	19" x 10 1/2"	17 3/4" Wide x 16" Deep	15 Lbs.



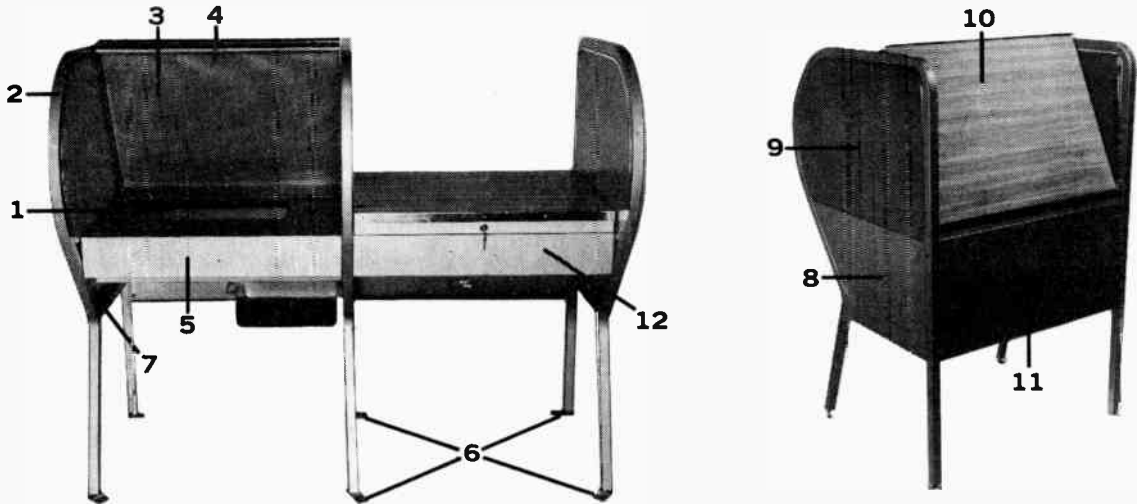
# METAL WORKS INCORPORATED

## STANDARD & CUSTOM DESIGNS

### SERIES 500 STUDENT BOOTHS

METAL WORKS new design in Student Booths brings you "tomorrow's booth" today! Featured below is the 500 Series. These booths are designed to minimize noise entering the booth and prevent the students' response from adding to the general noise level. Designed to meet today's needs in an ever expanding educational program,

they can be added to as funds permit, or as the language program expands, by simply bolting on additional units, consisting of only 1 leg and deck. They are adaptable to flush mount any tape recorder. No part of the booths protrude into the aisle leaving all aisle space clear for passage.



1. Tape recorder position hole cut to any size and positioned to customer requirements. Amplifier position hole furnished, if required, when tape recorders are not used.
2. Square steel tubing, modernistically designed, giving a better appearance, stronger, and a lifetime of use.
3. Acoustical treatment of slope top tilted forward (see back view) gives student maximum isolation.
4. Flush mounted lock in slope top offers protection for electronic equipment when not in use (see closed view).
5. & 11. Front and back view of deck. Rear view illustrates modesty panel conformation.

6. Leg levelers included with all legs or sides. Excellent feature for that uneven floor. Hold down tabs also furnished.
7. Cross brace welded to each leg assures maximum strength and rigidity.
8. Modesty panel (Part No. M-102) used on row ends only. This panel also serves to close the wire pan at the end of each row of booths.
9. Perforated metal covering for acoustical material. Perforated metal is used exclusively on these all new booths.
10. Formica covering on slope top (Part No. F-103). This is finished off with aluminum trim at front.
12. This view shows an add-on booth equipped with a formica covered slope top in the closed position. Note the slight slope (3°) to the front.

#### SPECIFICATIONS

##### MATERIAL:

Deck — 16 Ga. CRS.

Legs — 1½" 18 Ga. Steel Tubing Frame with Perforated Metal supporting acoustical material.

Wiring Pan — 18 Ga. CRS.

##### CONSTRUCTION:

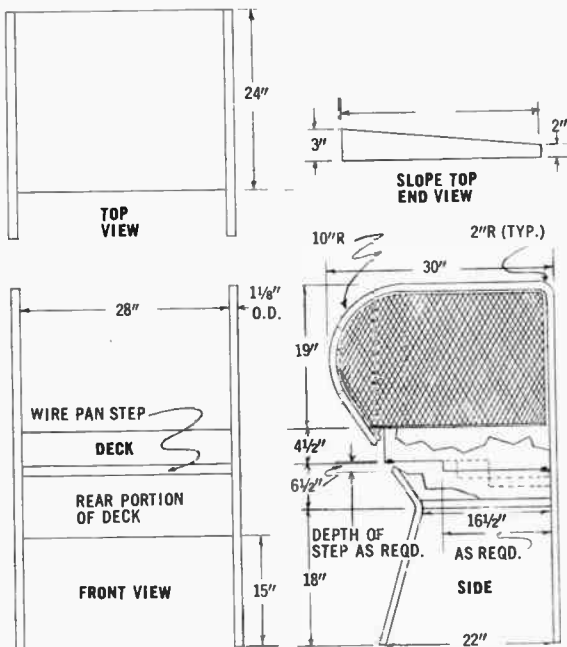
1. Wiring pan is fastened by sheet metal screws for more assembly convenience.
2. All booths are bolted together permitting addition of 1 leg or side, and tape deck, at any future date.
3. Corners of slope top brazed for strength and appearance.
4. Spot welded gussets and supports in deck and slope top.
5. Deck formed to serve as 14" modesty panel in rear.
6. Tape recorder or amplifier flush mounting holes in deck furnished at no additional charge.
7. Deck and wiring pan totally enclose all wiring within the booth row.
8. Legs on E-500 series of booths are of one piece formed construction with supporting brace.

##### FINISH:

Satin Beige Bake On Enamel is standard. Other colors can be supplied by submitting sample to match.

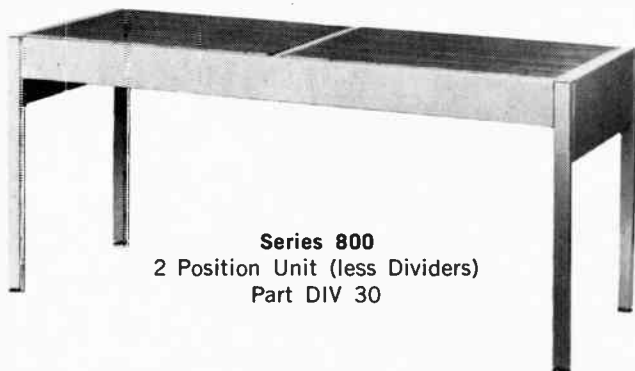
#### PARTS LIST

Model No.	Description
EB-500-11	End Booth, consisting of 2 legs, deck painted and channels for glass
AB-555-11	Add On Booth, 1 leg, deck painted and channels for glass
EB-500-22	End Booth, consisting of 2 legs, deck with formica, and channels for glass
AB-555-22	Add On Booth, 1 leg, deck with formica and channels for glass
EB-500-33	End Booth, consisting of 2 legs, deck painted, slope top painted, with lock
AB-555-33	Add On Booth, 1 leg, deck painted, slope top painted, with lock
EB-500-44	End Booth, consisting of 2 legs, deck painted, with turret for recorder
AB-555-44	Add On Booth, 1 leg, deck painted, with turret for recorder
OPTIONAL EQUIPMENT	
B-110	Book Storage Rack
F-103	Formica on slope top (in place of painted slope top)
FD-109	Formica on deck (in place of painted deck)
M-102	Modesty Panel (for desk side)
P-105	Acoustical Panel (in place of glass channels)

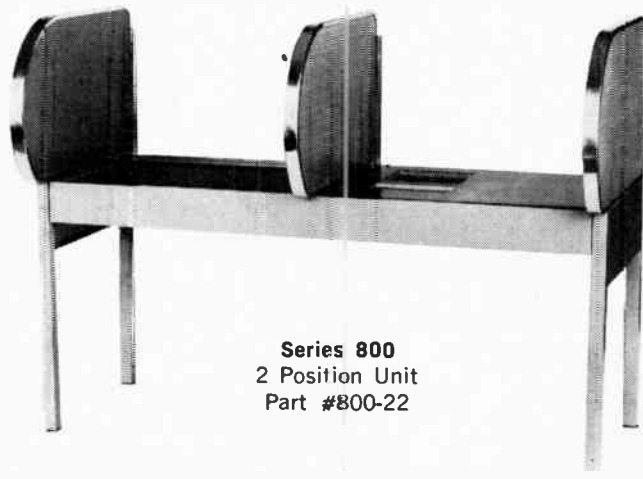




## SERIES 800 LANGUAGE LABORATORY FURNITURE



**Series 800**  
2 Position Unit (less Dividers)  
Part DIV 30



**Series 800**  
2 Position Unit  
Part #800-22

Student listen/respond tables in two and three position units as required for classroom or indicated on drawings.

### • FUNCTION

Booths shall be of such design that they shall serve the dual purpose of a laboratory listen/respond position and a school desk. By elimination of dividers (Part #DIV-30) booths shall be converted to regular tables.

A hole only, in the recorder board, shall be furnished when listen/respond equipment is to be surface mounted.

When conversion units are required for listen/respond a METAL WELL with a hinged cover shall be furnished, as optional equipment. The conversion shall be instantaneous and performed by a single motion of unlocking the hinged cover which conceals a recessed control area. The cover in its lowered position shall completely cover all listen/respond equipment including microphone-earphone combinations, offering full protection to it and at the same time giving the student a clear and uncluttered work area.

All equipment and wiring shall be completely enclosed, including the bottom, to protect equipment and student.

### • MATERIAL

Front and rear rails: 16 ga. CRS	End modesty panels: 16 ga. CRS
Legs: 1/2" sq. 12 ga. steel tubing	Wiring Pan: 20 ga. CRS
Divider: Aluminum channel with steel perforated metal sides	Recorder Board: Particle board laminated with walnut grain formica

### • CONSTRUCTION

Front and rear rails shall be formed steel channel and fastened by machine screws threaded into tapped holes in legs.

Separators shall be a welded formed steel channel and fastened by machine screws to mating holes in front and rear rails.

Divider shall be satin finish aluminum channeling and perforated steel sides with acoustical material for sound deadening purposes and fastened to separators by two nuts that fit studs which are preassembled in dividers.

End modesty panels (row end enclosures) shall be steel and fastened through mating holes to legs with machine screws.

Recorder boards shall be 5/8" thick particle board with walnut grained formica laminated thereto and placed in recess portion of front and rear rails to form a smooth continuous writing surface front to rear.

Acoustical front panel shall be formed sheet steel and perforated steel with a laminated layer of acoustical material for sound deadening purposes.

Channels for glass and acoustical front panels shall be an aluminum extrusion with a satin finish and 15" in length.

NOTE: Glass is not furnished by Metal Works, Inc. Should be 1/4" thick by 29" long and whatever width is desired to fit 15" long channels.

Rail depth must be a minimum of 4 1/2" from deck surface on student side and 6 1/2" on instructors side.

An under-booth wiring protector panel shall be provided to prevent access to equipment or wiring, except by qualified service or installing personnel.

Desirable dimension shall be as follows:

Desk Height: 28"; Overall Height: Not less than 46".  
Overall Work Surface: (Each position) 22 1/4" x 29 3/8".

Furniture shall be of an institutional type construction. All surfaces shall be of material not to tarnish or rub off on clothing.

INSTALLATION: Anchorage to floors shall be with screws or bolts as required by floor material. Rails, separators and end modesty panels fastened to threaded holes in legs with 1/4-20 machine screws.

### • FINISH

SERIES 800 booths or tables shall be finished in Standard Satin Beige. Other colors available at extra cost. Formica covering recorder boards shall be walnut grain. Other colors and designs of formica available at extra cost.

### PARTS

MODEL NO.	NO. OF POSITIONS	DESCRIPTION
800-22	2	One row of 2 positions
800-33	3	One row of 3 positions
800-44	4	One row of 4 positions
800-55	5	One row of 5 positions
800-66	6	One row of 6 positions
800-77	7	One row of 7 positions
800-88	8	One row of 8 positions
800-99	9	One row of 9 positions

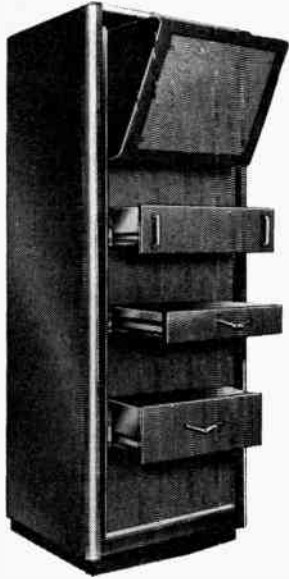
Above includes modesty panels at each row end and holes in recorder board if needed.

### ACCESSORIES

	PCS. PER POSITIONS	
GLC-10	2	Glass channel per position
AFP-20	1	Acoustical front panel with channel
DIV-30	—	Dividers
BSR-40	1	Book storage rack
LRW-50	1	Listen respond well

# PAR-METAL PRODUCTS PRESENTS

## ITS PAR-EXCELLENT EQUIPMENT

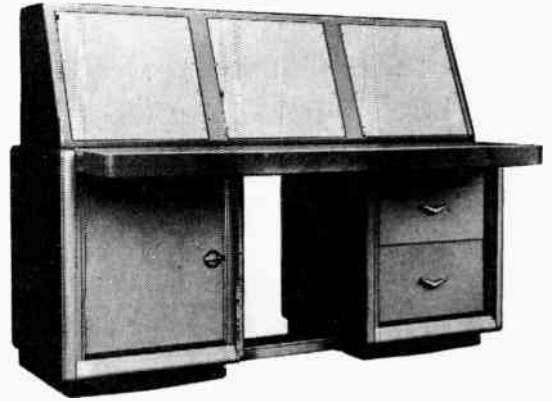


Constructed on a solid foundation of 42 years of engineering and manufacturing experience making:

**CABINET RACKS**

**CONSOLES and PEDESTALS**

**ACCESSORIES • HARDWARE**



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## ASK YOUR DISTRIBUTOR FOR PAR-METAL PRODUCTS CATALOG



# PAR-METAL Modular Cabinet Racks

## CONSTRUCTION DETAILS OF ASSEMBLED RACKS

**CABINET FRAMES** are completely welded. The complete assembly includes ALL necessary vertical corner trims, horizontal top and bottom mouldings and optional side panels.

Brackets, shelves, mounting angles, panels, and bases are attached when requested. For modular assemblies, joining trims are included at no additional cost. The basic frame is similar for ALL racks. PX or FX Racks have the same distinctive styling as PR or FR Racks. But while PR or FR Racks have removable side panels (optional), PX or FX Racks have solid side walls welded on.

- **Removable Top Panel or One Piece Solid Tops (Your Choice).** (Solid, louvered or perforated) See Par-Metal Page 13.

### REMOVABLE TOP PANEL

### DETACHABLE SIDE PANELS

### FRONT MOLDINGS

- **BOLT RETAINER RAILS** are rigidly welded. 3/8" steel bolts with lock washers and hex nuts hold the **PANEL ANGLES** and/or **VERTICAL SIDE SUPPORTS** in any position you select along the bolt retainer rails.

- **PANEL MOUNTING ANGLES** are included. They are made from 1-1/2" x 1-1/2" x 3/16" structural steel and are punched to provide 5/8" - 5/8" - 1/2" alternate spacings (meets both WE and EIA requirements) for standard rack panels and are tapped 12/24, 10/32 tap optional.

- **VERTICAL SIDE SUPPORTS** are optional. They are made from .104" structural steel and are drilled to meet WE and EIA spacings (5/8" - 5/8" - 1/2"). Holes are tapped 10/32.

When attached to Bolt Retainer Rails with 3/8" steel bolts, they provide maximum adjustment for mounting brackets, shelves, slides, extension tables and custom-made equipment.

- **SIDE MOUNTING BRACKETS** may be used separately or with shelves as shown. Slots in the brackets provide maximum vertical adjustments.

- **DOORS** are stamped from one piece of 1/16" structural steel and "dutch formed" on all sides to provide smooth double thick edges. Adequate ventilation is obtained from venetian (internal) louvers.

Locking handles are supplied on racks with front and rear doors. Racks with rear doors only have non-locking handles but locking handles are available.

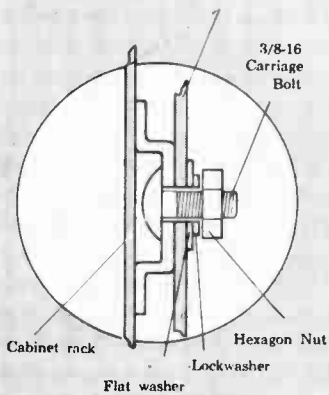
- **SUB-BASES** are available for all modular type racks as an optional accessory.

- **FOUR FLOOR LEVELERS** are supplied with all cabinet racks.

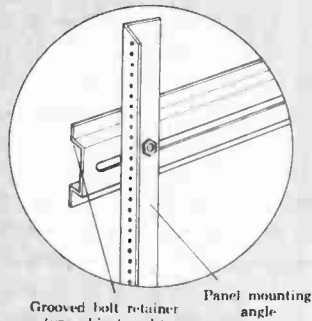
- **OUTLETS:** "Knockout holes" are provided for connecting cables; a duplex outlet and junction box are mounted on cabinet under rear door.

### BOLT RETAINER RAILS

"VS Support or  
Panel mtg. angle

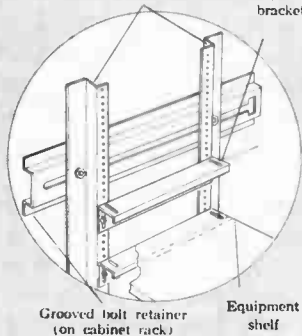


### PANEL MOUNTING ANGLES



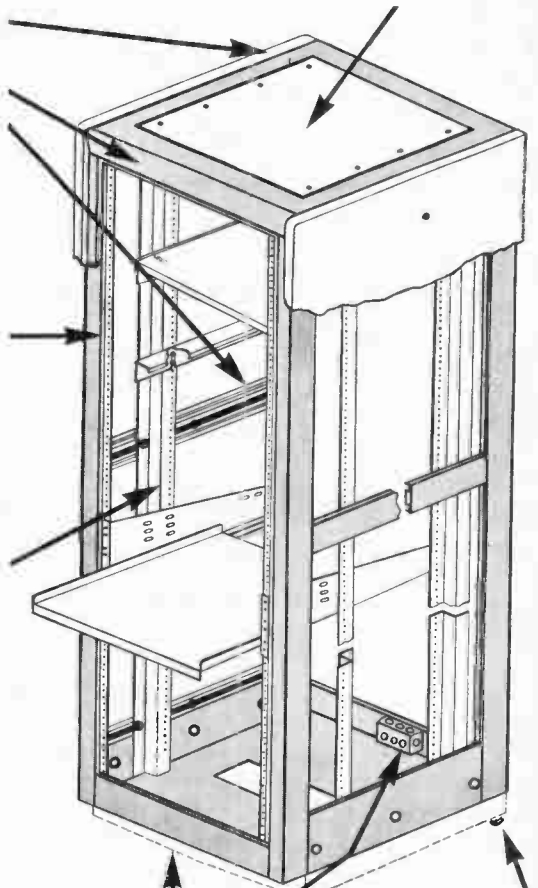
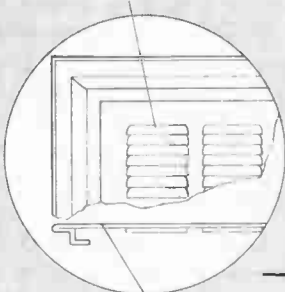
### VERTICAL SIDE SUPPORTS

Vertical side supports  
Side mounting bracket



### DOORS

Venetian type louvers



**PAR-METAL**  
PRODUCTS — Div. of Eon Corp.



# PAR-METAL Modular Cabinet Racks

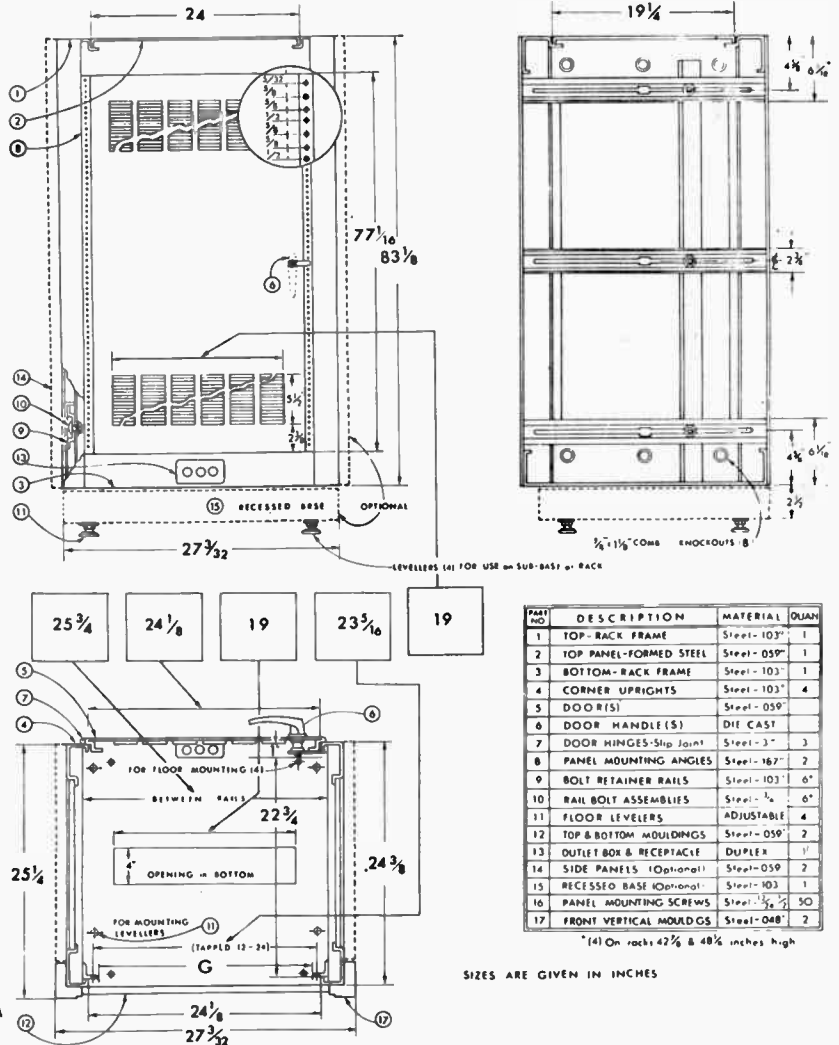
## GENERAL DESCRIPTION

**MODULAR CABINET RACKS** are made in three (3) styles:

1. Racks built to accommodate removable Ball Cornered Side Panels (Series **PL** with Rear Door Only and Series **FL** with Front and Rear Doors). See Par-Metal Page 6.
2. Racks built for a removable Square Cornered or Flush Mounted Side Panels (Series **PR** with Rear Door Only and Series **FR** with Front and Rear Doors). See Par-Metal Page 7.
3. Racks with Solid Side Walls (Series **PX** with Rear Door Only and Series **FX** with Front and Rear Doors). See Par-Metal Page 8.

Each of these three (3) Series of Modular Cabinet Racks are made in about 50 different standard sizes and 7 standard finishes. Special work must be quoted.

DIMENSIONAL DRAWING OF CONSTRUCTIONAL ELEMENTS OF A PAR-METAL MODULAR CABINET RACK — Cat. No. PR-8427-B



**RACK FRAMES** are #12 Gauge Steel (.104") and are fully welded, and have modern, functional design.

**PANEL MOUNTING ANGLES** of 3/16" structural steel are included. Hole spacing will match either **WE** or **EIA** specifications. Holes are tapped for 12/24 screws. 10/32 tapped holes are optional at no extra cost. Angles are secured to rails with 3/8" diameter steel bolts to provide maximum forward and back adjustment, for optional front to rear positioning.

**DOORS:** "Dutch Formed" (one piece) out of #16 gauge steel (.059"). On Racks with front doors, a solid door is standard. Louvered Rear Door is standard on all racks. However other door modifications are optional at no charge (see Par-Metal Page 13). To save aisle

space, racks 30" wide or more have double doors with three-point latches.

**HINGES** for ALL doors are of the slip-joint type for simple removal.

**DOOR HANDLES** are die cast, chrome plated and are non-locking. Lock handles are on both doors on Racks with "F" prefix.

**REMOVABLE TOP PANELS** are standard. For ventilating modifications see Par-Metal Page 13.

**RECESSED RACK BASES** are listed on Par-Metal Pages 6-8. Do not use rack base with roller trucks.

**HARDWARE** is provided as needed at no charge. This includes bolts, washers, nuts, panel mounting screws and a grounding duplex electric outlet (below rear door).

# PAR-METAL Modular Cabinet Racks

24" DEEP RACKS  
FOR 30" PANELS

24" DEEP RACKS  
FOR 24" PANELS

30° FRAME

18" DEEP RACKS  
FOR 30" PANELS

45° FRAME

18" DEEP RACKS  
FOR 19" PANELS

**UNLIMITED  
LAYOUT  
SELECTION**

**For Racks With**  
**ANY HEIGHT**  
**ANY WIDTH**  
**ANY DEPTH**  
**ANY CONFIGURATION**  
**ANY QUANTITY**  
**ANY FINISH**

## SEMI-CUSTOM DESIGNS FOR PL, FL, PR, FR, PX and FX MODULAR CABINET RACKS

The configuration shown at left is a combination of Standardized Par-Metal Modular Cabinet Racks (can be made from any combination of Unit Welded Racks).

Any grouping to fit your particular need is readily available.

**Let our Engineering Dept. Assist You!**

**Naturally, No Cost to you is Involved  
and No Obligation is Intended!**

### ORDERING INSTRUCTIONS!

- ORDER RACKS BY CATALOG NUMBER!**
- SEE ACCESSORY CHECK LIST** (Par-Metal Pages 9, 10). Order accessories (Side Panels, Roller Trucks, Rack Bases, Slides, Drawers, Panels, etc.) at same time as racks to get best Industrial Discounts and guarantee perfect **MATCHING FINISH. ORDER BY CATALOG NUMBERS.**
- Advise us of the number of racks to be set in each row so that the proper trims can be included at **NO COST.**
- YOU MUST SPECIFY FINISH!** Choose ANY of these:

Light Grey Hammertone Enamel ..Mark Order **LH**  
Dark Grey Hammertone Enamel ..Mark Order **DH**  
Light/Dark Grey Hammertone Enamel  
(Light Cabinet with Dark Trim) ..Mark Order **LD**

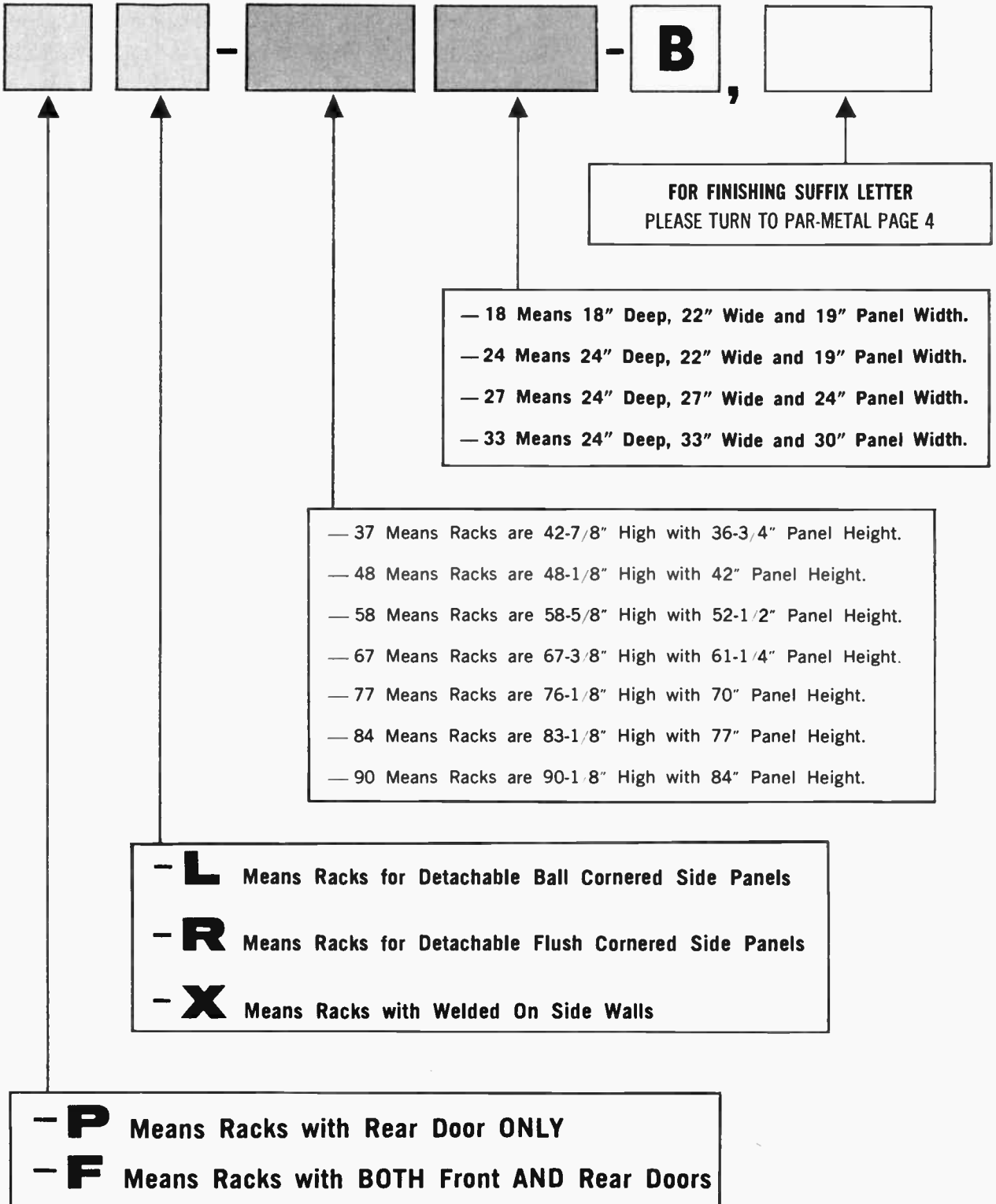
Dark Grey Metallic Enamel .....Mark Order **GM**  
Blue Grey Wrinkle Enamel .....Mark Order **BG**  
Black Wrinkle Enamel .....Mark Order **BW**  
Primer Coat Only .....Mark Order **PC**

**SPECIAL ENAMEL, LACQUER, VINYL OR OTHER FINISHES AVAILABLE.**

**ASK YOUR DISTRIBUTOR FOR PAR-METAL PRODUCTS CATALOG**

# PAR-METAL Modular Cabinet Racks

## RAPID RACK CATALOG NUMBER IDENTITY CHART



For detailed dimensional information on individual Modular Cabinet Racks see Par-Metal Page Numbers 6, 7 and 8.

**PAR-METAL PRODUCTS • ENGINEERING ASSISTANCE AVAILABLE**

# PAR-METAL Modular Cabinet Racks

## MAJOR ACCESSORIES for Use with Series "PL" and "FL" Racks

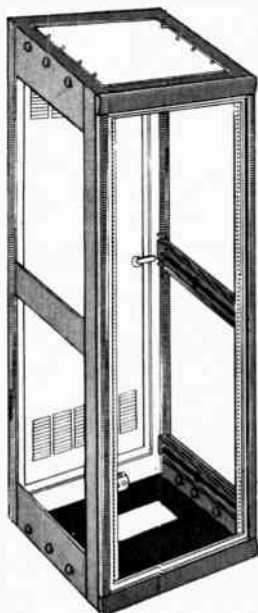
(For full accessory check list, please turn to Par-Metal Pages 9 and 10).

**BALL CORNERED SIDE PANELS:** Side panels constructed from #15 gauge steel, formed edges, welded at all 4 corners. Supplied with coinciding brackets at bottom for easy alignment with rack sides. Top secured with cowl fastener, readily removable. 1-1/4" thick in finishes to match racks.

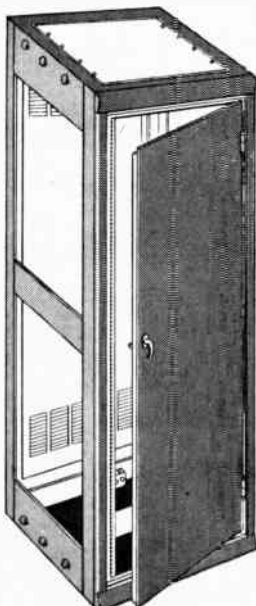
Cat. No.	To Fit PL or FL Rack Nos.	Net Price (Per Pair)
RL-418-B	4818	\$42.00
RL-518-B	5818	46.40
RL-618-B	6718	51.35
RL-718-B	7718	54.80
RL-818-B	8418	58.60
RL-424-B	4824, 4827, 4833	49.55
RL-524-B	5824, 5827, 5833	53.55
RL-624-B	6724, 6727, 6733	58.60
RL-724-B	7724, 7727, 7733	62.40
RL-824-B	8424, 8427, 8433	65.75
RL-924-B	9024, 9027, 9033	69.40

**RECESSED RACK BASES:** Heavy duty bases made from #12 gauge (7/64") steel, rigidly formed and welded. Tapped holes on top match holes in bottom of racks; 4 adjustable floor levers mounted on bottom. Not required with roller trucks. Bases 2-1/2" high.

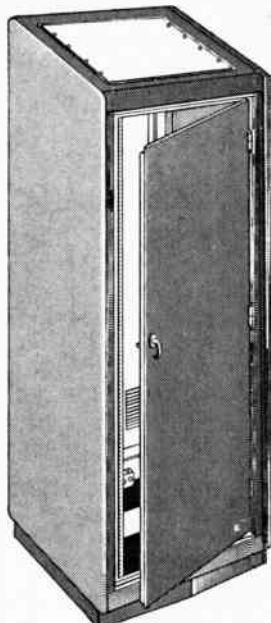
Cat. No.	To Fit All Racks	Net Price
RB-2217	22" wide, 18" deep	\$16.50
RB-2223	22" wide, 24" deep	17.00
RB-2723	27" wide, 24" deep	18.50
RB-3323	33" wide, 24" deep	20.00



**SERIES PL RACKS**  
With Rear Door Only



**SERIES FL RACKS**  
With Front and Rear Doors



**SERIES FL RACK** equipped with ball cornered side panels and recessed base attached.

## RACKS FOR BALL CORNERED SIDE PANELS (SERIES PL and FL) RACK DIMENSIONS

### PL-Rear Door ONLY and FL-BOTH Front and Rear Doors

PL SERIES REAR DOOR ONLY		FL SERIES FRONT & REAR DOORS		OVERALL SIZE			PANEL SPACE	*Clear Inside Depth	**Clear Inside Width
Catalog Number	NET PRICE	Catalog Number	NET PRICE	HEIGHT	WIDTH	DEPTH			
<b>FOR 19" WIDE PANELS and 18-3/8" DEEP RACKS</b>									
PL-4818-B	\$ 96.90	FL-4818-B	\$114.70	48-1/8"	22"	18-3/8"	42" x 19"	16-3/4"	17-3/4"
PL-5818-B	110.00	FL-5818-B	124.90	58-5/8"		52-1/2" x 19"			
PL-6718-B	114.30	FL-6718-B	134.45	67-3/8"		61-1/4" x 19"			
PL-7718-B	126.60	FL-7718-B	152.50	76-1/8"		70" x 19"			
PL-8418-B	135.00	FL-8418-B	164.85	83-1/8"		77" x 19"			
<b>FOR 19" WIDE PANELS and 24-3/8" DEEP RACKS</b>									
PL-4824-B	116.05	FL-4824-B	137.30	48-1/8"	22"	24-3/8"	42" x 19"	22-3/4"	17-3/4"
PL-5824-B	123.90	FL-5824-B	147.50	58-5/8"		52-1/2" x 19"			
PL-6724-B	133.10	FL-6724-B	156.45	67-3/8"		61-1/4" x 19"			
PL-7724-B	150.45	FL-7724-B	175.10	76-1/8"		70" x 19"			
PL-8424-B	160.45	FL-8424-B	190.30	83-1/8"		77" x 19"			
PL-9024-B	188.30	FL-9024-B	204.75	90-1/8"	84" x 19"				
<b>FOR 24" WIDE PANELS and 24-3/8" DEEP RACKS</b>									
PL-4827-B	146.75	FL-4827-B	168.00	48-1/8"	27"	24-3/8"	42" x 24"	22-3/4"	22-3/4"
PL-5827-B	156.50	FL-5827-B	180.60	58-5/8"		52-1/2" x 24"			
PL-6727-B	166.70	FL-6727-B	197.40	67-3/8"		61-1/4" x 24"			
PL-7727-B	179.00	FL-7727-B	208.95	76-1/8"		70" x 24"			
PL-8427-B	197.15	FL-8427-B	234.15	83-1/8"		77" x 24"			
PL-9027-B	215.25	FL-9027-B	257.25	90-1/8"	84" x 24"				
<b>FOR 30" WIDE PANELS and 24-3/8" DEEP RACKS</b>									
PL-4833-B	168.00	FL-4833-B	194.25	48-1/8"	33"	24-3/8"	42" x 30"	22-3/4"	28-3/4"
PL-5833-B	183.80	FL-5833-B	220.50	58-5/8"		52-1/2" x 30"			
PL-6733-B	199.00	FL-6733-B	243.10	67-3/8"		61-1/4" x 30"			
PL-7733-B	215.80	FL-7733-B	265.40	76-1/8"		70" x 30"			
PL-8433-B	235.50	FL-8433-B	287.70	83-1/8"		77" x 30"			
PL-9033-B	255.15	FL-9033-B	307.65	90-1/8"	84" x 30"				

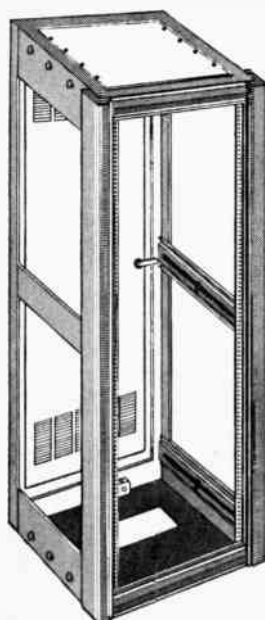
\* ALLOW FOR LATCH HANDLE

\*\* FOR CLEAR INSIDE WIDTH REAR, ADD 1-3/8"

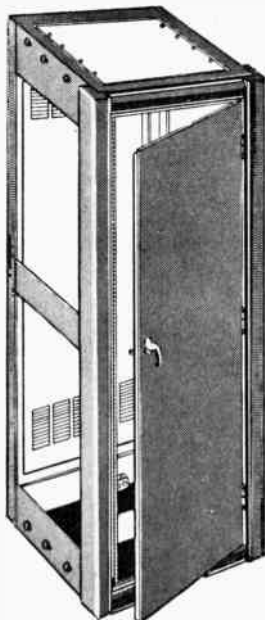
For full Accessory Check Lists to use with above racks See Par-Metal Pages 9 and 10.

# PAR-METAL Modular Cabinet Racks

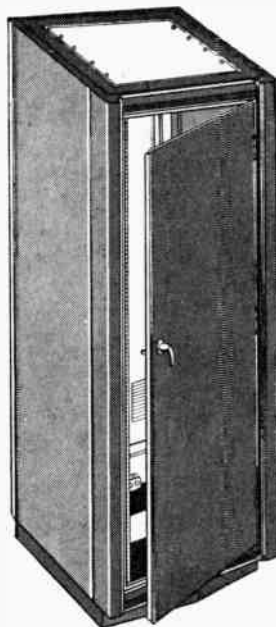
**MAJOR ACCESSORIES for Use with Series "PR" and "FR" Racks**



**SERIES PR RACKS**  
With Rear Doors Only



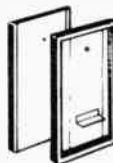
**SERIES FR RACKS**  
With Front and Rear Doors



**SERIES FR RACK**  
equipped with flush side panels and recessed base

**FLUSH MOUNTED SIDE PANELS**

Sturdily constructed from #16 gauge steel, formed edges, welded at all 4 corners. Vertical edges trimmed with recessed stainless steel mouldings. Coinciding brackets at bottom allow for easy alignment with rack sides. Readily removable, 3/4" thick panels, finishes to match racks.



Cat. No.	To Fit PR, FR Racks	Net Price (Per Pair)
RS-418-B	4818	\$40.35
RS-518-B	5818	44.10
RS-618-B	6718	48.30
RS-718-B	7718	54.20
RS-818-B	8418	60.70
RS-424-B	4824, 4827, 4833	45.70
RS-524-B	5824, 5827, 5833	52.85
RS-624-B	6724, 6727, 6733	57.15
RS-724-B	7724, 7727, 7733	60.00
RS-824-B	8424, 8427, 8433	62.50
RS-924-B	9024, 9027, 9033	68.60

**RECESSED RACK BASES:** Heavy duty bases made from #12 gauge (7/64") steel, rigidly formed and welded. Tapped holes on top match holes in bottom of racks; 4 adjustable floor levelers mounted on bottom. Not required with roller trucks. Bases 2-1/2" high.



Cat. No.	To Fit All Racks	Net Price
RB-2217	22" wide, 18" deep	\$16.50
RB-2223	22" wide, 24" deep	17.00
RB-2723	27" wide, 24" deep	18.50
RB-3323	33" wide, 24" deep	20.00

## RACKS FOR FLUSH MOUNTED SIDE PANELS (SERIES PR and FR)

### RACK DIMENSIONS

**PR-Rear Door ONLY and FR-BOTH Front and Rear Doors**

PR SERIES REAR DOOR ONLY	
Catalog Number	NET PRICE
PR-4818-B	\$ 96.90
PR-5818-B	110.00
PR-6718-B	114.30
PR-7718-B	126.60
PR-8418-B	135.00
PR-4824-B	116.05
PR-5824-B	123.90
PR-6724-B	133.10
PR-7724-B	150.45
PR-8424-B	160.45
PR-9024-B	188.30
PR-4827-B	146.75
PR-5827-B	156.50
PR-6727-B	166.70
PR-7727-B	179.00
PR-8427-B	197.15
PR-9027-B	215.25
PR-4833-B	168.00
PR-5833-B	183.80
PR-6733-B	199.00
PR-7733-B	215.80
PR-8433-B	235.50
PR-9033-B	255.15

FR SERIES FRONT & REAR DOORS	
Catalog Number	NET PRICE
FR-4818-B	\$114.70
FR-5818-B	124.90
FR-6718-B	134.45
FR-7718-B	152.50
FR-8418-B	164.85
FR-4824-B	137.30
FR-5824-B	147.50
FR-6724-B	156.45
FR-7724-B	175.10
FR-8424-B	190.30
FR-9024-B	204.75
FR-4827-B	168.00
FR-5827-B	180.60
FR-6727-B	197.40
FR-7727-B	208.95
FR-8427-B	234.15
FR-9027-B	257.25
FR-4833-B	194.25
FR-5833-B	220.50
FR-6733-B	243.10
FR-7733-B	265.40
FR-8433-B	287.70
FR-9033-B	307.65

OVERALL SIZE				PANEL SPACE DEEP RACKS
HEIGHT	WIDTH	DEPTH		
<b>FOR 19" WIDE PANELS and 18-3/8" DEEP RACKS</b>				
48-1/8"				42" x 19"
58-5/8"				52-1/2" x 19"
67-3/8"	22"	18-3/8"		61-1/4" x 19"
76-1/8"				70" x 19"
83-1/8"				77" x 19"
<b>FOR 19" WIDE PANELS and 24-3/8" DEEP RACKS</b>				
48-1/8"				42" x 19"
58-5/8"				52-1/2" x 19"
67-3/8"	22"	24-3/8"		61-1/4" x 19"
76-1/8"				70" x 19"
83-1/8"				77" x 19"
90-1/8"				84" x 19"
<b>FOR 24" WIDE PANELS and 24-3/8" DEEP RACKS</b>				
48-1/8"				42" x 24"
58-5/8"				52-1/2" x 24"
67-3/8"	27"	24-3/8"		61-1/4" x 24"
76-1/8"				70" x 24"
83-1/8"				77" x 24"
90-1/8"				84" x 24"
<b>FOR 30" WIDE PANELS and 24-3/8" DEEP RACKS</b>				
48-1/8"				42" x 30"
58-5/8"				52-1/2" x 30"
67-3/8"	33"	24-3/8"		61-1/4" x 30"
76-1/8"				70" x 30"
83-1/8"				77" x 30"
90-1/8"				84" x 30"

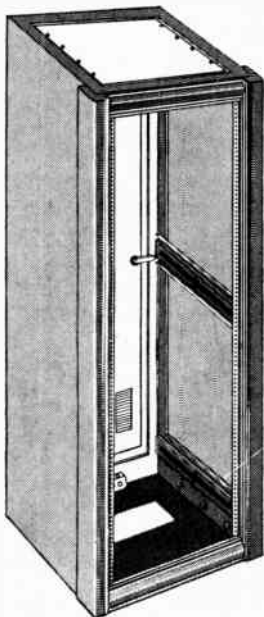
*Clear Inside Depth	**Clear Inside Width
16-3/4"	17-3/4"
22-3/4"	17-3/4"
22-3/4"	22-3/4"
22-3/4"	28-3/4"

\* ALLOW FOR LATCH HANDLE      \*\* FOR CLEAR INSIDE WIDTH REAR, ADD 1-3/8"

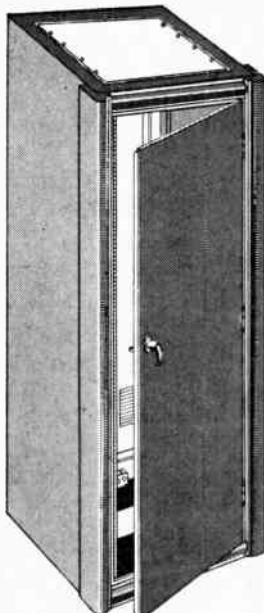
For full Accessory Check Lists to use with above racks See Par-Metal Pages 9 and 10.

## ASK YOUR DISTRIBUTOR FOR PAR-METAL PRODUCTS CATALOG

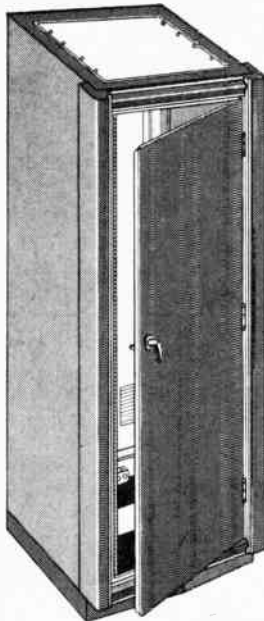
# PAR-METAL Modular Cabinet Racks



**SERIES PX RACKS**  
With Rear Door Only



**SERIES FX RACKS**  
With Front and Rear Doors



**SERIES FX RACKS**  
equipped with  
recessed base

**MAJOR ACCESSORIES for Use with Series "PX" and "FX" Racks**

(For full accessory check list, please turn to Par-Metal Pages 9 and 10).

**LIFT BOLT ASSEMBLY**



Can be supplied on any of the above racks with Solid Side Walls as well as those with detachable sides (listed on Par-Metal Pages 6 and 7). Eyebolts have 1/2" diam., threaded stud; eye opening 1-3/16" diam. Top of rack reinforced. Specify "with **IB Assembly**" when ordering.

**PRICES ON REQUEST.**

**RECESSED RACK BASES:** Heavy duty bases made from #12 gauge (7/64") steel, rigidly formed and welded. Tapped holes on top match holes in bottom of racks; 4 adjustable floor levelers mounted on bottom. Not required with roller trucks. Bases 2-1/2" high.



Cat. No.	To Fit All Racks	Net Price
RB-2217	22" wide, 18" deep	\$16.50
RB-2223	22" wide, 24" deep	17.00
RB-2723	27" wide, 24" deep	18.50
RB-3323	33" wide, 24" deep	20.00

## RACKS WITH SOLID SIDE WALLS (SERIES PX and FX)

### RACK DIMENSIONS

#### PX-Rear Door **ONLY** and FX-**BOTH** Front and Rear Doors

PX SERIES REAR DOOR ONLY		FX SERIES FRONT & REAR DOORS		OVERALL SIZE			*Clear Inside Depth	**Clear Inside Width
Catalog Number	NET PRICE	Catalog Number	NET PRICE	HEIGHT	WIDTH	DEPTH		
<b>FOR 19" WIDE PANELS and 18-1/4" DEEP RACKS</b>								
PX-3718-B	\$ 85.70	FX-3718-B	\$100.10	42-7/8"	<b>22"</b>	<b>18-1/4"</b>	<b>16-3/4"</b>	<b>17-3/4"</b>
PX-4818-B	90.00	FX-4818-B	108.55	48-1/8"				
PX-5818-B	102.55	FX-5818-B	125.30	58-5/8"				
PX-6718-B	107.45	FX-6718-B	128.10	67-3/8"				
PX-7718-B	119.30	FX-7718-B	140.15	76-1/8"				
PX-8418-B	130.25	FX-8418-B	153.10	83-1/8"				
<b>FOR 19" WIDE PANELS and 24-1/4" DEEP RACKS</b>								
PX-4824-B	104.20	FX-4824-B	123.90	48-1/8"	<b>22"</b>	<b>24-1/4"</b>	<b>22-3/4"</b>	<b>17-3/4"</b>
PX-5824-B	110.25	FX-5824-B	134.95	58-5/8"				
PX-6724-B	127.50	FX-6724-B	152.35	67-3/8"				
PX-7724-B	141.10	FX-7724-B	166.10	76-1/8"				
PX-8424-B	152.65	FX-8424-B	180.75	83-1/8"				
PX-9024-B	171.65	FX-9024-B	201.60	90-1/8"				
<b>FOR 24" WIDE PANELS and 24-1/4" DEEP RACKS</b>								
PX-4827-B	132.50	FX-4827-B	163.65	48-1/8"	<b>27"</b>	<b>24-1/4"</b>	<b>22-3/4"</b>	<b>22-3/4"</b>
PX-5827-B	143.60	FX-5827-B	170.40	58-5/8"				
PX-6727-B	151.00	FX-6727-B	191.95	67-3/8"				
PX-7727-B	167.00	FX-7727-B	193.00	76-1/8"				
PX-8427-B	180.95	FX-8427-B	210.55	83-1/8"				
PX-9027-B	199.50	FX-9027-B	228.65	90-1/8"				
<b>FOR 30" WIDE PANELS and 24-1/4" DEEP RACKS</b>								
PX-4833-B	154.90	FX-4833-B	188.60	48-1/8"	<b>33"</b>	<b>24-1/4"</b>	<b>22-3/4"</b>	<b>28-3/4"</b>
PX-5833-B	168.00	FX-5833-B	207.40	58-5/8"				
PX-6733-B	181.85	FX-6733-B	225.95	67-3/8"				
PX-7733-B	198.50	FX-7733-B	248.00	76-1/8"				
PX-8433-B	217.80	FX-8433-B	270.05	83-1/8"				
PX-9033-B	236.30	FX-9033-B	288.75	90-1/8"				

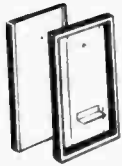
\* ALLOW FOR LATCH HANDLE

\*\* FOR CLEAR INSIDE WIDTH REAR, ADD 1-3/8"

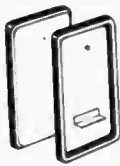
For full Accessory Check Lists to use with above racks See Par-Metal Pages 9 and 10.

## PAR-METAL PRODUCTS • CONVENIENT FACTORY WAREHOUSE

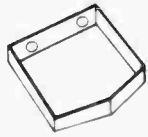
# PAR-METAL MODULAR CABINET RACK ACCESSORY CHECK LIST



DETACHABLE SIDE PANELS (RS Type)



DETACHABLE SIDE PANELS (RL Type)



RECESSED RACK BASE



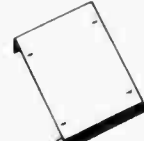
PANEL MOUNTING ANGLES



VERTICAL SIDE SUPPORTS



MOUNTING BRACKETS



EQUIPMENT SHELF

* Catalog Number	DETACHABLE SIDE PANELS Par-Metal Page Nos. 6 and 7	RECESSED RACK BASES Par-Metal Page Nos. 6 - 8	PANEL MOUNTING ANGLES Par-Metal Page 12	VERTICAL SIDE SUPPORTS Par-Metal Page 12	MOUNTING BRACKETS Par-Metal Page 12	EQUIPMENT SHELVES Par-Metal Page 12	EXTENSION TABLE Par-Metal Page 11
<b>FOR 19" WIDE PANELS AND 18-3/8" OR 18-1/4" DEEP RACKS</b>							
-3718-B			PA-36	VS-36			
-4818-B	** - 418-B		PA-42	VS-42			
-5818-B	** - 518-B	RB-2217	PA-52	VS-52	BR-118	SS-1918	RX-119
-6718-B	** - 618-B		PA-61	VS-61			
-7718-B	** - 718-B		PA-70	VS-70			
-8418-B	** - 818-B		PA-77	VS-77			
<b>FOR 19" WIDE PANELS AND 24-3/8" OR 24-1/4" DEEP RACKS</b>							
-4824-B	** - 424-B		PA-42	VS-42			
-5824-B	** - 524-B	RB-2223	PA-52	VS-52	BR-124	SS-1924	RX-119
-6724-B	** - 624-B		PA-61	VS-61			
-7724-B	** - 724-B		PA-70	VS-70			
-8424-B	** - 824-B		PA-77	VS-77			
-9024-B	** - 924-B		PA-84	VS-84			
<b>FOR 24" WIDE PANELS AND 24-3/8" OR 24-1/4" DEEP RACKS</b>							
-4827-B	** - 424-B		PA-42	VS-42			
-5827-B	** - 524-B	RB-2723	PA-52	VS-52	BR-124	SS-2724	RX-124
-6727-B	** - 624-B		PA-61	VS-61			
-7727-B	** - 724-B		PA-70	VS-70			
-8427-B	** - 824-B		PA-77	VS-77			
-9027-B	** - 924-B		PA-84	VS-84			
<b>FOR 30" WIDE PANELS AND 24-3/8" OR 24-1/4" DEEP RACKS</b>							
-4833-B	** - 424-B		PA-42	VS-42			
-5833-B	** - 524-B	RB-3323	PA-52	VS-52	BR-124	SS-3324	RX-130
-6733-B	** - 624-B		PA-61	VS-61			
-7733-B	** - 724-B		PA-70	VS-70			
-8433-B	** - 824-B		PA-77	VS-77			
-9033-B	** - 924-B		PA-84	VS-84			

\*For Prefix letters see chart on Par-Metal Page 5

\*\* DETACHABLE SIDE PANELS used with Flush Mounted Side Panels use PREFIX LETTERS "RS".

\*\* DETACHABLE SIDE PANELS used with Ball Cornered Side Panels use PREFIX LETTERS "RL".

KNOCKDOWN CABINET RELAY RACKS — FOR 19" WIDE PANELS AND 18" DEEP RACKS				Par-Metal Page 28
ER-213-A				ER-2212
ER-215-A				ER-2212
FD-215-A		PA-61	VS-61	R-2225
ER-217-A				ER-2212
FD-217-A		PA-77	VS-77	R-2225
ER-223-A				ER-2212
FD-223-A		PA-36	VS-36	R-2225
ER-225-A				ER-2212
FD-225-A		PA-61	VS-61	R-2225
ER-227-A				ER-2212
FD-227-A				R-2225
<b>KNOCKDOWN CHANNEL RELAY RACKS — FOR 19" WIDE PANELS AND 21" DEEP RACKS</b>				
RX-193				BR-118
RX-195				SS-1918
				RX-119
<b>KNOCKDOWN CHANNEL RELAY RACKS — FOR 19" WIDE PANELS AND 26" DEEP RACKS</b>				
RR-194				BR-124
RR-196				SS-1924
RR-197				RX-119
<b>KNOCKDOWN CHANNEL RELAY RACKS — FOR 24" WIDE PANELS AND 26" DEEP RACKS</b>				
RR-1922				BR-124
RR-1923				SS-2724
RR-1924				RX-124

The accessory charts shown on these 2 pages give you a complete listing of standard accessories which may be used with Par-Metal Modular Cabinet Racks (see Par-Metal Pages 6-8):  
Relay Racks (see Par-Metal Pages 21-22) and Open Channel Type Racks (see Par-Metal Page 20).



# PAR-METAL MODULAR CABINET RACK ACCESSORY CHECK LIST



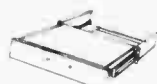
EXTENSION DESK TABLE



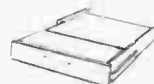
ROLLER TRUCK



BASIC SLIDE ASSEMBLY



DESK SHELF ASSEMBLY



DESK DRAWER ASSEMBLY



STORAGE DRAWER ASSEMBLY

## ROLLER TRUCKS (See Par-Metal Page 24)

## SLIDE ASSEMBLIES (See Par-Metal Page 23)

* Catalog Number	STANDARD TYPE Single Unit	Single Unit	HEAVY DUTY TYPE Double Unit	Triple Unit	BASIC SLIDE	STORAGE DRAWER	DESK SHELF
FOR 19" WIDE PANELS AND 18-3/8" OR 18-1/4" DEEP RACKS							
-3718-B	RT-412						
-4818-B	RT-412						SD-1935
-5818-B	RT-412	HD-412	HD-412-2	HD-412-3			or SK-1970
-6718-B	RT-412	or **HD-425	or **HD-425-2	or **HD-425-3	BS-1980*	DD-1980*	or SK-2419*
-7718-B							
-8418-B							
FOR 19" WIDE PANELS AND 24-3/8" OR 24-1/4" DEEP RACKS							
-4824-B							
-5824-B							SD-1935
-6724-B		HD-420	HD-420-2	HD-420-3	BS-1940	DD-1980*	or SK-1970
-7724-B		or **HD-426	or **HD-426-2	or **HD-426-3	or BS-2419*	or DD-1940	or SK-2419*
-8424-B						or DD-2419*	or SK-2419*
-9024-B							
FOR 24" WIDE PANELS AND 24-3/8" OR 24-1/4" DEEP RACKS							
-4827-B							
-5827-B							
-6727-B		HD-427	HD-427-2	HD-427-3			
-7727-B		or **HD-432	or **HD-432-2	or HD-432-3	BS-2424*	DD-2424*	SK-2424
-8427-B						or SD-2435*	or SD-2435*
-9027-B							
FOR 30" WIDE PANELS AND 24-3/8" OR 24-1/4" DEEP RACKS							
-4833-B							
-5833-B							
-6733-B		HD-434	HD-434-2	HD-434-3			
-7733-B		or **HD-438	or **HD-438-2	or **HD-438-3			
-8433-B							
-9033-B							

## KNOCKDOWN CABINET RELAY RACKS — FOR 19" WIDE PANELS AND 18" DEEP RACKS

ER-213-A							
ER-215-A							
FD-215-A							
ER-217-A							
FD-217-A							
ER-223-A	RT-412	HD-412	HD-412-2	HD-412-3	BS-1980	DD-1980*	SD-1935
FD-223-A							or SK-1970
ER-225-A							or SK-2419*
FD-225-A							
ER-227-A							
FD-227-A							

## KNOCKDOWN CHANNEL RELAY RACKS — FOR 19" WIDE PANELS AND 21" DEEP RACKS

RX-193					BS-1980	DD-1980*	SD-1935 or SK-1970
RX-195							or SK-2419*

## KNOCKDOWN CHANNEL RELAY RACKS — FOR 19" WIDE PANELS AND 26" DEEP RACKS

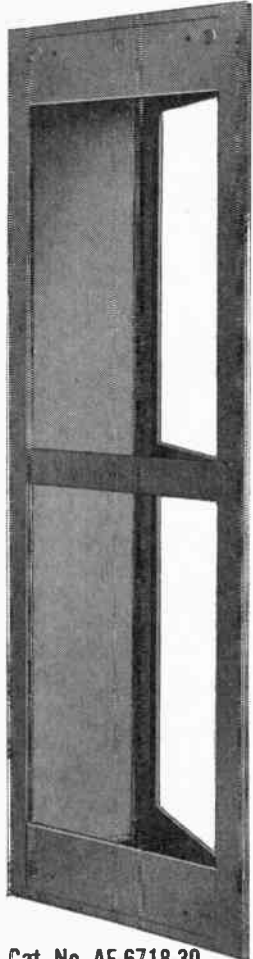
RR-194						DD-1980*	SD-1935 or SK-1970
RR-196					BS-1940, BS-2419*	DD-1940	or SK-2419*
RR-197						or DD-2419*	

## KNOCKDOWN CHANNEL RELAY RACKS — FOR 24" WIDE PANELS AND 26" DEEP RACKS

RR-1922							
RR-1923					BS-2424*	DD-2424*	SK-2424
RR-1924						or SD-2435*	or SD-2435*

\* Indicates these slides are designed for heavy duty use.

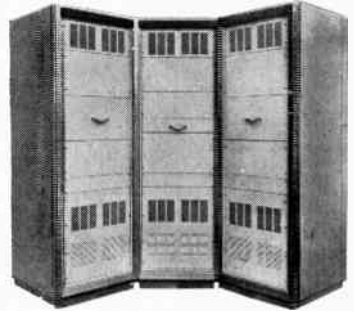
# PAR-METAL CABINET RACK ACCESSORIES



Cat. No. AF-6718-30  
(with front vertical joining trim removed)

**ANGULAR SECTION FRAMES** for use with Modular Cabinet Racks listed on Par-Metal Pages 4 through 8. They have the same sturdy frame as the Cabinet Racks. In place of a hinged door at back, a removable formed steel panel is supplied.

Front joining trim is furnished with each frame to match the rack. These frames are supplied with a choice of 30° or 45° angles.



**BEFORE ORDERING, PLEASE READ THESE INSTRUCTIONS:**

1. Specify type of racks to which angular section frames will be joined (Series PL, FL, PR, FR, PX, or FX).
2. Frames may be used without change on racks with or without bases.
3. Specify paint finish. Finishes may be selected from groups shown on Par-Metal Page 4.

Catalog No.	To Fit Rack Height*	Rack Depth	Frame Angle	Rear Frame Width	Rear Frame Panel Space	Net Price Of Frame
AF-4818-30	48-1/8"	18"	30°	10"	42" x 7"	\$ 98.70
AF-5818-30	58-5/8"	18"	30°	10"	52-1/2" x 7"	105.00
AF-6718-30	67-3/8"	18"	30°	10"	61-1/4" x 7"	110.25
AF-7718-30	76-1/8"	18"	30°	10"	70" x 7"	122.60
AF-8418-30	83-1/8"	18"	30°	10"	77" x 7"	134.95
AF-4824-30	48-1/8"	24"	30°	13-1/4"	42" x 10-1/8"	120.20
AF-5824-30	58-5/8"	24"	30°	13-1/4"	51-1/2" x 10-1/8"	122.30
AF-6724-30	67-3/8"	24"	30°	13-1/4"	61-1/4" x 10-1/8"	132.30
AF-7724-30	76-1/8"	24"	30°	13-1/4"	70" x 10-1/8"	144.60
AF-8424-30	83-1/8"	24"	30°	13-1/4"	77" x 10-1/8"	157.80
AF-9024-30	90-1/8"	24"	30°	13-1/4"	84" x 10-1/8"	167.60
AF-4818-45	48-1/8"	18"	45°	15"	42" x 11-7/8"	103.55
AF-5818-45	58-5/8"	18"	45°	15"	52-1/2" x 11-7/8"	109.75
AF-6718-45	67-3/8"	18"	45°	15"	61-1/4" x 11-7/8"	115.80
AF-7718-45	76-1/8"	18"	45°	15"	70" x 11-7/8"	128.75
AF-8418-45	83-1/8"	18"	45°	15"	77" x 11-7/8"	141.65
AF-4824-45	48-1/8"	24"	45°	19-1/2"	42" x 16-1/2"	126.00
AF-5824-45	58-5/8"	24"	45°	19-1/2"	51-1/2" x 16-1/2"	132.30
AF-6724-45	67-3/8"	24"	45°	19-1/2"	61-1/4" x 16-1/2"	138.90
AF-7724-45	76-1/8"	24"	45°	19-1/2"	70" x 16-1/2"	151.85
AF-8424-45	83-1/8"	24"	45°	19-1/2"	77" x 16-1/2"	166.30
AF-9024-45	90-1/8"	24"	45°	19-1/2"	84" x 16-1/2"	180.60

\* ANGULAR FRAME is same height as rack.

**RACK EXTENSION TABLES**

are mounted in front of cabinet racks. Made from heavy similar colored formica, bonded to 3/4" plywood on both top and 2-1/2" high apron.

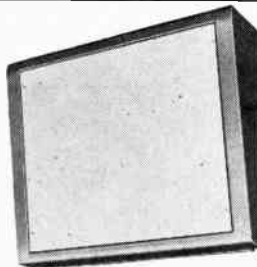
Table is substantially reinforced by horizontal channel supports made from 7/64" thick steel, and are bolted to vertical side supports mounted on inside of the rack.

Tables may be adjusted to any height. This assembly provides a smooth writing space across the entire top. No metal parts are exposed.

They are available for any configuration of Cabinet Racks (Without Front Doors).

**TABLES REQUIRE 3-1/2" OF PANEL HEIGHT.**

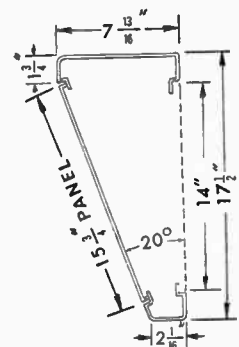
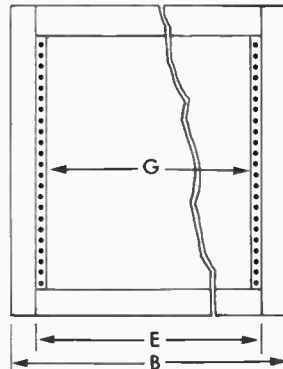
Cat. No.	Table Size	Type	Rack Panel Width	Net Price
EX-119	21 1/4" x 20"	Single	19"	\$ 40.50
EX-219	42 1/8" x 20"	Double	19"	83.50
EX-319	64 1/4" x 20"	Triple	19"	112.50
EX-419	85 3/8" x 20"	Quadruple	19"	157.50
EX-124	25 1/4" x 20"	Single	24"	46.00
EX-224	52 1/8" x 20"	Double	24"	91.00
EX-324	79 1/4" x 20"	Triple	24"	130.00
EX-130	32 1/4" x 20"	Single	30"	53.00
EX-230	64 1/8" x 20"	Double	30"	98.50



**SLOPING PANEL TURRETS** are mounted on racks for 19", 24" and 30" wide panels.

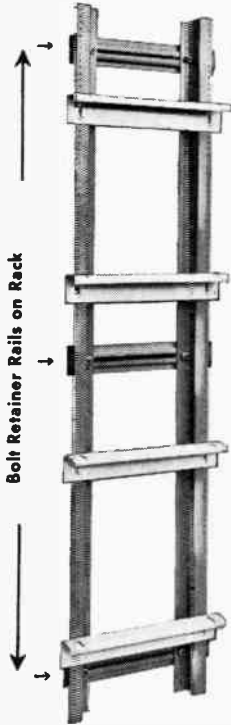
Turrets extend across full racks width and are fastened to panel mounting angles by means of adjustable bracket supports and may be used with the slope up or down. Complete with removable front panels. Matched to rack finishes.

Catalog No.	Overall Height	Width Dim. B	Panel Width Dim. E	Clearance Dim. G	Net Price
SP-1719	17 1/2"	22"	19"	17-5/8"	\$44.10
SP-1724		27"	24"	22-5/8"	52.50
SP-1730		33"	30"	28-5/8"	68.25



**ASK YOUR DISTRIBUTOR FOR PAR-METAL PRODUCTS CATALOG**

# PAR-METAL CABINET RACK ACCESSORIES



## VERTICAL SIDE SUPPORTS

(sets of four) fit all racks listed on PAR-METAL Pages 6, 7, 8.

(Cut shows side mounting brackets in place — see listing below).

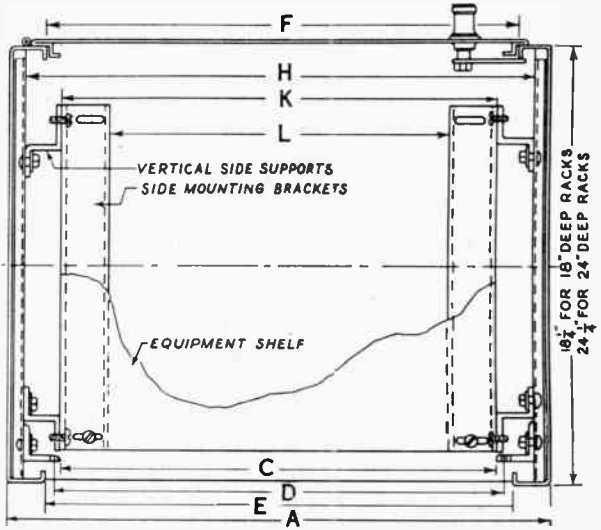
Supports are fastened to horizontal rails and are adjustable from front to back of rack.

Holes are drilled and tapped 10-32. Complete vertical adjustment for mounting brackets, shelves, and sliding devices is then provided.

Supports are made from 7/64" thick steel, finished in aluminum enamel. Each set is supplied with 3/8" dia. bolts, lock washers, and nuts for rack mounting.

Cat. No.	Height	Specifications	Net Price (Set of 4)
VS-36	40-7/8"	To fit all 3718 Racks	\$15.75
VS-42	46-1/8"	To fit all 4818-4824-4827-4833 Racks	17.35
VS-52	56-5/8"	To fit all 5818-5824-5827-5833 Racks	20.20
VS-61	65-3/8"	To fit all 6718-6724-6727-6733 Racks	22.85
VS-70	74-1/8"	To fit all 7718-7724-7727-7733 Racks	26.80
VS-77	81-1/8"	To fit all 8418-8424-8427-8433 Racks	29.75
VS-84	88-1/8"	To fit all — 9024-9027-9033 Racks	32.65

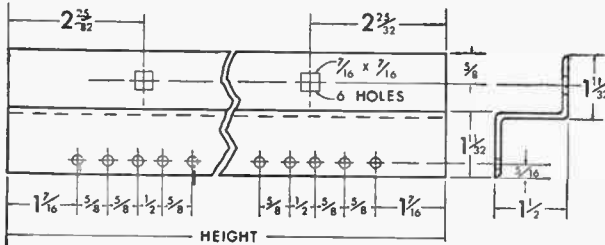
## ASSEMBLY DIMENSIONS



FOR ALL MODULAR CABINET RACKS (Par-Metal Pages 3-8)

Dimension	Explanation	Racks for 19" wide Panels	Racks for 24" Wide Panels	Racks for 30" Wide Panels
"A"	Width of rack	22"	27"	33"
"C"	Clearance between panel mounting strips	17-3/4"	22-3/4"	28-3/4"
"D"	To centers of panel mounting holes	18-5/16"	23-5/16"	29-5/16"
"E"	Panel space (plus clearance)	19"	24"	30"
"F"	Clear inside width (rear)	19-1/8"	24-1/8"	30-1/8"
"H"	Clearance between bolt retainer rails	20-3/4"	25-3/4"	31-3/4"
"K"	Clearance between vertical side supports	17-3/4"	22-3/4"	28-3/4"
"L"	Clearance between side mounting brackets	13-3/4"	18-3/4"	24-3/4"

## 10-32 TAPPED HOLES



**MOUNTING BRACKETS** fit on Vertical Side Supports shown above and are sold as a pair. Slotted for vertical adjustment to any height. They are 2" wide x 1-13/16" high. Front side of bracket has slots to match shelves, listed below. Horizontal face of bracket may be bolted to supports. 7/64" thick structural steel, zinc plated finish. Necessary bolts supplied.

Cat. No.	Length	To Fit Racks	Shpg. Wt.	Net Price
BR-118	14"	All 18" deep racks	4 lbs.	\$3.30 per pair
BR-124	20"	All 24" deep racks	6 lbs.	4.45 per pair

**SHELVES** for side mounting brackets listed above make a full shelf assembly between Vertical Side Supports. 1/16" steel, zinc plated, 78/100" high. Necessary bolts supplied.

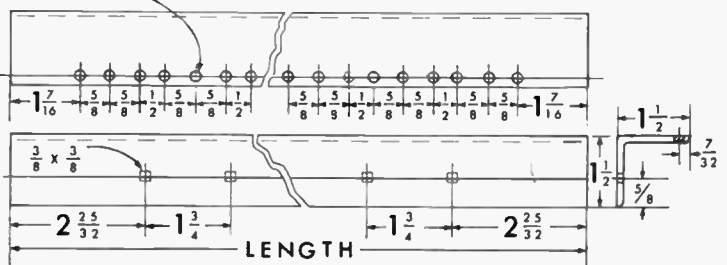
Cat. No.	Width	Depth	To Fit Racks	Net Price
SS-1918	17 5/8"	1 7/8"	19" panels-18" deep	\$3.70
SS-1924	17 5/8"	2 0 1/4"	19" panels-24" deep	4.40
SS-2724	22 5/8"	2 0 1/4"	24" panels-24" deep	5.20
SS-3324	28 5/8"	2 0 1/4"	30" panels-24" deep	7.60

**PANEL MOUNTING ANGLES:** Two (2) are supplied with each cabinet rack as standard equipment. They are made from 1-1/2" x 1-1/2" x 3/16" thick structural steel. Holes are tapped for 12-24 screws and will fit either WE and/or EIA specifications. 10-32 tapped holes optional. Angles are secured to rails with 3/8" steel bolts to provide maximum forward and back adjustment.

Additional pairs of panel mounting angles (including hardware) are available when desired for mounting chassis, terminal strips, etc.

Angle No.	Length	Specifications	Net Price Per Pair
PA-36	40-7/8"	To fit all 3718 Racks	\$10.00
PA-42	46-1/8"	To fit all 4818-4824-4827-4833 Racks	12.10
PA-52	56-5/8"	To fit all 5818-5824-5827-5833 Racks	14.50
PA-61	65-3/8"	To fit all 6718-6724-6727-6733 Racks	16.70
PA-70	74-1/8"	To fit all 7718-7724-7727-7733 Racks	19.10
PA-77	81-1/8"	To fit all 8418-8424-8427-8433 Racks	20.40
PA-84	88-1/8"	To fit all — 9024-9027-9033 Racks	22.60

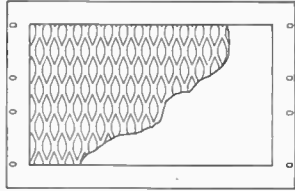
## 12-24 TAP, STANDARD 10-32 TAP, OPTIONAL



# MODIFICATIONS OF MODULAR CABINET RACKS

## TOP PANELS FOR RACKS

Removable Blank formed steel panels are supplied as standard in the top of All Racks, listed on preceding pages. Listed below are optional ventilating panels.

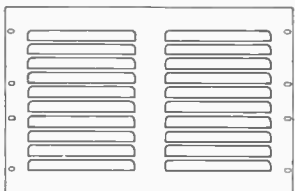


### PANELS WITH EXPANDED METAL MESH

Expanded steel mesh having diamond shaped opening 5/16" x 7/8".

Specify: WITH TOP PANEL MODIFICATION "TA".

Rack Size	Panel Size	Mesh Area	Additional Cost
22" wide, 18" deep	19" wide, 12-1/4" deep	10-1/4" x 16-3/4"	\$3.50
22" wide, 24" deep	19" wide, 19-1/4" deep	17-1/4" x 16-3/4"	4.00
27" wide, 24" deep	24" wide, 19-1/4" deep	17-1/4" x 21-3/4"	4.50
33" wide, 24" deep	30" wide, 19-1/4" deep	17-1/4" x 27-3/4"	5.25

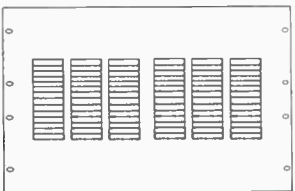


### PANELS WITH PRESSED LOUVERS

With 7" wide hooded louvers in panel from front to back as illustrated.

Specify: WITH TOP PANEL MODIFICATION "TB".

Rack Size	Panel Size	Louvers	Additional Cost
22" wide, 18" deep	19" wide, 12-1/4" deep	2 Rows	\$2.50
22" wide, 24" deep	19" wide, 19-1/4" deep	2 Rows	3.00
27" wide, 24" deep	24" wide, 19-1/4" deep	2 Rows	3.00
33" wide, 24" deep	30" wide, 19-1/4" deep	3 Rows	4.00

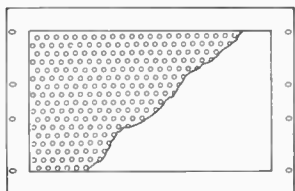


### PANELS WITH "VENETIAN" LOUVERS

Louvers are the same as those used on rack doors listed on this page.

Specify: WITH TOP PANEL MODIFICATION "TC".

Rack Size	Panel Size	Louvers	Additional Cost
22" wide, 18" deep	19" wide, 12-1/4" deep	Single Row	\$2.00
22" wide, 24" deep	19" wide, 19-1/4" deep	Double Row	2.00
27" wide, 24" deep	24" wide, 19-1/4" deep	Double Row	2.50
33" wide, 24" deep	30" wide, 19-1/4" deep	Double Row	3.00



### PANELS WITH PERFORATED HOLES

Perforated holes in top panel shown are 3/16" diameter, on 5/16" centers.

Specify: WITH TOP PANEL MODIFICATION "TH".

Rack Size	Panel Size	Perforated Area	Additional Cost
22" wide, 18" deep	19" wide, 12-1/4" deep	10-1/4" x 16-3/4"	\$3.50
22" wide, 24" deep	19" wide, 19-1/4" deep	17-1/4" x 16-3/4"	4.00
27" wide, 24" deep	24" wide, 19-1/4" deep	17-1/4" x 21-3/4"	4.50
33" wide, 24" deep	30" wide, 19-1/4" deep	17-1/4" x 27-3/4"	5.25

### CUSTOM PANELS:

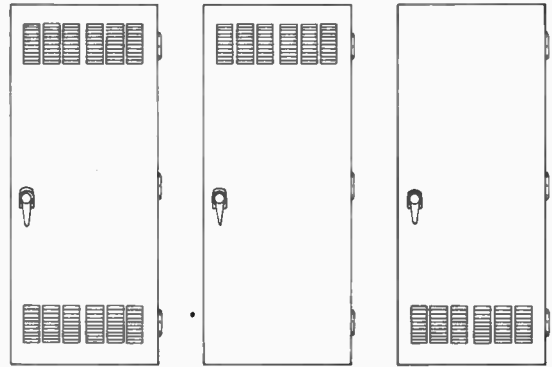
Top panel for fan opening, mention diameter. Prices on request.

Specify: TOP MODIFICATION "TF".

## DOOR MODIFICATIONS

### For Front and Rear Rack Doors

All types as shown below, are optional without additional cost when so designated. ALL doors are interchangeable from front to rear of rack and will fit the same size racks in ALL series.



TYPE LS

TYPE LT

TYPE LB

"LS": (STANDARD REAR DOOR) with louvers at top and bottom.

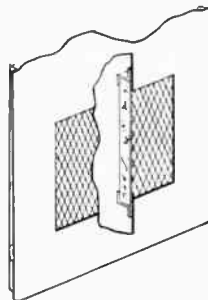
"LT": with louvers at top only.

"LB": with louvers at bottom only.

"SS": (STANDARD FRONT DOOR) with louvers omitted at top and bottom (not shown).

All standard doors are hinged on right side. Left side hinged doors are optional. When ordering, specify any change from standard.

## DOORS WITH AIR FILTERS



Have a grilled opening and interior frame with a removable air filter in lower part of door. May be installed in the top, if so specified. Filter sizes below are standard; other sizes available. When ordering, specify location of filter and

WITH MODIFICATION "FD".

(Prices include filters).

Rack Size	Filter Size	Net Price
22" wide, 18" deep	10" x 10" x 1"	\$ 7.50
22" wide, 24" deep	10" x 10" x 1"	7.50
27" wide, 24" deep	10" x 10" x 1"	7.50
*33" wide, 24" deep	10" x 10" x 1"	15.00

\* On each door — cabinet has double doors.

## ADDITIONAL DOOR MODIFICATIONS

### For Doors on All Modular Cabinet Racks

Where cooling fans are required in doors, necessary opening and mounting holes are provided. Doors with special round or rectangular openings, and frames for glass or plexiglass panels. Short Doors are available.

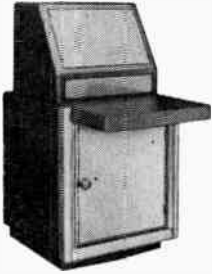
PRICES ON REQUEST

# ASK YOUR DISTRIBUTOR FOR PAR-METAL PRODUCTS CATALOG

# PAR-METAL MODULAR CONSOLE ASSEMBLIES

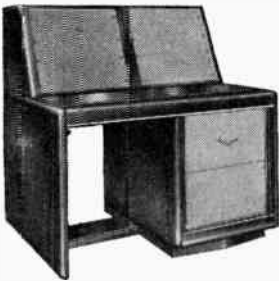
## GENERAL DESCRIPTION

### SINGLE UNIT ASSEMBLY



Single unit assembly with extension desk. See next page for several styles.

### DOUBLE UNIT ASSEMBLY



Double unit assembly. Additional arrangements pictured on following pages.

The combination of a control cabinet mounted on table, desk or similar support usually called a console has been used in the electronics industry many years.

As no particular fixed design can serve every requirement, we have devised a group of standard units, the combination of which is readily adaptable for specialized applications in control equipment, testing facilities, sound distribution systems and industrial purposes. Models have been functionally designed and smartly styled to keep pace with current trends. Units may be grouped or expanded to meet your specific needs.

Versatile pedestal racks are the keystone to the entire assembly. Constructed for heavy duty use, having all essential features of our PL, FL Cabinet Racks on Par-Metal Page 6 includes panel mounting angles which are adjustable from front to back, and provision for installing chassis mounting brackets, shelves and drawers. They offer efficient utilization of space, complete accessibility for servicing, and are solidly built to withstand heavy strains in a laboratory or a moving vehicle.

Pedestal Frames may be used with or without an extension desk table. There are four models of Desk Panel Cabinets suitable for mounting on pedestal frame tops to make a complete console. Consoles may be combined with Series PL Racks on Par-Metal Page 6.

Unit assemblies are not limited. They may be extended to any length. If you have a specific problem, do not hesitate to consult us.

Side panels are readily detachable from outside. No drilling or fitting is necessary for assembly of pedestals, cabinets, brackets, shelves or drawers. All panel mounting angles are tapped 10-32. No metal screws or clips are used in construction.

## ORDERING INSTRUCTIONS!

1. **ORDER PEDESTAL FRAMES BY CATALOG NUMBER!** See following pages.
2. **Order Desk Panel Cabinets** by Catalog Number! See Par-Metal Page 19.
3. For Parts lists and accessories see **Console Component Group Check Lists** on following 2 pages.
4. Advise us of the **number** of pedestals to be set in each row so that proper trims can be included at **NO COST**.
5. **Order accessories** at same time as Consoles to get best Industrial Discounts and guarantee perfect **MATCHING FINISH**. ORDER BY CATALOG NUMBERS.

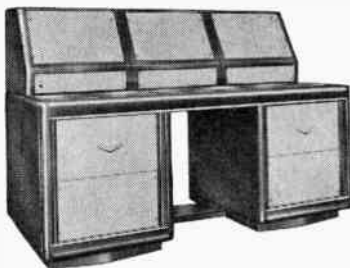
### 6. YOU MUST SPECIFY FINISH! Choose ANY of these:

Light/Dark Grey Hammertone Enamel-Standard Finish  
(Light Panels with Dark Pedestal Trim) Mark Order..LD  
Light Grey Hammertone Enamel .... Mark Order..LH  
Dark Grey Hammertone Enamel .... Mark Order..DH

Dark Grey Metallic Enamel ..... Mark Order..GM  
Blue Grey Wrinkle Enamel ..... Mark Order..BG  
Black Wrinkle Enamel ..... Mark Order..BW  
Primer Coat Only ..... Mark Order..PC  
Beige Enamel ..... Mark Order..MT

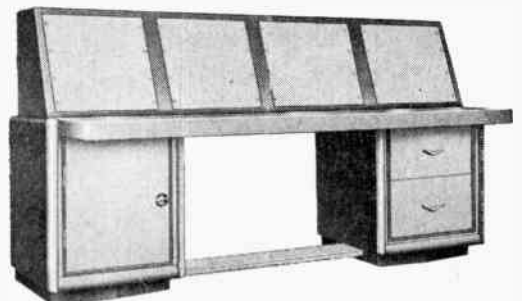
**SPECIAL ENAMEL, LACQUER, VINYL OR OTHER FINISHES AVAILABLE.**

### TRIPLE UNIT ASSEMBLY



Triple Unit Assembly with two Pedestal Frames and Desk Control. See following two pages for additional arrangements.

### QUAD UNIT ASSEMBLY



Quad Unit Assembly with two Pedestal Frames, Extension Desk Table, High Slope Cabinet. See following pages for additional configurations.

# CONSOLE COMPONENT GROUP CHECK LISTS

The illustrations and charts shown below contain all the components, extension tables, and basic pedestal frames for single, double, triple or quad unit assemblies. They also give you the means of checking your bill of materials and quotations. The dotted lines on both pages show our Dual Panel Desk Control Cabinets (CX Series) described on Par-Metal Page 19. Three other styles; High Slope (HS Series), Low Slope (LS Series) and Vertical Panel (VF Series) are also on Par-Metal Page 19. Any one of these 4 styles may be used atop the consoles.

## FOR SINGLE UNIT ASSEMBLIES

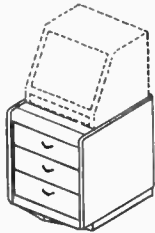


FIGURE "A" AS ABOVE  
FIGURE "B" (LESS TOP CABINET)

PARTS REQUIRED

Pedestal Frame .....	17
Exterior Side Panel .....	18
Extension Desk Table .....	18
Formica Table Top .....	17

\*Table top not required.

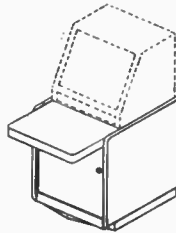


FIGURE "C" AS ABOVE  
FIGURE "D" (LESS TOP CABINET)

Par-Metal Page No.	Quant.	Fig. "A"	Fig. "B"
17	1	PD-224	PD-224
18	2	EP-24	EP-24
18	1		WT-241

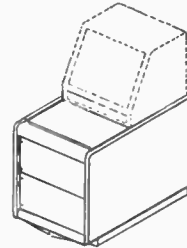


FIGURE "E" AS ABOVE  
FIGURE "F" (LESS TOP CABINET)

Fig. "C"	Fig. "D"	Fig. "E"	Fig. "F"
PD-224	PD-224	PD-234	PD-234
EP-24	EP-24	EP-34	EP-34
CT-119	CT-119	HT-341	WT-341

## FOR TRIPLE UNIT ASSEMBLIES

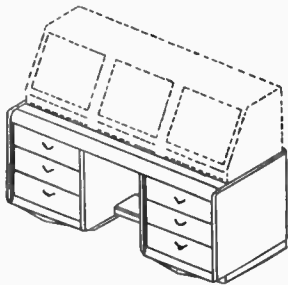


FIGURE "N" AS ABOVE  
FIGURE "O" (LESS TOP CABINET)

PARTS REQUIRED

Pedestal Frames .....	17
Center Desk Section .....	18
Exterior Side Panels .....	18
Interior Side Panels .....	18
Extension Desk Table .....	18
Formica Table Top .....	17

\*Table top not required

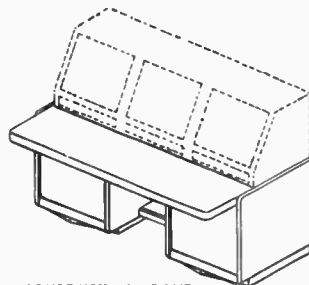


FIGURE "P" AS ABOVE  
FIGURE "R" (LESS TOP CABINET)

Par-Metal Page No.	Quant.	Fig. "N"	Fig. "O"
17	2	PD-224	PD-224
18	1	CD-24	CD-24
18	2	EP-24	EP-24
18	2	KP-24	KP-24
17	1		WT-243

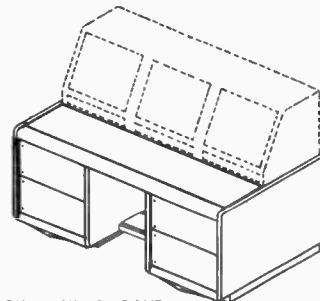


FIGURE "S" AS ABOVE  
FIGURE "T" (LESS TOP CABINET)

Fig. "P"	Fig. "R"	Fig. "S"	Fig. "T"
PD-224	PD-224	PD-234	PD-234
CD-24	CD-24	CD-34	CD-34
EP-24	EP-24	EP-34	EP-34
KP-24	KP-24	KP-34	KP-34
CT-319	CT-319	HT-343	WT-343

## FOR QUAD UNIT ASSEMBLIES



FIGURE "GG" AS ABOVE  
FIGURE "HH" (LESS TOP CABINET)

PARTS REQUIRED

Pedestal Frames .....	17
Center Desk Section .....	18
Exterior Side Panels .....	18
Interior Side Panels .....	18
Extension Desk Table .....	18
Formica Table Top .....	17

\*Table top not required

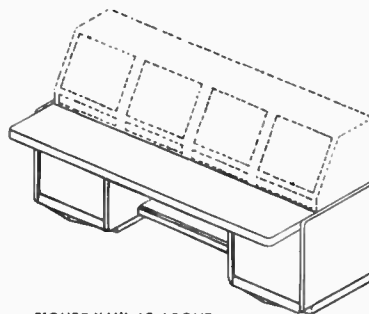


FIGURE "JJ" AS ABOVE  
FIGURE "KK" (LESS TOP CABINET)

Par-Metal Page No.	Quant.	Fig. "GG"	Fig. "HH"
17	2	PD-224	PD-224
18	1	CD-242	CD-242
18	2	EP-24	EP-24
18	2	KP-24	KP-24
17	1		WT-244

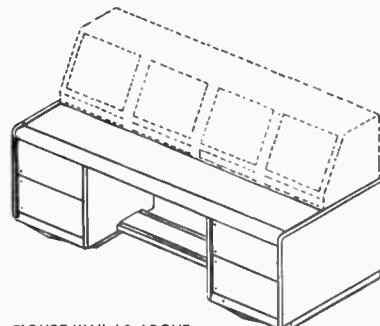


FIGURE "LL" AS ABOVE  
FIGURE "MM" (LESS TOP CABINET)

Fig. "JJ"	Fig. "KK"	Fig. "LL"	Fig. "MM"
PD-224	PD-224	PD-234	PD-234
CD-242	CD-242	CD-342	CD-342
EP-24	EP-24	EP-34	EP-34
KP-24	KP-24	KP-34	KP-34
CT-419	CT-419	HT-344	WT-344

# CONSOLE COMPONENT GROUP CHECK LISTS

The 19" wide panels listed on Par-Metal Pages 25 and 26 may be mounted on the console assemblies. See Par-Metal Page 23 for sliding drawers and shelves. For a complete listing of component parts designed for use with these Console Assemblies see Par-Metal Pages 17 and 18.

## FOR DOUBLE UNIT ASSEMBLIES

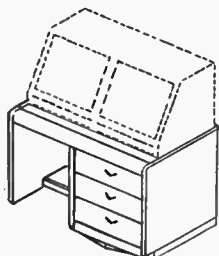


FIGURE "G" AS ABOVE  
FIGURE "H" (LESS TOP CABINET)

PARTS REQUIRED	
Pedestal Frame .....	17
End Pedestal Assembly .....	18
Exterior Side Panel .....	18
Interior Side Panel .....	18
Extension Desk Table .....	18
Formica Table Top .....	17

\*Table top not required.

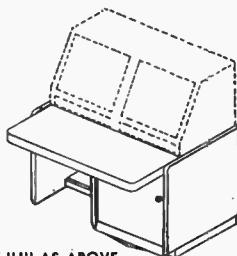


FIGURE "J" AS ABOVE  
FIGURE "K" (LESS TOP CABINET)

Par-Metal Page No.	Quant.	Fig. "G"	Fig. "H"
17	1	PD-224	PD-224
18	1	DU-24	DU-24
18	1	EP-24	EP-24
18	1	KP-24	KP-24
17	1	*	WT-242

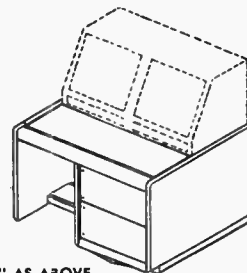


FIGURE "L" AS ABOVE  
FIGURE "M" (LESS TOP CABINET)

Fig. "J"	Fig. "K"	Fig. "L"	Fig. "M"
PD-224	PD-224	PD-234	PD-234
DU-24	DU-24	DU-34	DU-34
EP-24	EP-24	EP-34	EP-34
KP-24	KP-24	KP-34	KP-34
CT-219	CT-219	HT-342	WT-342
*	NT-242		

## FOR TRIPLE UNIT ASSEMBLIES

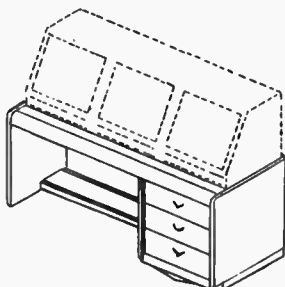


FIGURE "AA" AS ABOVE  
FIGURE "BB" (LESS TOP CABINET)

PARTS REQUIRED	
Pedestal Frame .....	17
End Pedestal Assembly .....	18
Exterior Side Panel .....	18
Interior Side Panel .....	18
Extension Desk Table .....	18
Formica Table Top .....	17

\*Table top not required

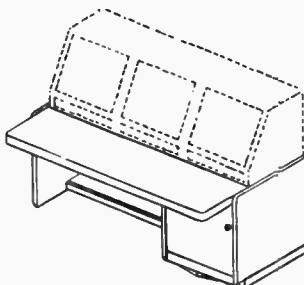


FIGURE "DD" AS ABOVE  
FIGURE "CC" (LESS TOP CABINET)

Par-Metal Page No.	Quant.	Fig. "AA"	Fig. "BB"
17	1	PD-224	PD-224
18	1	DU-242	DU-242
18	1	EP-24	EP-24
18	1	KP-24	KP-24
17	1	*	WT-243

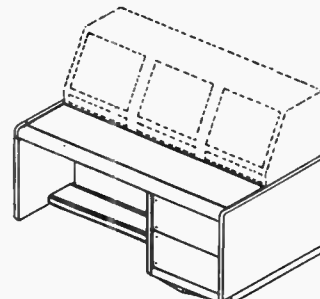


FIGURE "EE" AS ABOVE  
FIGURE "FF" (LESS TOP CABINET)

Fig. "CC"	Fig. "DD"	Fig. "EE"	Fig. "FF"
PD-224	PD-224	PD-234	PD-234
DU-242	DU-242	DU-342	DU-342
EP-24	EP-24	EP-34	EP-34
KP-24	KP-24	KP-34	KP-34
CT-319	CT-319	HT-343	WT-343
*	NT-243		

## FOR QUAD UNIT ASSEMBLIES

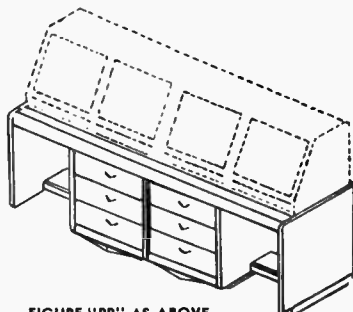


FIGURE "PP" AS ABOVE  
FIGURE "RR" (LESS TOP CABINET)

PARTS REQUIRED	
Pedestal Frame .....	17
End Pedestal Assembly .....	18
Interior Side Panels .....	18
Extension Desk Table .....	18
Formica Table Top .....	17

\*Table top not required

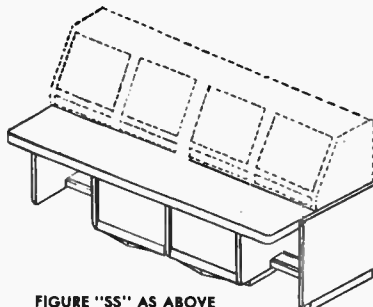


FIGURE "SS" AS ABOVE  
FIGURE "TT" (LESS TOP CABINET)

Par-Metal Page No.	Quant.	Fig. "PP"	Fig. "RR"
17	2	PD-224	PD-224
18	2	DU-24	DU-24
18	2	KP-24	KP-24
17	1	*	WT-244

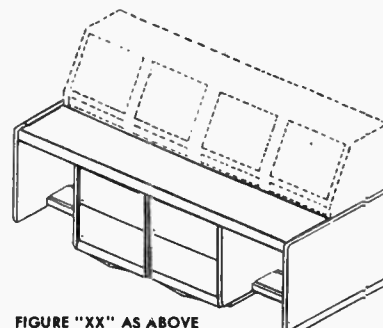
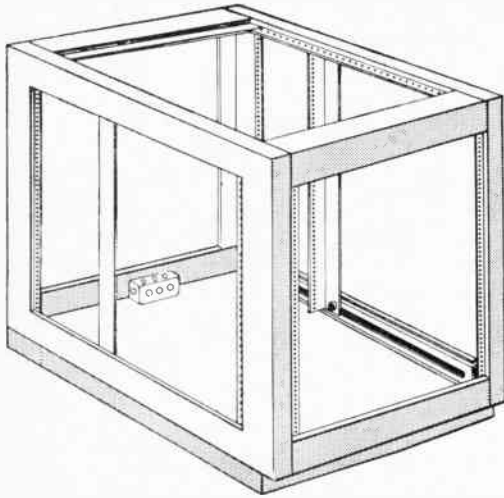


FIGURE "XX" AS ABOVE  
FIGURE "ZZ" (LESS TOP CABINET)

Fig. "SS"	Fig. "TT"	Fig. "XX"	Fig. "ZZ"
PD-224	PD-224	PD-234	PD-234
DU-24	DU-24	DU-34	DU-34
KP-24	KP-24	KP-34	KP-34
CT-419	CT-419	HT-344	WT-344
*	NT-244		

# PAR-METAL MODULAR CONSOLE ASSEMBLIES

## PEDESTAL FRAMES



are the principal component used in ALL Console Assemblies. They combine the essential features of our Series PL Racks listed on Par-Metal Page 6 and are attractively styled.

Made from #16 gauge steel, reinforced for extra strength and stability. A recessed base is included. They will **withstand rigorous usage**.

Two pairs of panel mounting angles are supplied, which may be located at any position from front to back. Openings at sides have tapped holes on standard rack spacings, to which may be attached interior brackets and shelves or standard rack panels.

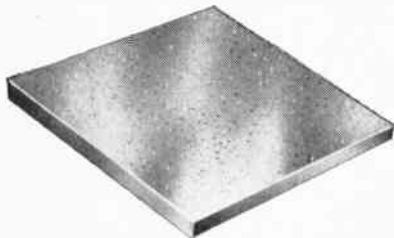
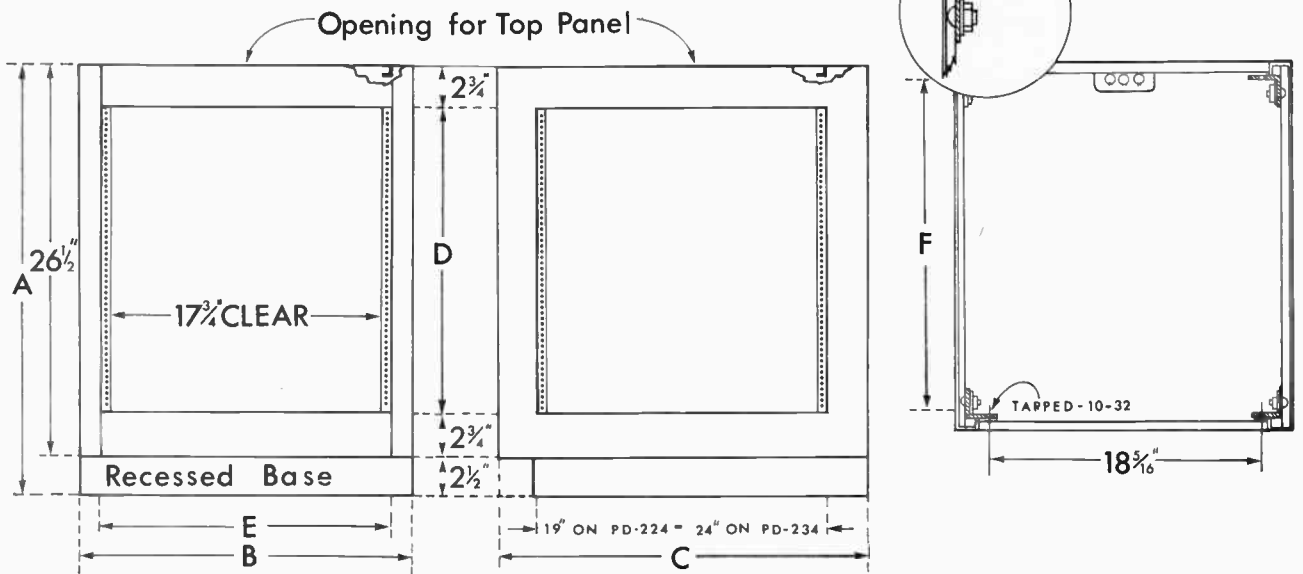
**CASTERS:** Heavy duty casters with 3" diameter wheels will be supplied in place of recessed bases at an additional cost of \$8.00 per pedestal. **FINISHES:** Listed on Par-Metal Page 14.

CATALOG NUMBER	OUTSIDE DIMENSIONS			PANEL SPACE FRONT & BACK		CLEAR INSIDE DEPTH FRONT TO BACK	OPENING ON TOP FOR PANEL		OVERALL DIMENSIONS WITH SIDE PANELS & FRONT MOULDINGS			NET PRICE
	HEIGHT	WIDTH	DEPTH	HEIGHT	WIDTH		WIDTH	DEPTH	HEIGHT	WIDTH	DEPTH	
	A	B	C	D	E	F						
PD-224	29"	22"	24-1/4"	21"	19"	23-1/8"	19"	19-1/4"	30"	24-1/2"	25-3/8"	\$ 84.50
PD-234	29"	22"	34-1/4"	21"	19"	33-1/8"	19"	28"	30"	24-1/2"	35-3/8"	101.50

FRONT &amp; BACK

SIDE VIEW

BOTTOM



## FORMICA TABLE TOPS

Made from 3/4" thick plywood to which is bonded 1/16" grey formica. There are no metal spacers between units, providing a clear unobstructed writing surface across the entire top. Table top required for any particular assembly may be easily identified from the check list of component groups on Par-Metal Pages 15 and 16. Listings below are a cross reference.

### For Use on No. PD-224 Pedestal Frames (24 1/4" deep)

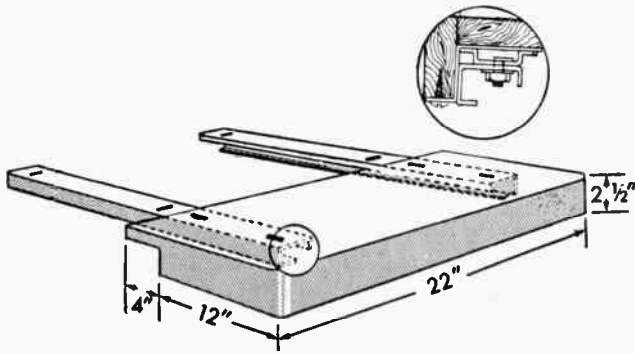
Catalog No.	Assembly	Refer to: Figure	Par-Metal Page No.	Net Price
WT-241	Single Unit Assembly	"B"	13	\$17.00
NT-241	Single Unit Assembly	"D"	13	17.00
WT-242	Double Unit Assembly	"H"	14	29.00
NT-242	Double Unit Assembly	"K"	14	29.00
WT-243	Triple Unit Assembly	"O"	13	45.00
NT-243	Triple Unit Assembly	"R"	13	45.00
WT-244	Quad Unit Assembly	"HH"	13	58.80
NT-244	Quad Unit Assembly	"TT"	14	58.80

### For Use on No. PD-234 Pedestal Frames (34 1/4" deep)

Catalog No.	Assembly	Refer to: Figure	Par-Metal Page No.	Net Price
HT-341	Single Unit Assembly	"E"	13	\$14.70
WT-341	Single Unit Assembly	"F"	13	24.60
HT-342	Double Unit Assembly	"L"	14	23.00
WT-342	Double Unit Assembly	"M"	14	48.30
HT-343	Triple Unit Assembly	"S"	13	33.50
WT-343	Triple Unit Assembly	"T"	13	64.00
HT-344	Quad Unit Assembly	"XX"	14	45.00
WT-344	Quad Unit Assembly	"ZZ"	14	85.35



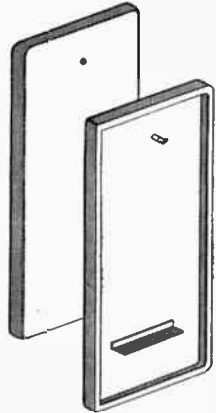
# PAR-METAL MODULAR CONSOLE ASSEMBLIES



**EXTENSION DESK TABLES** are used in console assemblies illustrated on Par-Metal Pages 15 and 16. Made from 3/4" thick plywood, to which is bonded 1/16" thick grey formica, on top and apron of 2-1/2" deep table. Substantially reinforced for fastening to horizontal channel supports. Assembly provides a rugged structure with smooth writing space across entire top.

No metal parts exposed. Full front panel height of 21" may be used, as tables are mounted above front panels on pedestal frame.

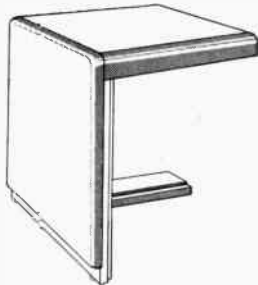
Cat. No.	For Use on Assemblies	Overall Size	Net Price
CT-119	Single Unit	16" x 22" x 2 1/2"	\$27.30
CT-219	Double Unit	16" x 44" x 2 1/2"	46.20
CT-319	Triple Unit	16" x 66" x 2 1/2"	66.00
CT-419	Quad Unit	16" x 88" x 2 1/2"	80.90



**DETACHABLE SIDE PANELS** are sturdily constructed from #16 gauge steel with ball corners. They have formed edges on all four sides, and are securely welded. "EP" exterior panels are supplied with coinciding brackets at bottom for easy alignment with side of pedestal; at top, they are secured with a cowl fastener, making them readily removable.

"KP" panels are mounted in place with two cowl fasteners. All panels are 1-1/4" thick; finished to match pedestals.

Cat. No.	Description	To fit Pedestal	For use on	Net Price
EP-24	Exterior side panel	PD-224	All assemblies	\$20.00
KP-24	Interior side panel	PD-224	All assemblies	17.50
EP-34	Exterior side panel	PD-234	All assemblies	25.00
KP-34	Interior side panel	PD-234	All assemblies	20.00



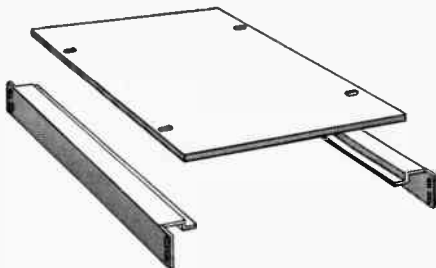
## END PEDESTAL (For Double, Triple and Quad Unit Assemblies)

Are designed to make up various assemblies as shown on Par-Metal Pages 15 and 16. May be installed on either right or left hand side of pedestal. The assembly consists of vertical member, end panel, top section and floor brace. Formica table top is not included. **Finished to match pedestals.**

Cat. No.	For Assembly With	Length	Front to Back	Height	Net Price
DU-24	Pedestal PD-224	23-1/4"	25-3/8"	30"	\$47.50
DU-242	Pedestal PD-224	45-1/4"	25-3/8"	30"	62.00
DU-34	Pedestal PD-234	23-1/4"	35-3/8"	30"	59.00
DU-342	Pedestal PD-234	45-1/4"	35-3/8"	30"	77.00

## MOUNTING BRACKETS AND SHELVES

Brackets may be mounted on each side of the pedestal frame. Slotted to match the tapped holes in sides of pedestal and can be mounted at any height.



Catalog No.	To Fit Pedestal	Overall Size	Net Price Per Pair
CB-24	PD-224	2-1/2" x 2-31/32" x 18-13/16"	\$4.20
CB-34	PD-234	2-1/2" x 2-31/32" x 28-13/16"	5.80

Shelves are drilled for assembly with Mounting Brackets CB-24 and CB-34. They are 17-1/2" wide and 5/8" high.

Cat. No.	To Fit Brackets	For Pedestal	Depth	Net Price
SS-24	CB-24	PD-224	22-3/4"	\$4.85
SS-34	CB-34	PD-234	32-3/4"	6.75

## CENTER DESK SECTION (For Triple and Quad Unit Assemblies)

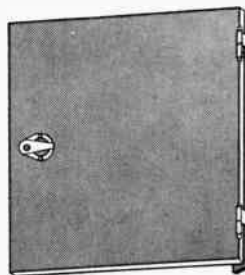


Center desk section is attached between two rack pedestals to make a triple or quad unit assembly.

Consists of table top support and floor brace. Sections finished to match color of pedestal frames. Formica table top extra.

Cat. No.	For Assembly with	Front to Back	Length	Net Price
CD-24	PD-224	25-3/8"	22"	\$17.65
CD-242	PD-224	25-3/8"	44"	35.30
CD-34	PD-234	35-3/8"	22"	20.80
CD-342	PD-234	35-3/8"	44"	41.60

## PEDESTAL FRAME DOORS



are made to enclose front or back of pedestal frames. They are "Double Wall" construction with finished surfaces inside and outside. A push button spring catch provides easy operation with minimum projection from front of door.

They may be used in combination with rack panels or drawers. Available in all finishes.

Catalog No.	Sizes	Net Price
DR-7019	7" x 19"	\$11.75
DR-1019	10-1/2" x 19"	13.50
DR-2119	21" x 19"	16.50

# PAR-METAL MODULAR CONSOLE ASSEMBLIES

## DESK PANEL CABINETS

are ideal for use on top of pedestals. They are made from 1/16" sheet steel, welded and ready for use. No clips, studs, nuts or other types of fastening devices are needed.

**FRONT:** Steel formed blank panels are supplied. Aluminum panels 1/8" thick are optional at same price.

**REAR:** Regularly equipped with removable louvered hinged doors (except "LS" series). Doors are closed with a pushbutton spring catch. In double, triple, and quad unit cabinets, individual doors are used for each section. Standard formed steel panels, 19" wide, either plain or louvered may be substituted for doors without additional cost.

**BOTTOM:** Furnished with removable blank formed steel panel.

**FINISH:** Dark grey hammertone enamel; panels and doors in light grey hammertone enamel. Optional finishes listed on Par-Metal Page 14.

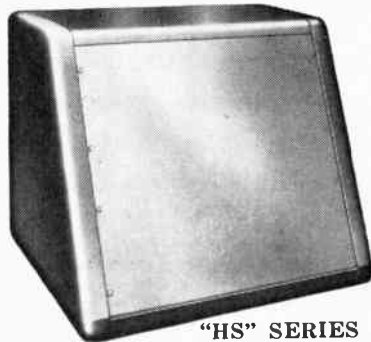
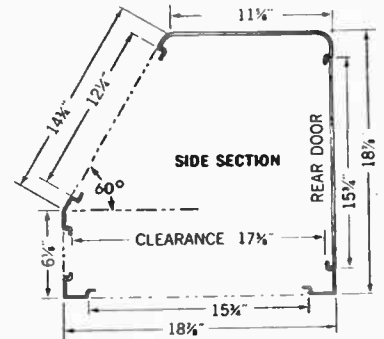


"CX" SERIES

### DUAL PANEL DESK CONTROL CABINETS

On series "CX" the lower vertical panel is 3-1/2" high. The rear door and bottom panel (for each unit) is 15-3/4" x 19".

Catalog No.	Description	Height	Width	Depth	Net Price
CX-101	Single Unit		22"		\$ 73.50
CX-102	Double Unit	18-7/8"	44"	18-7/8"	120.75
CX-103	Triple Unit		66"		175.00
CX-104	Quad Unit		88"		245.00

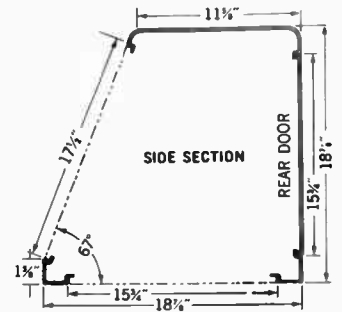


"HS" SERIES

### HIGH SLOPE PANEL CABINETS

"HS" series. Rear door and bottom panel (for each unit) is 15-3/4" x 19".

Catalog No.	Description	Height	Width	Depth	Net Price
HS-101	Single Unit		22"		\$69.80
HS-102	Double Unit	18-7/8"	44"	18-7/8"	115.50
HS-103	Triple Unit		66"		157.50
HS-104	Quad Unit		88"		199.50

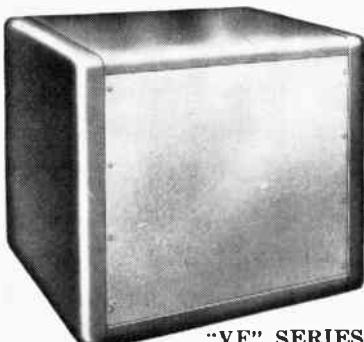
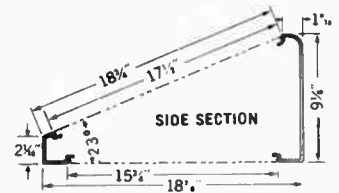


"LS" SERIES

### LOW SLOPE PANEL DESK CABINETS

"LS" series. The bottom panel (for each unit) is 15-3/4" x 19".

Catalog No.	Description	Height	Width	Depth	Net Price
LS-101	Single Unit		22"		\$ 50.00
LS-102	Double Unit	9-1/8"	44"	18-7/8"	96.00
LS-103	Triple Unit		66"		120.00
LS-104	Quad Unit		88"		140.00

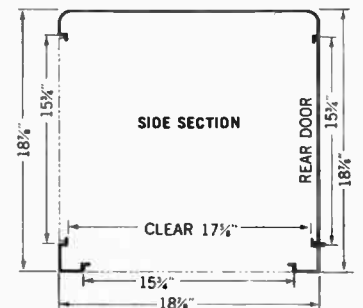


"VF" SERIES

### VERTICAL PANEL DESK CABINETS

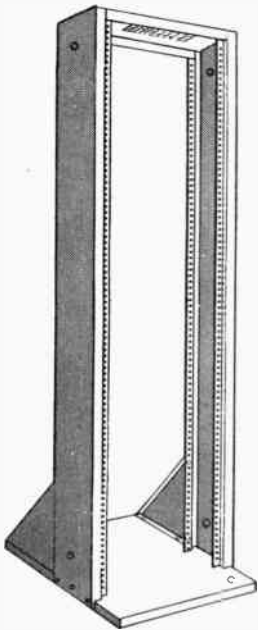
"VF" cabinets. The rear door and bottom panel (for each unit) is 15-3/4" x 19".

Catalog No.	Description	Height	Width	Depth	Net Price
VF-101	Single Unit		22"		\$ 60.00
VF-102	Double Unit	18-7/8"	44"	18-7/8"	118.00
VF-103	Triple Unit		66"		175.00
VF-104	Quad Unit		88"		205.00



**PAR-METAL PRODUCTS • ENGINEERING ASSISTANCE AVAILABLE**

# PAR-METAL KNOCKDOWN CHANNEL RELAY RACKS



No. RR-197

## DELUXE TYPE RACKS for 19" and 24" wide panels

Deluxe Channel Relay Racks are 7/64" steel. Panel spaces are: 61-1/4", 70", and 77" for either 19" and 24" wide rack panels.

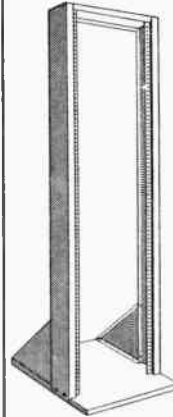
Upright channels are 8" overall, which with a formed recess for panels, greatly increases rigidity of rack. Edges of panels are not exposed.

Rack is drilled and tapped 10-32 at both front and back on 5/8" - 5/8" - 1/2" centers permitting use of either panels or dish type chassis. Full panel space is available on back and front.

When chassis are mounted at the back, the addition of standard or hinged panels make a rack enclosure with a depth of 6-7/8".

Top is provided with a grille for ventilation and is trimmed with a chrome moulding at front. Holes are located on sides for bolting racks in rows; no projecting screw heads. Top brace and vertical channel members are welded. Base and rear braces are shipped knocked down, with all necessary bolts for assembly. Panel mounting screws supplied.

**FINISH:** Standard finish is black wrinkle enamel. Blue grey wrinkle or grey hammertone is available without charge if so specified. **OTHER FINISHES ALSO AVAILABLE.**



No. RX-195

## STANDARD TYPE RACKS for 19" wide panels

are constructed from 7/64" steel, and are braced at back to withstand abuse. They have a formed recess for panels; edges of panels are not exposed.

Top brace and vertical channels are welded. Base and rear braces are shipped knocked down, with necessary bolts for assembly.

Panel mounting holes are drilled for standard rack panel spacing, tapped 10-32

at front only. Ample mounting screws supplied.

Upright channels are 3-3/16" deep with flanges. Clearance between uprights is 17-15/16". Base is 20-7/8" deep and 21-1/6" wide.

**FINISH:** Standard finish is black wrinkle. For blue grey wrinkle or grey hammertone enamel add 10%.

Cat. No.	OVERALL HEIGHT	PANEL HEIGHT	SHIP WT. LBS.	NET PRICE
RX-193	39 7/16"	36 3/4"	45	\$22.95
RX-195	74 7/16"	71 3/4"	55	30.40

Catalog Number	Overall Dimensions Height	Overall Dimensions Width	Depth	Panel Space	Clearance between Uprights	Clear Depth in Channel	Shipping Weight	Net Price
RR-194	64-5/8"	21-1/16"	26"	61-1/4"x19"	17-15/16"	6-7/8" Inside	88 lbs.	\$40.45
RR-196	73-3/8"	21-1/16"		70" x19"	17-15/16"		95 lbs.	43.05
RR-197	80-3/8"	21-1/16"		77" x19"	17-15/16"		102 lbs.	45.60
RR-1922	64-5/8"	26-1/16"		61-1/4"x24"	22-15/16"		100 lbs.	51.50
RR-1923	73-3/8"	26-1/16"		70" x24"	22-15/16"		105 lbs.	55.10
RR-1924	80-3/8"	26-1/16"	77" x24"	22-15/16"	112 lbs.	57.75		

## DESK PANEL CABINET RACKS For Standard 19" Rack Panels

Vertical front corners are rounded and top and bottom are trimmed with chrome mouldings. Panels fit into a recess, edges are not exposed. Panel mounting holes are drilled on universal centers. Holes are tapped 10-32.

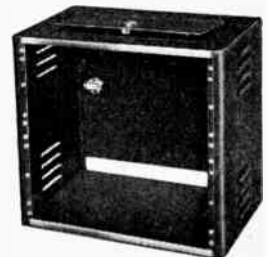
Cabinet may be used with any chassis up to 13" x 17". Cabinets rigidly constructed of 1/16" cold rolled sheet steel, with all joints electrically welded. Louvers through sides and back. Piano type hinges on top doors, with chrome handles. A push-button spring catch with chrome handle on rear doors. Panel mounting screws are furnished.

**FINISH:** BLACK WRINKLE ENAMEL is standard. Blue grey wrinkle hammertone is also available without charge if so specified.

**PANELS:** Rack panels to fit these racks are listed on Par-Metal Pages 25 and 26.

(With door in top only) (not illustrated)

Catalog No.	Cabinet Size	Available Panel Space	Shp. Wt. Lbs.	Net Price
DL-128	10 1/2" x 21 1/2" x 15" deep	8 3/4" x 19"	28	\$20.30
DL-1210	12 1/4" x 21 1/2" x 15" deep	10 1/2" x 19"	29	22.65
DL-1225	14" x 21 1/2" x 15" deep	12 1/4" x 19"	30	23.20
DL-1413	15 3/4" x 21 1/2" x 15" deep	14" x 19"	32	26.25



No. DL-1713

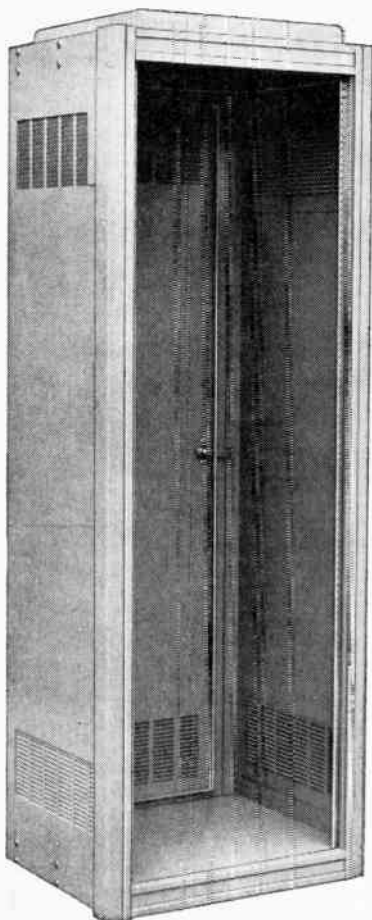
**RACK SHELF:** Rack shelf No. R-2128 listed on Par-Metal Page 28 fits these racks.

(With door in top and on rear)

Catalog No.	Cabinet Size	Available Panel Space	Shp. Wt. Lbs.	Net Price
DL-1713	19 1/4" x 21 1/2" x 15" deep	17 1/2" x 19"	38	\$29.10
DL-2613	28" x 21 1/2" x 15" deep	26 1/4" x 19"	48	33.90
DL-3513	36 3/4" x 21 1/2" x 15" deep	35" x 19"	58	39.75

# PAR-METAL KNOCKDOWN CABINET RELAY RACKS

## DELUXE TYPE—FOR 19" WIDE PANELS



"ER" SERIES  
WITH REAR DOOR ONLY

**CABINET** is 1/16" sheet steel. Sides are ventilated with "venetian" louvers. Vertical corner trims and formed mouldings are at top and bottom. Racks are shipped "knocked down" for easy assembly.

**CORNER TRIMS:** Front vertical corner and joining trims do not overlap panels to permit installation of sliding shelves, drawers, tables, etc.

**PANEL MOUNTING:** Angle irons are 7/64" thick steel, holes are drilled and tapped 10-32.

**HARDWARE:** Doors are the same as our modular racks. "Series ER" racks are equipped with automobile type non-locking handles while "Series FD" racks have handles with key locks. Hinges are "slip-joint" type so doors may be easily removed.

**FINISH:** Blue grey wrinkle finish is standard. Black wrinkle enamel or grey hammertone enamel are available without extra charge.

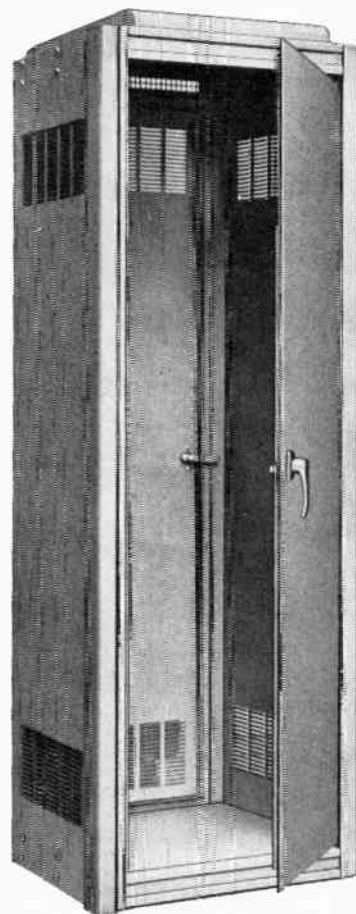
**ROLLER TRUCK:** Use either No. RT-412 or HD-412 for all racks listed on this page.

**PANELS:** Panels 19" wide to fit these racks are listed on Par-Metal Pages 25 and 26.

**SHELVES:** For Series ER Racks use shelf No. ER-2212 listed on Par-Metal Page 28.

**SERIES "FD" RACKS** with front and rear doors have panel mounting angles, which may be adjusted from front to rear.

**VERTICAL SIDE SUPPORTS, BRACKETS** and **SHELVES** (Par-Metal Page 12) fit.



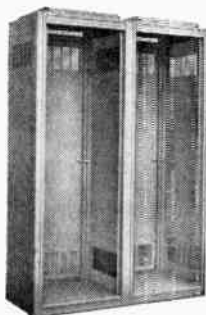
"FD" SERIES  
WITH FRONT AND  
REAR DOOR

### SPECIFICATIONS

Catalog No.	Doors	Overall Dimensions	Panel Space	Clear Inside Width (Front)	Clear Inside Width (Rear)	Clear Inside Depth	Shipping Wt. Lbs.	Net Price
ER-223-A	Rear only	43¼x22x18"	36¾x19"	**17½"	19"	16¾"	90	\$ 57.40
ER-225-A	Rear only	67¾x22x18"	61¼x19"	**17½"	19"	16¾"	120	70.80
ER-227-A	Rear only	83½x22x18"	77 x19"	**17½"	19"	16¾"	140	85.50
FD-223-A	Front & Rear	43¼x22x18"	36¾x19"	19½"	19"	*16"	110	73.60
FD-225-A	Front & Rear	67¾x22x18"	61¼x19"	19½"	19"	*16"	150	91.40
FD-227-A	Front & Rear	83½x22x18"	77 x19"	19½"	19"	*16"	175	114.35

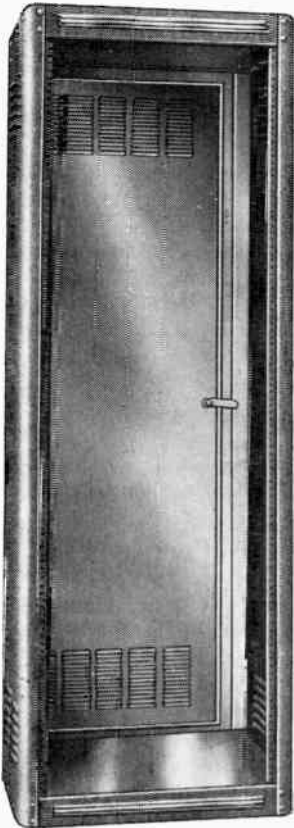
\*clearance between front and rear doors.

\*\*between panel mounting angles.



### MULTI-RACK CABINET ASSEMBLIES

**MULTI-RACK ASSEMBLIES:** Both "ER" and "FD" racks may be set up in rows. The use of venetian louvers provides a flat surface on the sides; separate side plates with welded screw studs inserted at top and bottom simplify the assembly — no tools are needed. Vertical joining trims overlap the joint between racks (supplied at no cost if noted on original order).

**PAR-METAL KNOCKDOWN CABINET RELAY RACKS****ROUNDED CORNER TYPE—FOR 19" WIDE PANELS**

**"ER" SERIES  
WITH REAR DOOR ONLY**

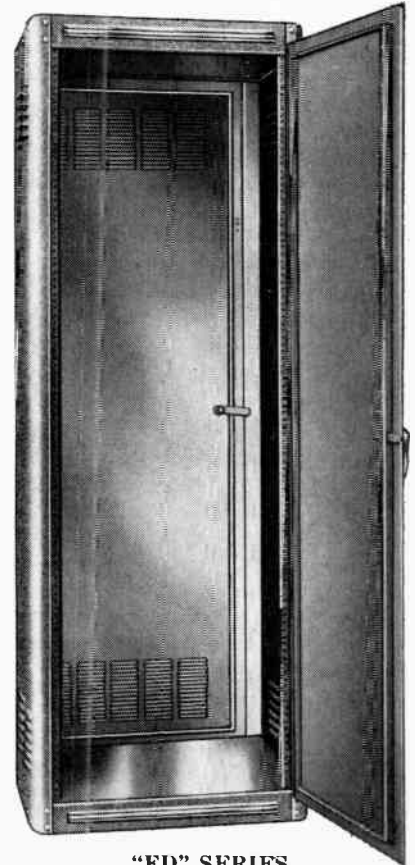
These RACKS provide a combination of functional design and superior construction at a modest price. Vertical front corners are rounded. Tops and bottoms are trimmed with chrome mouldings. Panels fit into a recess; no edges are exposed.

CABINET is 1/16" cold-rolled steel. These racks are shipped "knocked-down" with necessary bolts for easy assembly. Screws for mounting panels are supplied.

PANEL MOUNTING: Angle irons are 7/64" steel, holes are drilled and tapped 10-32 on standard hole spacing.

HARDWARE: Doors are the same as our Modular racks. "SERIES ER" racks are equipped with automobile type non-locking handles. "SERIES FD" racks have handles with key locks. Hinges are "slip-joint" type so doors may be easily removed.

FRONT DOOR RACKS: On Series "FD" racks, front panel mounting angles are recessed 2" to allow clearance for dials, etc. Clear inside depth behind panel is 15".



**"FD" SERIES  
WITH FRONT AND REAR DOOR**

**S P E C I F I C A T I O N S**

Catalog No.	Doors	Overall Dimensions	Panel Space	Clear Inside Depth	Clear Inside Width (Rear)	Clear Inside Width (Front)	Shipping Wt. Lbs.	Net Price
ER-213-A	Rear only	42 x22x18"	36¼x19"	16¾"	19"	**17½"	85	\$42.00
ER-215-A	Rear only	66½x22x18"	61¼x19"	16¾"	19"	**17½"	110	60.40
ER-217-A	Rear only	82¼x22x18"	77 x19"	16¾"	19"	**17½"	130	73.00
FD-215-A	Front & Rear	66½x22x18"	61¼x19"	*15"	19"	19½"	130	81.30
FD-217-A	Front & Rear	82¼x22x18"	77 x19"	*15"	19"	19½"	155	98.00

\*clearance behind panel.

\*\*between panel mounting angles.

FINISH: Blue grey wrinkle finish is standard. Black wrinkle or grey hammertone enamel is available without extra charge.

PANELS: Panels 19" wide to fit these racks are listed on Par-Metal Pages 25 and 26.

ROLLER TRUCK: No. RT-412 will fit these racks. See Par-Metal Page 24.

SHELVES: ER racks, use shelf #ER-2212. FD racks, use shelf #R-2225. See Par-Metal Page 28.

**ASK YOUR DISTRIBUTOR FOR PAR-METAL PRODUCTS CATALOG**

# PAR-METAL RACK TYPE SLIDE ASSEMBLIES

## GENERAL DESCRIPTION

Slide assemblies will save considerable layout and assembly time by eliminating alignment and mounting.

All models have two units: a heavy cradle made from 7/64" steel and a sliding unit. Cradle is first mounted to rack; the sliding unit drops into place. **It may be removed readily.**

Holes are provided for mounting to Vertical Side Supports. Either method will provide a rigid support; both may be used together.

Basic slide assemblies for use in 19" wide racks accommodate chassis up to 17" wide. Usable space may be fully extended from front of racks; load capacities are based on shelf in extended position. Constructed to withstand constant usage. All parts are welded or fastened with stainless steel rivets.

## BASIC SLIDE ASSEMBLIES

are sold as a complete unit, ready for installation in all racks. Panels may be attached to chassis by using standard brackets. Panel and chassis assembly is then bolted directly to the slide pan.

Formed panels with a minimum height of 7" are recommended. Four models are listed to fit racks using panels 19" or 24" wide. BS-1940 and BS-2419 are identical in size, but have different load capacities. All bracket heights are 6-1/2"; all shelf heights are 1-3/4".

\* All load capacities are conservatively rated to carry the full load with the sliding shelf completely extended. All parts are zinc plated.

Catalog No.	Usable Space Width	Space Depth	Panel Width	Rack Depth	Load Capacity	Net Price	Shipping Weight
BS-1980	17 1/8"	14"	19"	18" or 24"	50 lbs.	\$20.75	24 lbs.
BS-1940	17 1/8"	20"	19"	24"	36 lbs.	26.45	32 lbs.
BS-2419	17 1/8"	20"	19"	24"	60 lbs.	33.70	32 lbs.
BS-2424	22 1/8"	20"	24"	24"	55 lbs.	36.30	35 lbs.

Special brackets are available for mounting rack panels, as listed on Par-Metal page 28.

## DESK SHELF ASSEMBLIES

effectively provide a retractable writing desk, or may be used for supporting test instruments or other devices. When not in use, it saves valuable aisle space. Writing surface is charcoal grey formica. Front requires only 3-1/2" of panel height, and is provided with a drawer pull which pulls out to 16-3/8". Made for racks using panels either 19" or 24" wide. Nos. SK-1970 and SK-2419 are identical except for load capacity.

Catalog No.	Shelf Size Width	Depth	Pulls Out	Panel Width	Rack Depth	*Load Capacity	Net Price	Shipping Weight
SK-1970	17"	17"	16 3/8"	19"	18" or 24"	36 lbs.	\$37.85	32 lbs.
SK-2419	17"	17"	16 3/8"	19"	18" or 24"	60 lbs.	43.70	32 lbs.
SK-2424	22"	17"	16 3/8"	24"	24"	60 lbs.	50.90	35 lbs.

## NEW SLIDE TOP STORAGE DRAWER-DESK SHELF ASSEMBLIES

NEW PAR-METAL DESIGN (Patent Pending) presents the FIRST combination of a slide-back Formica retractable writing table on a 2-1/2" high (usable space) storage drawer. All units are 17" deep with 3-1/2" of panel height and have a 50 lb. load capacity in fully extended position. Keep your tools and notes in the MOST convenient place. Your fingers can't get caught between desk and front panel. Drawer has finger touch disconnect feature.

Cat. No.	Drawer Width	Panel Width	Net Price	Shpg. Wt.
SD-1935	16-1/2"	19"	\$48.90	32
SD-2435	21-1/2"	24"	57.00	35

## STORAGE DRAWER ASSEMBLIES

are suitable for stationery, instruments, tools, parts, etc., and are mounted on basic slide assemblies. 7" or 10-1/2" high match rack panels. Three models are listed for racks for 19" wide panels, and one for 24" wide panel racks.

Catalog No.	Width	Usable Space Length	Depth	Panel Height	Panel Width	Rack Depth	*Load Capacity	Net Price	Shipping Weight
DD-1980	17"	14"	5"	7"	19"	18" or 24"	40 lbs.	\$27.85	33 lbs.
DD-1940	17"	20"	5"	7"	19"	24"	25 lbs.	36.75	42 lbs.
DD-2419	17"	20"	8"	10 1/2"	19"	24"	45 lbs.	44.15	50 lbs.
DD-2424	22"	20"	8"	10 1/2"	24"	24"	45 lbs.	49.00	50 lbs.

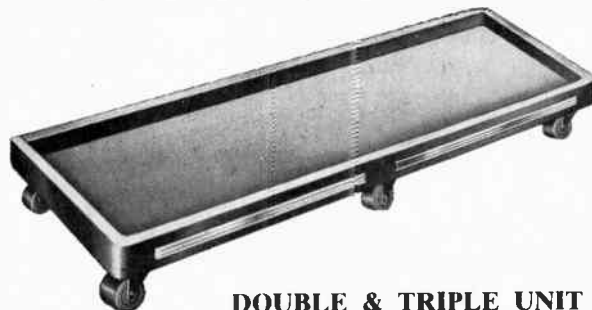
**IMPORTANT: Specify paint finish on front panels or drawer fronts of series "DD" or "SK" assemblies. Standard finishes are grey hammertone, black wrinkle, blue grey wrinkle, primer coat only. Other finishes available.**

## PAR-METAL PRODUCTS • ENGINEERING ASSISTANCE AVAILABLE

# PAR-METAL — ROLLER TRUCKS



**SINGLE UNIT**



**DOUBLE & TRIPLE UNIT**

Roller trucks are made to fit all the cabinet racks. The overall size is about two inches larger than the racks to provide safer weight distribution of the rack and its contents. Attractively styled with rounded front corners and chrome finished moulding.

**STANDARD TYPE:** Made from 1/16" steel, securely welded and equipped with swivel type casters using 2" diameter rubber composition wheels.

**HEAVY DUTY TYPE:** Similar to the above, but bottom of truck is reinforced with 7/16" steel braces. Casters are ball bearing swivel type, using 3" diameter Rockite non-marking composition wheels. Load capacity of each caster is 225 lbs.

Trucks are available for one, two, or three racks, and are listed as single, double and triple units. Double units have **six casters**, and triple units have **eight casters**.

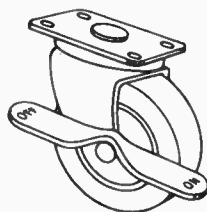
**BRAKE CASTERS:** The use of brake type casters is desirable as a utility and safety measure. This is particularly true where racks have been loaded to capacity. Brake casters are available for all heavy duty trucks.

**SEMI-CUSTOM TRUCKS:** WE CAN SUPPLY steel roller trucks for our cabinet racks up to 36" wide and 88" long. They can be equipped with 4" dia. wheel casters and necessary foot brakes. Extra depth is used in front of the rack assembly to provide stability where extension shelves and other accessories are mounted on the front of the racks. Drawings and prices available upon request.

**FINISH:** Blue grey wrinkle enamel is standard; optional finishes listed on Par-Metal Page 4 will be supplied without additional charge. **PLEASE SPECIFY FINISH WHEN ORDERING.**

TO FIT RACKS LISTED BELOW:	Par-Metal Rack Page No.	STD. TYPE		HEAVY DUTY TYPE					
		SINGLE UNIT Catalog No.	Net Price	SINGLE UNIT Catalog No.	UNIT Net Price	DOUBLE UNIT Catalog No.	UNIT Net Price	TRIPLE UNIT Catalog No.	UNIT Net Price
DL-1713, DL-2613, DL-3513	20	RT-410	11.50						
ER-213, 215, 217A-FD-215, 217-A	22	RT-412	14.25	HD-412	25.00	HD-412-2	46.20	HD-412-3	89.25
ER-223, 225, 227-A	21	RT-412	14.25	HD-412	25.00	HC-412-2	46.20	HD-412-3	89.25
FD-223, 225, 227-A	21	RT-412	14.25	HD-412	25.00	HC-412-2	46.20	HD-412-3	89.25
PL-FL-4818, 5818, 6718, 7718, 8418-B	6	See Heavy Duty Type		*HD-425	27.00	HC-425-2	53.80	HD-425-3	102.40
PL-FL-4824, 5824, 6724, 7724, 8424, 9024-B	6	See Heavy Duty Type		*HD-426	29.25	HC-426-2	59.50	HD-426-3	110.25
PL-FL-4827, 5827, 6727, 7727, 8427, 9027-B	6	See Heavy Duty Type		*HD-432	32.00	HC-432-2	65.30	HD-432-3	126.00
PL-FL-4833, 5833, 6733, 7733, 8433, 9033-B	6	See Heavy Duty Type		*HD-438	41.00	HC-438-2	81.90	HD-438-3	162.75
PR-FR-4818, 5818, 6718, 7718, 8418-B	7	See Heavy Duty Type		*HD-425	27.00	HC-425-2	53.80	HD-425-3	102.40
PR-FR-4824, 5824, 6724, 7724, 8424, 9024-B	7	See Heavy Duty Type		*HD-426	29.25	HC-426-2	59.50	HD-426-3	110.25
PR-FR-4827, 5827, 6727, 7727, 8427, 9027-B	7	See Heavy Duty Type		*HD-432	32.00	HC-432-2	65.30	HD-432-3	126.00
PR-FR-4833, 5833, 6733, 7733, 8433, 9033-B	7	See Heavy Duty Type		*HD-438	41.00	HC-438-2	81.90	HD-438-3	162.75
PX-FX-3718, 4818, 5818, 6718-B	8	RT-412	14.25	HD-412	25.00	HD-412-2	46.20	HD-412-3	89.25
PX-FX-7718, 8418-B	8	See Heavy Duty Type		HD-412	25.00	HD-412-2	46.20	HD-412-3	89.25
PX-FX-4824, 5824, 6724, 7724, 8424, 9024-B	8	See Heavy Duty Type		HD-420	26.50	HB-420-2	53.35	HD-420-3	102.40
PX-FX-4827, 5827, 6727, 7727, 8427, 9027-B	8	See Heavy Duty Type		HD-427	30.00	HB-427-2	60.10	HD-427-3	117.60
PX-FX-4833, 5833, 6733, 7733, 8433, 9033-B	8	See Heavy Duty Type		HD-434	39.00	HD-434-2	65.30	HD-434-3	149.10

\* For racks with detachable side panels attached to racks.



**BRAKE CASTERS:** Brake casters are supplied to replace the **two front casters** of single roller trucks; the **three front casters** of double roller trucks, and **four front casters** on triple roller trucks. When ordering Brake Casters, please add suffix "BC" to Roller Truck Catalog No. Additional cost per roller truck is as follows:

- For single units (HD-412, etc.)..... \$ 8.50
- For double units (HD-412-2, etc.)..... 12.75
- For triple units (HD-412-3, etc.)..... 17.00

## PAR-METAL PRODUCTS • CONVENIENT FACTORY WAREHOUSE

# PAR-METAL RACK PANELS 19"-24"-30" WIDE

All Par-Metal Panels uniformly slotted to fit Racks, Pedestals and Desk Panel Cabinets in this catalog as well as any other rack equipment having standard EIA or WE spacing.

Stock finishes are listed below with each grouping of panel widths. Primer Coat is the same price as Grey Hammertone. Other finishes listed on Par-Metal Page 4 are also available.

## STANDARD STEEL BLANK PANELS 1/8" STEEL



Standard flat panels made from 1/8" thick steel.

### 19" WIDE PANELS — 1/8" STEEL

Black Wrinkle Cat. No.	Blue Grey Wrinkle Cat. No.	Net Price	Panel Height	Grey Hammertone Cat. No.	Net Price
6600	G-6600	\$ .89	1 3/4"	H-6600	\$ .98
6601	G-6601	1.12	3 1/2"	H-6601	1.23
6602	G-6602	1.42	5 1/4"	H-6602	1.56
6603	G-6603	1.72	7"	H-6603	1.89
6604	G-6604	2.10	8 3/4"	H-6604	2.31
6605	G-6605	2.31	10 1/2"	H-6605	2.54
6606	G-6606	2.87	12 1/4"	H-6606	3.16
6607	G-6607	3.18	14"	H-6607	3.50
6608	G-6608	3.56	15 3/4"	H-6608	3.92
6609	G-6609	3.96	17 1/2"	H-6609	4.36
6610	G-6610	4.60	19 1/4"	H-6610	5.06
6611	G-6611	4.86	21"	H-6611	5.35

### 24" WIDE PANELS — 1/8" STEEL

Black Wrinkle Cat. No.	Blue Grey Wrinkle Cat. No.	Net Price	Panel Height	Grey Hammertone Cat. No.	Net Price
6201	G-6201	\$1.45	3 1/2"	H-6201	\$1.59
6202	G-6202	1.86	5 1/4"	H-6202	2.05
6203	G-6203	2.27	7"	H-6203	2.50
6204	G-6204	2.90	8 3/4"	H-6204	3.19
6205	G-6205	3.30	10 1/2"	H-6205	3.63
6206	G-6206	3.75	12 1/4"	H-6206	4.12
6207	G-6207	4.35	14"	H-6207	4.78
6208	G-6208	4.95	15 3/4"	H-6208	5.44
6209	G-6209	5.40	17 1/2"	H-6209	5.94
6210	G-6210	6.09	19 1/4"	H-6210	6.70
6211	G-6211	6.60	21"	H-6211	7.26

### 30" WIDE PANELS — 1/8" STEEL

Black Wrinkle Cat. No.	Blue Grey Wrinkle Cat. No.	Net Price	Panel Height	Grey Hammertone Cat. No.	Net Price
6301	G-6301	\$2.10	3 1/2"	H-6301	\$2.31
6302	G-6302	2.55	5 1/4"	H-6302	2.81
6303	G-6303	3.00	7"	H-6303	3.30
6304	G-6304	3.60	8 3/4"	H-6304	3.96
6305	G-6305	3.99	10 1/2"	H-6305	4.39
6306	G-6306	4.71	12 1/4"	H-6306	5.18
6307	G-6307	5.37	14"	H-6307	5.91
6308	G-6308	6.00	15 3/4"	H-6308	6.60
6309	G-6309	6.72	17 1/2"	H-6309	7.39
6310	G-6310	7.44	19 1/4"	H-6310	8.18
6311	G-6311	8.16	21"	H-6311	8.98

## STANDARD ALUMINUM BLANK PANELS

Aluminum panels are No. 3003-H14 aluminum alloy. Panels 24" or 30" wide, made from 3/16" aluminum, available on order.

### 19" WIDE PANELS — 1/4" ALUMINUM

Black Wrinkle Cat. No.	Blue Grey Wrinkle Cat. No.	Net Price	Panel Height	Grey Hammertone Cat. No.	Net Price
6675	G-6675	\$1.06	1 3/4"	H-6675	\$1.16
6676	G-6676	1.50	3 1/2"	H-6676	1.65
6677	G-6677	2.05	5 1/4"	H-6677	2.25
6678	G-6678	2.60	7"	H-6678	2.86
6679	G-6679	3.15	8 3/4"	H-6679	3.46
6680	G-6680	3.80	10 1/2"	H-6680	4.18
6681	G-6681	4.25	12 1/4"	H-6681	4.67
6682	G-6682	5.00	14"	H-6682	5.50
6683	G-6683	5.65	15 3/4"	H-6683	6.21
6684	G-6684	6.15	17 1/2"	H-6684	6.76
6685	G-6685	6.70	19 1/4"	H-6685	7.37
6686	G-6686	7.30	21"	H-6686	8.03

### 24" WIDE PANELS — 1/4" ALUMINUM

Black Wrinkle Cat. No.	Blue Grey Wrinkle Cat. No.	Net Price	Panel Height	Grey Hammertone Cat. No.	Net Price
6275	G-6275	\$1.80	1 3/4"	H-6275	\$1.98
6276	G-6276	2.28	3 1/2"	H-6276	2.51
6277	G-6277	3.00	5 1/4"	H-6277	3.30
6278	G-6278	3.81	7"	H-6278	4.19
6279	G-6279	4.74	8 3/4"	H-6279	5.21
6280	G-6280	5.73	10 1/2"	H-6280	6.30
6281	G-6281	6.66	12 1/4"	H-6281	7.33
6282	G-6282	7.62	14"	H-6282	8.38
6283	G-6283	8.58	15 3/4"	H-6283	9.44
6284	G-6284	9.54	17 1/2"	H-6284	10.49
6285	G-6285	10.47	19 1/4"	H-6285	11.52
6286	G-6286	11.40	21"	H-6286	12.54

### 30" WIDE PANELS — 1/4" ALUMINUM

Black Wrinkle Cat. No.	Blue Grey Wrinkle Cat. No.	Net Price	Panel Height	Grey Hammertone Cat. No.	Net Price
6376	G-6376	\$2.73	3 1/2"	H-6376	\$3.00
6377	G-6377	3.96	5 1/4"	H-6377	4.36
6378	G-6378	5.19	7"	H-6378	5.71
6379	G-6379	6.42	8 3/4"	H-6379	7.06
6380	G-6380	7.65	10 1/2"	H-6380	8.42
6381	G-6381	8.88	12 1/4"	H-6381	9.77
6382	G-6382	10.11	14"	H-6382	11.12
6383	G-6383	11.34	15 3/4"	H-6383	12.47
6384	G-6384	12.57	17 1/2"	H-6384	13.83
6385	G-6385	13.80	19 1/4"	H-6385	15.18
6386	G-6386	15.00	21"	H-6386	16.50

### 19" WIDE PANELS — 3/16" ALUMINUM

Black Wrinkle Cat. No.	Blue Grey Wrinkle Cat. No.	Net Price	Panel Height	Grey Hammertone Cat. No.	Net Price
6675-3	G-6675-3	\$1.65	1 3/4"	H-6675-3	\$1.75
6676-3	G-6676-3	2.28	3 1/2"	H-6676-3	2.43
6677-3	G-6677-3	3.36	5 1/4"	H-6677-3	3.56
6678-3	G-6678-3	4.14	7"	H-6678-3	4.40
6679-3	G-6679-3	5.16	8 3/4"	H-6679-3	5.47
6680-3	G-6680-3	6.18	10 1/2"	H-6680-3	6.56
6681-3	G-6681-3	7.20	12 1/4"	H-6681-3	7.62
6682-3	G-6682-3	8.22	14"	H-6682-3	8.72
6683-3	G-6683-3	9.30	15 3/4"	H-6683-3	9.86
6684-3	G-6684-3	10.35	17 1/2"	H-6684-3	10.96
6685-3	G-6685-3	11.40	19 1/4"	H-6685-3	12.07
6686-3	G-6686-3	12.60	21"	H-6686-3	13.33

**PAR-METAL PRODUCTS • ENGINEERING ASSISTANCE AVAILABLE**



# PAR-METAL RACK PANELS 19" & 24" WIDE

Stock finishes are listed below. Primer Coat is the same price as Grey Hammertone. Other finishes listed on Par-Metal Page 4 are also available.

## SIDE HINGED BLANK PANELS



Door panels are 7/64" steel, hinged at sides with a cowl fastener to hold the door.

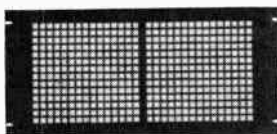
May be mounted with hinges on either side. Clear opening (width) is 15 1/2".

Black Wrinkle Cat. No.	Blue Grey Wrinkle Cat. No.	Net Price	Panel Height	Grey Hammertone Cat. No.	Net Price
HP-350	GP-350	\$3.60	3 1/2"	HA-350	\$3.96
HP-525	GP-525	3.80	5 1/4"	HA-525	4.18
HP-700	GP-700	4.20	7"	HA-700	4.64
HP-875	GP-875	4.65	8 3/4"	HA-875	5.12
HP-1050	GP-1050	5.25	10 1/2"	HA-1050	5.78
HP-1225	GP-1225	5.55	12 1/4"	HA-1225	6.11
HP-1400	GP-1400	6.40	14"	HA-1400	7.04
HP-1750	GP-1750	8.10	17 1/2"	HA-1750	8.91
HP-2100	GP-2100	9.40	21"	HA-2100	10.34

## GRILLE PANELS

### 19" WIDE - 1/8" STEEL

Ventilating grille is stamped into the panel. It is a one-piece panel.



Black Wrinkle Cat. No.	Grey Wrinkle Cat. No.	Net Price	Panel Size	Grille Size	Grey Hammertone Cat. No.	Net Price
P-661	G-661	\$3.09	5 1/4"	3 3/8 x 14 3/8"	H-661	\$3.40
P-662	G-662	3.40	7"	4 7/8 x 14 3/8"	H-662	3.74
P-663	G-663	4.06	8 3/4"	6 7/8 x 14 3/8"	H-663	4.47
P-664	G-664	3.72	8 3/4"	*3 7/8 x 14 3/8"	H-664	4.09
P-665	G-665	4.50	10 1/2"	8 3/8 x 14 3/8"	H-665	4.95
P-666	G-666	4.22	10 1/2"	*5 7/8 x 14 3/8"	H-666	4.64
P-667	G-667	4.57	12 1/4"	*7 7/8 x 14 3/8"	H-667	5.03

\* Allows 3/2" space at bottom for chassis mounting.

## STANDARD DESK PANELS

are 1/16" furniture steel. The rounded front corners are of seamless construction and flanges of shelf are folded in to provide smooth edges underneath.

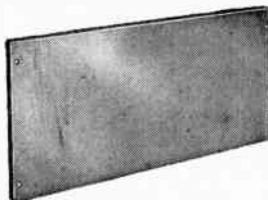


Mounted to regular 1/8" steel panels, 10-1/2 x 19". Sizes and finishes as listed. Tables are 22" wide to give full working space across front of racks when mounted. Shipping weight is 25 lbs.

Cat. No.	Width	Depth	Finish	Net Price
BT-2216	22"	16"	Black enamel	\$17.10
GT-2216	22"	16"	Blue Grey enamel	17.10
HT-2216	22"	16"	Grey Hammertone	17.10
BT-2220	22"	20"	Black enamel	18.60
GT-2220	22"	20"	Blue Grey enamel	18.60
HT-2220	22"	20"	Grey Hammertone	18.60

## FORMED BLANK PANELS

Are 1/16" steel with formed edges to make an overall thickness of 7/16"



19" and 24" wide panels are furnished as shown below with mounting holes on standard centers to fit all racks.

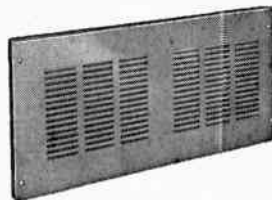
### 19" WIDE FORMED PANELS - 1/16" STEEL

Black Wrinkle Cat. No.	Blue Grey Wrinkle Cat. No.	Net Price	Panel Height	Grey Hammertone Cat. No.	Net Price
P-600	G-600	\$1.29	1 3/4"	H-600	\$1.42
P-601	G-601	1.38	3 1/2"	H-601	1.52
P-602	G-602	1.56	5 1/4"	H-602	1.72
P-603	G-603	1.83	7"	H-603	2.01
P-604	G-604	2.19	8 3/4"	H-604	2.39
P-605	G-605	2.46	10 1/2"	H-605	2.71
P-606	G-606	2.88	12 1/4"	H-606	3.17
P-607	G-607	3.24	14"	H-607	3.56
P-608	G-608	3.72	15 3/4"	H-608	4.09
P-609	G-609	4.11	17 1/2"	H-609	4.52
P-610	G-610	4.53	19 1/4"	H-610	4.98
P-611	G-611	4.95	21"	H-611	5.45
P-612	G-612	5.90	22 3/4"	H-612	5.90
P-613	G-613	6.35	24 1/2"	H-613	6.35
P-615	G-615	7.25	28"	H-615	7.25
P-619	G-619	9.90	35"	H-619	9.90
P-623	G-623	12.80	42"	H-623	12.80
P-629	G-629	14.70	52 1/2"	H-629	14.70
P-634	G-634	16.20	61 1/4"	H-634	16.20
P-635	G-635	18.70	70"	H-635	18.70
P-637	G-637	21.30	77"	H-637	21.30
P-639	G-639	23.70	84"	H-639	23.70

### 24" WIDE FORMED PANELS - 1/16" STEEL

Black Wrinkle Cat. No.	Blue Grey Wrinkle Cat. No.	Net Price	Panel Height	Grey Hammertone Cat. No.	Net Price
P-641	G-641	\$1.95	3 1/2"	H-641	\$2.15
P-642	G-642	2.37	5 1/4"	H-642	2.61
P-643	G-643	2.85	7"	H-643	3.14
P-644	G-644	3.42	8 3/4"	H-644	3.76
P-645	G-645	3.78	10 1/2"	H-645	4.16
P-646	G-646	4.14	12 1/4"	H-646	4.55
P-647	G-647	4.62	14"	H-647	5.08
P-648	G-648	5.22	15 3/4"	H-648	5.74
P-649	G-649	5.82	17 1/2"	H-649	6.40
P-650	G-650	6.45	19 1/4"	H-650	7.10
P-651	G-651	7.02	21"	H-651	7.72
P-652	G-652	8.10	22 3/4"	H-652	8.10
P-653	G-653	8.70	24 1/2"	H-653	8.70
P-655	G-655	9.90	28"	H-655	9.90
P-659	G-659	12.30	35"	H-659	12.30
P-668	G-668	14.70	42"	H-668	14.70
P-669	G-669	17.10	52 1/2"	H-669	17.10
P-674	G-674	19.70	61 1/4"	H-674	19.70
P-675	G-675	22.80	70"	H-675	22.80
P-677	G-677	24.60	77"	H-677	24.60
P-679	G-679	26.70	84"	H-679	26.70

### 19" WIDE FORMED PANELS - 1/16" STEEL VENTILATED TYPE



Standard formed panels with louvre ventilation. Also 24" wide at added cost.

Black Wrinkle Cat. No.	Blue Grey Wrinkle Cat. No.	Net Price	Panel Height	Grey Hammertone Cat. No.	Net Price
PV-603	GV-603	\$3.45	7"	HV-603	\$3.80
PV-604	GV-604	3.90	8 3/4"	HV-604	4.29
PV-605	GV-605	4.29	10 1/2"	HV-605	4.72
PV-606	GV-606	4.86	12 1/4"	HV-606	5.35
PV-608	GV-608	5.70	15 3/4"	HV-608	6.27
PV-611	GV-611	7.56	21"	HV-611	8.32

# PAR-METAL — DESK CABINETS — AMPLIFIER CHASSIS

## DELUXE CABINETS



Has formed door, with modern handle, hinged at back for full access to the interior.

Chrome mouldings are mounted on front at top and bottom. Cabinet has ventilating louvres on each side, and full width opening at back for leads, etc.

Standard finish is blue grey wrinkle enamel. Prices do not include chassis which are listed on PAR METAL Page 28.

Catalog No.	Overall Dimensions	Panel Size	For Chassis	Shp. Wt. Lbs.	Net Price
CA-300	9x12 $\frac{1}{2}$ x 8"	7 $\frac{1}{32}$ "x10 $\frac{1}{16}$ "	7x 9x2"	6	\$10.60
CA-301	9x16 $\frac{1}{8}$ x 8"	7 $\frac{1}{32}$ "x14 $\frac{1}{8}$ "	7x13x2"	7	11.70
CA-302	10x17 $\frac{1}{8}$ x11"	8 $\frac{1}{32}$ "x15 $\frac{1}{16}$ "	10x14x3"	8	14.85
CA-303	10x20 $\frac{1}{8}$ x 9"	8 $\frac{1}{32}$ "x18 $\frac{1}{8}$ "	8x17x3"	11	14.85
CA-304	13x20 $\frac{1}{8}$ x12"	11 $\frac{1}{32}$ "x18 $\frac{1}{16}$ "	10x17x3"	15	18.30

## ROUNDED CORNER CABINETS



Are similar in design to those listed above. Flat doors, hinged at back to permit full access to the interior. Vertical front corners are rounded; ventilating louvres are

stamped in both sides, and full width opening is provided at back for leads.

Standard finish is blue grey wrinkle enamel. Prices do not include chassis, which are listed on PAR METAL Page 28.

Catalog No.	Overall Dimensions	Panel Size	For Chassis	Shp. Wt. Lbs.	Net Price
CA-200	8 $\frac{1}{2}$ x10 $\frac{1}{8}$ x 8"	7 $\frac{1}{32}$ "x 8 $\frac{1}{16}$ "	7x 7x2"	6	\$ 6.00
CA-201	8 $\frac{1}{2}$ x12 $\frac{1}{8}$ x 8"	7 $\frac{1}{32}$ "x10 $\frac{1}{16}$ "	7x 9x2"	7	6.40
CA-202	8 $\frac{1}{2}$ x16 $\frac{1}{8}$ x 8"	7 $\frac{1}{32}$ "x14 $\frac{1}{16}$ "	7x13x2"	8	7.95
CA-203	9 $\frac{1}{2}$ x17 $\frac{1}{8}$ x11"	8 $\frac{1}{32}$ "x15 $\frac{1}{16}$ "	10x14x3"	11	10.55
CA-204	12 $\frac{1}{2}$ x20 $\frac{1}{8}$ x12"	11 $\frac{1}{32}$ "x18 $\frac{1}{16}$ "	10x17x3"	15	12.40

## SLOPING FRONT CABINETS



are also used as instrument cases or for use in studios, laboratories, etc.

- Top corner is rounded and trimmed with chrome moulding. Blue grey wrinkle finish.

- A chassis may be mounted to a front panel and removed as a unit.

- Rear of case is ventilated, with an opening for connections. Prices do not include chassis, which are listed on PAR METAL Page 28.

Catalog No.	Overall Dimensions	For Chassis	Shp. Wt. Lbs.	Net Price
SF-500	8x 8x 8"	7x 7x2"	6	\$ 6.50
SF-501	8x10x 8"	7x 9x2"	7	7.20
SF-502	8x14x 8"	7x13x2"	8	7.80
SF-503	9x18x 8"	7x17x3"	10	9.75
SF-504	12x18x12"	10x17x3"	14	12.30

## AMPLIFIER FOUNDATION CHASSIS WITH SLOPING FRONT



Useful for mounting meters, switches, etc. This panel is removable and protrudes 3" from face of the screen cover. All parts are finished in blue grey wrinkle.

Trimmed with a chrome moulding with handles at each end. Chassis are supplied WITH bottom plates.

Cat. No.	Chassis Size	Screen Cover	Shp. Wt. Lbs.	Net Price
F-10120	10x12x3"	6 $\frac{1}{2}$ " height	11	\$12.15
F-10170	10x17x3"		13	14.70
F-13170	13x17x3"		15	15.90

## ROUNDED CORNER DESIGN



Streamlines the screen covers of these chassis. Ventilation is through rectangular openings. The moulding and handles are finished in chrome with red striping.

Screen cover finished in blue grey wrinkle enamel to contrast with black chassis. Chassis are drilled for bottom plate. See PAR METAL Page 28.

Cat. No.	Chassis Size	Depth of Cover	Shp. Wt. Lbs.	Net Price
DF-510	5x10x3"	6"	7	\$ 6.75
DF-615	6x14x3"		8	7.50
DF-717	7x17x3"		9	8.70
DF-1012	10x12x3"		9	8.90
DF-1017	10x17x3"		10	9.80
DF-1317	13x17x3"		12	10.50

## STEEL UTILITY CASES

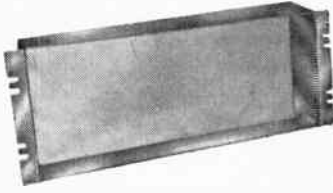


Have removable flat tops and bottoms. 20 gauge sheet steel, with flanged edges and spot-welded corners. Finished in Black wrinkle enamel.

Cat. No.	Overall Size	Shp. Wt. Lbs.	Net Price	Cat. No.	Overall Size	Shp. Wt. Lbs.	Net Price
MC-442	4x 4x 2"	1	\$1.37	MC-666	6x 6x 6"	3	\$2.57
MC-453	4x 5x 3"	2	1.65	MC-8101	8x10x10"	7	4.72
MC-596	5x 9x 6"	4	3.40	MC-8107	8x10x 7"	6	4.85
MC-654	6x 5x 4"	3	2.57	MC-1128	11x12x 8"	9	6.10

# PAR-METAL BLANK CHASSIS BASES

## VERTICAL RACK MOUNTING CHASSIS TO FIT 19" RACKS

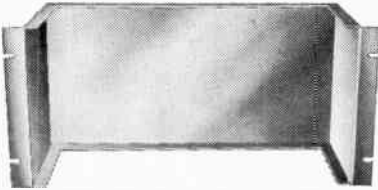


Either 1/16" aluminum with etched finish, or 1/16" steel, zinc plated. Overall length including mounting flanges is 18-3/4". Mounts under 19" wide formed panels listed on PAR METAL Page 26. 4-15/16" height is for use with 5-1/4" panels, 6-11/16" for 7" panels, etc.

Slots are provided in chassis side flanges to clear panel mounting screws. Chassis will fit on any 19" panel rack.

ALUMINUM Cat. No.	Net Price	Chassis Dimensions	STEEL Cat. No.	Net Price
AC-402	\$3.98	4-15/16"x17"x3"	SC-402	\$3.45
AC-403	4.54	6-11/16"x17"x3"	SC-403	3.60
AC-404	5.10	8-7/16"x17"x3"	SC-404	4.50
AC-405	5.64	10-3/16"x17"x3"	SC-405	4.80
AC-406	6.30	11-15/16"x17"x3"	SC-406	5.25

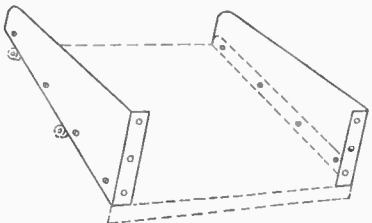
## VERTICAL RACK MOUNTING CHASSIS TO FIT 19" RACKS



For installation in ALL cabinet racks. Material is 1/16" aluminum, with corners welded for rigidity. Etched finish on inside and outside.

All chassis are 5-1/4" deep; overall width is 19"; chassis width is 16-7/8".

Catalog No.	Height	Shipping Wt. Lbs.	Net Price
AC-430	1 3/4"	2	\$2.78
AC-431	3 1/2"	3	3.45
AC-432	5 1/4"	3	3.90
AC-433	7"	4	4.58
AC-434	8 3/4"	5	4.95
AC-435	10 1/2"	5	5.55
AC-436	12 1/4"	6	6.45
AC-437	14"	7	6.90



## PANEL MOUNTING BRACKETS FOR BASIC SLIDE ASSEMBLIES

For attaching rack panels to sliding shelves of "BS" basic slide assemblies listed on Par-Metal page 23. Special short screws and nuts are supplied for mounting brackets. This assures free movement of shelf.

Brackets 1/16" steel, zinc plated, 6-1/2" high at front, and 3-1/2" at back. Front flange is 9/16" wide. Made in two lengths, for 14" and 20" deep shelf assemblies. Prices are for a pair of brackets, with mounting screws and nuts.

Cat. No.	Length	To Fit Assembly	Net Price
BR-14	14 1/4"	BS-1980	\$2.70 pair
BR-20	20 1/4"	BS-1940, 2419, 2424	3.60 pair



## SHELVES FOR CABINET RACKS

Fit into Relay racks. They mount inside the rack, with side bolts. All shelves are 1" high and finished in black enamel. Shipping weight of all shelves is 10 lbs.

Catalog No.	Will Fit Rack No.	Par-Metal Rack Page No.	Shelf Size	Net Price
ER-2212	ER-213, ER-215, ER-217-A	22	15" x 21 15/16"	\$4.20
ER-2212	ER-223, ER-225, ER-227-A	21	15" x 21 15/16"	4.20
R-2225	FD-215, FD-217-A	22	12" x 21 15/16"	3.75
R-2128	DL-1713, 2613, 3513	20	12" x 21 15/16"	3.30

## CHASSIS



Stamped from one piece of cold rolled steel zinc-plated, with four solid sides and welded corners. Bottom edges flanged on four sides for reinforcement, and drilled for bottom plates.

Chassis are #20 gauge steel, except those marked (\*) which are stamped from 1/16" steel for heavy-duty use.

Cat. No. Zinc Plated	Size	Shp. Wt. Lbs.	Net Price
C-4508	5 x 10 x 3"	3	\$2.25
C-4510	7 x 7 x 2"	2	1.55
C-4511	7 x 9 x 2"	2	1.95
C-4513	7 x 13 x 2"	3	2.20
C-4515	7 x 17 x 3"	4	2.55
C-4532	8 x 17 x 3"	5	3.15
C-4524	10 x 14 x 3"	5	3.10
C-4526	10 x 17 x 3"	7	2.90
C-4533*	11 x 17 x 2"	7	3.35
C-4534*	11 x 17 x 3"	9	4.65
C-4535*	13 x 17 x 2"	8	3.80
C-4536*	13 x 17 x 3"	9	4.15
C-4537*	13 x 17 x 4"	10	5.05
C-4540*	17 x 17 x 4"	13	5.40

## BOTTOM PLATES

Have holes to match chassis listed above, and pressed bumpers at four corners.

Cat. No. Zinc Plated	Size	Shp. Wt. Lbs.	Net Price
CP-4508	5 x 10"	1	\$ .75
CP-4510	7 x 7"	1	.90
CP-4511	7 x 9"	1	.95
CP-4513	7 x 13"	2	1.15
CP-4515	7 x 17"	2	1.30
CP-4531	8 x 17"	2	1.20
CP-4524	10 x 14"	2	1.20
CP-4528	10 x 17"	2	1.45
CP-4533	11 x 17"	2	1.45
CP-4535	13 x 17"	3	1.65
CP-4540	17 x 17"	4	1.90

## CHASSIS MOUNTING BRACKETS



Brackets are 1/16" steel, for assembly with our standard or heavy duty chassis listed above. Panels must be at least 7" high.

FINISH: Black enamel only.

Cat. No.	Base Dimension	Shp. Wt. Lbs.	Net Price
SB-78	For 8"	2	\$1.35
SB-710	For 10"	2	1.55
SB-711	For 11"	2	1.65
SB-713	For 13"	3	1.85
SB-717	For 17"	4	2.31

# ASK YOUR DISTRIBUTOR FOR PAR-METAL PRODUCTS CATALOG

# PAR-METAL-BLOWERS-FANS

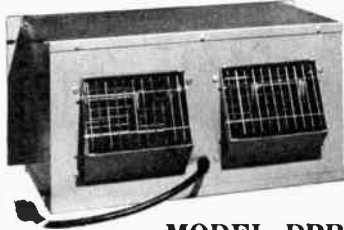
## PACKAGED TWIN BLOWERS

HIGH EFFICIENCY  
SMALL SPACE

FOR 19" WIDE PANEL SPACE



MODEL DPB-525  
Front View



MODEL DPB-1050  
Rear View

Packaged Electronic Cooling units have simple twin blowers powered by a double-shielded ball-bearing motor. Motors are permanently lubricated and are forced air-cooled by a portion of the intake air. Rotating components are suspended on six-way Neoprene shock mounts. AC hum is virtually impossible.

Grilles are engineered for low air resistance and are Chrome Plated cold-rolled steel. They are positioned by 2 captive screws. Wire exhaust guards are mounted on diagonal discharge ports. Each unit has a removable permanent washable aluminum mesh filter. Unit is panel mounted with EIA hole centering.

Grille and housing can be finished to match rack cabinet.

Ask us about **PAR-METAL** Packaged Twin Blowers for 24" Panel Width or any unlisted Panel Height or capacity.

CATALOG NUMBER	PANEL HEIGHT	cfm at "0" static pressure	DEPTH of EN CLOSURE	MOTOR 115V - 50/60 Cycles		NET PRICE
				RPM	AMPS	
DPB-525	5-1/4"	150	7"	3000	1.5	\$124.56
OPB-530	5-1/4"	300	7"	3200	1.0	131.76
DPB-700	7"	360	10"	1500	.8	148.92
DPB-730	7"	475	10"	3250	1.9	158.33
DPB-875	8-3/4"	525	11-5/8"	1500	1.2	180.47
DPB-1050	10-1/2"	820	13"	1500	2.2	220.33

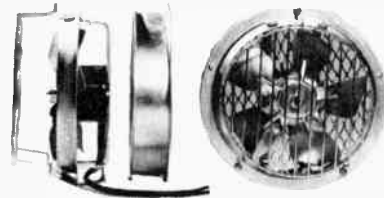
## "THIN" MODEL FANS

**BLOW FAN:** Engineered specially for electronic cabinet cooling, these highly compact fans ensure a quick and broad distribution of cooling air to **ALL** corners of the **PAR-METAL** cabinet.

These fans are provided in a whole range of sizes from 220 cfm to 750 cfm. Fans are accompanied by a full line of accessories including guards, grilles, mounting sleeves, filters and filter holders.

**SUCK FAN:** Designed for greatest efficiency and economy of space when door or base mounted. Obtains air delivery from 220 cfm to 750 cfm. Filters and filter frames available.

**MOTORS** are 50/60 cycle, 115 Volts, single phase AC with 18" lead. They are permanently oiled, ball bearing, shaded pole type with low temperature rise. Noise and vibration are minimized by shock mounting Fan and Motor Assemblies. To provided cut-out and mounting holes (at additional cost) specify Door Modification FAN.



BLOW MODEL PB-300



SUCK MODEL PS-300

BLOW FAN Cat.No.	PB-270	PB-300	PB-400	PB-550	PB-750
SUCK FAN Cat. No.	PS-220	PS-300	PS-400	PS-550	PS-750
NET PRICE	\$42.13	\$44.83	\$52.04	\$55.91	\$59.79
CFM at "0"	220	300	400	550	750
At NO static pressure					
BLADE DIAMETER	6-1/2"	6-1/2"	8"	9"	10"
RPM	1550	3000	1460	1600	1560
OVERALL DIAMETER	8-1/2"	8-1/2"	10"	11-1/2"	12-1/2"
OVERALL DEPTH	3-1/4"	3-5/8"	3-1/8"	4-3/8"	4-3/8"
HOLE SIZE REQUIRED	7-3/8"	7-3/8"	9"	10-3/8"	11-3/8"

ACCESSORY LIST FOR THIN MODEL FANS										
Accessories for use with Cat. Nos.	No. 220		No. 300		No. 400		No. 500		No. 750	
<b>FOR BLOW FANS</b> Code PB	Cat. No.	Net Price	Cat. No.	Net Price	Cat. No.	Net Price	Cat. No.	Net Price	Cat. No.	Net Price
GUARDS	G-650	\$2.77	G-650	\$2.77	G-800	\$2.77	G-900	\$3.33	G-1000	\$3.07
MOUNTING SLEEVE	MS-650	3.33	MS-650	3.33	MS-800	3.33	MS-900	3.07	MS-1000	4.43
GRILLE	GR-650	2.22	GR-650	2.22	GR-800	2.22	GR-900	2.77	GR-1000	3.33
<b>FOR SUCK FANS</b> Code PS										
FILTERS	FF-650	2.77	FF-650	2.77	FF-800	2.77	FF-900	3.33	FF-1000	3.33
FILTER HOLDERS	FH-650	5.54	FH-650	5.54	FH-800	5.54	FH-900	6.09	FH-1000	7.20

PAR-METAL PRODUCTS • CONVENIENT FACTORY WAREHOUSE

# PAR-METAL - SLIDES - CASTERS - HARDWARE

## SOLID BEARING SLIDES



SB-16-NT

ALL SLIDES LOCK OPEN with QUICK DISCONNECT FEATURE

SOLID BEARING SURFACES with MOLYBDENUM DISULPHIDE COATING and EPOXY BASE (MIL-L-22273)

MOUNTING BRACKETS and HARDWARE INCLUDED



SB-316-NT

Catalog Number	Rack Depth	Slide Length	Travel Length	*Load Capacity	Net Price Per Pair
SB-16-NT	18"	16"	17-1/2"	75 lbs.	\$18.00
SB-22-NT	24"	22"	23-1/2"	75 lbs.	19.75
SB-316-NT	18"	16"	19"	175 lbs.	37.00
SB-322-NT	24"	22"	25"	175 lbs.	38.50

The following Slides Pivot 90° and Lock in Pivot position



SB-316-D

SB-316-D	18"	16"	18"	175 lbs.	55.50
SB-322-D	24"	22"	24"	175 lbs.	58.00

\*Based on 18" long and 17" travel.

## HANDLES - LOCKS

DIE CAST TRIPLE CHROME PLATED



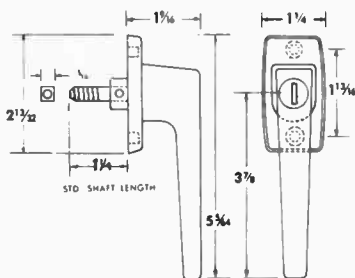
FX-410



PX 4-11



VM-5



Catalog Number	Description	Net Price
FX-410	Locking (2-Keys)	\$5.50 ea.
PX-411	Non-Locking	2.75 ea.
VM-5	Cabinet Lock	4.50 ea.

## PULL HANDLES - TRIPLE CHROME PLATED



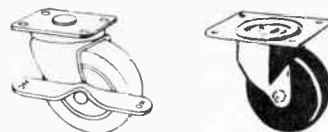
V-24



H-505

Catalog Number	Description	Centers	Net Price
H-505	Satin Finish Round Corners	4"	\$1.10 each
V-24	"V" Shaped Polished Chrome	3-7/8"	.70 each

## SWIVEL CASTERS



ROCKITE (No mark composition wheels)  
BALL BEARING SWIVEL PLATE

Catalog Number	Wheel Size	Overall Height	Capacity Per Wheel	Net Price
C-52	2" x 1"	2-7/8"	125 lbs.	\$1.00 ea.
CS-127-3	3" x 1 1/4"	3-13/16"	225 lbs.	2.00 ea.
*CS-127-3B	3" x 1 1/4"	3-13/16"	225 lbs.	6.90 ea.

\* with touch toe brakes

## NICKEL PLATED SCREWS

TRUSS HEAD MACHINE SCREWS



Catalog Number	Thread	Length	Price Per 100
SC-10-5	10/32	5/8"	\$1.60
SC-10-1	10/32	1"	1.60
SC-12-5	12/24	5/8"	1.80
SC-12-1	12/24	1"	1.80

## DUAL RECEPTACLE POWER PLUG-IN STRIPS

- Circuit Breaker with Reset Button included.
- Supplied with 3 wire, 6' Neoprene Cord set with Moulded Plug. UL Approved.
- Completely Wired Soldered Connections. "U" Ground Outlets
- Rated at 15 Amperes, 130 Volts, continuous duty.

## MOUNTS TO RACK BOLT TRACKS

Catalog Number	Panel Height	Number of DUAL OUTLETS	Overall Length	Net Price
PS-36	36-3/4"	8	32-1/4"	\$20.00
PS-42	42"	8	37-1/2"	23.90
PS-52	52"	8	47"	25.75
PS-61	61-1/4"	8	56-3/4"	27.25
PS-70	70"	10	65-1/2"	28.75
PS-77	77"	12	72-1/2"	30.00
PS-84	84"	12	79-1/2"	31.50

## FLOOR LEVELERS - ALL STEEL

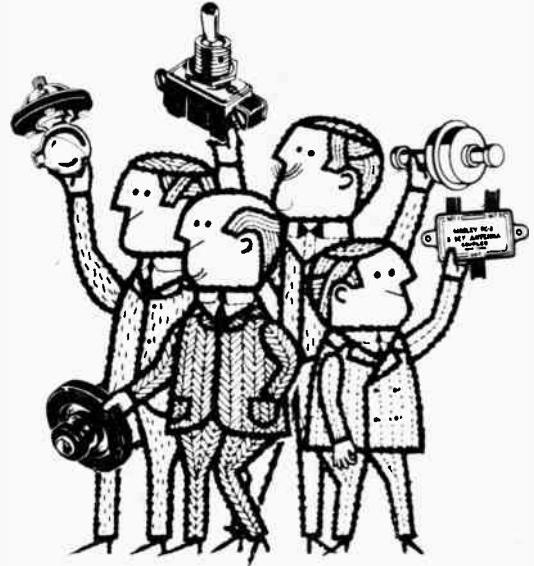


Catalog Number Net Price  
LF-10 .40 each  
1-1/4" Easy Adjustment

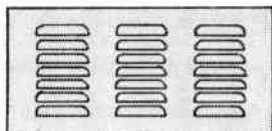
ASK YOUR DISTRIBUTOR FOR PAR-METAL PRODUCTS CATALOG

*You can depend on your local  
**ELECTRONIC DISTRIBUTOR** for ...*

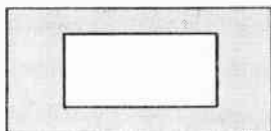
- *Instant off-the-shelf delivery*
- *In-depth inventories*
- *Wide varieties*
- *Prompt service*
- *Technical assistance*
- *Availability of the latest products*
- *Speedy purchasing — one order does the job*



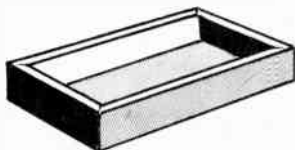
*Contact your local **ELECTRONIC DISTRIBUTOR**  
for all your requirements!*



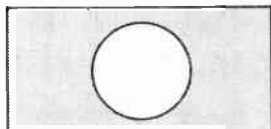
**LOUVRES ON TOP** (3 Rows—4" wide)  
For FA, FS, PRXA, RMX, FDX



**CUT-OUT ON TOP**  
For FA, FS, PRXA, RMX, FDX



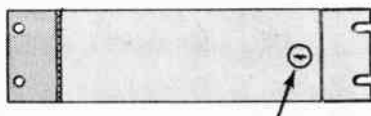
**SOLID BOTTOM (NO CUT-OUT)**  
For FA, FS, PRXA, RMX, FDX



**ROUND HOLE ON TOP**  
For FA, FS, PRXA, RMX, FDX



**PROVISION FOR MOUNTING SPECIAL SIZE CASTERS**



**CYLINDER LOCK (HW-6) ON SHP PANELS**

**PREMIER  
CUSTOMIZED  
MODIFICATIONS**

Available  
for all  
**STANDARD**

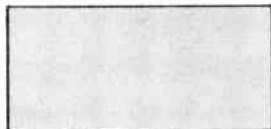
**UNITS**

**PREMIER**

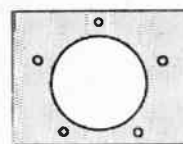
METAL PRODUCTS CO., INC.  
A Renwell Industries Company



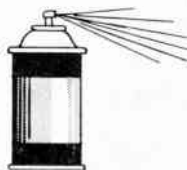
**ADDITIONAL PANEL MOUNTING ANGLES**



**SOLID TOP PANELS** on POR, MOR  
**SOLID REAR PANELS** on POR, MOR, CSC, CMS



**MOUNTING HOLES FOR FANS**  
For FA, FS, PRXA, RMX, FDX



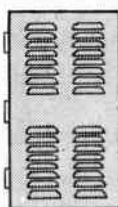
**SPECIAL FINISHES**



**LOUVRES ON SIDES** (FDX, RMX only)  
(8 Louvres — 6" wide)



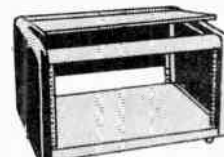
**INVERTED BASES**  
For FA, FS, PRXA, RMX, FDX only



**LOUVRES ON DOORS** (DF only)  
8 Louvres — 6" wide



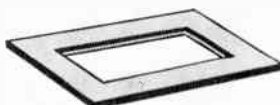
**PERFORATIONS IN TOP OF DCR**



**ASSEMBLED and WELDED POR CABINETS**



**DROP HANDLES (HW-5)**  
Welded on both sides of POR, DCR, SDR, MDK only



**OPENING IN TOP** with 1/2" recess to accept Louvres (FPL) or Blank Formed Panels (FP) for FA, FS, PRXA only



**OMISSION OF RECTANGULAR KNOCKOUTS ON FRONT UPRIGHTS** for FA, FS, PRXA

**LOCKING HANDLE ON REAR DOOR** of R, FXR, DR, RMX, FDX

**LOCKING HANDLE ON FD-300, 306 DOORS**



**RECESSED HANDLES ON SIDES OF POR, DCR, CSC, MDK ONLY**



**PANELS NOTCHED TO EIA/MS 189**

# PREMIER MODULAR ROUNDED CORNER FRAMES

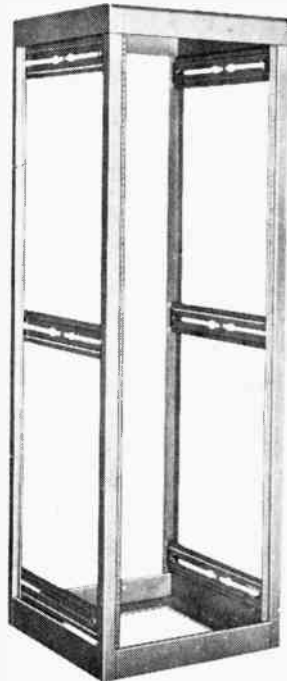


**PREM-O-RAK**

22" and 25½" DEEP for 19" and 24" PANELS

**• Frames accommodate Ball Cornered End Panels (CEP Series)**

- Frame Made of No. 14 gauge steel.
- Supplied with two pair of No. 12 gauge steel Panel Mounting Angles. Both legs of the angle are tapped 10-32 on E.I.A. spacings (¾, ¾-½) to accommodate Front Panels & Chassis Support Angles (CSA series) and Shelves (S series).
- Panel mounting angles are held in place at three points by ¾" carriage bolts and are adjustable to any desired position by means of channel slides.
- Three combination 1¾" and 1½" diameter knockouts furnished on both sides of top and bottom to provide access for cabling between racks.
- Frame completely welded throughout.
- Top of frame is solid. Round hole and 5 mounting holes on top of frame to accommodate Exhaust (EF Series) and Intake (IF Series) Fans, available at additional cost.
- Knockouts supplied on sides of uprights for use in ganging frames.
- A rectangular cutout is provided in bottom for leads, etc.
- Rectangular knockouts provided on front and rear of uprights of frame to accommodate hinge and handle brackets, so that door can be mounted either left or right hand. Doors can be mounted to front or rear of frame.
- Holes punched in bottom to accommodate CA-4 (2"), CA-5 (3"), CA-6 (double 2") and CA-7 (locking 3") casters.
- Finished in Gray Hammertone.

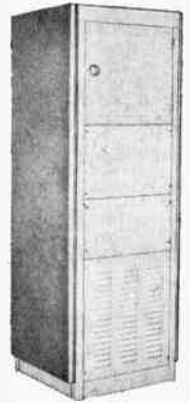


FA FRAME

- Designed for MULTIPLE INSTALLATIONS
- TOPS OF FRONT AND REAR ARE ROUNDED



Above unit consists of Frame FA Series), 2 End Panels (CEP Series) and Door (DF Series).



Above unit consists of Frame (FA Series), 2 End Panels (CEP Series), Flush Door (CD Series), Louvred Panel (FPL Series) and Formed Panels (FP Series)

FRAMES — 22" WIDE								
22" DEEP			25½" DEEP					
Cat. No.	Shpg. Wt. Lbs.	Net Price	Height	Panel Space	Cat. No.	Shpg. Wt. Lbs.	Net Price	
FA-42-22	50	\$81.90	48½"	42 x 19"	FA-42-255	58	\$86.05	
FA-52-22	65	88.83	59½"	52½ x 19"	FA-52-255	75	93.24	
FA-61-22	80	100.64	67½"	61¼ x 19"	FA-61-255	92	110.88	
FA-70-22	100	118.06	76½"	70 x 19"	FA-70-255	115	129.78	
FA-77-22	110	121.37	83½"	77 x 19"	FA-77-255	127	133.56	

FRAMES — 27" WIDE								
22" DEEP			25½" DEEP					
Cat. No.	Shpg. Wt. Lbs.	Net Price	Height	Panel Space	Cat. No.	Shpg. Wt. Lbs.	Net Price	
FA-2761-22	90	110.25	67½"	61¼ x 24"	FA-2761-255	98	120.33	
FA-2770-22	110	129.78	76½"	70 x 24"	FA-2770-255	123	142.38	
FA-2777-22	120	132.30	83½"	77 x 24"	FA-2777-255	135	144.90	

**ORDERING GUIDE**

FRAME Cat. No.	Use END PANEL (Page 16) Cat. No.	Use DOOR (Page 18) Cat. No.	Use CHASSIS SUPPORT ANGLE (Page 22) Cat. No.	Use SHELF (Page 22) Cat. No.	Use CHASSIS SLIDES (Pages 27, 28) Length
FA-42-22	CEP-42-22	DF-42	CSA-22	S-22-22	20"
FA-52-22	CEP-52-22	DF-52	CSA-22	S-22-22	20"
FA-61-22	CEP-61-22	DF-61	CSA-22	S-22-22	20"
FA-70-22	CEP-70-22	DF-70	CSA-22	S-22-22	20"
FA-77-22	CEP-77-22	DF-77	CSA-22	S-22-22	20"
FA-42-255	CEP-42-255	DF-42	CSA-255	S-22-255	24"
FA-52-255	CEP-52-255	DF-52	CSA-255	S-22-255	24"
FA-61-255	CEP-61-255	DF-61	CSA-255	S-22-255	24"
FA-70-255	CEP-70-255	DF-70	CSA-255	S-27-255	24"
FA-77-255	CEP-77-255	DF-77	CSA-255	S-22-255	24"
FA-2761-22	CEP-61-22	DF-2761	CSA-22	S-27-22	20"
FA-2770-22	CEP-70-22	DF-2770	CSA-22	S-27-22	20"
FA-2777-22	CEP-77-22	DF-2777	CSA-22	S-27-22	20"
FA-2761-255	CEP-61-255	DF-2761	CSA-255	S-27-255	24"
FA-2770-255	CEP-70-255	DF-2770	CSA-255	S-27-255	24"
FA-2777-255	CEP-77-255	DF-2777	CSA-255	S-22-255	24"

**FOR MODIFICATIONS**

See Premier Page 2

**FOR ACCESSORIES**

Premier Pages 16 thru 22

**FOR BLOWERS, FANS AND HARDWARE**

Premier Pages 27 thru 32

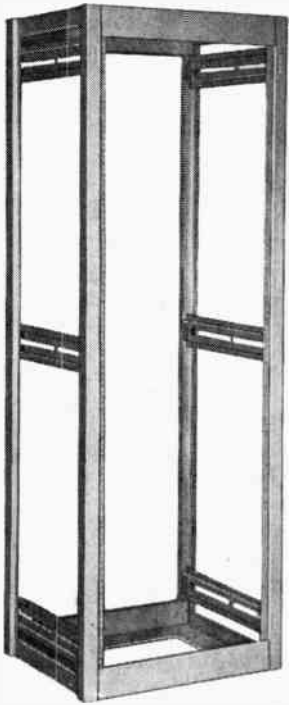
## PREMIER METAL PRODUCTS CO., INC.

A Renwell Industries Company



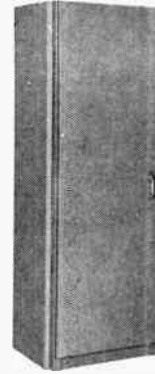
# PREMIER MODULAR Square Cornered FRAMES

18" and 24" DEEP For 19", 24" and 30" PANELS

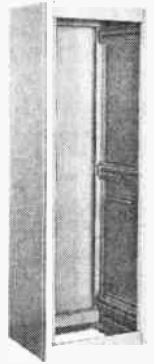


PRXA FRAME

- DESIGNED FOR MULTIPLE INSTALLATIONS
- TOPS of FRONT and REAR are SQUARE
- FRAMES ACCOMMODATE FLUSH SIDE PANELS (FL Series) or ROUNDED SIDE PANELS (SP Series)
- Frame made of No. 14 gauge steel.
- Supplied with two pair of No. 12 gauge steel Panel Mounting Angles. Both legs of the angle are tapped 10-32 on E.I.A. spacings (5/8"-1/2") to accommodate Front Panels & Chassis Support Angles (CSA series) and Shelves (S series).
- Panel mounting angles are held in place at three points by 3/8" carriage bolts and are adjustable to any desired position by means of channel slides.
- Frame completely welded throughout.
- Top of frame is solid. Round hole and 5 mounting holes on top of frame to accommodate Exhaust (EF Series) and Intake (IF Series) Fans, available at additional cost.
- Knockouts supplied on sides of uprights for use in ganging frames.
- A rectangular cutout is provided in bottom for leads, etc.
- Rectangular knockouts provided on front and rear of uprights of frame to accommodate hinge and handle brackets, so that door can be mounted either left or right hand. Doors can be mounted to front or rear of frame.
- Holes punched in bottom to accommodate CA-4 (2"), CA-5 (3"), CA-6 (double 2") and CA-7 (locking 3") casters.
- Finished in Gray Hammertone.



Above unit consists of Frame (PRXA Series), Rounded Side Panels (SP Series) and Door (DF Series)



Above unit consists of Frame (PRXA Series), Flush Side Panels (FL Series) and Door (DF Series)

FRAMES

18" DEEP				22" WIDE			24" DEEP		
Cat. No.	Shpg. Wt. Lbs.	Net Price	Height	Panel Space	Cat. No.	Shpg. Wt. Lbs.	Net Price		
PRXA-36	40	\$44.63	42 7/8"	36 3/4 x 19"	PRXA-36-24	50	\$65.63		
PRXA-42	48	49.14	48 1/8"	42 x 19"	PRXA-42-24	58	74.34		
PRXA-52	60	60.48	58 5/8"	52 1/2 x 19"	PRXA-52-24	72	81.90		
PRXA-61	70	75.29	67 3/8"	61 1/4 x 19"	PRXA-61-24	85	104.52		
PRXA-70	88	91.10	76 1/8"	70 x 19"	PRXA-70-24	108	124.49		
PRXA-77	100	92.99	83 1/8"	77 x 19"	PRXA-77-24	120	132.30		
18" DEEP				27" WIDE			24" DEEP		
PRXA-2761	100	84.61	67 3/8"	61 1/4 x 24"	PRXA-2761-24	134	118.00		
PRXA-2770	104	100.36	76 1/8"	70 x 24"	PRXA-2770-24	140	129.15		
PRXA-2777	116	105.21	83 1/8"	77 x 24"	PRXA-2777-24	156	135.20		
18" DEEP				33" WIDE			24" DEEP		
PRXA-3361	122	89.84	67 3/8"	61 1/4 x 30"	PRXA-3361-24	162	124.74		
PRXA-3370	126	114.60	76 1/8"	77 x 30"	PRXA-3370-24	169	147.67		
PRXA-3377	142	116.30	83 1/8"	77 x 30"	PRXA-3377-24	190	150.70		

ORDERING GUIDE

FRAME Cat. No.	FLUSH END PANEL* (Page 17) Cat. No.	ROUNDED END PANEL* (Page 17) Cat. No.	Use DOOR (Page 18) Cat. No.	Use CHASSIS SUPPORT ANGLE (Page 22)	Use SHELF (Page 22)	Use CHASSIS SLIDES (Pages 27, 28)	FOR MODIFICATIONS See Premier Page 2
PRXA-36	FL-36	SP-36	DF-36	CSA-18	S-2218	16"	•
PRXA-42	FL-42	SP-42	DF-42	CSA-18	S-2218	16"	
PRXA-52	FL-52	SP-52	DF-52	CSA-18	S-2218	16"	•
PRXA-61	FL-61	SP-61	DF-61	CSA-18	S-2218	16"	
PRXA-70	FL-70	SP-70	DF-70	CSA-18	S-2218	16"	•
PRXA-77	FL-77	SP-77	DF-77	CSA-18	S-2218	16"	
PRXA-42-24	FL-36-24	SP-36-24	DF-36	CSA-24	S-2224	22"	•
PRXA-36-24	FL-42-24	SP-42-24	DF-42	CSA-24	S-2224	22"	
PRXA-52-24	FL-52-24	SP-52-24	DF-52	CSA-24	S-2224	22"	•
PRXA-61-24	FL-61-24	SP-61-24	DF-61	CSA-24	S-2224	22"	
PRXA-77-24	FL-70-24	SP-70-24	DF-70	CSA-24	S-2224	22"	•
PRXA-70-24	FL-77-24	SP-77-24	DF-77	CSA-24	S-2224	22"	
PRXA-2761	FL-61	SP-61	DF-2761	CSA-18	S-2718	16"	•
PRXA-2770	FL-70	SP-70	DF-2770	CSA-18	S-2718	16"	
PRXA-2777	FL-77	SP-77	DF-2777	CSA-18	S-2718	16"	•
PRXA-2761-24	FL-61-24	SP-61-24	DF-2761	CSA-24	S-2724	22"	
PRXA-2770-24	FL-70-24	SP-70-24	DF-2770	CSA-24	S-2724	22"	•
PRXA-2777-24	FL-77-24	SP-77-24	DF-2777	CSA-24	S-2724	22"	
PRXA-3361	FL-61	SP-61	DF-3361	CSA-18	S-3318	16"	•
PRXA-3370	FL-70	SP-70	DF-3370	CSA-18	S-3318	16"	
PRXA-3377	FL-77	SP-77	DF-3377	CSA-18	S-3318	16"	•
PRXA-3361-24	FL-61-24	SP-61-24	DF-3361	CSA-24	S-3324	22"	
PRXA-3370-24	FL-70-24	SP-70-24	DF-3370	CSA-24	S-3324	22"	•
PRXA-3377-24	FL-77-24	SP-77-24	DF-3377	CSA-24	S-3324	22"	

FOR MODIFICATIONS

See Premier Page 2

FOR ACCESSORIES

Premier Pages 16 thru 22

FOR BLOWERS, FANS AND HARDWARE

Premier Pages 27 thru 32

\* End Panels fit into recess on side of frame.

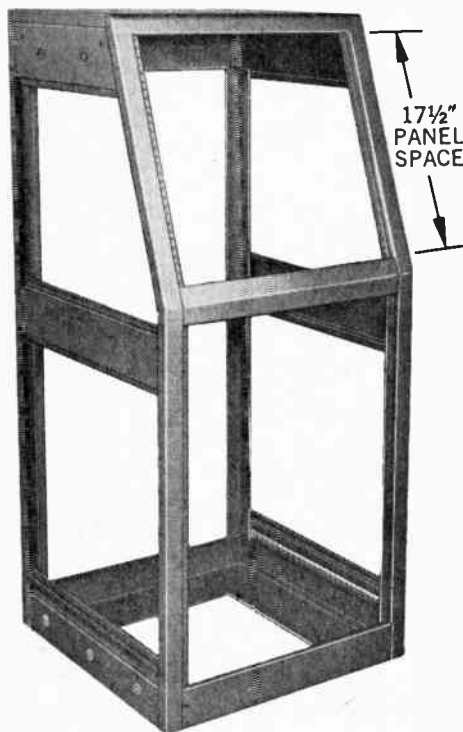
## PREMIER METAL PRODUCTS CO., INC.

A Renwell Industries Company

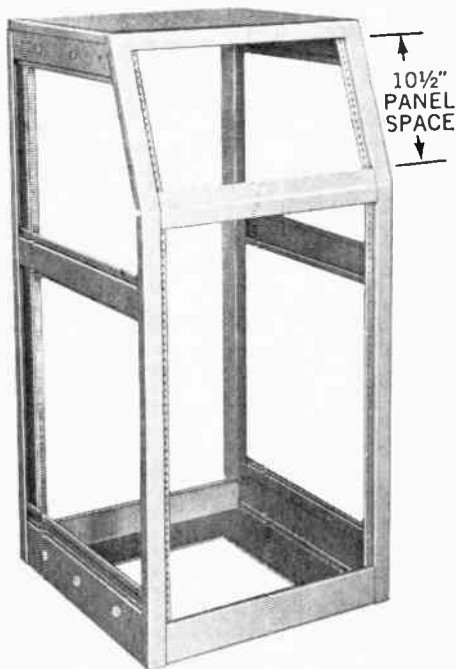
# PREMIER PREM-Ö-RAK

## MODULAR SLOPED FRONT FRAMES

### 10½" AND 17½" FOR 19" AND 24" PANELS

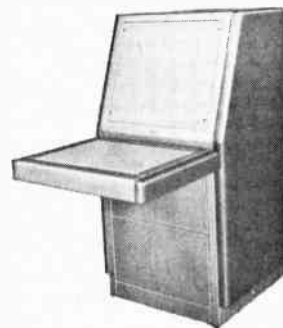


FS-1001



FS-1002

- TOPS OF FRONT AND REAR ARE ROUNDED
- Frames accommodate Ball Cornered End Panels (CEP Series)
- Designed for Multiple Installations
- Made of No. 14 Gauge (.0747) Steel
- Sloped Front Is 19° from Vertical
- Frame Completely Welded Throughout
- All Panel Mounting Angles are made of No. 12 Gauge Steel and Tapped on both legs 10/32 on E.I.A. Spacings (5/8-3/8-1/2). Front and Rear Vertical Angles Are Adjustable to Any Desired Position.
- Panels Fit into 1/2" Recess.
- Combination 1 3/8" and 1 1/8" Diameter Knockouts on Top and Bottom to Provide Access for Cabling Between Racks.
- Holes Punched in Bottom to Accommodate CA-4 (2"), CA-5 (3"), CA-6 (double 2") and CA-7 (locking 3") casters.
- A Rectangular Cutout Is Provided in Bottom for Leads, etc.
- Front Cross Piece Removable.
- Rectangular Knockouts On Rear Uprights to Accommodate Hinge and Handle Latch Brackets so that Door can be Mounted Either Left or Right.
- Finished in Gray Hammertone.



Above unit consists of Frame (FS Series), 2 End Panels (CEP-1201 Series), Writing Work Shelf (WW Series) and 2 End Panels (CEP Series) for shelf.

Cat. No.	Width	Hgt.	Depth	Sloped Front Panel Space	Front Vertical Space	Rear Vertical Space	Ship. Wt. Lbs.	Net Price
FS-1001	22"	50"	22"	17½ x 19"	26¼ x 19"	42 x 19"	66	\$84.42
FS-1002	22"	47"	22"	10½ x 19"	29¾ x 19"	42 x 19"	64	81.90
FS-1003	27"	50"	22"	17½ x 24"	26¼ x 24"	42 x 24"	76	92.61
FS-1004	27"	47"	22"	10½ x 24"	29¾ x 24"	42 x 24"	74	90.72
FS-1001-255	22"	50"	25½"	17½ x 19"	26¼ x 19"	42 x 19"	75	87.15
FS-1002-255	22"	47"	25½"	10½ x 19"	29¾ x 19"	42 x 19"	73	85.05
FS-1003-255	27"	50"	25½"	17½ x 24"	26¼ x 24"	42 x 24"	85	96.60
FS-1004-255	27"	47"	25½"	10½ x 24"	29¾ x 24"	42 x 24"	83	94.50

### ORDERING GUIDE

FRAME Cat. No.	USE END PANEL (Page 16) Cat. No.	USE REAR DOOR (Page 18) Cat. No.	USE SHELF (Page 22) Cat. No.	USE CHASSIS SUPPORT ANGLE (Page 22) Cat. No.	USE CHASSIS SLIDES (Pgs. 27, 28) Length
FS-1001	CEP-1201 (LH and/or RH)	DF-42	S-22-22	CSA-22	20"
FS-1002	CEP-1202 (LH and/or RH)	DF-42-1002	S-22-22	CSA-22	20"
FS-1003	CEP-1201 (LH and/or RH)	DF-2742	S-27-22	CSA-22	20"
FS-1004	CEP-1202 (LH and/or RH)	DF-2742-1002	S-27-22	CSA-22	20"
FS-1001-255	CEP-1201-255 (LH and/or RH)	DF-42	S-22-255	CSA-255	24"
FS-1002-255	CEP-1202-255 (LH and/or RH)	DF-42-1002	S-22-255	CSA-255	24"
FS-1003-255	CEP-1201-255 (LH and/or RH)	DF-2742	S-27-255	CSA-255	24"
FS-1004-255	CEP-1202-255 (LH and/or RH)	DF-2742-1002	S-27-255	CSA-255	24"

FOR MODIFICATIONS SEE PREMIER PAGE 2 • FOR ACCESSORIES SEE PREMIER PAGES 16 THRU 22  
FOR BLOWERS, FANS, HARDWARE SEE PREMIER PAGES 27 THRU 32

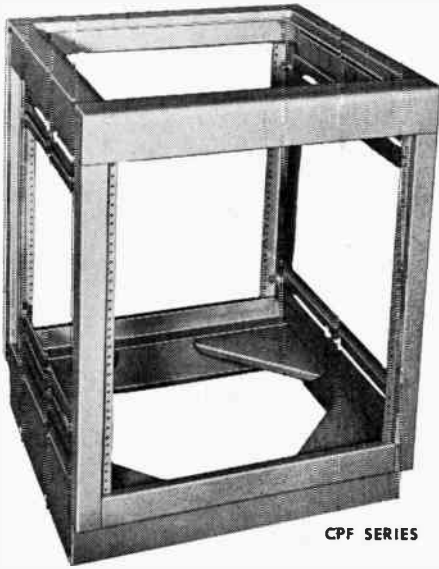
# PREMIER METAL PRODUCTS CO., INC.

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# PREMIER MODULAR ROUNDED PEDESTAL FRAMES

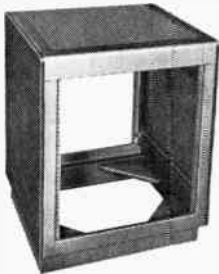
PREM-O-RAK®

- TOPS OF FRONT AND REAR ARE ROUNDED.
- Frames accommodate Ball Cornered End Panel (CEP Series).
- Units are designed for multiple installation.
- Supplied with two pair of No. 12 gauge steel Panel Mounting Angles. Both legs of the angle are tapped 10-32 on E.I.A. spacings (5/8-5/8-1/2) to accommodate Front Panels & Chassis Support Angles (CSA Series) and Shelves (S Series).
- Panels fit into 1/2" recess.
- Two rectangular knockouts supplied on one top cross member to accommodate channels of Writing Work Shelf.
- Brackets welded in base and punched to accommodate CA-5 (3") casters and supplied with adapter to accommodate CA-4 (2") casters.
- Frame made of No. 16 gauge steel;
- Finished in Gray Hammertone.



CPF SERIES

Cat. No.	Width	Depth	Height with Casters	Height without Casters	Front & Rear Panel Space	Top Panel Space	Shpg. Wt. Lbs.	Net Price
CPF-101	22"	22"	30"	29 1/2"	21 x 19"	17 1/2 x 19"	45	\$58.84
CPF-102	22"	22"	37"	36 1/2"	28 x 19"	17 1/2 x 19"	48	67.41
CPF-103	27"	22"	30"	29 1/2"	21 x 24"	17 1/2 x 24"	50	66.15
CPF-104	27"	22"	37"	36 1/2"	28 x 24"	17 1/2 x 24"	53	75.60
CPF-101-34	22"	34 1/4"	30"	29 1/2"	21 x 19"	29 3/4 x 19"	54	81.90
CPF-101-255	22"	25 1/2"	30"	29 1/2"	21 x 19"	21 x 19"	53	68.25
CPF-102-255	22"	25 1/2"	37"	36 1/2"	28 x 19"	21 x 19"	55	82.43
CPF-103-255	27"	25 1/2"	30"	29 1/2"	21 x 24"	21 x 24"	58	71.93
CPF-104-255	27"	25 1/2"	37"	36 1/2"	28 x 24"	21 x 24"	59	87.15
CPF-101-18	22"	18 1/2"	30"	29 1/2"	21 x 19"	14 x 19"	44	56.70
CPF-102-18	22"	18 1/2"	37"	36 1/2"	28 x 19"	14 x 19"	47	65.10
CPF-103-18	27"	18 1/2"	30"	29 1/2"	21 x 24"	14 x 24"	49	64.05
CPF-104-18	27"	18 1/2"	37"	36 1/2"	28 x 19"	14 x 24"	52	73.50



## ORDERING GUIDE

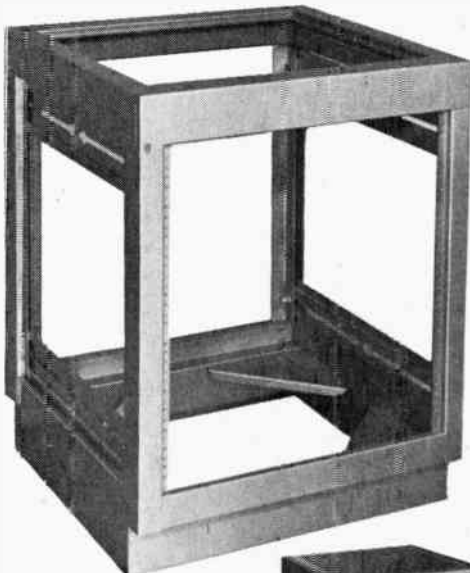
Frame shown with End Panel (CEP Series) and Top Panel (FP Series)

FRAME Cat. No.	Use END PANEL (Page 17) Cat. No.	Use DOOR (Page 18) Cat. No.	Use SHELVES (Page 22) Cat. No.	Use CHASSIS SUPPORT ANGLES (Page 22) Cat. No.	Use CHASSIS-SLIDES (Pgs. 27, 28) Length
CPF-101	CEP-401	CD-21	S-22-22	CSA-22	20"
CPF-102	CEP-402	CD-28	S-22-22	CSA-22	20"
CPF-103	CEP-401	CD-2124	S-27-22	CSA-22	20"
CPF-104	CEP-402	CD-2824	S-27-22	CSA-22	20"
CPF-101-34	CEP-401-34	CD-21	—	—	—
CPF-101-255	CEP-401-255	CD-21	S-22-255	CSA-255	24"
CPF-102-255	CEP-402-255	CD-28	S-22-255	CSA-255	24"
CPF-103-255	CEP-401-255	CD-2124	S-27-255	CSA-255	24"
CPF-104-255	CEP-402-255	CD-2824	S-27-255	CSA-255	24"
CPF-101-18	CEP-401-18	CD-21	S-22-18	CSA-18	16"
CPF-102-18	CEP-402-18	CD-28	S-22-18	CSA-18	16"
CPF-103-18	CEP-401-18	CD-2124	S-27-18	CSA-18	16"
CPF-104-18	CEP-402-18	CD-2824	S-27-18	CSA-18	16"

# PREMIER MODULAR SQUARE PEDESTAL FRAMES

PREM-O-RAK®

- Tops of front and rear are square
- Supplied with two pair of No. 12 gauge steel Panel Mounting Angles. Both legs of the angle are tapped 10-32 on E.I.A. spacings (5/8-5/8-1/2) to accommodate Front Panels & Chassis Support Angles (CSA Series) and Shelves (S Series)
- Panels fits into 1/2" recess
- Finished in gray hammertone
- Frame accommodates square cornered end panels (MSP Series)
- Units designed for multiple installation
- Brackets welded in base and punched to accommodate CA-5 (3") casters and supplied with adapter to accommodate CA-4 (2") casters
- Frame made of No. 16 gauge steel



MSF FRAME

Frame shown with End Panels (MSP Series) and Top Panels (FP Series)

FRAME Cat. No.	Width	Depth	Height with Casters	Height without Casters	Front & Rear Panel Space	Top Panel Space	Shpg. Wt. Lbs.	Net Price
MSF-21-22	22"	22"	30"	29 1/2"	21 x 19"	17 1/2 x 19"	45	\$59.85
MSF-28-22	22"	22"	37"	36 1/2"	28 x 19"	17 1/2 x 19"	50	69.30
MSF-21-255	22"	25 1/2"	30"	29 1/2"	21 x 19"	21 x 19"	50	63.00
MSF-28-255	22"	25 1/2"	37"	36 1/2"	28 x 19"	21 x 19"	55	72.45

## ORDERING GUIDE

FRAME Cat. No.	Use END PANEL (Page 16) Cat. No.	Use DOOR (Page 18) Cat. No.	Use SHELF (Page 22) Cat. No.	Use CHASSIS SUPPORT ANGLE (Page 22) Cat. No.	Use SLIDE (Pgs. 27, 28) Length
MSF-21-22	MSP-21-22	CD-21	S-22-22	CSA-22	20"
MSF-28-22	MSP-28-22	CD-28	S-22-22	CSA-22	20"
MSF-21-255	MSP-21-255	CD-21	S-22-255	CSA-255	24"
MSF-28-255	MSP-28-255	CD-28	S-22-255	CSA-255	24"

FOR MODIFICATIONS SEE PREMIER PAGE 2  
FOR ACCESSORIES SEE PREMIER PAGES 16 THRU 22

FOR BLOWERS, FANS and HARDWARE  
SEE PREMIER PAGES 27 THRU 32

# PREMIER METAL PRODUCTS CO., INC.

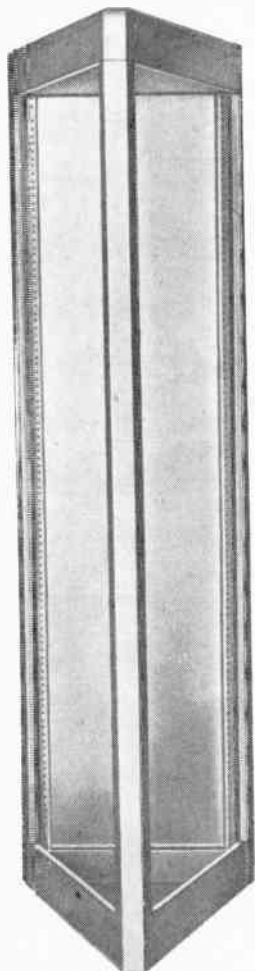
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ALL PRICES 10% HIGHER WEST OF MISSISSIPPI PREMIER PAGE 6

# PREMIER MODULAR WEDGE FRAMES

## PREM-O-RAK<sup>®</sup>

### 30° and 45°



- Constructed of 16 gauge steel
- Completely welded throughout
- Supplied with formed panel on rear
- End panels (CEP Series) can be mounted to the side of wedge frames if desired
- Finished in Gray Hammertone
- Designed for use in Semi-Circular Arrangements when bolted to Pedestal Frames (CPF Series) or Transmitter Rack Frames (FA Series)

NOTE: One piece Formica Shelf available for semi-circular arrangements.

### 30° WEDGE RACK FRAMES

Cat. No.	Height	Width	For Use With	Net Price
WED-30-42-22	48 $\frac{5}{8}$ "	22"	FA-42-22	\$128.21
WED-30-52-22	59 $\frac{1}{8}$ "	22"	FA-52-22	138.60
WED-30-61-22	67 $\frac{7}{8}$ "	22"	FA-61-22	145.53
WED-30-70-22	76 $\frac{3}{8}$ "	22"	FA-70-22	155.93
WED-30-77-22	83 $\frac{5}{8}$ "	22"	FA-77-22	162.86
WED-30-42-255	48 $\frac{5}{8}$ "	25 $\frac{1}{2}$ "	FA-42-255	153.83
WED-30-52-255	59 $\frac{1}{8}$ "	25 $\frac{1}{2}$ "	FA-52-255	162.16
WED-30-61-255	67 $\frac{7}{8}$ "	25 $\frac{1}{2}$ "	FA-61-255	166.32
WED-30-70-255	76 $\frac{3}{8}$ "	25 $\frac{1}{2}$ "	FA-70-255	180.18
WED-30-77-255	83 $\frac{5}{8}$ "	25 $\frac{1}{2}$ "	FA-77-255	187.11

### 45° WEDGE RACK FRAMES

Cat. No.	Height	Width	For Use With	Net Price
WED-45-42-22	48 $\frac{5}{8}$ "	22"	FA-42-22	\$131.67
WED-45-52-22	59 $\frac{1}{8}$ "	22"	FA-52-22	142.07
WED-45-61-22	67 $\frac{7}{8}$ "	22"	FA-61-22	149.00
WED-45-70-22	76 $\frac{3}{8}$ "	22"	FA-70-22	159.39
WED-45-77-22	83 $\frac{5}{8}$ "	22"	FA-77-22	166.32
WED-45-42-255	48 $\frac{5}{8}$ "	25 $\frac{1}{2}$ "	FA-42-255	157.31
WED-45-52-255	59 $\frac{1}{8}$ "	25 $\frac{1}{2}$ "	FA-52-255	165.17
WED-45-61-255	67 $\frac{7}{8}$ "	25 $\frac{1}{2}$ "	FA-61-255	169.79
WED-45-70-255	76 $\frac{3}{8}$ "	25 $\frac{1}{2}$ "	FA-70-255	183.65
WED-45-77-255	83 $\frac{5}{8}$ "	25 $\frac{1}{2}$ "	FA-77-255	190.58



### 30° Wedge Pedestal Frames

Catalog No.	Height	Width	For Use With	Net Price
WED-30-101	29 $\frac{1}{2}$ "	22"	CPF-101 103	\$107.42
WED-30-101-18	29 $\frac{1}{2}$ "	18 $\frac{1}{2}$ "	CPF-101-18, 103-18	105.00
WED-30-101-255	29 $\frac{1}{2}$ "	25 $\frac{1}{2}$ "	CPF-101-255, 103-255	110.25

### 45° Wedge Pedestal Frames

Catalog No.	Height	Width	For Use With	Net Price
WED-45-101	29 $\frac{1}{2}$ "	22"	CPF-101 103	\$110.25
WED-45-101-18	29 $\frac{1}{2}$ "	18 $\frac{1}{2}$ "	CPF-101-18, 103-18	108.15
WED-45-101-255	29 $\frac{1}{2}$ "	25 $\frac{1}{2}$ "	CPF-101-255, 103-255	113.40

## TYPICAL INSTALLATIONS OF THE PREM-O-RAK<sup>®</sup> MODULAR CONSOLE SYSTEM

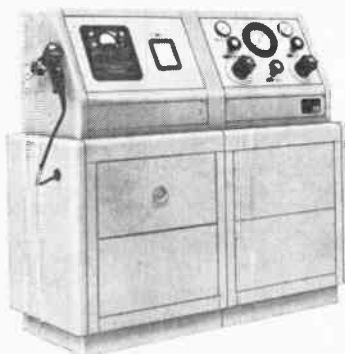


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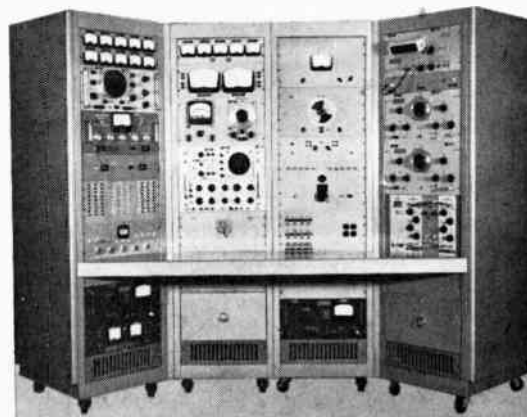
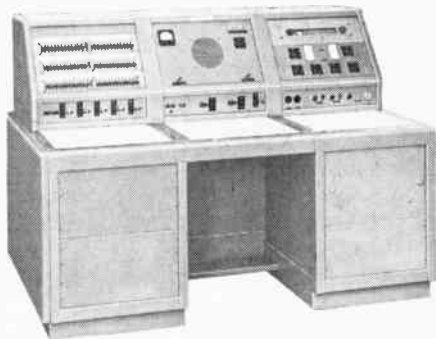


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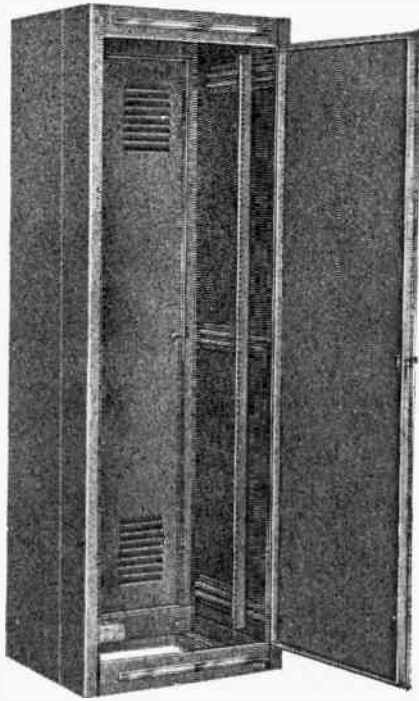
# PREMIER METAL PRODUCTS CO., INC.

A Renwell Industries Company

# PREMIER

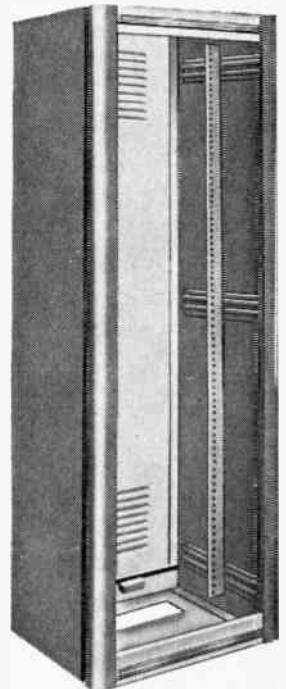
# HEAVY DUTY RACKS

FOR 19", 24" AND 30" RACK PANELS — 18" AND 24" DEEP



FDX SERIES

- Rigidly constructed of #16 gauge steel with a #12 gauge steel bottom and welded throughout.
- Supplied with two pair of #12 gauge steel Panel Mounting Angles. Both legs of the angle are tapped 10-32 on E.I.A. spacings (3/8"-5/8") to accommodate Front Panels & Chassis Support Angles (CSA Series) and Shelves (S Series).
- Rear doors are hung on sturdy slip-jointed hinges and closed with a chrome handle. Locking handle with 2 keys available at additional cost.
- Round hole and 5 mounting holes on top of frame to accommodate Exhaust (EF Series) and Intake (IF Series) Fans available at additional cost.
- A rectangular cut-out is made in the bottom for leads, etc.
- RMX-7030 Rack supplied with double rear doors and with a 3-point locking device.
- FDX Series are furnished with locking handle and 2 keys on Front Door.
- ALL RACKS ARE SUPPLIED WITHOUT LOUVRES ON SIDES UNLESS SPECIFIED.
- Vertical rounded corner "J" type moldings are supplied with RMX series.
- When joining RMX racks for multiple installation, specify amount of center "U" type moldings (supplied at no additional cost). EXAMPLE: Three RMX-3619 requires two "J" and two "U" moldings.
- Tops and bottoms are trimmed with chrome molding.
- Panel mounting angles are held in place at three points by 3/8" carriage bolts and are adjustable to any desired position by means of channel slides.
- A heavy duty duplex "U" ground receptacle and outlet box are furnished in the rear under the door.
- Finished in Gray Hammertone. Also available in Black Wrinkle.



RMX SERIES

**SPECIFY COLOR WHEN ORDERING**

**FOR MODIFICATIONS**  
SEE PREMIER PAGE 2

**FOR ACCESSORIES**

SEE PREMIER PAGES 16 THRU 22

**FOR BLOWERS, FANS  
AND HARDWARE**

SEE PREMIER PAGES 27 THRU 32

18" DEEP RACKS				H & W	Panel Space	18" DEEP RACKS WITH FRONT AND REAR DOORS				
Cat. No.	Shpg. Wt. Lbs.	Net Price				Cat. No.	Shpg. Wt. Lbs.	Net Price		
RMX-3619	100	\$ 72.61		42 7/8 x 22"	36 3/4 x 19"	FDX-3619	115	\$107.50		
RMX-4219	130	85.05		48 1/8 x 22"	42 x 19"	FDX-4219	120	113.40		
RMX-6119	150	94.50		67 3/8 x 22"	61 1/4 x 19"	FDX-6119	175	121.54		
RMX-7618	170	111.13		76 1/8 x 22"	70 x 19"	FDX-7019	200	138.92		
RMX-7719	190	120.75		83 1/8 x 22"	77 x 19"	FDX-7719	220	149.34		

24" DEEP RACKS				H & W	Panel Space	24" DEEP RACKS WITH FRONT AND REAR DOORS				
Cat. No.	Shpg. Wt. Lbs.	Net Price				Cat. No.	Shpg. Wt. Lbs.	Net Price		
RMX-3619-24	110	\$ 88.20		42 7/8 x 22"	36 3/4 x 19"	FDX-3619-24	125	\$110.25		
RMX-4219-24	130	97.70		48 1/8 x 22"	42 x 19"	FDX-4219-24	150	119.70		
RMX-6119-24	175	128.52		67 3/8 x 22"	61 1/4 x 19"	FDX-6119-24	200	159.77		
RMX-7618-24	200	138.92		76 1/8 x 22"	70 x 19"	FDX-7019-24	255	166.70		
RMX-7719-24	225	156.30		83 1/8 x 22"	77 x 19"	FDX-7719-24	270	190.98		
RMX-2742	170	126.82		48 1/8 x 27"	42 x 24"	FDX-2742	180	152.25		
RMX-2761	210	144.46		67 3/8 x 27"	61 1/4 x 24"	FDX-2761	230	178.50		
RMX-2770	240	156.02		76 1/8 x 27"	70 x 24"	FDX-2770	260	191.10		
RMX-2777	270	173.66		83 1/8 x 27"	77 x 24"	FDX-2777	290	210.00		
RMX-7030	240	201.44		76 1/8 x 33"	70 x 30"					

**ORDERING GUIDE**

Frame Cat. No.	Frame Cat. No.	Chassis Support Angle (Page 22) Cat. No.	Shelves (Page 22) Cat. No.	Use Chassis Slides (length) (Pages 27, 28)	Use Roller Truck (Page 21) Cat. No.
RMX-3619	FDX-3619	CSA-16	S-18-22	14"	RT-1101 or RT-1101-3*
RMX-4219	FDX-4219	CSA-16	S-18-22	14"	RT-1101 or RT-1101-3*
RMX-6119	FDX-6119	CSA-16	S-18-22	14"	RT-1101 or RT-1101-3*
RMX-7618	FDX-7618	CSA-16	S-18-22	14"	RT-1101 or RT-1101-3*
RMX-7719	FDX-7719	CSA-16	S-18-22	14"	RT-1101 or RT-1101-3*
RMX-3619-24	FDX-3619-24	CSA-22	S-22-22	20"	RT-1103 or RT-1103-3*
RMX-4219-24	FDX-4219-24	CSA-22	S-22-22	20"	RT-1103 or RT-1103-3*
RMX-6119-24	FDX-6119-24	CSA-22	S-22-22	20"	RT-1103 or RT-1103-3*
RMX-7618-24	FDX-7618-24	CSA-22	S-22-22	20"	RT-1103 or RT-1103-3*
RMX-7719-24	FDX-7719-24	CSA-22	S-22-22	20"	RT-1103 or RT-1103-3*
RMX-2742	FDX-2742	CSA-22	S-27-22	20"	RT-1110 or RT-1110-3*
RMX-2761	FDX-2761	CSA-22	S-27-22	20"	RT-1110 or RT-1110-3*
RMX-2770	FDX-2770	CSA-22	S-27-22	20"	RT-1110 or RT-1110-3*
RMX-2777	FDX-2777	CSA-22	S-27-22	20"	RT-1110 or RT-1110-3*
RMX-7030	FDX-7030	CSA-22	S-33-22	20"	RT-1111 or RT-1111-3*

\* 3" dia. caster

# PREMIER METAL PRODUCTS CO., INC.

A Renwell Industries Company

# PREMIER

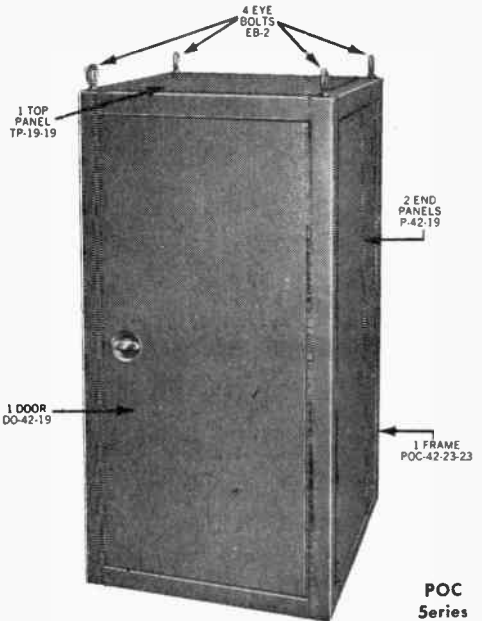
# HEAVY DUTY CUBICLES

**PREM-O-CUBE**



## FOR STANDARD 19, 24 and 30" WIDE PANELS

- Frame made of No. 12 gauge steel and supplied with 10-32 tapped holes on EIA spacings (5/8"-5/8"-1/2") on both legs of all vertical uprights.
- Top of frame supplied with knock-out in each corner to accommodate eye bolts for lifting.
- Top and side panels and doors made of No. 14 gauge steel and supplied with a return flange on all sides for easy gasketing.
- Doors and/or side panels can be mounted to any openings of frame.
- Finished in Green Kromotex. Also available in Gray Hammetone. Specify when ordering.



### FRAMES 23" WIDE for 19" PANELS

Overall Height	Panel Height	23" Deep Cat. No.	Net Price	28" Deep Cat. No.	Net Price	34" Deep Cat. No.	Net Price
40 3/4"	36 3/4"	POC-36-23-23	\$ 95.70	POC-36-23-28	\$101.20	POC-36-23-34	\$107.80
46"	42"	POC-42-23-23	101.20	POC-42-23-28	106.70	POC-42-23-34	113.30
65 1/4"	61 1/4"	POC-61-23-23	123.20	POC-61-23-28	128.70	POC-61-23-34	135.40
74"	70"	POC-70-23-23	132.00	POC-70-23-28	137.50	POC-70-23-34	144.10
81"	77"	POC-77-23-23	139.70	POC-77-23-28	145.20	POC-77-23-34	151.80
84 1/2"	80 1/2"	POC-80-23-23	144.10	POC-80-23-28	149.60	POC-80-23-34	156.20

### FRAMES 28" WIDE for 24" PANELS

Overall Height	Panel Height	28" Deep Cat. No.	Net Price	34" Deep Cat. No.	Net Price
40 3/4"	36 3/4"	POC-36-28-28	\$106.70	POC-36-28-34	\$113.30
46"	42"	POC-42-28-28	112.20	POC-42-28-34	118.80
65 1/4"	61 1/4"	POC-61-28-28	134.20	POC-61-28-34	140.80
74"	70"	POC-70-28-28	143.00	POC-70-28-34	149.60
81"	77"	POC-77-28-28	150.70	POC-77-28-34	157.30
84 1/2"	80 1/2"	POC-80-28-28	155.10	POC-80-28-34	161.70

### FRAMES 34" WIDE for 30" PANELS

Overall Height	Panel Height	34" Deep Cat. No.	Net Price
40 3/4"	36 3/4"	POC-36-34-34	\$119.90
46"	42"	POC-42-34-34	125.40
65 1/4"	61 1/4"	POC-61-34-34	147.40
74"	70"	POC-70-34-34	156.20
81"	77"	POC-77-34-34	163.90
84 1/2"	80 1/2"	POC-80-34-34	168.30

## PANELS AND DOORS FOR **PREM-O-CUBE** HEAVY DUTY CUBICLES FOR 19" WIDE

BLANK Cat. No.	Net Price	Height	LOUVRED Cat. No.	Net Price
P-36-19	\$24.64	36 3/4"	PL-36-19	\$33.44
P-42-19	26.84	42"	PL-42-19	35.64
P-61-19	35.64	61 1/4"	PL-61-19	44.44
P-70-19	39.16	70"	PL-70-19	47.96
P-77-19	42.24	77"	PL-77-19	51.04
P-80-19	44.00	80 1/2"	PL-80-19	52.80

### FOR 24" WIDE

BLANK Cat. No.	Net Price	Height	LOUVRED Cat. No.	Net Price
P-36-24	\$26.40	36 3/4"	PL-36-24	\$35.20
P-42-24	28.60	42"	PL-42-24	37.40
P-61-24	37.40	61 1/4"	PL-61-24	46.20
P-70-24	40.92	70"	PL-70-24	49.72
P-77-24	44.00	77"	PL-77-24	52.80
P-80-24	45.76	80 1/2"	PL-80-24	54.86

### FOR 30" WIDE

BLANK Cat. No.	Net Price	Height	LOUVRED Cat. No.	Net Price
P-36-30	\$29.48	36 3/4"	PL-36-30	\$38.28
P-42-30	31.68	42"	PL-42-30	40.48
P-61-30	40.48	61 1/4"	PL-61-30	49.28
P-70-30	44.00	70"	PL-70-30	52.80
P-77-30	47.08	77"	PL-77-30	55.88
P-80-30	48.84	80 1/2"	PL-80-30	57.64

### FOR 19" WIDE

Blank	Net Price	Height	Width	Louvred	Net Price
DO-36-19	\$41.89	36 3/4"	19"	DOL-36-19	\$50.69
DO-36-24	44.88	36 3/4"	24"	DOL-36-24	53.68
DO-36-30	50.12	36 3/4"	30"	DOL-36-30	58.92
DO-42-19	45.63	42"	19"	DOL-42-19	54.43
DO-42-24	48.62	42"	24"	DOL-42-24	57.42
DO-42-30	53.86	42"	30"	DOL-42-30	62.66
DO-61-19	60.59	61 1/4"	19"	DOL-61-19	69.39
DO-61-24	63.58	61 1/4"	24"	DOL-61-24	72.38
DO-61-30	68.82	61 1/4"	30"	DOL-61-30	77.62
DO-70-19	66.57	70"	19"	DOL-70-19	75.37
DO-70-24	69.56	70"	24"	DOL-70-24	78.36
DO-70-30	74.80	70"	30"	DOL-70-30	83.60
DO-77-19	71.81	77"	19"	DOL-77-19	80.60
DO-77-24	74.80	77"	24"	DOL-77-24	83.60
DO-77-30	80.04	77"	30"	DOL-77-30	88.84
DO-80-19	74.80	80 1/2"	19"	DOL-80-19	83.60
DO-80-24	77.79	80 1/2"	24"	DOL-80-24	86.59
DO-80-30	83.03	80 1/2"	30"	DOL-80-30	91.83

## DOORS

### Blank and Louvred

- Made of No. 14 gauge steel
- Continuous hinge flush fitting
- Supplied with 3 point latching device and round flush handle

## ACCESSORIES FOR **PREM-O-CUBE** HEAVY DUTY CUBICLES TOP & BOTTOM PANELS

Size	Blank Cat. No.	Net Price	Louvred Cat. No.	Net Price
19x19"	TP-19-19	\$16.72	TPL-19-19	\$22.22
19x24"	TP-19-24	18.92	TPL-19-24	24.42
19x30"	TP-19-30	21.56	TPL-19-30	27.06
24x24"	TP-24-24	21.12	TPL-24-24	26.62
24x30"	TP-24-30	23.76	TPL-24-30	29.26
30x30"	TP-30-30	26.40	TPL-30-30	31.90

## PANEL MOUNTING ANGLES

12 gauge steel; tapped 10-32 on E.I.A. spacings

Length	Cat. No.	Net Price (Pair)
36 3/4"	PMA 362-12	\$12.13
42"	PMA 422-12	13.86
61 1/4"	PMA 612-12	17.33
70"	PMA 702-12	19.43
77"	PMA 772-12	21.00
80 1/2"	PMA 802-12	22.05

## HORIZONTAL CROSS PIECES

Fits Frame Depth	Cat. No.	Net Price
23"	HCP-23	\$2.75
28"	HCP-28	3.30
34"	HCP-34	3.85

## ROLLER TRUCKS

with 4" Diameter Rockite Casters  
Fits into recess in bottom of frame

Size	Cat. No.	Net Price
19x19"	CRT 19-19	\$55.00
19x24"	CRT 19-24	57.20
19x30"	CRT 19-30	59.84
24x24"	CRT 24-24	59.40
24x30"	CRT 24-30	62.04
30x30"	CRT 30-30	64.68

## EYE BOLTS

2" Dia. — Cat. No. EB-2

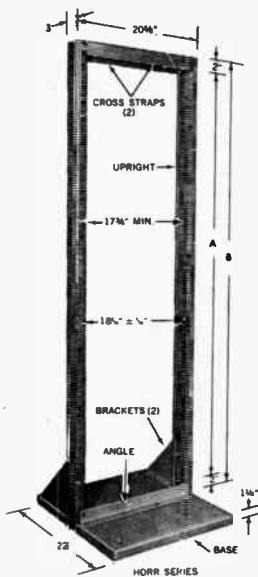
Net Price — \$6.60 for 4

# PREMIER METAL PRODUCTS CO., INC.

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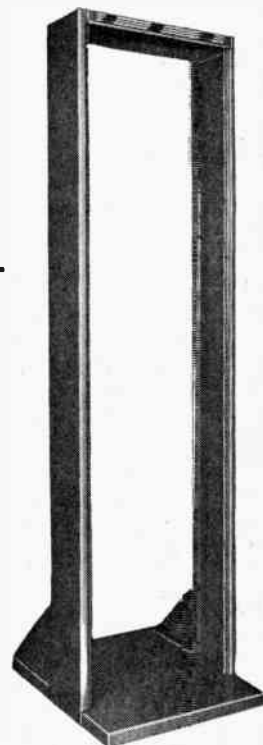
# PREMIER CHANNEL RELAY RACKS

## HEAVY DUTY RELAY RACK *Meets MIL-STD-189*



- Uprights and top cross straps made of 3/16" sheet steel.
- Base and Brackets made of No. 12 gauge sheet steel.
- Base angle made of 2 x 2 x 3/16" steel.
- Panel mounting holes are tapped 10-32 on E.I.A. spacings (1 1/4"-1 1/2").
- Finished in Zinc Chromate Primer (MIL SPEC. 6889A) or Gray Hammertone (Specify finish when ordering).
- Shipped knocked down and assembled with 1/4"-20 x 3/4" long hex head cap screws and nuts.

Catalog No.	Panel Space (A)	Frame Height (B)	Net Price
HDRR-6619	66 21/32"	71 29/32"	\$73.70
HDRR-7319	73 21/32"	78 29/32"	80.30
HDRR-7719	77 5/32"	82 13/32"	84.70



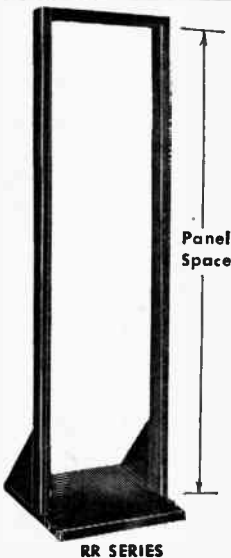
RR-2100 Series

## DELUXE UTILITY RACKS

- Made of No. 12 gauge (.104) steel Tapped 10-32 on EIA spacings (5/8"-5/8"-1/2") both front and rear.
- Uprights 8 1/8" deep.
- Panels Fit into 1/2" Recess. Either flat or Formed Panels may be used.

- Finished in Gray Hammertone. Also available in Black Wrinkle.
- Top ventilated by means of grille.
- Racks can be bolted side by side.
- There are no screw heads projecting.
- Vertical members and top cross piece are welded together.
- The base and rear supports are shipped knocked down.

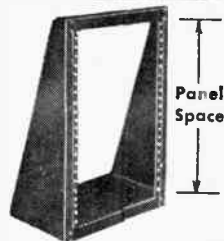
FOR 19" WIDE PANELS					FOR 24" WIDE PANELS					
Cat. No.	Width	Panel Space	Shpg. Lbs.	Net Price	Height	Cat. No.	Width	Panel Space	Shpg. Lbs.	Net Price
RR-2164	21 1/16"	61 1/4 x 19"	85	\$39.90	64 1/2"	RR-2664	26 1/16"	61 1/4 x 24"	100	\$51.45
RR-2173	21 1/16"	70 x 19"	90	43.05	73 1/4"	RR-2673	26 1/16"	70 x 24"	105	54.60
RR-2180	21 1/16"	77 x 19"	95	47.25	80 3/4"	RR-2680	26 1/16"	77 x 24"	105	58.80



### CHANNEL RELAY RACKS

- Rigidly constructed of #12 gauge cold rolled sheet steel and finished in Gray Hammertone. Also available in Black Wrinkle.
- Vertical members and top crossbrace are welded together.
- Panel mounting holes are tapped for 10/32 machine screws on E.I.A. spacings (5/8"-5/8"-1/2").
- Racks are shipped knocked down with all necessary bolts for easy assembly.
- Base punched to accommodate CA-4 (2") and CA-5 (3") casters.

Cat. No.	H.	W.	D.	Panel Space	Shp. Lbs.	Wt. Lbs.	Net Price
RR-800	39 1/4"	20"	18 3/8"	3 5/8" x 19"	40		\$22.26
RR-801	74 1/4"	20"	20 7/8"	7 1/4" x 19"	55		26.46
RR-802	79 1/2"	20"	20 7/8"	7 7/8" x 19"	60		30.66
RR-803	69"	20"	20 7/8"	6 1/2" x 19"	50		25.41



### TABLE TYPE RELAY RACKS

TR SERIES

- Rigidly constructed of #16 gauge cold rolled sheet steel and finished in Gray Hammertone. Also available in Black Wrinkle.
- Base constructed of one piece, similar to a chassis.
- Panel mounting holes are tapped for 10/32 machine screws on E.I.A. spacings (5/8"-5/8"-1/2").
- Racks are shipped knocked down with all necessary bolts for easy assembly.

Cat. No.	H.	W.	D.	Panel Space	Shp. Lbs.	Wt. Lbs.	Net Price
TR-2119	25"	21"	12"	21 x 19"	17		\$ 9.26
TR-2819	32"	21"	12"	28 x 19"	20		11.59

# PREMIER METAL PRODUCTS CO., INC.

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ALL PRICES 10% HIGHER WEST OF MISSISSIPPI

PREMIER PAGE 10

# PREMIER CABINET RELAY RACKS

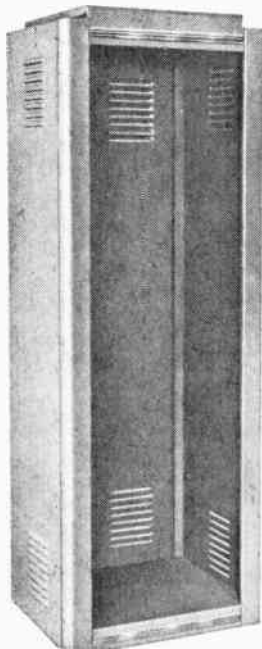
## FOR STANDARD 19" RACK PANELS (KNOCKED DOWN)



- Rigidly constructed of #16 gauge cold rolled sheet steel.
- The panel mounting angles are of #12 gauge steel and are tapped for 10-32 machine screws on E.I.A. spacings (5/8-1/2).
- Panels fit into a 3/8" recess so that the edges are not exposed.
- Racks are shipped knocked down with all necessary bolts for easy assembly.
- Rear doors are hung on sturdy slip-jointed hinges, and closed by a chrome handle. Locking handle with two keys available at additional cost.
- Holes punched in bottom to accommodate CA-4 and CA-5 casters.

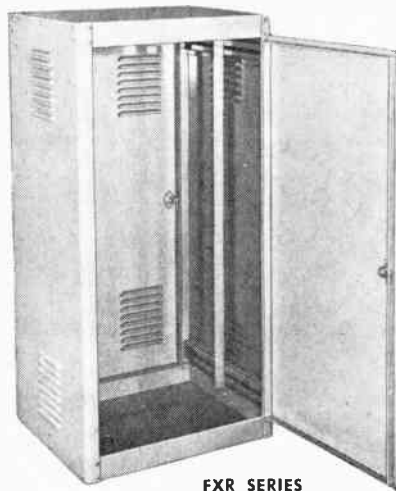
- **ROUNDED TYPE** has front vertical rounded corners.
- **DELUXE TYPE**—The removable vertical corner mouldings are rounded and cover the mounting screws.
- **DELUXE TYPE**—Top and bottom are trimmed with chrome finished moulding.
- **FRONT DOOR TYPE** has front vertical rounded corners and is supplied with locking chrome handle and two keys for front door.
- Finished in Gray Hammetone. Also available in Black Wrinkle.
- **SPECIFY COLOR WHEN ORDERING.**

### DELUXE TYPE



DR SERIES

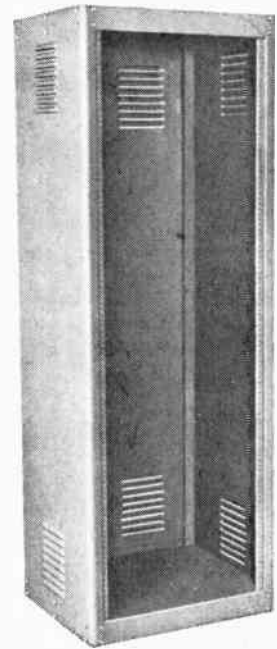
### FRONT DOOR TYPE



FXR SERIES

Supplied with adjustable Panel Mounting Angles

### ROUNDED TYPE



R SERIES

**SPECIFY COLOR WHEN ORDERING Racks are 22" wide x 18" deep**

	Cat. No.	Overall Height	Panel Space	Use Slide Length*	Ship. Wt.—Lbs.	Net Price
<b>DELUXE</b>	DR-3619	43 1/8"	36 3/4"	16"	85	\$62.37
	DR-6119	67 5/8"	61 1/4"	16"	135	76.23
	DR-7719	83 3/8"	77"	16"	160	92.29
<b>FRONT DOOR</b>	FXR-3619	41 7/8"	36 3/4"	16"	93	66.68
	FXR-4219	47 1/8"	42"	16"	105	75.60
	FXR-6119	66 3/8"	61 1/4"	16"	140	94.50
	FXR-7719	82 1/8"	77"	16"	164	114.45
<b>ROUNDED</b>	R-3619	41 7/8"	36 3/4"	16"	80	47.30
	R-4219	47 1/8"	42"	16"	90	55.00
	R-6119	66 3/8"	61 1/4"	16"	120	70.40
	R-7719	82 1/8"	77"	16"	140	83.60
<b>MULTIPLE RACK SECTIONS</b>	DMR-3619	43 1/8"	36 3/4"	16"	DR-3619	\$59.81
	DMR-6119	67 5/8"	61 1/4"	16"	DR-6119	71.42
	DMR-7719	83 3/8"	77"	16"	DR-7719	85.24
	MR-3619	41 7/8"	36 3/4"	16"	R-3619	45.65
	MR-4219	47 1/8"	42"	16"	R-4219	53.35
	MR-6119	66 3/8"	61 1/4"	16"	R-6119	68.75
	MR-7719	82 1/8"	77"	16"	R-7719	81.95
	MXR-3619	41 7/8"	36 3/4"	16"	FXR-3619	64.05
	MXR-4219	47 1/8"	42"	16"	FXR-4219	74.03
	MXR-6119	66 3/8"	61 1/4"	16"	FXR-6119	92.93
	MXR-7719	82 1/8"	77"	16"	FXR-7719	112.88

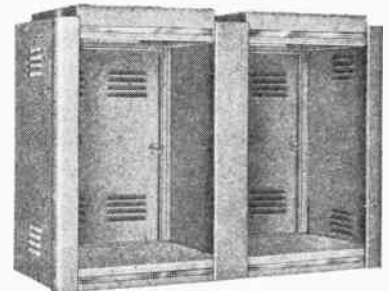
\* Use Slide Adapter Kit (Cat. No. SAK-35) for rear mounting. (See Premier Page 28).

**FOR MODIFICATIONS SEE PREMIER PAGE 2**  
**FOR ACCESSORIES SEE PREMIER PAGES 16 THRU 22**  
**FOR BLOWERS, FANS and HARDWARE SEE PREMIER PAGES 27 THRU 32**

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### MULTIPLE RACK UNITS

These racks can be joined together to make multiple units by means of a solid center partition which is bolted to the top and bottom. Each multiple section comprises a top, bottom, rear door and center partition. On MXR Models, front door is also supplied. When ordering multiple units, specify number of units, such as double, triple, quad, etc.



**ABOVE UNIT IS ONE DOUBLE DR3619**  
 Example: One Double DR-3619 consists of one DR-3619 and one DMR-3619.  
 One Triple FXR-3619 consists of one FXR-3619 and two MXR-3619.  
 One Quad R-3619 consists of one R-3619 and three MR-3619.



# PREMIER MODULAR SLOPING DESK CABINETS

## PREM-O-RAK



CSC-201

- BOTH FRONT AND REAR HAVE ATTRACTIVE BALL CORNERS.
- Shipped knocked down with necessary hardware for easy assembly.
- All screws for assembling console are not visible from the outside.
- Both front and rear are tapped for 10/32 machine screws on E.I.A. spacings (5/8-5/8-1/2).
- Interlocking removable rear panel made of perforated metal and held in place by four captive screws.
- Made of No. 16 gauge steel.
- Rear panel has 1 3/4" opening on bottom for leads, etc.
- Panels fit into 1/2" recess.
- May be used individually or in multiples.
- Handsomely finished in Two Tone Hammertone—Top, cross-piece and base are Gray Hammertone. Rear and side panels are Brown Hammertone.

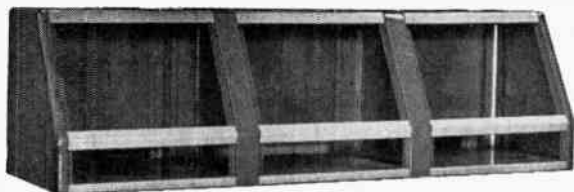


CSC-202

Cat. No.	Width	Height	Depth	Sloped Panel Space	Front Vertical Panel Space	Rear Panel Space	Slope from Vertical	Bottom Panel Space	Ship. Wt. Lbs.	Net Price
CSC-201	21 3/4"	18 1/4"	18"	12 1/4" x 19"	3 1/2" x 9"	15 3/4" x 19"	30°		35	\$60.50
CSC-202	21 3/4"	18 7/8"	18 7/8"	17 1/2" x 19"		15 3/4" x 19"	25°	15 3/4" x 19"	40	66.00

### DESIGNED FOR MULTIPLE INSTALLATION

The PREM-O-RAK CONSOLE CABINETS can be joined together to make multiple units by means of a center frame section which is bolted to the top, cross-piece and base. When ordering multiple units specify number of units, such as Double, Triple, etc.



One Triple CSC-201 consists of one CSC-201 and two CMS-301

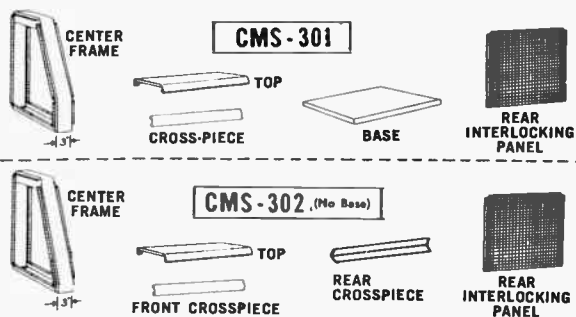
### MULTIPLE SECTION for SLOPING CABINET

Cat. No.	Ship. Wt. Lbs.	Net Price
CMS-301	26	\$39.60
CMS-302	28	44.00

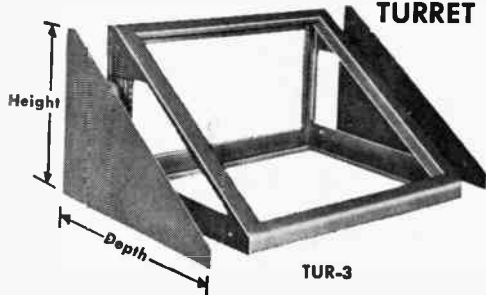
Rigidly constructed of No. 16 gauge steel and finished in Two Tone Hammertone.

EACH MULTIPLE SECTION comprises 5 pieces as shown:

EXAMPLE: One Double CSC-201 consists of one CSC-201 and one CMS-301  
One Triple CSC-201 consists of one CSC-201 and two CMS-301

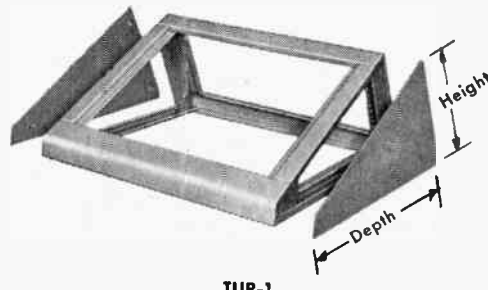


### TURRET WITH FLAT SIDE PANELS



TUR-3

- Made of No. 16 gauge steel.
- All panel openings tapped for 10/32 machine screws on E.I.A. spacings (5/8-5/8-1/2).
- Panels fit into 1/2" recess.
- Flat side panels are assembled at factory before shipping.
- Frame finished in Gray Hammertone. Side panels finished in Brown Hammertone.



TUR-1

Cat. No.	Width	Height	Depth	Sloped Front Panel Space	Rear Panel Space	Bottom Panel Space	Ship. Wt. lbs.	Net Price
TUR-1	22"	9 3/4"	21"	14" x 19"	7" x 19"	17 1/2" x 19"	25	\$42.00
TUR-3	22"	12 1/4"	17 1/2"	17 1/2" x 19"	8 3/4" x 19"	14" x 19"	20	36.54

# PREMIER METAL PRODUCTS CO., INC.

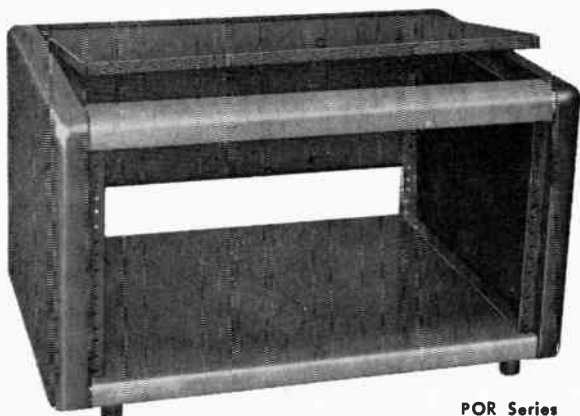
A Renwell Industries Company

# PREMIER

# DESK CABINET RACKS

## PREM-O-RAK

**15 1/4" and 18" DEEP  
FOR STANDARD  
19" WIDE PANELS  
(KNOCKED DOWN)**



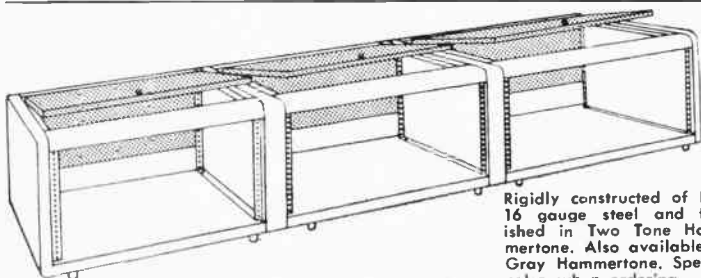
POR Series

**BOTH FRONT AND REAR OF TOP  
HAVE ATTRACTIVE BALL CORNERS.**

- Rear Panel has 3 1/2" opening on bottom for leads, etc., except on POR-3, 318, 5, 518.
- Panels fit into 1/2" recess.
- Base supplied with four rubber feet.
- Components may be mounted on base before assembly of rack into a complete unit.
- Shipped knocked down with all necessary hardware for easy assembly.
- **HANDSOMELY FINISHED IN TWO-TONE HAMMERTONE.**  
Top cross braces and base are Gray Hammertone. Top & rear panel & side panels are Brown Hammertone. Also available all Gray Hammertone. Specify color when ordering.

- All screws for assembling PREM-O-RAK are not visible from the outside.
- Both front and rear verticals are tapped for 10/32 machine screws on E.I.A. spacings (5/8-5/8-1/2") so that panels may be mounted on both front and rear if desired.
- Interlocking removable top made of perforated metal and held in place by only one captive screw.
- Interlocking removable rear panel made of perforated metal and held in place by two captive screws.
- Rigidly constructed of #16 gauge steel.

15 1/4" DEEP				ALL CABINETS ARE 21 3/4" WIDE		18" DEEP			
Catalog No.	Shp. Wt. Lbs.	Use Slide Length	Net Price	Overall Height	Panel Space	Catalog No.	Shp. Wt. Lbs.	Use Slide Length	Net Price
POR-3	18	14"	\$27.61	5 7/8"	3 1/2"	POR-318	20	16"	\$29.04
POR-5	20	14"	29.04	7 5/8"	5 1/4"	POR-518	22	16"	32.01
POR-7	22	14"	30.53	9 3/8"	7"	POR-718	24	16"	33.77
POR-8	24	14"	32.01	11 1/8"	8 3/4"	POR-818	26	16"	35.48
POR-10	26	14"	36.63	12 7/8"	10 1/2"	POR-1018	29	16"	40.43
POR-12	28	14"	39.66	14 5/8"	12 1/4"	POR-1218	31	16"	44.00
POR-14	32	14"	44.22	16 3/8"	14"	POR-1418	35	16"	48.79
POR-17	40	14"	52.64	19 7/8"	17 1/2"	POR-1718	44	16"	57.97
POR-21	44	14"	57.28	23 3/8"	21"	POR-2118	48	16"	63.31
POR-26	45	14"	61.77	28 5/8"	26 1/4"	POR-2618	49	16"	68.04
POR-31	50	14"	64.79	33 7/8"	31 1/2"	POR-3118	55	16"	72.22
POR-35	55	14"	68.64	37 3/8"	35"	POR-3518	60	16"	75.68



Above unit is one Triple POR-8 which consists of one POR-8 two MOR-8

Rigidly constructed of No. 16 gauge steel and finished in Two Tone Hammertone. Also available in Gray Hammertone. Specify color when ordering.

### MULTIPLE SECTION FOR PREM-O-RAK DESK CABINETS

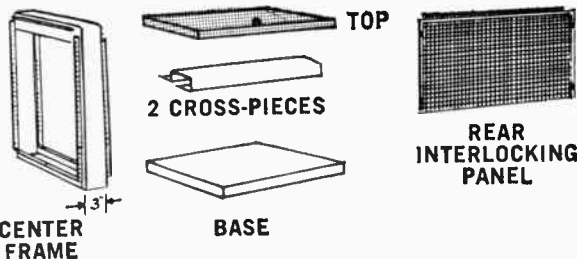
PREM-O-RAK DESK CABINETS can be joined together to make multiple units by means of a center frame section which is bolted to the top cross pieces and base. When ordering multiple units specify number of units, such as Double, Triple, etc.

EXAMPLE: One Double POR-1218 consists of one POR-1218 and one MOR-1218.

One Triple POR-8 consists of one POR-8 and two MOR-8.

EACH MULTIPLE SECTION (MOR Series) comprises 6 pieces as shown.

15 1/4" DEEP						18" DEEP		
Cat. No.	Shp. Wt. Lbs.	Net Price	Overall Height	Panel Space	Cat. No.	Shp. Wt. Lbs.	Net Price	
MOR-3	16	\$19.36	5 7/8"	3 1/2"	MOR-318	18	\$20.35	
MOR-5	17	20.35	7 5/8"	5 1/4"	MOR-518	19	22.44	
MOR-7	18	21.34	9 3/8"	7"	MOR-718	20	23.76	
MOR-8	19	22.44	11 1/8"	8 3/4"	MOR-818	21	24.97	
MOR-10	20	25.74	12 7/8"	10 1/2"	MOR-1018	23	28.44	
MOR-12	21	27.83	14 5/8"	12 1/4"	MOR-1218	24	30.58	
MOR-14	23	31.02	16 3/8"	14"	MOR-1418	26	34.21	
MOR-17	31	36.91	19 7/8"	17 1/2"	MOR-1718	34	40.70	
MOR-21	33	40.10	23 3/8"	21"	MOR-2118	37	44.33	
MOR-26	34	43.34	28 5/8"	26 1/4"	MOR-2618	38	47.49	
MOR-31	36	45.38	33 7/8"	31 1/2"	MOR-3118	40	50.60	
MOR-35	40	48.07	37 3/8"	35"	MOR-3518	44	53.02	



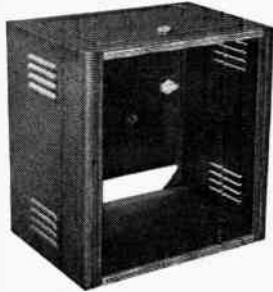
FOR MODIFICATIONS SEE PREMIER PAGE 2 • FOR ACCESSORIES SEE PREMIER PAGES 16 THRU 22  
FOR BLOWERS, FANS, HARDWARE SEE PREMIER PAGES 27 THRU 32

# PREMIER METAL PRODUCTS CO., INC.

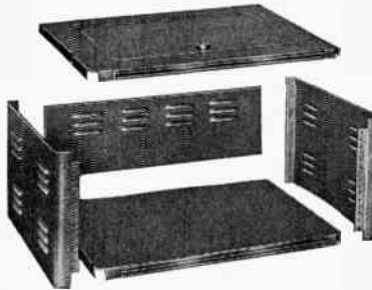
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# PREMIER DESK CABINET RACKS

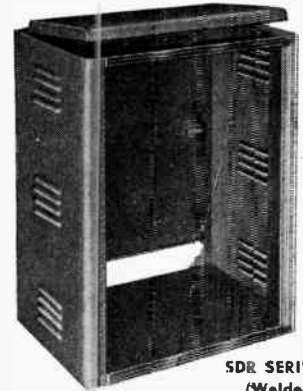
**15¼" and 18" DEEP  
FOR STANDARD 19" WIDE PANEL  
(WELDED AND KNOCKED DOWN MODELS)**



DCR SERIES (A)  
(Welded)



DRK SERIES (B)  
(Knocked Down)



SDR SERIES (C)  
(Welded)

- Front vertical corners are rounded and the top and bottom are trimmed with chrome finished moulding.
- Rigidly constructed of #16 gauge cold rolled sheet steel.
- Panels fit into a ¼" recess so that the edges are not exposed.
- Panel mounting holes are tapped for 10-32 machine screws on E.I.A. spacings (¾-¾½).
- Piano type hinges are used on the top doors, which are provided with snap catches.
- Top door on Model SDR opens to 90° and has a rounded front corner.
- DRK is identical to DCR except shipped knocked down with all necessary hardware for easy assembly. On these models the bolts are not visible from the outside and have the same appearance as the welded models.
- Gussets welded at bottom of rear on Models 170-350 for additional strength.
- Finished in Gray Hammettone. Also available in Black Wrinkle.
- Specify color when ordering.

**FOR MODIFICATIONS SEE PREMIER PAGE 2  
FOR ACCESSORIES SEE PREMIER PAGES 16 THRU 22  
FOR BLOWERS, FANS and HARDWARE SEE  
PREMIER PAGES 27 THRU 32**

**21¾" WIDE x 15¼" DEEP**

	Catalog No. (A)	Net Price	Catalog No. (C)	Net Price	Catalog No. (B)	Net Price	Overall Height	Panel Space	Ship. wt. Lbs.	Use Slide Length*
WITH DOOR ON TOP ONLY	DCR-70	\$15.75	SDR-70	\$21.95	DRK-70	\$17.20	8¾"	7"	22	14"
	DCR-80	16.80	SDR-80	23.00	DRK-80	18.25	10½"	8¾"	24	14"
	DCR-100	18.38	SDR-100	24.57	DRK-100	19.82	12¼"	10½"	26	14"
	DCR-120	20.48	SDR-120	26.67	DRK-120	21.92	14"	12¼"	28	14"
	DCR-140	22.05	SDR-140	28.25	DRK-140	23.50	15¾"	14"	32	14"
WITH DOOR ON TOP AND REAR	DCR-170	26.78	SDR-170	32.97	DRK-170	28.22	19¼"	17½"	40	14"
	DCR-190	28.35	SDR-190	34.55	DRK-190	29.80	21"	19¼"	42	14"
	DCR-210	29.40	SDR-210	35.60	DRK-210	30.85	22¾"	21"	44	14"
	DCR-260	31.50	SDR-260	37.70	DRK-260	32.95	28"	26¼"	45	14"
	DCR-310	33.60	SDR-310	39.80	DRK-310	35.05	33¼"	31½"	50	14"
DCR-350	35.70	SDR-350	41.90	DRK-350	37.15	36¾"	35"	55	14"	

**21¾" WIDE x 18" DEEP**

	Catalog No. (A)	Net Price	Catalog No. (C)	Net Price	Overall Height	Panel Space	Ship. Wt. Lbs.	Use Slide Length*
WITH DOOR ON TOP ONLY	DCR-1880	\$19.43	SDR-1880	\$25.62	10½"	8¾"	26	16"
	DCR-18100	22.58	SDR-18100	28.77	12¼"	10½"	29	16"
	DCR-18120	25.73	SDR-18120	31.92	14"	12¼"	31	16"
	DCR-18140	27.30	SDR-18140	33.50	15¾"	14"	35	16"
WITH DOOR ON TOP AND REAR	DCR-18170	30.98	SDR-18170	37.17	19¼"	17½"	44	16"
	DCR-18190	32.03	SDR-18190	38.22	21"	19¼"	46	16"
	DCR-18210	33.60	SDR-18210	40.85	22¾"	21"	48	16"
	DCR-18260	36.75	SDR-18260	42.95	28"	26¼"	49	16"
	DCR-18310	38.33	SDR-18310	44.52	33¼"	31½"	55	16"
BCR-18350	39.38	SDR-18350	45.57	36¾"	35"	60	16"	

**SPECIFY COLOR WHEN ORDERING**

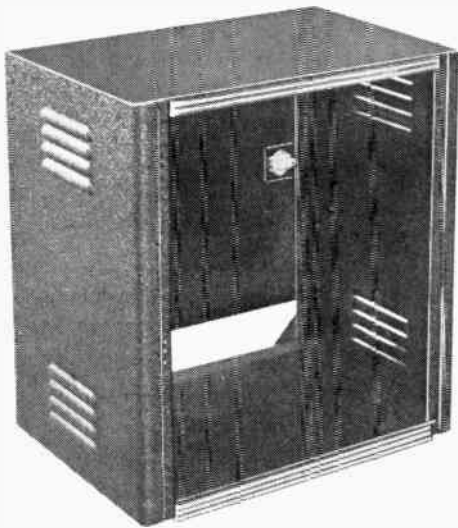
\*Use Slide Adapter Kit (Cat. No. SAK-35) for rear mounting. (See Premier Page 28)

## PREMIER METAL PRODUCTS CO., INC.

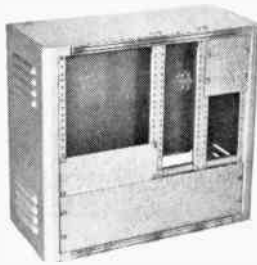
A Renwell Industries Company

ALL PRICES 10% HIGHER WEST OF MISSISSIPPI

PREMIER PAGE 14

**PREMIER****12" DEEP MINIATURE DESK CABINET RACKS****MODU-RAK<sup>®</sup>****FOR STANDARD  
19" RACK PANELS****(KNOCKED DOWN)**

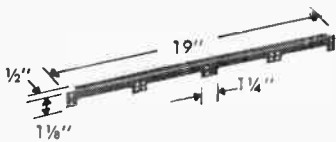
**MDK SERIES** →  
Shown with panels, horizontal (DH Series) and vertical (DV Series) dividers assembled.



- Front vertical corners are rounded and the top and bottom are trimmed with red striped chrome moulding.
- Rigidly constructed of #16 gauge cold rolled sheet steel.
- Panels fit into a recess so that the edges are not exposed.
- Panel mounting holes are tapped for 10-32 machine screws on E.I.A. Spacings ( $\frac{5}{8}$ - $\frac{5}{8}$ - $\frac{1}{2}$ ").
- Rear doors have snap catches.
- Bolts are not visible from the outside and these units have the same appearance as the welded models.
- FINISHED IN GRAY HAMMERTONE.
- SHIPPED KNOCKED DOWN WITH ALL NECESSARY HARDWARE FOR EASY ASSEMBLY.

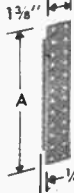
**21 3/4" WIDE x 12" DEEP**

	Catalog No.	Overall Height	Available Panel-Space	Ship. Wt. Lbs.	Net Price
WITH REMOVABLE REAR PANEL	MDK-50	7"	5 1/4" x 19"	16	\$13.87
	MDK-70	8 3/8"	7" x 19"	20	14.31
	MDK-80	10 1/2"	8 3/4" x 19"	21	15.08
	MDK-100	12 1/2"	10 1/2" x 19"	23	17.12
	MDK-120	14"	12 1/4" x 19"	25	18.55
	MDK-140	15 3/4"	14" x 19"	29	20.75
WITH REAR DOOR	MDK-170	19 1/4"	17 1/2" x 19"	36	24.87
	MDK-210	22 3/4"	21" x 19"	39	26.96
	MDK-260	28"	26 1/4" x 19"	40	29.38
	MDK-280	27 3/4"	28" x 19"	41	31.58

**ACCESSORIES FOR SUBDIVIDING ANY 19" WIDE PANEL SPACE INTO MODULAR UNITS****HORIZONTAL DIVIDERS**

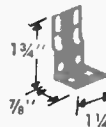
- Holes punched to accommodate vertical dividers (DV Series) which subdivides the panel space into 9 1/2" and 4 3/4" widths.
- Made of #16 gauge steel.
- Finished in Gray Hammertone.

Catalog No.	Dimensions	Net Price
DH-19	19" x 1 1/8"	\$4.10
DH-95	9 1/2" x 1 1/8"	3.36

**VERTICAL DIVIDERS**

- Two rows of 10-32 tapped holes punched on E.I.A. Spacings.
- Made of No. 16 gauge steel.
- Finished in gray Hammertone.

Cat. No.	"A" Available Panel Mtg. Space	Net Pric.
DV-5	5 1/4"	\$1.14
DV-7	7"	1.56
DV-8	8 3/4"	1.92
DV-10	10 1/2"	2.34
DV-12	12 1/4"	2.46
DV-14	14"	2.70
DV-17	17 1/2"	3.54
DV-21	21"	4.32
DV-26	26 1/4"	5.34
DV-28	28"	5.64

**ANGLE BRACKETS**

- Punched to accommodate vertical dividers.
- Made of No. 16 gauge steel.
- Finished in gray hammertone.

Cat. No.	Net Price	sold in
AB-2	\$1.09 pr.	pairs only

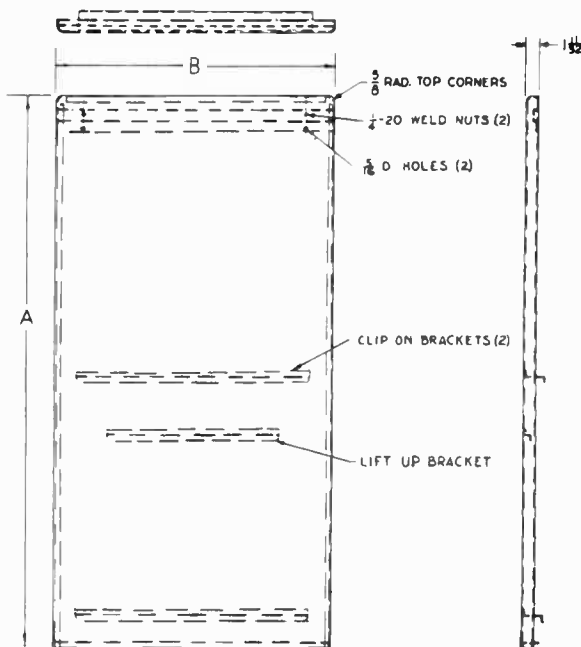
FOR MODIFICATIONS SEE PREMIER PAGE 2 • FOR ACCESSORIES SEE PREMIER PAGES 16 THRU 22

FOR BLOWERS, FANS and HARDWARE SEE PREMIER PAGES 27 THRU 32

**PREMIER METAL PRODUCTS CO., INC.**

A Renwell Industries Company

# PREMIER END PANELS For Rounded Corner FRAMES



END PANEL

CEP SERIES

## END PANELS FOR FA FRAMES 1-11/32" DEEP

- Made of one piece of 16 gauge steel.
- BALL CORNERED.
- End panels attach to frame by means of a bracket on bottom and held securely by two captive screws on top.
- Panels supplied blank. Louvres furnished at no additional charge.
- Finished in Brown Hammertone.

### 22" WIDE

Cat. No.	For Use with Frame	Shpg. Wt. Lbs.	Hgt.	Net Price
CEP-42-22	FA-42-22	23	45 1/4"	\$19.85
CEP-52-22	FA-52-22	27	55 3/4"	23.83
CEP-61-22	FA-61-22	30	64 1/2"	26.46
CEP-70-22	FA-70-22	33	73 1/4"	28.46
CEP-77-22	FA-77-22	35	80 1/4"	30.77

### 25 1/2" WIDE

Cat. No.	For Use with Frame	Shpg. Wt. Lbs.	Hgt.	Net Price
CEP-42-255	FA-42-255	28	45 1/4"	\$23.15
CEP-52-255	FA-52-255	32	55 3/4"	27.14
CEP-61-255	FA-61-255	35	64 1/2"	29.14
CEP-70-255	FA-70-255	38	73 1/4"	31.76
CEP-77-255	FA-77-255	40	80 1/4"	33.81

## BALL CORNERED END PANELS FOR FS FRAMES — 1-11/32" DEEP



- Made of 1 Pc. No. 18 Gauge Steel.
- End Panels Attached to Frame by Means of a Bracket on Bottom & Held Securely by 2 Captive Screws on Top.
- Supplied Blank; Louvres Furnished at No Additional Charge.
- Finished in Brown Hammertone.

### 22" WIDE

End Panels	Used for Frame	Ship. Wt. Lbs.	Net Price
CEP-1201 LH	Left side FS-1001 & 1003	20	\$19.43
CEP-1201 RH	Right side FS-1001 & 1003	20	19.43
CEP-1202 LH	Left side FS-1002 & 1004	18	19.85
CEP-1202 RH	Right side FS-1002 & 1004	18	19.85

### 25 1/2" WIDE

End Panels	Used for Frame	Ship. Wt. Lbs.	Net Price
CEP-1201-255 L-1	Left side FS-1001-255 & 1003-255	22	\$22.58
CEP-1201-255 RH	Right side FS-1001-255 & 1003-255	22	22.58
CEP-1202-255 LH	Left side FS-1002-255 & 1004-255	20	20.48
CEP-1202-255 FH	Right side FS-1002-255 & 1004-255	20	20.48

## END PANELS FOR CPF FRAMES

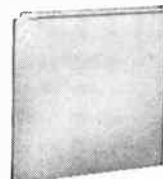
- Made of one piece of #18 gauge steel.
- Finished in Brown Hammertone.
- End panels attach to pedestal frame CPF Series by means of 2 brackets on bottom and held securely with 2 captive screws on top.



## BALL CORNERED END PANEL 1-11/32" DEEP

Cat. No.	Width	Height	For use with	Shpg. Wt. Lbs.	Net Price
CEP-401	22"	26"	CPF-101 & 103	17	\$16.54
CEP-402	22"	33"	CPF-102 & 104	20	19.85
CEP-401-34	34 1/4"	26"	CPF-101-34	22	21.34
CEP-401-255	25 1/2"	26"	CPF-101-255 & 103-255	21	18.38
CEP-402-255	25 1/2"	33"	CPF-102-255 & 104-255	24	19.95
CEP-401-18	18 1/2"	26"	CPF-101-18 & 103-18	16	15.75
CEP-402-18	18 1/2"	23"	CPF-102-18 & 104-18	16	18.90

## SHORT END PANEL — 1-11/32" DEEP



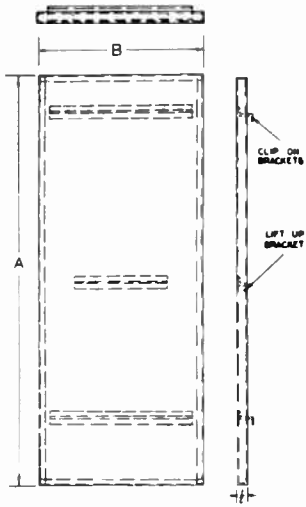
Used only when work top is mounted between 2 pedestal frames.

Cat. No.	Width	Height	For use with	Shpg. Wt. Lbs.	Net Price
CSS-701	22"	23"	CPF-101 & 103	15	\$10.50
CSS-701-34	34 1/4"	23"	CPF-101-34	18	13.86
CSS-701-255	25 1/2"	23"	CPF-101-255 & 103-255	17	12.60
CSS-701-18	18 1/2"	23"	CPF-101-18 & 103-18	14	9.45

# PREMIER METAL PRODUCTS CO., INC.

A Renwell Industries Company

# PREMIER END PANELS For Square Cornered FRAMES

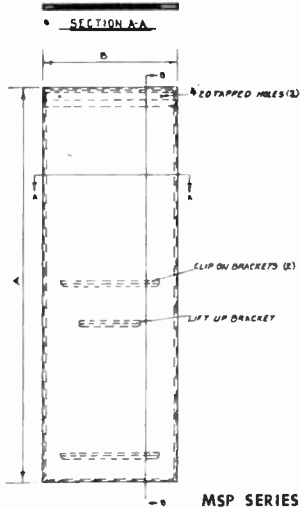


FL SERIES

## FLUSH END PANELS FOR PRXA FRAMES 1/2" DEEP

- Fits into side recess of frame.
- Made of one piece of #16 gauge steel.
- Clips on to horizontal side section of frame. Finished in Gray Hammertone.

15" WIDE for 18" DEEP FRAMES				Height (A)	21" WIDE for 24" DEEP FRAMES			
Cat. No.	To Fit Frame No.	Shpg. Wt. Lbs.	Net Price Each		Cat. No.	To Fit Frame No.	Shpg. Wt. Lbs.	Net Price Each
FL-36	PRXA-36	18	\$15.49	42 3/4"	FL-36-24	PRXA-36-24	20	\$20.74
FL-42	PRXA-42	19	16.44	48"	FL-42-24	PRXA-42-24	21	21.48
FL-52	PRXA-52	21	18.61	58 1/2"	FL-52-24	PRXA-52-24	24	23.63
FL-61	PRXA-61, 2761, 3361	22	21.67	67 1/4"	FL-61-24	PRXA-61-24, 2761-24, 3361-24	27	26.15
FL-70	PRXA-70, 2770, 3370	25	23.37	76"	FL-70-24	PRXA-70-24, 2770-24, 3370-24	30	28.22
FL-77	PRXA-77, 2777, 3377	27	25.20	83"	FL-77-24	PRXA-77-24, 2777-24, 3377-24	33	30.45

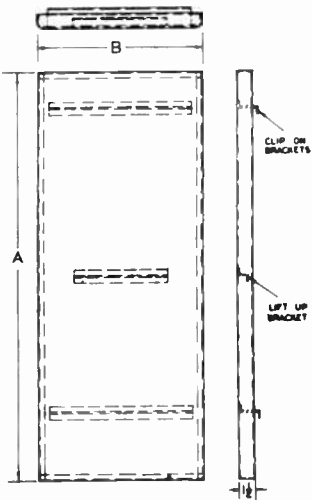


MSP SERIES

- Made of one piece of #16 gauge steel.
- End panels attach to frame by means of a bracket on bottom and held securely by two captive screws on top.
- Finished in Gray Hammertone.

## SQUARE END PANELS FOR MSF FRAMES — 13/16" DEEP

22" WIDE for 22" DEEP FRAMES				Height (A)	25 1/2" WIDE for 25 1/2" DEEP FRAMES		
Cat. No.	To Fit Frame No.	Net Price	Cat. No.		To Fit Frame No.	Net Price	
MSP-21-22	MSF-21-22	\$14.18	26"	MSP-21-255	MSF-21-255	\$16.28	
MSP-28-22	MSF-28-22	16.28	33"	MSP-28-255	MSF-28-255	18.38	



SP SERIES

## ROUNDED END PANELS FOR PRXA FRAMES

1 1/2" DEEP

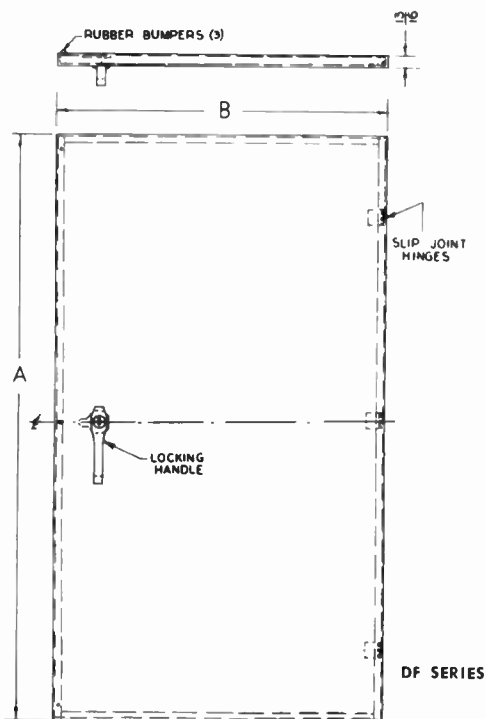
15" WIDE for 18" DEEP FRAMES				
Cat. No.	To Fit Frame No.	Height (A)	Shpg. Wt. Lbs.	Net Price
SP-36	PRXA-36	42 3/4"	19	\$17.33
SP-42	PRXA-42	48"	20	18.27
SP-52	PRXA-52	58 1/2"	21	20.52
SP-61	PRXA-61	67 1/4"	23	23.75
SP-70	PRXA-70	76"	26	25.54
SP-77	PRXA-77	83"	28	27.46
21" WIDE for 24" DEEP FRAMES				
Cat. No.	To Fit Frame No.	Height (A)	Shpg. Wt. Lbs.	Net Price
SP-36-24	PRXA-36-24	42 3/4"	21	\$22.58
SP-42-24	PRXA-42-24	48"	22	23.56
SP-52-24	PRXA-52-24	58 1/2"	25	25.81
SP-61-24	PRXA-61-24	67 1/4"	28	28.47
SP-70-24	PRXA-70-24	76"	31	30.64
SP-77-24	PRXA-77-24	83"	34	33.08

# PREMIER METAL PRODUCTS CO., INC.

A Renwell Industries Company

# PREMIER DOORS for FRAMES and RACKS

## DOORS FOR FA, FS and PRXA FRAMES 13/16" DEEP



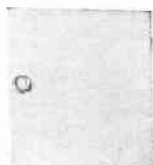
- Made of #16 gauge steel
  - Doors can be mounted either left or right hand by rotating door 180°
  - Doors supplied blank. Louvres furnished at no additional charge
  - Doors hung on slip jointed hinges and equipped with locking handle and 2 keys
  - Door mounted to frame by 3 removable hinge brackets, permitting the door to be mounted either left or right hand. Handle latch bracket also supplied
  - Finished in Gray Hammertone
- SPECIFY HINGED-SIDE WHEN DOORS ARE FURNISHED LOUVRED.

21 1/2" WIDE			Height (A)	26 1/2" WIDE		
Cat. No.	Shpg. Wt. Lbs.	Net Price		Cat. No.	Shpg. Wt. Lbs.	Net Price
DF-36	17	\$26.25	40 3/16"			
DF-42*	20	27.72	45 3/16"	DF-2742	26 \$34.02	
DF-52	25	30.87	50 3/16"	DF-2752	31 37.17	
DF-61	28	35.28	64 3/16"	DF-2761	34 41.58	
DF-70	31	37.80	73 3/16"	DF-2770	38 45.68	
DF-77	34	40.32	80 3/16"	DF-2777	41 47.25	

### 32 1/2" WIDE (DOUBLE DOORS with 3 Point Locking Device)

Cat. No.	Shpg. Wt. Lbs.	Height	Net Price
DF-3361	40	64 3/16"	\$47.25
DF-3370	45	73 3/16"	53.03
DF-3377	48	80 3/16"	56.70

\*Add suffix -1002 when used with FS-1002, 10C2-255, 1004, 1004-255



CD SERIES

## FLUSH DOORS—1/2" DEEP

For Prem-O-Rak Console Frames CPF, FS, FA, MSF, POR and CSC Series.

- Made of 16 gauge steel
- Finished in Gray Hammertone
- Doors can be mounted either left or right hand by rotating door 180°

- Hinge brackets are punched to accommodate panel mounting angles on cabinets.
- Furnished with attractive round chrome plated handle and snap catch.

Cat. No.	Height	Width	Shpg. Wt. Lbs.	Net Price
CD-17	17 1/2"	19"	7	\$12.50
CD-21	21"	19"	8	13.49
CD-26	26 1/4"	19"	9	15.12
CD-28	28"	19"	10	15.86
CD-29	29 3/4"	19"	11	16.54
CD-42	42"	19"	16	26.93
CD-1724	17 1/2"	24"	8	15.02
CD-2124	21"	24"	9	16.17
CD-2824	28"	24"	12	19.06
CD-2924	29 3/4"	24"	13	19.85
CD-4224	42"	24"	17	33.08

## FRONT DOORS — 1 1/4" DEEP

### TO FIT STANDARD 19" DESK RACK CABINETS AND CABINET RELAY RACKS

Constructed from one piece of #16 gauge steel. Two concealed piano hinges are provided with holes, punched to accommodate E.I.A. spacings and are made to fit on top of the panels. Supplied with cylinder lock and cam bracket to hold door in position on FD-300-306. Locking chrome handle with two keys supplied on FD-310-313 models. All necessary bolts furnished for easy assembly. All doors are 20 1/2" wide x 1 1/4" deep. Finished in Gray Hammertone. Also available in Black Wrinkle.

SPECIFY COLOR WHEN ORDERING



FD-310-313 MODELS



FD-300-306 MODELS

Cat. No.	Will Fit Rack No.	Overall Height	Shpg. Wt. Lbs.	Net Price
FD-300	DCR, DRK, SDR-260, 18260, MDK-260	26 1/4"	10	\$17.59
FD-301	DCR, DRK, SDR-310, 18310, MDK-310	31 1/2"	11	20.44
FD-302	DCR, DRK, SDR-350, 18350, MDK-350	35"	12	22.80
FD-303	DCR, DRK, SDR-120, 18120, MDK-120	12 1/4"	6	13.26
FD-304	DCR, DRK, SDR-140, 18140, MDK-140	14"	7	14.40
FD-305	DCR, DRK, SDR-170, 18170, MDK-170	17 1/2"	8	15.65
FD-306	DCR, DRK, SDR-210, 18210, MDK-210	21"	9	16.85
FD-310	R-3619	36 7/8"	13	30.45
FD-311	R-4219	42 1/8"	15	34.75
FD-312	R-6119	61 3/8"	20	40.55
FD-313	R-7719	77 1/8"	24	46.35

# PREMIER METAL PRODUCTS CO., INC.

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ALL PRICES 10% HIGHER WEST OF MISSISSIPPI

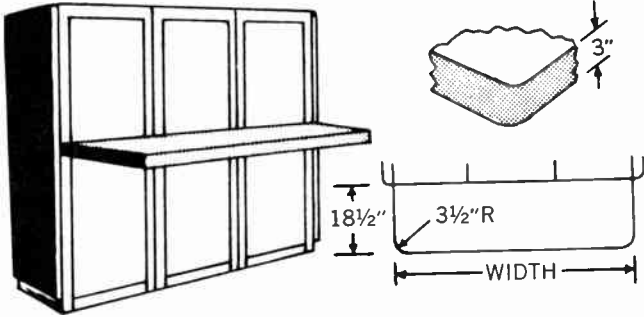
PREMIER PAGE 18

# PREMIER ACCESSORIES

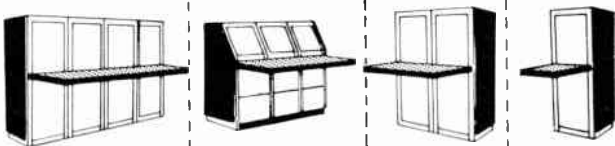
## ONE PIECE FORMICA WORK WRITING SHELVES

### For 22" Wide FA and FS FRAMES

- Gray linen weave Formica (2-C-1) bonded to 3/4" plywood
- Other Standard Formica Colors or Patterns Available
- 3" self edged Formica skirt on 3 sides
- Supplied with 3 1/2 x 19" formed panel, channels and brackets



TO FIT 22" DEEP FRAMES				TO FIT 25 1/2" DEEP FRAMES			
Cat. No.	Net Price	Depth	Width	Cat. No.	Net Price	Depth	Width
For 1 Vertical Frame (FA MSF, or PRXA Series) or 1 Sloped Front Frame (FS Series)							
OFT-2218-22	\$82.50	18 1/2"	22"	OFT-2218-255	\$83.60	18 1/2"	25 1/2"
For 2 Vertical Frames (FA MSF, or PRXA Series) or 2 Sloped Front Frames (FS Series) Side By Side							
OFT-4418-22	104.50	18 1/2"	44"	OFT-4418-255	105.60	18 1/2"	44"
For 3 Vertical Frames (FA MSF, or PRXA Series) or 3 Sloped Front Frames (FS Series) Side By Side							
OFT-6618-22	126.50	18 1/2"	66"	OFT-6618-255	128.70	18 1/2"	66"
For 4 Vertical Frames (FA MSF, or PRXA Series) or 4 Sloped Front Frames (FS Series) Side By Side							
OFT-8818-22	154.00	18 1/2"	88"	OFT-8818-255	156.20	18 1/2"	88"



**NOTE:**  
ONE PIECE Formica shelves available for use with semi-circular arrangements when used with Wedge Frames.

## FORMICA WRITING PANELS

### 19" and 24" WIDE — 1/2" THICK

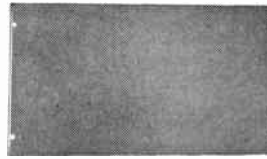
Gray Linen Weave Pattern Formica 2-C-1 bonded to plywood as top surface; Unfinished Formica bonded to bottom surface.

19" WIDE			
Cat. No.	Panel Space	Fits into	Net Price
FWP-1019	10 1/2" x 19"	WW-15-22 & WW-15-255	\$7.26
FWP-1419	14" x 19"	WW-18-22 & WW-18-255	9.24
FWP-1719	17 1/2" x 19"	WW-22-22 & WW-22-255, WTO-22-22 & Top Panel Space of CPF-101, CPF-102, MSF-21-22, MSF-28-22	11.22
FWP-2119	21" x 19"	WTO-22-255, WW-255-22, WW-255-255, MSF-21-255, MSF-28-255	14.00
FWP-2919	29 3/4" x 19"	CPF-101-34, WTO-22-34	26.40
24" WIDE			
Cat. No.	Panel Space	Fits into	Net Price
FWP-1024	10 1/2" x 24"	WW-2715-22, WW-2715-255	\$7.92
FWP-1424	14" x 24"	WW-2718-22, WW-2718-255	9.90
FWP-1724	17 1/2" x 24"	WW-2722-22, WW-2722-255, WTO-27-22 & Top Panel Space of CPF-103 & CPF-104	11.88
FWP-2124	21" x 24"	WTO-27-255, WW-27-255, WW-27-255-255	15.00



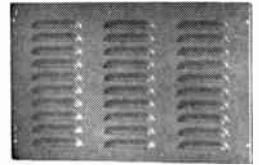
## FORMED PANELS — 1/2" DEEP 19" and 24" WIDE

### BLANK



FP Series

### LOUVRED



FPL Series

- Made of one piece of No. 16 gauge steel, with edges formed for overall depth of 1/2".
- Each panel has only 2 mounting holes on each side.
- Finished in Gray Hammetone.

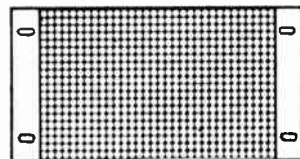
### BLANK

19" WIDE				24" WIDE			
Cat. No.	Shpg. Wt. Lbs.	Net Price	Height	Cat. No.	Shpg. Wt. Lbs.	Net Price	Height
FP-119	1 1/2	\$1.27	1 3/4"	FP-124	2	\$1.47	2 1/4"
FP-319	2	1.31	3 1/2"	FP-324	3	1.60	3 3/4"
FP-519	2 1/2	1.52	5 1/4"	FP-524	3 1/2	1.81	5 3/4"
FP-719	3	1.73	7"	FP-724	4	2.10	7 1/4"
FP-819	4	2.12	8 3/4"	FP-824	5	2.57	8 3/4"
FP-1019	5	2.63	10 1/2"	FP-1024	6	3.15	10 1/2"
FP-1219	6	3.05	12 1/4"	FP-1224	7	3.62	12 1/4"
FP-1419	6 1/2	3.41	14"	FP-1424	7 1/2	4.10	14"
FP-1519	7	3.94	15 3/4"	FP-1524	8	4.73	15 3/4"
FP-1719	7 1/2	4.36	17 1/2"	FP-1724	8 1/2	5.20	17 1/2"
FP-1919	8	4.75	19 1/4"	FP-1924	9	5.69	19 1/4"
FP-2119	9	5.20	21"	FP-2124	10	6.25	21"
FP-2219	10	5.78	22 3/4"	FP-2224	11	6.93	22 3/4"
FP-2619	11	6.43	26 1/4"	FP-2624	12	7.72	26 1/4"
FP-2819	12	6.93	28"	FP-2824	13	8.35	28"
FP-4219	18	11.55	42"	FP-4224	20	13.86	42"

### LOUVRED

19" WIDE				24" WIDE			
Cat. No.	Shpg. Wt. Lbs.	Net Price	Height	Cat. No.	Shpg. Wt. Lbs.	Net Price	Height
FPL-719	3	\$3.65	7"	FPL-724	4	\$4.37	7 1/4"
FPL-819	4	4.10	8 3/4"	FPL-824	5	4.94	8 3/4"
FPL-1019	5	4.52	10 1/2"	FPL-1024	6	5.41	10 1/2"
FPL-1219	6	5.09	12 1/4"	FPL-1224	7	6.11	12 1/4"
FPL-1419	6 1/2	5.48	14"	FPL-1424	7 1/2	6.62	14"
FPL-1719	7 1/2	6.43	17 1/2"	FPL-1724	8 1/2	7.72	17 1/2"
FPL-2119	9	7.98	21"	FPL-2124	10	9.58	21"
FPL-2219	10	8.66	22 3/4"	FPL-2224	11	9.82	22 3/4"
FPL-2619	11	8.95	26 1/4"	FPL-2624	12	10.76	26 1/4"
FPL-2819	12	9.50	28"	FPL-2824	13	11.39	28"
FPL-4219	18	16.17	42"	FPL-4224	20	19.64	42"

### PERFORATED



PPF Series

- Made of No. 20 gauge steel with 1/16" diameter holes on 3/16" staggered centers.
- Edges formed on 4 sides.
- Each panel has 2 mounting holes on each side.
- Finished in Gray Hammetone.

19" WIDE				24" WIDE			
Cat. No.	Shpg. Wt. Lbs.	Net Price	Height	Cat. No.	Shpg. Wt. Lbs.	Net Price	Height
PPF-119	1 1/4	\$2.63	1 3/4"	PPF-124	2 1/4	\$3.41	2 1/4"
PPF-319	1 3/4	2.89	3 1/2"	PPF-324	2 3/4	3.68	3 3/4"
PPF-519	2 1/4	3.15	5 1/4"	PPF-524	3 1/4	4.10	5 3/4"
PPF-719	2 3/4	3.94	7"	PPF-724	3 3/4	5.25	7 1/4"
PPF-819	3 3/4	4.46	8 3/4"	PPF-824	4 3/4	6.04	8 3/4"
PPF-1019	4 3/4	5.25	10 1/2"	PPF-1024	5 3/4	6.56	10 1/2"
PPF-1219	5 3/4	5.88	12 1/4"	PPF-1224	6 3/4	7.77	12 1/4"
PPF-1419	6 1/4	6.51	14"	PPF-1424	7 1/4	8.40	14"
PPF-1519	6 3/4	7.14	15 3/4"	PPF-1524	7 3/4	9.35	15 3/4"
PPF-1719	7 1/4	7.61	17 1/2"	PPF-1724	8 1/4	9.98	17 1/2"
PPF-1919	7 3/4	8.35	19 1/4"	PPF-1924	8 3/4	11.03	19 1/4"
PPF-2119	8 3/4	8.93	21"	PPF-2124	9 3/4	11.81	21"
PPF-2619	10 3/4	10.50	26 1/4"	PPF-2624	11 3/4	13.65	26 1/4"
PPF-2819	11 3/4	11.55	28"	PPF-2824	12 3/4	14.96	28"

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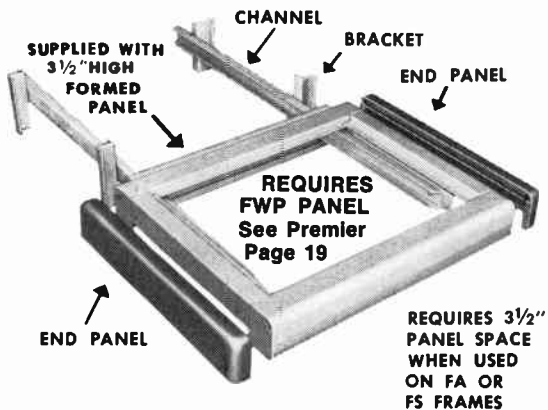


# PREMIER

# ACCESSORIES

## WRITING WORK SHELVES FOR CPF, FA and FS FRAMES

- Made Of No. 16 Gauge Steel
- Tops Of Front And Rear Are Rounded
- Shipped Knocked Down • Finished In Gray Hammertone
- Supplied With Channels And Brackets For Mounting To Inside of Frames



### DESIGNED FOR SINGLE OR MULTIPLE INSTALLATION 22" WIDE — 3" HIGH

To Fit 22" DEEP FRAMES

To Fit 25 1/2" DEEP FRAMES

Cat. No.	Shpg. Wt. Lbs.	Net Price	Top Panel Space	Depth	Cat. No.	Shpg. Wt. Lbs.	Net Price
WW-15-22	11	\$36.69	10 1/2" x 19"	15"	WW-15-255	12	\$40.53
WW-18-22	12	41.69	14" x 19"	18 1/2"	WW-18-255	13	42.53
WW-22-22	13	43.66	17 1/2" x 19"	22"	WW-22-255	14	44.50

### 27" WIDE

WW-2715-22	14	\$45.57	10 1/2" x 24"	15"	WW-2715-255	15	\$46.47
WW-2718-22	15	46.98	14" x 24"	18 1/2"	WW-2718-255	16	47.80
WW-2722-22	16	48.30	17 1/2" x 24"	22"	WW-2722-255	17	49.14

### END PANELS FOR WRITING WORK SHELF

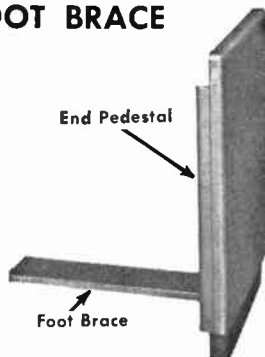
- Ball cornered • Attaches to Writing Work Shelf by means of 2 captive screws • Made of one piece of No. 18 gauge steel
- Finished in Brown Hammertone

Cat. No.	Lbs.	Used With	Net Price each
CEP-15	1 1/2	WW-15-22, 15-255; 2715-22, 2715-255	\$3.94
CEP-18	2	WW-18-22, 18-255; 2718-22, 2718-255	4.20
CEP-22	2 1/2	WW-22-22, 22-255; 2722-22, 2722-255,	4.46

## END PEDESTAL and FOOT BRACE

### FOR DOUBLE UNIT ASSEMBLY

- Made of No. 18 gauge steel
- Ball cornered
- End Pedestal mounts to Work Top CWT Series or WTO Series. Foot Brace mounts to Pedestal Frame CPF Series and End Pedestal PE-901
- Foot Brace can be mounted between two Pedestal Frames (CPF or MSF Series).
- Finished in Brown Hammertone



## WORK TOPS FOR MULTIPLE ASSEMBLY — 3" HIGH



CWT Series  
Solid Type



WTO Series  
Open Type

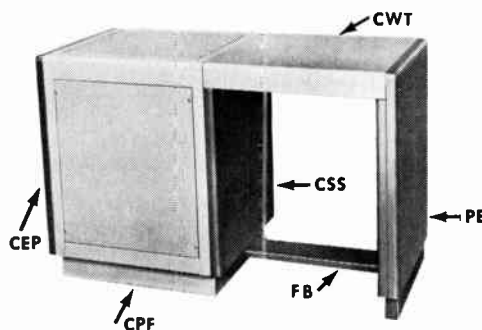
- Tops of front and rear are rounded.
- Designed for mounting between two Pedestal Frames or when used with End Pedestal (PE Series).
- USE SHORT END PANELS (CSS Series) FOR THIS INSTALLATION.
- Made of No. 16 gauge steel.
- Finished in Gray Hammertone.

### WORK TOPS Solid Type

Cat. No.	Width	Depth	Shpg. Wt. Lbs.	Net Price
CWT-601	22"	22"	14	\$14.70
CWT-603	27"	22"	18	17.33
CWT-601-34	22"	34 1/4"	20	21.84
CWT-601-18	22"	18 1/2"	12	13.65
CWT-601-255	22"	25 1/2"	16	15.75

### Open Type

Cat. No.	Width	Depth	Panel Space	Shpg. Wt. Lbs.	Net Price
WTO-22-22	22"	22"	17 1/2" x 19"	9 1/2	\$29.77
WTO-27-22	27"	22"	17 1/2" x 24"	11	35.72
WTO-22-34	22"	34 1/4"	29 3/4" x 19"	12	46.31
WTO-22-255	22"	25 1/2"	21" x 19"	12	39.90
WTO-27-255	27"	25 1/2"	21" x 24"	13	42.00
WTO-22-18	22"	18 1/2"	14" x 19"	9	28.35



### END PEDESTAL

Cat. No.	Depth	Height	Shpg. Wt. Lbs.	Net Price
PE-901	22"	29 1/2"	25	\$33.08
PE-901-34	34 1/4"	29 1/2"	30	49.61
PE-901-255	25 1/2"	29 1/2"	28	40.43
PE-901-18	18 1/2"	29 1/2"	22	31.50

### FOOT BRACE

Cat. No.	Shpg. Wt. Lbs.	Used With	Net Price
FB-801	3	22" Wide Work Tops	\$9.36
FB-802	3 1/2	27" Wide Work Tops	10.12

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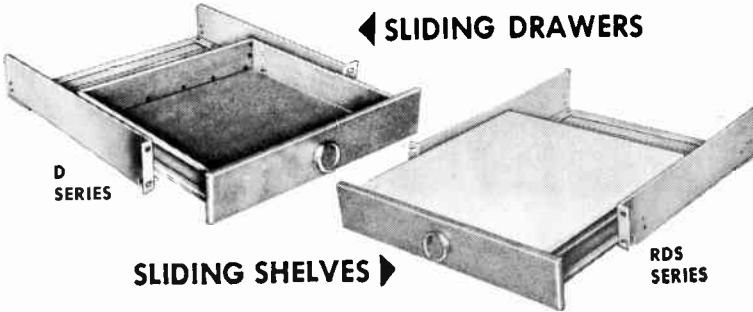
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# PREMIER ACCESSORIES

## SLIDING DRAWERS



### SLIDING DRAWERS



D SERIES

RDS SERIES

### SLIDING SHELVES

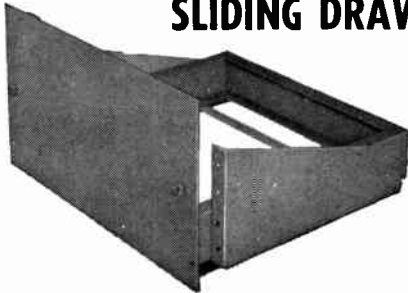
- Made of No. 16 gauge steel.
- Mounted on suspens. on slides, which sustain 46 lbs.
- Drawer extends 16" from front of cabinet.
- Supplied with brackets for mounting to tapped holes of panel mounting angles.
- Furnished with attractive, round chrome-plated handle.
- Shipped knocked down with all necessary hardware for easy assembly.
- Will fit CPF, FS, MSF, POR, PRXA, RMX, FDX SERIES.
- Finished in Gray Hammetone.
- Sliding shelves supplied with Gray linen weave Formica (2-C-1) on top surface.

Cat. No.	Formed Panel Size	W	Drawer Size D	H	Shpg. Wt. Lbs.	Net Price
FOR 19" WIDE PANEL SPACE						
D-1916	10 <sup>3</sup> / <sub>8</sub> " x 18 <sup>7</sup> / <sub>8</sub> " x 1/2"	16 <sup>1</sup> / <sub>8</sub> "	16	6"	23	\$19.85
D-2016	6 <sup>7</sup> / <sub>8</sub> " x 18 <sup>7</sup> / <sub>8</sub> " x 1/2"	16 <sup>1</sup> / <sub>8</sub> "	16	6"	22	19.06
D-2316	3 <sup>3</sup> / <sub>8</sub> " x 18 <sup>7</sup> / <sub>8</sub> " x 1/2"	16 <sup>1</sup> / <sub>8</sub> "	16	2 <sup>1</sup> / <sub>16</sub> "	16	17.96
FOR 24" WIDE PANEL SPACE						
D-2116	10 <sup>3</sup> / <sub>8</sub> " x 23 <sup>7</sup> / <sub>8</sub> " x 1/2"	21 <sup>1</sup> / <sub>8</sub> "	16	6"	25	23.84
D-2216	6 <sup>7</sup> / <sub>8</sub> " x 23 <sup>7</sup> / <sub>8</sub> " x 1/2"	21 <sup>1</sup> / <sub>8</sub> "	16	6"	24	22.84
D-2416	3 <sup>3</sup> / <sub>8</sub> " x 23 <sup>7</sup> / <sub>8</sub> " x 1/2"	21 <sup>1</sup> / <sub>8</sub> "	16	2 <sup>1</sup> / <sub>16</sub> "	17	19.85

### SLIDING SHELVES

Cat. No.	Formed Panel Size	Shelf Size	Shpg. Wt. Lbs.	Net Price
FOR 19" WIDE PANEL SPACE				
RDS-319-22	3 <sup>3</sup> / <sub>8</sub> " x 18 <sup>7</sup> / <sub>8</sub> " x 1/2"	16 <sup>3</sup> / <sub>8</sub> " x 15 <sup>1</sup> / <sub>8</sub> "	20	\$36.38
FOR 24" WIDE PANEL SPACE				
RDS-324-22	3 <sup>3</sup> / <sub>8</sub> " x 23 <sup>7</sup> / <sub>8</sub> " x 1/2"	21 <sup>3</sup> / <sub>8</sub> " x 15 <sup>1</sup> / <sub>8</sub> "	22	46.31

## SLIDING DRAWERS TO FIT STANDARD 19" RACKS 15 1/4" AND 18" DEEP

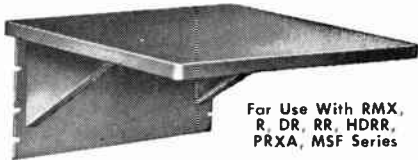


Panel made of #12 gauge steel; chassis of #16 steel and has a 1" flange on top and bottom to accommodate plywood for the record changer. The chassis is mounted on ball-bearing suspension slides which can sustain 40 lbs. Drawer extends 11" from front of cabinet. Entire unit mounts on angle brackets which can be bolted on to the cabinet. Supplied knocked down with all necessary bolts for easy assembly. Locks in place by means of 2 latches. Finished in Gray Hammetone. Also available in Black Wrinkle.

### SPECIFY COLOR WHEN ORDERING.

Catalog No.	Will Fit Rack No.	Panel Size	Chassis Size W. D. H.	Shp. Wt. Lbs.	Net Price
RD-10	R, DCR-18, SDR-18, RMX & FDX Models	10 <sup>3</sup> / <sub>8</sub> " x 18 <sup>7</sup> / <sub>8</sub> "	17" x 16" x 3"	15	\$18.98
RD-12	Models	12 <sup>1</sup> / <sub>8</sub> " x 18 <sup>7</sup> / <sub>8</sub> "	17" x 16" x 4"	18	21.07
RD-10-14	DCR, SDR, DRK, RMX & FDX, R	10 <sup>3</sup> / <sub>8</sub> " x 18 <sup>7</sup> / <sub>8</sub> "	17" x 14" x 3"	14 1/2	18.81
RD-12-14	DCR-18, SDR-18 Models	12 <sup>1</sup> / <sub>8</sub> " x 18 <sup>7</sup> / <sub>8</sub> "	17" x 14" x 4"	17	20.90

## DESK PANELS TO FIT STANDARD 19" WIDE PANEL RACKS



For Use With RMX, R, DR, RR, HDRR, PRXA, MSF Series

- Made of No. 16 gauge steel and bolted to a standard steel panel 10 1/2" x 19".
- Front corners are rounded.
- Finished in Gray Hammetone. Also available in Black Enamel.
- SHIPPED KNOCKED DOWN WITH ALL NECESSARY HARDWARE FOR EASY ASSEMBLY.

Cat. No.	Width	Depth	Shp. Wt. Lbs.	Net Price
DP-1016	22"	16"	20	\$19.69
DP-1020	22"	20"	22	20.13

## SHELVES TO FIT 19" WIDE PANEL RACKS



Made of one piece of #16 Ga. Cold Rolled Steel, 1" high. Holes are punched on sides for mounting to rack. Finished in Gray Hammetone.

Cat. No.	Will Fit Rack No.	Shelf Size	Shp. Wt. Lbs.	Net Price
RS-1106	All 15 1/4" SDR, DCR & DRK Racks	12 x 21 3/8"	7	\$3.41
RS-1107	R & DR Racks	15 x 21 3/8"	7	4.24
RS-1108	FXR	13 x 21 3/8"	7	3.85
RS-1111	MDK Series - 21 3/4" wide	10 x 21 3/8"	6	3.30
RS-1113	18" deep DCR & SDR Racks	16 x 21 3/8"	7	4.40

## ROLLER TRUCKS FOR RACKS



Made from 1 piece of No. 16 ga. Cold Rolled Steel. Supplied with either 2" or 3" diameter casters and bolts for easy assembly. Finished in Gray Hammetone with a red striped chrome molding. Also available in Black Wrinkle.

### SPECIFY COLOR WHEN ORDERING.

With 2" Dia Casters Cat. No.	Shp. Wt. lbs.	Net Price	Will Fit Rack No.	Inside Dimensions	With 3" Dia. Casters Cat. No.	Shp. Wt. lbs.	Net Price
RT-1100	22	\$11.50	All 15 1/4" Racks	15 3/4 x 22 1/4"	RT-1100-3	24	\$17.27
RT-1101	22	14.52	R, DR, FXR, 18" deep RMX, FDX, DCR and SDR Racks	18 3/4 x 22 3/4"	RT-1101-3	24	20.30
RT-1103	23	18.02	24" deep FDX & RMX Racks	22 1/2 x 24 1/2"	RT-1103-3	25	23.82
RT-1110	25	26.95	RMX-27 & FDX-27 Series	27 1/2 x 24 1/2"	RT-1110-3	27	33.00
RT-1111	30	34.65	RMX-7030	33 1/2 x 24 1/2"	RT-1111-3	32	40.43

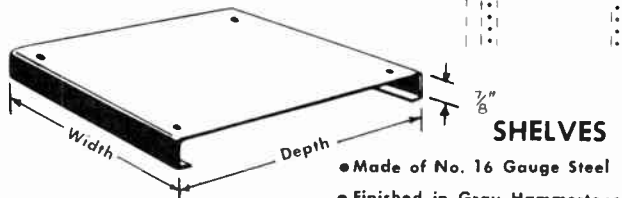
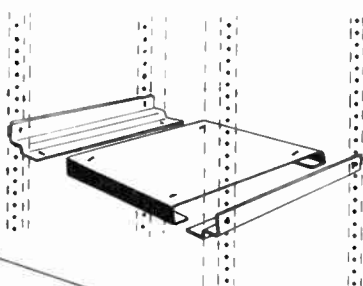
# PREMIER METAL PRODUCTS CO., INC.

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# PREMIER ACCESSORIES



SHELF AND CHASSIS SUPPORT ANGLES IN POSITION



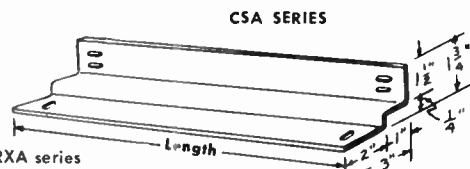
- Made of No. 16 Gauge Steel
- Finished in Gray Hammertone

**S SERIES**

Cat. No.	Depth	Width	To Fit Frames	Net Price
S-18-22	14"	17 1/2"	22" W x 18" D 18" FDX, RMX	\$3.63
S-22-22	20 3/8"	17 1/2"	22" W x 22" D FA	4.32
S-27-22	20 3/8"	22 1/2"	27" W x 22" D FA	5.61
S-22-255	23 7/8"	17 1/2"	22" W x 25 1/2" D FA	5.08
S-27-255	23 7/8"	22 1/2"	27" W x 25 1/2" D FA	6.40
S-22-18	16 3/8"	17 1/2"	22" W x 18" D PRXA	3.73
S-27-18	16 3/8"	22 1/2"	27" W x 18" D PRXA	4.55
S-33-18	16 3/8"	28 1/2"	33" W x 18" D PRXA	6.14
S-22-24	22 3/8"	17 1/2"	22" W x 24" D PRXA	4.82
S-27-24	22 3/8"	22 1/2"	27" W x 24" D PRXA	6.14
S-33-24	22 3/8"	28 1/2"	33" W x 24" D PRXA	7.52
S-33-22	20 3/8"	28 1/2"	33" W x 24" D RMX-7030	7.48

## CHASSIS SUPPORT ANGLES

- Made of No. 12 ga. steel
- Accommodates Shelf (S Series)
- Finished in Gray Hammertone
- Mounts to tapped holes on side legs of Panel Mounting Angles of FA & PRXA series



Cat. No.	Length	To Fit Frames	Net Price Pair
CSA-16	14 1/8"	18" deep FDX, RMX	\$4.68
CSA-18	16 1/8"	18" deep PRXA, CPF	4.95
CSA-22	20 1/8"	22" deep FA, CPF, MSF, FS & 24" deep FDX & RMX	5.50
CSA-24	22 1/8"	24" deep PRXA	5.78
CSA-255	23 3/8"	25 1/2" deep FA, CPF, FS & MSF	6.05

## PANEL MOUNTING ANGLES—1 1/4" x 1 1/4"

Made of #12 Ga. (.104) thick steel punched and tapped 10-32 on E.I.A. spacings (5/8-5/8-1/2) on both legs. Finished in Gray Hammertone.

PANEL MOUNTING ANGLES			TO FIT RACKS	
Cat. No.	Height	Net Price Pr.		
PMA-212-12	21"	\$7.98	CPF-1C1, 103, MSF-21-22 & MSF-21-255	
PMA-282-12	28"	10.50	CPF-1C2, 104, MSF-28-22 & MSF-28-255	
PMA-362-12	36 3/4"	12.13	PRXA, FDX, RMX	
PMA-422-12	42"	13.86	FA, PRXA, FS, FDX, RMX	
PMA-522-12	52 1/2"	15.96	FA, PRXA	
PMA-612-12	61 1/4"	17.33	FA, PRXA, FDX, RMX	
PMA-702-12	70"	19.43	FA, PRXA, FDX, RMX	
PMA-772-12	77"	21.00	FA, PRXA, FDX, RMX	

# PREMIER PRINTED CIRCUIT CARD HOLDER

TO FIT STANDARD 19" and 24" WIDE RACKS FOR 5 1/4" — 7" — 8 3/4" PANEL HEIGHTS

- To accommodate Printed Circuit Cards from 4 1/2" to 14 1/2" deep.
- 19" wide holder accommodates up to 32 cards, 24" wide holder up to 42 cards.
- Unit shipped unassembled with all necessary hardware.
- Guides are supplied with push rivets for easy positioning.
- Guide (G Series) sold in pairs and ordered as a separate item.
- Frames made of No. 16 gauge steel and finished in Gray Hammertone.
- Guides made of No. 16 gauge steel and zinc plated with colored iridite.
- Supplied with two rear connector panels made of 1/8" aluminum with natural finish. Holes tapped 4-40 on .200" centers.
- Vinyl coated guides for insulation available at additional cost. If required, specify letter V after number.



PCH Series Shown with Guides (G Series) assembled in position

**FOR 19" WIDE PANEL SPACE**

**FOR 24" WIDE PANEL SPACE**

Panel Height	FRAME — 19" WIDE			FRAME — 24" WIDE			GUIDES		
	Rear Connector Panels 1 1/2" x 16 1/16" Cat. No.	Net Price	Overall Depth	Rear Connector Panels — 1 1/2" x 21 1/16" Cat. No.	Net Price		Cat. No.	Length	Net Price Pair
5 1/4"	PCH-519-6	\$13.20	6 1/4"	PCH-524-6	\$15.95		G-6	4 1/8"	.30
	PCH-519-8	14.30	8 1/4"	PCH-524-8	17.05		G-8	6 1/8"	.37
	PCH-519-10	15.40	10"	PCH-524-10	18.15		G-10	7 7/8"	.44
	PCH-519-12	16.50	12"	PCH-524-12	19.25		G-12	9 7/8"	.52
	PCH-519-14	17.60	14"	PCH-524-14	20.35		G-14	11 3/8"	.58
	PCH-519-16	18.70	16"	PCH-524-16	21.45		G-16	13 7/8"	.65
7"	PCH-719-6	14.30	6 1/4"	PCH-724-6	17.05		G-6	4 1/8"	.30
	PCH-719-8	15.40	8 1/4"	PCH-724-8	18.15		G-8	6 1/8"	.37
	PCH-719-10	16.50	10"	PCH-724-10	19.25		G-10	7 7/8"	.44
	PCH-719-12	17.60	12"	PCH-724-12	20.35		G-12	9 7/8"	.52
	PCH-719-14	18.70	14"	PCH-724-14	20.90		G-14	11 7/8"	.58
	PCH-719-16	19.80	16"	PCH-724-16	22.55		G-16	13 7/8"	.65
8 3/4"	PCH-819-6	15.40	6 1/4"	PCH-824-6	18.15		G-6	4 1/8"	.30
	PCH-819-8	16.50	8 1/4"	PCH-824-8	19.25		G-8	6 1/8"	.37
	PCH-819-10	17.60	10"	PCH-824-10	20.35		G-10	7 7/8"	.44
	PCH-819-12	18.70	12"	PCH-824-12	21.45		G-12	9 7/8"	.52
	PCH-819-14	19.80	14"	PCH-824-14	22.55		G-14	11 7/8"	.58
	PCH-819-16	20.90	16"	PCH-824-16	23.65		G-16	13 7/8"	.65

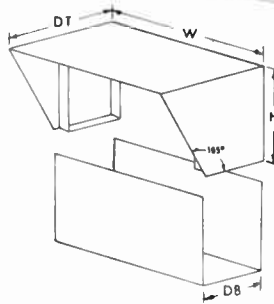
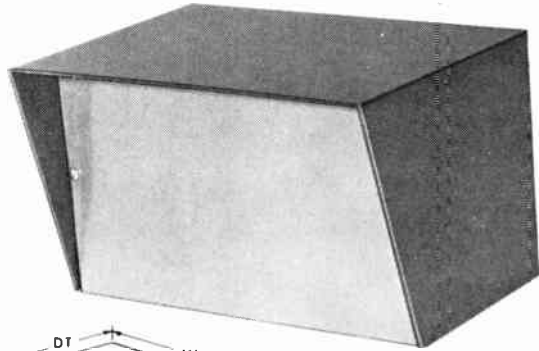
# PREMIER

# CASES

## SLOPING COMPACT CASES

### SCC SERIES

- Two piece case made of #20 Ga. Cold Rolled Steel.
- Top of unit extends beyond the front panel.
- Supplied with necessary screws for assembly.
- Finished in two tone Metallic Gray Enamel —  
Outer Unit — Dark Gray  
Inner Unit — Light Gray

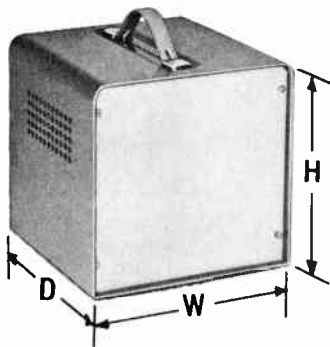


#### OVERALL DIMENSIONS

Catalog No.	Height	Width	Depth Top	Depth Bottom	Net Price
SCC-3000	6"	10"	7"	5 1/8"	\$5.50
SCC-3001	7"	12"	8"	5 3/4"	6.00
SCC-3002	3"	8"	5"	3 7/8"	3.20
SCC-3003	5"	5"	5"	3 3/8"	3.40

## COMPACT CASES

with ROUNDED CORNERS ON BOTH FRONT AND REAR OF TOP



CC Series

#### "Customized" Design for Instrumentation

#### SPECIFICATIONS

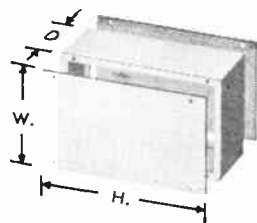
- Body made of 20 gauge steel
- Front Panel made of .064 aluminum
- Recessed Handle supplied on top
- Perforated Sides for ventilation
- Base supplied with four rubber feet
- Panel fits into 1/2" recess
- Two-inch opening in rear for leads
- Finished in two tone Metallic Grey Enamel; Body — dark grey metallic; Front panel — light grey metallic
- Supplied with necessary screws for assembly
- Welded construction

Cat. No.	Depth	Width	Height	Use Chassis	Wt. in Lbs.	Net Price
CC-2000	8"	6 1/8"	8"	ACH 426 5 x 7 x 2	4	\$9.19
CC-2001	8"	8 1/8"	8"	ACH 403 7 x 7 x 2	5	10.01
CC-2002	8"	10 1/8"	8"	ACH 404 7 x 9 x 2	6	10.73
CC-2003	12"	8 1/8"	9"	ACH 405 7x11x2	7	11.66
CC-2004	18"	11 1/8"	11"	ACH 415 10x17x3	10	13.97
CC-2005	18"	14 1/8"	12"	ACH 423 13x17x3	11	15.95

## UTILITY CASES

### ALUMINUM

Constructed of #16 ga. (.051) aluminum with 1/2" flanged edges, spot welded corners and two removable flat covers. Natural Aluminum finish or Gray Hammetone.



Natural Aluminum Cat. No.	Net Price	Size H. W. D.	Ship. Wt. Lbs.
AC-442	\$1.47	4 4 2"	1/2
AC-453	1.62	4 5 3"	3/4
AC-564	1.91	5 6 4"	1
AC-596	3.15	5 9 6"	1 1/2
AC-666	2.21	6 6 6"	1 1/2
AC-1276	4.31	12 7 6"	2 1/4
AC-1597	5.93	15 9 7"	3 1/2
AC-695	3.15	6 9 5"	1 1/2

Gray Hammetone Cat. No.	Net Price
PAC-442	\$1.63
PAC-453	1.87
PAC-564	2.36
PAC-596	3.57
PAC-666	2.47
PAC-1276	4.78
PAC-1597	6.56
PAC-695	3.57

### STEEL

Constructed of #20 ga. sheet steel with 1/2" flanged edges, spot welded corners, and two removable flat covers. Finished in Black Wrinkle.

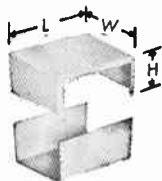
Catalog No.	H.	W.	D.	Ship. Wt. Lbs.	Net Price
C-442	4"	4"	2"	7/8	\$1.10
C-453	4"	5"	3"	1 1/4	1.31
C-564	5"	6"	4"	1 3/4	1.52
C-596	5"	9"	6"	3	2.36
C-666	6"	6"	6"	2 1/4	2.10
C-695	6"	9"	5"	3	2.36
C-754	7"	5"	4"	2	1.68
C-8101	10"	10"	8"	6	3.94
C-1276	12"	7"	6"	4 1/2	3.31

# PREMIER METAL PRODUCTS CO., INC.

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# PREMIER

# CASES



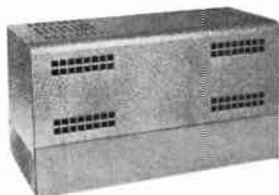
## ALUMINUM MINIATURE UTILITY CASES

A two piece case made of #16 Ga. (.051) aluminum. Natural Aluminum Finish or Gray Hammettone.

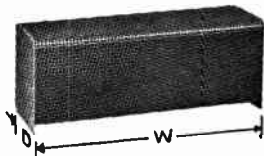
Natural Aluminum Cat. No.	Net Price	L.	W.	H.	Ship Wt. Lbs.	Gray Hammettone Cat. No.	Net Price
AMC-1000*	\$.74	2 3/4"	2 1/8"	1 5/8"	1/4	PMC-1000*	\$.83
AMC-1001*	.74	3 1/4"	2 1/8"	1 5/8"	1/4	PMC-1001*	.83
AMC-1002*	.77	4"	2 1/8"	1 5/8"	1/4	PMC-1002*	.87
AMC-1003	1.00	4"	2 1/4"	2 1/4"	3/8	PMC-1003	1.11
AMC-1004	1.04	5"	2 1/4"	2 1/4"	1/2	PMC-1004	1.14
AMC-1005	1.23	5"	4"	3"	1/2	PMC-1005	1.29
AMC-1006	1.14	5 1/4"	3"	2 1/8"	1	PMC-1006	1.25
AMC-1007	1.46	6"	5"	4"	3/4	PMC-1007	1.61
AMC-1008	1.64	7"	5"	3"	1 1/8	PMC-1008	1.77
AMC-1009	2.43	8"	6"	3 1/2"	1 1/2	PMC-1009	2.57
AMC-1010	3.02	10"	6"	3 1/2"	1 3/4	PMC-1010	3.19
AMC-1011	3.40	12"	7"	4"	2	PMC-1011	3.75
AMC-1012	4.03	17"	5"	4"	2	PMC-1012	4.41
AMC-1013	1.23	10"	2"	1 5/8"	1/4	PMC-1013	1.29
AMC-1014	1.61	12"	2 1/2"	2 1/4"	1/4	PMC-1014	1.73
AMC-1015	.98	4"	2"	2 3/4"	3/8	PMC-1015	1.26
AMC-1016	1.01	4 1/4"	2 1/4"	1 1/2"	1/4	PMC-1016	1.11

\*18 Gauge (.040)

## AMPLIFIER FOUNDATIONS



STANDARD TYPE



PERFORATED TYPE COVERS

### STANDARD TYPE

TOP COVER has perforations, rounded corners and is 6" high. Finished in Gray Hammettone. Also available in Blue-Gray Wrinkle.

CHASSIS constructed of one piece with corners spot-welded. Finished in Gray Hammettone. Also available in Black Wrinkle.

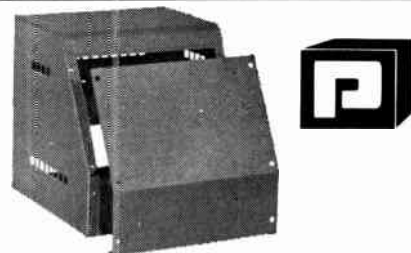
Cat. No.	Chassis Size	Ship. Wt. Lbs.	Net Price
AF-510	5" x 10" x 3"	5	\$5.56
AF-615	6" x 14" x 3"	7	6.44
AF-1017	10" x 17" x 3"	11	8.64
AF-1317	13" x 17" x 3"	13	10.37

### PERFORATED TYPE COVERS

TOP COVER made of perforated steel and has rounded corners with solid ends. 6" high except PC-57\*. Finished in Gray Hammettone. Also available in Blue-Gray Wrinkle.

Cat. No.	W.	D.	Use Chassis No.	Ship. Wt. Lbs.	Net Price
*PC-57	7"	5"	ACH or CH-426	1	\$3.74
PC-510	10"	5"	ACH or CH-401	1 3/4	3.80
PC-615	14"	6"	ACH or CH-402	2 3/8	4.40
PC-717	17"	7"	ACH or CH-409	3	4.84
PC-1012	12"	10"	ACH or CH-412	3	4.95
PC-1017	17"	10"	ACH or CH-415	3 1/4	6.00

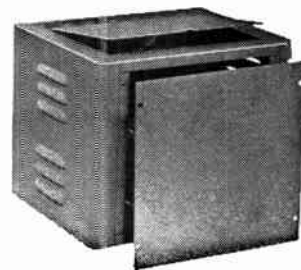
\* 4" high.



### SLOPING FRONT

Cabinet has rounded top corners and a removable front panel. Back of cabinet is perforated and has opening for leads. Constructed of #20 gauge steel. Finished in Gray Hammettone. Also available in Blue-Gray Wrinkle.

Catalog No.	H.	W.	D.	Use Chassis No.	Ship. Wt. Lbs.	Net Price
SFC-500	8 x	8 1/2 x	8"	CH-403	6	\$5.15
SFC-501	8 x	10 1/2 x	8"	CH-404	7	5.72
SFC-502	8 x	14 1/2 x	8"	CH-406	8	6.13
SFC-503	9 x	18 1/2 x	8"	CH-409	10	8.80
SFC-504	12 x	18 1/2 x	12"	CH-415	14	11.24



### HINGED TOP ROUNDED CORNER TYPE

Cabinet has front vertical rounded corners and a removable front panel. Back of cabinet is louvred and has opening for leads. Constructed of #20 gauge steel. Finished in Gray Hammettone. Also available in Blue-Gray Wrinkle.

Catalog No.	H.	W.	D.	Panel Size	Use Chassis No.	Ship. Wt. Lbs.	Net Price
HTC-200	8x10 1/2	8"	8"	8x8"	CH-403	6	\$6.04
HTC-201	8x12 1/2	8"	8x10"	8x10"	CH-404	6 1/2	6.30
HTC-202	8x16 1/2	8"	8x14"	8x14"	CH-406	11	7.88
HTC-203	9x17 1/2	11"	9x15"	9x15"	CH-413	6 1/2	11.55
HTC-204	12x20 3/4	12"	12x18"	12x18"	CH-415	13 1/2	13.65
HTC-205	8x14 1/2	8"	8x12"	8x12"	CH-405	7 1/4	6.83

## STEEL and ALUMINUM Sloping Panel Cases

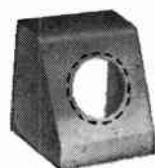


### ROUND TOP CORNERS WITH SLOPING FRONT

No. 20 gauge Steel—Black Wrinkle Finish. No. 18 gauge (.040) Aluminum—Natural Aluminum finish.

Steel Cat. No.	W.	D.	H.	Ship. Wt. Lbs.	Net Price	Alum. Cat. No.	Net Price
SPC-1200	4 3/4	4 1/2	4 3/8	3/4	\$1.26	ASPC-1200	\$1.59
SPC-1201	5 1/2	4 1/2	4 3/8	1	1.43	ASPC-1201	1.80
SPC-1202	6 1/2	4 1/2	4 3/8	1	1.62	ASPC-1202	2.04
SPC-1203	7 1/2	4 1/2	4 3/8	1 1/2	1.95	ASPC-1203	2.45

## 2 in 1 STEEL & ALUMINUM METER CASES



Center Hole for 2" meter (2-3/16" dia.) increases to 3" (2-13/16" dia.) meter hole by simply removing a knock-out. Size: 4 3/4 x 4 3/4 x 4 3/8". Supplied with two 1/2" dia. knockouts. #20 gauge steel—Black Wrinkle Finish, #18 gauge (.040) Aluminum—Natural Aluminum Finish.

Cat. No.	Sh. Wt.	Net Price
ALUMINUM ASPC-23	3/4	\$1.74
STEEL SPC-23	3/4	1.47

## CHASSIS MOUNTING BRACKETS

- Constructed of No. 16 gauge steel.
- Finished in Gray Hammettone
- Sold in pairs only.

### STANDARD TYPE



### TRIANGULAR TYPE

Cat. No.	H.	D.	Ship. Wt. Lbs.	Net Price
(CB-78	6 1/2"	8"	1 1/2	\$1.17
CB-710	6 1/2"	10"	1 3/4	1.56
CB-711	6 1/2"	11"	2	1.71
CB-712	6 1/2"	12"	2 1/8	1.83
CB-713	6 1/2"	13"	2 1/4	1.98
CB-717	6 1/2"	17"	3	3.08
Notched for 3" Chassis				
CB-810	8 1/2"	10"	2 3/8	2.31
CB-813	8 1/2"	13"	3	2.44
Notched for 4" Chassis				

Cat. No.	Height	Depth	Ship. Wt. Lbs.	Net Price
TCB-55	5"	5"	1	\$1.14
TCB-77	7"	7"	1	1.30
TCB-99	9"	9"	1 1/2	1.58

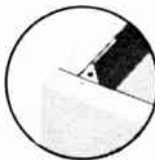
# PREMIER METAL PRODUCTS CO., INC.

A Renwell Industries Company

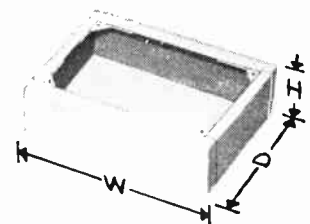
# PREMIER STEEL and ALUMINUM CHASSIS

## STEEL and ALUMINUM BLANK

### EXCLUSIVE PREMIER FEATURE!



View of Chassis Showing Gusset Spot-Welded in Corner.



Chassis are of one piece construction with gussets spot-welded to the bottom flanges for additional strength. Corners have rounded effect and single inside thickness for mounting components. Bottom edges are flanged in on four sides and punched for bottom plates.

Steel chassis are zinc plated and made of No. 20 gauge cold rolled steel, except those marked \* which are of No. 16 gauge.

Aluminum chassis are made of No. 18 gauge (.040) aluminum, except those marked \* which are of No. 14 gauge (.064). Natural Aluminum Finish.

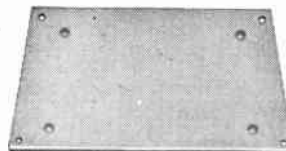
ALUMINUM			STEEL		
Cat. No.	Ship. Wt. Lbs.	Net Price	Cat. No.	Ship. Wt. Lbs.	Net Price
ACH-400	1/2	\$1.40	CH-400	1	\$1.32
ACH-401	3/4	1.60	CH-401	1 1/2	1.86
ACH-402	1	2.70	CH-402	2 1/2	2.16
ACH-403	1/2	1.40	CH-403	1 1/4	1.56
ACH-404	1/2	1.46	CH-404	1 1/2	1.86
ACH-405	3/4	1.60	CH-405	1 3/8	1.92
ACH-406	3/4	1.72	CH-406	2	2.04
ACH-407	1	3.03	CH-407	2 3/4	2.40
ACH-408	1	2.48	CH-408	2 1/4	2.16
ACH-409	1 1/2	2.99	CH-409	3 1/8	2.64
ACH-410	1 1/8	3.03	CH-410	2 3/4	2.40
ACH-411	1 1/2	3.15	CH-411	5/4	2.64
ACH-412	1 1/4	2.81	CH-412	2 3/4	2.58
ACH-413	1 1/4	3.57	CH-413	3 1/4	2.70
ACH-414	1 1/4	3.42	CH-414	3 1/4	2.76
ACH-415*	1 1/8	3.83	CH-415*	6	3.12
ACH-416*	2	4.41	CH-416*	7 1/2	3.48
ACH-417*	1 3/4	3.65	CH-417*	5 1/4	3.78
ACH-418*	2	4.48	CH-418*	6 1/4	4.14
ACH-419*	1 3/8	4.00	CH-419*	5	2.88
ACH-420*	2 1/8	4.74	CH-420*	7	3.48
ACH-421*	2 3/8	5.23	CH-421*	8 1/2	3.78
ACH-422*	1 3/8	4.22	CH-422*	6	4.14
ACH-423*	2 1/8	5.03	CH-423*	7	4.80
ACH-424*	2 1/2	5.75	CH-424*	10	5.46
ACH-425	7/8	1.72	CH-425	2 1/4	2.05
ACH-426	1/4	1.35	CH-426	1	1.50
ACH-427	1 1/4	3.06	CH-427	3	2.76
ACH-428	1/4	1.58	CH-428	1 1/4	1.56
ACH-429	3/4	1.89	CH-429	2	2.28
ACH-430	1	2.30	CH-430	2 1/2	2.40
ACH-431	1/4	1.35	CH-431	1	1.50
ACH-432	1/4	1.40	CH-432	1	1.50
ACH-433	7/8	1.92	CH-433	2 1/2	2.10
ACH-434	1	2.84	CH-434	4	2.58
ACH-435*	2 1/2	5.64	CH-435*	10	3.96
ACH-436	1/4	1.14	CH-436	3/4	1.50
ACH-437	3/8	1.19	CH-437	1	1.56
ACH-438*	3	11.33	CH-438*	13	7.80
—	—	—	CH-439*	8 1/2	4.20
—	—	—	CH-440*	11	6.18
ACH-441	1	1.76	CH-441	2 1/2	2.04

\*Made of No. 14 gauge (.064) aluminum. For Chassis Mounting Brackets See Premier Page 24

\*Made of No. 16 gauge steel.

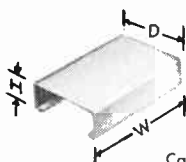
For Steel and Aluminum Panels See Premier Page 26

## ALUMINUM AND STEEL BOTTOM PLATES



The bottom plates have holes to match the chassis and have 4 pressed dimples. Steel plates are zinc plated and made of No. 20 gauge steel. Aluminum plates made of No. 18 gauge (.040). Natural aluminum finish.

ALUMINUM			STEEL		
Cat. No.	Net Price	Size	Cat. No.	Ship. Wt. Lbs.	Net Price
ABP-400	\$0.91	5 1/2" x 9 1/2"	BP-400	1	\$0.55
ABP-401	.91	5" x 10"	BP-401	1	.61
ABP-402	1.38	6" x 14"	BP-402	1	.83
ABP-403	.94	7" x 7"	BP-403	1	.61
ABP-404	1.01	7" x 9"	BP-404	1	.66
ABP-405	1.11	7" x 11"	BP-405	1	.88
ABP-406	1.38	7" x 13"	BP-406	2	.88
ABP-407	1.38	7" x 15"	BP-407	2	.99
ABP-408	1.38	4" x 17"	BP-408	2	.94
ABP-409	1.42	7" x 17"	BP-409	2	1.05
ABP-410	1.60	8" x 17"	BP-410	2	1.05
ABP-412	1.57	10" x 12"	BP-412	2	1.05
ABP-413	1.43	10" x 14"	BP-413	2	1.10
ABP-414	1.80	10" x 17"	BP-414	2	1.38
ABP-418	2.26	11" x 17"	BP-418	3	1.43
ABP-419	2.39	12" x 17"	BP-419	3	1.49
ABP-422	2.53	13" x 17"	BP-422	3	1.60
ABP-423	.91	5" x 7"	BP-423	1	.55
ABP-424	1.03	5" x 13"	BP-424	1	.88
ABP-425	1.38	8" x 12"	BP-425	2	1.27
ABP-426	.91	4" x 6"	BP-426	1	.55
ABP-427	1.19	7" x 12"	BP-427	2	1.10
ABP-428	1.42	6" x 17"	BP-428	2	1.05
ABP-429	2.68	10" x 23"	BP-429	2	2.20
ABP-430	.91	4" x 8"	BP-430	1	.55
ABP-431	2.70	17" x 17"	BP-431	4	2.31
ABP-432	2.53	8 1/2" x 15"	BP-432	1 1/2	1.60
ABP-433	1.20	8" x 10"	BP-433	1	1.10

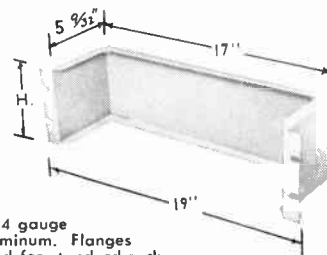


## ALUMINUM OPEN END CHASSIS

Made of 18 ga. (.040) Aluminum.

Catalog No.	Depth	Width	Height	Ship. Wt. Lbs.	Net Price
ACH-1350	2 5/8"	2 3/4"	1 1/4"	1/4	\$.44
ACH-1351	1 3/4"	3 1/8"	1"	1/4	.48
ACH-1352	3 1/4"	4 1/2"	2"	1/4	.51
ACH-1353	2 3/4"	4 1/8"	1 1/4"	1/4	.51
ACH-1354	3 3/4"	4 1/8"	1 1/2"	1/4	.51
ACH-1355	3"	6 1/8"	1 1/4"	1/4	.61
ACH-1356	5 3/4"	4 7/8"	1 1/2"	1/4	.64
ACH-1357	4"	3 1/8"	1"	1/2	.51
ACH-1358	4"	4 1/8"	1"	1/2	.55
ACH-1359	4"	5 1/8"	1"	1/2	.59
ACH-1360	4"	6 1/8"	1"	1/2	.64

## ALUMINUM VERTICAL PANEL CHASSIS



To FIT 19" STANDARD RACKS

Made of 14 gauge (.064) Aluminum. Flanges are notched for standard rack mounting. All chassis depths are 5-3/8". Gussets are spot welded in each corner for greater strength. Etched finish.

Catalog No.	Height	Ship. Wt. Lbs.	Net Price
ACH-1200	1 3/4"	3/4	\$2.89
ACH-1201	3 1/2"	1 3/4	3.15
ACH-1202	5 1/4"	1 1/2	3.78
ACH-1203	7"	2	3.41
ACH-1204	8 3/4"	2 1/4	4.46
ACH-1205	10 1/2"	2 3/4	4.99
ACH-1206	12 1/4"	3	5.51
ACH-1207	14"	3 1/4	6.30

FOR SIDE HINGED PANELS (SHP SERIES) SEE PREMIER PAGE 26

# PREMIER METAL PRODUCTS CO., INC.

A Renwell Industries Company

# PREMIER STEEL & ALUMINUM RACK PANELS

## TWIN-TEX REVERSIBLE

19" wide painted panels are finished in REVERSIBLE HAMMERTONE-WRINKLE. One side is Gray Hammertone — the other side is Black Wrinkle. 9 1/2", 24" and 30" WIDE PANELS are finished on both sides in either Gray Hammertone or Black Wrinkle. Specify color when ordering.

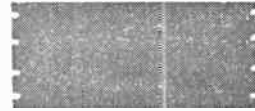
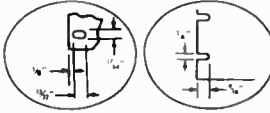
### MASKED ALUMINUM PANELS

Made of bright natural aluminum covered on both sides with special self-adhesive paper. Drilling or milling can be done on paper in place, affording complete damage protection. Paper is removed simply by peeling.

### NOTCHING

All panels are notched according to E.I.A. Standards and will fit any rack having multiple 5/8 - 5/8 - 1/2 or 1 1/4 - 1/2 spacings.

All panels have open slots except the 1 3/4" & 3 1/2" high, which have closed slots for rigidity.



### BLANK RACK PANELS

9 1/2" - 19" - 24" - 30" WIDTHS

### MATERIAL

Steel.....#12 Ga. (.104) Cold Rolled  
Aluminum.....1/8" thick — 5005-H36 Alloy  
Aluminum.....3/16" thick — 6061-T6 Alloy

\*NOTE: All panels are cut 1/32" less than nominal height.

### 19" WIDE

ALUMINUM			
Made of 1/8" Thick Aluminum 9 1/2" Wide			
Cat. No.	*Nominal Height	Ship. Wt.	Net Price
ARP-195	1 3/4"	1/4	\$1.05
ARP-395	3 1/2"	1/2	1.38
ARP-595	5 1/4"	3/4	2.04
ARP-795	7"	1	2.48
ARP-895	8 3/4"	1 1/4	2.92
ARP-1095	10 1/2"	1 1/2	3.63
ARP-1295	12 1/4"	1 3/4	5.34
ARP-1495	14"	2	4.84

*Nominal Height	Masked Aluminum — 1/8" Thick			Masked Aluminum — 3/16" Thick		
	Cat. No.	Shipping Wt. Lbs.	Net Price	Cat. No.	Shipping Wt. Lbs.	Net Price
1 3/4"	MAP-119	1/2	\$1.17	MAP-119-36	3/4	\$ 2.20
3 1/2"	MAP-319	1	1.60	MAP-319-36	1 1/2	2.97
5 1/4"	MAP-519	1 1/2	2.15	MAP-519-36	2 1/2	4.57
7"	MAP-719	2	2.59	MAP-719-36	3	5.50
8 3/4"	MAP-819	2 1/2	3.14	MAP-819-36	3 3/4	6.60
10 1/2"	MAP-1019	3	3.91	MAP-1019-36	4 1/2	7.70
12 1/4"	MAP-1219	3 1/2	4.57	MAP-1219-36	5	9.08
14"	MAP-1419	4	5.23	MAP-1419-36	6	11.17
15 3/4"	MAP-1519	4	5.83	MAP-1519-36	6	12.38
17 1/2"	MAP-1719	4 3/4	6.44	MAP-1719-36	7	13.20
19 1/4"	MAP-1919	5	7.04	MAP-1919-36	7 1/2	14.03
21"	MAP-2119	6	7.65	MAP-2119-36	9	15.95
26 1/4"	MAP-2619	7 1/2	9.90	MAP-2619-36	11 1/2	20.35
31 1/2"	MAP-3119	8 1/2	11.55	MAP-3119-36	13 1/2	23.10
35"	MAP-3519	10	13.75	MAP-3519-36	15	28.60

- Modifications Available**
- Closed slots available on all sizes.
  - 1/8" thick Aluminum Panels available in 6061T6 alloy.
  - Panels can be finished in same color on both sides.
  - Special finishes, including unfinished.
  - Special Heights.

*Nominal Height	Painted Aluminum — 1/8" Thick			Painted Aluminum — 3/16" Thick			Painted Steel — No. 12 Gauge		
	Cat. No.	Shipping Wt. Lbs.	Net Price	Cat. No.	Shipping Wt. Lbs.	Net Price	Cat. No.	Shipping Wt. Lbs.	Net Price
1 3/4"	ARP-119	1/2	\$ 1.23	ARP-119-36	3/4	\$ 1.98	RP-119	1	\$ .94
3 1/2"	ARP-319	1	1.65	ARP-319-36	1 1/2	2.59	RP-319	2	1.10
5 1/4"	ARP-519	1 1/2	2.26	ARP-519-36	2 1/2	3.63	RP-519	3	1.32
7"	ARP-719	2	2.71	ARP-719-36	3	4.40	RP-719	4	1.54
8 3/4"	ARP-819	2 1/2	3.25	ARP-819-36	3 3/4	5.23	RP-819	5 1/4	1.87
10 1/2"	ARP-1019	3	4.13	ARP-1019-36	4 1/2	6.60	RP-1019	6 1/4	2.26
12 1/4"	ARP-1219	3 1/2	4.57	ARP-1219-36	5	7.65	RP-1219	7 1/4	2.70
14"	ARP-1419	4	5.50	ARP-1419-36	6	8.80	RP-1419	8 1/4	3.10
15 3/4"	ARP-1519	4	6.05	ARP-1519-36	6	9.79	RP-1519	9	3.48
17 1/2"	ARP-1719	4 3/4	6.71	ARP-1719-36	7	10.78	RP-1719	10 1/2	3.85
19 1/4"	ARP-1919	5	7.37	ARP-1919-36	7 1/2	11.82	RP-1919	12	4.24
21"	ARP-2119	6	8.25	ARP-2119-36	9	12.82	RP-2119	12 1/2	4.68
26 1/4"	ARP-2619	7 1/2	11.22	ARP-2619-36	11 1/2	16.50	RP-2619	15 1/2	6.60
31 1/2"	ARP-3119	8 1/2	15.07	ARP-3119-36	13 1/2	19.36	RP-3119	19	8.47
35"	ARP-3519	10	16.34	ARP-3519-36	15	22.55	RP-3519	22	9.90

### 24" WIDE

### 30" WIDE

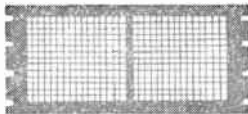
Aluminum — 1/8" Thick				Steel — No. 12 Gauge			Aluminum — 1/8" Thick				Steel — No. 12 Gauge		
Cat. No.	Ship. Wt. Lbs.	Net Price	*Nominal Height	Cat. No.	Ship. Wt. Lbs.	Net Price	Cat. No.	Ship. Wt. Lbs.	Net Price	*Nominal Height	Cat. No.	Ship. Wt. Lbs.	Net Price
ARP-324	1 1/4	\$2.53	1 3/4"	RP-324	2 1/4	\$1.65	ARP-330	1 1/2	\$3.36	3 1/2"	RP-330	3	\$2.15
ARP-524	2	3.74	5 1/4"	RP-524	3 1/2	2.04	ARP-530	2 1/4	5.01	5 1/4"	RP-530	4 1/2	2.70
ARP-724	2 1/2	4.51	7"	RP-724	4 1/2	2.31	ARP-730	3	6.05	7"	RP-730	6	3.08
ARP-824	3	5.39	8 3/4"	RP-824	6	2.86	ARP-830	3 3/4	7.15	8 3/4"	RP-830	8	3.74
ARP-1024	3 1/2	6.77	10 1/2"	RP-1024	7	3.41	ARP-1030	4 1/2	9.02	10 1/2"	RP-1030	9 1/4	3.80
ARP-1224	4	7.92	12 1/4"	RP-1224	8	4.03	ARP-1230	5	10.51	12 1/4"	RP-1230	10 1/4	5.34
ARP-1424	4 1/2	9.08	14"	RP-1424	9	4.62	ARP-1430	6	12.05	14"	RP-1430	12	6.16
ARP-1524	5	10.07	15 3/4"	RP-1524	10	5.23	ARP-1530	6 1/2	13.48	15 3/4"	RP-1530	13 1/2	6.99
ARP-1724	5 1/2	11.11	17 1/2"	RP-1724	11	5.78	ARP-1730	7	14.85	17 1/2"	RP-1730	15	7.65
ARP-1924	6	12.16	19 1/4"	RP-1924	12	6.38	ARP-1930	7 1/2	16.23	19 1/4"	RP-1930	18	8.43
ARP-2124	6 1/2	13.26	21"	RP-2124	13	7.04	ARP-2130	9	17.66	21"	RP-2130	19	9.35

### PANELS — 19" WIDE

Made of No. 12 Gauge Steel

### FINISHED IN GRAY HAMMERTONE

ALSO AVAILABLE IN BLACK WRINKLE.

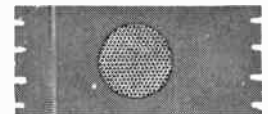


3/8" Sq. Perforations



### SIDE HINGED DOOR PANELS

Can be used for left or right hand opening. Supplied with a quick turn fastener. Full height piano hinge welded to panel.



### SPEAKER PANELS

Perforatec metal is spot-welded behind the opening.

Cat. No.	Grill Size	*Nominal Height	Ship. Wt. Lbs.	Net Price
GRP-601	3 7/8" x 1 3/8"	5 1/4"	2	\$3.74
GRP-602	3 7/8" x 1 3/8"	7"	2	4.00
GRP-603	5 7/8" x 1 3/8"	8 3/4"	2 1/2	4.84
GRP-604	*3 7/8" x 1 3/8"	8 3/4"	2 1/2	4.46
GRP-605	*7 7/8" x 1 3/8"	10 1/2"	2 1/2	5.30
GRP-606	*5 7/8" x 1 3/8"	10 1/2"	2 1/2	4.84
GRP-607	*7 7/8" x 1 3/8"	12 1/4"	3	5.50

\* Allows 3 1/2" space at bottom for chassis mounting.

Cat. No.	Height	Net Price
SHP-319	3 1/2"	\$3.63
SHP-519	5 1/4"	3.78
SHP-719	7"	4.14
SHP-819	8 3/4"	4.44
SHP-1019	10 1/2"	4.80
SHP-1219	12 1/4"	5.12
SHP-1419	14"	5.56
SHP-2119	21"	8.80

Cat. No.	Height	Spkr. Size	Hole Size	Ship. Wt. Lbs.	Net Price
SRP-819	8 3/4"	6"	4 5/8"	6	\$3.52
SRP-1019	10 1/2"	8"	6 1/2"	8	4.44
SRP-1219	12 1/4"	10"	8 1/2"	9	5.30
SRP-1419	14"	12"	11"	10	6.09

# PREMIER METAL PRODUCTS CO., INC.

A Renwell Industries Company

# PREMIER

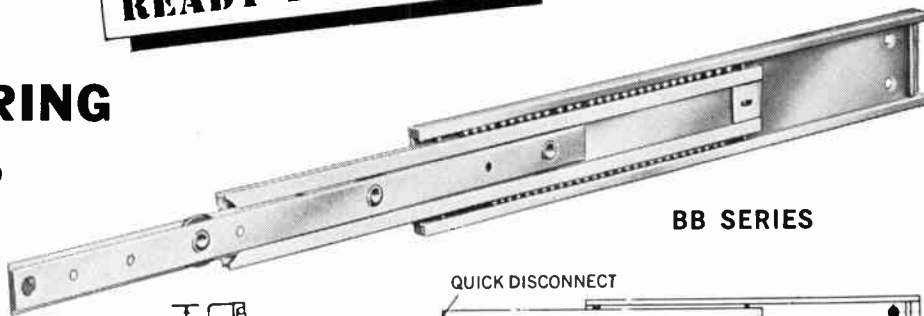
# CHASSIS SLIDES

PREM-Ö-RAK<sup>®</sup>

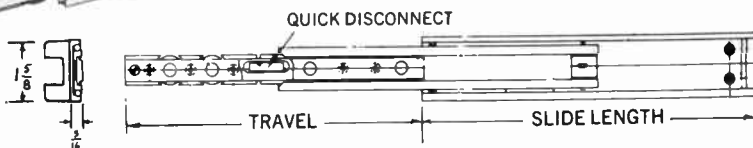
**READY-TO-MOUNT**



## 100 lb. BALL BEARING SLIDES



BB SERIES



- EXCLUSIVE "QUICK DISCONNECT" allows for mediate removal of chassis.
- Carries load of 100 lbs. when fully extended.
- Glides smoothly on stainless steel ball bearings.
- $\frac{5}{16}$ " horizontal side space adjustable  $\pm \frac{1}{16}$ .
- $1\frac{1}{8}$ " vertical side space.
- 3 telescoping anodized aluminum members.

Catalog No.	Load Rating Lbs.	Slide Length	Travel Length	Will Fit Racks	Net Price per Pair
BB-100-14	100	14"	13"	15 $\frac{1}{4}$ " deep POR (DCR, SDR, DRK, FXR)* RMX, FDX	\$69.58
BB-100-16	100	16	15	18" deep PRXA, POR (R, DCR, SDR)*	69.58
BB-100-20	100	20	19	FS, 22" deep CPF & FA, MSF, RMX, FDX	75.35
BB-100-22	100	22	21	24" deep PRXA	76.73
BB-100-24	100	24	23	25 $\frac{1}{2}$ " deep FA & FS, MSF, CPF	78.65

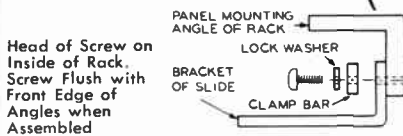
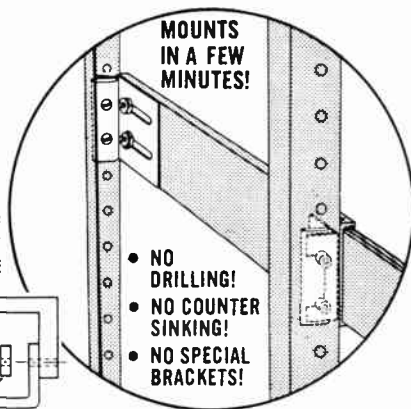
\*Slide Adapter Kit (Cat. No. SAK-35) required for rear mounting on all models in parenthesis (See page 28).

- Allows full accessibility for instantaneous servicing.
- Slide mounts standard 17" wide chassis.
- Slide locks in open position.
- Supplied with all necessary hardware far immediate installation.

### RAPID INSTALLATION

For BB, HBB, SB and SNR SERIES SLIDES

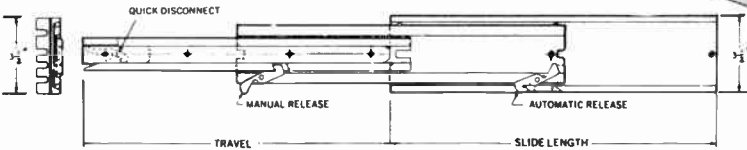
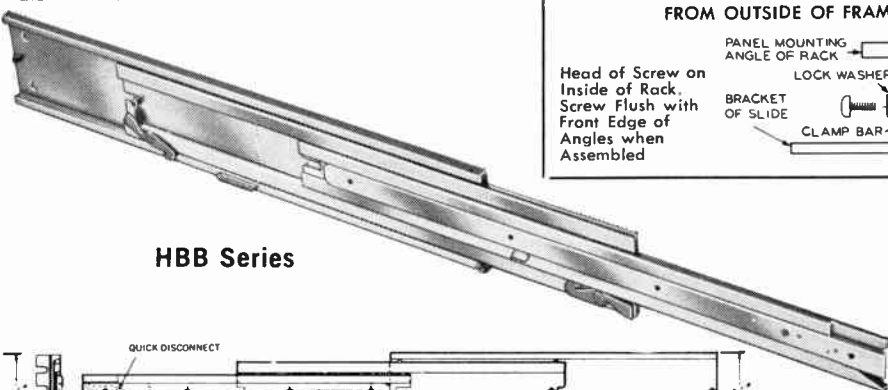
- ★ MOUNTS TO TAPPED HOLES OF FRONT AND REAR PANEL MOUNTING ANGLES
- ★ SIMPLE ADJUSTABILITY OF CHASSIS SLIDE ASSEMBLY FROM OUTSIDE OF FRAME



Head of Screw on Inside of Rack. Screw Flush with Front Edge of Angles when Assembled

## 200 lb. HEAVY BALL BEARING SLIDES

HBB Series



- EXCLUSIVE "QUICK DISCONNECT" allows for immediate removal of chassis.
- Chassis may be removed from side by depressing quick release lever.
- Slide locks in open position.
- $\frac{1}{2}$ " horizontal side space adjustable  $\pm \frac{3}{32}$ .
- Carries loads of 200 lbs. when fully extended.
- $3\frac{1}{2}$ " vertical side space.
- 4 telescoping anodized aluminum members.
- Allows full accessibility for instantaneous servicing.
- Glides smoothly on stainless steel ball bearings.
- Supplied with all necessary hardware for immediate installation.

Catalog No.	Load Rating Lbs.	Slide Length	Travel Length	Will Fit Racks	Net Price per Pair
HBB-200-14	200	14"	13"	15 $\frac{1}{4}$ " deep POR, RMX, FDX (DCR, SDR, DRK, FXR)*	\$89.65
HBB-200-16	200	16	15	18" deep PRXA, POR, (R, DCR, SDR)*	89.65
HBB-200-20	200	20	19	FS, 22" deep CPF & FA, MSF RMX, FDX	97.63
HBB-200-22	200	22	21	24" deep PRXA	101.20
HBB-200-24	200	24	23	25 $\frac{1}{2}$ " deep FA & FS MSF, CPF	103.40

\*Slide Adapter Kit (Cat. No. SAK-35) required for rear mounting on all models in parenthesis (See page 28).

SEE PREMIER PAGE 29 FOR PREMIER CABLE RETRACTORS

# PREMIER METAL PRODUCTS CO., INC.

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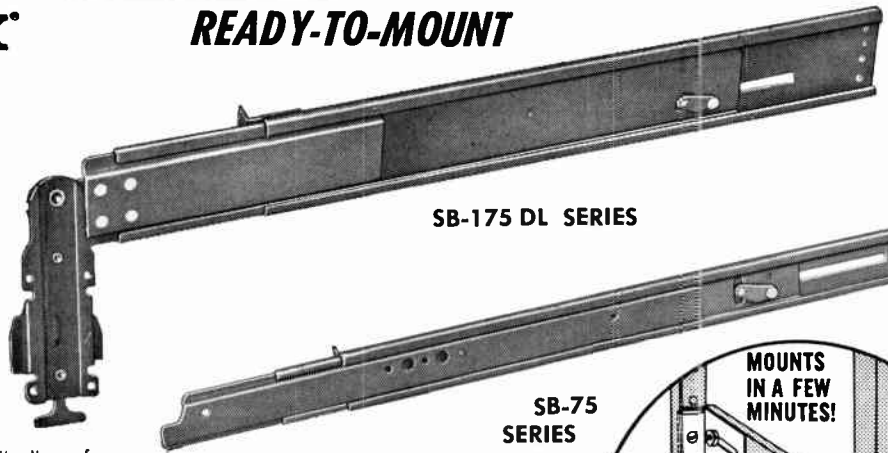
# PREMIER

# CHASSIS SLIDES

PREM-O-RAK<sup>®</sup>

READY-TO-MOUNT

## SOLID BEARING SLIDES



SB-175 DL SERIES

CARRY 75 lb. and 175 lb. LOADS

• TILT and NON-TILT MODELS.

- EXCLUSIVE "QUICK DISCONNECT" allows for immediate removal of chassis.
- SB-75 Series carry 75 lbs. fully extended. SB-175 Series carry 175 lbs. fully extended.
- Made of high strength cold rolled steel.
- Withstands 100 hours salt spray.
- Slide mounts standard 17" wide chassis.
- 3 telescoping members allow full accessibility for instant servicing.

• SB-75 Series—386 horizontal side space adjustable  $\pm \frac{1}{32}$ .

SB-175 Series—398 horizontal side space adjustable  $\pm \frac{1}{32}$ .

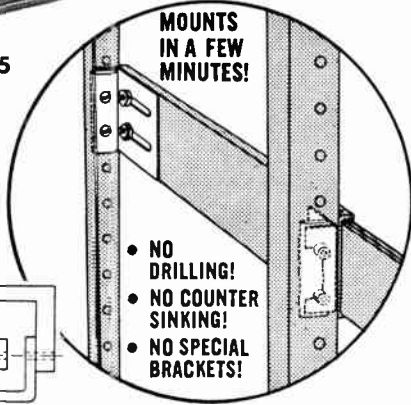
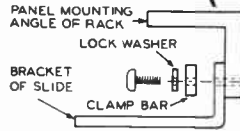
• Finish: Electro zinc plated, chromate treated and completely coated with Molybdenum Disulfide lubricant.

• SB-175-DL Series have detent locks which allow chassis to be tilted either up or down and locked at 90° for easy servicing.

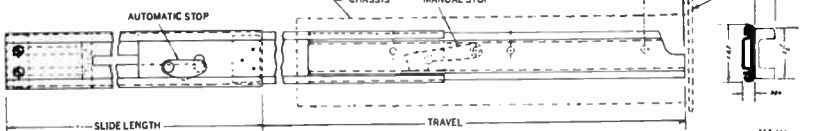
### RAPID INSTALLATION For BB, HBB, SB and SNR SERIES SLIDES

- ★ MOUNTS TO TAPPED HOLES OF FRONT AND REAR PANEL MOUNTING ANGLES
- ★ SIMPLE ADJUSTABILITY OF CHASSIS SLIDE ASSEMBLY FROM OUTSIDE FRAME

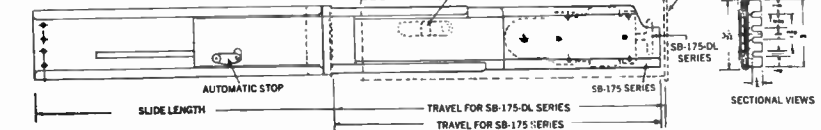
Head of Screw on Inside of Rack. Screw Flush with Front Edge of Angle when Assembled



SB-75 SERIES



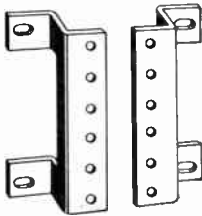
SB-175 AND SB-175-DL SERIES



### SLIDE ADAPTER KIT For BB, HBB, SB and SNR SERIES

Required for rear mounting on DR, R, DCR, DRK, SDR and FXR models.

- Mounts to inside rear flange by drilling 4 holes.
- Made of No. 12 gauge steel and tapped 10-32 on E.I.A. spacings ( $\frac{9}{16}$ - $\frac{1}{2}$ ).
- Finished in Gray Hammertone. Kit includes 2 brackets, four 10-32 screws and keys.



Cat. No. SAK-35 \$3.63 Net Price

### SLIDE TILTING KIT

For tilting one pair of slides. Consists of 4 special screws, lock washers and nuts.

- STK-75 (For SB-75 series) ..... \$3.00 Net Price
- STK-175 (For SB-175 series) ..... 3.50 Net Price

Catalog No.	Load Rating lbs.	Slide Length	Travel Length	Will Fit Racks	Net Price per-Pair
SB-75-14	75	14"	14 1/2"	15 1/4" deep POR (DCR, SDR, DRK, FXR)*	\$19.25
SB-75-16	75	16	14 1/2"	RMX, FDX	
SB-75-20	75	20	18 1/2"	18" deep PRXA, POR (R, DCR, SDR)*	19.25
SB-75-22	75	22	22 1/2"	FS, 22" deep CPF & FA, MSF, RMX, FDX	20.63
SB-75-24	75	24	22 1/2"	24" deep PRXA	21.73
SB-175-14	175	14"	14 1/2"	25 1/2" deep FA & FS, MSF, CPF	
SB-175-16	175	16	18 1/2"	15 1/4" deep POR (DCR, SDR, DRK, FXR)*	\$40.98
SB-175-20	175	20	22 1/2"	RMX, FDX	
SB-175-22	175	22	24"	18" deep PRXA, POR (R, DCR, SDR)*	40.98
SB-175-24	175	24	26 1/2"	FS, 22" deep CPF & FA, MSF, RMX, FDX	43.45
SB-75-DL-14	75	14"	15"	24" deep PRXA	44.28
SB-75-DL-16	75	16	17"	25 1/2" deep FA & FS, MSF, CPF	
SB-75-DL-20	75	20	21"	15 1/4" deep POR (DCR, SDR, DRK, FXR)*	\$44.00
SB-75-DL-22	75	22	23"	RMX, FDX	
SB-75-DL-24	75	24	25"	18" deep PRXA, POR (R, DCR, SDR)*	40.00
SB-175-DL-14	175	14"	14 1/2"	FS, 22" deep CPF & FA, MSF, RMX, FDX	44.00
SB-175-DL-16	175	16	18 1/4"	24" deep PRXA	46.75
SB-175-DL-20	175	20	22 1/4"	25 1/2" deep FA & FS, MSF, CPF	48.40
SB-175-DL-22	175	22	26 1/4"	15 1/4" deep POR (DCR, SDR, DRK, FXR)*	\$64.90
SB-175-DL-24	175	24	26 1/4"	RMX, FDX	
				18" deep PRXA, POR (R, DCR, SDR)*	64.90
				FS, 22" deep CPF & FA, MSF, RMX, FDX	64.90
				24" deep PRXA	67.65
				25 1/2" deep FA & FS, MSF, CPF	69.85

\*Slide Adapter Kit (Cat. No. SAK-35) required for rear mounting on all models in parenthesis.

### HEAVY DUTY CHASSIS SLIDES

Glide smoothly on large, quiet Nylon rollers and steel balls

- Exclusive "QUICK DISCONNECT" allows for immediate removal of chassis.
- Extends fully, yet keeps chassis perfectly straight.

- Supplied with all necessary hardware.
- Positive mechanical stop prevents possibility of chassis extending too far.
- 1/2" horizontal side spaces.



SNR SERIES

CARRY 100 lb. loads

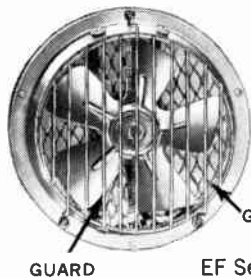
Cat. No.	Slide Length	Slide Travel	Will fit Racks	Net Price
SNR-100-14	14"	14"	15 1/4" deep POR (DCR, SDR, DRK, FXR)*	\$13.52
SNR-100-16	16"	16"	RMX, FDX	
SNR-100-20	20"	20"	18" deep PRXA, POR (R, DCR, SDR)*	13.74
SNR-100-22	22"	22"	FS, 22" deep CPF & FA, MSF, RMX, FDX	14.18
SNR-100-24	24"	24"	24" deep PRXA	14.44
			25 1/2" deep FA & FS, MSF, CPF	14.80

# PREMIER PREM-O-KOOL

# FANS



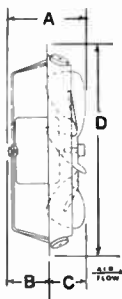
## ACCESSORIES FOR EXHAUST FANS



GRILLE

GUARD

EF Series



### EXHAUST and INTAKE FANS

PREM-O-KOOL fans are available for exhausting air from cabinets (EF Series) and for drawing air into cabinets (IF Series).

- Motors are 115 volts 50/60 cycle single phase AC.
- Minimum space required. • Supplied with 18" lead.
- Fan and motor assembly shock mounted for minimum noise and vibration.
- Permanently lubricated ball bearing, shaded pole motors with low temperature rise.
- Easily interchangeable accessories for flexibility of mounting in cabinets.

• Cut-out and mounting holes for fans can be provided on any Premier rack or cabinet at slight additional cost.

Patent No. 3,019,965.  
Other Patents Pending.

#### GUARDS

Cat. No.	Used with Fan	Dia.	Depth	Net Price
GU-6	EF165, 220, 300	6 3/4"	1 7/8"	\$2.64
GU-8	EF400	8 1/4"	2 3/8"	2.64
GU-9	EF550	9 1/4"	2 3/8"	3.30
GU-10	EF750	10 1/4"	2 3/8"	3.96

#### GRILLES

Cat. No.	Used with Fan	Dia.	Net Price
GR-6	EF165, 220, 300	8 1/2"	\$2.64
GR-8	EF400	10 1/2"	2.64
GR-9	EF550	11 1/2"	3.30
GR-10	EF750	12 1/2"	3.96

#### SLEEVES

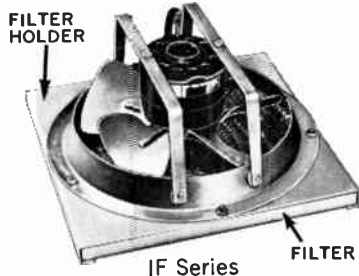
Cat. No.	Used with Fan	Dia.	Depth	Net Price
SL-6	EF165, 220, 300	8 1/2"	1 3/4"	\$3.96
SL-8	EF400	10 1/2"	2	3.96
SL-9	EF550	11 1/2"	2 3/8"	4.62
SL-10	EF750	12 1/2"	2 3/8"	5.28

### EXHAUST FANS

Cat. No.	CFM	Motor Watts	RPM	Fan Blade Dia.	A	B	C	D	Hole Dia. Required	Net Price
EF-165	165	20	1650	6 1/2"	2 7/8"	1 5/8"	1 1/4"	8 1/2"	7 3/8"	\$55.00
EF-220	220	25	1550	6 1/2"	3 1/4"	1 5/8"	1 5/8"	8 1/2"	7 3/8"	49.50
EF-300	300	65	3000	6 1/2"	4 1/8"	2 3/8"	1 1/2"	8 1/2"	7 3/8"	49.50
EF-400	400	46	1460	8	3 5/8"	1 7/8"	1 3/4"	10 1/2"	9 1/4"	59.40
EF-550	550	90	1600	9	4 3/8"	2 1/8"	2 1/4"	11 1/2"	10 3/8"	62.70
EF-750	750	105	1560	10	4 3/8"	2 1/8"	2 1/4"	12 1/2"	11 3/8"	66.00

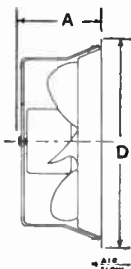
### INTAKE FANS

Cat. No.	CFM	Motor Watts	RPM	Fan Blade Dia.	Dimensions A	Dimensions D	Hole Diam. Required	Net Price
IF-160	160	20	1650	6 1/2"	2 7/8"	8 1/2"	7 3/8"	\$55.00
IF-180	180	25	1550	6 1/2"	3 1/4"	8 1/2"	7 3/8"	49.50
IF-300	300	65	3000	6 1/2"	4 1/8"	8 1/2"	7 3/8"	49.50
IF-360	400	46	1460	8	3 3/4"	10 1/2"	9 1/4"	59.40
IF-540	540	90	1600	9	4 3/8"	11 1/2"	10 3/8"	62.70
IF-740	740	105	1560	10	4 3/8"	12 1/2"	11 3/8"	66.00



IF Series

FILTER



### PREMIER CABINETS AND RACKS

FA, PRXA, FS, RMX, FDX, R, DR, DCR, DRK, SDR, POR and FXR models may be supplied with one round and 5 mounting holes to accommodate Exhaust and Intake Fans, at additional cost.



### ACCESSORIES FOR INTAKE FANS

#### FILTERS Permanent washable type, 1/2" thick

Cat. No.	Used with Fan	Size	Net Price
FL-6	IF 160, 180, 300	8 3/8" Sq.	\$2.64
FL-8	IF 360	10 3/8" Sq.	2.64
FL-9	IF 540	11 3/8" Sq.	3.30
FL-10	IF 740	12 3/8" Sq.	3.30

#### FILTER HOLDERS

Cat. No.	Used with Fan	Size	Depth	Net Price
FH-6	IF 160, 180, 300	8 3/8" Sq.	5/8"	\$5.28
FH-8	IF 360	10 3/8" Sq.	5/8"	5.28
FH-9	IF 540	11 3/8" Sq.	5/8"	6.60
FH-10	IF 740	12 3/8" Sq.	5/8"	7.92

# PREMIER

## BALL BEARING ACTION CABLE RETRACTOR

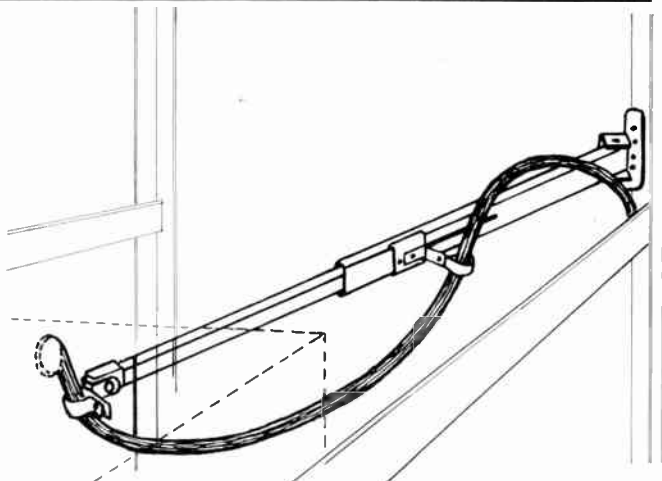
### FOR CONTROL OF POWER SUPPLY CABLES

- Smooth gliding, stress-free motion
- Heavy duty construction
- Quick, simple installation
- Spring tension keeps cable "jam-proof"

The PREMIER CABLE RETRACTOR is designed for easy and fast installation in both new and existing equipment. It is attached to rear of cabinet and controls power supply cables most efficiently. As the chassis is extended, the retractor pivots and the inner ball bearing actuated member glides out as necessary.

CATALOG NO. PCR-3-16

Net Price \$17.44



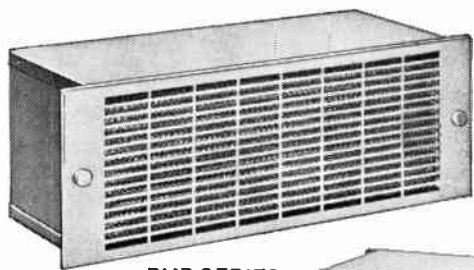
# PREMIER METAL PRODUCTS CO., INC.

A Renwell Industries Company

# PREMIER PANEL MOUNTED BLOWERS

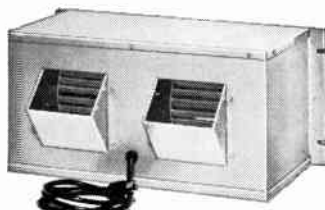
## PREM-O-KOOL

MAXIMUM COOLING with MINIMUM SPACE!

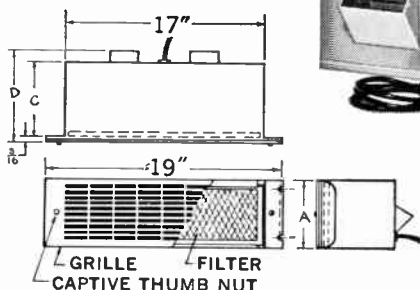


PMB SERIES

TO FIT STANDARD 19" WIDE PANEL SPACE



REAR VIEW



Units available to fit Standard 24" wide panel space. Prices upon request.

- Permanently lubricated motors with lubricant temperature range from -29°C to +148°C.
- Permanent type washable filter—easily removable from front.
- Low noise level with minimum of vibration.
- Standard E.I.A. notching.
- Grille supplied with 2 captive thumb nuts.
- Units furnished with 3/6" lead with malded male plug.
- Performance data prepared by impartial, independent testing laboratory.
- Motors are 115 Volt 50/60 cycle, single phase AC.
- Housing and grille made of cold rolled steel and finished in gray hammer-tone.

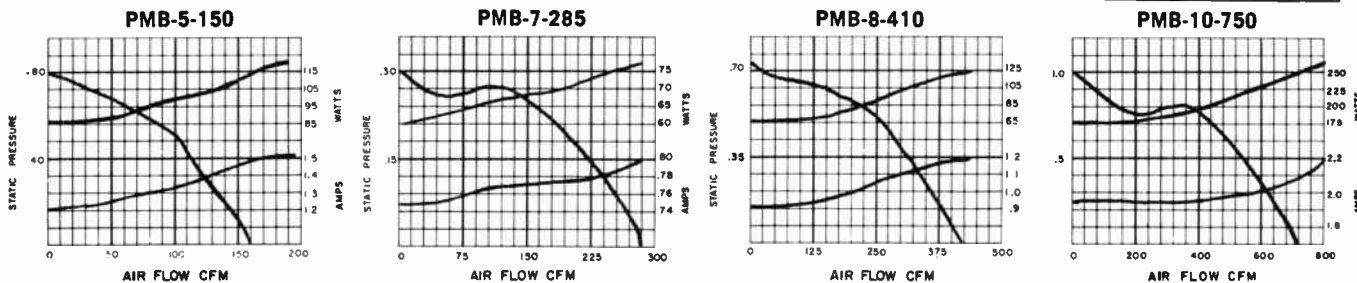


GRILLE FINISHED TO MATCH COLOR OF PREMIER CABINETS OR FRAMES AT NO ADDITIONAL COST.

CATALOG NO.	PMB-5-150	PMB-7-285	PMB-8-410	PMB-10-750
CFM at 0" S.P.	150	285	410	750
PANEL HEIGHT (A)	5 1/4"	7"	8 3/4"	10 1/2"
FILTER	16 5/8" x 4 7/8" x 1/2"	16 5/8" x 6 3/4" x 1/2"	16 5/8" x 8 3/8" x 1/2"	16 5/8" x 10 1/8" x 1/2"
DEPTH OF ENCLOSURE ONLY (C)	6 1/4"	8 1/2"	9 3/4"	11 1/2"
OVERALL DEPTH including outlets and front grille (D)	7"	10 1/4"	11 1/4"	13 3/8"
MOTOR				
RPM	3000	1500	1500	1500
WATTS	120	78	125	255
VOLTS	115	115	115	115
CYCLES	50/60	50/60	50/60	50/60
AMPS	1.5	1.1	1.3	2.2
TYPE	Ball bearing shaded pole	Ball bearing permanent split capacitor	Ball bearing permanent split capacitor	Ball bearing permanent split capacitor
SHIPPING WT. LBS.	14	24	26	35
NET PRICE	\$131.25	\$157.50	\$183.75	\$231.00

\*Supplied with grille on rear outlets.

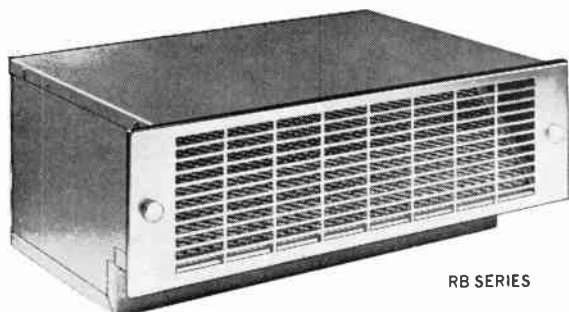
### PERFORMANCE



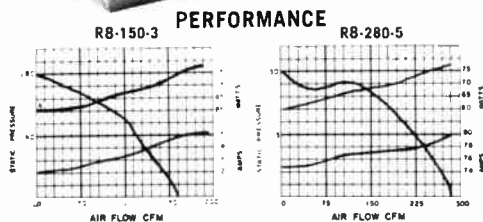
### RECESSED TYPE

FOR INSTALLATION IN THE OPEN BASE AREA OF ELECTRONIC RACKS

For maximum air delivery with minimum panel height. Built to the same general specifications as Panel Mounted Blowers (PMB Series).



RB SERIES



Cat. No.	RB-150-3	RB-280-5	RB-300-3
CFM at 0" S.P.	150	280	300
PANEL HEIGHT	3 1/2"	5 1/4"	3 1/2"
TYPE OF DISCHARGE	Diagonal Rear	Diagonal Rear	Diagonal Rear
OVERALL DEPTH including outlets and front grille	9 1/16"	12 1/16"	8 1/2"
MOTOR			
RPM	3000	1500	3000
WATTS	120	78	90
VOLTS	115	115	115
CYCLES	50/60	50/60	50/60
AMPS	1.5	.8	1.0
TYPE	Shaded pole, permanent lubrication, ball bearing	Permanent split capacitor, permanent lubrication, ball bearing	Ball bearing permanent split capacitor
SHIP. WT. Lbs.	15	24	15
NET PRICE	\$131.25	\$147.00	\$163.80

# PREMIER METAL PRODUCTS CO., INC.

A Renwell Industries Company

# PREMIER HARDWARE

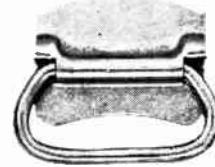
**HW-1**  
NON-LOCKING HANDLE  
Chrome plated  
Net Price each  
**\$2.64**




**HW-3**  
LOCKING HANDLE  
with 2 keys—Chrome plated  
Net Price each  
**\$5.61**



**HW-5**  
DROP HANDLE  
Finished in Gray Hammertone. Also available in Black Wrinkle or Brown Hammertone.  
Net Price each  
**.83**




**HW-6**  
CYLINDER LOCK  
with 2 keys—Nickel plated  
Net Price each  
**\$4.62**



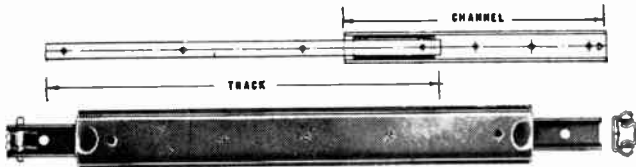
**HW-7**  
BLACK NYLON HANDLE  
with 2 screws  
Net Price each  
**.56**



**HW-13**  
TRUSS HEAD MACHINE SCREWS 10/32 x 1/2" Nickel plated  
Net Price  
**\$1.65 per 100\***  
\*Minimum Quantity



## ECONOMY SLIDES



**"A" SERIES** Patent No. 2,542,247

- May be mounted on side or underneath.
- Ball bearing spacer and patented silencer spring eliminates slide noise and vibration.
- All members made of 16 gauge cold rolled steel.
- Black oxidized finish.

Catalog No.	Slide Travel	Channel Length	Track Length	Load Cap.	Net Price Per Pair
A-50-13	9"	11"	13"	50	\$3.08
A-40-15	11	11	15	40	3.19
A-30-165	12 1/2	11	16 1/2	30	3.30
A-30-185	14 1/2	11	18 1/2	30	3.52



**"330" SERIES**

- Side mounted.
- Each slide rolls on 2 concealed and dust-free nylon wheels.
- No metal-to-metal contact—noiseless operation.
- Drawer is tilted up for quick removal.
- Made of 16 gauge cold rolled steel and zinc plated.

Catalog No.	Slide Travel	Track Length	Channel Length	Load Cap.	Net Price Per Pair
330-62-12	7 7/8"	12"	12"	62	\$3.57
330-58-14	9 7/8	14	14	58	3.74
330-54-16	11 7/8	16	16	54	3.85
330-50-18	13 7/8	18	18	50	4.07
330-46-20	15 7/8	20	20	46	4.18

## 2" - 3" - 4" DIA. CASTERS



Made of non-marking composition wheel with Ball Bearing Swivel Plate. Packed one set of 4 in box with screws for assembly.

Cat. No.	Kind of Wheel	Wheel Size	Overall Height	Cap. per caster—lbs.	Net Price Set of 4
CA-4	Plaskite	2" dia. x 1 3/4"	2 7/8"	80	\$4.68
CA-5	Rockite	3" dia. x 1 1/4"	3 1/2"	225	11.00
CA-6	Soft	Double			
CA-7*	Rubber	2" dia. x 1 5/8"	2 1/2"	125	13.20
CA-7*	Rockite	3" dia. x 1 1/4"	3 1/2"	225	24.20
CA-8**	Rockite	4" dia. x 1 5/8"	5 1/4"	450	48.40

\*Foot operated friction brake for positive locking wheel.  
\*\*With roller bearing wheel.

## SPRAY CAN LACQUER Available in 2 Colors

Cat. No.	To Match
GHL-102	Premier Gray Hammertone
BHL-103	Premier Brown Hammertone


NET PRICE: \$1.95 EACH 12 oz. CAN



**HW-2**  
ROUND CHROME PLATED HANDLE  
Net Price each  
**.56**



**HW-8**  
QUICK TURN FASTENER  
Nickel Plated  
Net Price Each  
**.92**



## HEAVY DUTY OUTLET BOXES FOR INTERNAL RACK MOUNTING



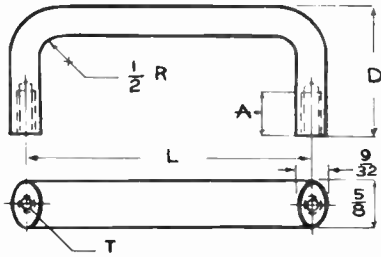
- Completely wired. Ready for use
- Supplied with 6' Neoprene cord set with molded plug
- Rated at 15 Amperes
- 130 Volts continuous duty
- "U" ground outlets—soldered connections
- Mounting centers 6"
- Circuit breaker
- 1 1/2" wide x 1 1/8" deep
- Mounts to crosspiece on PRXA, FA, FDX & RMX frames
- Steel case finished in Gray Hammertone

Model No.	Length	No. Of Outlets	Rack Panel Space	Net Price (Each)
OB-161	56 3/4"	9	6 1/4"†	\$25.30
OB-170	65 1/2"	10	7 0"†	30.36
OB-177	72 1/2"	11	7 7"†	31.90

## PREMIER METAL PRODUCTS CO., INC.

A Renwell Industries Company

# PREMIER HANDLES for INSTRUMENTS and EQUIPMENT



## 5/8" OVAL HW-16 SERIES

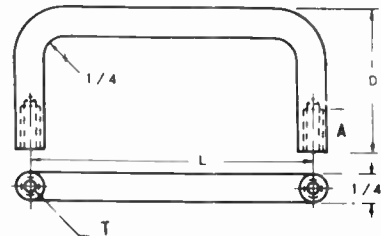
MATERIAL: Aluminum per QQ-A-325-A.  
FINISH: Black Anodize per MIL-A-8625 Type II.

Cat. No.	L	D	A	T	Net Price
HW-16A1	3	1 3/32	3/32	10-24	\$1.39
HW-16A4	4 3/16	1 1/2	1/2	10-24	1.41
HW-16A6	6 7/16	1 3/4	1/2	10-24	2.02

## 5/8" OVAL HW-17 SERIES

MATERIAL: Brass per QQ-B-626 Comp 22 1/2 Hard.  
FINISH: Nickel Plate and Polish per MIL-QQ-N-290 Type VI.

Cat. No.	L	D	A	T	Net Price
HW-17B1	3	1 3/32	3/32	10-32	\$1.94
HW-17B4	4 3/16	1 1/2	1/2	10-32	2.19
HW-17B6	6 7/16	1 3/4	1/2	10-32	2.57



## 1/4" ROUND HW-19 SERIES

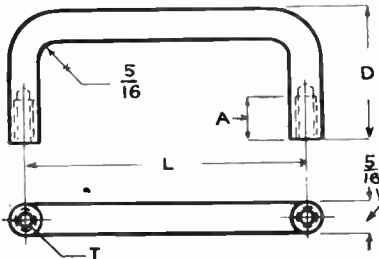
MATERIAL: Brass per QQ-B-626 Comp 22 1/2 Hard.  
FINISH: Nickel Plate and Polish per MIL-QQ-N-290 Type VI.

Cat. No.	L	D	A	T	Net Price
HW-19B1	2	1 1/2	3/16	8-32	\$1.38
HW-19B2	3	1 1/2	3/16	8-32	1.44
HW-19B3	4	1 1/2	3/16	8-32	1.54
HW-19B4	6	1 1/2	3/16	8-32	1.64

## 1/4" ROUND HW-20 SERIES

MATERIAL: Aluminum per QQ-A-325A.  
FINISH: Black Anodize per MIL-A-8625 Type II.

Cat. No.	L	D	A	T	Net Price
HW-20A1	2	1 1/2	3/16	8-32	\$ .84
HW-20A2	3	1 1/2	3/16	8-32	.90
HW-20A3	4	1 1/2	3/16	8-32	.98
HW-20A4	6	1 1/2	3/16	8-32	1.16



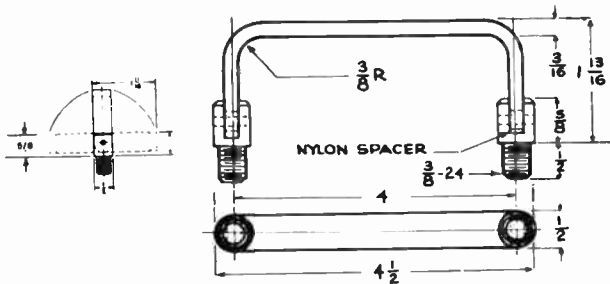
## 5/16" ROUND HW-18 SERIES

MATERIAL: Brass per QQ-B-626 Comp 22 1/2 Hard.

FINISH: Nickel Plate and Polish per MIL-QQ-N-290 Type VI.

Cat. No.	L	D	A	T	Net Price
HW-18B3	3	1 3/8	7/16	8-32	\$1.19
HW-18B13	4 3/16	1 1/2	3/16	10-32	1.31
HW-18B14	6	1 1/2	3/16	10-32	1.60
HW-18B16	6 7/16	1 3/4	3/16	10-32	1.70

## DROP HANDLES — HW-21 and HW-22 SERIES



### HW-21A

MATERIAL: Bow-Aluminum MIL Spec QQ-A-274. Ferrules MIL Spec QQ-A-325A.

FINISH: Semi-Frost Per MIL-A-8625 Type II.

### HW-22B

MATERIAL: Bow-Brass MIL Spec QQ-B-626 Comp 22 1/2 Hard. Ferrules MIL Spec QQ-B-626 Comp 22 1/2 Hard.

FINISH: Nickel Plate and Polish MIL-QQ-N-290 Type VI.

NOTE: Handle and Ferrules are furnished with nylon spacer and roll-pin 1/8 dia. to hold bow in any given position. Swings 180° to either plane.

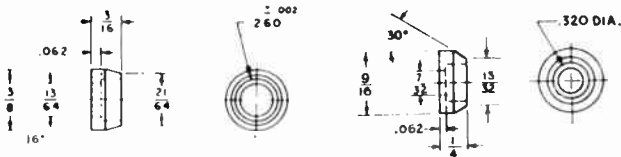
Cat.No.	Material	Net Price
HW-21A	Aluminum	\$2.40
HW-22B	Brass	3.45

## FERRULES FOR ABOVE HANDLES

FOR 1/4" DIAMETER HANDLES HW-23AF (ALUMINUM) Made of Aluminum per QQ-A-325A, anodized black per MIL-A-8625 Type II. Net Price .12

HW-24BF (BRASS) Made of Brass per QQ-B-626 comp. 22 1/2 hard, nickel plated and polished per MIL-QQ-N-290 Type VI. Net Price .15

FOR 5/16" DIAMETER HANDLES HW-25BF (BRASS) Made of Brass per QQ-B-626 comp. 22 1/2 hard, nickel plated and polished per MIL-QQ-N-290 Type VI. Net Price .16



# PREMIER METAL PRODUCTS CO., INC.

A Renwell Industries Company



## VENT-RAK CABINET LINE ENGINEERING DATA SHEET

### VENT-RAK OFFERS A FULL LINE OF ELECTRONIC PACKAGING COMPONENTS

Included in Vent-Rak's full line of electronic packaging components are cabinets, slides, chassis, cable retractors, handles, dollies, blower assemblies and front panels.

The Vent-Rak line of heavy-duty enclosures meets commercial and military specifications. The heart of the Vent-Rak line is the unique frame design, rugged construction, ease of accessibility and economy.

Offering a single source for all your electronic packaging requirements, Vent-Rak will supply standard or semi-standard cabinets as shown on this page, or will custom design an enclosure to meet your own specifications.

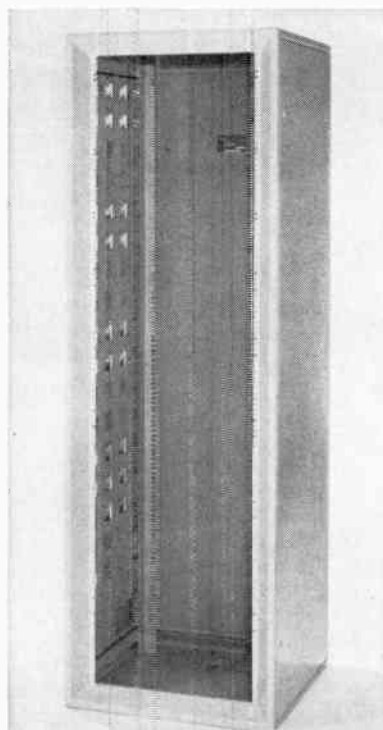
**1000 Series**—All heli-arc welded fabrication—Perfect for military application—Steel fabrication is standard, aluminum optional—Side panels engineered for ease of installation and accessibility, front door optional—Flush chrome door latches with or without keylock—In forced-ventilation models, air flow panel is permanently fastened to side panel, and does not sacrifice interior space—

**3000 Series**—Medium-duty industrial or military cabinet —heli-arc welded fabrication—precision drilled and tapped RETMA pattern on front rails—hinged rear door —solid side panels—provisions for casters and eye-bolts—optional louvered top or sides—optional rear mounting angles—

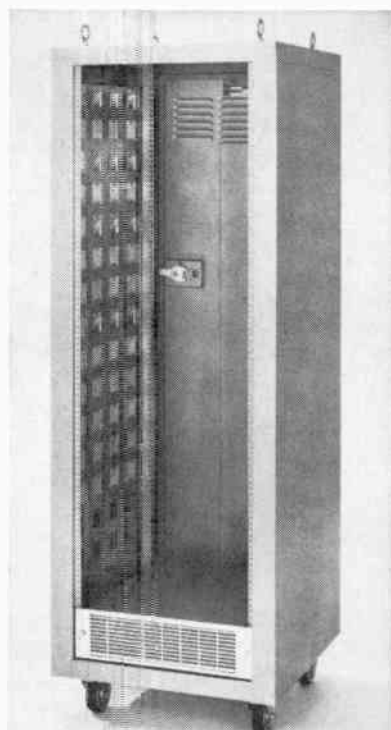
**5000 Series**—Rugged, self-aligning, all-steel frame with unique cross-section construction—Assembled quickly with ordinary hand tools—Instantly removable side panels—Louvers standard on sides and optional on tops—Single or multiple installation—Full line of accessories—

**5050 Series**—Used for housing complete package, or supplement to your present installation—Exceptionally rugged frame and all-steel construction—Removable side panels—Interior components interchangeable with Vent-Rak 5000 Series Cabinets—

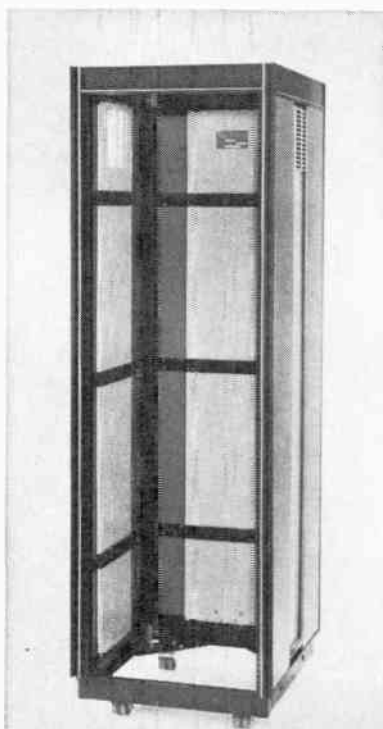
*Some of these models are available from distributors, or for more information, write:*



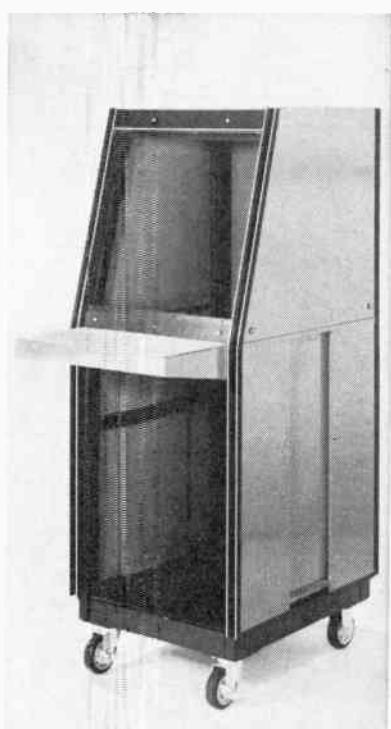
**1000 SERIES**



**3000 SERIES**



**5000 SERIES**



**5050 SERIES**





# CABINET RACKS - RELAY RACKS CHASSIS - CASES - 19"/24" PANELS

<b>Modular Electronic Cabinets</b> 			
<b>Chassis</b> 	<b>Aluminum</b> 	<b>Steel</b> 	<b>Aluminum</b> 
<b>19" and 24" Wide Panels</b> 	<b>Aluminum</b> 	<b>Steel</b> 	<b>2024-T3 Aluminum</b> 
<b>Instrument Cabinets and Cases</b> 	<b>Aluminum</b> 	<b>Sloping Front</b> 	<b>Steel</b> 
<b>Accessories</b> 	<b>Blowers</b> 	<b>Fans</b> 	<b>Slides</b> 
<b>Contact</b>	<b>Your</b>	<b>Local Distributor for</b>	<b>a Free Complete Catalog</b>

# Wyco Metal Products



## CAPACITORS

## ELECTROLYTICS


**TYPE AFH (85 C) TWIST PRONG  
ELECTROLYTIC CAPACITOR**
**SINGLES • DUALS • TRIPLES • QUADS**

The outstanding line of twist-prong mounting electrolytic capacitors with all the latest refinements — 85°C operation — high purity aluminum foil construction through out — improved moisture resistant seal. Types AFHS-PWHS are specially constructed for high ripple current circuits. PWH and PWHS are constructed for printed wiring board applications.

These units operate over a wide temperature range with a minimum change in capacitance.

While designed for filter audio bypass applications in Radio-TV and Amplifier equipment as exact replacements, many values are rapidly gaining acceptance in industrial applications.

They are manufactured to meet all requirements of EIA specification number RS-154. Capacity tolerances of this specification are listed below.

**ELECTROLYTIC CAPACITY TOLERANCES**

0-50 Volts	—	—10	+250%
51-350 Volts	—	—10	+100%
351 Volts & Up	—	—10	+50%

Aerovox Corporation is currently working on a size reduction program. Many sizes shown in the following listing reflect latest design figures. However Aerovox reserves the right to furnish previous catalog sizes until present stocks are depleted.

The AFH capacitors listed here include only those ratings which might find usage in industrial applications. A complete line of ratings may be found in the latest Aerovox Industrial Catalog, IDC 567, or Servicemen's Catalog, SE-567, and may be requested from Aerovox Corporation, Distributor Sales, or through your nearest authorized Aerovox Industrial Distributor.

**SINGLES**

Catalog Number	Capacity	Voltage	Dia. x Length	*Net
AFH 1-00-50	2000	6	1-3/8 x 2	\$2.01
AFH 1-01-25	225	15	3/4 x 2	1.16
AFH 1-02	1000	15	1 x 1 1/2	1.68
AFH 1-03	2000	15	1-3/8 x 2	2.28
AFH 1-04	3000	15	1-3/8 x 2	2.81
AFH 1-08	500	25	1 x 2	1.68
AFH 1-10	1000	25	1-3/8 x 2	2.34
AFH 1-11	100	50	3/4 x 2	1.09
AFH 1-12	150	50	3/4 x 2	1.19
AFH 1-13	500	50	1-3/8 x 2	1.75
AFH 1-13-05	500	50	1 x 3	1.75
AFH 1-14	1000	50	1-3/8 x 3 1/2	2.48
AFH 1-14-50	1500	50	1-3/8 x 3	2.90
AFH 1-16	30	150	1 x 1 1/2	1.02
AFH 1-18	50	150	1 x 1 1/2	1.09
AFHS 1-20	80	150	1 x 2	1.22
AFH 1-21	100	150	1 x 2	1.32
AFHS 1-22	120	150	1 x 2	1.35
AFHS 1-22-05	120	150	1-3/8 x 2	1.42
AFHS 1-23	140	150	1 x 1 3/4	1.39
AFH 1-24	150	150	1 x 2 1/2	1.42
AFH 1-24-01	150	150	1-3/8 x 2	1.42
AFHS 1-24-25	200	150	1-3/8 x 2	1.62
AFHS 1-24-75	300	150	1-3/8 x 2 1/2	1.85
PWH 1-25-75	160	200	1-3/8 x 3	1.91
AFH 1-29	40	250	1 x 2	1.19
AFH 1-31-25	100	250	1 x 3	1.78
AFH 1-31-75	150	250	1-3/8 x 2	2.05
AFHS 1-31-85	200	250	1-3/8 x 2	2.41
AFH 1-35	80	300	1 x 1 3/4	1.68
AFH 1-36	100	300	1 x 2 1/2	1.91
AFH 1-37	125	300	1-3/8 x 2	2.31
AFHS 1-37-25	150	300	1-3/8 x 2	2.31
AFH 1-37-35	250	300	1-3/8 x 4	3.66
AFH 1-39	30	350	1 x 1 1/2	1.25
AFH 1-40	40	350	1 x 1 1/2	1.32
AFH 1-41	50	350	1 x 2	1.39
AFH 1-42	80	350	1-3/8 x 2	1.88
AFHS 1-43	125	350	1-3/8 x 2	2.41
AFH 1-43-20	150	350	1-3/8 x 2	2.61
AFH 1-45	20	400	1 x 2	1.42
AFH 1-48	10	450	1 x 1 1/2	1.02
AFH 1-49	15	450	1 x 1 1/2	1.39
AFH 1-50	20	450	1 x 1 1/2	1.19
AFH 1-51	30	450	1 x 1 1/2	1.29
AFH 1-52	40	450	1 x 1 3/4	1.35
AFH 1-53	50	450	1 x 2 1/2	1.55

\*Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-249

**SINGLES (Continued)**

Catalog Number	Capacity	Voltage	Dia. x Length	*Net
AFH 1-54	60	450	1-3/8 x 2 1/2	1.78
AFH 1-55	80	450	1-3/8 x 2 1/2	2.01
AFH 1-55-20	100	450	1-3/8 x 2 1/2	2.28
AFH 1-55-25	125	450	1-3/8 x 3	2.61
AFH 1-56-10	40	475	1-3/8 x 2	1.65
AFH 1-58	10	500	1 x 2	1.06
AFH 1-59	20	500	1 x 2	1.22
AFH 1-60	30	500	1 x 2	1.35
AFH 1-61	40	500	1 x 2 1/2	1.65
AFH 1-62	80	500	1-3/8 x 2 1/2	2.38
AFH 1-63	90	500	1-3/8 x 3 1/2	2.57
<b>DUALS</b>				
AFH 2-08	20-20	150	1 x 1 1/2	1.12
AFH 2-11	30-30	150	1 x 1 1/2	1.22
AFH 2-12	40-20	150	1 x 1 1/2	1.19
AFH 2-13	40-30	150	1 x 1 1/2	1.22
AFH 2-14	40-40	150	1 x 1 1/2	1.25
AFH 2-15	50-30	150	1 x 1 1/2	1.32
AFH 2-16	50-50	150	1 x 1 1/2	1.42
AFH 2-17	60-60	150	1 x 1 1/2	1.55
PWH 2-17-50	70-30	150	1 x 1 1/2	1.45
AFH 2-18	75-75	150	1 x 1 1/2	1.72
AFH 2-19-25	80-50	150	1 x 1 1/2	1.58
AFH 2-20	80-80	150	1-3/8 x 2	1.75
AFH 2-20-50	125-100	150	1-3/8 x 2	2.31
AFH 2-20-61	150-100	150	1-3/8 x 2	2.21
AFHS 2-21	200-5	150	1-3/8 x 2	1.78
AFH 2-22	200-125	150	1-3/8 x 3	2.48
AFH 2-22-50	200-150	150	1-3/8 x 3	2.48
AFH 2-23	200-200	150	1-3/8 x 3	2.64
AFH 2-24	60-60	200	1-3/8 x 2	1.68
AFHS 2-24-20	100-100	200	1-3/8 x 3	2.31
AFHS 2-24-75	200-5	200	1-3/8 x 2 1/2	2.01
AFH 2-26	20-20	250	1 x 1 1/2	1.25
AFH 2-29	40-40	250	1 x 1 1/2	1.65
AFHS 2-30	150-150	250	1-3/8 x 2 1/2	3.40
AFHS 2-30-75	200-200	250	1-3/8 x 4	4.03
AFH 2-34	80-80	300	1-3/8 x 3	2.67
AFH 2-35	120-20	300	1-3/8 x 3	2.64
AFH 2-36	15-15	350	1 x 2	1.49
AFH 2-39	30-30	350	1 x 2 1/2	1.91
AFH 2-40	50-30	350	1-3/8 x 2	2.08
AFH 2-40-40	60-30	350	1-3/8 x 2	2.08
AFH 2-40-80	80-40	350	1-3/8 x 2 1/2	2.61
AFH 2-41	80-80	350	1-3/8 x 3 1/2	3.10
AFH 2-41-10	90-40	350	1-3/8 x 2 1/2	2.84
AFH 2-41-40	100-60	350	1-3/8 x 3 1/2	3.17





## CAPACITORS

## ELECTROLYTICS - (Continued)

## DUALS (Continued)

Catalog Number	Capacity	Voltage	Dia. x Length	*Net
AFHS 2-41-50	100-100	350	1-3/8 x 3	4.06
AFHS 2-41-80	160-10	350	1-3/8 x 3	2.84
AFH 2-45-10	80-20	400	1-3/8 x 2	3.00
AFH 2-45-40	80-60	400	1-3/8 x 4	3.27
AFH 2-45-60	120-40	400	1-3/8 x 4	3.47
AFH 2-46	5-5	450	1 x 2	1.16
AFH 2-47	10-10	450	1 x 1 1/2	1.25
AFH 2-49	15-15	450	1 x 2 1/2	1.49
AFH 2-50	20-10	450	1 x 1 3/4	1.49
AFH 2-51	20-20	450	1 x 2	1.68
AFH 2-52	30-10	450	1 x 2	1.65
AFH 2-54	30-30	450	1-3/8 x 2	2.01
AFH 2-55	40-10	450	1 x 2	1.75
AFH 2-56	40-20	450	1-3/8 x 2	1.98
AFH 2-57	40-40	450	1-3/8 x 2 1/2	2.28
AFH 2-59	50-50	450	1-3/8 x 2 1/2	2.54
AFH 2-61	60-40	450	1-3/8 x 3	2.61
AFH 2-61-50	60-60	450	1-3/8 x 3	2.70
AFH 2-62	80-10	450	1-3/8 x 2	2.38
AFH 2-63	80-20	450	1-3/8 x 2 1/4	2.57
AFH 2-64	80-40	450	1-3/8 x 2 1/4	2.87
AFH 2-64-25	100-40	450	1-3/8 x 3 1/2	3.20
AFH 2-64-50	15-15	475	1 x 2 1/2	1.55
AFH 2-66-60	80-50	475	1-3/8 x 3	3.43
AFH 2-67	10-10	500	1 x 1 3/4	1.35
AFH 2-69	20-20	500	1-3/8 x 2	1.88
AFH 2-71	30-10	500	1-3/8 x 2	1.88
AFH 2-71-01	30-10	500	1 x 3	1.72
AFH 2-71-75	30-30	500	1-3/8 x 2	2.15
AFH 2-72	40-40	500	1-3/8 x 2 1/2	2.90
AFH 2-73	60-40	500	1-3/8 x 3 1/2	3.04
AFH 2-86-70	100/30	400/50	1-3/8 x 2 1/2	2.57
AFH 2-86-72	80/80	400/200	1-3/8 x 2 1/2	2.61
AFH 2-94-30	30/200	450/150	1-3/8 x 3	2.31

## TRIPLES (Continued)

Catalog Number	Capacity	Voltage	Dia. x Length	*Net
AFH 3-34	15-15-15	450	1 x 3	2.05
AFH 3-35	20-10-10	450	1 x 2	1.95
AFH 3-36	20-20-20	450	1-3/8 x 2	2.38
AFH 3-37	30-20-20	450	1-3/8 x 2	2.54
AFH 3-39	30-30-30	450	1-3/8 x 2	2.87
AFH 3-41	40-10-10	450	1-3/8 x 2	2.21
AFH 3-42	40-30-20	450	1-3/8 x 2	2.84
AFH 3-43	40-40-10	450	1-3/8 x 2	2.77
AFH 3-43-50	40-40-20	450	1-3/8 x 2 1/2	2.94
AFH 3-44	40-40-40	450	1-3/8 x 3	3.23
AFH 3-44-50	50-40-30	450	1-3/8 x 4	3.23
AFH 3-45	60-20-20	450	1-3/8 x 3 1/2	3.04
AFH 3-45-10	60-30-10	450	1-3/8 x 3	2.97
AFH 3-45-25	60-40-20	450	1-3/8 x 3	3.30
AFH 3-45-35	80-10-10	450	1-3/8 x 2 1/2	2.84
AFH 3-46	80-40-20	450	1-3/8 x 2	3.56
AFH 3-49-10	30-30-20	475	1-3/8 x 2	3.14
AFH 3-50-07	40-30-10	475	1-3/8 x 3	2.97
AFH 3-50-10	40-30-30	475	1-3/8 x 3	3.40
AFH 3-51	10-10-10	500	1 x 3	1.78
AFH 3-52	30-20-20	500	1-3/8 x 2 1/4	2.77
AFH 3-53	40-10-10	500	1-3/8 x 2	2.57
AFH 3-54	40-40-10	500	1-3/8 x 2 1/2	3.33
AFH 3-72	40-20/20	150/25	1 x 1 1/2	1.52
AFH 3-77	50-30/20	150/25	1 x 1 1/2	1.65
AFH 3-79	50-50/20	150/25	1 x 3	1.75
AFH 3-82	80-40/20	150/25	1 x 2 1/2	1.85
AFH 3-82-40	80-40/300	150/25	1-3/8 x 2	2.44
AFH 3-84-75	80-10/20	200/50	1 x 1 3/4	1.85
AFH 3-120	20-20/20	400/25	1 x 3	1.88
AFH 3-124	10-10/10	450/25	1 x 1 1/2	1.55
AFH 3-125	10-10/20	450/25	1 x 1 1/2	1.58
AFH 3-132	40-20/20	450/25	1-3/8 x 2	2.31
AFH 3-187-05	20/100/140	450/400/300	1-3/8 x 4	4.59

## TRIPLES

AFH 3-05	20-20-20	150	1 x 2	1.52
AFH 3-06	30-30-10	150	1 x 2	2.31
AFH 3-07	40-20-10	150	1 x 1 1/2	1.55
AFH 3-08	40-20-20	150	1 x 2	1.58
AFH 3-09	40-30-20	150	1 x 2	1.65
AFH 3-10	40-40-40	150	1 x 2	1.72
AFH 3-11-20	50-40-10	150	1 x 1 1/2	1.68
AFH 3-11-50	50-50-50	150	1 x 1 3/4	1.98
AFH 3-12	60-40-20	150	1 x 1 3/4	1.82
PWH 3-12-10	70-15-15	150	1 x 2	1.78
AFH 3-12-20	70-40-40	150	1 x 1 3/4	1.95
AFH 3-13	80-40-20	150	1-3/8 x 3	1.91
AFH 3-13-08	100-30-10	150	1 x 2	2.01
AFH 3-13-15	120-80-40	150	1-3/8 x 2	2.51
AFH 3-13-30	120-120-40	150	1-3/8 x 2	2.67
AFH 3-13-50	200-100-60	150	1-3/8 x 2	3.00
AFH 3-13-75	200-150-150	200	1-3/8 x 3	4.95
AFH 3-17-10	20-20-20	250	1 x 2 1/2	1.72
AFH 3-20	40-20-20	250	1 x 1 3/4	1.92
AFH 3-21	80-80-60	250	1-3/8 x 3	3.23
AFH 3-22	10-10-10	300	1 x 2	1.58
AFH 3-25	60-20-10	300	1-3/8 x 2	2.28
AFH 3-25-50	80-40-40	300	1-3/8 x 2	3.14
AFH 3-26	120-50-40	300	1-3/8 x 2 1/2	3.73
AFH 3-28-30	30-20-10	350	1 x 2 1/2	2.15
AFH 3-29	60-40-20	350	1-3/8 x 2	2.81
AFH 3-29-25	60-50-50	350	1-3/8 x 2 1/4	3.23
AFH 3-29-50	80-60-60	350	1-3/8 x 2 1/2	3.66
AFH 3-29-75	90-40-20	350	1-3/8 x 3	3.47
AFH 3-30	10-10-10	400	1 x 1 1/2	1.58
AFH 3-30-75	90-10-5	400	1-3/8 x 3	2.90
AFH 3-31	10-10-10	450	1 x 2	1.71

## QUADS

AFH 4-01	40-40-40-30	150	1-3/8 x 2	2.21
AFH 4-01-40	100-80-60-40	150	1-3/8 x 3	3.07
AFHS 4-01-55	200-200-60-30	175	1-3/8 x 2 1/4	3.66
AFH 4-01-80	40-20-10-10	300	1-3/8 x 2	2.61
AFH 4-02	40-40-20-10	300	1-3/8 x 2 1/2	3.00
AFH 4-02-10	40-40-30-20	300	1-3/8 x 3	3.20
AFH 4-02-30	60-40-10-10	300	1-3/8 x 2 1/2	3.00
AFH 4-02-90	200-20-20-20	300	1-3/8 x 3 1/2	4.09
AFH 4-04	40-20-20-10	350	1-3/8 x 2	2.87
AFH 4-04-50	40-40-40-40	350	1-3/8 x 2 1/4	3.96
AFH 4-05-55	80-60-40-20	350	1-3/8 x 3	4.12
AFH 4-06-40	50-40-30-20	400	1-3/8 x 4	3.63
AFH 4-07	80-20-10-10	400	1-3/8 x 3 1/2	3.33
AFH 4-10	10-10-10-10	450	1-3/8 x 2	2.21
AFH 4-14	20-20-20-20	450	1-3/8 x 2 1/2	3.10
AFH 4-15-30	30-30-20-20	450	1-3/8 x 3	3.43
AFH 4-16	35-35-10-5	450	1-3/8 x 2	4.17
AFH 4-17	40-10-10-10	450	1-3/8 x 2	2.74
AFH 4-18-10	40-35-10-10	450	1-3/8 x 2	3.17
AFH 4-18-30	40-40-20-20	450	1-3/8 x 3	3.66
AFH 4-18-40	40-40-30-30	450	1-3/8 x 3	3.99
AFH 4-18-45	40-40-40-40	450	1-3/8 x 3 1/2	4.26
AFH 4-18-50	60-20-20-20	450	1-3/8 x 3	3.73
AFH 4-18-60	60-30-10-2	450	1-3/8 x 3	3.37
AFH 4-18-80	80-10-10-10	450	1-3/8 x 3	3.33
AFH 4-19-10	20-20-10-10	475	1-3/8 x 2 1/2	2.87
AFH 4-19-20	20-20-20-20	475	1-3/8 x 2 1/2	3.43
AFH 4-19-50	40-20-10-10	475	1-3/8 x 2 1/2	3.37
AFH 4-20	10-10-10-10	500	1-3/8 x 2	2.31
AFH 4-46	60-40-20/50	300/25	1-3/8 x 2	3.07
AFH 4-58-75	80-40/40-20	400/350	1-3/8 x 4	4.26
AFH 4-59	10-10-10/20	450/25	1-3/8 x 2	2.08

\*Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-249



# CAPACITORS

## ELECTROLYTICS — (Continued) TYPE PRS "DANDEE" (85°C)

SINGLES • DUALS • TRIPLES • MULTIPLES



Metal Can Tubular Electrolytic Capacitors TYPE PRS-AC (AC rated units) NP-PRS (non-polarized units)

Compact, electrolytic tubular capacitors furnished in aluminum cans with cardboard insulating sleeves. Designed for use in television and radio applications where space is at a premium.

Included in this listing are the AC rated units (PRS-AC) and non-polarized units (NP PRS) for replacement use in cross-over networks and color TV receivers.

Single section capacitors are furnished with bare tinned copper leads 3 inches long. Negative grounded to case. Multiple units are furnished with insulated, stranded copper leads 5 inches long. Negative is common and grounded to case. Multiple units have common cathode.

Sizes listed are diameters over cardboard insulating sleeve. For actual can size deduct 1/8" from diameter and 1/4" from length. Multiple units are supplied with mounting strap. If mounting strap is required on single units, specify on order.

Tolerance and surge voltage are in accordance with EIA Specification RS-154.

The factory is currently in the process of reducing sizes of this type. AEROVOX reserves the right to ship sizes listed below until present stock is depleted and smaller sizes as they become available.

TYPE PRS — SINGLES				TYPE PRS—SINGLES(Cont)				TYPE PRS—DUALS (Cont)				TYPE PRS - MULTIPLE VOLTAGES (Cont)				
Prs No.	Cop. Mfd.	Size	Net Price*	Prs No.	Cop. Mfd.	Size	Net Price*	Prs No.	Cop. Mfd.	Size	Net Price*	Prs No.	Cop. Mfd.	VDCW	Size	Net Price*
010	25	3V 7/16 x 1 1/4	\$ .56	1490	60	13/16 x 1 3/4	.99	2155	16-8	13/16 x 1-3/8	1.02	4500	50-30/20	150/25	15/16 x 1 3/4	1.75
015	50	7/16 x 1 1/4	.63	1500	80	13/16 x 2	1.06	2160	20-10	13/16 x 1 1/2	1.02	4525	50-30/100	150/25	15/16 x 2	1.71
020	100	7/16 x 1 1/4	.73	1510	100	13/16 x 2 1/4	1.16	2165	20-20	13/16 x 1 3/8	1.09	4550	50-30/250	150/25	15/16 x 2 1/2	1.98
025	200	7/16 x 1-7/8	.76	1520	150	15/16 x 2-3/8	1.25	2170	30-20	13/16 x 1 1/2	1.12	4575	50-50/20	150/25	15/16 x 1-7/8	1.83
030	300	9/16 x 1-3/8	.86	1530	200	15/16 x 2-7/8	1.46	2175	30-30	13/16 x 1-5/8	1.19	4600	80-20/100	150/25	15/16 x 2 1/4	1.86
040	500	9/16 x 1-7/8	.92	1540	300	1-1/16 x 3	1.68	2180	40-20	13/16 x 1-5/8	1.16	4650	80-40/20	150/25	15/16 x 2-1/8	1.86
050	2000	4V 13/16 x 2	1.52	1550	4	7/16 x 1 1/4	.66	2190	40-30	13/16 x 1 3/8	1.19	4700	20-20/20	450/25	1-1/16 x 2-3/8	2.05
075	5	7/16 x 1 1/4	.53	1555	8	9/16 x 1-3/8	.76	2195	40-40	13/16 x 2	1.19	4800	20/100	475/50	15/16 x 2-7/8	1.72
080	25	7/16 x 1 1/4	.56	1560	12	9/16 x 1-5/8	.83	2200	50-30	13/16 x 2	1.29	4805	20/100	500/25	15/16 x 2-5/8	1.72
090	50	7/16 x 1 1/4	.63	1565	16	11/16 x 1-3/8	.86	2220	80-20	13/16 x 2 1/4	1.39	*No Tube				
100	100	7/16 x 1 1/4	.79	1570	20	11/16 x 1-5/8	.89	2230	80-40	13/16 x 2 1/2	1.45					
110	250	9/16 x 1-3/8	.89	1575	30	11/16 x 2	.95	2240	80-50	15/16 x 2-1/8	1.55	TYPE PRS — AC Rated				
120	500	11/16 x 1 1/2	1.02	1580	40	13/16 x 1 3/4	1.02	2245	100-100	15/16 x 2-7/8	2.11					
130	1000	11/16 x 2-1/8	1.25	1585	50	13/16 x 2	1.12	2250	8-8	13/16 x 1 1/4	.99	6200	8	10VAC 11/16 x 1 1/2		\$ .83
140	1500	13/16 x 2	1.39	1590	60	13/16 x 2-1/8	1.19	2260	16-8	13/16 x 1 1/2	1.06	6400	20	25VAC 13/16 x 1 1/2		.83
145	2000	13/16 x 2-3/8	1.52	1595	100	15/16 x 2 1/2	1.62	2280	16-16	13/16 x 1 3/8	1.12	6500	30	50VAC 15/16 x 1 3/4		.92
147	2000	10V 15/16 x 2 1/2	1.62	1600	4	9/16 x 1 1/4	.69	2290	30-30	13/16 x 1-7/8	1.42	6550	60	13/16 x 2 3/4		1.02
149	50	7/16 x 1-3/8	.66	1610	8	9/16 x 1-7/8	.79	2300	10-10	13/16 x 1-5/8	1.09	NP-PRS—NON-POLARIZED				
150	100	7/16 x 1-3/8	.79	1620	10	11/16 x 1 1/2	.83	2320	16-16	13/16 x 2-1/8	1.12					
155	200	9/16 x 1-7/8	.89	1630	12	11/16 x 1 1/2	.86	2330	20-20	13/16 x 2 1/2	1.22	7050	1000	3 VNP 13/16 x 2		1.42
160	250	9/16 x 1 3/4	.96	1640	16	11/16 x 1 3/4	.92	2340	30-30	13/16 x 2-1/8	1.49	7100	500	6 VNP 11/16 x 2-1/8		1.29
170	500	11/16 x 1-7/8	1.12	1650	24	13/16 x 1-5/8	1.02	2345	50-10	1-1/16 x 2 1/4	1.65	7200	25	10 VNP 7/16 x 1 1/4		.76
180	1000	13/16 x 2-1/8	1.49	1660	30	13/16 x 1 1/4	1.09	2380	16-16	15/16 x 2 1/4	1.49	7220	50	7/16 x 1-3/8		.79
200	100	15V 9/16 x 1-3/8	.83	1670	40	13/16 x 2-1/8	1.16	2390	20-20	15/16 x 2 1/2	1.65	7230	170	11/16 x 1-5/8		1.06
210	250	11/16 x 1-5/8	1.02	1680	50	15/16 x 2-1/8	1.22	2400	30-30	1-1/16 x 3	1.98	7240	450	1-1/16 x 2 1/4		1.32
220	500	13/16 x 1 3/4	1.16	1690	60	15/16 x 2-3/8	1.28	2410	40-20	1-1/16 x 3	1.95	7245	500	1-1/16 x 1 3/4		1.32
230	1000	15/16 x 1-7/8	1.52	1700	1	7/16 x 1 1/4	.73	2420	40-40	1-1/16 x 3 3/4	2.21	**7247 200 **with bracket				
240	2000	15/16 x 2 1/4	2.11	1705	2	9/16 x 1 1/4	.76	2430	50-30	1-1/16 x 3 3/4	2.24					
243	2000	20V 1 x 2 1/4	2.55	1710	4	9/16 x 1-5/8	.76	TYPE PRS — TRIPLES				7250	500	15 VNP 15/16 x 1-7/8		1.44
245	5	7/16 x 1 1/4	.66	1715	8	11/16 x 1-5/8	.83					3200	500-100-100	15V 15/16 x 1-13/16	1.98	7275
250	10	7/16 x 1 1/4	.66	1720	10	11/16 x 1-7/8	.86	3500	20-20-20	15/16 x 1 3/4	1.66	7300	2	25 VNP 7/16 x 1 1/4		.76
255	16	7/16 x 1 1/4	.66	1725	12	13/16 x 1 1/2	.89	3550	30-20-20	15/16 x 1 3/4	1.66	7315	10	7/16 x 1 1/4		.83
257	20	7/16 x 1 1/4	.66	1730	16	13/16 x 1 3/4	.92	3560	30-30-20	15/16 x 1 3/4	1.74	7330	50	11/16 x 1 1/2		.92
260	25	7/16 x 1 1/4	.66	1735	20	13/16 x 2	1.02	3570	30-30-30	15/16 x 1 3/4	1.74	7340	100	11/16 x 1-5/8		1.12
265	50	7/16 x 1-3/8	.73	1740	30	15/16 x 2-1/8	1.12	3600	40-20-20	15/16 x 1 3/4	1.74	7350	20	30 VNP 9/16 x 1 1/4		.83
270	100	9/16 x 1-5/8	.89	1750	40	15/16 x 2 1/2	1.19	3625	40-30-20	15/16 x 1 3/4	1.74	7400	2	50 VNP 7/16 x 1-1/8		.76
280	250	13/16 x 1 3/4	1.12	1760	50	15/16 x 2 1/2	1.39	3650	40-40-20	15/16 x 1-7/8	1.79	7405	4	7/16 x 1 1/4		.83
290	500	13/16 x 2 1/4	1.52	1770	60	1-1/16 x 3	1.55	3675	40-40-40	15/16 x 2 1/4	1.83	7450	40	150 VNP 1-1/16 x 2		1.12
295	1000	1-1/16 x 2-1/8	2.18	1780	80	1-1/16 x 3 3/4	1.85	3700	50-30-10	15/16 x 1 3/4	1.74	7500	2	200 VNP 11/16 x 1 1/4		.83
297	1	7/16 x 1 1/4	.59	1790	100	1-1/16 x 4	2.11	3750	50-30-20	15/16 x 1 3/4	1.79	7525	1	300 VNP 7/16 x 1 1/4		.83
300	2	7/16 x 1 1/4	.59	1795	1	1/2 x 1	.66	3800	80-40-20	15/16 x 2 1/4	1.91	7550	5	350 VNP 15/16 x 1 3/4		.86
310	5	7/16 x 1 1/4	.66	1800	4	9/16 x 1 3/4	.79	3825	80-50-20	15/16 x 2-3/8	1.91	7560	20	13/16 x 2		1.02
320	10	7/16 x 1 1/4	.66	1805	8	13/16 x 1 1/2	.86	3900	10-10-10	15-16 x 2-1/8	1.84	*Request O.E.M. Prices in the following quantities:				
325	15	7/16 x 1-3/8	.66	1810	10	13/16 x 1-5/8	.89	TYPE PRS — MULTIPLE VOLTAGES								
330	20	7/16 x 1 1/4	.66	1815	12	13/16 x 1 3/4	.92					4150	40-40/250	150/10	15/16 x 2 1/4	1.88
340	25	7/16 x 1-3/8	.69	1820	16	13/16 x 2-1/8	.99	4200	20-20/20	150/25	15/16 x 1 3/4	1.63				
350	50	11/16 x 1 1/2	.79	1830	20	15/16 x 2	1.06	4300	30-20/20	150/25	15/16 x 1 3/4	1.65				
360	100	11/16 x 1 3/4	.92	1840	30	15/16 x 2-5/8	1.16	4350	40-20/100	150/25	15/16 x 1 3/4	1.74				
370	150	13/16 x 1 3/4	1.02	1845	4	11/16 x 2 1/2	1.58	4400	40-20/20	150/25	15/16 x 1 3/4	1.68				
380	250	15/16 x 1 3/4	1.16	1850	8	13/16 x 2 3/4	1.88	4425	40-30/20	150/25	15/16 x 1 3/4	1.71				
390	500	1-1/16 x 2 1/4	1.58	1860	10	15/16 x 2 3/4	1.95	4450	40-40/20	150/25	15/16 x 1 3/4	1.75				
395	1000	1 x 3	2.07	1870	12	15/16 x 2 3/4	2.08	4475	40-40/100	150/25	15/16 x 2	1.84				
400	4	7/16 x 1 1/4	.66	1880	16	15/16 x 3 1/4	2.28	TYPE PRS — MULTIPLE VOLTAGES								
401	5	7/16 x 1 1/4	.66	1890	20	1-1/16 x 3	2.34									
405	8	9/16 x 1 1/4	.69	1900	8	15/16 x 2 3/4	1.91	4150	40-40/250	150/10	15/16 x 2 1/4	1.88				
410	10	9/16 x 1-3/8	.69	1905	10	15/16 x 3	2.01	4200	20-20/20	150/25	15/16 x 1 3/4	1.63				
420	12	9/16 x 1-3/8	.73	1910	12	15/16 x 3 1/4	2.15	4300	30-20/20	150/25	15/16 x 1 3/4	1.65				
425	15	9/16 x 1-3/8	.76	1915	16	1-1/16 x 3-3/8	2.31	4350	40-20/100	150/25	15/16 x 1 3/4	1.74				
430	16	9/16 x 1 1/2	.76	TYPE PRS — DUALS				4400	40-20/20	150/25	15/16 x 1 3/4	1.68				
440	20	9/16 x 1-5/8	.79					2020	500-150	15/16 x 1 3/4	1.78	4425	40-30/20	150/25	15/16 x 1 3/4	1.71
4450	24	9/16 x 1-7/8	.83	2050	10-10	11/16 x 1 1/4	.92	4450	40-40/20	150/25	15/16 x 1 3/4	1.75				
4451	25	9/16 x 1-7/8	.83	2075	20-20	11/16 x 1 1/4	.92	4475	40-40/100	150/25	15/16 x 2	1.84				
4460	30	11/16 x 1 1/2	.86	TYPE PRS — MULTIPLE VOLTAGES				4150	40-40/250	150/10	15/16 x 2 1/4	1.88				
4470	40	11/16 x 1 3/4	.89					2150	8-8	11/16 x 1 1/4	.99	4200	20-20/20	15		



## CAPACITORS

**ELECTROLYTICS - (Continued)**  
**TYPE CRE ULTRA-MINIATURE 85°C**  
**ALUMINUM CASED ELECTROLYTICS**


Temperature Range: —30°C to +85°C  
 Capacitance Tolerance: —10%, +100%  
 Nominal lead length: 1½"

Ultra-miniature, tubular, aluminum cased electrolytics with tinned copper leads. Furnished with insulating sleeves of heat shrinkable mylar tubing which adds only ½" to can diameter and ¼" to length.

Ideal for use in bypass, filter, and coupling applications in low-voltage, compact, miniaturized equipments such as personal radios, hearing aids, microphones, wire receivers, etc.

Elimination of variable or high resistance connections, freedom from corrosion and extremely low leakage characteristics have been attained through the use of a combination of all-welded construction, high purity ingredients and extreme care in manufacture and test procedures.

Packaging: Packaged in new, patented, straight-lead, 5-pack container. Keeps leads straight. Holds five units. The 5-pack is adaptable to packaging in bulk or in single inside cartons. For full technical information request Bulletin NPJ-124

## STOCK LISTING

Mfd.	Size	Catalog Number *	Net **Price	Mfd.	Size	Catalog Number *	Net **Price	Mfd.	Size	Catalog Number *	Net **Price
<b>3 VDCW</b>				<b>12 VDCW</b>				<b>25 VDCW (Cont.)</b>			
1	B	CRE200A	\$ .75	1	B	CRE400A	\$ .84	15	D	CRE609A	\$ .87
2	B	CRE201A	.75	2	B	CRE401A	.84	20	E	CRE611A	.90
3	B	CRE202A	.75	3	B	CRE402A	.84	25	E	CRE612A	.93
4	B	CRE203A	.75	4	B	CRE403A	.84	30	E	CRE613A	.96
5	B	CRE204A	.75	5	B	CRE404A	.84	35	F	CRE614A	.99
6	B	CRE205A	.75	6	B	CRE405A	.84	40	F	CRE615A	1.02
8	B	CRE206A	.75	8	B	CRE406A	.84	50	G	CRE617A	1.08
10	B	CRE207A	.75	10	B	CRE407A	.84	60	G	CRE618A	1.08
15	B	CRE209A	.75	12	B	CRE408A	.84	75	H	CRE620A	1.17
20	B	CRE211A	.75	15	C	CRE409A	.84	100	J	CRE623A	1.26
25	B	CRE212A	.75	20	C	CRE411A	.84	125	J	CRE626A	1.26
30	C	CRE213A	.75	25	C	CRE412A	.84	<b>50 VDCW</b>			
35	C	CRE214A	.75	30	D	CRE413A	.87	1	B	CRE750A	.84
40	C	CRE215A	.75	35	D	CRE414A	.87	2	B	CRE751A	.84
50	C	CRE217A	.75	40	E	CRE415A	.93	3	C	CRE752A	.84
60	D	CRE218A	.84	50	E	CRE417A	.93	4	C	CRE753A	.84
75	D	CRE220A	.84	60	E	CRE418A	.93	5	C	CRE754A	.87
100	D	CRE223A	.84	75	F	CRE420A	.99	6	D	CRE755A	.87
125	E	CRE226A	.87	100	F	CRE423A	1.05	8	D	CRE756A	.90
150	E	CRE228A	.87	125	G	CRE426A	1.08	10	D	CRE757A	.90
175	F	CRE230A	.90	150	H	CRE428A	1.14	15	E	CRE759A	.90
200	F	CRE231A	.90	175	H	CRE430A	1.17	20	F	CRE761A	.90
225	G	CRE232A	.96	200	H	CRE431A	1.23	25	G	CRE762A	.93
250	G	CRE233A	.96	225	J	CRE432A	1.32	30	G	CRE763A	.96
300	G	CRE235A	.99	250	J	CRE433A	1.32	35	H	CRE764A	1.02
350	H	CRE237A	1.02	<b>15 VDCW</b>				40	H	CRE765A	1.05
400	H	CRE239A	1.02	1	B	CRE450A	.84	50	J	CRE767A	1.11
450	J	CRE241A	1.05	2	B	CRE451A	.84	<b>100 VDCW</b>			
500	J	CRE243A	1.05	3	B	CRE452A	.84	1	D	CRE900A	.84
<b>6 VDCW</b>				4	B	CRE453A	.84	2	D	CRE901A	.84
1	B	CRE300A	.81	5	B	CRE454A	.84	3	D	CRE902A	.84
2	B	CRE301A	.81	6	B	CRE455A	.84	4	E	CRE903A	.84
3	B	CRE302A	.81	8	B	CRE456A	.84	5	E	CRE904A	.90
4	B	CRE303A	.81	10	B	CRE457A	.84	6	E	CRE905A	.90
5	B	CRE304A	.81	15	C	CRE459A	.87	8	F	CRE906A	.93
6	B	CRE305A	.81	20	C	CRE461A	.87	10	G	CRE907A	.93
8	B	CRE306A	.81	25	D	CRE462A	.87	12	G	CRE908A	.93
10	B	CRE307A	.81	30	D	CRE463A	.90	15	H	CRE909A	.93
15	B	CRE309A	.81	35	E	CRE464A	.93	20	J	CRE911A	.96
20	C	CRE311A	.81	40	E	CRE465A	.96	25	J	CRE912A	.96
25	C	CRE312A	.81	50	E	CRE467A	.96	<b>150 VDCW</b>			
30	C	CRE313A	.84	60	F	CRE468A	1.02	1	D	CRE950A	.84
35	C	CRE314A	.84	75	F	CRE470A	1.02	2	E	CRE951A	.87
40	D	CRE315A	.84	100	G	CRE473A	1.08	3	E	CRE952A	.87
50	D	CRE317A	.84	125	H	CRE476A	1.17	4	E	CRE953A	.87
60	D	CRE318A	.84	150	H	CRE478A	1.17	5	E	CRE954A	.93
75	E	CRE320A	.87	175	J	CRE480A	1.26	6	F	CRE955A	.93
100	E	CRE323A	.90	200	J	CRE481A	1.26	8	G	CRE956A	.96
125	F	CRE326A	.93	<b>25 VDCW</b>				10	H	CRE957A	.96
150	G	CRE328A	.93	1	B	CRE600A	.84	15	H	CRE959A	.96
175	H	CRE330A	.96	2	B	CRE601A	.84	20	J	CRE961A	.96
200	H	CRE331A	.96	3	B	CRE602A	.84	<b>SIZE CHART</b>			
225	H	CRE332A	.99	4	B	CRE603A	.84	B	¼ x ½	F	3/8 x 13/16
250	H	CRE333A	1.02	5	B	CRE604A	.84	C	¼ x 11/16	G	3/8 x 15/16
300	J	CRE335A	1.08	6	C	CRE605A	.84	D	5/16 x 11/16	H	3/8 x 1¼
350	J	CRE337A	1.08	8	C	CRE606A	.87	E	3/8 x 11/16	J	3/8 x 1½
				10	C	CRE607A	.87				

\*When ordering units without insulating sleeve delete suffix letter 'A' from Catalog No.

\*\*Request O.E.M. Prices in the following quantities: 50-99, 100-249.



# CAPACITORS

## ELECTROLYTICS — (Continued)

### TYPE PTT TUBULAR PLASTIC-CASED ELECTROLYTICS



Small in size big in performance, designed especially for wide applications in transistorized circuitry and cramped electronic assemblies, here is a truly MINIATURE electrolytic tubular that will handle full sized loads.

Aerovox Type PTT units feature "Polycap" cases that are the next best thing to metal cans for maximum protection against humidity. Advanced construction techniques assure long capacitor life. Units are rated for operation at temperatures from -30°C to +65°C.

For full technical information request Bulletin NPJ-111 Rev.

3 VDCW				15 VDCW (Continued)			
Cap.	PTT #	Size	Net Price*	Cap.	PTT #	Size	Net Price*
1	PTT 1	A	.42	5	PTT 64	A	.42
2	PTT 2	A	.42	8	PTT 65	B	.42
3	PTT 3	A	.42	10	PTT 66	B	.42
5	PTT 4	A	.42	15	PTT 67	B	.42
8	PTT 5	A	.42	20	PTT 68	E	.45
10	PTT 6	A	.42	25	PTT 69	E	.45
15	PTT 7	A	.42	30	PTT 70	E	.45
20	PTT 8	B	.42	40	PTT 71	H	.45
25	PTT 9	B	.42	50	PTT 72	H	.45
30	PTT 10	B	.42	100	PTT 73	K	.60
40	PTT 11	B	.42	150	PTT 107	L	.66
50	PTT 12	C	.42	200	PTT 108	O	.75
100	PTT 13	H	.45	20 VDCW			
150	PTT 100	J	.45	1	PTT 109	A	.42
200	PTT 14	K	.45	2	PTT 110	A	.42
250	PTT 15	K	.48	3	PTT 111	A	.42
300	PTT 16	L	.54	5	PTT 112	A	.42
500	PTT 17	O	.75	8	PTT 113	B	.42
800	PTT 138	W	.75	10	PTT 114	B	.42
6 VDCW				15	PTT 115	E	.45
1	PTT 18	A	.42	20	PTT 116	E	.45
2	PTT 19	A	.42	25	PTT 117	E	.45
3	PTT 20	A	.42	30	PTT 118	H	.45
5	PTT 21	A	.42	40	PTT 119	H	.45
8	PTT 22	A	.42	50	PTT 120	J	.45
10	PTT 23	A	.42	100	PTT 121	N	.66
15	PTT 24	B	.42	150	PTT 122	S	.75
20	PTT 25	B	.42	200	PTT 123	U	.75
25	PTT 26	B	.42	25 VDCW			
30	PTT 27	C	.42	1	PTT 74	A	.42
40	PTT 28	C	.45	2	PTT 75	A	.42
50	PTT 29	E	.45	3	PTT 76	A	.42
100	PTT 30	G	.45	5	PTT 77	B	.42
150	PTT 101	J	.48	8	PTT 78	B	.42
200	PTT 31	K	.48	10	PTT 79	E	.42
250	PTT 32	M	.60	15	PTT 80	E	.45
300	PTT 33	N	.75	20	PTT 81	H	.45
10 VDCW				25	PTT 82	H	.45
1	PTT 34	A	.42	30	PTT 83	I	.45
2	PTT 35	A	.42	40	PTT 84	J	.45
3	PTT 36	A	.42	50	PTT 85	K	.45
5	PTT 37	A	.42	100	PTT 86	N	.66
8	PTT 38	A	.42	150	PTT 124	V	.75
10	PTT 39	A	.42	35 VDCW			
15	PTT 40	B	.42	1	PTT 125	A	.42
20	PTT 41	B	.42	2	PTT 126	A	.42
25	PTT 42	E	.45	3	PTT 127	A	.42
30	PTT 43	E	.45	5	PTT 128	D	.42
40	PTT 44	E	.45	8	PTT 129	E	.45
50	PTT 45	F	.45	10	PTT 130	E	.45
100	PTT 46	J	.45	15	PTT 131	H	.45
150	PTT 102	K	.60	20	PTT 132	H	.45
200	PTT 47	L	.75	25	PTT 133	J	.48
250	PTT 103	N	.75	30	PTT 134	J	.60
300	PTT 104	O	.75	40	PTT 135	P	.75
12 VDCW				50	PTT 136	R	.75
1	PTT 48	A	.42	100	PTT 137	T	.75
2	PTT 49	A	.42	50 VDCW			
3	PTT 50	A	.42	1	PTT 87	A	.42
5	PTT 51	A	.42	2	PTT 88	A	.42
8	PTT 52	A	.42	3	PTT 89	B	.42
10	PTT 53	B	.42	5	PTT 90	C	.42
15	PTT 54	B	.42	8	PTT 91	E	.45
20	PTT 55	E	.45	10	PTT 92	H	.45
25	PTT 56	E	.45	15	PTT 93	H	.45
30	PTT 57	E	.45	20	PTT 94	J	.45
40	PTT 58	H	.45	25	PTT 95	K	.48
50	PTT 59	H	.45	30	PTT 96	K	.60
100	PTT 60	K	.45	40	PTT 97	M	.75
150	PTT 105	L	.60	50	PTT 98	N	.75
200	PTT 106	N	.75	15 VDCW			
1	PTT 61	A	.42	1	PTT 64	A	.42
2	PTT 62	A	.42	2	PTT 65	B	.42
3	PTT 63	A	.42	10	PTT 66	B	.42

A 1/4 x 5/8	J 3/8 x 7/8	R 7/16 x 1
B 1/4 x 1/4	K 3/8 x 1	S 7/16 x 1 1/4
C 1/4 x 7/8	L 3/8 x 1-1/8	T 7/16 x 1 1/2
E 5/16 x 1/4	M 3/8 x 1 1/4	U 1/2 x 1 1/4
F 5/16 x 7/8	N 3/8 x 1-3/8	V 7/16 x 1-3/8
G 5/16 x 1	O 3/8 x 1 1/2	W 1/2 x 1-3/8
H 3/8 x 3/4	P 7/16 x 7/8	

### TYPE B C D UPRIGHT MOUNTING BAKELITE CASED ELECTROLYTICS



"Polycap" cased, epoxy end filled electrolytic capacitors. Upright mounting for replacement in printed wiring, transistorized personal radios and car radios.

Small size and type of mounting make these units ideal for use in any printed wiring circuit.

Plastic case and epoxy end seal offer good moisture barrier which protects against drying out or leakage of electrolyte. High purity foil insures long life and low leakage. Minimum 1" lead length assists in threading connections into printed wiring boards even in tightest spaces.

Positive lead is identified by a + (plus) mark on case. For full technical information request Bulletin NPJ-108

3 VDCW				15 VDCW				3 VDCW				15 VDCW			
Cap.	BCD No.	Size	Net Price*	Cap.	BCD No.	Size	Net Price*	Cap.	BCD No.	Size	Net Price*	Cap.	BCD No.	Size	Net Price*
1	3001	A	.75	1	15001	A	.75	1	15001	A	.75	1	15001	A	.75
2	3002	A	.75	2	15002	A	.75	2	15002	A	.75	2	15002	A	.75
3	3003	A	.75	3	15003	A	.75	3	15003	A	.75	3	15003	A	.75
4	3004	A	.75	4	15004	A	.75	4	15004	A	.75	4	15004	A	.75
5	3005	A	.75	5	15005	A	.75	5	15005	A	.75	5	15005	A	.75
6	3006	A	.75	6	15006	A	.75	6	15006	A	.75	6	15006	A	.75
8	3008	A	.75	8	15008	A	.75	8	15008	A	.75	8	15008	A	.75
10	3010	A	.75	0	15010	A	.75	0	15010	A	.75	0	15010	A	.75
15	3015	A	.75	15	15015	B	.75	15	15015	B	.75	15	15015	B	.75
20	3020	A	.75	20	15020	B	.75	20	15020	B	.75	20	15020	B	.75
25	3025	A	.75	25	15025	B	.75	25	15025	B	.75	25	15025	B	.75
35	3035	B	.75	35	15035	C	.75	35	15035	C	.75	35	15035	C	.75
50	3050	B	.75	50	15050	C	.75	50	15050	C	.75	50	15050	C	.75
75	3075	B	.78	75	15075	F	.87	75	15075	F	.87	75	15075	F	.87
100	3100	C	.84	100	15100	F	.90	100	15100	F	.90	100	15100	F	.90
150	3150	D	.84	100-100	*15x100100	J	1.05	100-100	*15x100100	J	1.05	100-100	*15x100100	J	1.05
200	3200	D	.87	300-100	15x300100	K	1.11	300-100	15x300100	K	1.11	300-100	15x300100	K	1.11
250	3250	F	.96	300	15300	N	1.20	300	15300	N	1.20	300	15300	N	1.20
300	3300	F	.99	500	15500	P	1.20	500	15500	P	1.20	500	15500	P	1.20
500-50	3x50050	N	1.14	18 VDCW				100	18100	M	.96	20 VDCW			
1.5	3x100050	Q	1.20	1	25001	A	.75	200	20200	N	1.05	100-100	*20x100100	R	1.11
4 VDCW				25 VDCW				25 VDCW				50 VDCW			
100-100	4x100100	F	1.05	1	6001	A	.75	1	50001	A	.75	2	50002	A	.75
5	5005	A	.81	2	6002	A	.75	2	50002	A	.75	3	50003	A	.75
5 VNP				3	6003	A	.75	3	50003	A	.75	4	50004	A	.75
6 VDCW				4	6004	A	.75	4	50004	A	.75	5	50005	B	.75
1	6001	A	.75	5	6005	A	.75	5	50005	B	.75	6	50006	B	.75
2	6002	A	.75	6	6006	A	.75	6	50006	B	.75	8	50008	B	.75
3	6003	A	.75	8	6008	A	.75	8	50008	B	.75	10	50010	B	.75
4	6004	A	.75	10	6010	A	.75	10	50010	B	.75	15	50015	C	.75
5	6005	A	.75	15	6015	B	.75	15	50015	C	.75	20	50020	C	.75
6	6006	A	.75	20	6020	B	.75	20	50020	C	.75	25	50025	D	.81
8	6008	A	.75	25	6025	B	.75	25	50025	C	.75	35	50035	D	.81
10	6010	A	.75	35	6035	B	.75	35	50035	D	.81	50	50050	F	.84
15	6015	B	.75	50	6050	B	.75	50	50050	F	.84	75	50075	E	.90
20	6020	B	.75	75	6075	C	.81	75	50075	E	.90	* Common Positive			
25	6025	B	.75	100	6100	D	.90	1	50001	A	.75	BCD SIZE CODE			
35	6035	B	.75	150	6150	F	.93	2	50002	A	.75	A	5/16 x 5/8	J	1/2 x 1-1/8
50	6050	B	.75	200	6200	F	.96	3	50003	A	.75	B	3/8 x 5/8	H	1/2 x 1-1/4
75	6075	C	.81	100-300	6x10030	F	1.05	4	50004	A	.75	C	3/8 x 3/4	K	1/2 x 1-1/2
100	6100	D	.90	8 VDCW				5	50005	B	.75	D	7/16 x 3/4	M	5/8 x 3/4
150	6150	F	.93	1	8800	P	1.20	6	50006	B	.75	E	7/16 x 1	N	5/8 x 1
200	6200	F	.96	10 VNP				8	50008	B	.75	F	1/2 x 3/4	P	5/8 x 1-1/4
100-300	6x10030	F	1.05	5	10005	A	.81	10	50010	B	.75	G	1/2 x 7/8	Q	5/8 x 1 1/2
10 VDCW				10	10010	A	.75	15	50015	C	.75	Diam.			
1	10010	A	.75	25	10025	B	.75	20	50020	D	.75	5/16	.125		
25	10025	B	.75	50	10050	C	.75	25	50025	F	.81	3/8	.187		
50	10050	C	.75	80	10080	D	.84	Lead Spacing				7/16	.250		
80	10080	D	.84	100	10100	D	.90	1	2	3	5	1/2	.312		
100	10100	D	.90	190	10190	G	.99	7/16	1/2	3/8	5/8	5/8	.400		
190	10190	G	.99	50-30	10x5030	F	1.02	1/2	3/8	5/8	1	LEAD SIZE			
50-30	10x5030	F	1.02	80-50	10										



# CAPACITORS

## ELECTROLYTICS — (Continued)

### TYPE QE 61



Type QE capacitors are aluminum electrolytics designed for applications requiring high reliability and long life. Typical applications are in computer equipment, power supplies, telephone networks, industrial electronic equipment and high grade commercial and laboratory test instruments.

These units are manufactured with special high purity materials and processed under controlled conditions of cleanliness with the most modern equipment available. The aluminum container is hermetically sealed and furnished with low screw inserts with a pressure type safety vent provided in the cover.

Operating temperatures for QE61 is —20°C to +65°C. Standard capacity tolerance 2.5 Volts to 150 Volts is —10% +100%. For 151 Volts to 450 Volts —10% +50%. QE61 will be furnished with heat shrinkable mylar tubing which adds only .010 to the diameter and .020 to the length of the can size as shown.

For complete engineering details including ripple currents, dissipation factor, etc., request our latest bulletin NPJ-125.

### AVAILABLE CAN SIZES AND DESIGNATION

Can Size Designation	Can Size Designation	Can Size Designation	Can Size Designation	Can Size Designation
1 3/8 x 1 3/8 A1	1 3/8 x 2 1/8 B1	2 x 3 1/8 C1	2 1/2 x 3 1/8 D1	3 x 4 1/8 E1
1 3/8 x 2 1/8 A2	1 3/8 x 3 1/8 B2	2 x 4 1/8 C2	2 1/2 x 4 1/8 D2	3 x 4 3/8 E2
1 3/8 x 3 1/8 A3	1 3/8 x 4 1/8 B3	2 x 4 3/8 C3	2 1/2 x 4 3/8 D3	3 x 5 1/8 E3
1 3/8 x 4 1/8 A4	1 3/8 x 5 1/8 B4	2 x 5 1/8 C4	2 1/2 x 5 1/8 D4	3 x 5 3/8 E4
1 3/8 x 4 3/8 A5	1 3/8 x 5 3/8 B5	2 x 5 3/8 C5	2 1/2 x 5 3/8 D5	

Cat. No.	Size	Capacity	Net Price*
<b>10 VDCW</b>			
61QE2048M	A1	1800	\$2.97
61QE2049M	A2	3600	3.45
61QE2051M	A3	7300	4.71
61QE2052M	A4	11000	5.61
61QE2058M	C2	25000	8.79
<b>15 VDCW</b>			
61QE2072M	A1	1500	2.97
61QE2073M	A2	3100	3.54
61QE2075M	A3	6100	4.38
61QE2076M	A4	9200	5.61
61QE2079M	C1	14000	7.41
61QE2083M	C2	21000	8.94
61QE2086M	C4	28000	11.16
61QE2088M	D2	35000	12.00
<b>25 VDCW</b>			
61QE2120M	A1	950	2.97
61QE2121M	A2	1900	3.60
61QE2123M	A3	3800	4.62
61QE2124M	A4	5800	5.70
61QE2127M	C1	8900	6.72
61QE2131M	C2	13000	9.60
61QE2134M	C4	17000	10.20
61QE2136M	D2	22000	11.52
61QE2140M	E1	33000	13.56
<b>35 VDCW</b>			
61QE2164M	E1	23000	13.50
61QE2165M	E2	27000	14.10
<b>40 VDCW</b>			
61QE2171M	A3	2400	4.86
61QE2175M	C1	5600	7.05
61QE2178M	C2	8300	9.27
61QE2184M	D2	14000	13.50
61QE2185M	D3	16300	13.80
<b>50 VDCW</b>			
61QE2192M	A1	470	2.97
61QE2193M	A2	940	3.75
61QE2195M	A3	1850	4.23
61QE2196M	A4	2830	5.79
61QE2199M	C1	4300	7.20
61QE2202M	C2	6500	8.19
61QE2206M	C4	8700	10.20
61QE2208M	D2	10900	12.90

Cat. No.	Size	Capacity	Net Price*
<b>75 VDCW</b>			
61QE2243M	A3	950	\$ 4.05
61QE2247M	C1	2300	5.43
61QE2256M	D2	5800	10.41
<b>100 VDCW</b>			
61QE2268M	A4	1000	4.62
61QE2271M	C1	1600	5.22
61QE2274M	C2	2400	6.30
61QE2278M	C4	3200	8.64
61QE2280M	D2	4000	10.26
<b>150 VDCW</b>			
61QE2291M	A3	520	3.30
61QE2292M	A4	785	4.05
61QE2295M	C1	1200	5.55
61QE2298M	C2	1800	6.72
61QE2304M	D2	3100	9.06
61QE2308M	E1	4700	13.17
61QE2309M	E2	5400	14.10
<b>200 VDCW</b>			
61QE2315M	A3	400	3.27
61QE2319M	C1	960	6.90
61QE2323M	C2	1450	9.00
61QE2325M	D1	1600	9.75
<b>250 VDCW</b>			
61QE2340M	A4	460	3.90
61QE2343M	C1	750	5.40
61QE2346M	C2	1100	9.00
<b>300 VDCW</b>			
61QE2363M	A3	250	3.75
<b>350 VDCW</b>			
61QE2387M	A3	185	3.66
61QE2400M	D2	1100	11.25
<b>450 VDCW</b>			
61QE2430M	C2	340	5.82
61QE2436M	D2	570	7.26
61QE2437M	E1	850	10.80

### TYPES HCB and NPB High Capacity Low Voltage Bakelite Cased Electrolytics



Type HCB units are polarized electrolytic capacitors designed for use in industrial applications such as battery eliminators, power supplies, electric fence controls and sound movie projectors. For non-polarized applications in welding and control equipment Type NPB units are available.

Both types feature heavy-duty, moisture resistant bakelite cases which eliminate the need for outer cardboard insulating tubes. Operating temperature range from —40°C to +85°C. Capacitance tolerance up to 150 VDCW —10% +100%, over 150 VDCW —10% +50%. High capacity etched plate construction assures long trouble-free operation. Units supplied with wrap around—footed brackets for vertical mtg.—horizontal mtg. available on Special Order.

For full technical information request bulletin NPJ-117.

TYPE HCB			HCB (Continued)		
Capacity MFD	Size	Net Price**	Capacity MFD	Size	Net Price**
<b>6 VDCW—8V Surge</b>			<b>50 VDCW—75V Surge</b>		
12000	1-13/16 x 4-3/8	\$8.16	500	1-7/16 x 3-3/8	\$3.33
			1000	1-7/16 x 3-3/8	4.25
			2000	1-13/16 x 3-3/8	5.06
			3000	1-13/16 x 4-3/8	7.00
			4000	2-1/16 x 4-3/8	7.32
<b>12 VDCW—18V Surge</b>			<b>150 VDCW—185V Surge</b>		
500	1-7/16 x 2 3/4	2.70	1000	1-13/16 x 4-3/8	6.44
1000	1-7/16 x 2 3/4	2.94			
2000	1-7/16 x 2 3/4	3.36			
3000	1-7/16 x 3-3/8	3.96			
4000	1-7/16 x 3-3/8	4.60			
6000	1-13/16 x 3-3/8	5.20			
10000	1-13/16 x 4-3/8	7.82			
<b>18 VDCW—25V Surge</b>			<b>TYPE NPB</b>		
500	1-7/16 x 2 3/4	2.89	<b>125 VNP—175V Surge</b>		
1000	1-7/16 x 2 3/4	3.31	200	1-7/16 x 3-3/8	4.04
1500	1-7/16 x 2 3/4	3.39	300	1-13/16 x 3-3/8	4.87
2000	1-7/16 x 2 3/4	3.47	500	1-13/16 x 4-3/8	6.30
4000	1-13/16 x 3-3/8	5.37			
6000	1-13/16 x 3-3/8	5.62			
<b>25 VDCW—40V Surge</b>			<b>300 VNP—375V Surge</b>		
500	1-7/16 x 2 3/4	2.89	15	1-7/16 x 2 3/4	2.87
1000	1-7/16 x 2 3/4	3.19	100	1-13/16 x 3-3/8	6.13
1250	1-7/16 x 3-3/8	3.43	200	2-1/16 x 4-3/8	7.00
2000	1-7/16 x 3-3/8	4.15			
3000	1-13/16 x 3-3/8	4.88			
4000	1-13/16 x 3-3/8	5.58			
6000	1-13/16 x 4-3/8	7.12			
<b>450 VNP—525V Surge</b>					
			50	1-13/16 x 3-3/8	6.30
			100	2-1/16 x 4-3/8	7.70

\*Request O.E.M. Prices in the following quantities: 25-49, 50-99

\*\*Request O.E.M. Prices in the following quantities: 10-24, 25-49, 50-99 100-249



# CAPACITORS

## ADDITIONAL STYLES

For complete information on any Types shown on this page request Catalog or Brochure from Aerovox Corporation, Distributor Division, or your nearest authorized Aerovox Industrial Distributor.



### TYPE G Insulated Screw-Mounting Capacitors

Hermetically-sealed aluminum can unit, threaded cover size  $\frac{7}{8}$ -16 with hex nut and washer for convenient mounting on chassis. Washer can be used to insulate can from chassis. Terminals molded in cover. Cathode connection thru terminal in cover. These units are the commercial equivalent of case style CE41 and 42 of specification MIL C62A.

7 Stock Values - 3 Voltages



### TYPE FF Photo-Flash Capacitors

Selective choice of highest purity materials makes these units ideal for rugged photoflash application calling for lowest leakage requirements. Type FF-1 furnished in molded black plastic container, type FF-2 in aluminum can with black glazed tubing; both units furnished with screw lug terminals. Highly resistant to moisture and oil. Surge voltages and time duty cycles as listed in EIA specification No. RS-154.

2 Stock Values

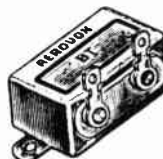


### TYPE E Hermetically-Sealed, Aluminum, Round Metal-Cased Capacitors

Can be mounted with terminals upright or inverted by use of a ring-type clamp provided with unit. Can is floating, thus having two terminals on single-section capacitors, three on duals, and four on triodes.

These units are the commercial equivalent of case style CE31, 2 and 3 of MIL Specification C62A.

16 Stock Values - 10 Voltages



### TYPE BT Drawn-Case "Bathtub" Electrolytic Capacitors

Hermetically-sealed units designed for rigid mounting in minimum space. Of sturdy construction, these high-quality units are commercial equivalent to the case style CE63 of MIL Specification C62A.

21 Stock Values - 6 Voltages



### TYPE GL

These ever-popular inverted-mounting, aluminum can units, are furnished with the same high purity materials as the more expensive type E and G. Two separate color-coded leads 4" long for each section. Inverted chassis mounting can be made, using palnut and threaded neck. Threaded neck size  $\frac{3}{8}$ -18.

24 Stock Values - 6 Voltages



### TYPE AEP Plug-in Electrolytic Capacitors

Hermetically sealed, dry electrolytic capacitor furnished in round, aluminum can and 4-pin, octal-base mounting. For quick changes, readily removed and replaced in a standard octal-base tube socket.

For use where continuous service is important. They are ideally suited for experimental testing, juke boxes and communication receiver uses. These units are the commercial equivalents of Type CE51's, 2's and 3's, as listed in MIL Specification C62A.

Operating temperature to +65°C. Quadruple element units furnished with ground lug for cathode connection.

28 Stock Values - 5 Voltages



### BE - BI-ELECTRIC<sup>®</sup> MYLAR<sup>\*</sup> PAPER BYPASS TUBULAR

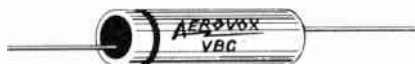
-Radial Lead Mounting

Adjunct to dipped Bi-Electric these units are furnished in Polycap<sup>®</sup> plastic case for values not normally available in DBE line. Polycap<sup>®</sup> case provides a consistent size, controlled end-fill and leads cannot crack case or pull out when mounted axially. Standard tolerance  $\pm 10\%$  - operating temperature range  $-30^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$ .

54 Values - 3 Voltages

For full technical information request bulletin NPJ-118 Rev.  
\*Reg. DuPont trademark

### Type VBC Vibrator Buffer Capacitors



These units are heavy-duty, Hyvol M impregnated, vibrator buffer capacitors in plastic tubes, specifically designed for severe-service auto-radio applications.

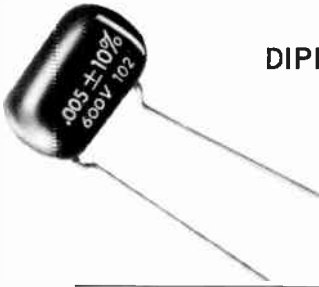
### AUTOPASS<sup>®</sup> Vertical Mounting Plastic-Cased Paper Capacitors



Aerovox Autopass capacitors were specifically designed and developed for use in conjunction with printed-wiring assemblies where it is highly desirable to mount capacitors at right angles to the mounting surface thereby conserving valuable space.



# CAPACITORS



## PAPER CAPACITORS

### DIPPED BI-ELECTRIC® 10% TYPE DBE MYLAR\*-PAPER BY-PASS TUBULARS

Now the "better by-pass" Bi-Electric® is presented in a dipped radial lead style. Better characteristics with all the advantages of a combination dielectric. Combines the best features of Mylar\* and high quality kraft tissue with a solid impregnant resulting in a unit that affords excellent protection against moisture, mechanical damage and damage from soldering iron contact.

The solid thermo setting impregnant will not crack, soften or flow assuring very stable units. Standard capacitance tolerance is ±10%.

Other features of this capacitor include 125°C maximum operating temperature, low power factor, high insulation resistance. All units are furnished with crimped style leads.

For full technical information request Bulletin NPJ-130 Rev.

Cat. No.	Size	Net Price**	Cat. No.	Size	Net Price**	Cat. No.	Size	Net Price**	Cat. No.	Size	Net Price**
<b>600 VDCW</b>											
DBE6D1	.340 x .690	.15	DBE6D39	.370 x .690	.15	DBE6S1	.390 x .870	.18	DBE6S4	.470 x 1.150	.21
DBE6D12	.340 x .690	.15	DBE6D4	.370 x .690	.15	DBE6S12	.400 x .870	.18	DBE6S47	.490 x 1.150	.21
DBE6D15	.340 x .690	.15	DBE6D47	.400 x .690	.15	DBE6S15	.415 x .870	.18	DBE6S5	.520 x 1.180	.21
DBE6D18	.340 x .690	.15	DBE6D5	.415 x .690	.15	DBE6S18	.470 x .870	.18	DBE6S56	.520 x 1.180	.24
DBE6D2	.340 x .690	.15	DBE6D56	.415 x .690	.15	DBE6S2	.470 x .870	.18	DBE6S6	.520 x 1.180	.24
DBE6D22	.340 x .690	.15	DBE6D6	.415 x .690	.15	DBE6S22	.470 x .870	.18	DBE6S68	.540 x 1.300	.27
DBE6D25	.370 x .690	.15	DBE6D68	.430 x .690	.18	DBE6S25	.415 x 1.150	.21	DBE6S75	.570 x 1.300	.27
DBE6D27	.370 x .690	.15	DBE6D7	.430 x .690	.18	DBE6S27	.415 x 1.150	.21	DBE6S82	.590 x 1.300	.27
DBE6D3	.370 x .690	.15	DBE6D75	.370 x .870	.18	DBE6S3	.430 x 1.150	.21	DBE6P1	.640 x 1.300	.27
DBE6D33	.370 x .690	.15	DBE6D8	.370 x .870	.18	DBE6S33	.430 x 1.150	.21	DBE6P15	.650 x 1.560	.33
DBE6D33	.370 x .690	.15	DBE6D82	.370 x .870	.18	DBE6S39	.470 x 1.150	.21	DBE6P22	.750 x 1.560	.42

\*\*Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-499, 500-999.

\*Dupont Registered Trade Mark

### TYPE B161Y — High Voltage Capacitor



Now a dual purpose high voltage capacitor for use on standard DC applications or low frequency AC use. These units incorporate a dual dielectric of film and Kraft paper with a special impregnant which allows these units to be used as replacements for the higher priced glass tube capacitors. Standard tolerance is ±20%. Operating temperature is -45°C to +100°C. All units are furnished with #18 AWG wire leads. Also available on special order are units with studs for mounting in place of the glass capacitors.

Higher voltages and capacities available on request. For full technical information request bulletin NPJ-135.

Cap.	3000 VDCW	Net* Price	5000 VDCW	Net* Price	8000 VDCW	Net* Price	10,000 VDCW	Net* Price	15,000 VDCW	Net* Price
.0005			1/2 x 1 9/16	.72	9/16 x 1 5/8	.78	5/8 x 1 3/4	.84	5/8 x 2 3/4	1.11
.001	1/2 x 1 5/16	.60	5/8 x 1 9/16	.75	5/8 x 1 5/8	.81	3/4 x 1 3/4	.90	3/4 x 2 3/4	1.32
.002	5/8 x 1 5/16	.63	5/8 x 1 11/16	.78	3/4 x 1 3/4	.87	3/4 x 1 15/16	1.08	7/8 x 2 15/16	1.74
.005	5/8 x 1 1/2	.69	11/16 x 1 15/16	.87	7/8 x 1 7/8	1.11	15/16 x 2 3/16	1.26	1 x 3 1/2	2.22
.01	11/16 x 1 5/8	.75	13/16 x 1 15/16	1.02	115/16 x 2 1/4	1.26	1 x 2 5/8	1.74	1 x 5 3/16	2.67
.02	3/4 x 1 3/4	.87	7/8 x 2 5/16	1.29	1 x 2 7/8	1.83	1 x 3 13/16	2.22		
.03	3/4 x 2 1/16	1.02	1 x 2 5/16	1.59	1 x 3 11/16	2.28	1 x 5 1/16	2.61		
.05	7/8 x 2 1/16	1.26	1 x 2 7/8	1.83	1 x 5 5/16	2.58				
.1	1 x 2 3/8	1.59	1 x 4 5/16	2.40						
.15	1 x 3	1.89								
.25	1 x 4 3/16	2.34								

\*Request O.E.M. price in the following quantities: 25-49, 50-99, 100-499

### TYPE V161



### AEROFILM® (MYLAR\*) CAPACITORS

V161 Aerofilm Tubular Capacitors are high quality units in Polycap® cases. These units have exceptionally high insulation resistance and low dielectric absorption and power factor. They are extremely stable having a relatively small capacitance change with temperature variations over a range of 0 to 85 C. Their excellent resistance to humidity and moisture are due to the use of Aerofilm (Aerovox's trade name for Mylar\* polyester film), finest quality casing material, and an epoxy end fill which will not flow, soften or melt at any operating temperature. Standard tolerance is ±20% but also available in ±5% and ±10%.

Cap. Mfd.	Size	Net Price*	Cap. Mfd.	Size	Net Price*	Cap. Mfd.	Size	Net Price*	Cap. Mfd.	Size	Net Price*
<b>200 VDCW</b>											
.0047	9/32 x 15/16	\$.15	.0047	9/32 x 15/16	\$.15	.003	9/32 x 15/16	\$.15	<b>1000 VDCW</b>		
.0068	9/32 x 15/16	.15	.0068	9/32 x 15/16	.15	.0033	9/32 x 15/16	.15	.001	9/32 x 15/16	.30
.01	9/32 x 15/16	.15	.01	5/16 x 1	.15	.004	5/16 x 1	.15	.0012	9/32 x 15/16	.30
.015	9/32 x 15/16	.15	.015	5/16 x 1	.15	.0047	5/16 x 1	.15	.0015	9/32 x 15/16	.30
.022	5/16 x 1	.15	.02	5/16 x 1-1/16	.15	.005	5/16 x 1	.15	.0018	9/32 x 15/16	.30
.033	5/16 x 1	.15	.022	11/32 x 1-1/16	.15	.0068	5/16 x 1	.18	.002	9/32 x 15/16	.30
.047	5/16 x 1-1/16	.15	.03	3/8 x 1-1/16	.18	.01	11/32 x 1-1/16	.18	.0022	9/32 x 15/16	.30
.05	5/16 x 1-1/16	.15	.033	3/8 x 1-1/16	.18	.015	3/8 x 1-3/16	.18	.0033	5/16 x 1	.30
.068	11/32 x 1-1/16	.18	.047	3/8 x 1 1/4	.18	.02	3/8 x 1-3/16	.18	.0039	5/16 x 1	.30
.1	3/8 x 1 1/4	.21	.05	3/8 x 1 1/4	.18	.022	13/32 x 1-3/16	.18	.0047	5/16 x 1	.30
.15	13/32 x 1 1/4	.24	.068	7/16 x 1 1/4	.21	.03	7/16 x 1-3/16	.21	.0068	11/32 x 1-1/16	.30
.22	1/2 x 1 1/4	.24	.1	1/2 x 1 1/4	.21	.033	7/16 x 1-3/16	.21	.01	3/8 x 1-1/16	.30
.25	1/2 x 1 1/4	.27	.15	9/16 x 1 1/2	.36	.04	1/2 x 1 1/4	.24	.018	7/16 x 1-1/4	.36
.33	1/2 x 1 1/2	.33	.22	9/16 x 1 1/2	.39	.047	1/2 x 1 1/4	.24	.022	7/16 x 1-1/4	.36
.47	9/16 x 1 1/2	.39	.25	9/16 x 1 3/4	.39	.05	1/2 x 1 1/4	.24	.025	1/2 x 1-1/4	.36
.68	19/32 x 1 3/4	.51	.33	5/8 x 1 3/4	.51	.068	1/2 x 1 1/2	.27	.027	1/2 x 1-1/4	.36
1.0	13/16 x 1-7/8	.57	.47	11/16 x 2	.66	.075	1/2 x 1 1/2	.27	.033	1/2 x 1-1/4	.36
<b>400 VDCW</b>											
.0015	9/32 x 15/16	.15	.5	11/16 x 2	.69	.1	9/16 x 1 1/2	.30	.039	1/2 x 1-1/2	.36
.0022	9/32 x 15/16	.15	.68	25/32 x 2	.87	.15	5/8 x 1-5/8	.39	.047	1/2 x 1-1/2	.42
.0033	9/32 x 15/16	.15	1.0	7/8 x 2-1/8	1.05	.2	23/32 x 1-5/8	.48	.056	9/16 x 1-5/8	.45
<b>600 VDCW</b>											
.001	9/32 x 15/16	.15	.001	9/32 x 15/16	.15	.25	3/4 x 1-5/8	.51	.068	9/16 x 1-5/8	.48
.0015	9/32 x 15/16	.15	.0015	9/32 x 15/16	.15	.33	13/16 x 1-7/8	.78	.075	5/8 x 1-5/8	.51
.002	9/32 x 15/16	.15	.002	9/32 x 15/16	.15	.47	7/8 x 2-1/8	.84	.1	11/16 x 1-7/8	.54
.0022	9/32 x 15/16	.15	.0022	9/32 x 15/16	.15	.5	7/8 x 2-1/8	.87	.15	13/16 x 1-7/8	.66

\*Dupont trademark

\*Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-249



# CAPACITORS

## FILM CAPACITORS

### TYPES V146X AND V146XR "WRAP & FILL" AEROFILM® CAPACITORS



Miniature, mylar, tubular capacitor sections, extended foil construction wrapped with a synthetic film and end-sealed with a plastic resin.

These units offer high insulation resistance, high operating temperature, low power factor and outstanding resistance to moisture.

Ideal for use in miniaturized circuits where size and weight are important factors.

**Operating Temperature Range:** Capable of operation in a temperature range of -65°C to +85°C at full voltage rating and to 125°C with voltage derating as follows:

DC Rated Voltage at 85°C	Maximum DC Working Voltage at 125°C
150	100
200	125
400	200
600	300

Leads: solder-coated "copper-weld" wire, 2" minimum length

Tolerance: Standard ±10%. Available in closer tolerances on special order.

For Full technical information request bulletin NPJ-121 Rev.

### STOCK LISTING V146XR

Capacity In Mfd.	150 VDC		Cat. No.	Net Price*	200 VDC		Cat. No.	Net Price*	400 VDC		Cat. No.	Net Price*	600 VDC		Cat. No.	Net Price*
	D	L			D	L			D	L			D	L		
.001	See Note 1				.156 x 1/2		V146XR-16	.31	.156 x 5/8		V146XR-37	.31	.156 x 3/4		V146XR-58	.31
.0015	See Note 1				.156 x 1/2		V146XR-17	.31	.156 x 5/8		V146XR-38	.31	.171 x 3/4		V146XR-59	.31
.0022	See Note 1				.156 x 1/2		V146XR-18	.31	.156 x 5/8		V146XR-39	.31	.187 x 3/4		V146XR-60	.31
.0033	See Note 1				.156 x 1/2		V146XR-19	.31	.156 x 5/8		V146XR-40	.31	.203 x 3/4		V146XR-61	.31
.0047	See Note 1				.156 x 1/2		V146XR-20	.31	.187 x 5/8		V146XR-41	.31	.234 x 3/4		V146XR-62	.31
.0068	See Note 1				.156 x 1/2		V146XR-21	.31	.218 x 5/8		V146XR-42	.31	.265 x 3/4		V146XR-63	.31
.01	.156 x 1/2		V146XR-1	.30	.171 x 1/2		V146XR-22	.31	.250 x 5/8		V146XR-43	.31	.312 x 3/4		V146XR-64	.31
.015	.187 x 1/2		V146XR-2	.30	.203 x 1/2		V146XR-23	.31	.296 x 5/8		V146XR-44	.31	.312 x 7/8		V146XR-65	.34
.022	.203 x 5/8		V146XR-3	.30	.250 x 5/8		V146XR-24	.31	.312 x 3/4		V146XR-45	.32	.375 x 7/8		V146XR-66	.38
.033	.218 x 5/8		V146XR-4	.30	.250 x 3/4		V146XR-25	.31	.312 x 7/8		V146XR-46	.33	.406 x 1		V146XR-67	.39
.047	.234 x 3/4		V146XR-5	.30	.296 x 3/4		V146XR-26	.31	.343 x 7/8		V146XR-47	.35	.453 x 1		V146XR-68	.43
.068	.265 x 3/4		V146XR-6	.32	.343 x 3/4		V146XR-27	.33	.375 x 1		V146XR-48	.39	.531 x 1		V146XR-69	.48
.1	.281 x 7/8		V146XR-7	.35	.375 x 7/8		V146XR-28	.35	.421 x 1		V146XR-49	.43	.562 x 1-3/8		V146XR-70	.52
.15	.328 x 7/8		V146XR-8	.38	.453 x 7/8		V146XR-29	.39	.468 x 1-1/4		V146XR-50	.47	.671 x 1-3/8		V146XR-71	.64
.22	.385 x 1		V146XR-9	.43	.438 x 1-1/8		V146XR-30	.44	.546 x 1-3/8		V146XR-51	.50	.718 x 1-5/8		V146XR-72	.86
.33	.375 x 1-1/8		V146XR-10	.45	.484 x 1-1/8		V146XR-31	.47	.593 x 1-5/8		V146XR-52	.61	.765 x 2		V146XR-73	1.09
.47	.468 x 1-1/4		V146XR-11	.54	.546 x 1-1/4		V146XR-32	.55	.671 x 1-5/8		V146XR-53	.78	.859 x 2		V146XR-74	1.25
.68	.562 x 1-1/4		V146XR-12	.59	.609 x 1-5/8		V146XR-33	.60	.796 x 1-3/4		V146XR-54	1.00	1.016 x 2		V146XR-75	1.61
1.0	.593 x 1-1/2		V146XR-13	.76	.671 x 1-3/4		V146XR-34	.85	.812 x 2		V146XR-55	1.12	1.125 x 2-1/2		V146XR-76	1.97
1.5	.718 x 1-3/4		V146XR-14	.97	.828 x 1-3/4		V146XR-35	1.31	.921 x 2-1/4		V146XR-56	1.48	1.234 x 3		V146XR-77	2.73
2.0	.812 x 1-3/4		V146XR-15	1.68	.875 x 1-7/8		V146XR-36	1.52	1.093 x 2-1/4		V146XR-57	1.92	1.421 x 3		V146XR-78	3.31

Note 1: These capacity values are only made at 200 VDC or higher.

The 200 VDC unit may be used for lower voltage requirements since sizes are as small as or smaller than competitive 100 VDC units.

® Registered Trademark

\*Request O.E.M. prices in the following quantities: 25-49, 50-99, 100-499

## AEROVOX MINIATURE TYPE WRAP & FILL FILM DIELECTRIC CAPACITORS Type V146X

Capacity	Thickness	Width	Length	Catalog No.	Capacity	Thickness	Width	Length	Catalog No.
<b>150 VDC AT 85°C</b>					<b>400 VDC AT 85°C</b>				
.033	3/16	11/32	15/16	V146X-15	.047	1/4	15/32	15/16	V146X-35
.047	3/16	3/8	15/16	V146X-16	.068	9/32	1/2	1-1/8	V146X-36
.068	7/32	3/8	15/16	V146X-17	.082	9/32	15/32	1-1/4	V146X-37
.082	7/32	13/32	15/16	V146X-18	.10	9/32	17/32	1-1/4	V146X-38
.1	1/4	15/32	15/16	V146X-19	.15	5/16	19/32	1-11/16	V146X-39
.15	1/4	7/16	1-1/16	V146X-20	.22	3/8	21/32	1-7/8	V146X-40
.22	1/4	17/32	1-1/4	V146X-21	.33	7/16	3/4	1-7/8	V146X-41
.33	5/16	19/32	1-1/4	V146X-22	.47	1/2	7/8	1-7/8	V146X-42
.47	7/16	23/32	1-7/16	V146X-23	.68	17/32	15/16	2-1/8	V146X-43
.68	13/32	23/32	1-11/16	V146X-24	.82	17/32	31/32	2-5/16	V146X-44
.82	15/32	3/4	1-11/16	V146X-25	1.0	9/16	1.0	2-5/16	V146X-45
1.0	13/32	3/4	1-7/8	V146X-26					
<b>200 VDC AT 85°C</b>					<b>600 VDC AT 85°C</b>				
.033	7/32	3/8	15/16	V146X-217	.001	3/16	5/16	13/16	V146X-46
.047	7/32	13/32	15/16	V146X-218	.0015	3/16	5/16	13/16	V146X-47
.068	9/32	7/16	15/16	V146X-219	.0022	3/16	5/16	13/16	V146X-48
.1	5/16	15/32	1-1/8	V146X-220	.0033	3/16	3/8	7/8	V146X-49
.15	3/8	9/16	1-1/8	V146X-221	.0047	3/16	13/32	7/8	V146X-50
.22	13/32	9/16	1-1/4	V146X-222	.0068	7/32	13/32	7/8	V146X-51
.33	3/8	9/16	1-11/16	V146X-223	.0082	1/4	13/32	7/8	V146X-52
.47	7/16	21/32	1-11/16	V146X-224	.01	1/4	7/16	7/8	V146X-53
.68	1/2	3/4	1-7/8	V146X-225	.015	5/16	1/2	7/8	V146X-54
1.0	9/16	13/16	2-1/8	V146X-226	.022	5/16	1/2	1-1/16	V146X-55
					.033	9/32	1/2	1-1/8	V146X-56
					.047	5/16	17/32	1-1/8	V146X-57
					.068	5/16	19/32	1-1/4	V146X-58
					.082	3/8	5/8	1-9/16	V146X-59
					.10	13/32	21/32	1-9/16	V146X-60
					.15	3/8	23/32	1-7/8	V146X-61
					.22	1/2	27/32	1-7/8	V146X-62
					.33	1/2	29/32	2-1/8	V146X-63
					.47	5/8	1-1/16	2-1/8	V146X-64
					.68	11/16	1-3/32	2-7/16	V146X-65

Note: For capacities greater than listed use type V146XR.

Net Prices for V146X are same as like Vt. & Cap. in V146XR listing.





# CAPACITORS

## INDUSTRIAL SECTION — STANDARD TYPES METALLIZED FILM CAPACITORS

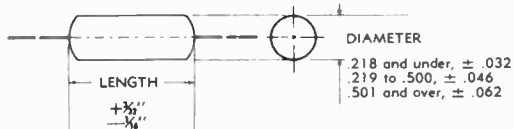
Type V146Z (Flat)  
Metallized Mylar\* 'Wrap & Fill' Capacitors



\*Dupont Trademark.

V146Z-V146ZR Metallized 'Mylar Wrap & Fill' units offer lightweight ultra miniature design featuring high insulation resistance and long stable life. These units are instrument quality and feature the self-healing characteristic of all metallized dielectrics. Standard tolerance is  $\pm 10\%$ . Also available at closer tolerances on request. Power factor will not exceed 1%. All leads are solder-coated "Copper-Weld" wire. These units ideally suited for use in printed assemblies and offer appreciable weight saving for use in light weight portable and air-borne equipment of all types. The flat style allows them to be mounted in banks using a minimum amount of space. For full technical information request bulletin NPJ-132 Rev.

Cap. Mfd.	Catalog Number	T	Size W	L	Wire Lead Gauge	Net Price*1	Cap. Mfd.	Catalog Number	T	Size W	L	Wire Lead Gauge	Net Price*				
100 VDCW @ 85 C						50 VDCW @ 125 C						400 VDCW @ 125 C					
.1	V146Z-160	.125	.234	9/16	#22	.96	.01	V146Z-137	.140	.255	11/16	#22	.97				
.15	V146Z-161	.156	.265	9/16	#22	1.06	.015	V146Z-138	.171	.296	11/16	#22	.98				
.22	V146Z-162	.156	.250	11/16	#22	1.20	.022	V146Z-139	.203	.312	11/16	#22	.99				
.33	V146Z-163	.203	.312	11/16	#22	1.58	.033	V146Z-140	.250	.375	11/16	#22	1.01				
.47	V146Z-164	.250	.359	11/16	#22	1.78	.047	V146Z-81	.187	.281	7/8	#22	1.04				
.68	V146Z-165	.218	.328	15/16	#22	2.21	.068	V146Z-141	.234	.421	15/16	#22	1.09				
1.0	V146Z-166	.265	.375	15/16	#22	2.93	.1	V146Z-142	.296	.484	15/16	#22	1.11				
1.5	V146Z-167	.250	.250	1 1/4	#20	3.79	.15	V146Z-143	.343	.562	15/16	#20	1.22				
2.0	V146Z-168	.312	.468	1 1/4	#20	4.70	.22	V146Z-84	.281	.281	1 1/4	#20	1.36				
3.0	V146Z-169	.406	.562	1 1/4	#20	6.67	.33	V146Z-85	.375	.375	1 1/4	#20	1.58				
4.0	V146Z-170	.406	.562	1 3/8	#20	8.30	.47	V146Z-144	.406	.406	1 1/2	#20	1.86				
5.0	V146Z-171	.375	.593	1 3/4	#20	9.79	.68	V146Z-145	.421	.890	1 1/2	#20	2.27				
200 VDCW @ 85 C						150 VDCW @ 125 C						600 VDCW @ 125 C					
.01	V146Z-127	.156	.203	7/16	#22	.86	1.0	V146Z-87	.531	.718	1 3/4	#20	2.91				
.015	V146Z-128	.156	.234	7/16	#22	.86	1.5	V146Z-88	.500	1.093	1 3/4	#20	3.49				
.022	V146Z-129	.203	.265	7/16	#22	.88	2.0	V146Z-146	.812	1.125	1 3/4	#20	4.66				
.033	V146Z-130	.218	.281	7/16	#22	.90	4.0	V146Z-89	1.00	1.093	2 1/4	#20	7.87				
.047	V146Z-131	.171	.265	9/16	#22	.91											
.068	V146Z-60	.125	.250	11/16	#22	.93											
.1	V146Z-6	.187	.281	11/16	#22	.94											
.15	V146Z-61	.187	.312	11/16	#22	1.02											
.22	V146Z-132	.265	.375	11/16	#22	1.11											
.33	V146Z-133	.296	.484	11/16	#20	1.26											
.47	V146Z-134	.359	.546	11/16	#20	1.47											
.68	V146Z-135	.343	.515	11/16	#20	1.77											
1.0	V146Z-64	.312	.468	1 3/16	#20	2.19											
1.05	V146Z-65	.406	.593	1 3/16	#20	2.66											
2.0	V146Z-8	.343	.563	1 11/16	#20	3.05											
4.0	V146Z-55	.562	.687	1 11/16	#20	4.66											
5.0	V146Z-136	.484	.843	1 3/4	#20	5.47											



### Type V146ZR (Round)

Net Prices for V146ZR are same as like Vt. & Cap. in V146Z listing.

Capacity in Mfd.	100 VDC @ 85C 50 VDC @ 125C		Cat. No.	200 VDC @ 85C 150 VDC @ 125C		Cat. No.	400 VDC @ 125 C		Cat. No.	600 VDC @ 125 C		Cat. No.
	D	L		D	L		D	L		D	L	
.01							.180 x	9/16	V146ZR-132	.171 x	3/4	V146ZR-63
.015							.180 x	11/16	V146ZR-133	.203 x	3/4	V146ZR-64
.022							.210 x	11/16	V146ZR-134	.300 x	3/4	V146ZR-145
.033							.250 x	11/16	V146ZR-135	.370 x	3/4	V146ZR-146
.047				.200 x	9/16	V146ZR-123	.300 x	11/16	V146ZR-136	.250 x	1 1/16	V146ZR-67
.068				.200 x	11/16	V146ZR-25	.350 x	11/16	V146ZR-137	.296 x	1 1/16	V146ZR-68
.1	.170 x	11/16	V146ZR-111	.234 x	11/16	V146ZR-26	.325 x	1	V146ZR-138	.359 x	1 1/16	V146ZR-69
.15	.190 x	11/16	V146ZR-112	.265 x	11/16	V146ZR-27	.375 x	1	V146ZR-139	.375 x	1 1/4	V146ZR-70
.22	.215 x	11/16	V146ZR-113	.340 x	11/16	V146ZR-124	.400 x	1 1/4	V146ZR-55	.468 x	1 1/4	V146ZR-71
.33	.265 x	11/16	V146ZR-114	.390 x	11/16	V146ZR-125	.450 x	1 1/2	V146ZR-140	.453 x	1 3/4	V146ZR-72
.47	.315 x	11/16	V146ZR-115	.328 x	1	V146ZR-16	.520 x	1 1/2	V146ZR-141	.531 x	1 3/4	V146ZR-73
.68	.280 x	1	V146ZR-116	.390 x	1	V146ZR-30	.625 x	1 1/2	V146ZR-142	.800 x	1 3/4	V146ZR-147
1.0	.325 x	1	V146ZR-117	.500 x	1	V146ZR-126	.656 x	1 3/4	V146ZR-59	.950 x	1 3/4	V146ZR-148
1.5	.340 x	1 1/4	V146ZR-118	.515 x	1 3/16	V146ZR-32	.825 x	1 3/4	V146ZR-60	.859 x	2 1/4	V146ZR-76
2.0	.405 x	1 1/4	V146ZR-119	.620 x	1 1/4	V146ZR-127	.950 x	1 3/4	V146ZR-143	.890 x	2 1/4	V146ZR-17
3.0	.500 x	1 1/4	V146ZR-120	.650 x	1 1/2	V146ZR-128	.990 x	2 1/4	V146ZR-144			
4.0	.510 x	1 3/8	V146ZR-121	.656 x	1 11/16	V146ZR-34	1.093 x	2 1/4	V146ZR-62			
5.0	.510 x	1 3/4	V146ZR-122	.800 x	1 3/4	V146ZR-129						
7.0				.930 x	1 3/4	V146ZR-130						
8.0				.990 x	1 3/4	V146ZR-131						



# CAPACITORS

## Type K323Z Metallized Polycarbonate Capacitors



If plastic sleeve is desired add suffix "P" to type number and specify when ordering. Add 1/16" to the diameter and length and add .02 to cost of unit.

Here is the first stock line of hermetically sealed metallized polycarbonate capacitors. Polycarbonate film offers many advantages over paper or other film dielectrics including high capacitance stability, low dissipation factor, low dielectric absorption and high insulation resistance. Metallized polycarbonate offers the additional feature of self-healing in the rare case of dielectric breakdown. Size and weight savings over paper capacitors are most obvious in lower voltage ratings but the added stability is an important plus at the higher voltages. Operating temperature is -65°C to +125°C at full rating. Standard tolerance is ±20%. Other tolerances available on special order. For full technical information request bulletin NPJ-136.

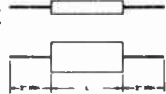
Capacity Mfd.	d x l	Net Price*	Capacity Mfd.	d x l	Net Price*	Capacity Mfd.	d x l	Net Price*	Capacity Mfd.	d x l	Net Price*
K323Z - 100 VDCW			K323Z - 200 VDCW			K323Z - 400 VDCW			K323Z - 600 VDCW		
.015	.175 x 5/8	1.59	.01	.175 x 5/8	1.83	.01	.235 x 11/16	1.86	.01	.312 x 13/16	1.95
.022	.175 x 5/8	1.59	.015	.195 x 5/8	1.83	.015	.235 x 13/16	1.86	.015	.400 x 13/16	1.98
.033	.195 x 11/16	1.62	.022	.195 x 11/16	1.83	.022	.312 x 11/16	1.95	.022	.400 x 13/16	1.98
.047	.235 x 5/8	1.68	.033	.235 x 11/16	1.86	.033	.312 x 13/16	1.95	.033	.400 x 15/16	1.98
.068	.235 x 11/16	1.77	.047	.235 x 13/16	1.89	.047	.400 x 13/16	1.95	.047	.400 x 1 1/8	2.01
.1	.235 x 13/16	1.95	.068	.235 x 13/16	1.95	.068	.400 x 15/16	2.04	.068	.400 x 1 5/16	2.13
.15	.312 x 13/16	2.04	.1	.312 x 13/16	2.22	.1	.400 x 1 1/8	2.34	.1	.562 x 1 1/8	2.43
.22	.312 x 13/16	2.07	.15	.312 x 15/16	2.25	.15	.400 x 1 5/16	2.52	.15	.562 x 1 5/16	2.73
.33	.400 x 13/16	2.25	.22	.400 x 13/16	2.25	.22	.562 x 1 1/8	2.61	.22	.562 x 1 13/16	2.94
.47	.400 x 15/16	2.34	.33	.400 x 1 1/8	2.45	.33	.562 x 1 9/16	2.88	.33	.670 x 1 13/16	3.36
.68	.400 x 1 1/8	2.49	.47	.400 x 1 5/16	2.61	.47	.562 x 1 13/16	3.18	.47	.750 x 1 13/16	3.69
1.0	.400 x 1 9/16	2.73	.68	.562 x 15/16	2.73	.68	.670 x 1 13/16	3.69	.68	.750 x 2 5/16	4.02
1.5	.562 x 1 1/8	4.35	1.0	.562 x 1 5/16	2.94	1.0	.750 x 2 1/16	4.02	1.0	1.0 x 2 1/16	4.71
2.0	.562 x 1 5/16	5.40	1.5	.562 x 1 9/16	4.41	1.5	1.0 x 1 13/16	5.37			
3.0	.562 x 1 13/16	5.94	2.0	.562 x 1 13/16	5.37	2.0	1.0 x 1 13/16	5.37			
4.0	.670 x 1 13/16	7.05	3.0	.750 x 1 13/16	5.82	3.0	1.0 x 2 1/16	6.72			
5.0	.670 x 2 1/16	7.95	4.0	.750 x 2 1/16	6.96	4.0	1.0 x 2 1/16	6.72			
			5.0	.750 x 2 5/16	7.68	5.0					

## AEROVOX MINIATURE TYPE WRAP & FILL METALLIZED DIELECTRIC CAPACITORS

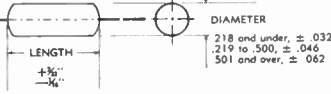


Aerovox Type K146Z and K146ZR offer excellent electrical characteristics to meet the miniature requirements of transistorized circuits for Military, Industrial and Consumer-Type applications. Aerovox capacitors utilize a metallized film dielectric proven by Aerovox Research and Engineering for capacitor use. Sizes chosen are consistent with high reliability and long service life at maximum rated conditions.

### Type K146Z (Flat)



### Type K146ZR (Round)



Capacity in Mfd.	100 VDC T x W x L	Cat. #	Net Price	200 VDC T x W x L	Cat. #	Net Price	Capacity in Mfd.	100 V D D x L	Cat. #	Net Price	200 V D D x L	Cat. #	Net Price
.027				.125 x .234 x 1/2	K146Z-20	.01	Use 200 V				.140 x 1/2	K146ZR-32	
.033				.125 x .234 x 1/2	K146Z-21	.012	Use 200 V				.140 x 1/2	K146ZR-33	
.039				.125 x .234 x 1/2	K146Z-22	.015	Use 200 V				.156 x 1/2	K146ZR-34	
.047				.109 x .218 x 11/16	K146Z-23	.018	Use 200 V				.156 x 1/2	K146ZR-35	
.056				.125 x .234 x 11/16	K146Z-24	.022	Use 200 V				.171 x 1/2	K146ZR-36	
.068				.140 x .250 x 11/16	K146Z-25	.027	Use 200 V	K146ZR-6			.187 x 1/2	K146ZR-37	
.082	.125 x .218 x 9/16	K146Z-1		.156 x .265 x 11/16	K146Z-26	.033	Use 200 V	K146ZR-7			.187 x 9/16	K146ZR-38	
.10	.140 x .250 x 9/16	K146Z-2		.171 x .281 x 11/16	K146Z-27	.039	Use 200 V	K146ZR-8			.187 x 9/16	K146ZR-39	
.12	.156 x .265 x 9/16	K146Z-3		.187 x .296 x 11/16	K146Z-28	.047	Use 200 V	K146ZR-9			.171 x 11/16	K146ZR-40	
.15	.140 x .250 x 11/16	K146Z-4		.218 x .328 x 11/16	K146Z-29	.056	Use 200 V	K146ZR-10			.187 x 11/16	K146ZR-41	
.18	.156 x .265 x 11/16	K146Z-5		.250 x .359 x 11/16	K146Z-30	.068	Use 200 V	K146ZR-11			.203 x 11/16	K146ZR-42	
.22	.171 x .281 x 11/16	K146Z-6		.218 x .359 x 11/16	K146Z-31	.082	Use 200 V	K146ZR-12			.218 x 11/16	K146ZR-43	
.27	.203 x .312 x 11/16	K146Z-7		.234 x .390 x 1	K146Z-32	.1	Use 200 V	K146ZR-13			.234 x 11/16	K146ZR-44	
.33	.218 x .328 x 11/16	K146Z-8		.234 x .390 x 1	K146Z-33	.12	Use 200 V	K146ZR-14			.250 x 11/16	K146ZR-45	
.39	.250 x .359 x 11/16	K146Z-9		.250 x .359 x 13/16	K146Z-34	.15	Use 200 V	K146ZR-15			.281 x 11/16	K146ZR-46	
.47	.234 x .343 x 13/16	K146Z-10		.218 x .375 x 1	K146Z-35	.18	Use 200 V	K146ZR-16			.312 x 11/16	K146ZR-47	
.56	.234 x .390 x 1	K146Z-11		.234 x .390 x 1	K146Z-36	.22	Use 200 V	K146ZR-17			.328 x 11/16	K146ZR-48	
.68	.250 x .406 x 1	K146Z-12		.234 x .390 x 1 3/16	K146Z-37	.27	Use 200 V	K146ZR-18			.312 x 13/16	K146ZR-49	
.82	.281 x .429 x 1	K146Z-13		.250 x .406 x 13/16	K146Z-38	.33	Use 200 V	K146ZR-19			.312 x 1	K146ZR-50	
1.0	.312 x .468 x 1	K146Z-14		.281 x .437 x 13/16	K146Z-39	.39	Use 200 V	K146ZR-20			.328 x 1	K146ZR-51	
1.5	.296 x .453 x 1 3/16	K146Z-15		.328 x .484 x 13/16	K146Z-40	.47	Use 200 V	K146ZR-21			.328 x 1 3/16	K146ZR-52	
2.0	.343 x .500 x 1 3/16	K146Z-16		.359 x .515 x 13/16	K146Z-41	.56	Use 200 V	K146ZR-22			.343 x 1 3/16	K146ZR-53	
3.0	.296 x .493 x 1 13/16	K146Z-17		.359 x .556 x 17/16	K146Z-42	.68	Use 200 V	K146ZR-23			.375 x 1 3/16	K146ZR-54	
4.0	.343 x .546 x 1 13/16	K146Z-18		.359 x .556 x 1 13/16	K146Z-43	1.0	Use 200 V	K146ZR-24			.421 x 1 3/16	K146ZR-55	
5.0	.375 x .578 x 1 15/16	K146Z-19		.468 x .717 x 1 13/16	K146Z-44	1.5	Use 200 V	K146ZR-25			.453 x 1 3/16	K146ZR-56	
				.515 x .718 x 1 15/16	K146Z-45	2.0	Use 200 V	K146ZR-26			.484 x 1 7/16	K146ZR-57	
				.546 x .750 x 2 3/16	K146Z-46	3.0	Use 200 V	K146ZR-27			.484 x 1 13/16	K146ZR-58	
						4.0	Use 200 V	K146ZR-28			.643 x 1 15/16	K146ZR-59	
						5.0	Use 200 V	K146ZR-30			.670 x 2 3/16		

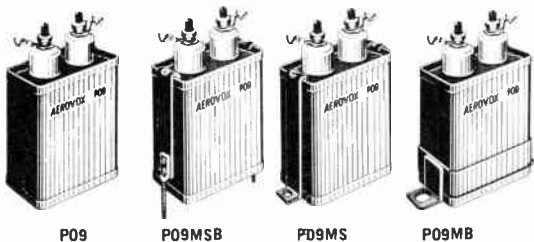
Capacity in Mfd.	400 VDC T x W x L	Cat. #	Net Price	600 VDC T x W x L	Cat. #	Net Price	Capacity in Mfd.	400 V D D x L	Cat. #	Net Price	600 V D D x L	Cat. #	Net Price
.01	.140 x .250 x 9/16	K146Z-71		.125 x .281 x 11/16	K146Z-98	.01	.203 x 9/16	K146ZR-88			.218 x 11/16	K146ZR-115	
.012	.140 x .250 x 9/16	K146Z-72		.140 x .296 x 11/16	K146Z-99	.012	.203 x 9/16	K146ZR-89			.234 x 11/16	K146ZR-116	
.015	.171 x .281 x 9/16	K146Z-73		.156 x .312 x 11/16	K146Z-100	.015	.234 x 9/16	K146ZR-90			.250 x 11/16	K146ZR-117	
.018	.187 x .296 x 9/16	K146Z-74		.187 x .343 x 11/16	K146Z-101	.018	.250 x 9/16	K146ZR-91			.281 x 11/16	K146ZR-118	
.022	.203 x .312 x 9/16	K146Z-75		.203 x .359 x 11/16	K146Z-102	.022	.265 x 9/16	K146ZR-92			.296 x 11/16	K146ZR-119	
.027	.187 x .296 x 11/16	K146Z-76		.187 x .343 x 13/16	K146Z-103	.027	.250 x 11/16	K146ZR-93			.281 x 13/16	K146ZR-120	
.033	.203 x .312 x 11/16	K146Z-77		.218 x .375 x 13/16	K146Z-104	.033	.265 x 11/16	K146ZR-94			.312 x 13/16	K146ZR-121	
.039	.234 x .343 x 11/16	K146Z-78		.187 x .390 x 1	K146Z-105	.039	.296 x 11/16	K146ZR-95			.312 x 1	K146ZR-122	
.047	.250 x .359 x 11/16	K146Z-79		.203 x .406 x 1	K146Z-106	.047	.312 x 11/16	K146ZR-96			.328 x 1	K146ZR-123	
.056	.281 x .390 x 11/16	K146Z-80		.218 x .421 x 1	K146Z-107	.056	.343 x 11/16	K146ZR-97			.343 x 1	K146ZR-124	
.068	.265 x .375 x 13/16	K146Z-81		.250 x .359 x 1	K146Z-108	.068	.328 x 13/16	K146ZR-98			.375 x 1	K146ZR-125	
.082	.281 x .390 x 13/16	K146Z-82		.281 x .484 x 1	K146Z-109	.082	.343 x 13/16	K146ZR-99			.406 x 1	K146ZR-126	
.10	.250 x .406 x 1	K146Z-83		.312 x .515 x 1	K146Z-110	.1	.343 x 1	K146ZR-100			.437 x 1	K146ZR-127	
.12	.281 x .437 x 1	K146Z-84		.312 x .515 x 1 3/16	K146Z-111	.12	.375 x 1	K146ZR-101			.437 x 1 3/16	K146ZR-128	
.15	.296 x .453 x 1	K146Z-85		.359 x .566 x 1 3/16	K146Z-112	.15	.390 x 1	K146ZR-102			.484 x 1 3/16	K146ZR-129	
.18	.343 x .500 x 1	K146Z-86		.390 x .593 x 17/16	K146Z-113	.18	.437 x 1	K146ZR-103			.515 x 1 7/16	K146ZR-130	
.22	.390 x .546 x 1	K146Z-87		.453 x .656 x 17/16	K146Z-114	.22	.484 x 1	K146ZR-104			.478 x 1 7/16	K146ZR-131	
.27	.375 x .531 x 1 3/16	K146Z-88		.500 x .703 x 17/16	K146Z-115	.27	.468 x 1 3/16	K146ZR-105			.625 x 1 7/16	K146ZR-132	
.33	.343 x .546 x 17/16	K146Z-89		.406 x .609 x 1 13/16	K146Z-116	.33	.468 x 1 7/16	K146ZR-106			.531 x 1 13/16	K146ZR-133	
.39	.375 x .578 x 1 7/16	K146Z-90		.453 x .656 x 1 13/16	K146Z-117	.39	.500 x 17/16	K146ZR-107			.573 x 1 13/16	K146ZR-134	
.47	.421 x .625 x 17/16	K146Z-91		.500 x .703 x 1 13/16	K146Z-118	.47	.546 x 17/16	K146ZR-108			.625 x 1 13/16	K146ZR-135	
.56	.453 x .656 x 17/16	K146Z-92		.562 x .765 x 1 13/16	K146Z-119	.56	.578 x 17/16	K146ZR-109			.687 x 1 13/16	K146ZR-136	
.68	.515 x .718 x 17/16	K146Z-93		.609 x .812 x 1 13/16	K146Z-120								



# CAPACITORS

## INDUSTRIAL SECTION — STANDARD TYPES

### TYPE P09



### PAPER CAPACITORS

Immersion-proof units in sturdy, rectangular metal cans. High-voltage screw-type pillar terminals fitted with soldering lugs. Use of HYVOL M or J allows exceptionally compact size for capacity, working voltage and safety factor. Intended for heavy-duty, continuous service in transmitters, amplifiers, etc. Operating temperature —55 to +85°C.

Standard tolerance +20 —10%. Other tolerance on request.

Type MB bracket is supplied unless otherwise specified except on units with base sizes 3 3/4" x 3 3/8" and 3 3/4" x 4 1/8" where Type MS bracket is supplied. MSB bracket is available for all sizes on request.

Cap.	Size	Net Price*	Cap.	Size	Net Price*	Cap.	Size	Net Price*	Cap.	Size	Net Price*
<b>600V</b>											
.5	1-1/16 x 1-13/16 x 2 1/4	1.39	10.0	1 3/4 x 3 3/4 x 4 3/4	11.40	4.0	2 1/4 x 3 3/4 x 3-7/8	9.60	.25	2 1/4 x 3 3/4 x 2 3/4	14.40
1.0	1-1/16 x 1-13/16 x 2 1/4	3.96	12.0	2 1/4 x 3 3/4 x 3-7/8	12.75	5.0	2 1/4 x 3 3/4 x 4 3/4	12.90	.5	2 1/4 x 3 3/4 x 3-7/8	17.10
2.0	1-1/16 x 1-13/16 x 2-7/8	4.89	15.0	2 1/2 x 3 3/4 x 4 3/4	15.75	6.0	3-3/16 x 3 3/4 x 4 1/2	12.90	1.0	2 1/4 x 3 3/4 x 5-1/8	21.60
3.0	1-1/16 x 1-13/16 x 3-7/8	6.45	<b>1500V</b>			8.0	3-3/16 x 3 3/4 x 4 3/4	16.20	2.0	3 3/4 x 4-9/16 x 5-1/8	28.20
4.0	1-3/16 x 2 1/2 x 3 1/2	6.45	.5	1-1/16 x 1-13/16 x 2-7/8	4.80	10.0	3 3/4 x 4-9/16 x 4 3/4	19.50	4.0	3 3/4 x 4-9/16 x 8 1/2	43.50
5.0	1-1/16 x 1-13/16 x 4 3/4	7.05	1.0	1-1/16 x 1-13/16 x 3-7/8	5.10	12.0	3 3/4 x 4-9/16 x 5 1/2	23.40	<b>5000V</b>		
6.0	1-3/16 x 2 1/2 x 4 3/4	7.05	2.0	1-3/16 x 2 1/2 x 4 3/4	6.30	15.0	3 3/4 x 4-9/16 x 6 1/2	28.50	.1	2 1/4 x 3 3/4 x 2 3/4	13.50
8.0	1 1/4 x 3 3/4 x 3-7/8	7.50	3.0	1-3/16 x 2 1/2 x 4 3/4	8.55	<b>2500V</b>			.25	2 1/4 x 3 3/4 x 3-7/8	15.60
10.0	1 1/4 x 3 3/4 x 4 3/4	8.10	4.0	1 1/4 x 3 3/4 x 4 3/4	8.55	.5	1-3/16 x 2 1/2 x 3 1/2	6.75	.5	2 1/4 x 3 3/4 x 4 1/2	17.85
12.0	1 1/2 x 3 3/4 x 4 3/4	10.05	5.0	1 3/4 x 3 3/4 x 4 3/4	11.70	1.0	1 3/4 x 3 3/4 x 3 3/4	7.65	1.0	3 3/4 x 4-9/16 x 4-3/8	25.20
15.0	1 3/4 x 3 3/4 x 4 3/4	12.09	6.0	1 3/4 x 3 3/4 x 4 3/4	11.70	2.0	1 3/4 x 3 3/4 x 4 3/4	10.20	2.0	3 3/4 x 4-9/16 x 6	38.70
<b>1000V</b>											
.1	1-1/16 x 1-13/16 x 1-5/8	3.93	8.0	2 1/2 x 3 3/4 x 4 3/4	14.70	4.0	3 3/4 x 4-9/16 x 4	16.50	<b>6000V</b>		
.25	1-1/16 x 1-13/16 x 2 1/4	4.11	10.0	3-3/16 x 3 3/4 x 4 3/4	16.50	10.0	3 3/4 x 4-9/16 x 6-3/8	34.50	.1	2 1/4 x 3 3/4 x 3-3/8	15.30
.5	1-1/16 x 1-13/16 x 2 1/4	4.20	12.0	3-3/16 x 3 3/4 x 4 3/4	20.70	<b>3000V</b>			.25	2 1/4 x 3 3/4 x 4 1/2	18.15
1.0	1-1/16 x 1-13/16 x 2 1/4	4.74	15.0	3 3/4 x 4-9/16 x 4 3/4	23.40	.1	1-3/16 x 2 1/2 x 2	6.30	1.0	3 3/4 x 4-9/16 x 7 1/2	38.70
2.0	1-1/16 x 1-13/16 x 3-7/8	5.25	<b>2000V</b>			.5	1-3/16 x 2 1/2 x 3-7/8	7.20	<b>7500V</b>		
3.0	1-3/16 x 2 1/2 x 3 1/2	6.30	.1	1-1/16 x 1-13/16 x 2-1/8	4.74	.25	1-3/16 x 2 1/2 x 2 1/2	6.45	.1	2 1/4 x 3 3/4 x 3-7/8	18.15
4.0	1-3/16 x 2 1/2 x 4 3/4	6.30	.25	1-1/16 x 1-13/16 x 2-1/8	4.89	.5	1-3/16 x 2 1/2 x 3-7/8	7.20	.25	3 3/4 x 4-9/16 x 3-7/8	22.05
5.0	1 1/4 x 3 3/4 x 3-7/8	8.70	.5	1-1/16 x 1-13/16 x 2-7/8	5.22	1.0	2 1/4 x 3 3/4 x 3-7/8	8.94	.5	3 3/4 x 4-9/16 x 5-1/8	29.10
6.0	1 1/4 x 3 3/4 x 4 3/4	8.70	1.0	1-3/16 x 2 1/2 x 3 1/2	5.55	2.0	3-3/16 x 3 3/4 x 4-1/8	12.15	<b>4000V</b>		
8.0	1 1/4 x 3 3/4 x 4 3/4	10.20	2.0	1 1/4 x 3 3/4 x 4 1/4	6.90	4.0	3 3/4 x 4-9/16 x 4 3/4	18.00	.1	2 1/4 x 3 3/4 x 2 3/4	12.69
			3.0	1 1/4 x 3 3/4 x 4 3/4	9.60						

\*Request O.E.M. Prices in the following quantities: 10-99



### TYPE P10

Cylindrical hermetically sealed can with screw-base folded cover for vertical mounting. These units are Hyvol M or J impregnated and filled for long life and safe operation at temperatures from —55 to +85°C

Standard units have two terminals, case floating.

Standard tolerance +20% —10%. Other tolerances available on request.

6 Standard Values - 3 Voltages



### TYPE P16 and P16-CT

Small corrosion and immersion-proof unit for severe atmospheric and climatic conditions. P16-CT is standard; P16 is available in 400 and 600 volts. Operating temperature —55 to +85°C. Dual units have two terminals, case grounded. Standard tolerance +20 — 10%. CPD-91S and CP91F brackets available for P16. Base size 1-5/16 x 11/16. Impregnated with either Hyvol M or Hyvol J.

30 Standard Values - 3 Voltages



### TYPE P18-CB

Similar to P16 in construction and electrical characteristics. Because of the difference in the base size type P18CB can be supplied with three terminals. Dual units are case floating, triples are case grounded. The size difference also makes these units suitable for use in assemblies where P16's do not fit. Operating temperature range —55 to +85°C. Standard tolerance +20 —10%. Impregnated with either Hyvol M or Hyvol J.

37 Standard Values - 3 Voltages

### TYPE P30 Bath-tub Case



High-quality bypass capacitors furnished in drawn metal bath-tub cases, hermetically sealed. These units are Hyvol M or J impregnated for operation at temperatures from —55 to +85°C. They are especially recommended for applications where high reliability and superior performance are required. Typical applications for these rugged units would include marine, aircraft and tropical climates. Standard tolerance +20% — 10%.

47 Standard Values - 3 Voltages



### TYPE P89M

Immersion-proof, oil impregnated, oil filled units in hermetically sealed metal tubes. Ideal for coupling and bypass functions in transmitters, high voltage applications and for use in test equipment. Case is insulated, not connected to the capacitor section. Standard units are supplied with cardboard insulating sleeve and radial mounting bracket. (Type P89M).

26 Standard Values —5 Voltages



### TYPE PX Energy Storage Capacitors

For high-speed flash photography, flash signaling equipment, pulsing and other energy storage uses.

6 Standard Values —5 Voltages



# CAPACITORS

## TYPES P323S AND P323SX

Tubular, metal-cased units with hermetically sealed construction and glass terminal end seals. Engineered to meet high-temperature, minimum space requirements, Types P323S and P323SX are designed for long life at elevated temperatures.

Impregnated with HYVOL "S", a special high temperature liquid impregnant. These units are capable of withstanding twice rated voltage between terminals or between terminal and case for a 1-minute period. Ambient temperature shall be +25°C, -10°C for this test. Power factor is less than 1% when measured or referred to a frequency of 1,000 cps at 25°C.

Type P323S and P323SX are rigidly processed to assure operation between -65°C and +100°C. Type P323S uses an inserted-tab construction to obtain minimum size, while type P323SX has extended-foil construction for applications at very-low AC voltages.

For equivalent types rated -65°C to +100°C in the same case size as shown, order as P123S, SX etc., and request prices.

Styles available from stock include units bearing suffixes S-SX which are as listed; G types, with one end grounded which are 1/16" shorter; GP types, grounded, with plastic insulating sleeve and 1/16" larger diameter and P types, with both ends insulated and a plastic sleeve, which are 1/16" larger in both length and diameter.

Grounded units to be discontinued when present stocks are depleted.



### STYLE VARIATIONS

Suffix	Description	Can size change
S-SX	As listed	As listed
G	One end grounded	Deduct 1/16" from length
GP	Grounded with plastic insulating sleeve	Add 1/16" to diameter
P	Both ends insulated with plastic sleeve	Add 1/16" to diameter and length
GT	One end grounded with threaded neck mounting	Deduct 1/16" from length

ap. uf	P323S	P323SX	Cap. uf	P323S	P323SX	Cap. uf	P323S	P323SX	Cap. uf	P323S	P323SX
<b>100 VOLTS</b>											
001	.175 x 3/4	.175 x 3/4	.068	.312 x 7/8	.400 x 7/8	.01	.235 x 3/4	.312 x 7/8	.1	.562 x 1 1/8	.562 x 1 1/8
0015	.175 x 3/4	.175 x 3/4	.082	.400 x 7/8	.400 x 1 1/8	.012	.312 x 7/8	.312 x 7/8	.12	.562 x 1 1/8	.562 x 1 1/8
0022	.175 x 3/4	.175 x 3/4	.1	.400 x 7/8	.400 x 1 1/8	.015	.312 x 7/8	.312 x 7/8	.15	.562 x 1 1/8	.562 x 1 1/8
0033	.175 x 3/4	.175 x 3/4	.12	.400 x 1 1/8	.400 x 1 1/8	.018	.312 x 7/8	.400 x 7/8	.18	.562 x 1 1/8	.670 x 1 5/8
0047	.175 x 3/4	.175 x 3/4	.15	.400 x 1 1/8	.400 x 1 3/8	.022	.312 x 7/8	.400 x 7/8	.22	.562 x 1 1/8	.670 x 1 5/8
0068	.175 x 3/4	.195 x 3/4	.18	.400 x 1 1/8	.562 x 1 1/8	.027	.312 x 7/8	.400 x 7/8	.27	.670 x 1 7/8	.750 x 2 1/8
01	.175 x 3/4	.235 x 3/4	.22	.400 x 1 1/8	.562 x 1 1/8	.033	.312 x 7/8	.400 x 7/8	.33	.670 x 1 7/8	.750 x 2 1/8
015	.175 x 3/4	.235 x 3/4	.27	.562 x 1 1/8	.562 x 1 3/8	.039	.400 x 7/8	.400 x 1 1/8	.39	.750 x 2 1/8	.750 x 2 3/8
022	.195 x 3/4	.312 x 7/8	.33	.562 x 1 1/8	.562 x 1 3/8	.047	.400 x 7/8	.400 x 1 1/8	.47	.750 x 2 1/8	.750 x 2 3/8
027	.235 x 3/4	.312 x 7/8	.39	.562 x 1 1/8	.562 x 1 5/8	.056	.400 x 1 1/8	.400 x 1 3/8	.56	1.000 x 1 7/8	1.000 x 2 1/8
033	.235 x 3/4	.312 x 7/8	.47	.562 x 1 1/8	.562 x 1 5/8	.068	.400 x 1 1/8	.400 x 1 3/8	.68	1.000 x 1 7/8	1.000 x 2 1/8
047	.312 x 7/8	.312 x 7/8	.56	.562 x 1 1/8	.670 x 1 3/8	.082	.400 x 1 1/8	.562 x 1 1/8	.82	1.000 x 2 3/8	1.000 x 2 5/8
068	.312 x 7/8	.400 x 7/8	.68	.562 x 1 1/8	.670 x 1 5/8	.1	.400 x 1 1/8	.562 x 1 1/8	1.00	1.000 x 2 3/8	1.000 x 2 5/8
082	.312 x 7/8	.400 x 7/8	.82	.670 x 1 1/8	.750 x 2 1/8	.12	.562 x 1 1/8	.562 x 1 3/8	<b>1000 VOLTS</b>		
1	.312 x 7/8	.400 x 7/8	1.00	.670 x 1 1/8	.750 x 2 1/8	.15	.562 x 1 1/8	.562 x 1 3/8	.001	.400 x 7/8	.400 x 7/8
12	.400 x 7/8	.400 x 1 1/8	<b>300 VOLTS</b>			.18	.562 x 1 1/8	.562 x 1 5/8	.0012	.400 x 7/8	.400 x 7/8
15	.400 x 7/8	.400 x 1 1/8	.001	.235 x 3/4	.235 x 3/4	.22	.562 x 1 1/8	.562 x 1 5/8	.0015	.400 x 7/8	.400 x 7/8
18	.400 x 1 1/8	.400 x 1 3/8	.0015	.235 x 3/4	.235 x 3/4	.27	.562 x 1 1/8	.670 x 1 5/8	.0018	.400 x 7/8	.400 x 7/8
22	.400 x 1 1/8	.400 x 1 3/8	.0022	.235 x 3/4	.235 x 3/4	.33	.562 x 1 1/8	.670 x 1 5/8	.0027	.400 x 7/8	.400 x 7/8
27	.400 x 1 1/8	.562 x 1 1/8	.0033	.235 x 3/4	.235 x 3/4	.39	.670 x 1 1/8	.750 x 2 1/8	.0033	.400 x 7/8	.400 x 7/8
33	.400 x 1 3/8	.562 x 1 1/8	.0047	.235 x 3/4	.235 x 3/4	.47	.670 x 1 1/8	.750 x 2 1/8	.0039	.400 x 7/8	.400 x 7/8
39	.562 x 1 1/8	.562 x 1 3/8	.0068	.235 x 3/4	.312 x 7/8	.56	.750 x 2 1/8	.750 x 2 3/8	.0047	.400 x 7/8	.400 x 7/8
47	.562 x 1 1/8	.562 x 1 3/8	.01	.235 x 3/4	.312 x 7/8	.68	.750 x 2 1/8	.750 x 2 3/8	.0056	.400 x 7/8	.400 x 7/8
56	.562 x 1 3/8	.562 x 1 5/8	.015	.235 x 3/4	.312 x 7/8	.82	1.000 x 1 7/8	1.000 x 2 5/8	.0068	.400 x 7/8	.400 x 7/8
68	.562 x 1 3/8	.562 x 1 5/8	.022	.312 x 7/8	.312 x 7/8	1.00	1.000 x 1 7/8	1.000 x 2 5/8	.0082	.400 x 7/8	.400 x 7/8
82	.562 x 1 7/8	.670 x 1 5/8	.033	.312 x 7/8	.400 x 7/8	<b>600 VOLTS</b>			.01	.400 x 7/8	.400 x 7/8
00	.562 x 1 7/8	.670 x 1 5/8	.047	.312 x 7/8	.400 x 7/8	.001	.235 x 3/4	.235 x 3/4	.012	.400 x 7/8	.400 x 1 1/8
<b>200 VOLTS</b>											
001	.235 x 3/4	.235 x 3/4	.068	.400 x 7/8	.400 x 1 1/8	.0012	.235 x 3/4	.235 x 3/4	.015	.400 x 7/8	.400 x 1 1/8
0012	.235 x 3/4	.235 x 3/4	.1	.400 x 1 1/8	.400 x 1 3/8	.0015	.235 x 3/4	.235 x 3/4	.018	.400 x 1 1/8	.400 x 1 3/8
0015	.235 x 3/4	.235 x 3/4	.15	.400 x 1 3/8	.562 x 1 1/8	.0018	.235 x 3/4	.235 x 3/4	.022	.400 x 1 1/8	.400 x 1 3/8
0018	.235 x 3/4	.235 x 3/4	.22	.562 x 1 1/8	.562 x 1 3/8	.0022	.235 x 3/4	.235 x 3/4	.027	.400 x 1 1/8	.400 x 1 3/8
0022	.235 x 3/4	.235 x 3/4	.33	.562 x 1 3/8	.562 x 1 5/8	.0027	.235 x 3/4	.312 x 7/8	.033	.400 x 1 3/8	.562 x 1 1/8
0027	.235 x 3/4	.235 x 3/4	.47	.562 x 1 5/8	.670 x 1 5/8	.0033	.235 x 3/4	.312 x 7/8	.039	.400 x 1 3/8	.562 x 1 1/8
0027	.235 x 3/4	.235 x 3/4	.68	.670 x 1 1/8	.750 x 2 1/8	.0039	.235 x 3/4	.312 x 7/8	.047	.562 x 1 1/8	.562 x 1 3/8
0033	.235 x 3/4	.235 x 3/4	1.00	.750 x 2 1/8	1.000 x 2 1/8	.0047	.235 x 3/4	.312 x 7/8	.056	.562 x 1 3/8	.562 x 1 5/8
0039	.235 x 3/4	.235 x 3/4	<b>400 VOLTS</b>			.0068	.235 x 3/4	.312 x 7/8	.068	.562 x 1 5/8	.562 x 1 5/8
0047	.235 x 3/4	.235 x 3/4	.001	.235 x 3/4	.235 x 3/4	.0082	.312 x 7/8	.312 x 7/8	.082	.562 x 1 5/8	.670 x 1 5/8
0056	.235 x 3/4	.235 x 3/4	.0012	.235 x 3/4	.235 x 3/4	.01	.312 x 7/8	.312 x 7/8	.1	.670 x 1 5/8	.670 x 1 5/8
0068	.235 x 3/4	.235 x 3/4	.0015	.235 x 3/4	.235 x 3/4	.012	.312 x 7/8	.400 x 7/8	.12	.670 x 1 5/8	.670 x 1 5/8
0082	.235 x 3/4	.312 x 7/8	.0018	.235 x 3/4	.235 x 3/4	.015	.312 x 7/8	.400 x 7/8	.15	.670 x 1 5/8	.670 x 1 5/8
01	.235 x 3/4	.312 x 7/8	.0022	.235 x 3/4	.235 x 3/4	.018	.312 x 7/8	.400 x 7/8	.18	.750 x 2 1/8	.750 x 2 1/8
012	.235 x 3/4	.312 x 7/8	.0027	.235 x 3/4	.235 x 3/4	.022	.312 x 7/8	.400 x 7/8	.22	.750 x 2 1/8	.750 x 2 1/8
015	.235 x 3/4	.312 x 7/8	.0033	.235 x 3/4	.235 x 3/4	.027	.400 x 7/8	.400 x 1 1/8	.27	.750 x 2 1/8	1.000 x 2 1/8
018	.235 x 3/4	.312 x 7/8	.0039	.235 x 3/4	.312 x 7/8	.033	.400 x 7/8	.400 x 1 1/8	.33	.750 x 2 3/8	1.000 x 2 1/8
022	.235 x 3/4	.312 x 7/8	.0047	.235 x 3/4	.312 x 7/8	.039	.400 x 1 1/8	.400 x 1 3/8	.39	1.000 x 2 1/8	1.000 x 2 3/8
027	.312 x 7/8	.312 x 7/8	.0056	.235 x 3/4	.312 x 7/8	.047	.400 x 1 1/8	.400 x 1 3/8	.47	1.000 x 2 1/8	1.000 x 2 3/8
033	.312 x 7/8	.312 x 7/8	.0068	.235 x 3/4	.312 x 7/8	.056	.400 x 1 3/8	.562 x 1 1/8			
039	.312 x 7/8	.400 x 7/8	.0082	.235 x 3/4	.312 x 7/8	.068	.400 x 1 3/8	.562 x 1 1/8			
047	.312 x 7/8	.400 x 7/8				.082	.562 x 1 1/8	.562 x 1 3/8			
056	.312 x 7/8	.400 x 7/8									

CONTACT FACTORY FOR PRICES



# CAPACITORS

## INDUSTRIAL SECTION — STANDARD TYPES (Continued) METALLIZED-PAPER CAPACITORS

**TYPE P8292ZN PLASTIC-CASED, METALLIZED-PAPER TUBULARS** Featuring an exclusive "polycap" plastic-case construction, these capacitors offer outstanding resistance to humidity and improved insulation resistance. The high temperature impregnant permits operation over the temperature range of -30° to +100°C at working voltage. Distinctive black cases are completely free of any wax coating to facilitate handling problems in automatic insertion and assembly equipment. Standard tolerance on these units is ±20%. Available in closer tolerances upon request at an additional charge. Mechanical Tolerances—±1/16" on length and



\*\*Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-499, 500-999.

diameter. For full technical information request Bulletin NPJ-113. Rev.

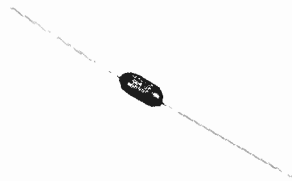
200 VDCW				400 VDCW			
Cap. Mfd.	D L	Catalog Number	Net** Price.	Cap. Mfd.	D x L	Catalog Number	Net** Price
.01	1/4 x 19/32	P8292ZN6	\$.44	.1	7/16 x 1-5/32	P8292ZN19	.51
.02	1/4 x 21/32	P8292ZN7	.44	.25	9/16 x 1-5/32	P8292ZN20	.74
.03	5/16 x 23/32	P8292ZN8	.45	.5	5/8 x 1-15/32	P8292ZN21	.95
.05	5/16 x 23/32	P8292ZN9	.45	1.0	11/16 x 1-31/32	P8292ZN22	1.32
.1	3/8 x 23/32	P8292ZN10	.47	2.0	7/8 x 2-3/8	P8292ZN23	1.86
.25	1/2 x 23/32	P8292ZN11	.68	3.0	1 x 2-7/8	P8292ZN212	2.64
.5	7/16 x 1-5/32	P8292ZN12	.80	4.0	1 x 3-5/8	P8292ZN213	3.39
1.0	9/16 x 1-5/32	P8292ZN13	1.07				
2.0	5/8 x 1-21/32	P8292ZN14	1.46				
3.0	11/16 x 1-31/32	P8292ZN206	1.80				
4.0	13/16 x 1-15/16	P8292ZN207	2.25				
5.0	7/8 x 1-15/16	P8292ZN208	2.70				
6.0	15/16 x 1-15/16	P8292ZN209	3.45				
8.0	15/16 x 2-3/8	P8292ZN210	4.35				
10.0	1 x 2-3/8	P8292ZN211	4.80				

400 VDCW				600 VDCW			
Cap. Mfd.	D x L	Catalog Number	Net** Price	Cap. Mfd.	D x L	Catalog Number	Net** Price
.01	5/16 x 23/32	P8292ZN15	.44	.01	3/8 x 23/32	P8292ZN24	.78
.02	3/8 x 23/32	P8292ZN16	.45	.02	3/8 x 23/32	P8292ZN25	.81
.03	3/8 x 23/32	P8292ZN17	.45	.03	7/16 x 23/32	P8292ZN26	.84
.05	7/16 x 23/32	P8292ZN18	.47	.05	1/2 x 23/32	P8292ZN27	.87
				.1	7/16 x 1-5/32	P8292ZN28	.93
				.25	5/8 x 1-5/32	P8292ZN29	.96
				.5	11/16 x 1-19/32	P8292ZN30	1.32
				1.0	13/16 x 2	P8292ZN31	1.53
				2.0	1 x 2-3/8	P8292ZN32	2.31
				3.0	1 x 3-3/8	P8292ZN214	3.39

### TYPE P95ZN

Micro-Miniature  
Dipped Metallized  
Paper Capacitors



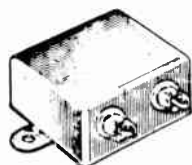
AeroVox Type P95ZN capacitors employ an entirely new internal construction concept and utilize a dipped resinous housing to produce remarkably small sizes. The dielectric is a distinct departure from conventional foil paper and previous metallized paper construction. This new and improved metallized dielectric provides both the dielectric and the electrodes. Since capacitance is pre-determined mechanically in the initial processing, the human element is eliminated for capacitance control. In addition, the P95ZN offers unusually strong lead connections as the result of an exclusive AeroVox manufacturing process. Leads are hot tin-coated phosphor bronze.

These AeroVox micro-miniature capacitors are especially suited for applications where low capacity units are now being used.

Cat. No.	Capacity	Net Price*	Size	Cat. No.	Capacity	Net Price*	Size
200 VDCW				600 VDCW			
P95ZN1	.004	.40	.217 x .473	P95ZN12	.00005	.40	.217 x .473
P95ZN2	.005	.40	.217 x .473	P95ZN13	.0001	.40	.217 x .473
P95ZN3	.01	.40	.217 x .473	P95ZN14	.0002	.40	.217 x .473
P95ZN4	.02	.50	.217 x .610	P95ZN15	.00025	.40	.217 x .473
P95ZN5	.03	.50	.256 x .610	P95ZN16	.0003	.40	.217 x .473
P95ZN6	.04	.50	.256 x .610	P95ZN17	.0005	.40	.217 x .473
P95ZN7	.05	.50	.256 x .610	P95ZN18	.001	.40	.217 x .473
400 VDCW				P95ZN19	.002	.50	.256 x .610
P95ZN8	.002	.40	.217 x .473	P95ZN20	.003	.50	.256 x .610
P95ZN9	.003	.40	.217 x .473				
P95ZN10	.005	.50	.217 x .610				
P95ZN11	.01	.50	.256 x .610				

\*Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-499.

### TYPE P30ZN High Temperature Bathtub Case



AEROVOX type P30ZN Aero-lene impregnated metallized-paper capacitors housed in "bathtub" metal cases hermetically sealed. Operating temperature range -65°C. to +125°C. at full rating. Standard Tolerance ±20%

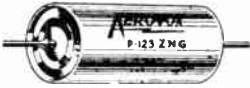
Capacity	150 V	Net* Price	200 V	Net* Price	400 V	Net* Price	600 V	Net* Price
.1			1-3/4 x 1 x 3/4	2.16	1-3/4 x 1 x 3/4	2.31	1-3/4 x 1 x 3/4	2.49
.25			1-3/4 x 1 x 3/4	2.49	1-3/4 x 1 x 3/4	2.52	1-3/4 x 1 x 3/4	2.67
.5			1-3/4 x 1 x 3/4	2.43	1-3/4 x 1 x 3/4	2.94	1-3/4 x 1 x 3/4	2.97
1.0			1-3/4 x 1 x 3/4	2.85	1-3/4 x 1 x 7/8	3.66	1-3/4 x 1 1/4 x 7/8	4.17
2.0			1-3/4 x 1 x 3/4	3.54	2 x 1-3/4 x 13/16	5.04	2 x 2 x 7/8	5.07
3.0	1-3/4 x 1 x 3/4	3.30			2 x 1-3/4 x 15/16	6.42	2 x 2 x 1-1/8	5.97
4.0	1-3/4 x 1 x 3/4	3.96			2 x 2 x 1	7.80	2 x 2 x 1-1/4	7.14
5.0	1-3/4 x 1 x 3/4	4.38			2 x 2 x 1-1/4	9.24		
6.0	1-3/4 x 1 1/4 x 7/8	4.56						
8.0	2 x 1-3/4 x 3/4	5.28						
10.0	2 x 1-3/4 x 3/4	6.09						
12.0	2 x 2 x 7/8	6.81						
15.0	2 x 2 x 1	8.25						

\*Request O.E.M. Prices in the following quantities: 25-49, 50-99



# CAPACITORS

## INDUSTRIAL SECTION—STANDARD TYPES (Continued) METALLIZED-PAPER



**TYPES P123ZN,  
P123ZNG  
and  
TYPES P323ZN,  
P323ZNG  
Metal-Cased  
Capacitors**

Metallized paper tubulars hermetically sealed in metal tubes with glass end seals soldered for positive moisture seal. P123ZN operating temperature range -55°C to +100°C. at full voltage rating and +125°C. with voltage derating to 75%.

Type P323ZN is in a similar construction but made to operate WITHOUT VOLTAGE DERATING over a temperature range of -55°C. to +125°C.

Standard tolerance - P123ZN -.01 mfd. and lower ±25% .012 mfd. and up ±20%. Type P323ZN - all values ±20%.

Sizes shown are for uninsulated styles, for insulated case add the suffix "P" to designation and 1/16" to diameter and length.

Capacity	P123ZN	P123ZNG	P323ZN	P323ZNG	Capacity	P123ZN	P123ZNG	P323ZN	P323ZNG
<b>50 VOLTS</b>					<b>400 VOLTS (Continued)</b>				
.047	.195 x 13/16	.195 x 3/4			.012	.235 x 13/16	.235 x 3/4	1.07	.235 x 13/16
.068	.195 x 13/16	.195 x 3/4			.015	.235 x 13/16	.235 x 3/4	1.07	.235 x 13/16
.1	.195 x 15/16	.195 x 7/8			.018	.235 x 13/16	.235 x 3/4	1.07	.312 x 13/16
.15	.235 x 15/16	.235 x 7/8			.02	.235 x 13/16	.235 x 3/4	1.07	.312 x 13/16
.22	.312 x 13/16	.312 x 3/4			.022	.235 x 13/16	.235 x 3/4	1.08	.312 x 13/16
.33	.312 x 1-1/8	.312 x 1-1/16			.027	.312 x 13/16	.312 x 3/4	1.08	.312 x 13/16
.47	.312 x 1-3/16	.312 x 1-1/8			.033	.312 x 13/16	.312 x 3/4	1.08	.312 x 13/16
.68	.400 x 1-1/8	.400 x 1-1/16			.039	.312 x 1-1/8	.312 x 1-1/16	1.08	.312 x 1-1/8
1.0	.400 x 1-5/16	.400 x 1-1/4			.04	.312 x 1-1/8	.312 x 1-1/16	1.08	.312 x 1-1/8
1.5	.500 x 1-1/8	.500 x 1-1/16			.047	.312 x 1-1/8	.312 x 1-1/16	1.08	.312 x 1-1/8
2.0	.562 x 1-5/16	.562 x 1-1/4			.05	.312 x 1-1/8	.312 x 1-1/16	1.08	.312 x 1-1/8
3.0	.562 x 1-7/16	.562 x 1-3/8			.056	.312 x 1-1/8	.312 x 1-1/16	1.15	.312 x 1-1/8
4.0	.670 x 1-7/16	.670 x 1-3/8			.068	.312 x 1-1/8	.312 x 1-1/16	1.18	.400 x 1-1/8
<b>200 VOLTS</b>					<b>600 VOLTS</b>				
.0005	.175 x 1/2	.175 x 7/16			.0005	.235 x 1/2	.235 x 7/16	1.05	.235 x 3/4
.001	.175 x 1/2	.175 x 7/16			.001	.235 x 5/8	.235 x 9/16	1.05	.235 x 3/4
.002	.175 x 1/2	.175 x 7/16			.002	.235 x 5/8	.235 x 9/16	1.05	.235 x 3/4
.003	.175 x 1/2	.175 x 7/16			.0022	.235 x 5/8	.235 x 9/16	1.05	.235 x 3/4
.005	.175 x 1/2	.175 x 7/16			.003	.235 x 5/8	.235 x 9/16	1.08	.235 x 3/4
.01	.175 x 1/2	.175 x 7/16	.175 x 1/2	.175 x 7/16	.0047	.235 x 5/8	.235 x 9/16	1.08	.235 x 3/4
.012	.195 x 5/8	.195 x 9/16	.195 x 5/8	.195 x 9/16	.005	.235 x 5/8	.235 x 9/16	1.10	.312 x 13/16
.015	.195 x 5/8	.195 x 9/16	.195 x 5/8	.195 x 9/16	.01	.235 x 13/16	.235 x 3/4	1.10	.312 x 13/16
.018	.195 x 5/8	.195 x 9/16	.235 x 5/8	.235 x 9/16	.012	.312 x 13/16	.312 x 3/4	1.11	.312 x 13/16
.02	.195 x 5/8	.195 x 9/16	.235 x 5/8	.235 x 9/16	.015	.312 x 13/16	.312 x 3/4	1.11	.312 x 13/16
.022	.195 x 5/8	.195 x 9/16	.235 x 5/8	.235 x 9/16	.018	.312 x 13/16	.312 x 3/4	1.11	.312 x 13/16
.027	.235 x 5/8	.235 x 9/16	.235 x 3/4	.235 x 11/16	.02	.312 x 13/16	.312 x 3/4	1.11	.312 x 13/16
.033	.235 x 5/8	.235 x 9/16	.235 x 3/4	.235 x 11/16	.022	.312 x 13/16	.312 x 3/4	1.11	.312 x 13/16
.039	.235 x 11/16	.235 x 5/8	.235 x 13/16	.235 x 3/4	.027	.312 x 13/16	.312 x 3/4	1.13	.312 x 13/16
.04	.235 x 11/16	.235 x 5/8	.235 x 13/16	.235 x 3/4	.033	.400 x 13/16	.400 x 1-1/8	1.14	.400 x 1-1/8
.047	.235 x 11/16	.235 x 5/8	.235 x 13/16	.235 x 3/4	.039	.400 x 13/16	.400 x 3/4	1.14	.400 x 1-1/8
.05	.235 x 11/16	.235 x 5/8	.235 x 13/16	.235 x 3/4	.04	.400 x 13/16	.400 x 3/4	1.14	.400 x 1-1/8
.056	.235 x 13/16	.235 x 3/4	.235 x 13/16	.235 x 3/4	.047	.400 x 13/16	.400 x 3/4	1.15	.400 x 1-1/8
.068	.312 x 13/16	.312 x 3/4	.312 x 13/16	.312 x 3/4	.05	.400 x 13/16	.400 x 3/4	1.15	.400 x 1-1/8
.082	.312 x 13/16	.312 x 3/4	.312 x 13/16	.312 x 3/4	.056	.400 x 1-1/8	.400 x 1-1/16	1.20	.400 x 1-1/8
.1	.312 x 13/16	.312 x 3/4	.312 x 13/16	.312 x 3/4	.068	.400 x 1-1/8	.400 x 1-1/16	1.22	.400 x 1-1/8
.12	.312 x 1-1/8	.312 x 1-1/16	.312 x 1-1/8	.312 x 1-1/16	.082	.400 x 1-1/8	.400 x 1-1/16	1.25	.500 x 1-1/8
.15	.312 x 1-1/8	.312 x 1-1/16	.312 x 1-1/8	.312 x 1-1/16	.1	.400 x 1-1/8	.400 x 1-1/16	1.26	.500 x 1-1/8
.18	.312 x 1-1/8	.312 x 1-1/16	.400 x 7/8	.400 x 13/16	.12	.500 x 1-1/8	.500 x 1-1/16	1.35	.500 x 1-1/8
.2	.312 x 1-1/8	.312 x 1-1/16	.400 x 7/8	.400 x 13/16	.15	.500 x 1-1/8	.500 x 1-1/16	1.40	.500 x 1-1/8
.22	.312 x 1-1/8	.312 x 1-1/16	.400 x 7/8	.400 x 13/16	.18	.562 x 1-1/8	.562 x 1-1/16	1.46	.562 x 1-1/8
.25	.312 x 1-1/8	.312 x 1-1/16	.400 x 7/8	.400 x 13/16	.2	.562 x 1-3/8	.562 x 1-5/16	1.50	.562 x 1-1/8
.27	.400 x 1-1/8	.400 x 1-1/16	.400 x 1-1/8	.400 x 1-1/16	.22	.562 x 1-3/8	.562 x 1-5/16	1.53	.562 x 1-3/8
.33	.400 x 1-1/8	.400 x 1-1/16	.400 x 1-1/8	.400 x 1-1/16	.25	.562 x 1-3/8	.562 x 1-5/16	1.56	.562 x 1-5/16
.39	.400 x 1-1/8	.400 x 1-1/16	.400 x 1-1/8	.400 x 1-1/16	.27	.670 x 1-5/8	.670 x 1-9/16	1.56	.670 x 1-9/16
.47	.400 x 1-1/8	.400 x 1-1/16	.400 x 1-1/8	.400 x 1-1/16	.33	.670 x 1-5/8	.670 x 1-9/16	1.56	.670 x 1-9/16
.5	.400 x 1-1/8	.400 x 1-1/16	.400 x 1-1/8	.400 x 1-1/16	.39	.670 x 1-5/8	.670 x 1-9/16	1.86	.670 x 1-9/16
.56	.500 x 1-1/8	.500 x 1-1/16	.500 x 1-1/8	.500 x 1-1/16	.47	.670 x 1-5/8	.670 x 1-9/16	1.86	.670 x 1-9/16
.68	.500 x 1-1/8	.500 x 1-1/16	.500 x 1-1/8	.500 x 1-1/16	.5	.670 x 1-5/8	.670 x 1-9/16	1.98	.670 x 1-9/16
.82	.562 x 1-1/8	.562 x 1-1/16	.562 x 1-1/8	.562 x 1-1/16	.56	.670 x 1-7/8	.670 x 1-13/16	1.98	.670 x 1-7/8
1.0	.562 x 1-1/8	.562 x 1-1/16	.562 x 1-1/8	.562 x 1-1/16	.68	.670 x 1-7/8	.670 x 1-13/16	2.00	.670 x 1-7/8
1.5	.562 x 1-5/8	.562 x 1-9/16	.562 x 1-5/8	.562 x 1-9/16	.82	.750 x 2-3/8	.750 x 2-5/16	2.13	1.000 x 1-7/8
2.0	.562 x 1-7/8	.562 x 1-13/16	.562 x 1-7/8	.562 x 1-13/16	1.0	.750 x 2-3/8	.750 x 2-5/16	2.14	1.000 x 1-7/8
3.0	.670 x 1-7/8	.670 x 1-13/16	.670 x 1-7/8	.670 x 1-13/16	1.5	1.000 x 1-7/8	1.000 x 1-13/16	2.66	1.000 x 1-13/16
4.0	.750 x 1-7/8	.750 x 1-13/16	.750 x 1-7/8	.750 x 1-13/16	2.0	1.000 x 2-3/8	1.000 x 2-5/16	3.19	1.000 x 2-3/8
5.0	1.000 x 1-7/8	1.000 x 1-13/16	1.000 x 1-7/8	1.000 x 1-13/16					
6.0	1.000 x 1-7/8	1.000 x 1-13/16	1.000 x 1-7/8	1.000 x 1-13/16					
8.0									
10.0									
12.0									
<b>400 VOLTS</b>					<b>400 VOLTS</b>				
.0005	.235 x 1/2	.235 x 7/16			.0005	.235 x 1/2	.235 x 7/16	1.05	.235 x 3/4
.001	.235 x 1/2	.235 x 7/16	.235 x 3/4	.235 x 11/16	.001	.235 x 5/8	.235 x 9/16	1.05	.235 x 3/4
.002	.235 x 1/2	.235 x 7/16	.235 x 3/4	.235 x 11/16	.002	.235 x 5/8	.235 x 9/16	1.05	.235 x 3/4
.0022	.235 x 1/2	.235 x 7/16	.235 x 3/4	.235 x 11/16	.003	.235 x 5/8	.235 x 9/16	1.08	.235 x 3/4
.003	.235 x 5/8	.235 x 9/16	.235 x 3/4	.235 x 11/16	.0047	.235 x 5/8	.235 x 9/16	1.08	.235 x 3/4
.0047	.235 x 5/8	.235 x 9/16	.235 x 3/4	.235 x 11/16	.005	.235 x 5/8	.235 x 9/16	1.10	.312 x 13/16
.005	.235 x 5/8	.235 x 9/16	.235 x 3/4	.235 x 11/16	.01	.235 x 13/16	.235 x 3/4	1.10	.312 x 13/16
.01	.235 x 5/8	.235 x 9/16	.235 x 3/4	.235 x 11/16	.012	.312 x 13/16	.312 x 3/4	1.11	.312 x 13/16
					.015	.312 x 13/16	.312 x 3/4	1.11	.312 x 13/16
					.018	.312 x 13/16	.312 x 3/4	1.11	.312 x 13/16
					.02	.312 x 13/16	.312 x 3/4	1.11	.312 x 13/16
					.022	.312 x 13/16	.312 x 3/4	1.13	.312 x 13/16
					.033	.400 x 13/16	.400 x 1-1/8	1.14	.400 x 1-1/8
					.039	.400 x 13/16	.400 x 3/4	1.14	.400 x 1-1/8
					.04	.400 x 13/16	.400 x 3/4	1.14	.400 x 1-1/8
					.047	.400 x 13/16	.400 x 3/4	1.15	.400 x 1-1/8
					.05	.400 x 13/16	.400 x 3/4	1.15	.400 x 1-1/8
					.056	.400 x 1-1/8	.400 x 1-1/16	1.20	.400 x 1-1/8
					.068	.400 x 1-1/8	.400 x 1-1/16	1.22	.400 x 1-1/8
					.082	.400 x 1-1/8	.400 x 1-1/16	1.25	.500 x 1-1/8
					.1	.400 x 1-1/8	.400 x 1-1/16	1.26	.500 x 1-1/8
					.12	.500 x 1-1/8	.500 x 1-1/16	1.35	.500 x 1-1/8
					.15	.500 x 1-1/8	.500 x 1-1/16	1.40	.500 x 1-1/8
					.18	.562 x 1-1/8	.562 x 1-1/16	1.46	.562 x 1-1/8
					.2	.562 x 1-3/8	.562 x 1-5/16	1.50	.562 x 1-1/8
					.22	.562 x 1-3/8	.562 x 1-5/16	1.53	.562 x 1-3/8
					.25	.562 x 1-3/8	.562 x 1-5/16	1.56	.562 x 1-5/16
					.27	.670 x 1-5/8	.670 x 1-9/16	1.56	.670 x 1-9/16
					.33	.670 x 1-5/8	.670 x 1-9/16	1.56	.670 x 1-9/16
					.39	.670 x 1-5/8	.670 x 1-9/16	1.86	.670 x 1-9/16
					.47	.670 x 1-5/8	.670 x 1-9/16	1.86	.670 x 1-9/16
					.5	.670 x 1-5/8	.670 x 1-9/16	1.98	.670 x 1-9/16
					.56	.670 x 1-7/8	.670 x 1-13/16	1.98	.670 x 1-7/8
					.68	.670 x 1-7/8	.670 x 1-13/16	2.00	.670 x 1-7/8
					.82	.750 x 2-3/8	.750 x 2-5/16	2.13	



# CAPACITORS

## MIL TYPES CH08 and CH09 METALLIZED TUBULAR CAPACITORS

Listed are the case floating style (diagram 1) only. Case grounded (diagram 3) are available on special order.

In accordance with directions in MIL-C-18312 Rev. C units will be marked with the MIL part number rather than MIL type designation. CH08 types will be marked M18312/01 plus the dash number listed below. CH09 types will be marked M18312/02 plus the dash number listed below. Dash number will change with tolerance and case style. Tolerances shown are standard, available at closer tolerance on special order.



Capacity uf	MIL Type Designation	Dash Number	Capacity uf	MIL Type Designation	Dash Number
<b>50 VDCW</b>			<b>200 VDCW</b>		
.018	CH-*A1RA183K	0302	.1	CH-*A1NC104M	0422
.022	CH-*A1RA223K	0306	.22	CH-*A1NC224M	0426
.027	CH-*A1RA273K	0310	.47	CH-*A1NC474M	0430
.033	CH-*A1RA333K	0314	1.0	CH-*A1NC105M	0434
.039	CH-*A1RA393K	0318	1.5	CH-*A1NC155M	0438
.047	CH-*A1RA473K	0322	2.2	CH-*A1NC225M	0442
.056	CH-*A1RA563K	0326	3.3	CH-*A1NC335M	0446
.068	CH-*A1RA683K	0330	4.7	CH-*A1NC475M	0450
.082	CH-*A1RA823K	0334	6.8	CH-*A1NC685M	0454
.1	CH-*A1RA104K	0338	10.0	CH-*A1NC106M	0458
.18	CH-*A1RA184K	0342	12.0	CH-*A1NC126M	0462
.22	CH-*A1RA224K	0346	<b>400 VDCW</b>		
.27	CH-*A1RA274K	0350	.047	CH-*A1NE473M	0466
.33	CH-*A1RA334K	0354	.1	CH-*A1NE104M	0470
.39	CH-*A1RA394K	0358	.22	CH-*A1NE224M	0474
.47	CH-*A1RA474K	0362	.47	CH-*A1NE474M	0478
.56	CH-*A1RA564K	0366	1.0	CH-*A1NE105M	0482
.68	CH-*A1RA684K	0370	2.2	CH-*A1NE225M	0486
.82	CH-*A1RA824K	0374	3.3	CH-*A1NE335M	0490
1.0	CH-*A1RA105K	0378	<b>600 VDCW</b>		
1.5	CH-*A1RA155K	0382	.01	CH-*A1NF103M	0494
2.2	CH-*A1RA225K	0386	.022	CH-*A1NF223M	0498
2.7	CH-*A1RA275K	0390	.047	CH-*A1NF473M	0502
3.3	CH-*A1RA335K	0394	.1	CH-*A1NF104M	0506
3.9	CH-*A1RA395K	0398	.22	CH-*A1NF224M	0510
4.7	CH-*A1RA475K	0402	.47	CH-*A1NF474M	0514
5.6	CH-*A1RA565K	0406	1.0	CH-*A1NF105M	0518
6.8	CH-*A1RA685K	0410	1.5	CH-*A1NF155M	0522
10.0	CH-*A1RA106K	0414	2.2	CH-*A1NF225M	0526
12.0	CH-*A1RA126K	0418			

CONTACT FACTORY FOR PRICES

\* Insert "08" for uninsulated case,  
"09" for insulated case.

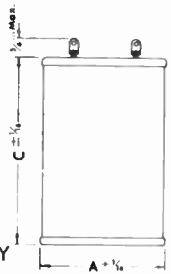


# CAPACITORS

## TYPE P09ZNR — MIL TYPE CH70

### HIGH-TEMPERATURE METALLIZED PAPER CAPACITORS

Hermetically sealed rectangular case metallized paper capacitors, the Type P09ZNR is equivalent to the CH70 of MIL-C-18312C. These units may be operated at full voltage to 125°C and offer a great deal of weight and size saving over conventional oil paper units. The operating temperature of these units is -55°C to +125°C. The P09ZNR is furnished with silicone terminals such as the "B" terminal specified in MIL-C-25. Also available with porcelain terminals equivalent to the "E" terminal on special order.

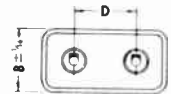


**NOTES:** AT PRESENT WE ARE STOCKING ONLY MIL CAPACITIES AND VOLTAGES.

ALL CAPACITIES AND VOLTAGES NOT LISTED AS MIL WILL BE SUBJECT TO FACTORY DELIVERY CYCLES.

SPECIFY CHARACTERISTIC "M" OR "N" WHEN ORDERING AND ADD "K" (10%) OR "M" (20%) FOR TOLERANCE DESIRED.

AS PRESENT STOCKS ARE DEPLETED INVENTORY WILL BE CHANGED TO TYPE CH72 TO MEET MILITARY SPECIFICATION MIL-C-18312D.



Capacity uf	MIL Number	S I Z E				Tolerance
		A	B	C	D	
<b>150 VDCW</b>						
4.0	_____	1 13/16	1 1/16	1 1/4	1 13/16	K,M
6.0	_____	1 13/16	1 1/16	1 1/2	1 13/16	K,M
8.0	_____	1 13/16	1 1/16	1 3/4	1 13/16	K,M
10.0	_____	1 13/16	1 1/16	1 7/8	1 13/16	K,M
12.0	_____	1 13/16	1 1/16	2 1/8	1 13/16	K,M
15.0	CH70B1-V156-	1 13/16	1 1/16	2 3/8	1 13/16	K,M
20.0	CH70B1-V206-	1 13/16	1 1/16	2 3/4	1 13/16	K,M
25.0	_____	1 13/16	1 1/16	3 1/8	1 13/16	K,M
30.0	CH70B1-V306-	1 13/16	1 1/16	4 1/4	1 13/16	K,M
40.0	_____	2 1/2	1 3/16	3 1/4	1 1/8	K,M
50.0	CH70B1-V506-	2 1/2	1 3/16	4	1 1/8	K,M
60.0	_____	3 3/4	1 1/4	3 3/8	2	K,M
75.0	_____	3 3/4	1 1/2	3 1/2	2	K,M
100.0	_____	3 3/4	1 3/4	3 3/4	2	K,M
<b>200 VDCW</b>						
4.0	_____	1 13/16	1 1/16	1 5/8	1 13/16	K,M
6.0	_____	1 13/16	1 1/16	2	1 13/16	K,M
8.0	_____	1 13/16	1 1/16	2 1/2	1 13/16	K,M
10.0	_____	1 13/16	1 1/16	3	1 13/16	K,M
12.0	_____	1 13/16	1 1/16	3 1/4	1 13/16	K,M
15.0	_____	1 13/16	1 1/16	3 7/8	1 13/16	K,M
20.0	_____	2 1/2	1 3/16	3 3/4	1 1/8	K,M
25.0	_____	2 1/2	1 3/16	4 1/8	1 1/8	K,M
30.0	_____	2 1/2	1 3/16	4 3/4	1 1/8	K,M
40.0	_____	3 3/4	1 1/4	4	2	K,M
50.0	_____	3 3/4	1 1/4	4 3/4	2	K,M
60.0	_____	3 3/4	1 3/4	4 7/8	2	K,M
75.0	_____	3 3/4	2 1/4	4 5/8	2	K,M
100.0	_____	3 3/4	2 1/4	5 5/8	2	K,M
<b>400 VDCW</b>						
4.0	_____	1 13/16	1 1/16	2 3/8	1 13/16	K,M
6.0	CH70B1-E605-	1 13/16	1 1/16	3 1/2	1 13/16	K,M
8.0	CH70B1-E805-	1 13/16	1 1/16	4	1 13/16	K,M
10.0	CH70B1-E106	1 13/16	1 1/16	4 1/4	1 13/16	K,M
12.0	_____	2 1/2	1 3/16	3 5/8	1 1/8	K,M
15.0	_____	2 1/2	1 3/16	4	1 1/8	K,M
20.0	CH70B1-E206-	2 1/2	1 1/4	4 3/4	2	K,M
25.0	_____	3 3/4	1 1/4	4 1/4	2	K,M
30.0	_____	3 3/4	1 1/4	4 3/4	2	K,M
<b>600 VDCW</b>						
4.0	_____	1 13/16	1 1/16	2 3/4	1 13/16	K,M
6.0	CH70B1-F605-	1 13/16	1 1/16	3 3/4	1 13/16	K,M
8.0	CH70B1-F805-	2 1/2	1 3/16	3 1/4	1 1/8	K,M
10.0	CH70B1-F106-	2 1/2	1 3/16	4	1 1/8	K,M
12.0	_____	2 1/2	1 3/16	4 3/8	1 1/8	K,M
15.0	CH70B1-F156-	3 3/4	1 1/4	3 5/8	2	K,M
20.0	CH70B1-F206-	3 3/4	1 3/4	3 3/8	2	K,M
25.0	_____	3 3/4	2 1/4	3	2	K,M

CONTACT FACTORY FOR PRICES





# CAPACITORS



## INDUSTRIAL SECTION — MIL TYPES MIL-C-25C



### TYPES CPO4 and CPO5 — Characteristics K Vibration Grades 1 and 3

Hermetically sealed tubular capacitors with glass terminal seal and axial wire leads. CPO4 and CPO5 are inserted tab construction; CPO8 and CPO9 are extended foil construction. Standard tolerance is  $\pm 10\%$  (K). Specify Vibration Grade when ordering.

#### CP04, CHAR. K P323S NO TUBE

#### CP05, CHAR. K P323SP PLASTIC TUBE

CP04, CHAR. K P323S NO TUBE					CP05, CHAR. K P323SP PLASTIC TUBE							
Capacity	Voltage	Case	Floating	Net Price*	Capacity	Voltage	Case	Floating	Net Price*			
.027	100V	CP04A1KB273K-		.78	.027	100V	CP05A1KB273K-	.84	.027	100V	CP05A1KB273K-	.84
.033	100V	CP04A1KB333K-		.78	.033	100V	CP05A1KB333K-	.84	.033	100V	CP05A1KB333K-	.84
.082	100V	CP04A1KB823K-	1.08	.0015	600V	CP04A1KF152K-		.75	.082	100V	CP05A1KB823K-	1.14
.1	100V	CP04A1KB104K-	1.08	.0018	600V	CP04A1KF182K-		.75	.1	100V	CP05A1KB104K-	1.14
.12	100V	CP04A1KB124K-	1.14	.0022	600V	CP04A1KF222K-		.75	.12	100V	CP05A1KB124K-	1.20
.15	100V	CP04A1KB154K-	1.17	.0027	600V	CP04A1KF272K-		.78	.15	100V	CP05A1KB154K-	1.23
.18	100V	CP04A1KB184K-	1.23	.0033	600V	CP04A1KF332K-		.78	.18	100V	CP05A1KB184K-	1.29
.22	100V	CP04A1KB224K-	1.29	.0039	600V	CP04A1KF392K-		.78	.22	100V	CP05A1KB224K-	1.35
.27	100V	CP04A1KB274K-	1.35	.0047	600V	CP04A1KF472K-		.78	.27	100V	CP05A1KB274K-	1.41
.33	100V	CP04A1KB334K-	1.44	.0056	600V	CP04A1KF562K-		.84	.33	100V	CP05A1KB334K-	1.50
.39	100V	CP04A1KB394K-	1.50	.0068	600V	CP04A1KF682K-		.96	.39	100V	CP05A1KB394K-	1.59
.47	100V	CP94A1KB474K-	1.56	.0082	600V	CP04A1KF822K-		.99	.47	100V	CP05A1KB474K-	1.65
.56	100V	CP04A1KB564K-	1.59	.01	600V	CP04A1KF103K-		.99	.56	100V	CP05A1KB564K-	1.68
.68	100V	CP04A1KB684K-	1.65	.012	600V	CP04A1KF123K-	1.05		.68	100V	CP05A1KB684K-	1.74
.82	100V	CP04A1KB824K-	1.71	.015	600V	CP04A1KF153K-	1.08		.82	100V	CP05A1KB824K-	1.80
1.0	100V	CP04A1KB105K-	1.77	.018	600V	CP04A1KF183K-	1.08		1.0	100V	CP05A1KB105K-	1.86
.012	200V	CP04A1KC123K-		.78	.022	600V	CP04A1KF223K-	1.08	.012	200V	CP05A1KC123K-	.84
.015	200V	CP04A1KC153K-		.78	.027	600V	CP04A1KF273K-	1.11	.015	200V	CP05A1KC153K-	.84
.018	200V	CP04A1KC183K-		.78	.033	600V	CP04A1KF333K-	1.11	.018	200V	CP05A1KC183K-	.84
.022	200V	CP04A1KC223K-		.84	.039	600V	CP04A1KF393K-	1.11	.022	200V	CP05A1KC223K-	.90
.039	200V	CP04A1KC393K-		.84	.047	600V	CP04A1KF473K-	1.11	.039	200V	CP05A1KC393K-	.90
.047	200V	CP04A1KC473K-		.84	.056	600V	CP04A1KF563K-	1.14	.047	200V	CP05A1KC473K-	.90
.056	200V	CP04A1KC563K-		.87	.068	600V	CP04A1KF683K-	1.14	.056	200V	CP05A1KC563K-	.93
.068	200V	CP04A1KC683K-		.93	.082	600V	CP04A1KF823K-	1.20	.068	200V	CP05A1KC683K-	.99
.082	200V	CP04A1KC823K-		.96	.1	600V	CP04A1KF104K-	1.26	.082	200V	CP05A1KC823K-	1.02
.1	200V	CP04A1KC104K-		1.02	.12	600V	CP04A1KF124K-	1.35	.1	200V	CP05A1KC104K-	1.08
.12	200V	CP04A1KC124K-		1.08	.15	600V	CP04A1KF154K-	1.44	.12	200V	CP05A1KC124K-	1.14
.15	200V	CP04A1KC154K-		1.11	.18	600V	CP04A1KF184K-	1.47	.15	200V	CP05A1KC154K-	1.17
.18	200V	CP04A1KC184K-		1.14	.22	600V	CP04A1KF224K-	1.53	.18	200V	CP05A1KC184K-	1.20
.22	200V	CP04A1KC224K-		1.17	.27	600V	CP04A1KF274K-	1.59	.22	200V	CP05A1KC224K-	1.23
.27	200V	CP04A1KC274K-		1.29	.33	600V	CP04A1KF334K-	1.62	.27	200V	CP05A1KC274K-	1.38
.33	200V	CP04A1KC334K-		1.38	.39	600V	CP04A1KF394K-	1.74	.33	200V	CP05A1KC334K-	1.47
.39	200V	CP04A1KC394K-		1.44	.47	600V	CP04A1KF474K-	1.86	.39	200V	CP05A1KC394K-	1.53
.47	200V	CP04A1KC474K-		1.50	.56	600V	CP04A1KF564K-	2.37	.47	200V	CP05A1KC474K-	1.59
.56	200V	CP04A1KC564K-		1.56	.68	600V	CP04A1KF684K-	2.37	.56	200V	CP05A1KC564K-	1.65
.68	200V	CP04A1KC684K-		1.65	.015	1000V	CP04A1KG153K-	1.11	.68	200V	CP05A1KC684K-	1.74
.82	200V	CP04A1KC824K-		1.77	.018	1000V	CP04A1KG183K-	1.11	.82	200V	CP05A1KC824K-	1.86
1.0	200V	CP04A1KC105K-		1.86	.022	1000V	CP04A1KG223K-	1.11	.022	1000V	CP05A1KG223K-	1.17
.0082	400V	CP04A1KE822K-		.87	.027	1000V	CP04A1KG273K-	1.17	.027	1000V	CP05A1KG273K-	1.23
.01	400V	CP04A1KE103K-		.87	.033	1000V	CP04A1KG333K-	1.17	.033	1000V	CP05A1KG333K-	1.23
.027	400V	CP04A1KE273K-		.93	.039	1000V	CP04A1KG393K-	1.17	.039	1000V	CP05A1KG393K-	1.26
.033	400V	CP04A1KE333K-		.93	.047	1000V	CP04A1KG473K-	1.17	.047	1000V	CP05A1KG473K-	1.26
.039	400V	CP04A1KE393K-		.96	.056	1000V	CP04A1KG563K-	1.23	.056	1000V	CP05A1KG563K-	1.32
.047	400V	CP04A1KE473K-		1.02	.068	1000V	CP04A1KG683K-	1.26	.068	1000V	CP05A1KG683K-	1.35
.056	400V	CP04A1KE563K-		1.08	.082	1000V	CP04A1KG823K-	1.32	.082	1000V	CP05A1KG823K-	1.41
.068	400V	CP04A1KE683K-		1.11	.1	1000V	CP04A1KG104K-	1.35	.1	1000V	CP05A1KG104K-	1.44
.082	400V	CP04A1KE823K-		1.17	.12	1000V	CP04A1KG124K-	1.41	.12	1000V	CP05A1KG124K-	1.50
.1	400V	CP04A1KE104K-		1.26	.15	1000V	CP04A1KG154K-	1.41	.15	1000V	CP05A1KG154K-	1.50
.12	400V	CP04A1KE124K-		1.35	.18	1000V	CP04A1KG184K-	1.50	.18	1000V	CP05A1KG184K-	1.59
.15	400V	CP04A1KE154K-		1.44	.22	1000V	CP04A1KG224K-	1.65	.22	1000V	CP05A1KG224K-	1.74
.18	400V	CP04A1KE184K-		1.50	.27	1000V	CP04A1KG274K-	2.04	.27	1000V	CP05A1KG274K-	2.13
.22	400V	CP04A1KE224K-		1.56	.33	1000V	CP04A1KG334K-	2.16	.33	1000V	CP05A1KG334K-	2.25
.27	400V	CP04A1KE274K-		1.65	.39	1000V	CP04A1KG394K-	2.37	.39	1000V	CP05A1KG394K-	2.46
.33	400V	CP04A1KE334K-		1.71	.47	1000V	CP04A1KG474K-	2.37	.47	1000V	CP05A1KG474K-	2.46
.39	400V	CP04A1KE394K-		1.98								
.47	400V	CP04A1KE474K-		1.98								
.56	400V	CP04A1KE564K-		2.13								
.68	400V	CP04A1KE684K-		2.13								
.82	400V	CP04A1KE824K-		2.58								
1.0	400V	CP04A1KE105K-		2.58								
.47	400V	CP05A1KE474K-		2.07								
.56	400V	CP05A1KE564K-		2.22								
.68	400V	CP05A1KE684K-		2.22								
.82	400V	CP05A1KE824K-		2.67								
1.0	400V	CP05A1KE105K-		2.67								

\*Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-499



## CAPACITORS


**INDUSTRIAL SECTION — MIL TYPES**  
**MIL-C-25C**

**TYPES CPO8 and CPO9—Characteristics K Vibration Grades 1 and 3**

Hermetically sealed tubular capacitors with glass terminal seal and axial wire leads. CP04 and CP05 are inserted tab construction; CP08 and CP09 are extended foil construction. Standard tolerance is  $\pm 10\%$  (K). Specify Vibration Grade when ordering.

**CP08, CHAR. K**  
**P323SX**  
**NO TUBE**
**CP09, CHAR. K**  
**P323SXP**  
**PLASTIC TUBE**

CP08, CHAR. K				CP09, CHAR. K				CP08, CHAR. K				CP09, CHAR. K			
P323SX				P323SX				P323SXP				P323SXP			
NO TUBE				NO TUBE				PLASTIC TUBE				PLASTIC TUBE			
Capacity	Voltage	Case Floating	Net Price*	Capacity	Voltage	Case Floating	Net Price*	Capacity	Voltage	Case Floating	Net Price*	Capacity	Voltage	Case Floating	Net Price*
.0082	100V	CP08A1KB822K-	.75	.0018	600V	CP08A1KF182K-	.75	.0082	100V	CP09A1KB822K-	.81	.0018	600V	CP09A1KF182K-	.81
.01	100V	CP08A1KB103K-	.75	.0022	600V	CP08A1KF222K-	.78	.01	100V	CP09A1KB103K-	.81	.0022	600V	CP09A1KF222K-	.84
.012	100V	CP08A1KB123K-	.75	.0027	600V	CP08A1KF272K-	.78	.012	100V	CP09A1KB123K-	.81	.0027	600V	CP09A1KF272K-	.84
.015	100V	CP08A1KB153K-	.75	.0033	600V	CP08A1KF332K-	.78	.015	100V	CP09A1KB153K-	.81	.0033	600V	CP09A1KF332K-	.84
.039	100V	CP08A1KB393K-	.84	.0039	600V	CP08A1KF392K-	.81	.039	100V	CP09A1KB393K-	.90	.0039	600V	CP09A1KF392K-	.87
.047	100V	CP08A1KB473K-	.90	.0047	600V	CP08A1KF472K-	.81	.047	100V	CP09A1KB473K-	.96	.0047	600V	CP09A1KF472K-	.87
.082	100V	CP08A1KB823K-	.99	.0056	600V	CP08A1KF562K-	.87	.082	100V	CP09A1KB823K-	1.05	.0056	600V	CP09A1KF562K-	.93
.1	100V	CP08A1KB104K-	1.05	.0068	600V	CP08A1KF682K-	.87	.1	100V	CP09A1KB104K-	1.11	.0068	600V	CP09A1KF682K-	.93
.12	100V	CP08A1KB124K-	1.08	.0082	600V	CP08A1KF822K-	.87	.12	100V	CP09A1KB124K-	1.14	.0082	600V	CP09A1KF822K-	.93
.15	100V	CP08A1KB154K-	1.11	.01	600V	CP08A1KF103K-	.87	.15	100V	CP09A1KB154K-	1.17	.01	600V	CP09A1KF103K-	.93
.18	100V	CP08A1KB184K-	1.20	.012	600V	CP08A1KF123K-	.93	.18	100V	CP09A1KB184K-	1.26	.012	600V	CP09A1KF123K-	.99
.22	100V	CP08A1KB224K-	1.26	.015	600V	CP08A1KF153K-	.93	.22	100V	CP09A1KB224K-	1.32	.015	600V	CP09A1KF153K-	.99
.27	100V	CP08A1KB274K-	1.32	.018	600V	CP08A1KF183K-	.99	.27	100V	CP09A1KB274K-	1.41	.018	600V	CP09A1KF183K-	1.05
.33	100V	CP08A1KB334K-	1.38	.022	600V	CP08A1KF223K-	.99	.33	100V	CP09A1KB334K-	1.47	.022	600V	CP09A1KF223K-	1.05
.39	100V	CP08A1KB394K-	1.44	.027	600V	CP08A1KF273K-	1.02	.39	100V	CP09A1KB394K-	1.53	.027	600V	CP09A1KF273K-	1.08
.47	100V	CP08A1KB474K-	1.47	.033	600V	CP08A1KF333K-	1.08	.47	100V	CP09A1KB474K-	1.56	.033	600V	CP09A1KF333K-	1.14
.56	100V	CP08A1KB564K-	1.56	.039	600V	CP08A1KF393K-	1.14	.56	100V	CP09A1KB564K-	1.65	.039	600V	CP09A1KF393K-	1.20
.68	100V	CP08A1KB684K-	1.62	.047	600V	CP08A1KF473K-	1.14	.68	100V	CP09A1KB684K-	1.71	.047	600V	CP09A1KF473K-	1.20
.82	100V	CP08A1KB824K-	1.71	.056	600V	CP08A1KF563K-	1.20	.82	100V	CP09A1KB824K-	1.80	.056	600V	CP09A1KF563K-	1.29
1.0	100V	CP08A1KB105K-	1.86	.068	600V	CP08A1KF683K-	1.23	1.0	100V	CP09A1KB105K-	1.95	.068	600V	CP09A1KF683K-	1.32
.0039	200V	CP08A1KC392K-	.72	.082	600V	CP08A1KF823K-	1.26	.0039	200V	CP09A1KC392K-	.78	.082	600V	CP09A1KF823K-	1.35
.0047	200V	CP08A1KC472K-	.72	.1	600V	CP08A1KF104K-	1.26	.0047	200V	CP09A1KC472K-	.78	.1	600V	CP09A1KF104K-	1.35
.0056	200V	CP08A1KC562K-	.72	.12	600V	CP08A1KF124K-	1.29	.0056	200V	CP09A1KC562K-	.78	.12	600V	CP09A1KF124K-	1.38
.0068	200V	CP08A1KC682K-	.72	.15	600V	CP08A1KF154K-	1.29	.0068	200V	CP09A1KC682K-	.78	.15	600V	CP09A1KF154K-	1.38
.018	200V	CP08A1KC183K-	.84	.18	600V	CP08A1KF184K-	1.47	.018	200V	CP09A1KC183K-	.90	.18	600V	CP09A1KF184K-	1.56
.022	200V	CP08A1KC223K-	.84	.22	600V	CP08A1KF224K-	1.59	.022	200V	CP09A1KC223K-	.90	.22	600V	CP09A1KF224K-	1.68
.027	200V	CP08A1KC273K-	.87	.27	600V	CP08A1KF274K-	1.77	.027	200V	CP09A1KC273K-	.93	.27	600V	CP09A1KF274K-	1.86
.033	200V	CP08A1KC333K-	.87	.33	600V	CP08A1KF334K-	1.89	.033	200V	CP09A1KC333K-	.93	.33	600V	CP09A1KF334K-	1.98
.039	200V	CP08A1KC393K-	.96	.39	600V	CP08A1KF394K-	1.89	.039	200V	CP09A1KC393K-	1.02	.39	600V	CP09A1KF394K-	1.98
.047	200V	CP08A1KC473K-	.96	.47	600V	CP08A1KF474K-	1.95	.047	200V	CP09A1KC473K-	1.02	.47	600V	CP09A1KF474K-	2.04
.056	200V	CP08A1KC563K-	1.02	.001	100V	CP08A1KG102K-	.93	.056	200V	CP09A1KC563K-	1.08	.001	1000V	CP09A1KG102K-	.99
.068	200V	CP08A1KC683K-	1.08	.0012	1000V	CP08A1KG122K-	.93	.068	200V	CP09A1KC683K-	1.14	.0012	1000V	CP09A1KG122K-	.99
.082	200V	CP08A1KC823K-	1.17	.0015	100V	CP08A1KG152K-	.93	.082	200V	CP09A1KC823K-	1.23	.0015	1000V	CP09A1KG152K-	.99
.1	200V	CP08A1KC104K-	1.17	.0018	1000V	CP08A1KG182K-	.93	.1	200V	CP09A1KC104K-	1.23	.0018	1000V	CP09A1KG182K-	.99
.12	200V	CP08A1KC124K-	1.23	.0022	1000V	CP08A1KG222K-	.93	.12	200V	CP09A1KC124K-	1.29	.0022	1000V	CP09A1KG222K-	.99
.15	200V	CP08A1KC154K-	1.23	.0027	1000V	CP08A1KG272K-	.96	.15	200V	CP09A1KC154K-	1.29	.0027	1000V	CP09A1KG272K-	1.02
.18	200V	CP08A1KC184K-	1.29	.0033	1000V	CP08A1KG332K-	.96	.18	200V	CP09A1KC184K-	1.38	.0033	1000V	CP09A1KG332K-	1.02
.22	200V	CP08A1KC224K-	1.29	.0039	1000V	CP08A1KG392K-	1.02	.22	200V	CP09A1KC224K-	1.38	.0039	1000V	CP09A1KG392K-	1.08
.27	200V	CP08A1KC274K-	1.35	.0047	1000V	CP08A1KG472K-	1.02	.27	200V	CP09A1KC274K-	1.44	.0047	1000V	CP09A1KG472K-	1.08
.33	200V	CP08A1KC334K-	1.35	.0056	1000V	CP08A1KG562K-	1.05	.33	200V	CP09A1KC334K-	1.44	.0056	1000V	CP09A1KG562K-	1.11
.39	200V	CP08A1KC394K-	1.41	.0068	1000V	CP08A1KG682K-	1.05	.39	200V	CP09A1KC394K-	1.50	.0068	1000V	CP09A1KG682K-	1.11
.47	200V	CP08A1KC474K-	1.41	.0082	1000V	CP08A1KG822K-	1.05	.47	200V	CP09A1KC474K-	1.50	.0082	1000V	CP09A1KG822K-	1.11
.56	200V	CP08A1KC564K-	1.56	.01	1000V	CP08A1KG103K-	1.05	.56	200V	CP09A1KC564K-	1.65	.01	1000V	CP09A1KG103K-	1.11
.68	200V	CP08A1KC684K-	1.68	.012	1000V	CP08A1KG123K-	1.05	.68	200V	CP09A1KC684K-	1.77	.012	1000V	CP09A1KG123K-	1.11
.82	200V	CP08A1KC824K-	1.86	.015	1000V	CP08A1KG153K-	1.05	.82	200V	CP09A1KC824K-	1.95	.015	1000V	CP09A1KG153K-	1.11
1.0	200V	CP08A1KC105K-	1.92	.018	1000V	CP08A1KG183K-	1.05	1.0	200V	CP09A1KC105K-	2.01	.018	1000V	CP09A1KG183K-	1.11
.0027	400V	CP08A1KE272K-	.75	.022	1000V	CP08A1KG223K-	1.05	.0027	400V	CP09A1KE272K-	.81	.022	1000V	CP09A1KG223K-	1.11
.0033	400V	CP08A1KE332K-	.75	.027	1000V	CP08A1KG273K-	1.11	.0033	400V	CP09A1KE332K-	.81	.027	1000V	CP09A1KG273K-	1.20
.012	400V	CP08A1KE123K-	.81	.033	1000V	CP08A1KG333K-	1.17	.012	400V	CP09A1KE123K-	.87	.033	1000V	CP09A1KG333K-	1.26
.015	400V	CP08A1KE153K-	.84	.039	1000V	CP08A1KG393K-	1.23	.015	400V	CP09A1KE153K-	.90	.039	1000V	CP09A1KG393K-	1.32
.027	400V	CP08A1KE273K-	.96	.047	1000V	CP08A1KG473K-	1.29	.027	400V	CP09A1KE273K-	1.02	.047	1000V	CP09A1KG473K-	1.38
.033	400V	CP08A1KE333K-	1.08	.056	1000V	CP08A1KG563K-	1.35	.033	400V	CP09A1KE333K-	1.14	.056	1000V	CP09A1KG563K-	1.44
.039	400V	CP08A1KE393K-	1.08	.068	1000V	CP08A1KG683K-	1.38	.039	400V	CP09A1KE393K-	1.14	.068	1000V	CP09A1KG683K-	1.47
.047	400V	CP08A1KE473K-	1.11	.082	1000V	CP08A1KG823K-	1.44	.047	400V	CP09A1KE473K-	1.17	.082	1000V	CP09A1KG823K-	1.53
.056	400V	CP08A1KE563K-	1.11	.1	1000V	CP08A1KG104K-	1.47	.056	400V	CP09A1KE563K-	1.17	.1	1000V	CP09A1KG104K-	1.56
.068	400V	CP08A1KE683K-	1.11	.12	1000V	CP08A1KG124K-	1.56	.068	400V	CP09A1KE683K-	1.17	.12	1000V	CP09A1KG124K-	1.65
.082	400V	CP08A1KE823K-	1.17	.15	1000V	CP08A1KG154K-	1.65	.082	400V	CP09A1KE823K-	1.26	.15	1000V	CP09A1KG154K-	1.74
.1	400V	CP08A1KE104K-	1.20	.18	1000V	CP08A1KG184K-	1.74	.1	400V	CP09A1KE104K-	1.29	.18	1000V	CP09A1KG184K-	1.83
.12	400V	CP08A1KE124K-	1.26	.22	1000V	CP08A1KG224K-	1.83	.12	400V	CP09A1KE124K-	1.35	.22	1000V	CP09A1KG224K-	1.92
.15	400V	CP08A1KE154K-	1.32	.27	1000V	CP08A1KG274K-	1.95	.15	400V	CP09A1KE154K-	1.41	.27	1000V	CP09A1KG274K-	2.04
.18	400V	CP08A1KE184K-	1.47	.33	1000V	CP08A1KG334K-	2.10	.18	400V	CP09A1KE184K-	1.56	.33	1000V	CP09A1KG334K-	2.19
.22	400V	CP08A1KE224K-	1.59	.39	1000V	CP08A1KG394K-	2.28	.22	400V	CP09A1KE224K-	1.68	.39	1000V	CP09A1KG394K-	2.37
.27	400V	CP08A1KE274K-	1.71	.47	1000V	CP08A1KG474K-	2.43	.27	400V	CP09A1KE274K-	1.80	.47	1000V	CP09A1KG474K-	2.52
.33	400V	CP08A1KE334K-	1.83					.33	400V	CP09A1KE334K-	1.92				
.39	400V	CP08A1KE394K-	1.89					.39	400V	CP09A1KE394K-	1.98				
.47	400V	CP08A1KE474K-	1.95					.47	400V	CP09A1KE474K-	2.04				
.001	600V	CP08A1KF102K-	.75					.001	600V	CP09A1KF102K-	.81				
.0012	600V	CP08A1KF122K-	.75					.0012	600V	CP09A1KF122K-	.81				
.0015	600V	CP08A1KF152K-	.75					.0015	600V	CP09A1KF152K-	.81				

\*Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-499



# CAPACITORS

## INDUSTRIAL SECTION — MIL TYPES MIL-C-25C

### TYPES CP53, CP54, CP55



Hyvol J or H oil impregnated and filled, drawn-metal cased capacitors, immersion proof and hermetically sealed. This unusually compact "bathtub" type capacitor is the most popular of the small units for severe operating conditions. Available with terminals on side (CP53), top (CP54), or bottom (CP55). The standard tolerance on single section units is  $\pm 10\%$  (K), on multiple section units  $+20 -10\%$  (V).

P30				P30-T				P30-B				P30				P30-T				P30-B			
CAP.	VOLT.	SIDE TERM.	Net Price*	TOP TERM.	Net Price*	BOTTOM TERM.	Net Price*	CAP.	VOLT.	SIDE TERM.	Net Price*	TOP TERM.	Net Price*	BOTTOM TERM.	Net Price*	CAP.	VOLT.	SIDE TERM.	Net Price*	TOP TERM.	Net Price*	BOTTOM TERM.	Net Price*
2.0	100V	CP53B1EB205K	\$2.19					3X.1	600V	CP53B5EF104V	2.40	CP54B5EF104V	\$2.40	CP55B5EF104V	\$2.40	3X.25	600V	CP53B5EF254V	2.70	CP54B5EF254V	2.70	CP55B5EF254V	2.70
4.0	100V	CP53B1EB405K	2.94					3X.5	600V	CP53B5EF504V	3.24	CP54B5EF504V	3.24	CP55B5EF504V	3.24	.05	1000V	CP53B1EG503K	1.56				
1.0	200V	CP53B1EC105K	2.01					.1	1000V	CP53B1EG104K	1.62				.1	1000V	CP53B1EG104K	1.62					
2.0	200V	CP53B1EC205K	2.55					.25	1000V	CP53B1EG254K	1.77				.25	1000V	CP53B1EG254K	1.77					
.5	400V	CP53B1KE504K	1.86	CP54B1KE504K	\$1.86			.5	1000V	CP53B1EG504K	2.04				.5	1000V	CP53B1EG504K	2.04					
1.0	400V	CP53B1KE105K	2.07					1.0	1000V	CP53B1EG105K	2.20				1.0	1000V	CP53B1EG105K	2.20					
3X.5	400V	CP53B5EE504V	3.06					2X.05	1000V	CP53B4EG503V	2.10				2X.05	1000V	CP53B4EG503V	2.10					
.25	600V	CP53B1EF254K	1.71	CP54B1EF254K	1.71	CP55B1EF254K	1.71	2X.1	1000V	CP53B4EG105V	2.22				2X.1	1000V	CP53B4EG105V	2.22					
.5	600V	CP53B1EF504K	1.92	CP54B1EF504K	1.92	CP55B1EF504K	1.92	2X.25	1000V	CP53B4EG254V	2.46				2X.25	1000V	CP53B4EG254V	2.46					
1.0	600V	CP53B1EF105K	2.10	CP54B1EF105K	2.10	CP55B1EF105K	2.10	2X.5	1000V	CP53B4EG504V	3.03				2X.5	1000V	CP53B4EG504V	3.03					
2.0	600V	CP53B1EF205K	2.70	CP54B1EF205K	2.70	CP55B1EF205K	2.70	3X.05	1000V	CP53B5EG503V	2.46				3X.05	1000V	CP53B5EG503V	2.46					
2X.05	600V	CP53B4EF503V	2.01	CP54B4EF503V	2.01	CP55B4EF503V	2.01	3X.1	1000V	CP53B5EG104V	2.76				3X.1	1000V	CP53B5EG104V	2.76					
2X.1	600V	CP53B4EF104V	2.07	CP54B4EF104V	2.07	CP55B4EF104V	2.07	3X.25	1000V	CP53B5EG254V	3.30				3X.25	1000V	CP53B5EG254V	3.30					
2X.25	600V	CP53B4EF254V	2.25	CP54B4EF254V	2.25	CP55B4EF254V	2.25																
2X.5	600V	CP53B4EF504V	2.61	CP54B4EF504V	2.61	CP55B4EF504V	2.61																
2X1.0	600V	CP53B4EF105V	3.18	CP54B4EF105V	3.18	CP55B4EF105V	3.18																

CHARACTERISTIC F			
P30J			
CAP.	VOLT.	SIDE TERM.	Net Price*
8.0	100V	CP53B1FB805K	\$4.50
10.0	100V	CP53B1FB106K	6.30



### MIL-C-25C

#### CP63, CP65 — Characteristics E & K

Compact, Hyvol M or J oil impregnated and filled, rectangular units. Immersion proof and hermetically sealed. Dual section has case grounded. Channel brackets attached. Standard tolerance on single section units,  $\pm 10\%$  (K), on multiple section units  $+20 -10\%$  (V).

P16-CT				P16-CB			
CAP.	VOLT.	TOP TERM.	Net Price*	BOTTOM TERM.	Net Price*		
.1	400V	CP63B1KE104K	\$2.02	CP65B1KE104K	\$2.02		
.25	400V	CP63B1KE254K	2.23				
1.0	400V	CP63B1EE105K	2.68				
.05	600V	CP63B1EF503K	2.05	CP65B1EF503K	2.05		
.25	600V	CP63B1EF254K	2.32	CP65B1EF254K	2.32		
.5	600V	CP63B1EF504K	2.50	CP65B1EF504K	2.50		
1.0	600V	CP63B1EF105K	2.86	CP65B1EF105K	2.86		
2X.1	600V	CP63B6EF104V	2.74	CP65B6EF104V	2.74		
2X.25	600V	CP63B6EF254V	2.89	CP65B6EF254V	2.89		
2X.5	600V	CP63B6EF504V	3.07	CP65B6EF504V	3.07		
.01	1000V	CP63B1EG103K	2.08	CP65B1EG103K	2.08		
.02	1000V	CP63B1EG203K	2.15	CP65B1EG203K	2.15		
.05	1000V	CP63B1EG503K	2.32	CP65B1EG503K	2.32		
.1	1000V	CP63B1EG104K	2.38				
.25	100V	CP63B1EG254K	2.50				
.5	1000V	CP63B1EG504K	2.80				



### MIL-C-25C

#### CP91 — Characteristics E & K

Former issues of MIL-C-25 listed variations of this item as CP61 and CP90. CP91 base size  $1\frac{1}{4} \times \frac{3}{8}$ . Brackets must be ordered separately. Specify CP091F (footed) or CP091S (spade).

P16			
CAP.	VOLT.	NO. BRACKETS	Net Price*
.1	400V	CP91B1KE104K	\$1.95
.25	400V	CP91B1KE254K	2.16
1.0	400V	CP91B1EE105K	2.61
.05	600V	CP91B1EF503K	1.98
.25	600V	CP91B1EF254K	2.25
.5	600V	CP91B1EF504K	2.43
1.0	600V	CP91B1EF105K	2.79
2X.05	600V	CP91B6EF503V	2.46
2X.1	600V	CP91B6EF104V	2.67
2X.25	600V	CP91B6EF254V	2.82
2X.5	600V	CP91B6EF504V	3.00
.01	1000V	CP91B1EG103K	2.07
.02	1000V	CP91B1EG203K	2.15
.05	1000V	CP91B1EG503K	2.32
.1	1000V	CP91B1EG104K	2.38
.25	1000V	CP91B1EG254K	2.50
.5	1000V	CP91B1EG504K	2.80



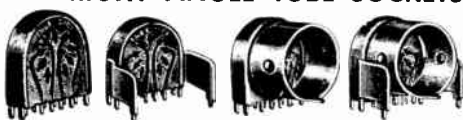
### MIL-C-25C

#### TYPES CP67, CP69 — Characteristics E

Hyvol M or J oil impregnated and filled unit, rectangular cased. Similar to CP91 except additional length in base size of  $1\frac{1}{4} \times \frac{3}{8}$ , permits 2 or 3 sections, case floating. Single units also can be used for special applications where type CP91 does not fit. Both CP67 and CP69 supplied with channel brackets attached. Standard tolerance on single section units  $\pm 10\%$  (K), on multiple section units  $+20 -10\%$  (V).

P18-CT				P18-CB				P18-CB			
CAP.	VOLT.	TOP TERM.	Net Price*	BOTTOM TERM.	Net Price*	CAP.	VOLT.	BOTTOM TERM.	Net Price*		
.05	600V	CP67B1EF503K	\$2.25	CP69B1EF503K	\$2.25	.1	1000V	CP69B1EG104K	\$2.46		
.1	600V	CP67B1EF104K	2.37	CP69B1EF104K	2.37	.25	1000V	CP69B1EG254K	2.64		
.25	600V	CP67B1EF254K	2.46	CP69B1EF254K	2.46	.5	1000V	CP69B1EG504K	2.94		
.5	600V	CP67B1EF504K	2.64	CP69B1EF504K	2.64	2X.05	1000V	CP69B4EG503V	2.94		
1.0	600V	CP67B1EF105K	3.09	CP69B1EF105K	3.09	2X.1	1000V	CP69B4EG104V	3.12		
2X.05	600V	CP67B4EF503V	2.67	CP69B4EF503V	2.67	2X.25	1000V	CP69B4EG254V	3.42		
2X.1	600V	CP67B4EF104V	2.85	CP69B4EF104V	2.85	3X.01	1000V	CP69B5EG103V	2.94		
2X.25	600V	CP67B4EF254V	2.94	CP69B4EF254V	2.94	3X.02	1000V	CP69B5EG203V	3.33		
2X.5	600V	CP67B4EF504V	3.36	CP69B4EF504V	3.36	3X.05	1000V	CP69B5EG503V	3.42		
3X.05	600V	CP67B5EF503V	3.27	CP69B5EF503V	3.27	3X.1	1000V	CP69B5EG104V	3.69		
3X.1	600V	CP67B5EF104V	3.54	CP69B5EF104V	3.54						
3X.25	600V	CP67B5EF254V	3.72	CP69B5EF254V	3.72						
.01	1000V	CP67B1EG103K	2.19	CP69B1EG103K	2.19						
.02	1000V	CP67B1EG203K	2.22	CP69B1EG203K	2.22						
.05	1000V	CP67B1EG503K	2.37	CP69B1EG503K	2.37						

### RIGHT ANGLE TUBE SOCKETS



Type A      Type AX      Type B      Type BX  
Ordering Example: RA7A = (Type 7 Pin Socket)

Available in 7-pin and 9-pin types in four styles, these sockets are designed to meet existing MIL Specifications. Active contacts are silver plated and non-fatiguing contact pressure provides proper insertion and withdrawal pressure with a minimum of contact resistance. Ideal for hand or mechanical insertion into printed-wiring boards using simple in-line punched round holes. Templates are furnished with each socket. Long terminals permit use of sockets on wide range of board thickness.

- Type A — for general purpose applications.
- Type AX — for special applications (military and commercial) where extra strength and rigidity are required.
- Type B — same as Type A except tube shield shell added.
- Type BX — same as Type AX except tube shield shell added.

Cat. No.	Net Price**
RA7A	\$.64
RA7AX	.65
RA7B	.69
RA7BX	.91
RA9A	.85
RA9AX	.87
RA9B	.92
RA9BX	.95

\*Request O.E.M. Prices in the following quantities: 10-24, 25-49, 50-99  
\*\*Request O.E.M. Prices in the following quantities: 25-99, 100-499



# CAPACITORS

## INDUSTRIAL SECTION — MIL TYPES

### TYPE CP70 MIL-C-25C

#### Characteristics E and F • Porcelain and Riveted Terminals



Hyvol M or J oil impregnated and filled, large, rectangular, metal-cased capacitor for heavy-duty, continuous-service applications such as power supplied for transmitters, amplifiers, etc. immersion proof and hermetically sealed. Available with either high-voltage screw-type porcelain-pillar terminals or the space-saving riveted terminal. Pillar terminals have soldering lugs.

Standard tolerance  $\pm 10\%$  (K). MIL-C-25C mounting brackets are also available for all units.

Units meet Vibration Grade 1 of MIL-C-25C—Designated by addition of numeral 1 to part number.

Capacity	Voltage	CHAR. E P09 Porc. Term	Case Size and Brkt. Desig.	Net Price*	CHAR. F P09 Porc. Term	Case Size and Brkt. Desig.	Net Price*	CHAR. E P09-R Rivet Term	Case Size and Brkt. Desig.	Net Price*	CHAR. F P09-R Rivet Term	Case Size and Brkt. Desig.	Net Price*
1.0	600V	CP70E1EF105K	A2	4.02				CP70B1EF105K	A2	3.78			
2.0	600V	CP70E1EF205K	A4	4.95	CP70E1FF205K	A3	4.89	CP70B1EF205K	A4	4.71	CP70B1FF205K	A3	4.71
4.0	600V	CP70E1EF405K	B4	6.90	CP70E1FF405K	B3	6.45	CP70B1EF405K	B4	6.66	CP70B1FF405K	B3	6.21
6.0	600V	CP70E1EF605K	C2	8.94	CP70E1FF605K	B6	7.05	CP70B1EF605K	C2	8.70	CP70B1FF605K	B6	6.81
8.0	600V	CP70E1EF805K	C3	10.95	CP70E1FF805K	C2	7.50	CP70B1EF805K	C3	10.71	CP70B1FF805K	C2	7.29
10.0	600V	CP70E1EF106K	D3	13.14	CP70E1FF106K	C4	8.10	CP70B1EF106K	D3	12.90	CP70B1FF106K	C4	7.89
.1	1000V	CP70E1EG104K	A1	4.14									
.25	1000V	CP70E1EG254K	A2	4.50									
.5	1000V	CP70E1EG504K	A2	4.68									
1.0	1000V	CP70E1EG105K	A3	5.19	CP70E1FG105K	A2	4.74	CP70B1EG105K	A3	4.95			
2.0	1000V	CP70E1EG205K	A6	6.06	CP70E1FG205K	A5	5.25	CP70B1EG205K	A6	5.82	CP70B1FG205K	A5	5.04
4.0	1000V	CP70E1EG405K	C2	8.10	CP70E1FG405K	B6	6.30	CP70B1EG405K	C2	7.86	CP70B1FG405K	B6	6.06
6.0	1000V	CP70E1EG605K	D3	9.90	CP70E1FG605K	C4	8.70	CP70B1EG605K	D3	9.66	CP70B1FG605K	C4	8.46
8.0	1000V	CP70E1EG805K	D5	11.85				CP70B1EG805K	D5	11.61	CP70B1FG805K	D2	9.96
10.0	1000V	CP70E1EG106K	E5	13.80	CP70E1FG106K	D5	11.40	CP70B1EG106K	E5	13.56	CP70B1FG106K	D5	11.16
12.0	1000V	CP70E1EG126K	E6	15.75				CP70B1EG126K	E6	15.51	CP70B1FG126K	E4	12.51
15.0	1000V	CP70E1EG156K	G2	18.75	CP70E1FG156K	F1	15.75	CP70B1EG156K	G2	18.51	CP70B1FG156K	F1	15.51
.5	1500V	CP70E1EH504K	A3	5.40				CP70B1EH504K	A3	5.16			
1.0	1500V	CP70E1EH105K	A6	6.24	CP70E1FH105K	A5	5.10	CP70B1EH105K	A6	6.00			
2.0	1500V	CP70E1EH205K	E6	7.80	CP70E1FH205K	B5	6.30	CP70B1EH205K	B6	7.56	CP70B1FH205K	B5	6.06
4.0	1500V	CP70E1EH405K	D4	11.10	CP70E1FH405K	C4	8.55	CP70B1EH405K	D4	10.86	CP70B1FH405K	C4	8.31
6.0	1500V	CP70E1EH605K	E5	14.34	CP70E1FH605K	D5	11.70	CP70B1EH605K	E5	14.10	CP70B1FH605K	D5	11.46
8.0	1500V	CP70E1EH805K	F2	17.55	CP70E1FH805K	F1	14.70	CP70B1EH805K	F2	17.31	CP70B1FH805K	F1	14.46
10.0	1500V	CP70E1EH106K	G4	20.85	CP70E1FH106K	G2	16.50	CP70B1EH106K	G4	20.61	CP70B1FH106K	G2	16.26
12.0	1500V	CP70E1EH126K	J3	24.00	CP70E1FH126K	G2	20.70	CP70B1EH126K	J3	23.76	CP70B1FH126K	G2	20.46
15.0	1500V	CP70E1EH156K	J6	29.10	CP70E1FH156K	J3	23.40	CP70B1EH156K	J6	28.86	CP70B1FH156K	J3	23.16
.25	2000V	CP70E1EJ254K	B1	5.22									
.5	2000V	CP70E1EJ504K	B2	5.55									
1.0	2000V	CP70E1EJ105K	B6	6.45	CP70E1FJ105K	B3	5.55						
2.0	2000V	CP70E1EJ205K	C4	7.95	CP70E1FJ205K	C3	6.90						
4.0	2000V	CP70E1EJ405K	E6	11.55	CP70E1FJ405K	E3	9.60						
6.0	2000V				CP70E1FJ605K	G1	12.90						
10.0	2000V				CP70E1FJ106K	J3	19.50						
12.0	2000V				CP70E1FJ126K	J5	23.40						
15.0	2000V				CP70E1FJ156K	J7	28.50						
.1	2500V	CP70E1EK104K	B1	5.10									
.5	2500V	CP70E1EK504K	B4	6.30	CP70E1FK504K	B3	6.75						
1.0	2500V	CP70E1EK105K	D2	7.95	CP70E1FK105K	D1	7.65						
2.0	2500V	CP70E1EK205K	E5	11.10	CP70E1FK205K	D5	10.20						
4.0	2500V	CP70E1EK405K	J2	17.70									
10.0	2500V	CP70E1EK106K	J10	36.90									
.1	3000V	CP70E1EL104K	B2	5.70									
.25	3000V	CP70E1EL254K	B3	6.30									
.5	3000V	CP70E1EL504K	B6	7.35									
1.0	3000V	CP70E1EL105K	E4	9.75	CP70E1FL105K	E3	8.94						
2.0	3000V	CP70E1EL205K	G2	13.95	CP70E1FL205K	G1	12.15						
4.0	3000V	CP70E1EL405K	J7	22.95	CP70E1FL405K	J3	18.00						
.1	4000V	CP70E1EM104K	E1	13.89									
.25	4000V				CP70E1FM254K	E1	14.40						
.5	4000V				CP70E1FM504K	E3	17.10						
1.0	4000V				CP70E1FM105K	E6	21.60						
2.0	4000V				CP70E1FM205K	J4	28.20						
4.0	4000V				CP70E1FM405K	J10	43.50						
.1	5000V	CP70E1EM405K	J11	46.56									
.25	5000V	CP70E1EN104K	E1	15.15									
.5	5000V	CP70E1EN254K	E3	16.56									
.5	5000V	CP70E1EN504K	E6	19.29	CP70E1FN504K	E4	17.85						
1.0	5000V				CP70E1FN105K	J2	25.20						
2.0	5000V				CP70E1FN205K	J6	38.70						
.1	6000V	CP70D1EP104K	E3	16.35	CP70D1FP104K	E2	15.30						
.25	6000V	CP70D1EP254K	E5	19.14	CP70D1FP254K	E4	18.15						
.5	6000V	CP70D1EP504K	J3	22.20									
1.0	6000V	CP70D1EP105K	J11	41.16	CP70D1FP105K	J9	38.70						
.1	7500V				CP70D1FR104K	E3	18.15						
.25	7500V				CP70D1FR254K	J1	22.05						
.5	7500V				CP70D1FR504K	J4	29.10						

A1	1 1/4 x 1 1/2 x 1 1/2	E2	3 3/4 x 2 1/4 x 3 3/8
A2	1 1/4 x 1 1/2 x 2 1/4	E3	3 3/4 x 2 1/4 x 3 3/8
A3	1 1/4 x 1 1/2 x 2 7/8	E4	3 3/4 x 2 1/4 x 4 1/2
A4	1 1/4 x 1 1/2 x 3 1/4	E5	3 3/4 x 2 1/4 x 4 3/4
A5	1 1/4 x 1 1/2 x 3 7/8	E6	3 3/4 x 2 1/4 x 5 1/8
A6	1 1/4 x 1 1/2 x 4 3/4	F1	3 3/4 x 2 1/2 x 4 3/4
B1	2 1/2 x 1 1/4 x 2 1/2	F2	3 3/4 x 2 1/2 x 5 3/4
B2	2 1/2 x 1 1/4 x 2 7/8	G1	3 3/4 x 3 3/4 x 4 1/2
B3	2 1/2 x 1 1/4 x 3 1/2	G2	3 3/4 x 3 3/4 x 4 3/4
B4	2 1/2 x 1 1/4 x 3 7/8	G4	3 3/4 x 3 3/4 x 5 1/2
B5	2 1/2 x 1 1/4 x 4 1/4	J1	4 1/4 x 3 3/4 x 3 7/8
B6	2 1/2 x 1 1/4 x 4 3/4	J2	4 1/4 x 3 3/4 x 4 3/4
C2	3 3/4 x 1 1/4 x 3 7/8	J3	4 1/4 x 3 3/4 x 4 3/4
C3	3 3/4 x 1 1/4 x 4 1/4	J4	4 1/4 x 3 3/4 x 5 1/4
C4	3 3/4 x 1 1/4 x 4 3/4	J5	4 1/4 x 3 3/4 x 5 1/2
D1	3 3/4 x 1 3/4 x 3 3/4	J6	4 1/4 x 3 3/4 x 6
D2	3 3/4 x 1 3/4 x 3 7/8	J7	4 1/4 x 3 3/4 x 6 1/2
D3	3 3/4 x 1 3/4 x 4	J9	4 1/4 x 3 3/4 x 7 1/2
D4	3 3/4 x 1 3/4 x 4 1/4	J10	4 1/4 x 3 3/4 x 8 1/2
D5	3 3/4 x 1 3/4 x 4 3/4	J11	4 1/4 x 3 3/4 x 9 3/4
E1	3 3/4 x 2 1/4 x 2 3/4		

If MIL brackets are required with units, specify CP07S (spade) or CP07F (footed) and add the bracket designation listed beside the unit.

Example: CP70E1EF504K with CP07SA2 brackets.

\*Request O.E.M. Prices in the following quantities: 10-24, 25-49, 50-99

### TYPE CP41 — Characteristics E and F



Cylindrical, hermetically sealed can with screwbase molded cover for vertical mounting. Operating temperature range —55 +85°C. Solder lug. Nonremovable terminals MIL designation B). Supplied with mounting nut and lockwasher. Standard tolerance  $\pm 10\%$  (K).

Units meet Vibration Grade 1 of MIL-C-25C Designated by addition of numeral 1 to part number.

Capacity	Voltage	Char. E P10M	Net Price*	Char. F P10M	Net Price*
2.0	600V	CP41B1EF205K	5.51	CP41B1FF205K	5.51
4.0	600V	CP41B1EF405K	7.46	CP41B1FF405K	7.46
1.0	1000V	CP41B1EG105K	5.51	CP41B1FG105K	5.51
2.0	1000V	CP41B1EG205K	6.59	CP41B1FG205K	6.59
.5	1500V			CP41B1FH504K	6.26
1.0	1500V			CP41B1FH105K	7.07

\*Request O.E.M. Prices in the following quantities: 25-49, 50-99



## CAPACITORS

**INDUSTRIAL CERAMIC CAPACITORS**  
 MIL TYPES CK12, 13, 14, 15, 16 and 17

**CERAFIL®**


These remarkably ultra-miniature units, Molded Type MC80V and Durez Coated Type C80V, are designed primarily for air-borne and space-borne equipments, having critical space and weight parameters. They are also designed for transistorized circuit applications in hearing aids and other critical requirements where space and weight are at an absolute premium. The unique design and construction features of Cerofil® capacitors make it possible to obtain extremely high capacities per unit volume. These tiny capacitors are the ideal answer to many problems created by the growing trend towards miniaturization of electronic assemblies and equipments. When tested using Cerofil® ratings, these units will meet or surpass the requirement of MIL-C-11015C.

For full technical information request Bulletins NPJ-119 Rev. 3 and NPJ-120 Rev.

Capacity Mfd.	MIL-C-11015C Number †	Dimensions ±.003 D x L		Molded Axial Leads Net** ± 20% Part No.			Dimensions* D x L	Dipped Axial Leads Net** ± 10% Part No.			Dipped Radial Leads Net** Part No.		
				Price	Part No.	Price		Part No.	Price				
.00001	CK12AX100-	.087	.315	MC80V100AM	.47	MC80V100AK	.59	.090	.320	C80V100AM	.52	C80V100RM	.57
.000012		.087	.315	MC80V120AM	.47	MC80V120AK	.59						
.000015		.087	.315	MC80V150AM	.47	MC80V150AK	.59						
.000018		.087	.315	MC80V180AM	.47	MC80V180AK	.59						
.000022	CK12AX220-	.087	.315	MC80V220AM	.47	MC80V220AK	.59	.090	.320	C80V220AM	.52	C80V220RM	.57
.000027		.087	.315	MC80V270AM	.47	MC80V270AK	.59						
.000033	CK12AX330-	.087	.315	MC80V330AM	.47	MC80V330AK	.59	.090	.320	C80V330AM	.52	C80V330RM	.57
.000039		.087	.315	MC80V390AM	.47	MC80V390AK	.59						
.000047	CK12AX470-	.087	.315	MC80V470AM	.47	MC80V470AK	.59	.090	.320	C80V470AM	.52	C80V470RM	.57
.000056		.087	.315	MC80V560AM	.47	MC80V560AK	.59	.090	.320	C80V560AM	.52	C80V560RM	.57
.000068		.087	.315	MC80V680AM	.47	MC80V680AK	.59	.090	.320	C80V680AM	.52	C80V680RM	.57
.000082		.087	.315	MC80V820AM	.47	MC80V820AK	.59	.090	.320	C80V820AM	.52	C80V820RM	.57
.0001	CK12AX101-	.087	.315	MC80V101AM	.47	MC80V101AK	.59	.090	.320	C80V101AM	.52	C80V101RM	.57
.00012		.087	.315	MC80V121AM	.47	MC80V121AK	.59						
.00015		.087	.315	MC80V151AM	.47	MC80V151AK	.59						
.00018		.087	.315	MC80V181AM	.47	MC80V181AK	.59						
.00022	CK12AX221-	.087	.315	MC80V221AM	.47	MC80V221AK	.59	.090	.320	C80V221AM	.52	C80V221RM	.57
.00027		.087	.315	MC80V271AM	.47	MC80V271AK	.59						
.00033	CK12AX331-	.087	.315	MC80V331AM	.47	MC80V331AK	.59	.090	.320	C80V331AM	.52	C80V331RM	.57
.00039		.087	.315	MC80V391AM	.47	MC80V391AK	.59						
.00047	CK12AX471-	.087	.315	MC80V471AM	.47	MC80V471AK	.59	.090	.320	C80V471AM	.52	C80V471RM	.57
.00056		.087	.315	MC80V561AM	.47	MC80V561AK	.59	.090	.320	C80V561AM	.52	C80V561RM	.57
.00068		.087	.315	MC80V681AM	.47	MC80V681AK	.59	.090	.320	C80V681AM	.52	C80V681RM	.57
.00082		.087	.315	MC80V821AM	.47	MC80V821AK	.59	.090	.320	C80V821AM	.52	C80V821RM	.57
.001	CK12AX102-	.087	.315	MC80V102AM	.47	MC80V102AK	.59	.090	.320	C80V102AM	.46	C80V102RM	.51
.0012		.117	.495	MC80V122AM	.68	MC80V122AK	.85						
.0015		.117	.495	MC80V152AM	.68	MC80V152AK	.85						
.0018		.117	.495	MC80V182AM	.68	MC80V182AK	.85						
.002		.117	.495	MC80V202AM	.68	MC80V202AK	.85	.120	.500	C80V202AM	.76	C80V202RM	.84
.0022	CK13AX222-	.117	.495	MC80V222AM	.68	MC80V222AK	.85	.120	.500	C80V222AM	.76	C80V222RM	.84
.0027		.117	.495	MC80V272AM	.68	MC80V272AK	.85						
.0033	CK13AX332-	.117	.495	MC80V332AM	.68	MC80V332AK	.85	.120	.500	C80V332AM	.76	C80V332RM	.84
.0039		.117	.495	MC80V392AM	.68	MC80V392AK	.85						
.0047	CK13AX472-	.117	.495	MC80V472AM	.68	MC80V472AK	.85	.120	.500	C80V472AM	.76	C80V472RM	.84
.005		.117	.495	MC80V502AM	.68	MC80V502AK	.85	.120	.500	C80V502AM	.76	C80V502RM	.84
.0056		.157	.495	MC80V562AM	.90	MC80V562AK	1.13						
.0068		.157	.495	MC80V682AM	.90	MC80V682AK	1.13	.180	.500	C80V682AM	1.00	C80V682RM	1.19
.0082		.157	.495	MC80V822AM	.90	MC80V822AK	1.13						
.01	CK14AX103-	.157	.495	MC80V103AM	.90	MC80V103AK	1.13	.180	.500	C80V103AM	1.00	C80V103RM	1.19
.012		.197	.495	MC80V123AM	1.65	MC80V123AK	2.06						
.015		.197	.495	MC80V153AM	1.65	MC80V153AK	2.06						
.018		.197	.495	MC80V183AM	1.65	MC80V183AK	2.06						
.02		.197	.495	MC80V203AM	1.65	MC80V203AK	2.06	.200	.500	C80V203AM	1.83	C80V203RM	2.03
.022	CK15AX223-	.197	.495	MC80V223AM	1.65	MC80V223AK	2.06	.200	.500	C80V223AM	3.05	C80V223RM	3.38
.027		.237	.645	MC80V273AM	2.75	MC80V273AK	3.44						
.033		.237	.645	MC80V333AM	2.75	MC80V333AK	3.44	.240	.650	C80V333AM	3.05	C80V333RM	3.38
.039		.237	.645	MC80V393AM	2.75	MC80V393AK	3.44						
.047	CK16AX473-	.237	.645	MC80V473AM	2.75	MC80V473AK	3.44	.240	.650	C80V473AM	3.05	C80V473RM	3.38
.05		.237	.645	MC80V503AM	2.75	MC80V503AK	3.44	.240	.650	C80V503AM	3.05	C80V503RM	3.38
.056		.277	.745	MC80V563AM	4.93	MC80V563AK	6.16						
.068		.277	.745	MC80V683AM	4.93	MC80V683AK	6.16	.310	.750	C80V683AM	5.48	C80V683RM	6.08
.082		.277	.745	MC80V823AM	4.93	MC80V823AK	6.16						
.1	CK17AX104-	.277	.745	MC80V104AM	4.93	MC80V104AK	6.16	.310	.750	C80V104AM	5.48	C80V104RM	6.08

† FOR CK12 THRU CK17 SPECIFY K OR M TOLERANCE AND USE SAME PRICE AS SHOWN FOR COMPARABLE MC80V, K OR M TOLERANCE.

\*Overall length may exceed dimensions shown by as much as 1/16" due to deposit of insulating material on leads.

**ELECTRICAL SPECIFICATIONS**

- VOLTAGE — 100 VDCW; 300 VDC
- CAPACITY TOLERANCE — ±10% (K), ±20% (M) as listed above.
- INSULATION RESISTANCE — 100 mfd.—megohms or 10,000 megohms whichever is smaller.
- TEMPERATURE COEFFICIENT — (-55°C to +85°C.)  
No voltage +10% to -15%.  
100 volts applied — +10% to -35%.
- POWER FACTOR — 2.5% maximum.
- OPERATING TEMPERATURE  
—55°C to 85°C at 100 volts  
—55°C to 125°C at 50 volts

**MECHANICAL SPECIFICATIONS**

- All dimensions in inches.
- LEADS — Tinned Copper  
C80V—Below .01 mfil.—#26 gauge.  
.01 and above—#22 gauge..  
MC80V—.005 and below—#26 gauge.  
.0051 and above—#22 gauge.
- LEAD LENGTHS — C80V—1½" Min.  
MC80V—1¾" Min.
- MARKING — Color code. No code for temperature coefficient; no code for lead designation since it is obvious.

\*\* Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-499



# CAPACITORS

## EXTENDED CAPACITY RANGE

MC51-61 — 100 VDCW  
 MC505-605 — 50 VDCW  
 MC502-602 — 25 VDCW

Now available are Capacitance values up to .01 mfd. in the CK05 configuration and to 1.0 mfd. in the CK06 size. Temperature Range  $-55^{\circ}\text{C}$   $+125^{\circ}\text{C}$ . Insulation Resistance is 10,000 meg. ohms or 1,000 meg. mfd. whichever is less. MC51-61 will meet BX Voltage-Temperature Characteristic when operated at 50 Vt. D.C. The Monolithic CERAM structure provides the means of meeting environmental requirements of MIL-C-11015.

### STOCK LISTING MC51-61 — 100 VDCW

Cap. uf	Old Part No. $\pm 10\%$	New Part No. $\pm 10\%$	Old Part No. $\pm 20\%$	New Part No. $\pm 20\%$
.0015	MC51BW152K	MC51C152RK	MC51BW152M	MC51C152RM
.0022	MC51BW222K	MC51C222RK	MC51BW222M	MC51C222RM
.0033	MC51BW332K	MC51C332RK	MC51BW332M	MC51C332RM
.0047	MC51BW472K	MC51C472RK	MC51BW472M	MC51C472RM
.0068	MC51BW682K	MC51C682RK	MC51BW682M	MC51C682RM
.01	MC51BW103K	MC51C103RK	MC51BW103M	MC51C103RM
.015	MC61BW153K	MC61C153RK	MC61BW153M	MC61C153RM
.022	MC61BW223K	MC61C223RK	MC61BW223M	MC61C223RM
.033	MC61BW333K	MC61C333RK	MC61BW333M	MC61C333RM
.047	MC61BW473K	MC61C473RK	MC61BW473M	MC61C473RM
.068	MC61BW683K	MC61C683RK	MC61BW683M	MC61C683RM
.1	MC61BW104K	MC61C104RK	MC61BW104M	MC61C104RM

### STOCK LISTING MC505-605 — 50 VDCW

Cap. uf	Part No. $\pm 10\%$	Part No. $\pm 20\%$	Cap. uf	Part No. $\pm 10\%$	Part No. $\pm 20\%$
00047	MC505A471RK	MC505A471RM	.01	MC605B103RK	MC605B103RM
00068	MC605A681RK	MC605A681RM	.015	MC605B153RK	MC605B153RM
001	MC605A102RK	MC605A102RM	.022	MC605B223RK	MC605B223RM
0015	MC605A152RK	MC605A152RM	.033	MC505C333RK	MC505C333RM
0022	MC605A222RK	MC605A222RM	.047	MC605C473RK	MC605C473RM
0033	MC505B332RK	MC505B332RM	.068	MC605C683RK	MC605C683RM
0047	MC505B472RK	MC505B472RM	.1	MC605C104RK	MC605C104RM
0068	MC605B682RK	MC605B682RM			

### STOCK LISTING MC502-602 — 25 VDCW

Cap. uf	Part No. $\pm 10\%$	Cap. uf	Part No. $\pm 10\%$	Cap. uf	Part No. $\pm 20\%$
.001	MC502A102RK	.015	MC602A153RK	.15	MC502C154RM
.0015	MC502A152RK	.022	MC502B223RK	.22	MC502C224RM
.0022	MC502A222RK	.033	MC502B333RK	.33	MC502C334RM
.0033	MC502A332RK	.047	MC502B473RK	.47	MC602C474RM
.0047	MC502A472RK	.068	MC602B683RK	.68	MC602C684RM
.0068	MC502A682RK	.1	MC602B104RK	1.0	MC602C105RM
.01	MC602A103RK				

## SPECIFICATIONS

Maximum Power Factor	Zero Volts	Rated Volts	Temperature Coefficient Letter
.1%	$\pm 0.5\%$	$\pm 0.5\%$	A
1.0%	+5% —8%	+5% —10%	B
2.5%	+10% —15%	+10% —30%	C

## PART NUMBER CODE

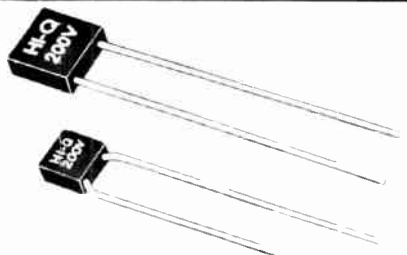
TYPICAL PART NUMBER CODE EXAMPLE FOR 10,000 pf  $\pm 20\%$  50V CK05 SIZE

MC	505	C	103	R	M
TYPE	CONTROL NO.	TEMPERATURE COEFFICIENT (see TC column in charts)	CAPACITY pf First two Figures Significant Third Figure Indicates Number of Zeroes	LEAD CONFIGURATIONS R = Radial A = Axial	CAPACITY TOLERANCE X = +80% —20% K = $\pm 10\%$ M = $\pm 20\%$ Z = GMV

CONTACT FACTORY FOR PRICES.



# CAPACITORS



### MIL TYPE CK05-CK06

Will meet MIL-C-11015 18 19 & will operate without derating at 200 VDC from -55°C to +150°C. Life tested at 400 VDC, 150°C & manufactured in complete, new automated facility Molded (not shell encased) — Ceralam Process

### SIZE CHART

CK05 — .195 x .195 x .095      CK06 — .295 x .295 x .095

These units are marked with capacity, voltage and tolerance.

For complete technical data request bulletin NPJ-123 Rev. 2.

### MIL TYPES CK05-CK06 — 200 VOLTS

Cap. pf	±10%	±20%	Cap. pf	±10%	±20%
10	CK05CW100K	CK05CW100M	390	CK05CW391K	CK05CW391M
12	CK05CW120K	CK05CW120M	470	CK05CW471K	CK05CW471M
15	CK05CW150K	CK05CW150M	560	CK05CW561K	CK05CW561M
18	CK05CW180K	CK05CW180M	680	CK05CW681K	CK05CW681M
22	CK05CW220K	CK05CW220M	820	CK05CW821K	CK05CW821M
27	CK05CW270K	CK05CW270M	1000	CK05CW102K	CK05CW102M
33	CK05CW330K	CK05CW330M	1200	CK06CW122K	CK06CW122M
39	CK05CW390K	CK05CW390M	1500	CK06CW152K	CK06CW152M
47	CK05CW470K	CK05CW470M	1800	CK06CW182K	CK06CW182M
56	CK05CW560K	CK05CW560M	2200	CK06CW222K	CK06CW222M
68	CK05CW680K	CK05CW680M	2700	CK06CW272K	CK06CW272M
82	CK05CW820K	CK05CW820M	3300	CK06CW332K	CK06CW332M
100	CK05CW101K	CK05CW101M	3900	CK06CW392K	CK06CW392M
120	CK05CW121K	CK05CW121M	4700	CK06CW472K	CK06CW472M
150	CK05CW151K	CK05CW151M	5600	CK06CW562K	CK06CW562M
180	CK05CW181K	CK05CW181M	6800	CK06CW682K	CK06CW682M
220	CK05CW221K	CK05CW221M	8200	CK06CW822K	CK06CW822M
270	CK05CW271K	CK05CW271M	10000	CK06CW103K	CK06CW103M
330	CK05CW331K	CK05CW331M			

For Further Technical Information Request NPJ 129 Rev. 2

### Type MC70, MC705, MC702E

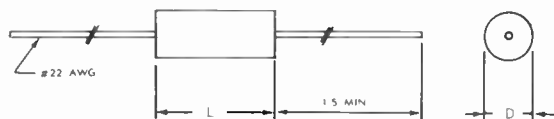
### 10 pf to 250,000pf in Cordwood Size Case



These molded Ceralam capacitors are ideally suited for automatic insertion into printed circuit boards . . . and perfectly suited to "cordwood" packaging requirements. MC70 and MC705 will meet the environmental requirements of MIL-C-11015, MIL-C-38100 and MIL-C-39014. Number 26 gauge gold plated dumet leads are standard. Working volts MC70 100 VDCW MC705 50 VDCW and MC702E 25 VDCW.

Cap. pf.	Cat.No.	Cap. pf.	Cat. No.	Cap. pf.	Cat. No.	Cap. pf.	Cat. No.
10	MC70A100AK	75	MC70B750AK	820	MC70C821AK	10,000	MC70E103AK
12	MC70A120AK	82	MC70B820AK	1000	MC70C102AK	10,000	MC70E103AM
15	MC70A150AK	91	MC70B910AK	1200	MC70C122AK	15,000	MC705C153AM
18	MC70A180AK	100	MC70B101AK	1500	MC70C152AK	20,000	MC705C203AM
22	MC70A220AK	120	MC70B121AK	1800	MC70C182AK	22,000	MC702E223AM
27	MC70A270AK	150	MC70B151AK	2200	MC70C222AK	33,000	MC702E333AM
33	MC70A330AK	180	MC70B181AK	2700	MC70C272AK	47,000	MC702E473AM
39	MC70B390AK	220	MC70B221AK	3300	MC70C332AK	56,000	MC702E563AM
47	MC70B470AK	270	MC70B271AK	3900	MC70C392AK	68,000	MC702E683AM
51	MC70B510AK	330	MC70C331AK	4700	MC70C472AM	100,000	MC702E104AM
56	MC70B560AK	470	MC70C471AK	5600	MC70C562AM	150,000	MC702E154AM
62	MC70B620AK	560	MC70C561AK	6800	MC70C682AM	220,000	MC702E224AM
68	MC70B680AK	680	MC70C681AK	8200	MC70C822AM	250,000	MC702E254AM

### CERALAM® — MOLDED TUBULAR CAPACITORS TYPE MC89



Type MC89 Molded Ceralam Capacitors are rated at 50 V.D.C. @ 125°C and are available in 10% and 20% tolerance. Initial insulation resistance is 1 K Meg. Mfd. or 20,000 Meg. Min., whichever is smaller. Will meet the environmental requirements of MIL-C-11015, 39014, 38100. Power Factor 2.5%.

Capacity uf	Part Number ±10%	Part Number ±20%	"D" Max.	"L" Max.
.1	MC89C104AK	MC89C104AM	.140	.400
.25	MC89C254AK	MC89C254AM	.210	.495
.5	MC89C504AK	MC89C504AM	.260	.495
1.0	MC89C105AK	MC89C105AM	.260	.690
2.0	MC89C205AK	MC89C205AM	.350	.690

All Units English Marked.  
All Units Tinned copper leads.



# CAPACITORS

## HIGH RELIABILITY CERAMICS

MIL-C-39014 High Reliability version of units listed as CK05-06, etc. in MIL-C-11015.  
 All units listed meet failure rate level M (1.0%) shown by last digit in part number.  
 Better failure rates (P, R, S) will be made available as test time is completed.  
 Units are available on basis of factory delivery.  
 Marking — units are marked with MIL Part Number.

### MIL TYPE CKR05 — 200 VOLTS

Cap. pf	±10%		±20%	
	MIL Type Designation	MIL Part Number	MIL Type Designation	MIL Part Number
10	CKR05CW100KM	MIL C 39014 01-0001	CKR05CW100MM	MIL-C 39014 01-0005
12	CKR05CW120KM	MIL C 39014 01-0009		
15	CKR05CW150KM	MIL C 39014 01-0013	CKR05CW150MM	MIL-C 39014 01-0017
18	CKR05CW180KM	MIL C 39014 01-0021		
22	CKR05CW220KM	MIL C 39014 01-0025	CKR05CW220MM	MIL C 39014 01-0029
27	CKR05CW270KM	MIL C 39014 01-0033		
33	CKR05CW330KM	MIL C 39014 01-0037	CKR05CW330MM	MIL C 39014 01-0041
39	CKR05CW390KM	MIL C 39014 01-0045		
47	CKR05CW470KM	MIL C 39014 01-0049	CKR05CW470MM	MIL C 39014 01-0053
56	CKR05CW560KM	MIL C 39014 01-0057		
68	CKR05CW680KM	MIL C 39014 01-0061	CKR05CW680MM	MIL C 39014 01-0061
82	CKR05CW820KM	MIL C 39014 01-0069		
100	CKR05CW101KM	MIL C 39014 01-0073	CKR05CW101MM	MIL-C 39014 01-0077
120	CKR05CW121KM	MIL C 39014 01-0081		
150	CKR05CW151KM	MIL-C 39014 01-0085	CKR05CW151MM	MIL-C-39014 01-0089
180	CKR05CW181KM	MIL C 39014 01-0093		
220	CKR05CW221KM	MIL C 39014 01-0097	CKR05CW221MM	MIL-C 39014 01-0101
270	CKR05CW271KM	MIL C 39014 01-0105		
330	CKR05CW331KM	MIL C 39014 01-0109	CKR05CW331MM	MIL-C 39014 01-0113
390	CKR05CW391KM	MIL C 39014 01-0117		
470	CKR05CW471KM	MIL C 39014 01-0121	CKR05CW471MM	MIL-C-39014 01-0125
560	CKR05CW561KM	MIL C 39014 01-0129		
680	CKR05CW681KM	MIL-C 39014 01-0133	CKR05CW681MM	MIL-C-39014 01-0137
820	CKR05CW821KM	MIL C 39014 01-0141		
1000	CKR05CW102KM	MIL C 39014 01-0145	CKR05CW102MM	MIL-C 39014 01-0149

### MIL TYPE CKR06 — 200 VOLTS

Cap. pf	±10%		±20%	
	MIL Type Designation	MIL Part Number	MIL Type Designation	MIL Part Number
1200	CKR06CW122KM	MIL C 39014 02-0001		
1500	CKR06CW152KM	MIL C 39014 02-0005	CKR06CW152MM	MIL C-39014 02-0009
1800	CKR06CW182KM	MIL C 39014 02-0013		
2000	CKR06CW202KM	MIL C 39014 02-0017		
2200	CKR06CW222KM	MIL C-39014 02-0021	CKR06CW222MM	MIL-C 39014 02-0025
2700	CKR06CW272KM	MIL C 39014 02-0029		
3300	CKR06CW332KM	MIL C 39014 02-0033	CKR06CW332MM	MIL C 39014 02-0037
3900	CKR06CW392KM	MIL C-39014 02-0041		
4700	CKR06CW472KM	MIL-C 39014 02-0045	CKR06CW472MM	MIL C 39014 02-0049
5600	CKR06CW562KM	MIL C 39014 02-0053		
6800	CKR06CW682KM	MIL C 39014 02-0057	CKR06CW682MM	MIL-C 39014 02-0061
8200	CKR06CW822KM	MIL C 39014 02-0065		
10000	CKR06CW103KM	MIL C 39014 02-0069	CKR06CW103MM	MIL-C 39014 02-0073
15000	CKR06CW153KM	MIL C 39014 02-0077		
18000	CKR06CW183KM	MIL C 39014 02-0081		
22000	CKR06CW223KM	MIL C 39014 02-0085		
33000	CKR06CW333KM	MIL C 39014 02-0089		
39000	CKR06CW393KM	MIL C 39014 02-0093		
47000	CKR06CW473KM	MIL C-39014 02-0097		
56000	CKR06CW563KM	MIL-C 39014 02-0101		
68000	CKR06CW683KM	MIL C-39014 02-0105		
72000	CKR06CW723KM	MIL C-39014 02-0109		
82000	CKR06CW823KM	MIL C-39014 02-0113		
100000	CKR06CW104KM	MIL C-39014 02-0117		

\* 200 volts except for asterisked items which are 100 volts

### MIL TYPE CKR12 — 100 VOLTS

Cap. pf	±10%		±20%	
	MIL Type Designation	MIL Part Number	MIL Type Designation	MIL Part Number
10	CKR12BX100KM	MIL C-39014 05-0001	CKR12BX100MM	MIL C 39014 05-0005
22	CKR12BX220KM	MIL C-39014 05-0009	CKR12BX220MM	MIL-C 39014 05-0013
33	CKR12BX330KM	MIL C-39014 05-0017	CKR12BX330MM	MIL-C-39014 05-0021
47	CKR12BX470KM	MIL C-39014 05-0025	CKR12BX470MM	MIL-C 39014 05-0029
56	CKR12BX560KM	MIL C 39014 05-0033		
68	CKR12BX680KM	MIL C-39014 05-0037	CKR12BX680MM	MIL C 39014 05-0041
82	CKR12BX820KM	MIL C-39014 05-0045	CKR12BX820MM	MIL-C-39014 05-0049
100	CKR12BX101KM	MIL C 39014 05-0053	CKR12BX101MM	MIL C 39014 05-0057
150	CKR12BX151KM	MIL C 39014 05-0061	CKR12BX151MM	MIL-C 39014 05-0065
180	CKR12BX181KM	MIL C-39014 05-0069		
220	CKR12BX221KM	MIL C 39014 05-0073	CKR12BX221M	MIL C 39014 05-0077
330	CKR12BX331KM	MIL C 39014 05-0081	CKR12BX331M	MIL-C 39014 05-0085
390	CKR12BX391KM	MIL C-39014 05-0089		
470	CKR12BX471KM	MIL C 39014 05-0093	CKR12BX471MM	MIL-C-39014 05-0097
560	CKR12BX561KM	MIL C 39014 05-0101		
680	CKR12BX681KM	MIL C-39014 05-0105	CKR12BX681MM	MIL-C-39014 05-0109
720	CKR12BX721KM	MIL C-39014 05-0113		
820	CKR12BX821KM	MIL C 39014 05-0117	CKR12BX821MM	MIL-C-39014 05-0121
1000	CKR12BX102KM	MIL C-39014 05-0125	CKR12BX102MM	MIL-C-39014 05-0129
1200	CKR12BX122KM	MIL C 39014 05-0133		
1500	CKR12BX152KM	MIL C 39014 05-0137	CKR12BX152MM	MIL-C-39014 05-0141
1800	CKR12BX182KM	MIL C-39014 05-0145		
2200	CKR12BX222KM	MIL-C 39014 05-0149	CKR12BX222MM	MIL C 39014 05-0153
3300	CKR12BX332KM	MIL-C 39014 05-0157	CKR12BX332MM	MIL C 39014 05-0161
4700	CKR12BX472KM	MIL C 39014 05-0165	CKR12BX472MM	MIL-C-39014 05-0169
10000	CKR12BX103KM	MIL C 39014 05-0173	CKR12BX103MM	MIL-C-39014 05-0177

CONTACT FACTORY FOR PRICES





# CAPACITORS

## MIL TYPE CKR13 — 100 VOLTS

Cap. pf	±10%		±20%	
	MIL Type Designation	MIL Part Number	MIL Type Designation	MIL Part Number
15000	CKR13BX153KM	MIL-C-39014/06-0001	CKR13BX153MM	MIL-C-39014/06-0005
22000	CKR13BX223KM	MIL-C-39014/06-0009	CKR13BX223MM	MIL-C-39014/06-0013
33000	CKR13BX333KM	MIL-C-39014/06-0017	CKR13BX333MM	MIL-C-39014/06-0021
47000	CKR13BX473KM	MIL-C-39014/06-0025	CKR13BX473MM	MIL-C-39014/06-0029
68000	CKR13BX683KM	MIL-C-39014/06-0033	CKR13BX683MM	MIL-C-39014/06-0037
82000	CKR13BX823KM	MIL-C-39014/06-0041	CKR13BX823MM	MIL-C-39014/06-0045
100000	CKR13BX104KM	MIL-C-39014/06-0049	CKR13BX104MM	MIL-C-39014/06-0053



### CHIP CAPACITOR ENGINEERING KIT AKC-800

To facilitate prototype development of hybrid circuits Aerovox offers a Chip Capacitor Engineering Kit containing 125 chip capacitors in capacitance values from 1 pf to 100,000 pf. Assortment covers the three basic temperature characteristics.

Chips are silver terminated and a supply of leads is provided for attaching either by soldering or welding methods.

### TYPE ULA MICROMINIATURE CERAMIC®

#### CHIP CAPACITORS FOR HYBRID CIRCUITS

Replacement units for items in Chip Kit AKC-800. High ratio of capacity to volume inherent in Ceramic monolithic capacitors allows unusually small sizes especially suited to hybrid circuitry. Units supplied unencapsulated, ready-to-solder into circuit.

Complete range of popular capacitance and voltage value in three temperature coefficient ratings for widest possible applications.

All units rated at 50 VDC and standard tolerance is ±20% except for 1.0 pf with tolerance of ±.5 mmf.

Part Number	Cap. uf	Volts working*	Part Number	Cap. uf	Volts working*
ULA105A100M	10	50V	ULA305A501M	500	50V
ULA105A500M	50	50V	ULA305B222M	2,200	50V
ULA105A101M	100	50V	ULA305C223M	22,000	50V
ULA105B501M	500	50V	ULA505A102M	1,000	50V
ULA105B102M	1000	50V	ULA505A222M	2,200	50V
ULA105C222M	2200	50V	ULA505B103M	10,000	50V
ULA105C502M	5000	50V	ULA505C104M	100,000	50V
ULA105C103M	10,000	50V	ULA705B502M	5,000	50V
			ULA705C503M	50,000	50V

\*Improvements in the state of the art allow us to furnish replacement capacitors at 50 VDCW. All other characteristics are the same as the chips furnished in the Kit AKC-800—the only difference is in nomenclature. (ULA105 = 50 VDCW; ULA102 = 25 VDCW etc.)

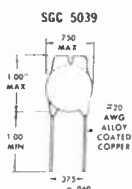
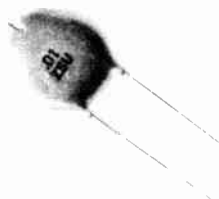
Chips are packaged in sealed packages of 25 each.

### SIZE CHART

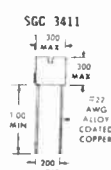
Type	L ±.010	x	W ±.010	x	T Max.
ULA105	.075"	x	.050"	x	.050"
ULA305	.105"	x	.070"	x	.060"
ULA505	.130"	x	.160"	x	.060"
ULA705	.180"	x	.050"	x	.060"

### SPARK GAP CAPACITOR

The spark gap capacitor is a protective device which limits excessive transient voltage surges to a non-destructive level. Two styles are offered at present, Type 5039 featuring a capacitive element across the gap and type 3411 minimum capacitance type used between grid lead and chassis ground providing a low impedance path to ground. The latter unit is popular in color TV application.



Capacity: .01 mf  
Tol. %: +80, -20  
Working Volts: 1 KV  
Gap Breakdown: 2 KV to 3 KV  
Temp. Coef.: Z5U  
Marking: Hi-Q, capacitance, working, volts.



Capacity: .5 pf max. @ 1 mc.  
Tol. %: Max.  
Working Volts: 1 KV  
Gap Breakdown: 1 KV to 2 KV  
Temp. Coef.: Not Applicable  
Marking: Hi-Q, working volts

CONTACT FACTORY FOR PRICES



# CAPACITORS

## INDUSTRIAL CERAMIC CAPACITORS (cont.)

### SUBMINIATURE THIN PLATE CAPACITORS TYPES TPNPO, TP25 & TP89



Subminiature rectangular ceramic capacitors with a difference. Slim design allows close assembly, small size-maximum circuit density. Ideal for transistorized circuit and micro-module applications

- Close temperature coefficients
- Operation to 125°C
- Closer standard tolerances
- Radial or axial lead
- Gold plate Dumet leads

For complete technical data request bulletin NPJ-122.

#### TYPICAL PROPERTIES

	TYPE TPNPO	TYPE TP25	TYPE TP89
Voltage, VDCW (at 85° C, Derated 50% at 125° C)	50	50	50
Power Factor, Maximum @ 1 KC.	.1%	.6%	2%
Temperature Coefficient with 0 Voltage, —55° C to +125° C.	0 ± 30PPM °C	+5%, —8%	+10%, —30%
Temperature Coefficient with rated Voltage applied, —55° C to +125° C.	0 ± 30PPM °C	±5%, —10%	+10%, —40%
Capacity Tolerance	±5%*	±10%	±20%

\* To 6.8 mmf. ± .5 mmf.

#### TYPICAL CAPACITY RANGE—MMF

MAXIMUM SIZE (L x W x t)	TYPE TPNPO	TYPE TP25	TYPE TP89
100 x 100 x .060"	5 - 20	25 - 140	360 - 1300
150 x 150 x .060"	21 - 50	141 - 350	1301 - 3300
200 x 200 x .060"	51 - 100	351 - 700	3301 - 6600
250 x 250 x .060"	101 - 160	701 - 1200	6601 - 10500
300 x 300 x .060"	161 - 220	1201 - 1500	10501 - 14500
350 x 350 x .060"	221 - 305	1501 - 2100	14501 - 20000

Spacing between radial leads is 100" on the 100" and 150" case sizes, 200" on all other case sizes

#### STOCK VALUES†

Capacitance in MMFD.	CAT. NO. TPNPO	*Net Price	CAT. NO. TP25	*Net Price	CAT. NO. TP89	*Net Price
4.7	TPNPO 4R7*D	.68				
6.8	TPNPO 6R8*D	.68				
10.0	TPNPO 100*J	.68				
15.0	TPNPO 150*J	.68				
22.0	TPNPO-220*J	.68				
33.0	TPNPO-330*J	.68	TP25-330*K	.60		
47.0	TPNPO-470*J	.68	TP25-470*K	.60		
68.0	TPNPO-680*J	.68	TP25-680*K	.60		
100	TPNPO-101*J	.68	TP25-101*K	.60	TP89-471*M	.48
150	TPNPO-151*J	.82	TP25-151*K	.60	TP89-681*M	.48
220	TPNPO-221*J	.82	TP25-221*K	.60	TP89-102*M	.48
330			TP25-331*K	.60	TP89-152*M	.48
470			TP25-471*K	.60	TP89-222*M	.48
680			TP25-681*K	.60	TP89-332*M	.48
1000			TP25-102*K	.72	TP89-472*M	.48
1500			TP25-152*K	.72	TP89-682*M	.58
2200			TP25-222*K	1.45	TP89-103*M	.58
3300					TP89-153*M	1.16
4700					TP89-203*M	1.16
6800						
10,000						
15,000						
20,000						

\*insert "A" for axial leads or "R" for radial leads  
† Intermediate values and closer tolerances available on special order  
\*Request O.E.M. Prices in the following quantities: 50-99, 100-499

### MILITARY CERAMIC DISCS

CK60, 61, 62 and 63

MIL-C-11015C - 500 VDCW



Cap. pf.	VDCW	Tol.	Mil Number	*Net Price	Cap. pf.	VDCW	Tol.	Mil Number	*Net Price
2.2	1000	10%	CK60BX2R2K	.165	330	500	20%	CK61BX331M	.156
3.3	1000	10%	CK60BX3R3K	.165	470	500	10%	CK61BX471K	.165
4.7	1000	10%	CK60BX4R7K	.165	470	500	20%	CK61BX471M	.156
6.8	1000	10%	CK60BX6R8K	.165	680	500	10%	CK61BX681K	.165
10	1000	10%	CK60BX100K	.165	680	500	20%	CK61BX681M	.156
15	1000	10%	CK60BX150K	.165	2200	500	20%	CK61AW222M	.148
22	1000	10%	CK60BX220K	.165	22	1500	20%	CK62AY220M	.148
33	1000	10%	CK60BX330K	.165	47	1500	20%	CK62AY470M	.159
33	1000	20%	CK60BX330M	.156	100	1500	20%	CK62AY101M	.159
47	1000	10%	CK60BX470K	.165	220	1500	20%	CK62AY221M	.159
47	1000	20%	CK60BX470M	.156	470	1500	20%	CK62AY471M	.159
68	1000	10%	CK60BX680K	.165	820	500	10%	CK62BX821K	.181
68	1000	20%	CK60BX680M	.156	820	500	20%	CK62BX821M	.167
100	1000	10%	CK60BX101K	.165	1000	500	10%	CK62BX102K	.181
100	1000	20%	CK60BX101M	.156	1000	500	20%	CK62BX102M	.167
150	500	10%	CK60BX151K	.165	1500	500	10%	CK62BX152K	.181
150	500	20%	CK60BX151M	.156	1500	500	20%	CK62BX152M	.167
220	1000	10%	CK60AX221K	.165	2200	500	10%	CK62AX222K	.181
220	1000	20%	CK60AX221M	.156	2200	500	20%	CK62AX222M	.167
330	500	10%	CK60AX331K	.165	3300	500	20%	CK62AX332M	.159
330	500	20%	CK60AX331M	.156	4700	500	20%	CK62AX472M	.159
470	500	10%	CK60AX471K	.165	6800	500	20%	CK62AX682M	.159
470	500	20%	CK60AX471M	.156	8200	500	20%	CK62AX822M	.159
470	1000	20%	CK60AX471M	.148	2200	500	10%	CK63BX222K	.204
680	1000	20%	CK60AW681M	.148	2200	500	20%	CK63BX222M	.176
820	1000	20%	CK60AW821M	.148	3300	500	10%	CK63BX332K	.204
1000	1000	20%	CK60AW102M	.148	3300	500	20%	CK63BX332M	.176
1500	500	20%	CK60AW152M	.148	4700	1000	20%	CK63AW472M	.168
220	500	10%	CK61BX221K	.165	10,000	1000	+80%	CK63AY103X	.168
220	500	20%	CK61BX221M	.156			-20%		
330	500	10%	CK61BX331K	.165	10,000	500	20%	CK63AW103M	.168

\*Request O.E.M. Prices in the following quantities: 50-99, 100-249, 250-499, 500-999

### MILITARY GENERAL PURPOSE CERAMIC TUBULARS

CK21, CK22, CK26, CK27

MIL-C-11015C



CK21 - 26

CK22 - 27

Cap. mmf.	*10%	*Price	*20%	*Price	*10%	*Price	*20%	*Price
12	CK21AX120K	.22			CK22AX120K	.17		
15	CK21AX150K	.22			CK22AX150K	.17		
18	CK21AX180K	.22			CK22AX180K	.17		
22	CK21AX220K	.22			CK22AX220K	.17		
27	CK21AX270K	.22			CK22AX270K	.17		
33	CK21AX330K	.22			CK22AX330K	.17		
39	CK21AX390K	.22			CK22AX390K	.17		
47	CK21AX470K	.22			CK22AX470K	.17		
56	CK21AX560K	.22			CK22AX560K	.17		
68	CK21AX680K	.22	CK21AX680M	.21	CK22AX680K	.17	CK22AX680M	.16
82	CK21AX820K	.22			CK22AX820K	.17		
100	CK21AX101K	.22	CK21AX101M	.21	CK22AX101K	.17	CK22AX101M	.16
120	CK21AX121K	.22			CK22AX121K	.17		
150	CK21AX151K	.28	CK21AX151M	.26	CK22AX151K	.23	CK22AX151M	.21
180	CK21AX181K	.28			CK22AX181K	.23		
200	CK21AX221K	.28	CK21AX221M	.26	CK22AX221K	.23	CK22AX221M	.21
270	CK21AX271K	.28			CK22AX271K	.23		
330	CK21AX331K	.28	CK21AX331M	.26	CK22AX331K	.23	CK22AX331M	.21
390					CK22AX391K	.23		
470	CK21AX471K	.28	CK21AX471M	.26	CK22AX471K	.23	CK22AX471M	.21
560					CK22AX561K	.23		
680	CK21AX681K	.28	CK21AX681M	.26	CK22AX681K	.23	CK22AX681M	.21
820	CK26AX821K	.30	CK26AX821M	.28	CK27AX821K	.25		
1000	CK26AX102K	.30	CK26AX102M	.28	CK27AX102K	.25	CK27AX102M	.23
1200					CK27AX122K	.25		
1500	CK26AX152K	.30	CK26AX152M	.28	CK27AX152K	.25	CK27AX152M	.23

\*Request O.E.M. Prices in the following quantities: 25-99, 100-249, 250-499, 500-999.



# CAPACITORS

## ML-10 MICROMINIATURE MOLDED TUBULAR CAPACITORS



The ML-10 is a microminiature monolithic ceramic capacitor molded into an environment resistant epoxy jacket. This unit, of proven reliable Hi-Q Ceralam construction, will meet the environmental requirements of MIL-C-11015 and MIL-C-39014.

Ideal for automatic insertion in printed board circuitry.

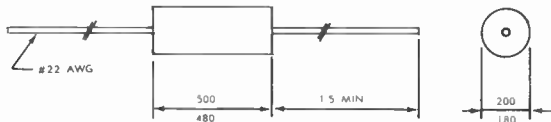
For cordwood packaging with components as small as the RN50 1/20w resistor.

CONTACT FACTORY FOR PRICES

Capacity pf	Part Number 100VW	Part Number 50VW	Part Number 25VW	Capacity pf	Part Number 50VW	Part Number 25VW
10	ML110A100AM			820		ML102A821AM
15	ML110A150AM			1000		ML102A102AM
22	ML110A220AM			1500	ML105B152AM	
33	ML110A330AM			2200	ML105B222AM	
47	ML110A470AM			3300	ML105B332AM	
56	ML110A560AM			4700		ML102B472AM
68	ML110A680AM			5600		ML102B562AM
82	ML110A820AM			6800		ML102B682AM
100	ML110A101AM			8200	ML105C822AM	
150		ML105A151AM		10000	ML105C103AM	
220		ML105A221AM		15000	ML105C153AM	
330		ML105A331AM		22000	ML105C223AM	
470		ML105A471AM		33000		ML102C333AM
560			ML102A561AM	47000		ML102C473AM
680			ML102A681AM			

English Marked #26 Gauge-Tinned Copper

### MC91 and MC905 CERAMAM CAPACITORS



MC91 and MC905 Ceralam Capacitors, twice the size of the MC70 Ceralam, will meet the environment requirements of MIL-C-11015 and MIL-C-39014.

These units have a temperature range of -55° to +125°C. Capacitance change at 0 VDC is +10% -15%; at rated voltage +10% -30%. Maximum power factor is 2.5%. Gold Dumet leads are standard. For full technical information request bulletin NPJ-133.

Units will be English marked, stamped with - Hi-Q, Part Number and Tolerance.



### MC91 and MC905 STOCK LISTING

Cap. pf.	VDCW	Part No. ±10%	Net Price*	Part No. ±20%	Net Price*
15,000	100	MC91C153K	\$2.29	MC91C153M	\$1.83
22,000	100	MC91C223K	2.44	MC91C223M	1.95
33,000	100	MC91C333K	3.15	MC91C333M	2.52
47,000	100	MC91C473K	3.26	MC91C473M	2.61
68,000	100	MC91C683K	3.26	MC91C683M	2.61
100,000	100	MC91C104K	6.50	MC91C104M	5.20
150,000	50	MC905C154K	6.50	MC905C154M	5.20
220,000	50	MC905C224K	7.29	MC905C224M	5.88

\*Request O.E.M. Prices in the Following Quantities: 25-49, 50-99, 100-499.



### HIGH CAPACITY, HIGH RELIABILITY, ROLLED CERAMIC CAPACITORS

Cerol® capacitors are rolled ceramic capacitors in the high capacitance range of paper and plastic film dielectrics but in much smaller physical sizes and with superior electrical characteristics. Designed for general applications in bypass-coupling, filtering and blocking circuits. Excellent electrical characteristics for critical applications in decoupling and pulse circuits where low series resistance at high frequencies together with miniature sizes are required. Low series resistance makes them ideal for use in all computer circuits. Operating temperature range at rated voltage -55°C to 85°C and at 50% rated voltage -55°C to 125°C. Capacitance tolerance is ±20%. Will meet or surpass all the requirements of MIL-C-11015C.

Units are stamped with the rated voltage for identification of type.

For full technical information request Bulletin NPJ 112 (Rev.)

TYPE CR89 - 50 VDCW				
Value	Stack Items	D Max In.	L Max In.	Net Price*
.1 MFD	CR89W104AM	.140	.400	3.10
.25 MFD	CR89W254AM	.210	.495	4.13
.5 MFD	CR89W504AM	.260	.495	6.72
1.0 MFD	CR89W105AM	.260	.690	10.33
2.0 MFD	CR89W205AM	.350	.690	15.50

TYPE CR90 - 100 VDCW				
Value	Stack Items	D Max In.	L Max In.	Net Price*
.1 MFD	CR90V104AM	.210	.690	3.44
.25 MFD	CR90V254AM	.260	.690	4.59
.5 MFD	CR90V504AM	.350	.690	7.46
1.0 MFD	CR90V105AM	.480	.690	11.48
2.0 MFD	CR90V205AM	.400	1.440	17.21

Axial gold plated dumet leads are standard. Tinned copper leads also available on special order. All values - #22 gauge except CR89W104AM has 26 gauge leads.

#### Color Code

Brown, Black, Yellow & Black  
Red Green, Yellow & Black  
Green, Black, Yellow & Black  
Brown, Black, Green, Black  
Red, Black, Green, Black

\*Request O. E. M. Prices in the following quantities: 25-49, 50-99, 100-499



## CAPACITORS

## INDUSTRIAL CERAMIC CAPACITORS

## Type TTP Transistor Disks

These square miniature disks are ideally suited for all applications where size is a factor such as transistorized radios and industrial applications having critical space requirements

Units are rated at 100 VDCW  $\pm 20\%$  standard tolerance.

Capacity	Length & Width	Thickness	Net Price**
.005	.280	.125	.24
.01	.340	.125	.24
.02	.430	.125	.30
.025	.465	.125	.30
.03	.465	.125	.30
.05	.535	.125	.36
.1	.700	.125	.54



\*\*Request O.E.M. Prices in the following quantities:

50-99, 100-249, 250-499, 500-999.

## NEW GENERAL PURPOSE BYPASS AND COUPLING DISKS - TYPE GPD

NOW . . . a consolidated and comprehensive line of ceramic disk capacitors for all bypass, coupling and filtering applications. All units offer maximum protection against humidity, voltage breakdown and vibration.

Rated at 1000 VDCW unless otherwise specified.

All units marked for capacity and tolerance.

This new and consolidated line replaces Types 1D1, BPD-GMV and DI line listed in previous catalogs.



New Cat. No.	Cap pf	Tolerance	Volts	T. C.	Size Dia.	Old Cat. No.
GPD X5F271K	270	10%	1000	X5F	.310	D1-270
GPD X5F301K	300	10%	1000	X5F	.310	D1-300
GPD X5F331K	330	10%	1000	X5F	.310	D1-330
GPD X5F391K	390	10%	1000	X5F	.310	D1-390
GPD X5F471	470	10%	1000	X5F	.310	D1-470
GPD X5U471P5	470	$\pm 100 -0$	500V	X5U	.310	1D1-CK60Y471Z
GPD X5F501K	500	$\pm 10\%$	1000	X5F	.310	D1-500
GPD X5F561K	560	$\pm 10\%$	1000	X5F	.385	D1-560
GPD X5F681K	680	$\pm 10\%$	1000	X5F	.385	D1-680
GPD X5U681P5	680	$\pm 100 -0$	500	X5U	.310	1D1-CK60Y681Z
GPD X5F751K	750	$\pm 10$	1000	X5F	.385	D1-750
GPD X5F821K	820	$\pm 10$	1000	X5F	.385	D1-820
GPD X5U821P5	820	$+100 -0$	500	X5U	.310	1D1-CK60Y821Z
GPD X5F911K	910	$\pm 10$	1000	X5F	.385	-
GPD X5F102K	1000	$\pm 10$	1000	X5F	.385	D1-1000
GPD Z5U102P	1000	$+100 -0$	1000	Z5U	.310	BPD-001
GPD X5U102P5	1000	$+100 -0$	500	X5U	.385	1D1-CK61Y102Z
GPD X5F122K	1200	$\pm 10$	1000	X5F	.437	D1-1200
GPD X5F152K	1500	$+$	1000	X5F	.437	D1-1500
GPD X5U152P5	1500	$+100 -0$	500	X5U	.385	1D1-CK61Y152Z
GPD X5F182K	1800	$\pm 10$	1000	X5F	.590	D1-1800
GPD X5F202K	2000	$\pm 10$	1000	X5F	.590	D1-2000
GPD X5F222K	2200	$\pm 10$	1000	X5F	.590	D1-2200
GPD X5U222P5	2200	$+100 -0$	500	X5U	.590	1D1-CK62Y222Z
GPD X5F252K	2500	$\pm 10$	1000	X5F	.590	D1-2500
GPD X5F272	2700	$\pm 10$	1000	X5F	.590	D1-2700
GPD X5R302	3000	$\pm 10$	1000	X5R	.590	D1-3000
GPD X5R332K	3300	$\pm 10$	1000	X5R	.690	D1-3300
GPD X5U332P5	3300	$+100 -0$	500	X5U	.590	1D1-CK62Y332Z
GPD X5R392K	3900	$\pm 10$	1000	X5R	.690	-
GPD X5R402K	4000	$\pm 10$	1000	X5R	.690	D1-4000
GPD X5R472K	4700	$\pm 10$	1000	X5R	.690	D1-4700
GPD X5U472P5	4700	$+100 -0$	500	X5U	.590	1D1-CK62Y472Z
GPD X5R502K	5000	$\pm 10$	1000	X5R	.690	D1-5000
GPD Z5U502P	5000	$+100 -0$	1000	Z5U	.590	BPD-5000
GPD X5R562K	5600	$\pm 10$	1000	X5R	.760	D1-5600
GPD X5R682K	6800	$\pm 10$	1000	X5R	.760	D1-6800
GPD X5R752K	7500	$\pm 10$	1000	X5R	.760	D1-7500
GPD X5R822K	8200	$\pm 10$	1000	X5R	.906	D1-8200
GPD X5R912K	9100	$\pm 10$	1000	X5R	.906	-
GPD X5S103K	10000	$\pm 10$	1000	X5S	.906	D1-10000
GPD Z5U103P	10000	$+100 -0$	1000	Z5U	.760	BPD-.01
GPD X5U103P5	10000	$+100 -0$	500	X5U	.690	1D1-CK63Y103Z
GPD Z5U153P	15000	$+100 -0$	1000	Z5U	.906	BPD-015
GPD Z5U203P	20000	$+100 -0$	1000	Z5U	.906	BPD-.02
GPD Z5V303P	30000	$+100 -0$	1000	Z5V	.760	BPD-.03
GPD Z5V503P	50000	$+100 -0$	1000	Z5V	.906	BPD-.05
GPD Z5V2X102P	2X.001	$+100 -0$	1000	Z5V	.437	BPD2X.001
GPD Z5V2X152P	2X.0051	$+100 -0$	1000	Z5V	.590	BPD2X.0015
GPD Z5V2X202P	2X.002	$+100 -0$	1000	Z5V	.590	BPD2X.002
GPD Z5V2X222P	2X.0022	$+100 -0$	1000	Z5V	.590	BPD2X.0022
GPD Z5V2X302P	2X.003	$+100 -0$	1000	Z5V	.690	BPD2X.003
GPD Z5V2X402P	2X.004	$+100 -0$	1000	Z5V	.760	BPD2X.004
GPD Z5V2X472P	2X.0047	$+100 -0$	1000	Z5V	.760	BPD2X.0047
GPD Z5V2X103P	2X.01	$+100 -0$	1000	Z5V	.760	BPD2X.01
GPD Z5V2X203P	2X.02	$+100 -0$	1000	Z5V	.906	BPD2X.02
GPD Z5V3X152P	3X.0015	$+100 -0$	1000	Z5V	.760	BPD3X.0015
GPD Z5V3X202P	3X.002	$+100 -0$	1000	Z5V	.760	BPD3X.002

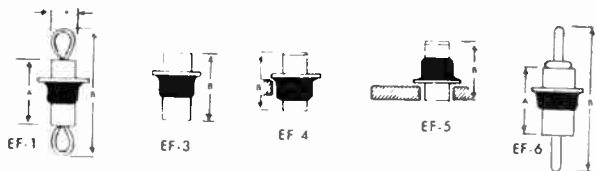
CONTACT FACTORY FOR PRICES



# CAPACITORS

## INDUSTRIAL CERAMIC CAPACITORS (cont.)

### Eyelet Feed-Thru Capacitors



Hi-Q Feed-Thru Capacitors Eyelet Type are the ultimate in miniaturization because of unique design. This design is such that the capacitors can be soldered directly to a chassis and provide excellent bypass performance where space is critical. The low inductance characteristics brought about through the construction of the capacitor, make the eyelet type ideal for high frequency bypass.

\*Net Price .33

Style	Capacity in mmf						D.C. Working Voltage	Size	
	50	100	200	500	1000	1500		A	B
EF-1	50	100	200	500	1000	1500	500	.375	.750
EF-3	50	100	200	500	1000	1500	500	—	.375
EF-4	50	100	200	500	—	—	250	—	.250
EF-5	50	100	200	500	1000	—	250	—	.250
EF-6	50	100	200	500	1000	1500	500	.375	.875

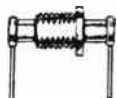
Tolerance  $\pm 20\%$  up to and including 500 mmfd. GMV above 500 mmfd.

\*Request O.E.M. prices in the following quantities: 25-99, 100-249, 250-499, 500-999.

### Feed-Thru Capacitors



FEED-THRU TYPE CFC



FEED-THRU TYPE CF

Hi-Q Feed-Thru Capacitors provide means to transmit thru shields or ground potentials and simultaneously by-pass unwanted frequencies. A good mechanical connection is provided by the silver-plated bushing. These are excellent dependable units even under severe mechanical vibrations as in aircraft, missiles and automotive requirements. All units are flash tested at 1250 volts D.C.

\*\*\*Net Price \$1.10

Type	Cap. Mmfd.	Thread	Type	Cap. Mmfd.	Thread
CFC-1	500 mmfd.	12-28	CF-2	1800 mmfd.	$\frac{3}{8}$ -24
	1000 mmfd.	12-28		2300 mmfd.	$\frac{3}{8}$ -24
	1500 mmfd.	12-28		3000 mmfd.	$\frac{3}{8}$ -24
CF-1	1500 mmfd.	$\frac{1}{4}$ -28	CF-3	4000 mmfd.	$\frac{3}{8}$ -24
			CF-4	7000 mmfd.	$\frac{3}{8}$ -24

Tolerance  $\pm 20\%$

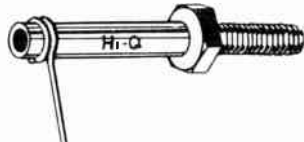
\*\*\*Request O.E.M. Prices in the following quantities: 250-499

### Stand-Off Capacitors

TYPE MCS



TYPE CS



Hi-Q stand-off capacitors have a screw fixture for mounting to the chassis or common ground. All units are coated with a high temperature enamel, stamped with capacity and supplied with mounting nut, if desired.

The MCS is a quick mounting type which permits high speed mechanical installation. The ceramic tube is enclosed in a cadmium-plated metal case with a specially developed end seal for protection against humidity and temperature changes. All units are flash tested at 1250 volts D.C. The power factor is under 3% and the insulation resistance is above 7500 megohms.

500 VDCW

Type	Capacity Mmfd.	Net** Price	Type	Capacity Mmfd.	Net** Price
CS-1A	50	.765	CS-4	7500	.891
CS-1A	100	.765	CIS-1	50	.410
CS-1B	500	.765	CIS-1	100	.410
CS-1B	1000	.713	CIS-1	500	.410
CS-1B	1500	.713	CIS-1	1000	.377
CS-2	3000	.713	CIS-2	1500	.377
CS-3	4000	.891	MCS	1500	.468

Radial leads only

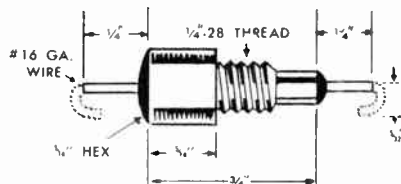
Tolerance  $\pm 10\%$  up to and including 500 mmfd.  $\pm 20\%$  above 500 mmfd.

\*\*\*Request O.E.M. Prices in the following quantities: 100-249, 250-499, 500-999

### Heavy Duty Feed-Thru Capacitors

Type BLF-ICC

These heavy-duty Feed-Thru capacitors are the same as listed in specification MIL-C-11015. Units through 100 mmfd. are rated at 1000 VDCW, values above 100 mmfd. are rated at 500 VDCW. Capacity tolerance is  $\pm 10\%$  except on the 1000 mmfd. and 1500 mmfd. which have capacity tolerance of  $\pm 20\%$ .



BLF

FRACTIONAL TOLERANCES  $\pm \frac{1}{2}$

Capacity	Part Number	***Net Price
10	AXCK70AX100K	1.10
33	AXCK70AX330K	1.10
47	AXCK70AX470K	1.10
68	AXCK70AX580K	1.10
100	AXCK70AX101K	1.10
470	AXCK70AX471K	1.10
680	AXCK70AX581K	1.10
1000	CK70AW102M	1.10
1500	CK70AW152M	1.10

\*\*\*Request O.E.M. Prices in the following quantities: 250-499

### Disk Stand-Off Capacitors

Type DS-C



DS-C

These units are very popular in industrial applications having a critical space requirement but requiring a stand-off capacitor. These stock units are furnished with captive lock washers, are rated at 950 VDCW. Capacity tolerance GMV. Both units are furnished with threaded portion  $\frac{3}{8}$ " long,  $\pm 6-32$  thread.

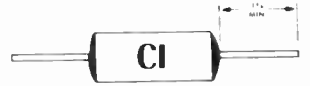
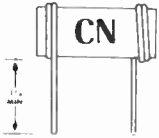
Capacity	**Net Price
470	.90
1000	.90



# CAPACITORS

## INDUSTRIAL CERAMIC CAPACITORS (cont.)

### Temperature Compensating Tubulars



Popular values in accordance with the latest revisions of specification MIL-C-20 and EIA specification RS-198. Uninsulated units are furnished color coded, packaged in bulk. Insulated units—stamped with part number. Voltage rating 500 VDCW.

UNINSULATED TYPE CN			INSULATED TYPE CI		UNINSULATED TYPE CN			INSULATED TYPE CI	
Cap.	MIL No.	Net Price*	MIL No.	Net Price*	Cap.	MIL No.	Net Price*	MIL No.	Net Price*
.3	CC20CKOR3C	.198	CC21CKOR3C	.250	.5	CC20UKOR5C	.198		
.5	CC20CKOR5C	.198	CC21CKOR5C	.250	.75	CC20UKR75C	.198	CC21UKR75C	.250
.68	CC20CKR68C	.198	CC21CKR68C	.250	1.0	CC20UK010C	.198	CC21UK010C	.250
.75	CC20CKR75C	.198	CC21CKR75C	.250	1.5	CC20UK1R5C	.198	CC21UK1R5C	.250
1.0	CC20CK010C	.198	CC21CK010C	.250	2.0	CC20UK020C	.198	CC21UK020C	.250
1.2	CC20CK1R2C	.198	CC21CK1R2C	.250	5.0	CC20UJ050C	.198	CC21UJ050C	.250
1.5	CC20CK1R5C	.198	CC21CK1R5C	.250	10.0	CC20UJ100C	.348	CC21UJ100C	.400
2.0	CC20CK020C	.198	CC21CK020C	.250	12.0	CC20UJ120G	.348	CC20UJ120G	.400
2.2	CC20CK2R2C	.198	CC21CK2R2C	.250	15.0	CC20UJ150G	.348	CC21UJ150G	.400
3.0	CC20CJ030C	.198	CC21CJ030C	.250	18.0	CC20UJ180G	.348	CC21UJ180G	.400
4.0	CC20CH040C	.198	CC21CH040C	.250	20.0	CC20UJ200G	.348	CC21UJ200G	.400
5.0	CC20CH050C	.198	CC21CH050C	.250	22.0	CC20UJ220G	.348	CC21UJ220G	.400
6.0	CC20CH060C	.348	CC21CH060C	.400	24.0	CC20UJ240G	.348	CC21UJ240G	.400
6.2	CC20CH6R2C	.348	CC21CH6R2C	.400	27.0	CC20UJ270G	.348	CC21UJ270G	.400
7.0	CC20CH070C	.348	CC21CH070C	.400	30.0	CC20UJ300G	.348	CC21UJ300G	.400
8.0	CC20CH080C	.348	CC21CH080C	.400	33.0	CC20UJ330G	.348	CC21UJ330G	.400
9.0	CC20CH090C	.348	CC21CH090C	.400	36.0	CC20UJ360J	.178	CC21UJ360J	.230
10.0	CC20CH100C	.348	CC21CH100C	.400	39.0	CC20UJ390J	.178	CC21UJ390J	.230
12.0	CC20CH120G	.348	CC21CH120G	.400	43.0	CC20UJ430J	.178	CC21UJ430J	.230
15.0	CC20CH150G	.348	CC21CH150G	.400	47.0	CC20UJ470J	.178	CC21UJ470J	.230
18.0	CC20CH180G	.348	CC21CH180G	.400	51.0	CC20UJ510J	.178	CC21UJ510J	.230
20.0	CC20CH200G	.348	CC21CH200G	.400	56.0	CC20UJ560J	.178	CC21UJ560J	.230
22.0	CC20CH220G	.348	CC21CH220G	.400	62.0	CC20UJ620J	.178	CC21UJ620J	.230
24	CC25CH240G	.388	CC26CH240G	.440	68.0	CC25UJ680J	.212	CC26UJ680J	.264
27	CC25CH270G	.388	CC26CH270G	.440	75.0	CC25UJ750J	.212	CC26UJ750J	.264
30	CC25CH300G	.388	CC26CH300G	.440	82.0	CC25UJ820J	.212	CC26UJ820J	.264
33	CC25CH330G	.388	CC26CH330G	.440	91.0	CC25UJ910J	.212	CC26UJ910J	.264
36	CC25CH360J	.212	CC26CH360J	.264	100.0	CC25UJ101G	.388	CC26UJ101J	.264
39	CC25CH390J	.212	CC26CH390J	.264	110	CC25UJ111G	.388	CC26UJ111J	.264
43	CC25CH430J	.212	CC36CH430J	.576	120	CC25UJ121G	.388	CC26UJ121J	.264
47	CC25CH470J	.212	CC36CH470J	.576	130	CC25UJ131G	.388	CC36UJ131J	.576
51	CC25CH510J	.212	CC36CH510J	.576	150	CC25UJ151G	.388	CC36UJ151J	.576
56	CC32CG560J	.432	CC36CG560J	.576	160	CC32UJ161G	.614	CC36UJ161J	.576
62	CC32CG620J	.432	CC36CG620J	.576	180	CC32UJ181G	.614	CC36UJ181J	.576
68	CC32CG680J	.432	CC36CG680J	.576	200	CC32UJ201G	.614	CC36UJ201J	.576
75	CC32CG750J	.432	CC36CG750J	.576	220	CC32UJ221G	.614	CC36UJ221J	.576
82	CC32CG820J	.432	CC36CG820J	.576	240	CC32UJ241G	.614	CC36UJ241J	.576
91	CC32CG910J	.432	CC36CG910J	.576	270	CC35UJ271F	2.348	CC36UJ271J	.576
100	CC32CG101G	.614	CC36CG101J	.576	300	CC35UJ301F	2.348	CC36UJ301J	.576
110	CC32CG111G	.614	CC36CG111J	.576	330	CC35UJ331F	2.348	CC36UJ331J	1.444
120	CC35CG121G	1.208	CC36CG121J	.576	360	CC35UJ361F	2.348	CC36UJ361J	1.444
130	CC35CG131G	1.208	CC36CG131J	.576					
150	CC35CG151G	1.208	CC36CG151J	.576					

Type Designation	Max. Size	TOLERANCE	
MIL		Letter Descrip.	Tolerance
CC20	.200 x .400	C	± .25 mmf.
CC21	.200 x .562		
CC25	.250 x .655	F	± 1%
CC26	.250 x .812		
CC32	.250 x .860	G	± 2%
CC35	.255 x 1.090		
CC36	.340 x 1.328		

\*Request O.E.M. Prices in the following quantities: 50-99, 100-249, 250-499, 500-999



# CAPACITORS

## MIL Types CM15, CM20 and CM30 RECEIVING MICAS

Compact mica-dielectric molded capacitors made in accordance with MIL C-5B. Furnished tested and color coded to meet all requirements for "N" temperature rating and all vibration grades of this specification. All units silver-mica molded in red Bakelite. Types CM15, 20 and 30 bear Aerovox Part No. 1459, 1469 and 1464 respectively. In addition, items bearing Aerovox Part No. 1469-HV and 1464-HV have been designed specifically for television, low-power transmission and power amplifier applications. Standard tolerance of all units is  $\pm 5\%$ . Closer tolerances available on special order.

Type CM-15 (500 VDCW)			Type CM-20 (500 VDCW)			Type CM-30 (500 VDCW)			Type 1469-HV		Type 1464-HV	
1459			1469			1464			CAP/pf	CAT. NO.*	CAP/pf	CAT. NO.*
Cap. pf	Type Designation	Net Price*	Cap. pf	Type Designation	Net Price*	Cap. pf	Type Designation	Net Price*				
10	CM-15C-100	.18	5	CM-20C-050	.18	470	CM-30D-471	.33	5	15HVRM050	430	15HVRM431
12	CM-15C-120	.18	10	CM-20C-100	.18	510	CM-30D-511	.33	10	15HVRM100	470	15HVRM471
15	CM-15C-150	.18	12	CM-20C-120	.18	560	CM-30D-561	.36	12	15HVRM120	500	15HVRM501
18	CM-15C-180	.18	15	CM-20C-150	.18	620	CM-30D-621	.36	15	15HVRM150	510	15HVRM511
20	CM-15C-200	.18	18	CM-20C-180	.18	680	CM-30D-681	.39	18	15HVRM180	560	15HVRM561
22	CM-15C-220	.18	20	CM-20C-200	.18	750	CM-30D-751	.39	20	15HVRM200	620	15HVRM621
24	CM-15E-240	.18	22	CM-20C-220	.18	800	CM-30D-801	.43	22	15VHRM220	680	15HVRM681
27	CM-15E-270	.18	24	CM-20C-240	.18	820	CM-30D-821	.42	24	15VHRM240	750	15HVRM751
30	CM-15E-300	.18	25	CM-20C-250	.18	900	CM-30D-901	.42	25	15HVRM250	820	15HVRM821
33	CM-15E-330	.18	27	CM-20C-270	.18	910	CM-30D-911	.42	27	15HVRM270	910	15HVRM911
36	CM-15E-360	.18	30	CM-20C-300	.18	1000	CM-30D-102	.45	30	15HVRM300	1000	15VHRM102
39	CM-15E-390	.18	33	CM-20C-330	.18	1100	CM-30D-112	.45	33	15VHRM330	1100	15VHRM112
43	CM-15E-430	.18	36	CM-20C-360	.18	1200	CM-30D-122	.45	36	15VHRM360	1200	15VHRM122
47	CM-15E-470	.18	39	CM-20C-390	.18	1300	CM-30D-132	.48	39	15VHRM390	1300	15VHRM132
50	CM-15E-500	.18	40	CM-20C-400	.18	1500	CM-30D-152	.51	43	15VHRM430	1500	15HVRM152
51	CM-15E-510	.18	43	CM-20C-430	.18	1600	CM-30D-162	.51	47	15HVRM470	1600	15HVRM162
56	CM-15E-560	.18	47	CM-20C-470	.18	1800	CM-30D-182	.54	50	15VHRM500	1800	15VHRM182
62	CM-15E-620	.18	50	CM-20C-500	.18	2000	CM-30D-202	.60	51	15VHRM510	2000	15HVRM202
68	CM-15E-680	.18	51	CM-20C-510	.18	2200	CM-30D-222	.66	56	15HVRM560	2200	15HVRM222
75	CM-15E-750	.18	56	CM-20C-560	.18	2400	CM-30D-242	.72	62	15HVRM630	2400	15HVRM242
82	CM-15E-820	.18	62	CM-20C-620	.18	2500	CM-30D-252	.72	68	15HVRM680	2500	15HVRM252
91	CM-15E-910	.18	68	CM-20C-680	.18	2700	CM-30D-272	.78	75	15HVRM750	2700	10HVRM272
100	CM-15E-101	.18	70	CM-20C-700	.18	3000	CM-30D-302	.84	82	15HVRM820	3000	10HVRM302
110	CM-15E-111	.21	75	CM-20C-750	.18	3300	CM-30D-332	.90	91	15HVRM910	3300	10HVRM332
120	CM-15E-121	.21	82	CM-20C-820	.18	3600	CM-30D-362	.96	100	15HVRM101	3600	10HVRM362
130	CM-15E-131	.21	91	CM-20C-910	.18	3900	CM-30D-392	1.02	110	15HVRM111	3900	10HVRM392
150	CM-15E-151	.21	100	CM-20C-101	.18	4000	CM-30D-402	1.02	120	15HVRM121	4000	10HVRM402
160	CM-15E-161	.24	110	CM-20C-111	.21	4300	CM-30D-432	1.08	130	15HVRM131	4300	10HVRM432
180	CM-15E-181	.24	120	CM-20C-121	.21	4700	CM-30D-472	1.14	150	15HVRM151	4700	10HVRM472
200	CM-15E-201	.24	130	CM-20C-131	.21	5000	CM-30D-502	1.20	160	15HVRM161	5000	10HVRM502
220	CM-15E-221	.27	150	CM-20C-151	.21	5100	CM-30D-512	1.20	180	15HVRM181	5100	10HVRM512
240	CM-15E-241	.27	160	CM-20C-161	.21	5600	CM-30D-562	1.26	200	15HVRM201		
250	CM-15E-251	.27	180	CM-20C-181	.21	6200	CM-30D-622	1.32	220	15HVRM221		
270	CM-15E-271	.30	200	CM-20D-301	.21	6800	CM-30D-682	1.32	240	15HVRM241		
300	CM-15E-301	.30	220	CM-20C-221	.21	7500	CM-30D-752	1.44	250	15HVRM251		
330	CM-15E-331	.33	240	CM-20D-241	.24	8200	CM-30D-822	1.44	270	15HVRM271		
360	CM-15E-361	.36	250	CM-20D-251	.24	9100	CM-30D-912	1.44	300	15HVRM301		
390	CM-15E-391	.39	270	CM-20D-271	.27	10000	CM-30D-103	1.86	330	15VHRM331		
430*	CM-15E-431	.42	300	CM-20D-301	.27				350	15HVRM351		
470*	CM-15E-471	.45	330	CM-20D-331	.27				360	15HVRM361		
500*	CM-15E-501	.48	350	CM-20D-351b	.30				390	15HVRM391		
510*	CM-15E-511	.48	360	CM-20D-361	.30				400	15HVRM401		
			390	CM-20D-391	.30							
			400	CM-20D-401	.30							
			430	CM-20D-431	.30							
			470	CM-20D-471	.33							
			500	CM-20D-501	.33							
			510	CM-20D-511	.33							
			560	CM-20D-561	.33							
			620	CM-20D-621	.36							
			680	CM-20D-681	.36							
			750	CM-20D-751	.39							
			820	CM-20D-821	.42							
			910	CM-20D-911	.42							
			1000	CM-20D-102	.45							

### NOTES

Nominal Size All CM30 Units —  $\frac{3}{4}$  x  $\frac{3}{4}$  x  $\frac{1}{2}$

Nominal Size All CM20 Units —  $\frac{4}{4}$  x  $\frac{2}{4}$  x  $\frac{1}{4}$

Nominal Size All CM15 Units —  $\frac{1}{2}$  x  $\frac{1}{2}$  x  $\frac{1}{4}$

In silver mica the standard tolerance is  $\pm 5\%$ . Also available in  $\pm 2\%$  and  $\pm 1\%$ . Closest available tolerance up to 10 mmf. is  $\pm \frac{1}{2}$  mmf.; 10 mmf. and up  $\pm 1\%$  or  $\pm 1$  mmf., whichever is greater.

\*Capacities of 5 pf to 400 pf are furnished in CM20 case balance furnished in CM30 case size. Prefix 15 designates 1500 VDCW. Prefix 10 designates 1000 VDCW. Standard tolerance.

CONTACT FACTORY  
FOR PRICES.



# CAPACITORS

## RECEIVING MICA CAPACITORS — (Continued)

### DIPPED SILVERED MICA CAPACITORS - TYPES ADM-10, ADM-15, ADM-19, ADM-20 AND ADM-30

Aerovox plastic-coated dipped-mica units exceed many of the advantages of molded mica units, and at the same time are smaller than conventional units. Meeting all the applicable MIL-C-58 Test Standards for molded mica capacitors, these unique dipped-mica units offer the following features:

- High operating temperatures —55° to +125°C • Excellent long-life characteristics • Improved temperature coefficient range • Radial leads for automatic insertion and plug-in assemblies • Ideal for printed-wiring assemblies • Unsurpassed performance and stability characteristics • Smaller physical size.

Humidity Resistance: these capacitors shall have an insulation resistance of not less than 2,000 megohms after being subjected to the Humidity Resistance Test at 125°C.

Minimum Insulation Resistance: 25,000 megohms at 25°C; 1000 megohms at 100°C.

Capacitors will be marked with capacity and tolerance.

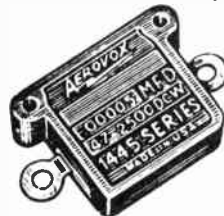
For full technical information request Bulletin NPJ-104.

Cap. pf	Type Designation	Type Designation
5		ADM-15-050
10	ADM-10-100	ADM-15-100
12	ADM-10-120	ADM-15-120
15	ADM-10-150	ADM-15-150
18	ADM-10-180	ADM-15-180
20	ADM-10-200	ADM-15-200
22	ADM-10-220	ADM-15-220
24	ADM-10-240	ADM-15-240
25	ADM-10-250	
27	ADM-10-270	ADM-15-270
30	ADM-10-300	ADM-15-300
33	ADM-10-330	ADM-15-330
36	ADM-10-360	ADM-15-360
39	ADM-10-390	ADM-15-390
43	ADM-10-430	ADM-15-430
47	ADM-10-470	ADM-15-470
50	ADM-10-500	ADM-15-500
51	ADM-10-510	ADM-15-510
56	ADM-10-560	ADM-15-560
62	ADM-10-620	ADM-15-620
68	ADM-10-680	ADM-15-680
75	ADM-10-750	ADM-15-750
82	ADM-10-820	ADM-15-820
91	ADM-10-910	ADM-15-910
100	ADM-10-101	ADM-15-101
110	ADM-10-111	ADM-15-111
120	ADM-10-121	ADM-15-121
130	ADM-10-131	ADM-15-131
150	ADM-10-151	ADM-15-151
160	ADM-10-161	ADM-15-161
180	ADM-10-181	ADM-15-181
200	ADM-10-201	ADM-15-201
220	ADM-10-221	ADM-15-221
240	ADM-10-241	ADM-15-241
250	ADM-10-251	ADM-15-251
270	ADM-10-271	ADM-15-271
300	ADM-10-301	ADM-15-301
330	ADM-10-331	ADM-15-331
360	ADM-10-361	ADM-15-361
390	ADM-10-391	ADM-15-391
430	ADM-10-431	ADM-15-431
470	ADM-10-471	ADM-15-471
500	ADM-10-501	ADM-15-501
510	ADM-10-511	ADM-15-511
560		ADM-19-561
620		ADM-19-621
680		ADM-19-681
750		ADM-19-751
820		ADM-19-821
910		ADM-19-911
1000		ADM-19-102
1100		ADM-19-112
1200		ADM-19-122
1300		ADM-19-132
1500		ADM-19-152
1600		ADM-19-162
1800		ADM-19-182
2000		ADM-19-202
2200		ADM-19-222
2400		ADM-19-242
2500		ADM-19-252
2700		ADM-19-272
3000		ADM-19-302
3300		ADM-20-332
3600		ADM-20-362
3900		ADM-20-392
4300		ADM-20-432
4700		ADM-20-472
5000		ADM-20-502
5100		ADM-20-512
5600		ADM-30-562
6200		ADM-30-622
6800		ADM-30-682
7500		ADM-30-752
8200		ADM-30-822
9100		ADM-30-912
10000		ADM-30-103
12000		ADM-30-123
13000		ADM-30-133
15000		ADM-30-153

\* To be discontinued when present stocks are depleted.

CONTACT FACTORY FOR PRICES

## TRANSMITTING MICA CAPACITORS TYPES 1445, 1446 and 1447



Designed with insulated mounting holes 1/8" apart independent of soldering lugs. Used to shunt meter windings.

Size: 1 1/8" x 1 3/8" x 1/2" Standard Tolerance ±10% ±5% and ±2% tolerance are available on special order. Meter Mounting Bracket E available. Specify when ordering. These units are equivalent to case styles CM45 and CM50 of specification MIL-C5B.

TYPE 1445	TYPE 1446	TYPE 1447
600 VDCV	1200 VDCV	2500 VDCV
1000 VDCV	2500 VDCV	5000 VDCV

Cap. Mfd.	Net* Price	Cap. Mfd.	Net* Price	Cap. Mfd.	Net* Price
.00005	.40	.00005	.48	.00005	.60
.0001	.40	.0001	.48	.000075	.60
.00015	.40	.00015	.48	.0001	.60
.0002	.40	.0002	.48	.00015	.60
.00025	.40	.00025	.48	.0002	.60
.0003	.40	.0003	.48	.00025	.60
.00035	.40	.00035	.48	.0003	.60
.0004	.40	.0004	.48	.00035	.60
.0005	.40	.0005	.48	.0004	.60
.001	.40	.001	.48	.0005	.66
.0015	.46	.0015	.58	.001	.90
.002	.48	.002	.66	.0015	1.14
.0025	.52	.0025	.72	.002*	1.42
.003	.54	.003	.82	.0025*	1.66
.004	.60	.004*	.96	.003*	1.90
.005	.66	.005*	1.14	.004*	2.40
.006	.76	.006*	1.30	.005*	2.88
.008	.84	.008*	1.62		
.01	1.00	.01*	2.40		
.015*	1.30	.015*	2.74		
.02*	1.62				
.025*	1.92				
.03*	2.26				
.04*	2.88				

\*Request O.E.M. Prices in the following quantities: 100-499

\*Thickness 7/16"

### TYPES 1991 thru 1996 Porcelain-Cased Capacitors

Ideal for high-frequency application. Glazed porcelain case, high temperature wax sealed. Heavy duty power terminals. Minimum power loss due to dielectric absorption. No heating at full load.

Size: 4" overall by 3" high; 2 1/2" between mounting holes.

Standard Tolerance ±10%



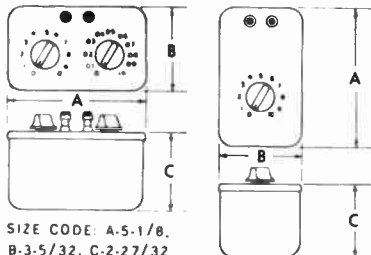
Cap. Mfd.	DC Voltage Rating	Type	Maximum Current Capacity — Amperes				Net Price
			15 mc	7.5 mc	3750 kc	1875 kc	
.00005	12,500	1996	3	2.5	1.5	1	8.75
.0001	12,500	1996	5	4	3	2	8.75
.00025	12,500	1996	7	8	6	4	8.75
.0005	12,500	1996	8	9	8	7	8.75
	7,000	1994	7	8	6	4	7.00
.001	12,500	1996	9	10	11	12	10.50
	7,000	1994	8	9	10	8	7.88
	3,500	1992	8	9	8	5	7.88
.0015	12,500	1996	9	10	11	12	12.25
	7,000	1994	9	9	10	8	8.75
	5,000	1993	8	9	9	7	7.88
	3,500	1992	8	9	8	5	7.88
.002	2,000	1991	7	8	8	5	7.00
	12,500	1996	9	12	13	15	14.00
	10,000	1995	9	10	11	12	12.25
	7,000	1994	9	9	10	10	9.63
	5,000	1993	8	9	9	8	8.75
	3,500	1992	8	8	9	7	7.88
	2,000	1991	7	8	8	6	7.00
.003	12,500	1996	9	12	13	15	17.50
	10,000	1995	9	11	12	13	15.75
	7,000	1994	9	10	10	10	10.50
	5,000	1993	8	9	9	9	9.63
	3,500	1992	8	9	9	8	8.75
	2,000	1991	7	8	8	7	7.88
.005	10,000	1995	10	13	14	15	17.50
	7,000	1994	9	11	12	11	15.75
	5,000	1993	9	11	12	10	10.50
	3,500	1992	9	10	11	9	9.63
	2,000	1991	8	9	10	8	8.75
.01	7,000	1994	10	13	15	15	21.00
	5,000	1993	10	13	15	15	15.75
	3,500	1992	10	13	14	14	14.00
	2,000	1991	10	13	14	14	10.50
.02	3,500	1992	10	14	16	17	15.75
	2,000	1991	10	13	15	15	12.25
.05	3,500	1992	10	14	17	18	17.50
	2,000	1991	10	14	16	17	14.00
.1	2,000	1991	10	14	17	18	17.50





# CAPACITORS

FIGURE A



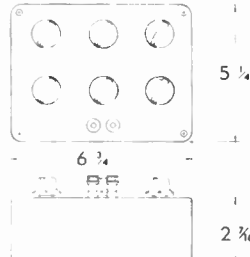
SIZE CODE: A-5-1/8,  
B-3-5/32, C-2-27/32

## AEROVOX DECADE BOXES

RESISTANCE CAPACITANCE INDUCTANCE



FIGURE B



Aerovox now makes available to the electronic industry laboratory quality standards in capacitance, resistance and inductance decades. From one of the outstanding manufacturers of precision resistors, capacitors and inductors, Aerovox is making available decade boxes of the highest quality in the ranges most needed for electronic and electrical laboratories at a price far below that of equivalent quality standards. Aerovox decade boxes are available in 11 units: 4 resistance decades, 3 capacitance decades and 4 inductance decades.

Ten of the decades are housed in seamless, drawn steel cases coated with gray enamel. They are capable of taking the beating of bench use without impairment of accuracy. The 11th decade box, a new resistance model ARD-41, is housed in a special high impact plastic case which will also withstand rugged handling.

This new decade box has a range of 0 to 1.1 megohms in 1 ohm steps, combining all the three other resistance decades into one compact box. Outline drawings of both sizes are shown. All panels are black with the marking engraved in white. For full technical information request bulletin NPJ-109 Rev. 2.

### RESISTANCE

PART NO.	FIGURE	TYPE	DIELECTRIC	DIELS	RANGE	STEPS	ACCURACY ±		RATING		Net Price
							1st Dial	2nd Dial	1st Dial	2nd Dial	
ARD-15	A	R	Wire-Wound	2	0 to 110 ohms	1.0 ohm	5%	3%	1.0 Amp.	.5 Amp.	15.15
ARD-23	A	R	Wire-Wound	2	0 to 11 K	100 ohm	3%	3%	100 Ma.	50 Ma.	15.15
ARD-31	A	R	Carbon Deposited	2	0 to 1.1 meg.	10.K ohms	1%	1%	5 Ma.	2 Ma.	15.15
ARD-41	B	R	Wire-Wound & Metal Film	6	0 to 1.1 meg.	1.0 ohm	1%	1st Dial		4th Dial	44.95
								2nd Dial		5th Dial	
								3rd Dial		6th Dial	

### CAPACITANCE

PART NO.	FIGURE	TYPE	DIELECTRIC	DIELS	RANGE	STEPS	ACCURACY ±		RATING		Net Price
							1st Dial	2nd Dial	1st Dial	2nd Dial	
ACD-13	A	C	Mica	2	0 to .011 mfd.	.0001 mfd.	3%	3%	600 VDC	600 VDC	14.50
ACD-23	A	C	Oil Paper	2	0 to 1.1 mfd.	.01 mfd.	3%	3%	220 VAC	220 VAC	16.50
ACD-33	A	C	Oil Paper	1	0 to 10.0 mfd.	1.0 mfd.	3%	—	600 VDC	220 VAC	27.25

### INDUCTANCE

PART NO.	FIGURE	TYPE	DIELECTRIC	DIELS	RANGE	STEPS	ACCURACY ±		RATING		Net Price
							1st Dial	2nd Dial	1st Dial	2nd Dial	
ALD-12	A	L	Toroidal	1	0 to 10 mh	1.0 mh	2%	—	250 MaDC	—	29.90
ALD-22	A	L	Toroidal	1	0 to 100 mh	10.0 mh	2%	—	79 MaDC	—	29.90
ALD-32	A	L	Toroidal	1	0 to 1.0 hy.	100.0 mh	2%	—	25 MaDC	—	29.90
ALD-42	A	L	Toroidal	1	0 to 10.0 hy.	1.0 hy	2%	—	8 MaDC	—	32.90

## FILTERS

### SCREEN ROOM FILTERS

Screen room filters comply with rigid specifications set up by the designers of the most advanced type screen rooms. All have attenuation equal to or exceeding that of the screen room. Easy mounting arrangements plus high attenuation assure you of the finest equipment specially designed for screen room use. These filters are hermetically sealed and terminals at both ends are shielded using knock-outs for 3/4" and 1" conduit.

1 1/4" diameter mounting hole on all cases is countersunk to permit flush mounting of the filter on the screen room.

For full technical information request Bulletin NPJ-127

Part No.	Curr. (Amps.)	Cir. (cuts)	CPS	Attenuation vs. Frequency	Size L x W x D	Net Price	
*S-1076-1	50	1	0-60	100 db from 14 kc to 1000 mc	20" x 3-5/8" x 3-5/8"	95.00	
*S-1076-2	50	2	0-60	100 db from 14 kc to 1000 mc	20" x 7-3/16" x 3-5/8"	190.00	
*S-1076-3	50	3	0-60	100 db from 14 kc to 1000 mc	20-1/8" x 10-7/8" x 3-1/16"	1625.00	
S-1142-1	30	1	0-400	100 db from 150 kc to 1000 mc	10-1/8" x 2-7/8" x 2-7/16"	36.50	
S-1142-2	30	2	0-400	100 db from 150 kc to 1000 mc	10-1/8" x 4-3/4" x 2-7/16"	48.50	
S-1142-3	30	3	0-400	100 db from 150 kc to 1000 mc	10-1/8" x 7" x 2-7/16"	62.50	
S-1302-1	100	1	0-60	100 db from 200 kc to 1000 mc	14" x 4-3/8" x 4-3/8"	70.00	
*S-1303-1	60	1	0-1000	100 db from 100 kc to 1000 mc	20" x 3-5/8" x 3-5/8"	100.00	
S-1304-1	80	1	0-60	100 db from 14 kc to 1000 mc	22" x 4-3/8" x 4-3/8"	105.00	
S-1305-1	100	1	0-1000	100 db from 100 kc to 1000 mc	22" x 4-3/8" x 4-3/8"	120.00	
S-1361-1	100	1	0-60	100 db from 14 kc to 1000 mc	22" x 4-3/8" x 4-3/8"	130.00	
S-1432-1	100	1	0-60	100 db from 100 kc to 1000 mc	22" x 4-3/8" x 4-3/8"	95.00	
S-1455-1	100	1	0-60	100 db from 150 kc to 1000 mc	22" x 4-3/8" x 4-3/8"	90.00	
					Overall L.	Overall D.	
S-1468-A	50	1	0-1000	60 db /1030 mc to 10000 mc	10-3/4"	7/8"	70.00
S-1468-B	100	1	0-1000	60 db /1030 mc to 10000 mc	10-3/4"	7/8"	80.00

\*250 VAC/DC. All others 500VAC/DC.

## AUTO-RADIO CAPACITORS

Type	Net Price	Cap. Mfd.
SINGLE ELEMENT		
Ca: Generators		
Type 1120	.54	1.0
Type 1140	.39	0.5
DUAL ELEMENT		
Type 1141	.90	0.5-0.5
Ford Auto Radios		
Type 1144	.48	0.5
For 1936 Models		
Type 1150	.60	0.5
Oil Gage Filter Condens		
Type 1142-0	.54	0.25

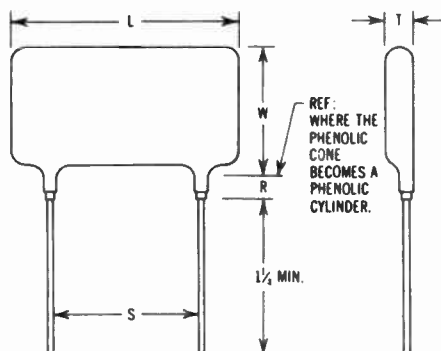
For complete Catalog listing and Engineering information on RF Noise Suppressors and Interference Filters request Catalog from Aerovox Corporation, Distributor Division, or your nearest authorized Aerovox Industrial Distributor.

## Maximum Dimensions

The following is a tabulation of maximum dimensions of the various DM case sizes. They have been specified to anticipate variations in coat thickness and minor protrusions on the surface. As a result, average dimensions of a given lot may be appreciably smaller than those listed.

It is to be noted that the leads are not centered in the thickness dimension as can be seen on the end view dimensional drawing. Construction of Elmenco Dur-Mica capacitors provides for leads to project from one surface of the mica stack, causing them in turn to extend from one edge of the capacitor. Regardless of case size and overall thickness, leads will always be within  $\frac{1}{16}$  to  $\frac{1}{32}$  from one of the capacitor surfaces. (Exclude SCDM).

Not all dimensions of every capacitance value are listed below. It has been found that size varies almost linearly with capacitance value. As a result, dimensions of values between those specified below should be determined by interpolation.



	DM-10	DM-15	DM-16	DM-19	DM-20	DM-30	DM-42	DM-43
<b>R</b> MAX.	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
<b>S</b> $\pm \frac{1}{32}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$1\frac{1}{8}$	$1\frac{1}{8}$
<b>LEAD WIRE GAGE</b>	#26	#22	#22	#20	#20	#18	#18	#18

Dur-Mica leads may be either tinned brass or tinned copper-clad steel, 30% minimum conductivity, except the following which are copper-clad steel only:

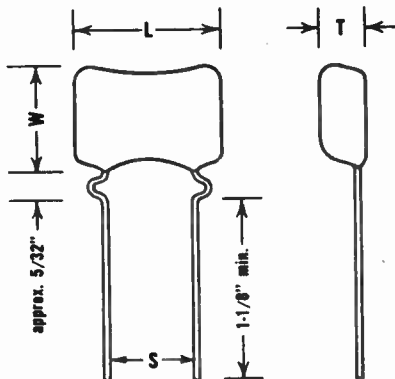
DM-10, DM-42, and DM-43.

DM-19 and DM-20 — 3000 mmf. and above.

DM-30 — 10,000 mmf. and above.

## Crimped Leads

In addition to the straight lead design, DM capacitors are also available with crimped leads for printed circuit application. The crimp provides a positive stop when capacitors are mounted. This prevents interference of resin coat on the leads with dip-solder operation, provides greater mounting uniformity, and elevates the components slightly above the surface of the board. The crimp lead design is not a regularly stocked item, but it is available to special order at a small fixed handling charge.



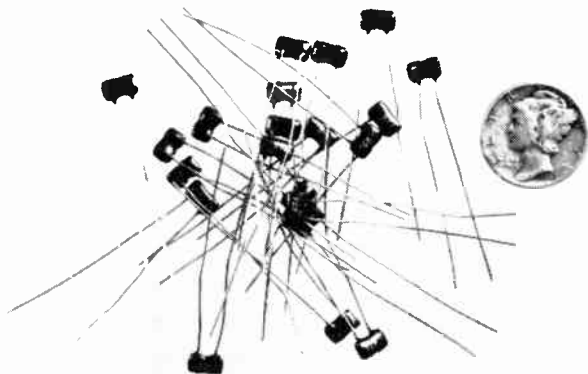
Lead wire gage for crimped lead units is the same as for straight lead capacitors with the exception of DM-15 and DM-16. Crimped lead gage of DM-15 and DM-16 is #20. The DM-10 case size is not available with crimped leads.

CASE SIZE	Cap. mmf.	Volt. VDCW	L max.	W max.	T max.	
DM-10	10	500	.360	.330	.190	
	50	500	.370	.340	.190	
	100	500	.370	.350	.200	
	150	500	.380	.360	.210	
	250	500	.390	.380	.220	
	300	300	.390	.380	.220	
	390	100	.390	.380	.220	
	DM-15 (CM05)	10	500	.450	.360	.170
100		500	.460	.360	.180	
200		500	.460	.380	.190	
300		500	.470	.390	.210	
500		500	.490	.420	.240	
560		300	.470	.390	.210	
680		300	.470	.390	.210	
1000		100	.490	.420	.240	
DM-16	430	500	.730	.390	.210	
	600	500	.740	.400	.220	
	720	500	.740	.410	.230	
	720	300	.730	.380	.200	
DM-19 (CM06)	900	300	.740	.390	.220	
	1300	300	.740	.390	.230	
	100	500	.640	.500	.190	
	500	500	.650	.510	.200	
DM-20	1000	500	.650	.520	.220	
	2000	500	.670	.530	.240	
	3000	500	.680	.550	.280	
	5000	500	.710	.590	.360	
	6200	300	.690	.570	.330	
	8200	100	.700	.580	.350	
	DM-30 (CM07)	680	500	.750	.510	.200
		1000	500	.750	.510	.200
2000		500	.760	.520	.220	
3900		500	.780	.560	.300	
5600		500	.790	.570	.340	
6800		300	.790	.560	.320	
DM-42 (CM08)	7500	100	.780	.560	.300	
	10000	100	.790	.570	.340	
	4300	500	.780	.860	.270	
	6800	500	.780	.870	.300	
	10000	500	.800	.890	.340	
	15000	500	.810	.900	.390	
	20000	500	.830	.920	.450	
	20000	300	.810	.890	.370	
DM-43	25000	300	.820	.910	.420	
	30000	300	.830	.920	.460	
	36000	100	.830	.920	.450	
	20000	500	1.420	.870	.300	
DM-43	30000	500	1.440	.890	.350	
	50000	500	1.480	.920	.460	
	62000	300	1.470	.920	.450	
	82000	100	1.480	.920	.460	
DM-43	50000	500	2.060	.900	.380	
	68000	500	2.070	.910	.440	
	75000	300	2.060	.900	.380	
	100000	300	2.070	.910	.440	
DM-43	130000	100	2.090	.930	.490	

# ELMENCO

CAPACITORS

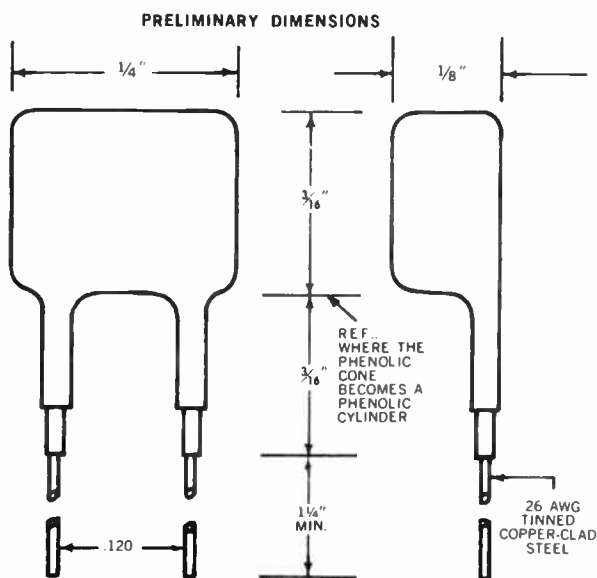
## DM5 Miniature Dur-Mica



The new ELMENCO DM5 dipped silvered mica capacitor has been designed to keep pace with the ever-shrinking world of electronic circuitry. Significant volumetric savings are achieved in the lower values of capacitance through two principle changes in design. First, the area of each mica film has been reduced to get a better balance of area vs. thickness of capacitive section. This automatically resulted in further saving through redesign of other structural members to get more capacitance per cubic inch. Second, a newly developed dip-coat material is employed which imparts improved environmental protection with a far thinner coat than found on the larger mica capacitors of the ELMENCO line. The result is a much smaller capacitor in the 1 through 198 pf. range with the same reliability and high quality performance the industry has come to expect from ELMENCO mica capacitors.

DM5 capacitors have a standard voltage rating of 300 VDCW except for the highest values which are 100V and 50V ratings as indicated in the tabulation below. Electrical and environmental specifications are basically the same as for the other ELMENCO dipped mica capacitor styles. The capacitors are stamped with capacitance value in pf. followed by a letter signifying capacitance tolerance. For example, 27K would be 27 pf.  $\pm 10\%$ ; 150G would be 150 pf.  $\pm 2\%$ . In the lower values, standard minimum tolerance is  $\pm 1$  pf., but for an added charge we can produce  $\pm 0.5$  pf. or even  $\pm 0.25$  pf. capacitors.

### 300VDCW



The preliminary dimensions indicated above represent the expected maximum limits for the largest DM5 capacitors. At this printing the analysis of dimensions vs. capacitance for all values and voltages had not yet been completed. Due to the variation in size of capacitive section with value, dimensions will vary 30 to 40 mils between 1 and 180 pf. Final tabulation of case size dimensions in mils will be published in the next ARCO catalog similar to tabulations now shown for established case sizes. The lead spacing and specifications will not change.

Cap. pf.	Part Number	TOLERANCE (Net Price 1-24 ea.)					
		$\pm 1$ pf. (A)	$\pm 0.5$ pf. (D)	$\pm 10\%$ (K)	$\pm 5\%$ (J)	$\pm 2\%$ (G)	$\pm 1\%$ (F)
1	DM5-010‡	\$0.21	\$0.37				
2	DM5-020‡	.21	.37				
3	DM5-030‡	.21	.37				
4	DM5-040‡	.21	.37				
5	DM5-050‡	.21	.37	\$0.37			
6	DM5-060‡	.23	.38	.38			
7	DM5-070‡	.23	.38	.38			
8	DM5-080‡	.23	.38	.38			
10	DM5-100‡	.33	.23	\$0.38			
12	DM5-120‡	.45	.24	.39			
15	DM5-150‡	.46	.24	.39			
18	DM5-180‡	.43	.25	.41			
20	DM5-200‡	.56	.25	.27			
22	DM5-220‡	.56	.25	.28			
24	DM5-240‡	.56	.25	.28			
27	DM5-270‡		.26	.29	\$0.58		
30	DM5-300‡		.26	.29	.58		
33	DM5-330‡		.27	.30	.60		
36	DM5-360‡		.27	.31	.62		
39	DM5-390‡		.27	.31	.62		
43	DM5-430‡		.28	.31	.62		
47	DM5-470‡		.29	.32	.64		
50	DM5-500‡		.29	.32	.64	\$0.96	
51	DM5-510‡		.31	.34	.62	1.02	
56	DM5-560‡		.32	.36	.64	1.08	
62	DM5-620‡		.34	.38	.68	1.14	
68	DM5-680‡		.36	.39	.72	1.17	
75	DM5-750‡		.37	.41	.74	1.23	
82	DM5-820‡		.41	.45	.82	1.35	
91	DM5-910‡		.44	.49	.88	1.47	
100	DM5-101‡		.46	.51	.92	1.02	
110	DM5-111‡		.49	.54	.98	1.08	
120	DM5-121‡*		.42	.47	.84	.94	
130	DM5-131‡*		.44	.49	.88	.98	
150	DM5-151‡**		.49	.54	.98	1.08	
160	DM5-161‡**		.42	.47	.84	.94	
180	DM5-181‡**		.46	.51	.92	1.02	

‡ Insert letter suffix to denote capacitance tolerance.

\* 100VDCW \*\* 50VDCW

# ELMENCO

CAPACITORS

# DUR-MICA

### TYPE DM-10 (CM04) 500VDCW

(SCDM10 values and prices the same)

CAP. MMF.	PART NUMBER	MIL-C-5 TYPE DESIGNATION (See Note on p. 13)	Net Price (1-24) Tolerance			
			±10% "K"	±5% "J"	±2% "G"	±1% "F"
1	DM-10-010§	CM-04-CD-101D03	\$0.19			
2	DM-10-020§		.19			
3	DM-10-030§		.19			
5	DM-10-050§	CM-04-CD-050D03	.19			
10	DM-10-100	CM-04-CD-100±03	.22	\$0.31		
12	DM-10-120	CM-04-CD-120±03	.22	.31		
15	DM-10-150	CM-04-CD-150±03	.22	.31		
18	DM-10-180	CM-04-CD-180±03	.22	.31		
20	DM-10-200	CM-04-ED-200±03	.22	.24		
22	DM-10-220	CM-04-ED-220±03	.22	.24		
24	DM-10-240	CM-04-ED-240±03	.22	.24		
27	DM-10-270	CM-04-ED-270±03	.22	.24	\$0.42	
30	DM-10-300	CM-04-ED-300±03	.22	.24	.42	
33	DM-10-330	CM-04-ED-330±03	.22	.24	.42	
36	DM-10-360	CM-04-ED-360±03	.22	.24	.44	
39	DM-10-390	CM-04-ED-390±03	.22	.24	.44	
43	DM-10-430	CM-04-ED-430±03	.22	.24	.44	
47	DM-10-470	CM-04-ED-470±03	.25	.27	.47	
50	DM-10-500		.25	.27	.45	\$0.69
51	DM-10-510	CM-04-ED-510±03	.25	.27	.45	.69
56	DM-10-560	CM-04-ED-560±03	.25	.27	.45	.69
62	DM-10-620	CM-04-ED-620±03	.25	.27	.45	.69
68	DM-10-680	CM-04-ED-680±03	.25	.27	.45	.72
75	DM-10-750	CM-04-ED-750±03	.25	.27	.45	.72
82	DM-10-820	CM-04-ED-820±03	.25	.27	.45	.72
91	DM-10-910	CM-04-FD-910±03	.25	.27	.46	.75
100	DM-10-101	CM-04-FD-101±03	.25	.27	.46	.63
110	DM-10-111	CM-04-FD-111±03	.25	.27	.46	.63
120	DM-10-121	CM-04-FD-121±03	.28	.31	.52	.63
130	DM-10-131	CM-04-FD-131±03	.28	.31	.52	.63
150	DM-10-151	CM-04-FD-151±03	.31	.34	.58	.69
160	DM-10-161	CM-04-FD-161±03	.34	.38	.64	.78
180	DM-10-181	CM-04-FD-181±03	.38	.42	.69	.84
200	DM-10-201	CM-04-FD-201±03	.38	.42	.69	.84
220	DM-10-221	CM-04-FD-221±03	.41	.46	.76	.90
240	DM-10-241	CM-04-FD-241±03	.44	.48	.80	.96
250	DM-10-251		.44	.48	.80	.96
270*	DM-10-271	CM-04-FC-271±03	.42	.46	.78	.92
300*	DM-10-301	CM-04-FC-301±03	.45	.50	.85	1.00
330**	DM-10-331	CM-04-FA-331±03	.45	.50	.85	1.00
360**	DM-10-361	CM-04-FA-361±03	.48	.53	.90	1.06
390**	DM-10-391	CM-04-FA-391±03	.51	.56	.95	1.12

### TYPE DM-15 (CM05)

(SCDM15 values and prices the same)

CAP. MMF.	PART NUMBER	MIL-C-5 TYPE DESIGNATION (See Note on p. 13)	Net Price (1-24) Tolerance			
			±10% "K"	±5% "J"	±2% "G"	±1% "F"
1	DM-15-010†	CM-05-CD-010D03	\$0.21			
2	DM-15-020†		.21			
3	DM-15-030†		.21			
5	DM-15-050†	CM-05-CD-050D03	.21			
6	DM-15-060	CM-05-CD-060±03	.21			
7	DM-15-070	CM-05-CD-070±03	.21			
8	DM-15-080	CM-05-CD-080±03	.21			
10	DM-15-100	CM-05-CD-100±03	.16	\$0.21		
12	DM-15-120	CM-05-CD-120±03	.16	.21		
15	DM-15-150	CM-05-CD-150±03	.16	.21		
18	DM-15-180	CM-05-CD-180±03	.16	.21		
20	DM-15-200	CM-05-ED-200±03	.16	.18		
22	DM-15-220	CM-05-ED-220±03	.16	.18		
24	DM-15-240	CM-05-ED-240±03	.16	.18		
27	DM-15-270	CM-05-ED-270±03	.16	.18	\$0.25	
30	DM-15-300	CM-05-ED-300±03	.16	.18	.25	
33	DM-15-330	CM-05-ED-330±03	.16	.18	.25	
36	DM-15-360	CM-05-ED-360±03	.16	.18	.25	
39	DM-15-390	CM-05-ED-390±03	.16	.18	.25	
43	DM-15-430	CM-05-ED-430±03	.16	.18	.25	
47	DM-15-470	CM-05-ED-470±03	.16	.18	.25	
50	DM-15-500		.16	.18	.21	\$0.35
51	DM-15-510	CM-05-ED-510±03	.16	.18	.21	.35
56	DM-15-560	CM-05-ED-560±03	.16	.18	.21	.35
62	DM-15-620	CM-05-ED-620±03	.16	.18	.21	.35
68	DM-15-680	CM-05-ED-680±03	.16	.18	.21	.35
75	DM-15-750	CM-05-ED-750±03	.16	.18	.21	.35
82	DM-15-820	CM-05-ED-820±03	.16	.18	.21	.36
91	DM-15-910	CM-05-FD-910±03	.16	.18	.21	.36
100	DM-15-101	CM-05-FD-101±03	.16	.18	.21	.36

### DM-15 (Continued)

CAP. MMF.	PART NUMBER	MIL-C-5 TYPE DESIGNATION (See Note on p. 13)	Net Price (1-24) Tolerance			
			±10% "K"	±5% "J"	±2% "G"	±1% "F"
110	DM-15-111	CM-05-FD-111±03	\$0.19	\$0.21	\$0.25	\$0.31
120	DM-15-121	CM-05-FD-121±03	.19	.21	.25	.31
130	DM-15-131	CM-05-FD-131±03	.19	.21	.25	.31
150	DM-15-151	CM-05-FD-151±03	.19	.21	.25	.31
160	DM-15-161	CM-05-FD-161±03	.22	.24	.29	.35
180	DM-15-181	CM-05-FD-181±03	.23	.25	.30	.36
200	DM-15-201	CM-05-FD-201±03	.23	.25	.30	.36
220	DM-15-221	CM-05-FD-221±03	.25	.27	.33	.40
240	DM-15-241	CM-05-FD-241±03	.26	.28	.34	.41
250	DM-15-251		.26	.28	.34	.41
270	DM-15-271	CM-05-FD-271±03	.28	.31	.37	.44
300	DM-15-301	CM-05-FD-301±03	.28	.31	.37	.44
330	DM-15-331	CM-05-FD-331±03	.31	.34	.41	.49
360	DM-15-361	CM-05-FD-361±03	.33	.36	.43	.52
390	DM-15-391	CM-05-FD-391±03	.34	.38	.46	.55
430	DM-15-431		.36	.40	.48	.57
470	DM-15-471		.38	.42	.50	.60
500	DM-15-501		.38	.42	.52	.63
510	DM-15-511		.40	.44	.54	.65
560*	DM-15-561		.40	.44	.54	.65
620*	DM-15-621		.44	.48	.58	.69
680*	DM-15-681		.47	.52	.62	.75
750*	DM-15-751		.50	.55	.66	.80
820*	DM-15-821		.54	.60	.72	.86
910**	DM-15-911		.57	.63	.75	.89
1000**	DM-15-102		.60	.66	.78	.96
1100**	DM-15-112		.69	.76	.90	1.10
1200**	DM-15-122		.78	.86	1.01	1.28

### TYPE DM-19 (CM-06) 500VDCW

CAP. MMF.	PART NUMBER	MIL-C-5 TYPE DESIGNATION (See Note on p. 13)	Net Price (1-24) Tolerance			
			±10% "K"	±5% "J"	±2% "G"	±1% "F"
100	DM-19-101		\$0.18	\$0.20	\$0.22	\$0.26
110	DM-19-111		.18	.20	.22	.26
120	DM-19-121		.18	.20	.22	.26
130	DM-19-131		.20	.22	.24	.28
150	DM-19-151		.20	.22	.24	.28
160	DM-19-161		.20	.22	.24	.28
180	DM-19-181		.20	.22	.24	.28
200	DM-19-201		.20	.22	.24	.28
220	DM-19-221		.20	.22	.24	.28
240	DM-19-241		.22	.24	.26	.32
250	DM-19-251		.22	.24	.26	.32
270	DM-19-271		.25	.27	.30	.37
300	DM-19-301		.25	.27	.30	.37
330	DM-19-331		.25	.27	.30	.37
360	DM-19-361		.28	.31	.34	.43
390	DM-19-391		.28	.31	.34	.43
430	DM-19-431	CM-06-FD-431±03	.28	.31	.34	.43
470	DM-19-471	CM-06-FD-471±03	.31	.34	.37	.46
500	DM-19-501		.31	.34	.37	.46
510	DM-19-511	CM-06-FD-511±03	.31	.34	.37	.46
560	DM-19-561	CM-06-FD-561±03	.31	.34	.37	.46
620	DM-19-621	CM-06-FD-621±03	.34	.37	.41	.51
680	DM-19-681	CM-06-FD-681±03	.34	.37	.41	.51
750	DM-19-751	CM-06-FD-751±03	.37	.41	.44	.55
820	DM-19-821	CM-06-FD-821±03	.40	.44	.48	.60
910	DM-19-911	CM-06-FD-911±03	.40	.44	.48	.60
1000	DM-19-102	CM-06-FD-102±03	.43	.47	.52	.64
1100	DM-19-112	CM-06-FD-112±03	.45	.50	.54	.67
1200	DM-19-122	CM-06-FD-122±03	.48	.53	.58	.72
1300	DM-19-132	CM-06-FD-132±03	.51	.56	.61	.76
1500	DM-19-152	CM-06-FD-152±03	.54	.59	.65	.81
1600	DM-19-162	CM-06-FD-162±03	.57	.63	.69	.86
1800	DM-19-182	CM-06-FD-182±03	.63	.69	.76	.94
2000	DM-19-202	CM-06-FD-202±03	.69	.76	.83	1.03
2200	DM-19-222	CM-06-FD-222±03	.75	.82	.90	1.12
2400	DM-19-242	CM-06-FD-242±03	.81	.89	.97	1.21
2500	DM-19-252		.84	.92	1.10	1.26
2700	DM-19-272	CM-06-FD-272±03	.87	.96	1.04	1.30
3000	DM-19-302	CM-06-FD-302±03	.93	1.02	1.12	1.40
3300	DM-19-332	CM-06-FD-332±03	1.00	1.10	1.20	1.50
3600	DM-19-362	CM-06-FD-362±03	1.06	1.17	1.27	1.59
3900	DM-19-392	CM-06-FD-392±03	1.12	1.23	1.34	1.68
4300	DM-19-432	CM-06-FD-432±03	1.21	1.33	1.45	1.81
4700	DM-19-472	CM-06-FD-472±03	1.31	1.44	1.57	1.96
5000	DM-19-502		1.40	1.54	1.68	2.10
5100	DM-19-512		1.43	1.57	1.72	2.15
5600*	DM-19-562		1.40	1.54	1.68	2.10
6200*	DM-19-622		1.52	1.67	1.82	2.28
6800**	DM-19-682		1.40	1.54	1.68	2.10
7500**	DM-19-752		1.51	1.66	1.81	2.26
8200**	DM-19-822		1.62	1.78	1.94	2.43

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor)

# ELMENCO

CAPACITORS

# DUR-MICA

## TYPE DM-20 500VDCW

CAP. MMF.	PART NUMBER	TYPE DESIGNATION	Net Price (1-24) Tolerance			
			±10% "K"	±5% "J"	±2% "G"	±1% "F"
680	DM-20-681		\$0.31	\$0.34	\$0.37	\$0.47
750	DM-20-751		.31	.34	.37	.47
820	DM-20-821		.31	.34	.37	.47
910	DM-20-911		.34	.37	.41	.51
1000	DM-20-102		.37	.41	.44	.56
1100	DM-20-112		.37	.41	.44	.56
1200	DM-20-122		.40	.44	.48	.59
1300	DM-20-132		.44	.48	.53	.66
1500	DM-20-152		.47	.53	.56	.71
1600	DM-20-162		.50	.55	.60	.75
1800	DM-20-182		.56	.62	.67	.84
2000	DM-20-202		.60	.66	.72	.90
2200	DM-20-222		.66	.73	.79	.99
2400	DM-20-242		.69	.76	.83	1.04
2500	DM-20-252		.69	.76	.83	1.04
2700	DM-20-272		.74	.81	.89	1.11
3000	DM-20-302		.80	.88	.96	1.20
3300	DM-20-332		.86	.95	1.03	1.29
3600	DM-20-362		.92	1.02	1.10	1.38
3900	DM-20-392		.98	1.08	1.18	1.47
4300	DM-20-432		1.06	1.17	1.27	1.59
4700	DM-20-472		1.14	1.25	1.37	1.71
5000	DM-20-502		1.24	1.36	1.49	1.86
5100	DM-20-512		1.24	1.36	1.49	1.86
5600	DM-20-562		1.36	1.50	1.63	2.04
6200*	DM-20-622		1.32	1.45	1.58	1.98
6800*	DM-20-682		1.40	1.56	1.68	2.10
7500**	DM-20-752		1.32	1.45	1.58	1.98
8200**	DM-20-822		1.44	1.58	1.73	2.16
9100**	DM-20-912		1.62	1.78	1.94	2.43
10000**	DM-20-103		1.80	1.98	2.16	2.70

Notes: Higher DM-20 values are available on special order as follows: up to 10,000 mmf. at 500VDCW, up to 12,000 mmf. at 300VDCW, up to 18,000 mmf. at 100VDCW. Characteristics of DM-19 and DM-20 are as follows: C characteristic 1 to 180 mmf. E characteristic 200 to 510 mmf. F characteristic 560 and up.

## TYPE DM-30 (CM-07) 500VDCW

CAP. MMF.	PART NUMBER	TYPE DESIGNATION	Net Price (1-24)	Tolerance	Net Price (1-24)	Tolerance
4300	DM-30-432		\$1.01	\$1.11	\$1.21	\$1.31
4700	DM-30-472		1.07	1.18	1.28	1.39
5000	DM-30-502		1.10	1.21	1.32	1.43
5100	DM-30-512	CM-07-FD-512±03	1.10	1.21	1.32	1.43
5600	DM-30-562	CM-07-FD-562±03	1.14	1.25	1.37	1.48
6200	DM-30-622	CM-07-FD-622±03	1.20	1.32	1.44	1.56
6800	DM-30-682	CM-07-FD-682±03	1.32	1.45	1.58	1.72
7500	DM-30-752	CM-07-FD-752±03	1.45	1.60	1.74	1.89
8200	DM-30-822	CM-07-FD-822±03	1.58	1.74	1.90	2.05
9100	DM-30-912	CM-07-FD-912±03	1.70	1.87	2.04	2.21
10000	DM-30-103	CM-07-FD-103±03	1.89	2.08	2.27	2.46
11000	DM-30-113	CM-07-FD-113±03	2.05	2.26	2.46	2.67
12000	DM-30-123	CM-07-FD-123±03	2.21	2.43	2.65	2.87
13000	DM-30-133	CM-07-FD-133±03	2.36	2.60	2.83	3.07
15000	DM-30-153	CM-07-FD-153±03	2.68	2.95	3.24	3.48
16000	DM-30-163	CM-07-FD-163±03	2.84	3.12	3.41	3.69
18000	DM-30-183	CM-07-FD-183±03	3.15	3.47	3.78	4.10
20000	DM-30-203	CM-07-FD-203±03	3.47	3.82	4.16	4.51
22000*	DM-30-223		3.42	3.76	4.10	4.45
24000*	DM-30-243		3.69	4.06	4.43	4.80
25000*	DM-30-253		3.84	4.22	4.61	4.99
27000*	DM-30-273		4.11	4.52	4.93	5.35
30000*	DM-30-303		4.50	4.95	5.40	5.85
33000**	DM-30-333		4.95	5.45	5.94	6.44
36000**	DM-30-363		5.40	5.94	6.48	7.02

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor)

## TYPE DM-42 (CM-08) 500VDCW

CAP. MMF.	PART NUMBER	TYPE DESIGNATION	Net Price (1-24) Tolerance	
			±5% "J"	±2% "G"
20000	DM-42-203		\$4.16	\$4.58
22000	DM-42-223	CM-08-FD-223±03	4.50	4.95
24000	DM-42-243	CM-08-FD-243±03	4.91	5.40
25000	DM-42-253		5.04	5.54
27000	DM-42-273	CM-08-FD-273±03	5.45	6.00
30000	DM-42-303	CM-08-FD-303±03	5.95	6.55
33000	DM-42-333	CM-08-FD-333±03	6.46	7.11
36000	DM-42-363	CM-08-FD-363±03	7.09	7.80
39000	DM-42-393	CM-08-FD-393±03	7.56	8.32
43000	DM-42-433	CM-08-FD-433±03	8.19	9.01
47000	DM-42-473	CM-08-FD-473±03	8.82	9.70
50000	DM-42-503		9.29	10.22
51000	DM-42-513	CM-08-FD-513±03	9.45	10.40
56000*	DM-42-563	CM-08-FC-563±03	9.01	9.91
62000*	DM-42-623	CM-08-FC-623±03	9.77	10.75
68000**	DM-42-683	CM-08-FC-683±03	9.45	10.40
75000**	DM-42-753	CM-08-FA-753±03	10.08	11.09
82000**	DM-42-823	CM-08-FA-823±03	10.71	11.78

±1% PRICES ON REQUEST

## NOTES ON DUR-MICA CAPACITORS

Case sizes DM-16 and DM-43 (see page 10 for dimensions and capacitance ranges) are available to special order. Price and delivery information upon request.

All capacitances marked \* are 300VDCW.

All capacitances marked \*\* are 100VDCW.

§ Minimum tolerance ±1 pf. For ±0.5 pf. add 50% to listed price.

† Minimum tolerance ±0.5 pf.

‡ Tolerance letter designation in part number.

All values available in ±½% tolerance if needed. Prices upon request.

All ELMENCO mica capacitors are manufactured to meet applicable MIL-C-5 specifications. The corresponding MIL designation is indicated next to each case size heading. The DM-19 (CM06), DM-30 (CM07), and DM-42 (CM08) capacitors are universally marked so that material shipped will automatically meet MIL-C-5 marking provisions. On DM-10 (CM04) and DM-15 (CM05) case sizes, the capacitors supplied are identical whether the ELMENCO or MIL part number is specified with the exception of marking. When the MIL part number is specified, MIL Type Designation must appear on the capacitor.

For capacitance values within the ranges specified for each case size but not listed, there is a \$1.50 set-up charge per item. For the base price, use the next higher standard listed capacitance value.

For the "P" or 150°C. operating temperature requirement, add \$0.10 to the indicated net price, then add an additional 20%.

**ELMENCO**  
CAPACITORS**THIN-COAT DUR-MICA**

## SPACE-SAVER

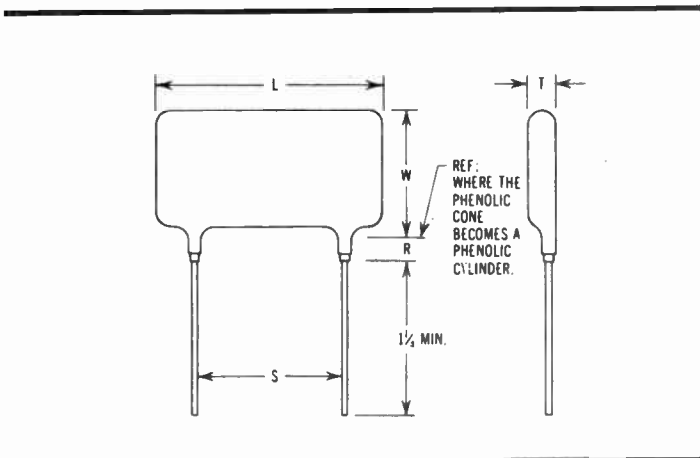
# TYPE SCDM THIN COAT DIPPED MICA CAPACITORS

### (ELMENCO TYPE 1CR)

In applications requiring the high performance characteristics of dipped mica capacitors where space is at a premium, the Type SCDM reduced coat ELMENCO capacitors may often be used to advantage. A single protective resin coat is applied instead of the full series of dips incorporated in the standard unit. The amount of coat material is thereby reduced to a minimum consistent with good design, and a significant reduction of all dimensions is achieved.

All electrical and environmental requirements of MIL-C-5 are retained with the exception of case insulation (3.5.3) and moisture resistance (3.14). A maximum voltage stress of 100VDC through the case insulation is recommended for SCDM units. Although some lots of this type capacitor will not meet stringent MIL moisture resistance specifications, all will meet the humidity requirements of Paragraph 3.6 of EIA Standard RS-153. Therefore, the SCDM capacitors will operate with satisfaction where they will not be exposed to extensive periods of high humidity. It is recommended that if these capacitors are destined for operation under extreme environmental conditions they should be given additional moisture protection such as encapsulation or hermetic sealing of the assembly.

Types SCDM10, SCDM15, and SCDM19 capacitors are stocked in depth at ARCO regional facilities in all values. They may be obtained within 24 hours from your local ARCO distributor. See standard DM tabulations on preceding pages for values and pricing.



Representative dimensions of the SCDM style capacitors. The dimensions of intermediate values may be closely approximated by interpolation.

	SCDM10	SCDM15	SCDM19
R MAX.	1/8	1/8	9/64
S ± 1/32	9/64	15/64	11/32
LEAD WIRE GAGE	#26	#22	#20

Case Size	Cap. pf.	Volt. VDCW	L max.	W max.	T max.
SCDM10	10	500	.310	.230	.12
	100	500	.320	.230	.13
	180	500	.330	.240	.15
	250	500	.340	.250	.16
	300	300	.340	.250	.16
390	100	.340	.250	.16	
SCDM15	10	500	.430	.280	.14
	100	500	.430	.280	.15
	270	500	.440	.300	.16
	510	500	.450	.310	.19
	560	300	.450	.310	.16
	820	300	.450	.310	.17
1000	100	.450	.320	.17	
SCDM19	100	500	.610	.450	.13
	1000	500	.620	.460	.16
	3000	500	.630	.470	.23
	5100	500	.660	.500	.32
	5600	300	.640	.480	.25
	6800	300	.640	.490	.27
8200	100	.650	.490	.30	

SCDM capacitors in the larger sizes are available to special order.

# ELMENCO

CAPACITORS

# High Voltage Dur-Mica

A new line of ELMENCO Silvered Hi-Voltage Dur-Mica capacitors is now available to complement the similar values in the molded configuration. These high voltage capacitors afford the same facility of use in low power applications by providing reliable operation in a small case size. Elmenco Dur-Mica capacitors may be substituted for similarly rated molded units normally supplied in the larger CM45, CM50, CM55, and CM60 case sizes.

The Dur-Mica design provides advantage of higher temperature operation (125°C. max.); radial leads for printed circuit application; higher capacitance in a given case size; and improved reliability. The dipped units, being solidly impregnated with corona resistant material, do not have the voids which make molded types susceptible to corona. As a

result, the dipped capacitors can be supplied with voltage rating as high as 5000VDCW.

All Elmenco Dur-Mica capacitors are silvered mica construction. They conform to electrical and environmental specifications set forth in MIL-C-5 specifications.

The physical configuration of these capacitors is the same as for the standard DM units. This information is found on page 8. The only difference is that for a given capacitance value case dimensions will be larger for higher voltage ratings because the mica is thicker. The maximum case dimensions for each of the case sizes indicated below is the same as the maximums indicated in the tabulation.

## VDM-20 HI-VOLTAGE

TOLERANCE  $\pm 5\%$

CAP. MMF.	TYPE DESIGNATION	VDC 2000T 1000W NET	VDC 3000T 1500W NET	VDC 5000T 2500W NET
5	VDM-20-050K			\$0.22
10	VDM-20-100J	USE 2500V	USE 2500V	.22
12	VDM-20-120J			.22
15	VDM-20-150J			.22
18	VDM-20-180J		.22	.26
20	VDM-20-200J		.22	.26
22	VDM-20-220J		.22	.26
24	VDM-20-240J		.22	.26
27	VDM-20-270J	USE 1500V	.22	.26
30	VDM-20-300J		.22	.26
33	VDM-20-330J		.22	.30
36	VDM-20-360J		.22	.30
39	VDM-20-390J		.22	.30
43	VDM-20-430J		.22	.30
47	VDM-20-470J		.22	.33
50	VDM-20-500J		.22	.33
51	VDM-20-510J		.22	.33
56	VDM-20-560J		.22	.33
62	VDM-20-620J		.22	.37
68	VDM-20-680J		.22	.37
75	VDM-20-750J		.22	.37
82	VDM-20-820J		.22	.41
91	VDM-20-910J		.22	.45
100	VDM-20-101J	.25	.30	.45
110	VDM-20-111J	.25	.30	.48
120	VDM-20-121J	.25	.30	.48
130	VDM-20-131J	.25	.33	.52
150	VDM-20-151J	.25	.33	.56
160	VDM-20-161J	.25	.33	.60
180	VDM-20-181J	.25	.36	.64
200	VDM-20-201J	.29	.36	.69
220	VDM-20-221J	.29	.40	.74
240	VDM-20-241J	.29	.40	.78
250	VDM-20-251J	.29	.43	.82
270	VDM-20-271J	.29	.43	.86
300	VDM-20-301J	.33	.46	.90
330	VDM-20-331J	.33	.49	1.01
360	VDM-20-361J	.33	.49	1.12
390	VDM-20-391J	.36	.52	
430	VDM-20-431J	.36	.56	
470	VDM-20-471J	.36	.60	
500	VDM-20-501J	.39	.64	
510	VDM-20-511J	.39	.64	
560	VDM-20-561J	.39	.67	
620	VDM-20-621J	.42	.71	
680	VDM-20-681J	.45	.77	
750	VDM-20-751J	.45	.83	
820	VDM-20-821J	.48	.90	
910	VDM-20-911J	.51	1.00	
1000	VDM-20-102J	.54	1.06	
1100	VDM-20-112J	.57	1.18	
1200	VDM-20-122J	.60	1.28	
1300	VDM-20-132J	.64	1.40	
1500	VDM-20-152J	.70		
1600	VDM-20-162J	.73		
1800	VDM-20-182J	.80		
2000	VDM-20-202J	.90		
2200	VDM-20-222J	1.00		
2400	VDM-20-242J	1.06		
2700	VDM-20-272J	1.18		
3000	VDM-20-302J	1.30		

## VDM-30 HI-VOLTAGE

Voltage Rating (D.C.)	Capacitance Range (mmf.)
2000T, 1000W	3300 - 10000
3000T, 1500W	1500 - 6800
5000T, 2500W	390 - 2700

PRICING ON REQUEST

## VDM-42 HI-VOLTAGE

Voltage Rating (D.C.)	Capacitance Range (mmf.)
2000T, 1000W	12000 - 30000
3000T, 1500W	7500 - 20000
5000T, 2500W	3000 - 10000

PRICING ON REQUEST

## VDM-43 HI-VOLTAGE

Voltage Rating (D.C.)	Capacitance Range (mmf.)
2000T, 1000W	33000 - 47000
3000T, 1500W	22000 - 30000
5000T, 2500W	12000 - 15000

PRICING ON REQUEST

## HVDM-42 & HVDM-43 — 5,000WV UNITS

HVDM42 5 to 620 mmf.

HVDM43 680 to 910 mmf.

PRICING ON REQUEST

**PLEASE SPECIFY  
WORKING VOLTAGE RATING  
WHEN ORDERING**

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor)

Above prices are for Standard 5% Tolerance. Closer tolerances to  $\pm 1\%$  available. Pricing on request.

# ELMENCO

CAPACITORS

## DUR-MICA RELIABILITY DATA

### PREDICTED FAILURE RATE — 90% CONFIDENCE LEVEL — %PER THOUSAND HOURS

CASE SIZE	CAP. MMF.	VDCW	RATED VOLT. 85°C.			RATED VOLT. — 125°C.			50% VOLT. — 125°C.		
			REG. PRDD	HRDM	M2DM	REG. PROD.	HRDM	M2DM	REG. PROD.	HRDM	M2DM
DM10	10	500	.00035	.0001	.0001	.075	.015	.0045	.0003	.0001	.0001
	50	500	.002	.00035	.0001	.4	.08	.025	.0015	.0003	.0001
	100	500	.0035	.0007	.0002	.75	.15	.045	.003	.00065	.0002
	150	500	.005	.001	.0003	1.15	.25	.07	.0045	.0009	.0003
	250	500	.0085	.002	.0005	1.9	.4	.15	.0075	.0015	.00045
	300	300	.007	.0015	.00045	1.6	.35	.095	.0065	.0015	.0004
	390	100	.004	.0008	.00025	.9	.2	.055	.0035	.0007	.00025
DM15	10	500	.0002	.0001	.0001	.04	.0075	.0025	.00015	.0001	.0001
	100	500	.002	.00035	.0001	.4	.075	.025	.0015	.0003	.0001
	200	500	.0035	.0007	.0002	.75	.15	.045	.003	.0006	.0002
	300	500	.0045	.001	.0003	1.15	.25	.07	.0045	.001	.0003
	470	500	.008	.002	.0005	1.8	.4	.15	.007	.0015	.00045
	560	300	.0065	.0015	.0004	1.5	.3	.09	.006	.0015	.00035
	680	300	.008	.002	.0005	1.8	.4	.15	.007	.0015	.00045
	820	300	.0095	.002	.0006	2.2	.45	.15	.0085	.002	.00055
	1000	100	.005	.001	.00035	1.15	.25	.07	.0045	.0009	.0003
	DM19 & DM20	100	500	.00025	.0001	.0001	.05	.0095	.003	.0002	.0001
510		500	.0015	.00025	.0001	.25	.05	.015	.001	.0002	.0001
1000		500	.0025	.00045	.00015	.5	.095	.03	.002	.0004	.00015
2000		500	.0045	.00085	.00025	.95	.2	.06	.004	.00075	.00025
3000		500	.0065	.0015	.0004	1.5	.3	.085	.0055	.0015	.00035
5100		500	.015	.0025	.00065	2.5	.5	.15	.015	.002	.0006
6800		500	.015	.003	.00085	3.0	.65	.2	.015	.0025	.00075
8200		500	.02	.0035	.0015	4.0	.8	.25	.015	.003	.0009
10000		500	.025	.0045	.0015	4.7	.95	.3	.02	.004	.001
DM30		5100	500	.0045	.00085	.0003	1.0	.2	.06	.004	.00075
	7500	500	.0065	.0015	.0004	1.45	.3	.085	.0055	.0015	.00035
	10000	500	.0085	.002	.0005	1.9	.4	.15	.0075	.0015	.00045
	15000	500	.015	.0025	.00075	2.85	.6	.2	.015	.0025	.0007
	20000	500	.02	.0035	.001	3.8	.75	.25	.015	.003	.0009
	24000	300	.015	.003	.00085	3.15	.65	.2	.015	.0025	.00075
	30000	300	.02	.0035	.0015	3.95	.8	.25	.02	.0035	.00095
	33000	100	.0085	.002	.0005	1.9	.4	.15	.0075	.0015	.00045
40000	100	.01	.002	.0006	2.25	.45	.15	.009	.002	.00055	
DM42	20000	500	.0045	.0015	.0004	1.35	.3	.085	.0055	.0015	.00035
	30000	500	.007	.002	.00055	2.05	.45	.15	.008	.002	.0005
	51000	500	.015	.003	.00095	3.45	.7	.25	.015	.003	.0008
	56000	300	.009	.0025	.0007	2.65	.55	.2	.015	.0025	.00065
	68000	300	.015	.003	.00085	3.2	.65	.2	.015	.0025	.00075
	82000	100	.0055	.0015	.00045	1.65	.35	.1	.0065	.0015	.0004

- NOTES: 1. All capacitors operated at 50% Voltage at 85°C. have a failure rate of .0001% 1000 hours, 90% confidence level.  
 2. Failure rates for intermediate capacitance values can be approximated by interpolation.  
 3. Although it is obvious from the tabulation that failure rates lower than .0001% can be derived, that figure is considered a practical low limit.



# ELMENCO CAPACITORS

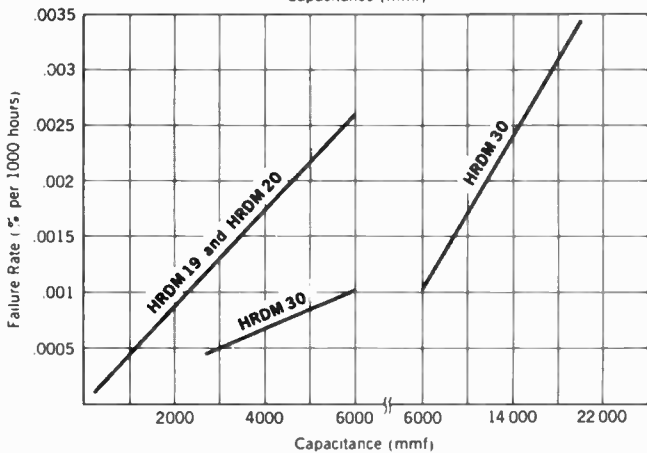
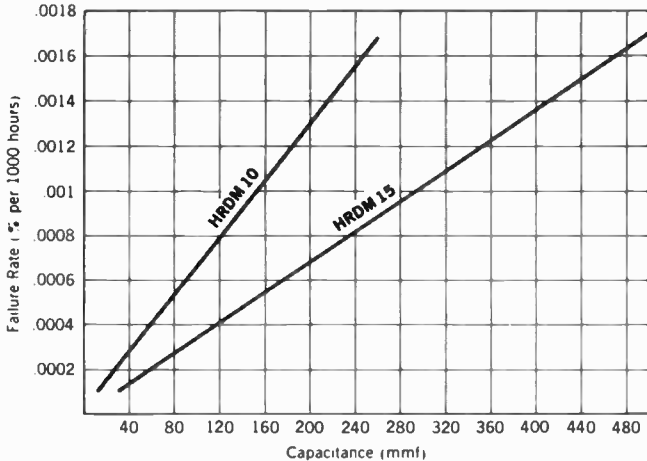
## High Reliability Dur-Mica

### Type HRDM

Missile, Computer, and other applications wherein entire system performance depends on reliable operation of thousands of components has prompted development of a High Reliability line of ELMENCO Dur-Mica dipped silver mica capacitors. Selected DM units are subjected to a special "debugging" process to eliminate potential early failures. This process is particularly effective when the capacitors are to be subjected to operation near their maximum rated temperatures. The HRDM capacitors are exposed to double rated voltage for 48 hours at 125°C. The graphs below indicate the reliability levels of these capacitors. The curves have been derived from the results of tens of thousands of hours of testing of tens of thousands of capacitors of all values and case sizes. Further information on the performance characteristics of HRDM capacitors is available upon request.

### RELIABILITY OF ELMENCO HRDM CAPACITORS

Failure Rate in % per 1000 Hours (90% Confidence Level) vs. Capacitance Value □ 500VDCW Operation at 85°C.



To conserve catalog space, part numbers for each HRDM capacitor are not listed as they are for the standard units. Capacitance values are shown for each case size with corresponding list prices indicated for each standard tolerance. Voltage ratings are the same as for the standard DM capacitors.

To specify part number, merely prefix the regular DM part number by the letters "HR". For example, a high reliability DM15-101J would be called out by the part number HRDM15-101J.

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor)

Capacitance values (mmf.)		Net Price (1-24) Tolerance			
<b>DM-10</b>					
1-10§	\$0.35				
12-18†	.38	\$0.44			
20-43	.38	.40	\$0.56		
47-110	.41	.43	.61	\$0.85	
120-130	.44	.47	.68	.79	
150	.48	.51	.75	.86	
160	.51	.56	.82	.95	
180-200	.55	.59	.86	1.01	
220	.58	.62	.91	1.07	
240-270	.63	.67	.99	1.16	
300-330	.66	.71	1.06	1.26	
360	.69	.75	1.11	1.32	
390	.72	.79	1.17	1.39	
<b>DM-15</b>					
1-100†	.34	.34	.41	.46	
110-150	.35	.37	.41	.46	
160-200	.38	.41	.45	.51	
220-250	.41	.44	.49	.56	
270-300	.44	.47	.54	.62	
330-360	.47	.50	.57	.66	
390-430	.50	.55	.62	.71	
470-500	.54	.59	.66	.78	
510-560	.59	.63	.71	.84	
620	.62	.67	.76	.90	
680	.65	.71	.81	.97	
750	.69	.75	.85	1.01	
820	.72	.79	.90	1.07	
910	.79	.85	.99	1.11	
1000	.84	.89	1.03	1.17	
<b>DM-19</b>		<b>DM-20</b>			
100	.32	.34	.35	.40	
110-220	.35	.37	.39	.44	
240-250	.38	.41	.43	.49	
270-330	.41	.44	.46	.54	
360-430	.44	.47	.50	.59	
470-510	.47	.50	.54	.63	
560-620	.50	.55	.58	.68	
680-820	.54	.59	.61	.74	
910	.57	.62	.65	.79	
1000-1100	.60	.65	.69	.83	
1200	.63	.68	.74	.88	
1300	.66	.71	.78	.92	
1500	.69	.76	.82	.98	
1600	.74	.80	.85	1.03	
	.77	.83	.88	1.07	
1800	.80	.86	.92	1.12	
	.83	.90	.97	1.18	
2000	.86	.93	1.01	1.22	
	.92	1.01	1.08	1.31	
2200	.95	1.03	1.11	1.36	
	1.00	1.07	1.17	1.42	
2400	1.02	1.10	1.20	1.45	
2500	1.05	1.14	1.23	1.50	
2700	1.09	1.19	1.28	1.56	
3000	1.16	1.26	1.36	1.66	
3300	1.23	1.33	1.44	1.76	
3600	1.29	1.41	1.52	1.87	
3900	1.37	1.48	1.61	1.97	
4300	1.44	1.56	1.69	2.08	
4700	1.5C	1.63	1.76	2.18	
5000-5100	6800	1.5E	1.70	1.86	2.29
5600	7500	1.64	1.79	1.95	2.40
6200-6800		1.71	1.86	2.04	2.51
7500	8200	1.77	1.94	2.13	2.63
8200		1.85	2.02	2.22	2.74
	9100	1.94	2.14	2.32	2.89
	10000	2.17	2.36	2.57	3.19

PRICES FOR HRDM30, HRDM42, AND HRDM43 ON REQUEST.

‡ Minimum tolerance ±1 mmf. Add \$0.09 for ±0.5 mmf.

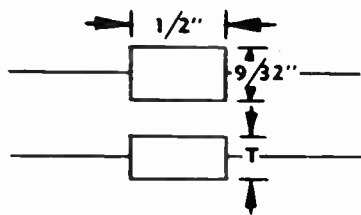
† Minimum tolerance ±0.5 mmf.

NOTE: Voltage ratings of items listed correspond to those indicated for the standard line DM capacitors in equivalent values and case sizes indicated on previous pages.

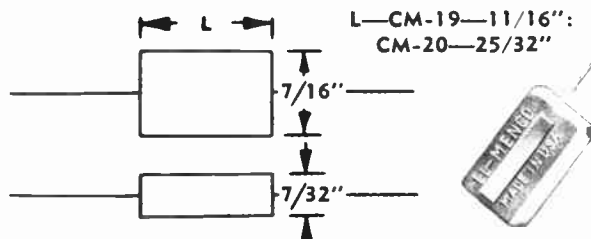
**There is a set-up charge of \$3.00 per item when the quantity of the item is less than 100. This charge is added to the unit prices indicated above.**

# ELMENCO CAPACITORS

## Molded Silvered Mica



T—from 1-300 mmf. 3/16"  
T—from 310-510 mmf. 7/32"



### TYPE CM-15

500VDCW

CAP. MMF.	TYPE DESIGNATION	Net Price (1-24) Tolerance		
		"J" ±5%	"G" ±2%	"F" ±1%
1	CM-15-C-010†	\$0.21		
2	CM-15-C-020†	.21		
3	CM-15-C-030†	.21		
5	CM-15-C-050†	.21		
10	CM-15-C-100	.21		
12	CM-15-C-120	.21		
15	CM-15-C-150	.21		
18	CM-15-C-180	.21		
20	CM-15-C-200	.19		
22	CM-15-C-220	.19		
24	CM-15-E-240	.19		
27	CM-15-E-270	.19	\$0.26	
30	CM-15-E-300	.19	.26	
33	CM-15-E-330	.19	.26	
36	CM-15-E-360	.19	.26	
39	CM-15-E-390	.19	.26	.35
43	CM-15-E-430	.19	.26	.35
47	CM-15-E-470	.19	.26	.35
50	CM-15-E-500	.19	.26	.35
51	CM-15-E-510	.19	.26	.35
56	CM-15-E-560	.19	.26	.35
62	CM-15-E-620	.19	.26	.35
68	CM-15-E-680	.19	.26	.35
75	CM-15-E-750	.19	.26	.35
82	CM-15-E-820	.19	.26	.35
91	CM-15-E-910	.19	.26	.36
100	CM-15-E-101	.19	.26	.36
110	CM-15-E-111	.22	.26	.36
120	CM-15-E-121	.22	.26	.36
130	CM-15-E-131	.22	.26	.36
150	CM-15-E-151	.22	.26	.36
160	CM-15-E-161	.25	.30	.36
180	CM-15-E-181	.25	.30	.36
200	CM-15-E-201	.25	.30	.36
220	CM-15-E-221	.28	.34	.41
240	CM-15-E-241	.28	.34	.41
250	CM-15-E-251	.28	.34	.41
270	CM-15-E-271	.32	.38	.45
300	CM-15-E-301	.32	.38	.45
330	CM-15-E-331	.35	.42	.50
360	CM-15-E-361	.38	.46	.55
390	CM-15-E-391	.41	.49	.59
430	CM-15-E-431	.41	.49	.59
470	CM-15-E-471	.44	.54	.65
500	CM-15-E-501	.44	.54	.65
510	CM-15-E-511	.44	.54	.65
560**	CM-15-E-561	.44	.54	.65
620**	CM-15-E-621	.48	.58	.69
680**	CM-15-E-681	.51	.61	.73
750**	CM-15-E-751	.54	.64	.77
820**	CM-15-E-821	.57	.68	.82

† Capacities marked with † denote that closest tolerance is ±0.5 mmf.

\* Voltage rating 300 VDCW.

\*\* Voltage rating 100 VDCW.

#### SPECIFICATIONS NOTES:

±1/2% tolerance available above 100 mmf., pricing upon request.  
CM-15, available "F" characteristic above 30 mmf.  
CM-19, 20 available "E" characteristic above 110 mmf.  
CM-19, 20 available "F" characteristic above 200 mmf.  
All CM-30, 35, and 42 values listed are available in "F" characteristic.

### TYPE CM-19 & 20

500VDCW

CAP. MMF.	TYPE DESIGNATION	Net Price (1-24) Tolerance		
		"J" ±5%	"G" ±2%	"F" ±1%
100	CM-20-C-101	\$0.20	\$0.22	\$0.27
110	CM-20-C-111	.22	.24	.30
120	CM-20-C-121	.22	.24	.30
130	CM-20-C-131	.22	.24	.30
150	CM-20-C-151	.22	.24	.30
160	CM-20-C-161	.22	.24	.30
180	CM-20-C-181	.22	.24	.30
200	CM-20-D-201	.22	.24	.30
220	CM-20-D-221	.22	.24	.30
240	CM-20-D-241	.25	.28	.35
250	CM-20-D-251	.25	.28	.35
270	CM-20-D-271	.25	.28	.35
300	CM-20-D-301	.25	.28	.35
330	CM-20-D-331	.25	.28	.35
360	CM-20-D-361	.25	.28	.35
390	CM-20-D-391	.28	.31	.39
430	CM-20-D-431	.28	.31	.39
470	CM-20-D-471	.28	.31	.39
500	CM-20-D-501	.31	.34	.43
510	CM-20-D-511	.31	.34	.43
560	CM-20-D-561	.31	.34	.43
620	CM-20-D-621	.34	.38	.47
680	CM-20-D-681	.38	.41	.51
750	CM-20-D-751	.38	.41	.51
820	CM-20-D-821	.40	.44	.56
910	CM-20-D-911	.44	.48	.62
1000	CM-20-E-102	.44	.48	.62
1100	CM-20-E-112	.48	.53	.67
1200	CM-20-E-122	.50	.55	.70
1300	CM-20-E-132	.50	.55	.70
1500	CM-20-E-152	.53	.58	.75
1600	CM-20-E-162	.56	.62	.80
1800	CM-20-E-182	.62	.68	.86
2000	CM-20-E-202	.69	.76	.96
2200	CM-20-E-222	.76	.84	1.06
2400	CM-20-E-242	.78	.86	1.09
2500	CM-20-E-252	.81	.90	1.15
2700	CM-20-E-272	.87	.96	1.22
3000	CM-20-E-302	.94	1.04	1.31
3300	CM-20-E-332	1.01	1.11	1.41
3600*	CM-20-E-362	1.06	1.16	1.48
3900*	CM-20-E-392	1.15	1.26	1.62
4300*	CM-20-E-432	1.20	1.32	1.68
4700*	CM-20-E-472	1.25	1.38	1.74
5000*	CM-20-E-502	1.32	1.46	1.84
5100*	CM-20-E-512	1.32	1.46	1.84

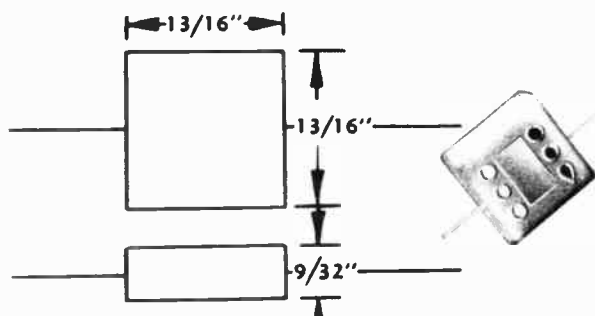
Capacities from 100 to 2400 mmf. can be supplied in CM-19 cases. In values above 1000 mmf. the list prices for CM-19 are 10% higher than those listed above.

As can be seen in the line drawing above, the only difference between CM19 and CM20 is length dimension. For competitive reasons it has been necessary to retain both mold sizes. However both CM19 and CM20 fully conform to all specifications for MIL-C-5 case size CM20, and they are interchangeable for military requirements.

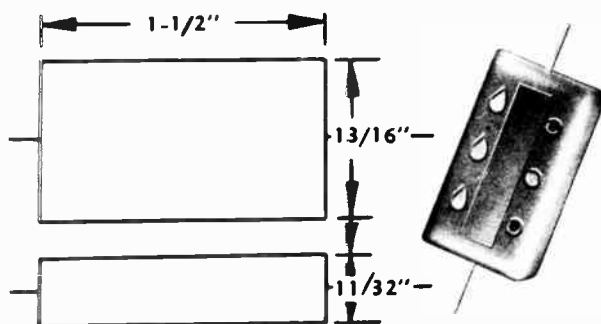
NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor)

# ELMENCO CAPACITORS

## Molded Silvered Mica



**TYPE CM-30**  
500VDCW



**TYPE CM-42**

CAP. MMF.	TYPE DESIGNATION	Net Price (1-24) Tolerance		
		"J" ±5%	"G" ±2%	"F" ±1%
510	CM-30-E-511	\$0.35	\$0.39	\$0.42
560	CM-30-E-561	.38	.42	.45
620	CM-30-E-621	.38	.42	.45
680	CM-30-E-681	.41	.45	.49
750	CM-30-E-751	.41	.45	.49
820	CM-30-E-821	.44	.48	.53
910	CM-30-E-911	.44	.48	.53
1000	CM-30-E-102	.47	.53	.57
1100	CM-30-E-112	.47	.53	.57
1200	CM-30-E-122	.47	.53	.57
1300	CM-30-E-132	.50	.56	.61
1500	CM-30-E-152	.54	.59	.64
1600	CM-30-E-162	.54	.59	.64
1800	CM-30-E-182	.57	.62	.68
2000	CM-30-E-202	.63	.69	.76
2200	CM-30-E-222	.69	.77	.83
2400	CM-30-E-242	.76	.83	.90
2500	CM-30-E-252	.76	.83	.90
2700	CM-30-E-272	.82	.90	.99
3000	CM-30-E-302	.82	.97	1.06
3300	CM-30-E-332	.95	1.04	1.13
3600	CM-30-E-362	1.01	1.11	1.21
3900	CM-30-E-392	1.07	1.18	1.28
4300	CM-30-E-432	1.13	1.25	1.37
4700	CM-30-E-472	1.20	1.31	1.44
5000	CM-30-E-502	1.26	1.39	1.51
5100	CM-30-E-512	1.26	1.39	1.51
5600	CM-30-E-562	1.32	1.46	1.59
6200	CM-30-E-622	1.39	1.52	1.66

Type CM42 is available to special order in the capacitance range 12000 to 39000 pf. Please contact us for price and delivery information.

### TYPE VCM HIGH VOLTAGE MOLDED MICA

ELMENCO molded mica capacitors are available in voltage ratings up to 2500VDCW. These capacitors meet all electrical and environmental requirements met by the standard units with the exception that they are designed to operate reliably at higher voltage stress levels. The following is a tabulation of case sizes, voltage ratings, and capacitance ranges available:

#### VCM-20

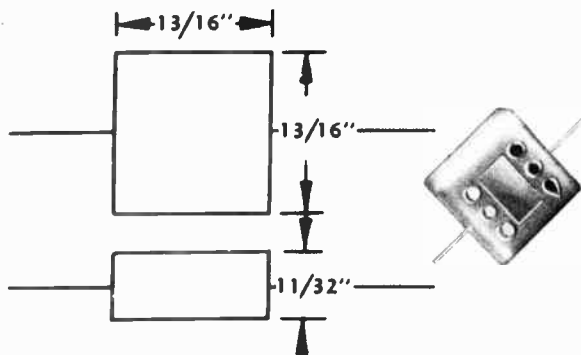
Voltage Rating (D.C.)	Capacitance Range (pf.)
2000VT, 1000VW	5 - 1300
3000VT, 1500VW	5 - 560
5000VT, 2500VW	5 - 220

#### VCM-35

Voltage Rating (D.C.)	Capacitance Range (pf.)
2000VT, 1000VW	1500 - 5600
3000VT, 1500VW	620 - 3300
5000VT, 2500VW	240 - 2000

#### VCM-42

Voltage Rating (D.C.)	Capacitance Range (pf.)
2000VT, 1000VW	6200 - 16000
3000VT, 1500VW	3600 - 9100
5000VT, 2500VW	2200 - 3900



**TYPE CM-35**  
500VDCW

CAP. MMF.	TYPE DESIGNATION	Net Price (1-24) Tolerance		
		"J" ±5%	"G" ±2%	"F" ±1%
6800*	CM-35-E-682	\$1.39	\$1.52	\$1.66
7500*	CM-35-E-752	1.51	1.66	1.82
8200*	CM-35-E-822	1.64	1.81	1.96
9100*	CM-35-E-912	1.76	1.94	2.12
10000*	CM-35-E-103	1.95	2.15	2.34
12000*	CM-35-E-123	2.27	2.50	2.72
15000*	CM-35-E-153	2.71	2.98	3.26
6800	VCM-35-E-682	1.51	1.66	1.82
7500	VCM-35-E-752	1.64	1.81	1.96
8200	VCM-35-E-822	1.76	1.94	2.12
9100	VCM-35-E-912	1.94	2.15	2.34
10000	VCM-35-E-103	2.14	2.35	2.57

Standard tolerance is ±5%, but closer tolerances are available as well. Price and delivery information upon request.

PLEASE INDICATE WORKING VOLTAGE RATING IN ADDITION TO THE PART NUMBER WHEN SPECIFYING.

All capacities marked with \* are 300VWV.  
NOTE:—All above "SILVERED MICA" units can be supplied in "F" Characteristic at no extra cost.

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor)

# ELMENCO

CAPACITORS

## High Temperature Molded Silvered Mica

The standard Elmenco molded mica capacitor is designed for use at a maximum of 85°C., the former industry and military standard prior to issuance of MIL-C-5. Now, in some applications, these components are expected to operate without derating and with the same order of reliability at 150°C. The latter requirement is particularly difficult to cope with and obviously requires vast improvement over the standard design.

A specially designed Elmenco molded mica capacitor, designated type HTCM, has been developed which will afford complete satisfaction at the higher levels of temperature stress. The resulting units have been carefully evaluated in millions of unit-hours of life and environmental testing to verify their performance excellence.

In order to retain proper characteristics at 150°C., the following steps are taken:

1. Every mica film is screened for high temperature characteristics. This is done 100%, not on a sampling basis.
2. A special high temperature molding resin is employed to preserve the strength and electrical characteristic of the mica at 150°C. This molding material was also selected for the lower molding pressure required. This reduced stress greatly enhances the reliability of the mica films.
3. A solid high temperature impregnant is used instead of wax for greater stability and retention of the moisture resistance characteristic. Wax will have a tendency



to melt out at high temperature, causing possible change in capacitance value, loss of moisture seal, and possible fouling of adjacent circuitry. The HTCM capacitors will remain physically and electrically stable at 150°C.

With these design innovations, vast improvement is obtained in operating reliability at elevated temperature. The expected failure rate is reduced to a small fraction of what might otherwise be expected of standard design capacitors.

### HTCM CAPACITORS MEET ALL ELECTRICAL AND ENVIRONMENTAL SPECIFICATIONS FOR MIL-C-5 TEMPERATURE RANGE "P".

The Elmenco high temperature molded mica capacitor is designated simply by adding prefix letters "HT" to the standard part number. For example, a 100 mmf.  $\pm 5\%$  CM-15, standard part number CM-15-E-101J, would be called an HTCM-15-E-101J, for high temperature operation.

To conserve catalog space, part numbers for each individual HTCM capacitor are not listed as they are for the standard units. Capacitance values are shown for each case size with corresponding prices indicated for each tolerance. Voltage ratings are the same as for standard CM capacitors.

NET PRICE (1-24)				NET PRICE (1-24)				NET PRICE (1-24)			
CAP. MMF.	$\pm 5\%$	$\pm 2\%$	$\pm 1\%$	CAP. MMF.	$\pm 5\%$	$\pm 2\%$	$\pm 1\%$	CAP. MMF.	$\pm 5\%$	$\pm 2\%$	$\pm 1\%$
<b>HTCM15</b>				560	\$0.95	\$1.10	\$1.20	3600	\$2.18	\$2.45	\$2.67
1-75	\$0.41	\$0.51	\$0.62	620	.95	1.10	1.20	3900	2.23	2.57	2.79
82-150	.44	.56	.66	680	1.00	1.16	1.25	4300	2.32	2.67	2.90
160-200	.47	.59	.71	750	1.00	1.16	1.25	4700	2.42	2.77	3.02
220	.50	.63	.76	820	1.04	1.20	1.31	5000	2.51	2.89	3.14
240	.50	.63	.76					5100	2.51	2.89	3.14
250	.50	.63	.76	910	1.04	1.20	1.31	<b>HTCM30, HTCM35</b>  HTCM30 and HTCM35 capacitors are available to special order when required. However, these units are manufactured to operate at a maximum temperature of 125°C or "O" temperature range of MIL-C-5. Price and delivery information is available upon request.			
270	.54	.67	.81	1000	1.09	1.26	1.38				
300	.54	.67	.81	1100	1.09	1.26	1.38				
330	.57	.71	.85	1200	1.19	1.35	1.48				
360	.60	.75	.91	1300	1.19	1.35	1.48				
390	.60	.75	.91	1500	1.32	1.53	1.67				
430	.63	.79	.95	1600	1.32	1.53	1.67				
470	.66	.83	1.00	1800	1.42	1.64	1.79				
500	.66	.83	1.00	2000	1.42	1.75	1.91				
510	.66	.83	1.00	2200	1.61	1.86	2.02				
<b>HTCM20</b>				2400	1.68	1.95	2.14				
100-220	.66	.78	.84	2500	1.75	2.02	2.19				
240-360	.76	.87	.97	2700	1.85	2.18	2.32				
390-430	.85	.98	1.07	3000	2.04	2.35	2.55				
470-510	.90	1.04	1.13	3300	2.18	2.45	2.67				

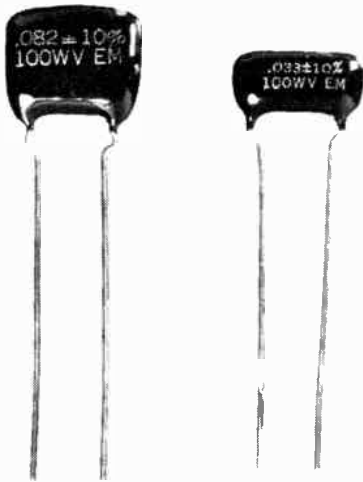
THERE IS A \$5.00 PER ITEM SET-UP CHARGE FOR NON-STANDARD CAPACITANCE VALUES IN QUANTITIES LESS THAN 100 OF A SIZE. ALL VALUES LISTED ON PRIOR PAGES FOR THE STANDARD SILVERED MOLDED MICA ARE CONSIDERED STANDARD STOCK VALUES FOR WHICH THERE IS NO SET-UP CHARGE.

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor)

# ELMENCO

CAPACITORS

## Epoxy-dipped Flat Mylar



The new ELMENCO Type MDF capacitor is a mylar dielectric unit dipped in a newly formulated epoxy material and shaped in the flat configuration particularly suited to saving space on printed circuit boards. Before being brought to market, the design has been carefully evaluated for more than two years to be sure that the performance of the MDF will be of a level expected of ELMENCO capacitors. This release covers the 100VDCW rated series only. Dipped mylar capacitors with other voltage ratings will be announced shortly.

The specifications for the ELMENCO Type MDF are as follows:

Voltage Rating: 100VDCW, 250VDCT.

Insulation Resistance: 20,000 megohm-microfarads or 100,000 ohms, whichever is less, at 25°C.

At 85°C., the figures are 300 megohm-microfarads or 1500 megohm minimum; at 125°C., 20 and 100 respectively.

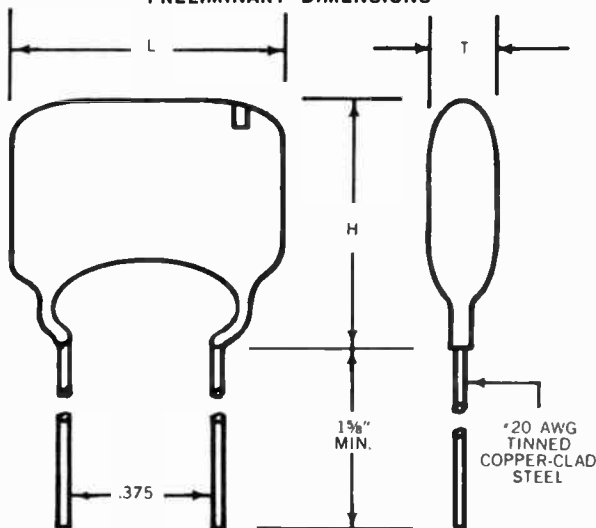
Maximum power factor at 1 kc.: 0.6%

Maximum cap. change from room temperature:

- 7% at -55°C.
- 3.5% at -30°C.
- +4% at 85°C.
- +17% at 125°C.

Capacitance drift: ±1% maximum.

PRELIMINARY DIMENSIONS



These preliminary dimensions are established maximums for the four basic configurations of Type MDF. When dimensional surveys are completed on production representative of all values, individual dimensional information for each capacitance value will be published as for other dipped ELMENCO capacitors. Dimensions, particularly thickness, will vary with capacitance value.

Cap. value (mfd.)	L max.	H max.	T max.
.001 - .033	.800	1 <sup>1</sup> / <sub>32</sub>	7 <sup>1</sup> / <sub>32</sub>
.034 - .068	.800	5 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>
.069 - .15	.800	7 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>16</sub>
.16 - .47	.800	1 <sup>1</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>16</sub>

STANDARD TOLERANCE ±10%

Cap. mfd.	Part Number	List Price	Net Price (1-24)
.001	1MDF-1-102	\$0.25	\$0.15
.0012	1MDF-1-122	.25	.15
.0015	1MDF-1-152	.25	.15
.0018	1MDF-1-182	.25	.15
.002	1MDF-1-202	.25	.15
.0022	1MDF-1-222	.25	.15
.0027	1MDF-1-272	.25	.15
.003	1MDF-1-302	.25	.15
.0033	1MDF-1-332	.25	.15
.0039	1MDF-1-392	.25	.15
.0047	1MDF-1-472	.25	.15
.005	1MDF-1-502	.25	.15
.0051	1MDF-1-512	.25	.15
.0056	1MDF-1-562	.25	.15
.0062	1MDF-1-622	.25	.15
.0068	1MDF-1-682	.25	.15
.0075	1MDF-1-752	.25	.15
.0082	1MDF-1-822	.25	.15
.01	1MDF-1-103	.25	.15
.012	1MDF-1-123	.30	.18
.015	1MDF-1-153	.30	.18
.018	1MDF-1-183	.30	.18
.02	1MDF-1-203	.30	.18
.022	1MDF-1-223	.30	.18
.024	1MDF-1-243	.30	.18
.027	1MDF-1-273	.30	.18
.03	1MDF-1-303	.30	.18
.033	1MDF-1-333	.30	.18
.039	1MDF-2-393	.30	.18
.047	1MDF-2-473	.30	.18
.05	1MDF-2-503	.30	.18
.051	1MDF-2-513	.30	.18
.056	1MDF-2-563	.30	.18
.062	1MDF-2-623	.35	.21
.068	1MDF-2-683	.35	.21
.075	1MDF-3-753	.35	.21
.082	1MDF-3-823	.35	.21
.1	1MDF-3-104	.35	.21
.12	1MDF-3-124	.40	.24
.15	1MDF-3-154	.40	.24
.2	1MDF-4-204	.45	.27
.22	1MDF-4-224	.50	.30
.27	1MDF-4-274	.60	.36
.33	1MDF-4-334	.70	.42
.39	1MDF-4-394	.80	.48
.47	1MDF-4-474	.90	.54

# ELMENCO CAPACITORS

# DIPPED TUBULARS

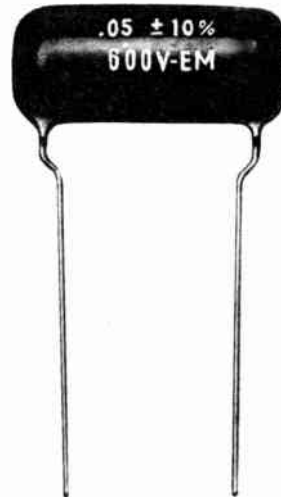
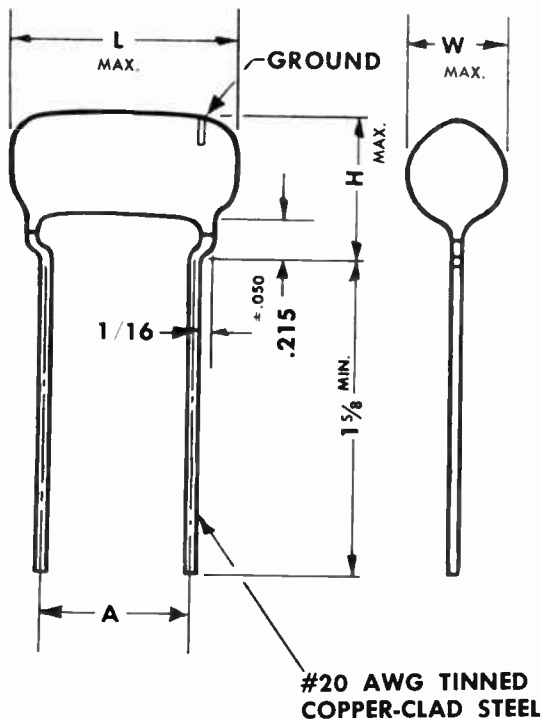
MYLAR\* and MYLAR-PAPER

\* Reg. DuPont Trademark

Elmenco dipped mylar and mylar-paper capacitors represent a double break-through in capacitor design. They combine missile and computer quality with commercial radio-TV cost. A recent development is the addition of precision dipped tubular capacitors in tolerances as low as  $\pm 1\%$  in addition to the popular  $\pm 10\%$  general purpose unit. The only difference between the general purpose "dp" series and the industrial precision capacitors lies in the extra stabilizing processes applied to close tolerance capacitors to insure retention of accuracy in the field under operating extremes.

Elmenco Type MPD capacitors are non-inductively wound and vacuum dipped to obtain solid impregnation and a rugged, moisture-proof coat. New fabricating techniques realize the full potential of the dielectric materials utilizing most of the low-cost procedures of the exclusive Elmenco dip-coat process. The result is a product of electrical excellence with high reliability in operation at 125°C. without derating. The specifications listed on this and following pages well-illustrate the inherent quality of these capacitors.

NOTE: The 100VDCW rated dp units are pure mylar\* dielectric capacitors.



## SPECIFICATIONS

<b>TOLERANCE:</b>		$\pm 10\%$ , $\pm 5\%$ , $\pm 2\%$ , $\pm 1\%$ .				
<b>VOLTAGE RATINGS:</b>		Mylar-Paper — 200, 400, 600, 1600VDCW (no derating) Mylar — 100VDCW (derate 1% per °C. over 85°C.)				
<b>TEMPERATURE RANGE:</b>		- 55 to 125°C.				
<b>INSULATION RESISTANCE:</b>	Temperature	<b>MYLAR-PAPER</b>		<b>MYLAR</b>		
		Megohm-Microfarads Or Megohms Whichever is the lesser		Megohm-Microfarads Or Megohms Whichever is the lesser		
		25°C.	10,000	50,000	20,000	100,000
		85°C.	200	1,000	300	1,500
		105°C.	50	250	80	400
	125°C.	15	75	20	100	
<b>POWER FACTOR:</b>		1% maximum at 1 kc.				
<b>CAPACITANCE CHANGE VS. TEMPERATURE:</b>		See curves on following page.				

<b>CASE SIZE</b>	1	2	3	4	5	6	7	8
<b>DIM. "A" <math>\pm \frac{1}{32}</math></b>	$\frac{1}{4}$	$\frac{3}{16}$	$\frac{1}{2}$	$\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$

## SPECIAL COLOR-TV CAPACITOR



**20CMP-102K**  
**.001 MFD  $\pm 10\%$  — 2000VDCW**

This specially designed capacitor has been created to withstand the high A.C. component in the vertical output circuit. Enclosed in steatite ceramic tube with synthetic resin end-fill, they exhibit long operating life and excellent resistance to moisture penetration.

LIST PRICE **\$0.55**

NET PRICE (1-24) **\$0.33**

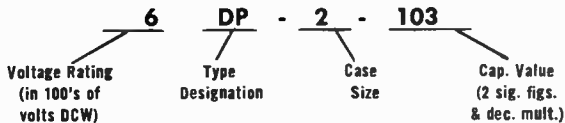
# ELMENCO

CAPACITORS

# TYPE DP

GENERAL PURPOSE

Part Numbers:



The above example calls for a .01 mfd. capacitor with a 600VDCW voltage rating.

## 600VDCW

CAP. MFD.	PART NUMBER	L	W	H	LIST PRICE	NET PRICE (1-24)
.001	6DP-1-102	3/32	3/64	5/8	\$0.25	\$0.15
.0012	6DP-1-122	3/32	3/64	5/8	.25	.15
.0015	6DP-1-152	3/32	3/64	5/8	.25	.15
.002	6DP-1-202	3/32	3/64	5/8	.25	.15
.0022	6DP-1-222	3/32	3/64	5/8	.25	.15
.0025	6DP-1-252	3/32	3/64	5/8	.25	.15
.0027	6DP-1-272	3/32	3/64	5/8	.25	.15
.003	6DP-1-302	3/32	3/64	5/8	.25	.15
.0033	6DP-1-332	3/32	3/64	5/8	.25	.15
.0039	6DP-1-392	3/32	3/64	5/8	.25	.15
.004	6DP-1-402	3/32	3/64	41/64	.25	.15
.0047	6DP-1-472	3/32	3/64	41/64	.25	.15
.005	6DP-1-502	3/32	3/16	41/64	.25	.15
.0056	6DP-1-562	3/32	3/16	41/64	.25	.15
.006	6DP-1-602	3/32	3/8	5/8	.25	.15
.0068	6DP-1-682	3/32	3/64	13/16	.30	.18
.0075	6DP-2-752	3/64	3/16	43/64	.30	.18
.008	6DP-2-802	3/64	3/16	43/64	.30	.18
.0082	6DP-2-822	3/64	3/16	43/64	.30	.18
.01	6DP-2-103	3/64	3/16	43/64	.30	.18
.012	6DP-2-123	3/64	3/16	43/64	.30	.18
.015	6DP-2-153	3/64	3/64	43/64	.30	.18
.018	6DP-2-183	3/64	13/32	43/64	.30	.18
.02	6DP-2-203	3/64	1/2	3/4	.30	.18
.022	6DP-2-223	3/64	1/2	3/4	.30	.18
.025	6DP-2-253	3/64	3/64	47/64	.35	.21
.027	6DP-3-273	13/32	3/64	47/64	.35	.21
.03	6DP-3-303	13/32	3/64	47/64	.35	.21
.033	6DP-3-333	13/32	3/64	47/64	.35	.21
.036	6DP-3-363	13/32	13/32	47/64	.35	.21
.039	6DP-3-393	13/32	13/32	47/64	.35	.21
.04	6DP-3-403	13/32	13/32	47/64	.35	.21
.047	6DP-3-473	13/32	13/32	47/64	.40	.24
.05	6DP-3-503	13/32	3/64	47/64	.40	.24
.056	6DP-3-563	13/32	3/64	47/64	.40	.24
.06	6DP-3-603	13/32	3/64	47/64	.45	.27
.068	6DP-4-683	113/32	3/6	51/64	.45	.27
.075	6DP-4-753	113/32	3/64	51/64	.45	.27
.082	6DP-4-823	113/32	3/64	51/64	.45	.27
.1	6DP-4-104	113/32	13/16	51/64	.45	.27
.15	6DP-5-154	13/6	47/64	13/16	.60	.36
.2	6DP-5-204	13/6	53/64	13/16	.70	.42
.22	6DP-5-224	13/6	53/64	13/16	.70	.42
.25	6DP-5-254	13/6	53/64	13/16	.75	.45
.33	6DP-6-334	17/8	7/8	13/16	1.05	.63
.47	6DP-6-474	23/8	23/32	13/16	1.50	.90
.5	6DP-6-504	23/8	13/16	13/16	1.50	.90

## 100VDCW

CAP. MFD.	PART NUMBER	L	W	H	LIST PRICE	NET PRICE (1-24)
.005	1DP-1-502	11/16	3/16	13/32	\$0.30	\$0.18
.006	1DP-1-602	11/16	3/16	13/32	.30	.18
.0068	1DP-1-682	11/16	3/16	13/32	.30	.18
.0075	1DP-1-752	11/16	3/16	13/32	.30	.18
.01	1DP-1-103	11/16	3/16	13/32	.30	.18
.015	1DP-1-153	23/32	11/32	19/32	.30	.18
.02	1DP-1-203	23/32	11/32	19/32	.30	.18
.022	1DP-1-223	23/32	11/32	19/32	.30	.18
.025	1DP-1-253	23/32	11/32	19/32	.30	.18
.03	1DP-1-303	23/32	3/8	5/8	.30	.18
.033	1DP-1-333	23/32	3/8	5/8	.30	.18
.04	1DP-1-403	23/32	3/8	5/8	.30	.18
.047	1DP-2-473	7/8	13/32	19/32	.35	.21
.05	1DP-2-503	7/8	13/32	19/32	.35	.21
.056	1DP-2-563	7/8	3/8	5/8	.35	.21
.068	1DP-2-683	7/8	13/32	5/8	.35	.21
.075	1DP-2-753	7/8	13/32	5/8	.35	.21
.1	1DP-2-104	23/32	7/16	11/16	.35	.21
.15	1DP-3-154	13/4	7/16	11/16	.40	.24
.2	1DP-3-204	13/32	1/2	13/16	.45	.27
.22	1DP-3-224	13/32	1/2	23/32	.45	.27
.25	1DP-3-254	13/32	3/4	3/4	.50	.30
.33	1DP-4-334	13/8	3/16	13/16	.60	.36
.47	1DP-4-474	13/8	23/32	23/32	.75	.45
.5	1DP-4-504	13/8	23/32	23/32	.75	.45
.68	1DP-5-684	13/4	13/16	13/16	.95	.57
1.0	1DP-5-105	13/4	3/4	1	1.20	.72

## 200VDCW

CAP. MFD.	PART NUMBER	L	W	H	LIST PRICE	NET PRICE (1-24)
.1	2DP-3-104	113/64	1/2	47/64	\$0.35	\$0.21
.15	2DP-3-154	113/64	3/4	25/32	.40	.24
.2	2DP-4-204	113/64	3/64	25/32	.45	.27
.22	2DP-4-224	113/64	3/64	25/32	.45	.27
.25	2DP-4-254	113/64	5/8	7/8	.50	.30
.33	2DP-5-334	13/8	5/8	13/16	.60	.36
.47	2DP-5-474	13/8	47/64	47/64	.75	.45
.5	2DP-5-504	13/8	47/64	47/64	.75	.45

## 400VDCW

CAP. MFD.	PART NUMBER	L	W	H	LIST PRICE	NET PRICE (1-24)
.01	4DP-1-103	23/32	47/64	3/4	\$0.25	\$0.15
.015	4DP-1-153	23/32	23/64	43/64	.25	.15
.02	4DP-2-203	7/8	7/16	13/16	.25	.15
.022	4DP-2-223	7/8	7/16	13/16	.30	.18
.025	4DP-2-253	7/8	13/32	23/32	.30	.18
.03	4DP-2-303	7/8	13/32	23/32	.30	.18
.033	4DP-2-333	7/8	13/32	23/32	.30	.18
.04	4DP-3-403	113/64	3/64	47/64	.30	.18
.047	4DP-3-473	113/64	3/64	47/64	.35	.21
.05	4DP-3-503	113/64	3/64	47/64	.35	.21
.056	4DP-3-563	113/64	3/64	47/64	.35	.21
.068	4DP-3-683	113/64	3/64	47/64	.40	.24
.075	4DP-3-753	113/64	3/64	47/64	.40	.24
.1	4DP-3-104	113/64	5/8	53/64	.40	.24
.15	4DP-4-154	123/64	47/64	53/64	.45	.27
.2	4DP-5-204	133/64	23/32	53/64	.55	.33
.22	4DP-5-224	133/64	23/32	53/64	.55	.33
.25	4DP-5-254	133/64	41/64	61/64	.60	.36
.27	4DP-5-274	133/64	47/64	61/64	.60	.36
.33	4DP-5-334	133/64	47/64	61/64	.90	.54
.47	4DP-6-474	13/8	13/16	13/16	1.10	.66
.5	4DP-6-504	13/8	23/32	13/16	1.20	.72

## 1600 VDCW

CAP. MFD.	PART NUMBER	L	W	H	LIST PRICE	NET PRICE (1-24)
.001	16DP-2-102	7/8	13/32	3/16	\$0.40	\$0.24
.0015	16DP-2-152	7/8	13/32	3/16	.40	.24
.0018	16DP-2-182	7/8	3/8	13/32	.40	.24
.002	16DP-2-202	7/8	3/8	13/32	.40	.24
.0022	16DP-2-222	7/8	3/8	13/32	.40	.24
.0025	16DP-2-252	7/8	13/32	5/8	.45	.27
.0027	16DP-2-272	7/8	3/16	5/8	.45	.27
.003	16DP-2-302	7/8	3/16	5/8	.45	.27
.0033	16DP-2-332	7/8	3/16	5/8	.45	.27
.004	16DP-2-402	7/8	13/32	23/32	.45	.27
.0047	16DP-2-472	7/8	1/2	23/32	.45	.27
.005	16DP-2-502	7/8	13/32	3/4	.45	.27
.006	16DP-3-602	13/16	3/16	23/32	.50	.30
.0068	16DP-3-682	13/16	13/32	11/16	.50	.30
.007	16DP-3-702	13/16	13/32	11/16	.50	.30
.0075	16DP-3-752	13/16	1/2	23/32	.50	.30
.008	16DP-3-802	13/16	13/32	3/4	.50	.30
.0082	16DP-3-822	13/16	13/32	3/4	.50	.30
.01	16DP-3-103	13/16	13/32	3/4	.50	.30
.015	16DP-4-153	113/32	3/16	23/32	.55	.33
.018	16DP-4-183	113/32	5/8	7/8	.60	.36
.02	16DP-4-203	113/32	23/32	7/8	.60	.36
.022	16DP-5-223	13/16	5/8	7/8	.70	.42
.025	16DP-5-253	13/16	23/32	7/8	.70	.42
.03	16DP-5-303	13/16	13/16	13/16	.70	.42
.033	16DP-5-333	13/16	23/32	13/16	.70	.42
.04	16DP-5-403	13/16	3/4	1	.75	.45
.047	16DP-5-473	13/16	13/16	13/16	.80	.48
.05	16DP-5-503	13/16	13/16	13/16	.80	.48

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor)

# ELMENCO CAPACITORS

# DIPPED TUBULARS

MYLAR\* and MYLAR-PAPER

\* Reg. DuPont Trademark

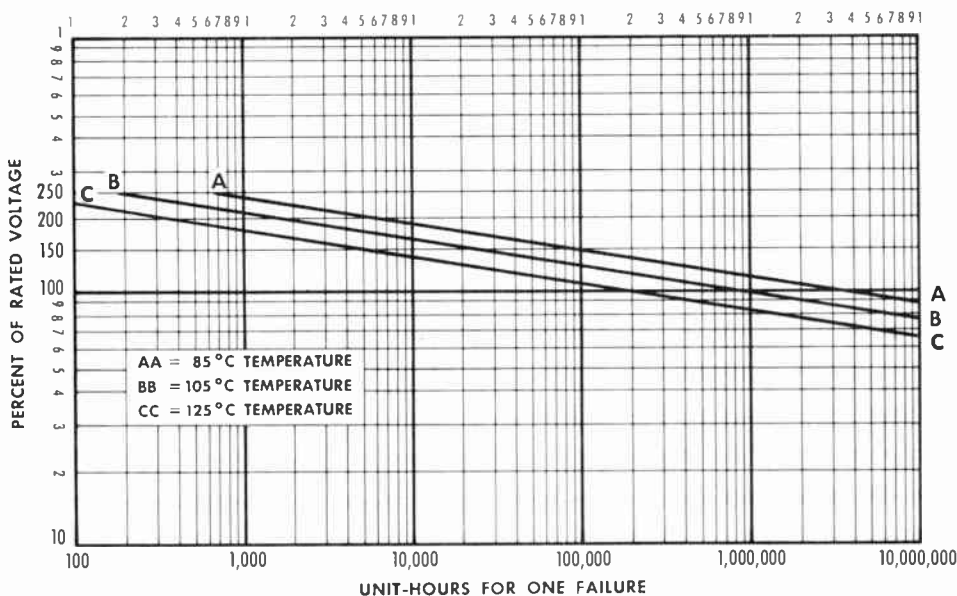
## RELIABILITY

Exhaustive evaluation of ELMENCO Dipped Mylar\*-Paper Capacitors has been conducted during the past four years and the product refined to its present high level of quality. The graph to the right is a plot of typical life expectancy for a theoretical 1 MFD. unit expressed in unit-hours operation to first failure as a function of voltage and temperature. It will be noted that these capacitors can be operated at 125°C. in most applications with excellent reliability.

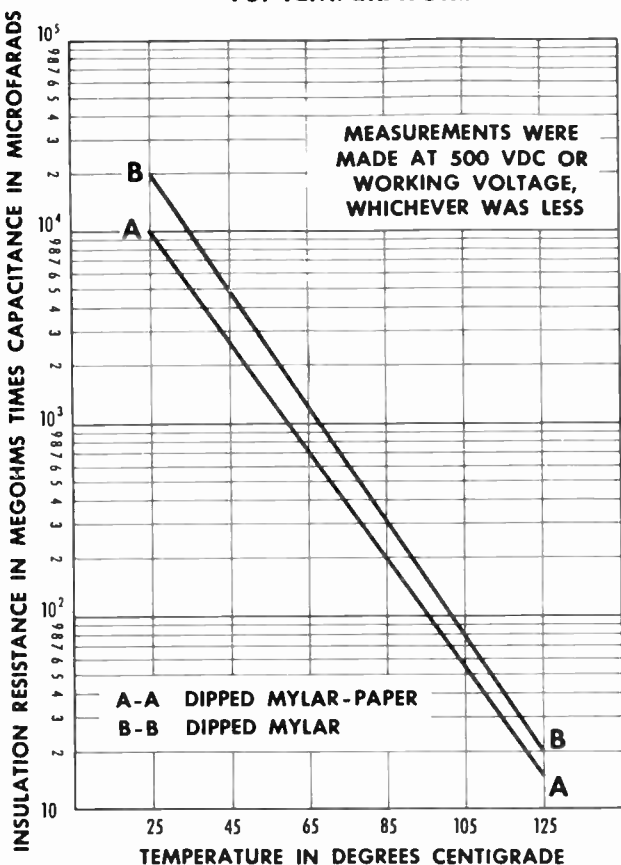
The number of unit-hours to first failure is inversely proportional to the capacitance value in mfd.

As an example, a 0.1 mfd. capacitor operated at full rated voltage and at 105°C. will have a life expectancy of 10 x 500,000 or 5,000,000 unit-hours to first failure. This quality level is continually verified by continuing accelerated life testing on all production.

## MINIMUM LIFE EXPECTANCY FOR 1 MFD MYLAR\*-PAPER DIPPED CAPACITORS AS A FUNCTION OF VOLTAGE AND TEMPERATURE

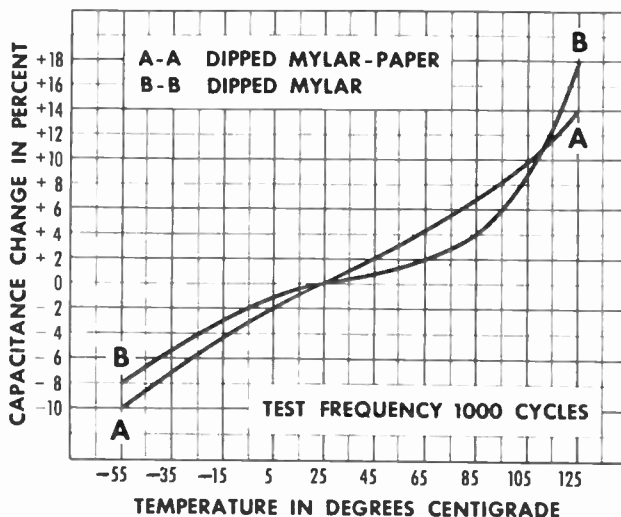


## MINIMUM INSULATION RESISTANCE VS. TEMPERATURE



These curves represent characteristics as they change with temperature. They have been charted only after thorough long-term testing of thousands of capacitors to assure validity.

## MAXIMUM CAPACITANCE CHANGE VS. TEMPERATURE





# ELMENCO

CAPACITORS

## Precision Dipped Tubular

(ELMENCO TYPES MD and MPD)

### 100VDCW

FOR VALUES LESS THAN .005, USE 600V UNITS

CAP. MFD.	PART NUMBER	Net Price (1-24) Tolerance			
		"K" ±10%	"J" ±5%	"G" ±2%	"F" ±1%
.005	1MD-1-502	\$0.18	\$0.27	\$1.10	\$1.38
.0051	1MD-1-512	.18	.27	1.10	1.38
.0056	1MD-1-562	.18	.27	1.10	1.38
.006	1MD-1-602	.18	.27	1.10	1.38
.0062	1MD-1-622	.18	.27	1.10	1.38
.0068	1MD-1-682	.18	.27	1.10	1.38
.0075	1MD-1-752	.18	.27	1.10	1.38
.0082	1MD-1-822	.18	.27	1.10	1.38
.0091	1MD-1-912	.18	.27	1.10	1.38
.01	1MD-1-103	.18	.27	1.10	1.38
.012	1MD-1-123	.18	.27	1.10	1.38
.015	1MD-1-153	.18	.27	1.10	1.38
.018	1MD-1-183	.18	.27	1.10	1.38
.02	1MD-1-203	.18	.27	1.10	1.38
.022	1MD-1-223	.18	.27	1.10	1.38
.024	1MD-1-243	.18	.27	1.13	1.41
.025	1MD-1-253	.18	.27	1.13	1.45
.027	1MD-1-273	.18	.27	1.15	1.45
.03	1MD-1-303	.18	.27	1.15	1.45
.033	1MD-1-333	.18	.27	1.21	1.51
.036	1MD-1-363	.18	.27	1.24	1.55
.039	1MD-1-393	.18	.27	1.24	1.55
.04	1MD-1-403	.18	.27	1.24	1.55
.043	1MD-2-433	.21	.32	1.30	1.62
.047	1MD-2-473	.21	.32	1.30	1.62
.05	1MD-2-503	.21	.32	1.37	1.71
.051	1MD-2-513	.21	.32	1.37	1.71
.056	1MD-2-563	.21	.32	1.37	1.71
.062	1MD-2-623	.21	.32	1.40	1.75
.068	1MD-2-683	.21	.32	1.43	1.79
.075	1MD-2-753	.21	.32	1.48	1.85
.082	1MD-2-823	.21	.32	1.52	1.90
.091	1MD-2-913	.21	.32	1.55	1.93
.1	1MD-2-104	.21	.32	1.57	1.96
.12	1MD-3-124	.24	.36	1.72	2.15
.15	1MD-3-154	.24	.36	1.85	2.31
.18	1MD-3-184	.27	.41	2.02	2.53
.2	1MD-3-204	.27	.41	2.12	2.64
.22	1MD-3-224	.27	.41	2.20	2.75
.25	1MD-3-254	.30	.45	2.26	2.84
.27	1MD-3-274	.36	.54	2.30	2.88
.3	1MD-3-304	.36	.54	2.34	2.93
.33	1MD-4-334	.36	.54	2.39	2.98
.39	1MD-4-394	.39	.59	2.55	3.19
.47	1MD-4-474	.45	.68	2.78	3.47
.5	1MD-4-504	.45	.68	2.80	3.63
.56	1MD-4-564	.51	.77	3.13	3.91
.62	1MD-5-624	.54	.81	3.35	4.19
.68	1MD-5-684	.57	.86	3.55	4.44
.75	1MD-5-754	.63	.95	3.80	4.75
.82	1MD-5-824	.66	.99	4.00	4.97
1.0	1MD-5-105	.72	1.08	4.38	5.45

### 200VDCW

FOR VALUES LESS THAN .01, USE 600V UNITS

CAP. MFD.	PART NUMBER	Net Price (1-24) Tolerance			
		"K" ±10%	"J" ±5%	"G" ±2%	"F" ±1%
.1	2MPD-3-104	\$0.21	\$0.32	\$1.65	\$2.07
.12	2MPD-3-124	.24	.36	1.81	2.27
.15	2MPD-3-154	.24	.36	1.97	2.47
.18	2MPD-3-184	.27	.41	2.13	2.66
.2	2MPD-4-204	.27	.41	2.27	2.83
.22	2MPD-4-224	.27	.41	2.40	3.00
.25	2MPD-4-254	.30	.45	2.52	3.15
.27	2MPD-4-274	.36	.54	2.67	3.33
.3	2MPD-5-304	.36	.54	2.83	3.53
.33	2MPD-5-334	.36	.54	2.98	3.73
.39	2MPD-5-394	.45	.68	3.34	4.17
.47	2MPD-5-474	.45	.68	3.65	4.56
.5	2MPD-5-504	.45	.68	3.75	4.68
.51	2MPD-5-514	.45	.68	3.75	4.68

### 400VDCW

FOR VALUES LESS THAN .01, USE 600 V UNITS

CAP. MFD.	PART NUMBER	Net Price (1-24) Tolerance			
		"K" ±10%	"J" ±5%	"G" ±2%	"F" ±1%
.01	4MPD-1-103	\$0.15	\$0.23	\$1.04	\$1.30
.012	4MPD-1-123	.15	.23	1.06	1.32
.015	4MPD-1-153	.15	.23	1.08	1.34
.018	4MPD-2-183	.15	.23	1.17	1.47
.02	4MPD-2-203	.15	.23	1.20	1.50

Case dimensions are the same as for Type dp capacitors listed on page 21.

CAP. MFD.	PART NUMBER	Net Price (1-24) Tolerance			
		"K" ±10%	"J" ±5%	"G" ±2%	"F" ±1%
.022	4MPD-2-223	\$0.18	\$0.27	\$1.22	\$1.53
.024	4MPD-2-243	.18	.27	1.27	1.59
.025	4MPD-2-253	.18	.27	1.27	1.59
.027	4MPD-2-273	.18	.27	1.27	1.59
.03	4MPD-2-303	.18	.27	1.35	1.69
.033	4MPD-2-333	.18	.27	1.35	1.69
.036	4MPD-3-363	.18	.27	1.44	1.80
.039	4MPD-3-393	.18	.27	1.44	1.80
.04	4MPD-3-403	.18	.27	1.49	1.83
.043	4MPD-3-433	.21	.31	1.49	1.83
.047	4MPD-3-473	.21	.31	1.49	1.83
.05	4MPD-3-503	.21	.31	1.51	1.88
.051	4MPD-3-513	.21	.31	1.56	1.94
.056	4MPD-3-563	.21	.31	1.56	1.94
.062	4MPD-3-623	.24	.36	1.63	2.04
.068	4MPD-3-683	.24	.36	1.63	2.04
.075	4MPD-3-753	.24	.36	1.71	2.13
.082	4MPD-3-823	.24	.36	1.71	2.13
.091	4MPD-3-913	.24	.36	1.78	2.23
.1	4MPD-3-104	.24	.36	1.78	2.23
.12	4MPD-3-124	.27	.41	2.07	2.59
.15	4MPD-4-154	.27	.41	2.16	2.70
.18	4MPD-4-184	.33	.50	2.39	2.95
.2	4MPD-5-204	.33	.50	2.50	3.12
.22	4MPD-5-224	.33	.50	2.62	3.27
.25	4MPD-5-254	.36	.54	2.69	3.36
.27	4MPD-5-274	.36	.54	2.81	3.51
.3	4MPD-5-304	.45	.68	2.98	3.72
.33	4MPD-5-334	.54	.79	3.15	3.93
.39	4MPD-5-394	.60	.85	3.41	4.26
.47	4MPD-5-474	.66	.94	3.75	4.68
.5	4MPD-6-504	.72	1.05	4.20	5.25
.51	4MPD-6-514	.75	1.09	4.37	5.45

### 600VDCW

CAP. MFD.	PART NUMBER	Net Price (1-24) Tolerance			
		"K" ±10%	"J" ±5%	"G" ±2%	"F" ±1%
.0025	6MPD-1-252	\$0.15	\$0.23	\$1.06	\$1.32
.0027	6MPD-1-272	.15	.23	1.06	1.32
.003	6MPD-1-302	.15	.23	1.06	1.32
.0033	6MPD-1-332	.15	.23	1.06	1.32
.0036	6MPD-1-362	.15	.23	1.06	1.32
.0039	6MPD-1-392	.15	.23	1.06	1.32
.004	6MPD-1-402	.15	.23	1.06	1.32
.0043	6MPD-1-432	.15	.23	1.06	1.32
.0047	6MPD-1-472	.15	.23	1.06	1.32
.005	6MPD-1-502	.15	.23	1.06	1.32
.0051	6MPD-1-512	.15	.23	1.06	1.32
.0056	6MPD-1-562	.15	.23	1.06	1.32
.0062	6MPD-1-622	.15	.23	1.09	1.36
.0068	6MPD-1-682	.18	.27	1.09	1.36
.0075	6MPD-2-752	.18	.27	1.10	1.38
.0082	6MPD-2-822	.18	.27	1.10	1.38
.0091	6MPD-2-912	.18	.27	1.13	1.41
.01	6MPD-2-103	.18	.27	1.13	1.41
.012	6MPD-2-123	.18	.27	1.15	1.46
.015	6MPD-2-153	.18	.27	1.15	1.46
.018	6MPD-2-183	.18	.27	1.21	1.51
.02	6MPD-2-203	.18	.27	1.26	1.57
.022	6MPD-2-223	.18	.27	1.30	1.63
.024	6MPD-2-243	.21	.31	1.36	1.71
.025	6MPD-2-253	.21	.31	1.36	1.71
.027	6MPD-3-273	.21	.31	1.36	1.71
.03	6MPD-3-303	.21	.31	1.45	1.81
.033	6MPD-3-333	.21	.31	1.45	1.81
.036	6MPD-3-363	.21	.31	1.49	1.87
.039	6MPD-3-393	.21	.31	1.49	1.87
.043	6MPD-3-433	.24	.36	1.51	1.89
.047	6MPD-3-473	.24	.36	1.51	1.89
.05	6MPD-3-503	.24	.36	1.54	1.92
.051	6MPD-3-513	.24	.36	1.54	1.92
.056	6MPD-3-563	.24	.36	1.59	1.98
.062	6MPD-3-623	.27	.41	1.72	2.14
.068	6MPD-4-683	.27	.41	1.84	2.30
.075	6MPD-4-753	.27	.41	1.88	2.34
.082	6MPD-4-823	.27	.41	1.92	2.37
.091	6MPD-4-913	.27	.41	1.95	2.43
.1	6MPD-4-104	.27	.41	1.99	2.49
.12	6MPD-5-124	.36	.54	2.21	2.76
.15	6MPD-5-154	.36	.54	2.48	3.09
.18	6MPD-5-184	.42	.66	2.71	3.39
.2	6MPD-5-204	.42	.66	2.86	3.58
.22	6MPD-5-224	.42	.66	2.98	3.72
.25	6MPD-5-254	.45	.68	3.05	3.81
.27	6MPD-5-274	.51	.77	3.34	4.17
.3	6MPD-6-304	.57	.86	3.75	4.68
.33	6MPD-6-334	.63	.95	4.18	5.20
.39	6MPD-7-394	.78	1.17	4.87	6.10
.47	6MPD-8-474	.90	1.35	5.80	7.25
.5	6MPD-8-504	.90	1.35	5.90	7.40
.51	6MPD-8-514	.90	1.35	6.00	7.50

NET (For quantities of 25 or more, please contact your local Arco-Elmenco Distributor)

# ELMENCO

CAPACITORS

## Variable Compression Mica

### TRIMMERS

Elmenco Trimming Condensers are treated for resistance to humidity and for permanence of capacity setting.

The base is made of the lowest dielectric loss ceramic material available and the mica is clear India Ruby.

The soldering lugs may be bent in any position without affecting capacity setting due to the rigid construction of adjusting plates.

Trimmers shown here are standard sizes and capacities.

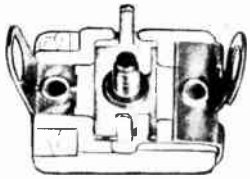
Voltage 350 VDCT — 175 VDCW.



TYPE 42 MIDGET TRIMMER  $\frac{3}{8}$ " x  $\frac{3}{4}$ "

#### TYPE 42 — MIDGET TRIMMER

TYPE 42 PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE		LIST PRICE	NET PRICE (1-24)
		At Tight Cap. Will Be More Than MMF.	At 3 Turns Open Cap. Will Be Less Than MMF.		
420	1½ Pl.	12	1	\$0.55	\$0.33
421	1¾ Pl.	25	2	.55	.33
422	2 Pl.	40	4	.55	.33
423	3 Pl.	100	7	.60	.36
424	4 Pl.	150	14	.75	.45
425	5 Pl.	200	24	.85	.51
426	6 Pl.	250	37	.95	.57
427	7 Pl.	300	55	1.05	.63
428	8 Pl.	350	70	1.15	.69
429	9 Pl.	400	90	1.25	.75
4210	10 Pl.	450	110	1.45	.87
4211	11 Pl.	500	130	1.55	.93
4212	12 Pl.	550	150	1.70	1.02
4213	13 Pl.	600	170	1.85	1.11
4214	14 Pl.	650	190	2.00	1.20
4215	15 Pl.	700	210	2.20	1.32

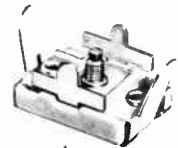


TYPE 46 STANDARD TRIMMER  $\frac{3}{4}$ " x  $\frac{5}{8}$ "

#### TYPE 46 — STANDARD TRIMMER

TYPE 46W PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE		LIST PRICE	NET PRICE (1-24)
		At Tight Cap. Will Be More Than MMF.	At 3 Turns Open Cap. Will Be Less Than MMF.		
460	1¼ Pl.	15	1.5	\$0.55	\$0.33
461	1¾ Pl.	30	2.7	.55	.33
462	2 Pl.	80	5	.55	.33
463	3 Pl.	180	10	.60	.36
464	4 Pl.	280	25	.75	.45
465	5 Pl.	380	50	.85	.51
466	6 Pl.	480	75	.95	.57
467	7 Pl.	580	105	1.05	.63
468	8 Pl.	680	135	1.15	.69
469	9 Pl.	780	170	1.25	.75
4610	10 Pl.	900	210	1.40	.84
4611	11 Pl.	1000	250	1.50	.90
4612	12 Pl.	1100	290	1.65	.99
4613	13 Pl.	1200	330	1.80	1.08
4614	14 Pl.	1300	360	1.95	1.17
4615	15 Pl.	1400	390	2.15	1.29

#### TYPE PC — PRINTED CIRCUIT TRIMMERS

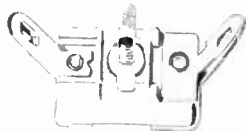


The Elmenco Trimmer capacitors, Types 40, 42, and 46, have been adapted for printed circuit techniques through alteration of terminals and mounting configuration. The holes in the terminal lugs are removed since necessity for hook-up is eliminated. The resulting solid terminals have greatly increased spring action, allowing the trimmer to be "snapped in" the printed circuit board and firmly held until soldered. The mounting lug portion of the trimmer has also been modified to facilitate positioning and support of the unit. Drawings of the trimmers and mounting layout are available upon request at no charge.

This printed circuit style is identified by the prefix letters "PC" preceding the regular part number. All listed values are available in the PC style.

For list price add \$0.05, for net price add \$0.03, to the respective prices of the standard trimmer.

NET (For quantities of 25 or more, please contact your local Arco-Elmenco Distributor)



TYPE 40 MINIATURE TRIMMER  $\frac{3}{8}$ " x  $\frac{5}{16}$ "

#### TYPE 40 — MINIATURE TRIMMER

TYPE 40 PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE		LIST PRICE	NET PRICE (1-24)
		At Tight Cap. Will Be More Than MMF.	At 3 Turns Open Cap. Will Be Less Than MMF.		
400	1½ Pl.	7	0.9	\$0.55	\$0.33
402	2 Pl.	20	1.5	.55	.33
403	3 Pl.	40	4	.65	.39
404	4 Pl.	60	7	.75	.45
405	5 Pl.	80	10	.90	.54
406	6 Pl.	115	15	1.00	.60

# ELMENCO

CAPACITORS

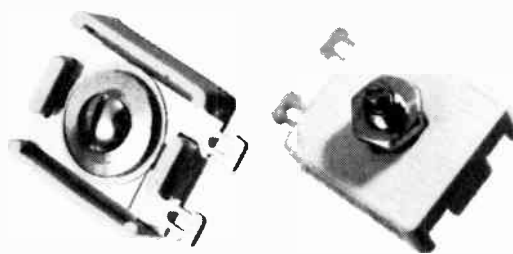
## Variable Compression Mica

### SINGLE AND DUAL PADDERS

ELMENCO Padding Condensers have been acclaimed by engineers as the finest development in adjustable mica condensers.

The construction is such as to completely enclose and protect the delicate edges of the mica films, made of the finest quality clear India ruby mica.

The phosphor bronze adjusting plates assure permanent resilience and freedom from mechanical fatigue. All parts are heavily plated to resist corrosion.



TYPE 30 AND TYPE 30-M PADDER  $\frac{7}{8}$ " x  $1\frac{1}{8}$ "

#### TYPE 30 500 Volts DC Flash-Test — 250 WVDC

GUARANTEED RANGE					
PART NUMBER	NUMBER OF PLATES	At $1\frac{3}{4}$ Inch Pounds Cap. Will Be More Than MMF.	At 3 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE	NET PRICE (1-24)
302	2 Pl.	130	15	\$1.10	\$0.66
303	3 Pl.	340	65	1.15	.69
304	4 Pl.	550	100	1.25	.75
305	5 Pl.	760	190	1.35	.81
306	6 Pl.	970	275	1.45	.87
307	7 Pl.	1180	350	1.60	.96
308	8 Pl.	1390	450	1.70	1.02
309	9 Pl.	1600	550	1.80	1.08
310	10 Pl.	1890	650	1.90	1.14
311	11 Pl.	2110	780	2.05	1.23
312	12 Pl.	2330	880	2.15	1.29
313	13 Pl.	2605	1150	2.25	1.35
314	14 Pl.	2830	1300	2.40	1.44
315	15 Pl.	3055	1400	2.55	1.53

Screw is insulated from top plate by mica washer. Above maximum capacity values are based on using  $1\frac{1}{2}$  to  $1\frac{3}{4}$  Mil Mica films.



TYPE 50 DUAL PADDER — 175 VDCW  
(will fit any size shield having dimensions exceeding  $1\frac{1}{8}$ " x  $1\frac{1}{8}$ ")



TYPE 58 PADDER  $1$ " x  $1\frac{1}{32}$ " — 175 VDCW

NET (For quantities of 25 or more, please contact your local Arco-Elmenco Distributor)

#### TYPE 30-M 1000 Volts DC Flash-Test — 500 WVDC

GUARANTEED RANGE					
PART NUMBER	NUMBER OF PLATES	At $1\frac{3}{4}$ Inch Pounds Cap. Will Be More Than MMF.	At 3 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE	NET PRICE (1-24)
302-M	2 Pl.	120	15	\$1.10	\$0.66
303-M	3 Pl.	320	65	1.20	.72
304-M	4 Pl.	500	100	1.30	.78
305-M	5 Pl.	690	180	1.40	.84
306-M	6 Pl.	880	265	1.55	.93
307-M	7 Pl.	1070	340	1.70	1.02
308-M	8 Pl.	1260	425	1.80	1.08
309-M	9 Pl.	1415	525	1.95	1.17
310-M	10 Pl.	1600	615	2.05	1.23
311-M	11 Pl.	1785	730	2.20	1.32
312-M	12 Pl.	1970	800	2.35	1.41
313-M	13 Pl.	2155	1000	2.45	1.47
314-M	14 Pl.	2340	1100	2.60	1.56
315-M	15 Pl.	2525	1200	2.80	1.68

Screw is insulated from top plate by mica washer. Above maximum capacity values are based on using 2 to  $2\frac{1}{4}$  Mil Mica.

#### TYPE 50

GUARANTEED RANGE					
PART NUMBER	NUMBER OF PLATES	At Tight Cap. Will Be More Than MMF.	At 2 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE	NET PRICE (1-24)
502	2 Pl.	80	7.5	\$1.15	\$0.69
503	3 Pl.	160	19	1.30	.78
504	4 Pl.	240	50	1.50	.90

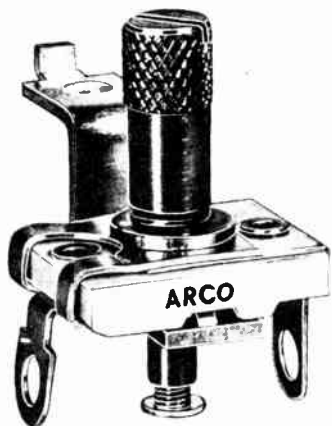
◀ TYPE 50 Dual Padders provide two variable trimmers mounted on a single base. This unit is designed as a tuning component for I.F. transformers; and as such, may be snap-in mounted along with the transformer coil in any size shield having dimensions exceeding  $1\frac{1}{8}$ " x  $1\frac{1}{8}$ ".

#### TYPE 58

GUARANTEED RANGE					
PART NUMBER	NUMBER OF PLATES	At Tight Cap. Will Be More Than MMF.	At 2 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE	NET PRICE (1-24)
582	2 Pl.	80	7.5	\$0.75	\$0.45
583	3 Pl.	160	19	.80	.48
584	4 Pl.	240	50	.90	.54

◀ TYPE 58 Padder is a single variable trimmer section provided with a two-pronged staple mounting for attachment to bracket or chassis. Base is made of lowest loss steatite and the mica is India Ruby.

**VARIABLE COMPRESSION MICA CAPACITORS**



**TYPE S46**

For List Price add \$0.55, For Net Price add \$0.33 to the respective prices of trimmer alone.

A complete Type 46 trimmer assembly with mounting bracket and adjusting shaft for ease of tuning. Can be supplied as pictured from stock or with construction variations to order.

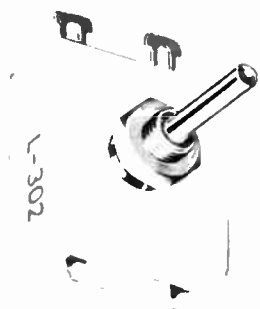
To specify precede trimmer part number with the letter "S".

For example:

Type 460 trimmer will be ordered as S-460.

The two new assemblies shown at left have been developed due to increasing demands for miniaturized tuning devices. However, certain precautions must be taken in design so that these variable mica capacitors are not used in circuits for which they are not adapted. These assemblies are highly stable for components of their design, but they do not match the stability of the air dielectric tuners. Short term drift of the mica trimmers and padders after tuning is negligible. Long term drift at one setting due to changes in atmospheric conditions and physical motion should be well within  $\pm 2\%$ .

It should also be remembered that variable compression type mica capacitors do not have linear variation with adjustment. Rate of change of capacity decreases per turn as the screw is withdrawn. For example, a 306 padder will reduce to half the nominal maximum value within one opening turn. Those with a greater number of plates require further screw disengagement for a similar percentage reduction in capacity value. On the other hand, a 302 padder will reach one-half the nominal maximum in less than one-half turn open. Type 46 trimmers operate in much the same way. Detailed information on specific sizes is available upon request.

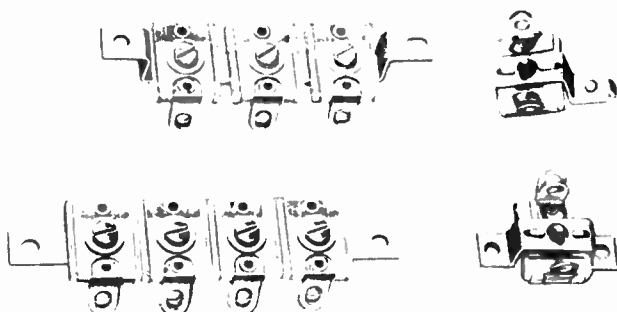


**TYPE L30**

For List Price add \$0.10, For Net Price add \$0.06 to the respective prices of padder alone.

The Type 30 or Type 30M padder can now be obtained with a special adjusting screw which has been lengthened to accommodate a tuning knob. To obtain padder with the special screw, precede the regular padder part number with the letter "L". For example, 302 padder with the special screw would be specified as "L-302".

NOTE: Knobs may also be obtained if desired at a cost of 30¢ each list, 18¢ each net.

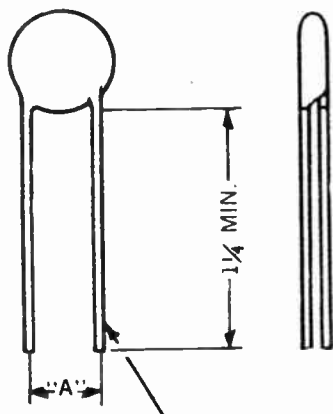


Mounting brackets as illustrated above can be supplied for all types of trimmers in flat "Z" (single mounting hole with or without non-rotational stop), and "U" (dual mounting hole) configurations.

	List Price	Net Price (1-24)
Bracket for mounting 1 Trimmer .....	\$0.15	\$0.09
Bracket for mounting 2 Trimmers.....	.18	.11
Bracket for mounting 3 Trimmers.....	.21	.13
Bracket for mounting 4 Trimmers.....	.24	.14
Bracket for mounting 5 Trimmers.....	.27	.16
Bracket for mounting 6 Trimmers.....	.30	.18

## GENERAL INFORMATION

Arco ceramic disc capacitors exhibit a level of performance and reliability consistent with conservative design technique inherent in all Arco components. Higher voltage ratings improve reliability manyfold and provide extra reserve for resistance to surges and temporary overloads. Rugged phenolic coating and high temperature wax impregnation give superior moisture resistance and physical strength. Arco ceramic discs have been designed to minimum size obtainable with complete retention of original specifications while operating in the field. For original equipment or for replacement, Arco ceramic disc capacitors may be used with confidence.



#20 (.032)  
TINNED ANNEALED  
COPPERWELD WIRE

DIM. A*	DISC DIA.
.250	UNDER 1/2"
.375	1/2" AND OVER

## CERAMIC DISC SIZE TABULATION

Max. Diam.	Capacitance range (mmf.)					
	CCD	3CCD	6CCD	CCS	CCTD	CCTN
5/16"	5-1200			150-330	2.2-15	5-39
3/8"	1500-3300	4.7-680		390-620	18-24	47-68
7/16"	3900-5000	820-1000		680-1000	27-39	75-120
9/16"	5600-8200	2000	4.7-560	1200-1500	47-56	150
1 1/16"	10000-15000	3000		1800-2700	68-82	200-270
3/4"	20000	4000	680-1000	3000-3300	100	300-330
1 5/16"	30000-50000*	5000	2000	3900-4700	120-150	390-470

Maximum thickness: Types CCD, CCS, CCTD, CCTN — 3/32" max.  
 \*CCD-503 — 3/16" max.  
 \*\*Type CCTD below 5 mmf. is .300 x 3/16" max.  
 Type 3CCD — 1/4" max.  
 Type 6CCD — 3/8" max.

NET (For quantities of 25 or more, please contact your local Arco-Elenco Distributor)

## MINIATURE GENERAL PURPOSE

Arco Type CCD ceramic disc capacitors have improved ceramic bodies which impart longer life and greater stability to any application. The standard CCD line has a ±10% tolerance and 1000VDCW rating, making possible a single ceramic disc stock for universal use. Whether a broad coupling or by-pass application, or a critical close tolerance use, Arco CCD units fill the bill with dependability and economy. The "space-saving" size of Arco discs is another feature designed to offer greater service convenience with complete safety of operation. In addition to the 1000VDCW line, higher voltage ratings are available in Type CCD units. 3000-VDCW (Type 3CCD) and 6000VDCW (Type 6CCD) disc ceramics are supplied in tolerance of ±20%.



TYPE CCD

±10% TOLERANCE  
1000 VDCW

CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)	CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
5	CCD-050	\$0.25	\$0.15	400	CCD-401	.25	.15
10	CCD-100	.25	.15	470	CCD-471	.25	.15
12	CCD-120	.25	.15	500	CCD-501	.25	.15
15	CCD-150	.25	.15	560	CCD-561	.25	.15
18	CCD-180	.25	.15	680	CCD-681	.25	.15
20	CCD-200	.25	.15	750	CCD-751	.25	.15
22	CCD-220	.25	.15	800	CCD-801	.25	.15
25	CCD-250	.25	.15	820	CCD-821	.25	.15
27	CCD-270	.25	.15	1000	CCD-102	.25	.15
30	CCD-300	.25	.15	1200	CCD-122	.25	.15
33	CCD-330	.25	.15	1500	CCD-152	.25	.15
39	CCD-390	.25	.15	2000	CCD-202	.25	.15
47	CCD-470	.25	.15	2200	CCD-222	.25	.15
50	CCD-500	.25	.15	2500	CCD-252	.25	.15
56	CCD-560	.25	.15	2700	CCD-272	.25	.15
68	CCD-680	.25	.15	3000	CCD-302	.25	.15
75	CCD-750	.25	.15	3300	CCD-332	.25	.15
82	CCD-820	.25	.15	3900	CCD-392	.25	.15
91	CCD-910	.25	.15	4700	CCD-472	.25	.15
100	CCD-101	.25	.15	5000	CCD-502	.30	.18
120	CCD-121	.25	.15	5600	CCD-562	.30	.18
150	CCD-151	.25	.15	6800	CCD-682	.30	.18
180	CCD-181	.25	.15	8200	CCD-822	.30	.18
200	CCD-201	.25	.15	10000	CCD-103	.30	.18
220	CCD-221	.25	.15	15000*	CCD-153	.30	.18
250	CCD-251	.25	.15	20000*	CCD-203	.30	.18
270	CCD-271	.25	.15	30000†	CCD-303	.50	.30
300	CCD-301	.25	.15	40000‡	CCD-403	.60	.36
330	CCD-331	.25	.15	50000‡	CCD-503	.70	.42
390	CCD-391	.25	.15				

\*±20% tolerance  
 †500VDCW, ±20% tolerance  
 ‡500VDCW, +80 -20% tolerance

# ARCO CAPACITORS

# CERAMIC DISC

## MINIATURE GENERAL PURPOSE

### TYPE 3CCD

High Voltage  
±20% TOLERANCE  
3000 VDCW

(not recommended for deflection yoke application)

CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)	CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
4.7	3CCD-4R7	\$0.40	\$0.24	180	3CCD-181	\$0.40	\$0.24
6.8	3CCD-6R8	.40	.24	220	3CCD-221	.40	.24
10	3CCD-100	.40	.24	270	3CCD-271	.40	.24
15	3CCD-150	.40	.24	330	3CCD-331	.40	.24
22	3CCD-220	.40	.24	390	3CCD-391	.40	.24
27	3CCD-270	.40	.24	470	3CCD-471	.40	.24
33	3CCD-330	.40	.24	560	3CCD-561	.40	.24
39	3CCD-390	.40	.24	680	3CCD-681	.40	.24
47	3CCD-470	.40	.24	820	3CCD-821	.40	.24
56	3CCD-560	.40	.24	1000	3CCD-102	.40	.24
68	3CCD-680	.40	.24	2000	3CCD-202	.40	.24
82	3CCD-820	.40	.24	3000	3CCD-302	.40	.24
100	3CCD-101	.40	.24	4000	3CCD-402	.40	.24
120	3CCD-121	.40	.24	5000	3CCD-502	.40	.24
150	3CCD-151	.40	.24				

### TYPE 6CCD

High Voltage  
±20% TOLERANCE  
6000 VDCW

(not recommended for deflection yoke application)

CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)	CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
4.7	6CCD-4R7	\$0.60	\$0.36	100	6CCD-101	\$0.60	\$0.36
6.8	6CCD-6R8	.60	.36	120	6CCD-121	.60	.36
10	6CCD-100	.60	.36	150	6CCD-151	.60	.36
15	6CCD-150	.60	.36	220	6CCD-221	.60	.36
22	6CCD-220	.60	.36	330	6CCD-331	.60	.36
27	6CCD-270	.60	.36	470	6CCD-471	.60	.36
33	6CCD-330	.60	.36	560	6CCD-561	.70	.42
47	6CCD-470	.60	.36	680	6CCD-681	.70	.42
56	6CCD-560	.60	.36	820	6CCD-821	.70	.42
68	6CCD-680	.60	.36	1000	6CCD-102	.70	.42
82	6CCD-820	.60	.36	2000	6CCD-202	.70	.42



LOOK for the "AE" brand on all ARCO disc ceramic capacitors



ARCO disc ceramic capacitors are now packed in durable, compact plastic boxes at no extra cost. Each box contains five disc ceramic capacitors of the desired rating. Leads are kept straight. ARCO capacitors are always factory clean. Available at ARCO distributors everywhere.

NET (For quantities of 25 or more, please contact your local Arco-Elmenco Distributor)

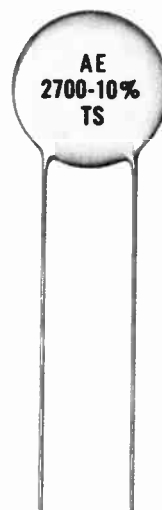
## TEMPERATURE STABLE

This new ARCO ceramic capacitor maintains excellent capacitance stability with wide temperature variation. The graph illustrates typical percentage variation of capacity value with temperature. The operating temperature range has been extended to -55°C. to +125°C. without derating of the 1000VDCW specification. Standard tolerance is ±10%. The combined small size, low cost, and high stability represents another significant advance in the quality line of ARCO capacitors. All units are marked "TS" for identification.

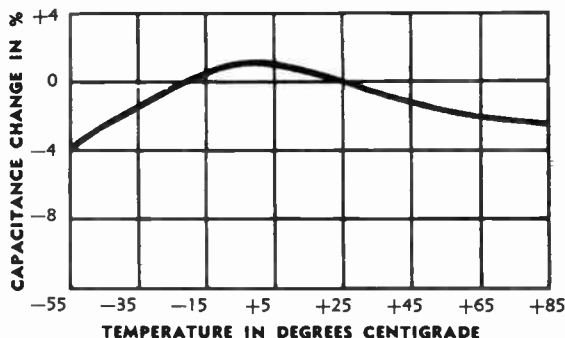
### TYPE CCS

±10% TOLERANCE  
1000 VDCW

CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
150	CCS-151	\$0.30	\$0.18
180	CCS-181	.30	.18
200	CCS-201	.30	.18
220	CCS-221	.30	.18
250	CCS-251	.30	.18
270	CCS-271	.30	.18
300	CCS-301	.30	.18
330	CCS-331	.30	.18
390	CCS-391	.30	.18
470	CCS-471	.30	.18
500	CCS-501	.30	.18
560	CCS-561	.30	.18
620	CCS-621	.30	.18
680	CCS-681	.30	.18
750	CCS-751	.30	.18
820	CCS-821	.35	.21
1000	CCS-102	.35	.21
1200	CCS-122	.35	.21
1500	CCS-152	.35	.21
1800	CCS-182	.35	.21
2000	CCS-202	.35	.21
2200	CCS-222	.35	.21
2500	CCS-252	.40	.24
2700	CCS-272	.40	.24
3000	CCS-302	.40	.24
3300	CCS-332	.40	.24
3900	CCS-392	.40	.24
4700	CCS-472	.40	.24



TYPICAL CURVE  
CAPACITANCE CHANGE WITH TEMPERATURE



**ARCO** CAPACITORS**CERAMIC DISC****TEMPERATURE COMPENSATING****TYPE CCTO**

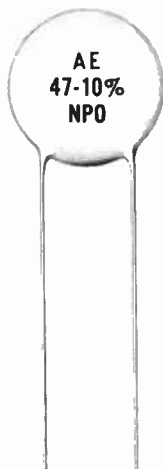
Arco Type CCTO ceramic disc capacitors are zero temperature coefficient units specifically suited for high stability, high Q application. In addition to extreme temperature stability, Type CCTO capacitors have very high insulation resistance and low aging rate. These special characteristics are added to the high 1000VDCW rating and close tolerance of the entire Arco ceramic line to provide a superior capacitor for the special purpose intended. Type CCTO capacitors are identified by "NPO" printed on each unit.

**NPO-TYPE CCTO**

±10% TOLERANCE  
1000 VDCW

CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
2.2*	CCTO-2R2	\$0.50	\$0.30
3.3*	CCTO-3R3	.50	.30
4.7*	CCTO-4R7	.50	.30
5.0	CCTO-050	.50	.30
6.8	CCTO-6R8	.50	.30
10	CCTO-100	.50	.30
12	CCTO-120	.50	.30
15	CCTO-150	.50	.30
18	CCTO-180	.50	.30
20	CCTO-200	.50	.30
22	CCTO-220	.50	.30
24	CCTO-240	.50	.30
27	CCTO-270	.50	.30
30	CCTO-300	.50	.30
33	CCTO-330	.50	.30
36	CCTO-360	.50	.30
39	CCTO-390	.50	.30
47	CCTO-470	.50	.30
51	CCTO-510	.55	.33
56	CCTO-560	.55	.33
68	CCTO-680	.55	.33
75	CCTO-750	.55	.33
82	CCTO-820	.55	.33
100	CCTO-101	.55	.33
120	CCTO-121	.55	.33
150	CCTO-151	.55	.33

\* ±.5 mmf. tolerance

**TYPE CCTN**

Another member of the Arco temperature compensating disc ceramic line is the Type CCTN unit which has a negative temperature coefficient of  $-750$  ppm/°C. (N750). These units are used to counterbalance shifts in other circuit components with change in temperature. The result is a more stable circuit essential to many frequency control applications. Improved ceramic bodies in the temperature compensating line provide greater long term stability in addition to accurate temperature compensation. Type CCTN capacitors are identified by "N750" imprinted on each unit except the smallest size. On the small units the E.I.A. temperature coefficient designation "U2" is imprinted.

**N750-TYPE CCTN**

±10% TOLERANCE  
1000 VDCW

CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
5	CCTN-050	\$0.50	\$0.30
10	CCTN-100	.50	.30
15	CCTN-150	.50	.30
22	CCTN-220	.50	.30
27	CCTN-270	.50	.30
33	CCTN-330	.50	.30
39	CCTN-390	.50	.30
47	CCTN-470	.50	.30
56	CCTN-560	.50	.30
62	CCTN-620	.50	.30
68	CCTN-680	.50	.30
75	CCTN-750	.50	.30
82	CCTN-820	.50	.30
100	CCTN-101	.50	.30
120	CCTN-121	.50	.30
150	CCTN-151	.50	.30
200	CCTN-201	.50	.30
220	CCTN-221	.50	.30
270	CCTN-271	.50	.30
300	CCTN-301	.50	.30
330	CCTN-331	.50	.30
390	CCTN-391	.50	.30
470	CCTN-471	.50	.30

**VARIABLE CERAMIC TRIMMER**

Adjustable ceramic trimmer capacitor for high frequency applications. Silvered Steatite tubes  $\frac{3}{8}$ " in length provide capacity ranges listed below upon insertion of 6-32 screw.

PART No.	CAP. RANGE MMF.	LIST PRICE	NET PRICE (1-24)
CV-1	0.5 - 3	\$0.35	\$0.21
CV-2	1 - 4	.35	.21
CV-3	2 - 6	.35	.21

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor)

**FEED THRU CERAMICS**

Compact rugged ceramic feed through capacitors are designed for high frequency coupling with a minimum of inductive reactance through elimination of wire leads. These units are three dot EIA coded and rated at 500VDCW.



PART No.	CAP. (MMF.) (Guar. Min. Val.)	LIST PRICE	NET PRICE (1-24)
CCF-501	500	\$0.40	\$0.24
CCF-102	1000	.40	.24
CCF-152	1500	.40	.24
CCF-202	2000	.40	.24

# ARCO CAPACITORS

## Miniature Aluminum Electrolytics Type ME



Type ME Miniature Aluminum-cased Electrolytics are the latest addition to the Arcolytic capacitor line. They use the same high purity (99.99%) etched aluminum foil as the standard size Arcolytics. The design of the Type ME is particularly adapted to the latest transistorized circuitry which features low voltages and compactness of structure.

Type ME capacitors have an all-welded construction which provides increased ruggedness and resistance to environmental extremes. Corrosion and electrolyte leakage are eliminated. Electrically, they exhibit extremely low leakage current and maintain extended shelf life without deterioration. All units are insulated with a transparent plastic sleeve permanently bonded to the aluminum body.

**SPECIFICATIONS:**

**CAPACITANCE AND TOLERANCE:**

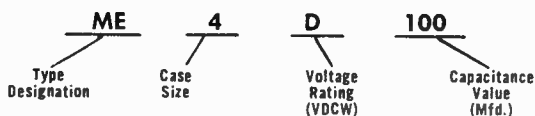
Capacitance measurements are made at 120 cycles per second and 25°C. Capacitance tolerance is -10%, +100%.

**OPERATING TEMPERATURE RANGE:** -30 to 85°C.

**D.C. LEAKAGE CURRENT:** Maximum leakage current is 5 microamperes or .03VC, whichever is greater, where V is D.C. voltage applied and C is capacitance in microfarads.

**LEADS:** Axial, 1/2" length minimum, #20 tinned copper.

**NOMENCLATURE:** The part numbers for each Type ME incorporate case size, voltage, and capacitance value:



The example specifies a 100 mfd. 12V capacitor, case size 3/8" x 3/4".

**VOLTAGE RATINGS:** The following table indicates letter designations assigned to the various voltages in which Type ME capacitors are supplied:

Letter Designation	A	B	D	E	G	J	M	N	R	T
VDCW	3	6	12	15	25	50	100	150	250	350

**CASE SIZE:** Type ME capacitors are made in 8 different case sizes:

CASE SIZE	DIMENSION	CASE SIZE	DIMENSION
1	3/16" D x 3/8" L	5	3/8" D x 7/8" L
2	1/4" D x 5/8" L	6	3/8" D x 1" L
3	3/8" D x 5/8" L	7	3/8" D x 1 1/8" L
4	3/8" D x 3/4" L	8	3/8" D x 1 3/8" L

The insulating plastic sleeve adds 1/32" x 1/16" to case dimensions.

**STANDARD PACKAGING** is in units of 5 in a custom-designed box which protects straight leads and allows visual observation of quantity through a clear plastic window.

3VDCW			
CAP. MFD.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
1	ME-1-A-001	\$1.25	\$0.75
2	ME-1-A-002	1.25	.75
3	ME-1-A-003	1.25	.75
4	ME-1-A-004	1.25	.75
5	ME-1-A-005	1.25	.75
6	ME-1-A-006	1.25	.75
8	ME-1-A-008	1.25	.75
10	ME-1-A-010	1.25	.75
15	ME-2-A-015	1.25	.75
20	ME-2-A-020	1.25	.75
25	ME-2-A-025	1.25	.75
30	ME-2-A-030	1.25	.75
35	ME-2-A-035	1.25	.75
40	ME-2-A-040	1.25	.75
50	ME-2-A-050	1.25	.75
75	ME-3-A-075	1.40	.84
100	ME-3-A-100	1.40	.84
125	ME-4-A-125	1.45	.87
150	ME-4-A-150	1.45	.87
175	ME-4-A-175	1.50	.90
200	ME-4-A-200	1.50	.90
250	ME-4-A-250	1.60	.96
300	ME-7-A-300	1.65	.99
350	ME-7-A-350	1.70	1.02
400	ME-7-A-400	1.70	1.02
450	ME-7-A-450	1.75	1.05
500	ME-7-A-500	1.75	1.05

6VDCW			
1	ME-1-B-001	1.25	.75
2	ME-1-B-002	1.25	.75
3	ME-1-B-003	1.25	.75
4	ME-1-B-004	1.25	.75
5	ME-1-B-005	1.25	.75
6	ME-1-B-006	1.25	.75
8	ME-1-B-008	1.35	.81
10	ME-1-B-010	1.35	.81
15	ME-2-B-015	1.35	.81
20	ME-2-B-020	1.35	.81
25	ME-2-B-025	1.35	.81
30	ME-2-B-030	1.40	.84
35	ME-2-B-035	1.40	.84
40	ME-2-B-040	1.40	.84
50	ME-2-B-050	1.40	.84
60	ME-2-B-060	1.40	.84
75	ME-3-B-075	1.45	.87
100	ME-3-B-100	1.50	.90
125	ME-6-B-125	1.55	.93
150	ME-6-B-150	1.55	.93
175	ME-6-B-175	1.60	.96
200	ME-6-B-200	1.60	.96
250	ME-6-B-250	1.70	1.02
300	ME-8-B-300	1.80	1.08
400	ME-8-B-400	1.85	1.11
500	ME-8-B-500	1.90	1.14

12VDCW			
1	ME-1-D-001	1.25	.75
2	ME-1-D-002	1.25	.75
3	ME-1-D-003	1.25	.75
4	ME-1-D-004	1.25	.75
5	ME-1-D-005	1.35	.81
6	ME-1-D-006	1.35	.81
8	ME-1-D-008	1.35	.81
10	ME-1-D-010	1.35	.81
15	ME-2-D-015	1.40	.84
20	ME-2-D-020	1.40	.84
25	ME-2-D-025	1.40	.84
30	ME-3-D-030	1.45	.87
35	ME-3-D-035	1.45	.87
40	ME-3-D-040	1.50	.90
50	ME-3-D-050	1.55	.93
75	ME-4-D-075	1.65	.99
100	ME-4-D-100	1.65	.99
150	ME-6-D-150	1.75	1.05
200	ME-6-D-200	1.90	1.14
250	ME-8-D-250	2.00	1.20

15VDCW			
1	ME-1-E-001	1.25	.75
2	ME-1-E-002	1.25	.75
3	ME-1-E-003	1.25	.75
4	ME-1-E-004	1.30	.78
5	ME-1-E-005	1.40	.84

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor).



**ARCO** CAPACITORS**Miniature Aluminum Electrolytics Types ME & CME**

15VDCW (cont.)			
CAP. MFD.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
6	ME-1-E-006	\$1.40	\$0.84
8	ME-1-E-008	1.40	.84
10	ME-1-E-010	1.40	.84
15	ME-2-E-015	1.45	.87
20	ME-2-E-020	1.45	.87
25	ME-2-E-025	1.45	.87
30	ME-3-E-030	1.50	.90
35	ME-3-E-035	1.55	.93
40	ME-3-E-040	1.60	.96
50	ME-3-E-050	1.60	.96
75	ME-4-E-075	1.60	.96
100	ME-4-E-100	1.65	.99
150	ME-6-E-150	1.75	1.05
200	ME-6-E-200	1.95	1.17
250	ME-8-E-250	2.05	1.23

25VDCW			
CAP. MFD.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
1	ME-1-G-001	1.25	.75
2	ME-1-G-002	1.30	.78
3	ME-1-G-003	1.30	.78
4	ME-1-G-004	1.30	.78
5	ME-1-G-005	1.40	.84
6	ME-2-G-006	1.40	.84
8	ME-2-G-008	1.45	.87
10	ME-2-G-010	1.45	.87
15	ME-3-G-015	1.45	.87
20	ME-3-G-020	1.50	.90
25	ME-3-G-025	1.55	.93
30	ME-3-G-030	1.60	.96
35	ME-4-G-035	1.65	.99
40	ME-4-G-040	1.65	.99
50	ME-4-G-050	1.65	.99
75	ME-7-G-075	1.70	1.02
100	ME-7-G-100	1.75	1.05

50VDCW			
CAP. MFD.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
1	ME-1-J-001	1.30	.78
2	ME-1-J-002	1.35	.81
3	ME-2-J-003	1.35	.81
4	ME-2-J-004	1.35	.81
5	ME-2-J-005	1.45	.87
6	ME-2-J-006	1.45	.87
8	ME-3-J-008	1.50	.90
10	ME-3-J-010	1.50	.90
15	ME-4-J-015	1.50	.90
20	ME-4-J-020	1.50	.90
25	ME-4-J-025	1.55	.93
30	ME-4-J-030	1.60	.96
35	ME-7-J-035	1.70	1.02
40	ME-7-J-040	1.75	1.05
50	ME-7-J-050	1.75	1.05

100VDCW			
CAP. MFD.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
1	ME-2-M-001	1.35	.81
2	ME-2-M-002	1.40	.84
3	ME-2-M-003	1.40	.84
4	ME-3-M-004	1.40	.84
5	ME-3-M-005	1.50	.90
6	ME-4-M-006	1.50	.90
8	ME-4-M-008	1.55	.93
10	ME-4-M-010	1.55	.93
15	ME-7-M-015	1.55	.93
20	ME-7-M-020	1.60	.96
25	ME-7-M-025	1.60	.96

150VDCW			
CAP. MFD.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
1	ME-3-N-001	1.40	.84
2	ME-3-N-002	1.45	.87
3	ME-3-N-003	1.45	.87
4	ME-3-N-004	1.45	.87
5	ME-3-N-005	1.55	.93
6	ME-3-N-006	1.55	.93
8	ME-4-N-008	1.60	.96
10	ME-4-N-010	1.60	.96
12	ME-4-N-012	1.60	.96
15	ME-7-N-015	1.60	.96
20	ME-8-N-020	1.60	.96

250VDCW			
CAP. MFD.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
1	ME-3-R-001	1.70	1.02
2	ME-3-R-002	1.70	1.02
5	ME-6-R-005	1.80	1.08

350VDCW			
CAP. MFD.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
1	ME-3-T-001	1.75	1.05
2	ME-5-T-002	1.75	1.05

**NEW — TYPE CME**

The new all-welded drawn aluminum can construction has been extended into higher values in case sizes larger than the Type ME miniature dimensions. However, the dimensions of the Type CME represent substantial size reduction over the old style construction. At the same time ruggedness and reliability are greatly improved. Electrical characteristics are identical to those specified for Type ME.

The part numbering nomenclature consists of type designation CME followed by a voltage designating letter and capacitance value. The letter designations for voltage correspond to the code indicated for Type ME on the opposite page. For example, the first listed item, CME-B1000, is identifiable as a 6VDCW (B) capacitor, 1000 mfd.

ADD  $\frac{1}{32}$  TO DIAMETER AND  $\frac{1}{16}$  TO LENGTH FOR FULL OVERALL DIMENSIONS WHICH INCLUDE THE INSULATING PLASTIC SLEEVE BONDED TO THE ALUMINUM ENCLOSURE.

6VDCW					
Cap. Mfd.	Part Number	Case Size	List Price	Net Price (1-24)	
1000	CME-B1000	$\frac{5}{8} \times 1\frac{3}{8}$	\$2.20	\$1.32	
1500	CME-B1500	$\frac{5}{8} \times 1\frac{3}{8}$	2.40	1.44	
2000	CME-B2000	$\frac{5}{8} \times 1\frac{3}{8}$	2.70	1.62	
3000	CME-B3000	$\frac{7}{8} \times 1\frac{3}{8}$	3.25	1.95	
4000	CME-B4000	$1 \times 1\frac{3}{8}$	3.70	2.22	
5000	CME-B5000	$1 \times 2\frac{1}{8}$	4.20	2.52	
12VDCW					
500	CME-D500	$\frac{1}{2} \times 1\frac{3}{8}$	1.70	1.02	
1000	CME-D1000	$\frac{5}{8} \times 1\frac{3}{8}$	2.30	1.38	
1500	CME-D1500	$\frac{3}{4} \times 1\frac{3}{8}$	2.80	1.68	
2000	CME-D2000	$\frac{3}{4} \times 2\frac{1}{8}$	3.10	1.86	
3000	CME-D3000	$\frac{7}{8} \times 2\frac{1}{8}$	3.50	2.10	
4000	CME-D4000	$1 \times 2\frac{1}{8}$	4.20	2.52	
5000	CME-D5000	$1 \times 3$	4.90	2.94	
25VDCW					
150	CME-G150	$\frac{1}{2} \times 1\frac{3}{8}$	1.50	0.90	
200	CME-G200	$\frac{5}{8} \times 1\frac{1}{4}$	1.60	0.96	
250	CME-G250	$\frac{5}{8} \times 1\frac{1}{4}$	1.70	1.02	
500	CME-G500	$\frac{5}{8} \times 1\frac{3}{8}$	2.00	1.20	
1000	CME-G1000	$\frac{3}{4} \times 2\frac{1}{8}$	3.05	1.83	
1500	CME-G1500	$1 \times 1\frac{3}{8}$	3.25	1.95	
2000	CME-G2000	$1 \times 2\frac{1}{8}$	3.90	2.34	
50VDCW					
75	CME-J075	$\frac{1}{2} \times 1\frac{3}{8}$	1.40	0.84	
100	CME-J100	$\frac{5}{8} \times 1\frac{1}{4}$	1.50	0.90	
150	CME-J150	$\frac{5}{8} \times 1\frac{3}{8}$	1.70	1.02	
250	CME-J250	$\frac{5}{8} \times 1\frac{3}{8}$	1.90	1.14	
500	CME-J500	$\frac{3}{4} \times 2\frac{1}{8}$	2.75	1.65	
1000	CME-J1000	$1 \times 2\frac{1}{8}$	3.60	2.16	

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor).

# ARCO CAPACITORS

## Tubular Electrolytic Capacitors



### ARCOLYTIC TUBULARS

- Made with 99.99% high purity aluminum foil.
- Maximum operating temperature: 85°C. (Type CTW: 75°C.)
- Extended shelf and operating life at both normal and elevated temperatures.
- Built and tested to meet EIA specification RS-154.

**Type CTA** Single and multiple section tubular electrolytics in drawn aluminum cans with cardboard sleeves. Single section units have bare wire leads with negative grounded to can. Multiple units have a common negative grounded to can, and all leads have vari-colored insulated wire for ease of identification.

DIMENSIONS INDICATED FOR CTA ARE ALUMINUM CAN SIZE. ADD  $\frac{1}{16}$  TO DIAMETER AND  $\frac{3}{16}$  TO LENGTH FOR CARDBOARD INSULATING SLEEVE.

**Type CTW** Same as type CTA except that these are multiple section electrolytics in wax-filled cardboard tubes.

### SINGLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTA-1050	50	6	1/2 x 1 1/4	.95	.57
CTA-1055	100	6	1/2 x 1 1/4	1.20	.72
CTA-1060	250	6	5/8 x 1 3/4	1.35	.81
CTA-1065	500	6	3/4 x 1 3/4	1.55	.93
CTA-1070	1000	6	3/4 x 2 1/4	1.90	1.14
CTA-1075	1500	6	7/8 x 2 1/2	2.10	1.26
CTA-1080	2000	6	1 x 2 3/4	2.30	1.38
CTA-1085	100	15	5/8 x 1 1/4	1.25	.75
CTA-1090	250	15	5/8 x 1 3/4	1.55	.93
CTA-1095	500	15	5/8 x 1 1/2	1.75	1.05
CTA-1100	1000	15	7/8 v 2 1/4	2.30	1.38
CTA-1105	2	25	1/2 x 1 1/4	.90	.54
CTA-1110	5	25	1/2 x 1 1/4	1.00	.60
CTA-1115	10	25	1/2 x 1 1/4	1.00	.60
CTA-1120	25	25	1/2 x 1 1/4	1.00	.60
CTA-1125	50	25	5/8 x 1 1/4	1.10	.66
CTA-1130	100	25	5/8 x 1 3/4	1.35	.81
CTA-1135	250	25	3/4 x 1 5/8	1.70	1.02
CTA-1140	500	25	3/4 x 1 5/8	2.30	1.38
CTA-1145	1	50	1/2 x 1 1/4	.90	.54
CTA-1150	2	50	1/2 x 1 1/4	.90	.54
CTA-1155	5	50	1/2 x 1 1/4	1.00	.60
CTA-1160	10	50	1/2 x 1 1/4	1.00	.60
CTA-1165	20	50	5/8 x 1 1/4	1.00	.60
CTA-1170	25	50	5/8 x 1 1/4	1.05	.63
CTA-1175	50	50	5/8 x 1 3/4	1.20	.72
CTA-1180	100	50	3/4 x 1 3/4	1.40	.84
CTA-1185	150	50	3/4 x 1 3/4	1.55	.93
CTA-1190	250	50	7/8 x 1 3/4	1.75	1.05
CTA-1195	500	50	1 x 2 1/4	2.40	1.44
CTA-1200	4	150	1/2 x 1 1/4	1.00	.60
CTA-1205	5	150	1/2 x 1 1/4	1.00	.60
CTA-1210	8	150	5/8 x 1 1/4	1.05	.63
CTA-1215	10	150	5/8 x 1 1/4	1.05	.63
CTA-1220	12	150	5/8 x 1 1/4	1.10	.66
CTA-1225	16	150	5/8 x 1 3/4	1.15	.69
CTA-1230	20	150	5/8 x 1 3/4	1.20	.72
CTA-1235	25	150	5/8 x 1 3/4	1.25	.75
CTA-1240	30	150	3/4 x 1 3/4	1.30	.78
CTA-1245	40	150	3/4 x 1 3/4	1.35	.81

### SINGLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTA-1250	50	150	7/8 x 1 3/4	1.40	.84
CTA-1255	60	150	7/8 x 1 3/4	1.50	.90
CTA-1260	80	150	3/4 x 2 1/4	1.60	.96
CTA-1265	100	150	1 x 2 1/4	1.75	1.05
CTA-1270	150	150	1 1/4 x 2 1/4	1.90	1.14
CTW-1275	200	150	1 1/4 x 2 3/4	2.20	1.32
CTW-1280	250	150	1 1/4 x 3 1/4	2.55	1.53
CTW-1285	300	150	1 1/4 x 3 3/4	2.55	1.53
CTW-1290	150	200	1 x 3 3/4	2.55	1.53
CTW-1295	200	200	1 x 3 3/4	2.90	1.74
CTA-1300	4	250	1 1/4 x 1 1/2	1.00	.60
CTA-1305	8	250	1 1/4 x 1 1/2	1.15	.69
CTA-1310	10	250	1 1/4 x 1 1/2	1.20	.72
CTA-1315	12	250	5/8 x 1 3/4	1.25	.75
CTA-1320	16	250	5/8 x 1 3/4	1.30	.78
CTA-1325	20	250	3/4 x 1 3/4	1.35	.81
CTA-1330	30	250	1 1/4 x 1 3/4	1.45	.87
CTA-1335	40	250	1 1/4 x 1 3/4	1.55	.93
CTA-1340	50	250	7/8 x 1 5/8	1.70	1.02
CTA-1345	60	250	7/8 x 2 1/4	1.80	1.08
CTA-1350	100	250	1 x 2 3/4	2.45	1.47
CTW-1355	140	300	1 x 3 3/4	3.15	1.89
CTA-1357	200	300	1 1/4 x 4 1/4	3.70	2.22
CTA-1360	4	350	5/8 x 1 1/4	1.05	.63
CTA-1365	8	350	5/8 x 1 3/4	1.20	.72
CTA-1370	10	350	5/8 x 1 3/4	1.25	.75
CTA-1380	16	350	3/4 x 1 3/4	1.40	.84
CTA-1385	20	350	7/8 x 1 3/4	1.45	.87
CTA-1390	30	350	1 1/4 x 2 1/4	1.65	.99
CTA-1395	40	350	1 x 2 1/4	1.75	1.05
CTA-1398	60	350	1 x 2 3/4	1.95	1.17
CTA-1400	1	450	1/2 x 1 1/4	1.10	.66
CTA-1405	2	450	1/2 x 1 1/4	1.10	.66
CTA-1410	4	450	5/8 x 1 1/4	1.15	.69
CTA-1415	8	450	5/8 x 1 3/4	1.25	.75
CTA-1420	10	450	3/4 x 1 3/4	1.30	.78
CTA-1425	12	450	3/4 x 1 3/4	1.35	.81
CTA-1430	16	450	7/8 x 1 3/4	1.40	.84
CTA-1435	20	450	7/8 x 2 1/4	1.55	.93
CTA-1440	30	450	1 x 2 1/4	1.70	1.02
CTA-1445	40	450	1 x 2 3/4	1.80	1.08
CTA-1450	50	450	1 x 3 1/4	2.10	1.26
CTA-1455	60	450	1 x 3 1/4	2.35	1.41
CTA-1460	80	450	1 x 3 1/4	2.80	1.68
CTA-1465	100	450	1 x 3 3/4	3.20	1.92
CTA-1470	8	500	3/4 x 1 3/4	1.30	.78
CTA-1475	10	500	7/8 x 1 3/4	1.35	.81
CTA-1480	16	500	7/8 x 2 1/4	1.50	.90
CTA-1485	20	500	7/8 x 1 5/8	1.60	.96
CTA-1490	30	500	1 x 2 3/4	1.75	1.05
CTA-1500	8	600	1 x 2 3/4	2.85	1.71
CTA-1505	10	600	1 x 2 3/4	2.95	1.77
CTA-1510	16	600	1 x 3 3/4	3.45	2.07
CTA-1515	20	600	1 x 3 3/4	3.55	2.13
CTA-1520	8	700	1 x 2 3/4	2.75	1.65
CTA-1525	10	700	1 x 2 3/4	3.45	2.07
CTA-1530	16	700	1 x 3 3/4	3.55	2.13

### DOUBLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTA-2050	20-20	150-150	3/4 x 1 3/4	1.65	.98
CTA-2055	30-20	150-150	7/8 x 1 3/4	1.70	1.02
CTA-2060	30-30	150-150	7/8 x 1 3/4	1.80	1.08
CTA-2065	40-20	150-150	7/8 x 1 3/4	1.75	1.05
CTA-2070	40-30	150-150	7/8 x 1 3/4	1.80	1.08
CTA-2075	40-40	150-150	7/8 x 1 3/4	1.85	1.11
CTA-2080	50-30	150-150	7/8 x 2 1/4	1.95	1.17
CTA-2085	50-50	150-150	7/8 x 2 1/4	2.10	1.26
CTA-2090	80-30	150-150	7/8 x 2 1/4	2.20	1.32
CTA-2100	80-40	150-150	1 x 2 3/4	2.20	1.32
CTA-2105	80-50	150-150	1 x 2 3/4	2.35	1.41
CTW-2110	100-100	150-150	1 x 3 3/4	3.20	1.92
CTA-2112-S	120-120	150-150	1 1/8 x 4 7/8	3.45	2.07
CTW-2115	250-50	150-150	1 1/4 x 3 3/4	3.70	2.22
CTW-2120	200-5	150-150	1 x 3 3/4	2.65	1.59
CTW-2125	250-200	150-150	1 1/4 x 4 3/4	4.20	2.52
CTA-2130	20-20	250-250	7/8 x 2 1/4	1.85	1.11
CTW-2145	120-80	250-250	1 1/4 x 3 3/4	4.00	2.40
CTW-2150	140-5	350-350	1 1/4 x 4 1/4	4.15	2.49
CTW-2155	80-100	450-50	1 1/4 x 4 1/4	3.70	2.22

NET (For quantities of 25 or more, please contact your local Arco-Elmenco Distributor)

# ARCO CAPACITORS

# Tubular Electrolytic Capacitors

### DOUBLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTA-2160	8-8	450-450	7/8 x 2 1/4	1.70	1.02
CTA-2165	10-10	450-450	1 x 2 1/4	1.85	1.11
CTA-2170	16-8	450-450	1 x 2 1/4	2.00	1.20
CTA-2175	20-20	450-450	1 x 2 3/4	2.50	1.50
CTA-2180	30-30	450-450	1 x 3 1/4	3.00	1.80
CTA-2185	40-40	450-450	1 x 3 3/4	3.40	2.04
CTA-2190	50-30	450-450	1 x 3 3/4	3.40	2.04

### TRIPLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTA-3050	20-20-20	150-150-150	7/8 x 1 3/4	2.50	1.50
CTA-3055	30-30-30	150-150-150	7/8 x 2 1/4	2.60	1.56
CTA-3060	40-30-20	150-150-150	7/8 x 2 1/4	2.60	1.56
CTA-3063	40-40-20	150-150-150	1 x 2 1/4	2.75	1.65
CTA-3065	40-40-40	150-150-150	1 x 2 1/4	2.80	1.68
CTA-3070	50-30-20	150-150-150	1 x 2 1/4	2.70	1.62
CTA-3075	80-40-20	150-150-150	1 x 2 3/4	2.90	1.74
CTW-3078	150-150-150	150-150-150	1 3/8 x 4 1/4	4.85	2.91
CTW-3080	250-200-10	150-150-150	1 1/4 x 4 1/4	4.60	2.76
CTA-3085	60-40-250	150-150-15	1 x 3 1/4	2.60	1.56
CTA-3095	20-20-20	150-150-25	7/8 x 1 3/4	2.45	1.47
CTA-3100	40-20-20	150-150-25	1 x 1 3/4	2.55	1.53
CTA-3105	40-30-20	150-150-25	7/8 x 2 1/4	2.60	1.56
CTA-3110	40-40-20	150-150-25	1 x 2 1/4	2.65	1.59
CTA-3115	40-40-100	150-150-25	1 x 2 1/4	2.80	1.68
CTA-3120	50-30-20	150-150-25	1 x 2 1/4	2.65	1.59
CTA-3125	50-30-100	150-150-25	1 x 2 1/4	2.80	1.68
CTA-3130	50-30-250	150-150-25	1 x 3	3.10	1.86
CTA-3135	50-50-20	150-150-25	1 x 2 1/4	2.75	1.65
CTA-3140	80-20-100	150-150-25	1 x 2 3/4	2.80	1.68
CTA-3145	80-40-20	150-150-25	1 x 2 3/4	2.80	1.68
CTW-3150	250-120-50	150-150-25	1 3/8 x 4	4.35	2.61
CTW-3153	120-40-100	300-250-50	1 3/8 x 4 1/4	4.95	2.97
CTW-3155	60-60-60	300-300-300	1 3/8 x 3 1/2	4.70	2.82
CTW-3160	80-40-100	300-300-50	1 3/8 x 3 1/2	4.25	2.55
CTW-3165	300-300-50	300-300-50	1 3/8 x 4 1/4	4.95	2.97
CTW-3168	120-40-10	300-300-250	1 3/8 x 3 1/2	4.85	2.91
CTW-3170	60-60-4	350-350-350	1 3/8 x 3 1/4	3.85	2.31
CTW-3175	140-5-200	350-350-200	1 1/2 x 3 7/8	6.70	4.02

### TRIPLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTW-3178	10-20-100	400-150-150	1 1/4 x 4 3/4	4.10	2.46
CTW-3180	5-80-40	450-400-400	1 3/4 x 4 1/4	4.55	2.73
CTA-3185	20-20-20	450-450-25	1 1/4 x 3	3.10	1.86
CTA-3190	40-40-20	450-450-25	1 x 3 3/4	3.80	2.28

### QUADRUPLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTW-4050	40-20-20-100	150-150-150-25	1 x 2 7/8	3.10	1.86
CTW-4055	150-100-20-100	300-300-300-50	1 1/2 x 4 3/4	6.95	4.17
CTW-4060	120-40-40-10	300-300-300-250	1 1/4 x 4 3/4	6.20	3.72
CTW-4065	140-5-200-100	350-300-200-150	1 1/2 x 4 3/4	8.20	4.92
CTW-4070	140-5-200-30	350-300-200-200	1 1/2 x 4 3/4	7.65	4.59
CTW-4075	80-60-40-20	350-350-300-150	1 1/4 x 4 3/4	5.90	3.54
CTW-4085	80-10-40-100	400-400-300-50	1 3/8 x 4 1/4	5.45	3.27
CTW-4090	10-80-40-100	450-300-250-50	1 3/8 x 4 1/4	4.80	2.88
CTW-4095	20-120-40-100	450-300-250-50	1 1/4 x 4 3/4	6.15	3.69
CTW-4100	10-80-40-40	450-300-300-250	1 3/8 x 4 1/4	4.95	2.97
CTW-4105	20-20-20-10	450-450-450-450	1 3/8 x 3 3/4	4.25	2.55
CTW-4110	40-20-20-10	450-450-450-450	1 1/4 x 4 1/4	4.70	2.82
CTW-4115	40-40-20-20	450-450-450-450	1 1/2 x 4 1/4	5.45	3.27

### FIVE LEADS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTW-5050	40-20-20-20-50	300-300-300-300-75	1 3/8 x 4 1/4	5.05	3.03

### PRINTED CIRCUIT

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
APC-2100	50-30	150-150	1 x 2 1/2	2.60	1.56
APC-2105	50-50	150-150	1 x 2 1/2	2.70	1.62
APC-2110	80-30	150-150	1 x 3	2.75	1.65
APC-2115	100-50	150-150	1 x 3 1/2	2.95	1.77

### ANTENNA ROTOR CAPACITOR

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CRA-1000	70	50 VAC	7/8 x 2 1/4	1.25	.75
CRA-1050	100-120	50 VAC	1 x 2 3/4	1.65	.99
CRA-1200	210-240	50 VAC	1 x 3	2.70	1.62
CRA-1220	210-290	50 VAC	1 x 3	2.50	1.50

### PRINTED CIRCUIT TWIST MOUNTS

#### SINGLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTP-1250	140	150	1 x 2 1/2	2.15	1.29
CTP-1350	375	165	1 3/8 x 3 1/2	3.00	1.80
CTP-1450	160	200	1 3/8 x 3	4.65	2.79
CTP-1550	50	350	1 x 2	2.10	1.26
CTP-1650	20	450	1 x 2	1.80	1.08

#### DUAL UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTP-2150	250-250	16-16	1 x 2	2.75	1.65
CTP-2275	100-100	16-16	1 x 2	3.10	1.86
CTP-2350	800-250	16-16	1 x 2	3.35	2.01
CTP-2360	500-200	18-18	1 x 2	3.35	2.01
CTP-2475	50-30	150-150	1 x 2	2.00	1.20
CTP-2550	80-30	150-150	1 x 2	2.25	1.35
CTP-2625	80-40	150-150	1 x 2	2.30	1.38
CTP-2700	200-5	150-150	1 3/8 x 2 1/2	2.70	1.62
CTP-2775	2-20	300-25	1 x 2	1.45	.87
CTP-2850	10-10	300-50	1 x 2	1.60	.96
CTP-2875	150-100	300-150	1 3/8 x 4	4.50	2.70
CTP-2890	10-10	300-300	1 3/8 x 2	1.75	1.05

#### TRIPLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTP-3130	250-250-50	16-16-16	1 x 2	3.25	1.95
CTP-3160	500-250-50	16-16-16	1 x 2	3.50	2.10
CTP-3190	500-250-250	16-16-16	1 x 2	4.10	2.46
CTP-3220	70-30-100	150-150-10	1 x 2	2.80	1.68
CTP-3250	40-30-250	150-150-10	1 x 2 1/2	3.10	1.86

### PRINTED CIRCUIT TWIST MOUNTS

#### TRIPLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTP-3280	80-60-250	150-150-10	1 x 2 1/2	3.40	2.04
CTP-3310	80-60-400	150-150-10	1 x 3	3.65	2.19
CTP-3340	90-40-400	150-150-10	1 x 3	3.50	2.10
CTP-3370	40-20-20	150-150-25	1 x 2 1/2	2.30	1.38
CTP-3400	80-20-20	150-150-25	1 x 2 1/2	2.70	1.62
CTP-3430	70-30-20	150-150-25	1 x 2 1/2	2.70	1.62
CTP-3460	30-30-30	150-150-150	1 x 2	2.50	1.50
CTP-3490	40-40-20	150-150-150	1 x 2 1/2	2.50	1.50
CTP-3510	40-40-30	150-150-150	1 x 2 1/2	2.70	1.62
CTP-3540	50-30-20	150-150-150	1 x 2	2.60	1.56
CTP-3570	50-40-30	150-150-150	1 x 2 1/2	2.70	1.62
CTP-3600	60-60-40	150-150-150	1 3/8 x 2	3.10	1.86
CTP-3630	70-15-15	150-150-150	1 x 2	2.70	1.62
CTP-3660	80-60-10	150-150-150	1 x 3	2.95	1.77
CTP-3670	100-80-40	175-175-175	1 x 3	4.00	2.40
CTP-3690	10-10-20	300-50-25	1 x 2	2.10	1.26
CTP-3720	150-60-200	300-200-150	1 3/8 x 4	5.95	3.57
CTP-3750	60-10-25	300-300-25	1 3/8 x 2	3.05	1.83
CTP-3780	150-100-30	300-300-300	1 3/8 x 4	6.35	3.81
CTP-3810	125-5-100	350-150-10	1 3/8 x 3 1/2	4.60	2.76
CTP-3830	40-30-20	400-350-300	1 3/8 x 2 1/2	3.95	2.37

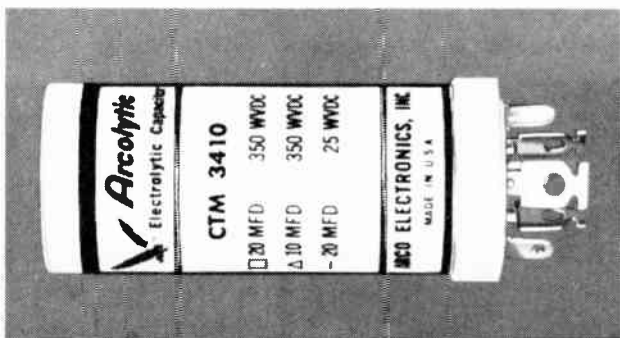
#### QUADRUPLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTP-4100	290-30-10-100	150-150-150-10	1 3/8 x 3 1/2	4.50	2.70
CTP-4200	50-40-10-50	150-150-150-25	1 3/8 x 2	3.15	1.89
CTP-4300	100-40-10-50	150-150-150-25	1 3/8 x 2	3.70	2.22
CTP-4400	60-60-40-10	150-150-150-150	1 3/8 x 2	3.65	2.19
CTP-4500	100-60-60-40	350-350-200-75	1 3/8 x 3 1/2	6.55	3.93
CTP-4600	40-20-10-100	350-350-350-50	1 3/8 x 2 1/2	4.35	2.61
CTP-4700	40-30-20-20	400-350-350-350	1 3/8 x 2 1/2	4.95	2.97
★CTP-4780HR	160-30-20-40	250-450-450-150	1 3/8 x 4	6.20	3.72

NET (For quantities of 25 or more, please contact your local Arco-Elmenco Distributor)

# ARCO CAPACITORS

## Twist Mount Electrolytic Capacitors



### ARCOLYTIC TWIST MOUNTS

- Made with 99.99% pure aluminum foil.
- Hermetically sealed in aluminum cans.
- Designed for high temperature operation: 85°C.
- Made to withstand high surge voltages and high ripple currents.
- Greater shelf and operating life because only premium grade ingredients are used.
- Built and tested to meet EIA specification RS-154.
- Complete with phenolic and metal mounting plates.

\* Denotes that the Arcolytic has been designed specifically for use in color television receivers.

HR Denotes that the Arcolytic has been designed to withstand the higher AC ripple currents of semiconductor power supplies.

### SINGLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTM-1077	1000	6	1 3/8 x 2	2.40	1.44
*CTM-1086	2000	6	1 3/8 x 2	2.55	1.53
CTM-1095	1000	10	1 x 2	3.20	1.92
CTM-1104	3000	10	1 3/8 x 2	4.25	2.55
*CTM-1122	1000	15	1 x 2	2.55	1.53
CTM-1131	1500	15	1 x 2	3.45	2.07
*CTM-1140	2000	15	1 3/8 x 2	3.45	2.07
*CTM-1149	3000	15	1 3/8 x 2	4.25	2.55
CTM-1158	4000	15	1 3/8 x 2	5.25	3.15
CTM-1185	50	25	1 x 2	1.70	1.02
*CTM-1203	500	25	1 x 2	2.55	1.53
*CTM-1212	1000	25	1 3/8 x 2	3.55	2.13
*CTM-1239	100	50	1 x 2	1.65	.99
*CTM-1257	250	50	1 x 2 1/2	2.00	1.20
*CTM-1266	500	50	1 3/8 x 2	2.65	1.59
*CTM-1275	1000	50	1 3/8 x 2	3.75	2.25
*CTM-1284	1500	50	1 3/8 x 2	5.25	3.15
CTM-1293	10	150	1 x 2	1.65	.99
CTM-1302	20	150	1 x 2	1.80	1.08
CTM-1329	40	150	1 x 2	2.00	1.20
*CTM-1338	50	150	1 x 2	1.65	.99
CTM-1347	60	150	1 x 2	2.20	1.32
*CTM-1356	80	150	1 x 2	1.85	1.11
CTM-1365	80	150	1 3/8 x 2	2.30	1.38
*CTM-1374	100	150	1 x 2	2.00	1.20
CTM-1383	110	150	1 x 2	2.70	1.62
*CTM-1392	120	150	1 x 2	2.15	1.29
CTM-1400T	120/150 with Insulated Black Sleeve		1 3/8 x 2	2.35	1.41
*CTM-1401HR	120	150	1 3/8 x 2	2.25	1.32
*CTM-1410	140	150	1 x 2	2.15	1.29
*CTM-1419	150	150	1 x 2	2.15	1.29
*CTM-1428HR	150	150	1 3/8 x 2	2.30	1.38
*CTM-1436HR	200	150	1 x 3	3.10	1.86
*CTM-1437HR	200	150	1 3/8 x 3 1/2	2.60	1.56
*CTM-1446HR	300	150	1 3/8 x 3 1/2	2.90	1.74
*CTM-1449HR	500	150	1 3/8 x 3	4.60	2.76
*CTM-1455HR	375	165	1 3/8 x 3 1/2	4.65	2.79
CTM-1464	40	200	1 x 2	2.15	1.29
CTM-1471T	120/200 with Insulated Black Sleeve		1 3/8 x 2	2.80	1.68
*CTM-1472	125	200	1 x 2	2.90	1.74
*CTM-1473	125	200	1 3/8 x 2 1/2	2.80	1.68
*CTM-1479HR	150	200	1 x 2 1/2	3.10	1.86
*CTM-1481HR	160	200	1 x 3 1/2	3.30	1.98

\* Preferred Type      \* Color Replacement      HR Designed for High Ripple Input

NET (For quantities of 25 or more, please contact your local Arco-Elmenco Distributor)

### SINGLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
*CTM-1482	160	200	1 3/8 x 2 1/2	3.15	1.89
CTM-1491	500	200	1 3/8 x 4	6.60	3.96
*CTM-1500	15	250	1 x 2	1.95	1.17
CTM-1509	20	250	1 x 2	1.60	.96
CTM-1518	30	250	1 x 2	2.15	1.29
*CTM-1527	40	250	1 x 2	1.80	1.08
CTM-1536	50	250	1 x 2	2.45	1.47
CTM-1545	60	250	1 x 3	2.05	1.23
CTM-1554	80	250	1 x 3	2.70	1.62
*CTM-1563	100	250	1 x 3	2.70	1.62
*CTM-1572	150	250	1 3/8 x 2 1/2	3.10	1.86
*CTM-1573HR	160	250	1 x 3 1/2	3.15	1.89
*CTM-1574	160	250	1 3/8 x 2 1/2	3.15	1.89
*CTM-1581HR	200	250	1 3/8 x 2 1/2	3.65	2.19
CTM-1590	15	300	1 x 2	2.00	1.20
CTM-1599	30	300	1 x 2	2.20	1.32
CTM-1608	50	300	1 x 2	2.55	1.53
CTM-1617	60	300	1 x 3	2.10	1.26
*CTM-1626	80	300	1 x 3	2.55	1.53
*CTM-1635	100	300	1 x 4	2.90	1.74
*CTM-1644HR	125	300	1 3/8 x 3	3.50	2.10
*CTM-1653HR	150	300	1 3/8 x 3	3.50	2.10
*CTM-1662HR	250	300	1 3/8 x 4	5.40	3.24
CTM-1651	10	350	1 x 2	1.90	1.14
CTM-1660	15	350	1 x 2	2.05	1.23
CTM-1669	20	350	1 x 2	2.20	1.32
*CTM-1678	30	350	1 x 2	1.90	1.14
*CTM-1687	40	350	1 x 2	2.00	1.20
*CTM-1696	50	350	1 x 2	2.10	1.26
*CTM-1705	60	350	1 x 2	2.20	1.32
*CTM-1714	80	350	1 3/8 x 2	2.85	1.71
*CTM-1723HR	125	350	1 3/8 x 3 1/2	3.95	2.37
*CTM-1732HR	140	350	1 3/8 x 3 1/2	4.95	2.97
*CTM-1741HR	150	350	1 3/8 x 3 1/2	3.95	2.37
*CTM-1746	250	350	1 3/8 x 4	5.40	3.24
*CTM-1750HR	320	350	1 3/8 x 4	6.75	4.05
CTM-1759	10	400	1 x 2	1.90	1.14
CTM-1768	20	400	1 x 2	2.20	1.32
CTM-1777	40	400	1 3/8 x 2	3.15	1.89
CTM-1786	50	400	1 3/8 x 2 1/2	2.75	1.65
CTM-1795	80	400	1 3/8 x 3	3.70	2.22
CTM-1804	100	400	1 3/8 x 3	4.25	2.55
*CTM-1806	120	400	1 3/8 x 3	3.65	2.19
*CTM-1813	4	450	1 x 2	1.40	.84
*CTM-1822	10	450	1 x 2	1.55	.93
*CTM-1831	15	450	1 x 2	1.70	1.02
*CTM-1840	20	450	1 x 2	1.80	1.08
CTM-1849	25	450	1 x 2	1.90	1.14
*CTM-1858	30	450	1 x 2	1.95	1.17
*CTM-1867	40	450	1 x 3	2.05	1.23
*CTM-1876	50	450	1 x 2 1/2	2.35	1.41
*CTM-1885	60	450	1 3/8 x 2 1/2	2.60	1.56
*CTM-1894	80	450	1 3/8 x 2 1/2	3.05	1.83
*CTM-1903	100	450	1 3/8 x 3	3.45	2.07
*CTM-1912	125	450	1 3/8 x 4	3.85	2.31
CTM-1921	20	475	1 x 2 1/2	2.30	1.38
CTM-1930	30	475	1 x 2 1/2	2.50	1.50
*CTM-1939	40	475	1 3/8 x 2	2.50	1.50
CTM-1948	90	475	1 3/8 x 2 1/2	4.40	2.64
*CTM-1957	10	500	1 x 2	1.70	1.02
*CTM-1966	20	500	1 x 2 1/2	1.85	1.11
*CTM-1975	30	500	1 x 2 1/2	2.00	1.20
*CTM-1984	40	500	1 x 2 1/2	2.50	1.50
*CTM-1993	80	500	1 3/8 x 2 1/2	3.50	2.10
CTM-1995	90	500	1 3/8 x 2 1/2	3.60	2.16
CTM-1997	15	525	1 3/8 x 3	1.85	1.11

### DUAL UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Price (1-24)
*CTM-2066	1000-1000	15-15	1 x 3 1/2	4.40	2.64
*CTM-2070	1000-1000	15-15	1 x 2	4.40	2.64
CTM-2074	250-250	16-16	1 x 2	3.45	2.07
*CTM-2078	500-100	16-16	1 x 2	2.50	1.50
*CTM-2079	500-200	16-16	1 x 2	2.70	1.62
*CTM-2080	1000-50	16-16	1 x 2	3.90	2.34
CTM-2082	20-20	25-25	1 x 2	1.80	1.08
CTM-2086	40-40	25-25	1 x 2	2.00	1.20
*CTM-2090	100-70	25-25	1 x 2	1.80	1.08
*CTM-2098	500-500	25-25	1 3/8 x 2	4.40	2.64
*CTM-2101	1000-500	25-25	1 3/8 x 2	5.50	3.30
*CTM-2106	50-50	50-50	1 x 2	1.70	1.02
*CTM-2110	100-25	50-50	1 x 2	1.90	1.14
*CTM-2114	100-100	50-50	1 x 2	2.10	1.26
*CTM-2118	50-500	150-5	1 x 3	2.45	1.47
CTM-2122	40-20	50-25	1 x 2	2.15	1.29

# ARCO CAPACITORS

## Twist Mount Electrolytic Capacitors

### DUAL UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
*CTM-2134	150-100	150-25	1 3/8 x 2 1/2	2.70	1.62
CTM-2138	40-20	150-50	1 x 2	2.55	1.53
*CTM-2142	150-50	150-50	1 x 2	2.80	1.68
*CTM-2146	150-100	150-50	1 3/8 x 2 1/2	3.25	1.95
CTM-2150	20-10	150-150	1 x 2	2.00	1.20
*CTM-2154	20-20	150-150	1 x 2	1.70	1.02
CTM-2158	30-15	150-150	1 x 2	2.20	1.32
*CTM-2162	30-20	150-150	1 x 2	2.20	1.32
*CTM-2166	30-30	150-150	1 x 2	1.85	1.11
*CTM-2170	40-20	150-150	1 x 2	1.85	1.11
*CTM-2174	40-30	150-150	1 x 2	1.85	1.11
*CTM-2178	40-40	150-150	1 x 2	1.90	1.14
*CTM-2182	50-30	150-150	1 x 2	2.00	1.20
*CTM-2186	50-50	150-150	1 x 2	2.15	1.29
*CTM-2190	60-20	150-150	1 x 2	2.05	1.23
*CTM-2194	60-60	150-150	1 x 2	2.35	1.41
*CTM-2198	70-30	150-150	1 x 2	2.20	1.32
*CTM-2202	75-75	150-150	1 x 2	2.60	1.56
*CTM-2206	80-40	150-150	1 3/8 x 2 1/2	2.30	1.38
*CTM-2210	80-50	150-150	1 x 2	2.40	1.44
*CTM-2214	80-60	150-150	1 x 2	2.50	1.50
*CTM-2218	80-80	150-150	1 3/8 x 2	2.65	1.59
*CTM-2222	100-30	150-150	1 x 2	2.80	1.68
*CTM-2226	100-100	150-150	1 3/8 x 2 1/2	4.05	2.43
*CTM-2230	125-100	150-150	1 3/8 x 2 1/2	3.35	2.01
*CTM-2234	150-80	150-150	1 3/8 x 2 1/2	3.05	1.83
CTM-2238	150-150	150-150	1 3/8 x 3	4.40	2.64
*CTM-2242HR	200-5	150-150	1 3/8 x 2	2.70	1.62
*CTM-2246	200-125	150-150	1 3/8 x 3	3.75	2.25
*CTM-2250	200-150	150-150	1 3/8 x 3	3.75	2.25
*CTM-2254	200-200	150-150	1 3/8 x 3	4.00	2.40
*CTM-2258	60-125	200-25	1 x 3	2.40	1.44
CTM-2262	30-10	200-50	1 x 2	2.30	1.38
CTM-2266HR	100-100	200-50	1 3/8 x 2 1/2	3.55	2.13
CTM-2270	40-40	200-200	1 x 2	2.90	1.74
*CTM-2274	60-60	200-200	1 x 2	3.40	2.04
*CTM-2278HR	60-60	200-200	1 3/8 x 2 1/2	3.40	2.04
*CTM-2282HR	100-100	200-200	1 3/8 x 2	3.50	2.10
*CTM-2286HR	200-5	200-200	1 3/8 x 2	3.05	1.83
CTM-2294	40-25	250-25	1 x 2	2.50	1.50
CTM-2298	50-100	250-50	1 3/8 x 2 1/2	3.25	1.95
CTM-2302	80-100	250-50	1 3/8 x 2 1/2	3.55	2.13
*CTM-2306HR	100-150	250-50	1 3/8 x 3	3.65	2.19
CTM-2310	40-25	250-150	1 x 2	3.45	2.07
CTM-2314	10-10	250-250	1 x 2	2.15	1.29
*CTM-2318	20-20	250-250	1 x 2	1.90	1.14
CTM-2322	30-30	250-250	1 x 2	2.75	1.65
CTM-2326	40-20	250-250	1 x 2	2.75	1.65
*CTM-2330	40-40	250-250	1 x 2	2.50	1.50
CTM-2334	150-40	250-250	1 3/8 x 2 1/2	4.80	2.88
*CTM-2338HR	150-150	250-250	1 3/8 x 3	5.15	3.09
*CTM-2342HR	200-200	250-250	1 3/8 x 4	6.05	3.63
CTM-2350	20-20	300-25	1 x 2	2.30	1.38
CTM-2354	20-100	300-25	1 x 2 1/2	3.40	2.04
CTM-2366	60-200	300-150	1 3/8 x 3	4.65	2.79
*CTM-2372HR	150-250	300-150	1 3/8 x 3 1/2	5.30	3.18
*CTM-2378	100-100	300-200	1 x 4	4.30	2.58
CTM-2382	20-60	300-250	1 x 3	3.45	2.07
CTM-2386	10-10	300-300	1 x 2	2.20	1.32
CTM-2390	15-15	300-300	1 x 2	2.40	1.44
*CTM-2394	40-30	300-300	1 x 3	2.65	1.59
CTM-2398	40-40	300-300	1 3/8 x 2 1/2	3.75	2.25
CTM-2402	50-50	300-300	1 3/8 x 2 1/2	4.20	2.52
CTM-2406	60-20	300-300	1 3/8 x 2 1/2	3.50	2.10
CTM-2410	60-60	300-300	1 3/8 x 3	4.25	2.55
CTM-2414	75-75	300-300	1 3/8 x 3	4.75	2.85
CTM-2418	80-40	300-300	1 3/8 x 3	4.45	2.67
CTM-2422	80-60	300-300	1 3/8 x 3	4.65	2.79
*CTM-2426	80-80	300-300	1 3/8 x 3	4.05	2.43
*CTM-2430	120-20	300-300	1 3/8 x 2 1/2	4.00	2.40
*CTM-2434	120-40	300-300	1 3/8 x 2 1/2	4.35	2.61
CTM-2438	150-100	300-300	1 3/8 x 3 1/2	6.75	4.05
*CTM-2442HR	200-80	300-300	1 3/8 x 4	5.25	3.15
CTM-2446	20-20	350-25	1 x 2 1/2	2.40	1.44
CTM-2450	40-20	350-25	1 x 2 1/2	2.95	1.77
CTM-2454	80-100	350-50	1 3/8 x 2 1/2	5.65	3.39
CTM-2458	20-100	350-75	1 x 2 1/2	2.80	1.68
*CTM-2460	10-50/350-100 With Insulating Sleeve	1 x 2	2.40	1.44	
CTM-2462	5-75	350-150	1 x 2 1/2	2.65	1.59
CTM-2466	40-10	350-200	1 3/8 x 2	3.05	1.83
CTM-2470	20-30	350-250	1 x 3	2.90	1.74
CTM-2474	40-10	350-250	1 x 2 1/2	3.05	1.83
CTM-2478	60-80	350-250	1 3/8 x 3	4.30	2.58
CTM-2482	20-10	350-300	1 x 2	2.55	1.53
CTM-2486	30-30	350-300	1 x 3	3.30	1.98
CTM-2490	60-20	350-300	1 3/8 x 2 1/2	3.55	2.13
*CTM-2494	15-15	350-350	1 x 2	2.25	1.35
CTM-2498	20-20	350-350	1 x 2	2.90	1.74
CTM-2502	30-20	350-350	1 x 3	3.25	1.95
*CTM-2506	30-30	350-350	1 x 3	2.90	1.74

### DUAL UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
*CTM-2510	50-30	350-350	1 3/8 x 2 1/2	3.15	1.89
*CTM-2514	60-30	350-350	1 3/8 x 2 1/2	3.15	1.89
*CTM-2518	80-4	350-350	1 3/8 x 3	4.00	2.40
*CTM-2522	80-20	350-350	1 3/8 x 3	3.50	2.10
*CTM-2526	80-40	350-350	1 3/8 x 3	4.10	2.46
*CTM-2530HR	80-80	350-350	1 3/8 x 4	4.70	2.82
*CTM-2534	90-40	350-350	1 3/8 x 3	4.30	2.58
*CTM-2538	100-40	350-350	1 3/8 x 3	5.75	3.45
*CTM-2542	100-60	350-350	1 3/8 x 3	4.80	2.88
*CTM-2546HR	100-100	350-350	1 3/8 x 4	6.15	3.69
*CTM-2550HR	160-10	350-350	1 3/8 x 3	4.30	2.58
*CTM-2553	300-20	350-350	1 3/8 x 4 1/2	5.40	3.24
*CTM-2554	50-50	385-385	1 3/8 x 2 1/2	4.55	2.73
*CTM-2558	35-100	400-50	1 x 3	2.60	1.56
CTM-2562	40-100	400-50	1 3/8 x 2 1/2	3.40	2.04
*CTM-2566	100-30	400-50	1 3/8 x 3	3.90	2.34
*CTM-2570	80-80	400-200	1 3/8 x 3	3.95	2.37
CTM-2574	60-80	400-250	1 3/8 x 3	4.90	2.94
CTM-2582	100-80	400-350	1 3/8 x 4	6.80	4.08
CTM-2586	15-15	400-400	1 x 2	2.80	1.68
CTM-2590	30-10	400-400	1 x 2	2.95	1.77
*CTM-2594	60-60	400-400	1 3/8 x 3	5.50	3.30
CTM-2598	75-75	400-400	1 3/8 x 4	6.05	3.63
CTM-2602	80-10	400-400	1 3/8 x 3	4.25	2.55
CTM-2606	80-20	400-400	1 3/8 x 3	4.55	2.73
CTM-2610	80-40	400-400	1 3/8 x 3	5.15	3.09
*CTM-2614	80-60	400-400	1 3/8 x 3	4.70	2.82
*CTM-2618	120-40	400-400	1 3/8 x 3 1/2	5.25	3.15
*CTM-2622	10-20	450 25	1 x 2	1.70	1.02
CTM-2626	10-50	450 25	1 x 2 1/2	2.15	1.29
CTM-2630	20-20	450 25	1 x 2	2.50	1.50
CTM-2634	20-100	450 25	1 x 2 1/2	2.75	1.65
CTM-2642	80-10	450 25	1 3/8 x 3	4.25	2.55
CTM-2646	80-20	450 25	1 3/8 x 3	4.25	2.55
CTM-2650	10-100	450 50	1 x 2 1/2	2.55	1.53
CTM-2654	30-25	450 50	1 x 2 1/2	2.90	1.74
CTM-2658	40-50	450 50	1 x 2 1/2	3.75	2.25
*CTM-2662	40-100	450 50	1 x 3 1/2	2.80	1.68
*CTM-2666	50-100	450 50	1 3/8 x 2 1/2	3.00	1.80
*CTM-2668	80-50	450 50	1 3/8 x 3	3.50	2.10
*CTM-2670	80-100	450 50	1 3/8 x 2 1/2	3.75	2.25
CTM-2674	10-50	450-100	1 3/8 x 2	2.55	1.53
*CTM-2686	30-200	450-150	1 3/8 x 3	3.50	2.10
CTM-2690	40-150	450-150	1 3/8 x 3	4.30	2.58
CTM-2694	80-50	450-150	1 3/8 x 3	4.70	2.82
CTM-2698	80-60	450-150	1 3/8 x 3	5.20	3.12
CTM-2702	80-40	450-200	1 3/8 x 3	4.75	2.85
*CTM-2706	20-50	450-250	1 x 3	2.80	1.68
CTM-2710	20-150	450-250	1 3/8 x 3	4.10	2.46
*CTM-2711	20-160	450-250	1 3/8 x 3	4.10	2.46
*CTM-2713	80-200	450-250	1 3/8 x 4	5.90	3.54
*CTM-2714	40-10	450-300	1 x 2 1/2	2.60	1.56
CTM-2718	10-100	450-350	1 3/8 x 3 1/2	5.00	3.00
CTM-2722	20-80	450-350	1 3/8 x 3 1/2	4.55	2.73
CTM-2726	25-15	450-350	1 x 3	3.20	1.92
*CTM-2730	40-10	450-350	1 3/8 x 2	2.60	1.56
CTM-2734	40-20	450-350	1 3/8 x 2	3.55	2.13
CTM-2738	40-40	450-350	1 3/8 x 2 1/2	4.15	2.49
*CTM-2740HR	80-2	450-350	1 3/8 x 2 1/2	4.60	2.76
CTM-2742	30-20	450-400	1 x 3	3.40	2.04
*CTM-2746	5-5	450-450	1 x 2	1.70	1.02
*CTM-2750	10-10	450-450	1 x 2	1.90	1.14
CTM-2754	15-10	450-450	1 x 2	2.80	1.68
*CTM-2758	15-15	450-450	1 x 2	2.25	1.35
*CTM-2762	20-10	450-450	1 x 2	2.25	1.35
*CTM-2766	20-20	450-450	1 x 2	2.55	1.53
*CTM-2770	30-10	450-450	1 x 2	2.40	1.44
CTM-2774	30-10	450-450	1 3/8 x 2	3.00	1.80
CTM-2778	30-15	450-450	1 3/8 x 2	3.30	1.98
*CTM-2782	30-30	450-450	1 3/8 x 2 1/2	3.05	1.83
CTM-2786	40-5	450-450	1 x 2 1/2	3.20	1.92
CTM-2790	40-15	450-450	1 3/8 x 2	3.50	2.10
*CTM-2794	40-20	450-450	1 3/8 x 2	3.25	1.95
*CTM-2798	40-40	450-450	1 3/8 x 2 1/2	3.45	2.07
*CTM-2802	50-40	450-450	1 3/8 x 2 1/2	4.50	2.70
*CTM-2806	50-50	450-450	1 3/8 x 2 1/2	3.85	2.31
*CTM-2810	60-20	450-450	1 3/8 x 3	3.55	2.13
*CTM-2814	60-40	450-450	1 3/8 x 3	3.95	2.37
*CTM-2818	60-60	450-450	1 3/8 x 3	4.50	2.70
*CTM-2822	80-10	450-450	1 3/8 x 3	3.60	2.16
*CTM-2826	80-20	450-450	1 3/8 x 3	3.90	2.34
*CTM-2830					

# ARCO CAPACITORS

## Twist Mount Electrolytic Capacitors

### DUAL UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTM-2846	10-20	475-25	1 x 2	2.15	1.29
*CTM-2850	30-100	475-50	1 3/8 x 3 1/2	2.75	1.65
CTM-2854	75-50	475-50	1 3/8 x 3 1/2	4.55	2.73
CTM-2862	80-80	475-250	1 3/8 x 3	4.65	2.79
*CTM-2863	80-160	475-250	1 3/8 x 4	5.70	3.42
CTM-2866	20-100	475-300	1 3/8 x 3 1/2	4.95	2.97
*CTM-2870	20-100	475-400	1 3/8 x 3 1/2	4.50	2.70
CTM-2874	40-40	475-400	1 3/8 x 3	4.70	2.82
*CTM-2878	15-15	475-475	1 x 2	2.35	1.41
*CTM-2882	30-10	475-475	1 x 2	2.60	1.56
*CTM-2886	40-10	475-475	1 3/8 x 2	3.10	1.86
CTM-2890	40-40	475-475	1 3/8 x 3	5.40	3.24
CTM-2894	60-40	475-475	1 3/8 x 3 1/2	5.70	3.42
CTM-2898	80-40	475-475	1 3/8 x 3 1/2	6.30	3.78
*CTM-2902	80-50	475-475	1 3/8 x 3 1/2	5.20	3.12
CTM-2906	80-50	500-50	1 3/8 x 3 1/2	4.75	2.85
CTM-2910	60-80	500-150	1 3/8 x 3	4.70	2.82
CTM-2914	40-50	500-200	1 3/8 x 3	4.20	2.52
CTM-2918	15-20	500-300	1 x 2 1/2	2.90	1.74
CTM-2922	20-100	500-300	1 3/8 x 3	4.90	2.94
CTM-2926	40-40	500-400	1 3/8 x 3	4.70	2.82
*CTM-2934	10-10	500-500	1 x 2	1.95	1.17
*CTM-2938	20-20	500-500	1 3/8 x 2	2.85	1.71
*CTM-2942	30-10	500-500	1 3/8 x 3	2.60	1.56
*CTM-2946	30-30	500-500	1 3/8 x 3	3.25	1.95
*CTM-2950	40-25	500-500	1 3/8 x 3	4.55	2.73
*CTM-2954	40-40	500-500	1 3/8 x 3	4.30	2.58
*CTM-2958	60-40	500-500	1 3/8 x 3 1/2	4.60	2.76

### TRIPLE UNITS

CTM-3022.7	850-400-4	16-16-11.5RMS	1 x 2 1/2	5.00	3.00
CTM-3022.9	1000-500-4	16-16-11.5RMS	1 x 2 1/2	5.20	3.12
*CTM-3023	1000-500-4	16-16-11.5RMS	1 3/8 x 2	4.10	2.46
*CTM-3024	400-100-100	16-16-16	1 x 2	3.00	1.80
CTM-3026	500-100-100	16-16-16	1 x 2	3.50	2.10
CTM-3028	500-500-100	16-16-16	1 x 2	3.90	2.34
CTM-3029	700-200-100	16-16-16	1 x 2	3.55	2.13
CTM-3029.3	1000-500-20	16-16-16	1 3/8 x 2	4.30	2.58
CTM-3034	40-40-40	25-25-25	1 x 2	3.20	1.92
CTM-3036	30-30-30	50-50-50	1 x 2	3.25	1.95
CTM-3038	20-250-100	150-15-15	1 3/8 x 2	4.35	2.61
CTM-3040	40-25-130	150-25-15	1 x 3	4.95	2.97
CTM-3044	100-50-25	150-50-25	1 x 3	4.50	2.70
*CTM-3046	15-15-1200	150-150-2	1 x 2	3.15	1.89
CTM-3048	30-20-100	150-150-6	1 x 2	3.60	2.16
CTM-3050	20-20-100	150-150-10	1 x 2	3.55	2.13
CTM-3052	20-20-250	150-150-10	1 x 2	3.90	2.34
*CTM-3056	40-20-150	150-150-10	1 x 2	2.40	1.44
CTM-3058	40-20-200	150-150-10	1 x 2 1/2	3.75	2.25
CTM-3060	40-20-250	150-150-10	1 x 2 1/2	4.05	2.43
CTM-3062	40-40-100	150-150-10	1 x 2 1/2	3.75	2.25
CTM-3064	40-40-250	150-150-10	1 x 2 1/2	5.65	3.39
CTM-3066	50-30-100	150-150-10	1 x 2 1/2	4.05	2.43
*CTM-3070	80-30-300	150-150-10	1 3/8 x 2	3.15	1.89
CTM-3072	80-60-250	150-150-10	1 x 2 1/2	4.80	2.88
*CTM-3074	90-40-400	150-150-10	1 3/8 x 2	3.50	2.10
CTM-3076	100-20-200	150-150-10	1 3/8 x 2 1/2	4.95	2.97
*CTM-3078	100-80-200	150-150-10	1 3/8 x 2 1/2	3.60	2.16
CTM-3080	60-40-400	150-150-15	1 3/8 x 2	4.80	2.88
CTM-3082	80-20-100	150-150-15	1 3/8 x 2	4.20	2.52
CTM-3084	20-20-20	150-150-25	1 x 2	3.30	1.98
CTM-3086	20-20-200	150-150-25	1 x 3	3.90	2.34
CTM-3088	30-20-20	150-150-25	1 x 2	3.40	2.04
CTM-3090	30-30-20	150-150-25	1 x 2	3.45	2.07
*CTM-3092	40-20-20	150-150-25	1 x 2 1/2	2.30	1.38
*CTM-3094	40-20-100	150-150-25	1 x 2 1/2	2.50	1.50
*CTM-3096	40-20-200	150-150-25	1 x 2	2.70	1.62
*CTM-3098	40-40-20	150-150-25	1 x 2	2.40	1.44
*CTM-3100	40-40-200	150-150-25	1 x 3	2.80	1.68
*CTM-3102	40-40-250	150-150-25	1 x 3	3.15	1.89
*CTM-3104	50-30-20	150-150-25	1 x 2	2.50	1.50
*CTM-3106	50-30-100	150-150-25	1 x 3	2.70	1.62
CTM-3108	50-30-200	150-150-25	1 3/8 x 2	4.35	2.61
*CTM-3112	50-50-20	150-150-25	1 x 2	2.65	1.59
CTM-3122	80-20-20	150-150-25	1 x 2	4.00	2.40
CTM-3124	80-30-300	150-150-25	1 3/8 x 2	5.50	3.30
*CTM-3126	80-40-20	150-150-25	1 x 2	2.80	1.68

### TRIPLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
*CTM-3128	80-40-300	150-150-25	1 3/8 x 2	3.70	2.22
CTM-3130	120-60-20	150-150-25	1 3/8 x 2	5.05	3.03
CTM-3134	10-10-10	150-150-150	1 x 2	3.10	1.86
*CTM-3136	20-20-20	150-150-150	1 x 2	2.30	1.38
*CTM-3140	40-20-10	150-150-150	1 x 2	2.35	1.41
*CTM-3142	40-20-20	150-150-150	1 x 2	2.40	1.44
*CTM-3144	40-30-20	150-150-150	1 x 2	2.50	1.50
*CTM-3146	40-40-40	150-150-150	1 x 2	2.60	1.56
*CTM-3150	50-40-10	150-150-150	1 x 2	2.55	1.53
*CTM-3154	50-50-50	150-150-150	1 x 2	3.00	1.80
CTM-3156	50-50-50	150-150-150	1 3/8 x 3	4.50	2.70
*CTM-3158	60-40-20	150-150-150	1 x 2	2.75	1.65
CTM-3160	60-40-30	150-150-150	1 3/8 x 2	4.20	2.52
CTM-3162	60-50-50	150-150-150	1 3/8 x 2	4.65	2.79
*CTM-3166	70-40-40	150-150-150	1 x 3	4.05	2.43
CTM-3168	80-20-20	150-150-150	1 x 2	4.20	2.52
CTM-3170	80-30-10	150-150-150	1 x 2	2.75	1.65
*CTM-3172	80-40-20	150-150-150	1 x 2	2.90	1.74
CTM-3174	80-50-50	150-150-150	1 x 3	4.90	2.94
CTM-3176	80-80-80	150-150-150	1 3/8 x 3	5.65	3.39
*CTM-3178	100-30-10	150-150-150	1 x 3	3.05	1.83
*CTM-3180	120-80-40	150-150-150	1 3/8 x 2	3.80	2.28
*CTM-3182	120-120-40	150-150-150	1 3/8 x 3	4.05	2.43
*CTM-3186	200-100-60	150-150-150	1 3/8 x 3 1/2	4.55	2.73
*CTM-3190	200-150-150	150-150-150	1 3/8 x 3 1/2	7.50	4.50
*CTM-3192	300-100-80	150-150-150	1 3/8 x 4	7.75	4.65
CTM-3194	80-40-50	200-100-50	1 3/8 x 2 1/2	4.60	2.76
CTM-3196	40-40-20	200-150-25	1 x 2	3.90	2.34
*CTM-3198HR	60-200-140	200-150-150	1 3/8 x 3 1/2	4.80	2.88
CTM-3199	250-200-50	200-150-150	1 3/8 x 3 1/2	6.50	3.90
CTM-3200	20-20-20	200-200-25	1 x 2	3.45	2.07
CTM-3202	30-20-20	200-200-25	1 x 2	3.85	2.31
CTM-3204	30-20-40	200-200-25	1 x 2	3.85	2.31
*CTM-3206	60-5-20	200-200-50	1 x 2 1/2	2.50	1.50
*CTM-3208	60-5-100	200-200-50	1 x 2 1/2	2.90	1.74
*CTM-3209	60-5-200	200-200-50	1 x 2 1/2	3.20	1.92
*CTM-3210	80-10-20	200-200-50	1 x 3	2.80	1.68
CTM-3214	90-90-20	200-200-50	1 3/8 x 3	5.70	3.42
CTM-3216HR	100-10-40	200-200-50	1 3/8 x 2	4.75	2.85
*CTM-3218	30-20-40	200-200-150	1 x 2 1/2	2.70	1.62
CTM-3220	20-20-20	200-200-200	1 x 2	3.75	2.25
CTM-3222	30-20-20	200-200-200	1 x 2	4.05	2.43
CTM-3224	40-40-20	200-200-200	1 x 2	4.55	2.73
CTM-3226	50-30-30	200-200-200	1 3/8 x 2	4.75	2.85
*CTM-3228HR	250-200-10	200-200-200	1 3/8 x 4	6.70	4.02
CTM-3230	40-40-20	250-150-25	1 3/8 x 2	4.05	2.43
CTM-3234	15-20-20	250-150-150	1 x 2	3.60	2.16
*CTM-3236	60-40-20	250-200-25	1 3/8 x 2	3.30	1.98
CTM-3240	20-15-20	250-250-25	1 x 2	3.55	2.13
*CTM-3242	30-30-20	250-250-25	1 x 3	2.80	1.68
*CTM-3246	70-70-20	250-250-50	1 3/8 x 3	5.85	3.51
*CTM-3248	90-90-20	250-250-50	1 3/8 x 3	4.60	2.76
CTM-3252	40-40-10	250-250-200	1 3/8 x 2	4.45	2.67
CTM-3254	80-80-60	250-250-200	1 3/8 x 3	6.75	4.05
CTM-3256	15-15-10	250-250-250	1 x 2	3.70	2.22
CTM-3258	20-20-10	250-250-250	1 x 2	3.75	2.25
*CTM-3260	20-20-20	250-250-250	1 x 2	2.60	1.56
CTM-3262	30-15-10	250-250-250	1 x 2 1/2	4.05	2.43
CTM-3264	30-15-15	250-250-250	1 x 2 1/2	4.15	2.49
CTM-3266	30-20-10	250-250-250	1 x 2 1/2	4.05	2.43
*CTM-3270	40-20-20	250-250-250	1 x 2	2.90	1.74
*CTM-3274	80-80-60	250-250-250	1 3/8 x 3	4.90	2.94
*CTM-3280	100-60-20	300-150-25	1 3/8 x 3	4.20	2.52
CTM-3282	140-200-100	300-150-50	1 3/8 x 4	8.60	5.16
*CTM-3286	60-200-30	300-150-150	1 3/8 x 4	6.50	3.90
CTM-3288	100-150-30	300-150-150	1 3/8 x 4	7.45	4.47
*CTM-3290	100-200-30	300-150-150	1 3/8 x 4	5.20	3.12
*CTM-3292	100-200-60	300-150-150	1 3/8 x 3 1/2	5.00	3.00
CTM-3296	16-20-20	300-250-250	1 x 3	3.90	2.34
CTM-3298	40-80-40	300-250-250	1 3/8 x 3 1/2	6.30	3.78
*CTM-3302	100-60-20	300-250-250	1 3/8 x 4	4.90	2.94
*CTM-3304	200-60-20	300-250-250	1 3/8 x 4	5.50	3.30
CTM-3306	20-20-20	300-300-25	1 x 2 1/2	4.15	2.49
CTM-3308	40-15-20	300-300-25	1 x 2 1/2	4.45	2.67

\* Preferred Type

★ Color Replacement

HR Designed for High Ripple Input

NET (For quantities of 25 or more, please contact your local Arco-Elmenco Distributor)

**ARCO** CAPACITORS

*Twist Mount  
Electrolytic Capacitors*

**TRIPLE UNITS**

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTM-3310	40-20-20	300-300-25	1 3/8 x 2	4.65	2.79
CTM-3312HR	140-10-100	300-300-25	1 3/8 x 2 1/2	6.70	4.02
*CTM-3313	20-20-50	300-300-50	1 x 2 1/2	3.00	1.80
CTM-3314	30-30-25	300-300-50	1 x 2 1/2	4.35	2.61
*CTM-3316HR	100-10-60	300-300-50	1 3/8 x 2 1/2	4.05	2.43
CTM-3318HR	125-20-20	300-300-50	1 3/8 x 2 1/2	6.70	4.02
CTM-3320HR	125-20-100	300-300-50	1 3/8 x 2 1/2	7.35	4.41
*CTM-3322	125-60-40	300-300-50	1 3/8 x 4	5.20	3.12
*CTM-3324	140-100-60	300-300-50	1 3/8 x 4	6.05	3.63
*CTM-3326	140-100-100	300-300-50	1 3/8 x 4	8.40	5.04
*CTM-3328	200-20-10	300-300-100	1 3/8 x 4	4.90	2.94
CTM-3330	40-40-20	300-300-150	1 3/8 x 2	5.40	3.24
*CTM-3336	10-10-10	300-300-300	1 x 2	2.40	1.44
*CTM-3338	60-20-10	300-300-300	1 3/8 x 2	3.45	2.07
CTM-3340	80-20-10	300-300-300	1 3/8 x 2 1/2	5.70	3.42
*CTM-3342	80-40-40	300-300-300	1 3/8 x 2 1/2	4.75	2.85
CTM-3344	100-40-20	300-300-300	1 3/8 x 3 1/2	5.50	3.30
*CTM-3346	120-50-40	300-300-300	1 3/8 x 4	5.85	3.51
*CTM-3348	150-100-10	300-300-300	1 3/8 x 4	6.35	3.81
CTM-3352	200-140-20	300-300-300	1 3/8 x 4	6.95	4.17
CTM-3364	10-10-250	350-150-15	1 x 2 1/2	4.15	2.49
CTM-3367	40-200-100	350-150-150	1 3/8 x 3 1/2	5.00	3.00
CTM-3368	60-200-30	350-150-150	1 3/8 x 3 1/2	5.00	3.00
*CTM-3372	125-5-100	350-200-75	1 3/8 x 3	5.30	3.18
CTM-3378	20-30-20	350-250-25	1 x 2 1/2	4.20	2.52
CTM-3384	30-20-10	350-250-250	1 x 2 1/2	4.50	2.70
CTM-3386	10-80-25	350-300-25	1 3/8 x 3	5.10	3.06
*CTM-3388	30-30-20	350-300-25	1 x 2 1/2	3.15	1.89
CTM-3396	40-20-10	350-300-200	1 3/8 x 2	4.95	2.97
CTM-3398	100-40-40	350-300-250	1 3/8 x 3 1/2	4.85	2.91
*CTM-3402	15-10-20	350-350-25	1 x 2	2.50	1.50
CTM-3404	15-15-20	350-350-25	1 x 2 1/2	4.05	2.43
CTM-3406	20-5-30	350-350-25	1 x 2	3.70	2.22
*CTM-3408	20-5-100	350-350-25	1 x 3	2.60	1.56
*CTM-3410	20-10-20	350-350-25	1 x 2	2.55	1.53
*CTM-3412	20-20-20	350-350-25	1 x 2 1/2	2.90	1.74
CTM-3414	30-10-20	350-350-25	1 x 2 1/2	4.60	2.76
*CTM-3416	30-20-20	350-350-25	1 x 2 1/2	3.10	1.86
*CTM-3420	30-30-20	350-350-25	1 3/8 x 2	3.40	2.04
CTM-3422	40-5-30	350-350-25	1 3/8 x 2	4.35	2.61
CTM-3424	40-40-50	350-350-25	1 3/8 x 2 1/2	5.65	3.39
CTM-3426	60-10-25	350-350-25	1 3/8 x 3	4.50	2.70
CTM-3428	90-40-50	350-350-25	1 3/8 x 3 1/2	7.35	4.41
CTM-3430	100-20-20	350-350-25	1 3/8 x 3 1/2	7.10	4.26
*CTM-3431	250-3-200	350-350-25	1 3/8 x 4	6.40	3.84
*CTM-3432	200-10-50	350-350-50	1 3/8 x 4	5.25	3.15
CTM-3434	10-5-30	350-350-50	1 x 2	3.30	1.98
CTM-3436	10-5-150	350-350-50	1 x 3	4.05	2.43
*CTM-3438	20-5-150	350-350-50	1 x 3	2.95	1.77
*CTM-3440	20-10-100	350-350-50	1 3/8 x 2 1/2	2.90	1.74
CTM-3442	70-40-50	350-350-50	1 3/8 x 3 1/2	6.50	3.90
CTM-3444	80-10-40	350-350-50	1 3/8 x 3	5.70	3.42
CTM-3446	80-10-100	350-350-50	1 3/8 x 3	6.15	3.69
CTM-3448	100-20-50	350-350-50	1 3/8 x 3	6.95	4.17
*CTM-3452	150-4-30	350-350-50	1 3/8 x 3	4.75	2.85
CTM-3453	150-5-100	350-350-50	1 3/8 x 3	5.10	3.06
CTM-3454	30-20-100	350-350-75	1 3/8 x 2 1/2	6.00	3.60
*CTM-3458	30-20-100	350-350-150	1 3/8 x 2 1/2	4.00	2.40
CTM-3460	40-20-10	350-350-150	1 x 3	4.80	2.88
CTM-3462	40-40-100	350-350-200	1 3/8 x 3	7.20	4.32
*CTM-3464	80-40-100	350-350-200	1 3/8 x 4	5.45	3.27
*CTM-3466	100-60-20	350-350-200	1 3/8 x 4	5.50	3.30
*CTM-3468	20-10-5	350-350-250	1 x 2 1/2	2.55	1.53
CTM-3470	30-10-20	350-350-250	1 x 2 1/2	4.60	2.76
*CTM-3471HR	200-80-120	350-350-250	1 3/8 x 4 1/2	7.50	4.50
CTM-3472	20-20-10	350-350-350	1 x 2 1/2	4.45	2.67
*CTM-3474	30-20-10	350-350-350	1 x 2 1/2	3.25	1.95
CTM-3476	50-50-50	350-350-350	1 3/8 x 3 1/2	7.30	4.38
CTM-3478	60-20-10	350-350-350	1 3/8 x 3	4.00	2.40
*CTM-3480	60-40-20	350-350-350	1 3/8 x 3	4.25	2.55
CTM-3482	60-40-40	350-350-350	1 3/8 x 3 1/2	7.05	4.23
*CTM-3484	60-50-50	350-350-350	1 3/8 x 3 1/2	4.90	2.94
CTM-3486	80-40-40	350-350-350	1 3/8 x 3 1/2	7.95	4.77
*CTM-3488	80-60-60	350-350-350	1 3/8 x 3 1/2	5.55	3.33
*CTM-3490	90-40-20	350-350-350	1 3/8 x 4	5.25	3.15

**TRIPLE UNITS**

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTM-3492	100-20-20	350-350-350	1 3/8 x 4	5.15	3.09
CTM-3494	100-40-10	350-350-350	1 3/8 x 4	5.25	3.15
CTM-3496	100-100-10	350-350-350	1 3/8 x 4	6.80	4.08
CTM-3497HR	100-100-40	350-350-350	1 3/8 x 4 1/2	7.50	4.50
CTM-3498	120-40-40	350-350-350	1 3/8 x 4	9.30	5.58
*CTM-3500	140-140-20	350-350-350	1 3/8 x 4	7.65	4.59
*CTM-3501	200-120-80	350-350-350	1 3/8 x 4 1/2	8.50	5.10
*CTM-3504	40-200-60	400-200-200	1 3/8 x 4	5.55	3.33
CTM-3506	10-5-40	400-300-25	1 x 2	3.30	1.98
CTM-3508	60-40-20	400-300-25	1 3/8 x 3	6.30	3.78
CTM-3510	80-20-10	400-300-300	1 3/8 x 3	6.40	3.84
CTM-3514	100-10-200	400-350-25	1 3/8 x 3	4.90	2.94
CTM-3516	80-20-100	400-350-50	1 3/8 x 3	6.75	4.05
CTM-3518	100-10-20	400-350-50	1 3/8 x 3	6.75	4.05
CTM-3520	20-15-10	400-350-350	1 x 3	4.45	2.67
CTM-3522	40-20-20	400-350-350	1 x 3	4.00	2.40
CTM-3524	15-15-40	400-400-25	1 x 2 1/2	4.20	2.52
*CTM-3526	20-20-20	400-400-25	1 x 3	2.85	1.71
CTM-3528	30-10-20	400-400-25	1 x 2 1/2	4.25	2.55
CTM-3530	20-10-40	400-400-50	1 x 2 1/2	4.00	2.40
CTM-3532	30-10-150	400-400-50	1 3/8 x 2 1/2	5.10	3.06
CTM-3534	80-40-100	400-400-50	1 3/8 x 3	5.25	3.15
*CTM-3536	80-40-150	400-400-50	1 3/8 x 3	5.25	3.15
*CTM-3538	100-10-20	400-400-50	1 3/8 x 3	4.50	2.70
CTM-3540	20-20-20	400-400-100	1 x 3	4.45	2.67
CTM-3542	20-10-10	400-400-350	1 x 3	4.05	2.43
CTM-3544	20-10-40	400-400-350	1 x 2 1/2	5.10	3.06
*CTM-3546	20-20-10	400-400-350	1 x 3	3.00	1.80
*CTM-3548	60-30-20	400-400-350	1 3/8 x 3	4.55	2.73
*CTM-3550	80-30-20	400-400-350	1 3/8 x 3	4.30	2.58
*CTM-3552	100-10-80	400-400-350	1 3/8 x 4	6.10	3.66
*CTM-3554	10-10-10	400-400-400	1 x 2 1/2	2.40	1.44
*CTM-3556	40-10-10	400-400-400	1 x 3	3.15	1.89
*CTM-3558	90-10-5	400-400-400	1 3/8 x 3	4.40	2.64
CTM-3560	100-30-20	400-400-400	1 3/8 x 4	8.25	4.95
CTM-3562	10-20-10	450-25-25	1 x 2	3.25	1.95
CTM-3568	10-100-20	450-50-25	1 x 3	3.85	2.31
CTM-3572	10-50-100	450-150-25	1 x 3	4.15	2.49
*CTM-3574	40-40-130	450-150-50	1 3/8 x 3	3.70	2.22
CTM-3576	40-50-100	450-150-50	1 3/8 x 2 1/2	5.50	3.30
*CTM-3578	10-50-100	450-150-75	1 x 3	3.25	1.95
*CTM-3582	40-90-50	450-150-150	1 3/8 x 3	4.00	2.40
CTM-3584	20-80-50	450-200-50	1 3/8 x 2 1/2	5.10	3.06
*CTM-3586	10-100-200	450-200-25	1 x 3 1/2	3.60	2.16
*CTM-3588	10-100-100	450-200-50	1 x 3 1/2	3.60	2.16
*CTM-3591	50-160-50	450-250-50	1 3/8 x 3 1/2	5.10	3.06
*CTM-3591.5	20-160-40	450-250-150	1 3/8 x 3 1/2	4.80	2.88
CTM-3592	10-60-60	450-250-250	1 3/8 x 4	6.00	3.60
*CTM-3594	10-80-80	450-250-250	1 3/8 x 4	4.15	2.49
CTM-3596	20-40-10	450-250-250	1 3/8 x 2	4.75	2.85
CTM-3598	20-60-40	450-250-250	1 3/8 x 3 1/2	5.95	3.57
*CTM-3600	80-40-40	450-250-250	1 3/8 x 4	4.80	2.88
*CTM-3602	10-40-10	450-300-150	1 3/8 x 2	3.10	1.86
CTM-3604	30-10-10	450-300-150	1 3/8 x 2	4.45	2.67
*CTM-3606	5-80-40	450-300-300	1 3/8 x 3	4.15	2.49
CTM-3608	10-100-20	450-300-300	1 3/8 x 3	6.50	3.90
CTM-3610	20-15-10	450-300-300	1 3/8 x 2 1/2	4.30	2.58
CTM-3612	10-10-20	450-350-25	1 x 2 1/2	3.45	2.07
CTM-3614	10-10-50	450-350-25	1 x 2 1/2	3.60	2.16
*CTM-3618	30-40-50	450-350-25	1 x 4	3.70	2.22
*CTM-3619HR	80-2-25	450-350-25	1 3/8 x 3	4.95	2.97
CTM-3620	20-80-100	450-350-50	1 3/8 x 3 1/2	6.75	4.05
*CTM-3622	80-50-100	450-350-200	1 3/8 x 4	5.85	3.51
CTM-3624	15-20-20	450-350-250	1 3/8 x 2	4.45	2.67
*CTM-3625	50-10-160	450-350-250	1 3/8 x 4	6.20	3.72
CTM-3626	20-15-10	450-350-300	1 x 3	4.60	2.76
CTM-3628	40-50-50	450-350-300	1 3/8 x 3	7.30	4.38
*CTM-3630	20-15-15	450-350-350	1 x 3	4.90	2.94
*CTM-3632	20-40-10	450-350-350	1 3/8 x 2 1/2	3.50	2.10
*CTM-3636	40-80-40	450-350-350	1 3/8 x 3 1/2	5.40	3.24
CTM-3638	50-80-10	450-350-350	1 3/8 x 3 1/2	7.35	4.41
CTM-3640	60-20-20	450-350-350	1 3/8 x 3	6.45	3.87
CTM-3642	60-40-20	450-350-350	1 3/8 x 3	6.90	4.14
CTM-3646	30-50-40	450-400-25	1 3/8 x 3	5.85	3.51
*CTM-3648	60-80-20	450-400-250	1 3/8 x 4	5.45	3.27
*CTM-3656	10-10-10	450-450-25	1 x 2 1/2	2.40	1.44
*CTM-3658	10-10-20	450-450-25	1 x 2 1/2	2.40	1.44
*CTM-3660	15-15-20	450-450-25	1 x 2 1/2	4.05	2.43
*CTM-3662	15-15-40	450-450-25	1 x 2 1/2	2.75	1.65
*CTM-3664					

# ARCO CAPACITORS

## Twist Mount Electrolytic Capacitors

## TRIPLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
*CTM-3670	30-30-20	450-450-25	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	3.55	2.13
*CTM-3672	30-30-125	450-450-25	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	3.95	2.37
*CTM-3674	40-20-20	450-450-25	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	3.50	2.10
*CTM-3676	40-40-20	450-450-25	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	3.90	2.34
*CTM-3678	40-40-40	450-450-25	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	3.95	2.37
*CTM-3680	80-10-125	450-450-25	1 $\frac{3}{8}$ x 3	4.45	2.67
*CTM-3682	80-40-100	450-450-25	1 $\frac{3}{8}$ x 4	5.05	3.03
*CTM-3684	10-10-40	450-450-50	1 x 2 $\frac{1}{2}$	2.50	1.50
*CTM-3686	20-10-50	450-450-50	1 x 2 $\frac{1}{2}$	2.85	1.71
CTM-3688	20-20-100	450-450-50	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	5.25	3.15
*CTM-3690	30-10-150	450-450-50	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	3.50	2.10
*CTM-3692	30-15-150	450-450-50	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	3.70	2.22
CTM-3694	30-30-40	450-450-50	1 $\frac{3}{8}$ x 3	5.50	3.30
*CTM-3696	35-25-150	450-450-50	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	3.95	2.37
CTM-3698	40-10-40	450-450-50	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	4.90	2.94
*CTM-3700	40-10-100	450-450-50	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	4.30	2.58
CTM-3702	40-30-25	450-450-50	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	5.65	3.39
*CTM-3704	40-40-100	450-450-50	1 $\frac{3}{8}$ x 3	4.30	2.58
*CTM-3706	60-40-75	450-450-50	1 $\frac{3}{8}$ x 4	4.65	2.79
*CTM-3708	80-20-100	450-450-50	1 $\frac{3}{8}$ x 3	4.80	2.88
CTM-3710	80-50-50	450-450-50	1 $\frac{3}{8}$ x 3 $\frac{1}{2}$	6.20	3.72
*CTM-3710.3	80-50-250	450-450-50	1 $\frac{3}{8}$ x 4	6.25	3.75
*CTM-3711	80-65-50	450-450-50	1 $\frac{3}{8}$ x 3 $\frac{1}{2}$	5.80	3.48
CTM-3712	30-30-125	450-450-75	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	6.75	4.05
CTM-3716	30-20-30	450-450-150	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	5.25	3.15
*CTM-3718	40-40-40	450-450-150	1 $\frac{3}{8}$ x 3	4.15	2.49
*CTM-3720	40-10-80	450-450-200	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	3.90	2.34
*CTM-3722	40-10-100	450-450-200	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	4.15	2.49
*CTM-3724	40-40-60	450-450-200	1 $\frac{3}{8}$ x 3	4.45	2.67
*CTM-3726	40-40-100	450-450-200	1 $\frac{3}{8}$ x 3	4.95	2.97
CTM-3728	15-10-120	450-450-300	1 $\frac{3}{8}$ x 3 $\frac{1}{2}$	7.05	4.23
CTM-3730	15-15-10	450-450-300	1 x 3	4.30	2.58
CTM-3734	20-20-60	450-450-350	1 $\frac{3}{8}$ x 3 $\frac{1}{2}$	7.60	4.56
CTM-3736	40-10-10	450-450-350	1 $\frac{3}{8}$ x 3	4.95	2.97
CTM-3738	40-40-60	450-450-350	1 $\frac{3}{8}$ x 3	7.35	4.11
*CTM-3740	40-40-80	450-450-350	1 $\frac{3}{8}$ x 3	5.55	3.33
*CTM-3742	50-5-50	450-450-350	1 $\frac{3}{8}$ x 3	4.25	2.55
*CTM-3745	80-80-10	450-450-400	1 $\frac{3}{8}$ x 4 $\frac{1}{2}$	6.40	3.84
*CTM-3746	10-10-10	450-457-450	1 x 3	2.60	1.56
CTM-3748	15-15-10	450-450-450	1 x 3	4.45	2.67
*CTM-3750	15-15-15	450-450-450	1 x 2 $\frac{1}{2}$	3.10	1.86
*CTM-3752	20-10-10	450-450-450	1 x 3	2.90	1.74
*CTM-3754	20-20-20	450-450-450	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	3.60	2.16
*CTM-3756	30-10-10	450-450-450	1 $\frac{3}{8}$ x 2	3.15	1.89
*CTM-3758	30-20-20	450-450-450	1 $\frac{3}{8}$ x 2	3.85	2.31
CTM-3760	30-30-10	450-450-450	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	5.65	3.39
*CTM-3762	30-30-30	450-450-450	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	4.35	2.61
*CTM-3764	40-10-10	450-450-450	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	3.35	2.01
*CTM-3766	40-30-20	450-450-450	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	4.30	2.58
*CTM-3768	40-40-10	450-450-450	1 $\frac{3}{8}$ x 3	4.15	2.49
*CTM-3770	40-40-20	450-450-450	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	4.45	2.67
*CTM-3772	40-40-40	450-450-450	1 $\frac{3}{8}$ x 3	4.90	2.94
*CTM-3773	50-20-4	450-450-450	1 x 3 $\frac{1}{2}$	3.70	2.22
CTM-3774	50-30-30	450-450-450	1 $\frac{3}{8}$ x 3	7.15	4.29
*CTM-3776	50-40-30	450-450-450	1 $\frac{3}{8}$ x 3	4.90	2.94
CTM-3778	60-10-10	450-450-450	1 $\frac{3}{8}$ x 3	5.85	3.51
*CTM-3780	60-20-20	450-450-450	1 $\frac{3}{8}$ x 3	4.60	2.76
*CTM-3782	60-30-10	450-450-450	1 $\frac{3}{8}$ x 3	4.50	2.70
*CTM-3784	60-40-20	450-450-450	1 $\frac{3}{8}$ x 3	5.00	3.00
*CTM-3785	60-50-30	450-450-450	1 $\frac{3}{8}$ x 4	5.55	3.33
*CTM-3786	80-40-10	450-450-450	1 $\frac{3}{8}$ x 4	7.60	4.56
CTM-3788	80-40-20	450-450-450	1 $\frac{3}{8}$ x 4	5.40	3.24
*CTM-3789	80-50-30	450-450-450	1 $\frac{3}{8}$ x 4	5.90	3.54
*CTM-3790	20-50-20	475-50-25	1 x 3	2.75	1.65
*CTM-3792	80-80-50	475-150-50	3 $\frac{1}{8}$ x 3 $\frac{1}{2}$	4.85	2.91
CTM-3796	40-40-100	475-250-50	1 $\frac{3}{8}$ x 3	6.45	3.87
CTM-3798	40-40-100	475-250-100	1 $\frac{3}{8}$ x 3	6.15	3.69
CTM-3800	40-40-10	475-250-250	1 $\frac{3}{8}$ x 3 $\frac{1}{2}$	6.00	3.60
CTM-3804	40-40-100	475-300-50	1 $\frac{3}{8}$ x 3	6.75	4.05
*CTM-3806	40-80-10	475-300-300	1 $\frac{3}{8}$ x 3 $\frac{1}{2}$	4.85	2.91
CTM-3808	10-100-25	475-350-25	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	4.55	2.73
*CTM-3810	10-4-100	475-350-50	1 x 2 $\frac{1}{2}$	2.65	1.59
*CTM-3812	20-10-5	475-350-150	1 x 2 $\frac{1}{2}$	2.80	1.68
*CTM-3814	10-4-40	475-350-250	1 $\frac{3}{8}$ x 2	2.75	1.65
CTM-3816	20-20-10	475-350-350	1 x 3	4.80	2.88
CTM-3818	40-40-25	475-400-50	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	6.45	3.87
CTM-3820	10-45-100	475-450-50	1 $\frac{3}{8}$ x 3	5.50	3.30
CTM-3822	40-40-20	475-450-50	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	6.60	3.96
*CTM-3824	10-40-100	475-450-200	1 $\frac{3}{8}$ x 3	4.20	2.52
CTM-3826	40-20-20	475-450-450	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	6.75	4.05
*CTM-3828	40-80-10	475-450-450	1 $\frac{3}{8}$ x 3	5.50	3.30
CTM-3832	10-10-5	475-475-25	1 x 2 $\frac{1}{2}$	3.70	2.22
CTM-3834	10-10-100	475-475-25	1 x 3	4.00	2.40
CTM-3836	20-10-20	475-475-25	1 x 3	4.35	2.61
*CTM-3837	50-18-40	475-475-25	1 $\frac{3}{8}$ x 3	4.40	2.64
*CTM-3837.2	50-40-40	475-475-25	1 $\frac{3}{8}$ x 3	4.95	2.97
CTM-3838	10-10-150	475-475-50	1 x 3	4.50	2.70
CTM-3840	20-10-20	475-475-50	1 x 3	4.45	2.67
*CTM-3842	20-10-100	475-475-50	1 $\frac{3}{8}$ x 2	3.25	1.95
CTM-3844	25-10-20	475-475-50	1 x 3	4.45	2.67

\* Preferred Type

\* Color Replacement

HR Designed for High Ripple Input

NET (For quantities of 25 or more, please contact your local Arco-Elmenco Distributor)

## TRIPLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
*CTM-3846	20-10-100	475-475-400	1 $\frac{3}{8}$ x 4	5.25	3.15
CTM-3848	20-20-60	475-475-400	1 $\frac{3}{8}$ x 3 $\frac{1}{2}$	7.20	4.32
*CTM-3851	20-20-60	475-475-450	1 $\frac{3}{8}$ x 3 $\frac{1}{2}$	4.85	2.91
CTM-3852	10-10-10	475-475-475	1 x 3	4.05	2.43
CTM-3854	30-30-10	475-475-475	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	6.00	3.60
*CTM-3856	30-30-20	475-475-475	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	4.45	2.67
CTM-3858	40-10-10	475-475-475	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	5.80	3.48
*CTM-3860	40-20-20	475-475-475	1 $\frac{3}{8}$ x 3	4.75	2.85
*CTM-3862	40-30-10	475-475-475	1 $\frac{3}{8}$ x 3	4.50	2.60
*CTM-3864	40-30-30	475-475-475	1 $\frac{3}{8}$ x 4	5.15	3.09
CTM-3866	40-35-10	475-475-475	1 $\frac{3}{8}$ x 3	6.85	4.11
CTM-3872	40-40-100	500-250-50	1 $\frac{3}{8}$ x 3	6.45	3.87
CTM-3880	40-40-25	500-400-50	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	6.45	3.87
CTM-3884	80-20-100	500-450-50	1 $\frac{3}{8}$ x 3	7.65	4.59
CTM-3886	10-40-40	500-450-450	1 $\frac{3}{8}$ x 3 $\frac{1}{2}$	6.25	3.75
CTM-3888	30-20-20	500-500-25	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	5.35	3.21
CTM-3890	10-10-100	500-500-50	1 x 3 $\frac{1}{2}$	4.30	2.58
*CTM-3892	20-10-100	500-500-50	1 x 4	3.30	1.98
CTM-3894	30-10-20	500-500-50	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	4.65	2.79
*CTM-3896	40-40-100	500-500-200	1 $\frac{3}{8}$ x 3	5.80	3.48
CTM-3898	10-10-5	500-500-350	1 x 2 $\frac{1}{2}$	3.75	2.25
*CTM-3900	20-20-60	500-500-400	1 $\frac{3}{8}$ x 3 $\frac{1}{2}$	4.80	2.88
*CTM-3902	10-10-10	500-500-500	1 x 3	2.90	1.62
CTM-3904	30-20-20	500-500-500	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	4.20	2.52
*CTM-3906	40-10-10	500-500-500	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$	3.90	2.34
*CTM-3908	40-40-10	500-500-500	1 $\frac{3}{8}$ x 3	5.05	3.03

## QUADRUPLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
*CTM-4010	750-600-350-4	16-16-16-11.5RMS	1 $\frac{3}{8}$ x 2	5.20	3.12
*CTM-4011	750-750-350-4	16-16-16-11.5RMS	1 $\frac{3}{8}$ x 2	5.50	3.30
CTM-4020	40-40-40-40	25-25-25-25	1 $\frac{3}{8}$ x 2	4.15	2.49
*CTM-4025	50-20-150-30	150-150-15-15	1 $\frac{3}{8}$ x 2	3.15	1.89
CTM-4028	40-40-50-200	150-150-25-10	1 $\frac{3}{8}$ x 2	4.75	2.85
*CTM-4031	20-20-160-40	150-150-25-25	1 $\frac{3}{8}$ x 2	3.20	1.92
CTM-4034	40-40-100-100	150-150-25-25	1 $\frac{3}{8}$ x 2	5.05	3.03
CTM-4037	40-40-200-100	150-150-25-25	1 $\frac{3}{8}$ x 2	5.35	3.21
*CTM-4040	50-40-160-40	150-150-25-25	1 $\frac{3}{8}$ x 2	3.55	2.13
CTM-4043	80-20-160-40	150-150-25-25	1 $\frac{3}{8}$ x 2	5.55	3.33
CTM-4047	80-30-100-40	150-150-25-25	1 $\frac{3}{8}$ x 2	5.20	3.12
CTM-4050	40-40-100-100	150-150-50-50	1 $\frac{3}{8}$ x 2	5.55	3.33
CTM-4052	30-20-20-200	150-150-150-10	1 $\frac{3}{8}$ x 2	4.65	2.79
*CTM-4055	40-40-20-200	150-150-150-10	1 $\frac{3}{8}$ x 2	3.20	1.92
CTM-4058	50-30-25-200	150-150-150-10	1 $\frac{3}{8}$ x 2	5.05	3.03
*CTM-4061	60-40-20-200	150-150-150-10	1 $\frac{3}{8}$ x 2	3.45	2.07
*CTM-4067	200-30-10-100	150-150-150-10	1 $\frac{3}{8}$ x 3 $\frac{1}{2}$	4.10	2.46
*CTM-4070	290-30-10-100	150-150-150-10	1 $\frac{3}{8}$ x 3 $\frac{1}{2}$ </		



# ARCO CAPACITORS

## Twist Mount Electrolytic Capacitors

### QUADRUPLE UNITS

### QUADRUPLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)	Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTM-4167	60-20-5-50	200-200-200-50	1 3/8 x 3	5.25	3.15	CTM-4390	40-30-10-50	350-350-350-50	1 3/8 x 3	6.60	3.96
*CTM-4168HR	200-200-150-10	200-200-200-150	1 3/8 x 3 1/2	6.50	3.90	*CTM-4393	40-40-40-150	350-350-350-50	1 3/8 x 4	5.65	3.39
*CTM-4173	100-40-10-100	250-250-250-50	1 3/8 x 3 1/2	5.15	3.09	CTM-4395	50-40-20-100	350-350-350-50	1 3/8 x 3	7.75	4.65
CTM-4176	80-60-40-20	250-250-250-150	1 3/8 x 3 1/2	7.65	4.59	CTM-4398	50-40-40-160	350-350-350-50	1 3/8 x 4	8.65	5.19
CTM-4178	40-40-20-20	250-250-250-250	1 3/8 x 2 1/2	6.00	3.60	CTM-4400	60-25-25-100	350-350-350-50	1 3/8 x 3	7.75	4.65
*CTM-4185	10-200-140-30	300-150-150-150	1 3/8 x 3	5.10	3.06	*CTM-4403	60-30-30-150	350-350-350-50	1 3/8 x 3	5.50	3.30
CTM-4188	10-200-200-30	300-150-150-150	1 3/8 x 3	5.35	3.21	*CTM-4405	70-40-10-50	350-350-350-50	1 3/8 x 2 1/2	5.25	3.15
*CTM-4190	100-60-10-20	300-200-150-50	1 3/8 x 3 1/2	4.85	2.91	*CTM-4408	100-10-10-20	350-350-350-50	1 3/8 x 3	5.15	3.09
CTM-4193	120-20-20-100	300-250-25-30	1 3/8 x 3 1/2	7.90	4.77	*CTM-4410	100-20-10-20	350-350-350-50	1 3/8 x 3	5.40	3.24
*CTM-4195	200-20-100-20	300-250-50-25	1 3/8 x 4	5.80	3.48	*CTM-4413	100-40-30-50	350-350-350-50	1 3/8 x 4	6.55	3.93
CTM-4198	40-40-40-40	300-250-250-25	1 3/8 x 3	6.60	3.96	CTM-4415	140-20-10-100	350-350-350-50	1 3/8 x 3	9.25	5.55
CTM-4200	80-5-60-20	300-150-150-25	1 3/8 x 3	4.35	2.61	CTM-4416	150-100-10-100	350-350-350-50	1 3/8 x 3 1/2	9.50	5.70
*CTM-4205	140-10-10-100	300-300-150-50	1 3/8 x 4	5.05	3.03	*CTM-4418	90-30-5-100	350-350-350-50	1 3/8 x 3	6.15	3.69
*CTM-4208	100-10-200-30	300-300-150-150	1 3/8 x 4	5.90	3.54	CTM-4420	80-60-40-160	350-350-350-50	1 3/8 x 3 1/2	9.15	5.49
*CTM-4210	140-10-200-30	300-300-150-150	1 3/8 x 4	6.25	3.75	*CTM-4428	30-10-5-100	350-350-350-200	1 3/8 x 3	4.55	2.73
*CTM-4213HR	140-10-200-60	300-300-150-150	1 3/8 x 4 1/2	6.40	3.84	CTM-4432	30-20-5-100	350-350-350-200	1 3/8 x 3	7.40	2.82
CTM-4215	150-20-10-250	300-300-250-50	1 3/8 x 3	6.05	3.63	*CTM-4439	80-40-10-100	350-350-350-200	1 3/8 x 3	7.75	4.47
CTM-4218	10-10-10-20	300-300-300-25	1 3/8 x 2	4.45	2.67	CTM-4446	35-30-20-10	350-350-350-350	1 3/8 x 2 1/2	6.95	4.17
CTM-4220	40-30-20-50	300-300-300-25	1 3/8 x 2 1/2	6.25	3.75	*CTM-4449	40-20-20-10	350-350-350-350	1 3/8 x 2 1/2	6.35	3.65
*CTM-4223	60-40-20-50	300-300-300-25	1 3/8 x 3 1/2	4.70	2.82	CTM-4453	40-25-25-10	350-350-350-350	1 3/8 x 2 1/2	5.95	3.57
CTM-4225	30-30-15-30	300-300-300-50	1 3/8 x 3	5.50	3.30	*CTM-4456	40-40-40-40	350-350-350-350	1 3/8 x 4	6.00	3.60
CTM-4228	80-5-60-20	300-300-300-50	1 3/8 x 3	6.30	3.78	*CTM-4459	80-60-40-20	350-350-350-350	1 3/8 x 3 1/2	6.40	3.84
*CTM-4230	150-30-30-150	300-300-300-50	1 3/8 x 4	6.10	3.66	*CTM-4461	90-40-30-30	350-350-350-350	1 3/8 x 4	6.80	4.08
*CTM-4233	40-40-40-20	300-300-300-150	1 3/8 x 3	4.90	2.94	CTM-4464	100-20-10-5	350-350-350-350	1 3/8 x 3 1/2	7.95	4.77
*CTM-4235	120-40-40-10	300-300-300-250	1 3/8 x 4	6.30	3.78	*CTM-4467	100-40-10-10	350-350-350-350	1 3/8 x 3 1/2	6.00	3.60
*CTM-4238	40-20-10-10	300-300-300-300	1 3/8 x 2 1/2	3.95	2.37	*CTM-4469	100-40-25-25	350-350-350-350	1 3/8 x 4	6.55	3.93
*CTM-4240	40-40-20-10	300-300-300-300	1 3/8 x 2 1/2	4.55	2.73	*CTM-4471	150-100-20-20	350-350-350-350	1 3/8 x 4	6.80	4.08
*CTM-4243	40-40-30-20	300-300-300-300	1 3/8 x 2 1/2	4.85	2.91	CTM-4473	20-20-10-40	400-250-250-25	1 3/8 x 2 1/2	5.05	3.03
*CTM-4245	60-40-10-10	300-300-300-300	1 3/8 x 2 1/2	4.55	2.73	*CTM-4479	30-40-50-200	400-300-250-150	1 3/8 x 4	9.00	5.40
*CTM-4248	100-40-20-20	300-300-300-300	1 3/8 x 4	8.70	5.22	CTM-4481	20-30-20-20	400-300-300-25	1 3/8 x 2	5.70	3.42
CTM-4250	100-50-10-5	300-300-300-300	1 3/8 x 3 1/2	7.75	4.65	CTM-4483	80-40-20-10	400-300-300-300	1 3/8 x 3 1/2	8.35	5.01
*CTM-4253HR	140-100-20-20	300-300-300-300	1 3/8 x 4	7.10	4.26	CTM-4486	40-10-5-100	400-350-150-50	1 3/8 x 4	6.10	3.66
*CTM-4255HR	150-100-10-10	300-300-300-300	1 3/8 x 4	6.65	3.99	*CTM-4487	20-10-10-20	400-350-200-25	1 3/8 x 2	3.20	1.92
CTM-4258	150-150-30-30	300-300-300-300	1 3/8 x 4 1/2	7.70	4.62	*CTM-4489	40-80-100-25	400-350-200-50	1 3/8 x 3 1/2	5.95	3.57
*CTM-4260	200-20-20-20	300-300-300-300	1 3/8 x 4	6.25	3.75	CTM-4491	40-10-80-10	400-350-250-250	1 3/8 x 4	7.00	4.20
*CTM-4262	50-500-500-200	350-50-50-25	1 3/8 x 3 1/2	5.90	3.54	CTM-4493	80-40-20-20	400-350-300-300	1 3/8 x 3 1/2	6.40	3.84
*CTM-4262.2	100-500-500-200	350-50-50-25	1 3/8 x 3 1/2	6.20	3.72	CTM-4495	10-50-30-30	400-350-350-350	1 3/8 x 3	6.60	3.96
CTM-4270	20-60-160-40	350-200-25-25	1 3/8 x 2	6.00	3.60	CTM-4499	80-40-10-10	400-350-350-25	1 3/8 x 4	7.95	4.77
CTM-4273	15-80-40-200	350-200-200-25	1 3/8 x 3	6.75	4.05	*CTM-4501	20-50-40-80	400-350-50-50	1 3/8 x 3	5.00	3.00
*CTM-4274	10-20-10-50	350-200-200-50	1 3/8 x 2	3.10	1.86	*CTM-4505	40-80-10-100	400-350-350-200	1 3/8 x 4	6.20	3.72
CTM-4280	20-40-10-250	350-300-150-50	1 3/8 x 3	6.90	4.14	CTM-4507	40-100-20-10	400-350-350-350	1 3/8 x 4	6.50	3.90
CTM-4283	140-10-10-100	350-300-150-50	1 3/8 x 4	5.75	3.45	CTM-4511	20-5-20-20	400-400-25-25	1 3/8 x 2	4.60	2.76
*CTM-4285	20-150-10-250	350-300-150-50	1 3/8 x 4	6.10	3.66	CTM-4513	20-20-40-10	400-400-25-25	1 3/8 x 2 1/2	7.60	4.56
CTM-4288	40-40-20-20	350-300-300-25	1 3/8 x 2 1/2	6.75	4.05	*CTM-4517	50-40-100-100	400-400-50-25	1 3/8 x 4	5.10	3.06
*CTM-4290	160-30-30-20	350-300-300-50	1 3/8 x 4	5.80	3.48	CTM-4519	80-40-100-20	400-400-50-25	1 3/8 x 4	8.10	5.04
CTM-4295	40-80-10-10	350-300-300-300	1 3/8 x 3	5.35	3.21	*CTM-4521HR	100-10-30-20	400-400-50-50	1 3/8 x 3	5.10	3.06
*CTM-4298HR	140-100-20-20	350-300-300-300	1 3/8 x 4	7.70	4.62	CTM-4523	20-10-10-25	400-400-100-25	1 3/8 x 2	4.65	2.79
*CTM-4300	160-30-10-4	350-300-300-300	1 3/8 x 3 1/2	6.05	3.63	*CTM-4527	20-10-20-25	400-400-200-25	1 3/8 x 2	3.30	1.98
*CTM-4303	160-60-10-4	350-300-300-300	1 3/8 x 4	6.30	3.78	CTM-4530	80-40-100-100	400-400-200-50	1 3/8 x 4	6.50	3.90
*CTM-4305	40-10-100-25	350-350-25-25	1 3/8 x 2	3.75	2.25	CTM-4533	80-10-80-100	400-400-250-250	1 3/8 x 4	5.80	3.48
*CTM-4308	60-4-100-40	350-350-25-25	1 3/8 x 2 1/2	3.80	2.28	CTM-4535	40-10-80-10	400-400-250-250	1 3/8 x 4	7.05	4.23
CTM-4313	200-10-4-20	350-350-50-25	1 3/8 x 4	8.70	5.22	*CTM-4539	50-20-20-25	400-400-350-25	1 3/8 x 3	4.45	2.67
CTM-4315	60-5-50-20	350-350-50-50	1 3/8 x 2 1/2	3.65	2.19	*CTM-4543HR	100-10-20-20	400-400-350-50	1 3/8 x 3	2.00	1.20
*CTM-4320	60-20-80-100	350-350-150-50	1 3/8 x 4	4.90	2.94	CTM-4544	20-20-20-20	400-400-400-25	1 3/8 x 2	5.80	3.48
CTM-4323	60-10-100-100	350-350-150-10	1 3/8 x 4	6.00	3.60	CTM-4545	60-30-30-150	400-400-400-25	1 3/8 x 4	8.70	5.22
*CTM-4325	100-60-100-100	350-350-150-10	1 3/8 x 4 1/2	6.80	4.08	*CTM-4547	80-40-10-20	400-400-400-25	1 3/8 x 4	5.30	3.18
CTM-4330	40-20-10-20	350-350-200-25	1 3/8 x 2	5.85	3.51	*CTM-4549	80-40-30-40	400-400-400-25	1 3/8 x 4	5.95	3.57
CTM-4339	100-50-100-100	350-350-200-50	1 3/8 x 4 1/2	7.25	4.35	CTM-4551	90-40-10-40	400-400-400-25	1 3/8 x 4	8.70	5.22
*CTM-4340	60-40-60-20	350-350-200-150	1 3/8 x 2 1/2	5.05	3.03	CTM-4553	40-40-40-150	400-400-400-50	1 3/8 x 4	8.55	5.13
CTM-4343	80-60-60-10	350-350-200-150	1 3/8 x 4	8.40	5.04	*CTM-4555	90-20-10-50	400-400-400-50	1 3/8 x 4	5.40	3.24
CTM-4344	100-60-10-100	350-350-200-150	1 3/8 x 4 1/2	6.50	3.90	CTM-4557	80-20-10-100	400-400-400-50	1 3/8 x 4	7.90	4.74
CTM-4348	15-15-15-15	350-350-300-25	1 3/8 x 2	5.20	3.12	*CTM-4558	80-40-10-100	400-400-400-200	1 3/8 x 4	6.30	3.78
CTM-4350	35-35-10-20	350-350-300-25	1 3/8 x 2 1/2	6.25	3.75	*CTM-4559	80-40-30-4	400-400-400-350	1 3/8 x 3 1/2	5.90	3.54
CTM-4353	100-80-10-20	350-350-300-50	1 3/8 x 3 1/2	6.60	3.96	*CTM-4560	20-20-20-20	400-400-400-400	1 3/8 x 2 1/2	4.25	2.55
CTM-4355	100-60-40-40	350-350-300-75	1 3/8 x 4	6.80	4.08	CTM-4561	30-30-20-20	400-400-400-400	1 3/8 x 3	7.30	4.38
CTM-4358	10-10-10-10	350-350-300-300	1 3/8 x 2	4.65	2.79	CTM-4563	40-35-10-10	400-400-400-400	1 3/8 x 3	6.70	4.02
*CTM-4363	20-10-5-10	350-350-350-25	1 3/8 x 2	3.10	1.86	CTM-4567	80-10-10-10	400-400-400-400			

# ARCO CAPACITORS

## Twist Mount Electrolytic Capacitors

### QUADRUPLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
*CTM-4609	10-100-20-20	450-300-300-200	1 3/8 x 3	5.05	3.03
CTM-4612	10-100-20-20	450-300-300-300	1 3/8 x 3	7.90	4.74
*CTM-4613	80-2-100-25	450-350-25-25	1 3/8 x 3	4.75	2.85
CTM-4618	10-40-100-100	450-350-250-50	1 3/8 x 3	5.55	3.33
CTM-4621	40-30-15-50	450-350-300-50	1 3/8 x 3	6.55	3.93
CTM-4624	10-140-20-10	450-350-300-300	1 3/8 x 3	8.95	5.37
*CTM-4625	10-140-100-20	450-350-300-300	1 3/8 x 4	7.50	4.50
CTM-4630	10-60-40-25	450-350-350-25	1 3/8 x 4	4.60	2.76
CTM-4633	20-15-15-20	450-350-350-25	1 3/8 x 2	5.70	3.42
*CTM-4636	20-80-50-100	450-350-350-50	1 3/8 x 4	6.00	3.60
CTM-4639	30-40-40-10	450-350-350-200	1 3/8 x 3 1/2	7.75	4.65
CTM-4642	80-10-30-40	450-400-300-150	1 3/8 x 3 1/2	7.90	4.74
*CTM-4645	80-10-40-30	450-400-300-300	1 3/8 x 3 1/2	5.80	5.48
CTM-4651	10-40-30-40	450-400-400-25	1 3/8 x 3	6.60	3.96
CTM-4654	80-40-10-150	450-400-400-50	1 3/8 x 4	9.00	5.40
CTM-4660	60-40-20-20	450-400-400-100	1 3/8 x 4	8.70	5.22
CTM-4666	20-10-100-50	450-450-25-25	1 3/8 x 2	5.35	3.21
*CTM-4669	20-15-20-20	450-450-25-25	1 3/8 x 2	3.45	2.07
*CTM-4672	30-30-125-125	450-450-25-25	1 3/8 x 3	4.85	2.91
CTM-4675	30-10-150-30	450-450-50-50	1 3/8 x 2 1/2	6.15	3.69
*CTM-4678	20-20-60-100	450-450-150-25	1 3/8 x 2 1/2	6.40	3.84
*CTM-4681	40-40-125-125	450-450-150-25	1 3/8 x 3	5.70	3.42
*CTM-4682	50-20-40-40	450-450-150-25	1 3/8 x 2	4.50	2.70
*CTM-4683	50-40-4-40	450-450-150-25	1 3/8 x 2 1/2	4.90	2.94
*CTM-4684	10-10-60-100	450-450-200-50	1 3/8 x 3	3.85	2.31
CTM-4687	35-25-20-100	450-450-200-50	1 3/8 x 3	4.65	2.79
CTM-4690	40-40-100-60	450-450-200-200	1 3/8 x 4	6.05	3.63
*CTM-4691HR	80-50-50-50	450-450-250-50	1 3/8 x 4	6.45	3.87
*CTM-4692	80-50-100-250	450-450-250-50	1 3/8 x 4	7.40	4.44
*CTM-4692.4	30-20-160-40	450-450-250-150	1 3/8 x 3	5.65	3.39
*CTM-4692.6	30-20-160-10	450-450-250-250	1 3/8 x 3 1/2	5.80	3.48
CTM-4693	10-10-10-50	450-450-300-25	1 3/8 x 2	4.75	2.85
CTM-4696	40-40-10-50	450-450-300-50	1 3/8 x 3 1/2	7.05	4.23
*CTM-4704	30-20-4-200	450-450-350-250	1 3/8 x 4	5.95	3.57
CTM-4710	40-20-80-10	450-450-350-350	1 3/8 x 4	8.70	5.22
*CTM-4712	40-40-30-30	450-450-350-350	1 3/8 x 4	5.90	3.54
*CTM-4714	10-10-10-20	450-450-450-25	1 3/8 x 2	3.15	1.89
CTM-4716	10-10-10-100	450-450-450-25	1 3/8 x 2	4.90	2.94
CTM-4718	15-10-10-20	450-450-450-25	1 3/8 x 2	4.95	2.97
CTM-4720	20-10-10-100	450-450-450-25	1 3/8 x 2	5.55	3.33
*CTM-4722	20-20-20-20	450-450-450-25	1 3/8 x 2	4.15	2.49
CTM-4724	30-15-15-40	450-450-450-25	1 3/8 x 2 1/2	3.75	3.15
CTM-4726	30-20-20-20	450-450-450-25	1 3/8 x 3	6.60	3.96
CTM-4728	30-30-10-20	450-450-450-25	1 3/8 x 3	6.55	3.93
*CTM-4730	30-30-10-125	450-450-450-25	1 3/8 x 3	4.70	2.82
CTM-4732	30-30-10-20	450-450-450-25	1 3/8 x 3	7.00	4.20
CTM-4736	40-15-10-25	450-450-450-25	1 3/8 x 3	6.15	3.69
CTM-4738	40-20-10-20	450-450-450-25	1 3/8 x 3	6.40	3.84
*CTM-4740	40-20-20-20	450-450-450-25	1 3/8 x 3	4.60	2.76
*CTM-4742	40-20-20-40	450-450-450-25	1 3/8 x 3	4.65	2.79
*CTM-4744	40-30-10-20	450-450-450-25	1 3/8 x 3	4.50	2.70
*CTM-4746	40-40-10-20	450-450-450-25	1 3/8 x 3	4.70	2.82
*CTM-4748	40-40-20-20	450-450-450-25	1 3/8 x 3	5.00	3.00
*CTM-4750	40-40-40-40	450-450-450-25	1 3/8 x 3	5.50	3.30
CTM-4752	50-40-5-20	450-450-450-25	1 3/8 x 3	7.20	4.32
*CTM-4754	60-40-40-10	450-450-450-25	1 3/8 x 4	6.00	3.60
*CTM-4758	80-40-40-40	450-450-450-25	1 3/8 x 3 1/2	6.45	3.87
*CTM-4759	80-50-10-20	450-450-450-25	1 3/8 x 4	5.95	3.57
CTM-4760	10-10-10-150	450-450-450-50	1 3/8 x 2	5.55	3.33
*CTM-4762	20-20-20-100	450-450-450-50	1 3/8 x 2	4.55	2.73
*CTM-4764	30-30-15-30	450-450-450-50	1 3/8 x 3	4.55	2.73
CTM-4766	30-30-15-100	450-450-450-50	1 3/8 x 3	7.35	4.41
*CTM-4768	40-20-10-100	450-450-450-50	1 3/8 x 3	4.60	2.76
*CTM-4770	40-40-10-25	450-450-450-50	1 3/8 x 3	4.70	2.82
*CTM-4772	40-40-10-50	450-450-450-50	1 3/8 x 4	4.80	2.88
*CTM-4774	60-40-10-25	450-450-450-50	1 3/8 x 4	5.25	3.15
*CTM-4776	40-40-10-100	450-450-450-100	1 3/8 x 3	5.55	3.33
*CTM-4778	10-10-10-10	450-450-450-150	1 3/8 x 2	4.75	2.85
*CTM-4780	60-10-10-20	450-450-450-150	1 3/8 x 3	4.55	2.73
*CTM-4781HR	80-30-20-40	450-450-450-150	1 3/8 x 4	6.10	3.66
CTM-4782	35-35-10-10	450-450-450-200	1 3/8 x 3	6.90	4.14
CTM-4785	40-10-10-100	450-450-450-200	1 3/8 x 3	7.35	4.41
CTM-4788	40-40-30-10	450-450-450-200	1 3/8 x 4	8.05	4.83
CTM-4790	30-10-10-10	450-450-450-250	1 3/8 x 2	5.80	3.48
*CTM-4794	40-20-10-100	450-450-450-250	1 3/8 x 3	5.85	3.51
*CTM-4796	80-80-2-20	450-450-450-250	1 3/8 x 4 1/2	6.40	3.84
*CTM-4798	40-10-10-40	450-450-450-350	1 3/8 x 3	4.75	2.85
CTM-4800	40-20-20-20	450-450-450-350	1 3/8 x 3	7.50	4.50
CTM-4802	40-40-10-10	450-450-450-350	1 3/8 x 3	7.20	4.32
*CTM-4804	5-5-5-5	450-450-450-450	1 3/8 x 2	3.00	1.80
*CTM-4806	10-10-10-10	450-450-450-450	1 3/8 x 2	3.35	2.01
*CTM-4808	20-10-10-10	450-450-450-450	1 3/8 x 2 1/2	3.70	2.22
*CTM-4810	20-20-20-20	450-450-450-450	1 3/8 x 3	4.70	2.82
CTM-4812	25-20-20-20	450-450-450-450	1 3/8 x 3	7.30	4.38
*CTM-4814	30-15-15-15	450-450-450-450	1 3/8 x 3	4.45	2.67

### QUADRUPLE UNITS

Catalog No.	Capacity MFD.	WVDC	Diam. x Length	List Price	Net Price (1-24)
CTM-4816	30-20-20-10	450-450-450-450	1 3/8 x 3	6.90	4.14
CTM-4818	30-30-15-10	450-450-450-450	1 3/8 x 3	7.05	4.23
*CTM-4820	30-30-20-20	450-450-450-450	1 3/8 x 3	5.20	3.12
CTM-4822	30-30-30-15	450-450-450-450	1 3/8 x 4	7.95	4.77
*CTM-4824	35-35-10-5	450-450-450-450	1 3/8 x 3	4.60	2.76
*CTM-4826	40-10-10-10	450-450-450-450	1 3/8 x 3	4.10	2.46
CTM-4828	20-20-20-10	450-450-450-450	1 3/8 x 3	7.20	4.32
*CTM-4830	40-35-10-10	450-450-450-450	1 3/8 x 3	4.80	2.88
*CTM-4832	40-40-4-4	450-450-450-450	1 3/8 x 3	4.65	2.79
*CTM-4834	40-40-20-20	450-450-450-450	1 3/8 x 3 1/2	5.55	3.33
*CTM-4836	40-40-30-30	450-450-450-450	1 3/8 x 4	6.05	3.63
*CTM-4838	40-40-40-40	450-450-450-450	1 3/8 x 4	6.45	3.87
*CTM-4840	60-20-20-20	450-450-450-450	1 3/8 x 4	5.65	3.39
*CTM-4842	60-30-10-2	450-450-450-450	1 3/8 x 3	5.10	3.06
CTM-4844	70-10-10-5	450-450-450-450	1 3/8 x 3	7.15	4.29
*CTM-4846	80-10-10-10	450-450-450-450	1 3/8 x 4	5.05	3.03
*CTM-4848	40-40-50-80	475-250-150-50	1 3/8 x 3 1/2	5.00	3.00
*CTM-4850	20-40-100-80	475-300-50-25	1 3/8 x 3	4.45	2.67
*CTM-4852	10-100-10-100	475-300-300-25	1 3/8 x 3	4.90	2.94
*CTM-4854	20-80-20-10	475-300-300-300	1 3/8 x 3	5.00	3.00
*CTM-4856	20-140-20-10	475-300-300-300	1 3/8 x 3	6.00	3.60
CTM-4858	10-20-100-25	475-350-25-25	1 3/8 x 2	3.45	2.07
*CTM-4862	20-40-80-100	475-350-200-100	1 3/8 x 3	5.45	3.27
*CTM-4864	10-40-80-100	475-350-300-100	1 3/8 x 3	5.55	3.33
*CTM-4866	10-30-5-80	475-350-350-50	1 3/8 x 2 1/2	5.55	3.33
*CTM-4868	10-140-4-100	475-350-350-50	1 3/8 x 4	5.85	3.51
*CTM-4870	10-130-20-10	475-350-350-350	1 3/8 x 3	6.00	3.60
CTM-4872	20-60-40-10	475-350-350-350	1 3/8 x 3 1/2	7.80	4.68
*CTM-4874	30-130-10-10	475-350-350-350	1 3/8 x 3	6.40	3.84
*CTM-4876	10-40-100-10	475-400-50-25	1 3/8 x 2 1/2	4.05	2.43
CTM-4878	10-40-4-100	475-400-350-50	1 3/8 x 2 1/2	4.05	2.43
*CTM-4880	10-80-40-100	475-400-400-50	1 3/8 x 3	5.80	3.48
CTM-4884	10-10-80-50	475-450-200-60	1 3/8 x 3	5.80	3.48
CTM-4886	25-20-20-100	475-450-300-50	1 3/8 x 3	6.90	4.14
CTM-4888	25-20-40-100	475-450-300-50	1 3/8 x 3 1/2	7.45	4.47
*CTM-4890	10-60-30-125	475-450-400-50	1 3/8 x 3	5.55	3.33
*CTM-4892	10-50-30-30	475-450-450-25	1 3/8 x 3	4.75	2.85
*CTM-4893	80-4-4-200	475-450-450-25	1 3/8 x 3 1/2	5.65	3.39
*CTM-4894	10-40-10-100	475-450-450-50	1 3/8 x 2 1/2	4.30	2.58
*CTM-4895HR	80-4-4-4	475-450-450-450	1 3/8 x 3	5.20	3.12
*CTM-4895.6	50-18-4-40	475-475-150-25	1 3/8 x 2 1/2	5.30	3.18
*CTM-4895.7	50-40-4-40	475-475-150-25	1 3/8 x 2 1/2	5.40	3.24
*CTM-4896	15-15-80-40	475-475-300-50	1 3/8 x 3	4.80	2.88
CTM-4898	50-30-20-20	475-475-300-300	1 3/8 x 3 1/2	8.55	5.13
*CTM-4900	40-10-4-40	475-475-350-300	1 3/8 x 3	4.95	2.97
*CTM-4904	20-10-20-100	475-475-450-25	1 3/8 x 2 1/2	4.20	2.52
CTM-4906	10-5-80-40	475-475-450-50	1 3/8 x 3	7.35	4.41
*CTM-4907	80-80-4-4	475-475-450-450	1 3/8 x 4	7.50	4.50
CTM-4908	30-30-10-20	475-475-475-25	1 3/8 x 3	6.85	4.11
CTM-4910	40-20-10-10	475-475-475-25	1 3/8 x 3	7.30	4.38
CTM-4912	80-30-10-20	475-475-475-25	1 3/8 x 4	8.65	5.19
*CTM-4913	100-4-4-200	475-475-475-25	1 3/8 x 3 1/2	5.80	3.48
*CTM-4914	20-20-10-10	475-475-475-300	1 3/8 x 2 1/2	4.30	2.58
*CTM-4916	50-30-10-20	475-475-475-300	1 3/8 x 3	5.60	3.36
CTM-4918	10-10-10-10	475-475-475-475	1 3/8 x 2	5.25	3.15
*CTM-4920	20-20-10-10	475-475-475-475	1 3/8 x 2 1/2	4.35	2.61
*CTM-4922	20-20-20-20				

# ELMENCO

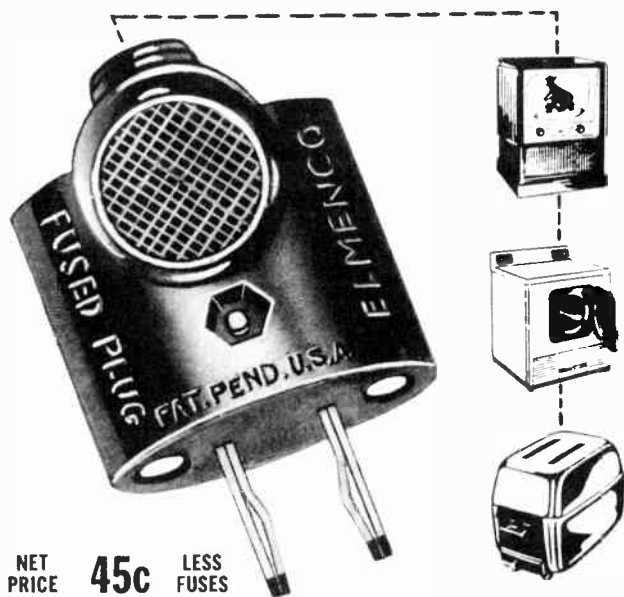
CAPACITORS

## FUSED PLUG

### PROTECTS ALL ELECTRICAL APPLIANCES

Offers complete protection against current surges & short circuits

REDUCES FIRE HAZARDS



NET PRICE **45c** LESS FUSES

The Elmenco Fused Plug is like any standard plug, is light in weight, but easier to handle because of finger grips. However, it employs 2 small fuses which provide complete protection against damage to the appliance and to the main line. The blown fuse is easy to remove and simple to replace. Fits any standard wall outlet.

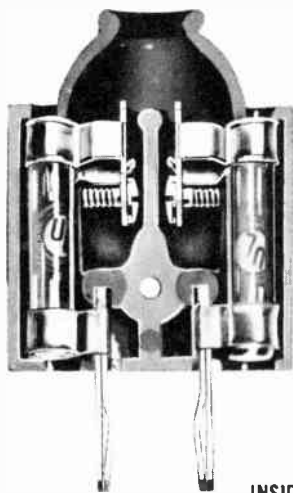
#### NEW MARKETS! GREATER VALUE!

Approved by Underwriters Laboratories and used by many of the largest manufacturers of radio and electronic equipment, battery chargers, washing machines, curling irons, lighting equipment, automatic relay equipment, motors of every description, and practically every other type of product that consumes electricity. Every wired home, office and store is a prospect.

#### IMPACT RESISTANT COVER

#### plus SPRING ACTION for positive contact

New spring action design of the male blades assures 100% positive contact regardless of worn condition of wall outlet.



INSIDE VIEW

Fuses are replaced instantly without need of opening plug. Can be used with standard 3AG and 3AB glass tubular fuses up to 20 amps.

#### REPLACE FUSE INSTANTLY!



RECOMMENDED BY THE BOARD OF FIRE UNDERWRITERS



Conveniently packed 10 to a Box in colorful self-merchandising displays. Easy to handle for resale.

#### USED BY LEADING MANUFACTURERS

- |                          |                    |
|--------------------------|--------------------|
| • Auto-Lite              | • General Electric |
| • Bell Telephone Labs.   | • Gerlat Lighting  |
| • Buick Motors           | • I. B. M.         |
| • Cambridge Instrument   | • Philco           |
| • Canaday Cooler         | • R. C. A.         |
| • Dictaphone             | • Sylvania         |
| • Dila-Therm             | • Thomas Edison    |
| • Eagle Electric         | • Webster-Chicago  |
| • Eastman Kodak          | • Western Electric |
| • Electro-Physical Labs. | • Westinghouse     |

# ELMENCO CAPACITORS

# INDUSTRIAL KITS

FOR: ENGINEERING LABS • GOVERNMENTAL AGENCIES  
EXPERIMENTAL LABS. • SCHOOLS, ETC.

## CM-15 MINIATURE MICA CAPACITOR KIT #1



The complete set of capacitors amounts to \$93.90 at list prices. You get the entire set at the

SPECIAL KIT LIST PRICE **\$8000**

This Kit can be supplied in 2% and 1% Tolerances upon request.

TYPE DESIGNATION	CAP. MMF.	DC WKG. VOLT.	TYPE DESIGNATION	CAP. MMF.	DC WKG. VOLT.
CM-15-C-010M	1	500	CM-15-E-750J	75	500
CM-15-C-020M	2	500	CM-15-E-820J	82	500
CM-15-C-030M	3	500	CM-15-E-910J	91	500
CM-15-C-050K	5	500	CM-15-E-101J	100	500
CM-15-C-100J	10	500	CM-15-E-111J	110	500
CM-15-C-120J	12	500	CM-15-E-121J	120	500
CM-15-C-150J	15	500	CM-15-E-131J	130	500
CM-15-C-180J	18	500	CM-15-E-151J	150	500
CM-15-C-200J	20	500	CM-15-E-161J	160	500
CM-15-C-220J	22	500	CM-15-E-181J	180	500
CM-15-E-240J	24	500	CM-15-E-201J	200	500
CM-15-E-270J	27	500	CM-15-E-221J	220	500
CM-15-E-300J	30	500	CM-15-E-241J	240	500
CM-15-E-330J	33	500	CM-15-E-251J	250	500
CM-15-E-360J	36	500	CM-15-E-271J	270	500
CM-15-E-390J	39	500	CM-15-E-301J	300	500
CM-15-E-430J	43	500	CM-15-E-331J	330	500
CM-15-E-470J	47	500	CM-15-E-361J	360	500
CM-15-E-500J	50	500	CM-15-E-391J	390	500
CM-15-E-510J	51	500	CM-15-E-431J	430	500
CM-15-E-560J	56	500	CM-15-E-471J	470	500
CM-15-E-620J	62	500	CM-15-E-501J	500	500
CM-15-E-680J	68	500	CM-15-E-511J	510	500

This Handy Kit consists of 46 most commonly used Capacitors per MIL-C-5 specifications five of each capacity as listed above packed in individual tuck boxes of 5 each properly identified for permanent use.

## DM-15 KIT #10



Purchased individually the total list price value of the capacitors contained in this kit would be \$112.35.

**\$10200**

## DUR-MICA KIT #11



Purchased individually the total list price value of the capacitors contained in this kit would be \$310.00.

**\$26500**

This handy kit consists of five of each DM-15 capacity as listed. All are 500VDCW and  $\pm 5\%$  tolerance... packed in individual transparent plastic snap boxes, properly identified for ease of handling.

This kit contains five each of 72 DUR-MICA DM-15, DM-19, DM-20 and DM-30 capacitor values, all 500VDCW and  $\pm 5\%$  tolerance or  $\pm 0.5$  PF., whichever is greater. Packed in individual transparent plastic snap boxes, properly identified for ease of handling.

### CONTENTS:

- 28 Sequential EIA Values DM-15-2 thru 150 PF.
- 13 Sequential EIA Values DM-19-160 thru 620 PF.
- 20 Sequential EIA Values DM-20-680 thru 4300 PF.
- 9 Sequential EIA Values DM-30-4700 thru 10000 PF.

CAP. MMF.	TYPE DESIGNATION	CAP. MMF.	TYPE DESIGNATION	CAP. MMF.	TYPE DESIGNATION
1	DM-15-010†	56	DM-15-560	360	DM-15-361
2	DM-15-020†	62	DM-15-620	390	DM-15-391
3	DM-15-030†	68	DM-15-680	430	DM-15-431
5	DM-15-050†	75	DM-15-750	470	DM-15-471
10	DM-15-100	82	DM-15-820	500	DM-15-501
12	DM-15-120	91	DM-15-910	510	DM-15-511
15	DM-15-150	100	DM-15-101	560*	DM-15-561
18	DM-15-180	110	DM-15-111	620*	DM-15-621
20	DM-15-200	120	DM-15-121	680*	DM-15-681
22	DM-15-220	130	DM-15-131	750*	DM-15-751
				820*	DM-15-821
24	DM-15-240	150	DM-15-151		
27	DM-15-270	160	DM-15-161		
30	DM-15-300	180	DM-15-181		
33	DM-15-330	200	DM-15-201		
36	DM-15-360	220	DM-15-221		
39	DM-15-390	240	DM-15-241		
43	DM-15-430	250	DM-15-251		
47	DM-15-470	270	DM-15-271		
50	DM-15-500	300	DM-15-301		
51	DM-15-510	330	DM-15-331		

\* All capacitors marked with \* are 300WV.

† Minimum tolerance  $\pm 0.5$  mmf.

# ELMENCO CAPACITORS

# INDUSTRIAL KITS



The total list price for all units included in the kit is \$198.00. Yet you may have this complete kit for only

**SPECIAL KIT LIST PRICE**  
**\$165.00**

## TYPE 46 TRIMMER KIT #5

This Kit contains 24 of each Trimmer listed below

**TYPE 46W**

PART NUMBER	NUMBER OF PLATES
460	1 1/4 Pl.
461	1 3/4 Pl.
462	2 Pl.
463	3 Pl.
464	4 Pl.
465	5 Pl.
466	6 Pl.
467	7 Pl.
468	8 Pl.
469	9 Pl.

**GUARANTEED RANGE**

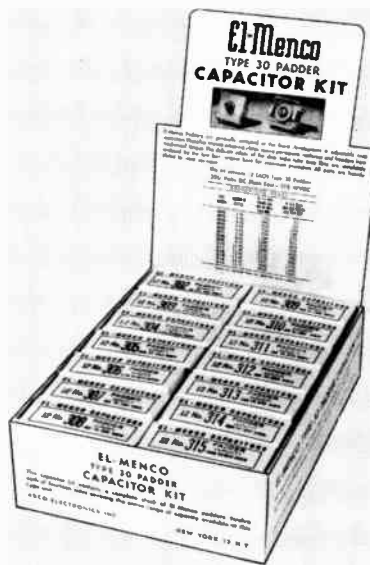
At Tight Cap. Will Be More Than MMF.	At 3 Turns Open Cap. Will Be Less Than MMF.
15	1.5
30	2.7
80	5
180	9
280	25
380	50
480	80
580	110
680	140
780	170

## TYPE 30 PADDER KIT TYPE #6

This Kit contains 12 each of Padders listed below

The total list price for all units included in the kit is \$296.40. Yet you may have this complete kit for only

**SPECIAL KIT LIST PRICE**  
**\$260.00**



## TYPE 30M PADDER KIT TYPE #6M

This Kit contains 12 each of Padders listed below

The total list price for all units included in the kit is \$317.20. Yet you may have this complete kit for only

**SPECIAL KIT LIST PRICE**  
**\$280.00**

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE	
		At 1 1/4 Inch Pounds Cap. Will Be More Than MMF.	At 3 Turns Open Cap. Will Be Less Than MMF.
302	2 Pl.	130	15
303	3 Pl.	340	65
304	4 Pl.	550	100
305	5 Pl.	760	190
306	6 Pl.	970	275
307	7 Pl.	1180	350
308	8 Pl.	1390	450
309	9 Pl.	1600	550
310	10 Pl.	1890	650
311	11 Pl.	2110	780
312	12 Pl.	2330	880
313	13 Pl.	2605	1150
314	14 Pl.	2830	1300
315	15 Pl.	3055	1400

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE	
		At 1 1/4 Inch Pounds Cap. Will Be More Than MMF.	At 3 Turns Open Cap. Will Be Less Than MMF.
302-M	2 Pl.	120	15
303-M	3 Pl.	320	65
304-M	4 Pl.	500	100
305-M	5 Pl.	690	180
306-M	6 Pl.	880	265
307-M	7 Pl.	1070	340
308-M	8 Pl.	1260	425
309-M	9 Pl.	1415	525
310-M	10 Pl.	1600	615
311-M	11 Pl.	1785	730
312-M	12 Pl.	1970	800
313-M	13 Pl.	2155	1000
314-M	14 Pl.	2340	1100
315-M	15 Pl.	2525	1200

A complete stock of trimmers and padders is provided in these compact, easily handled, and readily accessible kits. Always have a full line of Elmenco trimmers and padders available for immediate use.



# GUIDE TO THE SELECTION OF CAPACITORS

You will find this chart useful to identify the type of capacitor you need ...

Values and ranges shown are generally typical or average. Actual limits may vary considerably.

Outstanding Characteristic    
  Limiting Characteristic    
  Normal Characteristic

CHARACTERISTIC OF CAPACITOR		DIELECTRICS								
		ELECTROLYTIC Aluminum	TANTALUM FOIL	TANTALUM WET ANODE	TANTALUM Dry Anode	PAPER	MYLAR*	PAPER-MYLAR* (Comb.)	POLY-STYRENE MYLAR* (Comb.)	POLY-STYRENE
CAP.	CAPACITANCE Range—Mfd.	<b>.5—150,000</b>	<b>0.15-500 mfd</b>	<b>1.7-5000</b>	<b>.25—330</b>	<b>.001—200</b>	.01—20	.01—30	.001—1	.01—10
	TOLERANCE Standard %	+50, +100, +150 —10	p/m 20% 15,+30,50,75	p/m 20% 15,+30,50,75	±20	±20	±20	±20	±10	±10
	TOLERANCE Minimum %	±25	p/m 15%	p/m 5%	±5	±2	±1	±2	±1	±1
VOLTS	DC OPERATING	2.5—500	3—300	<b>4-125</b>	6—35	<b>50—200,000</b>	50—1000	100—15,000	50—1000	100—2000
	AC 60 Hz OPERATING	40—320 Intermittent Duty	Limited	Limited	Limited	<b>50—75,000</b>	Limited	Limited	Seldom used	50—350
D.F.	DISSIPATION FACTOR % at 60 Hz	6—35, depending on voltage	120 cps 10-15%	120 cps varies from <1 to 100 depending on C & V	At 120 cps. 10% max.	.2—5	.3	.3	.1	<b>&lt;.1</b>
	% at 1000 Hz	—	—	—	—	.2—5	.5	.5	.2	<b>.02—.05</b>
	% at 1MHz Low Capacitance Values	—	—	—	—	Higher; varies with type	Relatively High	Relatively High	.75	<b>.05—.1</b>
I.R.	INSULATION RESISTANCE Megohm Mfd. at 25°C	Leakage current (ma.) 006 x √CV	<b>Leakage 0.001μa.-0.01μa./mfd./volt</b>	<b>Leakage .00040-.0060μa./mfd./volt</b>	<b>Leakage at 25°C .02 μa/ mfd./volt</b>	3000—20,000	<b>50,000</b>	20,000	<b>&gt;50,000</b>	<b>&gt;100,000</b>
	INSULATION RESISTANCE at 85°C compared to 25°C	Leakage current 4 x 25°C value	<b>2-10 times 25°C value</b>	<b>2-10 times 25°C value</b>	<b>Leakage current 10 x 25°C value</b>	$\frac{1}{100}$	$\frac{1}{25}$	$\frac{1}{40}$	$\frac{1}{20}$	$\frac{1}{15}$
TEMP.	OPERATING RANGE °C	-40 +85	<b>-55 +125</b>	<b>-55 +125</b>	<b>-55 +125</b>	See Chart 1, Page 4	<b>-55 +150</b>	<b>-55 +125</b>	-55 +125	-55 +85
STABILITY	CAPACITANCE CHANGE with Temp. Aging	Relatively Large	5%	10%	Medium ±10	Medium	Medium	Medium	Medium	<b>Small</b>
D.A.	% Dielectric Absorption at 25°C	—	—	—	—	.6—3, depending on impreg.	.5	.9	.3—5	<b>.02—.05</b>
SIZE	Varies as	CV approx.	CV approx.	CV approx.	CV approx.	CV <sup>2</sup>	CV <sup>2</sup>	CV <sup>2</sup>	CV <sup>2</sup>	CV <sup>2</sup>
	For Equivalent CV Rating	<b>Very small</b>	<b>Very small</b>	<b>Very small</b>	<b>Very small</b>	Medium Small	<b>Small</b>	Medium Small	Large	Medium Large
	Per KVA 60 Hz	<b>Small for intermittent duty</b>	<b>Small for intermittent duty</b>	<b>Small for intermittent duty</b>	<b>Small for intermittent duty</b>	<b>Small</b>	Seldom used	Seldom used	Seldom used	Medium Large
	Per KVA 1MHz	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	<b>Small</b>
COST	Relative Cost for Equiv. CV Rating	<b>Very low</b>	Moderate	Moderate	Moderate	<b>Low</b>	Moderately High	Moderately High	Moderately High	Moderately High
	Relative Cost per KVA 60 Hz	<b>Low for intermittent duty</b>	Not used	Not used	Not used	<b>Low</b>	Seldom used	Seldom used	Seldom used	Moderately High
	Relative Cost per KVA 1MHz.	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	<b>Low</b>
MIL. SPECS.	MIL-C-	62	3965	3965	26655	25 & 91	19978	14157	None	19978
	MIL-C-	3871				11693	27287	19978		
	MIL-C-					12889				
● CDE	†CLASS NO.	201.00, 209.00(AC)	208.00	208.00	208.00	204.00, 205.00, 206.00, 210.00, 209.00(AC)	204.00, 205.00, 206.00	204.00, 205.00, 206.00	204.00, 205.00, 206.00	204.00, 205.00, 206.00

\* DU PONT Trademark.  
 † When requesting specific product literature, state (1) column heading and (2) CDE Class No.  
 ● Completely cataloged in CDE's Component Selector, and stocked by CDE's Authorized Distributors.

## FROM CORNELL-DUBILIER ELECTRONICS



Values and ranges shown are generally typical or average. Actual limits may vary considerably.



Outstanding Characteristic



Limiting Characteristic



Normal Characteristic

CHARACTERISTIC OF CAPACITOR	DIELECTRICS									
	TEFLON*	PAPER METALLIZED	METALLIZED MYLAR*	METALLIZED PAPER-MYLAR* (Comb.)	MULTILAYER CERAMICS	General-Purpose CERAMIC	Temperature Compensated CERAMIC	MICA RECEIVING	MICA TRANSMITTING	RECONSTITUTED MICA
CAPACITANCE Range—Mfd.	.01—4	.01—20	.01—20	.01—12	.000005 to 2.5 $\mu$ f	.000001—.02	.000001—.0025	.000001—.1	00001—1.0	.01—4
TOLERANCE Standard %	$\pm$ 10	$\pm$ 20	$\pm$ 20	$\pm$ 20	$\pm$ 5 to GMV	$\pm$ 5 to GMV	$\pm$ 5 to $\pm$ 20	$\pm$ 5	$\pm$ 5	$\pm$ 20
TOLERANCE Minimum %	$\pm$ 2	$\pm$ 5	$\pm$ 2	$\pm$ 5	$\pm$ 5	$\pm$ 5	+ .25 mmf.	$\pm$ 1	$\pm$ 1	$\pm$ 5
DC OPERATING	50—1000	50—600	50—600	200—600	20-200	500—5000	500—5000	50—2500	200—50,000	200—15,000
AC 60 Hz OPERATING	Seldom used	25—250	25—250	Seldom used	Seldom used	Seldom used	Seldom used	Seldom used	RF voltage varies with current & freq.	100—7500
DISSIPATION FACTOR % at 60 Hz	<.1	.4—1.0	2—3	.4—6	Seldom used	—	—	Seldom used	Seldom used	Seldom used
% at 1000 Hz	.02—.05	.6—1.5	.4—5	.6—8	—1—2.5	2—2.5	—	<.1	.04—.07	.5
% at 1MHz Low Capacitance Values	.04—.07	Relatively High	Relatively High	Relatively High	.1% for NPO	—	.05—.2	<.1	.03—.06	.7—9
INSULATION RESISTANCE Megohm Mfd. at 25°C	>100,000	600—1200	5000—50,000	2000	100,000	>30,000 meg./unit	>50,000 meg./unit	20,000—100,000 meg./unit	7,500-10,000 meg./unit	10,000
INSULATION RESISTANCE at 85°C compared to 25°C	$\frac{1}{10}$	$\frac{1}{60}$	$\frac{1}{40}$	$\frac{1}{12}$	1/20-1/60	$\frac{1}{60}$	$\frac{1}{50}$	$\frac{1}{7}$	$\frac{1}{5}$	$\frac{1}{8}$
OPERATING RANGE °C	—55 +250	—55 +125	—55 +125	—55 +125	—55 +125	—55 +125	—55 +125	—55 +150	—55 +75	—55 +200, —55 +315
CAPACITANCE CHANGE with Temp. Aging	Medium	Medium	Medium	Medium	Small	Small to Medium	Small	Very Small; Excellent	Very Small; Excellent	Good
% Dielectric Absorption at 25°C	.02—.05	—	—	—	—	—	—	.3 max.	.3 max.	—
Varies as	CV <sup>2</sup>	CV <sup>2</sup>	CV <sup>2</sup>	CV <sup>2</sup>	CV <sup>2</sup> & K	CV <sup>2</sup> & K	CV <sup>2</sup> & K	CV <sup>2</sup>	CV <sup>2</sup>	CV <sup>2</sup>
For Equivalent CV Rating	Large	Small	Small	Small	Small	Small	Small	Large	Large	Large
Per KVA 60 Hz	Seldom used	Seldom used	Seldom used	Seldom used	—	Not used	Not used	Seldom used	Seldom used	Seldom used
Per KVA 1MHz	Small	Seldom used	Seldom used	Seldom used	—	Not used	Not used	Small	Small	Not used
Relative Cost for Equiv. CV Rating	Very high	Moderately High	Moderately High	Moderately High	Low	Low	Low	High	High	High
Relative Cost per KVA 60 Hz	Seldom used	Not used	Not used	Not used	low	Not used	Not used	Seldom used	Seldom used	High
Relative Cost per KVA 1MHz	Low	Not used	Not used	Not used	Not used	Not used	Not used	Low	Low	Medium
MIL-C-	19978	11693			11015	11015	20	5	5	None
MIL-C-		18312		18312						
MIL-C-										
†CLASS NO.	204.00, 205.00, 206.00	207.00	207.00	207.00	202.00	202.00	202.00	203.00	203.00	203.00, 206.00

\* DU PONT Trademark.

† When requesting specific product literature, state (1) column heading and (2) CDE Class No.

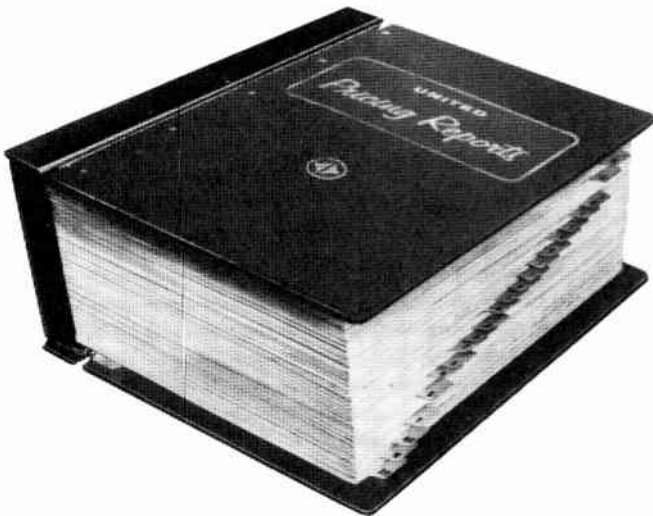
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# DELIVERY

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# CORNING® FIXED GLASS CAPACITORS

For coupling, decoupling, filtering, timing, switching or computer circuits, CORNING Capacitors provide ultra-stable electrical performance. This stability is inherent in their fused glass and aluminum foil capacitive elements. These inorganic materials and continuous process and quality monitoring are responsible for the well-known CORNING CYFR capacitor made for the Minuteman. Many of the basic advantages of the CYFR have found their way into the standard CYFM and TYO units. The properties of these capacitors are entirely those of the closely con-

trolled dielectric, and can't be changed by assembly methods or subsequent treatment. At 1 Kc and 25°C, dissipation factor is less than 0.001; at any given temperature, TC will not deviate from the curve by more than 5 ppm.

Corning manufactures highly stable fixed glass capacitors to meet your demanding circuit requirements. Their performance and economic advantages will add value to your equipment.

	TYPE AND MIL SPEC	MODEL	CAPACITANCE RANGE (pf)	VOLTAGE	NOMINAL DIMENSIONS Size in inches	WEIGHT IN GRAMS
<b>CYFM</b>	Fusion-sealed environment-proof performance at cost savings. Electrically and environmentally interchangeable with CYFR. MIL-C-11272B. 	CYFM10	0.5 to 200 220 to 300	500 300	1 1/32 x 1 1/64 x 5/64	0.25 - 0.50
		CYFM15	220 to 510 560 to 1200	500 300	1 5/32 x 1 7/64 x 7/64	0.75 - 1.25
		CYFM20	560 to 3500 3600 to 5100	500 300	4 7/64 x 2 7/64 x 9/64	2.50 - 4.00
		CYFM30	3600 to 6200 6800 to 10000	500 300	4 9/64 x 3/4 x 9/64	5.00 - 7.00
<b>TYO</b>	New printed circuit capacitor provides glass stability in a uniformly symmetric case. Eliminates shorting. Lead spacing: TYO-6—0.2", TYO-7—0.2", TYO-8—0.4". 	TYO-6	1 to 560	300	.300 x .200 x .115	.3 - .4
		TYO-7	561 to 1000	300	.300 x .300 x .115	.4 - .5
		TYO-8	1001 to 2700	300	.500 x .300 x .115	.7 - .8
<b>GLASS-K</b>	New miniature stable capacitor exhibits high capacitance-to-volume ratio. Offers size advantages of ceramic types, and consistent performance associated with glass dielectrics. 10 and 20% tolerances. Solderable and weldable gold plated dumet leads. 	CYK01	1000 to 51000	50	0.250 x 0.100	0.2
		CYK02	12000 to 100000	50	0.250 x 0.140	0.3

## STANDARD CAPACITOR VALUES, CYFM, TYO\*

CAP. (pf)	MIL EQUIV.	CAP. (pf)	MIL EQUIV.	CAP. (pf)	MIL EQUIV.	CAP. (pf)	MIL EQUIV.	CAP. (pf)	MIL EQUIV.	CAP. (pf)	MIL EQUIV.
0.5†	0R5C	7.5	7R5C	33	330J	130	131J	560	561J	2400	242J
1.0	1R0C	8.2	8R2C	36	360J	150	151J	620	621J	2700	272J
1.5	1R5C	9.1	9R1C	39	390J	160	161J	680	681J	3000	302J
2.2	2R2C	10	100C	43	430J	180	181J	750	751J	3300	332J
2.7	2R7C	11	110C	47	470J	200	201J	820	821J	3600	362J
3.0	3R0C	12	120J*	51	510J	220	221J	910	911J	3900	392J
3.3	3R3C	13	130J	56	560J	240	241J	1000	102J	4300	432J
3.6	3R6C	15	150J	62	620J	270	271J	1100	112J	4700	472J
3.9	3R9C	16	160J	68	680J	300	301J	1200	122J	5100	512J
4.3	4R3C	18	180J	75	750J	330	331J	1300	132J	5600	562J
4.7	4R7C	20	200J	82	820J	360	361J	1500	152J	6200	622J
5.1	5R1C	22	220J	91	910J	390	391J	1600	162J	6800	682J
5.6	5R6C	24	240J	100	101J	430	431J	1800	182J	7500	752J
6.2	6R2C	27	270J	110	111J	470	471J	2000	202J	8200	822J
6.8	6R8C	30	300J	120	121J	510	511J	2200	222J	9100	912J
										10000	103J

\*Standard Tolerances As Shown: C = ± 25 pf J = ± 5%.

\*Other Tolerances Available On Request: D = ± .50 pf F = ± 1% G = ± 2% K = ± 10%

TYO Capacitors now available in 10% and 20% Tolerances

†0.5 pf does not apply to TY capacitors

# CORNING

ELECTRONICS

# FILM CAPACITORS, INC.

## TYPE D6 HI-VOLTAGE TUBULAR CAPACITORS



F-C-1 Type D6 high voltage capacitors are designed to assure reliable operation where space is at a premium. These capacitors utilize a combination of polyester film and high quality capacitor tissue. The impregnation in a highly purified mineral oil provides for extremely high insulation resistance and low power factor. The hermetic steatite housing allows for operation under extreme humidity.

All capacitors are constructed with extended foil windings, and all internal wiring is kept to a minimum. This eliminates most of the series inductance and produces a very high ringing frequency, an extremely desirable condition for energy storage and pulsing capacitors.

**OIL FILLED • MINIMUM SIZE & WEIGHT • EASY MOUNTING • HERMETICALLY SEALED • HIGH RELIABILITY**

CAT. NO.	CAP. MFD.	WORKING VOLTS OC	DIMENSIONS L DIA.	CAT. NO.	CAP. MFD.	WORKING VOLTS DC	DIMENSIONS L DIA.
D6-10-10	.01	1000	1 3/8 x 1 7/32	D6-150-1	.001	15 KV	2 3/8 x 1 1/8
D6-10-20	.02	1000	1 1/2 x 1 7/32	D6-150-2	.002	15 KV	2 3/8 x 3/4
D6-10-50	.05	1000	1 7/8 x 1 7/32	D6-150-5	.005	15 KV	2 3/8 x 7/8
D6-10-100	.10	1000	2 1/8 x 1 7/32	D6-150-10	.01	15 KV	2 3/8 x 1 1/4
D6-10-250	.25	1000	2 3/8 x 7/8	D6-150-20	.02	15 KV	4 5/8 x 1 1/4
D6-10-500	.50	1000	2 3/8 x 1	D6-150-50	.05	15 KV	6 1/2 x 1 1/2
D6-20-2	.002	2000	1 3/8 x 1 7/32	D6-200-05	.0005	20 KV	2 3/8 x 1 1/8
D6-20-5	.005	2000	1 3/8 x 1 7/32	D6-200-1	.001	20 KV	2 3/8 x 7/8
D6-20-10	.01	2000	1 3/8 x 1 7/32	D6-200-2	.002	20 KV	2 3/8 x 7/8
D6-20-20	.02	2000	1 3/8 x 1 7/32	D6-200-5	.005	20 KV	2 3/8 x 1 1/4
D6-20-50	.05	2000	1 3/8 x 1 1/8	D6-200-10	.01	20 KV	4 5/8 x 1 3/8
D6-20-100	.10	2000	2 3/8 x 1 1/8	D6-200-20	.02	20 KV	4 5/8 x 1 1/2
D6-20-250	.25	2000	2 3/8 x 1	D6-200-50	.05	20 KV	11 1/2 x 1 1/2
D6-20-500	.50	2000	2 3/8 x 1 1/4				
D6-30-2	.002	3000	1 3/8 x 1 7/32	D6-300-02	.0002	30 KV	4 5/8 x 1 7/32
D6-30-5	.005	3000	1 3/8 x 1 7/32	D6-300-05	.0005	30 KV	4 5/8 x 1 7/32
D6-30-10	.01	3000	1 3/8 x 1 7/32	D6-300-1	.001	30 KV	5 x 3/4
D6-30-20	.02	3000	1 3/8 x 1 1/8	D6-300-2	.002	30 KV	5 x 3/4
D6-30-50	.05	3000	2 3/8 x 1 1/8	D6-300-5	.005	30 KV	4 5/8 x 1 1/4
D6-30-100	.10	3000	2 3/8 x 7/8	D6-300-10	.01	30 KV	6 5/8 x 1 1/2
D6-30-250	.25	3000	2 3/8 x 1 1/4				
D6-30-500	.50	3000	2 3/4 x 1 3/8				
D6-50-5	.005	5 KV	1 3/8 x 1 1/8	D6-400-01	.0001	40 KV	5 3/4 x 1 1/8
D6-50-10	.01	5 KV	1 3/8 x 1 1/8	D6-400-02	.0002	40 KV	5 3/4 x 1 1/8
D6-50-20	.02	5 KV	2 3/8 x 3/4	D6-400-05	.0005	40 KV	5 3/4 x 1 1/4
D6-50-50	.05	5 KV	2 3/8 x 7/8	D6-400-1	.001	40 KV	6 1/2 x 3/4
D6-50-100	.10	5 KV	2 3/8 x 1 1/4	D6-400-2	.002	40 KV	6 1/2 x 1
D6-50-250	.25	5 KV	3 x 1 1/2	D6-400-5	.005	40 KV	6 1/2 x 1 1/2
				D6-400-6	.006	40 KV	8 x 1 1/2
				D6-400-10	.01	40 KV	10 3/4 x 1 3/8
D6-75-1	.001	7 1/2 KV	1 3/8 x 1 7/32	D6-500-01	.0001	50 KV	8 1/4 x 1 1/8
D6-75-2	.002	7 1/2 KV	1 3/8 x 1 7/32	D6-500-02	.0002	50 KV	8 1/4 x 1 1/8
D6-75-5	.005	7 1/2 KV	1 3/8 x 7/8	D6-500-05	.0005	50 KV	8 1/4 x 1 1/8
D6-75-10	.01	7 1/2 KV	2 3/8 x 3/4	D6-500-1	.001	50 KV	8 1/4 x 3/4
D6-75-20	.02	7 1/2 KV	2 3/8 x 7/8	D6-500-2	.002	50 KV	8 1/4 x 1 1/8
D6-75-50	.05	7 1/2 KV	2 3/8 x 1 1/4	D6-500-5	.005	50 KV	10 3/4 x 1 3/8
D6-75-100	.10	7 1/2 KV	3 x 1 1/2	D6-500-6	.006	50 KV	10 3/4 x 1 3/8
D6-100-1	.001	10 KV	1 3/8 x 1 1/8	D6-600-01	.0001	60 KV	10 x 3/4
D6-100-2	.002	10 KV	1 3/8 x 1 1/8	D6-600-02	.0002	60 KV	10 x 3/4
D6-100-5	.005	10 KV	2 3/8 x 1 1/8	D6-600-05	.0005	60 KV	10 x 3/4
D6-100-10	.01	10 KV	2 3/8 x 7/8	D6-600-1	.001	60 KV	10 x 7/8
D6-100-20	.02	10 KV	2 3/8 x 1	D6-600-2	.002	60 KV	10 3/4 x 1 3/8
D6-100-50	.05	10 KV	2 3/8 x 1 1/2	D6-600-5	.005	60 KV	11 1/2 x 1 1/2
D6-100-60	.06	10 KV	3 x 1 1/2				
D6-100-100	.10	10 KV	4 5/8 x 1 1/2				

Note: Unless otherwise specified 2 1/2" wire leads will be furnished on the 1/32 x 1 3/8 size.

## TYPE ME HERMETICALLY SEALED METALLIZED POLYCARBONATE\* CAPACITORS. Designed for miniaturization and high reliability.

Type "ME" metallized polycarbonate capacitors by F-C-1, are characterized by their electrical properties approaching that of polystyrene and far exceeding those of mylar. These totally unique properties, coupled with a wide operating temperature range of -55°C to +125°C, open up complete new areas of application that previously were restricted to either a much lesser performing mylar capacitor or a very large and expensive teflon capacitor.

In addition to Type "ME" capacitors having a low temperature coefficient and superior low loss characteristics, they are further enhanced with a self-healing dielectric that totally recovers to its original operational state, after having been subjected to overloading conditions.



50 WVDC			200 WVDC			400 WVDC			600 WVDC		
Cap. D	X	L	Cap. D	X	L	Cap. D	X	L	Cap. D	X	L
.01	.175	5/8	.01	.175	3/4	.01	.235	7/8	.01	.312	7/8
.022	.175	3/4	.022	.235	3/4	.015	.235	7/8	.015	.400	7/8
.033	.175	3/4	.033	.235	3/4	.022	.312	7/8	.018	.400	7/8
.047	.235	3/4	.047	.235	7/8	.033	.400	7/8	.022	.400	7/8
.068	.235	3/4	.056	.235	7/8	.039	.400	7/8	.027	.400	1.000
.1	.235	7/8	.068	.235	7/8	.047	.400	7/8	.033	.500	1.000
.15	.235	7/8	.1	.312	7/8	.056	.400	7/8	.039	.500	1.000
.22	.312	7/8	.15	.400	7/8	.068	.400	1.000	.047	.500	1.000
.33	.312	7/8	.22	.400	7/8	.1	.500	1.000	.056	.500	1 3/8
.47	.400	7/8	.33	.400	1.000	.15	.562	1.000	.068	.500	1 3/8
1.0	.500	1.000	.47	.500	1.000	.22	.500	1 3/8	.082	.562	1 3/8
4.0	.562	1 1/8	.56	.500	1 3/8	.33	.562	1 7/8	.1	.562	1 7/8
5.0	.670	1 7/8	1.0	.562	1 3/8	.39	.562	1 7/8	.15	.562	1 7/8
6.0	.670	1 7/8	2.2	.670	1 7/8	.47	.670	1 7/8	.22	.670	1 7/8
7.0	.750	1 7/8	4.0	1.000	1 7/8	.56	.670	1 7/8	.27	.670	1 7/8
8.0	.750	1 7/8	5.0	1.000	1 7/8	.68	.750	1 7/8	.33	.750	1 7/8
9.0	1.000	1 7/8	6.0	1.000	1 7/8	1.0	1.000	1 7/8	.47	1.000	1 7/8
10.0	1.000	1 7/8	7.0	1.000	2 1/4	1.5	1.000	1 7/8	.56	1.000	1 7/8
12.0	1.000	1 7/8	8.0	1.000	2 1/4	1.8	1.000	2 1/4	.68	1.000	2 1/4
15.0	1.000	1 7/8	9.0	1.000	2 3/8	2.2	1.000	2 3/8	.82	1.000	2 3/8

SEND FOR COMPLETE FILM CAPACITORS CATALOG

# FILM CAPACITORS, INC.

## CAPACITOR APPLICATION CHART

Dielectric	Case Style	Case Description	Voltage Range	Cap. Range	Cap. Tolerance	Application
POLYSTYRENE	A2	CP70	50 VDC to 600 VDC	Standard .01 MFD to 20. MFD Others Available	Standard $\pm 5\%$ Available to .1%	Computers, Filters, Servo Systems, Timing Circuits, Laboratory Standards, Integrating Circuits, RC Networks, Precision Circuitry.
	A3	Bathtub				
	A4	Metal Tube				
	MWA	Wrapped Flat	1000 VDC Available	.01 MFD to 1.0 MFD	Standard $\pm 20\%$ Available to 1%	
	MWAR	Wrapped Round				
	A3V	Bathtub	50 VDC to 600 VDC	.01 MF to 1.0 MF	Adjustable $-1.5$ to $+1.5\%$	
TEFLON	C2	CP70	200 VDC	.0015 MFD	Standard $\pm 10\%$ Available to .25%	Same as Polystyrene Plus High Temperature Operation.
	C3	Bathtub	to	to		
	C4	Metal Tube	600 VDC	5.0 MFD		
MYLAR	D2	CP70	200 VDC	Standard	Standard $\pm 20\%$  Available to 0.25%	D.C. Filters, Coupling, By Pass.
	D3	Bathtub	to	.001 MFD		
	D4	Metal Tube	600 VDC	100. MFD		
	MWD	Wrapped Flat	1000 VDC Available	Others Available		
	MWDR	Wrapped Round				
	PM	Plastic Tube				
Metallized MYLAR	MD2	CP70	100 VDC to 600 VDC	.01 MFD to 50 MFD	Standard $\pm 20\%$ Available to 0.5%	Same as Plain Mylar Plus the Advantage of Space Saving and Self-Healing Characteristics.
	MD3	Bathtub				
	MD4	Metal Tube				
	MDW	Wrapped Flat	200 VDC to 600 VDC	.01 MFD to 10. MFD	Standard $\pm 20\%$ Available to 1%	
	MDWR	Wrapped Round				
POLY CARBONATE	E2	CP70	50 VDC	.01 MFD	Standard $\pm 10\%$ Available to 0.1%	Same as Polystyrene With Temperature Operation up to $+125^{\circ}\text{C}$ . Because of Low Dissipation Factor, Ideal for AC Applications.
	E3	Bathtub	to	to		
	E4	Metal Tube	600 VDC	20. MFD		
Metallized POLY CARBONATE	ME3	Bathtub	50 VDC	.01 MFD	Standard $\pm 20\%$	Same as Plain Polycarbonate Plus the Advantage of Space Saving and Self-Healing.
	ME4	Metal Tube	to 600 VDC	to 10. MFD		
KRAFT plus MYLAR	KM2	CP70	400 VDC to 12.5 KVDC	.1 to 15 MFD	$\pm 10\%$	High Voltage Power Supplies, X-Ray Equipment, Energy Storage, Laser, Pulse Forming Networks, Low Loss, High Current Low Cost H.V. for Filters, etc.
	KMH2	CP70	400 VDC to 12.5 KVDC	.1 to 15 MFD	$\pm 10\%$	
	D6	Ceramic Tube	1 KVDC to 60 KVDC	.0005 MFD to .5 MFD	$\pm 20\%$	
	KM7	Phenolic Tube	40 KVDC to 150 KVDC	.0005 MFD to .1 MFD	$\pm 20\%$	
	PMK	Plastic Tube	200 VDC to 600 VDC	.001 MFD to 1.5 MFD	$\pm 10$ & $\pm 20\%$	
	KM9	Plastic Tube	2500 VDC to 15,000 VDC	.001 MFD to .5 MFD	Standard $\pm 20\%$	
POLYOLEFIN	B6	Ceramic Tube	500 VRMS to 4000 VRMS	.00005 MFD to .1 MFD	$\pm 10\%$	Despiking Networks, Tank Circuits, Hi Frequency (Megacycle Range) Excellent for A.C. High Current.
ACETATE	F2	CP70	600 VDC to 12.5 KVDC	.1 MFD to 15 MFD	$\pm 20\%$	Economy High Volt D.C. Filters, Coupling By-Pass, etc.
Metallized PAPER	MK7	Plastic Tube	100 VDC to 600 VDC	.1 MFD to 15.0 MFD	$\pm 20\%$	Same as Paper Capacitors Plus the Advantage of Space Saving and Self-Healing.

SEND FOR COMPLETE FILM CAPACITORS CATALOG



# SERVICE-DESIGNED CAPACITORS

## HOW TO SELECT THE RIGHT REPLACEMENT

It is easy to select the right GE replacement for any aluminum electrolytic capacitor used in the past ten years.

**IF YOU KNOW RATING ONLY:** Refer to correct type of capacitor and locate the GE capacitor with desired characteristics. For example if you need single-section tubular with capacitance of 55 mfd at 450 V, refer to QT TUBULAR ELECTROLYTICS, Single-Section. Look for the capacitance range in which 55 mfd falls (QT1-17: 40-60 mfd; QT1-18: 50-60 mfd; QT1-19: 50-60 mfd). The rating in bold-face type (60 mfd in the above rating) is the absolute or maximum rating. Check voltage required. Since QT1-19 is the only one rated for 450V, it is the correct replacement.

If rating needed were 55 mfd at 250 volts you could correctly use either QT1-18 (up to 350V) or QT1-19 (up to 450V), since GE capacitors will work properly at any voltage up to their maximum rating. You would then choose between QT1-18

and QT1-19 on the basis of the size (1/4" difference in length) or price and probably choose QT1-18.

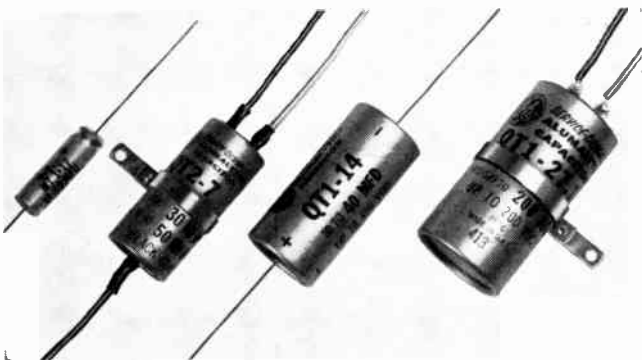
**TO SELECT MULTI-SECTION UNITS** (either tubular or can-type,) follow this same process for each section. Here's a quick way to do it:

1. List values of original capacitor sections in ascending order of value.
2. Match values with their voltage ratings.
3. Find GE units that most closely match capacitance values starting from the lowest value. Use next higher value if first unit value does not match exactly.
4. Be sure that GE voltage ratings equal or exceed original voltage ratings. Proper replacement will usually fall within two or three catalog numbers of the first unit checked.

### EXPLANATION OF RATINGS

Cat. No.	Capacitance, Mfd	Voltage
<b>SINGLE-SECTION</b> QT1-19 (Single-section tubular)	<b>50-60</b> (a 60 mfd unit that can be used at any capacitance between 50 and 60 mfd; 50, 55 or 60 mfd)	(a 450V unit that can be used for any voltage up to and including 450V: 450, 350, 250, 175, 150 or 50 volts)
<b>MULTI-SECTION</b> XC4-16 (Quad-section can)	<b>8-8-50-50</b> <b>10-10-60-100</b> (The two 10 mfd units can be used at any capacitance between 8 and 10 mfd; the 60 mfd between 50 and 60; the 100 mfd between 50 and 100)	<b>450-450-200-50</b> (the two 450V units can be used for any voltage up to and including 450V; the 200V and the 50V units can also be used for any voltage up to and including 200V and 50V respectively)

## QT TUBULAR ELECTROLYTICS



- Designed for 85°C operation in voltages to 600 WVDC.
- Long shelf and operating life.
- Superior capacitance, resistance and leakage current characteristics.
- Hermetically sealed in aluminum cans — with insulating sleeve.
- Insulated leads on multiple section units.

### SINGLE-SECTION TUBULARS

Cat. No.	Capacitance, Mfd	Voltage	Size*	List Price
QT1-1	<b>2</b>	Up to 450V	1/2 x 1 3/8	\$1.15
QT1-2	<b>3-4</b>	Up to 300V	1/2 x 1 3/8	1.25
QT1-2.1	<b>3-4</b>	Up to 450V	3/8 x 1 5/8	1.15
QT1-3	<b>3-5</b>	Up to 150V	1/2 x 1 3/8	1.00
QT1-4	<b>5-8</b>	Up to 450V	5/8 x 1 5/8	1.25
QT1-5	<b>8-10</b>	Up to 150V	1/2 x 1 3/8	1.05
QT1-6	<b>8-10</b>	Up to 450V	3/4 x 1 5/8	1.30
QT1-6.1	<b>8-10</b>	Up to 500V	7/8 x 1 1/2	1.35
QT1-7	<b>8-10</b>	Up to 600V	1 x 2 1/4	2.25
QT1-8	<b>12-16</b>	Up to 450V	7/8 x 1 5/8	1.40
QT1-8.1	<b>12-20</b>	Up to 150V	3/8 x 1 1/4	1.20
QT1-9	<b>16-20</b>	Up to 350V	7/8 x 1 5/8	1.45
QT1-10	<b>15-20</b>	Up to 475V	7/8 x 1 5/8	1.60
QT1-10.1	<b>15-20</b>	Up to 500V	1 x 2 3/8	1.60
QT1-10.2	<b>15-20</b>	Up to 500V	1 x 3 1/2	3.55
QT1-11	<b>16-25</b>	Up to 50V	3/8 x 1 5/8	1.05
QT1-12	<b>25-30</b>	Up to 450V	1 x 1 1/4	1.70
QT1-13	<b>30-40</b>	Up to 150V	3/4 x 1 5/8	1.35
QT1-14	<b>30-40</b>	Up to 450V	1 x 2 1/8	1.80
QT1-14.1	<b>30-40</b>	Up to 600V	1 x 2 1/4	2.25
QT1-15	<b>25-50</b>	Up to 50V	5/8 x 1 5/8	1.20
QT1-16	<b>40-50</b>	Up to 450V	1 x 2 3/8	2.10
QT1-17	<b>40-60</b>	Up to 150V	7/8 x 1 5/8	1.50
QT1-18	<b>50-60</b>	Up to 350V	1 x 2 3/8	1.95
QT1-19	<b>50-60</b>	Up to 450V	1 x 2 3/8	2.35
QT1-20	<b>60-80</b>	Up to 150V	1 x 1 5/8	1.60
QT1-21	<b>60-80</b>	Up to 450V	1 x 3 1/8	2.80
QT1-22	<b>50-100</b>	Up to 15V	3/8 x 1 3/8	1.25

Cat. No.	Capacitance, Mfd	Voltage	Size*	List Price
QT1-23	<b>50-100</b>	Up to 50V	3/4 x 1 5/8	\$1.40
QT1-24	<b>80-100</b>	Up to 450V	1 1/4 x 2 1/8	3.20
QT1-24.1†	<b>75-140</b>	Up to 300V	1 1/4 x 2 3/8	3.15
QT1-25	<b>100-150</b>	Up to 150V	1 x 2 1/8	1.90
QT1-26	<b>100-150</b>	Up to 300V	1 1/4 x 2 3/8	3.15
QT1-27	<b>150-200</b>	Up to 200V	1 1/4 x 2 3/8	2.90
QT1-27.1†	<b>110-200</b>	Up to 200V	1 1/4 x 2 3/8	2.90
QT1-28	<b>150-250</b>	Up to 25V	3/4 x 1 5/8	1.70
QT1-29	<b>200-300</b>	Up to 150V	1 x 3 5/8	2.55
QT1-30	<b>250-500</b>	Up to 15V	3/4 x 1 1/4	1.75
QT1-31	<b>250-500</b>	Up to 50V	1 x 2 3/8	2.40
QT1-32	<b>500-1000</b>	Up to 15V	1 x 1 1/4	2.30
QT1-33	<b>1500-2000</b>	Up to 15V	1 x 2 1/4	3.20

\* Add 3/32" to diameter and 1/16" to length to allow for insulating sleeve.

† Single ended with 5" insulated leads and mounting bracket.

### DUAL-SECTION TUBULARS§

Cat. No.	Capacitance, Mfd	Voltage	Size*	List Price
QT2-1	<b>4-150-5-200</b>	150-150	1 x 2 7/8	\$2.65
QT2-1.2	<b>3-100-5-200</b>	250-250	1 3/8 x 2 3/8	4.40
QT2-2	<b>5-5-8-8</b>	450-450	7/8 x 1 7/8	1.70
QT2-3	<b>8-8-10-10</b>	450-450	7/8 x 1 7/8	1.85

\* Add 3/32" to diameter and 1/16" to length to allow for insulating sleeve.

§ All designs have mounting bracket and insulated leads.

## QT TUBULAR ELECTROLYTICS (cont'd)



## Dual-Section Tubulars § (cont'd)

Cat. No.	Capacitance, Mfd	Voltage	Size*	List Price
QT2-3.1	7-14-10-20	450-450	7/8 x 1 1/16	\$2.25
QT2-4	8-30-10-40	350-350	7/8 x 2 5/8	2.35
QT2-5	16-16-20-20	150-150	7/8 x 1 5/8	1.65
QT2-6	16-16-20-20	450-450	7/8 x 2 5/8	2.50
QT2-6.1‡	14-14-20-20	450-450	1 x 3 1/2	3.70
QT2-6.2	10-75-20-150	150-150	1 x 2 3/8	3.05
QT2-7	20-40-30-50	150-150	7/8 x 1 7/8	1.95
QT2-8	30-30-40-40	450-450	1 x 3 3/8	3.40
QT2-9	40-40-50-50	150-150	7/8 x 1 7/8	2.10
QT2-10	40-60-50-80	150-150	7/8 x 2 5/8	2.35
QT2-10.1	40-70-80-125	250-250	1 x 3 3/8	4.30
QT2-10.2	50-75-100-125	300-350	1 3/8 x 2 1/16	6.40
QT2-11‡	60-60-120-120	150-150	1 1/4 x 3 3/4	3.45

## TRIPLE-SECTION TUBULARS §

Cat. No.	Capacitance, Mfd	Voltage	Size*	List Price
QT3-0.1	2-30-30 4-60-60	350-350-350	1 x 3 3/8	\$5.20
QT3-0.2	3-70-100 5-150-200	350-350-200	1 3/8 x 3 1/16	6.70
QT3-1	8-8-8- 10-10-10	450-450-450	1 x 1 5/8	2.80
QT3-1.1	7-7-75 10-10-150	450-450-150	1 x 1 1/16	3.85
QT3-1.2	5-100-125 10-200-250	150-150-150	1 3/8 x 2 1/16	4.50
QT3-2	16-16-16 20-20-20	450-450-450	1 x 2 7/8	3.80
QT3-2.1	10-10-10 20-20-20	150-150-150	1 x 1 1/16	2.80
QT3-3	16-25-30 20-30-40	150-150-150	1 x 1 7/8	2.65
QT3-4	16-25-50 20-30-60	150-150-150	1 x 2 3/8	2.60
QT3-5	16-30-30 20-40-40	150-150-150	1 x 1 7/8	2.70
QT3-5.1	10-30-30 20-40-40	350-450-450	1 x 3 1/16	5.40
QT3-6	16-30-60 20-40-80	150-150-150	1 x 2 3/8	2.90
QT3-7	16-40-40 20-50-50	150-150-150	1 x 2 3/8	2.70
QT3-7.1	25-40-50 50-80-100	150-150-150	1 x 2 3/8	3.60
QT3-8	30-30-30 50-50-50	150-150-150	1 x 2 3/8	3.15
QT3-9	25-30-125 50-60-250	150-150-25	1 x 2 3/8	3.65
QT3-10	25-60-125 50-120-250	25-150-150	1 3/8 x 2 3/8	4.35
QT3-11	30-50-60 60-100-120	300-300-300	1 3/8 x 2 1/16	6.50
QT3-12	35-50-70 70-75-100	25-400-400	1 3/8 x 3 3/8	6.40
QT3-13	75-75-75 150-150-150	150-150-150	1 3/8 x 2 1/16	5.05

\* Add 3/32" to diameter and 1/16" to length to all for insulating sleeve.

‡ Separate sections.

§ All designs have mounting bracket and insulated leads.

¶ Replacement for antenna rotator capacitors.

## QUAD-SECTION TUBULARS

Cat. No.	Capacitance, Mfd	Voltage	Size*	List Price
QT4-1	4-20-100-150 5-30-140-200	300-200-350-200	1 3/8 x 3 5/8	\$6.85
QT4-1.1	7-15-15-15 10-20-20-20	450-450-450-450	1 3/8 x 1 1/16	5.25
QT4-2	8-30-30-60 10-40-40-80	450-250-250-300	1 3/8 x 2 5/8	4.95
QT4-2.1	7-20-40-50 10-40-80-100	450-300-400-300	1 3/8 x 3 1/16	6.90
QT4-3	16-16-30-30 20-20-40-40	450-450-450-450	1 3/8 x 3 1/8	5.45
QT4-4	16-20-30-40 20-30-40-50	25-150-150-150	1 3/8 x 2	5.50
QT4-5	15-50-50-50 20-100-100-100	400-200-50-300	1 3/8 x 3 1/16	6.80
QT4-6	15-20-50-100 20-40-100-200	150-150-150-150	1 3/8 x 2 1/16	4.85

## NONPOLARIZED TUBULARS

Cat. No.	Capacitance, Mfd	Voltage	Size*	List Price
NPQT-1	3-5	30	1/2 x 1 3/8	\$1.50
NPQT-2	4-5	350	3/4 x 1 5/8	1.70
NPQT-3	8-10	400	1 x 1 5/8	2.00
NPQT-4	15-20	350	1 x 1 5/8	2.50
NPQT-5	15-20	30	5/8 x 1 5/8	1.55
NPQT-5.1¶	66.5-90	50	7/8 x 2 7/8	1.50
NPQT-5.2¶	100-120	50	1 x 2 7/8	2.00
NPQT-5.3¶	210-290	50	1 x 3 5/8	2.75
NPQT-6	250-500	10	1 3/8 x 1 5/8	2.00
NPQT-7	500-1000	3	1 3/8 x 1 5/8	2.10

## MT1 MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS IN ALUMINUM CASES

Cat. No.	Capacitance, Mfd	Voltage	Size*	List Price
MT1-1	1-2	50	3/16 x 1/2	\$1.35
MT1-2	1-2	150	3/16 x 5/8	1.45
MT1-3	3-5	50	1/4 x 1/2	1.45
MT1-4	3-5	150	3/8 x 5/8	1.55
MT1-5	6-10	25	1/4 x 5/8	1.45
MT1-6	6-10	50	3/16 x 5/8	1.50
MT1-7	6-10	100	3/8 x 7/8	1.55
MT1-8	6-10	150	3/8 x 1	1.60
MT1-9	12-20	100	3/8 x 1 1/2	1.60
MT1-10	15-25	15	3/16 x 5/8	1.45
MT1-11	15-25	25	3/8 x 5/8	1.55
MT1-12	15-25	50	3/8 x 3/4	1.60
MT1-13	20-35	6	3/16 x 5/8	1.40
MT1-14	20-25	50	3/8 x 7/8	1.70
MT1-15	25-50	6	3/16 x 3/4	1.40
MT1-16	25-50	15	3/8 x 5/8	1.60
MT1-17	25-50	50	3/8 x 1 1/4	1.85
MT1-18	50-100	6	3/8 x 3/4	1.50
MT1-19	50-100	15	3/8 x 7/8	1.80
MT1-20	50-100	25	3/8 x 1 1/2	1.80
MT1-21	75-150	6	3/8 x 7/8	1.55
MT1-22	100-200	3	3/8 x 7/8	1.50
MT1-23	100-200	15	3/8 x 1 1/2	2.10
MT1-24	150-300	6	3/8 x 1	1.80
MT1-25	125-250	12	3/8 x 1 1/2	2.10
MT1-26	250-500	3	3/8 x 1 1/2	1.75

For explanation of ratings, see first page of GE capacitors

All prices are subject to change without notice.

GENERAL ELECTRIC



SECTION 1500

# SERVICE-DESIGNED CAPACITORS

## XC TWIST-PRONG ELECTROLYTICS



- For 85°C operation.
- Withstands high surge voltages.
- Ideal for high ripple Selenium Rectifier Circuits.

• Furnished complete with Phenolic Mounting Plate.

### SINGLE-SECTION CANS

Cat. No.	Capacitance, Mfd	Voltage	Size	List Price
XC1-1	7-10	Up to 500V	1 x 2	\$1.70
XC1-2	15-20	Up to 500V	1 x 2	1.85
XC1-3	30-40	Up to 500V	1 x 2 1/2	2.50
XC1-4	25-50	Up to 150V	1 x 2	1.65
XC1-5	30-50	Up to 350V	1 x 2	2.10
XC1-6	35-50	Up to 450V	1 x 2 1/2	2.35
XC1-7	50-80	Up to 350V	1 3/8 x 2	2.85
XC1-8	60-80	Up to 450V	1 3/8 x 2 1/2	3.05
XC1-9	60-80	Up to 500V	1 3/8 x 2 1/2	3.35
XC1-9.1	60-90	Up to 500V	1 3/8 x 3	3.50
XC1-10	60-100	Up to 150V	1 x 2	2.00
XC1-11	60-100	Up to 300V	1 x 3	2.90
XC1-12	60-100	Up to 300V	1 3/8 x 2	2.90
XC1-13	70-100	Up to 450V	1 3/8 x 2 1/2	3.45
XC1-14	70-125	Up to 200V	1 x 3	2.50
XC1-15	100-125	Up to 450V	1 3/8 x 3	3.85
XC1-16	80-140	Up to 150V	1 x 2 1/2	2.15
XC1-16.1*	80-150	Up to 150V	1 x 2 1/2	2.20
XC1-17	100-150	Up to 150V	1 3/8 x 2	2.15
XC1-18	100-150	Up to 350V	1 3/8 x 3 1/2	3.60
XC1-19	100-160	Up to 250V	1 3/8 x 2 1/2	3.40
XC1-19.1	100-160	Up to 200V	1 x 3	3.15
XC1-19.2	88-160	Up to 250V	1 x 4	3.10
XC1-20	120-200	Up to 150V	1 x 3	2.70
XC1-21	110-200	Up to 300V	1 3/8 x 2 1/2	4.05
XC1-22	200-300	Up to 150V	1 3/8 x 2 1/2	2.80
XC1-23	250-300	Up to 350V	1 3/8 x 4	5.55
XC1-24	250-500	Up to 25V	1 x 2	2.40
XC1-25	250-500	Up to 50V	1 3/8 x 2	2.65
XC1-25.1	250-500	Up to 50V	1 x 2 1/2	2.65
XC1-25.2	250-500	Up to 200V	1 3/8 x 3 1/2	3.65
XC1-26	500-1000	Up to 16V	1 x 2	2.55
XC1-26.1	500-1000	Up to 50V	1 3/8 x 2	3.75
XC1-27	750-1500	Up to 50V	1 3/8 x 3	4.40
XC1-28	1000-2000	Up to 16V	1 3/8 x 2	3.45
XC1-29	1500-3000	Up to 16V	1 3/8 x 2 1/2	4.25
XC1-30	2000-4000	Up to 15V	1 3/8 x 3	4.25

### DUAL-SECTION CANS

Cat. No.	Capacitance, Mfd	Voltage	Size	List Price
XC2-1	3-60 4-80	350V-450V	1 x 3 1/2	\$3.40
XC2-1.1	60-1 80-2	450V-350V	1 3/8 x 2 1/2	3.35
XC2-2	4-4 5-5	450V-450V	1 x 2	1.90
XC2-3	4-15 5-20	350V-350V	1 x 2	2.05
XC2-4	4-120 5-200	200V-200V	1 3/8 x 2 1/2	2.80
XC2-5	8-8 10-10	500V-500V	1 x 2	2.00
XC2-6	8-16 10-20	350V-475V	1 x 2 1/2	2.35
XC2-7	5-20 10-30	50V-200V	1 x 2	2.00
XC2-8	8-25 10-30	500V-500V	1 x 3	2.60
XC2-9	8-30 10-40	300V-300V	1 x 2	2.50
XC2-10	8-30 10-40	450V-450V	1 x 2	2.75
XC2-11	8-40 10-50	300V-350V	1 3/8 x 2	\$2.90
XC2-12	8-100 10-160	350V-350V	1 3/8 x 3	4.30

Cat. No.	Capacitance, Mfd	Voltage	Size	List Price
XC2-13	15-15 20-20	250V-250V	1 x 2	1.90
XC2-14	15-15 20-20	450V-450V	1 x 2 1/2	2.55
XC2-15	15-15 20-20	500V-500V	1 3/8 x 2	2.85
XC2-16	15-30 20-40	350V-350V	1 x 2 1/2	2.75
XC2-17	15-30 20-40	450V-450V	1 3/8 x 2	3.25
XC2-18	15-60 20-80	350V-350V	1 3/8 x 2 1/2	3.50
XC2-18.1	15-40 20-80	450V-350V	1 x 3	3.25
XC2-19	15-60 20-80	450V-450V	1 3/8 x 2 1/2	3.90
XC2-20	15-75 20-100	475V-400V	1 3/8 x 3	4.50
XC2-21	20-30 20-50	150V-150V	1 x 2	2.00
XC2-21.1	20-20 30-30	350V-350V	1 x 2	2.90
XC2-22	20-40 30-60	350V-350V	1 3/8 x 2	3.15
XC2-23	20-75 30-100	50V-400V	1 3/8 x 2 1/2	3.90
XC2-24	30-30 40-40	250V-250V	1 x 2 1/2	2.50
XC2-25	30-30 40-40	450V-450V	1 3/8 x 2 1/2	3.45
XC2-26	30-35 40-45	500V-500V	1 3/8 x 2 1/2	4.40
XC2-26.1	20-40 40-80	150V-150V	1 3/8 x 2	2.30
XC2-27	30-60 40-80	350V-350V	1 3/8 x 2 1/2	4.10
XC2-28	30-75 40-100	450V-450V	1 3/8 x 3 1/2	4.85
XC2-28.1	30-50 40-100	450V-50V	1 x 2 1/2	2.80
XC2-29	30-30 50-50	150V-150V	1 x 2	2.15
XC2-30	30-60 50-80	150V-150V	1 x 2 1/2	2.40
XC2-31	30-60 50-80	475V-475V	1 3/8 x 3 1/2	5.20
XC2-32	30-100 50-150	50V-150V	1 x 3	2.50
XC2-32.1	25-250 50-500	150V-5V	1 x 2	2.45
XC2-33	40-40 60-60	450V-450V	1 3/8 x 3	4.50
XC2-34	60-60 80-80	200V-400V	1 3/8 x 2 1/2	3.95
XC2-35	60-60 80-80	450V-450V	1 3/8 x 3 1/2	5.40
XC2-36	60-75 80-100	450V-50V	1 3/8 x 3	3.75
XC2-36.1	60-88 80-160	475V-250V	1 3/8 x 4 1/2	5.55
XC2-37	50-50 100-100	50V-50V	1 x 2	2.10
XC2-38	75-75 100-100	200V-300V	1 3/8 x 3	3.45
XC2-38.1	75-75 100-100	350V-350V	1 3/8 x 3	6.15
XC2-39	75-75 100-100	400V-400V	1 3/8 x 4	5.75
XC2-40	75-100 100-150	150V-150V	1 x 3 1/2	3.10
XC2-41	75-100 100-150	150V-150V	1 3/8 x 2	3.25
XC2-42	75-90 100-120	400V-400V	1 3/8 x 4	6.20
XC2-43	100-120 200-200	250V-250V	1 3/8 x 4	5.50
XC2-43.05	250-250 500-500	16V-16V	1 x 1 3/4	3.05
XC2-43.1	300-100 800-250	16V-16V	1 x 2	2.75
XC2-44	500-500 1000-1000	16V-16V	1 x 3 1/2	3.80
XC2-45	500-500 1000-1000	30V-30V	1 3/8 x 2 1/2	5.35

# SECTION 1500 XC TWIST-PRONG ELECTROLYTICS (cont'd)



## TRIPLE-SECTION CANS

Cat. No.	Capacitance, Mfd	Voltage	Size	List Price
XC3-1	4-18-15 5-10-20	350-400-400	1 x 2	\$2.55
XC3-1.1	3-7-50 4-10-100	350-475-50	1 x 2	2.65
XC3-2	4-15-30 5-20-40	350-475-400	1 x 3	3.70
XC3-3	4-15-50 5-6-20-40	350-350-400	1 x 3½	3.70
XC3-4	4-30-100 5-40-250	350-350-350	1½ x 3½	5.05
XC3-5	4-40-75 5-50-100	450-350-350	1½ x 3	4.55
XC3-5.1	3-30-100 5-60-200	200-200-50	1 x 2½	2.90
XC3-6	4-50-75 5-100-125	200-75-350	1½ x 3	4.80
XC3-6.1	2-250-500 5-500-1000	32-16-16	1 x 2½	4.10
XC3-7	8-8-8 10-10-10	450-450-450	1 x 2	2.60
XC3-8	8-8-30 10-10-40	400-400-400	1 x 3	3.35
XC3-9	8-8-60 10-10-80	450-450-450	1½ x 2½	4.80
XC3-10	8-15-10 10-20-20	350-350-25	1 x 2	2.55
XC3-11	8-15-20 10-20-30	475-475-350	1 x 3	3.40
XC3-12	8-15-60 10-20-80	350-450-350	1½ x 2½	4.25
XC3-13	8-15-75 10-20-100	450-350-350	1½ x 2½	4.55
XC3-13.1	7-15-50 10-20-100	450-450-50	1 x 2½	2.95
XC3-14	8-20-75 10-30-100	150-150-150	1 x 2½	2.85
XC3-15	8-30-30 10-40-40	500-500-500	1½ x 2½	5.05
XC3-16	8-30-75 10-40-100	400-400-350	1½ x 3	5.05
XC3-17	8-35-75 10-45-100	450-450-200	1½ x 2½	4.15
XC3-17.1	7-40-75 10-50-100	500-475-450	1½ x 3	5.45
XC3-18	8-60-75 10-80-100	400-350-400	1½ x 3½	5.55
XC3-19	8-75-110 10-100-150	450-300-300	1½ x 3½	5.75
XC3-20	8-150-200 10-200-250	450-300-200	1½ x 4	6.85
XC3-21	12-12-15 15-15-20	450-450-450	1 x 3	3.25
XC3-22	12-12-20 15-15-40	450-450-25	1 x 2½	2.75
XC3-22.1	10-20-75 15-30-150	500-500-50	1½ x 2½	3.70
XC3-23	15-15-15 20-20-20	350-350-350	1 x 2½	2.90
XC3-23.1	15-15-10 20-20-20	450-450-25	1 x 2	2.95
XC3-24	15-15-15 20-20-20	450-450-450	1½ x 2	3.60
XC3-25	15-10-20 20-20-30	350-25-350	1 x 2½	2.95
XC3-26	15-15-30 20-20-40	450-450-450	1½ x 2½	4.40
XC3-26.1	15-15-30 20-20-40	500-500-500	1½ x 3	4.50
XC3-27	15-15-75 20-20-100	450-450-350	1½ x 3	4.95
XC3-28	15-20-30 20-30-40	150-150-150	1 x 2	2.60
XC3-28.1	10-15-20 20-30-40	350-350-350	1 x 3	3.00
XC3-29	15-30-30 20-40-40	450-450-450	1½ x 2½	4.45
XC3-30	15-30-50 20-40-60	450-450-450	1½ x 3	5.00
XC3-31	15-30-60 20-40-80	150-150-150	1 x 2½	2.90

Cat. No.	Capacitance, Mfd	Voltage	Size	List Price
XC3-32	15-30-60 20-40-80	450-450-450	1½ x 3	\$5.40
XC3-33	15-30-60 20-40-90	350-350-350	1½ x 3	4.85
XC3-34	15-60-75 20-80-100	450-450-350	1½ x 3½	5.85
XC3-35	15-75-90 20-100-240	450-400-300	1½ x 4	6.70
XC3-35.1	10-75-75 20-140-140	250-350-350	1½ x 4	6.00
XC3-36	20-20-30 30-30-40	475-475-475	1½ x 3	5.15
XC3-36.1	20-40-75 30-60-100	100-450-450	1½ x 3½	6.00
XC3-37	20-15-150 30-60-200	100-350-150	1½ x 3	5.00
XC3-38	30-30-30 40-40-40	150-150-150	1 x 2½	2.60
XC3-39	30-30-20 40-40-40	450-450-25	1½ x 2½	3.95
XC3-40	30-30-30 40-40-40	450-450-450	1½ x 3	4.90
XC3-41	30-60-80 40-80-125	450-400-350	1½ x 4	6.30
XC3-41.1	20-20-100 40-40-250	150-150-25	1 x 2½	3.15
XC3-41.2	30-40-50 40-60-100	500-500-350	1½ x 3½	6.10
XC3-41.3	20-45-250 40-90-500	150-150-25	1½ x 2½	3.50
XC3-42	30-60-300 40-80-500	400-400-50	1½ x 3½	5.80
XC3-43	30-70-70 40-120-120	150-150-150	1½ x 2½	4.05
XC3-44	30-30-30 50-50-50	150-150-150	1 x 2½	3.05
XC3-45	40-40-50 60-60-80	350-350-350	1½ x 3½	5.55
XC3-45.1	30-40-50 60-80-100	175-175-175	1 x 3	3.60
XC3-45.2	30-50-100 60-100-200	100-350-350	1½ x 4	6.25
XC3-46	40-80-125 60-140-200	200-150-150	1½ x 3	4.40
XC3-47	60-125-175 80-200-300	150-150-150	1½ x 3½	5.00
XC3-47.1	30-75-250 100-200-700	16-16-16	1 x 1¾	3.35
XC3-48	50-250-250 100-500-500	16-16-16	1 x 2	3.35
XC3-48.1	80-80-150 250-250-300	16-16-16	1 x 1¾	3.35

Quad-Section Cans on Next Page

## ACCESSORIES

Cat. No.	Description	List Price
W53	Mounting wafer (phenolic) for 1 inch can	\$0.10
WL4	Mounting wafer (phenolic) for 1½ inch can	.10
WM3	Mounting wafer (metal) for 1 inch can	.10
WM4	Mounting wafer (metal) for 1½ inch can	.10
PMA1	*Printed board mounting adapter kit	.45
1T9	†Insulating sleeves for 1 x 4 inch can	.10
1T14	†Insulating sleeves for 1½ x 4 inch can	.10

\* Half-moon terminal ends must be removed from capacitors before installing printed-circuit adapters.

† Can be easily cut to fit 2, 2½, 3 and 3½-inch cans.

For explanation of ratings, see first page of GE capacitors

*All prices are subject to change without notice.*

**GENERAL ELECTRIC**

# SERVICE-DESIGNED CAPACITORS

## XC TWIST-PRONG ELECTROLYTICS (cont'd)

### QUAD-SECTION CANS

Cat. No.	Capacitance, Mfd	Voltage	Size*	List Price
XC4-1	3-8-8-8-10 4-10-10-20	300-500-300-25	2	\$3.35
XC4-2	3-8-30-100 5-10-40-160	350-475-400-350	4	6.30
XC4-3	3-8-40-100 5-10-60-160	300-300-300-350	3½	6.20
XC4-4	3-8-75-100 4-10-100-160	350-475-300-350	4	6.70
XC4-4.1	2-100-250-250 4-350-750-750	32-16-16-16	2	4.80
XC4-4.2	75-3-3-90 100-4-4-200	475-475-475-25	4	5.50
XC4-5	4-4-4-4 5-5-5-5	450-450-450-450	2	3.00
XC4-5.1	60-3-3-3 80-4-4-4	475-450-450-450	3	4.95
XC4-6	4-4-20-60 5-5-25-70	450-450-450-450	2½	5.10
XC4-6.1	60-3-3-90 80-4-4-200	475-450-450-25	3	4.95
XC4-7	4-8-8-60 5-10-10-70	450-450-450-450	2½	5.00
XC4-8	4-8-30-30 5-10-35-40	450-475-450-475	2½	5.00
XC4-9	4-15-40-50 5-20-50-60	450-350-350-400	3	5.15
XC4-9.1	37-30-2-18 50-40-4-40	475-475-150-25	3½	5.45
XC4-10	4-25-30-60 5-30-40-80	400-400-400-400	3½	5.85
XC4-10.1	4-20-40-50 5-40-60-100	350-25-350-25	2	3.80
XC4-10.2	1-11-44-45 2-25-80-100	350-25-250-25	3	4.65
XC4-11	4-30-75-80 5-40-100-110	350-350-75-350	3	5.50
XC4-12	8-8-8-8 10-10-10-10	450-450-450-450	2	3.35
XC4-13	8-8-15-30 10-10-20-40	475-475-475-475	2½	4.85
XC4-14	8-8-15-90 10-10-20-130	475-350-350-350	3	5.60
XC4-15	8-8-30-30 10-10-35-40	450-450-450-450	2½	4.80
XC4-16	8-8-50-50 10-10-60-100	450-450-200-50	2	3.85
XC4-17	8-8-75-100 10-10-100-150	475-400-300-300	3½	6.20
XC4-18	8-15-15-100 10-20-20-140	475-300-300-300	2½	5.05
XC4-19	8-10-20-75 10-20-30-100	400-50-50-400	2½	5.10
XC4-20	8-15-30-30 10-20-40-40	350-350-350-350	2½	4.40
XC4-21	8-15-30-30 10-20-40-40	450-25-450-450	2½	4.70
XC4-22	8-15-30-50 10-20-40-60	350-475-350-350	2½	4.95
XC4-23	8-15-30-90 10-20-40-125	475-450-450-300	3	5.80
XC4-24	8-15-30-90 10-20-40-130	350-350-475-350	3½	6.35
XC4-25	8-15-30-90 10-20-50-120	350-350-50-350	3	5.10
XC4-26	8-10-30-90 10-20-50-120	475-400-50-400	3	5.90
XC4-27	8-10-50-75 10-20-60-100	150-50-200-300	2½	4.55
XC4-28	8-15-60-75 10-20-80-100	300-50-350-350	3½	5.35
XC4-29	8-15-75-100 10-20-100-140	450-300-300-350	4	6.60

Cat. No.	Capacitance, Mfd	Voltage	Size*	List Price
XC4-30	8-15-100-100 10-20-140-150	450-300-350-300	4	\$6.70
XC4-31	8-15-100-150 10-20-150-250	250-350-300-50	3	5.55
XC4-32	8-15-30-50 10-25-40-60	450-25-350-350	2½	4.60
XC4-33	8-15-30-50 10-25-40-100	350-25-350-25	2	3.75
XC4-34	8-25-30-60 10-30-40-80	450-450-450-475	3½	6.65
XC4-35	8-25-30-60 10-30-40-80	450-300-400-400	3	5.75
XC4-36	8-25-25-75 10-30-50-150	475-500-50-50	2½	4.45
XC4-37	8-25-75-150 10-30-100-200	300-300-300-300	4	6.80
XC4-38	8-25-100-150 10-30-140-200	300-150-300-150	3½	5.70
XC4-39	8-25-150-150 10-30-200-200	300-150-200-150	3½	5.50
XC4-40	8-30-30-60 10-40-40-80	250-300-300-300	3	4.85
XC4-41	8-30-25-75 10-40-50-100	350-350-50-350	3	5.15
XC4-42	8-30-60-75 10-40-80-100	475-400-400-400	4	6.95
XC4-43	8-30-90-110 10-40-120-150	250-400-250-50	3	5.20
XC4-44	8-50-50-60 10-60-60-80	150-200-350-350	3	5.40
XC4-44.1	5-30-50-50 10-60-100-100	200-350-350-150	3	4.90
XC4-44.2	5-50-100-100 10-100-200-200	75-150-150-150	2½	5.95
XC4-45	12-12-12-30 15-15-15-40	450-350-450-350	2½	4.00
XC4-46	12-15-10-10 15-20-20-20	450-450-25-25	2	3.45
XC4-47	12-30-30-20 15-40-40-40	450-450-450-50	3	5.20
XC4-48	15-15-15-10 20-20-20-20	450-450-450-25	2	4.15
XC4-49	15-15-15-10 20-20-20-20	450-450-450-450	2½	4.55
XC4-50	15-15-15-15 20-20-20-20	475-475-475-475	2½	4.85
XC4-51	15-15-15-50 20-20-20-60	450-450-450-450	3	5.50
XC4-52	15-15-15-75 20-20-20-100	450-450-450-300	3	5.30
XC4-53	15-15-15-150 20-20-20-200	300-300-300-300	3½	5.95
XC4-54	15-15-30-20 20-20-40-40	450-450-450-25	2½	4.65
XC4-55	15-15-30-30 20-20-40-40	450-450-450-450	3	5.55
XC4-55.1	60-30-15-15 80-40-20-20	450-450-450-450	4	6.30
XC4-56	15-15-30-75 20-20-40-100	350-350-350-400	3½	6.00
XC4-57	15-15-60-150 20-20-80-200	350-300-350-150	3½	5.50
XC4-58	15-15-75-75 20-20-100-100	400-400-350-100	3½	5.50
XC4-59	15-15-75-100 20-20-100-140	300-300-300-350	4	5.00
XC4-60	15-20-30-75 20-25-35-100	200-450-450-50	2½	4.65
XC4-61	15-20-30-30 20-25-35-100	450-50-450-450	2½	5.05
XC4-62	10-25-30-30 20-30-40-40	25-350-350-350	2½	4.20

\* All Dia. are 1 3/8".



Quad-Section Cans (cont'd)

Cat. No.	Capacitance, Mfd	Voltage	Size*	List Price
XC4-63	15-25-30-25 <b>20-30-40-50</b>	300-300-300-25	2	\$ 4.00
XC4-63.1	22-15-88-22 <b>30-20-160-140</b>	450-450-250-150	4 1/2	5.90
XC4-64	15-25-25-150 <b>20-30-50-200</b>	350-400-50-350	4	6.75
XC4-65	15-30-50-50 <b>20-40-60-60</b>	150-350-350-200	3	4.80
XC4-66	15-30-50-60 <b>20-40-60-80</b>	400-300-450-350	3 1/2	6.15
XC4-67	15-30-50-65 <b>20-40-60-90</b>	350-350-350-350	3 1/2	5.90
XC4-68	15-30-50-150 <b>20-40-60-200</b>	150-150-150-10	2	3.60
XC4-68.1	10-25-40-60 <b>20-50-50-80</b>	250-50-450-450	3 1/2	5.55
XC4-68.2	15-88-22-22 <b>20-160-50-50</b>	450-250-75-50	4	5.35
XC4-69	15-50-60-50 <b>20-60-80-100</b>	350-350-150-50	2 1/2	4.65
XC4-70	15-75-75-170 <b>20-100-100-240</b>	350-150-150-150	3 1/2	5.95
XC4-70.1	15-60-50-80 <b>20-100-100-150</b>	450-350-50-350	4	6.75
XC4-71	15-30-60-75 <b>25-40-80-100</b>	50-400-350-200	3 1/2	5.55
XC4-72	25-25-30-30 <b>30-30-40-40</b>	450-350-450-350	3	5.35

Cat. No.	Capacitance, Mfd	Voltage	Size*	List Price
XC4-73	25-25-30-30 <b>30-30-150-150</b>	450-450-300-300	4	6.95
XC4-74	25-30-20-60 <b>30-40-40-80</b>	400-400-25-400	3 1/2	\$5.90
XC4-75	25-30-25-100 <b>30-40-50-140</b>	350-350-50-350	3 1/2	5.90
XC4-76	25-30-40-150 <b>30-40-50-200</b>	400-300-250-150	3	5.45
XC4-77	25-45-150-150 <b>30-60-200-100</b>	175-175-175-175	3 1/2	6.15
XC4-78	30-30-30-30 <b>40-40-40-40</b>	150-150-150-150	2	3.60
XC4-79	30-30-30-20 <b>40-40-40-40</b>	450-450-450-25	3	5.50
XC4-80	30-30-30-30 <b>40-40-40-40</b>	450-450-450-450	3 1/2	6.25
XC4-81	30-30-20-60 <b>40-40-40-80</b>	150-150-25-150	2	3.65
XC4-82	30-30-20-60 <b>40-40-40-80</b>	450-450-25-450	3 1/2	6.45
XC4-83	30-30-50-100 <b>40-40-60-150</b>	350-350-350-75	3	5.25
XC4-84	30-50-50-75 <b>40-60-60-100</b>	400-400-300-400	4	6.85
XC4-84.1	20-30-50-75 <b>40-60-100-100</b>	75-200-250-350	3 1/2	5.35
XC4-85	50-60-75-50 <b>60-80-100-100</b>	400-350-200-50	3 1/2	5.90

\* All Dia. are 1 3/4".

PAPER MYLAR<sup>‡</sup> CAPACITORS



MPC SIDE-LEAD TUBULARS

- ±10% capacitance tolerance
- 85° OPERATION: for 125°C derate working voltage by 25%
- Dual DIELECTRIC (Mylar-Paper) solidly impregnated with rock-type casing with high humidity resistance.

Cat. No.	Capacitance, Mfd.	Size	List Price
<b>200 W.V.D.C.</b>			
MPC-2S2	.02	.350 x .855	\$0.25
MPC-2S47	.047	.450 x .855	.30
MPC-2S5	.05	.450 x .855	.30
MPC-2P1	.1	.470 x 1.180	.35
MPC-2P15	.15	.540 x 1.180	.40
MPC2P25	.25	.620 x 1.300	.45
MPC-2P47	.47	.730 x 1.600	.60
MPC-2P5	.5	.730 x 1.600	.60

Cat. No.	Capacitance, Mfd.	Size	List Price
<b>400 W.V.D.C.</b>			
MPC-4S1	.01	.390 x .690	.25
MPC-4S15	.015	.430 x .690	.25
MPC-4S2	.02	.390 x .855	.30
MPC-4S22	.022	.400 x .855	.30
MPC-4S33	.033	.440 x .855	.30
MPC-4S47	.047	.415 x 1.150	.35
MPC-4S5	.05	.415 x 1.150	.35
MPC-4S68	.068	.440 x 1.180	.35
MPC-4P1	.10	.520 x 1.180	.40
MPC-4P15	.15	.560 x 1.300	.50
MPC-4P22	.22	.620 x 1.560	.60

Cat. No.	Capacitance, Mfd.	Size	List Price
<b>400 W.V.D.C. (CONTD.)</b>			
MPC-4P25	.25	.650 x 1.560	.60
MPC-4P47	.47	.850 x 1.600	.70
MPC-4P5	.50	.850 x 1.600	.75

Cat. No.	Capacitance, Mfd.	Size	List Price
<b>600 W.V.D.C.</b>			
MPC-6D1	.001	.340 x .690	.25
MPC-6D15	.0015	.340 x .690	.25
MPC-6D2	.002	.340 x .690	.25
MPC-6D22	.0022	.340 x .690	.25
MPC-6D25	.0025	.350 x .690	.25
MPC-6D27	.0027	.370 x .690	.25
MPC-6D3	.003	.370 x .690	.25
MPC-6D33	.0033	.370 x .690	.25
MPC-6D39	.0039	.370 x .690	.25
MPC-6D4	.004	.400 x .690	.25
MPC-6D47	.0047	.400 x .690	.25
MPC-6D5	.005	.415 x .690	.25
MPC-6D56	.0056	.415 x .690	.25
MPC-6D6	.006	.430 x .690	.25
MPC-6D68	.0068	.370 x .870	.25
MPC-6D75	.0075	.370 x .870	.30
MPC-6D8	.008	.390 x .870	.30
MPC-6S1	.01	.400 x .870	.30
MPC-6S12	.012	.415 x .870	.30
MPC-6S15	.015	.445 x .870	.30
MPC-6S2	.02	.470 x .870	.30
MPC-6S22	.022	.400 x 1.150	.30
MPC-6S25	.025	.415 x 1.150	.35
MPC-6S27	.027	.370 x .690	.35
MPC-6S3	.03	.415 x 1.150	\$0.35
MPC-6S33	.033	.430 x 1.150	.35
MPC-6S39	.039	.470 x 1.150	.35
MPC-6S4	.04	.470 x 1.150	.35

Cat. No.	Capacitance, Mfd.	Size	List Price
<b>600 W.V.D.C. (CONTD.)</b>			
MPC-6S47	.047	.490 x 1.150	.40
MPC-6S5	.05	.490 x 1.150	.40
MPC-6S56	.056	.520 x 1.100	.40
MPC-6S6	.06	.520 x 1.180	.45
MPC-6S68	.068	.540 x 1.300	.45
MPC-6S75	.075	.570 x 1.300	.45
MPC-6S82	.082	.590 x 1.300	.45
MPC-6P1	.10	.540 x 1.300	.45
MPC-6P15	.15	.650 x 1.560	.65
MPC-6P2	.20	.730 x 1.560	.65
MPC-6P22	.22	.750 x 1.560	.65

Cat. No.	Capacitance, Mfd.	Size	List Price
<b>1600 W.V.D.C.</b>			
MPC-16D1	.001	.350 x 8.70	.35
MPC-16D15	.0015	.375 x .870	.35
MPC-16D18	.0018	.400 x .870	.35
MPC-16D2	.002	.405 x .870	.35
MPC-16D22	.0022	.420 x .870	.35
MPC-16D3	.003	.475 x .870	.40
MPC-16D33	.0033	.480 x .870	.40
MPC-16D4	.004	.520 x .870	.40
MPC-16D47	.0047	.540 x .870	.40
MPC-16D5	.005	.565 x .870	.45
MPC-16D6	.006	.460 x 1.180	.45
MPC-16D7	.007	.485 x 1.180	.45
MPC-16D75	.0075	.495 x 1.180	.45
MPC-16D8	.008	.510 x 1.180	.50
MPC-16S1	.01	.525 x 1.180	.50
MPC-16S15	.015	.560 x 1.300	.50
MPC-16S2	.02	.570 x 1.600	.60
MPC-16S3	.03	.665 x 1.600	.70
MPC-16S33	.033	.695 x 1.600	.80
MPC-16S47	.047	.785 x 1.600	.85
MPC-16S5	.05	.815 x 1.600	.85

‡ Trade-mark of DuPont Co.

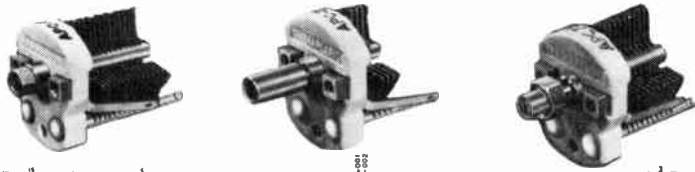
For explanation of ratings, see first page of GE capacitors

All prices are subject to change without notice.

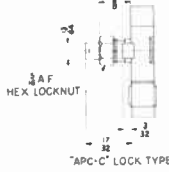
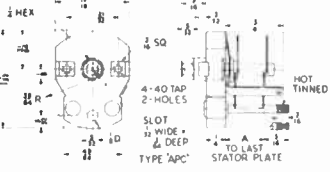


# HAMMARLUND

## 88 STANDARD TYPES OF VARIABLE AIR CAPACITORS



Capacitor Type	Net Price	Capacitor Type	Net Price
APC-25	\$ 1.20	APC-100-B	\$ 1.70
APC-50	1.35	APC-140-B	1.90
APC-75	1.45	APC-25-C	1.85
APC-100	1.60	APC-50-C	2.00
APC-140	1.80	APC-75-C	2.10
APC-25-B	1.30	APC-100-C	2.25
APC-50-B	1.40	APC-140-C	2.45
APC-75-B	1.50		



APC capacitors are available in three basic groups. The original APC group is furnished with a hex collar on a slotted shaft as indicated in the drawing. The APC-"B" group is furnished with 1/4" diameter shafts to permit adjustment of

the capacitance with a front panel knob. The APC-"C" group is supplied with slotted shafts for variation of the capacitance and a 3/16" hex locknut to prevent movement of the rotor in equipment subjected to high levels of vibration or shock.

TYPE	CAPACITANCE		PLATES	DIMENSION "A"
	Max.	Min.		
APC-25	25.	3.0	7	21/64
APC-50	50.	3.9	14	1/2
APC-75	75.	4.6	20	11/16
APC-100	100.	5.5	27	59/64
APC-140	140.	6.7	37	1-7/32

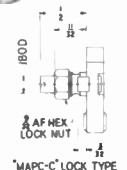
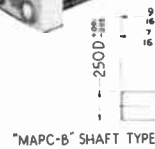
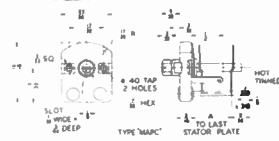
Note: When ordering the APC-"B" or "C" type, add the suffix -B or -C to the above listed type number.



**FEATURES**—The MAPC series is similar to the APC series of capacitors in that identical materials and assembly methods are employed. The silicone treated steatite bases and all brass nickel plated metal parts with exception of the phosphor bronze rotor wiper assure the same type of reliable performance that the APC series provides.

TYPE	CAPACITANCE		PLATES	DIMENSION "A"
	Max.	Min.		
MAPC-15	15	2.3	6	17/64
MAPC-25	25	2.6	10	3/8
MAPC-35	35	2.9	14	15/32
MAPC-50	50	3.2	19	37/64
MAPC-75	75	3.9	29	53/64
MAPC-100	100	4.5	38	1-5/64

Note: When ordering the MAPC-"B" or "C" type, add the suffix -B or -C to the type numbers listed above.

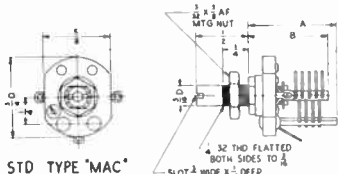


Capacitor Type	Net Price	Capacitor Type	Net Price	Capacitor Type	Net Price
MAPC-15	\$ 1.00	MAPC-15-B	\$ 1.00	MAPC-15-C	\$ 1.35
MAPC-25	1.05	MAPC-25-B	1.05	MAPC-25-C	1.40
MAPC-35	1.10	MAPC-35-B	1.10	MAPC-35-C	1.45
MAPC-50	1.15	MAPC-50-B	1.15	MAPC-50-C	1.50
MAPC-75	1.20	MAPC-75-B	1.20	MAPC-75-C	1.55
MAPC-100	1.30	MAPC-100-B	1.30	MAPC-100-C	1.70



The MAC capacitors provide the low minimum capacitance and inductance essential for trimming and tuning resonant circuits in the VHF and UHF range. The materials employed and the constructional methods are the same as those used in the manufacture of the APC and MAPC series of capacitors.

TYPE	CAPACITANCE		PLATES	DIMENSIONS	
	Max.	Min.		"A"	"B"
MAC-5	5.4	1.3	5	45/64	39/64
MAC-10	9.6	1.5	9	13/16	23/32
MAC-15	15.8	1.9	15	1	29/32
MAC-20	21.5	2.2	21	1-11/64	1-5/64
MAC-30	32.0	2.5	27	1-17/65	1-11/64

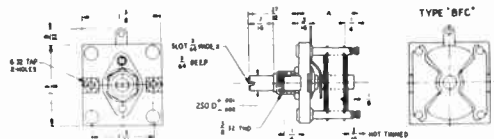
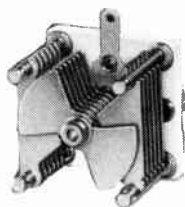


Cap. Type	Net Price	Cap. Type	Net Price
MAC-5	\$ .90	MAC-20	\$ 1.10
MAC-10	.95	MAC-30	1.20
MAC-15	1.00		



The BFC capacitors are of the butterfly type permitting operation as a series capacitor without a rotor connection or as a split stator capacitor with provision for grounding the rotor independently from the capacitor mounting studs, which are insulated from the rotor in the silicone treated steatite base.

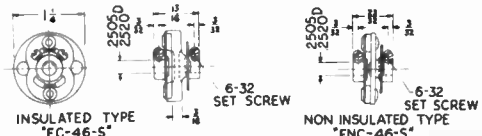
CODE	CAPACITY/SECTION		SERIES CAPACITY		PLATES		DIMENSION "A"
	Max.	Min.	Max.	Min.	Rotor	Ea. Stator	
BFC-12	14.5	3.4	7.6	2.2	4	3	29/32
BFC-25	27.3	4.8	14.1	2.9	7	6	1-13/64
BFC-38	40.1	6.2	20.6	3.6	10	9	1-1/2



Cap Type	Net Price	Cap Type	Net Price
BFC-12	\$ 2.25	BFC-38	\$ 2.95
BFC-25	2.65		



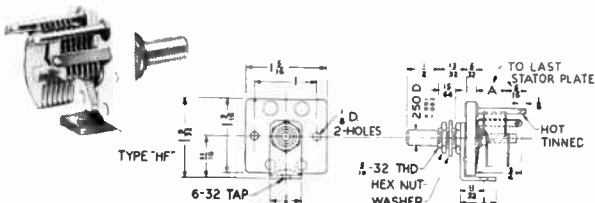
The FC-46-S is an insulated flexible coupling to provide mechanical ganging of angularly misaligned shafts. 1 FNC-46-S is non-insulated.  
FC-46-S — \$1.50; FNC-46-S — \$1.20.





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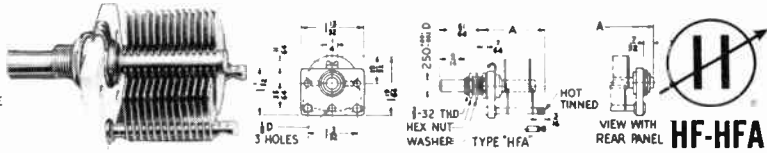
## 88 STANDARD TYPES OF VARIABLE AIR CAPACITORS



CODE	CAPACITY		PLATES/SECTION	DIMENSION "A"
	Max.	Min.		
HF-15	17.5	2.8	5	17/64
HF-35	36.	3.2	10	25/64
HF-50	52.	3.7	14	1/2
HF-100	102.	5.3	27	59/64
HF-140	142.	6.3	37	1-7/32
HF-15-X	15.	3.6	10	23/32
HF-30-X	30.	5.2	20	1-5/16

The HF is a single section capacitor employing the APC rotor and stator design. An extra long sleeve bearing and positive contact nickel-plated phosphor bronze wiper make this unit ideally suited to high frequency applications.

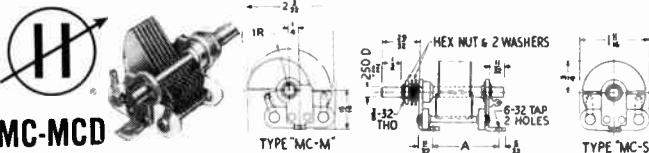
The HFA capacitors are similar to the HF series except that larger rotor and stator plates are used.



CODE	CAPACITY		AIR GAP	PLATES/SECTION	DIMENSION "A"
	Max.	Min.			
HFA-100-A	102	4.5	0.020	19	1-13/32
HFA-140-A	145	6.0	0.020	27	1-23/32
HFA-200-A	200	8.0	0.020	38	2-7/32
HFA-15-B	16	2.8	0.030	5	7/8
HFA-25-B	25	3.0	0.030	7	31/32
HFA-50-B	50	4.3	0.030	14	1-3/8
HFA-100-B*	100	7.5	0.030	27	2-21/64
HFA-15-E	16	4.0	0.070	9	1-3/8

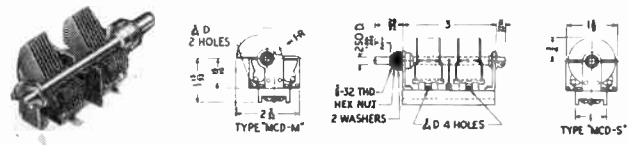
HFA-A, 1130 V. 60 cycle peak test voltage  
 B, 1590 V. E, 1750 V.  
 \*Has Front and Rear Supporting Panels.

Cap. Type	Net Price	Cap. Type	Net Price
HF-15	\$ 1.30	HFA-100-A	\$ 2.75
HF-35	1.40	HFA-140-A	2.95
HF-50	1.60	HFA-200-A	3.70
HF-100	1.80	HFA-15-B	2.20
HF-140	1.95	HFA-25-B	2.30
HF-15-X	1.30	HFA-50-B	2.50
HF-30-X	1.70	HFA-100-B	3.90
		HFA-15-E	2.45

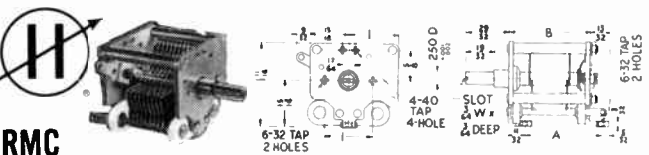


The MC is a versatile single section tuning capacitor designed to give the equipment engineer a choice of mountings, connections and capacity characteristics. The threaded brass front bearing and tapped aluminum end brackets permit panel or base mounting.

Capacitor Type	Net Price	Capacitor Type	Net Price	Capacitor Type	Net Price
MC-20-S	\$ 2.40	MC-140-S	\$ 3.15	MC-50-SX	\$ 3.00
MC-35-S	2.45	MC-200-M	3.40	MC-100-SX	3.95
MC-50-M	2.55	MC-250-M	3.70	MCD-50-M	7.25
MC-50-S	2.60	MC-325-M	4.20	MCD-100-M	7.85
MC-75-M	2.75	MC-20-SX	2.60	MC-100-S	7.50
MC-75-S	2.85	MC-35-MX	2.75	MCD-140-M	8.35
MC-100-M	2.90	MC-35-SX	2.75	MCD-35-MX	7.85
MC-100-S	2.95	MC-50-MX	3.00	MCD-35-SX	7.50
MC-140-M	3.00				



TYPE	CAPACITY		PLATES/SECTION	DIMENSION "A"
	Max.	Min.		
MC-20-S	20.	5.5	3	1-7/32
MC-35-S	35.	6.0	5	1-7/32
MC-50-M	50.	6.3	7	1-7/32
MC-50-S	50.	6.5	7	1-7/32
MC-75-M	80.	7.3	11	1-7/32
MC-75-S	80.	8.0	11	1-7/32
MC-100-M	100.	7.7	14	1-13/32
MC-100-S	100.	8.3	14	1-13/32
MC-140-M	140.	9.0	19	1-19/32
MC-140-S	140.	10.0	19	1-19/32
MC-200-M	200.	10.3	27	2
MC-250-M	250.	12.0	34	2-5/16
MC-325-M	320.	13.5	43	2-23/32
MC-20-SX	20.	6.8	7	1-13/32
MC-35-MX	32.	7.8	11	1-19/32
MC-35-SX	32.	8.5	11	1-19/32
MC-50-MX	53.	10.5	19	2-5/16
MC-50-SX	53.	11.5	19	2-5/16
MC-100-SX	100.	16.5	35	3-29/32
MCD-50-M	50.	5.5	7	Single Hole panel mtg.
MCD-100-M	100.	6.3	14	Length back of panel
MCD-100-S	100.	7.0	14	
MCD-140-M	140.	7.8	19	
MCD-35-MX	31.	6.0	11	
MCD-35-SX	31.	6.8	11	3-11/32

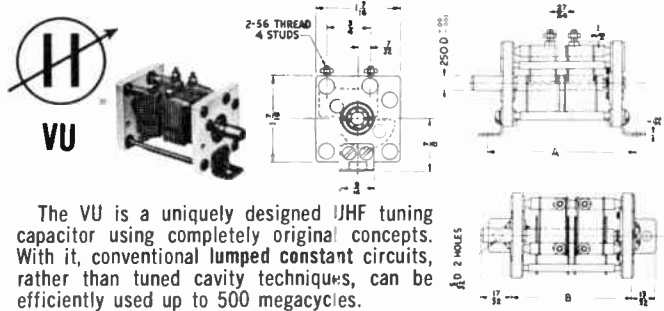


The RMC was designed specifically for applications requiring an MC type tuning capacitor with very rigid construction. Its sturdy frame consists of heavy gauge aluminum end panels held together by three aluminum tie rods.

Cap. Type	Net Price	Cap. Type	Net Price
RMC-50-S	\$ 4.95	RMC-140-S	\$ 5.95
RMC-100-S	5.25	RMC-325-S	6.85

CODE	CAPACITY		PLATES	DIMENSIONS	
	Max.	Min.		"A"	"B"
RMC-50-S	50.	7.3	7	1-7/32	1-5/16
RMC-100-S	105.	9.5	14	1-13/32	1-1/2
RMC-140-S	143.5	11.0	19	1-19/32	1-11/16
RMC-325-S	327.	17.5	43	2-23/32	2-13/16

Cap. Type	Net Price	Cap. Type	Net Price
VU-20	\$ 7.10	VU-45	\$ 8.00
VU-30	7.50		

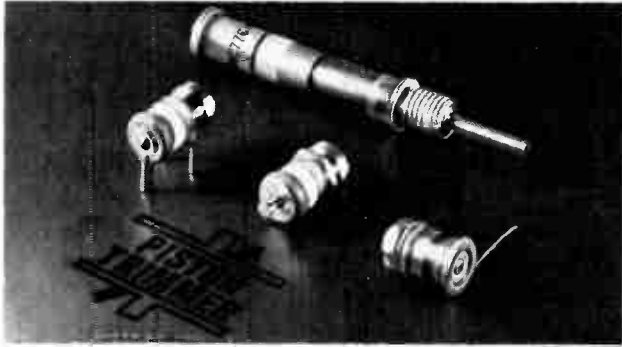


The VU is a uniquely designed UHF tuning capacitor using completely original concepts. With it, conventional lumped constant circuits, rather than tuned cavity techniques, can be efficiently used up to 500 megacycles.

CODE	SERIES CAPACITY		PLATES/SECTION	DIMENSIONS	
	Eff.	Min.		"A"	"B"
VU-20	22.5	3.35	11	2-9/32	1-25/32
VU-30	31.5	3.5	15	2-9/16	2-1/16
VU-45	45.0	3.8	21	2-31/32	2-15/32



JFD ELECTRONICS CO./COMPONENTS DIVISION




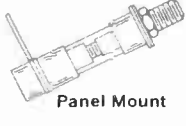
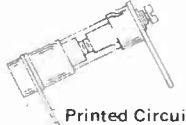


ACTUAL SIZE



JFD has available the largest selection of Precision Piston Trimmers in the industry—more than 2,500 standard and special designs that meet or exceed MIL-C-14409B.

JFD's unique capacitor-design-capability offers an unmatched number of exclusive features—Seven drive mechanisms incorporating advanced construction... Matched metalizing / homogeneous bond with dielectric... High level shock and vibration resistance... Clean room high reliability units available.

Write for complete catalog #C-67 "Precision Piston Trimmer and Tuning Capacitors."

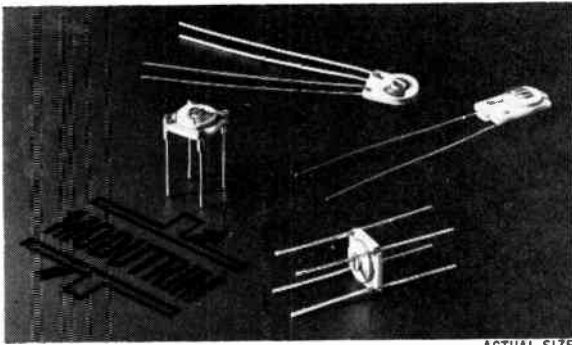
SERIES	PANEL MOUNT					PRINTED CIRCUIT					
	JFD No.	Mil. Spec.	Cap. (pf) Min. Max.	Body Length ±1/32 in.		JFD No.	Mil. Spec.	Cap. (pf) Min. Max.	Body Length ±1/32 in.		
<b>Max-C High Range Miniature Telescopic Sealed Capacitor Series</b>   (Max. Dia. 5/16 in.)	<b>GLASS</b>					<b>GLASS</b>					
	NMC601	PC39J160	1.0 16.0	15/32		NMC621	PC43J160	1.0 16.0	.750		
	NMC603	PC39J360	1.0 36.0	45/64		NMC623	PC43J360	1.0 36.0	.990		
	NMC604	PC39J520	1.0 52.0	59/64		NMC624	PC43J520	1.0 52.0	1.205		
	NMC606	PC39J750	1.0 75.0	1 11/64		NMC626	PC43J750	1.0 75.0	1.450		
	NMC609	PC39J121	1.0 20.0	1 49/64		NMC629	PC43J121	1.0 20.0	2.050		
	MC601Y	PC39J140	1.0 14.0	15/32		MC621Y	PC43J140	1.0 14.0	.750		
	MC603Y	PC39J280	1.0 28.0	45/64		MC621	PC43J140	1.0 14.0	.700		
	MC604Y	PC39J420	1.0 42.0	59/64		MC623Y	PC43J280	1.0 28.0	.990		
	MC605Y	PC39J600	1.0 60.0	1 11/64		MC623	PC43J280	1.0 28.0	.940		
	MC609Y	PC39J900	1.0 90.0	1 49/64		MC624Y	PC43J420	1.0 42.0	1.205		
	MC601	PC39J140	1.0 14.0	15/32		MC624	PC43J420	1.0 42.0	1.155		
	MC603	PC39J280	1.0 28.0	45/64		MC626Y	PC43J600	1.0 60.0	1.450		
	MC604	PC39J420	1.0 42.0	59/64		MC626	PC43J600	1.0 60.0	1.400		
	MC606	PC39J600	1.0 60.0	1 11/64		MC629Y	PC43J900	1.0 90.0	2.050		
	MC609	PC39J900	1.0 90.0	1 49/64		MC629	PC43J900	1.0 90.0	2.000		
	<b>Miniature Telescopic Capacitor Series*</b>   Panel Mount   Printed Circuit   Wire Series  Lug & Lead Series (Max. Dia. 1/4 in.)	<b>GLASS</b> +3/64-1/32					<b>GLASS</b>				
		NVC20G	PC50J110	0.8 11.0	35/64		NVC9GW	PC51J110	0.8 11.0	9/16	
NVC21G		PC50J5R5	0.8 5.5	19/64		NVC10GW	PC51J5R5	0.8 5.5	5/16		
NVC22G		PC50H160	0.8 16.0	3/4		NVC31GW	PC51H160	0.8 16.0	49/64		
NVC23G		PC50H230	0.8 23.0	63/64		NVC32GW	PC51H230	0.8 23.0	1		
NVC24G		PC50H380	1.0 38.0	1 19/32		NVC43GW	PC51H380	1.0 38.0	1 39/64		
VC20GY		PC40J8R5	0.8 8.5	35/64		VC9GWY	PC41J8R5	0.8 8.5	9/16		
VC21GY		PC40J4R5	0.8 4.5	19/64		VC10GWY	PC41J4R5	0.8 4.5	5/16		
VC22GY		PC40H120	0.8 12.0	3/4		VC31GWY	PC41H120	0.8 12.0	49/64		
VC23GY		PC40H180	0.8 18.0	63/64		VC32GWY	PC41H180	0.8 18.0	1		
VC24GY		PC40H300	1.0 30.0	1 19/32		VC43GWY	PC41H300	1.0 30.0	1 39/64		
VC20G		PC40J8R5	0.8 8.5	35/64		VC9GW	PC41J8R5	0.8 8.5	9/16		
VC21G		PC40J4R5	0.8 4.5	19/64		VC10GW	PC41J4R5	0.8 4.5	5/16		
VC22G		PC40H120	0.8 12.0	3/4		VC31GW	PC41H120	0.8 12.0	49/64		
VC23G		PC40H180	0.8 18.0	63/64		VC32GW	PC41H180	0.8 18.0	1		
VC24G		PC40H300	1.0 30.0	1 19/32		VC43GW	PC41H300	1.0 30.0	1 39/64		
<b>QUARTZ</b> +3/64-1/32					<b>QUARTZ</b>						
NMQ1C1		PC40Q1R8	0.6 1.8	19/64		NMQ121	PC41Q1R8	0.6 1.8	9/16		
NMQ1Q3	PC40Q5R5	0.6 5.5	35/64		NMQ123	PC41Q5R5	0.6 5.5	5/16			
NMQ1C6	PC40Q9R5	0.6 9.5	63/64		NMQ126	PC41Q9R5	0.6 9.5	1			
NMQ1O9	PC40Q160	0.8 16.0	1 19/32		NMQ129	PC41Q160	0.8 16.0	1 19/32			
MQ101	PC40Q1R8	0.6 1.8	19/64		MQ121	PC41Q1R8	0.6 1.8	9/16			
MQ103	PC40Q5R5	0.6 5.5	35/64		MQ123	PC41Q5R5	0.6 5.5	5/16			
MQ106	PC40Q9R5	0.6 9.5	63/64		MQ126	PC41Q9R5	0.6 9.5	1			
MQ109	PC40Q160	0.8 16.0	1 19/32		MQ129	PC41Q160	0.8 16.0	1 19/32			

GENERAL SPECIFICATIONS	GLASS	QUARTZ
JFD No./Prefix 'N'	Green Glass dielectric & Hi-Life mechanism	Hi-Life mechanism only
JFD No./Suffix 'Y'	Hi-Life mechanism only	
WVDC	750	750
Dielectric Strength VDC	1,500	1,500
'Q' Minimum at 20 MC	500 min.	1,500 min.
Temperature Coefficient PPM/°C	±50 (-55 to +125°C)	+25 ±25 (-55 to +150°C)
Insulation Resistance megohms	10 <sup>6</sup>	10 <sup>6</sup>
Turning Torque inch ounces	1-10	1-10

Maximum length indicated on Panel Mount only is exclusive of mounting bushing. 'N' and 'Y' Series mounting bushing dimension: 9/32 in. All other 1/4 in. \*Miniature Telescopic Capacitor Series available sealed.

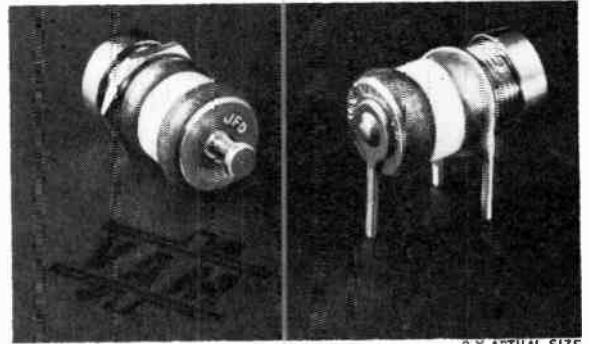
JFD ELECTRONICS CO./COMPONENTS DIVISION

**JFD**



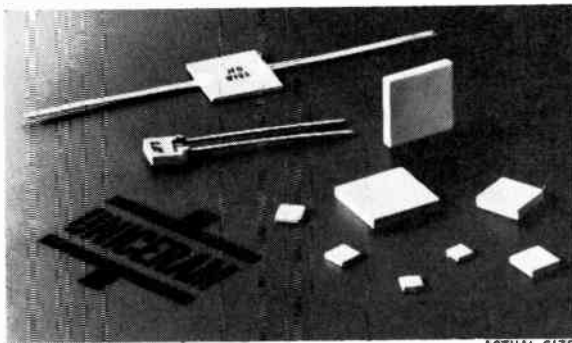
ACTUAL SIZE

**Modutrim Ceramic Variable Capacitors** feature wide delta C in extremely small and ultra stable circuits. Now 9 models in 4 configurations. Write for complete catalog #MT-67.



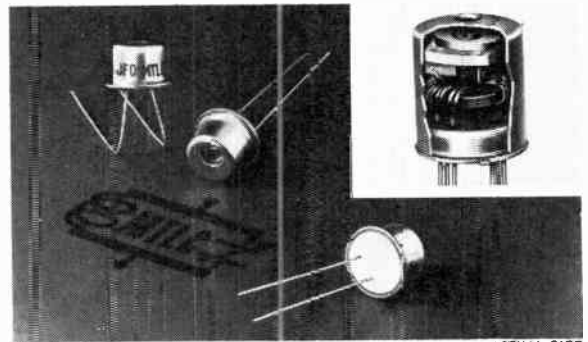
3 X ACTUAL SIZE

**New JFD VAM Air Variable Capacitors** maintain highest Q at high frequencies, offer ultra stability, smallest size. Write for complete catalog #VAM-66-A.



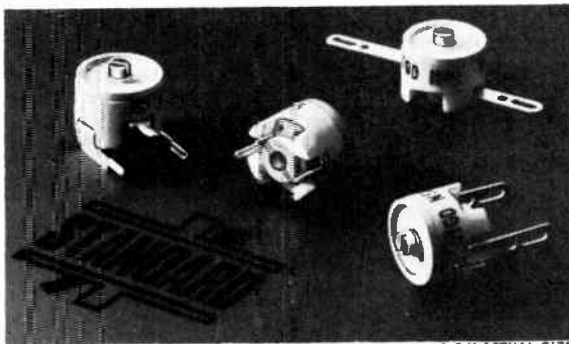
ACTUAL SIZE

**Unicram High-Q ceramic fixed capacitors** combine exceptional stability, small size with minimum Q of 5000. Write for complete catalog #UNM-H/Q-67.



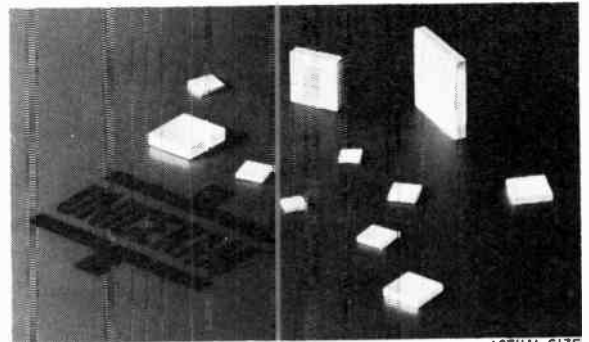
ACTUAL SIZE

**MTLC's offer complete LC tuned circuits within TO-5 can.** Standard frequency ranges from 2 MC to 300 MC. Various other complex networks such as discriminators, phase detectors are also available on special order. Write for complete catalog #MTLC-67.



1.5 X ACTUAL SIZE

**Low-cost Stangard miniature ceramic variable series** for commercial and industrial applications provide 8 wide delta C in 4 versatile configurations. Write for complete catalog #STD-DV/67.



ACTUAL SIZE

**JFD WAFERS are unleaded, unencapsulated versions of Unicram capacitors.** They offer the same fine electrical properties of regular Unicram capacitors at lower cost. Ideally suited for hybrid microcircuits. Write for complete catalog #UNM-H/Q-67.

**JFD**

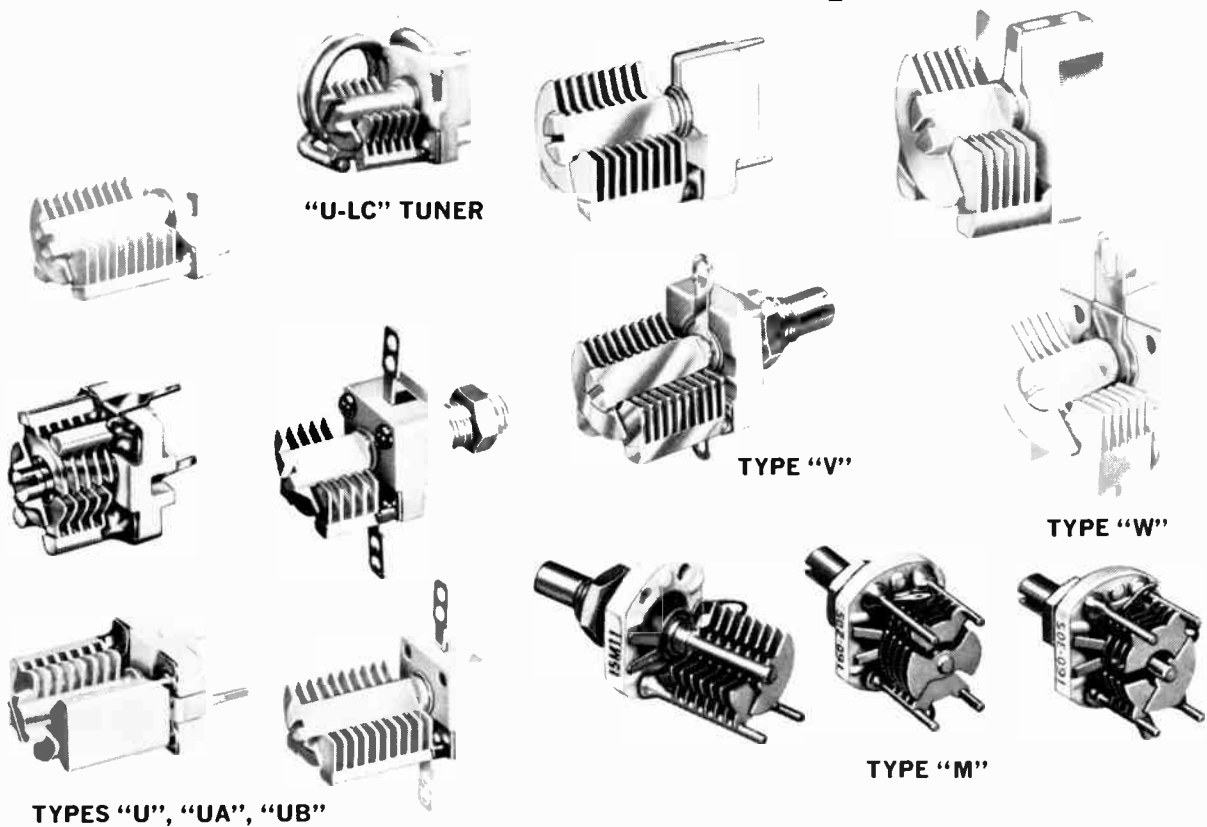
JFD ELECTRONICS CO./COMPONENTS DIVISION



"TODAY'S COMPONENTS BUILT FOR TOMORROW'S CHALLENGES"


**E. F. JOHNSON COMPANY**

# Air variable capacitors



## Sub-miniature PC types to large, heavy duty units

Whatever the choice . . . sub-miniature capacitors for printed circuit use—or large heavy duty types . . . design and development engineers specify Johnson Air Variables!

More than eleven basic capacitor series available in a wide selection of single section, dual section, butterfly and differential types. Stock capacitors in a wide range of plate spacings, capacity per section, breakdown ratings, and finishes meet many military and commercial applications . . . specials available in production quantities.

**TYPE "U", "UA" and "UB"**—less than 0.23 sq. inch mounting area required. Rotors and stators machined from one piece of solid brass. Outstanding reliability with exceptionally uniform delta C and voltage characteristics. Highly resistant to shock and vibration—provide freedom from moisture entrapment. Voltage breakdown to 1100 VDC. Silver-plated metal parts—ceramic is steatite Grade L-423 or better. Single Section types available in: Printed Circuit, Two-Hole, and Bushing Mount styles—Differential and Butterfly types for Printed Circuit mounting.

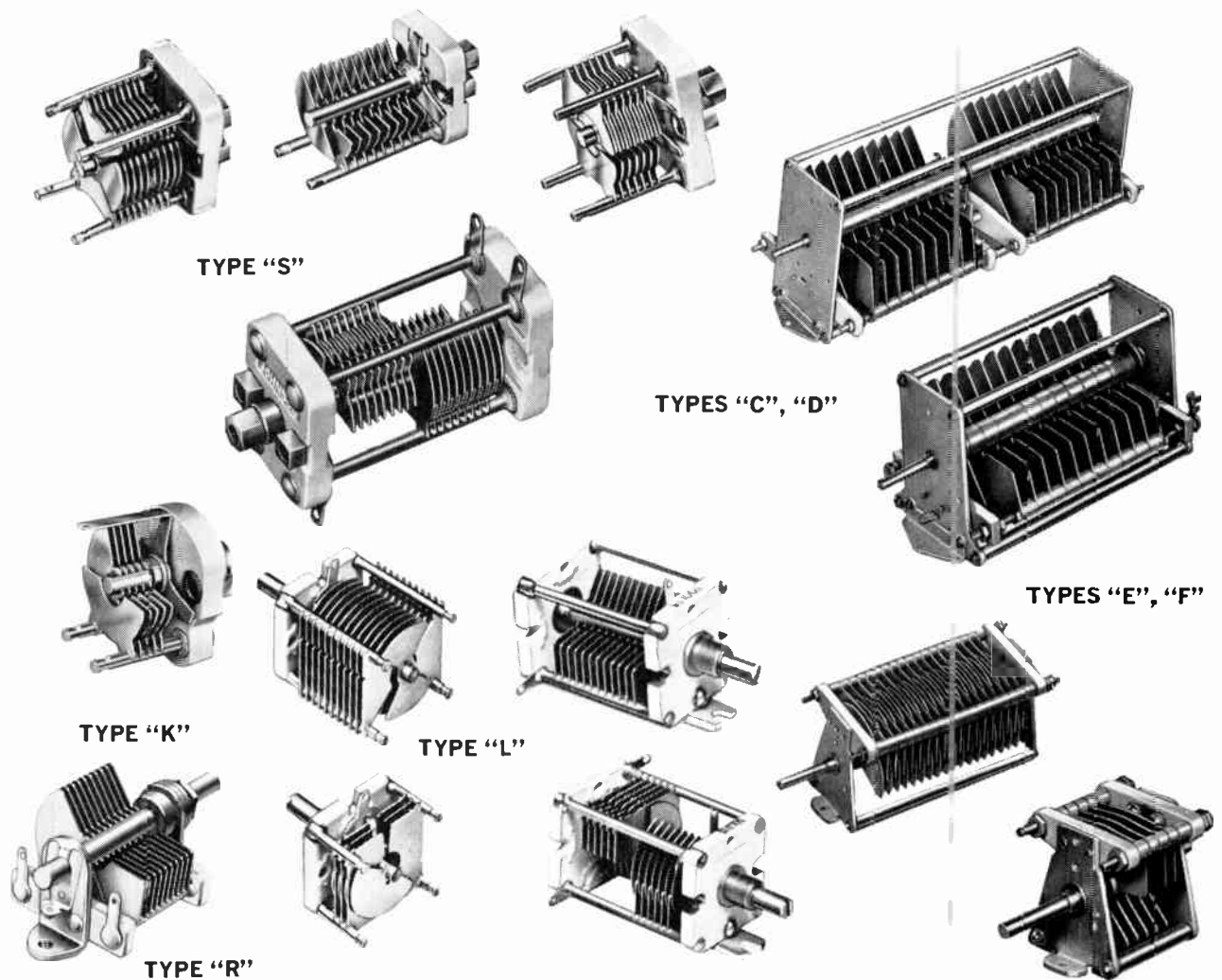
**"U-LC" TUNER**—Precision machined "U" capacitor; air-wound silver-plated inductor. Low cost, compact, tuneable "L-C" circuit—excellent "Q" and temperature stability.

**TYPE "V"**—High capacity in minimum space. Printed circuit and panel mount types mount in less than 0.3 sq. in. area. Rotors and stators precision machined from one piece of solid brass for high reliability and outstanding mechanical stability! High "Q" (greater than 1500 at 1 MC.) . . . low temperature coefficient (plus 50 + 20 PPM/°C) . . . exceptionally uniform delta C and voltage characteristics. Metal parts, silver-plated—ceramic is steatite grade L-423, or better. Voltage breakdown rating 650 VDC. Freedom from moisture entrapment. Slotted rotor or shaft extension for convenient adjustment.

**TYPE "W"**—Advantages of machined plate construction in a larger plate area capacitor offering maximum capacity values of up to approximately 70 pf. Rotors and stators precision machined from one piece of solid brass for outstanding electrical and mechanical stability! High Q (greater than 1500 at 1 Mc) . . . low TC. Requires less than 0.62 sq. inch mounting area . . . printed circuit type mounts by terminals in two .200 by .030 width slots on .800 centers . . . chassis mounting versions mount by means of #3 machine screws or 3/32" rivets located on .470 centers. Metal parts silver plated . . . ceramic end frame steatite grade

*Detailed components catalog is available free . . .*

**CAPACITORS • TUBE SOCKETS • CONNECTORS • PILOT LIGHTS • INSULATORS**



L-423 or better. Voltage breakdown rating 650 VDC.

**TYPE "M"**—Mount in  $\frac{5}{8}$ " x  $\frac{3}{4}$ " area. Peak voltage ratings to 1250 volts on .017" spaced units. Soldered plate construction; securely anchored stator supports; DC-200 treated insulator; nickel-plated brass plates. Single Section, Butterfly, and Differential types with straight, locking and screwdriver shafts.

**TYPE "S"**—Slightly larger than the "M". Peak voltage rating: 850 volts—plate spacing .013", other spacings available. Solder plate construction; securely anchored stator supports; DC-200 treated insulator; nickel-plated brass plates. Single Section, Butterfly, Differential and Dual Types with straight locking and screwdriver shafts.

**TYPE "K"**—Single Section—widely used for military and commercial applications. DC-200 treated insulator, notched stator terminals; extra rigid soldered plate construction. Peak voltage ratings: 1000 volts. Plate spacing .015". Available in production quantities to MIL-C-92A specifications... variations available.

**TYPE "R"**—Single Section—extra-heavy steatite stator support insulators—soldered .023" thick brass plates. Metal parts heavily nickel-plated. Sturdy brass end frames—double bearing construction—silver-plated beryllium copper wiping contacts. Peak voltage rating 1200 volts. Specials available in production quantities.

**TYPE "L"**—Extreme stability and strength—rotor bearings and stator support rods soldered directly to heavy  $\frac{3}{16}$ " steatite insulators. Split-sleeve bearing, silver-plated beryllium copper rotor contact for constant torque, smooth capacity variation. Plate spacing .030". Peak voltage rating 1500 volts. Single Section, Dual, Butterfly, and Differential types. Specials available in production quantities.

**TYPES "C" AND "D"**—Heavy .051" aluminum plates and  $\frac{5}{16}$ " diameter aluminum tie rods;  $\frac{1}{4}$ " cadmium-plated steel shafts; laminated phosphor bronze rotor contact springs; and steatite insulation. Type "C"—overall width:  $5\frac{1}{2}$ "—height:  $5-13/32$ "—height bottom to shaft center:  $3-3/32$ ". Type "D"—overall width:  $4\frac{1}{4}$ "—height: 4"—height bottom to shaft center:  $2-5/32$ ". Dual types have center rotor connection for better balance. End frames tapped 8-32, 3 holes, for panel mounting—brackets furnished for chassis mounting.

**TYPE "E" AND "F" CAPACITORS**—Large amount of capacity per cubic inch and low capacity to chassis. Heavy aluminum plates .032" thick with rounded edges and large  $\frac{1}{4}$ " tie rods; stainless steel shafts; sturdy phosphor bronze rotor contact springs; and center rotor contact on dual types. End frames tapped 8-32, 3 holes for panel mounting—brackets furnished for chassis mounting.

*Write on company letterhead*

• TERMINALS • INDUCTORS • HARDWARE

**E. F. JOHNSON COMPANY**







**MALLORY****Metal Can Electrolytic Capacitors****FP-WP AND PFP-PWP—TRIPLES (CONTINUED)**

Mallory No.	Capacity, $\mu$ F	Working Volts DC	*	Net Each	Mallory No.	Capacity, $\mu$ F	Working Volts DC	*	Net Each	Mallory No.	Capacity, $\mu$ F	Working Volts DC	*	Net Each
FP314A	40-40-200	150-150-25	m	\$1.78	FP326.67A	120-50-40	300-300-300	h	\$3.14	FP341.6A	50-160-50	450-250-50	j	\$3.29
WP308.1A	40-40-250	150-150-25	b	1.80	FP326.75A	150-30-30	300-300-300	h	3.14	FP341.8A	10-80-80	450-250-250	j	2.64
FP309A	50-30-100	150-150-25	m	1.66	PWP-					FP342.2A	5-80-40	450-300-300	g	2.51
FP311A	50-50-20	150-150-25	m	1.65	326.77	150-30-100	300-300-300	i	3.72	FP342.5	30-15-40	450-350-25	g	2.18
PFP-					FP326.78A	140-100-20	300-300-300	j	3.51	FP342.7	30-40-50	450-350-25	e	2.18
311.12A	70-30-20	150-150-25	b	1.69	WP326.8A	4-100-40	350-25-25	i	1.50	FP342.8	80-50-100	450-350-200	c	3.63
FP311.05	80-20-200	150-150-25	b	1.82	FP327.2A	20-50-100	350-100-75	e	3.11	FP343.1A	15-20-20	450-350-250	i	1.83
FP311.1A	80-40-25	150-150-25	b	1.71	FP327.3A	60-200-30	350-150-150	g	2.84	FP343.2	50-10-160	450-350-250	j	3.33
FP311.15A	80-40-300	150-150-25	f	2.24	FP327.35	10-150-200	350-200-75	g	2.65	FP343.4	20-15-15	450-350-350	d	1.89
FP311.2A	20-20-20	150-150-150	f	1.51	FP327.4A	125-5-100	350-200-75	g	2.93	FP343.6A	20-40-10	450-350-350	f	2.32
PFP311.3A	30-25-20	150-150-150	f	1.59	FP327.5A	10-40-40	350-200-200	g	1.85	FP344.2	60-80-20	450-400-250	i	3.56
PFP-					FP331A	30-40-20	350-300-25	b	2.53	FP345.2	10-10-20	450-450-25	l	1.62
311.63A	30-50-40	150-150-150	b	1.73	FP327.89A	40-40-40	350-300-300	c	4.18	FP345.5	15-15-40	450-450-25	c	1.79
FP311.4A	40-20-20	150-150-150	l	1.57	WP327.89B	160-120-30	350-300-300	f	2.69	FP345.8	20-20-20	450-450-25	c	1.91
FP311.5A	40-40-40	150-150-150	m	1.69	327.95A	20-20-1000	350-350-15	f	1.57	FP345.8A	40-20-20	450-450-25	f	2.40
PFP311.55A	40-60-40	150-150-150	b	1.79	FP328A	15-10-20	350-350-25	m	1.71	FP346A	80-40-100	450-450-25	j	3.37
FP311.5A	50-20-20	150-150-150	m	1.60	FP329.5	20-20-20	350-350-25	b	1.71	FP365A	10-10-40	450-450-50	j	1.65
PFP-					FP330A	30-20-20	350-350-25	c	1.81	FP366A	20-10-50	450-450-50	e	1.82
311.62A	50-30-20	150-150-150	m	1.67	FP330.13A	200-10-50	350-350-25	i	3.59	FP366.5A	30-10-150	450-450-50	f	2.34
FP311.6A	50-40-10	150-150-150	m	1.73	FP330.14	250-3-200	350-350-25	j	4.05	FP367.5	40-30-25	450-450-50	g	2.60
FP311.65A	50-50-50	150-150-150	b	1.67	FP330.15A	10-5-30	350-350-50	i	1.49	FP368A	60-40-75	450-450-50	j	3.12
PFP311.53	60-60-40	150-150-150	f	2.12	FP330.2A	10-5-150	350-350-50	m	1.66	FP368.3B	80-20-100	450-450-50	h	3.15
FP326.45	60-60-60	150-150-150	c	1.88	FP330.21A	20-5-150	350-350-50	b	1.76	FP368.5A	80-50-50	450-450-50	j	3.51
FP311.66A	70-15-15	150-150-150	m	1.63	FP330.22A	80-40-400	350-350-50	h	3.26	FP368.6A	30-30-125	450-450-75	g	2.65
FP311.8A	70-40-40	150-150-150	b	1.77	FP330.24A	100-20-50	350-350-50	g	2.76	FP368.68A	10-4-20	450-450-150	m	1.58
FP311.67A	80-30-10	150-150-150	m	1.66	FP330.24A	150-4-30	350-350-50	g	3.04	PFP368.9	40-30-8	450-450-150	g	2.63
FP311.7	80-40-20	150-150-150	f	2.02	FP330.25A	150-5-100	350-350-50	j	3.19	FP369.1A	40-40-40	450-450-150	g	2.84
FP311.71	80-40-20	150-150-150	b	1.74	FP330.25A	30-20-100	350-350-150	f	2.35	FP370A	40-10-80	450-450-200	g	2.63
PWP-					FP330.248A	70-40-50	350-350-150	g	2.76	FP375A	40-40-100	450-450-200	j	3.16
311.75A	80-60-20	150-150-150	c	1.86	FP330.24	125-20-20	350-350-150	h	3.00	FP375.2A	15-10-120	450-450-300	h	2.84
FP311.8A	120-80-20	150-150-150	c	1.99	FP330.29A	30-5-100	350-350-200	f	2.34	FP375.6A	60-20-40	450-450-350	j	3.10
FP311.85A	120-80-40	150-150-150	f	2.32	FP330.26A	100-60-20	350-350-200	h	3.16	FP375.7	20-10-5	450-450-400	d	1.93
FP311.9A	120-120-40	150-150-150	f	2.43	FP330.27A	125-60-40	350-350-200	j	3.49	FP375.75	80-80-20	450-450-400	n	4.09
WP-					FP330.28A	100-60-100	350-350-200	j	3.51	FP375.75	4-20-50	450-450-450	e	2.39
311.95A	150-50-50	150-150-150	f	2.35	FP330.3A	20-10-5	350-350-200	m	1.63	FP375.8	10-10-10	450-450-450	e	1.75
FP312.5A	200-100-60	150-150-150	g	2.69	PFP330.4	10-10-60	350-350-300	f	2.25	FP376.1A	15-15-10	450-450-450	c	1.89
FP312.6A	300-100-80	150-150-150	g	3.04	FP330.5A	10-10-10	350-350-350	m	1.60	FP376.3	20-20-10	450-450-450	d	1.89
PWP315	80-100-40	160-160-160	d	2.09	PFP330.6A	20-20-20	350-350-350	e	1.92	FP376.5A	30-10-10	450-450-450	f	2.44
FP327.8A	60-200-140	200-150-150	g	2.88	FP330.7A	30-20-10	350-350-350	e	1.88	FP376.6	30-10-10	450-450-450	f	2.28
FP314.7	150-150-60	200-150-150	e	2.61	PFP330.8A	40-40-40	350-350-350	g	2.74	FP376.7A	30-30-30	450-450-450	g	2.86
FP315.1	60-5-200	200-200-50	d	1.89	FP330.9A	60-50-50	350-350-350	h	3.08	FP376.8A	40-40-40	450-450-450	g	2.86
FP318.3A	30-20-40	200-200-150	m	1.66	FP331.2	80-20-20	350-350-350	g	2.70	FP376.9	40-40-20	450-450-450	h	2.99
FP318.5A	20-20-20	200-200-200	l	1.73	FP331.3A	80-60-60	350-350-350	j	3.45	FP377.1A	40-40-40	450-450-450	h	3.28
FP318.7A	30-20-20	200-200-200	m	1.62	FP331.6A	90-40-20	350-350-350	g	2.96	FP377.2A	50-40-30	450-450-450	j	3.28
FP318.7A	40-40-20	200-200-200	f	2.02	WP331.7A	100-40-5	350-350-350	g	2.92	FP377.4A	60-10-10	450-450-450	j	2.70
WP318.77	60-60-40	200-200-200	f	2.27	FP331.76A	100-40-40	350-350-350	h	3.25	FP377.6	60-30-10	450-450-450	j	2.99
FP318.8A	250-200-10	200-200-200	h	3.54	FP331.8A	100-60-40	350-350-350	j	3.45	FP377.7A	60-40-40	450-450-450	j	3.58
FP318.85A	250-200-50	200-200-200	h	1.74	FP332.4A	100-100-10	350-350-350	j	3.54	FP378	80-40-20	450-450-450	l	3.58
WP319.6A	60-5-100	250-250-50	b	1.82	WP332.4A	140-140-20	350-350-350	j	4.36	FP378.1	80-40-30	450-450-450	l	3.79
FP319.5A	90-90-20	250-250-50	f	2.62	FP332.5A	40-200-60	400-200-200	j	3.22	FP378.4	80-40-40	450-450-450	l	3.81
FP319.7A	60-5-50	250-250-200	f	2.18	FP332.7A	10-4-40	400-350-25	f	1.53	FP379.1A	20-50-20	475-50-25	c	1.75
WP319.8A	20-20-20	250-250-250	m	1.66	FP333	10-50-30	400-350-25	f	2.20	FP382.1A	40-40-100	475-250-100	g	2.71
FP320	40-20-20	250-250-250	f	2.05	FP333.05	100-10-200	400-350-25	b	3.13	FP382.1A	20-20-40	475-300-25	f	1.19
FP321A	40-20-20	250-250-250	b	1.66	FP333.08	10-4-4	400-350-150	h	1.50	FP384	5-100-300	475-300-150	j	3.05
FP321.5	40-40-40	250-250-250	c	2.01	FP333.1	40-4-4	400-350-150	d	1.87	FP384.1A	10-4-100	475-350-50	b	1.66
FP323A	80-80-60	250-250-250	f	2.81	PFP333.16	40-30-20	400-350-300	d	2.56	FP384.2	10-4-40	475-350-300	f	2.09
FP326A	100-60-20	300-150-25	f	2.51	FP333.2A	80-40-100	400-400-50	j	3.24	FP384.35	20-10-3	475-350-350	c	1.80
PWP-					FP333.3A	80-40-150	400-400-50	j	3.30	FP384.5	10-45-100	475-450-50	g	2.53
326.16A	10-20-10	300-150-150	l	1.54	FP333.5A	100-20-20	400-400-50	h	3.10	FP385A	10-40-100	475-450-200	g	2.73
FP326.2A	20-150-80	300-150-150	f	2.43	FP333.5A	20-10-40	400-400-350	k	2.08	FP387.1A	40-80-10	475-450-450	j	3.53
FP326.3A	100-200-60	300-150-150	h	3.13	FP333.6	20-20-10	400-400-350	d	1.92	FP387.1	10-10-150	475-475-50	d	1.87
WP326.35A	20-100-100	300-200-50	d	2.04	FP333.7	60-30-20	400-400-350	h	2.90	FP388.1	25-10-20	475-475-50	d	1.93
FP326.61	80-200-10	300-200-300	h	2.38	FP333.8	80-20-10	400-400-350	h	2.92	FP389.1A	20-10-100	475-475-400	j	3.33
FP326.4A	60-30-30	300-250-250	f	2.36	FP333.85	100-10-80	400-400-350	i	3.71	FP391.1B	20-20-30	475-475-450	h	3.11
FP335A	100-60-20	300-250-250	g	2.78	FP333.86	100-40-100	400-400-350	i	4.24	FP394A	10-10-10	475-475-475	c	1.82
FP336A	200-60-20	300-250-250	h	3.51	FP333.88	50-30-4	400-400-400	g	2.63	FP396A	30-30-20	475-475-475	g	2.92
PFP326.4	60-10-25	300-300-25	f	2.36	FP333.89	80-60-40	400-400-400	j	3.81	FP396.2A	40-10-10	475-475-475	f	2.58
FP326.5A	150-10-25	300-300-25	g	2.78	FP333.9	90-10-5	400-400-400	h	2.89	FP396.1A	40-20-20	475-475-475	g	2.92
FP326.5A	20-20-50	300-300-50	b	1.70	FP333.95	100-30-20	400-400-400	i	3.48	FP396.12	40-30-10	475-475-475	h	2.92
FP326.6A	100-10-60	300-300-50	f	2.46	WP334.6A	20-500-500	450-25-25	g	2.83	FP396.14B	40-30-30	475-475-475	h	3.25
FP326.7A	140-100-60	300-300-50	h	3.43	FP341A	10-50-100	450-150-75	e	1.80	FP397A	40-35-10	475-475-475	g	2.99
WP326.71A	140-100-100	300-300-50	h	3.48	FP341.2B	40-90-50	450-150-150	g	2.58	PFP397.5	40-40-30	500-200-50	g	2.65
FP326														



# Metal Can Electrolytic Capacitors

FP-WP AND PFP-PWP—QUADS (CONTINUED)

Mallory No.	Capacity, $\mu$ F	WVDC	*	Net/Each	Mallory No.	Capacity, $\mu$ F	WVDC	*	Net/Each
FP419.11	60-5-50-20	300-300-50-50	f	\$2.29	FP423.4	10-40-100-100	450-350-250-50	h	\$2.96
FP418.7A	140-10-10-100	300-300-150-50	g	2.99	WP423.5	10-140-100-20	450-350-300-300	h	4.07
FP419.4A	100-10-200-30	300-300-150-150	h	3.252	FP424.1	10-100-10-20	450-350-350-25	h	2.92
FP419.1A	150-20-10-250	300-300-250-50	h	3.45	FP424.3A	20-80-50-100	450-350-350-50	j	3.37
FP419.2A	40-30-20-50	300-300-300-25	f	2.42	FP425	30-40-40-10	450-350-350-200	h	2.94
FP419.7A	60-40-20-50	300-300-300-25	f	2.63	FP425.6	40-100-20-10	450-350-350-350	j	3.53
FP419.35A	60-30-10-60	300-300-300-50	f	2.53	FP425.1A	80-10-40-30	450-400-300-300	j	3.50
FP419.37A	150-30-30-150	300-300-300-50	h	3.47	FP426	20-15-20-20	450-450-25-25	f	2.25
PFP419.42A	20-20-20-100	300-300-300-150	f	2.50	FP426.2	80-40-100-100	450-450-25-25	l	3.66
WP419.39A	80-20-20-200	300-300-300-150	h	3.22	FP426.5A	20-20-60-100	450-450-150-25	f	2.57
FP419.45A	120-40-40-10	300-300-300-250	h	3.32	FP426.9A	40-40-125-125	450-450-150-25	j	3.38
FP419.53A	60-40-10-10	300-300-300-300	f	2.58	FP427.5A	10-10-60-100	450-450-200-50	f	2.39
FP419.55A	150-100-10-10	300-300-300-300	j	3.66	FP427.6A	35-25-20-100	450-450-200-50	g	2.78
WP419.54A	150-100-30-10	300-300-300-300	j	3.86	FP427.65A	40-40-100-60	450-450-200-200	j	3.54
WP419.52	150-150-30-30	300-300-300-300	l	4.38	FP427.67	80-50-20-50	450-450-250-50	j	3.75
FP419.54A	200-20-20-20	300-300-300-300	j	3.65	PFP427.69A	30-20-160-40	450-450-250-150	j	3.55
FP419.557	50-500-500-200	350-50-25-25	h	3.22	FP427.695	20-30-10-160	450-450-250-250	j	4.64
FP419.56	60-60-30-160	350-150-150-25	h	2.75	FP427.7	10-10-10-50	450-450-300-25	f	2.12
FP419.58	20-60-160-40	350-200-25-25	g	2.40	FP427.8	20-30-4-200	450-450-350-250	l	3.65
FP414	15-80-40-200	350-200-200-25	h	2.63	FP427.9A	20-20-20-10	450-450-350-350	g	2.57
WP419.585A	50-60-5-100	350-250-250-50	f	2.67	FP428A	40-10-35-10	450-450-350-350	g	2.86
417.26	120-100-100-100	350-300-150-75	f	4.05	FP428.4A	40-40-30-30	450-450-350-350	j	3.42
FP419.59A	160-30-30-20	350-300-300-50	j	3.69	FP424	15-15-10-20	450-450-450-25	j	2.29
WP419.51	40-80-10-10	350-300-300-300	K	2.83	FP428.9	30-30-10-125	450-450-450-25	h	2.81
FP419.514	140-100-20-20	350-300-300-300	n	6.62	FP432A	40-10-10-250	450-450-450-25	g	2.80
FP419.65A	160-60-10-4	350-300-300-300	j	3.76	FP431	40-15-10-25	450-450-450-25	g	2.66
FP419.6	40-10-100-25	350-350-25-25	f	2.30	FP430.2A	40-20-20-25	450-450-450-25	g	2.88
FP419.62A	60-4-100-40	350-350-25-25	f	2.45	FP436	40-20-20-40	450-450-450-25	h	2.90
FP419.61	100-4-50-50	350-350-50-25	h	2.83	FP429	40-30-10-20	450-450-450-25	h	2.88
FP419.63A	200-10-4-20	350-350-50-25	j	3.70	FP429.2A	40-40-30-100	450-450-450-25	h	3.38
FP419.635A	40-40-50-50	350-350-50-50	f	2.64	FP430.6A	40-40-40-40	450-450-450-25	j	3.46
FP419.64	40-20-50-25	350-350-150-25	g	2.47	FP430.9	60-40-40-10	450-450-450-25	j	3.72
FP419.649A	40-20-100-100	350-350-200-50	f	2.81	FP430.95A	60-50-5-20	450-450-450-25	j	3.37
FP419.67A	100-60-60-40	350-350-200-75	j	3.55	FP430.97	20-20-20-20	450-450-450-50	g	2.60
FP419.661A	100-60-10-100	350-350-200-150	j	3.60	FP437	20-20-20-100	450-450-450-50	g	2.70
FP419.66A	60-40-60-20	350-350-250-150	g	3.04	FP431.2	40-40-10-25	450-450-450-50	h	3.03
FP419.68	15-15-15-15	350-350-300-25	f	2.13	FP431.3A	40-40-10-50	450-450-450-50	h	3.06
FP419.8	35-35-10-20	350-350-300-25	g	2.48	FP431.35	40-20-20-40	450-450-450-50	h	3.18
FP419.82	20-10-5-10	350-350-350-25	f	2.06	FP431.4B	60-40-10-25	450-450-450-50	h	3.32
FP419.885	20-20-250-50	350-350-350-25	n	4.48	FP433A	40-40-10-100	450-450-450-100	h	3.26
FP419.84	30-10-5-200	350-350-350-25	f	2.35	FP432A	60-10-10-20	450-450-450-150	K	2.92
FP419.86A	40-20-5-10	350-350-350-25	f	2.32	FP432.4A	40-40-30-10	450-450-450-200	j	3.33
FP419.87	40-20-20-50	350-350-350-25	g	2.53	FP432.8	35-35-15-25	450-450-450-250	h	3.25
FP419.88A	40-30-15-30	350-350-350-25	f	2.52	FP432.9B	40-20-10-100	450-450-450-250	h	3.30
FP419.3A	40-40-20-20	350-350-350-25	g	2.67	FP450.2	80-50-10-20	450-450-450-300	j	3.85
FP419.895	10-150-100-100	350-350-350-50	l	4.28	FP433.2	40-10-10-40	450-450-450-350	h	2.95
FP419.9	15-15-15-50	350-350-350-50	f	2.21	FP433A	40-20-20-20	450-450-450-350	h	3.04
PFP420.17A	40-20-10-100	350-350-350-50	f	2.53	WP433.6	5-5-5-5	450-450-450-450	f	2.01
FP420.15A	70-40-10-50	350-350-350-50	g	2.89	FP434	10-10-10-10	450-450-450-450	f	2.27
FP420.2A	50-40-40-160	350-350-350-50	h	3.16	FP434.5	20-10-10-10	450-450-450-450	g	2.41
FP420.23A	100-10-10-20	350-350-350-50	g	2.86	FP444A	20-20-20-20	450-450-450-450	g	2.86
FP419.89A	100-30-10-40	350-350-350-50	g	3.08	FP444A.4A	30-15-15-15	450-450-450-450	g	2.77
WP420.25A	100-40-4-100	350-350-350-50	h	3.20	FP444.5	30-20-20-10	450-450-450-450	g	2.86
FP420.26A	100-40-30-50	350-350-350-50	h	3.36	FP444.6A	30-30-15-10	450-450-450-450	g	2.93
FP420.273	100-100-60-100	350-350-350-50	h	4.28	FP444.8	30-30-20-20	450-450-450-450	h	3.13
FP420.276	120-20-10-50	350-350-350-50	h	3.19	FP444.9A	30-30-30-15	450-450-450-450	h	3.25
FP420.28A	140-20-10-100	350-350-350-50	h	3.43	FP444.95	40-20-20-4	450-450-450-450	h	2.92
FP420.29A	90-30-5-100	350-350-350-75	h	3.07	FP445	35-35-10-5	450-450-450-450	h	2.93
FP420.31A	100-80-10-20	350-350-350-150	j	3.56	FP446	40-35-10-10	450-450-450-450	h	3.06
FP420.32A	20-10-5-60	350-350-350-200	f	2.30	FP447A	40-40-20-20	450-450-450-450	j	3.42
FP420.33A	30-10-5-100	350-350-350-200	f	2.55	FP447.5A	40-40-30-30	450-450-450-450	j	3.71
FP420.35A	40-20-20-10	350-350-350-350	f	2.54	WP447.7	40-40-40-40	450-450-450-450	j	3.98
FP420.36A	40-40-30-20	350-350-350-350	g	2.95	FP448A	60-20-20-20	450-450-450-450	j	3.42
FP420.38A	40-40-40-40	350-350-350-350	h	3.21	FP448.5	60-30-10-2	450-450-450-450	h	3.39
FP420.4A	80-60-40-20	350-350-350-350	j	3.59	FP449	70-10-10-5	450-450-450-450	h	3.06
FP420.405A	100-20-10-5	350-350-350-350	g	2.96	FP450B	80-10-10-10	450-450-450-450	h	3.29
FP420.3	150-50-25-25	350-350-350-350	h	4.40	FP450.08	80-40-20-10	450-450-450-450	l	3.84
FP420.365	100-100-20-20	350-350-350-350	h	3.24	FP450.16A	80-40-20-20	450-450-450-450	l	3.98
FP420.407	80-80-4-100	400-200-150-50	j	3.21	FP450.5	40-40-50-80	475-250-150-50	h	2.89
FP420.41A	40-120-10-150	400-250-250-50	j	3.21	FP451A	10-100-10-100	475-300-300-25	g	2.79
FP420.44A	30-40-50-200	400-300-250-150	l	3.39	FP451.3B	10-140-4-100	475-300-300-50	h	3.13
FP420.43	80-80-100-100	400-350-25-25	l	3.71	FP452A	20-80-20-10	475-300-300-300	g	2.88
FP420.438	10-4-4-20	400-350-150-25	f	1.93	FP452.5	10-20-100-50	475-350-25-25	f	2.21
PFP420.439	40-100-5-100	400-350-150-50	j	3.33	FP453A	10-40-80-100	475-350-200-100	h	3.03
FP420.45A	40-80-100-25	400-350-200-50	j	3.45	FP453.4A	10-40-80-100	475-350-300-100	h	3.10
FP420.46A	80-40-20-20	400-350-300-300	j	2.94	FP454A	10-130-20-10	475-350-350-50	f	2.31
FP420.47	20-60-40-80	400-350-350-50	h	3.40	FP454.2	20-60-40-10	475-350-350-350	j	3.40
FP420.5A	30-60-20-100	400-350-350-50	j	3.02	FP454.6	10-40-4-100	475-400-350-50	g	2.57
PFP420.52	40-30-20-50	400-350-350-350	h	2.89	FP454.8A	10-80-40-100	475-400-400-50	j	3.53
FP420.51	20-20-50-50	400-400-15-15	f	2.28	FP455.5	25-20-20-100	475-450-300-50	g	2.70
FP420.53	20-5-20-20	400-400-25-25	f	2.07	FP456	25-20-40-100	475-450-300-50	h	2.87
FP420.54	80-50-25-25	400-400-25-25	h	3.37	FP456.5A	10-60-30-125	475-450-400-50	j	3.30
FP420.56A	50-25-100-20	400-400-50-25	g	2.80	FP455	10-50-30-30	475-450-450-25	h	3.04
FP420.6A	80-40-100-20	400-400-50-25	j	3.40	FP459	10-40-10-100	475-450-450-50	g	2.72
FP420.7	100-10-30-20	400-400-50-50	h	3.15	FP460A	80-4-4-4	475-450-450-450	h	3.24
FP420.8	20-10-10-25	400-400-100-25	f	2.14	FP460.5A	50-40-4-40	475-475-150-25	h	3.28
WP420.9A	20-20-100-100	400-400-100-100	g	2.71	FP461A	15-15-80-40	475-475-300-50	g	2.85
FP420.95	80-40-100-100	400-400-200-50	l	3.81	FP463A	50-30-20-20	475-475-300-300	j	3.36
FP420.97	80-40-40-100	400-400-300-50	j	3.66	FP464.9A	40-10-4-40	475-475-350-300	g	2.90
FP421	5-5-50-80	400-400-300-250	h	2.71	FP472A	80-4-4-200	475-475-475-25	h	3.44
FP421.1	40-120-20-100	400-400-350-25	n	4.04	FP474	10-10-10-10	475-475-475-475	f	2.71
FP421.2A	60-40-40-10	400-400-350-50	j	3.36	FP474.5A	20-20-10-10	475-475-475-475	f	2.71
FP421.3A	100-10-20-20	400-400-350-50	j	3.32	FP475A	20-20-20-20	475-475-475-475	g	3.05
FP421.4	30-30-15-20	400-400-400-25	h						

# MALLORY Tubular Electrolytic Capacitors



**METAL TUBULAR ELECTROLYTICS**  
Metal tubulars with insulating sleeve. Use etched cathode construction for maximum reliability. **TC**, **TCN** are single section with 3" tinned leads except (\*) 2" leads; **TCD**, **TCT** have 7" insulated leads; **TCS** has solder lugs. Sizes .89" dia. and up have mtg. straps. **Temp. Range:** -20° C to +85° C except (\*) rated at +65° C. **Tolerance:** -10%, +100% up to 350 WVDC; -10%, +50% 450 WVDC and up.

TC SINGLE SECTION				
Mallory No.	Cap., μF	WV DC	Size, in. Dia. x Lg.	Net Each
TC304*	200	3	.39 x .81	\$0.76
TC305*	500	3	.39 x 1.44	.90
TC310*	1000	3	.64 x 1.13	1.05
TC605*	500	6	.42 x 1.56	.92
TC610*	1000	6	.64 x 1.38	1.08
TC1502*	200	15	.39 x 1.44	.90
TC1505*	500	15	.64 x 1.38	1.05
TC1501	1000	15	.77 x 1.63	1.38
TC1520*	2000	15	.89 x 1.88	1.65
TC22*	10	25	.28 x .69	.60
TC26*	25	25	.32 x .69	.60
TC29*	50	25	.39 x .94	.67
TC2501*	100	25	.39 x 1.44	.80
TC25015*	150	25	.42 x 1.69	.87
TC2505	500	25	.77 x 1.63	1.35
TC31*	1	50	.28 x .69	.55
TC302*	2	50	.28 x .69	.54
TC30*	5	50	.28 x .94	.60
TC32*	10	50	.32 x .81	.60
TC36*	25	50	.39 x .94	.64
TC39*	50	50	.39 x 1.44	.72
TC3501*	100	50	.64 x 1.63	.83
TC50015*	150	50	.64 x 1.63	.90
TC50025*	250	50	.77 x 1.63	1.00
TC50050*	500	50	1.02 x 1.63	1.40
TC50100*	1000	50	1.02 x 2.75	1.90
TC40*	5	150	.32 x .81	.60
TC41*	8	150	.39 x .94	.64
TC42*	10	150	.39 x 1.02	.64
TC43*	12	150	.39 x 1.06	.67
TC44*	16	150	.39 x 1.19	.69
TC45*	20	150	.39 x 1.44	.72
TC47*	30	150	.64 x 1.13	.79
TC48*	40	150	.77 x 1.13	.82
TC49*	50	150	.64 x 1.63	.84
TC492*	80	150	.77 x 1.63	.95
TC493*	100	150	.77 x 1.88	1.05
TC495*	150	150	1.02 x 1.38	1.13
TC496*	200	150	1.02 x 1.63	1.32
TC499*	300	150	1.02 x 2.13	1.63
TC50X	5	250	.52 x 1.13	.69
TC51	8	250	.64 x 1.13	.70
TC52	10	250	.64 x 1.13	.72
TC53	12	250	.64 x 1.13	.75
TC54	16	250	.64 x 1.38	.79
TC55	20	250	.64 x 1.38	.82
TC58	40	250	.77 x 1.63	.94
TC59	50	250	.89 x 2.13	1.02
TC1265	100	250	.89 x 2.13	1.47
TC593	150	300	1.02 x 2.75	1.84
TC595	2	350	.42 x 1.06	.60
TC60	5	350	.64 x 1.13	.65
TC61	8	350	.64 x 1.63	.72
TC62	10	350	.77 x 1.63	.75
TC63	12	350	.77 x 1.63	.79
TC64	16	350	.77 x 1.63	.84
TC65	20	350	.77 x 1.63	.87
TC67	40	350	.77 x 2.13	1.05
TC68	60	350	.89 x 2.75	1.17
TC69	100	350	1.02 x 2.75	1.82
TC692	150	350	1.02 x 3.88	2.22
TC695	2	450	.52 x 1.38	.65
TC697	4	450	.64 x 1.38	.69
TC70	5	450	.64 x 1.38	.72
TC71	8	450	.77 x 1.63	.75
TC72	10	450	.77 x 1.63	.77
TC73	12	450	.77 x 1.63	.82
TC74	16	450	.89 x 1.63	.84
TC75	20	450	.89 x 1.63	.93
TC77	30	450	1.02 x 1.88	1.02
TC78	40	450	1.02 x 2.13	1.08
TC79	50	450	1.02 x 2.75	1.25
TC795	60	450	1.02 x 2.75	1.40
TC80	80	450	1.06 x 3.38	1.63
TC805	100	450	1.39 x 2.88	1.82
TC807	100	450	1.02 x 3.88	1.82
TC81*	10	500	.77 x 1.63	.82
TC82	10	500	.69 x 3.00	.82
TC83*	20	500	1.02 x 1.63	.97
TC84*	30	500	1.02 x 2.13	1.16
TC90	4	600	.69 x 2.50	1.17
TC92	10	600	.81 x 2.50	1.77
TC96	20	600	1.06 x 3.00	2.35

NON-POLAR SINGLE SECTION				
Mallory No.	Cap., μF	WV DC	Size, in. Dia. x Lg.	Net Each
TCN105	5	10#	.69 x 1.25	\$0.68
TCN106	6	10#	.56 x 1.25	.68
TCN108	8	10#	.69 x 1.50	.68
TCN1025	25	10#	.39 x .81	.75
TCN412	500	10#	.94 x 2.00	1.20

\*VNP.

NON-POLAR (CONT'D)				
Mallory No.	Cap., μF	VNP	Size, in. Dia. x Lg.	Net Each
TCN1550	500	15	1 1/4 x 2 3/4	\$1.25
TCN415	1000	15	1 1/4 x 3 1/2	1.65
TCN2516	16	25	1 1/4 x 1 1/2	.94
TCN425	100	25	1 1/4 x 1 1/2	.97
TCN501	1	50	1 1/4 x 1 1/2	.68
TCN502	2	50	1 1/4 x 1 1/2	.68
TCN503	3	50	1 1/4 x 1 1/2	.68
TCN504	4	50	1 1/4 x 1 1/2	.68
TCN505	5	50	1 1/4 x 1 1/2	.70
TCN5010	10	50	1 1/4 x 1 1/2	.72
TCN5099	100	50	1 1/4 x 1 1/2	1.42
TCN510	4	150	1 1/4 x 1 1/2	.70
TCN1512	12	150	1 1/4 x 1 1/2	.97
TCN1540	40	150	1 1/4 x 1 1/2	1.07
TCN1551	50	150	1 1/4 x 2 1/4	1.19
TCN2550	4	200	1 1/4 x 2 1/4	1.19
TCN3520	20	350	1 1/4 x 2 1/4	1.19
TCN511	10	450	1 1/4 x 2 1/4	1.24

TCD DUAL COMMON NEGATIVE				
No. TCD-	Cap., μF	WVDC	Size, in. Dia. x Lg.	Net Each
204	250-1000	10-6	1 1/2 x 2 3/4	\$1.85
16	500-100	16-16	1 1/2 x 2 3/4	1.00
26	25-25	25-25	1 1/2 x 1 3/4	1.00
N201†	130-130	25-25	1 1/2 x 1 3/4	2.10
40	10-10	100-100	1 1/2 x 1 3/4	1.00
43	10-10	150-150	1 1/2 x 1 3/4	1.05
45	20-20	150-150	1 1/2 x 1 3/4	1.05
508	130-20	150-150	1 1/2 x 2 3/4	1.59
47	30-30	150-150	1 1/2 x 1 3/4	1.09
485	40-20	150-150	1 1/2 x 1 3/4	1.09
475	40-30	150-150	1 1/2 x 2 3/4	1.09
48	40-40	150-150	1 1/2 x 2 3/4	1.12
497	50-30	150-150	1 1/2 x 2 3/4	1.17
49	50-50	150-150	1 1/2 x 2 3/4	1.27
50	60-20	150-150	1 1/2 x 1 3/4	1.20
4975	80-40	150-150	1 1/2 x 2 3/4	1.34
498	80-50	150-150	1 1/2 x 2 3/4	1.42
2155	100-100	150-150	1 1/2 x 2 3/4	1.92
46	30-20	200-200	1 1/2 x 2 3/4	1.12
2165	30-30	200-200	1 1/2 x 2 3/4	1.24
2169	50-75	250-50	1 1/2 x 2 3/4	1.49
2174	100-150	250-50	1 1/2 x 2 3/4	2.19
2173	8-8	250-250	1 1/2 x 1 3/4	1.09
52	10-10	250-250	1 1/2 x 2 3/4	1.12
55	20-20	250-250	1 1/2 x 2 3/4	1.12
2274	40-40	300-300	1 1/2 x 3 3/4	1.84
58	80-40	300-300	1 1/2 x 4	1.94
62	10-10	350-350	1 1/2 x 2 3/4	1.12
65	20-20	350-350	1 1/2 x 2 3/4	1.44
68	30-5	350-350	1 1/2 x 2 3/4	1.40
2297	40-50	450-50	1 1/2 x 3 3/4	1.84
2302	30-60	450-300	1 1/2 x 4	2.09
71	8-8	450-450	1 1/2 x 2 3/4	1.17
72	10-10	450-450	1 1/2 x 2 3/4	1.24
74	15-15	450-450	1 1/2 x 3 3/4	1.35
745	20-8	450-450	1 1/2 x 2 3/4	1.34
75	20-20	450-450	1 1/2 x 3 3/4	1.50
77	30-30	450-450	1 1/2 x 4	1.95
78	40-40	450-450	1 1/2 x 4 3/4	2.24

TCS DUAL SEPARATE SECTION				
Mallory No.	Cap., μF	WV DC†	Size, in. Dia. x Lg.	Net Each
TCS44	15-15	150	1 1/2 x 2 3/4	\$1.37
TCS45	20-20	150	1 1/2 x 2 3/4	1.42
TCS47	30-30	150	1 1/2 x 2 3/4	1.55
TCS48	40-40	150	1 1/2 x 2 3/4	1.63
TCS49	120-120	150	1 1/2 x 3 3/4	2.07
TC505	70-70	175	1 1/2 x 3 3/4	2.00
TC552	10-10	250	1 1/2 x 2 3/4	1.55
TC555	20-20	250	1 1/2 x 2 3/4	1.78
TC561	8-8	350	1 1/2 x 2 3/4	1.55
TC571	8-8	450	1 1/2 x 2 3/4	1.68
TC574	15-15	450	1 1/2 x 2 3/4	1.87
TC575	20-20	450	1 1/2 x 3 3/4	2.03

†Non-polar. ‡Each section.

TCT TRIPLE COMMON NEGATIVE				
No. TCT-	Cap., μF	Volts	Size, in. Dia. x L.	Net Each
3053	20-20-20	150-150-25	1 1/2 x 2 3/4	\$1.74
3055	30-30-20	150-150-25	1 1/2 x 2 3/4	1.89
3094	50-30-200	150-150-25	1 1/2 x 2 3/4	2.02
3109	20-10-10	150-150-150	1 1/2 x 1 3/4	1.70
3112	20-20-20	150-150-150	1 1/2 x 1 3/4	1.77
3113	30-30-30	150-150-150	1 1/2 x 2 3/4	1.87
3114	40-20-20	150-150-150	1 1/2 x 2 3/4	1.80
3105	40-30-20	150-150-150	1 1/2 x 1 3/4	1.87
3116	40-40-20	150-150-150	1 1/2 x 2 3/4	1.87
3115	40-40-40	150-150-150	1 1/2 x 2 3/4	1.92
3107	50-30-20	150-150-150	1 1/2 x 2 3/4	1.89
3110	60-30-10	150-150-150	1 1/2 x 2 3/4	1.89
3119	60-50-20	150-150-150	1 1/2 x 2 3/4	1.94
3117	80-40-20	150-150-150	1 1/2 x 2 3/4	1.98
3118	80-50-50	150-150-150	1 1/2 x 4	2.10
3120	80-80-20	150-150-150	1 1/2 x 3 3/4	2.10
3285	40-30-40	350-250-150	1 1/2 x 4	2.86
3405	30-50-100	450-150-25	1 1/2 x 4	2.57
3432	30-30-30	450-350-250	1 1/2 x 4	2.76
3764	40-20-10	450-450-450	1 1/2 x 4	2.64

## MINIATURE PHENOLIC CASE ELECTROLYTICS



Miniature electrolytics for portable radio and television applications. Enclosed in phenolic case with epoxy end seals. **PET** series are single ended with 1" leads for printed circuit use. **PETA** series has 1 1/2" axial leads. **Temperature Range:** -30° C to +85° C. **Tolerance:** -10%, +150%.

No. PET-	Cap., μF	WV DC	Size, in.	Net Each
118	8	3	3/8 x 1 1/8	\$0.82
122	15	3	3/8 x 1 1/8	.83
130	30	3	3/8 x 1 1/8	.83
140	40	3	3/8 x 1 1/8	.83
180	150	3	3/8 x 1 1/8	.89
1210	5	6	1/2 x 1 1/8	.82
1260	60	6	1/2 x 1 1/8	.85
1300	750	6	1/2 x 1 1/8	1.18
1340	10	10	1/2 x 1 1/8	.83
1400	100	10	1/2 x 1 1/8	.88
1500	100	12	1/2 x 1 1/8	.88
1535	6	15	3/8 x 1 1/8	.83
1570	20	15	3/8 x 1 1/8	.83
1575	50	15	3/8 x 1 1/8	.85
1760	10	25	3/8 x 1 1/8	.83
1930	2	50	3/8 x 1 1/8	.82
1935	4	50	3/8 x 1 1/8	.83
1960	25	50	3/8 x 1 1/8	.85
1980	50	50	3/8 x 1 1/8	.88
290	500-50	3-3	1/2 x 1 1/8	1.31
295	1000-50	3-3	1/2 x 1 1/8	1.53

# MALLORY Tubular Electrolytic Capacitors

## TT TINY TUBULAR ALUMINUM ELECTROLYTIC CAPACITORS



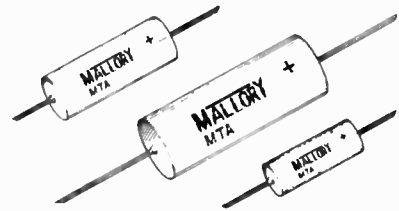
Mallory TT capacitors are made from very high purity aluminum foil, deep-etched to provide maximum capacity per unit of volume. Etched cathode construction assures long, hum-free operation. Utilize all-welded construction; exhibit exceptionally low DCL and ESR. Supplied in aluminum case with insulating sleeve; wire leads 2" lg. (= 1/4"). **Temperature Range:** -30° C to +85° C, operating. **Tolerance:** -10%, +150%, 1-50 WVDC; -10%, +100%, 60 WVDC and up.

Mallory No.	Cap., μF	WV DC	Size, In.* Dia. x L.	Net Each
TT1X5	5	1	1/4 x 3/8	\$0.51
TT2X150	150	2	3/8 x 3/8	.90
TT3X1	1	3	1/4 x 3/8	.51
TT3X2	2	3	1/4 x 3/8	.51
TT3X3	3	3	1/4 x 3/8	.51
TT3X4	4	3	1/4 x 3/8	.51
TT3X5	5	3	1/4 x 3/8	.51
TT3X6	6	3	1/4 x 3/8	.51
TT3X8	8	3	1/4 x 3/8	.51
TT3X10	10	3	1/4 x 3/8	.51
TT3X15	15	3	1/4 x 3/8	.51
TT3X20	20	3	1/4 x 3/8	.51
TT3X25	25	3	1/4 x 3/8	.51
TT3X35	35	3	1/4 x 3/8	.57
TT3X40	40	3	1/4 x 3/8	.72
TT3X50	50	3	1/4 x 3/8	.74
TT3X75	75	3	1/4 x 3/8	.75
TT3X100	100	3	3/8 x 3/8	.81
TT3X110	110	3	3/8 x 3/8	.81
TT3X150	150	3	3/8 x 3/8	.81
TT3X200	200	3	3/8 x 3/8	.81
TT3X250	250	3	3/8 x 3/8	.81
TT3X300	300	3	3/8 x 1	.87
TT3X400	400	3	3/8 x 1 1/8	.93
TT3X500	500	3	3/8 x 1 3/8	.99
TT6X1	1	6	1/4 x 3/8	.54
TT6X2	2	6	1/4 x 3/8	.54
TT6X3	3	6	1/4 x 3/8	.54
TT6X4	4	6	1/4 x 3/8	.54
TT6X5	5	6	1/4 x 3/8	.54
TT6X6	6	6	1/4 x 3/8	.54
TT6X8	8	6	1/4 x 3/8	.54
TT6X10	10	6	1/4 x 3/8	.54
TT6X15	15	6	1/4 x 3/8	.54
TT6X20	20	6	1/4 x 3/8	.54
TT6X25	25	6	1/4 x 3/8	.54
TT6X30	30	6	1/4 x 3/8	.57
TT6X35	35	6	1/4 x 3/8	.57
TT6X40	40	6	1/4 x 3/8	.57
TT6X50	50	6	3/8 x 3/8	.75
TT6X60	60	6	3/8 x 3/8	.75
TT6X75	75	6	3/8 x 3/8	.81
TT6X80	80	6	3/8 x 3/8	.81
TT6X100	100	6	3/8 x 3/8	.81
TT6X150	150	6	3/8 x 3/8	.81
TT6X200	200	6	3/8 x 3/8	.84
TT6X250	250	6	3/8 x 1	.87
TT6X300	300	6	3/8 x 1	.93
TT10X2	2	10	1/4 x 3/8	.57
TT10X6	6	10	1/4 x 3/8	.57
TT10X10	10	10	1/4 x 3/8	.57
TT10X15	15	10	1/4 x 3/8	.57
TT10X25	25	10	1/4 x 3/8	.75
TT10X30	30	10	1/4 x 3/8	.81
TT10X40	40	10	1/4 x 3/8	.81
TT10X50	50	10	3/8 x 3/8	.81
TT10X60	60	10	3/8 x 3/8	.81
TT10X100	100	10	3/8 x 3/8	.81
TT10X200	200	10	3/8 x 1	.96
TT12X1	1	12	1/4 x 3/8	.57
TT12X2	2	12	1/4 x 3/8	.57
TT12X3	3	12	1/4 x 3/8	.57
TT12X4	4	12	1/4 x 3/8	.57
TT12X5	5	12	1/4 x 3/8	.57
TT12X6	6	12	1/4 x 3/8	.57
TT12X8	8	12	1/4 x 3/8	.57
TT12X10	10	12	1/4 x 3/8	.57
TT12X15	15	12	1/4 x 3/8	.57
TT12X20	20	12	1/4 x 3/8	.57
TT12X25	25	12	1/4 x 3/8	.75
TT12X35	35	12	3/8 x 3/8	.75
TT12X50	50	12	3/8 x 3/8	.81
TT12X75	75	12	3/8 x 3/8	.81
TT12X100	100	12	3/8 x 3/8	.81
TT12X150	150	12	3/8 x 1	.93
TT12X200	200	12	3/8 x 1 1/8	.96
TT12X250	250	12	3/8 x 1 3/8	.96

Mallory No.	Cap., μF	WV DC	Size, In.* Dia. x L.	Net Each
TT15X1	1	15	1/4 x 3/8	\$0.57
TT15X2	2	15	1/4 x 3/8	.57
TT15X3	3	15	1/4 x 3/8	.57
TT15X4	4	15	1/4 x 3/8	.57
TT15X5	5	15	1/4 x 3/8	.57
TT15X6	6	15	1/4 x 3/8	.57
TT15X8	8	15	1/4 x 3/8	.57
TT15X10	10	15	1/4 x 3/8	.57
TT15X15	15	15	1/4 x 3/8	.57
TT15X20	20	15	1/4 x 3/8	.57
TT15X25	25	15	1/4 x 3/8	.75
TT15X30	30	15	1/4 x 3/8	.75
TT15X35	35	15	3/8 x 3/8	.75
TT15X40	40	15	3/8 x 3/8	.81
TT15X50	50	15	3/8 x 3/8	.81
TT15X75	75	15	3/8 x 3/8	.81
TT15X100	100	15	3/8 x 3/8	.81
TT15X150	150	15	3/8 x 1 1/8	.87
TT15X200	200	15	3/8 x 1 3/8	.96
TT25X1	1	25	1/4 x 3/8	.54
TT25X2	2	25	1/4 x 3/8	.57
TT25X3	3	25	1/4 x 3/8	.57
TT25X4	4	25	1/4 x 3/8	.57
TT25X5	5	25	1/4 x 3/8	.57
TT25X6	6	25	1/4 x 3/8	.57
TT25X8	8	25	1/4 x 3/8	.60
TT25X10	10	25	1/4 x 3/8	.60
TT25X15	15	25	1/4 x 3/8	.75
TT25X20	20	25	1/4 x 3/8	.81
TT25X25	25	25	1/4 x 3/8	.81
TT25X30	30	25	1/4 x 3/8	.81
TT25X35	35	25	1/4 x 3/8	.81
TT25X50	50	25	3/8 x 3/8	.81
TT25X75	75	25	3/8 x 1	.87
TT25X100	100	25	3/8 x 1 1/8	.90
TT50X1	1	50	1/4 x 3/8	.54
TT50X2	2	50	1/4 x 3/8	.54
TT50X3	3	50	1/4 x 3/8	.57
TT50X4	4	50	1/4 x 3/8	.57
TT50X5	5	50	1/4 x 3/8	.57
TT50X6	6	50	1/4 x 3/8	.81
TT50X8	8	50	1/4 x 3/8	.81
TT50X10	10	50	3/8 x 3/8	.81
TT50X15	15	50	3/8 x 3/8	.81
TT50X20	20	50	3/8 x 3/8	.81
TT50X25	25	50	3/8 x 3/8	.84
TT50X35	35	50	3/8 x 1	.84
TT50X50	50	50	3/8 x 1 1/8	.87
TT80X4	4	80	1/4 x 3/8	.81
TT100X1	1	100	1/4 x 3/8	.81
TT100X2	2	100	1/4 x 3/8	.81
TT100X3	3	100	1/4 x 3/8	.81
TT100X4	4	100	1/4 x 3/8	.81
TT100X5	5	100	1/4 x 3/8	.81
TT100X6	6	100	1/4 x 3/8	.81
TT100X8	8	100	1/4 x 3/8	.81
TT100X10	10	100	3/8 x 3/8	.81
TT100X15	15	100	3/8 x 3/8	.84
TT100X20	20	100	3/8 x 1	.84
TT100X25	25	100	3/8 x 1 1/8	.84
TT150X1	1	150	1/4 x 3/8	.84
TT150X2	2	150	1/4 x 3/8	.84
TT150X3	3	150	1/4 x 3/8	.84
TT150X4	4	150	1/4 x 3/8	.84
TT150X5	5	150	1/4 x 3/8	.84
TT150X6	6	150	1/4 x 3/8	.84
TT150X8	8	150	1/4 x 3/8	.84
TT150X10	10	150	3/8 x 3/8	.84
TT150X12	12	150	3/8 x 1	.87
TT250X1	1	250	1/4 x 3/8	1.02
TT350X2	2	350	3/8 x 1 3/8	1.05

\*Size shown for plain case. For Insul. sleeve add .020" dia. x 1/8" l.

## MTA MOLDED TUBULAR ALUMINUM ELECTROLYTIC CAPACITORS



High quality electrolytics, precision molded by an exclusive new technique. Precision molding assures case uniformity and quality unattainable by conventional tube-and-fill methods. Polypropylene case material provides extreme humidity protection; actually excludes water molecules while allowing for molecular venting of the electrolyte if necessary. All-welded construction. **Temperature Range:** -20° C to +65° C. **Tolerance:** -10%, +100%. Ask for Bulletin 9-372 for complete specifications.

### MTA STOCK VALUES

Mallory No.	Cap. μF	Max. WVDC	Surge VDC	Size †	Net Each
MTA60D3	60	3	4	D	\$0.36
MTA175E3	175	3	4	E	.45
MTA600F3	600	3	4	F	.45
MTA50D6	50	6	8	D	.36
MTA125E6	125	6	8	E	.39
MTA150E6	150	6	8	E	.39
MTA450F6	450	6	8	F	.51
MTA500F6	500	6	8	F	.51
MTA40D10	40	10	12	D	.36
MTA75E10	75	10	12	E	.39
MTA100E10	100	10	12	E	.39
MTA200F10	200	10	12	F	.45
MTA400F10	400	10	12	F	.54
MTA30D15	30	15	18	D	.36
MTA35D15	35	15	18	D	.36
MTA50E15	50	15	18	E	.39
MTA80E15	80	15	18	E	.39
MTA90E15	90	15	18	E	.39
MTA100E15	100	15	18	E	.39
MTA250F15	250	15	18	F	.51
MTA300F15	300	15	18	F	.63
MTA350F15	350	15	18	F	.63
MTA25D20	25	20	25	D	.36
MTA60E20	60	20	25	E	.39
MTA70E20	70	20	25	E	.39
MTA250F20	250	20	25	F	.63
MTA50E25	50	25	30	E	.39
MTA175F25	175	25	30	F	.54
MTA200F25	200	25	30	F	.63
MTA20D30	20	30	35	D	.36
MTA40E30	40	30	35	E	.39
MTA9D35	9	35	40	D	.36
MTA10D35	10	35	40	D	.36
MTA15D35	15	35	40	D	.36
MTA25E35	25	35	40	E	.39
MTA30E35	30	35	40	E	.39
MTA35E35	35	35	40	E	.39
MTA90F35	90	35	40	F	.51
MTA100F35	100	35	40	F	.51
MTA125F35	125	35	40	F	.54
MTA150F35	150	35	40	F	.63
MTA1D50	1	50	60	D	.36
MTA2D50	2	50	60	D	.36
MTA3D50	3	50	60	D	.36
MTA4D50	4	50	60	D	.36
MTA5D50	5	50	60	D	.36
MTA6D50	6	50	60	D	.36
MTA7D50	7	50	60	D	.36
MTA8D50	8	50	60	D	.36
MTA9E50	9	50	60	E	.39
MTA10E50	10	50	60	E	.39
MTA15E50	15	50	60	E	.39
MTA20E50	20	50	60	E	.39
MTA25F50	25	50	60	F	.45
MTA30F50	30	50	60	F	.45
MTA35F50	35	50	60	F	.45
MTA40F50	40	50	60	F	.45
MTA50F50	50	50	60	F	.45
MTA60F50	60	50	60	F	.45
MTA70F50	70	50	60	F	.51
MTA80F50	80	50	60	F	.54

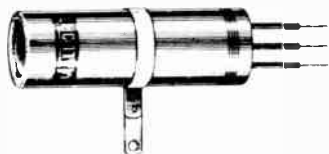
### MTA CASE SIZES

Size	Size, Inches	
	Dia. x L.	Leads
D	1/4 x 3/8	2
E	3/8 x 1	2
F	3/8 x 1 3/8	2



# Tubular Electrolytic Capacitors

## CARDBOARD TUBULAR WAX-FILLED ELECTROLYTICS



Very high quality aluminum electrolytics in wax-filled cardboard tubes with mounting straps and 5" insulated leads. All values have exclusive Mallory safety vent and feature all-welded internal construction. **Temperature Range:** -20° C to +65° C. **Tolerance:** -10%, +250% up to 50 WVDC; -10%, +100% 51 to 350 WVDC; -10%, +50% 450 WVDC and up. WQ240 is special double ended design.

Mall. No.	Cap., $\mu$ F at WVDC	Size, In. D. x L.	Net Each
WS342	200 at 200	1 1/4 x 2 3/8	\$1.84
WS427	140 at 300	1 1/4 x 2 3/8	2.05
WS560	150 at 400	1 1/4 x 3 3/8	2.64
WS730	100 at 450	1 1/2 x 3 3/8	2.63
WD210	50-30 at 150	3/4 x 2 3/8	1.24
WD215	50-50 at 150	7/8 x 2 3/8	1.30
WD220	70-30 at 150	7/8 x 2 3/8	1.30
WD235	100-50 at 150	1 x 2 3/8	1.56
WD270	120-120 at 150	1 x 2 3/8	1.87
WD251	250-50 at 160	1 3/8 x 2 3/8	2.18
WD340	60-125 at 200-50	1 1/4 x 2 3/8	1.54
WD345	5-200 at 200-200	1 1/4 x 3 3/8	2.05
WD355	250-120 at 200-200	1 3/8 x 3 3/8	2.92
WD410	200-100 at 300-50	1 1/4 x 4 3/8	2.93
WD446	100-150 at 350-300	1 3/8 x 3 3/8	3.40
WD448	150-100 at 350-300	1 3/8 x 4 3/8	3.49
WD450	5-140 at 350-350	1 1/8 x 4 3/8	2.54
WT201	60-40-250 at 150-150-15	1 x 2 3/8	1.72
WT240	60-60-100 at 150-150-25	1 x 2 3/8	1.72
WT312	250-120-50 at 160-160-100	1 3/8 x 3 3/8	2.31
WT217	40-40-20 at 150	1 x 2 3/8	1.58
WT316	150-150-150 at 150	1 1/4 x 3 3/8	2.81
WT350	150-150-20 at 200	1 1/8 x 4 3/8	2.78
WT360	200-250-10 at 200	1 3/8 x 3 3/8	3.58
WT430	100-60-100 at 300-300-50	1 1/4 x 3 3/8	2.74
WT434	120-40-100 at 300-300-50	1 1/4 x 3 3/8	2.74
WT407	70-50-30 at 300-300-250	1 1/4 x 3 3/8	2.41
WT447	10-100-200 at 350-150-150	1 3/8 x 2 3/8	2.47
WT449	140-5-200 at 350-300-200	1 3/8 x 4 3/8	3.60
WT455	100-40-40 at 350-350-250	1 1/8 x 4 3/8	2.90
WT458	60-60-60 at 350-350-300	1 1/4 x 4 3/8	2.93
WT460	60-60-4 at 350	1 1/4 x 3 3/8	2.49
WT565	100-75-70 at 400-400-25	1 1/2 x 4 3/8	3.41
WT630	5-40-80 at 450-400-400	1 3/8 x 4 3/8	2.72
WT700	10-10-150 at 450-450-50	1 1/8 x 2 3/8	1.85
WQ209	60-40-20-200 at 150-150-150-10	1 x 2 3/8	1.93
WQ215	40-20-20-100 at 150-150-150-25	1 x 2	1.77
WQ230	40-40-20-20 at 150-150-150-25	1 1/8 x 2 3/8	1.70
WQ250	60-40-40-20 at 150-150-150-25	1 x 2 3/8	1.91
WQ240	10-10-40-200 at 150-150-150-35	1 1/8 x 2	1.74
WQ290	60-50-40-20 at 150	7/8 x 2 3/8	1.90
WQ401	140-4-50-4 at 300-300-150-150	1 3/8 x 3 3/8	2.88
WQ405	120-40-40-10 at 300-300-300-250	1 3/8 x 3 3/8	3.18
WQ511	140-5-200-100 at 350-300-200-150	1 3/8 x 4 3/8	4.27
WQ505	140-5-200-30 at 350-300-200-200	1 1/2 x 4 3/8	4.06
WQ515	40-20-20-100 at 350-300-250-50	1 1/4 x 2 3/8	2.34
WQ525	50-40-20-50 at 350-350-350-50	1 1/4 x 3 3/8	2.59
WQ520	150-100-20-100 at 350-350-350-50	1 1/2 x 4 3/8	4.33
WQ635	25-100-10-50 at 450-300-300-50	1 3/8 x 3 3/8	2.98
WQ640	10-80-40-40 at 450-300-300-50	1 1/4 x 4 3/8	2.94
WQ650	10-40-80-100 at 450-300-300-50	1 1/4 x 4 3/8	3.07
WQ775	10-20-20-40 at 450	1 1/4 x 3 3/8	3.02
WQ795	20-20-40-40 at 450	1 1/4 x 4 3/8	3.53
WV404	40-20-20-20-50 at 300-300-300-300-50	1 1/8 x 3 3/8	2.58

## PRINTED CIRCUIT CARDBOARD TUBULAR CAPACITORS



High quality aluminum electrolytic capacitors in wax-filled cardboard tubes with printed circuit terminals. Widely used in home entertainment equipment. Dual and triple section. Temp. range, -20° C to +65° C. Same tolerance as "W" series shown at left. Terminals are securely staked to capacitor body and are 1/16" wide, 3/16" long and .020" thick. Ask for form 4-76 for complete specifications.

Mallory No.	Cap., $\mu$ F	WVDC	Size, In. Dia. x L.	Net Each
PWD211	50-30	150*	1x2	\$1.26
PWD221	50-50	150*	1x2	1.44
PWD231	75-30	150*	1x2 3/8	1.34
PWD240	80-30	150*	1x2 3/8	1.35
PWD252	80-50	150*	1x2 3/8	1.42
PWD253	80-50	200*	1x2 3/8	1.58
PWD263	100-50	150*	1x2 3/8	1.50
PWT205	30-25-20	150*	1x1 3/4	1.44
PWT225	50-30-20	150*	1x2	1.52
PWT245	60-20-5	150*	1x2 7/8	1.47
PWT260	60-80-20	150*	1x2 1/2	1.71
PWT275	80-40-150-25	150-150-25	1x2 1/2	1.69
PWT285	80-60-250	150-150-25	1 1/8 x 2 3/8	1.83
PWT360	60-120-20	200*	1 1/8 x 2 7/8	2.12

\*WVDC each section.

## "SNAP-CAP" CARDBOARD TUBULAR ELECTROLYTICS

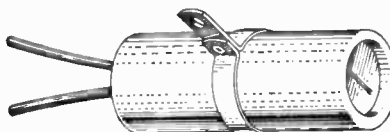


"Snap-Cap" capacitors are made to the same specifications as the "W" series and are supplied with an exclusive mounting ring which allows them to be snapped into a standard B1P4 or MP4 mounting plate. Lugs hold securely and won't shake or vibrate loose, yet capacitors are easily removed if required. Furnished with color-coded insulated wire leads with stripped and tinned ends; wires 5" long. Used in equipment where temperature does not exceed 65° C. **Tolerance:** -10%, +100%.

Mallory No.	Cap., $\mu$ F	WVDC*	Size, In.	Net Each
CVM2316	40-40	150	1x2	\$1.23
CVM2225	50-30	150	1x2	1.10
CVM2200	80-20	150	1x2 1/2	1.28
CVM3200	20-80-20	150	1x2 1/2	1.46
CVM3300	40-30-20	150	1x2	1.39
CVM3375	50-50-20	150	1x2 1/2	1.46
CVM3325	80-40-20	150	1x2 1/2	1.46
CVM3350	80-40-20	150	1x2 1/2	1.51
CVM3210	150-20-20	150	1x3	1.64
CVM3355	150-40-20	150	1x3	1.83

\*WVDC each section.

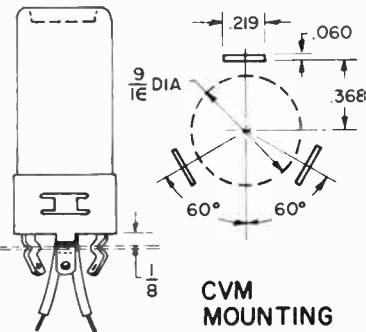
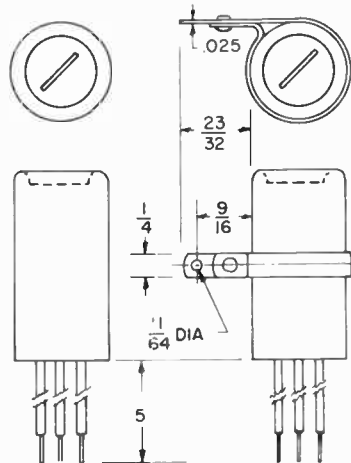
## ANTENNA ROTATOR CAPACITORS



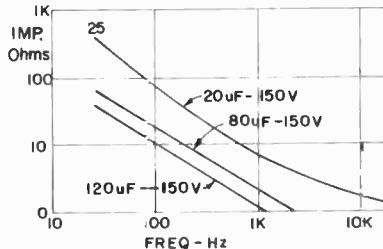
Exact replacement capacitors for all popular antenna rotators. Especially engineered to withstand rugged climate and humidity conditions.

Mall. No.	Cap., $\mu$ F at VAC	Size, In. D. x L.	Net Each
ST75	70-92 at 50 VAC	3/8 x 2 3/8	\$0.75
ST76	66.2-76 at 50 VAC	3/8 x 2 3/8	.75
ST78	58.5-78 at 50 VAC	3/8 x 2 3/8	.75
ST80	75-90 at 65 VAC	3/8 x 2 3/8	.90
ST100	100-120 at 50 VAC	1 x 2 3/8	1.02
ST156	117-156 at 50 VAC	3/8 x 2 3/8	.90
ST240	210-240 at 50 VAC	1 x 2 3/8	1.29
ST290	210-290 at 50 VAC	1 x 2 3/8	1.29

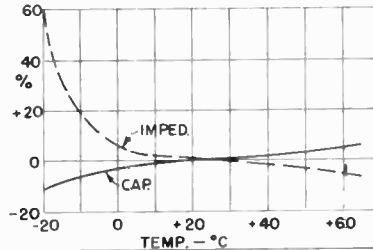
## CARDBOARD TUBULAR CAPACITOR DATA



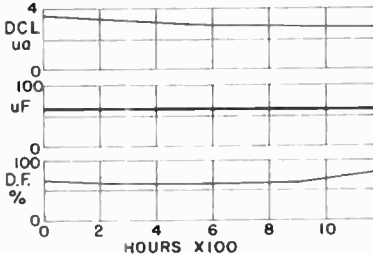
### IMPEDANCE VS FREQUENCY



### IMPED. & CAPACITANCE VS. TEMP.



### PERFORMANCE AT 65°C



**MALLORY**

# Electrolytic Capacitors

## TUBULAR PREMIUM GRADE ELECTROLYTIC CAPACITORS



TPG capacitors are premium grade electrolytics in precision tubular cases. They are especially suited to those applications which require the utmost in reliability and long-life performance (communications, computers, instruments, etc.). Internal construction is all-welded for minimum loss. DCL is exceptionally low. The TPG has a positive end seal and exclusive safety vent. Furnished with shrink-fit insulating sleeve. **Temperature Range:** -40° C to +85° C. **Tolerance:** -10%, +50%.

### SURGE VOLTAGES

WVDC	Surge VDC	WVDC	Surge VDC
3	4	30	35
6	8	50	60
10	12	75	90
15	18	100	115
25	30	150	165

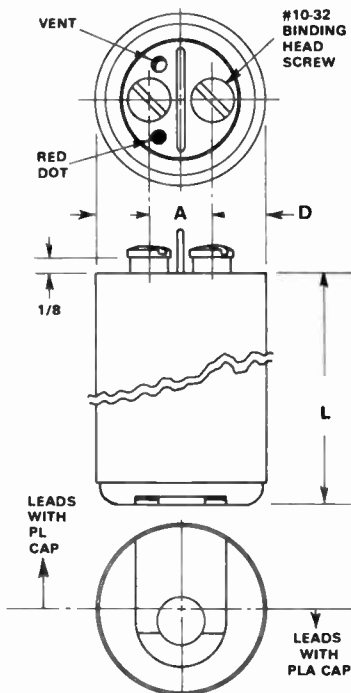
### STOCK VALUES

Mallory No.	Cap., μF	WVDC	Size *	Net Each
TPG120T3	120	3	A	\$.11
TPG180T3	180	3	B	\$.12
TPG330T3	330	3	C	\$.13
TPG385T3	385	3	D	\$.15
TPG450T3	450	3	E	\$.16
TPG80T6	80	6	A	\$.11
TPG120T6	120	6	B	\$.12
TPG220T6	220	6	C	\$.13
TPG260T6	260	6	D	\$.15
TPG300T6	300	6	E	\$.16
TPG65T10	65	10	A	\$.11
TPG100T10	100	10	B	\$.12
TPG175T10	175	10	C	\$.13
TPG210T10	210	10	D	\$.15
TPG240T10	240	10	E	\$.16
TPG45T15	45	15	A	\$.11
TPG70T15	70	15	B	\$.12
TPG125T15	125	15	C	\$.13
TPG150T15	150	15	D	\$.15
TPG175T15	175	15	E	\$.16
TPG30T25	30	25	A	\$.11
TPG45T25	45	25	B	\$.12
TPG85T25	85	25	C	\$.13
TPG100T25	100	25	D	\$.15
TPG115T25	115	25	E	\$.16
TPG25T30	25	30	A	\$.11
TPG35T30	35	30	B	\$.12
TPG65T30	65	30	C	\$.13
TPG75T30	75	30	D	\$.15
TPG90T30	90	30	E	\$.16
TPG12T50	12	50	A	\$.11
TPG18T50	18	50	B	\$.12
TPG35T50	35	50	C	\$.13
TPG40T50	40	50	D	\$.15
TPG50T50	50	50	E	\$.16
TPG10T75	10	75	A	\$.11
TPG15T75	15	75	B	\$.12
TPG25T75	25	75	C	\$.13
TPG30T75	30	75	D	\$.15
TPG40T75	40	75	E	\$.16
TPG7T100	7	100	A	\$.11
TPG10T100	10	100	B	\$.12
TPG15T100	15	100	C	\$.13
TPG20T100	20	100	D	\$.15
TPG30T100	30	100	E	\$.16
TPG1T150	1	150	A	\$.11
TPG2T150	2	150	A	\$.11
TPG3T150	3	150	A	\$.11
TPG4T150	4	150	A	\$.11
TPG5T150	5	150	A	\$.11
TPG7T150	7	150	B	\$.12
TPG10T150	10	150	C	\$.13
TPG15T150	15	150	D	\$.15
TPG20T150	20	150	E	\$.16

\*TPG CASE SIZES: 3/8" DIA. X

Code	A	B	C	D	E
Length	1 1/8"	1 1/4"	1 1/2"	1 3/4"	1 7/8"

## HC-NP DATA & DIMENSIONS



CASE CODE	DIMEN. - INCHES		
	D	L	A
1	1 1/8"	2 1/2"	3/8"
2	1 1/4"	3 1/4"	3/8"
3	1 1/2"	4 1/4"	3/8"
4	1 3/4"	5 1/4"	3/8"
5	1 7/8"	6 1/4"	3/8"
6	2"	7 1/4"	3/8"
7	2 1/8"	8 1/4"	3/8"

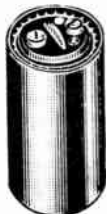
## PHOTOFLASH CAPACITORS

Especially engineered capacitors for photoflash use.

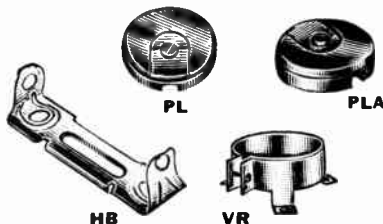
**HC45003**—300 μF, 450 WV DC. Plastic case, 2 1/4" dia. x 4 3/8". Max. DCL (at 5 min.) 5.5 mA. Net Each. **\$.847**

**FF45052**—525 μF, 450 WV DC. Plastic case, 2 1/4" dia. x 4 3/8". Max. DCL (at 5 min.) 2.0 mA. Net Ea. **\$.13.50**

**FP 240**—Specially engineered FP capacitor for photoflash use. Dual separate section, 50 μF at 450 WVDC each section. May be used in parallel for 100 μF. Supplied with cardboard insulating tube. Uses standard FP mounting plate. Net Each. **\$.2.31**

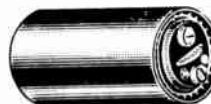


## HC AND NP HARDWARE



Mallory No.	Description	Net Each
PL3	1 1/4" end cap—In	\$.08
PLA3	1 1/4" end cap—Out	.08
PL6	1 1/2" end cap—In	.10
PLA6	1 1/2" end cap—Out	.10
PL8	2 1/4" end cap—In	.12
PLA8	2 1/4" end cap—Out	.12
HB2	3 1/4" horiz. bracket	.13
HB4	3 1/2" horiz. bracket	.13
HB8	4 1/2" horiz. bracket	.15
VR3	1 3/4"-1 1/2" vert. clamp	.12
VR4	1 1/2"-1 1/4" vert. clamp	.14
VR6	1 3/4"-1 1/2" vert. clamp	.14
VR8	2-2 1/4" vert. clamp	.14
VR10	2 1/2"-2 3/4" vert. clamp	.20
VR12	3-3 1/4" vert. clamp	.48

## HIGH CAPACITY DRY ELECTROLYTICS



HC and NP capacitors are furnished in heavy-duty molded phenolic cases with integral safety vent. HC types are polarized; NP types are non-polarized. **Temp. Range:** -20° C to +85° C. **Tolerance:** Type HC—0-50 WVDC, -10%, +150%; 51-350 WVDC, -10%, +100%; 351 WVDC up, -10%, +50%. Type NP—\*25%, all units.

### POLARIZED TYPE HC

Mallory No.	Cap., μF	WV DC	* Size	Net Each
HC1020A	2,000	10	1	\$ 3.36
HC1040A	4,000	10	2	4.60
HC1060A	6,000	10	8	5.20
HC1080	8,000	10	5	6.00
HC10100	10,000	10†	7	7.82
HC10120	12,000	10	7	7.14
HC10150	15,000	10	7	7.67
HC1520A	2,000	15	1	3.47
HC1540A	4,000	15	3	5.37
HC1560A	6,000	15	4	5.62
HC1580	8,000	15	7	6.62
HC15100	10,000	15	7	7.14
HC2050-50	2x5,000	20	7	8.00
HC2060	6,000	20	7	6.60
HC2060A	6,000	20†	5	6.11
HC20250	25,000	20	9	12.88
HC2510A	1,000	25	1	3.19
HC2520A	2,000	25	2	4.15
HC2530	3,000	25	4	4.88
HC2540A	4,000	25	4	5.58
HC2550	5,000	25	7	6.30
HC4040	4,000	40	7	7.54
HC4040A	4,000	40	5	6.98
HC4060	6,000	40	7	7.91
HC5005	500	50	2	3.60
HC5005A	500	50	1	3.33
HC5010A	1,000	50	2	4.25
HC5020A	2,000	50	4	5.06
HC5030	3,000	50	7	7.00
HC5040	4,000	50	7	7.32
HC8005	500	80	2	3.85
HC8010	1,000	80	4	5.34
HC8020	2,000	80	7	6.62
HC10005	500	100	2	4.20
HC10010	1,000	100	5	5.86
HC10015	1,500	100	7	6.44
HC15005	500	150	4	5.09
HC15010	1,000	150	7	6.89
HC15010A	1,000	150	5	6.44
HC20002	200	200	4	4.08
HC20005	500	200	7	5.97
HC20005A	500	200	4	5.53
HC25001	100	250	2	4.59
HC25002	200	250	4	4.88
HC25003	300	250	5	5.37
HC25004	400	250	7	5.64
HC35001	100	350	4	4.88
HC35002	200	350	5	5.93
HC35003	300	350	7	6.97
HC45001	100	450	4	5.97
HC45002	200	450	7	7.47
HC45003	300	450	7	8.47

### NON-POLARIZED TYPE NP

Mallory No.	Cap., μF	WV DC	Size	Net Each
NP0340	2,000	25	7	\$5.43
NP0555	500	50	5	4.38
NP1225A	200	125	2	4.04
NP1235A	300	125	4	4.87
NP1245	400	125	7	5.69
NP1255A	500	125	5	6.30
NP2514	100	250	5	5.95
NP2520	150	250	5	6.15
NP2525	200	250	7	6.34
NP3003A	15	300	1	2.87
NP3006	30	300	2	3.85
NP3008	50	300	2	5.25
NP3014A	100	300	4	6.13
NP3020	150	300	7	6.56
NP3025	200	300	7	7.00
NP4503	30	450	2	4.90
NP4505	50	450	4	6.30
NP4510	100	450	7	7.70

†Semi-polarized.

### \*HC AND NP CASE SIZES

Code	Size, In. Dia. x Lg.	Use Hardware No. for		
		Cap	Brkt.	Clamp
1	1 1/4" x 2 3/4"	PL3, PLA3	HB2	VR3
2	1 1/2" x 3 3/4"	PL3, PLA3	HB4	VR3
3	1 3/4" x 4 3/4"	PL3, PLA3	HB8	VR3
4	1 7/8" x 3 3/4"	PL6, PLA6	HB4	VR6
5	1 7/8" x 4 3/4"	PL6, PLA6	HB8	VR6
6	2" x 4 3/4"	PL8, PLA8	HB4	VR8
7	2 1/8" x 4 3/4"	PL8, PLA8	HB8	VR8
8	1 1/2" x 4 3/4"	.....	.....	VR4
9	3" x 4 3/4"	.....	.....	VR12

# MALLORY

# Computer Grade Capacitors

Two classes of Computer Grade Capacitors are available: CGS for 65° C operation and CG for 85° C operation. Operating life of both types should exceed 10 years when used within stated parameters. Derating voltage and/or lowering operating temperature will extend life by a large factor. **Temp. Range:** -20° C to +65° (CGS), +85° (CG). **Tolerance:** 0-150 WVDC, -10 +75% (U); 151 WVDC up, -10 +50% (T). For complete specifications, ask for Form 4-64 (CG), 4-80 (CGS). Both classes are supplied with polyester film insulating sleeves and have "High-post" terminals with #10-32 screws. Physical mounting of these capacitors is usually done with VR clamps shown below. The clamps, however, are not included with the capacitors. Order separately.



### 65° C COMPUTER GRADE (CONT.)

Mallory No.	Cap. $\mu$ F	WV DC	Size	Net Each
CGS233U015DD1	23,000	15	DD	\$ 6.55
CGS343U015DF1	34,000	15	DF	6.99
CGS503U015D11	50,000	15	D1	8.90
CGS803U015FF1	80,000	15	FF	10.46
CGS104U015FH1	100,000	15	FH	11.25
CGS124U015FJ1	120,000	15	FJ	11.55
CGS302U025BB1	3,000	25	BB	2.29
CGS562U025BD1	5,600	25	BD	3.15
CGS822U025BF1	8,200	25	BF	3.82
CGS123U025DD1	12,000	25	DD	5.35
CGS183U025DF1	18,000	25	DF	6.43
CGS273U025D11	27,000	25	D1	7.56
CGS433U025FF1	43,000	25	FF	9.93
CGS573U025FH1	57,000	25	FH	10.81
CGS673U025FJ1	67,000	25	FJ	11.26
CGS222U040BB1	2,200	40	BB	2.14
CGS422U040BD1	4,200	40	BD	3.25
CGS622U040BF1	6,200	40	BF	4.00
CGS932U040DD1	9,300	40	DD	6.05
CGS133U040DF1	13,000	40	DF	6.88
CGS203U040D11	20,000	40	D1	7.41
CGS323U040FF1	32,000	40	FF	9.50
CGS433U040FH1	43,000	40	FH	10.60
CGS503U040FJ1	50,000	40	FJ	10.75
CGS162U050BB1	1,600	50	BB	2.10
CGS292U050BD1	2,900	50	BD	3.11
CGS420U050BF1	4,300	50	BF	3.42
CGS652U050DD1	6,500	50	DD	5.29
CGS962U050DF1	9,600	50	DF	6.48
CGS143U050D11	14,000	50	D1	8.35
CGS223U050FF1	22,000	50	FF	9.32
CGS303U050FH1	30,000	50	FH	9.97
CGS353U050FJ1	35,000	50	FJ	10.85
CGS821U075BB1	820	75	BB	2.18
CGS152U075BD1	1,500	75	BD	2.83
CGS232U075BF1	2,300	75	BF	3.46
CGS342U075DF1	3,400	75	DF	4.01
CGS502U075D11	5,000	75	D1	6.32
CGS752U075D11	7,500	75	D1	7.14
CGS123U075FF1	12,000	75	FF	9.19
CGS163U075FH1	16,000	75	FH	10.56
CGS193U075FJ1	19,000	75	FJ	10.81
CGS651U100BB1	650	100	BB	2.29
CGS122U100BD1	1,200	100	BD	2.96
CGS182U100BF1	1,800	100	BF	3.21
CGS272U100DD1	2,700	100	DD	5.22
CGS402U100DF1	4,000	100	DF	6.17
CGS592U100D11	5,900	100	D1	7.45
CGS932U100FF1	9,300	100	FF	10.14
CGS123U100FH1	12,000	100	FH	10.39
CGS153U100FJ1	15,000	100	FJ	11.13
CGS401U150BB1	400	150	BB	2.21
CGS721U150BD1	720	150	BD	2.63
CGS112U150BF1	1,100	150	BF	3.05
CGS162U150DD1	1,600	150	DD	4.20
CGS252U150DF1	2,500	150	DF	5.92
CGS352U150D11	3,500	150	D1	6.93
CGS552U150FF1	5,500	150	FF	9.87
CGS742U150FH1	7,400	150	FH	10.69
CGS872U150FJ1	8,700	150	FJ	11.34
CGS201T250BB1	200	250	BB	2.56
CGS381T250BD1	380	250	BD	3.04
CGS551T250BF1	550	250	BF	3.52
CGS851T250DD1	850	250	DD	5.21
CGS122T250DF1	1,200	250	DF	6.20
CGS192T250D11	1,900	250	D1	7.60
CGS292T250FF1	2,900	250	FF	9.83
CGS392T250FH1	3,900	250	FH	10.52
CGS452T250FJ1	4,500	250	FJ	10.99
CGS131T350BB1	130	350	BB	2.54
CGS251T350BD1	250	350	BD	2.98
CGS371T350BF1	370	350	BF	3.44
CGS551T350DD1	550	350	DD	5.01
CGS801T350DF1	800	350	DF	5.98
CGS122T350D11	1,200	350	D1	7.91
CGS202T350FF1	2,000	350	FF	10.62
CGS262T350FH1	2,600	350	FH	10.92
CGS302T350FJ1	3,000	350	FJ	11.55
CGS750T450BB1	750	450	BB	1.72
CGS141T450BD1	1,400	450	BD	3.17
CGS211T450BF1	2,100	450	BF	3.51
CGS321T450DD1	3,200	450	DD	3.94
CGS481T450DF1	4,800	450	DF	4.70
CGS701T450D11	7,000	450	D1	6.30
CGS112T450FF1	11,000	450	FF	10.12
CGS152T450FH1	15,000	450	FH	10.71
CGS182T450FJ1	18,000	450	FJ	11.55

### 85° C COMPUTER GRADE

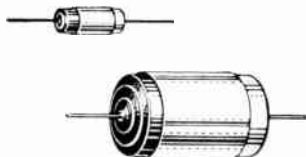
Mallory No.	Cap. $\mu$ F	WV DC	Size	Net Each
CG552U3A1	5,500	3	A	52.02
CG1052U3B1	10,500	3	B	2.35
CG143U3C1	14,000	3	C	2.86
CG1752U3H1	17,500	3	H	3.09
CG233U3K1	23,000	3	K	3.57
CG243U3J1	24,000	3	J	3.68
CG363U3D1	36,000	3	D	4.41
CG54U3E1	50,000	3	E	5.65
CG753U3F1	75,000	3	F	7.06
CG1153U3G1	115,000	3	G	8.63
CG442U5A1	4,400	5	A	1.83
CG852U5B1	8,500	5	B	2.71
CG1252U5C1	12,500	5	C	3.28
CG143U5H1	14,000	5	H	3.72
CG1852U5K1	18,500	5	K	4.01
CG24U5J1	20,000	5	J	4.07
CG2752U5D1	27,500	5	D	4.60
CG453U5E1	45,000	5	E	6.05
CG653U5F1	65,000	5	F	7.14
CG15U5G1	100,000	5	G	9.39
CG322U10A1	3,200	10	A	1.75
CG63U10B1	6,000	10	B	2.37
CG822U10C1	8,200	10	C	2.84
CG14U10H1	10,000	10	H	3.15
CG1352U10K1	13,500	10	K	3.72
CG143U10J1	14,000	10	J	3.86
CG183U10D1	18,000	10	D	4.59
CG34U10E1	30,000	10	E	6.61
CG4352U10F1	43,500	10	F	8.25
CG683U10G1	68,000	10	G	9.66
CG252U15A1	2,500	15	A	1.97
CG452U15B1	4,500	15	B	2.60
CG642U15C1	6,400	15	C	2.69
CG83U15H1	8,000	15	H	3.07
CG1052U15K1	10,500	15	K	3.38
CG113U15J1	11,000	15	J	3.50
CG143U15D1	14,000	15	D	4.47
CG233U15E1	23,000	15	E	6.32
CG343U15F1	34,000	15	F	7.11
CG533U15G1	53,000	15	G	9.30
CG152U25A1	1,500	25	A	1.72
CG282U25B1	2,800	25	B	2.12
CG382U25C1	3,800	25	C	2.60
CG452U25H1	4,500	25	H	2.77
CG63U25K1	6,000	25	K	3.23
CG652U25J1	6,500	25	J	3.40
CG852U25D1	8,500	25	D	3.90
CG1352U25E1	13,500	25	E	5.99
CG24U25F1	20,000	25	F	6.55
CG3152U25G1	31,500	25	G	8.78
CG112U35A1	1,100	35	A	1.89
CG212U35B1	2,100	35	B	2.16
CG312U35C1	3,100	35	C	3.04
CG362U35H1	3,600	35	H	3.21
CG472U35K1	4,700	35	K	3.46
CG532U35J1	5,300	35	J	3.63
CG692U35D1	6,900	35	D	4.77
CG113U35E1	11,000	35	E	6.42
CG1652U35F1	16,500	35	F	7.16
CG243U35G1	24,000	35	G	7.75
CG82U50A1	800	50	A	1.74
CG152U50B1	1,500	50	B	2.05
CG23U50C1	2,000	50	C	2.29
CG252U50H1	2,500	50	H	2.52
CG332U50K1	3,300	50	K	3.25
CG352U50J1	3,500	50	J	3.29
CG452U50D1	4,500	50	D	3.47
CG732U50E1	7,300	50	E	5.31
CG14U50F1	10,000	50	F	6.70
CG1652U50G1	16,500	50	G	9.20
CG62U75A1	600	75	A	2.01
CG13U75B1	1,000	75	B	2.35
CG152U75C1	1,500	75	C	2.84
CG23U75H1	2,000	75	H	3.09
CG252U75K1	2,500	75	K	3.70
CG262U75J1	2,600	75	J	3.75
CG3451U75D1	3,450	75	D	4.03
CG552U75E1	5,500	75	E	6.40
CG822U75F1	8,200	75	F	7.25
CG1252U75G1	12,500	75	G	9.45
CG42U100A1	400	100	A	2.01
CG75U100B1	750	100	B	2.38
CG13U100C1	1,000	100	C	2.73
CG132U100H1	1,300	100	H	2.99
CG165U100K1	1,650	100	K	3.17
CG172U100J1	1,700	100	J	3.31

### 85° C COMPUTER GRADE (CONT.)

Mallory No.	Cap. $\mu$ F	WV DC	Size	Net Each
CG2251U100D1	2,250	100	D	\$4.12
CG362U100E1	3,600	100	E	6.03
CG532U100F1	5,300	100	F	6.74
CG832U100G1	8,300	100	G	9.68
CG2750U150A1	275	150	A	1.63
CG52U150B1	500	150	B	2.05
CG72U150C1	700	150	C	2.40
CG8750U150H1	875	150	H	2.71
CG115U150K1	1,100	150	K	3.13
CG121U150J1	1,150	150	J	3.17
CG155U150D1	1,550	150	D	4.01
CG252U150E1	2,500	150	E	5.92
CG362U150F1	3,600	150	F	7.08
CG562U150G1	5,600	150	G	9.87
CG181T200A1	180	200	A	2.02
CG341T200B1	340	200	B	2.42
CG451T200C1	450	200	C	2.58
CG551T200H1	550	200	H	2.86
CG751T200K1	750	200	K	3.30
CG82T200J1	800	200	J	3.44
CG13T200D1	1,000	200	D	4.51
CG1651T200E1	1,650	200	E	5.36
CG2451T200F1	2,450	200	F	6.83
CG382T200G1	3,800	200	G	10.26
CG141T250A1	140	250	A	2.41
CG2750T250B1	275	250	B	2.75
CG3750T250C1	375	250	C	2.99
CG451T250H1	450	250	H	3.24
CG62T250K1	600	250	K	3.65
CG6205T250J1	625	250	J	3.80
CG82T250D1	800	250	D	4.72
CG132T250E1	1,300	250	E	6.30
CG192T250F1	1,900	250	F	7.60
CG33T250G1	3,000	250	G	10.16
CG121T300A1	120	300	A	2.45
CG2250T300B1	225	300	B	2.66
CG3250T300C1	325	300	C	2.85
CG42T300H1	400	300	H	3.00
CG5250T300K1	525	300	K	3.27
CG551T300J1	550	300	J	3.32
CG72T300D1	700	300	D	4.74
CG1151T300E1	1,150	300	E	7.35
CG1651T300F1	1,650	300	F	8.46
CG262T300G1	2,600	300	G	10.63
CG12T350A1	100	350	A	2.43
CG181T350B1	180	350	B	2.73
CG251T350C1	250	350	C	2.96
CG32T350H1	300	350	H	3.15
CG42T350K1	400			

# MALLORY Film Capacitors

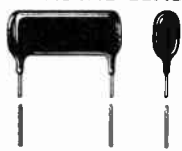
## 600 VOLT POLYSTYRENE CAPACITORS



Manufactured from a unique form of stretched and fused polystyrene to provide the ultimate in temperature stability and humidity protection. Can replace mica, film, paper and ceramic types in most applications. Full coverage includes 73 standard ratings from 5 pF to .01 μF. **Insulation Resistance:** Greater than 100,000 megohms. **Power Factor:** Less than 0.05%. **Temperature Coefficient:** -150 ppm/°C, = 60 ppm/°C. **Temperature Range:** -40° C to +85° C; for best operating stability, -10° C to +70° C. **Voltage:** 600 WVDC; surge, 1500 VDC. **Tolerance:** ± 5%. Sizes shown are ± .010" dia. x ± .032" lg. Ask for Bulletin 9-370 for complete specifications.

Mallory No.	Cap., pF.	Size, In. Dia. x L.	Net Each
SX550	5	.165 x .395	12c
SX568	6.8	.166 x .395	12c
SX410	10	.167 x .395	12c
SX412	12	.167 x .395	12c
SX415	15	.168 x .395	12c
SX418	18	.169 x .395	12c
SX420	20	.170 x .395	12c
SX422	22	.170 x .395	12c
SX424	24	.171 x .395	12c
SX427	27	.172 x .395	12c
SX430	30	.173 x .395	12c
SX433	33	.173 x .395	12c
SX436	36	.174 x .395	12c
SX439	39	.175 x .395	12c
SX443	43	.177 x .395	12c
SX447	47	.178 x .395	12c
SX456	56	.180 x .395	12c
SX462	62	.182 x .395	12c
SX468	68	.184 x .395	12c
SX475	75	.188 x .395	12c
SX482	82	.189 x .395	12c
SX491	91	.192 x .395	12c
SX310	100	.195 x .395	12c
SX311	110	.198 x .395	12c
SX312	120	.201 x .395	12c
SX313	130	.204 x .395	12c
SX315	150	.210 x .395	12c
SX316	160	.213 x .395	12c
SX318	180	.221 x .395	12c
SX320	200	.227 x .395	12c
SX322	220	.233 x .395	12c
SX324	240	.239 x .395	12c
SX327	270	.248 x .395	12c
SX330	300	.255 x .395	12c
SX333	330	.194 x .590	12c
SX336	360	.195 x .590	12c
SX339	390	.197 x .590	12c
SX343	430	.200 x .590	12c
SX347	470	.202 x .590	12c
SX351	510	.204 x .590	12c
SX356	560	.207 x .590	12c
SX362	620	.211 x .590	12c
SX368	680	.215 x .590	12c
SX375	750	.219 x .590	12c
SX382	820	.223 x .590	12c
SX391	910	.228 x .590	12c
SX210	1,000	.233 x .590	12c
SX211	1,100	.238 x .590	15c
SX212	1,200	.245 x .590	15c
SX213	1,300	.250 x .590	15c
SX215	1,500	.262 x .590	15c
SX216	1,600	.267 x .590	15c
SX218	1,800	.279 x .590	15c
SX220	2,000	.291 x .590	15c
SX222	2,200	.300 x .590	15c
SX224	2,400	.314 x .590	15c
SX225	2,500	.320 x .590	15c
SX227	2,700	.331 x .590	15c
SX230	3,000	.348 x .590	15c
SX233	3,300	.366 x .590	18c
SX236	3,600	.383 x .590	18c
SX239	3,900	.402 x .590	18c
SX243	4,300	.425 x .590	18c
SX247	4,700	.448 x .590	18c
SX250	5,000	.466 x .590	18c
SX251	5,100	.470 x .590	18c
SX256	5,600	.465 x .790	18c
SX262	6,200	.480 x .790	18c
SX268	6,800	.500 x .790	18c
SX275	7,500	.520 x .790	18c
SX282	8,200	.540 x .790	18c
SX291	9,100	.565 x .790	18c
SX110	10,000	.590 x .790	18c

## PVC DIPPED MYLAR RADIAL-LEAD CAPACITORS

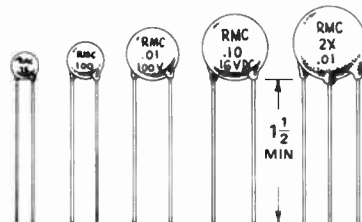


Dielectric 100% Mylar. Radial leads have tough polyvinylchloride coating; will not crack during installation. **Temperature Range:** -55° C to +105° C. **Tolerance:** ± 10%.

Mallory No.	Cap., μF.	Size, Inches		Net Ea. 1-24	
		L.	H. T.		
<b>100 WVDC, 250 V SURGE</b>					
PVC1118	.018	.63	.38	.22	\$0.15
PVC1122	.022	.63	.38	.22	.15
PVC1133	.033	.63	.38	.22	.15
PVC114	.04	.63	.38	.22	.15
PVC1147	.047	.63	.38	.22	.15
PVC1156	.056	.75	.38	.22	.16
PVC1168	.068	.81	.41	.25	.17
PVC101	.10	.81	.44	.31	.18
PVC1015	.15	.94	.47	.34	.21
PVC1022	.22	1.09	.50	.34	.24
PVC1025	.25	1.22	.50	.34	.24
PVC1033	.33	1.22	.56	.41	.28
PVC1047	.47	1.34	.59	.44	.31
PVC105	.5	1.34	.63	.44	.33
PVC1056	.56	1.46	.63	.46	.34
PVC1068	.68	1.46	.69	.50	.38
PVC11	1.0	1.75	.72	.53	.46
PVC11P5	1.5	1.75	.88	.63	.58
PVC12	2.0	1.78	1.00	.78	.72
<b>200 WVDC, 500 V SURGE</b>					
PVC211	.01	.63	.38	.22	\$0.15
PVC2115	.015	.63	.38	.22	.15
PVC212	.02	.63	.38	.22	.15
PVC2122	.022	.63	.38	.22	.15
PVC2133	.033	.81	.41	.25	.15
PVC214	.04	.81	.41	.25	.15
PVC2147	.047	.81	.44	.28	.15
PVC215	.05	.81	.44	.28	.15
PVC2168	.068	.94	.46	.28	.18
PVC201	.1	1.10	.50	.31	.21
PVC2015	.15	1.22	.53	.34	.21
PVC2022	.22	1.22	.56	.41	.24
PVC2025	.25	1.34	.56	.41	.24
PVC2033	.33	1.46	.63	.44	.28
PVC2047	.47	1.63	.66	.46	.33
PVC205	.5	1.63	.69	.50	.33
PVC21	1.0	1.75	.88	.63	.58
PVC22	2.0	1.78	1.15	.94	.72
<b>400 WVDC, 1000 V SURGE</b>					
PVC4222	.0022	.63	.31	.22	\$0.15
PVC4247	.0047	.63	.38	.22	.15
PVC411	.01	.63	.38	.22	.15
PVC412	.02	.75	.41	.25	.15
PVC4147	.047	.94	.46	.28	.15
PVC415	.05	.94	.46	.31	.15
PVC401	.1	1.22	.53	.34	.21
PVC4022	.22	1.46	.63	.46	.28
PVC4025	.25	1.63	.66	.46	.33
PVC404	.4	1.75	.75	.56	.41
PVC4047	.47	1.75	.78	.59	.44
PVC405	.5	1.75	.81	.63	.46
PVC4056	.56	1.78	.84	.66	.49
<b>600 WVDC, 1500 V SURGE</b>					
PVC621	.001	.63	.31	.22	\$0.15
PVC6212	.0012	.63	.31	.22	.15
PVC6215	.0015	.63	.31	.22	.15
PVC622	.002	.63	.31	.22	.15
PVC6222	.0022	.63	.31	.22	.15
PVC6225	.0025	.63	.31	.22	.15
PVC623	.003	.63	.38	.22	.15
PVC6233	.0033	.63	.38	.22	.15
PVC6239	.0039	.63	.38	.22	.15
PVC624	.004	.63	.38	.22	.15
PVC6247	.0047	.63	.38	.22	.15
PVC625	.005	.63	.38	.22	.15
PVC6256	.0056	.63	.38	.22	.15
PVC626	.006	.63	.38	.22	.15
PVC6268	.0068	.63	.38	.25	.15
PVC6275	.0075	.63	.38	.25	.15
PVC628	.008	.63	.38	.25	.15
PVC611	.01	.75	.38	.25	.15
PVC6112	.012	.75	.38	.25	.15
PVC6115	.015	.81	.41	.28	.15
PVC612	.02	.94	.41	.28	.15
PVC6122	.022	.94	.47	.28	.15
PVC6125	.025	.94	.47	.28	.15
PVC613	.03	1.10	.50	.31	.15
PVC6133	.033	1.10	.50	.31	.15
PVC6139	.039	1.22	.50	.31	.15
PVC614	.04	1.22	.50	.31	.15
PVC6147	.047	1.22	.50	.34	.15
PVC615	.05	1.22	.53	.34	.15
PVC6156	.056	1.22	.53	.38	.15
PVC6168	.068	1.22	.59	.41	.15
PVC601	.1	1.34	.59	.44	.15
PVC6015	.15	1.63	.66	.46	.15
PVC602	.2	1.75	.69	.50	.15
PVC6022	.22	1.75	.72	.53	.15
PVC6025	.25	1.75	.75	.56	.15
PVC6033	.33	1.78	.84	.66	.15
PVC6047	.47	1.78	1.00	.78	.15
PVC61	1.0	2.31	1.13	.94	1.05

\*All dimensions ± .003.

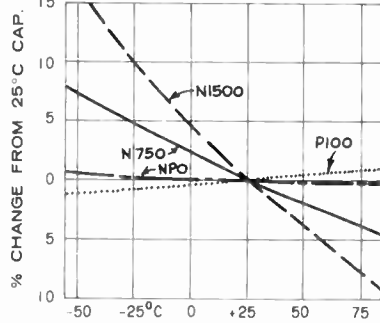
## DISCAP<sup>®</sup> DISC CERAMIC CAPACITOR DATA



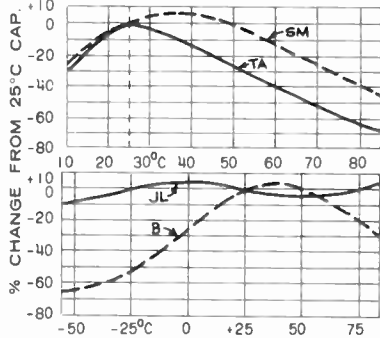
DISCAP capacitors are manufactured by Radio Materials Company, a division of P.R. Mallory & Co. Inc. RMC is the world's largest maker of these capacitors, a position gained by producing the widest line to the highest quality standards. The listing on page 19 contains only those types normally carries in distributor's stocks. Many other types and ratings are available on special order.

Since the dielectric material in the disc ceramic capacitor is a blend, its characteristics can be altered to produce a wide variety of results. This is best illustrated by the 1C types (C80 and C71). Note the marked negative change in the C71 as temperature increases while the C80 stays virtually constant. Also shown are P100 and N1500 types which are special order items.

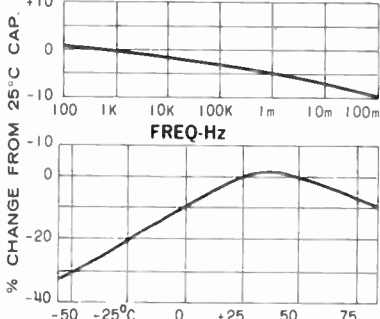
### TEMP. COMP. DATA



### TEMP. VS. CAP.



### TYPE JF DATA





# MALLORY Ceramic Capacitors

DISCAP® ceramic disc capacitors offer the widest range of types available. Meet or exceed all requirements of EIA Specification RS-198, Class 2.

### LOW VOLTAGE MAGNACAPS

For low-voltage transistor circuits; rated 3, 12 and 25 WVDC. Tol.: -20%, +80%. Power Factor: 3% at 3 WVDC; 5% at 12 and 25 WVDC. Temp. Coef.: ±22%.

Mallory No.	Cap. μF	WV DC	IR* Ohms	Dia., In.	Net Ea.
MAG315	.05	3	80K	.265	58c
MAG301	.1	3	40K	.265	42c
MAG3022	.22	3	18K	.310	24c
MAG3047	.47	3	9K	.425	24c
MAG31	1.0	3	4K	.615	36c
MAG32P2	2.2	3	1820	.880	42c
MAG1215	.05	12	800K	.290	18c
MAG1201	.1	12	400K	.400	18c
MAG12022	.22	12	180K	.550	24c
MAG12047	.47	12	85K	.840	42c
MAG121	1.0	12	40K	1.100	58c
MAG2511	.01	25	10 megs	.265	18c
MAG2512	.02	25	10 megs	.340	18c
MAG2515	.05	25	10 megs	.480	18c
MAG2501	.10	25	10 megs	.650	21c
MAG25022	.22	25	10 megs	.910	39c

\*Insulation resistance.

### MINIATURE 100 VOLTS

High capacity miniatures rated 100 WVDC; flash, 200 VDC. Tol.: -20%, +80%. Power Factor: 3% max. at 1 kc. Insul. Resis.: 7500 megs min. Temp. Coef.: ±22%, -56% (+10° C to +85° C).

Mallory No.	Cap. μF	Net Ea.	Mallory No.	Cap. μF	Net Ea.
TA250*	.005	12c	TA125†	.025	18c
TA110*	.01	12c	TA150†	.05	21c
TA120†	.02	18c	TA010†	.1	52c

Dia.: \*1/8"; †1/4"; ‡3/8"; §1/2"; ¶3/4"; \*\*5/8"; \*\*\*1"; \*\*\*\*1 1/8"; \*\*\*\*\*1 1/4"; \*\*\*\*\*1 1/2"; \*\*\*\*\*1 3/4"; \*\*\*\*\*2"; \*\*\*\*\*2 1/4"; \*\*\*\*\*2 1/2"; \*\*\*\*\*2 3/4"; \*\*\*\*\*3"; \*\*\*\*\*3 1/4"; \*\*\*\*\*3 1/2"; \*\*\*\*\*3 3/4"; \*\*\*\*\*4"; \*\*\*\*\*4 1/4"; \*\*\*\*\*4 1/2"; \*\*\*\*\*4 3/4"; \*\*\*\*\*5"; \*\*\*\*\*5 1/4"; \*\*\*\*\*5 1/2"; \*\*\*\*\*5 3/4"; \*\*\*\*\*6"; \*\*\*\*\*6 1/4"; \*\*\*\*\*6 1/2"; \*\*\*\*\*6 3/4"; \*\*\*\*\*8"; \*\*\*\*\*8 1/4"; \*\*\*\*\*8 1/2"; \*\*\*\*\*8 3/4"; \*\*\*\*\*10"; \*\*\*\*\*10 1/4"; \*\*\*\*\*10 1/2"; \*\*\*\*\*10 3/4"; \*\*\*\*\*12"; \*\*\*\*\*12 1/4"; \*\*\*\*\*12 1/2"; \*\*\*\*\*12 3/4"; \*\*\*\*\*15"; \*\*\*\*\*15 1/4"; \*\*\*\*\*15 1/2"; \*\*\*\*\*15 3/4"; \*\*\*\*\*20"; \*\*\*\*\*20 1/4"; \*\*\*\*\*20 1/2"; \*\*\*\*\*20 3/4"; \*\*\*\*\*25"; \*\*\*\*\*25 1/4"; \*\*\*\*\*25 1/2"; \*\*\*\*\*25 3/4"; \*\*\*\*\*30"; \*\*\*\*\*30 1/4"; \*\*\*\*\*30 1/2"; \*\*\*\*\*30 3/4"; \*\*\*\*\*40"; \*\*\*\*\*40 1/4"; \*\*\*\*\*40 1/2"; \*\*\*\*\*40 3/4"; \*\*\*\*\*50"; \*\*\*\*\*50 1/4"; \*\*\*\*\*50 1/2"; \*\*\*\*\*50 3/4"; \*\*\*\*\*75"; \*\*\*\*\*75 1/4"; \*\*\*\*\*75 1/2"; \*\*\*\*\*75 3/4"; \*\*\*\*\*100"; \*\*\*\*\*100 1/4"; \*\*\*\*\*100 1/2"; \*\*\*\*\*100 3/4"; \*\*\*\*\*150"; \*\*\*\*\*150 1/4"; \*\*\*\*\*150 1/2"; \*\*\*\*\*150 3/4"; \*\*\*\*\*200"; \*\*\*\*\*200 1/4"; \*\*\*\*\*200 1/2"; \*\*\*\*\*200 3/4"; \*\*\*\*\*300"; \*\*\*\*\*300 1/4"; \*\*\*\*\*300 1/2"; \*\*\*\*\*300 3/4"; \*\*\*\*\*500"; \*\*\*\*\*500 1/4"; \*\*\*\*\*500 1/2"; \*\*\*\*\*500 3/4"; \*\*\*\*\*750"; \*\*\*\*\*750 1/4"; \*\*\*\*\*750 1/2"; \*\*\*\*\*750 3/4"; \*\*\*\*\*1000"; \*\*\*\*\*1000 1/4"; \*\*\*\*\*1000 1/2"; \*\*\*\*\*1000 3/4"; \*\*\*\*\*1500"; \*\*\*\*\*1500 1/4"; \*\*\*\*\*1500 1/2"; \*\*\*\*\*1500 3/4"; \*\*\*\*\*2000"; \*\*\*\*\*2000 1/4"; \*\*\*\*\*2000 1/2"; \*\*\*\*\*2000 3/4"; \*\*\*\*\*3000"; \*\*\*\*\*3000 1/4"; \*\*\*\*\*3000 1/2"; \*\*\*\*\*3000 3/4"; \*\*\*\*\*5000"; \*\*\*\*\*5000 1/4"; \*\*\*\*\*5000 1/2"; 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\*\*\*\*\*30000000000



# Solid Tantalum Capacitors

## CS12, CS13 AND TAS SOLID ELECTROLYTE TANTALUM CAPACITORS

Ultra-miniature capacitors designed to withstand the most difficult environmental conditions. Furnished in hermetically sealed metal cases. Temperature range: -80° C to +85° C (to +125° C with derating). TAS commercial types 6 through 50 WVDC are shown on this page. TAS 75 and 100 WVDC are shown on the next page. CS12 and CS13 types to both MIL-C-26655A and MIL-C-26655B are shown on next page. **TAS ORDERING INFORMATION:** Are specified by a 13-digit part number. **Tolerance:** Specify **K** for ±10% or **M** for ±20%. **Insulating Sleeve:** TAS types are listed with uninsulated cases; for insulating sleeve, change

12th digit of part number from 0 to 1 and add 2c to prices shown. **Case Sizes:** TAS sizes are indicated by the last digit in the part number (A, C, F, & G). See price table below. **CS12/13 ORDERING INFORMATION:** Shown on next page to both MIL-C-26655A and MIL-C-26655B. Either type may be ordered. Prices are shown below by case code. **Tolerance:** Specify **K** for ±10% or **M** for ±20%. **Insulating Sleeve:** Uninsulated CS12 types are shown. For insulating sleeve, specify CS13 and add 2c to prices shown. **Case Sizes:** Shown below by code letter in listing, see price table below.

### STOCK VALUES—TAS TYPES

Cap., μF	6 WVDC Mallory No.†	10 WVDC Mallory No.†	15 WVDC Mallory No.†	20 WVDC Mallory No.†	35 WVDC Mallory No.†	50 WVDC Mallory No.†
.0047	TAS472*006P0A	TAS472*010P0A	TAS472*015P0A	TAS472*020P0A	TAS472*035P0A*	
.0056	TAS562K006P0A	TAS562K010P0A	TAS562K015P0A	TAS562K020P0A	TAS562K035P0A*	
.0068	TAS682*006P0A	TAS682*010P0A	TAS682*015P0A	TAS682*020P0A	TAS682*035P0A*	
.0082	TAS822K006P0A	TAS822K010P0A	TAS822K015P0A	TAS822K020P0A	TAS822K035P0A*	
.010	TAS103*006P0A	TAS103*010P0A	TAS103*015P0A	TAS103*020P0A	TAS103*035P0A*	
.012	TAS123K006P0A	TAS123K010P0A	TAS123K015P0A	TAS123K020P0A	TAS123K035P0A*	
.015	TAS153*006P0A	TAS153*010P0A	TAS153*015P0A	TAS153*020P0A	TAS153*035P0A*	
.018	TAS183K006P0A	TAS183K010P0A	TAS183K015P0A	TAS183K020P0A	TAS183K035P0A*	
.022	TAS223*006P0A	TAS223*010P0A	TAS223*015P0A	TAS223*020P0A	TAS223*035P0A*	
.027	TAS273K006P0A	TAS273K010P0A	TAS273K015P0A	TAS273K020P0A	TAS273K035P0A*	
.033	TAS333*006P0A	TAS333*010P0A	TAS333*015P0A	TAS333*020P0A	TAS333*035P0A*	
.039	TAS393K006P0A	TAS393K010P0A	TAS393K015P0A	TAS393K020P0A	TAS393K035P0A*	
.047	TAS473*006P0A	TAS473*010P0A	TAS473*015P0A	TAS473*020P0A	TAS473*035P0A*	
.056	TAS563K006P0A	TAS563K010P0A	TAS563K015P0A	TAS563K020P0A	TAS563K035P0A*	
.068	TAS683*006P0A	TAS683*010P0A	TAS683*015P0A	TAS683*020P0A	TAS683*035P0A*	
.082	TAS823K006P0A	TAS823K010P0A	TAS823K015P0A	TAS823K020P0A	TAS823K035P0A*	
.10	TAS104*006P0A	TAS104*010P0A	TAS104*015P0A	TAS104*020P0A	TAS104*035P0A*	
.12	TAS124K006P0A	TAS124K010P0A	TAS124K015P0A	TAS124K020P0A	TAS124K035P0A*	
.15	TAS154*006P0A	TAS154*010P0A	TAS154*015P0A	TAS154*020P0A	TAS154*035P0A*	
.18	TAS184K006P0A	TAS184K010P0A	TAS184K015P0A	TAS184K020P0A	TAS184K035P0A*	
.22	TAS224*006P0A	TAS224*010P0A	TAS224*015P0A	TAS224*020P0A	TAS224*035P0A*	
.27	TAS274K006P0A	TAS274K010P0A	TAS274K015P0A	TAS274K020P0A	TAS274K035P0A*	
.33	TAS334*006P0A	TAS334*010P0A	TAS334*015P0A	TAS334*020P0A	TAS334*035P0A*	TAS334*050P0A
.39	TAS394K006P0A	TAS394K010P0A	TAS394K015P0A	TAS394K020P0A	TAS394K035P0A*	TAS394K050P0A
.47	TAS474*006P0A	TAS474*010P0A	TAS474*015P0A	TAS474*020P0A	TAS474*035P0A*	TAS474*050P0A
.56	TAS564K006P0A	TAS564K010P0A	TAS564K015P0A	TAS564K020P0A	TAS564K035P0A*	TAS564K050P0A
.68	TAS684*006P0A	TAS684*010P0A	TAS684*015P0A	TAS684*020P0A	TAS684*035P0A*	TAS684*050P0A
.82	TAS824K006P0A	TAS824K010P0A	TAS824K015P0A	TAS824K020P0A	TAS824K035P0A*	TAS824K050P0A
1.0	TAS105*006P0A	TAS105*010P0A	TAS105*015P0A	TAS105*020P0A	TAS105*035P0A*	TAS105*050P0A
1.2	TAS125K006P0A	TAS125K010P0A	TAS125K015P0A	TAS125K020P0A*	TAS125K035P0C*	TAS125K050P0C
1.5	TAS155*006P0A	TAS155*010P0A	TAS155*015P0A	TAS155*020P0A*	TAS155*035P0C*	TAS155*050P0C
1.8	TAS185K006P0A	TAS185K010P0A	TAS185K015P0A	TAS185K020P0A*	TAS185K035P0C*	TAS185K050P0C
2.2	TAS225*006P0A	TAS225*010P0A	TAS225*015P0A	TAS225*020P0A*	TAS225*035P0C*	TAS225*050P0C
2.7	TAS275K006P0A	TAS275K010P0A	TAS275K015P0A*	TAS275K020P0C*	TAS275K035P0C*	TAS275K050P0C
3.3	TAS335*006P0A	TAS335*010P0A	TAS335*015P0A*	TAS335*020P0C*	TAS335*035P0C*	TAS335*050P0C
3.9	TAS395K006P0A	TAS395K010P0A*	TAS395K015P0C*	TAS395K020P0C*	TAS395K035P0C*	TAS395K050P0C
4.7	TAS475*006P0A	TAS475*010P0A*	TAS475*015P0C*	TAS475*020P0C*	TAS475*035P0C*	TAS475*050P0C
5.6	TAS565K006P0A*	TAS565K010P0C*	TAS565K015P0C*	TAS565K020P0C*	TAS565K035P0C*	TAS565K050P0F
6.8	TAS685*006P0A*	TAS685*010P0C	TAS685*015P0C*	TAS685*020P0C*	TAS685*035P0C*	TAS685*050P0F
8.2	TAS825K006P0C	TAS825K010P0C	TAS825K015P0C*	TAS825K020P0C*	TAS825K035P0F*	TAS825K050P0F
10	TAS106*006P0C	TAS106*010P0C	TAS106*015P0C	TAS106*020P0C*	TAS106*035P0F*	TAS106*050P0F
12	TAS126K006P0C	TAS126K010P0C	TAS126K015P0C*	TAS126K020P0C*	TAS126K035P0F*	TAS126K050P0F
15	TAS156*006P0C	TAS156*010P0C	TAS156*015P0C*	TAS156*020P0C*	TAS156*035P0F*	TAS156*050P0F
18	TAS186K006P0C	TAS186K010P0C	TAS186K015P0C*	TAS186K020P0C*	TAS186K035P0F*	TAS186K050P0F
22	TAS226*006P0C	TAS226*010P0C	TAS226*015P0C*	TAS226*020P0F*	TAS226*035P0F*	TAS226*050P0G
27	TAS276K006P0C	TAS276K010P0C*	TAS276K015P0F*	TAS276K020P0F*	TAS276K035P0G*	
33	TAS336*006P0C	TAS336*010P0C*	TAS336*015P0F*	TAS336*020P0F*	TAS336*035P0G*	
39	TAS396K006P0C	TAS396K010P0C*	TAS396K015P0F*	TAS396K020P0F*	TAS396K035P0G*	
47	TAS476*006P0C*	TAS476*010P0F*	TAS476*015P0F*	TAS476*020P0F*	TAS476*035P0G	
56	TAS566K006P0C*	TAS566K010P0F*	TAS566K015P0F*	TAS566K020P0G*		
68	TAS686*006P0F	TAS686*010P0F*	TAS686*015P0F*	TAS686*020P0G*	TAS686M035P0G	
82	TAS826K006P0F	TAS826K010P0F*	TAS826K015P0G	TAS826K020P0G*		
100	TAS107*006P0F	TAS107*010P0F*	TAS107*015P0G	TAS107*020P0G*		
120	TAS127K006P0F	TAS127K010P0F*	TAS127K015P0G*			
150	TAS157*006P0F*	TAS157*010P0G*	TAS157*015P0G*			
180	TAS187K006P0F*	TAS187K010P0G*				
220	TAS227*006P0G*	TAS227*010P0G*				
270	TAS277K006P0G*					
330	TAS337*006P0G*					

\*Specify **K** for ±10% tolerance or **M** for ±20%. \*Parent value; Max. WVDC vs. capacity, size and price. †Last letter indicates size; see pricing below.

### TAS AND CS12/13 INDUSTRIAL NET PRICES

Prices shown are for bare metal case types. Add 2c for types with insulating sleeve; add .010" dia. for sleeve.

#### FOR 6, 10, 15, 20 AND 35 WVDC

Case Code †	Case Size, Inches Dia. x L.	WVDC	Capacity Range, μF	For ±10% Tol. (K), Net Each					For ±20% Tol. (M), Net Each				
				1-24	25-49	50-99	100-499	500-999	1-24	25-49	50-99	100-499	500-999
A	.125 x .250	6, 10, 15, 20, 35	.0047-6.8	\$1.32	\$1.05	\$0.73	\$0.60	\$0.51	\$1.29	\$1.03	\$0.70	\$0.57	\$0.48
C	.175 x .438	6, 10, 15, 20, 35	1.2-56	1.53	1.23	.75	.62	.52	1.50	1.20	.72	.59	.49
F	.279 x .650	6, 10, 15, 20	18-180	2.21	1.77	1.33	1.10	.92	2.18	1.74	1.30	1.07	.89
		35	8.2-22	2.53	2.03	1.40	1.14	.95	2.50	2.00	1.37	1.11	.93
G	.341 x .750	6, 10, 15, 20	56-330	4.48	3.53	2.32	1.89	1.58	4.45	3.50	2.29	1.86	1.55
		35	27-33	4.53	3.63	2.51	2.03	1.79	4.50	3.60	2.48	2.00	1.68
		35	39-47	4.73	3.78	2.78	2.27	1.89	4.70	3.75	2.45	2.24	1.86
		35	68						5.30	4.25	3.14	2.45	2.34

#### FOR 50 WVDC

Case Code	Case Size, Inches Dia. x L.	WVDC	Capacity Range, μF	\$2.45	\$1.97	\$1.66	\$1.43	\$1.29	\$1.90	\$1.50	\$1.28	\$1.09	\$1.00
A	.125 x .250	50	0.47-1.0										
C	.175 x .438	50	1.2-4.7	2.60	2.08	1.75	1.50	1.37	2.00	1.60	1.35	1.15	1.05
F	.279 x .650	50	5.6-18	4.25	3.40	2.88	2.45	2.24	3.25	2.60	2.20	1.89	1.72
G	.341 x .750	50	22	7.95	6.35	5.35	4.58	4.18	6.10	4.90	4.15	3.50	3.22

# MALLOY Solid Tantalum Capacitors

For bare metal case, order CS12 as listed. For insulating sleeve, specify CS13.

## MIL-C-26655A, CS12 AND CS13

6 WVDC		
Cap., $\mu$ F	Mallory Number	Size
5.6	CS12AB5R6K	A
6.8	CS12AB6R8*	A
47	CS12AB470*	C
56	CS12AB560K	C
150	CS12AB151*	F
180	CS12AB181K	F
270	CS12AB271K	G
330	CS12AB331*	G

10 WVDC		
Cap., $\mu$ F	Mallory Number	Size
3.9	CS12AC3R9K	A
4.7	CS12AC4R7*	A
27	CS12AC270K	C
33	CS12AC330*	C
39	CS12AC390K	C
82	CS12AC820K	F
100	CS12AC101*	F
120	CS12AC121K	F
180	CS12AC181K	G
220	CS12AC221*	G

15 WVDC		
Cap., $\mu$ F	Mallory Number	Size
2.7	CS12AD2R7K	A
3.3	CS12AD3R3*	A
18	CS12AD180K	C
22	CS12AD220*	C
56	CS12AD560K	F
68	CS12AD680*	F
120	CS12AD121K	G
150	CS12AD151*	G

20 WVDC		
Cap., $\mu$ F	Mallory Number	Size
1.2	CS12AE1R2K	A
1.5	CS12AE1R5*	A
1.8	CS12AE1R8K	A
2.2	CS12AE2R2*	A
8.2	CS12AE8R2K	C
10	CS12AE100*	C
12	CS12AE120K	C
15	CS12AE150*	C
27	CS12AE270K	F
33	CS12AE330*	F
39	CS12AE390K	F
47	CS12AE470*	F
56	CS12AE560K	G
68	CS12AE680*	G
82	CS12AE820K	G
100	CS12AE101*	G

35 WVDC		
Cap., $\mu$ F	Mallory Number	Size
.33	CS12AFR33*	A
.39	CS12AFR39K	A
.47	CS12AFR47*	A
.56	CS12AFR56K	A
.68	CS12AFR68*	A
.82	CS12AFR82K	A
1.0	CS12AFR10*	A
1.2	CS12AF1R2K	A
1.5	CS12AF1R5*	A
1.8	CS12AF1R8K	A
2.2	CS12AF2R2*	A
2.7	CS12AF2R7K	A
3.3	CS12AF3R3*	A
3.9	CS12AF3R9K	A
4.7	CS12AF4R7*	A
5.6	CS12AF5R6K	A
6.8	CS12AF6R8*	A
8.2	CS12AF8R2K	A
10	CS12AF100*	A
12	CS12AF120K	A
15	CS12AF150*	A
18	CS12AF180K	A
22	CS12AF220*	A
27	CS12AF270K	A
33	CS12AF330*	A
39	CS12AF390K	A
47	CS12AF470*	A

50 WVDC		
Cap., $\mu$ F	Mallory Number	Size
1.0	CS12AG010*	A
1.2	CS12AG1R2K	A
1.5	CS12AG1R5*	A
1.8	CS12AG1R8K	A
2.2	CS12AG2R2*	A
2.7	CS12AG2R7K	A
3.3	CS12AG3R3*	A
3.9	CS12AG3R9K	A
4.7	CS12AG4R7*	A
5.6	CS12AG5R6K	A
6.8	CS12AG6R8*	A
8.2	CS12AG8R2K	A
10	CS12AG100*	A
12	CS12AG120K	A
15	CS12AG150*	A
18	CS12AG180K	A
22	CS12AG220*	A

\*Specify tolerance: K =  $\pm 10\%$ ; M =  $\pm 20\%$ . For case sizes, see pricing table.

SEE PREVIOUS PAGE FOR PRICING, CASE SIZE AND ORDERING INFORMATION

## MIL-C-26655B, CS12 AND CS13

For bare metal case, order CS12 as listed. For insulating sleeve, specify CS13.

6 WVDC		
Cap., $\mu$ F	Mallory Number	Size
5.6	CS12BB565K	A
6.8	CS12BB685*	A
47	CS12BB476*	C
56	CS12BB566K	C
150	CS12BB157*	F
180	CS12BB187K	F
270	CS12BB277K	G
330	CS12BB337*	G

10 WVDC		
Cap., $\mu$ F	Mallory Number	Size
3.9	CS12BC395K	A
4.7	CS12BC475*	A
27	CS12BC276K	C
33	CS12BC336*	C
39	CS12BC396K	C
82	CS12BC826K	F
100	CS12BC107*	F
120	CS12BC127K	F
180	CS12BC187K	G
220	CS12BC227*	G

15 WVDC		
Cap., $\mu$ F	Mallory Number	Size
2.7	CS12BD275K	A
3.3	CS12BD335*	A
18	CS12BD186K	C
22	CS12BD226*	C
56	CS12BD566K	F
68	CS12BD686*	F
120	CS12BD127K	G
150	CS12BD157*	G

20 WVDC		
Cap., $\mu$ F	Mallory Number	Size
1.2	CS12BE125K	A
1.5	CS12BE155*	A
1.8	CS12BE185K	A
2.2	CS12BE225*	A
8.2	CS12BE825K	C
10	CS12BE106*	C
12	CS12BE126K	C
15	CS12BE156*	C
27	CS12BE276K	F
33	CS12BE336*	F
39	CS12BE396K	F
47	CS12BE476*	F
56	CS12BE566K	G
68	CS12BE686*	G
82	CS12BE826K	G
100	CS12BE107*	G

35 WVDC		
Cap., $\mu$ F	Mallory Number	Size
.33	CS12BF334*	A
.39	CS12BF394K	A
.47	CS12BF474*	A
.56	CS12BF564K	A
.68	CS12BF684*	A
.82	CS12BF824K	A
1.0	CS12BF105*	A
1.2	CS12BF125K	A
1.5	CS12BF155*	A
1.8	CS12BF185K	A
2.2	CS12BF225*	A
2.7	CS12BF275K	A
3.3	CS12BF335*	A
3.9	CS12BF395K	A
4.7	CS12BF475*	A
5.6	CS12BF565K	A
6.8	CS12BF685*	A
8.2	CS12BF825K	A
10	CS12BF106*	A
12	CS12BF126K	A
15	CS12BF156*	A
18	CS12BF186K	A
22	CS12BF226*	A
27	CS12BF276K	A
33	CS12BF336*	A
39	CS12BF396K	A
47	CS12BF476*	A

50 WVDC		
Cap., $\mu$ F	Mallory Number	Size
1.0	CS12BG105*	A
1.2	CS12BG125K	A
1.5	CS12BG155*	A
1.8	CS12BG185K	A
2.2	CS12BG225*	A
2.7	CS12BG275K	A
3.3	CS12BG335*	A
3.9	CS12BG395K	A
4.7	CS12BG475*	A
5.6	CS12BG565K	A
6.8	CS12BG685*	A
8.2	CS12BG825K	A
10	CS12BG106*	A
12	CS12BG126K	A
15	CS12BG156*	A
18	CS12BG186K	A
22	CS12BG226*	A

\*Specify tolerance: K =  $\pm 10\%$ ; M =  $\pm 20\%$ . For case sizes, see pricing table.

SEE PREVIOUS PAGE FOR PRICING, CASE SIZE AND ORDERING INFORMATION

## TAS 75 AND 100 WVDC

Higher voltage versions of the TAS types listed on the previous page. Case sizes remain the same as the lower voltage versions. Furnished in hermetically sealed metal cases for maximum environmental

protection. Available with shrink-fit insulating sleeve (change 12th digit from 0 to 1, and add 2c to prices shown below. For complete technical details, ask for Bulletin 4-40.

75 WVDC		
Cap., $\mu$ F	Mallory Number	Size†
.47	TAS474*075P0A	A
.56	TAS564K075P0A	A
.68	TAS684*075P0A	A
.82	TAS824K075P0C	C
1.0	TAS105*075P0C	C
1.2	TAS125K075P0C	C
1.5	TAS155*075P0C	C
1.8	TAS185K075P0C	C
2.2	TAS225*075P0C	C
2.7	TAS275K075P0C	C
3.3	TAS335*075P0C	C

100 WVDC		
Cap., $\mu$ F	Mallory Number	Size†
.47	TAS474*100P0A	A
.56	TAS564K100P0A	A
.68	TAS684*100P0C	C
.82	TAS824K100P0C	C
1.0	TAS105*100P0C	C
1.2	TAS125K100P0C	C
1.5	TAS155*100P0C	C
1.8	TAS185K100P0C	C
2.2	TAS225*100P0C	C
2.7	TAS275K100P0C	C

\*Specify K for  $\pm 10\%$  tol., M for  $\pm 20\%$ .

\*Specify K for  $\pm 10\%$  tol., M for  $\pm 20\%$ .

†CASE SIZES		
Size	Uninsulated	Insulated
A	.125 x .250	.135 x .286
C	.175 x .438	.185 x .474

†CASE SIZES		
Size	Uninsulated	Insulated
A	.125 x .250	.135 x .286
C	.175 x .438	.185 x .474

±10% TOLERANCE					
Net Each, Lots of					
†	1-24	25-49	50-99	100-499	500-999
A	\$6.10	\$3.50	\$2.65	\$2.10	\$1.93
C	6.45	3.70	2.75	2.20	2.02

±10% TOLERANCE					
Net Each, Lots of					
†	1-24	25-49	50-99	100-499	500-999
A	\$7.95	\$4.55	\$3.40	\$2.70	\$2.50
C	8.40	4.80	3.60	2.85	2.63

±20% TOLERANCE					
Net Each, Lots of					
†	1-24	25-49	50-99	100-499	500-999
A	\$4.70	\$2.70	\$2.05	\$1.60	\$1.48
C	4.95	2.85	2.15	1.70	1.55

±20% TOLERANCE					
Net Each, Lots of					
†	1-24	25-49	50-99	100-499	500-999
A	\$6.10	\$3.50	\$2.65	\$2.10	\$1.93
C	6.45	3.70	2.75	2.20	2.02

## TAM SOLID ELECTROLYTE



TAM

Mallory TAM tantalum capacitors are made to the same exacting standards as the TAS types. The TAM is designed for printed circuit board applications and has parallel leads  $1\frac{1}{2}$ " long spaced .200" apart. Case is premolded plastic with polarity markings on the top. Temperature range is  $-55^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ . Standard tolerance:  $\pm 20\%$ . Stability and life characteristics are ideal for low voltage, low impedance transistorized circuits. Complete technical specifications and typical life test data is given in Technical Bulletin 4-47.

Cap., $\mu$ F	WVDC +85°C	Mallory Number	Case Size†
56	6	TAM566M006P5C	C
33	10	TAM336M010P5C	C
39	10	TAM396M010P5C	C
22	15	TAM226M015P5C	C
6.8	25	TAM685M025P5C	C
10	25	TAM106M025P5C	C
15	25	TAM156M025P5C	C
4.7	35	TAM475M035P5C	C

†.125" w. x .175" d. x .425" h.

Net Each, Lots of					
Case Size	1-24	25-49	50-99	100-499	500-999
C	\$1.20	\$0.96	\$0.82	\$0.69	\$0.63



# Tantalum Foil Capacitors

Mallory tantalum foil capacitors are available in either etched or plain foil, polarized or non-polarized, and in two temperature grades (+85° C or +125° C). Standard ratings shown below and on the next page are listed with un-insulated cases. For insulating sleeve, add "one" to type shown (CL20 becomes CL21, etc.) and

add 10c to prices shown. Case sizes, tolerances and industrial net prices are shown in the table at the bottom of this page. These capacitors are also available to Mallory commercial numbers (TAF, TAG, TBF, TBG, etc.). For details on these numbers ask for Technical Bulletin 4-65.

## ETCHED FOIL TO MIL-C-3965

-55° C TO +125° C

### CL20/21 POLARIZED

Cap., $\mu$ F	WVDC at Max. Temp.	Mallory Number	Size Code	Maximum DCL Microamps		Max. Imped. at -55° C 120CPS (Ohms)
				25° C	125° C	
15	10	CL20CD150UP3	A2	2	4	480
60	10	CL20CD600UP3	B4	2.5	10	120
200	10	CL20CD201UP3	C4	3	50	36
400	10	CL20CD401UP3	D4	6	80	18
580	10	CL20CD581UP3	E4	9	100	12
10	15	CL20CE100UP3	A2	2	4	720
40	15	CL20CE400UP3	B4	2.5	15	180
120	15	CL20CE121UP3	C4	3	40	58
250	15	CL20CE251UP3	D4	6	90	29
350	15	CL20CE351UP3	E4	12	100	21
4.5	30	CL20CH4R5TP3	A2	2	4	754
18	30	CL20CH180TP3	B4	2	14	188
60	30	CL20CH600TP3	C4	3	50	57
100	30	CL20CH101TP3	D4	4	75	34
150	30	CL20CH151TP3	E4	5	112	23
3	50	CL20CJ030TP3	A2	2	4	1128
12	50	CL20CJ120TP3	B4	2	14	282
30	50	CL20CJ300TP3	C4	3	34	113
70	50	CL20CJ700TP3	D4	7.5	80	49
100	50	CL20CJ101TP3	E4	13	112	34
2	60	CL20CK020TP3	A2	2	4	1690
8	60	CL20CK080TP3	B4	2	12	424
25	60	CL20CK250TP3	C4	2.5	37	136
50	60	CL20CK500TP3	D4	5	75	68
70	60	CL20CK700TP3	E4	7	105	48
1	100	CL20CN010SP3	A2	2	4	3385
4	100	CL20CN040SP3	B4	2	14	847
13	100	CL20CN130SP3	C4	4	260	6
25	100	CL20CN250SP3	D4	5	80	135
36	100	CL20CN360SP3	E4	8	112	94

-55° C TO +85° C

### CL24/25 POLARIZED

Cap., $\mu$ F	WVDC at Max. Temp.	Mallory Number	Size Code	Maximum DCL Microamps		Max. Imped. at -55° C 120CPS (Ohms)
				25° C	125° C	
15	15	CL24BE150UP3	A1	2	4	226
60	15	CL24BE600UP3	B2	2.5	10	58
200	15	CL24BE201UP3	C2	3	50	17
400	15	CL24BE401UP3	D3	6	80	9
580	15	CL24BE581UP3	E3	9	100	6
10	25	CL24BG100UP3	A1	2	4	339
40	25	CL24BG400UP3	B2	2.5	15	85
120	25	CL24BG121UP3	C2	3	40	27
250	25	CL24BG251UP3	D3	6	90	14
350	25	CL24BG351UP3	E3	12	100	10
8	30	CL24BH080UP3	A1	2	6	424
32	30	CL24BH320UP3	B2	2	14	106
110	30	CL24BH111UP3	C2	4	50	31
220	30	CL24BH221UP3	D3	8	90	16
300	30	CL24BH301UP3	E3	11	120	11
4.5	50	CL24BJ4R5TP3	A1	2	4	753
18	50	CL24BJ180TP3	B2	2	14	188
60	50	CL24BJ600TP3	C2	3	50	57
100	50	CL24BJ101TP3	D3	4	75	34
150	50	CL24BJ151TP3	E3	5	112	23
3	75	CL24BL030TP3	A1	2	4	1130
12	75	CL24BL120TP3	B2	2	14	283
30	75	CL24BL300TP3	C2	3	34	113
70	75	CL24BL700TP3	D3	7.5	80	48
100	75	CL24BL101TP3	E3	13	112	34
2	100	CL24BN020SP3	A1	2	4	1690
8	100	CL24BN080SP3	B2	2	12	428
25	100	CL24BN250SP3	C2	2.5	37	135
50	100	CL24BN500SP3	D3	5	75	68
70	100	CL24BN700SP3	E3	7	105	49
1	150	CL24BQ010SP3	A1	2	4	3000
4	150	CL24BQ040SP3	B2	2	14	750
13	150	CL24BQ130SP3	C2	4	30	261
25	150	CL24BQ250SP3	D3	5	80	135
36	150	CL24BQ360SP3	E3	8	112	94

### CL22/23 NON-POLARIZED

Cap., $\mu$ F	WVDC at Max. Temp.	Mallory Number	Size Code	Maximum DCL Microamps		Max. Imped. at -55° C 120CPS (Ohms)
				25° C	125° C	
10	10	CL22CD100UN3	A2	2	4	720
40	10	CL22CD400UN3	B4	2	10	180
120	10	CL22CD121UN3	C4	3	50	58
250	10	CL22CD251UN3	D4	6	80	29
350	10	CL22CD351UN3	E4	9	100	21
5	15	CL22CE050UN3	A2	2	4	1440
20	15	CL22CE200UN3	B4	2.5	15	360
70	15	CL22CE700UN3	C4	3	40	103
140	15	CL22CE141UN3	D4	6	90	52
200	15	CL22CE201UN3	E4	12	100	36
2.5	30	CL22CH2R5TN3	A2	2	4	1355
10	30	CL22CH100TN3	B4	2	14	339
30	30	CL22CH300TN3	C4	3	50	113
60	30	CL22CH600TN3	D4	4	75	57
80	30	CL22CH800TN3	E4	5	112	42
1.5	50	CL22CJ1R5TN3	A2	2	4	1487
6	50	CL22CJ060TN3	B4	2	14	560
15	50	CL22CJ150TN3	C4	3	34	226
35	50	CL22CJ350TN3	D4	4.5	80	97
50	50	CL22CJ500TN3	E4	13	112	68
1	60	CL22CK010TN3	A2	2	4	3385
4	60	CL22CK040TN3	B4	2	12	845
12	60	CL22CK120TN3	C4	2.5	37	282
25	60	CL22CK250TN3	D4	5	75	136
35	60	CL22CK350TN3	E4	7	105	97
0.5	100	CL22CN0R5SN3	A2	2	4	5770
2	100	CL22CN020SN3	B4	2	14	1693
6	100	CL22CN060SN3	C4	4	30	564
12	100	CL22CN120SN3	D4	5	80	282
18	100	CL22CN180SN3	E4	8	112	188

### CL26/27 NON-POLARIZED

Cap., $\mu$ F	WVDC at Max. Temp.	Mallory Number	Size Code	Maximum DCL Microamps		Max. Imped. at -55° C 120CPS (Ohms)
				25° C	125° C	
10	15	CL26BE100UN3	A1	2	4	339
40	15	CL26BE400UN3	B2	2.5	10	85
120	15	CL26BE121UN3	C2	3	50	27
250	15	CL26BE251UN3	D3	6	80	14
350	15	CL26BE351UN3	E3	9	100	10
5	25	CL26BG050UN3	A1	2	4	680
20	25	CL26BG200UN3	B2	2.5	15	170
70	25	CL26BG700UN3	C2	3	40	49
140	25	CL26BG141UN3	D3	6	90	24
200	25	CL26BG201UN3	E3	12	100	17
4.5	30	CL26BH4R5UN3	A1	2	6	754
18	30	CL26BH180UN3	B2	2	14	188
60	30	CL26BH600UN3	C2	4	50	57
120	30	CL26BH121UN3	D3	8	90	28
170	30	CL26BH171UN3	E3	11	120	20
2.5	50	CL26BJ2R5TN3	A1	2	4	1355
10	50	CL26BJ100TN3	B2	2	14	339
30	50	CL26BJ300TN3	C2	3	50	113
60	50	CL26BJ600TN3	D3	4	75	57
80	50	CL26BJ800TN3	E3	5	112	41
1.5	75	CL26BL1R5TN3	A1	2	4	2255
6	75	CL26BL060TN3	B2	2	14	565
15	75	CL26BL150TN3	C2	3	34	226
35	75	CL26BL350TN3	D3	7.5	80	97
50	75	CL26BL500TN3	E3	13	112	68
1	100	CL26BN010SN3	A1	2	4	3385
4	100	CL26BN040SN3	B2	2	12	845
12	100	CL26BN120SN3	C2	2.5	37	283
25	100	CL26BN250SN3	D3	5	75	135
35	100	CL26BN350SN3	E3	7	105	97
0.5	150	CL26BQ0R5SN3	A1	2	4	6780
2	150	CL26BQ020SN3	B2	2	14	1693
6	150	CL26BQ060SN3	C2	4	30	565
12	150	CL26BQ120SN3	D3	5	80	283
18	150	CL26BQ180SN3	E3	8	112	188

## TANTALUM FOIL CAPACITOR INDUSTRIAL NET PRICES

Size Code	Net Each, Lots of*						Size Code	Net Each, Lots of*					
	1-9	10-24	25-49	50-99	100-499	500 Up		1-9	10-24	25-49	50-99	100-499	500 Up
A1	\$ 4.20	\$ 3.33	\$ 2.42	\$ 1.70	\$ 1.19	\$ 1.03	C5	\$ 20.50	\$ 16.10	\$ 11.12	\$ 7.92	\$ 5.97	\$ 5.47
A2	7.35	5.18	3.99	2.84	1.96	1.79	C6	23.55	18.53	12.78	9.09	6.87	6.29
A3	10.85	8.55	5.89	4.19	3.16	2.90	D1	14.60	10.03	7.70	5.49	3.78	3.46
A4	12.45	9.79	6.75	4.82	3.62	3.32	D2	18.30	12.87	9.93	7.07	4.85	4.45
B1	6.60	4.51	3.47	2.47	1.70	1.56	D3	20.55	14.11	10.83	7.70	5.31	4.86
B2	7.55	4.94	3.80	2.70	1.87	1.72	D4	24.55	17.29	13.30	9.45	6.55	5.96
B3	9.80	6.89	5.32	3.78	2.59	2.38	D5	25.30	19.95	13.73	9.77	7.38	6.76
B4	10.50	7.36	5.70	4.05	2.79	2.55	D6	29.05	22.85	15.49	11.21	8.46	7.76
B5	14.25	11.21	7.74	5.49	4.14	3.81	E1	19.60	13.44	10.30	7.34	5.06	4.63
B6	16.40	12.92	8.93	6.35	4.79	4.39	E2	23.55	16.57	12.78	9.08	6.25	5.71
C1	10.40	7.17	5.51	3.92	2.68	2.47	E3	27.35	18.76	14.44	10.26	7.10	6.47
C2	12.60	8.65	6.65	4.73	3.27	2.98	E4	31.75	22.37	17.24	12.24	8.46	7.71
C3	14.20	9.98	7.70	5.47	3.78	3.44	E5	31.90	25.13	17.34	12.33	9.30	8.53
C4	16.15	11.40	8.79	6.26	4.29	3.93	E6	36.75	28.95	19.95	14.18	10.71	9.82

\*Add 10c to prices shown for CL21, 23, 25, 27, 31, 33, 35, 37 (Mylar sleeve).

## CASE SIZES

- A = 1/8" dia. x 1 1/4"
- B = 3/16" dia. x 3/8"
- C = 3/8" dia. x 1 1/4"
- D = 3/8" dia. x 2 1/4"
- E = 3/8" dia. x 2 3/4"

For insulating sleeve, add .015" to dia. and .063" to length.

## TOLERANCES

K = ±10%; L = ±15%; M = ±20%; S = -15+30%; T = -15+30%; U = -15+75%. (10th digit of Mallory number.)

# MALLORY Tantalum Foil Capacitors

## PLAIN FOIL TO MIL-C-3965

Mallory plain foil tantalum capacitors shown on this page are in uninsulated cases. For insulated cases add "one" to the type number shown (CL30 becomes CL31, etc.) and add 10c to the

prices shown in the table on the previous page. Case sizes, prices and tolerances are shown on previous page.

**CL30/31 POLARIZED**

-55° C TO +125° C

Cap., $\mu$ F	WVDC at Max. Temp.	Mallory Number	Size Code	Maximum DCL Microamps		Max. Imped. at 120CPS (Dhms)
				25° C	125° C	
4.5	10	CL30CD4R5MP3	A2	1	2	495
18	10	CL30CD180MP3	B3	2	4	125
55	10	CL30CD550MP3	C3	2	10	41
110	10	CL30CD111MP3	D2	4	20	20
160	10	CL30CD161MP3	E2	5	30	14
3	15	CL30CE030MP3	A2	1	3	744
12	15	CL30CE120MP3	B3	2	6	186
35	15	CL30CE350MP3	C3	2	12	64
70	15	CL30CE700MP3	D2	4	25	32
100	15	CL30CE101MP3	E2	4	20	23
1.5	30	CL30CH1R5MP3	A2	1	4	1487
6	30	CL30CH060MP3	B3	2	6	372
26	30	CL30CH200MP3	C3	2	13	112
40	30	CL30CH400MP3	D2	4	26	56
55	30	CL30CH550MP3	E2	6	38	41
1	50	CL30CJ010MP3	A2	1	4	2255
4	50	CL30CJ040MP3	B3	2	6	558
14	50	CL30CJ140MP3	C3	2	13	159
28	50	CL30CJ280MP3	D2	4	26	80
40	50	CL30CJ400MP3	E2	6	38	56
0.8	60	CL30CK0R8MP3	A2	1	3.5	2790
3	60	CL30CK030MP3	B3	2	6	1115
10	60	CL30CK100MP3	C3	2	13	223
20	60	CL30CK200MP3	D2	3	25	112
30	60	CL30CK300MP3	E2	6	38	74
0.5	100	CL30CN0R5MP3	A2	2	4	4454
2	100	CL30CN010MP3	B3	2	6	1115
7	100	CL30CN070MP3	C3	3	13	319
14	100	CL30CN140MP3	D2	4	26	159
20	100	CL30CN200MP3	E2	6	38	112
0.35	150	CL30CQR35MP3	A2	1	10.5	5000
1.5	150	CL30CQR1R5MP3	B3	2	20	1800
5	150	CL30CQR050MP3	C3	3	70	450
10	150	CL30CQR100MP3	D2	6	100	250
15	150	CL30CQR150MP3	E2	10	200	150

**CL32/33 NON-POLARIZED**

Cap., $\mu$ F	WVDC at Max. Temp.	Mallory Number	Size Code	Maximum DCL Microamps		Max. Imped. at 120CPS (Dhms)
				25° C	125° C	
2.5	10	CL32CD2R5MN3	A2	1	2	893
10	10	CL32CD100MN3	B3	2	4	223
35	10	CL32CD350MN3	C3	2	10	64
70	10	CL32CD700MN3	D2	4	20	32
100	10	CL32CD101MN3	E2	5	30	23
1.5	15	CL32CE1R5MN3	A2	1	3	1487
6	15	CL32CE060MN3	B3	2	6	372
20	15	CL32CE200MN3	C3	2	12	112
40	15	CL32CE400MN3	D2	4	26	56
60	15	CL32CE600MN3	E2	5	36	37
0.8	30	CL32CH0R8MN3	A2	1	4	2790
3	30	CL32CH030MN3	B3	2	6	743
10	30	CL32CH100MN3	C3	2	13	223
20	30	CL32CH200MN3	D2	4	26	112
30	30	CL32CH300MN3	E2	6	38	75
0.5	50	CL32CJ0R5MN3	A2	1	4	4460
2	50	CL32CJ020MN3	B3	2	6	1115
7	50	CL32CJ070MN3	C3	2	13	319
14	50	CL32CJ140MN3	D2	4	26	159
20	50	CL32CJ200MN3	E2	6	38	112
0.4	60	CL32CK0R4MN3	A2	1	3.5	5580
1.5	60	CL32CK1R5MN3	B3	2	6	1487
5	60	CL32CK050MN3	C3	2	13	446
10	60	CL32CK100MN3	D2	3	25	223
15	60	CL32CK150MN3	E2	6	38	149
0.25	100	CL32CNR25MN3	A2	2	4	8908
1	100	CL32CN010MN3	B3	2	6	2227
3.5	100	CL32CN3R5MN3	C3	3	13	638
7	100	CL32CN070MN3	D2	4	26	319
10	100	CL32CN100MN3	E2	6	28	223
0.15	150	CL32CQR15MN3	A2	1	10.5	14000
0.75	150	CL32CQR75MN3	B3	2	20	3000
2.5	150	CL32CQR25MN3	C3	3	70	900
5	150	CL32CQR050MN3	D2	6	100	450
7.5	150	CL32CQR75MN3	E2	10	200	325

-55° C TO +85° C

**CL34/35 POLARIZED**

**CL36/37 NON-POLARIZED**

10	3	CL34BA100MP3	A1	1	2	250
50	3	CL34BA500MP3	B1	2	6	50
8	6	CL34BB080MP3	A1	1	2	329
30	6	CL34BB300MP3	B1	2	6	88
100	6	CL34BB101MP3	C1	2	10	26
200	6	CL34BB201MP3	D1	5	30	9
300	6	CL34BB301MP3	E1	10	50	13
6	10	CL34BD060MP3	A1	1	2	440
25	10	CL34BD250MP3	B1	2	6	105
80	10	CL34BD800MP3	C1	2	10	33
160	10	CL34BD161MP3	D1	4	20	17
220	10	CL34BD221MP3	E1	5	50	12
4.5	15	CL34BE4R5MP3	A1	1	2	495
10	15	CL34BE100MP3	B1	2	4	250
18	15	CL34BE180MP3	B1	2	4	124
55	15	CL34BE550MP3	C1	2	10	41
110	15	CL34BE111MP3	D1	4	20	21
160	15	CL34BE161MP3	E1	5	30	14
2.5	30	CL34BH2R5MP3	A1	2	5	893
30	30	CL34BH300MP3	C1	2	11	75
60	30	CL34BH600MP3	D1	4	20	37
85	30	CL34BH850MP3	E1	6	30	27
1.5	50	CL34BJ1R5MP3	A1	1	4	1486
6	50	CL34BJ060MP3	B1	2	6	372
20	50	CL34BJ200MP3	C1	2	13	112
40	50	CL34BJ400MP3	D1	4	26	56
55	50	CL34BJ550MP3	E1	6	38	41
1	75	CL34BL010MP3	A1	1	4	2230
4	75	CL34BL040MP3	B1	2	6	558
14	75	CL34BL140MP3	C1	2	13	160
28	75	CL34BL280MP3	D1	4	26	80
40	75	CL34BL400MP3	E1	6	38	56
0.8	100	CL34BN0R8MP3	A1	1	3.5	2790
3	100	CL34BN030MP3	B1	2	6	743
10	100	CL34BN100MP3	C1	2	13	223
20	100	CL34BN200MP3	D1	3	25	112
30	100	CL34BN300MP3	E1	6	38	75
0.5	150	CL34BQR5MP3	A1	2	4	4460
2	150	CL34BQ020MP3	B1	2	6	1693
4	150	CL34BQ040MP3	C1	3	13	558
7	150	CL34BQ070MP3	C1	3	13	319
8	150	CL34BQ080MP3	D1	4	26	265
12	150	CL34BQ120MP3	D1	4	26	208
14	150	CL34BQ140MP3	D1	4	26	159
20	150	CL34BQ200MP3	E1	6	38	112
0.35	200	CL34BRR35LP3	A3	3	13	5700
1.5	200	CL34BRR1R5LP3	B5	4	16	1300
5	200	CL34BR050LP3	C5	8	32	400
10	200	CL34BR100LP3	D5	14	56	200
15	200	CL34BR150LP3	E5	20	80	130
0.3	250	CL34BSR30LP3	A3	3	16	6600
1.2	250	CL34BS1R2LP3	B5	4	20	1600
4	250	CL34BS040LP3	C5	8	40	500
8	250	CL34BS080LP3	D5	14	70	250
12	250	CL34BS120LP3	E5	20	90	160
1	300	CL34BX010LP3	B5	4	22	1600
3	300	CL34BX030LP3	C5	9	45	680
7	300	CL34BX070LP3	D5	16	80	280
10	300	CL34BX100LP3	E5	22	100	200

10	3	CL36BA100MN3	A1	1	2	263
45	3	CL36BA450MN3	B1	2	6	59
140	3	CL36BA141MN3	C1	2	10	19
280	3	CL36BA281MN3	D1	3	30	10
400	3	CL36BA401MN3	C1	5	50	6
7	6	CL36BB070MN3	A1	1	2	377
25	6	CL36BB250MN3	B1	2	6	105
85	6	CL36BB850MN3	C1	2	10	31
170	6	CL36BB171MN3	D1	5	30	15
250	6	CL36BB251MN3	E1	10	50	11
4	10	CL36BD040MN3	A1	1	2	660
16	10	CL36BD160MN3	B1	2	6	165
40	10	CL36BD400MN3	C1	2	10	48
110	10	CL36BD111MN3	D1	4	20	24
150	10	CL36BD151MN3	E1	5	50	18
2.5	15	CL36BE2R5MN3	A1	1	2	892
10	15	CL36BE100MN3	B1	2	4	223
20	15	CL36BE350MN3	C1	2	10	64
35	15	CL36BE700MN3	D1	4	20	32
50	15	CL36BE101MN3	E1	5	30	23
0.15	25	CL36BG1R5MN3	A1	2	4	1485
0.75	25	CL36BG060MN3	B1	2	6	372
20	25	CL36BG200MN3	C1	3	10	111
40	25	CL36BG400MN3	D1	4	20	56
60	25	CL36BG600MN3	E1	5	30	38
1.4	30	CL36BH1R4MN3	A1	2	5	1594
5.5	30	CL36BH5R5MN3	B1	2	6	406
18	30	CL36BH180MN3	C1	2	11	124
36	30	CL36BH360MN3	D1	4	20	62
45	30	CL36BH450MN3	E1	6	30	50
0.8	50	CL36BJ0R8MN3	A1	1	4	2790
3	50	CL36BJ030MN3	B1	2	6	743
10	50	CL36BJ100MN3	C1	2	13	223
20	50	CL36BJ200MN3	D1	4	26	112
30	50	CL36BJ300MN3	E1	6	38	74
0.5	75	CL36BL0R5MN3	A1	1	4	4460
2	75	CL36BL020MN3	B1	2	6	1115
7	75	CL36BL070MN3	C1	2	13	319
14	75	CL36BL140MN3	D1	4	26	160
20	75	CL36BL200MN3	E1	6	38	112
0.4	100	CL36BN0R4MN3	A1	1	3.5	5600
1.5	100	CL36BN1R5MN3	B1	2	6	1485
5	100	CL36BN050MN3	C1	2	13	446
10	100	CL36BN100MN3	D1	3	25	223
15	100	CL36BN150MN3	E1	6	38	149
0.25	150	CL36BQR25MN3	A1	2	4	8920
1	150	CL36BQ010MN3	B1	2	6	2230
3.5	150	CL36BQ3R5MN3	C1	3	13	635
7	150	CL36BQ070MN3	D1	4	26	319
10	150	CL36BQ100MN3	E1	6	38	223
0.15	200	CL36BRR15LN3	A4	6	26	13060
0.75	200	CL36BRR75LN3	B6	8	32	2660
2.5	200	CL36BR2R5LN3	C6	16	64	800
5	200	CL36BR050LN3	D6	28	112	460
7.5	200	CL36BR7R5LN3	E6	40	160	240
0.15	250	CL36BSR15LN3	A4	6	32	13090
0.6	250	CL36BS0R6LN3	B6	8	40	3390
2	250	CL36BS020LN3	C6	16	80	1090
4	250	CL36BS040LN3	D6	28	1	

# MALLORY Wet-slug Tantalum Capacitors

## MIL-C-3965 CL64/65 MINIATURE METAL CASE WET-SLUG TANTALUM CAPACITORS (TLS)

Mallory CL64/65 (TSL) sintered anode tantalums have flangeless case, ideal for high density packaging. Completely replaces the older CL44/45 MIL type. Type CL64 exhibits very high performance and very low DCL. Supplied in two temperature grades: -55° C to +85° C and -55° C to +125° C. Tolerances: ±10% (K), ±20% (M), -15% +30% (S) and -15% +50% (T). Types listed are in plain, uninsulated case; for insulating sleeve, specify CL65 and add 5c to prices shown. Complete specs in Bulletin 9-351.



CASE SIZES

Case Size	Uninsulated		Insulated	
	Dia.	Lgth.	Dia.	Lgth.
T1	.190"	.453"	.219"	.485"
T2	.281"	.641"	.313"	.672"
T3	.375"	.766"	.406"	.797"

### CL64B—, -55° TO +85° C

Cap. μF	VWDC at +85°C	Mallory Number	Case Size
30	6	CL64BB300*P3	T1
68	6	CL64BB680*P3	T1
140	6	CL64BB141*P3	T2
270	6	CL64BB271*P3	T2
330	6	CL64BB331*P3	T3
560	6	CL64BB561*P3	T3
25	8	CL64BC250*P3	T1
56	8	CL64BC560*P3	T1
220	8	CL64BC221*P3	T2
430	8	CL64BC431*P3	T3
20	10	CL64BD200*P3	T1
47	10	CL64BD470*P3	T1
100	10	CL64BD101*P3	T2
180	10	CL64BD181*P3	T2
250	10	CL64BD251*P3	T3
390	10	CL64BD391*P3	T3
15	15	CL64BE150*P3	T1
33	15	CL64BE330*P3	T1
70	15	CL64BE700*P3	T2
120	15	CL64BE121*P3	T2
170	15	CL64BE171*P3	T3
270	15	CL64BE271*P3	T3
10	25	CL64BG100*P3	T1
22	25	CL64BG220*P3	T1
100	25	CL64BG101*P3	T2
180	25	CL64BG181*P3	T3
8	30	CL64BH080*P3	T1
15	30	CL64BH150*P3	T1
40	30	CL64BH400*P3	T2
68	30	CL64BH680*P3	T2
100	30	CL64BH101*P3	T3
150	30	CL64BH151*P3	T3
5	50	CL64BJ050*P3	T1
10	50	CL64BJ100*P3	T1
25	50	CL64BJ250*P3	T2
47	50	CL64BJ470*P3	T2
60	50	CL64BJ600*P3	T3
82	50	CL64BJ820*P3	T3
4	60	CL64BK040*P3	T1
8.2	60	CL64BK082*P3	T1
20	60	CL64BK200*P3	T2
39	60	CL64BK390*P3	T2
50	60	CL64BK500*P3	T3
68	60	CL64BK680*P3	T3
3.5	75	CL64BL3R5*P3	T1
6.8	75	CL64BL6R8*P3	T1
15	75	CL64BL150*P3	T2
33	75	CL64BL330*P3	T2
40	75	CL64BL400*P3	T3
56	75	CL64BL560*P3	T3
2.5	100	CL64BN2R5*P3	T1
4.7	100	CL64BN4R7*P3	T1
11	100	CL64BN110*P3	T2
22	100	CL64BN220*P3	T2
30	100	CL64BN300*P3	T3
43	100	CL64BN430*P3	T3
1.7	125	CL64BP1R7*P3	T1
3.6	125	CL64BP3R6*P3	T1
9	125	CL64BP090*P3	T2
14	125	CL64BP140*P3	T2
18	125	CL64BP180*P3	T3
25	125	CL64BP250*P3	T3

### CL64C—, -55° TO +125° C

Cap. μF	VWDC at +85°C	Mallory Number	Case Size
30	6	CL64CB300*P3	T1
68	6	CL64CB680*P3	T1
140	6	CL64CB141*P3	T2
270	6	CL64CB271*P3	T2
330	6	CL64CB331*P3	T3
560	6	CL64CB561*P3	T3
25	8	CL64CC250*P3	T1
56	8	CL64CC560*P3	T1
220	8	CL64CC221*P3	T2
430	8	CL64CC431*P3	T3
20	10	CL64CD200*P3	T1
47	10	CL64CD470*P3	T1
100	10	CL64CD101*P3	T2
180	10	CL64CD181*P3	T2
250	10	CL64CD251*P3	T3
390	10	CL64CD391*P3	T3
15	15	CL64CE150*P3	T1
33	15	CL64CE330*P3	T1
70	15	CL64CE700*P3	T2
120	15	CL64CE121*P3	T2
170	15	CL64CE171*P3	T3
270	15	CL64CE271*P3	T3
10	25	CL64CG100*P3	T1
22	25	CL64CG220*P3	T1
100	25	CL64CG101*P3	T2
180	25	CL64CG181*P3	T3
8	30	CL64CH080*P3	T1
15	30	CL64CH150*P3	T1
40	30	CL64CH400*P3	T2
68	30	CL64CH680*P3	T2
100	30	CL64CH101*P3	T3
150	30	CL64CH151*P3	T3
5	50	CL64CJ050*P3	T1
10	50	CL64CJ100*P3	T1
25	50	CL64CJ250*P3	T2
47	50	CL64CJ470*P3	T2
60	50	CL64CJ600*P3	T3
82	50	CL64CJ820*P3	T3
4	60	CL64CK040*P3	T1
8.2	60	CL64CK082*P3	T1
20	60	CL64CK200*P3	T2
39	60	CL64CK390*P3	T2
50	60	CL64CK500*P3	T3
68	60	CL64CK680*P3	T3
3.5	75	CL64CL3R5*P3	T1
6.8	75	CL64CL6R8*P3	T1
15	75	CL64CL150*P3	T2
33	75	CL64CL330*P3	T2
40	75	CL64CL400*P3	T3
56	75	CL64CL560*P3	T3
2.5	100	CL64CN2R5*P3	T1
4.7	100	CL64CN4R7*P3	T1
11	100	CL64CN110*P3	T2
22	100	CL64CN220*P3	T2
30	100	CL64CN300*P3	T3
43	100	CL64CN430*P3	T3
1.7	125	CL64CP1R7*P3	T1
3.6	125	CL64CP3R6*P3	T1
9	125	CL64CP090*P3	T2
14	125	CL64CP140*P3	T2
18	125	CL64CP180*P3	T3
25	125	CL64CP250*P3	T3

\*Specify tolerance: K = ±10%; M = ±20%; S = -15 +30%; T = -15 +50%.

### CL64/65 INDUSTRIAL NET PRICES

Prices are for uninsulated case; for insulating sleeve, change no. to CL65 and add 5c to prices shown.

#### CL64B—, (+85° C) ±10% (K)

Case Size	Net Each, Lots of				
	1-24	25-49	50-99	100-499	500-999
T1	\$2.42	\$1.94	\$1.64	\$1.40	\$1.27
T2	3.70	2.95	2.50	2.13	1.94
T3	5.83	4.67	3.94	3.36	3.06

#### ±20% (M)

T1	\$2.20	\$1.76	\$1.49	\$1.27	\$1.16
T2	3.36	2.69	2.27	1.93	1.76
T3	5.30	4.25	3.58	3.05	2.78

#### -15 +30% (S)

T1	\$2.20	\$1.76	\$1.49	\$1.27	\$1.16
T2	3.36	2.69	2.27	1.93	1.76
T3	5.30	4.25	3.58	3.05	2.78

#### -15 +50% (T)

T1	\$1.98	\$1.58	\$1.34	\$1.14	\$1.04
T2	3.02	2.41	2.03	1.73	1.58
T3	4.72	3.77	3.18	2.71	2.48

#### CL64C—, (+125° C) ±10% (K)

Case Size	Net Each, Lots of				
	1-24	25-49	50-99	100-499	500-999
T1	\$2.50	\$2.00	\$1.70	\$1.44	\$1.31
T2	3.85	3.08	2.61	2.21	2.02
T3	6.10	4.88	4.12	3.51	3.20

#### ±20% (M)

T1	\$2.28	\$1.82	\$1.54	\$1.31	\$1.20
T2	3.50	2.80	2.39	2.02	1.84
T3	5.54	4.43	3.74	3.19	2.91

#### -15 +30% (S)

T1	\$2.28	\$1.82	\$1.54	\$1.31	\$1.20
T2	3.50	2.80	2.39	2.02	1.84
T3	5.54	4.43	3.74	3.19	2.91

#### -15 +50% (T)

T1	\$2.04	\$1.63	\$1.37	\$1.17	\$1.07
T2	3.14	2.52	2.12	1.81	1.65
T3	4.94	3.95	3.33	2.84	2.59

## MTP/MTPH ULTRA-MINIATURE TANTALUM CAPACITORS



Mallory MTP/MTPH capacitors provide the greatest capacity-voltage product of any tantalum type. Sintered anodes are housed in special silver cases with elastomer end seal, and are completely insulated. MTPH types are manufactured to rigid "Minuteman II" standards with zero failures in 3.7 million unit-hours of testing. Type MTP is the commercial equivalent. Operating Temp.: -50° C to +85° C. Tolerance: ±20%. DCL is extremely low. See bulletin 4-70 for details.

### MTP TYPES

μF	VWDC	Mallory Number	Size
15	6	MTP156M006P1D	D
47	6	MTP476M006P1A	A
150	6	MTP157M006P1B	B
180	6	MTP187M006P1B	B
450	6	MTP457M006P1C	C
470	6	MTP477M006P1C	C
10	10	MTP106M010P1D	D
33	10	MTP336M010P1A	A
100	10	MTP107M010P1B	B
120	10	MTP127M010P1B	B
300	10	MTP307M010P1C	C
330	10	MTP337M010P1C	C
22	15	MTP226M015P1A	A
68	15	MTP686M015P1B	B
80	15	MTP806M015P1B	B
200	15	MTP207M015P1C	C
220	15	MTP227M015P1C	C
6.8	20	MTP685M020P1D	D
15	20	MTP156M020P1A	A
47	20	MTP476M020P1B	B
60	20	MTP606M020P1B	B
150	20	MTP157M020P1C	C
6	30	MTP605M030P1D	D
10	30	MTP106M030P1A	A
45	30	MTP456M030P1B	B
120	30	MTP127M030P1C	C
4.7	35	MTP475M035P1D	D
10	35	MTP106M035P1A	A
100	35	MTP107M035P1C	C
4	50	MTP405M050P1D	D
6.8	50	MTP685M050P1A	A
30	50	MTP306M050P1B	B
33	50	MTP336M050P1B	B
68	50	MTP686M050P1C	C
78	50	MTP786M050P1C	C
3.3	60	MTP335M060P1D	D
4.7	60	MTP475M060P1A	A
6.8	60	MTP685M060P1B	B
10	60	MTP106M060P1B	B
15	60	MTP156M060P1B	B
22	60	MTP226M060P1B	B
33	60	MTP336M060P1C	C
47	60	MTP476M060P1C	C

### MTPH TYPES

180	6	MTPH12	B
450	6	MTPH13	C
120	10	MTPH10	B
300	10	MTPH11	C
80	15	MTPH8	B
200	15	MTPH9	C
60	20	MTPH7	B
10	30	MTPH4	A
45	30	MTPH5	B
120	30	MTPH6	C
6.8	50	MTPH1	A
30	50	MTPH2	B
78	50	MTPH3	C

### CASE SIZES

Case Size	Dimensions	
	Diameter	Length
A	.115"	.300"
B	.145"	.590"
C	.225"	.775"
D	.115"	.312"

### MTP INDUSTRIAL NET PRICES

Case Size	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-999
A	\$2.59	\$2.28	\$1.99	\$1.71	\$1.37
B	3.11	2.74	2.39	2.06	1.64
C	3.62	3.18	2.78	2.39	1.91
D	2.57	2.26	1.97	1.69	1.35

### MTPH INDUSTRIAL NET PRICES

A	\$7.68	\$6.40	\$5.12	\$3.84	\$3.33
B	8.04	6.70	5.36	4.02	3.49
C	8.34	6.95	5.56	4.17	3.62

**MALLORY**

# Wet-slug Tantalum Capacitors

**TAP-TNT MINIATURE  
PELLET EPOXY SEAL  
-55°C TO +85°C**



Mallory TNT-TAP capacitors employ sintered anode wet-slug construction and are furnished in metal cases with precision formed epoxy end seals. Values shown have uninsulated cases; for insulating sleeve, change 12th digit of part number to "1" and add 5c to prices shown. Standard tolerance: -15%+75%; other tolerances are available on special order. For detailed specifications, ask for bulletins: 4-38 (TNT) and 4-52 (TAP).

**CASE SIZES**

Add .010" dia. x .093" l. for sleeve.

Case Code	Size, In. (Dia. x L.)	
	TNT	TAP
A	.152 x .325	.228 x .500
B	.152 x .475	.228 x .660
C	.....	.228 x .875

TNT			
Cap., $\mu$ F	WVDC +85°C	Mallory Number	Case Size
40	3	TNT406U003P0A	A
80	3	TNT806U003P0B	B
25	6	TNT256U006P0A	A
50	6	TNT506U006P0B	B
35	12	TNT356U012P0B	B
12	15	TNT126U015P0A	A
15	15	TNT156U015P0B	B
25	30	TNT256U030P0B	B
6	35	TNT605U035P0A	A
12	35	TNT126U035P0B	B
2	50	TNT205U050P0A	A
4	50	TNT405U050P0A	A
8	50	TNT805U050P0B	B

**TNT PRICES\***

Case Size	Net Each, Lots of				
	1-24	25-49	50-99	100-499	500-999
A	\$1.24	\$0.99	\$0.84	\$0.714	\$0.651
B	1.46	1.17	.99	.84	.766

**TAP PRICES\***

Case Size	Net Each, Lots of				
	1-24	25-49	50-99	100-499	500-999
A	\$1.46	\$1.17	\$0.99	\$0.84	\$0.766
B	2.46	1.97	1.66	1.415	1.29
C	4.28	3.42	2.89	2.46	2.25

\*For insulating sleeve, change 12th digit of catalog number from "0" to "1" and add 5c to prices shown.

TAP			
Cap., $\mu$ F	WVDC +85°C	Mallory Number	Case Size
30	6	TAP306U006P0A	A
140	6	TAP147U006P0B	B
330	6	TAP337U006P0C	C
20	10	TAP206U010P0A	A
100	10	TAP107U010P0B	B
250	10	TAP257U010P0C	C
15	15	TAP156U015P0A	A
70	15	TAP706U015P0B	B
170	15	TAP177U015P0C	C
12	20	TAP126U020P0A	A
10	25	TAP106U025P0A	A
8	30	TAP805U030P0A	A
40	30	TAP406U030P0B	B
100	30	TAP107U030P0C	C
7	35	TAP705U035P0A	A
6	40	TAP605U040P0A	A
30	40	TAP306U040P0B	B
5	50	TAP505U050P0A	A
25	50	TAP256U050P0B	B
60	50	TAP606U050P0C	C
4	60	TAP405U060P0A	A
20	60	TAP206U060P0B	B
50	60	TAP506U060P0C	C
3.5	75	TAP355U075P0A	A
15	75	TAP156U075P0B	B
40	75	TAP406U075P0C	C
2	90	TAP205U090P0A	A
11	90	TAP116U090P0B	B
30	90	TAP306U090P0C	C

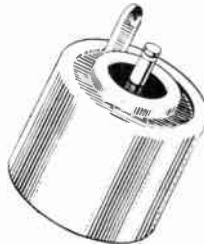
**HIGH TEMPERATURE—HERMETICALLY SEALED**



MTF



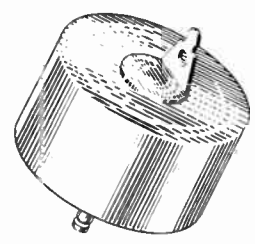
XTM-A



XTH-C, XTL-C, XTV-C



XTH-L, XTL-L



XTV-B

Mallory high temperature tantalum capacitors are furnished in hermetically sealed metal cases and are wet-slug polarized types. MTF and XTM-A have axial leads. Other XTM's and all XTL, H and V types have a wide variety of terminal arrangements available. The types shown here are the standard MIL-C-3965

**MTF -55°C TO +150°C**

Axial leads, commercial equivalent to MIL-C-3965 Style CL44.

Cap., $\mu$ F	WVDC +85°C	Mallory Number	Cap., $\mu$ F	WVDC +85°C	Mallory Number
140	6	MTF147T006P0H	25	50	MTF256T050P0H
100	10	MTF107T010P0H	20	60	MTF206T060P0H
70	15	MTF706T015P0H	15	75	MTF156T075P0H
40	30	MTF406T030P0H	11	90	MTF116T090P0H
30	40	MTF306T040P0H			

Any Model listed above—Net Each, Lots of 1-24, \$6.76; 25-49, \$5.41; 50-99, \$4.56; 100-499, \$3.89.

**XTM -55°C TO +175°C**

Cap., $\mu$ F	WVDC +85°C	Mallory Number*	Net Each, Lots of		
			1-24	25-49	50-99
40	35	XTM406T035P0A	\$ 6.56	\$ 6.12	\$ 5.68
25	60	XTM256T060P0A	6.56	6.12	5.68
16	90	XTM166T090P0A	6.56	6.12	5.68
8	170	XTM805T170P0A	9.90	9.24	8.56
5	255	XTM505T255P0A	12.96	12.10	11.23
4	340	XTM405T340P0A	16.20	15.12	14.04

\*Suffix A indicates MIL-C-3965/20A, Style CL10. Also available in Style CL13; change suffix A to D, add 5c to prices shown.

**XTH -55°C TO +200°C**

Cap., $\mu$ F	WVDC +85°C	Mallory Number*	Net Each, Lots of		
			1-24	25-49	50-99
240	18	XTH247U018P0L	\$ 9.65	\$ 9.04	\$ 8.42
150	30	XTH157U030P0C	9.30	8.69	8.07
150	30	XTH157U030P0L	9.65	9.04	8.42
120	35	XTH127U035P0C	9.30	8.69	8.07
80	60	XTH806U060P0C	9.30	8.69	8.07
80	60	XTH806U060P0L	9.65	9.04	8.42
50	90	XTH506U090P0C	9.30	8.69	8.07
25	180	XTH256U180P0C	14.80	13.81	12.83
25	180	XTH256U180P0L	15.15	14.16	13.18
16	270	XTH166U270P0C	20.48	19.12	17.76
16	270	XTH166U270P0L	20.83	19.47	18.11
12	360	XTH126U360P0C	26.06	24.33	22.59
12	360	XTH126U360P0L	26.41	24.68	22.94
8	540	XTH805U540P0C	37.13	34.66	32.19
7	630	XTH705U630P0C	42.62	39.78	36.94

\*C, MIL-C-3965/1D, CL14; L, MIL-C-3965/1D, CL16.

values and all are available from stock. For detailed specifications, ask for bulletins: 4-41 (MTF); 4-49 (XTM); 4-60 (XTH-XTL-XTV). XTH, L and V also available in radiation proof construction; ask for bulletin 4-69 (XTG).

**XTL -55°C TO +200°C**

Cap., $\mu$ F	WVDC +85°C	Mallory Number	Net Each, Lots of		
			1-24	25-49	50-99
120	18	XTL127U018P0C*	\$ 8.24	\$ 7.69	\$ 7.15
75	30	XTL756U030P0C*	8.24	7.69	7.15
75	30	XTL756U030P0L†	8.59	8.04	7.50
40	60	XTL406U060P0C*	8.24	7.69	7.15
40	60	XTL406U060P0L†	8.59	8.04	7.50
25	90	XTL256U090P0C*	8.24	7.69	7.15
12	180	XTL126U180P0C*	12.38	11.56	10.64
12	180	XTL126U180P0L†	12.73	11.91	11.09
8	270	XTL805U270P0C*	16.70	15.59	14.44
6	360	XTL605U360P0C*	21.16	19.75	18.34
6	360	XTL605U360P0L†	21.50	20.10	18.69
5	450	XTL505U450P0C*	25.70	23.99	22.28
4	540	XTL405U540P0C*	29.89	27.90	25.91
3.5	630	XTL355U630P0C*	34.30	32.01	29.73

\*Stock items (MIL-C-3965/1D, Style CL14). †Stock items (MIL-C-3965/1D, Style CL16).

**XTV -55°C TO +200°C**

XTV listed by MIL-C-3965/19A Style CL17 ("C") and CL18 ("B") are stocked. Ten other case configurations available on special order.

Cap., $\mu$ F	WVDC +85°C	Mallory Number	Net Each, Lots of		
			1-24	25-49	50-99
370	30	XTV377T030P0C	\$19.55	\$18.25	\$16.95
650	30	XTV657T030P0C	30.05	28.05	26.05
1300	30	XTV138T030P0C*	43.55	40.65	37.75
190	40	XTV197T040P0B	13.55	12.65	11.75
290	40	XTV297T040P0*	19.55	18.25	16.95
500	40	XTV507T040P0*	30.05	28.05	26.05
1000	40	XTV108T040P0*	43.55	40.65	37.75
200	60	XTV207T060P0*	19.55	18.25	16.95
350	60	XTV357T060P0*	30.05	28.05	26.05
700	60	XTV707T060P0*	43.55	40.65	37.75
750	60	XTV757T060P0*	43.55	40.65	37.75
220	75	XTV227T075P0*	30.05	28.05	26.05
450	75	XTV457T075P0*	43.55	40.65	37.75
120	90	XTV127T090P0*	19.55	18.25	16.95
60	180	XTV606T180P0*	35.00	32.67	30.34
40	270	XTV406T270P0*	49.55	46.25	42.95
25	450	XTV256T450P0*	79.55	74.25	68.95

\*Specify B for CL18 or C for CL17.

# MALLORY AC Motor Capacitors



TYPE PSU MOTOR STARTING CAPACITORS

PSU capacitors are dry electrolytic non-polarized types for intermittent duty in AC motor starting circuits. Capacitors are rated at minimum to maximum microfarads. Round cases are of moisture and oil resistant molded plastic. Equipped with two quick disconnect terminals. Packed with two PSUA terminal adapters for solder or screw type connection. May be mounted by means of PL plastic end cap and HB metal snap-in bracket or VR clamp-bracket. (Order separately.)

Mallory No.	Cap., $\mu$ F	V AC	Size, in. Dia. x L.	List Each
PSU2010	20-24	110	1 1/8 x 2 3/8	\$2.05
PSU2610	26-31	110	1 1/8 x 2 3/8	2.10
PSU3210	32-39	110	1 1/8 x 2 3/8	2.10
PSU3810	38-46	110	1 1/8 x 2 3/8	2.10
PSU4310	43-52	110	1 1/8 x 2 3/8	2.10
PSU5310	53-64	110	1 1/8 x 2 3/8	2.15
PSU6410	64-77	110	1 1/8 x 2 3/8	2.25
PSU7010	70-84	110	1 1/8 x 2 3/8	2.40
PSU7510	75-90	110	1 1/8 x 3 3/8	2.55
PSU8610	86-103	110	1 1/8 x 3 3/8	2.65
PSU9710	97-116	110	1 1/8 x 3 3/8	2.80
PSU10810	108-130	110	1 1/8 x 3 3/8	2.85
PSU12410	124-149	110	1 1/8 x 3 3/8	2.95
PSU13010	130-156	110	1 1/8 x 3 3/8	2.95
PSU14510	145-174	110	1 1/8 x 3 3/8	3.20
PSU15810	158-190	110	1 1/8 x 3 3/8	3.25
PSU16110	161-193	110	1 1/8 x 3 3/8	3.25
PSU19210	192-230	110	1 1/8 x 3 3/8	3.75
PSU19410	194-233	110	1 1/8 x 3 3/8	3.90
PSU20010	200-240	110	1 1/8 x 3 3/8	3.90
PSU21610	216-259	110	1 1/8 x 3 3/8	4.05
PSU23310	233-280	110	1 1/8 x 4 3/8	4.50
PSU23310A	233-280	110	1 1/8 x 3 3/8	4.50
PSU24310	243-292	110	1 1/8 x 3 3/8	4.70
PSU27010	270-324	110	1 1/8 x 3 3/8	4.75
PSU28210	282-338	110	1 1/8 x 3 3/8	4.85
PSU32410	324-389	110	1 1/8 x 3 3/8	5.40
PSU34010	340-408	110	1 1/8 x 3 3/8	5.55
PSU34110	341-409	110	1 1/8 x 3 3/8	5.55
PSU37810	378-454	110	1 1/8 x 3 3/8	6.00
PSU40010	400-480	110	1 1/8 x 4 3/8	6.05
PSU43010	430-516	110	1 1/8 x 4 3/8	6.95
PSU48510	485-582	110	1 1/8 x 4 3/8	7.60
PSU54010	540-648	110	1 1/8 x 4 3/8	8.15
PSU59010	590-708	110	1 1/8 x 4 3/8	8.85
PSU3825	38-46	125	1 1/8 x 2 3/8	2.30
PSU7225	72-86	125	1 1/8 x 2 3/8	2.55
PSU8625	86-104	125	1 1/8 x 2 3/8	2.75
PSU10825	108-130	125	1 1/8 x 3 3/8	3.05
PSU12425	124-149	125	1 1/8 x 3 3/8	3.25
PSU13025	130-156	125	1 1/8 x 3 3/8	3.25
PSU14525	145-174	125	1 1/8 x 3 3/8	3.65
PSU16125	161-193	125	1 1/8 x 3 3/8	3.85
PSU18925	189-229	125	1 1/8 x 3 3/8	4.20
PSU19225	192-230	125	1 1/8 x 4 3/8	4.30
PSU21625	216-259	125	1 1/8 x 3 3/8	4.75
PSU24325	243-292	125	1 1/8 x 3 3/8	5.20
PSU27325	273-328	125	1 1/8 x 3 3/8	5.50
PSU32425	324-389	125	1 1/8 x 4 3/8	5.80
PSU34125	341-409	125	1 1/8 x 4 3/8	6.50
PSU40025	400-480	125	1 1/8 x 4 3/8	6.75
PSU48525	485-582	125	1 1/8 x 4 3/8	7.45
PSU18965	189-227	165	1 1/8 x 4 3/8	7.25
PSU21665	216-259	165	1 1/8 x 4 3/8	7.50
PSU24365	243-292	165	1 1/8 x 3 3/8	8.60
PSU2520	25-30	220	1 1/8 x 2 3/8	4.60
PSU3220	32-38	220	1 1/8 x 2 3/8	4.90
PSU3820	38-46	220	1 1/8 x 3 3/8	5.30
PSU4320	43-52	220	1 1/8 x 3 3/8	5.55
PSU5020	50-60	220	1 1/8 x 3 3/8	5.65
PSU5320	53-64	220	1 1/8 x 3 3/8	5.75
PSU6420	64-77	220	1 1/8 x 3 3/8	6.75
PSU7020	70-84	220	1 1/8 x 3 3/8	7.00
PSU7520	75-90	220	1 1/8 x 3 3/8	7.35
PSU8620	86-103	220	1 1/8 x 4 3/8	7.65
PSU10820	108-130	220	2 1/8 x 4 3/8	7.65
PSU12120	121-145	220	2 1/8 x 4 3/8	8.60
PSU13520	135-162	220	2 1/8 x 4 3/8	9.00
PSU14120	141-169	220	2 1/8 x 4 3/8	9.35
PSU14120R	141-169*	220	2 1/8 x 4 3/8	9.60
PSU14520	145-174	220	2 1/8 x 4 3/8	10.00
PSU1850R	18-22*	250	1 1/8 x 2 3/8	4.50
PSU2550	25-30	250	1 1/8 x 2 3/8	4.70
PSU3650	36-43	250	1 1/8 x 3 3/8	5.80

TYPE PSU (Continued)

Mallory No.	Cap., $\mu$ F	V AC	Size, in. Dia. x L.	List Each
PSU4350	43-53	250	1 1/8 x 3 3/8	\$ 5.90
PSU5050	50-60	250	1 1/8 x 3 3/8	5.75
PSU5950	59-71	250	1 1/8 x 4 3/8	6.90
PSU7550	75-90	250	1 1/8 x 4 3/8	7.25
PSU8150	81-97	250	1 1/8 x 4 3/8	7.50
PSU10850	108-130	250	2 1/8 x 4 3/8	9.40
PSU12150	121-145	250	2 1/8 x 4 3/8	9.90
PSU13550	135-162	250	2 1/8 x 4 3/8	10.30
PSU14150	141-169	250	2 1/8 x 4 3/8	11.50
PSU16150R	161-193*	250	2 1/8 x 4 3/8	13.45
PSU18950	189-227	250	2 1/8 x 4 3/8	14.45
PSU2730	27-32	330	1 1/8 x 3 3/8	5.20
PSU3430	34-42	330	1 1/8 x 3 3/8	5.40
PSU7230	72-88	330	1 1/8 x 4 3/8	8.60
PSU8130	81-90	330	1 1/8 x 4 3/8	10.00
PSU9730	97-107	330	2 1/8 x 4 3/8	11.15
PSU10830	108-130	330	2 1/8 x 4 3/8	11.75
PSU10830R	108-130*	330	2 1/8 x 4 3/8	11.75
PSU12430	124-149	330	2 1/8 x 4 3/8	13.65
PSU12730	127-152	330	2 1/8 x 4 3/8	13.45
PSU13530	135-162	330	2 1/8 x 4 3/8	14.20
PSU13530R	135-162*	330	2 1/8 x 4 3/8	14.20

\*Furnished with Bleeder resistor.

### MOTOR RUN CAPACITORS

For motor run and fluorescent ballast applications. All types have metal cases and quick-disconnect terminals with flash guards. Impregnating oil is nonflammable. Tolerance:  $\pm 10\%$ . Temp. Range:  $-30^{\circ}$  to  $+70^{\circ}$  C. Always connect AC line to red terminal and windings to black.

TYPE OP (OVAL)

Mallory No.	Cap., $\mu$ F	V AC	Size, Inches	List Each
OP1065	10	165	1 1/8 x 2 3/8 x 2 3/8	\$9.20
OP336	3	236	1 1/8 x 2 3/8 x 2 1/8	4.70
OP436	4	236	1 1/8 x 2 3/8 x 2 1/8	4.50
OP536	5	236	1 1/8 x 2 3/8 x 2 1/8	5.00
OP7x36	7.5	236	1 1/8 x 2 3/8 x 2 1/8	9.30
OP1036	10	236	2 1/8 x 2 3/8 x 2 1/8	10.30
OP1536	15	236	2 1/8 x 2 3/8 x 2 1/8	11.65
OP2036	20	236	2 1/8 x 2 3/8 x 2 1/8	17.00
OP17525	17.5	250	2 1/8 x 2 3/8 x 2 1/8	15.80
OP1033	10	330	2 1/8 x 2 3/8 x 2 1/8	10.50
OP14533	14.5	330	2 1/8 x 2 3/8 x 2 1/8	11.65
OP370	3	370	1 1/8 x 2 3/8 x 2 1/8	4.40
OP470	4	370	1 1/8 x 2 3/8 x 2 1/8	4.70
OP570	5	370	1 1/8 x 2 3/8 x 2 1/8	6.05
OP670	6	370	1 1/8 x 2 3/8 x 2 1/8	7.70
OP7x570	7.5	370	2 1/8 x 2 3/8 x 2 1/8	9.70
OP1070	10	370	2 1/8 x 2 3/8 x 2 1/8	10.90
OP12x70	12.5	370	1 1/8 x 2 3/8 x 2 1/8	11.65
OP1570B	15	370	1 1/8 x 2 3/8 x 2 1/8	11.65
OP1570	15	370	2 1/8 x 2 3/8 x 2 1/8	11.65
OP17570B	17.5	370	1 1/8 x 2 3/8 x 2 1/8	14.20
OP17570	17.5	370	2 1/8 x 2 3/8 x 2 1/8	14.20
OP2070B	20	370	1 1/8 x 2 3/8 x 2 1/8	17.20
OP2070	20	370	2 1/8 x 2 3/8 x 2 1/8	17.20
OP2570B	25	370	1 1/8 x 2 3/8 x 2 1/8	21.00
OP2570C	25	370	1 1/8 x 3 3/8 x 2 1/8	21.00
OP2570	25	370	2 1/8 x 2 3/8 x 2 1/8	21.00
OP27570	27.5	370	1 1/8 x 3 3/8 x 2 1/8	22.15
OP3070	30	370	1 1/8 x 3 3/8 x 2 1/8	23.25
OP3570	35	370	1 1/8 x 3 3/8 x 2 1/8	24.30
OP17D570	17.5	5370	1 1/8 x 2 3/8 x 2 1/8	16.28
OP200570	20	5370	1 1/8 x 3 3/8 x 2 1/8	18.75
OP25D570	25	5370	1 1/8 x 3 3/8 x 2 1/8	23.39
OP30D570	30	5370	1 1/8 x 3 3/8 x 2 1/8	25.33
OP35D570	35	5370	1 1/8 x 3 3/8 x 2 1/8	30.35
OP240	2	440	1 1/8 x 2 3/8 x 2 1/8	5.45
OP340	3	440	1 1/8 x 2 3/8 x 2 1/8	5.80
OP440	4	440	1 1/8 x 2 3/8 x 2 1/8	6.45
OP540	5	440	1 1/8 x 2 3/8 x 2 1/8	8.00
OP7x40	7.5	440	2 1/8 x 2 3/8 x 2 1/8	10.45
OP1040	10	440	1 1/8 x 2 3/8 x 2 1/8	11.40
OP1044	10	440	2 1/8 x 2 3/8 x 2 1/8	11.40
OP1540	15	440	2 1/8 x 2 3/8 x 2 1/8	15.80
OP17x40	17.5	440	1 1/8 x 2 3/8 x 2 1/8	19.20
OP1740	17.5	440	1 1/8 x 3 3/8 x 2 1/8	19.20
OP1740F*	17.5	440	1 1/8 x 3 3/8 x 2 1/8	39.15
OP2040	20	440	1 1/8 x 2 3/8 x 2 1/8	19.20

\*Fused capacitor.

TYPE OP (OVAL) Continued

Mallory No.	Cap., $\mu$ F	V AC	Size, Inches	List Each
OP2040B	20	440	1 3/8 x 3 3/8 x 2 1/8	\$19.20
OP2540	25	440	1 3/8 x 3 3/8 x 2 1/8	27.20
OP3040	30	440	1 3/8 x 3 3/8 x 2 1/8	31.65
OP3540	35	440	1 3/8 x 3 3/8 x 2 1/8	35.00
OP4040	40	440	1 3/8 x 3 3/8 x 2 1/8	38.40

TYPE OPR (RECTANGULAR)

Mallory No.	Cap., $\mu$ F	V AC	Size, Inches	List Each
OPR2070	20	370	2 1/2 x 2 3/8 x 2 3/8	\$22.00
OPR2570	25	370	2 1/2 x 2 3/8 x 2 3/8	23.35
OPR2570B	25	370	2 1/2 x 2 3/8 x 2 3/8	23.35
OPR3070	30	370	2 1/2 x 2 3/8 x 2 3/8	24.80
OPR3570	35	370	2 1/2 x 2 3/8 x 2 3/8	25.90
OPR4070	40	370	2 1/2 x 2 3/8 x 2 3/8	36.60
OPR4570	45	370	2 1/2 x 2 3/8 x 2 3/8	40.10
OPR2040	20	440	2 1/2 x 2 3/8 x 2 3/8	19.20
OPR2040B	20	440	2 1/2 x 2 3/8 x 2 3/8	19.20
OPR2540	25	440	2 1/2 x 2 3/8 x 2 3/8	27.20
OPR3040	30	440	2 1/2 x 2 3/8 x 2 3/8	31.65
OPR3540	35	440	2 1/2 x 2 3/8 x 2 3/8	35.00
OPR4040	40	440	2 1/2 x 2 3/8 x 2 3/8	38.40
OPR4540	45	440	2 1/2 x 2 3/8 x 2 3/8	42.50
OPR5040B	50	440	2 1/2 x 2 3/8 x 2 3/8	46.70
OPR5040	50	440	3 1/2 x 2 3/8 x 2 3/8	46.70
OPR5540	55	440	2 1/2 x 2 3/8 x 2 3/8	54.80
OPR6040	60	440	3 1/2 x 2 3/8 x 2 3/8	62.90

TYPE RP (ROUND)

Mallory No.	Cap., $\mu$ F	V AC	Size, Inches Dia. x Lgth.	List Each
RP3301	1	330	1 3/8 x 1 1/2	\$ 5.20
RP3302	2	330	1 3/8 x 2 1/8	4.20
RP3303	3	330	2 x 1 3/4	6.20
RP3304	4	330	2 x 2 1/8	6.20
RP3305	5	330	2 x 2 1/8	6.80
RP3306	6	330	2 x 2 1/8	7.50
RP3307	7	330	2 x 3 1/8	7.90
RP3				

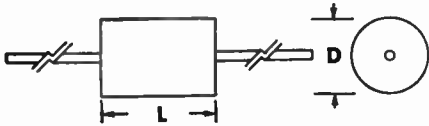




# LOW VOLTAGE CAPACITORS



## TYPE AZ EPOXY DIP

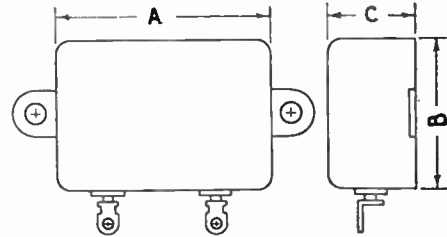


**TYPE AZ** Capacitors are finished with a dip finish assuring operation in severe environmental conditions. **TYPE AZ** Capacitors are also available in flat oval shape.

## TYPE AM METALLIZED MYLAR\*

**TYPE AM** Capacitors are hermetically sealed in brass containers with compression glass seals for a "floating" case add 1/16" to dimension L (See drawing in **TYPE AZ** column).

## TYPE AB METALLIZED MYLAR\*



**TYPE AB** Capacitors are housed in standard bathtub containers using compression type solder-seal glass insulators. **TYPE AB** provides large values of capacitance with the fine characteristics of Metallized Mylar.\*

### 200 VOLTS D.C.

Cap MFD	Cap Code	AZ2		AZ3	
		D Max.	L Max.	D Max.	L Max.
.01	103	.23	.38	.26	.38
.012	123	.24	.38	.23	.51
.015	153	.25	.38	.24	.51
.018	183	.23	.51	.25	.51
.022	223	.24	.51	.26	.51
.027	273	.25	.51	.28	.51
.033	333	.26	.51	.29	.51
.039	393	.27	.51	.26	.70
.047	473	.29	.51	.28	.70
.056	563	.26	.70	.29	.70
.068	683	.27	.70	.31	.70
.082	823	.29	.70	.33	.70
.1	104	.30	.70	.35	.70
.12	124	.32	.70	.37	.70
.15	154	.39	.70	.40	.70
.18	184	.39	.70	.43	.70
.22	224	.39	.70	.39	.95
.27	274	.44	.70	.42	.95
.33	334	.44	.70	.45	.95
.39	394	.47	.70	.48	.95
.47	474	.44	.95	.52	.95
.56	564	.47	.95	.55	.95
.68	684	.50	.95	.60	.95
.82	824	.50	.95	.65	.95
1.0	105	.57	.95	.64	1.13
1.5	155	.66	1.13	.75	1.13
2.0	205	.75	1.13	.85	1.13
3.0	305	.75	1.38	.84	1.63
4.0	405	.87	1.63	1.09	1.26
5.0	505	.87	1.63	1.05	1.63
8.0	805	1.07	1.63		
10.0	106	1.19	1.63		

BASIC PART NO.	CAP MFD	SIZE	
		CIRCUIT A	O R F L
AM2-103	0.01	0.174	9/16
AM2-123	.012	.174	9/16
AM2-153	.015	.174	9/16
AM2-183	.018	.174	9/16
AM2-223	.022	.187	9/16
AM2-273	.027	.187	9/16
AM2-333	.033	.235	9/16
AM2-393	.039	.235	9/16
AM2-473	.047	.235	9/16
AM2-563	.056	.235	3/4
AM2-683	.068	.235	3/4
AM2-823	.082	.235	3/4
AM2-104	0.1	.235	3/4
AM2-124	.12	.312	3/4
AM2-154	.15	.312	3/4
AM2-184	.18	.312	3/4
AM2-224	.22	.312	3/4
AM2-274	.27	.400	3/4
AM2-334	.33	.400	3/4
AM2-394	.39	.400	3/4
AM2-474	.47	.400	1 1/16
AM2-564	.56	.400	1 1/16
AM2-684	.68	.400	1 1/16
AM2-824	.82	.562	1 1/16
AM2-105	1.0	.562	1 1/16
AM2-155	1.5	.562	1 1/4
AM2-205	2.0	.670	1 1/4
AM2-305	3.0	.670	1 1/2
AM2-405	4.0	.670	1 3/4
AM2-505	5.0	.750	1 3/4
AM2-805	8.0	1.0	1 3/4
AM2-106	10.0	1.0	2 1/4

Cap MFD	Cap Code	AZ4		AZ6	
		D Max.	L Max.	D Max.	L Max.
.001	102			.22	.38
.0022	222			.27	.38
.0033	332			.29	.38
.0047	472			.27	.51
.01	103	.23	.70	.29	.70
.012	123	.24	.70	.30	.70
.015	153	.26	.70	.28	.95
.018	183	.27	.70	.30	.95
.022	223	.28	.70	.36	.70
.027	273	.29	.70	.34	.95
.033	333	.32	.70	.36	.95
.039	393	.34	.70	.38	.95
.047	473	.37	.70	.40	.95
.056	563	.38	.70	.43	.95
.068	683	.41	.70	.47	.95
.082	823	.44	.70	.49	.95
.1	104	.37	1.13	.54	.95
.12	124	.39	1.13	.58	.95
.15	154	.42	1.13	.57	1.13
.18	184	.45	1.13	.59	1.26
.22	224	.53	1.13	.68	1.13
.27	274	.56	.95	.69	1.26
.33	334	.62	.95	.75	1.26
.39	394	.61	1.13	.71	1.63
.47	474	.67	1.13	.76	1.63
.56	564	.72	1.13	.83	1.63
.68	684	.78	1.13	.89	1.63
.82	824	.84	1.13	.97	1.63
1.0	105	.86	1.26	1.06	1.63
1.5	155	.93	1.51		
2.0	205	1.01	1.63		

### 300 VOLTS D.C.

AM3-393	.039	.235	3/4
AM3-473	.047	.235	3/4
AM3-563	.056	.235	3/4
AM3-683	.068	.312	3/4
AM3-823	.082	.312	3/4
AM3-104	0.10	.312	3/4
AM3-124	.12	.400	3/4
AM3-154	.15	.400	3/4
AM3-184	.18	.400	3/4
AM3-224	.22	.400	1 1/16
AM3-274	.27	.400	1 1/16
AM3-334	.33	.400	1 1/16
AM3-394	.39	.400	1 1/4
AM3-474	.47	.562	1 1/16
AM3-564	.56	.562	1 1/16
AM3-684	.68	.562	1 1/16
AM3-824	.82	.562	1 1/16
AM3-105	1.0	.562	1 1/2
AM3-155	1.5	.670	1 1/2
AM3-205	2.0	.670	1 3/4
AM3-305	3.0	1.0	1 1/4
AM3-405	4.0	1.0	1 1/2
AM3-505	5.0	1.0	2 1/4
AM3-605	6.0	1.0	2 1/4

### 200 VOLTS D.C.

PART NUMBER	CAP. MFD.	CASE SIZE		
		A	B	C
AB2-504	0.5	1 1/8	1	13/16
AB2-105	1.0	1 1/8	1	13/16
AB2-205	2.0	1 1/8	1	13/16
AB2-405	4.0	1 3/4	1	3/4
AB2-505	5.0	1 3/4	1	3/4
AB2-605	6.0	1 3/4	1 1/4	7/8
AB2-805	8.0	1 3/4	1 1/4	7/8
AB2-106	10.0	2	1 3/4	7/8
AB2-126	12.0	2	1 3/4	7/8
AB2-156	15.0	2	1 3/4	7/8
AB2-206	20.0	2	2	1 1/8
AB2-306	30.0	2	2	1 1/4

### 300 VOLTS D.C.

AB3-504	0.5	1 1/8	1	13/16
AB3-105	1.0	1 1/8	1	13/16
AB3-205	2.0	1 3/4	1	3/4
AB3-405	4.0	1 3/4	1 1/4	7/8
AB3-505	5.0	2	1 3/4	7/8
AB3-605	6.0	2	1 3/4	7/8
AB3-805	8.0	2	1 3/4	7/8
AB3-106	10.0	2	2	1 1/8
AB3-126	12.0	2	2	1 1/8
AB3-156	15.0	2	2	1 1/4

### 400 VOLTS D.C.

AB4-104	0.1	1 1/8	1	13/16
AB4-254	0.25	1 1/8	1	13/16
AB4-504	0.5	1 1/8	1	13/16
AB4-105	1.0	1 3/4	1	3/4
AB4-205	2.0	1 3/4	1 1/4	7/8
AB4-405	4.0	2	1 3/4	7/8
AB4-505	5.0	2	2	1 1/8
AB4-605	6.0	2	2	1 1/8
AB4-805	8.0	2	2	1 1/4

### 500 VOLTS D.C.

AB6-503	0.05	1 1/8	1	13/16
AB6-104	0.10	1 1/8	1	13/16
AB6-254	0.25	1 1/8	1	13/16
AB6-504	0.50	1 3/4	1 1/4	7/8
AB6-105	1.0	2	1 3/4	7/8
AB6-205	2.0	2	2	1 1/8

\* DUPONT POLYESTER FILM

The listing comprises a small portion of capacitors and voltage available. Send for complete information.

# Plastic Capacitors, Inc.

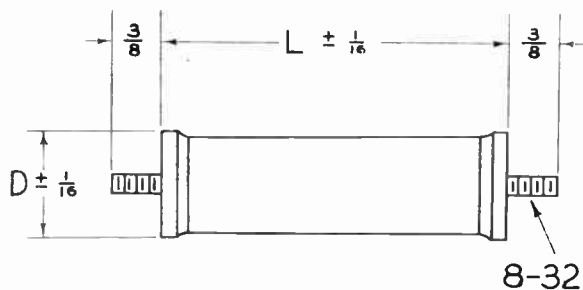


# HIGH VOLTAGE CAPACITORS TYPE OF



## 85°C GLASS CAP — PLASTIC FILM DC FILTER

**TYPE OF** Capacitors are housed in glass tubes with metal-to-glass soldered ferrules. Capacitor element is an improved plastic dielectric type, impregnated with a highly purified and inhibited mineral oil.



All glass containers with 'D' dimensions of 19/32 have 2-1/2 inch long 18 tinned copper pigtail leads.

PART NUMBER	CAP MFD	VOLTS DC	DIMENSIONS	
			L	D
OF50-202	.002	5000	1 3/16	19/32
OF50-502	.005	5000	1 5/8	19/32
OF50-103	.01	5000	1 3/4	3/4
OF50-203	.02	5000	2 1/4	3/4
OF50-503	.05	5000	2 1/4	29/32
OF50-104	0.1	5000	2 1/4	1 3/8
OF50-254	0.25	5000	3	1 5/8
OF50-504	0.5	5000	6	1 5/8
OF60-103	.01	6000	1 3/4	3/4
OF60-203	.02	6000	2 1/4	3/4
OF60-503	.05	6000	3 1/4	29/32
OF60-104	0.1	6000	3	1 3/8
OF60-254	0.25	6000	4	1 5/8
OF60-504	0.5	6000	7	1 5/8
OF80-502	.005	8000	1 3/4	3/4
OF80-103	.01	8000	2 1/4	3/4
OF80-203	.02	8000	2 3/4	29/32
OF80-503	.05	8000	2 3/4	1 3/8
OF80-104	0.1	8000	3 5/8	1 5/8
OF80-204	0.2	8000	7	1 5/8
OF100-101	.0001	10 KV	1 5/8	19/32
OF100-201	.0002	10 KV	1 5/8	19/32
OF100-501	.0005	10 KV	1 5/8	19/32
OF100-102	.001	10 KV	1 5/8	19/32
OF100-202	.002	10 KV	1 5/8	3/4
OF100-502	.005	10 KV	1 3/4	13/16
OF100-103	.01	10 KV	2 1/4	29/32
OF100-203	.02	10 KV	2 3/4	1 1/8
OF100-503	.05	10 KV	2 3/4	1 5/8
OF100-603	.06	10 KV	3	1 5/8
OF100-104	0.1	10 KV	5	1 5/8
OF150-101	.0001	15 KV	2 1/4	19/32
OF150-201	.0002	15 KV	2 1/4	19/32
OF150-501	.0005	15 KV	2 1/4	19/32
OF150-102	.001	15 KV	2 1/4	3/4
OF150-202	.002	15 KV	2 1/4	3/4
OF150-502	.005	15 KV	2 3/4	1 1/8
OF150-103	.01	15 KV	3 3/4	1 1/8
OF150-203	.02	15 KV	4 1/4	1 3/8
OF150-503	.05	15 KV	7	1 5/8
OF150-603	.06	15 KV	8	1 5/8
OF200-101	.0001	20 KV	3 1/2	19/32
OF200-201	.0002	20 KV	3 1/2	19/32
OF200-501	.0005	20 KV	3 1/2	19/32
OF200-102	.001	20 KV	3 1/2	3/4
OF200-202	.002	20 KV	3 1/2	13/16
OF200-502	.005	20 KV	3 1/2	1 1/8
OF200-103	.01	20 KV	4 1/2	1 1/8
OF200-203	.02	20 KV	4 1/2	1 5/8
OF200-403	.04	20 KV	7 1/4	1 5/8
OF300-101	.0001	30 KV	4 9/16	19/32
OF300-201	.0002	30 KV	4 9/16	19/32
OF300-501	.0005	30 KV	4 9/16	19/32
OF300-102	.001	30 KV	5	3/4
OF300-202	.002	30 KV	5	29/32
OF300-502	.005	30 KV	5	1 3/8
OF300-103	.01	30 KV	6 1/2	1 5/8
OF300-203	.02	30 KV	9	1 5/8

PART NUMBER	CAP MFD	VOLTS DC	DIMENSIONS	
			L	D
OF20-102	.001	2000	1 3/16	19/32
OF20-202	.002	2000	1 3/16	19/32
OF20-502	.005	2000	1 3/16	19/32
OF20-103	.01	2000	1 3/16	19/32
OF20-203	.02	2000	1 9/16	19/32
OF20-503	.05	2000	1 3/4	3/4
OF20-104	0.1	2000	2 1/4	3/4
OF20-254	0.25	2000	2 3/4	29/32
OF20-504	0.5	2000	2	1 3/8
OF30-102	.001	3000	1 3/16	19/32
OF30-202	.002	3000	1 3/16	19/32
OF30-502	.005	3000	1 3/16	19/32
OF30-103	.01	3000	1 9/16	19/32
OF30-203	.02	3000	1 3/4	3/4
OF30-503	.05	3000	2 1/4	3/4
OF30-104	0.1	3000	1 3/4	1 1/8
OF30-254	0.25	3000	2	1 3/8
OF30-504	0.5	3000	2 3/4	1 5/8
OF40-102	.001	4000	1 3/16	19/32
OF40-202	.002	4000	1 3/16	19/32
OF40-502	.005	4000	1 3/16	19/32
OF40-103	.01	4000	1 3/16	3/4
OF40-203	.02	4000	1 3/4	3/4
OF40-503	.05	4000	2	13/16
OF40-104	0.1	4000	2	1 1/8
OF40-254	0.25	4000	2 1/4	1 5/8
OF40-504	0.5	4000	3 3/4	1 5/8

The above is a partial listing. Additional capacitance and voltage values are available. Send for complete listing.

## HIGH VOLTAGE POWER PACKS COMPACT "M" SERIES 2 TO 75 KVDC

SEE SECTION 4000, PAGE 1024

# Plastic Capacitors, Inc.

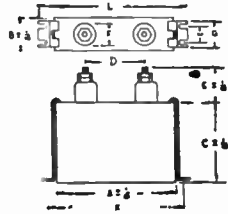


# HIGH VOLTAGE CAPACITORS TYPE LK



## MYLAR\* PAPER FILTER CAPACITORS

TYPE LK Capacitors are specifically designed for filter, bypass and coupling applications in the low audio frequency range. The CP70 style container and internal construction permit operation in any position. Glazed steatite bushings are used, and in the voltage ranges of 2000 and greater, steatite is the electrical insulation in the terminal assembly. The threaded stud terminal is supplied with nut, lockwasher and/or solder lug. The whole assembly is hermetically sealed.



2000 VDCW				
PART NUMBER	CAP. MFD.	A	B	C
LK20-105	1.0	1 3/4	1	3 1/4
LK20-205	2	2 1/2	1 3/16	3 1/2
LK20-205Y	2	1 3/4	1	5
LK20-405	4	2 1/2	1 3/16	5 1/2
LK20-405Y	4	3 3/4	1 1/4	3 3/4
LK20-605	6	3 3/4	1 1/4	5
LK20-605Y	6	3 3/4	1 3/4	3 3/4
LK20-805	8	3 3/4	1 1/4	6 1/4
LK20-805Y	8	3 3/4	1 3/4	4 1/2
LK20-106	10	3 3/4	1 3/4	5 1/4
LK20-106Y	10	3 3/4	2 1/4	4 1/2
LK20-126	12	3 3/4	1 3/4	6 1/4
LK20-126Y	12	3 3/4	2 1/4	5
LK20-126Z	12	3 3/4	3 3/16	4
LK20-156	15	3 3/4	2 1/4	6
LK20-156Y	15	3 3/4	3 3/16	5
LK20-156Z	15	4 9/16	3 3/4	3 3/4
LK20-206	20	3 3/4	3 3/16	6
LK20-206Y	20	4 9/16	3 3/4	4 1/4
LK20-256	25	3 3/4	3 3/16	6 3/4
LK20-306	30	4 9/16	3 3/4	5 3/4

5000 VDCW				
PART NUMBER	CAP. MFD.	A	B	C
LK50-104	.1	1 3/4	1	2 1/8
LK50-254	.25	1 3/4	1	3
LK50-504	.5	1 3/4	1	4 3/4
LK50-504Y	.5	2 1/2	1 3/16	3 1/4
LK50-105	1.0	2 1/2	1 3/16	5
LK50-105Y	1.0	3 3/4	1 1/4	3 3/4
LK50-205	2	3 3/4	1 1/4	6
LK50-205Y	2	3 3/4	1 3/4	4 1/2
LK50-205Z	2	3 3/4	2 1/4	3 3/4
LK50-405	4	3 3/4	2 1/4	6 1/4
LK50-405Y	4	3 3/4	3 3/16	4 3/4
LK50-405Z	4	4 9/16	3 3/4	3 3/4
LK50-605	6	3 3/4	3 3/16	6 1/2
LK50-605Y	6	4 9/16	3 3/4	4 3/4
LK50-805	8	4 9/16	3 3/4	6 1/4
LK50-106Y	10	4 9/16	3 3/4	7 1/2
LK50-126Y	12	4 9/16	3 3/4	9 1/2
LK50-156Y	15	4 9/16	3 3/4	9 1/4
LK50-206Y	20	7 5/16	5 9/16	5 3/4
LK50-206Z	20	6	4 5/8	8
LK50-256Y	25	6	4 5/8	9 1/4
LK50-306Y	30	6	4 5/8	11 1/4

3000 VDCW				
PART NUMBER	CAP. MFD.	A	B	C
LK30-504	.5	1 3/4	1	3 1/4
LK30-105	1.0	1 3/4	1	5 1/4
LK30-105Y	1.0	2 1/2	1 3/16	3 1/2
LK30-205	2	2 1/2	1 3/16	5 1/2
LK30-205Y	2	3 3/4	1 1/4	3 3/4
LK30-405	4	3 3/4	1 1/4	6 1/4
LK30-405Y	4	3 3/4	1 3/4	4 3/4
LK30-405Z	4	3 3/4	2 1/4	4
LK30-605	6	3 3/4	1 3/4	6 1/4
LK30-605Y	6	3 3/4	2 1/4	5 1/4
LK30-605Z	6	3 3/4	3 3/16	4
LK30-805	8	3 3/4	2 1/4	6 1/2
LK30-805Y	8	3 3/4	3 3/16	5
LK30-805Z	8	4 9/16	3 3/4	3 3/4
LK30-106	10	3 3/4	3 3/16	5 3/4
LK30-106Y	10	4 9/16	3 3/4	4 1/2
LK30-126	12	3 3/4	3 3/16	6 3/4
LK30-126Y	12	4 9/16	3 3/4	5
LK30-156	15	4 9/16	3 3/4	6
LK30-206Y	20	4 9/16	3 3/4	7
LK30-256Y	25	4 9/16	3 3/4	10
LK30-306Z	30	4 9/16	3 3/4	11 1/2

6000 VDCW				
PART NUMBER	CAP. MFD.	A	B	C
LK60-104	.1	3 3/4	1 1/4	2 1/4
LK60-254	.25	3 3/4	1 1/4	2 1/2
LK60-504	.5	3 3/4	1 1/4	3 3/4
LK60-105	1.0	3 3/4	1 1/4	6 1/2
LK60-105Y	1.0	3 3/4	1 3/4	4 1/2
LK60-205	2	3 3/4	2 1/4	6 1/4
LK60-205Y	2	3 3/4	3 3/16	4 3/4
LK60-405	4	4 9/16	3 3/4	6
LK60-605	6	4 9/16	3 3/4	8 1/4
LK60-805	8	4 9/16	3 3/4	10 1/4
LK60-106Y	10	6	4 5/8	8 3/4
LK60-126Y	12	6	4 5/8	9 3/4
LK60-156Y	15	6	4 5/8	11
LK60-206Y	20	7 5/16	5 9/16	10 1/4
LK60-306Y	30	13 1/2	5 1/8	11 7/8

4000 VDCW				
PART NUMBER	CAP. MFD.	A	B	C
LK40-254	.25	1 3/4	1	2 3/4
LK40-504	.5	1 3/4	1	4
LK40-105	1.0	2 1/2	1 3/16	4
LK40-205	2	2 1/2	1 3/16	6 3/4
LK40-205Y	2	3 3/4	1 3/4	3 3/4
LK40-405	4	3 3/4	1 3/4	6
LK40-405Y	4	3 3/4	2 1/4	4 3/4
LK40-605	6	3 3/4	2 1/4	6 1/2
LK40-605Y	6	3 3/4	3 3/16	5
LK40-605Z	6	4 9/16	3 3/4	3 3/4
LK40-805	8	3 3/4	3 3/16	6
LK40-805Y	8	4 9/16	3 3/4	4 3/4
LK40-106	10	4 9/16	3 3/4	5 1/2
LK40-126	12	4 9/16	3 3/4	6 1/2
LK40-156	15	4 9/16	3 3/4	8 1/2
LK40-206Z	20	4 9/16	3 3/4	9

8000 VDCW				
PART NUMBER	CAP. MFD.	A	B	C
LK80-104Y	.1	2 1/2	1 3/16	3
LK80-104	.1	3 3/4	1 1/4	2 1/2
LK80-254Y	.25	2 1/2	1 3/16	5 1/4
LK80-254	.25	3 3/4	1 1/4	3 3/4
LK80-504	.5	3 3/4	1 1/4	5 3/4
LK80-504Y	.5	3 3/4	1 3/4	4 1/4
LK80-105	1.0	3 3/4	1 3/4	7
LK80-105Y	1.0	3 3/4	2 1/4	5 3/4
LK80-105Z	1.0	3 3/4	3 3/16	4 1/2
LK80-205	2	3 3/4	3 3/16	7
LK80-205Y	2	4 9/16	3 3/4	5 1/4
LK80-405	4	4 9/16	3 3/4	8 1/2
LK80-605Y	6	6	4 5/8	8 1/4
LK80-605Z	6	4 9/16	3 3/4	12
LK80-805Y	8	6	4 5/8	10
LK80-106Y	10	7 5/16	5 9/16	9
LK80-126Y	12	7 5/16	5 9/16	10
LK80-156Y	15	13 1/2	4 1/8	11
LK80-206Y	20	13 1/2	5 1/8	11 7/8

10 KVDC				
PART NUMBER	CAP. MFD.	A	B	C
LK100-104	.1	3 3/4	1 3/4	3 1/4
LK100-254	.25	3 3/4	1 3/4	3 3/4
LK100-254Y	.25	3 3/4	2 1/4	3 1/4
LK100-504	.5	3 3/4	1 3/4	5 3/4
LK100-504Y	.5	3 3/4	2 1/4	4 1/2
LK100-504Z	.5	3 3/4	3 3/16	3 3/4
LK100-105	1.0	3 3/4	2 1/4	7 1/4
LK100-105Y	1.0	3 3/4	3 3/16	5 1/4
LK100-105Z	1.0	4 9/16	3 3/4	4 1/2
LK100-205	2	4 9/16	3 3/4	6 3/4
LK100-405Y	4	4 9/16	3 3/4	11
LK100-605Y	6	6	4 5/8	10 1/2
LK100-805Y	8	7 5/16	5 9/16	9 1/4
LK100-106Y	10	7 5/16	5 9/16	11

12.5 KVDC				
PART NUMBER	CAP. MFD.	A	B	C
LK125-503	.05	3 3/4	1 3/4	3
LK125-104	.1	3 3/4	1 3/4	3 5/8
LK125-254	.25	3 3/4	1 3/4	5 7/8
LK125-504	.5	3 3/4	3 3/16	5 5/8
LK125-504Y	.5	4 9/16	3 3/4	4 3/8
LK125-105	1.0	4 9/16	3 3/4	6 5/8
LK125-205	2	4 9/16	3 3/4	11
LK125-205Z	2	6	4 1/8	7 3/4
LK125-405Y	4	7 5/16	5 9/16	9 1/2
LK125-605	6	13 1/2	4 1/8	11
LK125-805Y	8	13 1/2	5 1/8	11 7/8
LK125-106	10	13 1/2	5 1/8	13 3/4

15 KVDC				
PART NUMBER	CAP. MFD.	A	B	C
LK150-104	.1	3 3/4	1 3/4	3 3/4
LK150-254	.25	3 3/4	1 3/4	7
LK150-254Y	.25	3 3/4	2 1/4	5
LK150-504	.5	3 3/4	3 3/16	6 1/2
LK150-504Y	.5	4 9/16	3 3/4	5
LK150-105	1.0	4 9/16	3 3/4	8 1/2
LK150-205Y	2	6	4 5/8	9 1/4
LK150-405Y	4	7 5/16	5 9/16	12

20 KVDC				
PART NUMBER	CAP. MFD.	A	B	C
LK200-104	.1	3 3/4	2 1/4	4 3/4
LK200-254	.25	3 3/4	3 3/16	6
LK200-254Y	.25	4 9/16	3 3/4	4 3/4
LK200-504	.5	4 9/16	3 3/4	7 1/2
LK200-105	1.0	8	4	9 1/4
LK200-205	2	13 1/2	4 1/8	9 1/4

25 KVDC				
PART NUMBER	CAP. MFD.	A	B	C
LK250-503	.05	3 3/4	3 3/16	4
LK250-104	.1	3 3/4	3 3/16	4 3/4
LK200-254	.25	4 9/16	3 3/4	6 1/2
LK250-504	.5	4 9/16	3 3/4	11 1/2
LK250-504Y	.5	8	4	9 1/4
LK250-105	1.0	13 1/2	4 1/8	9 1/4

30 KVDC				
PART NUMBER	CAP. MFD.	A	B	C
LK300-503	.05	3 3/4	3 3/16	5 1/2
LK300-104	.1	3 3/4	3 3/16	8 3/4
LK300-254Y	.25	4 9/16	3 3/4	8 3/4
LK300-504Y	.5	6	4 5/8	9 1/4
LK300-105Y	1.0	13 1/2	4 1/8	11 1/2

\* DUPONT POLYESTER FILM

The above is a partial listing. Additional capacitance and voltage values are available. Send for complete listing.

# Plastic Capacitors, Inc.

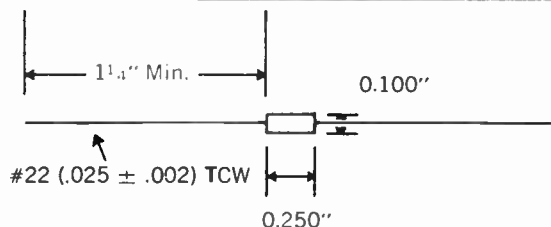


# NYTRONICS, INC.® Capacitors

## The DECI-CAP

4.7pf to 27,000pf in 46 values. Standardized size 0.100" by 0.250".  
Designed to meet the requirements of MIL-C-11015.  
Epoxy molded for highest performance and reliability.  
High density cordwood packaging.

The DECI-CAP offers the design engineer unique epoxy-molded reliability and a new high standard in performance. This subminiature ceramic capacitor features a low power factor and exhibits outstanding stability over its entire -55° to +125°C operating range. Its rugged epoxy molded envelope and high quality ceramic dielectric insure that the DECI-CAP meets the environmental requirements of MIL-C-11015C.



### ELECTRICAL CHARACTERISTICS

Capacitance Range: 4.7pf to 27,000pf.

Tolerance: ±10%.

Working Voltage: 4.7pf to 470pf: 200 Volts D.C. 560pf to 27,000pf: 100 Volts D.C.

Insulation Resistance: 20,000 Megohms Minimum.

Dielectric Strength: Withstands an applied voltage of 500 Volts D.C. to 470pf; 250 Volts D.C. from 560pf to 27,000pf.

Note: Test frequency for all measurements is 1 KC. and test voltage is 2 volts RMS.

### DENSITY CHARACTERISTICS

Volume: 0.002 Cubic Inches

Weight: 0.352 Grams

### PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Life Test: 1000 hours at 125°C under twice rated voltage.

Moisture, Vibration, and Shock Resistance: Meets the requirements of MIL-C-11015C.

Nytronics Cat. No.	Capacitance pf at 25°C	Performance Curves Ref. No.	Nytronics Cat. No.	Capacitance pf at 25°C	Performance Curves Ref. No.
DC-047	4.7	1	DC-391	390	3
DC-056	5.6	1	DC-471	470	4
DC-068	6.8	1	DC-561	560	4
DC-082	8.2	1	DC-681	680	4
DC-100	10	1	DC-821	820	4
DC-120	12	1	DC-102	1000	4
DC-150	15	1	DC-122	1200	4
DC-180	18	1	DC-152	1500	4
DC-220	22	1	DC-182	1800	4
DC-270	27	1	DC-222	2200	4
DC-330	33	1	DC-272	2700	4
DC-390	39	1	DC-332	3300	4
DC-470	47	1	DC-392	3900	4
DC-560	56	1	DC-472	4700	4
DC-680	68	2	DC-562	5600	4
DC-820	82	2	DC-682	6800	4
DC-101	100	2	DC-822	8200	4
DC-121	120	2	DC-103	10000	4
DC-151	150	2	DC-123	12000	4
DC-181	180	2	DC-153	15000	4
DC-221	220	2	DC-183	18000	4
DC-271	270	3	DC-223	22000	4
DC-331	330	3	DC-273	27000	4

## The HY-CAP

High Capacity Ceramic Capacitor. Capacitance Range .01 mfd to 2.5 mfd\*.  
Less than ±15% capacitance change from -55°C to 125°C  
Voltage: 100 Volts D.C. No derating to 125°C  
Designed to meet MIL-C-11015

Nytronics offers the HY-CAP Ceramic Capacitor to accommodate design application in coupling, by-pass, and filter circuits where temperature stability and high capacitance are mandatory.

### ELECTRICAL CHARACTERISTICS

Capacitance Range: .01 mfd to 2.5 mfd.\*

Tolerance: ±20%.

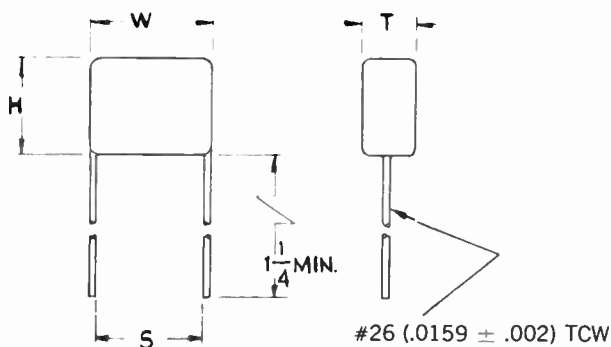
Working Voltage: 100 Volts D.C. (No derating to 125°C).

### PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Life Test: 1000 hours at 125°C under twice rated voltage.

Moisture, Vibration, and Shock Resistance: Meets the requirements of MIL-C-11015 (body mounted).

\*Higher values available on special order.



Nytronics Part No.	Cap. (mfd.)	Case	Nytronics Part No.	Cap. (mfd.)	Case
HC-A-103-M	.01	A	HC-B-124-M	.12	B
HC-A-123-M	.012	A	HC-C-154-M	.15	C
HC-A-153-M	.015	A	HC-C-184-M	.18	C
HC-A-183-M	.018	A	HC-C-224-M	.22	C
HC-A-223-M	.022	A	HC-C-274-M	.27	C
HC-A-273-M	.027	A	HC-C-334-M	.33	C
HC-A-333-M	.033	A	HC-C-394-M	.39	C
HC-B-393-M	.039	B	HC-C-474-M	.47	C
HC-B-473-M	.047	B	HC-D-105-M	1.0	D
HC-B-563-M	.056	B	HC-E-155-M	1.5	E
HC-B-683-M	.068	B	HC-F-205-M	2.0	F
HC-B-823-M	.082	B	HC-G-255-M	2.5	G
HC-B-104-M	.100	B			

Types	W max.	H max.	T max.	S nom.
A	0.225	0.175	0.110	0.200
B	0.325	0.310	0.150	0.300
C	0.670	0.355	0.150	0.625
D	0.800	0.550	0.225	0.625
E	0.800	0.550	0.250	0.625
F	0.800	0.550	0.300	0.625
G	0.800	0.550	0.375	0.625





**NYTRONICS, INC.**

**Capacitors**

**The NYT-CAP**

Ultra High Stability — Less than  $\pm 40$  ppm/ $^{\circ}$ C  
Miniature Molded Epoxy Case suitable for high component density applications  
200 Volt D.C. rating

A new development from Nytronics' ceramic research laboratory now makes possible the manufacture of an extremely stable ceramic capacitor in a miniature package size. Now you can have the capacitor stability long desired for use in oscillators, filters, and other critical circuitry.

**ELECTRICAL CHARACTERISTICS**

Capacitance Range: 4.7 pf. to 4700 pf.  
Capacitance Tolerance:  $\pm 10\%$  standard.  
Working Voltage: 200 Volts D.C.  
Temperature Coefficient: Does not exceed  $\pm 40$  ppm/ $^{\circ}$ C over temperature range of  $-55^{\circ}$ C to  $+125^{\circ}$ C.  
Dissipation Factor: Less than 0.001 at  $25^{\circ}$ C.  
(Measured at 1KC) Less than 0.002 at  $125^{\circ}$ C.  
Insulation Resistance: 1,000,000 Megohms at  $25^{\circ}$ C.  
(Minimum) 10,000 Megohms at  $125^{\circ}$ C.

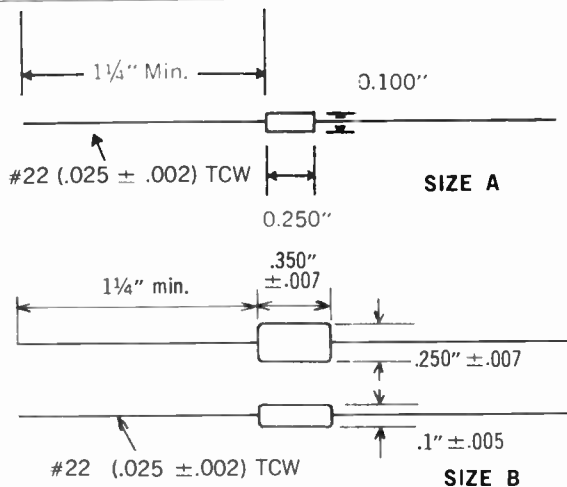
**PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS**

Case Size: A: 0.1" dia. x 0.250" long.  
B: 0.350" x 0.250" x 0.1".

Case Material: Epoxy.

Volume A: 0.002 cubic inches.  
B: 0.0088 cubic inches.

Weight (Maximum): A: 0.352 grams.  
B: 0.69 grams.

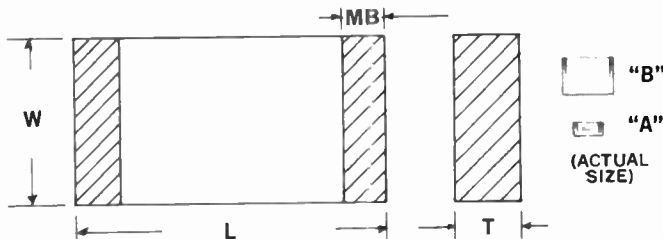


Nytronics Part No.	Capacity (pF)	Case Size	Nytronics Part No.	Capacity (pF)	Case Size	Nytronics Part No.	Capacity (pF)	Case Size	Nytronics Part No.	Capacity (pF)	Case Size
NC-047	4.7	A	NC-330	33	A	NC-221	220	A	NC-152	1500	B
NC-056	5.6	A	NC-390	39	A	NC-271	270	B	NC-182	1800	B
NC-068	6.8	A	NC-470	47	A	NC-331	330	B	NC-222	2200	B
NC-082	8.2	A	NC-560	56	A	NC-391	390	B	NC-272	2700	B
NC-100	10	A	NC-680	68	A	NC-471	470	B	NC-332	3300	B
NC-120	12	A	NC-820	82	A	NC-561	560	B	NC-392	3900	B
NC-150	15	A	NC-101	100	A	NC-681	680	B	NC-472	4700	B
NC-180	18	A	NC-121	120	A	NC-821	820	B			
NC-220	22	A	NC-151	150	A	NC-102	1000	B			
NC-270	27	A	NC-181	180	A	NC-122	1200	B			

**The NYT-CHIP**

Ultra High Stability — Less than  $\pm 40$  ppm/ $^{\circ}$ C  
200 Volt D.C. rating  
Compatible with:  
Integrated Circuitry; Thick and Thin Film Circuitry; Printed Circuitry

The NYT-CHIP provides in slug form all of the high stability and low loss features of the epoxy molded NYT-CAP. This configuration yields the greatest possible packaging density and has the highest degree of mounting flexibility for use with all presently used packaging techniques. NYT-CHIPS are supplied with "wrap-around" tinned terminals permitting connection to either face or to the ends of the chip.



**ELECTRICAL CHARACTERISTICS**

Capacitance Range: 4.7 pf. to 4700 pf.  
Capacitance Tolerance:  $\pm 10\%$  standard.  
Working Voltage: 200 Volts D.C.  
Temperature Coefficient: Does not exceed  $\pm 40$  ppm/ $^{\circ}$ C over temperature range of  $-55^{\circ}$ C to  $+125^{\circ}$ C.  
Dissipation Factor: Less than 0.001 at  $25^{\circ}$ C.  
(Measured at 1KC) Less than 0.002 at  $125^{\circ}$ C.  
Insulation Resistance: 1,000,000 Megohms at  $25^{\circ}$ C.  
(Minimum) 10,000 Megohms at  $125^{\circ}$ C.

**PHYSICAL CHARACTERISTICS**

	L	W	T	MB
Size A:	.170 $\pm$ .015	.065 $\pm$ .015	.070 max.	.035 $\pm$ .020 — .010
Size B:	.280 $\pm$ .020	.195 $\pm$ .020	.070 max.	.035 $\pm$ .020 — .010

Note: Dimensions are for slugs with tinned terminals.

Nytronics Part No.	Capacity (pf)	Chip Size	Nytronics Part No.	Capacity (pf)	Chip Size
NCU-047	4.7	A	NCU-181	180	A
NCU-056	5.6	A	NCU-221	220	A
NCU-068	6.8	A	NCU-271	270	B
NCU-082	8.2	A	NCU-331	330	B
NCU-100	10	A	NCU-391	390	B
NCU-120	12	A	NCU-471	470	B
NCU-150	15	A	NCU-561	560	B
NCU-180	18	A	NCU-681	680	B
NCU-220	22	A	NCU-821	820	B
NCU-270	27	A	NCU-102	1000	B
NCU-330	33	A	NCU-122	1200	B
NCU-390	39	A	NCU-152	1500	B
NCU-470	47	A	NCU-182	1800	B
NCU-560	56	A	NCU-222	2200	B
NCU-680	68	A	NCU-272	2700	B
NCU-820	82	A	NCU-332	3300	B
NCU-101	100	A	NCU-392	3900	B
NCU-121	120	A	NCU-472	4700	B
NCU-151	150	A			



SANGAMO ELECTRIC COMPANY

# capacitors



ELECTRONIC COMPONENTS

## Type DCM Computer Grade FILTER AND ENERGY STORAGE ELECTROLYTIC CAPACITOR



Type DCM	Capacitor Diameter (Inches)	Net Price
	1-7/16	\$0.24
	1-13/16	0.33
Mounting Bracket	2-1/16	0.36
	2-9/16	0.48
	3-1/16	0.60

Note: 1-7/16" bracket available with 2 feet only. Two or 3 feet are available in other sizes.

The SANGAMO Type DCM is a high quality, long life, electrolytic capacitor, specially designed for use as an energy storage or filter capacitor at 65°C. The Type DCM is enclosed in an aluminum can and is normally furnished with a clear plastic insulating sleeve. Aluminum terminals, which are permanently molded into the top, include #10-32 machine screws. A pressure-sensitive is provided as a safety mechanism in each top. A footed, wrap-around mounting bracket is available at extra cost. **For more complete information write for Bulletin 2231.**

Catalog Number	Cap. (Mfd)	Rated Volts d-c	Case Sizes *		Term. * Ctr. to Ctr.	Net Price 1-24†	Catalog Number	Cap. (Mfd)	Rated Volts d-c	Case Sizes *		Term. * Ctr. to Ctr.	Net Price 1-24†
			Diameter	Length						Diameter	Length		
539-2619-01	33,000	5	2-1/16	4-1/2	.875	\$ 7.62	539-2553-01	450	75	1-7/16	2-1/2	.500	\$ 2.85
539-2621-01	125,000	5	3-1/16	6	1.250	16.71	539-2554-01	900	75	1-7/16	3-1/2	.500	3.78
539-2530-01	3,750	10	1-7/16	2-1/2	.500	3.36	539-2653-01	1,000	75	1-7/16	4-1/2	.500	4.02
539-2531-01	7,000	10	1-7/16	3-1/2	.500	4.20	539-2555-01	1,350	75	1-7/16	4-1/2	.500	4.29
539-2622-01	10,000	10	1-7/16	4-1/2	.500	5.10	539-2654-01	3,000	75	2-1/16	4-1/2	.875	6.27
539-2736-01	15,000	10	1-13/16	4-1/2	.750	5.73	539-2656-01	5,000	75	2-9/16	4-1/2	1.125	10.23
539-2623-01	20,000	10	2-1/16	4-1/2	.875	8.07	539-2557-01	7,750	75	3-1/16	4-1/2	1.250	12.84
539-2624-01	35,000	10	2-1/16	6	.875	10.92	539-2657-01	10,000	75	3-1/16	6	1.250	16.20
539-2625-01	40,000	10	2-9/16	4-1/2	1.125	12.12							
539-2626-01	60,000	10	3-1/16	4-1/2	1.250	15.39	539-2558-01	350	100	1-7/16	2-1/2	.500	3.00
539-2627-01	90,000	10	3-1/16	6	1.250	19.77	539-2559-01	500	100	1-7/16	3-1/2	.500	3.18
539-2532-01	2,500	15	1-7/16	2-1/2	.500	2.94	539-2658-01	1,000	100	1-7/16	4-1/2	.500	4.41
539-2533-01	5,000	15	1-7/16	3-1/2	.500	4.17	539-2742-01	1,500	100	1-13/16	4-1/2	.750	4.86
539-2628-01	6,000	15	1-7/16	4-1/2	.500	4.23	539-2597-01	3,000	100	2-1/16	6	.875	9.42
539-2534-01	8,000	15	1-7/16	4-1/2	.500	4.98	539-2660-01	4,000	100	2-9/16	4-1/2	1.125	9.96
539-2737-01	10,000	15	1-13/16	4-1/2	.750	5.34	539-2661-01	5,000	100	3-1/16	4-1/2	1.250	10.71
539-2738-01	14,000	15	1-13/16	4-1/2	.750	6.94	539-2662-01	8,500	100	3-1/16	6	1.250	16.35
539-2629-01	18,000	15	2-1/16	4-1/2	.875	8.49							
539-2630-01	25,000	15	2-1/16	6	.875	10.95	539-2560-01	250	150	1-7/16	2-1/2	.500	2.64
539-2631-01	33,000	15	2-9/16	4-1/2	1.125	11.28	539-2663-01	500	150	1-7/16	3-1/2	.500	3.84
539-1246-02	35,000	15	3-1/16	4-1/2	1.250	11.34	539-2664-01	700	150	1-7/16	4-1/2	.500	4.32
539-2632-01	40,000	15	3-1/16	4-1/2	1.250	12.48	539-2561-01	750	150	1-7/16	4-1/2	.500	4.41
539-2598-01	45,000	15	3-1/16	4-1/2	1.250	13.77	539-2743-01	1,000	150	1-13/16	4-1/2	.750	4.83
539-2673-01	50,000	15	3-1/16	6	1.250	15.12	539-2744-01	1,250	150	1-13/16	4-1/2	.750	5.22
539-2633-01	60,000	15	3-1/16	6	1.250	17.67	539-2562-01	1,450	150	1-13/16	4-1/2	.750	6.12
539-2535-01	2,250	20	1-7/16	2-1/2	.500	2.97							
539-2536-01	4,500	20	1-7/16	3-1/2	.500	4.32	539-2861-01	1,850	150	2-1/16	4-1/2	.875	7.71
539-2537-01	6,500	20	1-7/16	4-1/2	.500	4.77	539-2665-01	2,000	150	2-1/16	6	.875	8.37
539-2538-01	10,000	20	1-13/16	4-1/2	.750	5.85	539-2666-01	2,500	150	2-9/16	4-1/2	1.125	9.57
539-2539-01	14,750	20	2-1/16	4-1/2	.875	8.04	539-2564-01	3,000	150	2-9/16	4-1/2	1.125	10.44
539-2540-01	22,000	20	2-1/16	6	.875	10.56	539-2667-01	4,000	150	3-1/16	4-1/2	1.250	12.63
539-2541-01	25,000	20	2-9/16	4-1/2	1.125	11.10	539-2565-01	4,500	150	3-1/16	4-1/2	1.250	13.29
539-2542-01	35,000	20	3-1/16	4-1/2	1.250	13.50	539-2668-01	6,000	150	3-1/16	6	1.250	15.18
539-2543-01	50,000	20	3-1/16	6	1.250	16.92							
539-2544-01	1,500	25	1-7/16	2-1/2	.500	2.79	539-2566-01	200	200	1-7/16	2-1/2	.500	3.12
539-2545-01	3,000	25	1-7/16	3-1/2	.500	3.69	539-2669-01	500	200	1-7/16	4-1/2	.500	4.17
539-2634-01	5,000	25	1-7/16	4-1/2	.500	4.74	539-2745-01	750	200	1-13/16	4-1/2	.750	5.37
539-2739-01	8,000	25	1-13/16	4-1/2	.750	6.12	539-2670-01	1,500	200	2-1/16	6	.875	7.65
539-2635-01	10,000	25	2-1/16	4-1/2	.875	7.26	539-2671-01	2,000	200	2-9/16	4-1/2	1.125	9.18
539-2636-01	15,000	25	2-1/16	6	.875	10.20	539-2672-01	2,500	200	3-1/16	4-1/2	1.250	10.80
539-2637-01	20,000	25	2-9/16	4-1/2	1.125	10.59	539-2570-01	4,500	200	3-1/16	6	1.250	14.13
539-2638-01	25,000	25	3-1/16	4-1/2	1.250	11.22							
539-2639-01	40,000	25	3-1/16	6	1.250	17.55							
539-2640-01	1,500	35	1-7/16	3-1/2	.500	3.03	539-2746-01	500	250	1-13/16	4-1/2	.750	4.50
539-2547-01	2,500	35	1-7/16	3-1/2	.500	3.60	539-2575-01	1,000	250	2-1/16	4-1/2	.875	9.81
539-2641-01	4,000	35	1-7/16	4-1/2	.500	4.50	539-2874-01	1,500	250	2-9/16	4-1/2	1.125	10.83
539-2740-01	5,000	35	1-13/16	4-1/2	.750	5.31	539-2675-01	275	300	1-7/16	4-1/2	.500	4.50
539-2548-01	7,000	35	1-13/16	4-1/2	.750	6.69	539-2747-01	450	300	1-13/16	4-1/2	.750	5.10
539-2642-01	8,000	35	2-1/16	4-1/2	.875	6.78	539-2676-01	1,000	300	2-9/16	4-1/2	1.125	11.22
539-2549-01	9,000	35	2-1/16	4-1/2	.875	7.71	539-2677-01	1,500	300	3-1/16	4-1/2	1.250	17.73
539-2643-01	10,000	35	2-1/16	6	.875	8.31							
539-2550-01	13,500	35	2-1/16	6	.875	10.53							
539-2644-01	15,000	35	2-9/16	4-1/2	1.125	11.07	539-2584-01	150	350	1-7/16	3-1/2	.500	4.08
539-2645-01	20,000	35	3-1/16	4-1/2	1.250	12.12	539-2748-01	350	350	1-13/16	4-1/2	.750	5.49
539-2646-01	30,000	35	3-1/16	6	1.250	13.92	539-2678-01	1,000	350	3-1/16	4-1/2	1.250	11.73
539-2551-01	750	50	1-7/16	2-1/2	.500	2.88	539-2590-01	50	400	1-7/16	2-1/2	.500	3.00
539-1615-03	1,000	50	1-7/16	3-1/2	.500	3.24	539-2595-01	50	450	1-7/16	2-1/2	.500	3.60
539-2552-01	1,500	50	1-7/16	3-1/2	.500	3.69	539-2682-01	100	450	1-7/16	3-1/2	.500	4.50
539-1463-03	2,000	50	1-7/16	4-1/2	.500	3.81	539-2596-01	150	450	1-7/16	4-1/2	.500	5.04
539-2647-01	2,500	50	1-7/16	4-1/2	.500	4.08							
539-2741-01	4,000	50	1-13/16	4-1/2	.750	5.49	539-2749-01	250	450	1-13/16	4-1/2	.750	5.94
539-2648-01	5,000	50	2-1/16	4-1/2	.875	7.11	539-2683-01	300	450	2-1/16	4-1/2	.875	6.33
539-2649-01	8,000	50	2-1/16	6	.875	8.79	539-2684-01	500	450	2-1/16	6	.875	8.04
539-2650-01	10,000	50	2-9/16	4-1/2	1.125	11.46	539-2685-01	600	450	2-9/16	4-1/2	1.125	9.90
539-2651-01	15,000	50	3-1/16	4-1/2	1.250	13.65	539-2686-01	800	450	3-1/16	4-1/2	1.250	11.46
539-2652-01	20,000	50	3-1/16	6	1.250	16.71	539-2687-01	850	450	3-1/16	4-1/2	1.250	12.24

\*All dimensions are in inches.  
†Prices for larger quantities are available on request.

SANGAMO ELECTRIC COMPANY

# capacitors



ELECTRONIC COMPONENTS

## Type 500 Computer Electrolytic

### FOR HIGH RIPPLE AND HIGH TEMPERATURE APPLICATIONS

The Sangamo Type 500 capacitor represents the optimum design in electrolytic capacitors for storage and filter requirements in high reliability circuits requiring 85°C operation. An exceptional anode surface gain and better production control have been achieved in perfecting the Type 500. These advanced techniques, plus the use of the best electrolytes, result in capacitors having lower ESR which may be operated at higher ripple currents and in case sizes smaller than conventional capacitors. All units are supplied with screw terminals. Mounting brackets are furnished at extra cost. For more complete information write for Bulletin 2236.



Type 500 Mounting Bracket	Capacitor Diameter	Net Price
	1-3/8"	\$0.24
	2"	0.36
	2-1/2"	0.48
	3"	0.60

Note: 1-3/8" bracket available with 2 feet only. Other sizes are available with 2 or 3 feet. Specify accordingly.

Catalog Number	Cap. (Mfd)	Rated Volts d-c	Case Sizes*		Term. * Ctr. to Ctr.	Net Price 1-24†	Catalog Number	Cap. (Mfd)	Rated Volts d-c	Case Sizes *		Term. * Ctr. to Ctr.	Net Price 1-24†
			Diameter	Length						Diameter	Length		
500-1900-01	14000	3	1-3/8	2-1/8	.500	\$ 1.32	500-1971-01	57000	50	3	8-5/8	1.250	\$45.09
500-1901-01	25000	3	1-3/8	3-1/8	.500	6.06	500-1972-01	1050	75	1-3/8	2-1/8	.500	4.08
500-1902-01	35000	3	1-3/8	4-1/8	.500	7.08	500-1973-01	2000	75	1-3/8	3-1/8	.500	4.98
500-1903-01	80000	3	2	4-1/8	.875	11.82	500-1974-01	2800	75	1-3/8	4-1/8	.500	6.09
500-1904-01	120000	3	2	5-5/8	.875	15.39	500-1975-01	6500	75	2	4-1/8	.875	10.62
500-1905-01	145000	3	2-1/2	4-1/8	1.125	19.77	500-1976-01	9500	75	2	5-5/8	.875	15.66
500-1906-C1	200000	3	3	4-1/8	1.250	29.88	500-1977-01	11000	75	2-1/2	4-1/8	1.125	17.28
500-1907-01	300000	3	3	5-5/8	1.250	34.92	500-1978-01	16000	75	3	4-1/8	1.250	22.26
500-1908-01	500000	3	3	8-5/8	1.250	45.00	500-1979-01	24000	75	3	5-5/8	1.250	30.21
500-1909-01	11000	5	1-3/8	2-1/8	.500	4.53	500-1980-01	39000	75	3	8-5/8	1.250	45.09
500-1910-01	20000	5	1-3/8	3-1/8	.500	6.90	500-1981-01	550	100	1-3/8	2-1/8	.500	3.30
500-1911-01	29000	5	1-3/8	4-1/8	.500	7.14	500-1982-01	1900	100	1-3/8	3-1/8	.500	4.41
500-1912-01	67000	5	2	4-1/8	.875	11.91	500-1983-01	1500	100	1-3/8	4-1/8	.500	5.04
500-1913-C1	95000	5	2	5-5/8	.875	14.28	500-1984-01	3400	100	2	4-1/8	.875	9.63
500-1914-C1	120000	5	2-1/2	4-1/8	1.125	16.08	500-1985-01	5000	100	2	5-5/8	.875	10.86
500-1915-C1	170000	5	3	4-1/8	1.250	26.10	500-1986-01	6000	100	2-1/2	4-1/8	1.125	12.36
500-1916-01	250000	5	3	5-5/8	1.250	35.70	500-1987-01	8500	100	3	4-1/8	1.250	15.48
500-1917-01	400000	5	3	8-5/8	1.250	45.30	500-1988-01	12500	100	3	5-5/8	1.250	25.47
500-1918-01	8000	10	1-3/8	2-1/8	.500	4.50	500-1989-01	20000	100	3	8-5/8	1.250	44.97
500-1919-01	14000	10	1-3/8	3-1/8	.500	5.64	500-1991-01	400	150	1-3/8	2-1/8	.500	3.36
500-1920-01	20000	10	1-3/8	4-1/8	.500	7.77	500-1992-01	700	150	1-3/8	3-1/8	.500	4.32
500-1921-01	47000	10	2	4-1/8	.875	13.98	500-1993-01	1000	150	1-3/8	4-1/8	.500	4.83
500-1922-01	70000	10	2	5-5/8	.875	17.31	500-1994-01	2300	150	2	4-1/8	.875	9.03
500-1923-01	85000	10	2-1/2	4-1/8	1.125	18.87	500-1995-01	3500	150	2	5-5/8	.875	11.43
500-1924-01	123000	10	3	4-1/8	1.250	24.96	500-1996-01	4000	150	2-1/2	4-1/8	1.125	12.33
500-1925-01	180000	10	3	5-5/8	1.250	32.52	500-1997-01	6000	150	3	4-1/8	1.250	15.84
500-1926-01	280000	10	3	8-5/8	1.250	44.88	500-1998-01	8500	150	3	5-5/8	1.250	25.59
500-1927-01	6500	15	1-3/8	2-1/8	.500	4.38	500-1999-01	13000	150	3	8-5/8	1.250	45.00
500-1928-01	11000	15	1-3/8	3-1/8	.500	5.49	500-1089-01	200	200	1-3/8	2-1/8	.500	3.15
500-1929-01	16000	15	1-3/8	4-1/8	.500	7.89	500-1090-01	400	200	1-3/8	3-1/8	.500	3.93
500-1930-01	37000	15	2	4-1/8	.875	11.58	500-1091-01	575	200	1-3/8	4-1/8	.500	4.59
500-1931-01	55000	15	2	5-5/8	.875	16.71	500-1092-01	1300	200	2	4-1/8	.875	7.74
500-1932-01	65000	15	2-1/2	4-1/8	1.125	18.99	500-1090-01	1800	200	2	5-5/8	.875	8.85
500-1933-01	95000	15	3	4-1/8	1.250	24.72	500-1094-01	2200	200	2-1/2	4-1/8	1.125	9.81
500-1934-01	140000	15	3	5-5/8	1.250	30.78	500-1095-01	3250	200	3	4-1/8	1.250	12.66
500-1935-01	225000	15	3	8-5/8	1.250	44.70	500-2000-01	4800	200	3	5-5/8	1.250	14.76
500-1936-01	4400	20	1-3/8	2-1/8	.500	4.29	500-1097-01	160	250	1-3/8	2-1/8	.500	3.90
500-1937-01	8000	20	1-3/8	3-1/8	.500	5.79	500-1098-01	300	250	1-3/8	3-1/8	.500	4.05
500-1938-01	11000	20	1-3/8	4-1/8	.500	6.15	500-1099-01	430	250	1-3/8	4-1/8	.500	4.35
500-1939-01	26000	20	2	4-1/8	.875	11.22	500-1100-01	1000	250	2	4-1/8	.875	9.81
500-1940-01	38000	20	2	5-5/8	.875	14.22	500-2001-01	1400	250	2	5-5/8	.875	10.71
500-1941-01	46000	20	2-1/2	4-1/8	1.125	16.32	500-1102-01	1700	250	2-1/2	4-1/8	1.125	11.25
500-1942-01	65000	20	3	4-1/8	1.250	20.43	500-1103-01	2500	250	3	4-1/8	1.250	16.20
500-1943-01	100000	20	3	5-5/8	1.250	28.98	500-1104-01	110	300	1-3/8	2-1/8	.500	3.63
500-1944-01	160000	20	3	8-5/8	1.250	45.15	500-1105-01	210	300	1-3/8	3-1/8	.500	4.11
500-1945-01	3600	25	1-3/8	2-1/8	.500	4.02	500-1106-01	310	300	1-3/8	4-1/8	.500	4.68
500-1946-01	6500	25	1-3/8	3-1/8	.500	5.52	500-1107-01	700	300	2	4-1/8	.875	7.68
500-1947-01	9500	25	1-3/8	4-1/8	.500	7.08	500-2002-01	1000	300	2	5-5/8	.875	11.22
500-1948-01	22000	25	2	4-1/8	.875	10.83	500-1109-01	1290	300	2-1/2	4-1/8	1.125	13.68
500-1949-01	30000	25	2	5-5/8	.875	12.84	500-1110-01	1750	300	3	4-1/8	1.250	18.15
500-1950-01	37000	25	2-1/2	4-1/8	1.125	16.20	500-1111-01	80	350	1-3/8	2-1/8	.500	3.69
500-1951-01	55000	25	3	4-1/8	1.250	22.20	500-1112-01	150	350	1-3/8	3-1/8	.500	4.08
500-1952-01	80000	25	3	5-5/8	1.250	30.45	500-1113-01	220	350	1-3/8	4-1/8	.500	4.77
500-1953-01	130000	25	3	8-5/8	1.250	45.21	500-1114-01	500	350	2	4-1/8	.875	7.08
500-1954-01	2500	35	1-3/8	2-1/8	.500	3.75	500-2003-01	750	350	2	5-5/8	.875	9.54
500-1955-01	4500	35	1-3/8	3-1/8	.500	4.74	500-1116-01	850	350	2-1/2	4-1/8	1.125	10.89
500-1956-01	6500	35	1-3/8	4-1/8	.500	6.27	500-1117-01	1250	350	3	4-1/8	1.250	16.89
500-1957-01	14000	35	2	4-1/8	.875	10.59	500-1118-01	60	440	1-3/8	2-1/8	.500	3.69
500-1958-01	20000	35	2	5-5/8	.875	12.12	500-1119-01	115	400	1-3/8	3-1/8	.500	4.26
500-1959-01	25000	35	2-1/2	4-1/8	1.125	13.02	500-1120-01	165	400	1-3/8	4-1/8	.500	4.77
500-1960-01	35000	35	3	4-1/8	1.250	14.82	500-1121-01	390	400	2	4-1/8	.875	6.24
500-1961-01	55000	35	3	5-5/8	1.250	25.62	500-2004-01	560	400	2	5-5/8	.875	8.70
500-1962-01	85000	35	3	8-5/8	1.250	44.94	500-1123-01	650	400	2-1/2	4-1/8	1.125	9.24
500-1963-01	1500	50	1-3/8	2-1/8	.500	3.69	500-1124-01	975	400	3	4-1/8	1.250	17.76
500-1964-01	2800	50	1-3/8	3-1/8	.500	4.86	500-1125-01	55	450	1-3/8	2-1/8	.500	4.11
500-1965-01	4200	50	1-3/8	4-1/8	.500	5.55	500-1126-01	100	450	1-3/8	3-1/8	.500	4.50
500-1966-01	9400	50	2	4-1/8	.875	10.74	500-1127-01	150	450	1-3/8	4-1/8	.500	5.10
500-1967-01	13000	50	2	5-5/8	.875	12.90	500-1128-01	330	450	2	4-1/8	.875	6.33
500-1968-01	16000	50	2-1/2	4-1/8	1.125	14.25	500-2005-01	500	450	2	5-5/8	.875	8.10
500-1969-01	23500	50	3	4-1/8	1.250	17.67	500-1130-01	600	450	2-1/2	4-1/8	1.125	9.84
500-1970-01	35000	50	3	5-5/8	1.250	26.85	500-1131-01	850	450	3	4-1/8	1.250	12.60

\* All dimensions are in inches.  
† Prices for larger quantities are available on request.

# SANGAMO ELECTRIC COMPANY

## capacitors



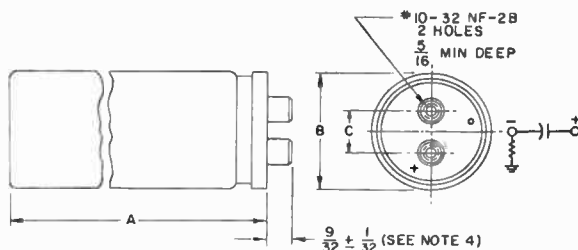
### Type CE70 and CE71 MILITARY GRADE CAPACITORS

The Sangamo Types CE70 and CE71 are aluminum electrolytic capacitors designed and manufactured in accordance with Mil-C-62B. They are recommended for operation up to +85°C and are available in voltage ratings from 5 to 450 d-c volts. The Type CE70 is supplied with a plastic insulating sleeve. Commercial equivalents can be supplied which meet or exceed the applicable military requirements. **FOR MORE COMPLETE INFORMATION WRITE FOR BULLETIN 2236.**



Type	Capacitor Diameter (Inches)	Net Price
CE70 & CE71 Mounting Bracket	1-7/16	\$.24
	2-1/16	.36
	2-9/16	.48
	3-1/16	.60

Note: 1-7/16" bracket available with 2 feet only. Other sizes are available with 2 or 3 feet.



- All dimensions in inches.
- Capacitors are mounted by means of a wraparound, footed-type bracket.
- There is an indeterminate resistance between the metal case and the negative terminal.
- This dimension shall be measured from the base of the capacitor.

Type Designation	Cap. (Mfd)	Rated Volts d-c	Case Sizes*		Term. * Ctr. to Ctr.	Net Price 1-24†	Type Designation	Cap. (Mfd)	Rated Volts d-c	Case Sizes*		Term. * Ctr. to Ctr.	Net Price 1-24†
			Diam.	Length						Diam.	Length		
CE71C103C	10,000	5	1-7/16	4-1/2	.500	\$ 4.98	CE71C202J	2,000	150	2-9/16	4-1/2	1.125	\$ 9.63
CE71C153C	15,000	5	2-1/16	4-1/2	.875	6.12	CE71C332J	3,300	150	3-1/16	4-1/2	1.250	12.63
CE71C253C	25,000	5	2-1/16	4-1/2	.875	7.62	CE71C351K	350	200	1-7/16	4-1/2	.500	4.23
CE71C333C	33,000	5	2-9/16	4-1/2	1.125	8.76	CE71C471K	470	200	1-7/16	4-1/2	.500	4.74
CE71C473C	47,000	5	2-9/16	4-1/2	1.125	10.77	CE71C681K	680	200	2-1/16	4-1/2	.875	5.85
CE71C683C	68,000	5	3-1/16	4-1/2	1.250	13.65	CE71C102K	1,000	200	2-1/16	4-1/2	.875	8.43
CE71C682D	6,800	10	1-7/16	4-1/2	.500	4.77	CE71C152K	1,500	200	2-9/16	4-1/2	1.125	8.79
CE71C103D	10,000	10	2-1/16	4-1/2	.875	5.88	CE71C222K	2,200	200	3-1/16	4-1/2	1.250	11.22
CE71C153D	15,000	10	2-1/16	4-1/2	.875	6.60	CE71C301M	300	250	1-7/16	4-1/2	.500	4.65
CE71C283D	28,000	10	2-9/16	4-1/2	1.125	11.76	CE71C471M	470	250	2-1/16	4-1/2	.875	5.10
CE71C403D	40,000	10	3-1/16	4-1/2	1.250	13.95	CE71C681M	680	250	2-1/16	4-1/2	.875	7.20
CE71C472E	4,700	15	1-7/16	4-1/2	.500	4.77	CE71C102M	1,000	250	2-9/16	4-1/2	1.125	11.28
CE71C562E	5,600	15	1-7/16	4-1/2	.500	4.83	CE71C122M	1,200	250	2-9/16	4-1/2	1.125	11.46
CE71C123E	12,000	15	2-1/16	4-1/2	.875	5.85	CE71C152M	1,500	250	2-9/16	4-1/2	1.125	12.33
CE71C223E	22,000	15	2-9/16	4-1/2	1.125	11.34	CE71C222M	2,200	250	3-1/16	4-1/2	1.250	15.72
CE71C333E	33,000	15	3-1/16	4-1/2	1.250	12.96	CE71C251N	250	300	1-7/16	4-1/2	.500	5.01
CE71C393E	39,000	15	3-1/16	4-1/2	1.250	14.04	CE71C331N	330	300	2-1/16	4-1/2	.875	5.46
CE71C332F	3,300	25	1-7/16	4-1/2	.500	4.26	CE71C471N	470	300	2-1/16	4-1/2	.875	5.94
CE71C472F	4,700	25	2-1/16	4-1/2	.875	5.25	CE71C551N	550	300	2-1/16	4-1/2	.875	6.18
CE71C682F	6,800	25	2-1/16	4-1/2	.875	6.72	CE71C681N	680	300	2-9/16	4-1/2	1.125	8.52
CE71C103F	10,000	25	2-1/16	4-1/2	.875	8.34	CE71C102N	1,000	300	2-9/16	4-1/2	1.125	12.90
CE71C153F	15,000	25	2-9/16	4-1/2	1.125	11.73	CE71C152N	1,500	300	3-1/16	4-1/2	1.250	19.38
CE71C223F	22,000	25	3-1/16	4-1/2	1.250	12.48	CE71C201P	200	350	1-7/16	4-1/2	.500	5.13
CE71C152G	1,500	50	1-7/16	4-1/2	.500	4.23	CE71C331P	330	350	2-1/16	4-1/2	.875	6.21
CE71C222G	2,200	50	2-1/16	4-1/2	.875	4.50	CE71C471P	470	350	2-1/16	4-1/2	.875	8.34
CE71C332G	3,300	50	2-1/16	4-1/2	.875	6.12	CE71C681P	680	350	2-9/16	4-1/2	1.125	10.23
CE71C472G	4,700	50	2-9/16	4-1/2	1.125	6.78	CE71C751P	750	350	2-9/16	4-1/2	1.125	10.62
CE71C562G	5,600	50	2-9/16	4-1/2	1.125	8.88	CE71C122P	1,200	350	3-1/16	4-1/2	1.250	15.30
CE71C682G	6,800	50	2-9/16	4-1/2	1.125	9.90	CE71C151Q	150	400	1-7/16	4-1/2	.500	5.34
CE71C103G	10,000	50	3-1/16	4-1/2	1.250	13.17	CE71C221Q	220	400	2-1/16	4-1/2	.875	6.06
CE71C681H	680	100	1-7/16	4-1/2	.500	4.08	CE71C331Q	330	400	2-1/16	4-1/2	.875	6.90
CE71C102H	1,000	100	1-7/16	4-1/2	.500	5.07	CE71C471Q	470	400	2-9/16	4-1/2	1.125	7.89
CE71C152H	1,500	100	2-1/16	4-1/2	.875	5.76	CE71C601Q	600	400	2-9/16	4-1/2	1.125	10.56
CE71C222H	2,200	100	2-9/16	4-1/2	1.125	7.59	CE71C681Q	680	400	2-9/16	4-1/2	1.125	10.77
CE71C332H	3,300	100	2-9/16	4-1/2	1.125	11.01	CE71C101R	100	450	1-7/16	4-1/2	.500	5.19
CE71C472H	4,700	100	3-1/16	4-1/2	1.250	12.00	CE71C151R	150	450	1-7/16	4-1/2	.500	5.79
CE71C471J	470	150	1-7/16	4-1/2	.500	4.38	CE71C221R	220	450	2-1/16	4-1/2	.875	6.39
CE71C681J	680	150	1-7/16	4-1/2	.500	4.89	CE71C331R	330	450	2-1/16	4-1/2	.875	7.41
CE71C122J	1,200	150	2-1/16	4-1/2	.875	5.94	CE71C471R	470	450	2-9/16	4-1/2	1.125	8.67

For Type CE70 (CE71 without sleeve), Deduct 3/8" From Length, 1/16" From Diameter and \$0.05 From Net Price

\* All Dimensions are in Inches.

† Prices for Larger Quantities are Available on Request.



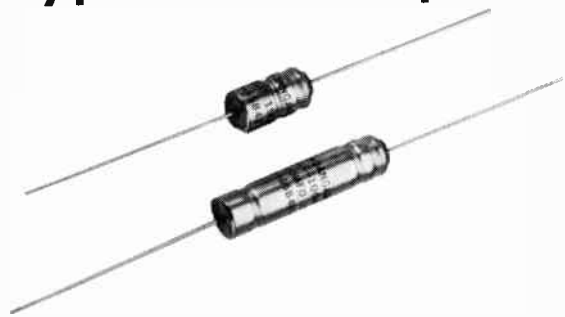
SANGAMO ELECTRIC COMPANY

capacitors



ELECTRONIC COMPONENTS

# Type 556 Computer Grade ALUMINUM ELECTROLYTIC AXIAL LEAD CAPACITOR (105°C)



The Sangamo type 556 is a computer grade axial lead aluminum electrolytic capacitor with an operating temperature range of  $-40^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$ . Voltage ratings from 3 to 150 VDC and capacitance values from 4 to 560 Mfd. are available in 8 case sizes. Mylar sleeves are provided for improved electrical insulation and mechanical properties. **FOR MORE COMPLETE INFORMATION WRITE FOR BULLETIN 2238.**

Catalog Number	Cap. (mfd.)	Rated Volts d-c	Case Sizes *		Price † 1-24	Catalog Number	Cap. (mfd.)	Rated Volts d-c	Case Sizes *		Price † 1-24
			Diameter	Length					Diameter	Length	
556DB131W003B	130	3	3/8	11/16	.78	556DF700W030B	70	30	3/8	1-1/4	\$.795
556DC181W003B	180	3	3/8	13/16	.78	556DG800W030B	80	30	3/8	1-3/8	.810
556DD251W003B	250	3	3/8	15/16	.795	556DH950W030B	95	30	3/8	1-1/2	.825
556DE311W003B	310	3	3/8	1-1/8	.795	556DJ111W030B	110	30	3/8	1-5/8	.840
556DF371W003B	370	3	3/8	1-1/4	.795						
556DG441W003B	440	3	3/8	1-3/8	.810	556DB200W040B	20	40	3/8	11/16	.78
556DH501W003B	500	3	3/8	1-1/2	.825	556DC300W040B	30	40	3/8	13/16	.78
556DJ561W003B	560	3	3/8	1-5/8	.840	556DD400W040B	40	40	3/8	15/16	.795
						556DE500W040B	50	40	3/8	1-1/8	.795
						556DF600W040B	60	40	3/8	1-1/4	.795
						556DG700W040B	70	40	3/8	1-3/8	.810
						556DH800W040B	80	40	3/8	1-1/2	.825
						556DJ900W040B	90	40	3/8	1-5/8	.840
556DB850W005B	85	5	3/8	11/16	.78						
556DC131W005B	130	5	3/8	13/16	.78	556DB150W050B	15	50	3/8	11/16	.78
556DD171W005B	170	5	3/8	15/16	.795	556DC200W050B	20	50	3/8	13/16	.78
556DE211W005B	210	5	3/8	1-1/8	.795	556DD300W050B	30	50	3/8	15/16	.795
556DF251W005B	250	5	3/8	1-1/4	.795	556DE350W050B	35	50	3/8	1-1/8	.795
556DG301W005B	300	5	3/8	1-3/8	.810	556DF450W050B	45	50	3/8	1-1/4	.795
556DH341W005B	340	5	3/8	1-1/2	.825	556DG500W050B	50	50	3/8	1-3/8	.810
556DJ391W005B	390	5	3/8	1-5/8	.840	556DH600W050B	60	50	3/8	1-1/2	.825
						556DJ650W050B	65	50	3/8	1-5/8	.840
556DB600W010B	60	10	3/8	11/16	.78						
556DC900W010B	90	10	3/8	13/16	.78	556DB100W060B	10	60	3/8	11/16	.78
556DD131W010B	130	10	3/8	15/16	.795	556DC150W060B	15	60	3/8	13/16	.78
556DE161W010B	160	10	3/8	1-1/8	.795	556DD200W060B	20	60	3/8	15/16	.795
556DF191W010B	190	10	3/8	1-1/4	.795	556DE300W060B	30	60	3/8	1-1/8	.795
556DG221W010B	220	10	3/8	1-3/8	.810	556DF350W060B	35	60	3/8	1-1/4	.795
556DH251W010B	250	10	3/8	1-1/2	.825	556DG400W060B	40	60	3/8	1-3/8	.810
556DJ281W010B	280	10	3/8	1-5/8	.840	556DH450W060B	45	60	3/8	1-1/2	.825
						556DJ500W060B	50	60	3/8	1-5/8	.840
556DB500W015B	50	15	3/8	11/16	.78						
556DC750W015B	75	15	3/8	13/16	.78	556DB6R5U075B	6.5	75	3/8	11/16	.78
556DD101W015B	100	15	3/8	15/16	.795	556DC100U075B	10	75	3/8	13/16	.78
556DE131W015B	130	15	3/8	1-1/8	.795	556DD130U075B	13	75	3/8	15/16	.795
556DF151W015B	150	15	3/8	1-1/4	.795	556DE170U075B	17	75	3/8	1-1/8	.795
556DG181W015B	180	15	3/8	1-3/8	.810	556DF200U075B	20	75	3/8	1-1/4	.795
556DH201W015B	200	15	3/8	1-1/2	.825	556DG240U075B	24	75	3/8	1-3/8	.810
556DJ231W015B	230	15	3/8	1-5/8	.840	556DH270U075B	27	75	3/8	1-1/2	.820
						556DJ300U075B	30	75	3/8	1-5/8	.840
556DB350W020B	35	20	3/8	11/16	.78						
556DC550W020B	55	20	3/8	13/16	.78	556DB050U100B	5	100	3/8	11/16	.78
556DD750W020B	75	20	3/8	15/16	.795	556DC080U100B	8	100	3/8	13/16	.78
556DE950W020B	95	20	3/8	1-1/8	.795	556DD110U100B	11	100	3/8	15/16	.795
556DF111W020B	110	20	3/8	1-1/4	.795	556DE130U100B	13	100	3/8	1-1/8	.795
556DG131W020B	130	20	3/8	1-3/8	.810	556DF160U100B	16	100	3/8	1-1/4	.795
556DH151W020B	150	20	3/8	1-1/2	.825	556DG190U100B	19	100	3/8	1-3/8	.810
556DJ171W020B	170	20	3/8	1-5/8	.840	556DH200U100B	20	100	3/8	1-1/2	.825
						556DJ240U100B	24	100	3/8	1-5/8	.840
556DB250W025B	25	25	3/8	11/16	.78						
556DC400W025B	40	25	3/8	13/16	.78	556DB040U150B	4	150	3/8	11/16	.78
556DD550W025B	55	25	3/8	15/16	.795	556DC060U150B	6	150	3/8	13/16	.78
556DE700W025B	70	25	3/8	1-1/8	.795	556DD080U150B	8	150	3/8	15/16	.795
556DF850W025B	85	25	3/8	1-1/4	.795	556DE100U150B	10	150	3/8	1-1/8	.795
556DG101W025B	100	25	3/8	1-3/8	.810	556DF120U150B	12	150	3/8	1-1/4	.795
556DH121W025B	120	25	3/8	1-1/2	.825	556DG150U150B	15	150	3/8	1-3/8	.810
556DJ131W025B	130	25	3/8	1-5/8	.840	556DH170U150B	17	150	3/8	1-1/2	.825
						556DJ190U150B	19	150	3/8	1-5/8	.840
556DB230W030B	23	30	3/8	11/16	.78						
556DC350W030B	35	30	3/8	13/16	.78						
556DD450W030B	45	30	3/8	15/16	.795						
556DE550W030B	55	30	3/8	1-1/8	.795						

\* All dimensions are in inches.

† Prices for larger quantities are available on request.

SANGAMO ELECTRIC COMPANY  
**capacitors**



ELECTRONIC COMPONENTS

# Type 557 Aluminum Electrolytic

−55°C TO +125°C  
AXIAL LEAD CAPACITOR

The axial lead type 557 has extremely stable characteristics at much wider temperature ranges. The type 557, designed for application in high reliability circuits, meets the MIL - C - 39018 military specifications at temperatures from −55°C to +125°C. Standard ratings are available for both polar and non-polar applications. Mylar sleeves are provided for improved electrical insulation and mechanical properties. **FOR MORE COMPLETE INFORMATION WRITE FOR BULLETIN 2240.**



Catalog Number	Cap. (mfd.)	Rated Volts d-c		Case Sizes *		Price 1-24 †	Catalog Number	Cap. (mfd.)	Rated Volts d-c		Case Size *		Price 1-24 †
		+85°C	+125°C	D	L				+85°C	+125°C	D	L	
557-001-13-001	220	7	5	3/8	15/16	\$4.29	557-030-43-088	100	50	40	3/8	1-5/8	\$4.50
557-002-19-004	270	7	5	3/8	1-1/8	4.35	557-031-49-091	150	50	40	3/8	2-3/16	4.80
557-003-31-007	390	7	5	3/8	1-3/8	4.41	557-032-55-094	180	50	40	3/8	2-11/16	4.95
557-004-43-010	560	7	5	3/8	1-5/8	4.50							
557-005-49-013	820	7	5	3/8	2-3/16	4.80	557-033-13-097	22	75	60	3/8	15/16	4.29
557-006-55-016	1000	7	5	3/8	2-11/16	4.95	557-034-19-100	33	75	60	3/8	1-1/8	4.35
							557-035-31-103	47	75	60	3/8	1-3/8	4.41
557-007-13-019	180	10	7	3/8	15/16	4.29	557-036-43-106	68	75	60	3/8	1-5/8	4.50
557-008-19-022	220	10	7	3/8	1-1/8	4.35	557-037-49-109	100	75	60	3/8	2-3/16	4.80
557-009-31-025	330	10	7	3/8	1-3/8	4.41	557-038-55-112	120	75	60	3/8	2-11/16	4.95
557-010-43-028	470	10	7	3/8	1-5/8	4.50							
557-011-49-031	680	10	7	3/8	2-3/16	4.80	557-039-13-115	12	100	75	3/8	15/16	4.29
557-012-55-034	820	10	7	3/8	2-11/16	4.95	557-040-19-118	15	100	75	3/8	1-1/8	4.35
							557-041-31-121	22	100	75	3/8	1-3/8	4.41
557-013-13-037	150	15	10	3/8	15/16	4.29	557-042-43-124	33	100	75	3/8	1-5/8	4.50
557-014-19-040	180	15	10	3/8	1-1/8	4.35	557-043-49-127	47	100	75	3/8	2-3/16	4.80
557-015-31-043	270	15	10	3/8	1-3/8	4.41	557-044-55-130	68	100	75	3/8	2-11/16	4.95
557-016-43-046	390	15	10	3/8	1-5/8	4.50							
557-017-49-049	560	15	10	3/8	2-3/16	4.80	557-045-13-133	8.2	150	100	3/8	15/16	4.29
557-018-55-052	680	15	10	3/8	2-11/16	4.95	557-046-19-136	12	150	100	3/8	1-1/8	4.35
							557-047-31-139	18	150	100	3/8	1-3/8	4.41
557-019-13-055	82	30	20	3/8	15/16	4.29	557-048-43-142	22	150	100	3/8	1-5/8	4.50
557-020-19-058	100	30	20	3/8	1-1/8	4.35	557-049-49-145	33	150	100	3/8	2-3/16	4.80
557-021-31-061	120	30	20	3/8	1-3/8	4.41	557-050-55-148	56	150	100	3/8	2-11/16	4.95
557-022-31-064	150	30	20	3/8	1-3/8	4.41							
557-023-43-067	220	30	20	3/8	1-5/8	4.50	557-051-55-151	39	200	150	3/8	2-11/16	4.95
557-024-49-070	330	30	20	3/8	2-3/16	4.80	557-052-13-154	5.6	250	200	3/8	15/16	4.29
557-025-55-073	390	30	20	3/8	2-11/16	4.95	557-053-19-157	6.8	250	200	3/8	1-1/8	4.35
							557-054-31-160	10	250	200	3/8	1-3/8	4.41
557-026-13-076	33	50	40	3/8	15/16	4.29	557-055-43-163	12	250	200	3/8	1-5/8	4.50
557-027-19-079	47	50	40	3/8	1-1/8	4.35	557-056-49-166	22	250	200	3/8	2-3/16	4.80
557-028-31-082	56	50	40	3/8	1-3/8	4.41	557-057-55-169	27	250	200	3/8	2-11/16	4.95
557-029-31-085	68	50	40	3/8	1-3/8	4.41							

\*All dimensions are in inches.

†Prices for larger quantities are available on request.

SANGAMO ELECTRIC COMPANY

# capacitors

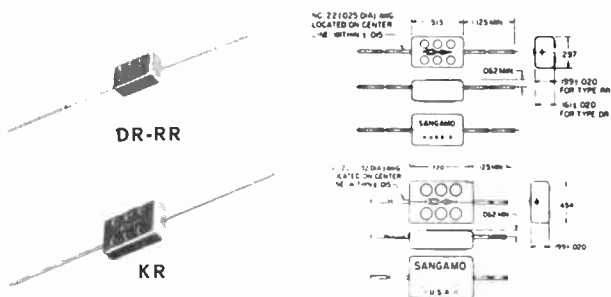


ELECTRONIC COMPONENTS

## Type DR, RR and KR

SILVER MICA, 500W.V.D.C.  
(MILITARY CM15 and CM20)

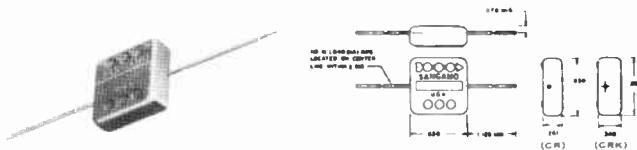
Type DR, RR and KR capacitors are molded in red Humiditite and are normally supplied to  $\pm 5\%$  tolerance, "C" characteristic up to 20 mmf. Characteristic "E" is supplied on units above 20 mmf, unless specified otherwise. **FOR MORE COMPLETE INFORMATION WRITE FOR BULLETIN 2320.**



## Type CR and CRK

SILVER MICA  
(MILITARY CM30 and CM35)

Types CR and CRK silvered mica capacitors are molded in red Humiditite and are normally supplied to  $\pm 5\%$  capacitive tolerance and characteristic "E". Characteristics C, D and F are also available on request. When the thicker case size is required in higher capacitive values, the type designation changes to CRK (example: CRK5E362). **FOR MORE COMPLETE INFORMATION WRITE FOR BULLETIN 2320.**

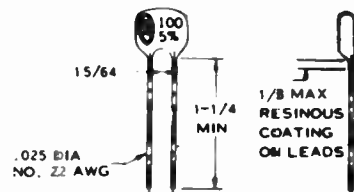


## Type D15, D19, D20, D30, and D42

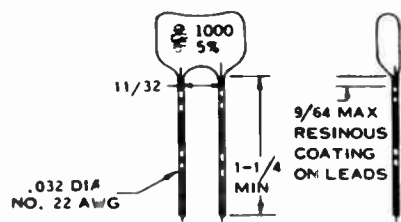
DIPPED SILVER MICA CAPACITORS

Sangamo Type D dipped Mica capacitors are available in five case sizes: D15, D19, D20, D30 and D42. With the exception of the Type D20 they correspond to the MIL-C-5B sizes CM05, CM06, CM07 and CM08 respectively. These units utilize silvered mica sections encased in several coatings of electrical grade phenolic and epoxy resins. All commercial units meet or exceed the applicable requirements of MIL-C-5 and are normally furnished to a capacitive tolerance of  $\pm 5\%$  and characteristic F. **FOR MORE COMPLETE INFORMATION WRITE FOR BULLETIN 2323.**

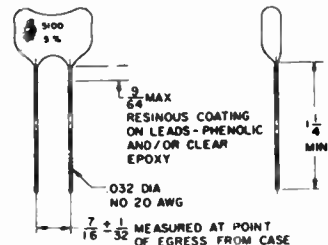
TYPE D15  
(MILITARY CM05)



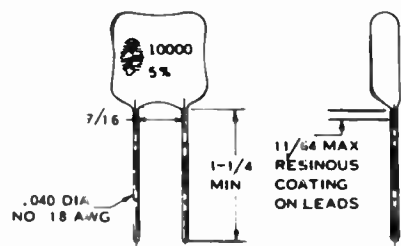
TYPE D19  
(MILITARY CM06)



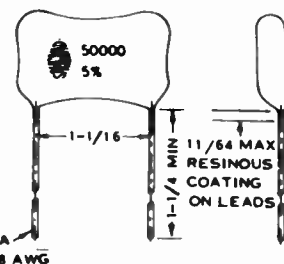
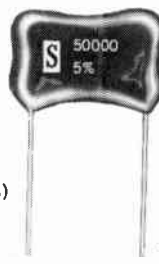
TYPE D20  
(NON MILITARY)



TYPE D30  
(MILITARY CM07)



TYPE D42  
(MILITARY CM08)



SANGAMO ELECTRIC COMPANY

# capacitors

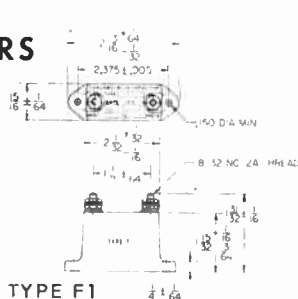


ELECTRONIC COMPONENTS

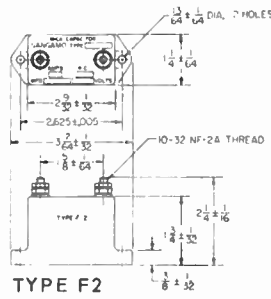
## Types F1-F2-F3 MICA CAPACITORS

The Types F1, F2 and F3 are the smallest of the Sangamo line of transmitting capacitors. They are encapsulated in low loss molded phenolic cases and possess a wide range of voltage and current ratings. The mica and foil sections are pressure clamped, vacuum impregnated and encapsulated in the case in such a manner as to provide stable characteristics and adequate resistance to moisture. All Type F1 and F2 capacitors meet or exceed the applicable requirements of the MIL-C-5 specification.

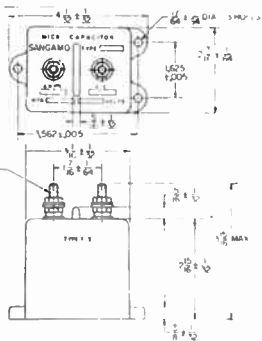
For more complete information write for Bulletin 2322.



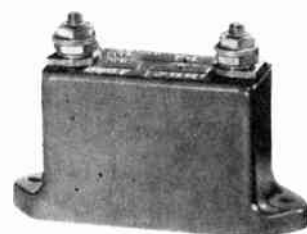
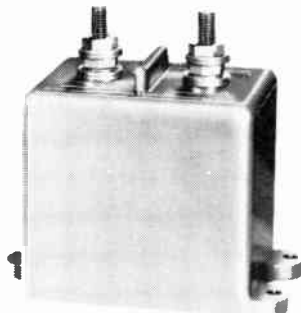
TYPE F1



TYPE F2



TYPE F3



Type F1-F2

Catalog Number	Military Type Designation	Cap. (Mfd)	Peak Volts d-c	Net Price 1-9*
F1-331	CM65B101J	.0001	3000	\$ 4.99
F1-332	CM65B201J	.0002	3000	4.99
F1-333	CM65B301J	.0003	3000	4.99
F1-321	CM65B102J	.001	3000	4.99
F1-223	CM65B302J	.003	2000	4.99
F1-111	CM65B103J	.01	1000	4.99
F1-112	CM65B203J	.02	1000	5.67
F1-0201		.1	200	6.00
F2-531	CM70B101J	.0001	5000	7.14
F2-532	CM70B201J	.0002	5000	7.14
F2-533	CM70B301J	.0003	5000	7.14
F2-522	CM70B202J	.002	5000	7.14
F2-211	CM70B103J	.01	2000	7.14
F2-212	CM70B203J	.02	2000	7.54

Catalog Number	Military Type Designation	Cap. (Mfd)	Peak Volts d-c	Net Price 1-9*
F2-0501	CM70B104J	.1	500	\$ 8.65
F2-02025		.25	250	11.53
F3-835		.0005	8000	17.44
F3-821		.001	8000	17.04
F3-825		.005	8000	21.38
F3-828		.008	8000	32.50
F3-512		.02	5000	29.50
F3-201		.1	2000	27.25
F3-0605		.5	600	34.50
F3-0410		1.0	400	35.50

\*Prices for larger quantities are available on request.

Note: Standard tolerance  $\pm 5\%$ , "B" characteristic.

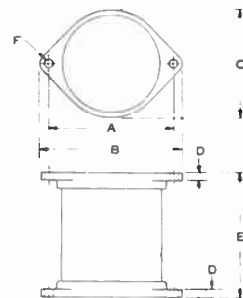
Note: Prices for closer tolerances and other characteristics are available on request.

## Types G1-G2-G3-G4-G5 MICA

Type G ceramic cased capacitors are intended for service where high voltage and R.F. current ratings are required, such as in commercial transmitting or induction heating applications. All possible steps are taken in design and manufacturing operations to insure permanence of quality. Terminal plates are designed to permit any usual connecting or mounting practices. Case sizes are in accordance with Mil-C-5C specification covering type CM75, 80, 85, 90 and 95. For more complete information write for Bulletin 2322.

### TYPE G MICA CAPACITOR DIMENSIONS - INCHES

Type	A	B	C	D	E	F
G1	3 3/4	3-13/16	2-13/16	1/4	2 1/2	17/64
G2	4 1/4	5	3 1/2	1/4	3	.272
G3	5 1/4	6 1/2	5	3/8	4	.377
G4	5 3/4	6 1/2	5	3/8	5 1/4	.377
G5	B	9	6 3/4	1/2	10	13/32



TYPES G1, G2, G3, G4 and G5

Catalog Number	Military Type Designation	Cap. (Mfd)	Peak Volts d-c	Net Price 1-9*
G1-6315	CM75B151J	.00015	6000	\$26.50
G1-633	CM75B301J	.0003	6000	26.50
G1-621	CM75B102J	.001	6000	22.25
G1-624		.004	6000	22.25
G1-511		.01	5000	28.00
G1-312		.02	3000	24.80
G2-1032	CM80B201J	.0002	10,000	25.96
G2-1022	CM80B202J	.002	10,000	27.75
G2-824		.004	8000	27.75
G2-511	CM80B103J	.01	5000	30.88
G2-1511	CM80B104J	.1	1500	30.88
G3-2031	CM85B101J	.0001	20,000	76.00
G3-2035		.0005	20,000	76.88
G3-2021	CM85B102J	.001	20,000	69.75
G3-1522	CM85B202J	.002	15,000	69.75

Catalog Number	Military Type Designation	Cap. (Mfd)	Peak Volts d-c	Net Price 1-9*
G3-1011		.01	10,000	\$11.75
G3-201	CM85B104J	.1	2000	81.00
G4-3031	CM90B101J	.0001	30,000	106.25
G4-3035		.0005	30,000	106.25
G4-3021	CM90B102J	.001	30,000	114.00
G4-1525		.005	15,000	126.25
G4-301	CM90B104J	.1	3000	139.38
G5-3521	CM95B101J	.0001	35,000	300.00
G5-3535		.0005	35,000	315.00
G5-3531	CM95B102J	.001	35,000	315.00
G5-30225		.0025	30,000	390.00
G5-1511	CM95B103J	.01	15,000	415.00

\*Prices for larger quantities are available on request.

Note: Standard capacitive tolerance is  $\pm 5\%$ , "B" characteristic.

Note: Prices for closer tolerance and better characteristics available on request.

SANGAMO ELECTRIC COMPANY  
**capacitors**



**Types 271-272-273-291-292-293-294** MICA CAPACITORS

Sangamo transmitting cast mica capacitors are supplied in seven basic case sizes. They are encapsulated in a high quality thermo-setting compound which eliminates moisture intrusion and makes them highly shock resistant. These capacitors are designed for frequencies ranging from 100 kilocycles per second to 3 megacycles per second and are ideally suited for high current and high voltage circuits.

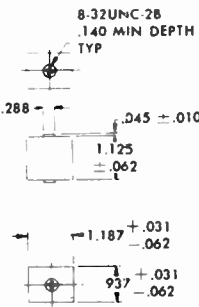
In capacitance and current ratings, Sangamo cast mica units are equivalent to MIL-C-5 Types CM65 through CM90 in molded and ceramic cases, but in environmental capability, operating temperature range, physical size, mounting configuration and reliability, they are far superior. **FOR MORE COMPLETE INFORMATION WRITE FOR BULLETIN 2324.**



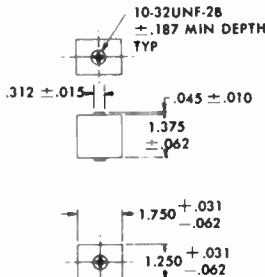
TYPE 291



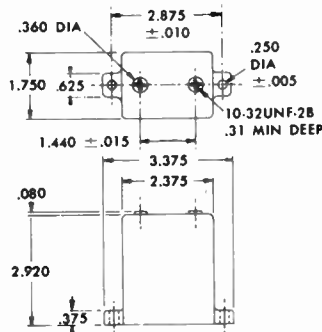
TYPE 272



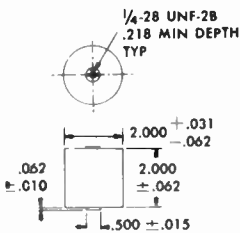
TYPE 271



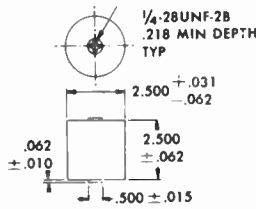
TYPE 272



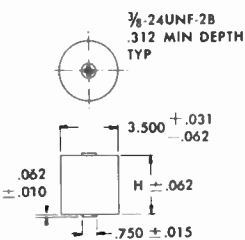
TYPE 273



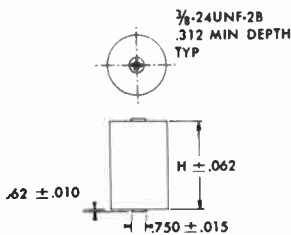
TYPE 291



TYPE 292



TYPE 293



TYPE 294

Catalog Number	Cap. (pf)	Peak Volts (d-c)	Case Height	Net Price 1-9*
TYPE 271				
27130B101J0	100	3000		\$ 4.40
27130B151J0	150	3000		4.40
27130B201J0	200	3000		4.40
27130B501J0	500	3000		4.40
27130B102J0	1000	3000		4.40
27130B202J0	2000	3000		4.40
27120B302J0	3000	2000		4.40
27120B502J0	5000	2000		4.40
27110B103J0	10000	1000		4.40
27102B503J0	50000	250		4.55
27102B104J0	100000	250		4.88
TYPE 272				
27250B101J0	100	5000		\$ 6.19
27250B151J0	150	5000		6.19
27250B201J0	200	5000		6.19
27250B501J0	500	5000		6.19
27250B102J0	1000	5000		6.19
27250B202J0	2000	5000		6.19
27230B302J0	3000	3000		6.19
27230B502J0	5000	3000		6.19
27220B103J0	10000	2000		6.19
27215B503J0	50000	1500		6.19
27205B104J0	100000	500		7.90
TYPE 273				
27380B501J0	500	8000		\$15.29
27380B102J0	1000	8000		17.04
27380B202J0	2000	8000		17.04
27380B502J0	5000	8000		19.75
27380B103J0	10000	8000		25.81
27340B503J0	50000	4000		27.58
27320B104J0	100000	2000		23.00
27304B105J0	1000000	400		35.46
TYPE 291				
29160B251J0	250	6000		\$12.85
29160B501J0	500	6000		14.00
29160B102J0	1000	6000		14.00
29160B202J0	2000	6000		14.63
29160B502J0	5000	6000		14.63
29140B103J0	10000	4000		15.33
29110B104J0	100000	1000		18.38
TYPE 292				
292100B251J0	250	10000		\$18.50
292109B501J0	500	10000		18.50
292109B102J0	1000	10000		18.50
292100B202J0	2000	10000		18.50
29260B502J0	5000	6000		18.50
29250B103J0	10000	5000		20.56
29215B104J0	100000	1500		20.56
TYPE 293				
293200B251J0	250	20000	2.50	\$43.78
293200B501J0	500	20000	2.50	45.01
293200B102J0	1000	20000	2.75	47.25
293150B202J0	2000	15000	3.00	47.25
293100B502J0	5000	10000	2.75	48.85
29380B103J0	10000	8000	3.25	48.85
29320B104J0	100000	2000	2.75	48.85
TYPE 294				
294300B251J0	250	30000	4.00	\$78.11
294300B501J0	500	30000	4.00	78.11
294300B102J0	1000	30000	4.50	79.28
294200B202J0	2000	20000	4.50	79.28
294150B502J0	5000	15000	4.50	87.51
294100B103J0	10000	10000	5.00	94.25
29430B104J0	100000	3000	4.50	94.25

\* Prices for larger quantities are available on request

**SANGAMO ELECTRIC COMPANY**  
**capacitors**







# Type S Subminiature Hermetically Sealed Metal Tubular Capacitors

Sangamo Type S capacitors are designed to meet the demands for a high quality, hermetically sealed paper tubular capacitor. They are encapsulated in brass tubular cases finished with a high tin content alloy. Hermetic sealing is accomplished by using glass-ta-metal solder seal terminals. The impregnant used in these units is Ethern, an oil of high thermal stability and superior electrical characteristics over the temperature range of -55°C to +125°C. Sangamo Type S capacitors meet the case sizes and performance requirements of military specification MIL-C-25. The limited number of popular listings below are furnished with insulated sections. They are also available with grounded case if equipment requirements so dictate. The adjacent cross reference table will assist in the interpretation of Sangamo catalog nomenclatures with the various military types and case constructions.

**For more complete information on other ratings, tolerances and voltages, write for Bulletin 2421.**

Sangamo Type	Military Type	Description
SBA	CP04	Tab construction (without sleeve)
SBB	CP05	Tab construction (with sleeve)
SDA	CP08	Extended foil (without sleeve)
SDB	CP09	Extended foil (with sleeve)
SBC	CP10	Tab construction (with bracket)
SBE	CP11	Tab construction (with threaded mtg)
SDC	CP12	Extended foil (with bracket)
SDE	CP13	Extended foil (with threaded mtg)

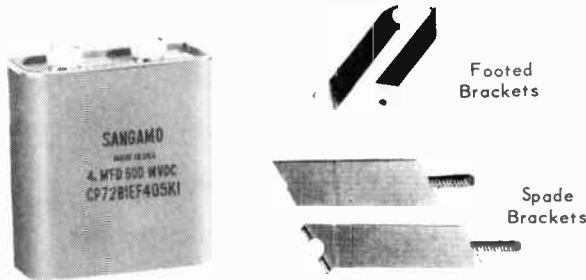
Capacitance Tolerance -10% †					
Cap. (Mfd)	Rated Volts d-c	Tab Construction		Extended Foil	
		Catalog Number	Net Price 1-9*	Catalog Number	Net Price 1-9*
.027	100	SBA1K01273K	\$1.76	SBB1K01273K	\$1.84
.033	100	SBA1K01333K	1.80	SBB1K01333K	1.84
.082	100	SBA1K01823K	1.92	SBB1K01823K	1.96
.1	100	SBA1K01104K	1.92	SBB1K01104K	2.00
.15	100	SBA1K01154K	1.92	SBB1K01154K	2.04
.22	100	SBA1K01224K	2.00	SBB1K01224K	2.04
.27	100	SBA1K01274K	2.04	SBB1K01274K	2.08
.33	100	SBA1K01334K	2.08	SBB1K01334K	2.16
.39	100	SBA1K01394K	2.16	SBB1K01394K	2.24
.47	100	SBA1K01474K	2.24	SBB1K01474K	2.32
.68	100	SBA1K01684K	2.36	SBB1K01684K	2.48
.82	100	SBA1K01824K	2.44	SBB1K01824K	2.52
1.0	100	SBA1K01105K	2.52	SBB1K01105K	2.64
.015	200	SBA1K02153K	1.84	SBB1K02153K	1.92
.022	200	SBA1K02223K	1.84	SBB1K02223K	1.92
.039	200	SBA1K02393K	1.92	SBB1K02393K	2.00
.047	200	SBA1K02473K	1.96	SBB1K02473K	2.00
.068	200	SBA1K02683K	1.96	SBB1K02683K	2.04
.1	200	SBA1K02104K	2.00	SBB1K02104K	2.08
.15	200	SBA1K02154K	2.04	SBB1K02154K	2.08
.22	200	SBA1K02224K	2.16	SBB1K02224K	2.20
.33	200	SBA1K02334K	2.28	SBB1K02334K	2.36
.39	200	SBA1K02394K	2.36	SBB1K02394K	2.44
.47	200	SBA1K02474K	2.44	SBB1K02474K	2.52
.68	200	SBA1K02684K	2.56	SBB1K02684K	2.64
.82	200	SBA1K02824K	2.56	SBB1K02824K	2.76
1.0	200	SBA1K02105K	2.80	SBB1K02105K	2.88
.082	400	SBA1K04822K	1.88	SBB1K04822K	1.96
.01	400	SBA1K04103K	1.92	SBB1K04103K	1.96
.033	400	SBA1K04333K	2.00	SBB1K04333K	2.04
.047	400	SBA1K04473K	2.04	SBB1K04473K	2.12
.068	400	SBA1K04683K	2.08	SBB1K04683K	2.16
.082	400	SBA1K04823K	2.12	SBB1K04823K	2.16
.1	400	SBA1K04104K	2.16	SBB1K04104K	2.24
.15	400	SBA1K04154K	2.28	SBB1K04154K	2.36
.22	400	SBA1K04224K	2.44	SBB1K04224K	2.52
.33	400	SBA1K04334K	2.56	SBB1K04334K	2.64
.47	400	SBA1K04474K	2.80	SBB1K04474K	2.88
.68	400	SBA1K04684K	3.00	SBB1K04684K	3.08
.82	400	SBA1K04824K	3.16	SBB1K04824K	3.24
1.0	400	SBA1K04105K	3.36	SBB1K04105K	3.48
.0015	600	SBA1K06152K	1.88	SBB1K06152K	1.92
.0022	600	SBA1K06222K	1.88	SBB1K06222K	1.92
.0047	600	SBA1K06472K	1.92	SBB1K06472K	1.96
.0068	600	SBA1K06682K	1.92	SBB1K06682K	2.00
.0082	600	SBA1K06822K	1.92	SBB1K06822K	2.04
.01	600	SBA1K06103K	1.96	SBB1K06103K	2.04
.015	600	SBA1K06153K	2.00	SBB1K06153K	2.08
.022	600	SBA1K06223K	2.00	SBB1K06223K	2.12
.033	600	SBA1K06333K	2.08	SBB1K06333K	2.16
.047	600	SBA1K06473K	2.12	SBB1K06473K	2.20
.068	600	SBA1K06683K	2.20	SBB1K06683K	2.32
.1	600	SBA1K06104K	2.32	SBB1K06104K	2.44
.15	600	SBA1K06154K	2.40	SBB1K06154K	2.52
.22	600	SBA1K06224K	2.60	SBB1K06224K	2.80
.39	600	SBA1K06394K	2.96	SBB1K06394K	3.12
.47	600	SBA1K06474K	3.04	SBB1K06474K	3.20
.68	600	SBA1K06684K	3.20	SBB1K06684K	3.52
.82	600	SBA1K06824K	3.32	SBB1K06824K	3.52
1.0	600	SBA1K06105K	3.40	SBB1K06105K	3.72

\*Prices for larger quantities are available on request.  
†For ±5% tolerance add 30% to above price.

# SANGAMO ELECTRIC COMPANY capacitors



## MIL Type CP72 PAPER



Type CP72 capacitors are furnished in drawn metal cases and are designed to comply with the requirements of specification MIL-C-25. They are impregnated with various dielectric oils to guarantee the desired electrical characteristics available. Capacitors rated at 3000 volts or less are normally supplied with solder lug (B) terminals capable of accommodating a #14AWG wire. Type D and E terminals may be substituted if desired. If brackets are required, specify a choice of spade, lug or footed type.

**For more complete information write for Bulletin 2423.**

Military Type Designation	Cap. (Mfd)	Dimensions (inches)			Net Price 1-9*	Bracket Price Per Pr.
		L-1 1/16	W-1 1/16	H-1 1/16		
600 WVDC						
CP72B1EF254K1	.25	1-13 16	1-1 16	1-5 8	\$ 2.19	\$.15
CP72B1EF105K1	1.0	1-13 16	1-1 16	2-1 4	2.53	.15
CP72B1EF405K1	4.0	2- 1/2	1-3 16	3-1/2	4.60	.16
CP72B1EF106K1	10.0	3- 3/4	1-3 4	4	7.82	.26
1000 WVDC						
CP72B1EG504K1	.5	1-13 16	1-1 16	2-1 4	2.88	.15
CP72B1EG205K1	2.0	1-13 16	1-1 16	2-7 8	3.80	.16
CP72B1EG605K1	6.0	3- 3 4	1-3 4	4	6.79	.26
CP72B1EG106K1	10.0	3- 3/4	2-1 4	4-3 4	9.32	.27
1500 WVDC						
CP72B1EH105K1	1.0	1-13 16	1-1 16	4-3 4	3.45	.16
CP72B1EH405K1	4.0	3- 3 4	1-3 4	4-1 4	7.07	.26
CP72B1EH805K1	8.0	3- 3 4	2-1 2	5-3 4	12.19	.27
CP72B1EH156K1	15.0	4- 9 16	3-3 4	6	19.55	.54
2000 WVDC						
CP72E1EJ504K1	.5	2- 1 2	1-3 16	2-7 8	5.29	.15
CP72E1EJ105K1	1.0	2- 1 2	1-3 16	4-3 4	6.21	.16
CP72E1EJ605K1	6.0	3- 3 4	3-3 16	5-1 2	14.72	.60
CP72E1EJ106K1	10.0	4- 9 16	3-3 4	6-1/2	21.62	.57

Catalog Number	Cap. (Mfd)	Dimensions (inches)			Net Price 1-9*	Bracket Price Per Pr.
		L-1 16	W-1 16	H-1 16		
2400 WVDC						
CP72E1EK104K1	.1	2- 1 2	1-3 16	2-1 2	\$ 6.90	\$.15
CP72E1EK105K1	1.0	3- 3 4	1-3 4	3-7 8	10.12	.16
CP72E1EK205K1	2.0	3- 3 4	2-1 4	4-3 4	13.80	.27
CP72E1EK405K1	4.0	4- 9 16	3-3 4	4-3 8	20.01	.57
4000 WVDC						
CP72E1EM104K1	1	3- 3 4	2-1 4	2-3 4	11.73	.27
CP72E1EM254K1	.25	3- 3 4	2-1 4	3-7 8	12.88	.27
CP72E1EM504K1	5	3- 3 4	2-1 4	4-3 4	15.41	.27
CP72E1EM105K1	1.0	3- 3 4	3-3 16	4-3 4	18.98	.27
6000 WVDC						
CP72D1EP254K1	.25	3 3 4	2-1 4	4-3 4	17.25	.27
CP72D1EP504K1	.5	4- 9 16	3-3 4	4-3 4	22.08	.54
CP72D1EP105K1	1.0	4- 9 16	3-3 4	9-5 8	41.63	.60
CP72D1EP205K1	2.0	13- 1 2	4-1 8	7	97.75	1.50
7500 WVDC						
CP72D1ER254K1	.25	4- 9 16	3 3 4	4-3 8	23.92	.57
CP72D1ER504K1	.5	4- 9 16	3 3 4	6	32.78	.54
CP72D1ER105K1	1.0	8	4	9-1 4	78.20	1.10
CP72D1ER205K1	2.0	13- 1 2	4 1 8	9-1 4	143.75	1.60
12,500 WVDC						
CP72D1ET104K1	.1	8	4	5-1 2	77.05	.60
CP72D1ET504K1	.5	13- 1 2	4 1 8	7	98.33	1.50
CP72D1ET105K1	1.0	13- 1 2	5 1 8	12-7 8	169.05	1.80
CP72D1ET205K1	2.0	13- 1 2	5-1 8	13-3/4	175.95	1.80

\*Prices for larger quantities available on request.

†Height does not include terminals.

Note: Standard capacitive tolerance ±10%

Note: Currently stocked as CP70, CP72 stock added as orders dictate.

## Type HVC HIGH VOLTAGE PAPER CAPACITORS

Sangamo Type HVC High Voltage capacitors are impregnated with a halogenated hydrocarbon called Diaclar B. This oil provides the desirable electrical performance characteristics for the most severe applications. They are sealed in shock and vibration resistant drawn rectangular or cold-rolled steel cases. The absence of solder seams eliminates oil leakage and contamination from solder flux. A wide variety of capacitance ranges are available in voltage ratings up to 50,000 volts d-c. Spade, footed or wrap-around brackets are optional at extra cost, but will not be furnished unless requested. When choice of brackets is not indicated, spade type will be supplied.

**For more complete information write for Bulletin 2425.**



Catalog Number	Cap. (Mfd)	Rated Volts d-c	Case Dimensions (inches)			Net Price 1-9*	Bracket Price Per Pr.
			L-1/16	W-1/16	H-1/16		
702012-9401	100	600	4-9/16	3-3/4	9-1/2	\$ 40.25	\$0.55
702012-7503	30	1000	4-9/16	3-3/4	4-3/8	21.16	0.55
702013-0708	100	1500	8	4	11	52.90	1.10
702013-3107	250	1500	13-1/2	5-1/8	12-7/8	120.75	1.80
702012-7801	10	2000	4-9/16	3-5/4	4-3/4	16.45	0.55
702013-0207	30	2000	8	4	7	37.09	1.10
702013-3108	150	2000	13-1/2	5-1/8	12-7/8	121.90	1.80
702013-6604	100	2500	13-1/2	5-1/8	12-7/8	120.75	1.80
702012-7403	4	3000	4-9/16	3-3/4	4-1/4	18.17	0.55
702012-9101	10	3000	4-9/16	3-3/4	8-1/2	32.89	0.55
702013-2904	50	3000	13-1/2	4-1/8	12-7/8	115.00	1.50
702012-4203	1.0	4000	3-3/4	1-3/4	4-1/2	11.16	.25
702013-9301	20	4000	8	4	11	54.62	1.10
702013-7401	30	4000	13-1/2	4-1/8	9-1/4	98.33	1.50
702013-4101	50	4000	13-1/2	5-1/8	11	125.35	1.80
702013-0402	10	5000	8	4	9-1/4	45.43	1.10
702013-7601	20	5000	13-1/2	4-7/8	9-1/4	93.15	1.50
702013-2201	30	5000	13-1/2	4-1/8	12-7/8	109.25	1.50
702013-6601	25	6000	13-1/2	4-7/8	9-1/4	120.75	1.80
702012-8904	1.0	10KV	4-9/16	3-3/4	7-1/2	31.05	.55
702013-6701	10.	10KV	13-1/2	5-1/8	12-7/8	125.35	1.80
702013-7802	3.5	12.5KV	13-1/2	4-1/8	11	98.90	1.50
702013-9501	2.5	12.5KV	13-1/2	4-1/8	11	75.90	1.10
702013-8402	3.5	15KV	13-1/2	4-1/8	14-1/2	117.88	1.50
702013-6602	2.0	20KV	13-1/2	5-1/8	12-7/8	127.65	1.80
702013-3302	1.0	25KV	13-1/2	5-1/8	11	110.40	1.80
702013-4102	.75	30KV	13-1/2	5-1/8	11	121.33	1.80
702013-3501	.5	35KV	13-1/2	5-1/8	11	120.18	1.80
702013-6603	.25	50KV	13-1/2	5-1/8	12-7/8	139.15	1.80

\*Prices for larger quantities available on request.

Note: Standard capacitive tolerance ±10%

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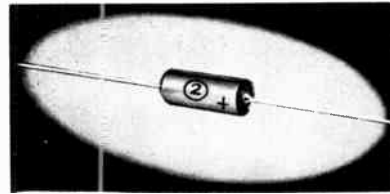
# SPRAGUE CAPACITORS

## TYPE 150D SOLID-ELECTROLYTE TANTALEX<sup>®</sup> CAPACITORS

- Combine True Miniaturization with Characteristics Previously Unobtainable in Electrolytic Capacitors.
- Hermetically Sealed Metal Case.
- Solid Electrolyte Cannot Leak or Corrode, Even if Hermetic Seal is Accidentally Broken.
- Exhibit Stable Capacitance and Low Dissipation Factor over Temperature Range of  $-80^{\circ}\text{C}$

to  $+85^{\circ}\text{C}$ . With Appropriate Voltage Derating, May Be Operated to  $+125^{\circ}\text{C}$ .

- Listed Units have Plastic Sleeves. For Bare Case, end Cat. No. in "0" instead of "2."
- For complete technical data, refer to latest issue of Engineering Bulletin 3520.
- Call your Sprague Industrial Distributor for Current Quantity Prices



Size Catalog Number  
 $\mu\text{F}$  Code  $\pm 20\%$  Tol.  $\pm 10\%$  Tol.

### 6 WVDC — 8 VDC SURGE

.22	A	150D224X0006A2	150D224X9006A2
.27	A	150D274X0006A2	150D274X9006A2
.33	A	150D334X0006A2	150D334X9006A2
.39	A	150D394X0006A2	150D394X9006A2
.47	A	150D474X0006A2	150D474X9006A2
.56	A	150D564X0006A2	150D564X9006A2
.68	A	150D684X0006A2	150D684X9006A2
.82	A	150D824X0006A2	150D824X9006A2
1.0	A	150D105X0006A2	150D105X9006A2
1.2	A	150D125X0006A2	150D125X9006A2
1.5	A	150D155X0006A2	150D155X9006A2
1.8	A	150D185X0006A2	150D185X9006A2
2.2	A	150D225X0006A2	150D225X9006A2
2.7	A	150D275X0006A2	150D275X9006A2
3.3	A	150D335X0006A2	150D335X9006A2
3.9	A	150D395X0006A2	150D395X9006A2
4.7	A	150D475X0006A2	150D475X9006A2
5.6	A	150D565X0006A2	150D565X9006A2
6.8	A	150D685X0006A2	150D685X9006A2
8.2	B	150D825X0006B2	150D825X9006B2
10	B	150D106X0006B2	150D106X9006B2
12	B	150D126X0006B2	150D126X9006B2
15	B	150D156X0006B2	150D156X9006B2
18	B	150D186X0006B2	150D186X9006B2
22	B	150D226X0006B2	150D226X9006B2
27	B	150D276X0006B2	150D276X9006B2
33	B	150D336X0006B2	150D336X9006B2
39	B	150D396X0006B2	150D396X9006B2
47	B	150D476X0006B2	150D476X9006B2
56	B	150D566X0006B2	150D566X9006B2
60	B	150D606X0006B2	150D606X9006B2
68	R	150D686X0006R2	150D686X9006R2
82	R	150D826X0006R2	150D826X9006R2
100	R	150D107X0006R2	150D107X9006R2
120	R	150D127X0006R2	150D127X9006R2
150	R	150D157X0006R2	150D157X9006R2
180	R	150D187X0006S2	150D187X9006S2
220	S	150D227X0006S2	150D227X9006S2
270	S	150D277X0006S2	150D277X9006S2
330	S	150D337X0006S2	150D337X9006S2

### 10 WVDC — 13 VDC SURGE

.22	A	150D224X0010A2	150D224X9010A2
.27	A	150D274X0010A2	150D274X9010A2
.33	A	150D334X0010A2	150D334X9010A2
.39	A	150D394X0010A2	150D394X9010A2
.47	A	150D474X0010A2	150D474X9010A2
.56	A	150D564X0010A2	150D564X9010A2
.68	A	150D684X0010A2	150D684X9010A2
.82	A	150D824X0010A2	150D824X9010A2
1.0	A	150D105X0010A2	150D105X9010A2
1.2	A	150D125X0010A2	150D125X9010A2
1.5	A	150D155X0010A2	150D155X9010A2
1.8	A	150D185X0010A2	150D185X9010A2
2.2	A	150D225X0010A2	150D225X9010A2
2.7	A	150D275X0010A2	150D275X9010A2
3.3	A	150D335X0010A2	150D335X9010A2
3.9	A	150D395X0010A2	150D395X9010A2
4.7	A	150D475X0010A2	150D475X9010A2
5.6	B	150D565X0010B2	150D565X9010B2
6.8	B	150D685X0010B2	150D685X9010B2
8.2	B	150D825X0010B2	150D825X9010B2
10	B	150D106X0010B2	150D106X9010B2
12	B	150D126X0010B2	150D126X9010B2
15	B	150D156X0010B2	150D156X9010B2
18	B	150D186X0010B2	150D186X9010B2
22	B	150D226X0010B2	150D226X9010B2
27	B	150D276X0010B2	150D276X9010B2
33	B	150D336X0010B2	150D336X9010B2
39	B	150D396X0010B2	150D396X9010B2
40	B	150D406X0010B2	150D406X9010B2
47	R	150D476X0010R2	150D476X9010R2
56	R	150D566X0010R2	150D566X9010R2
68	R	150D686X0010R2	150D686X9010R2
82	R	150D826X0010R2	150D826X9010R2
100	R	150D107X0010R2	150D107X9010R2

Size Catalog Number  
 $\mu\text{F}$  Code  $\pm 20\%$  Tol.  $\pm 10\%$  Tol.

### 15 WVDC — 18 VDC SURGE

120	R	150D127X0010R2	150D127X9010R2
150	S	150D157X0010S2	150D157X9010S2
180	S	150D187X0010S2	150D187X9010S2
220	S	150D227X0010S2	150D227X9010S2

.22	A	150D224X0015A2	150D224X9015A2
.27	A	150D274X0015A2	150D274X9015A2
.33	A	150D334X0015A2	150D334X9015A2
.39	A	150D394X0015A2	150D394X9015A2
.47	A	150D474X0015A2	150D474X9015A2
.56	A	150D564X0015A2	150D564X9015A2
.68	A	150D684X0015A2	150D684X9015A2
.82	A	150D824X0015A2	150D824X9015A2
1.0	A	150D105X0015A2	150D105X9015A2
1.2	A	150D125X0015A2	150D125X9015A2
1.5	A	150D155X0015A2	150D155X9015A2
1.8	A	150D185X0015A2	150D185X9015A2
2.2	A	150D225X0015A2	150D225X9015A2
2.7	A	150D275X0015A2	150D275X9015A2
3.3	A	150D335X0015A2	150D335X9015A2
3.9	B	150D395X0015B2	150D395X9015B2
4.7	B	150D475X0015B2	150D475X9015B2
5.6	B	150D565X0015B2	150D565X9015B2
6.8	B	150D685X0015B2	150D685X9015B2
8.2	B	150D825X0015B2	150D825X9015B2
10	B	150D106X0015B2	150D106X9015B2
12	B	150D126X0015B2	150D126X9015B2
15	B	150D156X0015B2	150D156X9015B2
18	B	150D186X0015B2	150D186X9015B2
22	B	150D226X0015B2	150D226X9015B2
27	R	150D276X0015R2	150D276X9015R2
33	R	150D336X0015R2	150D336X9015R2
39	R	150D396X0015R2	150D396X9015R2
47	R	150D476X0015R2	150D476X9015R2
56	R	150D566X0015R2	150D566X9015R2
68	R	150D686X0015R2	150D686X9015R2
82	S	150D826X0015S2	150D826X9015S2
100	S	150D107X0015S2	150D107X9015S2
120	S	150D127X0015S2	150D127X9015S2
150	S	150D157X0015S2	150D157X9015S2

### 20 WVDC — 23 VDC SURGE

.0047	A	150D472X0020A2	150D472X9020A2
.0056	A	150D562X0020A2	150D562X9020A2
.0068	A	150D682X0020A2	150D682X9020A2
.0082	A	150D822X0020A2	150D822X9020A2
.01	A	150D103X0020A2	150D103X9020A2
.012	A	150D123X0020A2	150D123X9020A2
.015	A	150D153X0020A2	150D153X9020A2
.018	A	150D183X0020A2	150D183X9020A2
.022	A	150D223X0020A2	150D223X9020A2
.027	A	150D273X0020A2	150D273X9020A2
.033	A	150D333X0020A2	150D333X9020A2
.039	A	150D393X0020A2	150D393X9020A2
.047	A	150D473X0020A2	150D473X9020A2
.056	A	150D563X0020A2	150D563X9020A2
.068	A	150D683X0020A2	150D683X9020A2
.082	A	150D823X0020A2	150D823X9020A2
.10	A	150D104X0020A2	150D104X9020A2
.12	A	150D124X0020A2	150D124X9020A2
.15	A	150D154X0020A2	150D154X9020A2
.18	A	150D184X0020A2	150D184X9020A2
.22	A	150D224X0020A2	150D224X9020A2
.27	A	150D274X0020A2	150D274X9020A2
.33	A	150D334X0020A2	150D334X9020A2
.39	A	150D394X0020A2	150D394X9020A2
.47	A	150D474X0020A2	150D474X9020A2
.56	A	150D564X0020A2	150D564X9020A2
.68	A	150D684X0020A2	150D684X9020A2
.82	A	150D824X0020A2	150D824X9020A2
1.0	A	150D105X0020A2	150D105X9020A2
1.2	A	150D125X0020A2	150D125X9020A2
1.5	A	150D155X0020A2	150D155X9020A2
1.8	A	150D185X0020A2	150D185X9020A2
2.2	A	150D225X0020A2	150D225X9020A2
2.7	B	150D275X0020B2	150D275X9020B2
3.3	B	150D335X0020B2	150D335X9020B2

Size Catalog Number  
 $\mu\text{F}$  Code  $\pm 20\%$  Tol.  $\pm 10\%$  Tol.

### 35 WVDC — 40 VDC SURGE

3.9	B	150D395X0020B2	150D395X9020B2
4.7	B	150D475X0020B2	150D475X9020B2
5.6	B	150D565X0020B2	150D565X9020B2
6.8	B	150D685X0020B2	150D685X9020B2
8.2	B	150D825X0020B2	150D825X9020B2
10	B	150D106X0020B2	150D106X9020B2
12	B	150D126X0020B2	150D126X9020B2
15	B	150D156X0020B2	150D156X9020B2
18	R	150D186X0020R2	150D186X9020R2
22	R	150D226X0020R2	150D226X9020R2
27	R	150D276X0020R2	150D276X9020R2
33	R	150D336X0020R2	150D336X9020R2
39	R	150D396X0020R2	150D396X9020R2
47	R	150D476X0020R2	150D476X9020R2
56	S	150D566X0020S2	150D566X9020S2
68	S	150D686X0020S2	150D686X9020S2
82	S	150D826X0020S2	150D826X9020S2
100	S	150D107X0020S2	150D107X9020S2

.0047	A	150D472X0035A2	150D472X9035A2
.0056	A	150D562X0035A2	150D562X9035A2
.0068	A	150D682X0035A2	150D682X9035A2
.0082	A	150D822X0035A2	150D822X9035A2
.01	A	150D103X0035A2	150D103X9035A2
.012	A	150D123X0035A2	150D123X9035A2
.015	A	150D153X0035A2	150D153X9035A2
.018	A	150D183X0035A2	150D183X9035A2
.022	A	150D223X0035A2	150D223X9035A2
.027	A	150D273X0035A2	150D273X9035A2
.033	A	150D333X0035A2	150D333X9035A2
.039	A	150D393X0035A2	150D393X9035A2
.047	A	150D473X0035A2	150D473X9035A2
.056	A	150D563X0035A2	150D563X9035A2
.068	A	150D683X0035A2	150D683X9035A2
.082	A	150D823X0035A2	150D823X9035A2
.10	A	150D104X0035A2	150D104X9035A2
.12	A	150D124X0035A2	150D124X9035A2
.15	A	150D154X0035A2	150D154X9035A2
.18	A	150D184X0035A2	150D184X9035A2
.22	A	150D224X0035A2	150D224X9035A2
.27	A	150D274X0035A2	150D274X9035A2
.33	A	150D334X0035A2	150D334X9035A2
.39	A	150D394X0035A2	150D394X9035A2
.47	A	150D474X0035A2	150D474X9035A2
.56	A	150D564X0035A2	150D564X9035A2
.68	A	150D684X0035A2	150D684X9035A2
.82	A	150D824X0035A2	150D824X9035A2
1.0	A	150D105X0035A2	150D105X9035A2
1.2	B	150D125X0035B2	150D125X9035B2
1.5	B	150D155X0035B2	150D155X9035B2
1.8	B	150D185X0035B2	150D185X9035B2
2.2	B	150D225X0035B2	150D225X9035B2
2.7	B		

# SPRAGUE CAPACITORS

## TYPE 150D SOLID-ELECTROLYTE TANTALEX® CAPACITORS (Cont.)

50 WVDC, 65 VDC SURGE				75 WVDC, 97 VDC SURGE				125 WVDC, 140 VDC SURGE				100 WVDC, 115 VDC SURGE			
Size	Code	Catalog Number		Size	Code	Catalog Number		Size	Code	Catalog Number		Size	Code	Catalog Number	
μF		±20% Tol.	±10% Tol.	μF		±20% Tol.	±10% Tol.	μF		±20% Tol.	±10% Tol.	μF		±20% Tol.	±10% Tol.
.0047	A	150D472X0050A2	150D472X9050A2	.0047	A	150D472X0075A2	150D472X9075A2	.0047	A	150D472X0125A2	150D472X9125A2	.0047	A	150D472X0100A2	150D472X9100A2
.0056	A	150D562X9050A2	150D562X9050A2	.0056	A	150D562X9075A2	150D562X9075A2	.0056	A	150D562X0125A2	150D562X9125A2	.0056	A	150D562X9075A2	150D562X9075A2
.0068	A	150D682X0050A2	150D682X9050A2	.0068	A	150D682X0075A2	150D682X9075A2	.0068	A	150D682X0125A2	150D682X9125A2	.0068	A	150D682X9075A2	150D682X9075A2
.0082	A	150D822X9050A2	150D822X9050A2	.0082	A	150D822X9075A2	150D822X9075A2	.0082	A	150D822X0125A2	150D822X9125A2	.0082	A	150D822X9075A2	150D822X9075A2
.01	A	150D103X0050A2	150D103X9050A2	.01	A	150D103X0075A2	150D103X9075A2	.01	A	150D103X0125A2	150D103X9125A2	.01	A	150D103X0125A2	150D103X9125A2
.012	A	150D123X9050A2	150D123X9050A2	.012	A	150D123X9075A2	150D123X9075A2	.012	A	150D123X0125A2	150D123X9125A2	.012	A	150D123X9075A2	150D123X9075A2
.015	A	150D153X0050A2	150D153X9050A2	.015	A	150D153X0075A2	150D153X9075A2	.015	A	150D153X0125A2	150D153X9125A2	.015	A	150D153X0125A2	150D153X9125A2
.018	A	150D183X9050A2	150D183X9050A2	.018	A	150D183X9075A2	150D183X9075A2	.018	A	150D183X0125A2	150D183X9125A2	.018	A	150D183X9075A2	150D183X9075A2
.022	A	150D223X0050A2	150D223X9050A2	.022	A	150D223X0075A2	150D223X9075A2	.022	A	150D223X0125A2	150D223X9125A2	.022	A	150D223X0125A2	150D223X9125A2
.027	A	150D273X9050A2	150D273X9050A2	.027	A	150D273X9075A2	150D273X9075A2	.027	A	150D273X0125A2	150D273X9125A2	.027	A	150D273X9075A2	150D273X9075A2
.033	A	150D333X0050A2	150D333X9050A2	.033	A	150D333X0075A2	150D333X9075A2	.033	A	150D333X0125A2	150D333X9125A2	.033	A	150D333X0125A2	150D333X9125A2
.039	A	150D393X9050A2	150D393X9050A2	.039	A	150D393X9075A2	150D393X9075A2	.039	A	150D393X0125A2	150D393X9125A2	.039	A	150D393X9075A2	150D393X9075A2
.047	A	150D473X0050A2	150D473X9050A2	.047	A	150D473X0075A2	150D473X9075A2	.047	A	150D473X0125A2	150D473X9125A2	.047	A	150D473X0125A2	150D473X9125A2
.056	A	150D563X9050A2	150D563X9050A2	.056	A	150D563X9075A2	150D563X9075A2	.056	A	150D563X0125A2	150D563X9125A2	.056	A	150D563X9075A2	150D563X9075A2
.068	A	150D683X0050A2	150D683X9050A2	.068	A	150D683X9075A2	150D683X9075A2	.068	A	150D683X0125A2	150D683X9125A2	.068	A	150D683X9075A2	150D683X9075A2
.082	A	150D823X9050A2	150D823X9050A2	.082	A	150D823X9075A2	150D823X9075A2	.082	A	150D823X0125A2	150D823X9125A2	.082	A	150D823X9075A2	150D823X9075A2
.1	A	150D104X0050A2	150D104X9050A2	.1	A	150D104X0075A2	150D104X9075A2	.1	A	150D104X0125A2	150D104X9125A2	.1	A	150D104X0125A2	150D104X9125A2
.12	A	150D124X9050A2	150D124X9050A2	.12	A	150D124X9075A2	150D124X9075A2	.12	A	150D124X0125A2	150D124X9125A2	.12	A	150D124X9075A2	150D124X9075A2
.15	A	150D154X0050A2	150D154X9050A2	.15	A	150D154X0075A2	150D154X9075A2	.15	A	150D154X0125A2	150D154X9125A2	.15	A	150D154X0125A2	150D154X9125A2
.18	A	150D184X9050A2	150D184X9050A2	.18	A	150D184X9075A2	150D184X9075A2	.18	A	150D184X0125A2	150D184X9125A2	.18	A	150D184X9075A2	150D184X9075A2
.22	A	150D224X0050A2	150D224X9050A2	.22	A	150D224X0075A2	150D224X9075A2	.22	A	150D224X0125A2	150D224X9125A2	.22	A	150D224X0125A2	150D224X9125A2
.27	A	150D274X9050A2	150D274X9050A2	.27	A	150D274X9075A2	150D274X9075A2	.27	A	150D274X0125A2	150D274X9125A2	.27	A	150D274X9075A2	150D274X9075A2
.33	A	150D334X0050A2	150D334X9050A2	.33	A	150D334X0075A2	150D334X9075A2	.33	A	150D334X0125A2	150D334X9125A2	.33	A	150D334X0125A2	150D334X9125A2
.39	A	150D394X9050A2	150D394X9050A2	.39	A	150D394X9075A2	150D394X9075A2	.39	B	150D394X0125A2	150D394X9125B2	.39	B	150D394X9075A2	150D394X9075A2
.47	A	150D474X0050A2	150D474X9050A2	.47	A	150D474X0075A2	150D474X9075A2	.47	B	150D474X0125B2	150D474X9125B2	.47	B	150D474X0125B2	150D474X9125B2
.56	A	150D564X9050A2	150D564X9050A2	.56	A	150D564X9075A2	150D564X9075A2	.56	B	150D564X0125B2	150D564X9125B2	.56	B	150D564X9075A2	150D564X9075A2
.68	A	150D684X0050A2	150D684X9050A2	.68	A	150D684X9075A2	150D684X9075A2	.68	B	150D684X0125B2	150D684X9125B2	.68	B	150D684X9075A2	150D684X9075A2
.82	A	150D824X9050A2	150D824X9050A2	.82	B	150D824X9075B2	150D824X9075B2	.82	B	150D824X0125B2	150D824X9125B2	.82	B	150D824X9075A2	150D824X9075A2
1.0	A	150D105X0050A2	150D105X9050A2	1.0	B	150D105X0075B2	150D105X9075B2	1.0	B	150D105X0125B2	150D105X9125B2	1.0	B	150D105X0125B2	150D105X9125B2
1.2	B	150D125X9050B2	150D125X9050B2	1.2	B	150D125X9075B2	150D125X9075B2	1.2	B	150D125X0125B2	150D125X9125B2	1.2	B	150D125X9075B2	150D125X9075B2
1.5	B	150D155X0050B2	150D155X9050B2	1.5	B	150D155X0075B2	150D155X9075B2	1.5	B	150D155X0125B2	150D155X9125B2	1.5	B	150D155X0125B2	150D155X9125B2
1.8	B	150D185X9050B2	150D185X9050B2	1.8	B	150D185X9075B2	150D185X9075B2	1.8	B	150D185X0125B2	150D185X9125B2	1.8	B	150D185X9075B2	150D185X9075B2
2.2	B	150D225X0050B2	150D225X9050B2	2.2	B	150D225X0075B2	150D225X9075B2	2.2	B	150D225X0125B2	150D225X9125B2	2.2	B	150D225X0125B2	150D225X9125B2
2.7	B	150D275X9050B2	150D275X9050B2	2.7	B	150D275X9075B2	150D275X9075B2								
3.3	B	150D335X0050B2	150D335X9050B2	3.3	B	150D335X0075B2	150D335X9075B2								
3.9	B	150D395X9050B2	150D395X9050B2	3.9	B	150D395X9075B2	150D395X9075B2								
4.7	B	150D475X0050B2	150D475X9050B2	4.7	R	150D475X0075R2	150D475X9075R2								
5.6	R	150D565X9050R2	150D565X9050R2	5.6	R	150D565X9075R2	150D565X9075R2								
6.8	R	150D685X0050R2	150D685X9050R2	6.8	R	150D685X9075R2	150D685X9075R2								
8.2	R	150D825X9050R2	150D825X9050R2	8.2	R	150D825X9075R2	150D825X9075R2								
10	R	150D106X0050R2	150D106X9050R2	10.0	R	150D106X0075R2	150D106X9075R2								
12	R	150D126X9050R2	150D126X9050R2	12.0	S	150D126X9075S2	150D126X9075S2								
15	R	150D156X0050R2	150D156X9050R2	15.0	S	150D156X0075S2	150D156X9075S2								
18	R	150D186X9050R2	150D186X9050R2												
22	S	150D226X0050S2	150D226X9050S2												

DIMENSIONS WITH SLEEVE	
Code	D. x L.
A	.135" x .286"
B	.185" x .474"
R	.289" x .686"
S	.351" x .786"

Call your Sprague Industrial Distributor for Current Quantity Prices

# SPRAGUE CAPACITORS

## TYPES 162D, 169D MINIATURE SOLID-ELECTROLYTE RED TOP<sup>®</sup> TANTALEX<sup>®</sup> CAPACITORS IN RESIN-SEALED CASES

● Miniature Polarized Tantalex Capacitors in Resin-sealed Case For Use in Compactly Designed Electronic Equipment.

● Two Lead Styles—Type 162D With Axial Leads, and "Single-Ended" Type 169D, Which is Especially Suited For Printed Wiring Board Applications.

● Red End Seal Indicates Positive End on Axial Lead Units. Center Lead is Positive on "Single-Ended" Type 169D Capacitors.

● Listed Units have Plastic-Film Insulation. Bare Metal Case Units Available.

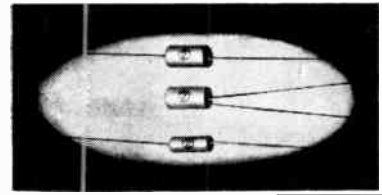
● Ratings From 2 Through 100 WVDC Available.

● Capacitance Values From 0.033  $\mu$ F to 68  $\mu$ F.

● Temperature Range of  $-55$  C to  $+85$  C.

● For Complete Technical Data, Refer to the Latest Issue of Sprague Engineering Bulletin No. 3536.

● Call Your Sprague Industrial Distributor For Prices.



### DIMENSIONS

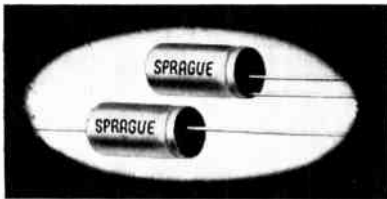
Case Code	D	x	L
AA	0.080	x	0.135
AB	0.080	x	0.185
BA	0.105	x	0.265
CA	0.145	x	0.265

$\mu$ F	WVDC	Size	Catalog Number	
			Axial-Lead	Single-Ended
47	4	CA	162D476X9004CA2	169D476X9004CA2
1.0	10	AA	162D105X9010AA2	169D105X9010AA2
10	10	BA	162D106X9010BA2	169D106X9010BA2
22	10	CA	162D226X9010CA2	169D226X9010CA2
.68	15	AA	162D684X9015AA2	169D684X9015AA2

$\mu$ F	WVDC	Size	Catalog Number	
			Axial-Lead	Single-Ended
2.2	15	AB	162D225X9015AB2	169D225X9015AB2
6.8	15	BA	162D685X9015BA2	169D685X9015BA2
15	15	CA	162D156X9015CA2	169D156X9015CA2
.47	20	AA	162D474X9020AA2	169D474X9020AA2
1.0	20	AB	162D105X9020AB2	169D105X9020AB2

$\mu$ F	WVDC	Size	Catalog Number	
			Axial-Lead	Single-Ended
4.7	20	BA	162D475X9020BA2	169D475X9020BA2
.15	35	AA	162D154X9035AA2	169D154X9035AA2
.1	50	AA	162D104X9050AA2	169D104X9050AA2
.033	100	AA	162D333X9100AA2	169D333X9100AA2
.068	100	AA	162D683X9100AA2	169D683X9100AA2

## TYPE 164D, SOLID-ELECTROLYTE RED TOP<sup>®</sup> TANTALEX<sup>®</sup> CAPACITORS



● Economically Priced Red Top Capacitors Are For Use in Commercial Digital Computers and All Types of Industrial Electronic Equipment.

● Metal Cases With Resin End Seals Afford Greater Moisture Protection Than Organic Housings Such as Moldings or Polyester Film.

● Case Sizes are the Same as those of the "Industrial Standard" Type 150D Hermetically-Sealed Design.

● Red End Seal Indicates Positive End on Axial Lead Units.

● Listed Units Have Plastic-Film Insulation. Bare Metal Case Units Available.

● Voltage Ratings From 6 Through 75 WVDC.

● Temperature Range of  $-55$  C to  $+85$  C.

● For Complete Technical Data, Refer to the Latest Issue of Sprague Engineering Bulletin No. 3537.

● Call Your Sprague Industrial Distributor For Prices.

DIMENSIONS Case Code A = .135 D. x .322 L. B = .185 D. x .510 L. R = .289 D. x .722 L. S = .351 D. x .822 L.

$\mu$ F	WVDC	Size	Catalog Number Axial-Lead
5.6	6	A	164D565X9006A2
6.8	6	A	164D685X9006A2
47	6	B	164D476X9006B2
56	6	B	164D566X9006B2
150	6	R	164D157X9006R2
180	6	R	164D187X9006R2
270	6	S	164D277X9006S2
330	6	S	164D337X9006S2
3.9	10	A	164D395X9010A2
4.7	10	A	164D475X9010A2
27	10	B	164D276X9010B2
33	10	B	164D336X9010B2
39	10	B	164D386X9010B2
82	10	R	164D826X9010R2
100	10	R	164D107X9010R2
120	10	R	164D127X9010R2
180	10	S	164D187X9010S2
220	10	S	164D227X9010S2
2.7	15	A	164D275X9015A2
3.3	15	A	164D335X9015A2
18	15	B	164D186X9015B2
22	15	B	164D226X9015B2
56	15	R	164D566X9015R2
68	15	R	164D686X9015R2
120	15	S	164D127X9015S2
150	15	S	164D157X9015S2
1.2	20	A	164D125X9020A2
1.5	20	A	164D155X9020A2
1.8	20	A	164D185X9020A2
2.2	20	A	164D225X9020A2
8.2	20	B	164D825X9020B2
10	20	B	164D106X9020B2
12	20	B	164D126X9020B2
15	20	B	164D156X9020B2
27	20	R	164D276X9020R2
33	20	R	164D336X9020R2
39	20	R	164D396X9020R2
47	20	R	164D476X9020R2
56	20	S	164D566X9020S2
68	20	S	164D686X9020S2
82	20	S	164D826X9020S2
100	20	S	164D107X9020S2
.0047	35	A	164D472X9035A2
.0068	35	A	164D682X9035A2

$\mu$ F	WVDC	Size	Catalog Number Axial-Lead
.01	35	A	164D103X9035A2
.015	35	A	164D153X9035A2
.022	35	A	164D223X9035A2
.033	35	A	164D333X9035A2
.047	35	A	164D473X9035A2
.068	35	A	164D683X9035A2
.1	35	A	164D104X9035A2
.15	35	A	164D154X9035A2
.22	35	A	164D224X9035A2
.33	35	A	164D334X9035A2
.47	35	A	164D474X9035A2
.68	35	A	164D684X9035A2
1.0	35	A	164D105X9035A2
1.2	35	B	164D125X9035B2
1.5	35	B	164D155X9035B2
1.8	35	B	164D185X9035B2
2.2	35	B	164D225X9035B2
2.7	35	B	164D275X9035B2
3.3	35	B	164D335X9035B2
3.9	35	B	164D395X9035B2
4.7	35	B	164D475X9035B2
5.6	35	B	164D565X9035B2
6.8	35	B	164D685X9035B2
8.2	35	R	164D825X9035R2
10	35	R	164D106X9035R2
12	35	R	164D126X9035R2
15	35	R	164D156X9035R2
18	35	R	164D186X9035R2
22	35	R	164D226X9035R2
27	35	S	164D276X9035S2
33	35	S	164D336X9035S2
39	35	S	164D396X9035S2
47	35	S	164D476X9035S2
.0047	50	A	164D472X9050A2
.0068	50	A	164D682X9050A2
.01	50	A	164D103X9050A2
.015	50	A	164D153X9050A2
.022	50	A	164D223X9050A2
.033	50	A	164D333X9050A2
.047	50	A	164D473X9050A2
.068	50	A	164D683X9050A2
.1	50	A	164D104X9050A2
.15	50	A	164D154X9050A2

$\mu$ F	WVDC	Size	Catalog Number Axial-Lead
.22	50	A	164D224X9050A2
.33	50	A	164D334X9050A2
.47	50	A	164D474X9050A2
.68	50	A	164D684X9050A2
1.0	50	A	164D105X9050A2
1.2	50	B	164D125X9050B2
1.5	50	B	164D155X9050B2
1.8	50	B	164D185X9050B2
2.2	50	B	164D225X9050B2
2.7	50	B	164D275X9050B2
3.3	50	B	164D335X9050B2
3.9	50	B	164D395X9050B2
4.7	50	B	164D475X9050B2
5.6	50	R	164D565X9050R2
6.8	50	R	164D685X9050R2
8.2	50	R	164D825X9050R2
10	50	R	164D106X9050R2
12	50	R	164D126X9050R2
15	50	R	164D156X9050R2
18	50	R	164D186X9050R2
22	50	S	164D226X9050S2
.0047	75	A	164D472X9075A2
.0068	75	A	164D682X9075A2
.01	75	A	164D103X9075A2
.015	75	A	164D153X9075A2
.022	75	A	164D223X9075A2
.033	75	A	164D333X9075A2
.047	75	A	164D473X9075A2
.068	75	A	164D683X9075A2
.1	75	A	164D104X9075A2
.15	75	A	164D154X9075A2
.22	75	A	164D224X9075A2
.33	75	A	164D334X9075A2
.47	75	A	164D474X9075A2
.68	75	A	164D684X9075A2
1.0	75	B	164D105X9075B2
1.2	75	B	164D125X9075B2
1.5	75	B	164D155X9075B2
1.8	75	B	164D185X9075B2
2.2	75	B	164D225X9075B2
2.7	75	B	164D275X9075B2
3.3	75	B	164D335X9075B2
3.9	75	B	164D395X9075B2

# SPRAGUE CAPACITORS

## 125C FOIL TANTALEX<sup>®</sup> CAPACITORS

Small size, electrically stable, long life. For data, see latest Engineering Bulletin 3602.

120D, 122D available as MIL-C-3965 units.

Tol., 120D, 121D, ±20%; 122D, 123D, 15, +75%.

Listed units have plastic wrap. For bare metal case units, end Cat. No. in "0" instead of "1".

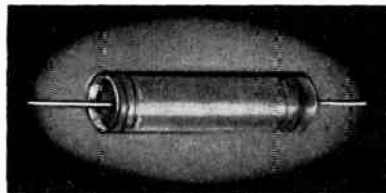
Call Your Sprague Industrial Distributor for Quantity Prices.



Size Code	D. x L.	Size Code	D. x L.
H	0.203 x 0.843	Q	0.390 x 2.968
E	0.296 x 1.125	S	0.390 x 2.968
K	0.390 x 1.656	Z	0.546 x 2.968
N	0.390 x 2.343		

μF	Case Code	Catalog Number	μF	Case Code	Catalog Number	μF	Case Code	Catalog Number	μF	Case Code	Catalog Number	μF	Case Code	Catalog Number
<b>TYPE 120D</b> POLARIZED PLAIN-FOIL STANDARD RATINGS			<b>300 WORKING VOLTS D-C</b>			<b>250 WORKING VOLTS N.P.</b>			<b>30 WORKING VOLTS D-C</b>			<b>50 WORKING VOLTS N.P.</b>		
4.5	E	120D455X0010E1	0.15	E	120D154X8300E1	0.1	E	121D104X8250E1	8	E	122D805C5030E1	1.5	E	123D155C5050E1
18	H	120D186X0010H1	0.65	H	120D654X8300H1	0.4	H	121D404X8250H1	29	H	122D296C5030H1	6	H	123D605C5050H1
55	K	120D556X0010K1	2	K	120D205X8300K1	1.2	K	121D125X8250K1	85	K	122D856C5030K1	15	K	123D156C5050K1
110	N	120D117X0010N1	4	N	120D405X8300N1	2.5	N	121D255X8250N1	180	N	122D187C5030N1	35	N	123D356C5050N1
160	Q	120D167X0010Q1	6	Q	120D605X8300Q1	4.0	Q	121D405X8250Q1	260	Q	122D267C5030Q1	50	Q	123D506C5050Q1
260	S	120D267X0010S1							470	S	122D477C5030S1			
320	Z	120D327X0010Z1							580	Z	122D587C5030Z1			
<b>10 WORKING VOLTS D-C</b>			<b>TYPE 121D</b> NON-POLARIZED PLAIN-FOIL STANDARD RATINGS			<b>TYPE 122D</b> POLARIZED ETCHED-FOIL STANDARD RATINGS			<b>50 WORKING VOLTS D-C</b>			<b>65 WORKING VOLTS N.P.</b>		
3	E	120D305X0015E1	2.5	E	121D255X0010E1	15	E	122D156C7010E1	4	E	122D405C5050E1	1	E	123D105C3065E1
12	H	120D126X0015H1	10	H	121D106X0010H1	60	H	122D606C7010H1	15	H	122D156C5050H1	4	H	123D405C3065H1
35	K	120D356X0015K1	35	K	121D356X0010K1	200	K	122D207C7010K1	45	K	122D456C5050K1	12	K	123D126C3065K1
70	N	120D706X0015N1	70	N	121D706X0010N1	400	N	122D407C7010N1	95	N	122D956C5050N1	25	N	123D256C3065N1
100	Q	120D107X0015Q1	100	Q	121D107X0010Q1	580	Q	122D587C7010Q1	130	Q	122D137C5050Q1	35	Q	123D356C3065Q1
180	S	120D187X0015S1	160	S	121D167X0010S1				250	S	122D257C5050S1			
210	Z	120D217X0015Z1	200	Z	121D207X0010Z1				300	Z	122D307C5050Z1			
<b>15 WORKING VOLTS D-C</b>			<b>15 WORKING VOLTS N.P.</b>			<b>15 WORKING VOLTS D-C</b>			<b>65 WORKING VOLTS D-C</b>			<b>100 WORKING VOLTS N.P.</b>		
3	E	120D305X0015E1	1.5	E	121D155X0015E1	10	E	122D106C7015E1	3	E	122D305C3065E1	0.5	E	123D504C3100E1
12	H	120D126X0015H1	6	H	121D605X0015H1	40	H	122D406C7015H1	10	H	122D106C3065H1	2	H	123D205C3100E1
35	K	120D356X0015K1	20	K	121D206X0015K1	120	K	122D127C7015K1	30	K	122D306C3065K1	90	H	123D906C3065H1
70	N	120D706X0015N1	40	N	121D406X0015N1	250	N	122D257C7015N1	63	N	122D636C3065N1	250	K	123D257C7010K1
100	Q	120D107X0015Q1	60	Q	121D606X0015Q1	350	Q	122D357C7015Q1	90	Q	122D906C3065Q1	530	N	123D537C7010N1
180	S	120D187X0015S1	100	S	121D107X0015S1				170	S	122D177C3065S1	760	Q	123D767C7010Q1
210	Z	120D217X0015Z1	120	Z	121D127X0015Z1				210	Z	122D217C3065Z1	1400	S	123D148C7010S1
<b>30 WORKING VOLTS D-C</b>			<b>30 WORKING VOLTS N.P.</b>			<b>30 WORKING VOLTS D-C</b>			<b>100 WORKING VOLTS D-C</b>			<b>15 WORKING VOLTS N.P.</b>		
1.5	E	120D155X0030E1	0.8	E	121D804X0030E1	4.5	E	122D455C5030E1	1.6	E	122D165C3100E1	25	E	123D256C7010E1
6	H	120D605X0030H1	3	H	121D305X0030H1	18	H	122D186C5030H1	5.5	H	122D555C3100H1	90	H	123D906C7010H1
20	K	120D206X0030K1	10	K	121D106X0030K1	60	K	122D606C5030K1	17	K	122D176C3100K1	250	K	123D257C7010K1
40	N	120D406X0030N1	20	N	121D206X0030N1	100	N	122D107C5030N1	35	N	122D356C3100N1	530	N	123D537C7010N1
55	Q	120D556X0030Q1	30	Q	121D306X0030Q1	150	Q	122D157C5030Q1	50	Q	122D506C3100Q1	760	Q	123D767C7010Q1
100	S	120D107X0030S1	40	S	121D406X0030S1				90	S	122D906C3100S1	1400	S	123D148C7010S1
120	Z	120D127X0030Z1	65	Z	121D656X0030Z1				120	Z	122D127C3100Z1	2000	Z	123D208C7010Z1
<b>50 WORKING VOLTS D-C</b>			<b>50 WORKING VOLTS N.P.</b>			<b>50 WORKING VOLTS D-C</b>			<b>150 WORKING VOLTS D-C</b>			<b>20 WORKING VOLTS N.P.</b>		
1	E	120D105X0050E1	0.5	E	121D504X0050E1	3	E	122D305C5050E1	0.75	E	122D754C3150E1	11	E	123D116C7020E1
4	H	120D405X0050H1	2	H	121D205X0050H1	12	H	122D126C5050H1	2.5	H	122D255C3150H1	39	H	123D396C7020H1
14	K	120D146X0050K1	7	K	121D705X0050K1	30	K	122D306C5050K1	7.5	K	122D754C3150K1	110	K	123D117C7020K1
28	N	120D286X0050N1	14	N	121D146X0050N1	70	N	122D706C5050N1	15	N	122D156C3150N1	140	K	123D147C7015K1
40	Q	120D406X0050Q1	20	Q	121D206X0050Q1	100	Q	122D107C5050Q1	35	Q	122D356C3100Q1	290	N	123D297C7015N1
70	S	120D706X0050S1	30	S	121D306X0050S1				90	S	122D906C3100S1	420	Q	123D427C7015Q1
88	Z	120D886X0050Z1	40	Z	121D406X0050Z1				120	Z	122D127C3100Z1	800	S	123D807C7015S1
<b>65 WORKING VOLTS D-C</b>			<b>65 WORKING VOLTS N.P.</b>			<b>65 WORKING VOLTS D-C</b>			<b>200 WORKING VOLTS D-C</b>			<b>30 WORKING VOLTS N.P.</b>		
0.8	E	120D804X0065E1	0.4	E	121D404X0065E1	2	E	122D205C3065E1	1.7	H	122D175X0200H1	4	E	123D405C5030E1
3	H	120D305X0065H1	1.5	H	121D155X0065H1	8	H	122D805C3065H1	5	K	122D505X0200K1	14	H	123D146C5030H1
10	K	120D106X0065K1	5	K	121D505X0065K1	25	K	122D256C3065K1	11	N	122D116X0200N1	40	K	123D406C5030K1
20	N	120D206X0065N1	10	N	121D106X0065N1	50	N	122D506C3065N1	15	Q	122D156X0200Q1	84	N	123D846C5030N1
30	Q	120D306X0065Q1	15	Q	121D156X0065Q1	70	Q	122D706C3065Q1	28	S	122D286X0200S1	120	Q	123D127C5030Q1
57	S	120D576X0065S1	20	S	121D206X0065S1							230	S	123D237C7020S1
70	Z	120D706X0065Z1	37	Z	121D376X0065Z1							600	Z	123D607C7020Z1
<b>100 WORKING VOLTS D-C</b>			<b>100 WORKING VOLTS N.P.</b>			<b>100 WORKING VOLTS D-C</b>			<b>250 WORKING VOLTS D-C</b>			<b>50 WORKING VOLTS N.P.</b>		
0.5	E	120D504X0100E1	0.25	E	121D254X0100E1	4	E	122D105C3100E1	1.3	H	122D135X0250H1	2	E	123D205C5050E1
2	H	120D205X0100H1	1.0	H	121D105X0100H1	13	H	122D136C3100H1	4	K	122D405X0250K1	7	H	123D705C5050H1
7	K	120D705X0100K1	3.5	K	121D355X0100K1	25	N	122D256C3100N1	15	Q	122D156X0200Q1	20	K	123D206C5050K1
14	N	120D146X0100N1	7	N	121D705X0100N1	36	Q	122D366C3100Q1	28	S	122D286X0200S1	43	N	123D436C5050N1
20	Q	120D206X0100Q1	10	Q	121D106X0100Q1							60	Q	123D606C5050Q1
40	S	120D406X0100S1	15	S	121D156X0100S1							110	S	123D117C5050S1
47	Z	120D476X0100Z1	20	Z	121D206X0100Z1							160	Z	123D167C5050Z1
<b>150 WORKING VOLTS D-C</b>			<b>150 WORKING VOLTS N.P.</b>			<b>150 WORKING VOLTS D-C</b>			<b>TYPE 123D</b> NON-POLARIZED ETCHED-FOIL STANDARD RATINGS			<b>65 WORKING VOLTS N.P.</b>		
0.35	E	120D354X0150E1	0.25	E	121D254X0100E1	23	E	122D236C7015E1	10	E	123D106C7010E1	1.4	E	123D145C3065E1
1.5	H	120D155X0150H1	1.0	H	121D105X0100H1	80	H	122D806C7015H1	40	H	123D406C7010H1	5	H	123D505C3065H1
5	K	120D505X0150K1	3.5	K	121D355X0100K1	370	K	122D377C7015K1	120	K	123D127C7010K1	14	K	123D146C3065K1
10	N	120D106X0150N1	7	N	121D705X0100N1	780	N	122D787C7015N1	150	N	123D257C7010N1	29	N	123D296C3065N1
15	Q	120D156X0150Q1	10	Q	121D106X0100Q1	1100	Q	122D118C7015Q1	250	Q	123D257C7010Q1	41	Q	123D416C3065Q1
20	S	120D206X0150S1	15	S	121D156X0150S1	2000	S	122D208C7015S1	350	S	123D357C7010S1	78	S	123D786C3065S1
35	Z	120D306X0150Z1	20	Z	121D206X0150Z1	2500	Z	122D258C7015Z1				110	Z	123D117C3065Z1
<b>200 WORKING VOLTS D-C</b>			<b>200 WORKING VOLTS N.P.</b>			<b>200 WORKING VOLTS D-C</b>			<b>TYPE 123D</b> NON-POLARIZED ETCHED-FOIL STANDARD RATINGS			<b>100 WORKING VOLTS N.P.</b>		
0.25	E	120D254X8200E1	0.15	E	121D154X0150E1	19	E	122D196C7020E1	10	E	123D106C7010E1	2	E	123D205C5050E1
1	H	120D105X8200H1	0.75	H	121D754X0150H1	67	H	122D676C7020H1	40	H	123D406C7010H1	7	H	123D705C5050H1
3	K	120D305X8200K1	2.5	K	121D255X0150K1	200	K	122D207C7020K1	120	K	123D127C7010K1	20	K	123D206C5050K1
7	N	120D705X8200N1	5.0	N	121D505X0150N1	420	N	122D427C7020N1	150	N	123D257C7010N1	43	N	123D436C5050N1
10	Q	120D106X8200Q1	7.5	Q	121D755X0150Q1	590	Q	122D597C7020Q1	250	Q	123D357C7010Q1	60	Q	123D606C5050Q1
18	S	120D186X8200S1	13	S	121D136X0150S1	1600	Z	122D168C7015Z1				110	S	123D117C5050S1
<b>250 WORKING VOLTS D-C</b>			<b>250 WORKING VOLTS N.P.</b>			<b>250 WORKING VOLTS D-C</b>			<b>15 WORKING VOLTS N.P.</b>			<b>65 WORKING VOLTS N.P.</b>		
0.2	E	120D204X8250E1	0.1	E	121D104X8200E1	19	E	122D196C7020E1	5	E	123D505C7015E1	1.4	E	123D145C3065E1
0.8	H	120D804X8250H1	0.5	H	121D504X8200H									

# SPRAGUE CAPACITORS



## 85C FOIL TANTALEX® CAPACITORS

- Small Size, Electrically Stable, Long Life. For Data, See Latest Engineering Bulletin 3601
- 110D and 112D Available as MIL-C-3965 Units
- Tol. 110D, 111D, ±20% and ±15%; 112D and 113D +75%, -15%, +50%, -15% and +30%, -15%
- Plastic Wrap, For Bare Case, End Cat. No. in "0" Instead of "1"
- Call Your Sprague Industrial Distributor For Quantity Prices

### DIMENSIONS

Case	D	x	L	Case	D	x	L
D	0.203	x	0.812	P	0.390	x	2.875
G	0.296	x	1.000	R	0.483	x	2.875
J	0.390	x	1.562	Y	0.544	x	2.875
M	0.390	x	2.250				

### TYPE 110D

#### POLARIZED PLAIN-FOIL

##### 3 WORKING VOLTS D-C

µF	Case	Catalog No.
10	D	110D106X0003D1
55	G	110D556X0003G1
160	J	110D167X0003J1
350	M	110D357X0003M1
440	P	110D447X0003P1
1100	R	110D118X0003R1
1300	Y	110D138X0003Y1

##### 6 WORKING VOLTS D-C

µF	Case	Catalog No.
8	D	110D805X0006D1
35	G	110D356X0006G1
100	J	110D107X0006J1
200	M	110D207X0006M1
300	P	110D307X0006P1
460	R	110D467X0006R1
560	Y	110D567X0006Y1

##### 10 WORKING VOLTS D-C

µF	Case	Catalog No.
6	D	110D605X0010D1
25	G	110D256X0010G1
80	J	110D806X0010J1
160	M	110D167X0010M1
220	P	110D227X0010P1
350	R	110D357X0010R1
420	Y	110D427X0010Y1

##### 15 WORKING VOLTS D-C

µF	Case	Catalog No.
4.5	D	110D455X0015D1
18	G	110D186X0015G1
55	J	110D556X0015J1
110	M	110D117X0015M1
160	P	110D167X0015P1
260	R	110D267X0015R1
320	Y	110D327X0015Y1

##### 25 WORKING VOLTS D-C

µF	Case	Catalog No.
3	D	110D305X0025D1
12	G	110D126X0025G1
37	J	110D376X0025J1
70	M	110D706X0025M1
100	P	110D107X0025P1
180	R	110D187X0025R1
210	Y	110D217X0025Y1

##### 30 WORKING VOLTS D-C

µF	Case	Catalog No.
2.5	D	110D255X0030D1
10	G	110D106X0030G1
30	J	110D306X0030J1
60	M	110D606X0030M1
85	P	110D856X0030P1
150	R	110D157X0030R1
180	Y	110D187X0030Y1

##### 50 WORKING VOLTS D-C

µF	Case	Catalog No.
1.5	D	110D155X0050D1
6	G	110D605X0050G1
20	J	110D206X0050J1
40	M	110D406X0050M1
55	P	110D556X0050P1
100	R	110D107X0050R1
120	Y	110D127X0050Y1

##### 60 WORKING VOLTS D-C

µF	Case	Catalog No.
1.2	D	110D125X0060D1
5	G	110D505X0060G1
17	J	110D176X0060J1
34	M	110D346X0060M1
48	P	110D486X0060P1
85	R	110D856X0060R1
100	Y	110D107X0060Y1

##### 75 WORKING VOLTS D-C

µF	Case	Catalog No.
1	D	110D105X0075D1
4	G	110D405X0075G1
14	J	110D146X0075J1
28	M	110D286X0075M1
40	P	110D406X0075P1
70	R	110D706X0075R1
88	Y	110D886X0075Y1

##### 100 WORKING VOLTS D-C

µF	Case	Catalog No.
0.8	D	110D804X0100D1
3	G	110D305X0100G1
10	J	110D106X0100J1
20	M	110D206X0100M1
30	P	110D306X0100P1
57	R	110D576X0100R1
70	Y	110D706X0100Y1

##### 150 WORKING VOLTS D-C

µF	Case	Catalog No.
0.5	D	110D504X0150D1
2	G	110D205X0150G1
7	J	110D705X0150J1
14	M	110D146X0150M1

### TYPE 110D

#### POLARIZED PLAIN-FOIL

##### 200 WORKING VOLTS D-C

µF	Case	Catalog No.
20	P	110D206X0150P1
40	R	110D406X0150R1
47	Y	110D476X0150Y1

##### 250 WORKING VOLTS D-C

µF	Case	Catalog No.
0.35	D	110D354X8200D1
1.5	G	110D155X8200G1
5.0	J	110D505X8200J1
10.0	M	110D106X8200M1
15.0	P	110D156X8200P1
25	R	110D256X8200R1
35	Y	110D356X8200Y1

##### 250 WORKING VOLTS D-C

µF	Case	Catalog No.
0.3	D	110D304X8250D1
1.2	G	110D125X8250G1
4.0	J	110D405X8250J1
8.0	M	110D805X8250M1
12.0	P	110D126X8250P1
20	R	110D206X8250R1
30	Y	110D306X8250Y1

##### 300 WORKING VOLTS D-C

µF	Case	Catalog No.
0.25	D	110D254X8300D1
1	G	110D105X8300G1
3	J	110D305X8300J1
7	M	110D705X8300M1
10	P	110D106X8300P1
18	R	110D186X8300R1

##### 375 WORKING VOLTS D-C

µF	Case	Catalog No.
0.2	D	110D204X8375D1
0.8	G	110D804X8375G1
2.5	J	110D255X8375J1
5	M	110D505X8375M1
7	P	110D705X8375P1
12	R	110D126X8300R1

##### 450 WORKING VOLTS D-C

µF	Case	Catalog No.
0.15	D	110D154X8450D1
0.65	G	110D654X8450G1
2	J	110D205X8450J1
4	M	110D405X8450M1
6	P	110D605X8450P1

### TYPE 111D

#### NON-POLARIZED PLAIN-FOIL

##### 6 WORKING VOLTS N.P.

µF	Case	Catalog No.
7	D	111D705X0006D1
25	G	111D256X0006G1
85	J	111D856X0006J1
170	M	111D177X0006M1
250	P	111D257X0006P1
360	R	111D367X0006R1
470	Y	111D477X0006Y1

##### 10 WORKING VOLTS N.P.

µF	Case	Catalog No.
4	D	111D405X0010D1
16	G	111D166X0010G1
55	J	111D556X0010J1
110	M	111D117X0010M1
150	P	111D157X0010P1
230	R	111D237X0010R1
280	Y	111D287X0010Y1

##### 15 WORKING VOLTS N.P.

µF	Case	Catalog No.
2.5	D	111D255X0015D1
10	G	111D106X0015G1
35	J	111D356X0015J1
70	M	111D706X0015M1
100	P	111D107X0015P1
160	R	111D167X0015R1
200	Y	111D207X0015Y1

##### 25 WORKING VOLTS N.P.

µF	Case	Catalog No.
1.5	D	111D155X0025D1
6	G	111D605X0025G1
20	J	111D206X0025J1
40	M	111D406X0025M1
60	P	111D606X0025P1
100	R	111D107X0025R1
120	Y	111D127X0025Y1

##### 30 WORKING VOLTS N.P.

µF	Case	Catalog No.
1.4	D	111D145X0030D1
5.5	G	111D555X0030G1
18	J	111D186X0030J1
36	M	111D366X0030M1
45	P	111D456X0030P1
85	R	111D856X0030R1
100	Y	111D107X0030Y1

### TYPE 110D

#### POLARIZED PLAIN-FOIL

##### 30 WORKING VOLTS N.P.

µF	Case	Catalog No.
30	P	111D306X0050P1
50	R	111D506X0050R1
65	Y	111D656X0050Y1

##### 60 WORKING VOLTS N.P.

µF	Case	Catalog No.
0.6	D	111D604X0060D1
2.5	G	111D255X0060G1
8.5	J	111D855X0060J1
17	M	111D176X0060M1
24	P	111D246X0060P1
45	R	111D456X0060R1
53	Y	111D536X0060Y1

##### 75 WORKING VOLTS N.P.

µF	Case	Catalog No.
0.5	D	111D504X0075D1
2	G	111D205X0075G1
7	J	111D705X0075J1
14	M	111D146X0075M1
20	P	111D206X0075P1
40	R	111D406X0075R1
47	Y	111D476X0075Y1

##### 100 WORKING VOLTS N.P.

µF	Case	Catalog No.
0.4	D	111D404X0100D1
1.5	G	111D155X0100G1
5	J	111D505X0100J1
10	M	111D106X0100M1
15	P	111D156X0100P1
30	R	111D306X0100R1
37	Y	111D376X0100Y1

##### 150 WORKING VOLTS N.P.

µF	Case	Catalog No.
0.25	D	111D245X0150D1
1.0	G	111D105X0150G1
3.5	J	111D355X0150J1
7	M	111D705X0150M1
10	P	111D106X0150P1
20	R	111D206X0150R1
24	Y	111D246X0150Y1

##### 200 WORKING VOLTS N.P.

µF	Case	Catalog No.
0.15	D	111D154X8200D1
0.75	G	111D754X8200G1
2.5	J	111D255X8200J1
5.0	M	111D505X8200M1
7.5	P	111D755X8200P1
14	R	111D146X8200R1
17	Y	111D176X8200Y1

##### 250 WORKING VOLTS N.P.

µF	Case	Catalog No.
0.15	D	111D154X8250D1
0.6	G	111D604X8250G1
2.0	J	111D205X8250J1
4.0	M	111D405X8250M1
6.0	P	111D605X8250P1
12	R	111D126X8250R1
15	Y	111D156X8250Y1

##### 300 WORKING VOLTS N.P.

µF	Case	Catalog No.
0.1	D	111D104X8300D1
.5	G	111D504X8300G1
1.5	J	111D155X8300J1
3.5	M	111D355X8300M1
5	P	111D505X8300P1
9.5	R	111D955X8300R1

### TYPE 112D

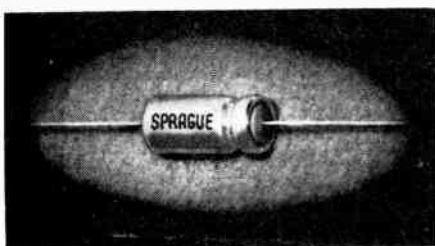
#### POLARIZED ETCHED-FOIL

##### 15 WORKING VOLTS D-C

µF	Case
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# SPRAGUE CAPACITORS

## TYPE 130D 125C SINTERED-ANODE TANTALEX® CAPACITORS



DIMENSIONS

Code	D x L	Code	D x L	Code	D x L	Code	D x L
C	.203 x .515	F	.296 x .703	T	.390 x .828	W	.390 x 1.312

- Reliable, Superior Quality Capacitors With no Voltage Derating for 125C Operation
- Especially Suited for Military Electronics
- Meets 2000 Cycle MIL Missile Vibration Requirements
- Clean, Shoulder-Less Design Simplifies Mounting on Printed Wiring Boards
- Voltage Ratings From 4 WVDC Through 100 WVDC
- Capacitances from 1.7  $\mu\text{F}$  to 1200  $\mu\text{F}$
- For Complete Technical Data, Refer to the Latest Issue of Sprague Engineering Bulletin No. 3701
- Listed Units Have Plastic-Film Insulation For Bare Metal Cases, Change Last Digit of Cat. No. to "0"
- Call Your Sprague Industrial Distributor for Current Quantity Prices

### GROUP 1: $\pm 10\%$ , +20, -15%, and +75, -15% Capacitance Tolerance with outer plastic-film insulation

Catalog Number					Catalog Number						
$\mu\text{F}$	WVDC	Size Code	$\pm 10\%$	+20 -15%	+75 -15%	$\mu\text{F}$	WVDC	Size Code	$\pm 10\%$	+20 -15%	+75 15%
27	4	C	130D276X9004C2	130D276C2004C2	130D276C7004C2	35	20	F	130D356X9020F2	130D356C2020F2	130D356C7020F2
30	4	C	130D306X9004C2	130D306C2004C2	130D306C7004C2	40	20	F	130D406X9020F2	130D406C2020F2	130D406C7020F2
120	4	F	130D127X9004F2	130D127C2004F2	130D127C7004F2	80	20	T	130D806X9020T2	130D806C2020T2	130D806C7020T2
140	4	F	130D147X9004F2	130D147C2004F2	130D147C7004F2	100	20	T	130D107X9020T2	130D107C2020T2	130D107C7020T2
290	4	T	130D297X9004T2	130D297C2004T2	130D297C7004T2	4.5	30	C	130D455X9030C2	130D455C2030C2	130D455C7030C2
330	4	T	130D337X9004T2	130D337C2004T2	130D337C7004T2	5	30	C	130D505X9030C2	130D505C2030C2	130D505C7030C2
22	5	C	130D226X9005C2	130D226C2005C2	130D226C7005C2	22	30	F	130D226X9030F2	130D226C2030F2	130D226C7030F2
25	5	C	130D256X9005C2	130D256C2005C2	130D256C7005C2	25	30	F	130D256X9030F2	130D256C2030F2	130D256C7030F2
100	5	F	130D107X9005F2	130D107C2005F2	130D107C7005F2	55	30	T	130D556X9030T2	130D556C2030T2	130D556C7030T2
120	5	F	130D127X9005F2	130D127C2005F2	130D127C7005F2	60	30	T	130D606X9030T2	130D606C2030T2	130D606C7030T2
260	5	T	130D267X9005T2	130D267C2005T2	130D267C7005T2	3.6	40	C	130D365X9040C2	130D365C2040C2	130D365C7040C2
290	5	T	130D297X9005T2	130D297C2005T2	130D297C7005T2	4	40	C	130D405X9040C2	130D405C2040C2	130D405C7040C2
18	7	C	130D186X9007C2	130D186C2007C2	130D186C7007C2	18	40	F	130D186X9040F2	130D186C2040F2	130D186C7040F2
20	7	C	130D206X9007C2	130D206C2007C2	130D206C7007C2	20	40	F	130D206X9040F2	130D206C2040F2	130D206C7040F2
85	7	F	130D856X9007F2	130D856C2007F2	130D856C7007F2	45	40	T	130D456X9040T2	130D456C2040T2	130D456C7040T2
100	7	F	130D107X9007F2	130D107C2007F2	130D107C7007F2	50	40	T	130D506X9040T2	130D506C2040T2	130D506C7040T2
220	7	T	130D227X9007T2	130D227C2007T2	130D227C7007T2	3	50	C	130D305X9050C2	130D305C2050C2	130D305C7050C2
250	7	T	130D257X9007T2	130D257C2007T2	130D257C7007T2	3.5	50	C	130D355X9050C2	130D355C2050C2	130D355C7050C2
13	10	C	130D136X9010C2	130D136C2010C2	130D136C7010C2	13	50	F	130D136X9050F2	130D136C2050F2	130D136C7050F2
15	10	C	130D156X9010C2	130D156C2010C2	130D156C7010C2	15	50	F	130D156X9050F2	130D156C2050F2	130D156C7050F2
55	10	F	130D556X9010F2	130D556C2010F2	130D556C7010F2	35	50	T	130D356X9050T2	130D356C2050T2	130D356C7050T2
70	10	F	130D706X9010F2	130D706C2010F2	130D706C7010F2	40	50	T	130D406X9050T2	130D406C2050T2	130D406C7050T2
150	10	T	130D157X9010T2	130D157C2010T2	130D157C7010T2	2.5	70	C	130D255X9070C2	130D255C2070C2	130D255C7070C2
170	10	T	130D177X9010T2	130D177C2010T2	130D177C7010T2	10	70	F	130D106X9070F2	130D106C2070F2	130D106C7070F2
9	15	C	130D905X9015C2	130D905C2015C2	130D905C7015C2	11	70	F	130D116X9070F2	130D116C2070F2	130D116C7070F2
10	15	C	130D106X9015C2	130D106C2015C2	130D106C7015C2	27	70	T	130D276X9070T2	130D276C2070T2	130D276C7070T2
45	15	F	130D456X9015F2	130D456C2015F2	130D456C7015F2	30	70	T	130D306X9070T2	130D306C2070T2	130D306C7070T2
50	15	F	130D506X9015F2	130D506C2015F2	130D506C7015F2	1.7	85	C	130D175X9085C2	130D175C2085C2	130D175C7085C2
100	15	T	130D107X9015T2	130D107C2015T2	130D107C7015T2	9	85	F	130D905X9085F2	130D905C2085F2	130D905C7085F2
110	15	T	130D117X9015T2	130D117C2015T2	130D117C7015T2	18	85	T	130D186X9085T2	130D186C2085T2	130D186C7085T2
7	20	C	130D705X9020C2	130D705C2020C2	130D705C7020C2	1.7	100	C	130D175X9100C2	130D175C2100C2	130D175C7100C2
8	20	C	130D805X9020C2	130D805C2020C2	130D805C7020C2	6.8	100	F	130D685X9100F2	130D685C2100F2	130D685C7100F2
						14	100	T	130D146X9100T2	130D146C2100T2	130D146C7100T2

### GROUP 2: $\pm 20\%$ and $\pm 10\%$ Capacitance Tolerance with outer plastic-film insulation

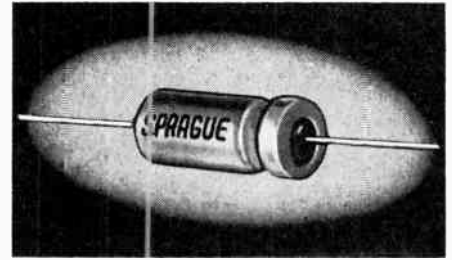
These capacitors have approximately twice the capacitance of Group 1 Capacitors of the same physical size at a given voltage rating.

$\pm 20\%$ Tal.				$\pm 10\%$ Tal.				$\pm 20\%$ Tal.				$\pm 10\%$ Tal.			
$\mu\text{F}$	WVDC	Case Code		$\mu\text{F}$	WVDC	Case Code		$\mu\text{F}$	WVDC	Case Code		$\mu\text{F}$	WVDC	Case Code	
68	4	C	130D686X0004C2	130D686X9004C2	22	15	C	130D226X0015C2	130D226X9015C2	6.8	50	C	130D685X0050C2	130D685X9050C2	
270	4	F	130D277X0004F2	130D277X9004F2	100	15	F	130D107X0015F2	130D107X9015F2	33	50	F	130D336X0050F2	130D336X9050F2	
560	4	T	130D567X0004T2	130D567X9004T2	180	15	T	130D187X0015T2	130D187X9015T2	56	50	T	130D566X0050T2	130D566X9050T2	
1200	4	W	130D128X0004W2	130D128X9004W2	350	15	W	130D357X0015W2	130D357X9015W2	110	50	W	130D117X0050W2	130D117X9050W2	
56	5	C	130D566X0005C2	130D566X9005C2	15	20	C	130D156X0020C2	130D156X9020C2	4.7	70	C	130D475X0070C2	130D475X9070C2	
220	5	F	130D227X0005F2	130D227X9005F2	68	20	F	130D686X0020F2	130D686X9020F2	22	70	F	130D226X0070F2	130D226X9070F2	
430	5	T	130D437X0005T2	130D437X9005T2	150	20	T	130D157X0020T2	130D157X9020T2	43	70	T	130D436X0070T2	130D436X9070T2	
850	5	W	130D857X0005W2	130D857X9005W2	300	20	W	130D307X0020W2	130D307X9020W2	86	70	W	130D866X0070W2	130D866X9070W2	
47	7	C	130D476X0007C2	130D476X9007C2	10	30	C	130D106X0030C2	130D106X9030C2	3.6	85	C	130D365X0085C2	130D365X9085C2	
180	7	F	130D187X0007F2	130D187X9007F2	47	30	F	130D476X0030F2	130D476X9030F2	14	85	F	130D146X0085F2	130D146X9085F2	
390	7	T	130D397X0007T2	130D397X9007T2	82	30	T	130D826X0030T2	130D826X9030T2	25	85	T	130D256X0085T2	130D256X9085T2	
750	7	W	130D757X0007W2	130D757X9007W2	160	30	W	130D167X0030W2	130D167X9030W2	56	85	W	130D566X0085W2	130D566X9085W2	
33	10	C	130D336X0010C2	130D336X9010C2	8.2	40	C	130D825X0040C2	130D825X9040C2	3	100	C	130D305X0100C2	130D305X9100C2	
120	10	F	130D127X0010F2	130D127X9010F2	39	40	F	130D396X0040F2	130D396X9040F2	11	100	F	130D116X0100F2	130D116X9100F2	
270	10	T	130D277X0010T2	130D277X9010T2	68	40	T	130D686X0040T2	130D686X9040T2	22	100	T	130D226X0100T2	130D226X9100T2	
540	10	W	130D547X0010W2	130D547X9010W2	140	40	W	130D147X0040W2	130D147X9040W2						

# SPRAGUE CAPACITORS

## TYPE 109D SINTERED-ANODE TANTALEX® CAPACITORS

- Intended for Applications Where Reliable Design in Military Equipment is Required
- Double Spun TFE-fluorocarbon Elastomer High Temp. End Seals
- Large Values of Capacitance in Small Physical Size
- Listed Units Have Plastic Sleeves
- For Bare Case, End Catalog Number in "0" instead of "2"
- May Be Operated at 85C at Rated Voltage and to 105C With 15% Voltage Derating
- Will Meet 2000 Cycle Missile Vibration Requirements
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 3700
- Call Your Sprague Industrial Distributor For Current Quantity Prices



DIMENSIONS

Code D. x L. Code D. x L. Code D. x L. Code D. x L.  
C .203x.515 F .296x.703 T .380x.828 W .390x1.312

### GROUP 1: Available in Capacitance Tolerances of ±10%, +20, -15%; +75, -15%

μF	WVDC	Size Code	Catalog Number			μF	WVDC	Size Code	Catalog Number		
			±10%	+20, -15%	+75, -15%				±10%	+20, -15%	+75, -15%
27	6	C	109D276X9006C2	109D276C2006C2	109D276C7006C2	40	30	F	109D406X9030F2	109D406C2030F2	109D406C7030F2
30	6	C	109D306X9006C2	109D306C2006C2	109D306C7006C2	80	30	T	109D806X9030T2	109D806C2030T2	109D806C7030T2
120	6	F	109D127X9006F2	109D127C2006F2	109D127C7006F2	100	30	T	109D107X9030T2	109D107C2030T2	109D107C7030T2
140	6	F	109D147X9006F2	109D147C2006F2	109D147C7006F2	4.5	50	C	109D455X9050C2	109D455C2050C2	109D455C7050C2
290	6	T	109D297X9006T2	109D297C2006T2	109D297C7006T2	5	50	C	109D505X9050C2	109D505C2050C2	109D505C7050C2
330	6	T	109D337X9006T2	109D337C2006T2	109D337C7006T2	22	50	F	109D226X9050F2	109D226C2050F2	109D226C7050F2
22	8	C	109D226X9008C2	109D226C2008C2	109D226C7008C2	25	50	F	109D256X9050F2	109D256C2050F2	109D256C7050F2
25	8	C	109D256X9008C2	109D256C2008C2	109D256C7008C2	55	50	T	109D556X9050T2	109D556C2050T2	109D556C7050T2
100	8	F	109D107X9008F2	109D107C2008F2	109D107C7008F2	60	50	T	109D606X9050T2	109D606C2050T2	109D606C7050T2
120	8	F	109D127X9008F2	109D127C2008F2	109D127C7008F2	3.6	60	C	109D365X9060C2	109D365C2060C2	109D365C7060C2
260	8	T	109D267X9008T2	109D267C2008T2	109D267C7008T2	4	60	C	109D405X9060C2	109D405C2060C2	109D405C7060C2
290	8	T	109D297X9008T2	109D297C2008T2	109D297C7008T2	18	60	F	109D186X9060F2	109D186C2060F2	109D186C7060F2
18	10	C	109D186X9010C2	109D186C2010C2	109D186C7010C2	20	60	F	109D206X9060F2	109D206C2060F2	109D206C7060F2
20	10	C	109D206X9010C2	109D206C2010C2	109D206C7010C2	45	60	T	109D456X9060T2	109D456C2060T2	109D456C7060T2
85	10	F	109D856X9010F2	109D856C2010F2	109D856C7010F2	50	60	T	109D506X9060T2	109D506C2060T2	109D506C7060T2
100	10	F	109D107X9010F2	109D107C2010F2	109D107C7010F2	3	75	C	109D305X9075C2	109D305C2075C2	109D305C7075C2
220	10	T	109D227X9010T2	109D227C2010T2	109D227C7010T2	3.5	75	C	109D355X9075C2	109D355C2075C2	109D355C7075C2
250	10	T	109D257X9010T2	109D257C2010T2	109D257C7010T2	13	75	F	109D136X9075F2	109D136C2075F2	109D136C7075F2
13	15	C	109D136X9015C2	109D136C2015C2	109D136C7015C2	15	75	F	109D156X9075F2	109D156C2075F2	109D156C7075F2
15	15	C	109D156X9015C2	109D156C2015C2	109D156C7015C2	35	75	T	109D356X9075T2	109D356C2075T2	109D356C7075T2
55	15	F	109D556X9015F2	109D556C2015F2	109D556C7015F2	40	75	T	109D406X9075T2	109D406C2075T2	109D406C7075T2
70	15	F	109D706X9015F2	109D706C2015F2	109D706C7015F2	2.5	100	C	109D255X9100C2	109D255C2100C2	109D255C7100C2
150	15	T	109D157X9015T2	109D157C2015T2	109D157C7015T2	10	100	F	109D106X9100F2	109D106C2100F2	109D106C7100F2
170	15	T	109D177X9015T2	109D177C2015T2	109D177C7015T2	11	100	F	109D116X9100F2	109D116C2100F2	109D116C7100F2
9	25	C	109D905X9025C2	109D905C2025C2	109D905C7025C2	27	100	T	109D276X9100T2	109D276C2100T2	109D276C7100T2
25	25	C	109D106X9025C2	109D106C2025C2	109D106C7025C2	30	100	T	109D306X9100T2	109D306C2100T2	109D306C7100T2
45	25	F	109D456X9025F2	109D456C2025F2	109D456C7025F2	1.7	125	C	109D175X9125C2	109D175C2125C2	109D175C7125C2
50	25	F	109D506X9025F2	109D506C2025F2	109D506C7025F2	9	125	F	109D905X9125F2	109D905C2125F2	109D905C7125F2
100	25	T	109D107X9025T2	109D107C2025T2	109D107C7025T2	18	125	T	109D186X9125T2	109D186C2125T2	109D186C7125T2
110	25	T	109D117X9025T2	109D117C2025T2	109D117C7025T2	1.7	150	C	109D175X9150C2	109D175C2150C2	109D175C7150C2
7	30	C	109D705X9030C2	109D705C2030C2	109D705C7030C2	6.8	150	F	109D685X9150F2	109D685C2150F2	109D685C7150F2
8	30	C	109D805X9030C2	109D805C2030C2	109D805C7030C2	14	150	T	109D146X9150T2	109D146C2150T2	109D146C7150T2
35	30	F	109D356X9030F2	109D356C2030F2	109D356C7030F2						

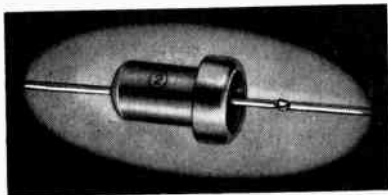
### GROUP 2. Available in Capacitance Tolerances of ±20% and ±10%

These capacitors have approximately twice the capacitance of Group 1 Capacitors of the same physical size at a given voltage rating.

μF	WVDC	Size Code	Catalog Number		μF	WVDC	Size Code	Catalog Number		μF	WVDC	Size Code	Catalog Number	
			±20% Tol.	±10% Tol.				±20% Tol.	±10% Tol.				±20% Tol.	±10% Tol.
68	6	C	109D686X0006C2	109D686X9006C2	22	25	C	109D226X0025C2	109D226X9025C2	6.8	75	C	109D685X0075C2	109D685X9075C2
270	6	F	109D277X0006F2	109D277X9006F2	100	25	F	109D107X0025F2	109D107X9025F2	33	75	F	109D336X0075F2	109D336X9075F2
560	6	T	109D567X0006T2	109D567X9006T2	180	25	T	109D187X0025T2	109D187X9025T2	56	75	T	109D566X0075T2	109D566X9075T2
1200	6	W	109D128X0006W2	109D128X9006W2	350	25	W	109D357X0025W2	109D357X9025W2	110	75	W	109D117X0075W2	109D117X9075W2
56	8	C	109D566X0008C2	109D566X9008C2	15	30	C	109D156X0030C2	109D156X9030C2	4.7	100	C	109D475X0100C2	109D475X9100C2
220	8	F	109D227X0008F2	109D227X9008F2	68	30	F	109D686X0030F2	109D686X9030F2	22	100	F	109D226X0100F2	109D226X9100F2
430	8	T	109D437X0008T2	109D437X9008T2	150	30	T	109D157X0030T2	109D157X9030T2	43	100	T	109D436X0100T2	109D436X9100T2
850	8	W	109D857X0008W2	109D857X9008W2	300	30	W	109D307X0030W2	109D307X9030W2	86	100	W	109D866X0100W2	109D866X9100W2
47	10	C	109D476X0010C2	109D476X9010C2	10	50	C	109D106X0050C2	109D106X9050C2	3.6	125	C	109D365X0125C2	109D365X9125C2
180	10	F	109D187X0010F2	109D187X9010F2	47	50	F	109D476X0050F2	109D476X9050F2	14	125	F	109D146X0125F2	109D146X9125F2
390	10	T	109D397X0010T2	109D397X9010T2	82	50	T	109D826X0050T2	109D826X9050T2	25	125	T	109D256X0125T2	109D256X9125T2
750	10	W	109D757X0010W2	109D757X9010W2	160	50	W	109D167X0050W2	109D167X9050W2	56	125	W	109D566X0125W2	109D566X9125W2
33	15	C	109D336X0015C2	109D336X9015C2	8.2	60	C	109D825X0060C2	109D825X9060C2	3	150	C	109D305X0150C2	109D305X9150C2
120	15	F	109D127X0015F2	109D127X9015F2	39	60	F	109D396X0060F2	109D396X9060F2	11	150	F	109D116X0150F2	109D116X9150F2
270	15	T	109D277X0015T2	109D277X9015T2	68	60	T	109D686X0060T2	109D686X9060T2	22	150	T	109D226X0150T2	109D226X9150T2
540	15	W	109D547X0015W2	109D547X9015W2	140	60	W	109D147X0060W2	109D147X9060W2					

# SPRAGUE CAPACITORS

## "CUP STYLE" TANTALEX® CAPACITORS



Size Code	Dimensions		CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES
	Dia.	x Length	
U	7/32	x 15/32	
V	9/32	x 11/16	
T	3/8	x 49/64	

- -55C to +85C Operation at Full Rating. 100C Operation With 15% Derating.
- Stable in Performance Characteristics Over Entire Temperature Range.
- Large Capacitance in Small Size.
- Extremely Low Leakage Currents.
- 132D Designed to Withstand Severe Military Vibration Tests.
- For Plastic Tube on units, change "0" to "4" at End of Catalog Number.
- For Complete Technical Data See Latest Issue of Engineering Bulletin 3710 and 3711.

## VIBRATION-PROOF TYPE 132D

μF	Size Code	Catalog Number		μF	Size Code	Catalog Number		μF	Size Code	Catalog Number	
		+10% Tol.	-15, +20% Tol.			+10% Tol.	-15, +20% Tol.			+10% Tol.	-15, +20% Tol.
<b>6 WVDC — 7 VDC SURGE</b>				<b>25 WVDC — 30 VDC SURGE</b>				<b>75 WVDC — 87 VDC SURGE</b>			
30	U	132D306X9006U0	132D306C2006U0	10	U	132D106X9025U0	132D106C2025U0	3.5	U	132D355X9075U0	132D355C2075U0
140	V	132D147X9006V0	132D147C2006V0	<b>30 WVDC — 36 VDC SURGE</b>				15	V	132D156X9075V0	132D156C2075V0
320	T	132D327X9006T0	132D327C2006T0	8	U	132D805X9030U0	132D805C2030U0	40	T	132D406X9075T0	132D406C2075T0
<b>8 WVDC — 10 VDC SURGE</b>				40	V	132D406X9030V0	132D406C2030V0	<b>100 WVDC — 115 VDC SURGE</b>			
25	U	132D256X9008U0	132D256C2008U0	100	T	132D107X9030T0	132D107C2030T0	2	U	132D205X9100U0	132D205C2100U0
<b>10 WVDC — 12 VDC SURGE</b>				<b>50 WVDC — 60 VDC SURGE</b>				11	V	132D116X9100V0	132D116C2100V0
20	U	132D206X9010U0	132D206C2010U0	5	U	132D505X9050U0	132D505C2050U0	30	T	132D306X9100T0	132D306C2100T0
100	V	132D107X9010V0	132D107C2010V0	25	V	132D256X9050V0	132D256C2050V0	<b>125 WVDC — 140 VDC SURGE</b>			
250	T	132D257X9010T0	132D257C2010T0	60	T	132D606X9050T0	132D606C2050T0	1.7	U	132D175X9125U0	132D175C2125U0
<b>15 WVDC — 18 VDC SURGE</b>				<b>60 WVDC — 72 VDC SURGE</b>				9	V	132D905X9125V0	132D905C2125V0
15	U	132D156X9015U0	132D156C2015U0	4	U	132D405X9060U0	132D405C2060U0	25	T	132D256X9125T0	132D256C2125T0
70	V	132D706X9015V0	132D706C2015V0	20	V	132D206X9060V0	132D206C2060V0				
170	T	132D177X9015T0	132D177C2015T0	50	T	132D506X9060T0	132D506C2060T0				

## VIBRATION-PROOF TYPE 133D

- -55C to +125C Operation at Full Rating. May Be Up-Rated 50% for Operation at 85C.
- Meet Stringent Requirements in Military and Missile Applications.
- Sintered Anode for Unusual Capacitance Stability, Large Values of Capacitance in Small Physical Size.
- Non-Tarnish Finish to Prevent Discoloration During Storage or Use.
- For Units With Outer Plastic Insulating Tube, Substitute "4" for "0" at End of Catalog Number.
- Housed in Miniature Silver Thimble.

μF	Size Code	Catalog Number		μF	Size Code	Catalog Number		μF	Size Code	Catalog Number	
		-15, +20% Tol.	+10% Tol.			-15, +20% Tol.	+10% Tol.			-15, +20% Tol.	+10% Tol.
<b>4 WORKING VOLTS D-C</b>				<b>15 WORKING VOLTS D-C</b>				<b>50 WORKING VOLTS D-C</b>			
30	U	133D306C2004U0	133D306X9004U0	10	U	133D106C2015U0	133D106X9015U0	3.5	U	133D355C2050U0	133D355X9050U0
140	V	133D147C2004V0	133D147X9004V0	<b>20 WORKING VOLTS D-C</b>				15	V	133D156C2050V0	133D156X9050V0
320	T	133D327C2004T0	133D327X9004T0	8	U	133D805C2020U0	133D805X9020U0	40	T	133D406C2050T0	133D406X9050T0
<b>5 WORKING VOLTS D-C</b>				40	V	133D406C2020V0	133D406X9020V0	<b>70 WORKING VOLTS D-C</b>			
25	U	133D256C2005U0	133D256X9005U0	100	T	133D107C2020T0	133D107X9020T0	2	U	133D205C2070U0	133D205X9070U0
<b>7 WORKING VOLTS D-C</b>				<b>30 WORKING VOLTS D-C</b>				11	V	133D116C2070V0	133D116X9070V0
20	U	133D206C2007U0	133D206X9007U0	5	U	133D505C2030U0	133D505X9030U0	30	T	133D306C2070T0	133D306X9070T0
100	V	133D107C2007V0	133D107X9007V0	25	V	133D256C2030V0	133D256X9030V0	<b>85 WORKING VOLTS D-C</b>			
250	T	133D257C2007T0	133D257X9007T0	60	T	133D606C2030T0	133D606X9030T0	1.7	U	133D175C2085U0	133D175X9085U0
<b>10 WORKING VOLTS D-C</b>				<b>40 WORKING VOLTS D-C</b>				9	V	133D905C2085V0	133D905X9085V0
15	U	133D156C2010U0	133D156X9010U0	4	U	133D405C2040U0	133D405X9040U0	25	T	133D256C2085T0	133D256X9085T0
70	V	133D706C2010V0	133D706X9010V0	20	V	133D206C2040V0	133D206X9040V0				
170	T	133D177C2010T0	133D177X9010T0	50	T	133D506C2040T0	133D506X9040T0				



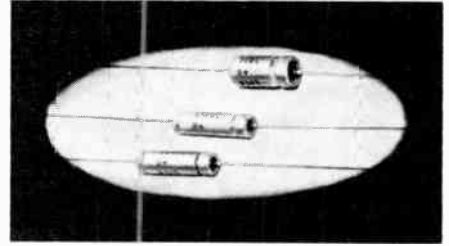
# SPRAGUE CAPACITORS

## TYPE 137D HERMETICALLY-SEALED GELLED-ELECTROLYTE SINTERED-ANODE TANTALEX® CAPACITORS

- Glass-to-metal Hermetic Seal Makes Type 137D Capacitors Especially Well Suited For Use in Satellites and Other Space Equipment.
- Gelled-electrolyte For Optimum Performance Characteristics
- High Volumetric Efficiency Results in Space Savings
- Operating Temperature Range of  $-55^{\circ}\text{C}$  to  $+175^{\circ}\text{C}$
- Available in Voltage Ratings From 6 WVDC Through 125 WVDC At 85C With

Appropriate Derating For Higher Temperature Operation

- Group 1 Available in Capacitance Tolerances of  $\pm 20\%$ ,  $-15\%$  and  $+75\%$ ,  $-15\%$ ; Group 2 Available in a Capacitance Tolerance of  $\pm 20\%$
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin Number 3703
- Call Your Sprague Industrial Distributor For Current Quantity Prices



### GROUP 1: $\pm 20\%$ , $-15\%$ and $+75\%$ , $-15\%$ Capacitance Tolerance with Outer Plastic-film Insulation

$\mu\text{F}$	WVDC	Diam.	Length (max.)	Catalog No.*
140	6	0.296	0.704	137D147C2006F2
330	6	0.390	0.828	137D337C2006T2
120	8	0.296	0.704	137D127C2008F2
290	8	0.390	0.828	137D297C2008T2
85	10	0.296	0.704	137D856C2010F2
100	10	0.296	0.704	137D107C2010F2
220	10	0.390	0.828	137D227C2010T2
250	10	0.390	0.828	137D257C2010T2
55	15	0.296	0.704	137D556C2015F2
70	15	0.296	0.704	137D706C2015F2
150	15	0.390	0.828	137D157C2015T2
170	15	0.390	0.828	137D177C2015T2
45	25	0.296	0.704	137D456C2025F2
50	25	0.296	0.704	137D506C2025F2
110	25	0.390	0.828	137D117C2025T2
35	30	0.296	0.704	137D356C2030F2
40	30	0.296	0.704	137D406C2030F2
80	30	0.390	0.828	137D806C2030T2
100	30	0.390	0.828	137D107C2030T2
22	50	0.296	0.704	137D226C2050F2

$\mu\text{F}$	WVDC	Diam.	Length (max.)	Catalog No.*
25	50	0.296	0.704	137D256C2050F2
55	50	0.390	0.828	137D556C2050T2
60	50	0.390	0.828	137D606C2050T2
180	60	0.296	0.704	137D186C2060F2
20	60	0.296	0.704	137D206C2060F2
45	60	0.390	0.828	137D456C2060T2
50	60	0.390	0.828	137D506C2060T2
13	75	0.296	0.704	137D136C2075F2
15	75	0.296	0.704	137D156C2075F2
35	75	0.390	0.828	137D356C2075T2
45	75	0.390	0.828	137D456C2075T2
10	100	0.296	0.704	137D106C2100F2
11	100	0.296	0.704	137D116C2100F2
27	100	0.390	0.828	137D276C2100T2
30	100	0.390	0.828	137D306C2100T2
9	125	0.296	0.704	137D906C2125F2
18	125	0.390	0.828	137D186C2125T2

\*Catalog numbers listed are for  $\pm 20\%$ ,  $-15\%$  tolerance capacitors. For  $+75\%$ ,  $-15\%$  tolerance capacitors, change the digit following the letter "C" from "2" to "7".

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

### GROUP 2: $\pm 20\%$ Capacitance Tolerance with Outer Plastic-film Insulation

These capacitors have approximately twice the capacitance of Group 1 capacitors of the same physical size of a given voltage rating.

$\mu\text{F}$	WVDC	Diam.	Length (max.)	Catalog No.*
68	6	0.203	0.515	137D68X0006C2
270	6	0.296	0.704	137D277X0006F2
540	6	0.296	1.095	137D547X0006A2
560	6	0.390	0.828	137D567X0006T2
1200	6	0.390	1.312	137D128X0006W2
56	8	0.203	0.515	137D566X0008C2
220	8	0.296	0.704	137D227X0008F2
430	8	0.390	0.828	137D437X0008T2
440	8	0.296	1.095	137D447X0008A2
1000	8	0.390	1.312	137D108X0008W2
47	10	0.203	0.515	137D476X0010C2
180	10	0.296	0.704	137D187X0010F2
360	10	0.296	1.095	137D367X0010A2
390	10	0.390	0.828	137D397X0010T2
820	10	0.390	1.312	137D827X0010W2
33	15	0.203	0.515	137D336X0015C2
120	15	0.296	0.704	137D127X0015F2
240	15	0.296	1.095	137D247X0015A2
270	15	0.390	0.828	137D277X0015T2
560	15	0.390	1.312	137D567X0015W2
22	25	0.203	0.515	137D226X0025C2
100	25	0.296	0.704	137D107X0025F2
180	25	0.390	0.828	137D187X0025T2
200	25	0.296	1.095	137D207X0025A2
390	25	0.390	1.312	137D397X0025W2
18	30	0.203	0.515	137D186X0030C2
68	30	0.296	0.704	137D686X0030F2
140	30	0.296	1.095	137D147X0030A2
150	30	0.390	0.828	137D157X0030T2

$\mu\text{F}$	WVDC	Diam.	Length (max.)	Catalog No.*
330	30	0.390	1.312	137D337X0030W2
10	50	0.203	0.515	137D106X0050C2
47	50	0.296	0.704	137D476X0050F2
82	50	0.390	0.828	137D826X0050T2
94	50	0.296	1.095	137D946X0050A2
180	50	0.390	1.312	137D187X0050W2
8.2	60	0.203	0.515	137D825X0060C2
39	60	0.296	0.704	137D396X0060F2
68	60	0.390	0.828	137D686X0060T2
78	60	0.296	1.095	137D786X0060A2
150	60	0.390	1.312	137D157X0060W2
6.8	75	0.203	0.515	137D685X0075C2
33	75	0.296	0.704	137D336X0075F2
56	75	0.390	0.828	137D566X0075T2
66	75	0.296	1.095	137D666X0075A2
120	75	0.390	1.312	137D127X0075W2
4.7	100	0.203	0.515	137D475X0100C2
22	100	0.296	0.704	137D226X0100F2
43	100	0.390	0.828	137D436X0100T2
44	100	0.296	1.095	137D446X0100A2
86	100	0.390	1.312	137D866X0100W2
3.6	125	0.203	0.515	137D365X0125C2
14	125	0.296	0.704	137D146X0125F2
25	125	0.390	0.828	137D256X0125T2
28	125	0.296	1.095	137D286X0125A2
56	125	0.390	1.312	137D566X0125W2

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

# SPRAGUE CAPACITORS

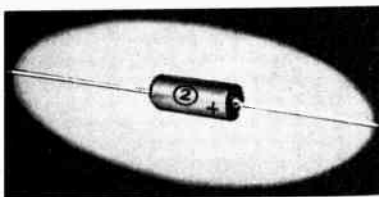
## MIL-C-26655 Solid TANTALUM CAPACITORS

- Military Version of Type 150D.
- CS12, Bare Tube; CS13, Insulating Sleeve
- Solid Electrolyte Will Not Seep Even if Hermetic Seal is Accidentally Broken
- Temperature Range of  $-55^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ . Also  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  With Voltage Derating

- See Latest Issue of Engineering Bulletin 3502.1
- Call Your Sprague Distributor For Quantity Prices
- For Insulated Style CS13, Add 0.010" to Diameter and 0.036" to Length

### SIZE CODE

- A = .125" D. x .250" L. C = .279" D. x .650" L.  
B = .175" D. x .438" L. D = .341" D. x .750" L.



CS12					CS13									
μF	Size Code	Tol.	Type Designation	Type Designation	μF	Size Code	Tol.	Type Designation	Type Designation					
<b>Δ WVDC</b>														
5.6	A	10%	CS12BB565K	CS13BB565K	.82	A	10%	CS12BF824K	CS13BF824K					
6.8	A	10%	CS12BB685K	CS13BB685K	1.0	A	10%	CS12BF105K	CS13BF105K					
6.8	A	20%	CS12BB685M	CS13BB685M	1.0	A	20%	CS12BF105M	CS13BF105M					
47	B	10%	CS12BB476K	CS13BB476K	1.2	B	10%	CS12BF125K	CS13BF125K					
47	B	20%	CS12BB476M	CS13BB476M	1.5	B	10%	CS12BF155K	CS13BF155K					
56	B	10%	CS12BB566K	CS13BB566K	1.5	B	20%	CS12BF155M	CS13BF155M					
50	C	10%	CS12BB157K	CS13BB157K	1.8	B	10%	CS12BF185K	CS13BF185K					
50	C	20%	CS12BB157M	CS13BB157M	2.2	B	10%	CS12BF225K	CS13BF225K					
180	C	10%	CS12BB187K	CS13BB187K	2.2	B	20%	CS12BF225M	CS13BF225M					
170	D	10%	CS12BB277K	CS13BB277K	2.7	B	10%	CS12BF275K	CS13BF275K					
130	D	10%	CS12BB337K	CS13BB337K	3.3	B	20%	CS12BF335K	CS13BF335K					
130	D	20%	CS12BB337M	CS13BB337M	3.9	B	10%	CS12BF395K	CS13BF395K					
<b>10 WVDC</b>														
3.9	A	10%	CS12BC395K	CS13BC395K	4.7	B	10%	CS12BF475M	CS13BF475M					
4.7	A	10%	CS12BC475K	CS13BC475K	6.8	B	10%	CS12BF685K	CS13BF685K					
4.7	A	20%	CS12BC475M	CS13BC475M	6.8	B	20%	CS12BF685M	CS13BF685M					
27	B	10%	CS12BC276K	CS13BC276K	8.2	C	10%	CS12BF825K	CS13BF825K					
33	B	10%	CS12BC336K	CS13BC336K	10	C	10%	CS12BF106M	CS13BF106M					
33	B	20%	CS12BC336M	CS13BC336M	10	C	20%	CS12BF106M	CS13BF106M					
39	B	10%	CS12BC396K	CS13BC396K	12	C	10%	CS12BF126K	CS13BF126K					
82	C	10%	CS12BC826K	CS13BC826K	15	C	10%	CS12BF156K	CS13BF156K					
100	C	10%	CS12BC107K	CS13BC107K	15	C	20%	CS12BF156M	CS13BF156M					
100	C	20%	CS12BC107M	CS13BC107M	18	C	10%	CS12BF186K	CS13BF186K					
120	C	10%	CS12BC127K	CS13BC127K	22	C	10%	CS12BF226K	CS13BF226K					
180	D	10%	CS12BC187K	CS13BC187K	22	C	20%	CS12BF226M	CS13BF226M					
220	D	10%	CS12BC227K	CS13BC227K	27	D	10%	CS12BF276K	CS13BF276K					
220	D	20%	CS12BC227M	CS13BC227M	33	D	10%	CS12BF336K	CS13BF336K					
<b>15 WVDC</b>														
2.7	A	10%	CS12BD275K	CS13BD275K	33	D	20%	CS12BF336M	CS13BF336M					
3.3	A	10%	CS12BD335K	CS13BD335K	39	D	10%	CS12BF396K	CS13BF396K					
3.3	A	20%	CS12BD335M	CS13BD335M	47	D	10%	CS12BF476K	CS13BF476K					
18	B	10%	CS12BD186K	CS13BD186K	47	D	20%	CS12BF476M	CS13BF476M					
22	B	10%	CS12BD226K	CS13BD226K	<b>50 WVDC</b>									
22	B	20%	CS12BD226M	CS13BD226M	1.0	A	10%	CS12BG105K	CS13BG105K					
56	C	10%	CS12BD566K	CS13BD566K	1.0	A	20%	CS12BG105M	CS13BG105M					
68	C	10%	CS12BD686K	CS13BD686K	1.2	B	10%	CS12BG125K	CS13BG125K					
68	C	20%	CS12BD686M	CS13BD686M	1.5	B	10%	CS12BG155K	CS13BG155K					
120	D	10%	CS12BD127K	CS13BD127K	1.5	B	20%	CS12BG155M	CS13BG155M					
150	D	10%	CS12BD157K	CS13BD157K	1.8	B	10%	CS12BG185K	CS13BG185K					
150	D	20%	CS12BD157M	CS13BD157M	2.2	B	10%	CS12BG225K	CS13BG225K					
<b>20 WVDC</b>														
1.2	A	10%	CS12BE125K	CS13BE125K	2.2	B	20%	CS12BG225M	CS13BG225M					
1.5	A	10%	CS12BE155K	CS13BE155K	2.7	B	10%	CS12BG275K	CS13BG275K					
1.5	A	20%	CS12BE155M	CS13BE155M	3.3	B	10%	CS12BG335K	CS13BG335K					
1.8	A	10%	CS12BE185K	CS13BE185K	3.3	B	20%	CS12BG335M	CS13BG335M					
2.2	A	10%	CS12BE225K	CS13BE225K	3.9	B	10%	CS12BG395K	CS13BG395K					
2.2	A	20%	CS12BE225M	CS13BE225M	4.7	B	10%	CS12BG475K	CS13BG475K					
8.2	B	10%	CS12BE825K	CS13BE825K	4.7	B	20%	CS12BG475M	CS13BG475M					
10	B	10%	CS12BE106K	CS13BE106K	5.6	C	10%	CS12BG565K	CS13BG565K					
10	B	20%	CS12BE106M	CS13BE106M	6.8	C	10%	CS12BG685K	CS13BG685K					
12	B	10%	CS12BE126K	CS13BE126K	6.8	C	20%	CS12BG685M	CS13BG685M					
15	B	10%	CS12BE156K	CS13BE156K	8.2	C	10%	CS12BG825K	CS13BG825K					
15	B	20%	CS12BE156M	CS13BE156M	10	C	10%	CS12BG106K	CS13BG106K					
27	C	10%	CS12BE276K	CS13BE276K	10	C	20%	CS12BG106M	CS13BG106M					
33	C	10%	CS12BE336K	CS13BE336K	12	C	10%	CS12BG126K	CS13BG126K					
33	C	20%	CS12BE336M	CS13BE336M	15	C	10%	CS12BG156K	CS13BG156K					
39	C	10%	CS12BE396K	CS13BE396K	15	C	20%	CS12BG156M	CS13BG156M					
47	C	10%	CS12BE476K	CS13BE476K	18	C	10%	CS12BG186K	CS13BG186K					
47	C	20%	CS12BE476M	CS13BE476M	22	D	10%	CS12BG226K	CS13BG226K					
56	D	10%	CS12BE566K	CS13BE566K	22	D	20%	CS12BG226M	CS13BG226M					
68	D	10%	CS12BE686K	CS13BE686K	<b>75 WVDC</b>									
68	D	20%	CS12BE686M	CS13BE686M	.10	A	10%	CS12BH104K	CS13BH104K					
82	D	10%	CS12BE826K	CS13BE826K	.10	A	20%	CS12BH104M	CS13BH104M					
100	D	10%	CS12BE107K	CS13BE107K	.12	A	10%	CS12BH124K	CS13BH124K					
100	D	20%	CS12BE107M	CS13BE107M	.15	A	10%	CS12BH154K	CS13BH154K					
<b>35 WVDC</b>														
.33	A	10%	CS12BF334K	CS13BF334K	.15	A	20%	CS12BH154M	CS13BH154M					
.33	A	20%	CS12BF334M	CS13BF334M	.18	A	10%	CS12BH184K	CS13BH184K					
.39	A	10%	CS12BF394K	CS13BF394K	.22	A	10%	CS12BH224K	CS13BH224K					
.47	A	10%	CS12BF474K	CS13BF474K	.22	A	20%	CS12BH224M	CS13BH224M					
.47	A	20%	CS12BF474M	CS13BF474M	.27	A	10%	CS12BH274K	CS13BH274K					
.56	A	10%	CS12BF564K	CS13BF564K	.33	A	10%	CS12BH334K	CS13BH334K					
.68	A	10%	CS12BF684K	CS13BF684K	.33	A	20%	CS12BH334M	CS13BH334M					
.68	A	20%	CS12BF684M	CS13BF684M	.39	A	10%	CS12BH394K	CS13BH394K					
<b>100 WVDC</b>														
.0047	A	10%	CS12BJ472K	CS13BJ472K	.47	A	10%	CS12BH474K	CS13BH474K					
.0047	A	20%	CS12BJ472M	CS13BJ472M	.47	A	20%	CS12BH474M	CS13BH474M					
.0056	A	10%	CS12BJ562K	CS13BJ562K	.56	A	10%	CS12BJ564K	CS13BJ564K					
.0068	A	10%	CS12BJ682K	CS13BJ682K	.68	B	10%	CS12BJ684K	CS13BJ684K					
.0068	A	20%	CS12BJ682M	CS13BJ682M	.68	B	20%	CS12BJ684M	CS13BJ684M					
.0082	A	10%	CS12BJ822K	CS13BJ822K	.82	B	10%	CS12BJ824K	CS13BJ824K					
.01	A	10%	CS12BJ103K	CS13BJ103K	1.0	B	10%	CS12BJ105K	CS13BJ105K					
.01	A	20%	CS12BJ103M	CS13BJ103M	1.0	B	20%	CS12BJ105M	CS13BJ105M					
.012	A	10%	CS12BJ123K	CS13BJ123K	1.2	B	10%	CS12BJ125K	CS13BJ125K					
.015	A	10%	CS12BJ153K	CS13BJ153K	1.5	B	10%	CS12BJ155K	CS13BJ155K					
.015	A	20%	CS12BJ153M	CS13BJ153M	1.5	B	20%	CS12BJ155M	CS13BJ155M					
.018	A	10%	CS12BJ183K	CS13BJ183K	1.8	B	10%	CS12BJ185K	CS13BJ185K					
.022	A	10%	CS12BJ223K	CS13BJ223K	2.2	B	10%	CS12BJ225K	CS13BJ225K					
.022	A	20%	CS12BJ223M	CS13BJ223M	.27	A	10%	CS12BJ274K	CS13BJ274K					
.027	A	10%	CS12BJ273K	CS13BJ273K	.27	A	20%	CS12BJ274M	CS13BJ274M					
.033	A	10%	CS12BJ333K	CS13BJ333K	.33	A	10%	CS12BJ334K	CS13BJ334K					
.033	A	20%	CS12BJ333M	CS13BJ333M	.39	A	10%	CS12BJ394K	CS13BJ394K					
.039	A	10%	CS12BJ393K	CS13BJ393K	.47	A	10%	CS12BJ474K	CS13BJ474K					
.047	A	10%	CS12BJ473K	CS13BJ473K	.47	A	20%	CS12BJ474M	CS13BJ474M					
.047	A	20%	CS12BJ473M	CS13BJ473M	.56	A	10%	CS12BJ564K	CS13BJ564K					
.056	A	10%	CS12BJ563K	CS13BJ563K	.68	B	10%	CS12BJ684K	CS13BJ684K					
.068	A	10%	CS12BJ683K	CS13BJ683K	.68	B	20%	CS12BJ684M	CS13BJ684M					
.068	A	20%	CS12BJ683M	CS13BJ683M	.82	B	10%	CS12BJ824K	CS13BJ824K					
.082	A	10%	CS12BJ823K	CS13BJ823K	1.0	B	10%	CS12BJ105K	CS13BJ105K					
.10	A	10%	CS12BJ104K	CS13BJ104K	1.0	B	20%	CS12BJ105M	CS13BJ105M					
.10	A	20%	CS12BJ104M	CS13BJ104M	1.2	B	10%	CS12BJ125K	CS13BJ125K					
.12	A	10%	CS12BJ124K	CS13BJ124K	1.5	B	10%	CS12BJ155K	CS13BJ155K					
.12	A	20%	CS12BJ124M	CS13BJ124M	1.5	B	20%	CS12BJ155M	CS13BJ155M					
.15	A	10%	CS12BJ154K	CS13BJ154K	1.8	B	10%	CS12BJ185K	CS13BJ185K					
.15	A	20%	CS12BJ154M	CS13BJ154M	2.2	B	10%	CS12BJ225K	CS13BJ225K					
.22	A	10%	CS12BJ224K	CS13BJ224K	2.2	B	20%	CS12BJ225M	CS13BJ225M					
.22	A	20%	CS12BJ224M	CS13BJ224M	2.7	B	10%	CS12BJ275K	CS13BJ275K					

Sizes subject to change without notice.

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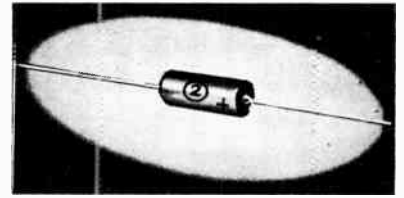
# SPRAGUE CAPACITORS

## MIL-39003 Solid TANTALUM CAPACITORS

- Military Version of Type 150D
- Solid Electrolyte Will Not Seep Even if Hermetic Seal is Accidentally Broken
- Temperature Range of -55C to +125C
- Capacitance Tolerance Indicated by 10th Character in MIL Type Designation:  
K = +10%, -10% M = +20%, -20%
- CSR13 Listing Shown are With Insulating Sleeve Only
- Established Reliability

### SIZE CODE

A = .135"D. x .286"L. C = .289"D. x .686"L.  
B = .185"D. x .474"L. D = .351"D. x .786"L.



μF	Case Code	MIL Type Designation		
		L 2% Failure Rate	M 1% Failure Rate	P .1% Failure Rate
<b>6 WVDC</b>				
5.6	A	CSR13B565KL	CSR13B565KM	CSR13B565KP
6.8	A	CSR13B685KL	CSR13B685KM	CSR13B685KP
6.8	A	CSR13B685ML	CSR13B685MM	CSR13B685MP
47	B	CSR13B476KL	CSR13B476KM	CSR13B476KP
47	B	CSR13B476ML	CSR13B476MM	CSR13B476MP
56	B	CSR13B566KL	CSR13B566KM	CSR13B566KP
150	C	CSR13B157KL	CSR13B157KM	CSR13B157KP
150	C	CSR13B157ML	CSR13B157MM	CSR13B157MP
180	C	CSR13B187KL	CSR13B187KM	CSR13B187KP
270	D	CSR13B277KL	CSR13B277KM	CSR13B277KP
330	D	CSR13B337KL	CSR13B337KM	CSR13B337KP
330	D	CSR13B337ML	CSR13B337MM	CSR13B337MP

μF	Case Code	MIL Type Designation		
		L 2% Failure Rate	M 1% Failure Rate	P .1% Failure Rate
<b>10 WVDC</b>				
3.9	A	CSR13C395KL	CSR13C395KM	CSR13C395KP
4.7	A	CSR13C475KL	CSR13C475KM	CSR13C475KP
4.7	A	CSR13C475ML	CSR13C475MM	CSR13C475MP
27	B	CSR13C276KL	CSR13C276KM	CSR13C276KP
33	B	CSR13C336KL	CSR13C336KM	CSR13C336KP
33	B	CSR13C336ML	CSR13C336MM	CSR13C336MP
39	B	CSR13C396KL	CSR13C396KM	CSR13C396KP
82	C	CSR13C826KL	CSR13C826KM	CSR13C826KP
100	C	CSR13C107KL	CSR13C107KM	CSR13C107KP
100	C	CSR13C107ML	CSR13C107MM	CSR13C107MP
120	C	CSR13C127KL	CSR13C127KM	CSR13C127KP
180	D	CSR13C187KL	CSR13C187KM	CSR13C187KP
220	D	CSR13C227KL	CSR13C227KM	CSR13C227KP
220	D	CSR13C227ML	CSR13C227MM	CSR13C227MP

μF	Case Code	MIL Type Designation		
		L 2% Failure Rate	M 1% Failure Rate	P .1% Failure Rate
<b>15 WVDC</b>				
2.7	A	CSR13D275KL	CSR13D275KM	CSR13D275KP
3.3	A	CSR13D335KL	CSR13D335KM	CSR13D335KP
3.3	A	CSR13D335ML	CSR13D335MM	CSR13D335MP
18	B	CSR13D186KL	CSR13D186KM	CSR13D186KP
22	B	CSR13D226KL	CSR13D226KM	CSR13D226KP
22	B	CSR13D226ML	CSR13D226MM	CSR13D226MP
56	C	CSR13D566KL	CSR13D566KM	CSR13D566KP
68	C	CSR13D686KL	CSR13D686KM	CSR13D686KP
68	C	CSR13D686ML	CSR13D686MM	CSR13D686MP
120	D	CSR13D127KL	CSR13D127KM	CSR13D127KP
150	D	CSR13D157KL	CSR13D157KM	CSR13D157KP
150	D	CSR13D157ML	CSR13D157MM	CSR13D157MP

μF	Case Code	MIL Type Designation		
		L 2% Failure Rate	M 1% Failure Rate	P .1% Failure Rate
<b>20 WVDC</b>				
1.2	A	CSR13E125KL	CSR13E125KM	CSR13E125KP
1.5	A	CSR13E155KL	CSR13E155KM	CSR13E155KP
1.5	A	CSR13E155ML	CSR13E155MM	CSR13E155MP
1.8	A	CSR13E185KL	CSR13E185KM	CSR13E185KP
2.2	A	CSR13E225KL	CSR13E225KM	CSR13E225KP
2.2	A	CSR13E225ML	CSR13E225MM	CSR13E225MP
8.2	B	CSR13E825KL	CSR13E825KM	CSR13E825KP
10	B	CSR13E106KL	CSR13E106KM	CSR13E106KP
10	B	CSR13E106ML	CSR13E106MM	CSR13E106MP
12	B	CSR13E126KL	CSR13E126KM	CSR13E126KP
15	B	CSR13E156KL	CSR13E156KM	CSR13E156KP
15	B	CSR13E156ML	CSR13E156MM	CSR13E156MP
27	C	CSR13E276KL	CSR13E276KM	CSR13E276KP
33	C	CSR13E336KL	CSR13E336KM	CSR13E336KP
33	C	CSR13E336ML	CSR13E336MM	CSR13E336MP
39	C	CSR13E396KL	CSR13E396KM	CSR13E396KP

μF	Case Code	MIL Type Designation		
		L 2% Failure Rate	M 1% Failure Rate	P .1% Failure Rate
<b>20 WVDC (Cont.)</b>				
47	C	CSR13E476KL	CSR13E476KM	CSR13E476KP
47	C	CSR13E476ML	CSR13E476MM	CSR13E476MP
56	D	CSR13E566KL	CSR13E566KM	CSR13E566KP
68	D	CSR13E686KL	CSR13E686KM	CSR13E686KP
68	D	CSR13E686ML	CSR13E686MM	CSR13E686MP
82	D	CSR13E826KL	CSR13E826KM	CSR13E826KP
100	D	CSR13E107KL	CSR13E107KM	CSR13E107KP
100	D	CSR13E107ML	CSR13E107MM	CSR13E107MP

μF	Case Code	MIL Type Designation		
		L 2% Failure Rate	M 1% Failure Rate	P .1% Failure Rate
<b>35 WVDC</b>				
5.6	B	CSR13F565KL	CSR13F565KM	CSR13F565KP
6.8	B	CSR13F685KL	CSR13F685KM	CSR13F685KP
6.8	B	CSR13F685ML	CSR13F685MM	CSR13F685MP
22	C	CSR13F226KL	CSR13F226KM	CSR13F226KP
22	C	CSR13F226ML	CSR13F226MM	CSR13F226MP
27	D	CSR13F276KL	CSR13F276KM	CSR13F276KP
33	D	CSR13F336KL	CSR13F336KM	CSR13F336KP
33	D	CSR13F336ML	CSR13F336MM	CSR13F336MP
39	D	CSR13F396KL	CSR13F396KM	CSR13F396KP
47	D	CSR13F476KL	CSR13F476KM	CSR13F476KP
47	D	CSR13F476ML	CSR13F476MM	CSR13F476MP

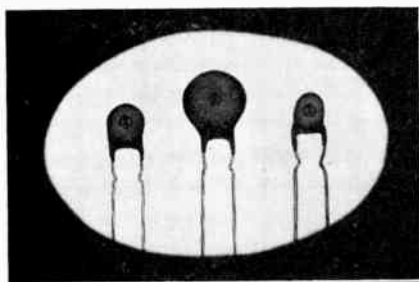
μF	Case Code	MIL Type Designation		
		L 2% Failure Rate	M 1% Failure Rate	P .1% Failure Rate
<b>50 WVDC</b>				
.0047	A	CSR13G472KL	CSR13G472KM	CSR13G472KP
.0047	A	CSR13G472ML	CSR13G472MM	CSR13G472MP
.0056	A	CSR13G562KL	CSR13G562KM	CSR13G562KP
.0068	A	CSR13G682KL	CSR13G682KM	CSR13G682KP
.0068	A	CSR13G682ML	CSR13G682MM	CSR13G682MP
.0082	A	CSR13G822KL	CSR13G822KM	CSR13G822KP
.01	A	CSR13G103KL	CSR13G103KM	CSR13G103KP
.01	A	CSR13G103ML	CSR13G103MM	CSR13G103MP
.012	A	CSR13G123KL	CSR13G123KM	CSR13G123KP
.015	A	CSR13G153KL	CSR13G153KM	CSR13G153KP
.015	A	CSR13G153ML	CSR13G153MM	CSR13G153MP
.018	A	CSR13G183KL	CSR13G183KM	CSR13G183KP
.022	A	CSR13G223KL	CSR13G223KM	CSR13G223KP
.022	A	CSR13G223ML	CSR13G223MM	CSR13G223MP
.027	A	CSR13G273KL	CSR13G273KM	CSR13G273KP
.033	A	CSR13G333KL	CSR13G333KM	CSR13G333KP
.033	A	CSR13G333ML	CSR13G333MM	CSR13G333MP
.039	A	CSR13G393KL	CSR13G393KM	CSR13G393KP
.047	A	CSR13G473KL	CSR13G473KM	CSR13G473KP
.047	A	CSR13G473ML	CSR13G473MM	CSR13G473MP
.056	A	CSR13G563KL	CSR13G563KM	CSR13G563KP
.068	A	CSR13G683KL	CSR13G683KM	CSR13G683KP
.068	A	CSR13G683ML	CSR13G683MM	CSR13G683MP
.082	A	CSR13G823KL	CSR13G823KM	CSR13G823KP
.1	A	CSR13G104KL	CSR13G104KM	CSR13G104KP
.1	A	CSR13G104ML	CSR13G104MM	CSR13G104MP
.12	A	CSR13G124KL	CSR13G124KM	CSR13G124KP
.15	A	CSR13G154KL	CSR13G154KM	CSR13G154KP
.15	A	CSR13G154ML	CSR13G154MM	CSR13G154MP
.18	A	CSR13G184KL	CSR13G184KM	CSR13G184KP
.22	A	CSR13G224KL	CSR13G224KM	CSR13G224KP
.22	A	CSR13G224ML	CSR13G224MM	CSR13G224MP
.27	A	CSR13G274KL	CSR13G274KM	CSR13G274KP
.33	A	CSR13G334KL	CSR13G334KM	CSR13G334KP
.33	A	CSR13G334ML	CSR13G334MM	CSR13G334MP
.39	A	CSR13G394KL	CSR13G394KM	CSR13G394KP
.47	A	CSR13G474KL	CSR13G474KM	CSR13G474KP
.47	A	CSR13G474ML	CSR13G474MM	CSR13G474MP

# SPRAGUE CAPACITORS

## TYPE CSR13 SOLID-ELECTROLYTE TANTALUM CAPACITORS (Cont.)

MIL Type Designation				MIL Type Designation			
Case Code	L	M	P	Case Code	L	M	P
μF	2% Failure Rate	1% Failure Rate	.1% Failure Rate	μF	2% Failure Rate	1% Failure Rate	.1% Failure Rate
50 WVDC (Cont.)				75 WVDC (Cont.)			
.56 A	CSR13G564KL	CSR13G564KM	CSR13G564KP	.18 A	CSR13H184KL	CSR13H184KM	_____
.68 A	CSR13G684KL	CSR13G684KM	CSR13G684KP	.22 A	CSR13H224KL	CSR13H224KM	_____
.68 A	CSR13G684ML	CSR13G684MM	CSR13G684MP	.22 A	CSR13H224ML	CSR13H224MM	_____
.82 A	CSR13G824KL	CSR13G824KM	CSR13G824KP	.27 A	CSR13H274KL	CSR13H274KM	_____
1 A	CSR13G105KL	CSR13G105KM	CSR13G105KP	.33 A	CSR13H334KL	CSR13H334KM	_____
1 A	CSR13G105ML	CSR13G105MM	CSR13G105MP	.33 A	CSR13H334ML	CSR13H334MM	_____
1.2 B	CSR13G125KL	CSR13G125KM	CSR13G125KP	.39 A	CSR13H394KL	CSR13H394KM	_____
1.5 B	CSR13G155KL	CSR13G155KM	CSR13G155KP	.47 A	CSR13H474KL	CSR13H474KM	_____
1.5 B	CSR13G155ML	CSR13G155MM	CSR13G155MP	.47 A	CSR13H474ML	CSR13H474MM	_____
1.8 B	CSR13G185KL	CSR13G185KM	CSR13G185KP	.56 A	CSR13H564KL	CSR13H564KM	_____
2.2 B	CSR13G225KL	CSR13G225KM	CSR13G225KP	.68 A	CSR13H684KL	CSR13H684KM	_____
2.2 B	CSR13G225ML	CSR13G225MM	CSR13G225MP	.68 A	CSR13H684ML	CSR13H684MM	_____
2.7 B	CSR13G275KL	CSR13G275KM	CSR13G275KP	.82 B	CSR13H824KL	CSR13H824KM	_____
3.3 B	CSR13G335KL	CSR13G335KM	CSR13G335KP	1 B	CSR13H105KL	CSR13H105KM	_____
3.3 B	CSR13G335ML	CSR13G335MM	CSR13G335MP	1 B	CSR13H105ML	CSR13H105MM	_____
3.9 B	CSR13G395KL	CSR13G395KM	CSR13G395KP	1.2 B	CSR13H125KL	CSR13H125KM	_____
4.7 B	CSR13G475KL	CSR13G475KM	CSR13G475KP	1.5 B	CSR13H155KL	CSR13H155KM	_____
4.7 B	CSR13G475ML	CSR13G475MM	CSR13G475MP	1.5 B	CSR13H155ML	CSR13H155MM	_____
5.6 C	CSR13G565KL	CSR13G565KM	CSR13G565KP	1.8 B	CSR13H185KL	CSR13H185KM	_____
6.8 C	CSR13G685KL	CSR13G685KM	CSR13G685KP	2.2 B	CSR13H225KL	CSR13H225KM	_____
6.8 C	CSR13G685ML	CSR13G685MM	CSR13G685MP	2.2 B	CSR13H225ML	CSR13H225MM	_____
8.2 C	CSR13G825KL	CSR13G825KM	CSR13G825KP	2.7 B	CSR13H275KL	CSR13H275KM	_____
10 C	CSR13G106KL	CSR13G106KM	CSR13G106KP	3.3 B	CSR13H335KL	CSR13H335KM	_____
10 C	CSR13G106ML	CSR13G106MM	CSR13G106MP	3.3 B	CSR13H335ML	CSR13H335MM	_____
12 C	CSR13G126KL	CSR13G126KM	CSR13G126KP	3.9 B	CSR13H395KL	CSR13H395KM	_____
15 C	CSR13G156KL	CSR13G156KM	CSR13G156KP	4.7 C	CSR13H475KL	CSR13H475KM	_____
15 C	CSR13G156ML	CSR13G156MM	CSR13G156MP	4.7 C	CSR13H475ML	CSR13H475MM	_____
18 C	CSR13G186KL	CSR13G186KM	CSR13G186KP	5.6 C	CSR13H565KL	CSR13H565KM	_____
22 D	CSR13G226KL	CSR13G226KM	CSR13G226KP	6.8 C	CSR13H685KL	CSR13H685KM	_____
22 D	CSR13G226ML	CSR13G226MM	CSR13G226MP	6.8 C	CSR13H685ML	CSR13H685MM	_____
75 WVDC				8.2 C	CSR13H825KL	CSR13H825KM	_____
.1 A	CSR13H104KL	CSR13H104KM	_____	10 C	CSR13H106KL	CSR13H106KM	_____
.1 A	CSR13H104ML	CSR13H104MM	_____	10 C	CSR13H106ML	CSR13H106MM	_____
.12 A	CSR13H124KL	CSR13H124KM	_____	12 D	CSR13H126KL	CSR13H126KM	_____
.15 A	CSR13H154KL	CSR13H154KM	_____	15 D	CSR13H156KL	CSR13H156KM	_____
.15 A	CSR13H154ML	CSR13H154MM	_____	15 D	CSR13H156ML	CSR13H156MM	_____

## TYPE 196D EPOXY-DIPPED SOLID-ELECTROLYTE TANTALEX® CAPACITORS



- Epoxy-Dipped Coating Economically Provides Good Electrical and Mechanical Protection
- High Stability, Very Little Capacitance Change, Even at Outer Limits of Operation Temperature Range (-55C to +85C)
- Low Dissipation Factor Permits Higher Ripple Currents
- Radial Leads For Plug-in Mounting on Printed Wiring Boards
- Small Size Lets You Minimize Equipment Size and Weight
- Call Your Sprague Distributor For Quantity Prices

μF	Catalog Number	Height x Width x Thickness	μF	Catalog Number	Height x Width x Thickness
4 WVDC			20 WVDC (Cont.)		
33	196D336X0004EB	.350 x .400 x .225	6.8	196D685X0020EB	.350 x .400 x .225
150	196D157X0004FB	.450 x .450 x .250	10	196D106X0020FB	.450 x .450 x .250
6 WVDC			22	196D226X0020FB	.450 x .450 x .250
22	196D226X0006EB	.350 x .400 x .225	100	196D107X0020GB	.670 x .600 x .275
100	196D107X0006FB	.450 x .450 x .250	35 WVDC		
330	196D337X0006GB	.670 x .600 x .275	.1	196D104X0035DB	.400 x .250 x .200
10 WVDC			.22	196D224X0035DB	.400 x .250 x .200
15	196D156X0010EB	.350 x .400 x .225	.33	196D334X0035DB	.400 x .250 x .200
68	196D686X0010FB	.450 x .450 x .250	.47	196D474X0035DB	.400 x .250 x .200
220	196D227X0010GB	.670 x .600 x .275	.68	196D684X0035DB	.400 x .250 x .200
15 WVDC			1.0	196D105X0035DB	.400 x .250 x .200
10	196D106X0015EB	.350 x .400 x .225	1.0	196D105X0035EB	.350 x .400 x .225
33	196D336X0015FB	.450 x .450 x .250	1.5	196D155X0035EB	.350 x .400 x .225
47	196D476X0015FB	.450 x .450 x .250	2.2	196D225X0035FB	.450 x .450 x .250
150	196D157X0015GB	.670 x .600 x .275	3.3	196D335X0035FB	.450 x .450 x .250
20 WVDC			4.7	196D475X0035FB	.450 x .450 x .250
2.2	196D225X0020EB	.350 x .400 x .225	6.8	196D685X0035FB	.450 x .450 x .250
4.7	196D475X0020EB	.350 x .400 x .225	27	196D276X0035GB	.670 x .600 x .275

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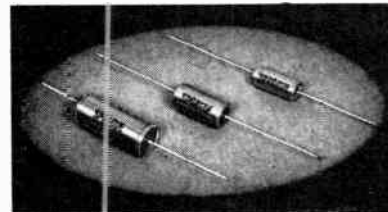
# SPRAGUE CAPACITORS

## MIL-C-3965 FOIL TANTALUM CAPACITORS TYPES CL24 & CL25

- For -55C to +85C Operation up to 150 Volts in Military and Industrial Electronic Equipment
- Low Leakage Current and Stable Temperature Coefficient Makes Possible Its Use in Many Circuits Where Aluminum Foil Designs Are Undesirable
- The Electrolyte System Used Assures Long Operating and Shelf Life, excellent

Low-temperature Performance, Chemical Stability and Inertness

- Dimensions Listed Are For Bare Metal-Case For Insulated Case Add 1/64" to Diameter and 1/8" to Length
- MIL Version of Sprague Type 112D
- Type CL24 Is a Bare Metal-Case Unit. If An Outer Insulating Sleeve Is Desired, Order Type CL25
- Call Your Sprague Industrial Distributor For Current Quantity Prices



DIMENSIONS

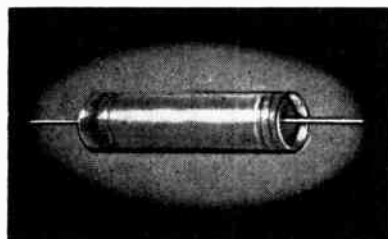
Code	D. x L.	Code	D. x L.
D	1 3/4 x 3/4	M	2 3/4 x 2 3/16
G	1 3/4 x 1 5/16	P	2 5/4 x 2 13/16
J	2 5/4 x 1 1/2		

μF	WVDC	Size Code	Military Designation*
15	15	D	CL24BE150UP3
60	15	G	CL24BE600UP3
200	15	J	CL24BE201UP3
400	15	M	CL24BE401UP3
580	15	P	CL24BE581UP3
10	25	D	CL24BG100UP3
40	25	G	CL24BG400UP3
120	25	J	CL24BG121UP3
250	25	M	CL24BG251UP3
350	25	P	CL24BG351UP3
B	30	D	CL24BH080UP3
32	30	G	CL24BH320UP3

μF	WVDC	Size Code	Military Designation*
110	30	J	CL24BH111UP3
220	30	M	CL24BH221UP3
300	30	P	CL24BH301UP3
4.5	50	D	CL24BJ4R5TP3
18	50	G	CL24BJ180TP3
60	50	J	CL24BJ600TP3
100	50	M	CL24BJ101TP3
150	50	P	CL24BJ151TP3
3	75	D	CL24BL030TP3
12	75	G	CL24BL120TP3
30	75	J	CL24BL300TP3

μF	WVDC	Size Code	Military Designation*
70	75	M	CL24BL700TP3
100	75	P	CL24BL101TP3
2	100	D	CL24BN020SP3
8	100	G	CL24BN080SP3
25	100	J	CL24BN250SP3
50	100	M	CL24BN500SP3
70	100	P	CL24BN700SP3
1	150	D	CL24BQ010SP3
4	150	G	CL24BQ040SP3
13	150	J	CL24BQ130SP3
25	150	M	CL24BQ250SP3
36	150	P	CL24BQ360SP3

\*Note: For vibration grade 1 or 2, change last digit of military designation to 1 or 2.



DIMENSIONS

Code	D. x L.	Code	D. x L.
D	3/16 x 1 1/16	M	3/8 x 2 1/8
G	3/32 x 3/8	P	3/8 x 2 3/4
J	3/8 x 1 1/16		

## MIL-C-3965 FOIL TANTALUM CAPACITORS TYPES CL34 and CL35

- For use in military and industrial electronic equipment. Designed to operate over the temperature range of -55C to +85C
- Long operation and shelf life, excellent low temperature performance, and optimum electrical characteristics
- For use in circuits where aluminum foil units are unsatisfactory
- Low leakage current and good temperature coefficient
- Type CL34 is a bare metal case unit. If an outer insulating sleeve is desired, order Type CL35
- MIL version of Sprague Type 110D
- Call Your Sprague Industrial Distributor For Current Quantity Prices

μF	WVDC	Size Code	Military Designation*
10	3	D	CL34BA100MP3
50	3	G	CL34BA500MP3
8	6	D	CL34BB080MP3
30	6	G	CL34BB300MP3
100	6	J	CL34BB101MP3
200	6	M	CL34BB201MP3
300	6	P	CL34BB301MP3
6	10	D	CL34BD060MP3
25	10	G	CL34BD250MP3
80	10	J	CL34BD800MP3
160	10	M	CL34BD161MP3
220	10	P	CL34BD221MP3
4.5	15	D	CL34BE4R5MP3
10	15	G	CL34BE100MP3
18	15	G	CL34BE180MP3
55	15	J	CL34BE550MP3
110	15	M	CL34BE111MP3
160	15	P	CL34BE161MP3
2.5	30	D	CL34BH2R5MP3
30	30	J	CL34BH300MP3

μF	WVDC	Size Code	Military Designation*
60	30	M	CL34BH300MP3
85	30	P	CL34BH850MP3
1.5	50	D	CL34BJ1R5MP3
6	50	G	CL34BJ060MP3
20	50	J	CL34BJ200MP3
40	50	M	CL34BJ400MP3
55	50	P	CL34BJ550MP3
1	75	D	CL34BL010MP3
4	75	G	CL34BL040MP3
14	75	J	CL34BL140MP3
28	75	M	CL34BL280MP3
40	75	P	CL34BL400MP3
0.8	100	D	CL34BN0R8MP3
3	100	G	CL34BN030MP3
10	100	J	CL34BN100MP3
20	100	M	CL34BN200MP3
30	100	P	CL34BN300MP3
0.5	150	D	CL34BQ0R5MP3
2	150	G	CL34BQ020MP3
4	150	J	CL34BQ040MP3

μF	WVDC	Size Code	Military Designation*
7	150	J	CL34BQ070MP3
8	150	M	CL34BQ080MP3
12	150	M	CL34BQ120MP3
14	150	M	CL34BQ140MP3
20	150	P	CL34BQ200MP3
.35	200	D	CL34BR35LP3
1.5	200	G	CL34BR1R5LP3
5	200	J	CL34BR050LP3
10	200	M	CL34BR100LP3
15	200	P	CL34BR150LP3
.30	250	D	CL34BSR30LP3
1.2	250	G	CL34BS1R2LP3
4	250	J	CL34BS040LP3
8	250	M	CL34BS080LP3
12	250	P	CL34BS120LP3
1	300	G	CL34BX010LP3
3	300	J	CL34BX030LP3
7	300	M	CL34BX070LP3
10	300	P	CL34BX100LP3

\*Note: For vibration grade 1 or 2, change last digit of military designation to 1 or 2.

# SPRAGUE CAPACITORS

## MIL-C-3965 TUBULAR FOIL TANTALUM ELECTROLYTICS

TYPES CL20, CL21, CL22, CL23, CL30, CL31, CL32, and CL33

- Meet Requirements of Military Specification MIL-C-3965
- Small Electrically Stable Foil Tantalums, Long, Reliable Life
- Available in Industrial Equivalents as Types 120D, 121D, 122D, 123D
- Temperature Rating 125C
- Types Marked (\*) Have Insulating Sleeves All Others are Bare Case

- Capacitance Tolerance

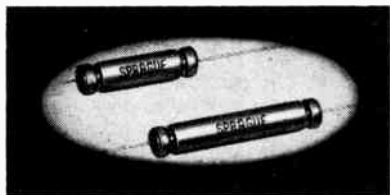
$$M = +20, -20\% \quad S = +30, -15\%$$

$$T = +50, -15\% \quad U = +75, -15\%$$

- Call Your Sprague Industrial Distributor for Current Quantity Prices

### SIZE CODE (Diam x Length)

E 1 $\frac{3}{4}$ x 3 $\frac{3}{4}$	N 2 $\frac{3}{4}$ x 2 $\frac{1}{4}$
H 1 $\frac{3}{4}$ x 1 $\frac{1}{2}$	Q 2 $\frac{3}{4}$ x 2 $\frac{3}{8}$
K 2 $\frac{3}{4}$ x 1 $\frac{1}{8}$	



Size Code MIL Type

### TYPE CL20

#### POLARIZED ETCHED FOIL

##### 10 WORKING VOLTS D-C

15	E	CL20CD1500P3
60	H	CL20CD6000P3
200	K	CL20CD2010P3
400	N	CL20CD4010P3
580	Q	CL20CD5810P3

##### 15 WORKING VOLTS D-C

10	E	CL20CE1000P3
40	H	CL20CE4000P3
120	K	CL20CE1210P3
250	N	CL20CE2510P3
350	Q	CL20CE3510P3

##### 30 WORKING VOLTS D-C

4.5	E	CL20CH4R5TP3
18	H	CL20CH180TP3
60	K	CL20CH600TP3
100	N	CL20CH101TP3
150	Q	CL20CH151TP3

##### 50 WORKING VOLTS D-C

3	E	CL20CJ030TP3
12	H	CL20CJ120TP3
30	K	CL20CJ300TP3
70	N	CL20CJ700TP3
100	Q	CL20CJ101TP3

##### 60 WORKING VOLTS D-C

2	E	CL20CK020TP3
8	H	CL20CK080TP3
25	K	CL20CK250TP3
50	N	CL20CK500TP3
70	Q	CL20CK700TP3

##### 100 WORKING VOLTS D-C

1	E	CL20CN010SP3
4	H	CL20CN040SP3
13	K	CL20CN130SP3
25	N	CL20CN250SP3
36	Q	CL20CN360SP3

### TYPE CL21\*

#### POLARIZED ETCHED FOIL

##### 10 WORKING VOLTS D-C

15	E	CL21CD1500P3
60	H	CL21CD6000P3
200	K	CL21CD2010P3
400	N	CL21CD4010P3
590	Q	CL21CD5910P3

##### 15 WORKING VOLTS D-C

10	E	CL21CE1000P3
40	H	CL21CE4000P3
120	K	CL21CE1210P3
250	N	CL21CE2510P3
350	Q	CL21CE3510P3

##### 30 WORKING VOLTS D-C

4.5	E	CL21CH4R5TP3
18	H	CL21CH180TP3
60	K	CL21CH600TP3
100	N	CL21CH101TP3
150	Q	CL21CH151TP3

##### 50 WORKING VOLTS D-C

3	E	CL21CJ030TP3
12	H	CL21CJ120TP3
30	K	CL21CJ300TP3
70	N	CL21CJ700TP3
100	Q	CL21CJ101TP3

##### 60 WORKING VOLTS D-C

2	E	CL21CK020TP3
8	H	CL21CK080TP3
25	K	CL21CK250TP3
50	N	CL21CK500TP3
70	Q	CL21CK700TP3

##### 100 WORKING VOLTS D-C

1	E	CL21CN010SP3
4	H	CL21CN040SP3
13	K	CL21CN130SP3

Size Code MIL Type

25	N	CL21CN250SP3
36	Q	CL21CN360SP3

### TYPE CL22

#### NON-POLARIZED ETCHED FOIL

##### 10 WORKING VOLTS D-C

10	E	CL22CD1000UN3
40	H	CL22CD4000UN3
120	K	CL22CD1210UN3
250	N	CL22CD2510UN3
350	Q	CL22CD3510UN3

##### 15 WORKING VOLTS D-C

5	E	CL22CE050UN3
20	H	CL22CE2000UN3
70	K	CL22CE7000UN3
140	N	CL22CE1410UN3
200	Q	CL22CE2010UN3

##### 30 WORKING VOLTS D-C

2.5	E	CL22CH2R5TN3
10	H	CL22CH100TN3
30	K	CL22CH300TN3
60	N	CL22CH600TN3
80	Q	CL22CH800TN3

##### 50 WORKING VOLTS D-C

1.5	E	CL22CJ1R5TN3
6	H	CL22CJ060TN3
15	K	CL22CJ150TN3
35	N	CL22CJ350TN3
50	Q	CL22CJ500TN3

##### 60 WORKING VOLTS D-C

1	E	CL22CK010TN3
4	H	CL22CK040TN3
12	K	CL22CK120TN3
25	N	CL22CK250TN3
35	Q	CL22CK350TN3

##### 100 WORKING VOLTS D-C

0.5	E	CL22CN0R55N3
2	H	CL22CN0205N3
6	K	CL22CN0605N3
12	N	CL22CN1205N3
18	Q	CL22CN1805N3

### TYPE CL23\*

#### NON-POLARIZED ETCHED FOIL

##### 10 WORKING VOLTS D-C

10	E	CL23CD1000UN3
40	H	CL23CD4000UN3
120	K	CL23CD1210UN3
250	N	CL23CD2510UN3
350	Q	CL23CD3510UN3

##### 15 WORKING VOLTS D-C

5	E	CL23CE050UN3
20	H	CL23CE2000UN3
70	K	CL23CE7000UN3
140	N	CL23CE1410UN3
200	Q	CL23CE2010UN3

##### 30 WORKING VOLTS D-C

2.5	E	CL23CH2R5TN3
10	H	CL23CH100TN3
30	K	CL23CH300TN3
60	N	CL23CH600TN3
80	Q	CL23CH800TN3

##### 50 WORKING VOLTS D-C

1.5	E	CL23CJ1R5TN3
6	H	CL23CJ060TN3
15	K	CL23CJ150TN3
35	N	CL23CJ350TN3
50	Q	CL23CJ500TN3

Size Code MIL Type

### 50 WORKING VOLTS D-C

1.5	E	CL23CJ1R5TN3
6	H	CL23CJ060TN3
15	K	CL23CJ150TN3
35	N	CL23CJ350TN3
50	Q	CL23CJ500TN3

##### 60 WORKING VOLTS D-C

1	E	CL23CK010TN3
4	H	CL23CK040TN3
12	K	CL23CK120TN3
25	N	CL23CK250TN3
35	Q	CL23CK350TN3

##### 100 WORKING VOLTS D-C

0.5	E	CL23CN0R55N3
2	H	CL23CN0205N3
6	K	CL23CN0605N3
12	N	CL23CN1205N3
18	Q	CL23CN1805N3

### TYPE CL30

#### POLARIZED PLAIN FOIL

##### 10 WORKING VOLTS D-C

4.5	E	CL30CD4R5MP3
18	H	CL30CD180MP3
55	K	CL30CD550MP3
110	N	CL30CD111MP3
160	Q	CL30CD161MP3

##### 15 WORKING VOLTS D-C

3	E	CL30CE030MP3
12	H	CL30CE120MP3
35	K	CL30CE350MP3
70	N	CL30CE700MP3
100	Q	CL30CE101MP3

##### 30 WORKING VOLTS D-C

1.5	E	CL30CH1R5MP3
6	H	CL30CH060MP3
20	K	CL30CH200MP3
40	N	CL30CH400MP3
55	Q	CL30CH550MP3

##### 50 WORKING VOLTS D-C

1	E	CL30CJ010MP3
4	H	CL30CJ040MP3
14	K	CL30CJ140MP3
28	N	CL30CJ280MP3
40	Q	CL30CJ400MP3

##### 60 WORKING VOLTS D-C

0.8	E	CL30CK0R8MP3
3	H	CL30CK030MP3
10	K	CL30CK100MP3
20	N	CL30CK200MP3
30	Q	CL30CK300MP3

##### 100 WORKING VOLTS D-C

0.5	E	CL30CN0R5MP3
2	H	CL30CN020MP3
7	K	CL30CN070MP3
14	N	CL30CN140MP3
20	Q	CL30CN200MP3

##### 150 WORKING VOLTS D-C

0.35	E	CL30CQR35MP3
1.5	H	CL30CQ1R5MP3
5	K	CL30CQ050MP3
10	N	CL30CQ100MP3
15	Q	CL30CQ150MP3

### TYPE CL31\*

#### POLARIZED PLAIN FOIL

##### 10 WORKING VOLTS D-C

4.5	E	CL31CD4R5MP3
18	H	CL31CD180MP3
55	K	CL31CD550MP3

Size Code MIL Type

110	N	CL31CD111MP3
160	Q	CL31CD161MP3

##### 15 WORKING VOLTS D-C

3	E	CL31CF030MP3
12	H	CL31CE120MP3
35	K	CL31CE350MP3
70	N	CL31CE700MP3
100	Q	CL31CE101MP3

##### 30 WORKING VOLTS D-C

1.5	E	CL31CH1R5MP3
6	H	CL31CH060MP3
20	K	CL31CH200MP3
40	N	CL31CH400MP3
55	Q	CL31CH550MP3

##### 50 WORKING VOLTS D-C

1	E	CL31CJ010MP3
4	H	CL31CJ040MP3
14	K	CL31CJ140MP3
28	N	CL31CJ280MP3
40	Q	CL31CJ400MP3

##### 60 WORKING VOLTS D-C

0.8	E	CL31CK0R8MP3
3	H	CL31CK030MP3
10	K	CL31CK100MP3
20	N	CL31CK200MP3
30	Q	CL31CK300MP3

##### 100 WORKING VOLTS D-C

0.5	E	CL31CN0R5MP3
2	H	CL31CN020MP3
7	K	CL31CN070MP3
14	N	CL31CN140MP3
20	Q	CL31CN200MP3

##### 150 WORKING VOLTS D-C

0.35	E	CL31CQR35MP3
1.5	H	CL31CQ1R5MP3
5	K	CL31CQ050MP3
10	N	CL31CQ100MP3
15	Q	CL31CQ150MP3

### TYPE CL32

#### NON-POLARIZED PLAIN FOIL

##### 10 WORKING VOLTS D-C

2.5	E	CL32CD2R5MN3
10	H	CL32CD100MP3
35	K	CL32CD350MN3
70	N	CL32CD700MN3
100	Q	CL32CD101MN3

##### 15 WORKING VOLTS D-C

1.5	E	CL32CE1R5MN3
6	H	CL32CE060MN3
20	K	CL32CE200MN3
40	N	CL32CE400MN3
60	Q	CL32CE600MN3

##### 30 WORKING VOLTS D-C

0.8	E	CL32CH0R8MN3
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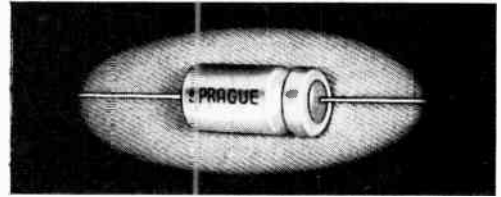
# SPRAGUE CAPACITORS

## MIL-C-3965 TUBULAR SINTERED-ANODE TANTALEX® CAPACITORS—TYPES CL64 and CL65

- Reliable Superior Quality Capacitors With No Voltage Degrating For 125C Operation
- MIL Version of Sprague Type 130D
- Voltage Ratings From 6 WVDC Through 125 WVDC
- Type CL64 Is a Bare Metal-Case

Unit. If An Outer Insulating Sleeve is Desired, Order Type CL65.

- Capacitance Tolerance: K =  $\pm 10\%$ ; M =  $\pm 20\%$
- Call Your Sprague Industrial Distributor For Quantity Prices



DIMENSIONS

Code	D. x L.	Code	D. x L.	Code	D. x L.
T1	.188" x .453"	T2	.281" x .641"	T3	.375" x .766"

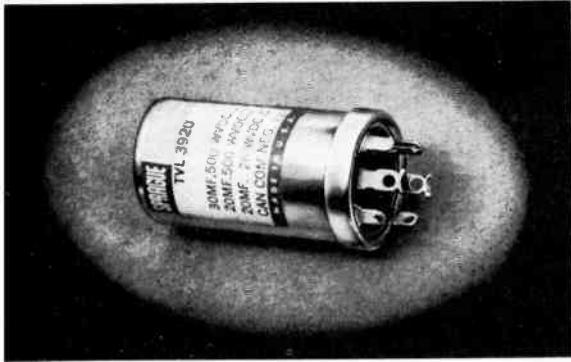
### TYPES CL64, CL65 - 85C ALSO AVAILABLE IN CHARACTERISTIC C (125C)

$\mu$ F	Size Code	CL64 Type Number*	CL65 Type Number*	$\mu$ F	Size Code	CL64 Type Number*	CL65 Type Number*	$\mu$ F	Size Code	CL64 Type Number*	CL65 Type Number*
<b>6 WVDC</b>											
30	T1	CL64BB300KP3	CL65BB300KP3	39	T2	CL64BK390MP3	CL65BK390MP3	50	T3	CL64BK500KP3	CL65BK500KP3
30	T1	CL64BB300MP3	CL65BB300MP3	50	T3	CL64BK500MP3	CL65BK500MP3	68	T3	CL64BK680MP3	CL65BK680MP3
68	T1	CL64BB680MP3	CL65BB680MP3	<b>75 WVDC</b>							
140	T2	CL64BB141KP3	CL65BB141KP3	3.5	T1	CL64BL3R5KP3	CL65BL3R5KP3	3.5	T1	CL64BL3R5MP3	CL65BL3R5MP3
140	T2	CL64BB141MP3	CL65BB141MP3	6.3	T1	CL64BL6R8MP3	CL65BL6R8MP3	15	T2	CL64BL150KP3	CL65BL150KP3
270	T2	CL64BB271MP3	CL65BB271MP3	15	T2	CL64BL150MP3	CL65BL150MP3	33	T2	CL64BL330MP3	CL65BL330MP3
330	T3	CL64BB331KP3	CL65BB331KP3	40	T3	CL64BL400KP3	CL65BL400KP3	40	T3	CL64BL400MP3	CL65BL400MP3
330	T3	CL64BB331MP3	CL65BB331MP3	56	T3	CL64BL560MP3	CL65BL560MP3	<b>100 WVDC</b>			
560	T3	CL64BB561MP3	CL65BB561MP3	2.5	T1	CL64BN2R5KP3	CL65BN2R5KP3	2.5	T1	CL64BN2R5MP3	CL65BN2R5MP3
<b>8 WVDC</b>											
25	T1	CL64BC250KP3	CL65BC250KP3	4.7	T1	CL64BN4R7MP3	CL65BN4R7MP3	11	T2	CL64BN110KP3	CL65BN110KP3
25	T1	CL64BC250MP3	CL65BC250MP3	11	T2	CL64BN110MP3	CL65BN110MP3	11	T2	CL64BN110MP3	CL65BN110MP3
56	T1	CL64BC560MP3	CL65BC560MP3	22	T2	CL64BN220MP3	CL65BN220MP3	22	T2	CL64BN220MP3	CL65BN220MP3
220	T2	CL64BC221MP3	CL65BC221MP3	30	T3	CL64BN300KP3	CL65BN300KP3	30	T3	CL64BN300MP3	CL65BN300MP3
430	T3	CL64BC431MP3	CL65BC431MP3	30	T3	CL64BN300MP3	CL65BN300MP3	43	T3	CL64BN430MP3	CL65BN430MP3
<b>10 WVDC</b>											
20	T1	CL64BD200KP3	CL65BD200KP3	<b>125 WVDC</b>							
20	T1	CL64BD200MP3	CL65BD200MP3	1.7	T1	CL64BP1R7MP3	CL65BP1R7MP3	1.7	T1	CL64BP1R7KP3	CL65BP1R7KP3
47	T1	CL64BD470MP3	CL65BD470MP3	3.6	T1	CL64BP3R6MP3	CL65BP3R6MP3	3.6	T1	CL64BP3R6KP3	CL65BP3R6KP3
100	T2	CL64BD101KP3	CL65BD101KP3	9	T2	CL64BP090MP3	CL65BP090MP3	9	T2	CL64BP090KP3	CL65BP090KP3
100	T2	CL64BD101MP3	CL65BD101MP3	14	T2	CL64BP140MP3	CL65BP140MP3	14	T2	CL64BP140KP3	CL65BP140KP3
180	T2	CL64BD181MP3	CL65BD181MP3	18	T3	CL64BP180MP3	CL65BP180MP3	18	T3	CL64BP180KP3	CL65BP180KP3
250	T3	CL64BD251KP3	CL65BD251KP3	18	T3	CL64BP180KP3	CL65BP180KP3	25	T3	CL64BP250MP3	CL65BP250MP3
250	T3	CL64BD251MP3	CL65BD251MP3	25	T3	CL64BP250KP3	CL65BP250KP3	25	T3	CL64BP250MP3	CL65BP250MP3
390	T3	CL64BD391MP3	CL65BD391MP3	<b>60 WVDC</b>							
<b>15 WVDC</b>											
15	T1	CL64BE150KP3	CL65BE150KP3	4	T1	CL64BK040KP3	CL65BK040KP3	4	T1	CL64BK040MP3	CL65BK040MP3
15	T1	CL64BE150MP3	CL65BE150MP3	8.2	T1	CL64BK8R2MP3	CL65BK8R2MP3	20	T2	CL64BK200KP3	CL65BK200KP3
33	T1	CL64BE330MP3	CL65BE330MP3	20	T2	CL64BK200MP3	CL65BK200MP3	20	T2	CL64BK200MP3	CL65BK200MP3
70	T2	CL64BE700KP3	CL65BE700KP3	<b>50 WVDC</b>							
70	T2	CL64BE700MP3	CL65BE700MP3	5	T1	CL64BJ050KP3	CL65BJ050KP3	5	T1	CL64BJ050MP3	CL65BJ050MP3
120	T2	CL64BE121MP3	CL65BE121MP3	10	T1	CL64BJ100MP3	CL65BJ100MP3	10	T1	CL64BJ100MP3	CL65BJ100MP3
170	T3	CL64BE171KP3	CL65BE171KP3	25	T2	CL64BJ250KP3	CL65BJ250KP3	25	T2	CL64BJ250MP3	CL65BJ250MP3
170	T3	CL64BE171MP3	CL65BE171MP3	47	T2	CL64BJ470MP3	CL65BJ470MP3	47	T2	CL64BJ470MP3	CL65BJ470MP3

\*For Vibration Guide 1, or 2, change last digit in Type Number to 1, or 2.

# SPRAGUE CAPACITORS

## TVL TWIST-LOK® ELECTROLYTICS



- Hermetically Sealed in Aluminum Cans for Long Life and Dependable Performance in TV, Radio and Hi-Fi
- Designed for 85C (185F) Operation
- Stand Up Under Extremely High Temperatures Often Encountered in TV, Hi-Fi, and Auto Radio Cabinets
- Withstand High Surge Voltages
- Ideal for High Ripple Selenium Rectifier Circuits
- Can Be Safely Mounted "Above Ground" Using Phenolic Mounting Plate and Insulating Tube
- Easy to Mount — Unit Locks Firmly in Place with a Twist of the Tabs
- Furnished Complete with Both Phenolic and Metal Mounting Plates

The Twist-lok Capacitors listed here include only popular ratings for industrial applications. For the complete line of more than 1800 Twist-lok Capacitors, please refer to Distributor's Guide to Replacement Electrolytic Capacitors, C-1002.

μF	WVDC	Dia. x Length	Cat. No.	μF	WVDC	Dia. x Length	Cat. No.				
<b>SINGLE UNITS</b>				<b>CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES</b>							
2000	6	1 3/8 x 2	TVL-1115					160	250	1 x 4	TVL-1541.1
3000	10	1 3/8 x 2 1/2	TVL-1140					200	250	1 3/8 x 2 1/2	TVL-1547
225	15	3/4 x 2	TVL-1160					60	300	1 x 3	TVL-1570
1000	15	1 x 1 1/2	TVL-1165					80	300	1 x 2 1/2	TVL-1573
1500	15	1 x 2	TVL-1167					100	300	1 x 2 1/2	TVL-1578
2000	15	1 3/8 x 2	TVL-1168					125	300	1 3/8 x 2 1/2	TVL-1580
3000	15	1 3/8 x 2	TVL-1170					150	300	1 3/8 x 3 1/2	TVL-1584
4000	15	1 3/8 x 3 1/2	TVL-1173					250	300	1 3/8 x 4	TVL-1590
100	25	3/4 x 2	TVL-1215					30	350	1 x 2	TVL-1617
500	25	1 x 1 1/2	TVL-1220					40	350	1 x 2	TVL-1621
1000	25	1 3/8 x 2	TVL-1230					50	350	1 x 2	TVL-1622
25	50	3/4 x 2	TVL-1308					60	350	1 x 2 1/2	TVL-1624
100	50	3/4 x 2	TVL-1317					80	350	1 3/8 x 2	TVL-1630
150	50	3/4 x 2 1/2	TVL-1320					125	350	1 3/8 x 2 1/2	TVL-1638
250	50	1 x 2	TVL-1324					150	350	1 3/8 x 2 1/2	TVL-1642
500	50	1 3/8 x 2	TVL-1330					250	350	1 3/8 x 4 1/2	TVL-1644.2
1000	50	1 3/8 x 2 1/2	TVL-1338					320	350	1 3/8 x 4	TVL-1645
1500	50	1 3/8 x 3	TVL-1341					4	450	1 x 2	TVL-1702
30	150	1 x 2	TVL-1408					10	450	1 x 1 1/2	TVL-1705
50	150	1 x 1 1/2	TVL-1415					15	450	1 x 1 1/2	TVL-1709
80	150	1 x 2 1/2	TVL-1420					20	450	1 x 2	TVL-1714
100	150	1 x 1 1/2	TVL-1423					25	450	1 x 2	TVL-1716
120	150	1 x 2	TVL-1425					30	450	1 x 2 1/2	TVL-1720
120	150	1 3/8 x 2 1/2	TVL-1426					40	450	1 x 2 1/2	TVL-1725
140	150	1 x 2 1/2	TVL-1428	50	450	1 x 2 1/2	TVL-1728				
150	150	1 x 2	TVL-1429	60	450	1 3/8 x 2 1/2	TVL-1730				
150	150	1 3/8 x 2	TVL-1430	80	450	1 3/8 x 2 1/2	TVL-1735				
200	150	1 3/8 x 2	TVL-1431	100	450	1 3/8 x 2 1/2	TVL-1750				
200	150	1 x 3	TVL-1431.1	125	450	1 3/8 x 4	TVL-1760				
300	150	1 3/8 x 2	TVL-1434	150	450	1 3/8 x 4	TVL-1770				
500	150	1 3/8 x 4	TVL-1439.5	40	475	1 3/8 x 2	TVL-1820				
125	200	1 x 2 1/2	TVL-1470	10	500	1 x 1 1/2	TVL-1940				
150	200	1 x 2 3/8	TVL-1471	20	500	1 x 2 1/2	TVL-1943				
160	200	1 3/8 x 2	TVL-1473	30	500	1 x 2 1/2	TVL-1947				
200	200	1 3/8 x 2	TVL-1475	40	500	1 x 2 1/2	TVL-1950				
500	200	1 3/8 x 4	TVL-1490	80	500	1 3/8 x 2 1/2	TVL-1958				
20	250	1 x 2	TVL-1509	90	500	1 3/8 x 3	TVL-1960				
40	250	1 x 2	TVL-1519	15	525	1 3/8 x 3	TVL-1980				
100	250	1 x 3	TVL-1535	<b>DUAL UNITS</b>							
150	250	1 x 3	TVL-1539	500-500	15-15	1 x 2	TVL-2157				
150	250	1 3/8 x 2 1/2	TVL-1540	1000-1000	15-15	1 x 2 1/2	TVL-2160				
160	250	1 3/8 x 2 1/2	TVL-1541	1000-1000	15-15	1 3/8 x 2 1/2	TVL-2161				
				500-100	16-16	1 x 2	TVL-2175				

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# SPRAGUE CAPACITORS

## TVL TWIST-LOK® ELECTROLYTICS, continued

μF	WVDC	Dia. x Length	Cat. No.	μF	WVDC	Dia. x Length	Cat. No.
800-200	16-16	1 x 2	TVL-2179.5	20-10	450-450	1 x 2½	TVL-2754
1000-500	16-16	1 x 2½	TVL-2185	20-20	450-450	1 x 2½	TVL-2755
500-200	16-16	1 x 2	TVL-2190	30-10	450-450	1 x 2½	TVL-2757
500-500	25-25	1¾ x 2	TVL-2233	30-30	450-450	1¾ x 2	TVL-2759
1000-500	25-25	1¾ x 2	TVL-2239	40-20	450-450	1¾ x 2	TVL-2762
100-25	50-50	1 x 2	TVL-2324	40-40	450-450	1¾ x 2½	TVL-2764
100-100	50-50	1 x 1½	TVL-2326	50-50	450-450	1¾ x 3	TVL-2767
150-100	150-50	1 x 3	TVL-2413	60-20	450-450	1¾ x 3	TVL-2768
20-20	150-150	1 x 1½	TVL-2415	60-40	450-450	1¾ x 3½	TVL-2770
30-30	150-150	1 x 1½	TVL-2422	60-60	450-450	1¾ x 3	TVL-2772
40-20	150-150	1 x 1½	TVL-2425	80-10	450-450	1¾ x 3	TVL-2776
40-30	150-150	1 x 2	TVL-2427	80-20	450-450	1¾ x 2½	TVL-2776.5
40-40	150-150	1 x 1½	TVL-2428	80-30	450-450	1¾ x 4	TVL-2777
50-30	150-150	1 x 1½	TVL-2432	80-40	450-450	1¾ x 3½	TVL-2778
50-50	150-150	1 x 1½	TVL-2435	80-50	450-450	1¾ x 4	TVL-2778.5
60-20	150-150	1 x 2	TVL-2436	80-80	450-450	1¾ x 3½	TVL-2779
60-60	150-150	1 x 3½	TVL-2438	100-40	450-450	1¾ x 3½	TVL-2780
70-30	150-150	1 x 2	TVL-2439	30-100	475-50	1 x 3½	TVL-2803
75-75	150-150	1 x 2	TVL-2440	80-160	475-250	1¾ x 4½	TVL-2808
80-40	150-150	1¾ x 2	TVL-2442	20-100	475-400	1¾ x 3	TVL-2813
80-50	150-150	1 x 2½	TVL-2442.1	15-15	475-475	1 x 2½	TVL-2820
80-60	150-150	1 x 3	TVL-2442.2	30-10	475-475	1 x 3	TVL-2824
80-80	150-150	1¾ x 2	TVL-2442.4	80-50	475-475	1¾ x 3½	TVL-2851
125-100	150-150	1¾ x 2½	TVL-2443.3	10-10	500-500	1 x 2½	TVL-2933
150-80	150-150	1¾ x 2½	TVL-2443.5	20-20	500-500	1¾ x 2	TVL-2935
200-5	150-150	1¾ x 3	TVL-2444	30-30	500-500	1¾ x 2½	TVL-2937
200-125	150-150	1¾ x 3½	TVL-2445	40-40	500-500	1¾ x 2½	TVL-294C
200-150	150-150	1¾ x 4	TVL-2446	60-40	500-500	1¾ x 3½	TVL-2944
200-200	150-150	1¾ x 2½	TVL-2447	TRIPLE UNITS			
60-60	200-200	1 x 1¾	TVL-2461	850-400-4	16-16-11.5	1 x 2½	TVL-3021
60-60	200-200	1¾ x 2	TVL-2462	1000-500-4	16-16-11.5	1¾ x 2	TVL-3021.5
100-100	200-200	1¾ x 3	TVL-2464	400-100-100	16-16-16	1 x 2	TVL-3025
200-5	200-200	1¾ x 2	TVL-2470	500-500-100	16-16-16	1 x 2	TVL-3026.8
20-20	250-250	1 x 1½	TVL-2515	1000-500-20	16-16-16	1¾ x 2	TVL-3027
40-40	250-250	1 x 3	TVL-2520	20-20-20	25-25-25	1 x 1½	TVL-3210
150-150	250-250	1¾ x 2½	TVL-2535	40-20-20	150-150-25	1 x 2	TVL-3422
200-200	250-250	1¾ x 4	TVL-2538	40-40-20	150-150-25	1 x 1½	TVL-3426
100-100	300-200	1 x 3½	TVL-2562	40-40-200	150-150-25	1 x 2	TVL-3426.3
40-30	300-300	1 x 3	TVL-2574	40-40-250	150-150-25	1 x 2½	TVL-3426.4
40-40	300-300	1¾ x 2	TVL-2575	50-30-20	150-150-25	1 x 2½	TVL-3426.7
80-80	300-300	1¾ x 2½	TVL-2585	50-50-20	150-150-25	1 x 3	TVL-3430
120-20	300-300	1¾ x 3½	TVL-2588	60-40-200	150-150-25	1 x 3	TVL-3431.3
120-40	300-300	1¾ x 3½	TVL-2589	80-40-20	150-150-25	1 x 2½	TVL-3432
150-100	300-300	1¾ x 3	TVL-2591	20-20-20	150-150-150	1 x 1½	TVL-3433
200-80	300-300	1¾ x 4½	TVL-2593	30-30-10	150-150-150	1 x 2	TVL-3435
15-15	350-350	1 x 2	TVL-2625	40-20-10	150-150-150	1 x 2	TVL-3436
20-20	350-350	1 x 2	TVL-2626	40-20-20	150-150-150	1 x 1½	TVL-3437
30-30	350-350	1 x 2½	TVL-2628	40-30-20	150-150-150	1 x 2	TVL-3438
50-30	350-350	1¾ x 2	TVL-2630	40-40-40	150-150-150	1 x 1¾	TVL-3440
80-20	350-350	1¾ x 2½	TVL-2633	50-40-10	150-150-150	1 x 2½	TVL-3441
80-40	350-350	1¾ x 2½	TVL-2634	50-50-50	150-150-150	1 x 3	TVL-3442
80-80	350-350	1¾ x 2½	TVL-2635	60-40-20	150-150-150	1 x 1¾	TVL-3443
90-40	350-350	1¾ x 3	TVL-2637	70-40-40	150-150-150	1 x 3	TVL-3443.4
100-60	350-350	1¾ x 3½	TVL-2639	80-40-20	150-150-150	1 x 2	TVL-3444
100-100	350-350	1¾ x 3	TVL-2641	80-80-80	150-150-150	1¾ x 3	TVL-3446
160-10	350-350	1¾ x 3	TVL-2643	100-30-10	150-150-150	1 x 2½	TVL-3447
200-200	350-350	1¾ x 5	TVL-2645.5	120-80-40	150-150-150	1¾ x 3½	TVL-3448
100-30	400-50	1¾ x 2½	TVL-2655	120-120-40	150-150-150	1¾ x 2	TVL-3448.2
80-80	400-200	1¾ x 3½	TVL-2656	200-100-60	150-150-150	1¾ x 2½	TVL-3450
80-60	400-400	1¾ x 3	TVL-2677	200-150-150	150-150-150	1¾ x 4	TVL-3452
80-80	400-400	1¾ x 4	TVL-2678	250-200-10	150-150-150	1¾ x 4	TVL-3453
120-40	400-400	1¾ x 4	TVL-2679	60-200-140	200-150-150	1¾ x 3	TVL-3461.4
40-100	450-50	1 x 3½	TVL-2709	60-5-20	200-200-50	1 x 2½	TVL-3467
80-100	450-50	1¾ x 3	TVL-2711	80-10-20	200-200-50	1 x 3	TVL-3471
20-50	450-250	1 x 3	TVL-2722	250-200-10	200-200-200	1¾ x 4	TVL-3490
20-160	450-250	1¾ x 4	TVL-2722.7				
80-200	450-250	1¾ x 4½	TVL-2722.8				
40-10	450-300	1 x 3	TVL-2724				
80-2	450-350	1¾ x 2½	TVL-2738.5				
10-10	450-450	1 x 2	TVL-2750				
15-15	450-450	1 x 2½	TVL-2753				

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# SPRAGUE CAPACITORS

## TVL TWIST-LOK® ELECTROLYTICS, continued

μF	WVDC	Dia. x Length	Cat. No.	μF	WVDC	Dia. x Length	Cat. No.
150-30-30-150	300-300-300-50	1 3/8 x 4	TVL-4574	20-15-20-20	450-450-25-25	1 3/8 x 2	TVL-4712
80-20-20-200	300-300-300-150	1 3/8 x 3 1/2	TVL-4576	50-20-4-40	450-450-150-25	1 3/8 x 2 1/2	TVL-4712.9
40-20-10-10	300-300-300-300	1 3/8 x 2	TVL-4578	50-40-4-40	450-450-150-25	1 3/8 x 2 1/2	TVL-4712.10
40-40-20-10	300-300-300-300	1 3/8 x 2	TVL-4579	35-25-20-100	450-450-200-50	1 3/8 x 2 1/2	TVL-4714
40-40-30-20	300-300-300-300	1 3/8 x 3	TVL-4580	80-30-20-50	450-450-250-50	1 3/8 x 3 1/2	TVL-4714.2
60-40-10-10	300-300-300-300	1 3/8 x 2 1/2	TVL-4583	40-40-100-60	450-450-200-200	1 3/8 x 4	TVL-4714.3
150-100-10-5	300-300-300-300	1 3/8 x 4	TVL-4587	30-20-160-40	450-450-250-150	1 3/8 x 4 1/2	TVL-4714.4
140-100-20-20	300-300-300-300	1 3/8 x 4 1/2	TVL-4588	80-50-100-250	450-450-250-50	1 3/8 x 4	TVL-4714.5
150-150-30-30	300-300-300-300	1 3/8 x 4 1/2	TVL-4589	80-50-20-50	450-450-250-50	1 3/8 x 4	TVL-4714.6
200-20-20-20	300-300-300-300	1 3/8 x 3 1/2	TVL-4590	30-20-160-10	450-450-250-250	1 3/8 x 4	TVL-4714.10
10-20-10-50	350-200-200-50	1 3/8 x 2	TVL-4603.13	30-20-4-200	450-450-350-250	1 3/8 x 4 1/2	TVL-4716.4
5-100-20-100	350-200-200-25	1 3/8 x 2	TVL-4603.15	40-40-30-30	450-450-350-350	1 3/8 x 4	TVL-4720
160-30-30-20	350-300-300-50	1 3/8 x 4	TVL-4605.2	10-10-10-20	450-450-450-25	1 3/8 x 2	TVL-4723
140-100-20-20	350-300-300-300	1 3/8 x 4	TVL-4605.3	20-20-20-20	450-450-450-25	1 3/8 x 2	TVL-4724.2
160-60-10-4	350-300-300-300	1 3/8 x 3 1/2	TVL-4605.5	40-20-20-20	450-450-450-25	1 3/8 x 3	TVL-4731
40-80-10-10	350-300-300-300	1 3/8 x 2 1/2	TVL-4605.6	40-20-20-40	450-450-450-25	1 3/8 x 2 1/2	TVL-4732
60-4-100-40	350-350-25-25	1 3/8 x 2 1/2	TVL-4607	40-30-10-20	450-450-450-25	1 3/8 x 3	TVL-4734
60-20-80-100	350-350-150-50	1 3/8 x 3	TVL-4608	40-40-10-20	450-450-450-25	1 3/8 x 3 1/2	TVL-4736
5-20-100-100	350-350-200-50	1 3/8 x 2	TVL-4608.12	40-40-20-20	450-450-450-25	1 3/8 x 3 1/2	TVL-4737
60-40-60-20	350-350-200-150	1 3/8 x 3	TVL-4609	40-40-40-40	450-450-450-25	1 3/8 x 3	TVL-4739
100-60-10-100	350-350-200-150	1 3/8 x 4 1/2	TVL-4609.4	60-50-5-20	450-450-450-25	1 3/8 x 4	TVL-4739.5
100-80-10-20	350-350-300-50	1 3/8 x 4	TVL-4610.8	80-40-40-40	450-450-450-25	1 3/8 x 4	TVL-4739.6
30-10-5-200	350-350-350-25	1 3/8 x 2	TVL-4620.3	80-50-10-20	450-450-450-25	1 3/8 x 4	TVL-4739.9
40-20-20-25	350-350-350-25	1 3/8 x 2 1/2	TVL-4621.3	40-20-10-100	450-450-450-50	1 3/8 x 3 1/2	TVL-4743
40-40-20-20	350-350-350-25	1 3/8 x 2 1/2	TVL-4621.6	40-40-10-25	450-450-450-50	1 3/8 x 3	TVL-4745
40-40-30-10	350-350-350-25	1 3/8 x 3	TVL-4622	40-40-10-50	450-450-450-50	1 3/8 x 4	TVL-4746
40-40-40-40	350-350-350-25	1 3/8 x 2 1/2	TVL-4622.3	40-40-10-100	450-450-450-100	1 3/8 x 3 1/2	TVL-4747
250-20-20-50	350-350-350-25	1 3/8 x 4 1/2	TVL-4622.11	20-30-80-40	450-450-450-150	1 3/8 x 4	TVL-4754
90-30-5-100	350-350-350-75	1 3/8 x 3 1/2	TVL-4625	40-20-10-100	450-450-450-250	1 3/8 x 4	TVL-4757
60-30-30-150	350-350-350-50	1 3/8 x 3	TVL-4630.4	30-20-10-20	450-450-450-350	1 3/8 x 2 1/2	TVL-4757.12
70-40-10-50	350-350-350-50	1 3/8 x 3	TVL-4631	40-10-10-40	450-450-450-350	1 3/8 x 3	TVL-4758
100-10-10-20	350-350-350-50	1 3/8 x 3	TVL-4632	5-5-5-5	450-450-450-450	1 3/8 x 2	TVL-4759.7
100-20-10-20	350-350-350-50	1 3/8 x 3 1/2	TVL-4633	10-10-10-10	450-450-450-450	1 3/8 x 2	TVL-4760
100-40-30-50	350-350-350-50	1 3/8 x 4	TVL-4634	20-10-10-10	450-450-450-450	1 3/8 x 2	TVL-4761
30-20-5-100	350-350-350-200	1 3/8 x 3	TVL-4634.6	20-20-20-20	450-450-450-450	1 3/8 x 2 1/2	TVL-4763
30-10-5-100	350-350-350-200	1 3/8 x 2 1/2	TVL-4634.7	30-30-20-20	450-450-450-450	1 3/8 x 3	TVL-4769.4
40-20-20-10	350-350-350-350	1 3/8 x 2	TVL-4635	35-35-10-5	450-450-450-450	1 3/8 x 3	TVL-4771
40-40-40-40	350-350-350-350	1 3/8 x 4	TVL-4635.3	40-10-10-10	450-450-450-450	1 3/8 x 3	TVL-4771.3
80-60-40-20	350-350-350-350	1 3/8 x 3 1/2	TVL-4635.7	40-35-10-10	450-450-450-450	1 3/8 x 3	TVL-4771.8
90-40-30-30	350-350-350-350	1 3/8 x 4	TVL-4635.8	40-40-20-20	450-450-450-450	1 3/8 x 2 1/2	TVL-4773
20-10-10-20	400-350-200-25	1 3/8 x 2	TVL-4652	40-40-30-30	450-450-450-450	1 3/8 x 4	TVL-4774
40-80-100-100	400-350-200-50	1 3/8 x 3 1/2	TVL-4653	40-40-40-40	450-450-450-450	1 3/8 x 3 1/2	TVL-4775
40-80-100-25	400-350-200-50	1 3/8 x 3 1/2	TVL-4654	60-20-20-20	450-450-450-450	1 3/8 x 3	TVL-4778
40-80-10-100	400-350-350-200	1 3/8 x 4	TVL-4661.4	80-10-10-10	450-450-450-450	1 3/8 x 3 1/2	TVL-4783
40-100-20-10	400-350-350-350	1 3/8 x 4	TVL-4661.6	20-80-20-10	475-300-300-300	1 3/8 x 3 1/2	TVL-4801
50-40-100-100	400-400-50-25	1 3/8 x 4	TVL-4663.2	20-140-20-10	475-300-300-300	1 3/8 x 4	TVL-4801.2
80-40-100-20	400-400-50-25	1 3/8 x 3	TVL-4663.4	10-100-10-100	475-300-300-25	1 3/8 x 3 1/2	TVL-4802
100-10-30-20	400-400-50-50	1 3/8 x 2 1/2	TVL-4663.5	10-140-4-100	475-350-350-50	1 3/8 x 4	TVL-4803.3
50-20-20-25	400-400-350-25	1 3/8 x 3	TVL-4665.5	10-130-20-10	475-350-350-350	1 3/8 x 3	TVL-4803.4
100-10-20-20	400-400-350-50	1 3/8 x 3	TVL-4666.2	30-130-10-10	475-350-350-350	1 3/8 x 4	TVL-4803.8
80-40-10-20	400-400-400-25	1 3/8 x 3 1/2	TVL-4669	10-40-100-10	475-400-50-25	1 3/8 x 2 1/2	TVL-4804
80-40-30-40	400-400-400-25	1 3/8 x 3 1/2	TVL-4670	10-40-4-100	475-400-350-50	1 3/8 x 2 1/2	TVL-4805
90-20-10-50	400-400-400-50	1 3/8 x 4	TVL-4670.7	10-80-40-100	475-400-400-50	1 3/8 x 4	TVL-4805.2
80-10-4-100	400-400-400-50	1 3/8 x 4	TVL-4670.9	10-60-30-125	475-450-400-50	1 3/8 x 4	TVL-4811
80-40-10-100	400-400-400-200	1 3/8 x 4	TVL-4671.2	10-50-30-30	475-450-450-25	1 3/8 x 3	TVL-4813
80-40-30-4	400-400-400-350	1 3/8 x 4	TVL-4672	80-4-4-200	475-450-450-25	1 3/8 x 3 1/2	TVL-4813.2
50-40-30-20	400-400-400-400	1 3/8 x 4	TVL-4674	10-10-10-100	475-450-450-50	1 3/8 x 2 1/2	TVL-4814
80-25-10-10	400-400-400-400	1 3/8 x 4	TVL-4680	50-18-4-40	475-475-150-25	1 3/8 x 2 1/2	TVL-4814.7
100-40-10-10	400-400-400-400	1 3/8 x 4	TVL-4681	20-10-20-100	475-475-450-25	1 3/8 x 2 1/2	TVL-4818
100-80-10-10	400-400-400-400	1 3/8 x 4	TVL-4683	100-4-4-200	475-475-475-25	1 3/8 x 4	TVL-4818.5
100-80-30-10	400-400-400-400	1 3/8 x 4 1/2	TVL-4683.8	80-4-4-4	475-450-450-450	1 3/8 x 3	TVL-4820.3
20-80-20-50	450-200-200-50	1 3/8 x 3	TVL-4701	50-40-4-40	475-475-150-25	1 3/8 x 3 1/2	TVL-4820.4
20-160-50-50	450-250-75-50	1 3/8 x 4	TVL-4701.3	80-80-4-4	475-475-450-450	1 3/8 x 4	TVL-4820.5
25-100-10-60	450-300-300-50	1 3/8 x 3	TVL-4703.5	80-4-4-200	475-475-475-25	1 3/8 x 3 1/2	TVL-4823
10-100-20-20	450-300-300-200	1 3/8 x 3	TVL-4704	20-20-10-10	475-475-475-475	1 3/8 x 2 1/2	TVL-4832
80-2-100-25	450-350-25-25	1 3/8 x 3	TVL-4705.3	20-20-20-20	475-475-475-475	1 3/8 x 2 1/2	TVL-4834
40-30-15-50	450-350-300-50	1 3/8 x 3	TVL-4705.8	40-20-10-10	475-475-475-475	1 3/8 x 2 1/2	TVL-4840
10-140-100-20	450-350-300-300	1 3/8 x 4	TVL-4705.9	10-10-4-20	500-300-300-25	1 3/8 x 2	TVL-4909
80-10-40-30	450-400-300-300	1 3/8 x 4	TVL-4710.2	30-10-150-30	500-450-50-50	1 3/8 x 3	TVL-4917
20-80-50-100	450-350-350-50	1 3/8 x 4	TVL-4711	10-10-10-10	500-500-500-500	1 3/8 x 2	TVL-4940
60-40-20-20	450-400-400-400	1 3/8 x 4	TVL-4711.3	40-40-8-8	500-500-500-500	1 3/8 x 4	TVL-4944

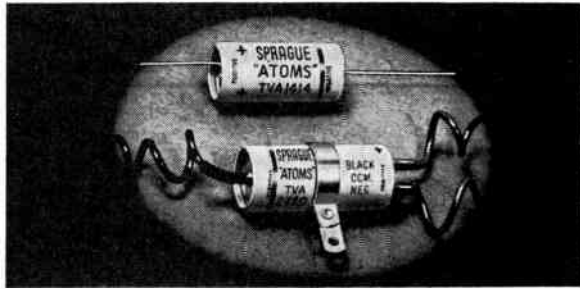
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# SPRAGUE CAPACITORS

## ATOM® ELECTROLYTICS

- The Smallest Dependable Standard Tubular—Designed for 85C (185F) Operation in Voltages to 475 WVDC
- Whether For AC-DC Sets, Auto Radios, Home Radio-phonograph Combinations, Or TV Sets, The SPRAGUE Line Will Handle All Your Replacement Requirements—No Dual Inventory Problems
- Have Low Leakage And Long Shelf Life
- Will Withstand High Temperatures, High Ripple Currents, High Surge Voltages
- Metal Case Construction with Outer Kraftboard Insulating Case Except as Noted by † Sign



μF	WVDC	D. x L.	Cat. No.
<b>SINGLE UNITS</b>			
750	3	7/16 x 2 1/16	TVA-1097
50	6	7/16 x 1 1/4	TVA-1100
100	6	7/16 x 1 3/16	TVA-1101
250	6	7/16 x 1 3/16	TVA-1102
500	6	3/8 x 1 9/16	TVA-1103
1000	6	3/4 x 1 13/16	TVA-1104
1500	6	13/16 x 2 1/16	TVA-1105
2000	6	13/16 x 2 1/16	TVA-1106
8	10NP	7/16 x 1 13/16	TVAN-1112
50	10NP	7/16 x 1 13/16	TVAN-1117
160	10VNP	1 1/16 x 1 13/16	TVAN-1120
100	12	7/16 x 1 3/16	TVA-1130
250	12	7/16 x 1 3/16	TVA-1131
500	12	1 1/16 x 1 3/16	TVA-1132
1000	12	1 3/16 x 1 13/16	TVA-1133
100	15	7/16 x 1 3/16	TVA-1160
250	15	3/8 x 1 9/16	TVA-1161
500	15	1 1/16 x 1 13/16	TVA-1162
1000	15	1 1/16 x 1 13/16	TVA-1163
2000	15	1 3/16 x 2 1/16	★ TVA-1170
3000	15	1 1/16 x 4 3/16	TVA-1175
2	25	7/16 x 1 3/16	TVA-1201
2	25NP	7/16 x 1 3/16	TVAN-1202
4	25NP	1 1/16 x 1 3/16	★ TVAN-1202.2
5	25	7/16 x 1 3/16	TVA-1203
5	25NP	7/16 x 1 3/16	TVAN-1203.1
8	25NP	1 1/16 x 1 13/16	★ TVAN-1203.8
10	25	7/16 x 1 3/16	TVA-1204
10	25NP	7/16 x 1 3/16	TVAN-1204.1
20	25	7/16 x 1 1/4	TVA-1204.5
25	25	7/16 x 1 1/4	TVA-1205
50	25	7/16 x 1 3/16	TVA-1206
50	25NP	1 1/16 x 1 13/16	TVAN-1206.1
100	25	7/16 x 1 1/16	TVA-1207
100	25NP	1 1/16 x 1 3/16	TVAN-1207.1
150	25	1 1/16 x 1 3/16	TVA-1207.5
250	25	1 1/16 x 1 3/16	TVA-1208
500	25	3/4 x 1 13/16	TVA-1209
1000	25	1 3/16 x 2 3/16	TVA-1211
3	30NP	1 1/16 x 1 3/16	TVAN-1215
20	30NP	1 1/16 x 1 3/16	TVAN-1220
10	40NP	7/16 x 1 13/16	TVAN-1230
1	50	7/16 x 1 3/16	TVA-1300
2	50	7/16 x 1 3/16	TVA-1301
2	50NP	1 1/16 x 1 13/16	TVAN-1301.1
3	50	7/16 x 1 3/16	TVA-1302
3	50NP	7/16 x 1 3/16	TVAN-1302.1
4	50NP	1 1/16 x 7/16	★ TVAN-1302.5
5	50	7/16 x 1 3/16	TVA-1303
5	50NP	1 1/16 x 2 3/16	TVAN-1303.1
10	50	7/16 x 1 1/4	TVA-1304
10	50NP	1 1/16 x 2 1/16	TVAN-1304.1
15	50	7/16 x 1 1/4	TVA-1305
20	50	7/16 x 1 1/4	TVA-1305.5
25	50	7/16 x 1 1/4	TVA-1306
50	50	3/8 x 1 3/16	TVA-1308

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μF	WVDC	D. x L.	Cat. No.
50	50NP	1 3/16 x 2 1/16	TVAN-1308.1
100	50	5/8 x 1 3/16	TVA-1310
150	50	3/4 x 1 3/16	TVA-1311
250	50	1 3/16 x 1 9/16	TVA-1312
500	50	1 x 1 13/16	TVA-1315
10	90	7/16 x 1 7/8	TVA-1320
10	100NP	1 1/16 x 1 13/16	TVAN-1333
1	150	7/16 x 1 3/8	TVA-1400
4	150	7/16 x 1 1/4	TVA-1402
4	150NP	7/16 x 1 13/16	TVAN-1402.1
5	150	7/16 x 1 1/4	TVA-1403
8	150	7/16 x 1 7/8	TVA-1405
10	150	9/16 x 1 3/16	TVA-1406
10	150NP	1 3/16 x 1 3/16	TVAN-1406.1
12	150	7/16 x 1 3/16	TVA-1407
16	150	7/16 x 1 3/16	TVA-1409
20	150	3/8 x 1 3/16	TVA-1410
25	150	3/4 x 1 3/16	TVA-1411
30	150	1 3/16 x 1 3/16	TVA-1412
40	150	1 3/16 x 1 3/16	TVA-1413
50	150	1 3/16 x 1 13/16	TVA-1414
60	150	1 3/16 x 1 3/16	TVA-1415
80	150	1 3/16 x 1 3/16	TVA-1418
100	150	1 3/16 x 2 1/16	TVA-1420
150	150	1 1/16 x 2 1/16	TVA-1422
200	150	1 1/16 x 2 3/16	TVA-1423
250	150	1 1/2 x 4 3/8	★ TVA-1424†
300	150	1 1/16 x 3 5/16	TVA-1425
80	175	1 1/16 x 2 1/16	TVA-1430
2	200NP	7/16 x 1 3/16	TVAN-1435.1
60	200NP	1 1/16 x 2 13/16	TVAN-1440
100	200	1 1/16 x 2 3/16	TVA-1445
150	200	1 3/8 x 3 3/8	★ TVA-1447†
200	200	1 3/8 x 3 3/8	★ TVA-1480†
1	250	7/16 x 1 3/16	TVA-1500
4	250	7/16 x 1 3/16	TVA-1501
8	250	7/16 x 1 3/16	TVA-1503
10	250	3/8 x 1 3/16	TVA-1504
12	250	3/8 x 1 3/16	TVA-1505
16	250	1 3/16 x 1 3/16	TVA-1507
20	250	1 3/16 x 1 3/16	TVA-1508
30	250	1 3/16 x 1 13/16	TVA-1510
40	250	1 3/16 x 2 1/16	TVA-1511
50	250	1 3/16 x 1 13/16	TVA-1512
60	250	1 x 1 13/16	TVA-1513
70	250	1 1/16 x 2 1/16	TVA-1515
100	250	1 1/16 x 2 3/16	TVA-1522
200	250	1 3/8 x 3 1/8	TVA-1528†
100	300	1 1/16 x 3 1/16	TVA-1573
140	300	1 3/8 x 3 3/8	★ TVA-1575†
150	300	1 3/8 x 3 3/8	TVA-1576†
200	300	1 3/8 x 4 5/8	TVA-1578†
4	350	1 1/16 x 1 3/16	TVA-1601
5	350NP	1 3/16 x 1 13/16	TVAN-1602
8	350	1 1/16 x 1 3/16	TVA-1603
10	350	3/4 x 1 3/16	TVA-1604
10	350NP	1 1/16 x 2 1/16	TVAN-1604.1
12	350	1 3/16 x 1 3/16	TVA-1605
16	350	1 3/16 x 1 3/16	TVA-1607
20	350	1 3/16 x 1 13/16	TVA-1608
30	350	1 3/16 x 2 1/16	TVA-1610

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μF	WVDC	D. x L.	Cat. No.
40	350	1 3/16 x 2 1/16	TVA-1611
60	350	1 1/16 x 2 1/16	TVA-1613
100	350	1 1/16 x 2 13/16	TVA-1620
150	350	1 3/8 x 3 3/8	TVA-1622†
200	350	1 3/8 x 4 1/8	TVA-1624†
10	400NP	1 1/16 x 2 1/16	TVAN-1650
20	400NP	1 1/16 x 2 3/16	TVAN-1652
1	450	7/16 x 1 3/16	TVA-1700
2	450	9/16 x 1 3/16	TVA-1701
4	450	1 1/16 x 1 3/16	TVA-1702
5	450	1 1/16 x 1 3/16	TVA-1703
8	450	3/4 x 1 3/16	TVA-1704
10	450	1 3/16 x 1 3/16	TVA-1705
12	450	1 3/16 x 1 3/16	TVA-1706
16	450	1 3/16 x 1 13/16	TVA-1708
20	450	1 3/16 x 1 13/16	TVA-1709
30	450	1 3/16 x 2 1/16	TVA-1711
40	450	1 3/16 x 2 1/16	TVA-1712
50	450	1 1/16 x 2 3/16	TVA-1713
60	450	1 1/16 x 2 13/16	TVA-1714
80	450	1 3/16 x 3 13/16	TVA-1716
100	450	1 3/16 x 4 1/16	TVA-1718
150	450	1 3/8 x 3 3/8	TVA-1719†
200	450	1 1/2 x 4 3/8	TVA-1720†
10	475	1 3/16 x 2 1/16	TVA-1802
20	475	1 3/16 x 2 3/16	TVA-1804
8	500	1 3/16 x 1 13/16	TVA-1902
10	500	1 3/16 x 1 13/16	TVA-1903
12	500	1 3/16 x 2 1/16	TVA-1904
16	500	1 x 2 3/16	TVA-1905
20	500	1 1/16 x 2 3/16	TVA-1906
40	500	1 1/16 x 3 1/16	TVA-1908
8	600	1 1/16 x 3 3/16	TVA-1962
10	600	1 1/16 x 3 3/16	TVA-1963
16	600	1 1/16 x 4 3/16	TVA-1965
20	600	1 1/16 x 4 3/16	TVA-1966
<b>DUAL UNITS (COMMON NEGATIVE)—3 LEADS</b>			
10-10	25-25	1 3/16 x 1 3/16	★ TVA-2210
10-10	50-50	1 3/16 x 1 3/16	★ TVA-2315
8-8	150-150	1 3/16 x 1 13/16	★ TVA-2415
16-16	150-150	1 3/16 x 1 3/16	★ TVA-2420
30-20	150-150	1 3/16 x 1 3/16	★ TVA-2421
20-12	150-150	1 3/16 x 1 3/16	★ TVA-2425
20-20	150-150	1 3/16 x 1 3/16	★ TVA-2428
30-30	150-150	1 3/16 x 1 3/16	★ TVA-2434
40-20	150-150	1 3/16 x 1 3/16	★ TVA-2438
40-30	150-150	1 3/16 x 1 13/16	★ TVA-2442
40-40	150-150	1 3/16 x 2 1/16	★ TVA-2445
50-30	150-150	1 3/16 x 2 1/16	★ TVA-2450
50-50	150-150	1 3/16 x 2 1/16	★ TVA-2453
60-20	150-150	1 3/16 x 2 1/16	★ TVA-2455
60-40	150-150	1 3/16 x 2 13/16	★ TVA-2456
60-60	150-150	1 3/16 x 2 13/16	★ TVA-2457
80-20	150-150	1 3/16 x 2 3/16	★ TVA-2459
80-30	150-150	1 3/16 x 2 3/16	★ TVA-2460
80-40	150-150	1 3/16 x 2 3/16	★ TVA-2461
80-50	150-150	1 3/16 x 2 3/16	★ TVA-2462
100-50	150-150	1 1/16 x 2 1/16	★ TVA-2463

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★ Mounting straps attached † Kraftboard construction.

# SPRAGUE CAPACITORS

## ATOM<sup>®</sup> ELECTROLYTICS, continued

μF	WVDC	Diam. x Length	Cat. No.
<b>DUAL UNITS (COMMON NEGATIVE)—3 LEADS continued</b>			
100-100	150-150	1 3/8 x 3 3/8	TVA-2464†
150-150	150-150	1 3/8 x 4 1/8	TVA-2466†
200-5	150-150	1 1/16 x 3 3/8	★TVA-2467
200-100	150-150	1 3/8 x 5 1/8	★TVA-2470†
250-50	150-150	1 3/8 x 3 3/8	TVA-2473†
250-200	150-150	1 3/8 x 4 1/8	TVA-2475†
60-125	200-50	1 1/8 x 2 7/8	★TVA-2484†
60-1	200-200	1 3/16 x 2 3/8	★TVA-2493
200-5	200-200	1 1/16 x 3 13/16	★TVA-2498
20-20	250-250	1 3/16 x 1 13/16	★TVA-2515
40-10	250-250	1 3/16 x 2 1/8	★TVA-2520
80-10	250-250	1 1/16 x 2 3/8	★TVA-2525
120-80	250-250	1 3/8 x 3 3/8	TVA-2535†
140-100	300-50	1 3/8 x 3 3/8	★TVA-2563†
200-100	300-50	1 3/8 x 4 3/8	★TVA-2565†
60-32	300-300	1 x 2 7/8	★TVA-2585
150-100	300-300	1 3/8 x 4 7/8	TVA-2590†
140-5	350-350	1 1/4 x 3 3/8	★TVA-2640†
10-100	450-50	1 x 2 3/8	★TVA-2663†
80-100	450-50	1 3/8 x 4 3/4	TVA-2711†
8-8	450-450	1 3/16 x 1 13/16	★TVA-2720
10-10	450-450	1 3/16 x 2 1/8	★TVA-2722
16-8	450-450	1 3/16 x 2 3/8	★TVA-2725
20-20	450-450	1 3/16 x 2 13/16	TVA-2730
30-30	450-450	1 1/16 x 3 3/8	★TVA-2735
40-40	450-450	1 1/16 x 4 1/8	★TVA-2740
50-30	450-450	1 1/16 x 4 1/8	★TVA-2743
80-30	450-450	1 1/16 x 4 7/8	★TVA-2750
20-100	475-50	1 1/16 x 2 3/8	★TVA-2765
<b>DUAL UNITS (SEPARATE SECTIONS)—4 LEADS</b>			
20-20	150-150	1 x 2 3/8	★TU-220†
40-20	150-150	1 1/16 x 2 3/8	★TU-420†
16-16	250-250	1 x 2 7/8	TU-216†
8-8	450-450	1 1/16 x 3 3/8	★TU-88†
16-16	450-450	1 3/8 x 3 3/8	★TU-1616†
120-120	150-150	1 1/16 x 4 1/8	TU-2120

μF	WVDC	Diam. x Length	Cat. No.
<b>TRIPLE UNITS</b>			
40-40-250	150-150-10	1 x 2 1/8	★TVA-3406
20-20-20	150-150-25	1 3/16 x 1 3/8	★TVA-3415
30-30-100	150-150-12	1 3/16 x 2 1/8	★TVA-3419
60-40-250	150-150-15	1 1/16 x 2 1/8	★TVA-3421.5
40-20-20	150-150-25	1 3/16 x 1 13/16	★TVA-3422.9
40-30-20	150-150-25	1 3/16 x 2 1/8	★TVA-3423
40-40-20	150-150-25	1 3/16 x 2 3/8	★TVA-3425
40-40-100	150-150-25	1 3/16 x 2 3/8	★TVA-3427
50-30-20	150-150-25	1 3/16 x 2 3/8	★TVA-3430
50-30-100	150-150-25	1 3/16 x 2 3/8	★TVA-3432
50-30-200	150-150-25	1 3/16 x 2 3/8	★TVA-3433
50-50-20	150-150-25	1 x 2 3/8	★TVA-3436
80-20-100	150-150-25	1 1/4 x 2 7/8	TVA-3437†
80-40-20	150-150-25	1 1/16 x 2 3/8	★TVA-3437.1
250-120-50	150-150-25	1 3/8 x 3 3/8	★TVA-3437.6†
20-20-20	150-150-150	1 3/16 x 1 13/16	★TVA-3440
30-25-20	150-150-150	1 3/16 x 2 3/8	★TVA-3442
30-30-20	150-150-150	1 3/16 x 2 3/8	★TVA-3443
30-30-30	150-150-150	1 3/16 x 2 3/8	★TVA-3444
40-20-10	150-150-150	1 3/16 x 2 3/8	★TVA-3445
40-20-20	150-150-150	1 3/16 x 2 3/8	★TVA-3446

★ Mounting straps attached (†) cardboard construction.



## TYPE HLVB HIGH-MF ELECTROLYTICS

- Designed For Low-Voltage Filter Circuits.
- Large Values of Capacitance in Relatively Small Physical Size.
- Molded Phenolic Case For Physical Protection and Moisture Resistance. Assures Long and Dependable Service Life.
- Easily and Securely Mounted With Hardware Listed Below.
- Call Your Sprague Industrial Distributor For Current Prices.

μF	WVDC	Diam. x Length	Cat. No.	μF	WVDC	Diam. x Length	Cat. No.	μF	WVDC	Diam. x Length	Cat. No.
500	6	1 1/16 x 2 3/4	HLVB-56	1000	15	1 1/16 x 2 3/4	HLVB-1015	2000	50	1 13/16 x 4 3/8	HLVB-2050
1000	6	1 1/16 x 2 3/4	HLVB-106	1500	15	1 1/16 x 2 3/4	HLVB-1515	3000	50	1 13/16 x 4 3/8	HLVB-3050
1500	6	1 1/16 x 2 3/4	HLVB-156	2000	15	1 1/16 x 2 3/4	HLVB-2015	4000	50	2 1/16 x 4 3/8	HLVB-4050
2000	6	1 1/16 x 2 3/4	HLVB-206	4000	15	1 1/16 x 4 3/8	HLVB-4015	1000	150	1 13/16 x 4 3/8	HLVB-10150
4000	10	1 1/16 x 3 3/8	HLVB-4010	6000	15	1 13/16 x 4 3/8	HLVB-6015	500	200	1 13/16 x 4 3/8	HLVB-5200
6000	10	1 1/16 x 4 3/8	HLVB-6010	6000	20	2 1/16 x 4 3/8	HLVB-6020	<b>VERTICAL MOUNTING CLAMPS</b>			
10000	10	1 13/16 x 4 3/8	HLVB-10010	500	25	1 1/16 x 2 3/4	HLVB-525	Cap. Diom.		Cat. No.	
5000	12	1 1/16 x 2 3/4	HLVB-512	1000	25	1 1/16 x 2 3/4	HLVB-1025	1 13/16		CMC-28A	
1000	12	1 1/16 x 2 3/4	HLVB-1012	2000	25	1 1/16 x 4 3/8	HLVB-2025	2 1/16		CMC-32	
1500	12	1 1/16 x 2 3/4	HLVB-1512	4000	25	1 13/16 x 4 3/8	HLVB-4025	1 3/16		CMC-22	
2000	12	1 1/16 x 2 3/4	HLVB-2012	500	50	1 1/16 x 3 3/8	HLVB-550				
500	15	1 1/16 x 2 3/4	HLVB-515	1000	50	1 13/16 x 3 3/8	HLVB-1050				

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CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

# SPRAGUE CAPACITORS

## TE LITTL-LYTIC® ELECTROLYTICS

- Ultra-Small — Excellent, Dependable Replacement Units for Transistorized Equipment Presently on the Market
- Reliability at Reasonable Prices
- All-Welded Construction — No Pressure Joints to Cause "Open" or Intermittent Circuits
- No Corrosion as with Competitive Units

- Extremely Low Leakage Current, Long Shelf Life
- Withstand Temperatures Up to 85C (185F)
- Furnished with Clear Plastic Outer Insulating Sleeves
- Packed 5 to a Handy Rigid Kleer-Pak® Plastic Box

For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 3150

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.	μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.	μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
<b>1 WVDC</b>				<b>10 WVDC</b>				<b>25 WVDC</b>			
5	.260 x .536	TE-1010		400	.385 x 1.286	TE-1107	30D407G006DF2	1	.260 x .536	TE-1200	30D105G025BA2
<b>3 WVDC</b>				560	.385 x 1.536	TE-1108	30D567G006DH2	2	.260 x .536	TE-1201	30D205G025BA2
1	.260 x .536	TE-1050	30D105G003BA2	10	.260 x .536	TE-1114*		3	.260 x .536	TE-1201.1	30D305G025BA2
2	.260 x .536	TE-1051	30D205G003BA2	15	.260 x .536	TE-1116*		4	.260 x .536	TE-1201.2	30D405G025BA2
3	.260 x .536	TE-1052	30D305G003BA2	25	.260 x .723	TE-1118*		5	.260 x .536	TE-1202	30D505G025BA2
4	.260 x .536	TE-1052.1	30D405G003BA2	50	.322 x .723	TE-1119*		6	.260 x .536	TE-1203	30D605G025BA2
5	.260 x .536	TE-1052.2	30D505G003BA2	100	.322 x .848	TE-1119.3*		8	.260 x .536	TE-1203.5	30D805G025BA2
6	.260 x .536	TE-1052.3	30D605G003BA2	200	.385 x 1.286	TE-1119.6*		10	.260 x .723	TE-1204	30D106G025BB2
8	.260 x .536	TE-1052.5	30D805G003BA2	<b>12 WVDC</b>				15	.260 x .723	TE-1205	30D156G025BB2
10	.260 x .536	TE-1053	30D106G003BA2	1	.260 x .536	TE-1120	30D105G012BA2	20	.260 x .723	TE-1206*	
15	.260 x .536	TE-1053.5	30D156G003BA2	2	.260 x .536	TE-1121	30D205G012BA2	25	.322 x .723	TE-1207	30D256G025CB2
20	.260 x .536	TE-1054	30D206G003BA2	3	.260 x .536	TE-1122	30D305G012BA2	30	.322 x .723	TE-1207.5	30D306G025CB2
25	.260 x .536	TE-1055	30D256G003BA2	4	.260 x .536	TE-1123	30D405G012BA2	35	.322 x .723	TE-1208	30D356G025CB2
30	.260 x .536	TE-1055.5	30D306G003BA2	5	.260 x .536	TE-1127	30D505G012BA2	50	.322 x .848	TE-1209	30D506G025CC2
35	.260 x .723	TE-1056*		6	.260 x .536	TE-1127.1	30D605G012BA2	75	.385 x .848	TE-1210	30D756G025DC2
40	.260 x .723	TE-1057*		8	.260 x .536	TE-1127.3	30D805G012BA2	100	.385 x .973	TE-1211	30D107G025DD2
50	.260 x .723	TE-1058	30D506G003BB2	10	.260 x .536	TE-1128	30D106G012BA2	150	.385 x 1.286	TE-1212	30D157G025DF2
65	.260 x .723	TE-1058.5	30D656G003BB2	15	.260 x .536	TE-1129	30D156G012BA2	200	.385 x 1.536	TE-1213	30D207G025DH2
75	.322 x .723	TE-1059*		20	.260 x .723	TE-1130	30D206G012BB2	<b>50 WVDC</b>			
100	.322 x .723	TE-1059.5	30D107G003CB2	25	.260 x .723	TE-1131	30D256G012BB2	1	.260 x .536	TE-1300	30D105G050BA2
110	.322 x .723	TE-1060*		30	.260 x .723	TE-1132.1	30D306G012BB2	2	.260 x .536	TE-1301	30D205G050BA2
130	.322 x .723	TE-1060.1	30D137G003CB2	35	.322 x .723	TE-1132*		3	.260 x .536	TE-1302	30D305G050BA2
150	.322 x .848	TE-1061	30D157G003CC2	50	.322 x .723	TE-1133	30D506G012CB2	4	.260 x .536	TE-1302.1	30D405G050BA2
200	.322 x .848	TE-1064	30D207G003CC2	60	.322 x .723	TE-1133.5	30D606G012CB2	5	.260 x .723	TE-1303	30D505G050BB2
250	.385 x .848	TE-1065	30D257G003DD2	75	.322 x .848	TE-1134	30D756G012CC2	6	.260 x .723	TE-1303.1	30D605G050BB2
290	.385 x .848	TE-1066.1	30D297G003DC2	90	.385 x .723	TE-1134.5	30D906G012DB2	8	.260 x .723	TE-1303.3	30D805G050BB2
300	.385 x .848	TE-1066*		100	.322 x .848	TE-1135	30D107G012CC2	10	.322 x .723	TE-1304	30D106G050CB2
390	.385 x .973	TE-1067.1	30D397G003DD2	140	.385 x .848	TE-1135.5	30D147G012DC2	15	.322 x .723	TE-1304.2	30D156G050CB2
400	.385 x .973	TE-1067*		150	.385 x .973	TE-1136	30D157G012DD2	20	.322 x .848	TE-1305	30D206G050CC2
500	.385 x 1.286	TE-1068	30D507G003DF2	190	.385 x .973	TE-1136.5	30D197G012DD2	25	.322 x .848	TE-1305.5	30D256G050CC2
590	.385 x 1.286	TE-1069	30D597G003DF2	200	.385 x 1.286	TE-1137	30D207G012DF2	35	.385 x .848	TE-1306	30D356G050DC2
790	.385 x 1.536	TE-1079	30D797G003DH2	250	.385 x 1.286	TE-1138	30D257G012DF2	50	.385 x .973	TE-1307	30D506G050DD2
<b>6 WVDC</b>				290	.385 x 1.286	TE-1139	30D297G012DF2	75	.385 x 1.286	TE-1308	30D756G050DF2
1	.260 x .536	TE-1080	30D105G006BA2	390	.385 x 1.536	TE-1140	30D397G012DH2	100	.385 x 1.536	TE-1309	30D107G050DH2
2	.260 x .536	TE-1081	30D205G006BA2	<b>15 WVDC</b>				1	.260 x .536	TE-1400	30D105G100BA2
3	.260 x .536	TE-1082	30D305G006BA2	1	.260 x .536	TE-1148	30D105G015BA2	2	.260 x .723	TE-1401	30D205G100BB2
4	.260 x .536	TE-1083	30D405G006BA2	2	.260 x .536	TE-1149	30D205G015BA2	3	.322 x .723	TE-1402	30D305G100CB2
5	.260 x .536	TE-1084	30D505G006BA2	3	.260 x .536	TE-1150	30D305G015BA2	4	.322 x .723	TE-1403	30D405G100CB2
6	.260 x .536	TE-1085	30D605G006BA2	4	.260 x .536	TE-1151	30D405G015BA2	5	.322 x .848	TE-1404	30D505G100CC2
8	.260 x .536	TE-1086	30D805G006BA2	5	.260 x .536	TE-1152	30D505G015BA2	6	.322 x .848	TE-1405	30D605G100CC2
10	.260 x .536	TE-1087	30D106G006BA2	6	.260 x .536	TE-1153	30D605G015BA2	8	.385 x .848	TE-1406	30D805G100DC2
15	.260 x .536	TE-1089	30D156G006BA2	8	.260 x .536	TE-1154	30D805G015BA2	10	.385 x .848	TE-1407	30D106G100DC2
20	.260 x .536	TE-1090	30D206G006BA2	10	.260 x .536	TE-1155	30D106G015BA2	15	.385 x .973	TE-1408	30D156G100DD2
25	.260 x .723	TE-1091	30D256G006BB2	15	.260 x .723	TE-1156	30D156G015BB2	20	.385 x 1.286	TE-1409	30D206G100DF2
30	.260 x .723	TE-1092*		20	.260 x .723	TE-1157	30D206G015BB2	25	.385 x 1.536	TE-1410	30D256F100DH2
35	.260 x .723	TE-1093	30D356G006BB2	25	.260 x .723	TE-1157.1	30D256G015BB2	30	.385 x 1.536	TE-1411	30D306F100DH2
40	.260 x .723	TE-1095	30D406G006BB2	30	.322 x .723	TE-1158	30D306G015CB2	<b>100 WVDC</b>			
50	.322 x .723	TE-1100*		35	.322 x .723	TE-1159	30D356G015CB2	1	.260 x .536	TE-1500	30D105G150BA2
60	.322 x .723	TE-1101*		50	.322 x .723	TE-1160	30D506G015CB2	2	.260 x .723	TE-1501	30D205G150BB2
75	.322 x .723	TE-1101.5	30D756G006CB2	75	.322 x .848	TE-1161	30D756G015CC2	3	.322 x .723	TE-1502	30D305G150CB2
90	.322 x .723	TE-1101.7	30D906G006CB2	85	.385 x .723	TE-1161.5	30D856G015DB2	4	.322 x .848	TE-1503	30D405G150CC2
100	.322 x .848	TE-1102	30D107G006CC2	90	.322 x .848	TE-1161.7	30D906G015CC2	5	.322 x .848	TE-1504	30D505G150CC2
140	.322 x .848	TE-1102.5	30D147G006CC2	100	.385 x .848	TE-1162	30D107G015DC2	6	.385 x .848	TE-1505	30D605G150DC2
150	.385 x .848	TE-1103	30D157G006DC2	130	.385 x .848	TE-1162.5	30D137G015DC2	7	.385 x .848	TE-1505.5	30D705F150DC2
200	.385 x .848	TE-1104	30D207G006DC2	150	.385 x .973	TE-1163	30D157G015DD2	8	.385 x .848	TE-1506	30D805G150DC2
250	.385 x .973	TE-1105	30D257G006DD2	170	.385 x .973	TE-1163.5	30D177G015DD2	10	.385 x .973	TE-1507	30D106G150DD2
280	.385 x .973	TE-1105.5	30D287G006DD2	200	.385 x 1.286	TE-1164	30D207G015DF2	12	.385 x 1.286	TE-1508*	
300	.385 x 1.286	TE-1106	30D307G006DF2	260	.385 x 1.286	TE-1165	30D267G015DF2	15	.385 x 1.286	TE-1508.1	30D156F150DF2
<b>6 WVDC</b>				350	.385 x 1.536	TE-1166	30D357G015DH2	20	.385 x 1.536	TE-1509	30D206F150DH2

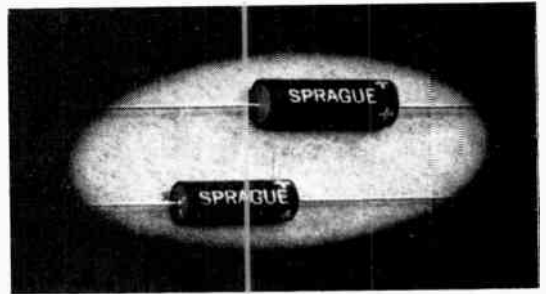
\*Available until present stock is exhausted

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

# SPRAGUE CAPACITORS

## TL TRANSI-LYTIC® ELECTROLYTICS

- Miniature Low-Cost Capacitors For Use in Transistorized Pocket and "Personal Portable" Radios
- Special Low-Leakage Current Construction to Meet The Requirements of Transistor Circuitry
- Sturdy Plastic Case With Thermo-setting Resin End Seals
- Excellent Resistance to High Humidity Conditions
- Polarity Stamped on Each Unit



μF	D. x L.	Sprague Products Cat. No.	Sprague O. E. M. Part No.
<b>3 WVDC</b>			
1	.180 x .570	TL-1050	31D1
2	.180 x .570	TL-1051	31D2
3	.180 x .570	TL-1052	31D3
4	.180 x .570	TL-1052.1	31D4
5	.180 x .570	TL-1052.2	31D5
6	.180 x .570	TL-1052.3	31D6
8	.180 x .570	TL-1052.5	31D7
10	.180 x .570	TL-1053	31D8
15	.180 x .570	TL-1053.5	31D9
20	.210 x .700	TL-1054	31D10
25	.210 x .700	TL-1055	31D11
35	.250 x .820	TL-1056	31D12
50	.250 x .820	TL-1058	31D13
75	.250 x .820	TL-1059	31D14
100	.312 x .820	TL-1059.5	31D15
150	.375 x 1.070	TL-1061	31D16
200	.375 x 1.070	TL-1064	31D17
250	.375 x 1.070	TL-1065	31D18
300	.375 x 1.070	TL-1066	31D93
400	.437 x 1.070	TL-1067	31D94
500	.437 x 1.070	TL-1068	31D95
1000	.625 x 1.700	TL-1069	31D96
1500	.625 x 1.700	TL-1070	31D97
2000	.625 x 1.700	TL-1071	31D98
2500	.750 x 2.100	TL-1072	31D99
3000	.750 x 2.100	TL-1073	31D100
4000	.750 x 2.100	TL-1074	31D101

μF	D. x L.	Sprague Products Cat. No.	Sprague O. E. M. Part No.
<b>6 WVDC</b>			
1	.180 x .570	TL-1080	31D19
2	.180 x .570	TL-1081	31D20
3	.180 x .570	TL-1082	31D21
4	.180 x .570	TL-1083	31D22
5	.180 x .570	TL-1084	31D23
6	.180 x .570	TL-1085	31D24
8	.180 x .570	TL-1086	31D25
10	.180 x .570	TL-1087	31D26
15	.210 x .700	TL-1089	31D27
20	.210 x .700	TL-1090	31D28
25	.250 x .820	TL-1091	31D29
35	.250 x .820	TL-1093	31D30
50	.250 x .820	TL-1100	31D31
75	.312 x .820	TL-1101.5	31D32
100	.375 x 1.070	TL-1102	31D33
150	.375 x 1.070	TL-1103	31D34
175	.375 x 1.070	TL-1103.5	31D35
200	.375 x 1.070	TL-1104	31D102
250	.437 x 1.070	TL-1105	31D103
300	.437 x 1.070	TL-1106	31D104
400	.500 x 1.440	TL-1107	31D105
500	.500 x 1.440	TL-1108	31D106
1000	.625 x 1.700	TL-1111	31D107
1500	.625 x 1.700	TL-1112	31D108
2000	.750 x 2.100	TL-1113	31D109
2500	.750 x 2.100	TL-1114	31D110
3000	.875 x 2.320	TL-1115	31D111
4000	.875 x 2.320	TL-1116	31D112

μF	D. x L.	Sprague Products Cat. No.	Sprague O. E. M. Part No.
<b>12 WVDC</b>			
1	.180 x .570	TL-1120	31D36
2	.180 x .570	TL-1121	31D37
3	.180 x .570	TL-1122	31D38
4	.180 x .570	TL-1123	31D39

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μF	D. x L.	Sprague Products Cat. No.	Sprague O. E. M. Part No.
5	.180 x .570	TL-1127	31D40
6	.180 x .570	TL-1127.1	31D41
8	.210 x .700	TL-1127.3	31D42
10	.210 x .700	TL-1128	31D43
15	.210 x .700	TL-1129	31D44
20	.250 x .820	TL-1130	31D45
25	.250 x .820	TL-1131	31D46
35	.250 x .820	TL-1132	31D47
50	.312 x .820	TL-1133	31D48
75	.375 x 1.070	TL-1134	31D49
100	.375 x 1.070	TL-1135	31D50
150	.375 x 1.070	TL-1136	31D113
200	.437 x 1.070	TL-1137	31D114
250	.500 x 1.440	TL-1138	31D115
300	.500 x 1.440	TL-1139	31D116
400	.500 x 1.440	TL-1140	31D181
500	.625 x 1.700	TL-1141	31D117
1000	.625 x 1.700	TL-1142	31D118
1500	.750 x 1.440	TL-1143	31D119
2000	.750 x 2.100	TL-1144	31D120
2500	.875 x 2.320	TL-1145	31D121
3000	.875 x 2.320	TL-1146	31D122
4000	1.000 x 2.320	TL-1147	31D123

μF	D. x L.	Sprague Products Cat. No.	Sprague O. E. M. Part No.
<b>16 WVDC</b>			
1	.180 x .570	TL-1148	31D51
2	.180 x .570	TL-1149	31D52
3	.180 x .570	TL-1150	31D53
4	.180 x .570	TL-1151	31D54
5	.180 x .570	TL-1152	31D55
6	.180 x .570	TL-1153	31D56
8	.210 x .700	TL-1154	31D57
10	.210 x .700	TL-1155	31D58
15	.250 x .820	TL-1156	31D59
20	.250 x .820	TL-1157	31D60
25	.250 x .820	TL-1157.1	31D61
35	.312 x .820	TL-1159	31D62
50	.312 x .820	TL-1160	31D63
75	.375 x 1.070	TL-1161	31D64
100	.375 x 1.070	TL-1162	31D65
150	.375 x 1.070	TL-1163	31D124
200	.437 x 1.070	TL-1164	31D125
250	.500 x 1.440	TL-1164.5	31D126
300	.500 x 1.440	TL-1165	31D127
400	.625 x 1.700	TL-1165.5	31D128
500	.625 x 1.700	TL-1166	31D129
1000	.750 x 1.700	TL-1166.5	31D130
1500	.750 x 1.700	TL-1167	31D131
2000	.875 x 2.320	TL-1167.5	31D132
2500	.875 x 2.320	TL-1168	31D133
3000	1.000 x 2.320	TL-1168.5	31D134

μF	D. x L.	Sprague Products Cat. No.	Sprague O. E. M. Part No.
<b>20 WVDC</b>			
1	.180 x .570	TL-1170	31D66
2	.180 x .570	TL-1171	31D67
3	.180 x .570	TL-1172	31D68
4	.180 x .570	TL-1173	31D69
5	.180 x .570	TL-1174	31D70
6	.210 x .700	TL-1175	31D71
8	.210 x .700	TL-1176	31D72
10	.210 x .700	TL-1177	31D73
15	.250 x .820	TL-1178	31D74
20	.250 x .820	TL-1179	31D75
25	.250 x .820	TL-1180	31D76
35	.312 x .820	TL-1181	31D77

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μF	D. x L.	Sprague Products Cat. No.	Sprague O. E. M. Part No.
50	.312 x .820	TL-1182	31D78
75	.375 x 1.070	TL-1183	31D79
100	.375 x 1.070	TL-1184	31D135
150	.437 x 1.070	TL-1185	31D136
200	.500 x 1.440	TL-1186	31D137
250	.500 x 1.440	TL-1187	31D138
300	.500 x 1.440	TL-1188	31D139
400	.625 x 1.700	TL-1189	31D140
500	.625 x 1.700	TL-1190	31D441
1000	.750 x 1.700	TL-1191	31D142
1500	.750 x 2.100	TL-1192	31D143
2000	.875 x 2.320	TL-1193	31D144
2500	1.000 x 2.320	TL-1194	31D445
3000	1.000 x 2.320	TL-1195	31D446

μF	D. x L.	Sprague Products Cat. No.	Sprague O. E. M. Part No.
<b>25 WVDC</b>			
1	.180 x .570	TL-1200	31D30
2	.180 x .570	TL-1201	31D81
3	.180 x .570	TL-1201.1	31D82
4	.180 x .570	TL-1201.2	31D83
5	.210 x .700	TL-1202	31D84
6	.210 x .700	TL-1203	31D85
8	.210 x .700	TL-1203.5	31D86
10	.250 x .820	TL-1204	31D87
15	.250 x .820	TL-1205	31D88
20	.250 x .820	TL-1206	31D49
25	.312 x .820	TL-1207	31D90
35	.375 x 1.070	TL-1208	31D91
50	.375 x 1.070	TL-1209	31D92
75	.375 x 1.070	TL-1210	31D147
100	.437 x 1.070	TL-1211	31D148
150	.500 x 1.440	TL-1212	31D149
200	.500 x 1.440	TL-1213	31D150
250	.625 x 1.700	TL-1214	31D151
300	.625 x 1.700	TL-1215	31D152
400	.625 x 1.700	TL-1216	31D153
500	.625 x 1.700	TL-1217	31D154
1000	.750 x 2.100	TL-1218	31D155
1500	.875 x 2.320	TL-1219	31D156
2000	1.000 x 2.320	TL-1220	31D157

μF	D. x L.	Sprague Products Cat. No.	Sprague O. E. M. Part No.
<b>50 WVDC</b>			
1	.180 x .570	TL-1300	31D158
2	.180 x .570	TL-1301	31D159
3	.210 x .700	TL-1302	31D160
4	.210 x .700	TL-1302.1	31D161
5	.250 x .820	TL-1303	31D162
6	.250 x .820	TL-1303.1	31D163
8	.250 x .820	TL-1303.3	31D164
10	.250 x .820	TL-1304	31D165
15	.312 x .820	TL-1304.2	31D166
20	.375 x 1.070	TL-1305	31D167
25	.375 x 1.070	TL-1305.1	31D168
35	.375 x 1.070	TL-1306	31D169
50	.437 x 1.070	TL-1307	31D170
75	.500 x 1.440	TL-1308	31D171
100	.500 x 1.440	TL-1309	31D172
150	.625 x 1.700	TL-1310	31D173
175	.625 x 1.700	TL-1311	31D174
200	.625 x 1.700	TL-1312	31D175
250	.625 x 1.700	TL-1313	31D176
300	.750 x 1.195	TL-1314	31D177
400	.750 x 2.100	TL-1315	31D178
500	.750 x 2.100	TL-1316	31D179
1000	1.000 x 2.320	TL-1317	31D180

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

# SPRAGUE CAPACITORS

## TYPE 36D POWERLYTIC® ALUMINUM ELECTROLYTICS

- For Maximum Capacitance in a Given Case Size.
- Especially Suitable for Transistorized Circuitry where High Capacitance is Required.
- Maximum Space Economy at Operating Temperatures Up To 65 C.
- Low ESR and Leakage Currents. • Extremely Long Shelf Life.
- Uses Most Reliable Seal Developed by Sprague for Aluminum Electrolytic Capacitors. Pressure-type Safety Vents Employing Silicone Rubber Are Used On All Cases.
- Low Screw Insert Terminal, 9/32" high. • Plastic Outer Tube.
- Superior Electrical and Life Characteristics Are Insured By Careful Raw Material Inspection, High Quality Control Standards and Close Manufacturing Supervision. • For Complete Technical Data, Consult Sprague Engineering Bulletin 3431.



μF	Case Code	WVDC	Catalog No.
270,000	DF	3	36D274G003DF2A
120,000	DC	6	36D124G006DC2A
190,000	DF	6	36D194G006DF2A
6,000	AA	10	36D602G010AA2A
12,000	AB	10	36D123G010AB2A
18,000	AC	10	36D183G010AC2A
28,000	BB	10	36D283G010BB2A
42,000	BC	10	36D423G010BC2A
48,000	CB	10	36D483G010CB2A
100,000	DC	10	36D104G010DC2A
160,000	DF	10	36D164G010DF2A
4,600	AA	15	36D462G015AA2A
9,200	AB	15	36D922G015AB2A
13,000	AC	15	36D133G015AC2A
21,000	BB	15	36D213G015BB2A
31,000	BC	15	36D313G015BC2A
36,000	CB	15	36D363G015CB2A
54,000	CC	15	36D543G015CC2A
63,000	CD	15	36D633G015CD2A
80,000	DC	15	36D803G015DC2A
2,700	AA	25	36D272G025AA2A
5,500	AB	25	36D552G025AB2A
8,200	AC	25	36D822G025AC2A
18,000	BC	25	36D183G025BC2A
32,000	CC	25	36D323G025CC2A
47,000	DC	25	36D473G025DC2A
55,000	DD	25	36D553G025DD2A
71,000	DF	25	36D713G025DF2A
36,000	DC	30	36D363G030DC2A
42,000	DD	30	36D423G030DD2A
5,500	AC	40	36D552G040AC2A
8,400	BB	40	36D842G040BB2A
12,000	BC	40	36D123G040BC2A
21,000	CC	40	36D213G040CC2A
25,000	CD	40	36D253G040CD2A
1,300	AA	50	36D132G050AA2A
2,600	AB	50	36D262G050AB2A
3,900	AC	50	36D392G050AC2A
6,000	BB	50	36D602G050BB2A
9,000	BC	50	36D902G050BC2A
15,000	CC	50	36D153G050CC2A
22,000	DC	50	36D223G050DC2A
2,500	AC	75	36D252F075AC2A
3,900	BB	75	36D392F075BB2A
5,900	BC	75	36D592F075BC2A
11,000	CD	75	36D113F075CD2A
14,000	DC	75	36D143F075DC2A
22,000	DF	75	36D223F075DF2A

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μF	Case Code	WVDC	Catalog No.
450	AA	100	36D451F100AA2A
1,300	AC	100	36D132F100AC2A
3,000	BC	100	36D302F100BC2A
5,300	CC	100	36D532F100CC2A
7,800	DC	100	36D782F100DC2A
300	AA	150	36D301F150AA2A
900	AC	150	36D901F150AC2A
1,400	BB	150	36D142F150BB2A
2,100	BC	150	36D212F150BC2A
3,600	CC	150	36D362F150CC2A
5,300	DC	150	36D532F150DC2A
7,800	DF	150	36D782F150DF2A
250	AA	200	36D251F200AA2A
430	AB	200	36D431F200AB2A
640	AC	200	36D641F200AC2A
1,400	BC	200	36D142F200BC2A
1,600	CB	200	36D162F200CB2A
3,700	DC	200	36D372F200DC2A
5,500	DF	200	36D552F200DF2A
530	AC	250	36D531F250AC2A
1,200	BC	250	36D122F250BC2A
3,000	DC	250	36D302F250DC2A
4,500	DF	250	36D452F250DF2A
240	AB	300	36D241F300AB2A
820	BC	300	36D821F300BC2A
2,100	DC	300	36D212F300DC2A
95	AA	350	36D950F350AA2A
190	AB	350	36D191F350AB2A
420	BB	350	36D421F350BB2A
650	BC	350	36D651F350BC2A
1,100	CC	350	36D112F350CC2A
1,600	DC	350	36D162F350DC2A
2,500	DF	350	36D252F350DF2A
420	BC	400	36D421F400BC2A
50	AA	450	36D500F450AA2A
140	AC	450	36D141F450AC2A
220	BB	450	36D221F450BB2A
330	BC	450	36D331F450BC2A
860	DC	450	36D861F450DC2A

CALL YOUR SPRAGUE DISTRIBUTOR FOR QUANTITY PRICES

CASE CODE	BARE CAN D x L	CASE CODE	BARE CAN D x L	VERTICAL MOUNTING Cat. No.	CLAMPS Dia.
AA	1 3/8 x 2 1/8	CB	2 1/2 x 3 1/8	CMC-22	1 1/8
AB	1 3/8 x 3 1/8	CC	2 1/2 x 4 1/8	CMC-32	2
AC	1 3/8 x 4 1/8	CD	2 1/2 x 4 3/8	CMC-40	2 1/2
BB	2 x 3 1/8	DC	3 x 4 1/8	CMC-48	3
BC	2 x 4 1/8	DD	3 x 4 3/8		
		DF	3 x 5 1/8		

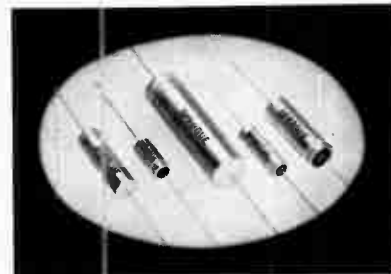
Add 1/32" to diameter and 1/16" to length for plastic outer tube.



# SPRAGUE CAPACITORS

## TYPE 39D POWERLYTIC® CAPACITORS

- Designed for Such Applications as Transistorized Apparatus, Which Require the Greatest Possible Capacitance in Small Case Size.
- Type 39D Capacitors Supplement the Original Type 36D Powerlytic by Offering Lower Capacitance Values in Small Case Size.
- Welds at all Critical Anode and Cathode Terminals Eliminates Riveted or Pressure Connections to Assure Freedom from Open Circuits Even During Operation in the Microvolt or Millivolt Signal Range.
- End-seals of an Improved Molded Phenolic
- Furnished with an Outer Insulation of Flexible Plastic.
- Operating Temperature Up to 85C
- These Capacitors are Provided with a Pressure-sensitive Safety Vent.
- For Additional Technical Data, Consult the Latest Issue of Sprague Electric Company Engineering Bulletin 3415.



μF	D. x L.	WVDC	Catalog Number	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	μF	D. x L.	WVDC	Catalog Number	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES
1,300	1/2 x 2 1/8	3	39D138G003EL4		500	5/8 x 2 1/8	30	39D507G030FL4	
2,100	7/8 x 1 1/8	3	39D218G003HE4	1,100	3/4 x 2 5/8	30	39D118G030GP4		
3,000	1 x 1 1/8	3	39D308G003JE4	2,100	7/8 x 3 1/8	30	39D218G030HS4		
5,700	3/4 x 2 5/8	3	39D578G003GP4	3,000	1 x 3 1/8	30	39D308G030JS4		
10,000	7/8 x 3 1/8	3	39D109G003HS4	50	1/2 x 1 1/8	50	39D506G050EE4		
18,000	1 x 3 5/8	3	39D189G003JT4	100	1/2 x 1 5/8	50	39D107G050EJ4		
600	1/2 x 1 5/8	6	39D607G006EJ4	150	1/2 x 2 1/8	50	39D157G050EL4		
1,000	3/4 x 1 1/8	6	39D108G006GE4	250	7/8 x 1 1/8	50	39D257G050HE4		
2,000	3/4 x 1 5/8	6	39D208G006GJ4	500	3/4 x 2 1/8	50	39D507G050GL4		
4,000	3/4 x 2 5/8	6	39D408G006GP4	1,100	7/8 x 2 5/8	50	39D118G050HP4		
6,000	3/4 x 2 5/8	6	39D608G006HP4	2,300	1 x 3 5/8	50	39D238G050JT4		
10,000	1 x 3 1/8	6	39D109G006JS4	25	1/2 x 1 5/8	150	39D256F150EJ4		
500	1/2 x 1 5/8	10	39D507G010EJ4	50	5/8 x 1 5/8	150	39D506F150FJ4		
1,000	5/8 x 1 5/8	10	39D108G010FJ4	100	5/8 x 2 5/8	150	39D107F150FP4		
1,600	5/8 x 2 1/8	10	39D168G010FL4	250	7/8 x 2 5/8	150	39D257F150HP4		
2,500	3/4 x 2 1/8	10	39D258G010GL4	530	1 x 3 5/8	150	39D537F150JT4		
5,000	7/8 x 2 5/8	10	39D508G010HP4	20	1/2 x 2 1/8	250	39D206F250EL4		
10,000	1 x 3 5/8	10	39D109G010JT4	50	1 x 1 1/8	250	39D506F250JE4		
600	1/2 x 2 1/8	15	39D607G015EL4	100	7/8 x 2 1/8	250	39D107F250HL4		
1,200	5/8 x 2 1/8	15	39D128G015FL4	200	1 x 2 5/8	250	39D207F250JP4		
2,500	3/4 x 2 5/8	15	39D258G015GP4	300	1 x 3 5/8	250	39D307F250JT4		
4,000	1 x 2 1/8	15	39D408G015JL4	20	5/8 x 2 1/8	350	39D206F350FL4		
8,000	1 x 3 5/8	15	39D808G015JT4	30	5/8 x 2 5/8	350	39D306F350FP4		
200	1/2 x 1 5/8	25	39D207G025EJ4	40	3/4 x 2 1/8	350	39D406F350GL4		
500	7/8 x 1 1/8	25	39D507G025HE4	50	3/4 x 2 5/8	350	39D506F350GP4		
1,000	3/4 x 2 1/8	25	39D108G025GL4	100	7/8 x 3 1/8	350	39D107F350HS4		
2,200	7/8 x 2 5/8	25	39D228G025HP4	160	1 x 3 5/8	350	39D167F350JT4		
4,000	1 x 3 5/8	25	39D408G025JT4	5	1/2 x 2 1/8	450	39D505F450EL4		
75	1/2 x 1 1/8	30	39D756G030EE4	10	5/8 x 2 1/8	450	39D106F450FL4		
150	1/2 x 1 5/8	30	39D157G030EJ4	20	3/4 x 2 1/8	450	39D206F450GL4		
250	1/2 x 2 1/8	30	39D257G030EL4	50	1 x 2 5/8	450	39D506F450JP4		
				75	1 x 3 5/8	450	39D756F450JT4		

## SPECIAL PURPOSE ELECTROLYTIC CAPACITORS

- Designed to Filter Low Voltage Power Supplies For Aircraft
- Solder Lug Terminals

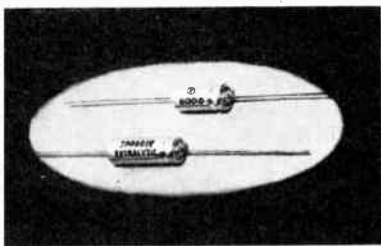


μF	D. x L.	VDC	Catalog Number
1250	1 x 2 3/4	3NP	D16255 (S17377)
3750	1 3/8 x 3 5/8	3NP	D3759 (S17378)

# SPRAGUE CAPACITORS

## TYPE 600D EXTRALYTIC<sup>®</sup> ALUMINUM ELECTROLYTIC CAPACITORS

- Extended Operating Temperature Range From -55C to +125C
- Dual Rating Makes Possible Operation At Either 85C or 125C
- Voltage Ratings Up to 150 Volts D-C
- Improved Oxide Systems, Etching Techniques, and End Seals; a New Electrolyte Makes The Type 600D Equivalent to Or Better Than Comparable Foil Tantalum Capacitors.
- Lower Cost and One Third The Weight of Comparable Foil Tantalums

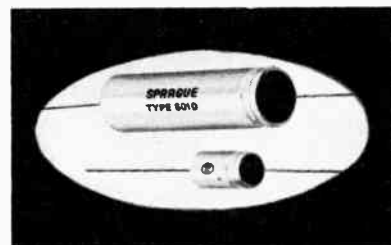


$\mu$ F	Case Code	Catalog Number*	$\mu$ F	Case Code	Catalog Number*	$\mu$ F	Case Code	Catalog Number*	$\mu$ F	Case Code	Catalog Number*
<b>7 WVDC @ 85C, 5 WVDC @ 125C</b>			<b>25 WVDC @ 85C, 20 WVDC @ 125C</b>			<b>60 WVDC @ 85C, 50 WVDC @ 125C</b>			<b>150 WVDC @ 85C, 100 WVDC @ 125C</b>		
140	DC	600D147G007DC4	50	DC	600D506G025DC4	18	DC	600D186G060DC4	6	DC	600D605F150DC4
210	DD	600D217G007DD4	75	DD	600D756G025DD4	25	DD	600D256G060DD4	9	DD	600D905F150DD4
280	DE	600D287G007DE4	100	DE	600D107G025DE4	40	DE	600D406G060DE4	12	DE	600D126F150DE4
420	DG	600D427G007DG4	150	DG	600D157G025DG4	60	DG	600D606G060DG4	18	DG	600D186F150DG4
560	DJ	600D567G007DJ4	210	DJ	600D217G025DJ4	80	DJ	600D806G060DJ4	25	DJ	600D256F150DJ4
350	DL	600D857G007DL4	310	DL	600D317G025DL4	120	DL	600D127G060DL4	37	DL	600D376F150DL4
<b>15 WVDC @ 85C, 10 WVDC @ 125C</b>			<b>40 WVDC @ 85C, 30 WVDC @ 125C</b>			<b>70 WVDC @ 85C, 50 WVDC @ 125C</b>			<b>200 WVDC @ 85C, 150 WVDC @ 125C</b>		
95	DC	600D956G015DC4	30	DC	600D306G040DC4	15	DC	600D156G070DC4	4	DC	600D405F200DC4
140	DD	600D147G015DD4	50	DD	600D506G040DD4	20	DD	600D206G070DD4	6	DD	600D605F200DD4
190	DE	600D197G015DE4	70	DE	600D706G040DE4	30	DE	600D306G070DE4	8	DE	600D805F200DE4
290	DG	600D297G015DG4	100	DG	600D107G040DG4	50	DG	600D506G070DG4	13	DG	600D136F200DG4
390	DJ	600D397G015DJ4	140	DJ	600D147G040DJ4	65	DJ	600D656G070DJ4	17	DJ	600D176F200DJ4
580	DL	600D587G015DL4	210	DL	600D217G040DL4	100	DL	600D107G070DL4	26	DL	600D266F200DL4
<b>20 WVDC @ 85C, 15 WVDC @ 125C</b>			<b>50 WVDC @ 85C, 40 WVDC @ 125C</b>			<b>100 WVDC @ 85C, 75 WVDC @ 125C</b>			<b>TABLE OF DIMENSIONS</b>		
70	DC	600D706G020DC4	20	DC	600D206G050DC4	8	DC	600D186G100DC4	Case	With Outer Insulation	
100	DD	600D107G020DD4	35	DD	600D356G050DD4	13	DD	600D136G100DD4	Code	Diam.	Length
140	DE	600D147G020DE4	50	DE	600D506G050DE4	17	DE	600D176G100DE4		(+0.031)	(Max.)
220	DG	600D227G020DG4	75	DG	600D756G050DG4	25	DG	600D256G100DG4	DC	.390	.875
290	DJ	600D297G020DJ4	100	DJ	600D107G050DJ4	35	DJ	600D356G100DJ4	DD	.390	1.000
440	DL	600D447G020DL4	150	DL	600D157G050DL4	50	DL	600D506G100DL4	DE	.390	1.187
								DG	.390	1.437	
								DJ	.390	1.687	
								DL	.390	2.249	

\*Catalog numbers listed are for capacitors with Outer Insulation. For units with bare can substitute "0" for "4" at the end of the catalog number, and subtract 1/64" from diameter.

## TYPE 601D EXTRALYTIC<sup>®</sup> ALUMINUM ELECTROLYTIC CAPACITORS

- Supplement Type 600D Extralytic Capacitors With Larger Case Sizes and Higher Capacitance Values
- Pressure-sensitive Safety Vent
- Designed to Operate at a Temperature Range of -55C to +85C
- Unique New Electrolyte, High-gain Etched Foil, Improved Oxide System Provide Long Life With Superior Electrical Characteristics
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 3456
- Call Your Sprague Industrial Distributor For Current Prices



$\mu$ F	Diam. ( $\pm 0.031$ )	Length ( $\pm 0.062$ )	Catalog Number	$\mu$ F	Diam. ( $\pm 0.031$ )	Length ( $\pm 0.062$ )	Catalog Number	$\mu$ F	Diam. ( $\pm 0.031$ )	Length ( $\pm 0.062$ )	Catalog Number
<b>5 VOLTS D-C WORKING, 7 VDC SURGE</b>				<b>15 VOLTS D-C WORKING, 20 VDC SURGE</b>				<b>50 VOLTS D-C WORKING, 75 VDC SURGE</b>			
1500	.687	1.250	601D158G005FJ4	650	.812	1.250	601D657G015GE4	110	.687	1.250	601D117G050FE4
2300	.687	2.250	601D238G005FL4	1200	.687	2.250	601D128G015FL4	170	.812	1.250	601D177G050GE4
3500	.687	3.250	601D358G005FS4	2500	1.062	1.750	601D258G015JJ4	250	.937	1.250	601D257G050HE4
5500	.812	3.250	601D558G005GS4	4200	.937	3.250	601D428G015HS4	500	.687	3.250	601D507G050FS4
10000	1.062	3.250	601D109G005J4	6900	1.062	3.750	601D698G015JT4	1100	.937	3.250	601D118G050HS4
13000	1.062	3.750	601D139G005JT4					1800	1.062	3.750	601D188G050JT4
<b>7.5 VOLTS D-C WORKING, 10 VDC SURGE</b>				<b>25 VOLTS D-C WORKING, 40 VDC SURGE</b>				<b>150 VOLTS D-C WORKING, 200 VDC SURGE</b>			
650	.687	1.250	601D657G7R5FE4	220	.687	1.250	601D227G025FE4	18	.687	1.250	601D186F150FE4
1000	.812	1.250	601D108G7R5GE4	500	.937	1.250	601D507G025HE4	55	.687	2.250	601D556F150FL4
2000	.812	1.750	601D208G7R5GJ4	1000	.812	2.250	601D108G025GL4	100	.687	3.750	601D107F150FT4
4000	1.062	1.750	601D408G7R5JJ4	2200	.937	3.250	601D228G025HS4	260	.937	3.750	601D267F150HT4
6000	1.062	2.250	601D608G7R5JL4	3700	1.062	3.750	601D378G025JT4	360	1.062	3.750	601D367F150JT4
11000	1.062	3.750	601D119G7R5JT4								
<b>10 VOLTS D-C WORKING, 15 VDC SURGE</b>				<b>30 VOLTS D-C WORKING, 45 VDC SURGE</b>				<b>200 VOLTS D-C WORKING, 250 VDC SURGE</b>			
540	.687	1.250	601D547G010FE4	190	.687	1.250	601D197G030FE4	16	.687	1.250	601D166F200FE4
1000	.687	1.750	601D108G010FJ4	310	.812	1.250	601D317G030GE4	50	.812	1.750	601D506F200GJ4
1600	.687	2.250	601D168G010FL4	580	.687	2.250	601D587G030FL4	100	.812	3.250	601D107F200GS4
2500	.812	2.250	601D258G010GL4	1000	.687	3.750	601D108G030FT4	160	1.062	2.250	601D167F200JL4
5000	1.062	2.250	601D508G010JL4	2000	.937	3.250	601D208G030HS4	210	.937	3.750	601D217F200HT4
9100	1.062	3.750	601D918G010JT4	3300	1.062	3.750	601D338G030JT4	290	1.062	3.750	601D297F200JT4

\*Catalog numbers listed are for capacitors with Outer Insulation. For units with bare can substitute "0" for "4" at the end of the catalog number, and subtract 1/64" from diameter.

# SPRAGUE CAPACITORS

## PE OCTAL-BASE ELECTROLYTICS

- For Applications where Rapid Changing of Capacitors is Desired
- Will Fit Standard Octal-Base Tube Sockets
- Hermetically Sealed in Metal Cans for Long Life
- Will Stand Up Under High Temperatures, High Ripple Currents, High Surge Voltages



Terminal Code		
Sections	-	+
Single	1	5
Dual	1	3,5
Triple	1	3,5,7
Quadruple	Gnd Lug	1,3,5,7

$\mu$ F	WVDC	Diam. x Lgth.	Cat. No.	Call Your Sprague Distributor for Prices	$\mu$ F	WVDC	Diam. x Lgth.	Cat. No.	Call Your Sprague Distributor for Prices
100	350	1 $\frac{1}{2}$ x 3	PE-1636		10-10	450-450	1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	PE-2750	
10	450	1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	PE-1705	20-20	450-450	1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	PE-2755		
20	450	1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	PE-1714	40-40	450-450	1 $\frac{1}{2}$ x 3 $\frac{1}{2}$	PE-2764		
40	450	1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	PE-1725	10-10-10	450-450-450	1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	PE-3776		
80	450	1 $\frac{1}{2}$ x 3 $\frac{1}{2}$	PE-1730	20-20-20	450-450-450	1 $\frac{1}{2}$ x 3	PE-3780		
20-20	150-150	1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	PE-2415	30-30-10-20	450-450-450-50	1 $\frac{1}{2}$ x 3 $\frac{1}{2}$	PE-4741		
40-40	150-150	1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	PE-2428						

## MIL-C-25 CAPACITORS—TYPE CP53



- Impregnated with specially processed mineral oil to exceed performance requirements of MIL-C-25A
- Hermetically sealed, with silicone rubber compression terminals
- Rated for -55°C to +85°C operation
- Drawn metal cases have mounting flanges as integral part of containers
- Single and dual capacitance units have insulated sections — triple capacitance units have grounded cases
- Call Your Sprague Distributor for Current Prices

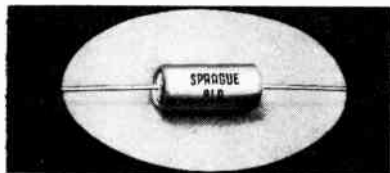
NOTE: Capacitors listed below have capacitance tolerances of +20%, -10% (V) or  $\pm$ 10% (K). For  $\pm$ 20% units, change last letter in catalog number from K to M or V to M.

$\mu$ F	Volts	L. x W. x H.	Cat. No.	Call Your Sprague Distributor for Prices	$\mu$ F	Volts	L. x W. x H.	Cat. No.	Call Your Sprague Distributor for Prices
<b>Single Capacitance</b>					<b>Dual Capacitance</b>				
.05	600	1 $\frac{1}{2}$ x 1 x $\frac{3}{4}$	*CP53B1EF503KI	.05 + .05	600	1 $\frac{1}{2}$ x 1 x $\frac{3}{4}$	CP53B4EF503VI		
.05	1000	1 $\frac{1}{2}$ x 1 x $\frac{3}{4}$	CP53B1EG503KI	.05 + .05	1000	1 $\frac{1}{2}$ x 1 x $\frac{3}{4}$	CP53B4EG503VI		
.1	600	1 $\frac{1}{2}$ x 1 x $\frac{3}{4}$	*CP53B1EF104KI	.1 + .1	600	1 $\frac{1}{2}$ x 1 x $\frac{3}{4}$	CP53B4EF104VI		
.1	1000	1 $\frac{1}{2}$ x 1 x $\frac{3}{4}$	CP53B1EG104KI	.1 + .1	1000	1 $\frac{1}{2}$ x 1 x $\frac{3}{4}$	CP53B4EG104VI		
.25	600	1 $\frac{1}{2}$ x 1 x $\frac{3}{4}$	CP53B1EF254KI	.25 + .25	600	1 $\frac{1}{2}$ x 1 x 1	CP53B4EF254VI		
.25	1000	1 $\frac{1}{2}$ x 1 x $\frac{3}{4}$	CP53B1EG254KI	.25 + .25	1000	2 x 1 $\frac{1}{4}$ x $\frac{7}{8}$	CP53B4EF504VI		
.5	400	1 $\frac{1}{2}$ x 1 x $\frac{7}{8}$	*CP53B1EE504KI	.5 + .5	600	2 x 1 $\frac{3}{4}$ x 1	CP53B4EG254VI		
.5	600	1 $\frac{1}{2}$ x 1 x 1	CP53B1EF504KI	.5 + .5	1000	2 x 2 x 1 $\frac{1}{2}$	CP53B4EG504VI		
.5	1000	2 x 1 $\frac{3}{4}$ x $\frac{7}{8}$	CP53B1EG504KI	1.0 + 1.0	600	2 x 2 x 1 $\frac{1}{2}$	CP53B4EF105VI		
1.0	600	2 x 1 $\frac{3}{4}$ x 1	CP53B1EF105KI	<b>Triple Capacitance</b>					
1.0	1000	2 x 2 x 1 $\frac{1}{2}$	CP53B1EG105KI	.05 + .05 + .05	600	1 $\frac{1}{2}$ x 1 x $\frac{3}{4}$	*CP53B5EF503VI		
2.0	100	2 x 1 $\frac{3}{4}$ x $\frac{7}{8}$	CP53B1EB205KI	.1 + .1 + .1	600	1 $\frac{1}{2}$ x 1 x $\frac{3}{4}$	CP53B5EF104VI		
2.0	200	2 x 2 x 1	CP53B1EC205KI	.5 + .5 + .5	600	2 x 2 x 1 $\frac{1}{2}$	CP53B5EF504VI		
2.0	600	2 x 2 x 1 $\frac{1}{2}$	CP53B1EF205KI						
4.0	100	2 x 2 x 1 $\frac{1}{2}$	CP53B1EB405KI						

\*Available until present stocks are exhausted

# SPRAGUE CAPACITORS

## VITAMIN Q<sup>®</sup> SUBMINIATURE PAPER CAPACITORS



These capacitors are the most widely used of all paper capacitors in commercial and military electronic equipment. Her-

metically sealed in metal cases, they are electrically and mechanically designed to meet stringent operating requirements.

Impregnated with Vitamin Q, a substantially linear, controlled molecular weight, hydrocarbon polymer, which is exclusive with Sprague, these dependable capacitors are available for operation in two temperature ranges:  $-55^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  and  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ . Because of their Vitamin Q impregnation, these subminiature capacitors have

a higher insulation resistance and longer life than comparable units with ordinary oils.

Sprague Subminiature paper capacitors exceed the performance requirements of military specification MIL-C-25A. A limited number of the ratings shown here are listed in the military specification and should be ordered by their MIL type designation where equipment specifications so require. (See page after next.)

Listed below are the most popular insulated section (un-grounded case) capacitors. For technical data on these and other types, ratings, and tolerances, as well as on wax-impregnated units for absolute minimum size, refer to the latest issue of Engineering Bulletin 2110.

Call your Sprague Industrial Distributor for Current Quantity Prices.

### CHOICE OF INSERTED TAB OR EXTENDED FOIL CONSTRUCTION

In the past, inserted tab capacitors have not been recommended for low-voltage applications (e.g., below 10 volts) but recent improvements in design now make it possible to recommend them for operation at all voltages from 1 to rated, in nearly all applications.

From the application standpoint, the principal difference between the two construction types is that, at resonance, losses

are likely to be lower in the extended foil type. This is because the resistive component of impedance is likely to be higher at resonance in the inserted tab type of construction. Unless unusual circuit requirements make the losses at resonance a critical factor, the inserted tab construction is recommended, primarily because of the smaller size of the capacitor roll.

### TYPE 91P, INSERTED TAB CONSTRUCTION, $85^{\circ}\text{C}$ OPERATION

$\mu\text{F}$	WVDC	Size D. x L.	Capacitance Tolerance $\pm 20\%$				Capacitance Tolerance $\pm 10\%$			
			Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*		Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*	
			Cat. No.	Call Your Sprague Industrial Distributor for Current Quantity Prices	Cat. No.	Call Your Sprague Industrial Distributor for Current Quantity Prices	Cat. No.	Call Your Sprague Industrial Distributor for Current Quantity Prices	Cat. No.	Call Your Sprague Industrial Distributor for Current Quantity Prices
.001	100	.175 x $\frac{3}{4}$	91P10201S2		91P10201S4		91P10291S2		91P10291S4	
	200	.235 x $\frac{3}{4}$	91P10202S2		91P10202S4		91P10292S2		91P10292S4	
	300	.235 x $\frac{3}{4}$	91P10203S2		91P10203S4		91P10293S2		91P10293S4	
	400	.235 x $\frac{3}{4}$	91P10204S2		91P10204S4		91P10294S2		91P10294S4	
	600	.235 x $\frac{3}{4}$	91P10206S2		91P10206S4		91P10296S2		91P10296S4	
.0015	100	.175 x $\frac{3}{4}$	91P15201S2		91P15201S4		91P15291S2		91P15291S4	
	200	.235 x $\frac{3}{4}$	91P15202S2		91P15202S4		91P15292S2		91P15292S4	
	300	.235 x $\frac{3}{4}$	91P15203S2		91P15203S4		91P15293S2		91P15293S4	
	400	.235 x $\frac{3}{4}$	91P15204S2		91P15204S4		91P15294S2		91P15294S4	
	600	.235 x $\frac{3}{4}$	91P15206S2	91P15206S4	91P15296S2	91P15296S4				
.0022	100	.175 x $\frac{3}{4}$	91P22201S2	91P22201S4	91P22291S2	91P22291S4				
	200	.235 x $\frac{3}{4}$	91P22202S2	91P22202S4	91P22292S2	91P22292S4				
	300	.235 x $\frac{3}{4}$	91P22203S2	91P22203S4	91P22293S2	91P22293S4				
	400	.235 x $\frac{3}{4}$	91P22204S2	91P22204S4	91P22294S2	91P22294S4				
	600	.235 x $\frac{3}{4}$	91P22206S2	91P22206S4	91P22296S2	91P22296S4				
.0033	100	.175 x $\frac{3}{4}$	91P33201S2	91P33201S4	91P33291S2	91P33291S4				
	200	.235 x $\frac{3}{4}$	91P33202S2	91P33202S4	91P33292S2	91P33292S4				
	300	.235 x $\frac{3}{4}$	91P33203S2	91P33203S4	91P33293S2	91P33293S4				
	400	.235 x $\frac{3}{4}$	91P33204S2	91P33204S4	91P33294S2	91P33294S4				
	600	.235 x $\frac{3}{4}$	91P33206S2	91P33206S4	91P33296S2	91P33296S4				
.0047	100	.175 x $\frac{3}{4}$	91P47201S2	91P47201S4	91P47291S2	91P47291S4				
	200	.235 x $\frac{3}{4}$	91P47202S2	91P47202S4	91P47292S2	91P47292S4				
	300	.235 x $\frac{3}{4}$	91P47203S2	91P47203S4	91P47293S2	91P47293S4				
	400	.235 x $\frac{3}{4}$	91P47204S2	91P47204S4	91P47294S2	91P47294S4				
	600	.235 x $\frac{3}{4}$	91P47206S2	91P47206S4	91P47296S2	91P47296S4				
.0068	100	.175 x $\frac{3}{4}$	91P68201S2	91P68201S4	91P68291S2	91P68291S4				
	200	.235 x $\frac{3}{4}$	91P68202S2	91P68202S4	91P68292S2	91P68292S4				
	300	.235 x $\frac{3}{4}$	91P68203S2	91P68203S4	91P68293S2	91P68293S4				
	400	.235 x $\frac{3}{4}$	91P68204S2	91P68204S4	91P68294S2	91P68294S4				
	600	.235 x $\frac{3}{4}$	91P68206S2	91P68206S4	91P68296S2	91P68296S4				

\*For Style 4 units add .0625" to diameter and  $\frac{1}{16}$ " to length.

# SPRAGUE CAPACITORS

## TYPE 91P, continued

μF	WVDC	Size D. x L.	Capacitance Tolerance ±20%				Capacitance Tolerance ±10%			
			Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*		Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*	
			Cat. No.		Cat. No.		Cat. No.		Cat. No.	
.01	100	.175 x 3/4	91P10301S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P10301S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P10391S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P10391S4	
	200	.235 x 3/4	91P10302S2		91P10302S4		91P10392S2		91P10392S4	
	300	.235 x 3/4	91P10303S2		91P10303S4		91P10393S2		91P10393S4	
	400	.235 x 3/4	91P10304S2		91P10304S4		91P10394S2		91P10394S4	
	600	.312 x 7/8	91P10306S2		91P10306S4		91P10396S2		91P10396S4	
.015	100	.175 x 3/4	91P15301S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P15301S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P15391S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P15391S4	
	200	.235 x 3/4	91P15302S2		91P15302S4		91P15392S2		91P15392S4	
	300	.235 x 3/4	91P15303S2		91P15303S4		91P15393S2		91P15393S4	
	400	.312 x 7/8	91P15304S2		91P15304S4		91P15394S2		91P15394S4	
	600	.312 x 7/8	91P15306S2		91P15306S4		91P15396S2		91P15396S4	
.022	100	.195 x 3/4	91P22301S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P22301S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P22391S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P22391S4	
	200	.235 x 3/4	91P22302S2		91P22302S4		19P22392S2		91P22392S4	
	300	.312 x 7/8	91P22303S2		91P22303S4		91P22393S2		91P22393S4	
	400	.312 x 7/8	91P22304S2		91P22304S4		91P22394S2		91P22394S4	
	600	.312 x 7/8	91P22306S2		91P22306S4		91P22396S2		91P22396S4	
.033	100	.235 x 3/4	91P33301S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P33301S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P33391S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P33391S4	
	200	.312 x 7/8	91P33302S2		91P33302S4		91P33392S2		91P33392S4	
	300	.312 x 7/8	91P33303S2		91P33303S4		91P33393S2		91P33393S4	
	400	.312 x 7/8	91P33304S2		91P33304S4		91P33394S2		91P33394S4	
	600	.400 x 7/8	91P33306S2		91P33306S4		91P33396S2		91P33396S4	
.047	100	.312 x 7/8	91P47301S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P47301S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P47391S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P47391S4	
	200	.312 x 7/8	91P47302S2		91P47302S4		91P47392S2		91P47392S4	
	300	.312 x 7/8	91P47303S2		91P47303S4		91P47393S2		91P47393S4	
	400	.400 x 7/8	91P47304S2		91P47304S4		91P47394S2		91P47394S4	
	600	.400 x 1 1/8	91P47306S2		91P47306S4		91P47396S2		91P47396S4	
.068	100	.312 x 7/8	91P68301S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P68301S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P68391S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P68391S4	
	200	.312 x 7/8	91P68302S2		91P68302S4		91P68392S2		91P68392S4	
	300	.400 x 7/8	91P68303S2		91P68303S4		91P68393S2		91P68393S4	
	400	.400 x 1 1/8	91P68304S2		91P68304S4		91P68394S2		91P68394S4	
	600	.400 x 1 1/8	91P68306S2		91P68306S4		91P68396S2		91P68396S4	
.1	100	.312 x 7/8	91P10401S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P10401S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P10491S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P10491S4	
	200	.400 x 7/8	91P10402S2		91P10402S4		91P10492S2		91P10492S4	
	300	.400 x 1 1/8	91P10403S2		91P10403S4		91P10493S2		91P10493S4	
	400	.400 x 1 1/8	91P10404S2		91P10404S4		91P10494S2		91P10494S4	
	600	.562 x 1 1/8	91P10406S2		91P10406S4		91P10496S2		91P10496S4	
.15	100	.400 x 7/8	91P15401S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P15401S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P15491S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P15491S4	
	200	.400 x 1 1/8	91P15402S2		91P15402S4		91P15492S2		91P15492S4	
	300	.400 x 1 1/8	91P15403S2		91P15403S4		91P15493S2		91P15493S4	
	400	.562 x 1 1/8	91P15404S2		91P15404S4		91P15494S2		91P15494S4	
	600	.562 x 1 1/8	91P15406S2		91P15406S4		91P15496S2		91P15496S4	
.22	100	.400 x 1 1/8	91P22401S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P22401S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P22491S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P22491S4	
	200	.400 x 1 1/8	91P22402S2		91P22402S4		91P22492S2		91P22492S4	
	300	.562 x 1 1/8	91P22403S2		91P22403S4		91P22493S2		91P22493S4	
	400	.562 x 1 1/8	91P22404S2		91P22404S4		91P22494S2		91P22494S4	
	600	.562 x 1 1/8	91P22406S2		91P22406S4		91P22496S2		91P22496S4	
.33	100	.400 x 1 1/8	91P33401S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P33401S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P33491S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P33491S4	
	200	.562 x 1 1/8	91P33402S2		91P33402S4		91P33492S2		91P33492S4	
	300	.562 x 1 1/8	91P33403S2		91P33403S4		91P33493S2		91P33493S4	
	400	.562 x 1 1/8	91P33404S2		91P33404S4		91P33494S2		91P33494S4	
	600	.670 x 1 1/8	91P33406S2		91P33406S4		91P33496S2		91P33496S4	
.47	100	.562 x 1 1/8	91P47401S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P47401S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P47491S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P47491S4	
	200	.562 x 1 1/8	91P47402S2		91P47402S4		91P47492S2		91P47492S4	
	300	.562 x 1 1/8	91P47403S2		91P47403S4		91P47493S2		91P47493S4	
	400	.670 x 1 1/8	91P47404S2		91P47404S4		91P47494S2		91P47494S4	
	600	.750 x 2 1/8	91P47406S2		91P47406S4		91P47496S2		91P47496S4	
.68	100	.562 x 1 1/8	91P68401S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P68401S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P68491S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P68491S4	
	200	.562 x 1 1/8	91P68402S2		91P68402S4		91P68492S2		91P68492S4	
	300	.670 x 1 1/8	91P68403S2		91P68403S4		91P68493S2		91P68493S4	
	400	.750 x 2 1/8	91P68404S2		91P68404S4		91P68494S2		91P68494S4	
	600	1.000 x 1 13/16	91P68406S2		91P68406S4		91P68496S2		91P68496S4	
1.0	100	.562 x 1 1/8	91P10501S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P10501S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P10591S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P10591S4	
	200	.670 x 1 1/8	91P10502S2		91P10502S4		91P10592S2		91P10592S4	
	300	.750 x 2 1/8	91P10503S2		91P10503S4		91P10593S2		91P10593S4	
	400	1.000 x 1 13/16	91P10504S2		91P10504S4		91P10594S2		91P10594S4	

\*For Style 4 units add .0625" to diameter and 1/8" to length.

# SPRAGUE CAPACITORS

## TYPE 96P, INSERTED TAB CONSTRUCTION, 125°C OPERATION

μF	WVDC	Size D. x L.	Capacitance Tolerance ±20%				Capacitance Tolerance ±10%			
			Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*		Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*	
			Cat. No.		Cat. No.		Cat. No.		Cat. No.	
.001	100	.175 x 3/4	96P10201S2		96P10201S4		96P10291S2		96P10201S4	
	200	.235 x 3/4	96P10202S2		96P10202S4		96P10292S2		96P10202S4	
	300	.235 x 3/4	96P10203S2		96P10203S4		96P10293S2		96P10203S4	
	400	.235 x 3/4	96P10204S2		96P10204S4		96P10294S2		96P10204S4	
	600	.235 x 3/4	96P10206S2		96P10206S4		96P10296S2		96P10206S4	
.0012	600	.235 x 11/16					96P12296S2		96P12296S4	
.0015	100	.175 x 3/4	96P15201S2		96P15201S4		96P15291S2		96P15291S4	
	200	.235 x 3/4	96P15202S2		96P15202S4		96P15292S2		96P15292S4	
	300	.235 x 3/4	96P15203S2		96P15203S4		96P15293S2		96P15293S4	
	400	.235 x 3/4	96P15204S2		96P15204S4		96P15294S2		96P15294S4	
	600	.235 x 3/4	96P15206S2		96P15206S4		96P15296S2		96P15296S4	
.0018	600	.235 x 11/16					96P18296S2		96P18296S4	
.0022	100	.175 x 3/4	96P22201S2		96P22201S4		96P22291S2		96P22201S4	
	200	.235 x 3/4	96P22202S2		96P22202S4		96P22292S2		96P22202S4	
	300	.235 x 3/4	96P22203S2		96P22203S4		96P22293S2		96P22203S4	
	400	.235 x 3/4	96P22204S2		96P22204S4		96P22294S2		96P22204S4	
	600	.235 x 3/4	96P22206S2		96P22206S4		96P22296S2		96P22206S4	
.0027	600	.235 x 11/16					96P27296S2		96P27296S4	
.0033	100	.175 x 3/4	96P33201S2		96P33201S4		96P33291S2		96P33291S4	
	200	.235 x 3/4	97P33202S2		96P33202S4		96P33292S2		96P33292S4	
	300	.235 x 3/4	96P33203S2		96P33203S4		96P33293S2		96P33293S4	
	400	.235 x 3/4	96P33204S2		96P33204S4		96P33294S2		96P33294S4	
	600	.235 x 3/4	96P33206S2		96P33206S4		96P33296S2		96P33296S4	
.0039	600	.235 x 11/16					96P39296S2		96P39296S4	
.0047	100	.175 x 3/4	96P47201S2		96P47201S4		96P47291S2		96P47291S4	
	200	.235 x 3/4	96P47202S2		96P47202S4		96P47292S2		96P47292S4	
	300	.235 x 3/4	96P47203S2		96P47203S4		96P47293S2		96P47293S4	
	400	.235 x 3/4	96P47204S2		96P47204S4		96P47294S2		96P47294S4	
	600	.235 x 3/4	96P47206S2		96P47206S4		96P47296S2		96P47296S4	
.0056	600	.235 x 11/16					96P56296S2		96P56296S4	
.0068	100	.175 x 3/4	96P68201S2		96P68201S4		96P68291S2		96P68391S4	
	200	.235 x 3/4	96P68202S2		96P68202S4		96P68292S2		96P68392S4	
	300	.235 x 3/4	96P68203S2		96P68203S4		96P68293S2		96P68393S4	
	400	.235 x 3/4	96P68204S2		96P68204S4		96P68294S2		96P68394S4	
	600	.235 x 3/4	96P68206S2		96P68206S4		96P68296S2		96P68396S4	
.0082	400	.400 x 1 1/16					96P82294S2		96P82294S4	
	600	.562 x 1 1/16					96P82296S2		96P82296S4	
.01	100	.175 x 3/4	96P10301S2		96P10301S4		96P10391S2		96P10391S4	
	200	.235 x 3/4	96P10302S2		96P10302S4		96P10392S2		96P10392S4	
	300	.235 x 3/4	96P10303S2		96P10303S4		97P10393S2		96P10393S4	
	400	.235 x 3/4	96P10304S2		96P10304S4		96P10394S2		96P10394S4	
	600	.312 x 3/8	96P10306S2		96P10306S4		96P10396S2		96P10396S4	
.012	200	.235 x 11/16					96P12392S2		96P12392S4	
	600	.312 x 11/16					96P12396S2		96P12396S4	
.015	100	.175 x 3/4	96P15301S2		96P15301S4		96P15391S2		96P15391S4	
	200	.235 x 3/4	96P15302S2		96P15302S4		96P15392S2		96P15392S4	
	300	.235 x 3/4	96P15303S2		96P15303S4		96P15393S2		96P15393S4	
	400	.312 x 3/8	96P15304S2		96P15304S4		96P15394S2		96P15394S4	
	600	.312 x 3/8	96P15306S2		96P15306S4		96P15396S2		96P15396S4	
.018	1000	.400 x 1 1/16					96P153910S2		96P153910S4	
.022	100	.195 x 3/4	96P22301S2		96P22301S4		96P22391S2		96P22391S4	
	200	.235 x 3/4	96P22302S2		96P22302S4		96P22392S2		96P22392S4	
	300	.312 x 3/8	96P22303S2		96P22303S4		96P22393S2		96P22393S4	
	400	.312 x 3/8	96P22304S2		96P22304S4		96P22394S2		96P22394S4	
	600	.312 x 3/8	96P22306S2		96P22306S4		96P22396S2		96P22396S4	
.027	1000	.400 x 1 1/16					96P223910S2		96P223910S4	
.033	100	.235 x 3/4	96P33301S2		96P33301S4		96P33391S2		96P33391S4	
	200	.312 x 3/8	96P33302S2		96P33302S4		96P33392S2		96P33392S4	
	300	.312 x 3/8	96P33303S2		96P33303S4		96P33393S2		96P33393S4	
	400	.312 x 3/8	96P33304S2		96P33304S4		96P33394S2		96P33394S4	
	600	.400 x 3/8	96P33306S2		96P33306S4		96P33396S2		96P33396S4	
.039	1000	.400 x 1 1/16					96P333910S2		96P333910S4	
.047	100	.312 x 3/8	96P47301S2		96P47301S4		96P47391S2		96P47391S4	
	200	.312 x 3/8	96P47302S2		96P47302S4		96P47392S2		96P47392S4	
	300	.312 x 3/8	96P47303S2		96P47303S4		96P47393S2		96P47393S4	
	400	.400 x 3/8	96P47304S2		96P47304S4		96P47394S2		96P47394S4	
	600	.400 x 1 1/16	96P47306S2		96P47306S4		96P47396S2		96P47396S4	
.056	1000	.562 x 1 1/16					96P473910S2		96P473910S4	
	200	.312 x 3/8					96P56392S2		96P56392S4	
	400	.400 x 1 1/16					96P56394S2		96P56394S4	
	600	.400 x 1 1/16					96P56396S2		96P56396S4	
	1000	.562 x 1 1/16					96P563910S2		96P563910S4	

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

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\*For Style 4 units add .0625" to diameter and 1/16" to length.

# SPRAGUE CAPACITORS

## TYPE 96P, continued

μF	WVDC	Size D. x L.	Capacitance Tolerance ±20%				Capacitance Tolerance ±10%			
			Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*		Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*	
			Cat. No.		Cat. No.		Cat. No.		Cat. No.	
.068	100	.312 x 3/8	96P68301S2		96P68301S4		96P68391S2		96P68391S4	
	200	.312 x 3/8	96P68302S2		96P68302S4		96P68392S2		96P68392S4	
	300	.400 x 3/8	96P68303S2		96P68303S4		96P68393S2		96P68393S4	
	400	.400 x 1 1/8	96P68304S2		96P68304S4		96P68394S2		96P68394S4	
	600	.400 x 1 3/8	96P68306S2		96P68306S4		96P68396S2		96P68396S4	
.082	1000	.562 x 1 3/16	---		---		96P683910S2		96P683910S4	
	100	.312 x 13/16	---		---		96P82391S2		96P82391S4	
	200	.400 x 13/16	---		---		96P82392S2		96P82392S4	
	400	.400 x 1 3/16	---		---		96P82394S2		96P82394S4	
	600	.562 x 1 1/16	---		---		96P82396S2		96P82396S4	
.1	1000	.562 x 1 3/16	---		---		96P823910S2		96P823910S4	
	100	.312 x 3/8	96P10401S2		96P10401S4		96P10491S2		96P10491S4	
	200	.400 x 3/8	96P10402S2		96P10402S4		96P10492S2		96P10492S4	
	300	.400 x 1 1/8	96P10403S2		96P10403S4		96P10493S2		96P10493S4	
	400	.400 x 1 3/8	96P10404S2		96P10404S4		96P10494S2		96P10494S4	
.12	600	.562 x 1 1/8	96P10406S2		96P10406S4		96P10496S2		96P10496S4	
	1000	.562 x 1 3/16	---		---		96P104910S2		96P104910S4	
	100	.400 x 13/16	---		---		96P12491S2		96P12491S4	
	200	.400 x 1 1/16	---		---		96P12492S2		96P12492S4	
	400	.562 x 1 1/16	---		---		96P12494S2		96P12494S4	
.15	600	.562 x 1 3/16	---		---		96P12496S2		96P12496S4	
	1000	.670 x 1 1/16	---		---		96P124910S2		96P124910S4	
	100	.400 x 3/8	96P15491S2		96P15401S4		96P15491S2		96P15491S4	
	200	.400 x 1 1/8	96P15492S2		96P15402S4		96P15492S2		96P15492S4	
	300	.400 x 1 3/8	96P15493S2		96P15403S4		96P15493S2		96P15493S4	
.18	400	.562 x 1 1/8	96P15494S2		96P15404S4		96P15494S2		96P15494S4	
	600	.562 x 1 3/8	96P15496S2		96P15406S4		96P15496S2		96P15496S4	
	1000	.670 x 1 1/16	---		---		96P154910S2		96P154910S4	
	100	.400 x 1 1/16	---		---		96P18491S2		96P18491S4	
	200	.400 x 1 3/16	---		---		96P18492S2		96P18492S4	
.22	400	.562 x 1 3/16	---		---		96P18494S2		96P18494S4	
	600	.562 x 1 13/16	---		---		96P18496S2		96P18496S4	
	1000	.750 x 2 1/16	---		---		96P184910S2		96P184910S4	
	100	.400 x 1 1/16	96P22401S2		96P22401S4		96P22491S2		96P22491S4	
	200	.400 x 1 3/8	96P22402S2		96P22402S4		96P22492S2		96P22492S4	
.27	300	.562 x 1 1/8	96P22403S2		96P22403S4		96P22493S2		96P22493S4	
	400	.562 x 1 3/8	96P22404S2		96P22404S4		96P22494S2		96P22494S4	
	600	.562 x 1 1/8	96P22406S2		96P22406S4		96P22496S2		96P22496S4	
	1000	.750 x 2 1/16	---		---		96P224910S2		96P224910S4	
	100	.400 x 1 3/8	96P33401S2		96P33401S4		96P27491S2		96P27491S4	
.33	200	.562 x 1 1/8	96P33402S2		96P33402S4		96P27492S2		96P27492S4	
	300	.562 x 1 3/8	96P33403S2		96P33403S4		96P27494S2		96P27494S4	
	400	.562 x 1 1/8	96P33404S2		96P33404S4		96P27496S2		96P27496S4	
	600	.670 x 1 1/8	96P33406S2		96P33406S4		96P274910S2		96P274910S4	
	1000	.750 x 1 3/16	---		---		96P33491S2		96P33491S4	
.39	100	.562 x 1 1/16	---		---		96P33492S2		96P33492S4	
	200	.562 x 1 3/16	---		---		96P33493S2		96P33493S4	
	300	.562 x 1 1/8	---		---		96P33494S2		96P33494S4	
	400	.670 x 1 13/16	---		---		96P33496S2		96P33496S4	
	1000	.750 x 2 1/16	---		---		96P334910S2		96P334910S4	
.47	100	.562 x 1 1/8	96P47401S2		96P47401S4		96P39491S2		96P39491S4	
	200	.562 x 1 3/8	96P47402S2		96P47402S4		96P39492S2		96P39492S4	
	300	.562 x 1 1/8	96P47403S2		96P47403S4		96P39494S2		96P39494S4	
	400	.670 x 1 1/8	96P47404S2		96P47404S4		96P39496S2		96P39496S4	
	600	.750 x 2 1/8	96P47406S2		96P47406S4		96P394910S2		96P394910S4	
.56	1000	1.000 x 2 1/16	---		---		96P47491S2		96P47491S4	
	100	.562 x 1 3/16	---		---		96P47492S2		96P47492S4	
	200	.562 x 1 13/16	---		---		96P47493S2		96P47493S4	
	300	.562 x 1 1/8	---		---		96P47494S2		96P47494S4	
	400	.750 x 2 1/16	---		---		96P47496S2		96P47496S4	
.68	600	1.000 x 1 13/16	---		---		96P474910S2		96P474910S4	
	100	.562 x 1 3/16	96P68401S2		96P68401S4		96P56491S2		96P56491S4	
	200	.562 x 1 1/8	96P68402S2		96P68402S4		96P56492S2		96P56492S4	
	300	.670 x 1 1/8	96P68403S2		96P68403S4		96P56494S2		96P56494S4	
	400	.750 x 2 1/16	96P68404S2		96P68404S4		96P56496S2		96P56496S4	
.82	600	1.000 x 1 13/16	96P68406S2		96P68406S4		96P68496S2		96P68496S4	
	100	.562 x 1 13/16	---		---		96P68491S2		96P68491S4	
	200	.670 x 1 13/16	---		---		96P68492S2		96P68492S4	
	300	.750 x 2 1/16	---		---		96P68493S2		96P68493S4	
	400	1.000 x 1 13/16	---		---		96P68494S2		96P68494S4	
1.0	600	1.000 x 1 13/16	---		---		96P68496S2		96P68496S4	
	100	.562 x 1 3/8	96P10501S2		96P10501S4		96P82491S2		96P82491S4	
	200	.670 x 1 1/8	96P10502S2		96P10502S4		96P82492S2		96P82492S4	
	300	.750 x 2 1/16	96P10503S2		96P10503S4		96P82494S2		96P82494S4	
	400	1.000 x 1 13/16	96P10504S2		96P10504S4		96P10591S2		96P10591S4	

\*For Style 4 units add .0625" to diameter and 1/16" to length.

# SPRAGUE CAPACITORS

## TYPE 191P, EXTENDED FOIL CONSTRUCTION, 85°C OPERATION

μF	WVDC	Size D. x L.	Capacitance Tolerance ±20%				Capacitance Tolerance ±10%			
			Style 2 (bare metal case)		Style 4 (w/plastic sleeve*)		Style 2 (bare metal case)		Style 4 (w/plastic sleeve*)	
			Cat. No.	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	Cat. No.	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	Cat. No.	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	Cat. No.	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES
.001	100	.175 x 3/4	191P10201S2		191P10201S4		191P10291S2		191P10291S4	
	200	.235 x 3/4	191P10202S2		191P10202S4		191P10292S2		191P10292S4	
	300	.235 x 3/4	191P10203S2		191P10203S4		191P10293S2		191P10293S4	
	400	.235 x 3/4	191P10204S2		191P10204S4		191P10294S2		191P10294S4	
	600	.235 x 3/4	191P10206S2		191P10206S4		191P10296S2		191P10296S4	
.0015	100	.175 x 3/4	191P15201S2		191P15201S4		191P15291S2		191P15291S4	
	200	.235 x 3/4	191P15202S2		191P15202S4		191P15292S2		191P15292S4	
	300	.235 x 3/4	191P15203S2		191P15203S4		191P15293S2		191P15293S4	
	400	.235 x 3/4	191P15204S2		191P15204S4		191P15294S2		191P15294S4	
	600	.235 x 3/4	191P15206S2	191P15206S4	191P15296S2	191P15296S4				
.0022	100	.175 x 3/4	191P22201S2	191P22201S4	191P22291S2	191P22291S4				
	200	.235 x 3/4	191P22202S2	191P22202S4	191P22292S2	191P22292S4				
	300	.235 x 3/4	191P22203S2	191P22203S4	191P22293S2	191P22293S4				
	400	.235 x 3/4	191P22204S2	191P22204S4	191P22294S2	191P22294S4				
	600	.235 x 3/4	191P22206S2	191P22206S4	191P22296S2	191P22296S4				
.0033	100	.175 x 3/4	191P33201S2	191P33201S4	191P33291S2	191P33291S4				
	200	.235 x 3/4	191P33202S2	191P33202S4	191P33292S2	191P33292S4				
	300	.235 x 3/4	191P33203S2	191P33203S4	191P33293S2	191P33293S4				
	400	.235 x 3/4	191P33204S2	191P33204S4	191P33294S2	191P33294S4				
	600	.235 x 3/4	191P33206S2	191P33206S4	191P33296S2	191P33296S4				
.0047	100	.175 x 3/4	191P47201S2	191P47201S4	191P47291S2	191P47291S4				
	200	.235 x 3/4	191P47202S2	191P47202S4	191P47292S2	191P47292S4				
	300	.235 x 3/4	191P47203S2	191P47203S4	191P47293S2	191P47293S4				
	400	.235 x 3/4	191P47204S2	191P47204S4	191P47294S2	191P47294S4				
	600	.235 x 3/4	191P47206S2	191P47206S4	191P47296S2	191P47296S4				
.0068	100	.175 x 3/4	191P68201S2	191P68201S4	191P68291S2	191P68291S4				
	200	.235 x 3/4	191P68202S2	191P68202S4	191P68292S2	191P68292S4				
	300	.235 x 3/4	191P68203S2	191P68203S4	191P68293S2	191P68293S4				
	400	.235 x 3/4	191P68204S2	191P68204S4	191P68294S2	191P68294S4				
	600	.235 x 3/4	191P68206S2	191P68206S4	191P68296S2	191P68296S4				
.01	100	.175 x 3/4	191P10301S2	191P10301S4	191P10391S2	191P10391S4				
	200	.235 x 3/4	191P10302S2	191P10302S4	191P10392S2	191P10392S4				
	300	.235 x 3/4	191P10303S2	191P10303S4	191P10393S2	191P10393S4				
	400	.235 x 3/4	191P10304S2	191P10304S4	191P10394S2	191P10394S4				
	600	.312 x 7/8	191P10306S2	191P10306S4	191P10396S2	191P10396S4				
.015	100	.175 x 3/4	191P15301S2	191P15301S4	191P15391S2	191P15391S4				
	200	.235 x 3/4	191P15302S2	191P15302S4	191P15392S2	191P15392S4				
	300	.235 x 3/4	191P15303S2	191P15303S4	191P15393S2	191P15393S4				
	400	.312 x 7/8	191P15304S2	191P15304S4	191P15394S2	191P15394S4				
	600	.312 x 7/8	191P15306S2	191P15306S4	191P15396S2	191P15396S4				
.022	100	.195 x 3/4	191P22301S2	191P22301S4	191P22391S2	191P22391S4				
	200	.235 x 3/4	191P22302S2	191P22302S4	191P22392S2	191P22392S4				
	300	.312 x 7/8	191P22303S2	191P22303S4	191P22393S2	191P22393S4				
	400	.312 x 7/8	191P22304S2	191P22304S4	191P22394S2	191P22394S4				
	600	.312 x 7/8	191P22306S2	191P22306S4	191P22396S2	191P22396S4				

For Style 4 units add .0625" to diameter and 1/16" to length



# SPRAGUE CAPACITORS

## TYPE 191P, continued

μF	WVDC	Size D. x L.	Capacitance Tolerance ±20%				Capacitance Tolerance ±10%			
			Style 2 (bare metal case)		Style 4 (w/plastic sleeve*)		Style 2 (bare metal case)		Style 4 (w/plastic sleeve*)	
			Cat. No.	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	Cat. No.	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	Cat. No.	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	Cat. No.	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES
.033	100	.235 x 3/8	191P33301S2				191P33301S4			
	200	.312 x 3/8	191P33302S2		191P33302S4		191P33392S2		191P33392S4	
	300	.312 x 3/8	191P33303S2		191P33303S4		191P33393S2		191P33393S4	
	400	.312 x 3/8	191P33304S2		191P33304S4		191P33394S2		191P33394S4	
	600	.400 x 3/8	191P33306S2		191P33306S4		191P33396S2		191P33396S4	
.047	100	.312 x 3/8	191P47301S2		191P47301S4		191P47391S2		191P47391S4	
	200	.312 x 3/8	191P47302S2		191P47302S4		191P47392S2		191P47392S4	
	300	.312 x 3/8	191P47303S2		191P47303S4		191P47393S2		191P47393S4	
	400	.400 x 3/8	191P47304S2		191P47304S4		191P47394S2		191P47394S4	
	600	.400 x 1/2	191P47306S2		191P47306S4		191P47396S2		191P47396S4	
.068	100	.312 x 3/8	191P68301S2		191P68301S4		191P68391S2		191P68391S4	
	200	.312 x 3/8	191P68302S2		191P68302S4		191P68392S2		191P68392S4	
	300	.400 x 3/8	191P68303S2		191P68303S4		191P68393S2		191P68393S4	
	400	.400 x 1/2	191P68304S2		191P68304S4		191P68394S2		191P68394S4	
	600	.400 x 1/2	191P68306S2		191P68306S4		191P68396S2		191P68396S4	
.1	100	.312 x 3/8	191P10401S2		191P10401S4		191P10491S2		191P10491S4	
	200	.400 x 3/8	191P10402S2		191P10402S4		191P10492S2		191P10492S4	
	300	.400 x 1/2	191P10403S2		191P10403S4		191P10493S2		191P10493S4	
	400	.400 x 1/2	191P10404S2		191P10404S4		191P10494S2		191P10494S4	
	600	.562 x 1/2	191P10406S2		191P10406S4		191P10496S2		191P10496S4	
.15	100	.400 x 3/8	191P15401S2		191P15401S4		191P15491S2		191P15491S4	
	200	.400 x 1/2	191P15402S2		191P15402S4		191P15492S2		191P15492S4	
	300	.400 x 1/2	191P15403S2		191P15403S4		191P15493S2		191P15493S4	
	400	.562 x 1/2	191P15404S2		191P15404S4		191P15494S2		191P15494S4	
	600	.562 x 1/2	191P15406S2		191P15406S4		191P15496S2		191P15496S4	
.22	100	.400 x 1/2	191P22401S2		191P22401S4		191P22491S2		191P22491S4	
	200	.400 x 1/2	191P22402S2		191P22402S4		191P22492S2		191P22492S4	
	300	.562 x 1/2	191P22403S2		191P22403S4		191P22493S2		191P22493S4	
	400	.562 x 1/2	191P22404S2		191P22404S4		191P22494S2		191P22494S4	
	600	.562 x 1/2	191P22406S2		191P22406S4		191P22496S2		191P22496S4	
.33	100	.400 x 1/2	191P33401S2		191P33401S4		191P33491S2		191P33491S4	
	200	.562 x 1/2	191P33402S2		191P33402S4		191P33492S2		191P33492S4	
	300	.562 x 1/2	191P33403S2		191P33403S4		191P33493S2		191P33493S4	
	400	.562 x 1/2	191P33404S2		191P33404S4		191P33494S2		191P33494S4	
	600	.670 x 1/2	191P33406S2		191P33406S4		191P33496S2		191P33496S4	
.47	100	.562 x 1/2	191P47401S2		191P47401S4		191P47491S2		191P47491S4	
	200	.562 x 1/2	191P47402S2		191P47402S4		191P47492S2		191P47492S4	
	300	.562 x 1/2	191P47403S2		191P47403S4		191P47493S2		191P47493S4	
	400	.670 x 1/2	191P47404S2		191P47404S4		191P47494S2		191P47494S4	
	600	.750 x 2/2	191P47406S2		191P47406S4		191P47496S2		191P47496S4	
.68	100	.562 x 1/2	191P68401S2		191P68401S4		191P68491S2		191P68491S4	
	200	.562 x 1/2	191P68402S2		191P68402S4		191P68492S2		191P68492S4	
	300	.670 x 1/2	191P68403S2		191P68403S4		191P68493S2		191P68493S4	
1.0	100	.562 x 1/2	191P10501S2		191P10501S4		191P10591S2		191P10591S4	
	200	.670 x 1/2	191P10502S2		191P10502S4		191P10592S2		191P10592S4	

\*For Style 4 units add .0625" to diameter and 1/16" to length

# SPRAGUE CAPACITORS

## TYPE 196P, EXTENDED FOIL CONSTRUCTION, 125°C OPERATION

μF	WVDC	Size D. x L.	Capacitance Tolerance ±20%				Capacitance Tolerance ±10%			
			Style 2 (bare metal case)		Style 4 (w/plastic sleeve*)		Style 2 (bare metal case)		Style 4 (w/plastic sleeve*)	
			Cat. No.	Cat. No.	Cat. No.	Cat. No.				
.001	100	.175 x 3/4	196P1020152	196P1020154	196P1029152	196P1029154				
	200	.235 x 3/4	196P1020252	196P1020254	196P1029252	196P1029254				
	300	.235 x 3/4	196P1020352	196P1020354	196P1029352	196P1029354				
	400	.235 x 3/4	196P1020452	196P1020454	196P1029452	196P1029454				
	600	.235 x 3/4	196P1020652	196P1020654	196P1029652	196P1029654				
.001	1000	.400 x 1 1/4	196P1020652	196P1020654	196P10291052	196P10291054				
	600	.235 x 1 1/4	196P1229652	196P1229654	196P1229652	196P1229654				
	1000	.400 x 1 1/4	196P12291052	196P12291054	196P12291052	196P12291054				
	100	.175 x 3/4	196P1520152	196P1520154	196P1529152	196P1529154				
	200	.235 x 3/4	196P1520252	196P1520254	196P1529252	196P1529254				
.0015	300	.235 x 3/4	196P1520352	196P1520354	196P1529352	196P1529354				
	400	.235 x 3/4	196P1520452	196P1520454	196P1529452	196P1529454				
	600	.235 x 3/4	196P1520652	196P1520654	196P1529652	196P1529654				
	1000	.400 x 1 1/4	196P1520652	196P1520654	196P15291052	196P15291054				
	600	.235 x 1 1/4	196P1829652	196P1829654	196P1829652	196P1829654				
.0018	1000	.400 x 1 1/4	196P18291052	196P18291054	196P18291052	196P18291054				
	100	.175 x 3/4	196P2220152	196P2220154	196P2229152	196P2229154				
	200	.235 x 3/4	196P2220252	196P2220254	196P2229252	196P2229254				
	300	.235 x 3/4	196P2220352	196P2220354	196P2229352	196P2229354				
	400	.235 x 3/4	196P2220452	196P2220454	196P2229452	196P2229454				
.0022	600	.235 x 3/4	196P2220652	196P2220654	196P2229652	196P2229654				
	1000	.400 x 1 1/4	196P2220652	196P2220654	196P22291052	196P22291054				
	400	.312 x 1 1/4	196P2729652	196P2729654	196P2729652	196P2729654				
	600	.235 x 1 1/4	196P2729652	196P2729654	196P2729652	196P2729654				
	1000	.400 x 1 1/4	196P27291052	196P27291054	196P27291052	196P27291054				
.0027	100	.175 x 3/4	196P3320152	196P3320154	196P3329152	196P3329154				
	200	.235 x 3/4	196P3320252	196P3320254	196P3329252	196P3329254				
	300	.235 x 3/4	196P3320352	196P3320354	196P3329352	196P3329354				
	400	.235 x 3/4	196P3320452	196P3320454	196P3329452	196P3329454				
	600	.312 x 7/8	196P3320652	196P3320654	196P3329652	196P3329654				
.0033	1000	.400 x 1 1/4	196P3320652	196P3320654	196P33291052	196P33291054				
	200	.235 x 1 1/4	196P3929652	196P3929654	196P3929652	196P3929654				
	600	.235 x 1 1/4	196P3929652	196P3929654	196P3929652	196P3929654				
	1000	.400 x 1 1/4	196P39291052	196P39291054	196P39291052	196P39291054				
	100	.175 x 3/4	196P4720152	196P4720154	196P4729152	196P4729154				
.0039	200	.235 x 3/4	196P4720252	196P4720254	196P4729252	196P4729254				
	300	.235 x 3/4	196P4720352	196P4720354	196P4729352	196P4729354				
	400	.235 x 3/4	196P4720452	196P4720454	196P4729452	196P4729454				
	600	.235 x 3/4	196P4720652	196P4720654	196P4729652	196P4729654				
	1000	.400 x 1 1/4	196P4720652	196P4720654	196P47291052	196P47291054				
.0056	200	.235 x 1 1/4	196P5629652	196P5629654	196P5629652	196P5629654				
	600	.235 x 1 1/4	196P5629652	196P5629654	196P5629652	196P5629654				
	1000	.400 x 1 1/4	196P56291052	196P56291054	196P56291052	196P56291054				
	100	.175 x 3/4	196P6820152	196P6820154	196P6829152	196P6829154				
	200	.235 x 3/4	196P6820252	196P6820254	196P6829252	196P6829254				
.0068	300	.235 x 3/4	196P6820352	196P6820354	196P6829352	196P6829354				
	400	.235 x 3/4	196P6820452	196P6820454	196P6829452	196P6829454				
	600	.235 x 3/4	196P6820652	196P6820654	196P6829652	196P6829654				
	1000	.400 x 1 1/4	196P6820652	196P6820654	196P68291052	196P68291054				
	100	.175 x 1 1/4	196P8229152	196P8229154	196P8229152	196P8229154				
.0082	600	.312 x 1 1/4	196P8229652	196P8229654	196P8229652	196P8229654				
	1000	.400 x 1 1/4	196P82291052	196P82291054	196P82291052	196P82291054				
	100	.175 x 3/4	196P1030152	196P1030154	196P1039152	196P1039154				
	200	.235 x 3/4	196P1030252	196P1030254	196P1039252	196P1039254				
	300	.235 x 3/4	196P1030352	196P1030354	196P1039352	196P1039354				
.01	400	.235 x 3/4	196P1030452	196P1030454	196P1039452	196P1039454				
	600	.312 x 7/8	196P1030652	196P1030654	196P1039652	196P1039654				
	1000	.400 x 1 1/4	196P1030652	196P1030654	196P10391052	196P10391054				
	100	.175 x 1 1/4	196P1239152	196P1239154	196P1239152	196P1239154				
	400	.312 x 1 1/4	196P1239652	196P1239654	196P1239652	196P1239654				
.012	600	.312 x 1 1/4	196P1239652	196P1239654	196P1239652	196P1239654				
	1000	.400 x 1 1/4	196P12391052	196P12391054	196P12391052	196P12391054				
	100	.175 x 3/4	196P1530152	196P1530154	196P1539152	196P1539154				
	200	.235 x 3/4	196P1530252	196P1530254	196P1539252	196P1539254				
	300	.235 x 3/4	196P1530352	196P1530354	196P1539352	196P1539354				
.015	400	.312 x 7/8	196P1530452	196P1530454	196P1539452	196P1539454				
	600	.312 x 7/8	196P1530652	196P1530654	196P1539652	196P1539654				
	1000	.400 x 1 1/4	196P1530652	196P1530654	196P15391052	196P15391054				
	200	.235 x 1 1/4	196P1839252	196P1839254	196P1839252	196P1839254				
	600	.312 x 1 1/4	196P1839652	196P1839654	196P1839652	196P1839654				
.018	1000	.400 x 1 1/4	196P18391052	196P18391054	196P18391052	196P18391054				
	100	.195 x 3/4	196P2230152	196P2230154	196P2239152	196P2239154				
	200	.235 x 3/4	196P2230252	196P2230254	196P2239252	196P2239254				
	300	.312 x 7/8	196P2230352	196P2230354	196P2239352	196P2239354				
	400	.312 x 7/8	196P2230452	196P2230454	196P2239452	196P2239454				
.022	600	.312 x 7/8	196P2230652	196P2230654	196P2239652	196P2239654				
	1000	.400 x 1 1/4	196P2230652	196P2230654	196P22391052	196P22391054				
	200	.312 x 1 1/4	196P2739252	196P2739254	196P2739252	196P2739254				
	400	.312 x 1 1/4	196P2739652	196P2739654	196P2739652	196P2739654				
	600	.400 x 1 1/4	196P27391052	196P27391054	196P27391052	196P27391054				
.027	1000	.400 x 1 1/4	196P27391052	196P27391054	196P27391052	196P27391054				
	100	.400 x 1 1/8	196P3330152	196P3330154	196P3339152	196P3339154				
	200	.562 x 1 1/8	196P3330252	196P3330254	196P3339252	196P3339254				
	300	.562 x 1 1/8	196P3330352	196P3330354	196P3339352	196P3339354				
	400	.562 x 1 1/8	196P3330452	196P3330454	196P3339452	196P3339454				
.033	600	.670 x 1 1/8	196P3330652	196P3330654	196P3339652	196P3339654				
	1000	.400 x 1 1/8	196P3330652	196P3330654	196P33391052	196P33391054				

\*For Style 4 units add .0625" to diameter and 1/4" to length.

# SPRAGUE CAPACITORS

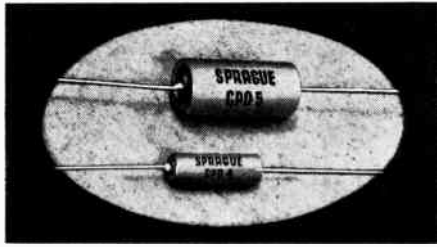
## TYPE 196P, continued

μF	WVDC	Size D. x L.	Capacitance Tolerance ±20%				Capacitance Tolerance ±10%			
			Style 2 (bare metal case)		Style 4 (w/plastic sleeve*)		Style 2 (bare metal case)		Style 4 (w/plastic sleeve*)	
			Cat. No.		Cat. No.		Cat. No.		Cat. No.	
.039	100	.312 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P39391S2	---	196P39391S4	
	200	.312 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	196P39392S2	---	196P39392S4		
	400	.400 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	196P39394S2	---	196P39394S4		
	600	.400 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	196P39396S2	---	196P39396S4		
	1000	.562 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	196P393910S2	---	196P393910S4		
.047	100	.312 x 7 <sup>1</sup> / <sub>8</sub>	196P47301S2	---	196P47301S4	---	196P47391S2	---	196P47391S4	
	200	.312 x 7 <sup>1</sup> / <sub>8</sub>	196P47302S2	---	196P47302S4	---	196P47392S2	---	196P47392S4	
	300	.312 x 7 <sup>1</sup> / <sub>8</sub>	196P47303S2	---	196P47303S4	---	196P47393S2	---	196P47393S4	
	400	.400 x 7 <sup>1</sup> / <sub>8</sub>	196P47304S2	---	196P47304S4	---	196P47394S2	---	196P47394S4	
	1000	.562 x 1 <sup>3</sup> / <sub>16</sub>	196P47306S2	---	196P47306S4	---	196P47396S2	---	196P47396S4	
.056	200	.312 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P56392S2	---	196P56392S4	
	400	.400 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	196P56394S2	---	196P56394S4		
	600	.400 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	196P56396S2	---	196P56396S4		
	1000	.562 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	196P563910S2	---	196P563910S4		
	.068	100	.312 x 7 <sup>1</sup> / <sub>8</sub>	196P68301S2	---	196P68301S4	---	196P68391S2	---	196P68391S4
200		.312 x 7 <sup>1</sup> / <sub>8</sub>	196P68302S2	---	196P68302S4	---	196P68392S2	---	196P68392S4	
300		.400 x 7 <sup>1</sup> / <sub>8</sub>	196P68303S2	---	196P68303S4	---	196P68393S2	---	196P68393S4	
400		.400 x 1 <sup>3</sup> / <sub>16</sub>	196P68304S2	---	196P68304S4	---	196P68394S2	---	196P68394S4	
1000		.562 x 1 <sup>3</sup> / <sub>16</sub>	196P68306S2	---	196P68306S4	---	196P68396S2	---	196P68396S4	
.082	100	.312 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P82391S2	---	196P82391S4	
	200	.400 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P82392S2	---	196P82392S4	
	400	.400 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P82394S2	---	196P82394S4	
	600	.562 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P82396S2	---	196P82396S4	
	1000	.562 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P823910S2	---	196P823910S4	
.1	100	.312 x 7 <sup>1</sup> / <sub>8</sub>	196P10401S2	---	196P10401S4	---	196P10491S2	---	196P10491S4	
	200	.400 x 7 <sup>1</sup> / <sub>8</sub>	196P10402S2	---	196P10402S4	---	196P10492S2	---	196P10492S4	
	300	.400 x 1 <sup>3</sup> / <sub>16</sub>	196P10403S2	---	196P10403S4	---	196P10493S2	---	196P10493S4	
	400	.400 x 1 <sup>3</sup> / <sub>16</sub>	196P10404S2	---	196P10404S4	---	196P10494S2	---	196P10494S4	
	1000	.562 x 1 <sup>3</sup> / <sub>16</sub>	196P10406S2	---	196P10406S4	---	196P10496S2	---	196P10496S4	
.12	100	.400 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P12491S2	---	196P12491S4	
	200	.400 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P12492S2	---	196P12492S4	
	400	.562 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P12494S2	---	196P12494S4	
	600	.562 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P12496S2	---	196P12496S4	
	1000	.670 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P124910S2	---	196P124910S4	
.15	100	.400 x 7 <sup>1</sup> / <sub>8</sub>	196P15401S2	---	196P15401S4	---	196P15491S2	---	196P15491S4	
	200	.400 x 1 <sup>3</sup> / <sub>16</sub>	196P15402S2	---	196P15402S4	---	196P15492S2	---	196P15492S4	
	300	.400 x 1 <sup>3</sup> / <sub>16</sub>	196P15403S2	---	196P15403S4	---	196P15493S2	---	196P15493S4	
	400	.562 x 1 <sup>3</sup> / <sub>16</sub>	196P15404S2	---	196P15404S4	---	196P15494S2	---	196P15494S4	
	1000	.670 x 1 <sup>3</sup> / <sub>16</sub>	196P15406S2	---	196P15406S4	---	196P15496S2	---	196P15496S4	
.18	100	.400 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P18491S2	---	196P18491S4	
	200	.400 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P18492S2	---	196P18492S4	
	400	.562 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P18494S2	---	196P18494S4	
	600	.562 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P18496S2	---	196P18496S4	
	1000	.750 x 2 <sup>1</sup> / <sub>16</sub>	---	---	---	---	196P184910S2	---	196P184910S4	
.22	100	.400 x 1 <sup>3</sup> / <sub>16</sub>	196P22401S2	---	196P22401S4	---	196P22491S2	---	196P22491S4	
	200	.400 x 1 <sup>3</sup> / <sub>16</sub>	196P22402S2	---	196P22402S4	---	196P22492S2	---	196P22492S4	
	300	.562 x 1 <sup>3</sup> / <sub>16</sub>	196P22403S2	---	196P22403S4	---	196P22493S2	---	196P22493S4	
	400	.562 x 1 <sup>3</sup> / <sub>16</sub>	196P22404S2	---	196P22404S4	---	196P22494S2	---	196P22494S4	
	1000	.750 x 2 <sup>1</sup> / <sub>16</sub>	196P22406S2	---	196P22406S4	---	196P22496S2	---	196P22496S4	
.27	100	.400 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P27491S2	---	196P27491S4	
	200	.562 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P27492S2	---	196P27492S4	
	400	.562 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P27494S2	---	196P27494S4	
	600	.670 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P27496S2	---	196P27496S4	
	1000	.750 x 2 <sup>1</sup> / <sub>16</sub>	---	---	---	---	196P274910S2	---	196P274910S4	
.33	100	.400 x 1 <sup>3</sup> / <sub>16</sub>	196P33401S2	---	196P33401S4	---	196P33491S2	---	196P33491S4	
	200	.562 x 1 <sup>3</sup> / <sub>16</sub>	196P33402S2	---	196P33402S4	---	196P33492S2	---	196P33492S4	
	300	.562 x 1 <sup>3</sup> / <sub>16</sub>	196P33403S2	---	196P33403S4	---	196P33493S2	---	196P33493S4	
	400	.562 x 1 <sup>3</sup> / <sub>16</sub>	196P33404S2	---	196P33404S4	---	196P33494S2	---	196P33494S4	
	1000	.750 x 2 <sup>1</sup> / <sub>16</sub>	196P33406S2	---	196P33406S4	---	196P33496S2	---	196P33496S4	
.39	100	.562 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P39491S2	---	196P39491S4	
	200	.562 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P39492S2	---	196P39492S4	
	400	.670 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P39494S2	---	196P39494S4	
	600	.750 x 2 <sup>1</sup> / <sub>16</sub>	---	---	---	---	196P39496S2	---	196P39496S4	
	1000	1.000 x 2 <sup>1</sup> / <sub>16</sub>	---	---	---	---	196P394910S2	---	196P394910S4	
.47	100	.562 x 1 <sup>3</sup> / <sub>16</sub>	196P47401S2	---	196P47401S4	---	196P47491S2	---	196P47491S4	
	200	.562 x 1 <sup>3</sup> / <sub>16</sub>	196P47402S2	---	196P47402S4	---	196P47492S2	---	196P47492S4	
	300	.562 x 1 <sup>3</sup> / <sub>16</sub>	196P47403S2	---	196P47403S4	---	196P47493S2	---	196P47493S4	
	400	.670 x 1 <sup>3</sup> / <sub>16</sub>	196P47404S2	---	196P47404S4	---	196P47494S2	---	196P47494S4	
	1000	1.000 x 2 <sup>1</sup> / <sub>16</sub>	196P47406S2	---	196P47406S4	---	196P47496S2	---	196P47496S4	
.56	100	.562 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P56491S2	---	196P56491S4	
	200	.670 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P56492S2	---	196P56492S4	
.68	100	.562 x 1 <sup>3</sup> / <sub>16</sub>	196P68401S2	---	196P68401S4	---	196P68491S2	---	196P68491S4	
	200	.562 x 1 <sup>3</sup> / <sub>16</sub>	196P68402S2	---	196P68402S4	---	196P68492S2	---	196P68492S4	
	300	.670 x 1 <sup>3</sup> / <sub>16</sub>	196P68403S2	---	196P68403S4	---	196P68493S2	---	196P68493S4	
.82	100	.670 x 1 <sup>3</sup> / <sub>16</sub>	---	---	---	---	196P82491S2	---	196P82491S4	
	200	.750 x 2 <sup>1</sup> / <sub>16</sub>	---	---	---	---	196P82492S2	---	196P82492S4	
1.0	100	.562 x 1 <sup>3</sup> / <sub>16</sub>	196P10501S2	---	196P10501S4	---	196P10591S2	---	196P10591S4	
	200	.670 x 1 <sup>3</sup> / <sub>16</sub>	196P10502S2	---	196P10502S4	---	196P10592S2	---	196P10592S4	

\*For Style 4 units add .0625" to diameter and 1/8" to length.

# SPRAGUE CAPACITORS

## TYPE CP04 CAPACITORS TO MIL-C-25C



- Impregnation with Vitamin Q assures capacitors exceed MIL-C-25C performance requirements.
- Inserted tab construction for applications where minimum size is necessary.
- Positive hermetic closure of the metal cases assured by glass-to-metal solder-seal terminals.
- Type CP04 has plain metal case.
- Available in Characteristic K (-55C to +125C).  $\pm 10\%$  Capacitance Tolerance.
- Only popular insulated section (ungrounded case) capacitors are listed. For information on grounded case units, consult your Sprague Industrial Distributor.
- Call your Sprague Industrial Distributor for Quantity Prices.

$\mu$ F	WVDC	D. x L.	Cat. No.*
.001	600	.235 x 3/4	CP04A1KF102K3
.0012	600	.235 x 3/4	CP04A1KF122K3
.0015	600	.235 x 3/4	CP04A1KF152K3
.0018	600	.235 x 3/4	CP04A1KF182K3
.0022	600	.235 x 3/4	CP04A1KF222K3
.0027	600	.235 x 3/4	CP04A1KF272K3
.0033	600	.235 x 3/4	CP04A1KF332K3
.0039	600	.235 x 3/4	CP04A1KF392K3
.0047	600	.235 x 3/4	CP04A1KF472K3
.0056	600	.235 x 3/4	CP04A1KF562K3
.0068	600	.235 x 3/4	CP04A1KF682K3
.0082	400	.235 x 3/4	CP04A1KE822K3
	600	.312 x 7/8	CP04A1KF822K3
.01	400	.235 x 3/4	CP04A1KE103K3
	600	.312 x 7/8	CP04A1KF103K3
.012	200	.235 x 3/4	CP04A1KC123K3
	600	.312 x 7/8	CP04A1KF123K3
.015	200	.235 x 3/4	CP04A1KC153K3
	600	.312 x 7/8	CP04A1KF153K3
	1000	.400 x 1 1/8	CP04A1KG153K3
.018	200	.235 x 3/4	CP04A1KC183K3
	600	.312 x 7/8	CP04A1KF183K3
	1000	.400 x 1 1/8	CP04A1KG183K3
.022	200	.235 x 3/4	CP04A1KC223K3
	600	.312 x 7/8	CP04A1KF223K3
	1000	.400 x 1 1/8	CP04A1KG223K3
.027	100	.235 x 3/4	CP04A1KB273K3
	400	.312 x 7/8	CP04A1KE273K3
	600	.400 x 7/8	CP04A1KF273K3
	1000	.400 x 1 3/8	CP04A1KG273K3
.033	100	.235 x 3/4	CP04A1KB333K3
	400	.312 x 7/8	CP04A1KE333K3
	600	.400 x 7/8	CP04A1KF333K3
	1000	.400 x 1 3/8	CP04A1KG333K3
.039	200	.312 x 7/8	CP04A1KC393K3
	400	.400 x 7/8	CP04A1KE393K3
	600	.400 x 1 1/8	CP04A1KF393K3
	1000	.562 x 1 1/8	CP04A1KG393K3
.047	200	.312 x 7/8	CP04A1KC473K3
	400	.400 x 7/8	CP04A1KE473K3
	600	.400 x 1 1/8	CP04A1KF473K3
	1000	.562 x 1 1/8	CP04A1KG473K3
.056	200	.312 x 7/8	CP04A1KC563K3
	400	.400 x 1 1/8	CP04A1KE563K3
	600	.400 x 1 3/8	CP04A1KF563K3
	1000	.562 x 1 3/8	CP04A1KG563K3
.068	200	.312 x 7/8	CP04A1KC683K3
	400	.400 x 1 1/8	CP04A1KE683K3
	600	.400 x 1 3/8	CP04A1KF683K3
	1000	.562 x 1 3/8	CP04A1KG683K3
.082	100	.312 x 7/8	CP04A1KB823K3
	200	.400 x 7/8	CP04A1KC823K3
	400	.400 x 1 3/8	CP04A1KE823K3
	600	.562 x 1 1/8	CP04A1KF823K3
	1000	.562 x 1 3/8	CP04A1KG823K3

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

$\mu$ F	WVDC	D. x L.	Cat. No.*
.1	100	.312 x 7/8	CP04A1KB104K3
	200	.400 x 7/8	CP04A1KC104K3
	400	.400 x 1 3/8	CP04A1KE104K3
	600	.562 x 1 1/8	CP04A1KF104K3
	1000	.562 x 1 3/8	CP04A1KG104K3
.12	100	.400 x 7/8	CP04A1KB124K3
	200	.400 x 1 1/8	CP04A1KC124K3
	400	.562 x 1 1/8	CP04A1KE124K3
	600	.562 x 1 3/8	CP04A1KF124K3
	1000	.670 x 1 3/8	CP04A1KG124K3
.15	100	.400 x 7/8	CP04A1KB154K3
	200	.400 x 1 1/8	CP04A1KC154K3
	400	.562 x 1 1/8	CP04A1KE154K3
	600	.562 x 1 3/8	CP04A1KF154K3
	1000	.670 x 1 3/8	CP04A1KG154K3
.18	100	.400 x 1 1/8	CP04A1KB184K3
	200	.400 x 1 3/8	CP04A1KC184K3
	400	.562 x 1 3/8	CP04A1KE184K3
	600	.562 x 1 7/8	CP04A1KF184K3
	1000	.750 x 2 1/8	CP04A1KG184K3
.22	100	.400 x 1 1/8	CP04A1KB224K3
	200	.400 x 1 3/8	CP04A1KC224K3
	400	.562 x 1 3/8	CP04A1KE224K3
	600	.562 x 1 7/8	CP04A1KF224K3
	1000	.750 x 2 1/8	CP04A1KG224K3
.27	100	.400 x 1 3/8	CP04A1KB274K3
	200	.562 x 1 1/8	CP04A1KC274K3
	400	.562 x 1 7/8	CP04A1KE274K3
	600	.670 x 1 7/8	CP04A1KF274K3
	1000	.750 x 2 3/8	CP04A1KG274K3
.33	100	.400 x 1 3/8	CP04A1KB334K3
	200	.562 x 1 1/8	CP04A1KC334K3
	400	.562 x 1 7/8	CP04A1KE334K3
	600	.670 x 1 7/8	CP04A1KF334K3
	1000	.750 x 2 3/8	CP04A1KG334K3
.39	100	.562 x 1 1/8	CP04A1KB394K3
	200	.562 x 1 3/8	CP04A1KC394K3
	400	.670 x 1 7/8	CP05A1KE394K3
	600	.750 x 2 1/8	CP04A1KF394K3
	1000	1.000 x 2 1/8	CP04A1KG394K3
.47	100	.562 x 1 1/8	CP04A1KB474K3
	200	.562 x 1 3/8	CP04A1KC474K3
	400	.670 x 1 7/8	CP04A1KE474K3
	600	.750 x 2 1/8	CP04A1KF474K3
	1000	1.000 x 2 1/8	CP04A1KG474K3
.56	100	.562 x 1 3/8	CP04A1K564K3
	200	.562 x 1 7/8	CP04A1KC564K3
	400	.750 x 2 1/8	CP04A1KE564K3
	600	1.000 x 1 3/8	CP04A1KF564K3
.68	100	.562 x 1 3/8	CP04A1KB684K3
	200	.562 x 1 7/8	CP04A1KC684K3
	400	.750 x 2 1/8	CP04A1KE684K3
	600	1.000 x 1 3/8	CP04A1KF684K3
.82	100	.562 x 1 7/8	CP04A1KB824K3
	200	.670 x 1 7/8	CP04A1KC824K3
	400	1.000 x 1 3/8	CP04A1KE824K3
1.0	100	.562 x 1 7/8	CP05A1KB105K3
	200	.670 x 1 7/8	CP05A1KC105K3
	400	1.000 x 1 7/8	CP04A1KE105K3

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

\*For Vibration Grade 1, change last digit of cat. no. to 1

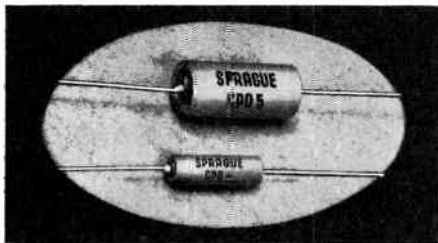
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IND-REM-27-6609

Sizes subject to change without notice.

# SPRAGUE CAPACITORS

## TYPE CP05 CAPACITORS TO MIL-C-25C



- Vitamin Q impregnation assures performance above and beyond MIL-C-25C requirements.
- Inserted tab construction for applications where minimum size is necessary.
- Positive hermetic closure of the metal cases assured by glass-to-metal solder-seal terminals.
- Type CP05 has insulating sleeve.
- Capacitance Tolerance  $\pm 10\%$ . Characteristic K Temperature Range ( $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ ).
- Only popular insulated section (ungrounded case) capacitors are listed. For information on grounded case units, consult your Sprague Industrial Distributor.
- Call your Sprague Industrial Distributor for Quantity Prices.

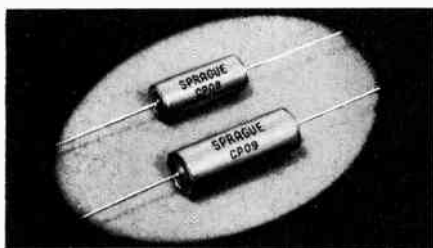
$\mu\text{F}$	WVDC	D. x L.	Cat. No.*	$\mu\text{F}$	WVDC	D. x L.	Cat. No.*	$\mu\text{F}$	WVDC	D. x L.	Cat. No.*
.001	600	.298 x $\frac{23}{16}$	CP05A1KF102K3	600	.463 x $1\frac{3}{16}$		CP05A1KF393K3	100	.463 x $1\frac{3}{16}$		CP05A1KB224K3
.0012	600	.298 x $\frac{23}{16}$	CP05A1KF122K3	1000	.625 x $1\frac{3}{16}$		CP05A1KG393K3	200	.463 x $1\frac{3}{16}$		CP05A1KC224K3
.0015	600	.298 x $1\frac{3}{16}$	CP05A1KF152K3	200	.375 x $1\frac{5}{16}$		CP05A1KC473K3	.22	400	.625 x $1\frac{7}{16}$	CP05A1KE224K3
.0018	600	.298 x $\frac{23}{16}$	CP05A1KF182K3	.047	400	.463 x $1\frac{5}{16}$	CP05A1KE473K3	600	.625 x $1\frac{11}{16}$		CP05A1KF224K3
.0022	600	.298 x $\frac{23}{16}$	CP05A1KF222K3	600	.463 x $1\frac{3}{16}$		CP05A1KF473K3	1000	.813 x $2\frac{3}{16}$		CP05A1KG224K3
.0027	600	.298 x $\frac{23}{16}$	CP05A1KF272K3	1000	.625 x $1\frac{3}{16}$		CP05A1KG473K3	100	.463 x $1\frac{7}{16}$		CP05A1KB274K3
.0033	600	.298 x $\frac{23}{16}$	CP05A1KF332K3	200	.375 x $1\frac{5}{16}$		CP05A1KC563K3	200	.625 x $1\frac{3}{16}$		CP05A1KC274K3
.0039	600	.298 x $\frac{23}{16}$	CP05A1KF392K3	.056	400	.463 x $1\frac{3}{16}$	CP05A1KE563K3	400	.625 x $1\frac{15}{16}$		CP05A1KE274K3
.0047	600	.298 x $\frac{23}{16}$	CP05A1KF472K3	600	.463 x $1\frac{7}{16}$		CP05A1KF563K3	600	.733 x $1\frac{5}{16}$		CP05A1KF274K3
.0056	600	.298 x $\frac{23}{16}$	CP05A1KF562K3	1000	.625 x $1\frac{7}{16}$		CP05A1KG563K3	1000	.813 x $2\frac{11}{16}$		CP05A1KG274K3
.0068	600	.298 x $1\frac{3}{16}$	CP05A1KF682K3	200	.375 x $1\frac{5}{16}$		CP05A1KC683K3	100	.463 x $1\frac{7}{16}$		CP05A1KB334K3
.0082	400	.298 x $\frac{23}{16}$	CP05A1KE822K3	.068	400	.463 x $1\frac{3}{16}$	CP05A1KE683K3	200	.625 x $1\frac{3}{16}$		CP05A1KC334K3
	600	.375 x $1\frac{5}{16}$	CP05A1KF822K3	600	.463 x $1\frac{7}{16}$		CP05A1KF685K3	400	.625 x $1\frac{15}{16}$		CP05A1KE334K3
				1000	.625 x $1\frac{7}{16}$		CP05A1KG683K3	600	.733 x $1\frac{5}{16}$		CP05A1KF334K3
.01	400	.298 x $\frac{23}{16}$	CP05A1KE103K3	100	.375 x $1\frac{5}{16}$		CP05A1KB823K3	1000	.813 x $2\frac{11}{16}$		CP05A1KG334K3
	600	.375 x $1\frac{5}{16}$	CP05A1KF103K3	200	.463 x $1\frac{5}{16}$		CP05A1KC823K3	100	.625 x $1\frac{3}{16}$		CP05A1KB394K3
.012	200	.298 x $\frac{23}{16}$	CP05A1KC123K3	.082	400	.463 x $1\frac{7}{16}$	CP05A1KE823K3	200	.625 x $1\frac{7}{16}$		CP05A1KC394K3
	600	.375 x $1\frac{5}{16}$	CP05A1KF123K3	600	.625 x $1\frac{3}{16}$		CP05A1KF823K3	400	.733 x $1\frac{15}{16}$		CP05A1KE394K3
				1000	.625 x $1\frac{11}{16}$		CP05A1KG823K3	600	.813 x $2\frac{3}{16}$		CP05A1KF394K3
.015	200	.298 x $1\frac{3}{16}$	CP05A1KC153K3	100	.463 x $1\frac{5}{16}$		CP05A1KB104K3	1000	1.063 x $2\frac{3}{16}$		CP05A1KG394K3
	600	.375 x $1\frac{5}{16}$	CP05A1KF153K3	200	.463 x $1\frac{3}{16}$		CP05A1KC104K3	100	.625 x $1\frac{3}{16}$		CP05A1KB474K3
	1000	.463 x $1\frac{5}{16}$	CP05A1KG153K3	.1	400	.463 x $1\frac{7}{16}$	CP05A1KE104K3	200	.625 x $1\frac{7}{16}$		CP05A1KC474K3
				600	.625 x $1\frac{3}{16}$		CP05A1KF104K3	400	.733 x $1\frac{15}{16}$		CP05A1KE474K3
.018	200	.298 x $1\frac{3}{16}$	CP05A1KC183K3	1000	.625 x $1\frac{11}{16}$		CP05A1KG104K3	600	.813 x $2\frac{3}{16}$		CP05A1KF474K3
	600	.375 x $1\frac{5}{16}$	CP05A1KF183K3	100	.463 x $1\frac{5}{16}$		CP05A1KB124K3	1000	1.063 x $2\frac{3}{16}$		CP05A1KG474K3
	1000	.463 x $1\frac{5}{16}$	CP05A1KG183K3	200	.463 x $1\frac{3}{16}$		CP05A1KC124K3	100	.625 x $1\frac{7}{16}$		CP05A1KB564K3
				.12	400	.625 x $1\frac{3}{16}$	CP05A1KE124K3	200	.625 x $1\frac{15}{16}$		CP05A1KC564K3
.022	600	.375 x $1\frac{5}{16}$	CP05A1KF223K3	600	.625 x $1\frac{7}{16}$		CP05A1KF124K3	400	.813 x $2\frac{3}{16}$		CP05A1KE564K3
	1000	.463 x $1\frac{5}{16}$	CP05A1KG223K3	1000	.733 x $1\frac{11}{16}$		CP05A1KG124K3	600	1.063 x $1\frac{15}{16}$		CP05A1KF564K3
				100	.463 x $1\frac{5}{16}$		CP05A1KB154K3	100	.625 x $1\frac{7}{16}$		CP05A1KB684K3
.027	400	.375 x $1\frac{5}{16}$	CP05A1KE273K3	200	.463 x $1\frac{3}{16}$		CP05A1KC154K3	.68	200	.625 x $1\frac{15}{16}$	CP05A1KC684K3
	600	.463 x $1\frac{3}{16}$	CP05A1KF273K3	.15	400	.625 x $1\frac{3}{16}$	CP05A1KE154K3	400	.813 x $2\frac{3}{16}$		CP05A1KE684K3
	1000	1.463 x $1\frac{7}{16}$	CP05A1KG273K3	600	.625 x $1\frac{7}{16}$		CP05A1KF154K3	600	1.063 x $1\frac{15}{16}$		CP05A1KF684K3
				1000	.733 x $1\frac{11}{16}$		CP05A1KG154K3	100	.625 x $1\frac{13}{16}$		CP05A1KB824K3
.033	100	.298 x $1\frac{3}{16}$	CP05A1KB333K3	100	.463 x $1\frac{3}{16}$		CP05A1KB184K3	.82	200	.733 x $1\frac{15}{16}$	CP05A1KC824K3
	400	.375 x $1\frac{3}{16}$	CP05A1KE333K3	200	.463 x $1\frac{7}{16}$		CP05A1KC184K3	400	1.063 x $1\frac{15}{16}$		CP05A1KE824K3
	600	.463 x $1\frac{3}{16}$	CP05A1KF333K3	.18	400	.625 x $1\frac{7}{16}$	CP05A1KE184K3	100	.625 x $1\frac{15}{16}$		CP05A1KB105K3
	1000	1.463 x $1\frac{7}{16}$	CP05A1KG333K3	600	.625 x $1\frac{11}{16}$		CP05A1KF184K3	200	.733 x $1\frac{15}{16}$		CP05A1KC105K3
.039	200	.375 x $1\frac{5}{16}$	CP05A1KC393K3	1000	.813 x $2\frac{3}{16}$		CP05A1KG184K3	400	1.063 x $1\frac{15}{16}$		CP05A1KE105K3
	400	.463 x $1\frac{5}{16}$	CP05A1KE393K3								

\*For Vibration Grade 1, change last digit of Catalog Number to "1."

**CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES**

# SPRAGUE CAPACITORS

## TYPE CP08 CAPACITORS TO MIL-C-25C



- Vitamin Q impregnation assures performance above and beyond MIL-C-25C requirements.
- Positive hermetic closure of the metal cases with glass-to-metal solder-seal terminals.
- Capacitance Tolerance  $\pm 10\%$ . Characteristic K Temperature Range ( $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ ).
- Type CP08 has plain metal case.
- Extended foil (so-called non-inductive section) construction.
- Listed below are popular insulated section (ungrounded case) capacitors. Consult your Sprague Industrial Distributor for information on grounded case units.
- Call your Sprague Industrial Distributor for Quantity Prices.

$\mu\text{F}$	WVDC	D. x L.	Cat. No.*	$\mu\text{F}$	WVDC	D. x L.	Cat. No.*	$\mu\text{F}$	WVDC	D. x L.	Cat. No.*
.001	600	.235 x 3/4	CP08A1KF102K3	.012	100	.235 x 3/4	CP08A1KB123K3	.068	200	.400 x 7/8	CP08A1KC683K3
	1000	.400 x 7/8	CP08A1KG102K3		400	.312 x 7/8	CP08A1KE123K3		400	.400 x 1 1/8	CP08A1KE683K3
.0012	600	.235 x 3/4	CP08A1KF122K3		600	.400 x 7/8	CP08A1KF123K3		600	.562 x 1 1/8	CP08A1KF683K3
	1000	.400 x 7/8	CP08A1KG122K3		1000	.400 x 1 1/8	CP08A1KG123K3		1000	.562 x 1 5/8	CP08A1KG683K3
.0015	600	.235 x 3/4	CP08A1KF152K3		100	.235 x 3/4	CP08A1KB153K3		100	.400 x 7/8	CP08A1KB823K3
	1000	.400 x 7/8	CP08A1KG152K3	.015	400	.312 x 7/8	CP08A1KE153K3		200	.400 x 1 1/8	CP08A1KC823K3
.0018	600	.235 x 3/4	CP08A1KF182K3		600	.400 x 7/8	CP08A1KF153K3	.082	400	.562 x 1 1/8	CP08A1KE823K3
	1000	.400 x 7/8	CP08A1KG182K3		1000	.400 x 1 1/8	CP08A1KG153K3		600	.562 x 1 3/8	CP08A1KF823K3
.0022	600	.235 x 3/4	CP08A1KF222K3		200	.312 x 7/8	CP08A1KC183K3		1000	.670 x 1 5/8	CP08A1KG823K3
	1000	.400 x 7/8	CP08A1KG222K3	.018	600	.400 x 7/8	CP08A1KF183K3		100	.400 x 7/8	CP08A1KB104K3
.0027	400	.235 x 3/4	CP08A1KE272K3		1000	.400 x 1 1/8	CP08A1KG183K3		200	.400 x 1 1/8	CP08A1KC104K3
	600	.312 x 7/8	CP08A1KF272K3		200	.312 x 7/8	CP08A1KC223K3	.1	400	.562 x 1 1/8	CP08A1KE104K3
	1000	.400 x 7/8	CP08A1KG272K3	.022	600	.400 x 7/8	CP08A1KF223K3		600	.562 x 1 3/8	CP08A1KF104K3
.0033	400	.235 x 3/4	CP08A1KE332K3		1000	.400 x 1 1/8	CP08A1KG223K3		1000	.670 x 1 5/8	CP08A1KG104K3
	600	.312 x 7/8	CP08A1KF332K3		200	.312 x 7/8	CP08A1KC273K3		100	.400 x 1 1/8	CP08A1KB124K3
	1000	.400 x 7/8	CP08A1KG332K3	.027	400	.400 x 7/8	CP08A1KE273K3	.12	200	.400 x 1 3/8	CP08A1KC124K3
.0039	200	.235 x 3/4	CP08A1KC392K3		600	.400 x 1 1/8	CP08A1KF273K3		400	.562 x 1 3/8	CP08A1KE124K3
	600	.312 x 7/8	CP08A1KF392K3		1000	.562 x 1 1/8	CP08A1KG273K3		600	.562 x 1 5/8	CP08A1KF124K3
	1000	.400 x 7/8	CP08A1KG392K3		200	.312 x 7/8	CP08A1KC333K3		1000	.670 x 1 7/8	CP08A1KG124K3
.0047	200	.235 x 3/4	CP08A1KC472K3	.033	400	.400 x 7/8	CP08A1KE333K3		100	.400 x 1 1/8	CP08A1KB154K3
	600	.312 x 7/8	CP08A1KF472K3		600	.400 x 1 1/8	CP08A1KF333K3	.15	200	.400 x 1 3/8	CP08A1KC154K3
	1000	.400 x 7/8	CP08A1KG472K3		1000	.562 x 1 1/8	CP08A1KG333K3		400	.562 x 1 5/8	CP08A1KE154K3
.0056	200	.235 x 3/4	CP08A1KC562K3		100	.312 x 7/8	CP08A1KB393K3		600	.562 x 1 3/8	CP08A1KF154K3
	600	.312 x 7/8	CP08A1KF562K3	.039	200	.400 x 7/8	CP08A1KC393K3		1000	.670 x 1 7/8	CP08A1KG154K3
	1000	.400 x 7/8	CP08A1KG562K3		400	.400 x 1 1/8	CP08A1KE393K3	.18	100	.400 x 1 3/8	CP08A1KB184K3
.0068	200	.235 x 3/4	CP08A1KC682K3		600	.400 x 1 3/8	CP08A1KF393K3		200	.562 x 1 1/8	CP08A1KC'84K3
	600	.312 x 7/8	CP08A1KF682K3		1000	.562 x 1 3/8	CP08A1KG393K3		400	.562 x 1 5/8	CP08A1KE184K3
	1000	.400 x 7/8	CP08A1KG682K3	.047	100	.312 x 7/8	CP08A1KB473K3		600	.670 x 1 5/8	CP08A1KF184K3
	100	.235 x 3/4	CP08A1KB822K3		200	.400 x 7/8	CP08A1KC473K3		1000	.750 x 2 1/8	CP08A1KG184K3
.0082	600	.312 x 7/8	CP08A1KF822K3		400	.400 x 1 1/8	CP08A1KE473K3	.22	100	.400 x 1 3/8	CP08A1KB224K3
	1000	.400 x 7/8	CP08A1KG822K3		600	.400 x 1 3/8	CP08A1KF473K3		200	.562 x 1 1/8	CP08A1KC224K3
	100	.235 x 3/4	CP08A1KB103K3		1000	.562 x 1 3/8	CP08A1KG473K3		400	.562 x 1 5/8	CP08A1KE224K3
.01	600	.312 x 7/8	CP08A1KF103K3		200	.400 x 7/8	CP08A1KC563K3		600	.670 x 1 5/8	CP08A1KF224K3
	1000	.400 x 7/8	CP08A1KG103K3	.056	400	.400 x 1 1/8	CP08A1KE563K3		1000	.750 x 2 1/8	CP08A1KG224K3
					600	.562 x 1 1/8	CP08A1KF563K3	.27	100	.562 x 1 3/8	CP08A1KB274K3
					1000	.562 x 1 5/8	CP08A1KG563K3		200	.562 x 1 5/8	CP08A1KC274K3
									400	.670 x 1 3/8	CP08A1KE274K3
									600	.750 x 2 1/8	CP08A1KF274K3
									1000	1.000 x 2 1/8	CP08A1KG274K3

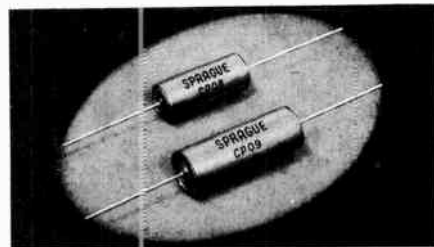
\*For Vibration Grade 1, change last digit of Catalog Number to "1."

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# SPRAGUE CAPACITORS

## TYPE CP09 CAPACITORS TO MIL-C-25C

- Vitamin Q impregnation assures performance above and beyond MIL-C-25C requirements.
- Positive hermetic closure of the metal cases with glass-to-metal solder-seal terminals.
- Available in Characteristic K (-55C to +125C). Capacitance Tolerance  $\pm 10\%$ .
- Type CP09 has insulating sleeve.
- Extended foil, non-inductive section construction.
- Listed below are popular insulated section (ungrounded case) capacitors. Consult your Sprague Industrial Distributor for information on grounded case units.
- Call your Sprague Industrial Distributor for Quantity Prices.



$\mu\text{F}$	WVDC	D. x L.	Cat. No.
.001	600	.298 x $1\frac{3}{16}$	CP09A1KF102K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG102K3
.0012	600	.298 x $1\frac{3}{16}$	CP09A1KF122K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG122K3
.0015	600	.298 x $1\frac{3}{16}$	CP09A1KF152K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG152K3
.0018	600	.298 x $1\frac{3}{16}$	CP09A1KF182K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG182K3
.0022	600	.298 x $1\frac{3}{16}$	CP09A1KF222K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG222K3
.0027	400	.298 x $1\frac{3}{16}$	CP09A1KE272K3
	600	.375 x $1\frac{5}{16}$	CP09A1KF272K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG272K3
.0033	400	.298 x $1\frac{3}{16}$	CP09A1KE332K3
	600	.375 x $1\frac{5}{16}$	CP09A1KF332K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG332K3
.0039	200	.298 x $1\frac{3}{16}$	CP09A1KC392K3
	600	.375 x $1\frac{5}{16}$	CP09A1KF393K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG393K3
.0047	200	.298 x $1\frac{3}{16}$	CP09A1KC472K3
	600	.375 x $1\frac{5}{16}$	CP09A1KF472K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG472K3
.0056	200	.298 x $1\frac{3}{16}$	CP09A1KC562K3
	600	.375 x $1\frac{5}{16}$	CP09A1KF562K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG562K3
.0068	200	.298 x $1\frac{3}{16}$	CP09A1KC682K3
	600	.375 x $1\frac{5}{16}$	CP09A1KF682K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG682K3
.0082	100	.298 x $1\frac{3}{16}$	CP09A1KB822K3
	600	.375 x $1\frac{5}{16}$	CP09A1KF822K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG822K3
.01	100	.298 x $1\frac{3}{16}$	CP09A1KB103K3
	600	.375 x $1\frac{5}{16}$	CP09A1KF103K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG103K3
.012	100	.298 x $1\frac{3}{16}$	CP09A1KB123K3
	400	.375 x $1\frac{5}{16}$	CP09A1KE123K3
	600	.463 x $1\frac{5}{16}$	CP09A1KF123K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG123K3
.015	100	.298 x $1\frac{3}{16}$	CP09A1KB153K3
	400	.375 x $1\frac{5}{16}$	CP09A1KE153K3
	600	.463 x $1\frac{5}{16}$	CP09A1KF153K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG153K3
.018	200	.375 x $1\frac{5}{16}$	CP09A1KC183K3
	600	.463 x $1\frac{5}{16}$	CP09A1KF183K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG183K3
.022	200	.375 x $1\frac{5}{16}$	CP09A1KC223K3
	600	.463 x $1\frac{5}{16}$	CP09A1KF223K3
	1000	.463 x $1\frac{5}{16}$	CP09A1KG223K3

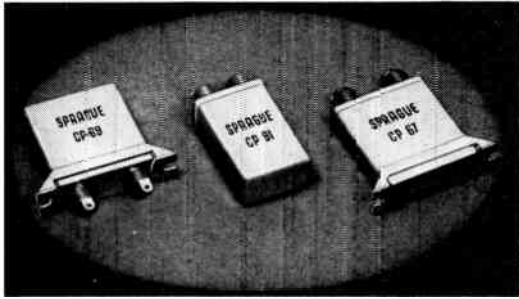
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$\mu\text{F}$	WVDC	D. x L.	Cat. No.
.027	200	.375 x $1\frac{3}{16}$	CP09A1KC273K3
	400	.463 x $1\frac{5}{16}$	CP09A1KE273K3
	600	.463 x $1\frac{5}{16}$	CP09A1KF273K3
	1000	.625 x $1\frac{3}{16}$	CP09A1KG273K3
.033	200	.375 x $1\frac{3}{16}$	CP09A1KC333K3
	400	.463 x $1\frac{5}{16}$	CP09A1KE333K3
	600	.463 x $1\frac{5}{16}$	CP09A1KF333K3
	1000	.625 x $1\frac{3}{16}$	CP09A1KG333K3
.039	100	.375 x $1\frac{3}{16}$	CP09A1KB393K3
	200	.463 x $1\frac{5}{16}$	CP09A1KC393K3
	400	.463 x $1\frac{5}{16}$	CP09A1KE393K3
	600	.463 x $1\frac{5}{16}$	CP09A1KF393K3
.047	1000	.625 x $1\frac{3}{16}$	CP09A1KG393K3
	100	.375 x $1\frac{3}{16}$	CP09A1KB473K3
	200	.463 x $1\frac{5}{16}$	CP09A1KC473K3
	400	.463 x $1\frac{5}{16}$	CP09A1KE473K3
.056	600	.463 x $1\frac{5}{16}$	CP09A1KF473K3
	1000	.625 x $1\frac{3}{16}$	CP09A1KG473K3
	200	.463 x $1\frac{5}{16}$	CP09A1KC563K3
	400	.463 x $1\frac{5}{16}$	CP09A1KE563K3
.068	600	.625 x $1\frac{3}{16}$	CP09A1KF563K3
	1000	.625 x $1\frac{1}{16}$	CP09A1KG563K3
	200	.463 x $1\frac{5}{16}$	CP09A1KC683K3
	400	.463 x $1\frac{5}{16}$	CP09A1KE683K3
.082	600	.625 x $1\frac{3}{16}$	CP09A1KF683K3
	1000	.625 x $1\frac{1}{16}$	CP09A1KG683K3
	100	.463 x $1\frac{5}{16}$	CP09A1KB823K3
	200	.463 x $1\frac{5}{16}$	CP09A1KC823K3
.1	400	.625 x $1\frac{3}{16}$	CP09A1KE823K3
	600	.625 x $1\frac{3}{16}$	CP09A1KF823K3
	1000	.733 x $1\frac{1}{16}$	CP09A1KG823K3
	100	.463 x $1\frac{5}{16}$	CP09A1KB104K3
.12	200	.463 x $1\frac{5}{16}$	CP09A1KC104K3
	400	.625 x $1\frac{3}{16}$	CP09A1KE104K3
	600	.625 x $1\frac{3}{16}$	CP09A1KF104K3
	1000	.733 x $1\frac{1}{16}$	CP09A1KG104K3
.15	100	.463 x $1\frac{5}{16}$	CP09A1KB124K3
	200	.463 x $1\frac{5}{16}$	CP09A1KC124K3
	400	.625 x $1\frac{3}{16}$	CP09A1KE124K3
	600	.625 x $1\frac{3}{16}$	CP09A1KF124K3
.18	1000	.733 x $1\frac{1}{16}$	CP09A1KG124K3
	100	.463 x $1\frac{5}{16}$	CP09A1KB154K3
	200	.463 x $1\frac{5}{16}$	CP09A1KC154K3
	400	.625 x $1\frac{3}{16}$	CP09A1KE154K3
.22	600	.625 x $1\frac{3}{16}$	CP09A1KF154K3
	1000	.733 x $1\frac{1}{16}$	CP09A1KG154K3
	100	.463 x $1\frac{5}{16}$	CP09A1KB184K3
	200	.625 x $1\frac{3}{16}$	CP09A1KC184K3
.22	400	.625 x $1\frac{3}{16}$	CP09A1KE184K3
	600	.733 x $1\frac{1}{16}$	CP09A1KF184K3
	1000	.813 x $2\frac{3}{16}$	CP09A1KG184K3
	100	.463 x $1\frac{5}{16}$	CP09A1KB224K3
.22	200	.625 x $1\frac{3}{16}$	CP09A1KC224K3
	400	.625 x $1\frac{3}{16}$	CP09A1KE224K3
	600	.733 x $1\frac{1}{16}$	CP09A1KF224K3
	1000	.813 x $2\frac{3}{16}$	CP09A1KG224K3

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

# SPRAGUE CAPACITORS

## TYPE CP67, CP69, CP91, CAPACITORS to MIL-C-25C



- Mineral Oil Impregnated for Minimum Capacitance Change with Temperature
- Hermetically Sealed in Drawn Metal Cases
- Have Silicone Rubber Compression Terminals for Positive Prevention Against Entrance of Moisture or Leakage of Impregnant
- Designed and Manufactured for Service Life Beyond Specification Requirements
- Units Listed are Most Popular Ratings. Complete Military Line Available from Sprague
- CP91 Capacitors Require Separate Mounting Brackets. CP67 and CP69 have integral channel brackets
- For quantity prices, see your Sprague Industrial Distributor.

NOTE: These units have capacitance tolerances of  $\pm 10\%$  (K) or  $\pm 20, -10\%$  (V).

$\mu$ F	WVDC	CAT. NO.	SIZE	Mounting Brackets CAT. NO.
<b>TYPE CP67</b> Terminals opposite channel bracket				
.1	600	CP67B1EF104K1	$1\frac{3}{4} \times \frac{1}{4} \times 1\frac{1}{2}$	Integral Channel Brackets
.25	600	CP67B1EF254K1	$1\frac{3}{4} \times \frac{1}{4} \times 1\frac{1}{2}$	
.5	600	CP67B1EF504K1	$1\frac{3}{4} \times \frac{1}{4} \times 2$	Integral Channel Brackets
1.0	600	CP67B1EF105K1	$1\frac{3}{4} \times \frac{1}{4} \times 2\frac{1}{2}$	
<b>TYPE CP69</b> Terminals on same end as channel bracket				
.05	600	CP69B1EF503K1	$1\frac{3}{4} \times \frac{1}{4} \times 1\frac{1}{2}$	Integral Channel Brackets
.1	600	CP69B1EF104K1	$1\frac{3}{4} \times \frac{1}{4} \times 1\frac{1}{2}$	
.25	600	CP69B1EF254K1	$1\frac{3}{4} \times \frac{1}{4} \times 1\frac{1}{2}$	Integral Channel Brackets
.5	600	CP69B1EF504K1	$1\frac{3}{4} \times \frac{1}{4} \times 2$	
1.0	600	CP69B1EF105K1	$1\frac{3}{4} \times \frac{1}{4} \times 2\frac{1}{2}$	
<b>TYPE CP91</b>				
.05	600	CP91B1EF503K1	$1\frac{3}{4} \times \frac{3}{8} \times 1\frac{1}{2}$	CP091SB1
.25	600	CP91B1EF254K1	$1\frac{3}{4} \times \frac{3}{8} \times 1\frac{1}{2}$	CP091SB3
.5	600	CP91B1EF504K1	$1\frac{3}{4} \times \frac{3}{8} \times 2$	CP091SB4
1.0	600	CP91B1EF105K1	$1\frac{3}{4} \times \frac{3}{8} \times 2\frac{1}{2}$	CP091SB6
.05-.05	600	CP91B6EF503V1	$1\frac{3}{4} \times \frac{3}{8} \times 1\frac{1}{2}$	CP091SB2
.1-.1	600	CP91B6EF104V1	$1\frac{3}{4} \times \frac{3}{8} \times 1\frac{1}{2}$	CP091SB3
.25-.25	600	CP91B6EF254V1	$1\frac{3}{4} \times \frac{3}{8} \times 2$	CP091SB4
.5-.5	600	CP91B6EF504V1	$1\frac{3}{4} \times \frac{3}{8} \times 2\frac{1}{2}$	CP091SB6

Call Your Sprague Industrial Distributor for Quantity Prices

## TYPE CP70 CAPACITORS to MIL-C-25

- Ruggedly Constructed for Exacting Heavy-Duty Applications
- Long life and Reliable Service under High Ambient Temperatures
- Terminals have Ceramic Pillar Insulators (E) or Rubber Compression Seats (B)

- Impregnated with a Specially Processed Mineral Oil to Withstand Severe Operating Conditions
- Char. F Units Recommended Primarily for Ground Equipment Where no Low Temperatures are Encountered
- For Quantity Prices, See Your Sprague Industrial Distributor.

NOTE: These units have a capacitance tolerance of  $\pm 10\%$ . For  $\pm 20\%$  tolerance, change the last letter in the catalog number from K to M.



$\mu$ F	WVDC	Char. E (E Term.)		Char. F (B Term.)		Char. E (B Term.)	
		Cat. No.	W x T x H	Cat. No.	W x T x H	Cat. No.	W x T x H
.1	1000	CP70E1EG104K	$1\frac{1}{2} \times \frac{1}{4} \times 1\frac{1}{2}$	---	---	---	---
.1	2000	CP70E1EJ104K	$2\frac{1}{2} \times \frac{1}{4} \times 2\frac{1}{2}$	---	---	---	---
.25	1000	CP70E1EG254K	$1\frac{1}{2} \times \frac{1}{4} \times 2\frac{1}{4}$	---	---	---	---
.25	2000	CP70E1EJ254K	$2\frac{1}{2} \times \frac{1}{4} \times 2\frac{1}{2}$	---	---	---	---
.5	600	CP70E1EF504K	$1\frac{1}{2} \times \frac{1}{4} \times 2\frac{1}{4}$	---	---	---	---
.5	1000	CP70E1EG504K	$1\frac{1}{2} \times \frac{1}{4} \times 2\frac{1}{4}$	---	---	---	---
.5	1500	CP70E1EH504K	$1\frac{1}{2} \times \frac{1}{4} \times 2\frac{3}{8}$	---	---	---	---
.5	2000	CP70E1EJ504K	$2\frac{1}{2} \times \frac{1}{4} \times 2\frac{3}{8}$	---	---	---	---
.5	2500	CP70E1EK504K	$2\frac{1}{2} \times \frac{1}{4} \times 3\frac{1}{8}$	---	---	---	---
1.0	600	CP70E1EF105K	$1\frac{1}{2} \times \frac{1}{4} \times 2\frac{1}{4}$	---	---	---	---
1.0	1000	CP70E1EG105K	$1\frac{1}{2} \times \frac{1}{4} \times 2\frac{3}{8}$	---	---	---	---
1.0	1500	CP70E1EH105K	$1\frac{1}{2} \times \frac{1}{4} \times 4\frac{1}{8}$	---	---	---	---
1.0	2000	CP70E1EJ105K	$2\frac{1}{2} \times \frac{1}{4} \times 4\frac{1}{8}$	---	---	---	---
1.0	2500	CP70E1EK105K	$3\frac{1}{4} \times \frac{1}{4} \times 3\frac{3}{8}$	---	---	---	---
2.0	600	CP70E1EF205K	$1\frac{1}{2} \times \frac{1}{4} \times 3\frac{1}{4}$	---	---	---	---
2.0	1000	CP70E1EG205K	$1\frac{1}{2} \times \frac{1}{4} \times 4\frac{1}{8}$	---	---	---	---
2.0	1500	CP70E1EH205K	$2\frac{1}{2} \times \frac{1}{4} \times 4\frac{1}{8}$	---	---	---	---
2.0	2000	CP70E1EJ205K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{1}{8}$	---	---	---	---
2.0	2500	CP70E1EK205K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{3}{8}$	---	---	---	---
4.0	600	CP70E1EF405K	$2\frac{1}{2} \times \frac{1}{4} \times 3\frac{3}{8}$	---	---	---	---
4.0	1000	CP70E1EG405K	$3\frac{1}{4} \times \frac{1}{4} \times 3\frac{3}{8}$	---	---	---	---
4.0	1500	CP70E1EH405K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{1}{8}$	---	---	---	---
4.0	2000	CP70E1EJ405K	$3\frac{1}{4} \times \frac{1}{4} \times 5\frac{1}{8}$	---	---	---	---
4.0	2500	CP70E1EK405K	$4\frac{1}{4} \times \frac{1}{4} \times 4\frac{3}{8}$	---	---	---	---
6.0	600	CP70E1EF605K	$3\frac{1}{4} \times \frac{1}{4} \times 3\frac{3}{8}$	---	---	---	---
6.0	1000	CP70E1EG605K	$3\frac{1}{4} \times \frac{1}{4} \times 4$	---	---	---	---
6.0	1500	CP70E1EH605K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{1}{8}$	---	---	---	---
8.0	600	CP70E1EF805K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{1}{4}$	---	---	---	---
8.0	1000	CP70E1EG805K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{1}{4}$	---	---	---	---
8.0	1500	CP70E1EH805K	$3\frac{1}{4} \times \frac{1}{4} \times 5\frac{1}{4}$	---	---	---	---
10.0	600	CP70E1EF106K	$3\frac{1}{4} \times \frac{1}{4} \times 4$	---	---	---	---
10.0	1000	CP70E1EG106K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{1}{4}$	---	---	---	---
10.0	1500	CP70E1EH106K	$3\frac{1}{4} \times \frac{1}{4} \times 5\frac{1}{2}$	---	---	---	---
12.0	1000	CP70E1EG126K	$3\frac{1}{4} \times \frac{1}{4} \times 5\frac{1}{8}$	---	---	---	---
15.0	1000	CP70E1EG156K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{3}{4}$	---	---	---	---
10.0	600	CP70B1FF205K	$1\frac{1}{2} \times \frac{1}{4} \times 2\frac{3}{8}$	---	---	---	---
10.0	1000	CP70B1FG205K	$1\frac{1}{2} \times \frac{1}{4} \times 3\frac{1}{8}$	---	---	---	---
10.0	1500	CP70B1FF405K	$2\frac{1}{2} \times \frac{1}{4} \times 3\frac{1}{2}$	---	---	---	---
10.0	2000	CP70B1FG405K	$2\frac{1}{2} \times \frac{1}{4} \times 4\frac{1}{4}$	---	---	---	---
10.0	2500	CP70B1FF605K	$2\frac{1}{2} \times \frac{1}{4} \times 4\frac{3}{4}$	---	---	---	---
10.0	3000	CP70B1FG605K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{3}{4}$	---	---	---	---
10.0	3500	CP70B1FF805K	$3\frac{1}{4} \times \frac{1}{4} \times 3\frac{3}{8}$	---	---	---	---
10.0	4000	CP70B1FG805K	$3\frac{1}{4} \times \frac{1}{4} \times 3\frac{3}{8}$	---	---	---	---
10.0	4500	CP70B1FF106K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{1}{4}$	---	---	---	---
10.0	5000	CP70B1FG106K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{1}{4}$	---	---	---	---
10.0	600	CP70B1EF504K	$1\frac{1}{2} \times \frac{1}{4} \times 2\frac{1}{4}$	---	---	---	---
10.0	1000	CP70B1EG504K	$1\frac{1}{2} \times \frac{1}{4} \times 2\frac{3}{8}$	---	---	---	---
10.0	1500	CP70B1EF105K	$1\frac{1}{2} \times \frac{1}{4} \times 2\frac{1}{4}$	---	---	---	---
10.0	2000	CP70B1EG105K	$1\frac{1}{2} \times \frac{1}{4} \times 2\frac{3}{8}$	---	---	---	---
10.0	2500	CP70B1EF205K	$1\frac{1}{2} \times \frac{1}{4} \times 3\frac{1}{4}$	---	---	---	---
10.0	3000	CP70B1EG205K	$1\frac{1}{2} \times \frac{1}{4} \times 4\frac{1}{8}$	---	---	---	---
10.0	3500	CP70B1EH205K	$2\frac{1}{2} \times \frac{1}{4} \times 4\frac{1}{8}$	---	---	---	---
10.0	4000	CP70B1EF405K	$2\frac{1}{2} \times \frac{1}{4} \times 3\frac{3}{8}$	---	---	---	---
10.0	4500	CP70B1EG405K	$3\frac{1}{4} \times \frac{1}{4} \times 3\frac{3}{8}$	---	---	---	---
10.0	5000	CP70B1EH405K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{1}{8}$	---	---	---	---
10.0	600	CP70B1EF605K	$3\frac{1}{4} \times \frac{1}{4} \times 3\frac{3}{8}$	---	---	---	---
10.0	1000	CP70B1EG605K	$3\frac{1}{4} \times \frac{1}{4} \times 4$	---	---	---	---
10.0	1500	CP70B1EH605K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{1}{8}$	---	---	---	---
10.0	2000	CP70B1EF805K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{1}{4}$	---	---	---	---
10.0	2500	CP70B1EG805K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{1}{4}$	---	---	---	---
10.0	3000	CP70B1EH805K	$3\frac{1}{4} \times \frac{1}{4} \times 5\frac{1}{4}$	---	---	---	---
10.0	3500	CP70B1EF106K	$3\frac{1}{4} \times \frac{1}{4} \times 4$	---	---	---	---
10.0	4000	CP70B1EG106K	$3\frac{1}{4} \times \frac{1}{4} \times 4\frac{1}{4}$	---	---	---	---
10.0	4500	CP70B1EH106K	$3\frac{1}{4} \times \frac{1}{4} \times 5\frac{1}{2}$	---	---	---	---
10.0	5000	CP70B1EG126K	$3\frac{1}{4} \times \frac{1}{4} \times 5\frac{1}{8}$	---	---	---	---

Call Your Sprague Industrial Distributor for Quantity Prices

Call Your Sprague Industrial Distributor for Quantity Prices

Call Your Sprague Industrial Distributor for Quantity Prices



# SPRAGUE CAPACITORS

## 118P DIFILM<sup>®</sup> METALLIZED CAPACITORS



Metallized Paper and of Polyester Film, Impregnated With Special High-Temperature Mineral Wax

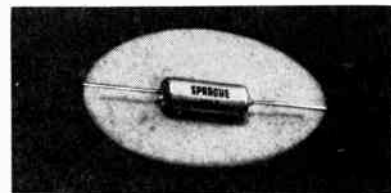
- The Best of Their Type Possible to Produce at the Present State of the Art
- Rated for Operation at 125°C WITHOUT VOLTAGE DERATING
- Unique Dual Dielectric—a Combination of Metallized Paper and of Polyester Film, Impregnated With Special High-Temperature Mineral Wax
- Subjected to Stringent Quality Control During Manufacture
- Higher Insulation Resistance Than Any Other Metallized Paper Capacitors—at 125°C, Minimum Product of Insulation Resistance and Capacitance is 10 Megohm-microfarads for 200 V Units or 40 Megohm-microfarads for 400 and 600 V Units
- Capacitor Sections are Effectively of Non-inductive Construction, Resulting in Capacitors Unmatched in Performance Quality by any Other Metallized Capacitors
- Hermetically Sealed, with Glass-to-metal Solder-seal Terminals
- Have Unusual Self-healing Characteristics, in the Rare Event of Capacitor Dielectric Breakdown
- May be Used at Extremely Low Voltages Where Metallized Paper Construction has Previously Been Unsatisfactory
- For Complete Performance Characteristics, see Latest Issue of Engineering Bulletin 2211
- For Units With Outer Plastic Insulating Sleeves, Change Last Digit of Cat. No. From "2" to "4"
- Capacitors Listed Below Are Ungrounded Case (Insulating Section) Units Without Outer Insulating Sleeves. For Information on Other Styles Consult Your Sprague Industrial Distributor
- Call your Sprague Industrial Distributor for Quantity Prices.

μF	D. x L.	±20% Tol.		±10% Tol.	
		Catalog Number		Catalog Number	
<b>200 WVDC</b>					
.01	.175 x .749	118P10302S2		118P10392S2	
.012	.195 x .749			118P12392S2	
.015	.195 x .749	118P15302S2		118P15392S2	
.018	.235 x .749			118P18392S2	
.022	.235 x .749	118P22302S2		118P22392S2	
.027	.235 x .749			118P27392S2	
.033	.235 x .749	118P33302S2		118P33392S2	
.039	.312 x .874			118P39392S2	
.047	.312 x .874	118P47302S2		118P47392S2	
.056	.312 x .874			118P56392S2	
.068	.312 x .874	118P68302S2		118P68392S2	
.082	.312 x .874			118P82392S2	
.1	.312 x .874	118P10402S2		118P10492S2	
.12	.312 x 1.124			118P12492S2	
.15	.312 x 1.124	118P15402S2		118P15492S2	
.18	.400 x .874			118P18492S2	
.22	.400 x .874	118P22402S2		118P22492S2	
.27	.400 x 1.124			118P27492S2	
.33	.400 x 1.124	118P33402S2		118P33492S2	
.39	.500 x 1.124			118P39492S2	
.47	.500 x 1.124	118P47402S2		118P47492S2	
.56	.500 x 1.124			118P56492S2	
.68	.500 x 1.124	118P68402S2		118P68492S2	
.82	.562 x 1.124			118P82492S2	
1.0	.562 x 1.124	118P10502S2		118P10592S2	
1.5	.562 x 1.624	118P15502S2		118P15592S2	
2.0	.670 x 1.624	118P20502S2		118P20592S2	
3.0	.670 x 1.874	118P30502S2		118P30592S2	
4.0	.750 x 1.874	118P40502S2		118P40592S2	
5.0	1.000 x 1.874	118P50502S2		118P50592S2	
6.0	1.000 x 1.874	118P60502S2		118P60592S2	
8.0	1.000 x 1.874	118P80502S2		118P80592S2	
10.0	1.000 x 2.374	118P10602S2		118P10692S2	
12.0	1.000 x 2.624	118P12602S2		118P12692S2	
<b>400 WVDC</b>					
.01	.312 x .874	118P10304S2		118P10394S2	
.015	.312 x .874	118P15304S2		118P15394S2	
.022	.312 x .874	118P22304S2		118P22394S2	
.033	.312 x 1.124	118P33304S2		118P33394S2	
.047	.400 x 1.124	118P47304S2		118P47394S2	
.068	.400 x 1.124	118P68304S2		118P68394S2	
.1	.500 x 1.124	118P10404S2		118P10494S2	
.15	.500 x 1.124	118P15404S2		118P15494S2	
.22	.562 x 1.374	118P22404S2		118P22494S2	
.33	.562 x 1.624	118P33404S2		118P33494S2	
.47	.670 x 1.624	118P47404S2		118P47494S2	
.68	.670 x 1.874	118P68404S2		118P68494S2	
1.0	.750 x 1.874	118P10504S2		118P10594S2	
1.5	1.000 x 1.874	118P15504S2		118P15594S2	
2.0	1.000 x 1.874	118P20504S2		118P20594S2	
3.0	1.000 x 2.624	118P30504S2		118P30594S2	
<b>600 WVDC</b>					
.01	.312 x .874	118P10306S2		118P10396S2	
.015	.312 x .874	118P15306S2		118P15396S2	
.022	.312 x 1.124	118P22306S2		118P22396S2	
.033	.312 x 1.124	118P33306S2		118P33396S2	
.047	.400 x 1.124	118P47306S2		118P47396S2	
.068	.400 x 1.124	118P68306S2		118P68396S2	
.1	.500 x 1.124	118P10406S2		118P10496S2	
.15	.562 x 1.124	118P15406S2		118P15496S2	
.22	.562 x 1.374	118P22406S2		118P22496S2	
.33	.562 x 1.624	118P33406S2		118P33496S2	
.47	.670 x 1.624	118P47406S2		118P47496S2	
.68	.670 x 1.874	118P68406S2		118P68496S2	
1.0	1.000 x 1.874	118P10506S2		118P10596S2	
1.5	1.000 x 1.874	118P15506S2		118P15596S2	
2.0	1.000 x 2.124	118P20506S2		118P20596S2	
2.5	1.000 x 2.624	118P25506S2		118P25596S2	

# SPRAGUE CAPACITORS

## 121P METALLIZED PAPER CAPACITORS

- Designed to Operate at 125C WITHOUT VOLTAGE DERATING—Extremely Important in Military and Industrial Equipment Where Higher Temperatures Are Encountered.
- Quality of These Capacitors Is Surpassed only by Type 118P Units Described on Opposite Page.
- High Insulation Resistance—at 85C, Minimum Product of Insulation Resistance and Capacitance Is 20 Megohm-Microfarads. At 125C, Minimum Product is 1.0 Megohm-Microfarads.
- Hermetically Sealed With Glass-to-Metal Solder-Seal Terminals—Capacitor Cases Are of Corrosion Resistant Materials—Similar in Appearance to Type 118P.
- May Be Operated at Low Voltages, Unlike Many Other Metallized Capacitors.
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 2210.
- Capacitors Listed Below Are Ungrounded Case (Insulated Section) Units Without Outer Insulating



Sleeves. For Information on Other Styles Consult Your Sprague Industrial Distributor.

- Call Your Sprague Industrial Distributor For Quantity Prices.
- For Units With Outer Plastic Insulating Sleeve, Change Last Digit in Cat. No. From 2 to 4.

μF	D. x L.	±20% Tol.		±10% Tol.		μF	D. x L.	±20% Tol.		±10% Tol.	
		Cat. No.	Cat. No.	Cat. No.	Cat. No.			Cat. No.	Cat. No.		
<b>150 WVDC</b>						<b>150 WVDC (cont.)</b>					
1.5	.562 x 1 1/8	121P15501R5S2	121P15591R5S2	6.0	.750 x 1 7/8	121P60501R5S2	121P60591R5S2	8.0	.750 x 2 3/8	121P80501R5S2	121P80591R5S2
2.0	.562 x 1 3/8	121P20501R5S2	121P20591R5S2	10	.750 x 2 5/8	121P10601R5S2	121P10691R5S2	12	1.000 x 1 7/8	121P12601R5S2	121P12691R5S2
2.5	.562 x 1 5/8	121P25501R5S2	121P25591R5S2	14	1.000 x 2 1/8	121P14601R5S2	121P14691R5S2	16	1.000 x 2 3/8	121P16601R5S2	121P16691R5S2
3.0	.670 x 1 3/8	121P30501R5S2	121P30591R5S2	18	1.000 x 2 5/8	121P18601R5S2	121P18691R5S2				
3.5	.670 x 1 5/8	121P35501R5S2	121P35591R5S2								
4.0	.670 x 1 7/8	121P40501R5S2	121P40591R5S2								
5.0	.670 x 1 7/8	121P50501R5S2	121P50591R5S2								

## TYPE 155P & 156P MOLDED METALLIZED PAPER CAPACITORS

- Superior to Most Competitive Units—Withstand Twice Rated Voltage Tests Giving Extra Design Safety Factor. Stand up Under High Humidity Condition.
- Self-generated Noise Practically Non-Existent. Sealed With Epoxy.
- Type 155P—Molded in Case. Type 156P in Premolded Case. Available in Kleer-Pak<sup>®</sup> Boxes. Complete Technical Data in Latest Issue of Sprague Bulletin 2030.
- Call Your Sprague Industrial Distributor For Current Quantity Prices.



μF	D.	x	L.	Ordering Information		μF	D.	x	L.	Ordering Information		μF	D.	x	L.	Ordering Information	
				Part No.	Part No.					Part No.	Part No.						
<b>200 VOLTS D-C</b>						<b>200 VOLTS D-C (Cont.)</b>						<b>400 VOLTS D-C (Cont.)</b>					
.01	3/16		1	155P10302		7.0	7/8		2 1/2	156P70502		1.0	3/4		2 1/4	156P10504	
.015	3/16		1	155P15302		7.5	7/8		2 1/2	156P75502		1.5	7/8		2 1/2	156P15504	
.02	3/16		1	155P-.02-200		8.0	1		2 1/2	156P80502		2.0	7/8		2 1/2	156P20504	
.022	3/16		1	155P22302		8.5	1		2 1/2	156P85502		2.5	1		2 1/2	156P25504	
.03	3/16		1	155P-.03-200		9.0	1		2 1/2	156P90502		<b>600 VOLTS D-C</b>					
.033	3/16		1	155P33302		9.5	1		2 1/2	156P95502		.01	3/16		1	155P10306	
.047	3/16		1	155P47302		<b>400 VOLTS D-C</b>						.015	3/8		1 1/4	155P15306	
.05	3/16		1	155P-.05-200		.01	5/16		1	155P10304		.02	3/8		1 1/4	155P-.02-600	
.068	3/16		1	155P68302		.015	5/16		1	155P15304		.022	3/8		1 1/4	155P22306	
.1	3/16		1	155P10402		.02	5/16		1	155P-.02-400		.03	3/8		1 1/4	155P-.03-600	
.15	3/8		1 1/4	155P15402		.022	5/16		1	155P22304		.033	3/8		1 1/4	155P33306	
.22	3/8		1 1/4	155P22402		.025	3/8		1 1/4	155P-.025-400		.04	3/8		1 1/4	155P-.04-600	
.25	7/16		1 1/4	155P-.25-200		.03	3/8		1 1/4	155P-.03-400		.047	3/8		1 1/4	155P47306	
.33	7/16		1 1/4	155P33402		.033	3/8		1 1/4	155P33304		.05	7/16		1 1/4	155P-.05-600	
.47	7/16		1 1/4	155P47402		.04	3/8		1 1/4	155P-.04-400		.06	7/16		1 1/4	155P-.06-600	
.5	1/2		1 1/2	155P-.5-200		.047	3/8		1 1/4	155P47304		.068	7/16		1 1/4	155P68306	
.68	1/2		1 1/2	155P68402		.05	3/8		1 1/4	155P-.05-400		.1	1/2		1 1/2	155P10406	
1.0	1/2		1 1/2	155P10502		.068	3/8		1 1/4	155P68304		.15	1/2		1 1/2	155P15406	
1.5	5/8		1 7/8	155P15502		.1	7/16		1 1/4	155P10404		.2	5/8		1 7/8	155P-.2-600	
2.0	5/8		1 7/8	155P20502		.15	1/2		1 1/2	155P15404		.22	5/8		1 7/8	155P22406	
2.5	3/4		2 1/4	156P25502		.2	1/2		1 1/2	155P-.2-400		.25	5/8		1 7/8	155P-.25-600	
3.0	3/4		2 1/4	156P30502		.22	1/2		1 1/2	155P22404		.33	5/8		1 7/8	155P33406	
3.5	3/4		2 1/4	156P35502		.25	3/8		1 7/8	155P-.25-400		.47	3/4		2 1/4	156P47406	
4.0	3/4		2 1/4	156P40502		.33	5/8		1 7/8	155P33404		.5	3/4		2 1/4	156P-.5-600	
4.5	7/8		2 1/2	156P45502		.47	3/8		1 7/8	155P47404		.68	3/4		2 1/4	156P68406	
5.0	7/8		2 1/2	156P50502		.5	5/8		1 7/8	155P-.5-400		1.0	7/8		2 1/2	156P10506	
5.5	7/8		2 1/2	156P55502		.68	3/4		2 1/4	156P68404		1.5	1		2 1/2	156P15506	
5.0	7/8		2 1/2	156P60502													
5.5	7/8		2 1/2	156P65502													

# SPRAGUE CAPACITORS

## TYPE 192P PACER® FILMITE® 'E' CAPACITORS

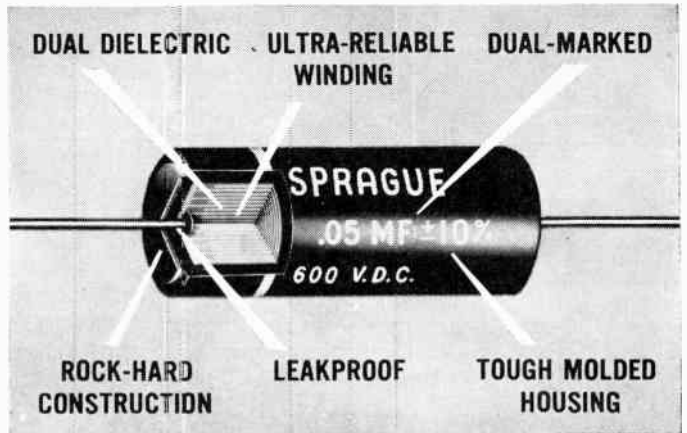
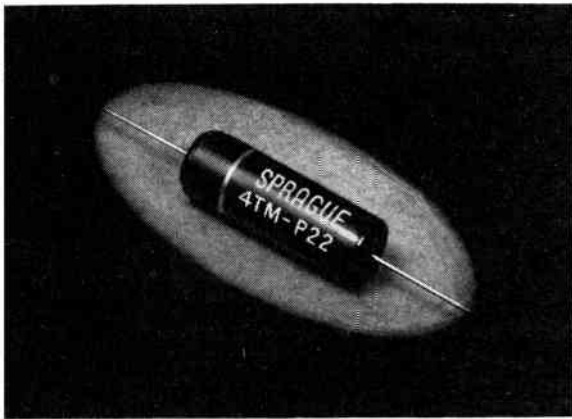
- New Minimum Construction Size. Extended Foil Film Sections Terminate in End Caps. Best Possible Non-Inductive Section. Rated for  $-55^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .
- Controlled Dimensions—May Be Used With Automatic Insertion Equipment.
- Wound With Polyester Film Dielectric and Thin Gage Foil Under Controlled Atmospheric Conditions. Entire Assembly Protected by Orange Heat Shrinkable Mylar Sleeve.
- Also Available in Kleer-Pak® Boxes.
- For Quantity Prices Call Your Sprague Industrial Distributor
- See Latest Issue of Sprague Engineering Bulletin 2066.



$\mu\text{F}$	Size		Cat. No.	$\mu\text{F}$	Size		Cat. No.	$\mu\text{F}$	Size		Cat. No.
	D	x L			D	x L			D	x L	
<b>80 VOLTS D-C</b>											
0.0022	0.138	$\frac{5}{16}$	192P2229R8	0.00068	0.138	$\frac{5}{16}$	192P68192	0.00047	0.170	$\frac{3}{8}$	192P47194
0.0027	0.138	$\frac{5}{16}$	192P2729R8	0.00082	0.138	$\frac{5}{16}$	192P82192	0.00056	0.170	$\frac{3}{8}$	192P56194
0.0033	0.138	$\frac{5}{16}$	192P3329R8	0.001	0.138	$\frac{5}{16}$	192P10292	0.00068	0.170	$\frac{3}{8}$	192P68194
0.0039	0.138	$\frac{5}{16}$	192P3929R8	0.0012	0.138	$\frac{5}{16}$	192P12292	0.00082	0.170	$\frac{3}{8}$	192P82194
0.0047	0.138	$\frac{5}{16}$	192P4729R8	0.0015	0.138	$\frac{5}{16}$	192P15292	0.001	0.170	$\frac{3}{8}$	192P10294
0.0056	0.170	$\frac{3}{8}$	192P5629R8	0.0018	0.170	$\frac{5}{16}$	192P18292	0.0012	0.170	$\frac{3}{8}$	192P12294
0.0068	0.170	$\frac{3}{8}$	192P6829R8	0.0022	0.170	$\frac{5}{16}$	192P22292	0.0015	0.170	$\frac{3}{8}$	192P15294
0.0082	0.170	$\frac{3}{8}$	192P8229R8	0.0027	0.170	$\frac{5}{16}$	192P27292	0.0018	0.170	$\frac{7}{16}$	192P18294
0.01	0.170	$\frac{3}{8}$	192P1039R8	0.0033	0.170	$\frac{5}{16}$	192P33292	0.0022	0.170	$\frac{7}{16}$	192P22294
0.012	0.170	$\frac{7}{16}$	192P1239R8	0.0039	0.170	$\frac{7}{16}$	192P39292	0.0027	0.204	$\frac{7}{16}$	192P27294
0.015	0.170	$\frac{7}{16}$	192P1539R8	0.0047	0.170	$\frac{7}{16}$	192P47292	0.0033	0.204	$\frac{7}{16}$	192P33294
0.018	0.170	$\frac{1}{2}$	192P1839R8	0.0056	0.170	$\frac{7}{16}$	192P56292	0.0039	0.204	$\frac{7}{16}$	192P39294
0.022	0.170	$\frac{1}{2}$	192P2239R8	0.0068	0.170	$\frac{7}{16}$	192P68292	0.0047	0.204	$\frac{7}{16}$	192P47294
0.027	0.204	$\frac{7}{16}$	192P2739R8	0.0082	0.170	$\frac{1}{2}$	192P82292	0.0056	0.225	$\frac{9}{16}$	192P56294
0.033	0.204	$\frac{7}{16}$	192P3339R8	0.01	0.170	$\frac{1}{2}$	192P10392	0.0068	0.225	$\frac{9}{16}$	192P68294
0.039	0.204	$\frac{9}{16}$	192P3939R8	0.012	0.204	$\frac{7}{16}$	192P12392	0.0082	0.225	$\frac{9}{16}$	192P82294
0.047	0.204	$\frac{9}{16}$	192P4739R8	0.015	0.204	$\frac{7}{16}$	192P15392	0.01	0.225	$\frac{9}{16}$	192P10394
0.056	0.225	$\frac{9}{16}$	192P5639R8	0.018	0.204	$\frac{9}{16}$	192P18392	0.012	0.290	$\frac{1}{2}$	192P12394
0.068	0.225	$\frac{9}{16}$	192P6839R8	0.022	0.204	$\frac{9}{16}$	192P22392	0.015	0.290	$\frac{1}{2}$	192P15394
0.082	0.290	$\frac{1}{2}$	192P8239R8	0.027	0.225	$\frac{9}{16}$	192P27392	0.018	0.290	$\frac{5}{8}$	192P18394
0.1	0.290	$\frac{1}{2}$	192P1049R8	0.033	0.225	$\frac{9}{16}$	192P33392	0.022	0.290	$\frac{5}{8}$	192P22394
0.12	0.290	$\frac{5}{8}$	192P1249R8	0.039	0.290	$\frac{1}{2}$	192P39392	0.027	0.318	$\frac{5}{8}$	192P27394
0.15	0.290	$\frac{5}{8}$	192P1549R8	0.047	0.290	$\frac{1}{2}$	192P47392	0.033	0.318	$\frac{5}{8}$	192P33394
0.18	0.318	$\frac{5}{8}$	192P1849R8	0.056	0.290	$\frac{5}{8}$	192P56392	0.039	0.318	$\frac{5}{8}$	192P39394
0.22	0.318	$\frac{5}{8}$	192P2249R8	0.068	0.290	$\frac{5}{8}$	192P68392	0.047	0.318	$\frac{7}{8}$	192P47394
0.27	0.318	$\frac{7}{8}$	192P2749R8	0.082	0.318	$\frac{5}{8}$	192P82392	0.056	0.318	$\frac{1}{2}$	192P56394
0.33	0.318	$\frac{7}{8}$	192P3349R8	0.1	0.318	$\frac{5}{8}$	192P10492	0.068	0.318	$\frac{1}{2}$	192P68394
0.39	0.318	$\frac{1}{2}$	192P3949R8	0.12	0.318	$\frac{7}{8}$	192P12492	0.1	0.318	$\frac{1}{2}$	192P10494
0.47	0.318	$\frac{1}{2}$	192P4749R8	0.15	0.318	$\frac{7}{8}$	192P15492	0.12	0.318	$\frac{1}{2}$	192P12494
<b>200 VOLTS D-C</b>											
0.00047	0.138	$\frac{5}{16}$	192P47192	0.18	0.318	$\frac{1}{2}$	192P18492	0.047	0.318	$\frac{7}{8}$	192P47394
0.00056	0.138	$\frac{5}{16}$	192P47192	0.22	0.318	$\frac{1}{2}$	192P22492	0.056	0.318	$\frac{1}{2}$	192P56394

# SPRAGUE CAPACITORS

## DIFILM<sup>®</sup> BLACK BEAUTY<sup>®</sup> MOLDED TUBULARS



- Developed Especially for Long Life Under High Humidity and Temperature Operating Conditions
- Dual Dielectric (film and paper) Combines Best Features of Both Polyester Film and Paper Capacitors
- Exclusive HCX<sup>®</sup> Solid Impregnant Construction Results in Rock-hard Capacitor Section
- Won't Leak or Drip

LOOK FOR THE RED MARKINGS  
ON THE BLACK CASE

- Mica-filled, Non-flammable Molded Case. Won't Crack when Dropped; Soldering won't Harm it
- Every Capacitor Marked Twice. No Twisting the Case to Read Ratings
- Also Available in Handy Sprague Kleer-Pak<sup>®</sup>
- **Capacitance Tolerance:**  $\pm 10\%$  from .001  $\mu\text{F}$  up  
Except 2TM-M1  $\pm 20\%$

For Complete Technical Data, See Latest Sprague Engineering Bulletin 2025

## The World's Best Molded Tubular at No Extra Cost!

$\mu\text{F}$	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.	$\mu\text{F}$	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
<b>200 WVDC</b>				<b>400 WVDC (Cont.)</b>			
.01	$\frac{5}{16} \times 1$	2TM-S10	160P10392	.02	$\frac{3}{8} \times 1 \frac{1}{4}$	4TM-S20	.....
.02	$\frac{3}{8} \times 1 \frac{1}{4}$	2TM-S20	.....	.022	$\frac{3}{8} \times 1 \frac{1}{4}$	4TM-S22	160P22394
.022	$\frac{3}{8} \times 1 \frac{1}{4}$	2TM-S22	160P22392	.025	$\frac{3}{8} \times 1 \frac{1}{4}$	4TM-S25	.....
.047	$\frac{3}{8} \times 1 \frac{1}{4}$	2TM-S47	160P47392	.03	$\frac{3}{8} \times 1 \frac{1}{4}$	4TM-S30	.....
.05	$\frac{3}{8} \times 1 \frac{1}{4}$	2TM-S50	.....	.04	$\frac{7}{16} \times 1 \frac{1}{4}$	4TM-S40	.....
.1	$\frac{7}{16} \times 1 \frac{1}{4}$	2TM-P10	160P10492	.047	$\frac{7}{16} \times 1 \frac{1}{4}$	4TM-S47	160P47394
.15	$\frac{1}{2} \times 1 \frac{1}{2}$	2TM-P15	160P15492	.05	$\frac{7}{16} \times 1 \frac{1}{4}$	4TM-S50	.....
.22	$\frac{5}{8} \times 1 \frac{7}{8}$	2TM-P22	160P22492	.068	$\frac{1}{2} \times 1 \frac{1}{2}$	4TM-S68	160P68394
.25	$\frac{5}{8} \times 1 \frac{7}{8}$	2TM-P25	.....	.1	$\frac{1}{2} \times 1 \frac{1}{2}$	4TM-P10	160P10494
.47	$\frac{5}{8} \times 1 \frac{7}{8}$	2TM-P47	160P47492	.15	$\frac{5}{8} \times 1 \frac{7}{8}$	4TM-P15	160P15494
.5	$\frac{5}{8} \times 1 \frac{7}{8}$	2TM-P50	.....	.2	$\frac{5}{8} \times 1 \frac{7}{8}$	4TM-P20	.....
1.0	$\frac{3}{4} \times 2 \frac{1}{4}$	2TM-M1	161P10502	.22	$\frac{5}{8} \times 1 \frac{7}{8}$	4TM-P22	160P22494
<b>400 WVDC</b>				.25	$\frac{3}{4} \times 2 \frac{1}{4}$	4TM-P25	.....
.001	$\frac{5}{16} \times 1$	4TM-D10	160P10294	.47	$\frac{3}{4} \times 2 \frac{1}{4}$	4TM-P47	160P47494
.005	$\frac{5}{16} \times 1$	4TM-D50	.....	.5	$\frac{3}{4} \times 2 \frac{1}{4}$	4TM-P50	.....
.01	$\frac{5}{16} \times 1$	4TM-S10	160P10394	1.0	$1 \times 2 \frac{1}{2}$	4TM-M1	161P10594
.015	$\frac{3}{8} \times 1 \frac{1}{4}$	4TM-S15	160P15394				

# SPRAGUE CAPACITORS

## DIFILM® BLACK BEAUTY® MOLDED TUBULARS, continued

$\mu$ F	D. x L.	Sprague Products Cot. No.	Sprague O.E.M. Part. No.	$\mu$ F	D. x L.	Sprague Products Cot. No.	Sprague O.E.M. Part. No.
<b>600 WVDC</b>				<b>1000 WVDC (Cont.)</b>			
.0001	5/16 x 1	6TM-T10	.....	.0022	3/8 x 1 1/4	10TM-D22	160P222910
.00025	5/16 x 1	6TM-T25	.....	.003	3/8 x 1 1/4	10TM-D30	.....
.0004	5/16 x 1	6TM-T40	.....	.004	3/8 x 1 1/4	10TM-D40	.....
.0005	5/16 x 1	6TM-T50	.....	.0047	3/8 x 1 1/4	10TM-D47	160P472910
.001	5/16 x 1	6TM-D10	160P10296	.005	3/8 x 1 1/4	10TM-D50	.....
.0015	5/16 x 1	6TM-D15	160P15296	.0068	3/8 x 1 1/4	10TM-D68	160P682910
.002	5/16 x 1	6TM-D20	.....	.01	7/16 x 1 1/4	10TM-S10	160P103910
.0022	5/16 x 1	6TM-D22	160P22296	.015	1/2 x 1 1/2	10TM-S15	160P153910
.0025	5/16 x 1	6TM-D25	.....	.02	1/2 x 1 1/2	10TM-S20	.....
.003	5/16 x 1	6TM-D30	.....	.022	1/2 x 1 1/2	10TM-S22	160P223910
.0033	5/16 x 1	6TM-D33	160P33296	.03	5/8 x 1 7/8	10TM-S30	.....
.004	3/8 x 1 1/4	6TM-D40	.....	.035	5/8 x 1 7/8	10TM-S35	.....
.0047	3/8 x 1 1/4	6TM-D47	160P47296	.047	5/8 x 1 7/8	10TM-S47	160P473910
.005	3/8 x 1 1/4	6TM-D50	.....	.05	5/8 x 1 7/8	10TM-S50	.....
.006	3/8 x 1 1/4	6TM-D60	.....	.068	5/8 x 1 7/8	10TM-S68	160P683910
.0068	3/8 x 1 1/4	6TM-D68	160P68296	.1	3/4 x 2 1/4	10TM-P10	160P104910
.008	3/8 x 1 1/4	6TM-D80	.....	.15	3/4 x 2 1/4	10TM-P15	160P154910
.01	3/8 x 1 1/4	6TM-S10	160P10396	<b>1600 WVDC BUFFER CAPACITORS</b>			
.015	3/8 x 1 1/4	6TM-S15	160P15396	.0005	3/8 x 1 1/4	MB-T5	.....
.02	7/16 x 1 1/4	6TM-S20	.....	.001	3/8 x 1 1/4	MB-D1	160P102916
.022	7/16 x 1 1/4	6TM-S22	160P22396	.0015	3/8 x 1 1/4	MB-D15	160P152916
.025	7/16 x 1 1/4	6TM-S25	.....	.002	3/8 x 1 1/4	MB-D2	.....
.03	7/16 x 1 1/4	6TM-S30	.....	.0022	3/8 x 1 1/4	MB-D22	160P222916
.033	7/16 x 1 1/4	6TM-S33	160P33396	.003	7/16 x 1 1/4	MB-D3	.....
.035	7/16 x 1 1/4	6TM-S35	.....	.0033	7/16 x 1 1/4	MB-D33	160P332916
.04	1/2 x 1 1/2	6TM-S40	.....	.004	1/2 x 1 1/2	MB-D4	.....
.047	1/2 x 1 1/2	6TM-S47	160P47396	.0047	1/2 x 1 1/2	MB-D47	160P472916
.05	1/2 x 1 1/2	6TM-S50	.....	.005	1/2 x 1 1/2	MB-D5	.....
.06	1/2 x 1 1/2	6TM-S60	.....	.006	1/2 x 1 1/2	MB-D6	.....
.068	1/2 x 1 1/2	6TM-S68	160P68396	.0068	1/2 x 1 1/2	MB-D68	160P682916
.1	5/8 x 1 7/8	6TM-P10	160P10496	.007	1/2 x 1 1/2	MB-D7	.....
.15	5/8 x 1 7/8	6TM-P15	160P15496	.0075	1/2 x 1 1/2	MB-D75	.....
.2	3/4 x 2 1/4	6TM-P20	.....	.008	5/8 x 1 7/8	MB-D8	.....
.22	3/4 x 2 1/4	6TM-P22	160P22496	.01	5/8 x 1 7/8	MB-S1	160P103916
.25	3/4 x 2 1/4	6TM-P25	.....	.015	5/8 x 1 7/8	MB-S15	160P153916
.47	1 x 2 1/2	6TM-P47	160P47496	.02	5/8 x 1 7/8	MB-S2	.....
.5	1 x 2 1/2	6TM-P50	.....	.022	5/8 x 1 7/8	MB-S22	160P223916
1.0	1 x 2 1/2	6TM-M1	.....	.03	3/4 x 2 1/4	MB-S3	.....
<b>1000 WVDC</b>				.04	3/4 x 2 1/4	MB-S4	.....
.0005	5/16 x 1	10TM-T50	.....	.05	3/4 x 2 1/4	MB-S5	.....
.001	5/16 x 1	10TM-D10	160P102910				
.0015	5/16 x 1	10TM-D15	160P152910				
.002	3/8 x 1 1/4	10TM-D20	.....				

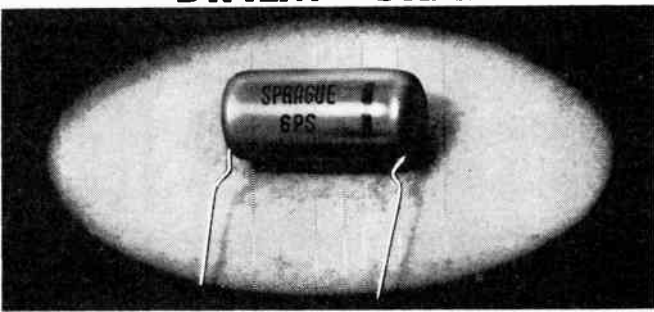
## MINERAL-OIL BLACK BEAUTY® MOLDED TUBULARS

● Kraftboard Sleeve and Epoxy End-Seal Gives Added Circuit Protection ● All Paper Dielectric, Impregnated With Mineral Oil For Best High Voltage Performance ● Maximum Operating Temperature: 85°C

6000 WVDC BUFFER			10,000 WVDC BUFFER			12,500 WVDC BUFFER					
.0005	1/16 x 1 7/8	TVM-356	.....	.0005	1/16 x 2 1/4	TVM-351	.....	.00025	1/16 x 2 1/4	12TVM-325	.....
.001	1/16 x 1 7/8	TVM-216	184P102060								
.005	1/16 x 2 1/4	TVM-256	.....								

# SPRAGUE CAPACITORS

## DIFILM® ORANGE DROP® DIPPED TUBULARS



- Especially Made for Exact, Original Replacement
- Outperforms Any Other Dipped Tubular Capacitor

- Dual Dielectric (Film-paper) Solidly Impregnated With Exclusive HCX®—Produces Rock-Hard Capacitor Section
- Crimped Wire Leads for Correct Spacing When Mounted On Printed Wiring Boards.
- Voltage Ratings From 200 VDC to 2000 VDC
- Outside Foil on All Units Identified by Black Striping
- Double Dipped in Bright Orange Epoxy Resin—Beats Heat and Humidity
- Won't Leak or Drip
- Also Available in Handy Sprague Klear-Pak<sup>®</sup> Boxes
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 2004

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
<b>200 VOLTS D-C</b>			
.02	3/8 x 7/8	2PS-S20	.....
.022	23/64 x 7/8	2PS-S22	220P22392
.047	29/64 x 7/8	2PS-S47	220P47392
.05	15/32 x 7/8	2PS-S50	.....
.1	31/64 x 13/16	2PS-P10	220P10492
.15	9/16 x 13/16	2PS-P15	220P15492
.2	19/32 x 13/16	2PS-P20	.....
.22	39/64 x 13/16	2PS-P22	220P22492
.25	5/8 x 13/16	2PS-P25	.....
.33	5/8 x 1 1/8	2PS-P33	220P33492
.47	45/64 x 1 1/8	2PS-P47	220P47492
.5	23/32 x 1 5/8	2PS-P50	.....

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
<b>400 VOLTS D-C</b>			
.01	17/32 x 11/16	4PS-S10	220P10394
.015	29/64 x 11/16	4PS-S15	220P15394
.02	13/32 x 7/8	4PS-S20	.....
.022	27/64 x 7/8	4PS-S22	220P22394
.025	7/16 x 7/8	4PS-S25	.....
.03	29/64 x 7/8	4PS-S30	.....
.033	15/32 x 7/8	4PS-S33	220P33394
.04	27/64 x 13/16	4PS-S40	.....
.047	29/64 x 13/16	4PS-S47	220P47394
.05	29/64 x 13/16	4PS-S50	.....
.056	31/64 x 13/16	4PS-S56	220P56394
.068	33/64 x 13/16	4PS-S68	220P68394
.075	33/64 x 13/16	4PS-S75	.....
.1	37/64 x 13/16	4PS-P10	220P10494
.15	39/64 x 13/16	4PS-P15	220P15494
.2	19/32 x 1 5/8	4PS-P20	.....
.22	39/64 x 1 1/8	4PS-P22	220P22494
.25	41/64 x 1 5/8	4PS-P25	.....

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
<b>600 VOLTS D-C</b>			
.001	21/64 x 11/16	6PS-D10	220P10296
.0012	21/64 x 11/16	6PS-D12	220P12296
.0015	21/64 x 11/16	6PS-D15	220P15296
.0018	21/64 x 11/16	6PS-D18	220P18296
.002	21/64 x 11/16	6PS-D20	.....
.0022	21/64 x 11/16	6PS-D22	220P22296
.0025	21/64 x 11/16	6PS-D25	.....
.0027	11/32 x 11/16	6PS-D27	220P27296
.003	11/32 x 11/16	6PS-D30	.....
.0033	23/64 x 11/16	6PS-D33	220P33296
.0039	3/8 x 11/16	6PS-D39	220P39296
.004	3/8 x 11/16	6PS-D40	.....
.0047	29/64 x 11/16	6PS-D47	220P47296
.005	25/64 x 11/16	6PS-D50	.....
.0056	29/64 x 11/16	6PS-D56	220P56296
.006	13/32 x 11/16	6PS-D60	.....
.0068	17/32 x 11/16	6PS-D68	220P68296
.0075	23/64 x 7/8	6PS-D75	.....
.008	23/64 x 7/8	6PS-D80	.....
.0082	3/8 x 7/8	6PS-D82	220P82296
.01	23/64 x 7/8	6PS-S10	220P10396
.012	23/64 x 7/8	6PS-S12	220P12396
.015	27/64 x 7/8	6PS-S15	220P15396
.02	31/64 x 7/8	6PS-S20	.....

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
<b>600 VOLTS D-C (cont.)</b>			
.022	31/64 x 7/8	6PS-S22	220P22396
.025	17/32 x 7/8	6PS-S25	.....
.027	7/16 x 13/16	6PS-S27	220P27396
.03	7/16 x 13/16	6PS-S30	.....
.033	15/32 x 13/16	6PS-S33	220P33396
.035	15/32 x 13/16	6PS-S35	.....
.039	31/64 x 13/16	6PS-S39	220P39396
.04	1/2 x 13/16	6PS-S40	.....
.047	17/32 x 13/16	6PS-S47	220P47396
.05	17/32 x 13/16	6PS-S50	.....
.056	39/64 x 13/16	6PS-S56	220P56396
.06	3/16 x 13/16	6PS-S60	.....
.068	37/64 x 13/16	6PS-S68	220P68396
.075	7/16 x 13/16	6PS-S75	.....
.082	37/64 x 13/16	6PS-S82	220P82396
.1	5/8 x 13/16	6PS-P10	220P10496
.15	5/8 x 1 5/8	6PS-P15	220P15496
.2	3/4 x 1 5/8	6PS-P20	.....
.22	25/32 x 1 5/8	6PS-P22	220P22496
.25	13/16 x 1 5/8	6PS-P25	.....
.33	53/64 x 1 5/8	6PS-P33	.....
.47	61/64 x 1 5/8	6PS-P47	.....

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
<b>1000 VOLTS D-C</b>			
.001	21/64 x 11/16	10PS-D10	220P102910
.0015	11/32 x 11/16	10PS-D15	220P152910
.002	3/8 x 11/16	10PS-D20	.....
.0022	3/8 x 11/16	10PS-D22	220P222910
.003	11/32 x 7/8	10PS-D30	.....
.004	3/8 x 7/8	10PS-D40	.....
.0047	15/32 x 7/8	10PS-D47	220P472910
.005	13/32 x 7/8	10PS-D50	.....

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
<b>1600 VOLTS D-C</b>			
.0005	3/8 x 1 1/4	16PS-T50	.....
.001	3/8 x 1 1/4	16PS-D10	220P102916
.0015	3/8 x 1 1/4	16PS-D15	220P152916
.002	3/8 x 1 1/4	16PS-D20	.....
.0022	3/8 x 1 1/4	16PS-D22	220P222916
.003	7/16 x 1 1/4	16PS-D30	.....
.0033	7/16 x 1 1/4	16PS-D33	220P332916
.004	1/2 x 1 1/2	16PS-D40	.....
.0047	1/2 x 1 1/2	16PS-D47	220P472916
.005	1/2 x 1 1/2	16PS-D50	.....
.006	1/2 x 1 1/2	16PS-D60	.....
.0068	1/2 x 1 1/2	16PS-D68	220P682916
.007	1/2 x 1 1/2	16PS-D70	.....
.0075	1/2 x 1 1/2	16PS-D75	.....
.008	5/8 x 1 7/8	16PS-D80	.....
.01	5/8 x 1 7/8	16PS-S10	220P103916
.015	5/8 x 1 7/8	16PS-S15	220P153916
.02	5/8 x 1 7/8	16PS-S20	.....
.022	5/8 x 1 7/8	16PS-S22	220P223916
.03	3/4 x 2 1/4	16PS-S30	.....
.04	3/4 x 2 1/4	16PS-S40	.....
.05	3/4 x 2 1/4	16PS-S50	.....

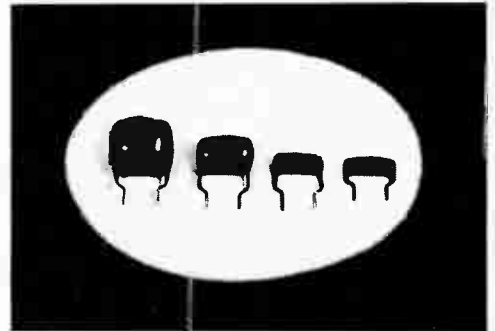
μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
<b>2000 VOLTS D-C</b>			
.001	3/8 x 1 1/4	20PS-D10	.....

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

# SPRAGUE CAPACITORS

## TYPE 225P FILMITE® 'E' ORANGE DROP® CAPACITORS

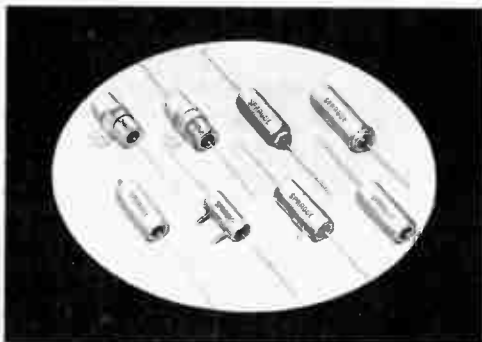
- Designed Specifically for Printed Wiring Board Applications and are Furnished with Radial Leads to Facilitate Insertion on Boards
- Find Wide Application in Television Receivers, Radio Sets, and Commercial Electronic Equipment
- Available in Voltage Ratings of 75 Volts and 100 Volts D-C for Operation up to 85C
- Capacitor Sections are Wound From Polyester Film and Thin-gage Foil Under Carefully Controlled Atmospheric Conditions
- Protected Against Moisture by a Wax-free Conformal Coating of Epoxy
- For Complete Technical Data, Refer to Latest Issue of Sprague Engineering Bulletin 2062
- Call Your Sprague Industrial Distributor for Current Quantity Prices



μF	Tol.	Size Height x Thickness x Length	Catalog Number	μF	Tol.	Size Height x Thickness x Length	Catalog Number
<b>75 VOLTS D-C</b>				<b>100 VOLTS D-C (Cont.)</b>			
.12	10%	5/16 x 3/64 x 3/4	225P1249R75	.0033	10%	3/16 x 1/64 x 4/64	225P33291
.15	10%	5/16 x 3/64 x 3/4	225P1549R75	.0039	10%	3/16 x 1/64 x 4/64	225P39291
.18	10%	43/64 x 27/64 x 3/4	225P1849R75	.0047	10%	3/16 x 1/64 x 4/64	225P47291
.22	10%	43/64 x 27/64 x 3/4	225P2249R75	.0056	10%	3/16 x 1/64 x 4/64	225P56291
.27	10%	27/32 x 21/64 x 3/4	225P2749R75	.0068	10%	3/16 x 1/64 x 4/64	225P68291
.33	10%	27/32 x 21/64 x 3/4	225P3349R75	.0082	10%	3/16 x 1/64 x 4/64	225P82291
.39	10%	27/32 x 19/32 x 3/4	225P3949R75	.01	10%	3/16 x 1/64 x 4/64	225P10391
.47	10%	27/32 x 19/32 x 3/4	225P4749R75	.012	10%	3/16 x 1/64 x 4/64	225P12391
.56	10%	57/64 x 9/16 x 13/16	225P5649R75	.015	10%	3/16 x 1/64 x 4/64	225P15391
.68	10%	29/32 x 19/32 x 13/16	225P6849R75	.018	10%	3/16 x 1/64 x 4/64	225P18391
.82	10%	61/64 x 21/32 x 13/16	225P8249R75	.022	10%	3/16 x 1/64 x 4/64	225P22391
1.0	10%	63/64 x 47/64 x 13/16	225P1059R75	.027	10%	21/64 x 1/64 x 4/64	225P27391
.001	10%	3/16 x 1/64 x 4/64	225P10291	.033	10%	21/64 x 1/64 x 4/64	225P33391
.0012	10%	3/16 x 1/64 x 4/64	225P12291	.039	10%	17/32 x 1/4 x 4/64	225P39391
.0015	10%	3/16 x 1/64 x 4/64	225P15291	.047	10%	17/32 x 1/4 x 4/64	225P47391
.0018	10%	3/16 x 1/64 x 4/64	225P18291	.056	10%	3/8 x 1/32 x 4/64	225P56391
.0022	10%	3/16 x 1/64 x 4/64	225P22291	.068	10%	3/8 x 1/32 x 4/64	225P68391
.0027	10%	3/16 x 1/64 x 4/64	225P27291	.082	10%	17/32 x 21/64 x 4/64	225P82391
				.1	10%	17/32 x 21/64 x 4/64	225P10491

## TYPE 260P

## TUBULAR METAL-CLAD METALLIZED FILMITE® 'K' CAPACITORS



- Designed for Applications Such as Low-frequency Tuned Circuits, Analog Computer Reference Capacitors and Precision Timing and Integrating Circuits
- High Insulation Resistance, High Stability, Minimum Capacitance Change with Temperature, Low Dielectric Absorption and Low Dissipation Factor
- Capacitor Sections are of Non-inductive Construction
- Will Operate at Full Rated D-C Voltage Over the Temperature Range of -55C to +105C
- Capacitance Tolerance  $\pm 5\%$ , Voltage Rating 200 WVDC
- For Complete Technical Data, Refer to the Latest Issue of Sprague Engineering Bulletin 2705
- Call Your Sprague Industrial Distributor for Current Quantity Prices

μF	WVDC	D. x L.	Catalog No.	μF	WVDC	D. x L.	Catalog No.
.01	200	.175" x 3/4	260P10352S4	.47	200	.400" x 1 1/8	260P47452S4
.015	200	.195" x 3/4	260P15352S4	.68	200	.462" x 1 1/8	260P68452S4
.022	200	.235" x 3/4	260P22352S4	1.0	200	.462" x 1 1/8	260P10552S4
.033	200	.235" x 3/4	260P33352S4	2.0	200	.670" x 1 1/8	260P20552S4
.047	200	.312" x 7/8	260P47352S4	3.0	200	.750" x 1 1/8	260P30552S4
.056	200	.312" x 7/8	260P56352S4	4.0	200	.750" x 2 1/8	260P40552S4
.068	200	.312" x 7/8	260P68352S4	5.0	200	.750" x 2 3/8	260P50552S4
.1	200	.312" x 7/8	260P10452S4	7.0	200	1.000" x 1 1/8	260P70552S4
.15	200	.312" x 1 1/8	260P15452S4	8.0	200	1.000" x 2 1/8	260P80552S4
.22	200	.400" x 7/8	260P22452S4	10.0	200	1.000" x 2 3/8	260P10652S4
.33	200	.400" x 1 1/8	260P33452S4				

# SPRAGUE CAPACITORS

## BF ISOFARAD® PLASTIC FILM CAPACITORS

For Applications Where the Best in Tubulars is None Too Good



- Isofarad Quality is a Must in Color TV Sychroguide Circuits, Horizontal and Vertical Oscillators, Bridge and Parallel T Circuits and Other Tuned Circuit Applications Requiring Close Tolerance and Zero Temperature Coefficient of Capacitance
- Superior to Silvered Mica Capacitors, Yet Far Less Expensive
- Constant Capacitance—Will Not Change More Than  $\pm 0.2\%$  from Room Temperature to  $+80^{\circ}\text{C}$  at Maximum Rated Voltage Will Withstand Operating Temperatures to  $85^{\circ}\text{C}$  (185F)
- Capacitance Tolerance:  $\pm 5\%$
- Also Available in Handy Sprague Klear-Pak® Boxes
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 2075

$\mu\text{F}$	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.		$\mu\text{F}$	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.		
500 WVDC				CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES	500 WVDC (cont.)					CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES
.001	$\frac{3}{8} \times 1$	5BF-D10	183P10255		.022	$\frac{1}{2} \times 1\frac{1}{2}$	5BF-S22	183P22355		
.0012	$\frac{3}{8} \times 1$	5BF-D12	183P12255		.027	$\frac{5}{8} \times 1\frac{7}{8}$	5BF-S27	183P27355		
.0015	$\frac{3}{8} \times 1$	5BF-D15	183P15255		.033	$\frac{5}{8} \times 1\frac{7}{8}$	5BF-S33	183P33355		
.0018	$\frac{3}{8} \times 1$	5BF-D18	183P18255		.039	$\frac{5}{8} \times 1\frac{7}{8}$	5BF-S39	183P39355		
.0022	$\frac{3}{8} \times 1$	5BF-D22	183P22255		.047	$\frac{5}{8} \times 1\frac{7}{8}$	5BF-S47	183P47355		
.0027	$\frac{3}{8} \times 1$	5BF-D27	183P27255		.056	$\frac{5}{8} \times 1\frac{7}{8}$	5BF-S56	183P56355		
.0033	$\frac{3}{8} \times 1$	5BF-D33	183P33255		.068	$\frac{5}{8} \times 1\frac{7}{8}$	5BF-S68	183P68355		
.0039	$\frac{3}{8} \times 1$	5BF-D39	183P39255		.082	$\frac{3}{4} \times 1\frac{1}{4}$	5BF-S82	145P82355		
.0047	$\frac{3}{8} \times 1$	5BF-D47	183P47255		.1	$\frac{3}{4} \times 2\frac{1}{4}$	5BF-P10	145P10455		
.0056	$\frac{3}{8} \times 1\frac{1}{4}$	5BF-D56	183P56255		.12	$\frac{7}{8} \times 2\frac{1}{2}$	5BF-P12	145P12455		
.0068	$\frac{3}{8} \times 1\frac{1}{4}$	5BF-D68	183P68255		.15	$\frac{7}{8} \times 2\frac{1}{2}$	5BF-P15	145P15455		
.0082	$\frac{7}{16} \times 1\frac{1}{4}$	5BF-D82	183P82255		.18	$\frac{7}{8} \times 2\frac{1}{2}$	5BF-P18	145P18455		
.01	$\frac{7}{16} \times 1\frac{1}{4}$	5BF-S10	183P10355		.22	$\frac{7}{8} \times 2\frac{1}{2}$	5BF-P22	145P22455		
.012	$\frac{1}{2} \times 1\frac{1}{4}$	5BF-S12	183P12355		.27	$1 \times 2\frac{1}{2}$	5BF-P27	145P27455		
.015	$\frac{1}{2} \times 1\frac{1}{4}$	5BF-S15	183P15355		.33	$1 \times 2\frac{1}{2}$	5BF-P33	145P33455		
.018	$\frac{1}{2} \times 1\frac{1}{4}$	5BF-S18	183P18355							

## WF YELLOW-JACKET® FILMITE® 'E' CAPACITORS

- Excellent for Use in Transistorized Circuits and Low-Voltage Electron Tube Circuits
- Extended Foil Type Sections, Wound from Selected, Ultra-Thin Polyester Film and Thin Gage Foil
- Outer Plastic Film Wrap and Resin End Seals Protect Against Moisture and Humidity
- "Smaller Than Small" — These Capacitors Will Fit Anywhere
- Rated to 200 WVDC — Capacitance Tolerance:  $\pm 10\%$
- Designed for Operation to  $85^{\circ}\text{C}$  (185F)
- Available in Klear-Pak® Boxes
- For Technical Data, See Latest Issue of Sprague Bulletin 2063



$\mu\text{F}$	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.		$\mu\text{F}$	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.		
200 WVDC				CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES	200 WVDC (cont.)					CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES
.01	$\frac{1}{32} \times \frac{1}{16}$	2WF-S10	148P10392		.12	$\frac{1}{32} \times \frac{1}{16}$	2WF-P12	148P12492		
.012	$\frac{1}{32} \times \frac{1}{16}$	2WF-S12	148P12392		.15	$\frac{1}{32} \times \frac{1}{16}$	2WF-P15	148P15492		
.015	$\frac{1}{32} \times \frac{1}{16}$	2WF-S15	148P15392		.18	$\frac{1}{32} \times \frac{1}{16}$	2WF-P18	148P18492		
.018	$\frac{1}{32} \times \frac{1}{16}$	2WF-S18	148P18392		.22	$\frac{1}{32} \times \frac{1}{16}$	2WF-P22	148P22492		
.022	$\frac{1}{32} \times \frac{1}{16}$	2WF-S22	148P22392		.27	$\frac{1}{32} \times \frac{1}{16}$	2WF-P27	148P27492		
.027	$\frac{1}{32} \times \frac{1}{16}$	2WF-S27	148P27392		.33	$\frac{1}{32} \times \frac{1}{16}$	2WF-P33	148P33492		
.033	$\frac{1}{32} \times \frac{1}{16}$	2WF-S33	148P33392		.39	$\frac{3}{64} \times \frac{1}{16}$	2WF-P39	148P39492		
.039	$\frac{1}{32} \times \frac{1}{16}$	2WF-S39	148P39392		.47	$\frac{3}{64} \times \frac{1}{16}$	2WF-P47	148P47492		
.047	$\frac{1}{32} \times \frac{1}{16}$	2WF-S47	148P47392		.56	$\frac{3}{64} \times \frac{1}{16}$	2WF-P56	148P56492		
.056	$\frac{1}{4} \times \frac{1}{16}$	2WF-S56	148P56392		.68	$\frac{3}{64} \times \frac{1}{16}$	2WF-P68	148P68492		
.068	$\frac{1}{4} \times \frac{1}{16}$	2WF-S68	148P68392		.82	$\frac{1}{32} \times \frac{1}{16}$	2WF-P82	148P82492		
.082	$\frac{1}{32} \times \frac{1}{16}$	2WF-S82	148P82392		1.0	$\frac{1}{32} \times \frac{1}{16}$	2WF-M1	148P10592		
.1	$\frac{1}{32} \times \frac{1}{16}$	2WF-P10	148P10492							



# SPRAGUE CAPACITORS



## TYPE CR RECTANGULAR OILS

- Hermetically sealed in Rugged Rectangular Metal Cans
- Oil-Impregnated and Oil-Filled
- Extremely High Insulation Resistance
- Will Withstand High Surge Voltages and High Ambient Temperatures
- Widely Used in Transmitter Power Supplies and Other High-Voltage Applications

- Furnished With Adapters (as shown below) to Fit Standard Transmitting Tube Plate Caps



μF	WVDC	T. x W. x L.	Cat. No.
.5	600	1 1/8 x 1 13/16 x 2 1/4	CR-056
1.0	600	1 1/8 x 1 13/16 x 2 1/4	CR-16
2.0	600	1 1/8 x 1 13/16 x 2 3/8	CR-26
3.0	600	1 1/8 x 1 13/16 x 3 1/4	CR-36
4.0	600	1 3/8 x 2 1/2 x 3 1/2	CR-46
6.0	600	1 3/8 x 2 1/2 x 4 3/4	CR-66
8.0	600	1 1/4 x 3 3/4 x 3 3/8	CR-86
10.0	600	1 1/4 x 3 3/4 x 4 3/4	CR-106
.1	1000	1 1/8 x 1 13/16 x 1 5/8	CR-011
.25	1000	1 1/8 x 1 13/16 x 2 1/4	CR-0251
.5	1000	1 1/8 x 1 13/16 x 2 1/4	CR-051
1.0	1000	1 1/8 x 1 13/16 x 2 1/4	CR-11
2.0	1000	1 1/8 x 1 13/16 x 3 3/8	CR-21
4.0	1000	1 3/8 x 2 1/2 x 3 5/8	CR-41
8.0	1000	1 1/4 x 3 3/4 x 4 3/4	CR-81
10.0	1000	1 3/4 x 3 3/4 x 4 3/4	CR-101
12.0	1000	2 1/4 x 3 3/4 x 4 1/2	CR-121
15.0	1000	2 1/2 x 3 3/4 x 4 3/4	CR-151
.5	1500	1 1/8 x 1 13/16 x 2 3/8	CR-0515
1.0	1500	1 1/8 x 1 13/16 x 3 3/8	CR-115
2.0	1500	1 3/8 x 2 1/2 x 4 1/4	CR-215
4.0	1500	1 1/4 x 3 3/4 x 4 3/4	CR-415
5.0	1500	1 1/4 x 3 3/4 x 4 3/4	CR-515
8.0	1500	2 1/2 x 3 3/4 x 4 3/4	CR-815
10.0	1500	3 3/8 x 3 3/4 x 4 3/4	CR-1015
.1	2000	1 3/8 x 2 1/2 x 2 1/2	CR-012
.25	2000	1 3/8 x 2 1/2 x 2 1/2	CR-0252
.5	2000	1 3/8 x 2 1/2 x 2 3/8	CR-052
1.0	2000	1 3/8 x 2 1/2 x 3 1/2	CR-12
2.0	2000	1 1/4 x 3 3/4 x 4 1/4	CR-22

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

μF	WVDC	T. x W. x L.	Cat. No.
3.0	2000	1 1/4 x 3 3/4 x 4 3/4	CR-32
4.0	2000	2 1/4 x 3 3/4 x 3 3/8	CR-42
6.0	2000	3 3/8 x 3 3/4 x 4 1/2	CR-62
10.0	2000	4 3/8 x 3 3/4 x 4 3/4	CR-102
.1	2500	1 3/8 x 2 1/2 x 2 1/2	CR-0125
.5	2500	1 1/4 x 3 3/4 x 3 3/4	CR-0525
1.0	2500	1 3/4 x 3 3/4 x 3 3/4	CR-125
2.0	2500	1 3/4 x 3 3/4 x 4 3/4	CR-225
4.0	2500	4 3/8 x 3 3/4 x 4 3/8	CR-425
.1	3000	1 3/8 x 2 1/2 x 2 1/2	CR-013
.25	3000	1 3/8 x 2 1/2 x 2 3/8	CR-0253
.5	3000	1 3/8 x 2 1/2 x 4 1/4	CR-053
1.0	3000	2 1/4 x 3 3/4 x 3 3/8	CR-13
2.0	3000	3 3/8 x 3 3/4 x 4 1/2	CR-23
4.0	3000	4 3/8 x 3 3/4 x 4 3/4	CR-43
.1	4000	2 1/4 x 3 3/4 x 2 3/4	CR-014
.25	4000	2 1/4 x 3 3/4 x 2 3/4	CR-0254
.5	4000	2 1/4 x 3 3/4 x 3 3/8	CR-054
1.0	4000	2 1/4 x 3 3/4 x 5 1/8	CR-14
2.0	4000	4 3/8 x 3 3/4 x 5 1/8	CR-24
.2	5000	1 3/4 x 3 3/4 x 3 3/8	CR-025
.5	5000	2 1/4 x 3 3/4 x 4 1/2	CR-055
1.0	5000	4 3/8 x 3 3/4 x 4 3/8	CR-15
2.0	5000	4 3/8 x 3 3/4 x 6	CR-25
.1	6000	2 1/4 x 3 3/4 x 3 3/8	CR-0160
.2	6000	1 3/4 x 3 3/4 x 4 1/4	CR-0260
1.0	6000	4 3/8 x 3 3/4 x 7 1/2	CR-160
.1	7500	2 1/4 x 3 3/4 x 3 3/8	CR-0175
.2	7500	1 3/4 x 3 3/4 x 4 3/4	CR-0275

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

## SCREWBASE PC OILS



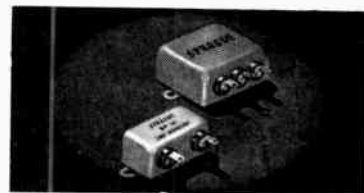
- Oil-Impregnated
- Oil-Filled
- Screwbase Can For Easy Single Hole Mounting
- Small Size — Will Fit Tight Spaces

μF	WVDC	Diam. x Lgth.	Cat. No.
2	600	1 1/2 x 2 3/8	PC-26
3	600	1 1/2 x 3 1/2	PC-36
4	600	1 1/2 x 5 1/8	PC-46
1	1000	1 1/2 x 2 3/8	PC-11
2	1000	1 1/2 x 4 1/2	PC-21
0.5	1500	1 1/2 x 2 3/8	PC-515
1	1500	1 1/2 x 3 3/8	PC-115

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

## TYPE BP BATHTUB CAPACITORS

- For Applications Where Severe Operating Conditions Are Encountered
- Hermetically Sealed for Extra Protection
- Seamless Drawn Metal Can
- Oil-Filled and Oil-impregnated for Long, Dependable Service Life
- Convenient Mounting Ears are Integral Part of Metal Container



μF	L. x W. x H.	Cat. No.
<b>400 WVDC</b>		
.1	1 13/16 x 1 x 3/4	BP-1
.25	1 13/16 x 1 x 3/4	BP-25
.5	1 13/16 x 1 x 3/4	BP-50
1.0	2 x 1 3/4 x 3/4	BP-10
.1	1 13/16 x 1 x 3/4	BP-21
.25	1 13/16 x 1 x 3/4	BP-225
.5	2 x 1 3/4 x 3/4	BP-250
.1	1 13/16 x 1 x 3/4	BP-31
<b>600 WVDC</b>		
.05	1 13/16 x 1 x 3/4	BP-56
.1	1 13/16 x 1 x 3/4	BP-16
.25	1 13/16 x 1 x 3/4	BP-256
.5	1 13/16 x 1 x 3/4	BP-506
1.0	2 x 1 3/4 x 3/4	BP-106
2.0	2 x 2 x 1 1/4	BP-206
.05	1 13/16 x 1 x 3/4	BP-2056

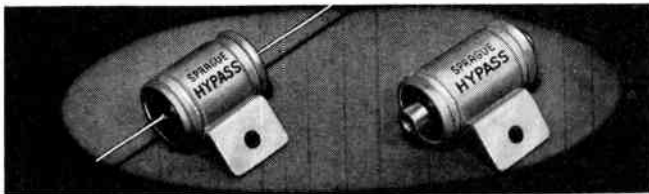
CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

μF	L. x W. x H.	Cat. No.
<b>1000 WVDC</b>		
.1	1 13/16 x 1 x 3/4	BP-216
.25	1 13/16 x 1 x 3/4	BP-2256
.5	2 x 1 3/4 x 3/4	BP-2506
1.0	2 x 2 x 1 1/4	BP-116
.1	1 13/16 x 1 x 3/4	BP-316
.25	2 x 1 3/4 x 3/4	B2-3256
.5	2 x 2 x 1 1/4	BP-356
<b>1000 WVDC</b>		
.05	1 13/16 x 1 x 3/4	BP-51
.1	1 13/16 x 1 x 3/4	BP-11
.25	1 13/16 x 1 x 3/4	BP-251
.5	2 x 1 3/4 x 3/4	BP-501
1.0	2 x 2 x 1 1/4	BP-101
.05	1 13/16 x 1 x 3/4	BP-2051
.1	1 13/16 x 1 x 3/4	BP-211
.25	2 x 1 3/4 x 3/4	BP-2251
.5	2 x 2 x 1 1/4	BP-2501
.1	1 13/16 x 1 x 3/4	BP-311
.25	2 x 2 x 1 1/4	BP-3251

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

# SPRAGUE FILTERS

## HYPASS<sup>®</sup> CAPACITORS



- Exclusive Sprague 3-terminal Network Feed-thru Capacitors
- Bypass V-H-F Currents Where Ordinary Capacitors are Ineffective
- Suppress TVI from Short-wave Transmitters, Diathermy Machines, Electronic Heating Apparatus, etc.
- Eliminate Interference caused by Line-conducted Radiation Between Neighboring TV Sets
- Install Leads in Series with Circuit Being Filtered and Ground the Case

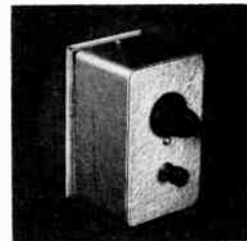
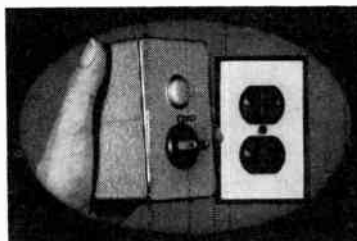
μF	Amps.	WVDC	Dia. x Length	Cat. No.
.5	40	50	1 x 1 13/16	*48P18
.5	60	50	1 x 1 13/16	48P100
.25	20	200	3/4 x 1 13/16	*48P10
.5	20	200	1 x 1 13/16	*48P14
.1	20	250(VAC)	1 1/16 x 1 13/16	*48P9
.1	20	400	1 1/16 x 1 13/16	*48P6
.1	20	400	1 1/16 x 1 13/16	†80P1
.002	15	600	1/4 x 1 3/8	46P12
.005	15	600	1/4 x 1 5/8	46P8
.01	20	600	7/16 x 1 1/4	47P6
.02	20	600	7/16 x 1 1/2	47P8
.1	20	600	1 1/16 x 1 13/16	*48P8
.1	20	600	1 1/16 x 1 13/16	*†80P3
.25	20	600	1 x 1 13/16	*48P12
.5	20	600	1 x 2 1/4	*48P16
.005	20	1000	7/16 x 1 1/4	47P12
.01	20	1000	7/16 x 1 1/2	47P13
.005	20	2500	1 x 1 3/16	47P14
.01	20	2500	1 x 1 3/16	47P15
.002	20	5000	1 x 1 3/16	47P16

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

\*Has female screw terminals

†Bulkhead mounting

## TYPE F-400 MIRACLE FILTEROL<sup>®</sup>



### A LINE FILTER THAT REALLY WORKS

- Effectively Suppresses Radio Interference by Filtering Power Lines of Receivers and Appliances
- Maximum Noise Eliminating Efficiency because of Practically Zero Length of Ground Lead
- Plugs into Standard Duplex Wall Outlet — Captive Screw Fastens Filterol F-400 to Outlet for Safe, Secure Mounting
- Direct Wall-Mounting Provides Neat Installation — No Unsightly Cord — Receiver or Appliance Plugs into Standard Outlet on Face of F-400
- Will Also Operate at Slightly Reduced Efficiency in Older Homes where Wiring is of Knob and Tube or 2-Conductor Non-Metallic Sheathed Cable Type by Using the External Grounding Post Provided for this Purpose
- Handsomely Finished in Tan Hammerloid Baked Enamel
- Rated at 5 Amperes, 125 Volts AC or DC

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## TYPE IF FILTERS



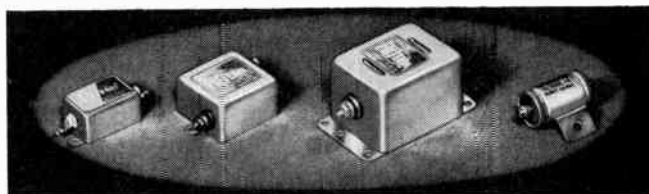
IF-15 IF-11 IF-21 IF-S1 IF-37

- IF-15 — TRIPLE-SECTION FILTER for small motor-operated devices such as fans, drills, etc. designed to prevent shocks from discharge of filter capacitors.
- IF-11 — DUAL HIGH-CAPACITY FILTER designed for use on motors over 1 hp up to 220 volts ac-dc. Also used on high-current arcing devices.
- IF-21 — COMPACT DUAL FILTER for use on fractional horsepower motors with case grounded to motor frame. Also used across line terminals of motors.
- IF-S1 — SINGLE SECTION 2-LEAD FILTER for use across make-and-break contacts, such as thermostats, circuit breakers, etc.
- IF-37 — 3-SECTION DELTA-CONNECTED FILTER especially designed for fluorescent fixtures. Also used on governor-type motors.
- Underwriters' Laboratories, Inc. listed.

Cat. No.	Volts AC or DC	Dia. x Length
IF-15	220	1 x 2 3/8
IF-11	220	1 3/8 x 5 1/4
IF-21	220	1 x 2 3/8
IF-S1	220	3/4 x 2 1/8
IF-37	220	1 x 2"

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

## FILTEROL<sup>®</sup> FILTERS



FILTEROL 1 FILTEROL 2 FILTEROL 3 FILTEROL 4

Filterol Types 1, 2, and 3 — Designed for connection in series with power supply lines to interference-producing devices... A 3-terminal network with the case as one terminal... The selected filter should have a rating higher than the continuous operating current of the offending device... A single Filterol connected to the high side of the line is usually sufficient... In severe cases a Filterol in each leg of the power line may be necessary... For three or four-wire systems, a Filterol in each wire is necessary.

Filterol Type 4 — A new, exclusive Sprague development incorporating a Sprague HYPASS<sup>®</sup> Capacitor... Provides exceptionally high attenuation at frequencies above 5 megacycles... Intended for small devices with continuous current ratings up to 20 amperes.

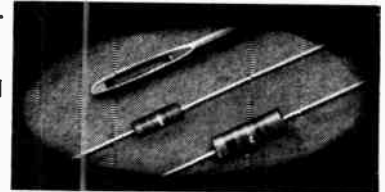
Cat. No.	Amps.	Volts AC or DC	Size
Filterol 1	1	115	7/8 x 1 1/4 x 1 3/4
Filterol 2	10	115	1 1/8 x 2 x 2
Filterol 3	35	115	1 7/8 x 2 3/8 x 3 3/8
Filterol 4	20	115	1" dia. x 1 13/16" long

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

# SPRAGUE CAPACITORS

## TYPES 262C, 263C MINIATURE MOLDED MONOLYTHIC<sup>®</sup> CEROD<sup>®</sup> CERAMIC CAPACITORS

- Cerod Capacitors — Tiny, Molded Cylindrical Ceramics Now in Monolithic Construction. True Miniaturization Without Compromise
- Two Cordwood Sizes Available. Designers Can Make Full Use of This New Packaging Concept
- Ceramic Elements Fully Molded in Thermosetting Resin — Assures Good Mechanical and Electrical Properties Plus Precise Dimensions
- Two Ceramic Formulations Available Including a New Temperature-Stable Body
- Call Your Sprague Industrial Distributor for Quantity Prices
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 6250



### TYPE 262C—STANDARD RATINGS—100 VDC

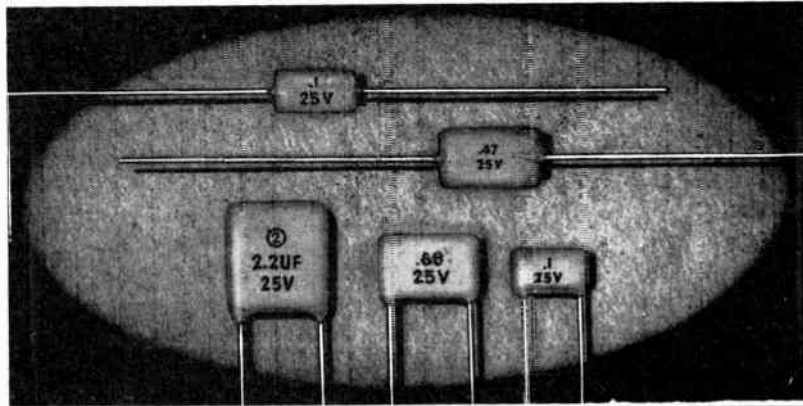
μF	Catalog Number			μF	Catalog Number		
	±5% Tol.	±10% Tol.	±20% Tol.		±5% Tol.	±10% Tol.	±20% Tol.
<b>FORMULATION N030</b>				<b>FORMULATION N030 (Cont.)</b>			
6.8		262C0256R8X9101B	262C0256R8X0101B	120	262C025121X5101B	262C025121X9101B	262C025121X0101B
8.2		262C0258R2X9101B	262C0258R2X0101B	150	262C025151X5101B	262C025151X9101B	262C025151X0101B
10	262C025100X5101B	262C025100X9100B	262C025100X0101B				
12	262C025120X5101B	262C025120X9101B	262C025120X0101B				
15	262C025150X5101B	262C025150X9100B	262C025150X0101B				
18	262C025180X5101B	262C025180X9101B	262C025180X0101B				
22	262C025220X5101B	262C025220X9101B	262C025220X0101B				
27	262C025270X5101B	262C025270X9101B	262C025270X0101B				
33	262C025330X5101B	262C025330X9101B	262C025330X0101B				
39	262C025390X5101B	262C025390X9101B	262C025390X0101B				
47	262C025470X5101B	262C025470X9101B	262C025470X0101B				
56	262C025560X5101B	262C025560X9101B	262C025560X0101B				
68	262C025680X5101B	262C025680X9101B	262C025680X0101B				
82	262C025820X5101B	262C025820X9101B	262C025820X0101B				
100	262C025101X5101B	262C025101X9101B	262C025101X0101B				
				<b>FORMULATION X5R</b>			
				470	262C067471X9101B	262C067471X0101B	262C067471DB101B
				680	262C067681X9101B	262C067681X0101B	262C067681DB101B
				1000	262C067102X9101B	262C067102X0101B	262C067102DB101B
				1500	262C067152X9101B	262C067152X0101B	262C067152DB101B
				2200	262C067222X9101B	262C067222X0101B	262C067222DB101B
				3300	262C067332X9101B	262C067332X0101B	262C067332DB101B
				4700	262C067472X9101B	262C067472X0101B	262C067472DB101B
				6800	262C067682X9101B	262C067682X0101B	262C067682DB101B
				10000	262C067103X9101B	262C067103X0101B	262C067103DB101B

### TYPE 263C—STANDARD RATINGS—100 VDC

μF	Catalog Number			μF	Catalog Number		
	±5% Tol.	±10% Tol.	±20% Tol.		±10% Tol.	±20% Tol.	+80%, -20% Tol.
<b>FORMULATION N030</b>				<b>FORMULATION X5R</b>			
180	263C025181X5101B	263C025181X9101B	263C025181X0101B	15000	263C067153X9101B	263C067153X0101B	263C067153DB101B
220	263C025221X5101B	263C025221X9101B	263C025221X0101B	22000	263C067223X9101B	263C067223X0101B	263C067223DB101B
270	263C025271X5101B	263C025271X9101B	263C025271X0101B	33000	263C067333X9101B	263C067333X0101B	263C067333DB101B
330	263C025331X5101B	263C025331X9101B	263C025331X0101B				
390	263C025391X5101B	263C025391X9101B	263C025391X0101B				
470	263C025471X5101B	263C025471X9101B	263C025471X0101B				
560	263C025561X5101B	263C025561X9101B	263C025561X0101B				
680	263C025681X5101B	263C025681X9101B	263C025681X0101B				
				<b>DIMENSIONS</b>			
				<b>Type</b>	<b>Diameter</b>	<b>Length</b>	
				262C	.090"±.009"	.250"±.015"	
				263C	.138"±.010"	.390"±.015"	

# SPRAGUE CAPACITORS

## MONOLYTHIC® LAYER-BUILT CERAMIC CAPACITORS



### Types 3C and 4C—Formulation N030

- Temperature Compensating Units, N030 Dielectric Offers Greater Capacitance Per Unit Volume and Greater Stability Than Previously Available.
- Highly Reliable, Small in Size, Axial or Radial Leads.
- Temperature Coefficient Guaranteed Less Than  $\pm .6\%$  Between  $55\text{C}$  and  $-125\text{C}$ .

### Types 2C, 3C, 4C, 5C—Formulation 023

- High-K General Application—High Capacitances in Small Physical Size, Axial or Radial Leads.
- Well Suited for By-pass and Filtering Applications
- For Complete Technical Data, See Latest Sprague Engineering Bulletin 6212 (N030) or 6201 (023)

### Type 3C, 4C Monolithic Ceramic Capacitors—Formulation N030—Temperature Compensating—200 V

#F	Tol.	Cat. No.	#F	Tol.	Cat. No.	#F	Tol.	Cat. No.	#F	Tol.	Cat. No.
<b>TYPE 3C AXIAL LEADS</b>						<b>TYPE 3C RADIAL LEADS</b>					
51	5%	3C5105BH1	240	2%	3C2412BH1	1200	5%	4C1225BH1	150	2%	3C1512BH3
51	2%	3C5102BH1	270	10%	3C2719BH1	1200	2%	4C1222BH1	160	5%	3C1615BH3
56	10%	3C5609BH1	270	5%	3C2715BH1	1300	5%	4C1325BH1	160	2%	3C1612BH3
56	5%	3C5605BH1	270	2%	3C2712BH1	1300	2%	4C1322BH1	180	10%	3C1819BH3
56	2%	3C5602BH1	300	5%	3C3015BH1	1500	10%	4C1529BH1	180	5%	3C1815BH3
62	5%	3C6205BH1	300	2%	3C3012BH1	1500	5%	4C1525BH1	200	5%	3C2015BH3
62	2%	3C6202BH1	330	10%	3C3319BH1	1500	2%	4C1522BH1	200	2%	3C2012BH3
68	10%	3C6809BH1	330	5%	3C3315BH1	1600	5%	4C1625BH1	220	10%	3C2219BH3
68	5%	3C6805BH1	330	2%	3C3312BH1	1600	2%	4C1622BH1	220	5%	3C2215BH3
68	2%	3C6802BH1	360	5%	3C3615BH1	1800	10%	4C1829BH1	220	2%	3C2212BH3
75	5%	3C7505BH1	360	2%	3C3612BH1	1800	5%	4C1825BH1	240	5%	3C2415BH3
75	2%	3C7502BH1	390	10%	3C3919BH1	1800	2%	4C1822BH1	240	2%	3C2412BH3
82	10%	3C8209BH1	390	5%	3C3915BH1	1800	5%	4C1825BH1	270	10%	3C2719BH3
82	5%	3C8205BH1	390	2%	3C3912BH1	1800	2%	4C1822BH1	270	5%	3C2715BH3
91	5%	3C9105BH1	430	5%	3C4315BH1	<b>TYPE 3C RADIAL LEADS</b>			270	2%	3C2712BH3
91	2%	3C9102BH1	430	2%	3C4312BH1	51	5%	3C5105BH3	300	5%	3C3015BH3
100	10%	3C1019BH1	470	10%	3C4719BH1	51	2%	3C5102BH3	300	2%	3C3012BH3
100	5%	3C1015BH1	470	5%	3C4715BH1	56	10%	3C5609BH3	330	10%	3C3319BH3
100	2%	3C1012BH1	470	2%	3C4712BH1	56	5%	3C5605BH3	330	5%	3C3315BH3
110	5%	3C1115BH1	510	5%	3C5115BH1	56	2%	3C5602BH3	330	2%	3C3312BH3
110	2%	3C1112BH1	510	2%	3C5112BH1	62	5%	3C6205BH3	360	5%	3C3615BH3
120	10%	3C1219BH1	560	10%	3C5619BH1	62	2%	3C6202BH3	360	2%	3C3612BH3
120	5%	3C1215BH1	560	5%	3C5615BH1	68	10%	3C6809BH3	390	10%	3C3919BH3
120	2%	3C1212BH1	560	2%	3C5612BH1	68	5%	3C6805BH3	390	5%	3C3915BH3
130	5%	3C1315BH1	620	5%	3C6215BH1	68	2%	3C6802BH3	390	2%	3C3912BH3
130	2%	3C1312BH1	620	2%	3C6212BH1	75	5%	3C7505BH3	430	5%	3C4315BH3
150	10%	3C1519BH1	680	10%	3C6819BH1	75	2%	3C7502BH3	430	2%	3C4312BH3
150	5%	3C1515BH1	680	5%	3C6815BH1	82	10%	3C8209BH3	470	10%	3C4719BH3
150	2%	3C1512BH1	680	2%	3C6812BH1	82	5%	3C8205BH3	470	5%	3C4715BH3
160	5%	3C1615BH1	<b>TYPE 4C AXIAL LEADS</b>			82	2%	3C8202BH3	470	2%	3C4712BH3
160	2%	3C1612BH1	750	5%	4C7515BH1	91	5%	3C9105BH3	510	5%	3C5115BH3
180	10%	3C1819BH1	750	2%	4C7512BH1	91	2%	3C9102BH3	510	2%	3C5112BH3
180	5%	3C1815BH1	820	10%	4C8219BH1	100	10%	3C1019BH3	560	10%	3C5619BH3
180	2%	3C1812BH1	820	5%	4C8215BH1	100	5%	3C1015BH3	560	5%	3C5615BH3
200	5%	3C2015BH1	820	2%	4C8212BH1	100	2%	3C1012BH3	560	2%	3C5612BH3
200	2%	3C2012BH1	910	5%	4C9115BH1	110	5%	3C1115BH3	620	5%	3C6215BH3
220	10%	3C2219BH1	910	2%	4C9112BH1	110	2%	3C1112BH3	620	2%	3C6212BH3
220	5%	3C2215BH1	1000	10%	4C1029BH1	120	10%	3C1219BH3	680	10%	3C6819BH3
220	2%	3C2212BH1	1000	5%	4C1025BH1	120	5%	3C1215BH3	680	5%	3C6815BH3
240	5%	3C2415BH1	1000	2%	4C1022BH1	130	5%	3C1315BH3	680	2%	3C6812BH3
			1100	5%	4C1125BH1	130	2%	3C1312BH3	750	5%	4C7515BH3
			1100	2%	4C1122BH1	150	10%	3C1519BH3	750	2%	4C7512BH3
			1200	10%	4C1229BH1	150	5%	3C1515BH3	<b>TYPE 4C RADIAL LEADS</b>		
									820	10%	4C8219BH3

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# SPRAGUE CAPACITORS

## MONOLYTHIC CERAMIC CAPACITORS, TYPE 4C RADIAL LEADS (Cont.)

$\mu\text{F}$	Tol.	Cat. No.	Call Your Sprague Industrial Distributor for Current Prices	$\mu\text{F}$	Tol.	Cat. No.	Call Your Sprague Industrial Distributor for Current Prices	$\mu\text{F}$	Tol.	Cat. No.	Call Your Sprague Industrial Distributor for Current Prices	$\mu\text{F}$	Tol.	Cat. No.	Call Your Sprague Industrial Distributor for Current Prices
820	5%	4C8215BH3			1300	5%		4C1325BH3		2200		10%	4C2229BH3		
820	2%	4C8212BH3		1300	2%	4C1322BH3		2200	5%	4C2225BH3		3600	5%	4C3625BH3	
910	5%	4C9115BH3		1500	10%	4C1529BH3		2200	2%	4C2222BH3		3600	2%	4C3622BH3	
910	2%	4C9112BH3		1500	5%	4C1525BH3		2400	5%	4C2425BH3		3900	10%	4C3929BH3	
1000	10%	4C1029BH3		1500	2%	4C1522BH3		2400	2%	4C2422BH3		3900	5%	4C3925BH3	
1000	5%	4C1025BH3		1600	5%	4C1625BH3		2700	10%	4C2729BH3		3900	2%	4C3922BH3	
1000	2%	4C1022BH3		1600	2%	4C1622BH3		2700	5%	4C2725BH3		4300	5%	4C4325BH3	
1100	5%	4C1125BH3		1800	10%	4C1829BH3		2700	2%	4C2722BH3		4300	2%	4C4322BH3	
1100	2%	4C1122BH3		1800	5%	4C1825BH3		3000	5%	4C3025BH3		4700	10%	4C4729BH3	
1200	10%	4C1229BH3		1800	2%	4C1822BH3		3000	2%	4C3022BH3		4700	5%	4C4725BH3	
1200	5%	4C1225BH3		2000	5%	4C2025BH3		3300	10%	4C3329BH3		5100	5%	4C5125BH3	
1200	2%	4C1222BH3		2000	2%	4C2022BH3		3300	5%	4C3325BH3		5100	2%	4C5122BH3	

## TYPE 2C, 3C, 4C, 5C Monolithic Ceramic Capacitors High-K Formulation 023 $\pm 20\%$ Cap. Tol.

$\mu\text{F}$	VDC	Catalog Number	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	$\mu\text{F}$	VDC	Catalog Number	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	$\mu\text{F}$	VDC	Catalog Number	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES
<b>TYPE 2C RADIAL LEADS</b>					<b>TYPE 4C RADIAL LEADS</b>				<b>TYPE 3C AXIAL LEADS</b>		
.01	25	2C023103X0250A3		.15	25	4C023154X0250A3		.22	50	5C023224X0500B3	
.015	25	2C023153X0250A3		.22	25	4C023224X0250A3		.33	50	5C023334X0500B3	
.022	25	2C023223X0250A3		.33	25	4C023334X0250A3		.47	50	5C023474X0500B3	
.033	25	2C023333X0250A3		.47	25	4C023474X0250A3		.68	50	5C023684X0500B3	
.047	25	2C023473X0250A3		.68	25	4C023684X0250A3		1.0	50	5C023105X0500B3	
.068	25	2C023683X0250A3		1.0	25	4C023105X0250A3		1.5	50	5C023155X0500B3	
.1	25	2C023104X0250A3		1.5	25	4C023155X0250A3		<b>TYPE 4C AXIAL LEADS</b>			
.15	25	2C023154X0250A3		<b>TYPE 5C RADIAL LEADS</b>				.01	25	3C023103X0250B1	
.22	25	2C023224X0250A3		.1	25	5C023104X0250B3		.015	25	3C023153X0250B1	
.33	25	2C023334X0250A3		.15	25	5C023154X0250B3		.022	25	3C023223X0250B1	
.47	25	2C023474X0250A3		.22	25	5C023224X0250B3		.033	25	3C023333X0250B1	
<b>TYPE 3C RADIAL LEADS</b>				.33	25	5C023334X0250B3		.047	25	3C023473X0250B1	
.01	25	3C023103X0250A3		.47	25	5C023474X0250B3		.068	25	3C023683X0250B1	
.015	25	3C023153X0250A3		.68	25	5C023684X0250B3		.1	25	3C023104X0250B1	
.022	25	3C023223X0250A3		1.0	25	5C023105X0250B3		.15	25	3C023154X0250B1	
.033	25	3C023333X0250A3		1.5	25	5C023155X0250B3		.22	25	3C023224X0250B1	
.047	25	3C023473X0250A3		2.2	25	5C023225X0250B3		.33	25	4C023334X0250B1	
.068	25	3C023683X0250A3		3.3	25	5C023335X0250B3		.47	25	4C023474X0250B1	
.1	25	3C023104X0250A3		<b>TYPE 5C AXIAL LEADS</b>				.68	25	4C023684X0250B1	
.15	25	3C023154X0250A3		.1	50	5C023104X0500B3					
.22	25	3C023224X0250A3		.15	50	5C023154X0500B3					
.33	25	3C023334X0250A3									
.47	25	3C023474X0250A3									

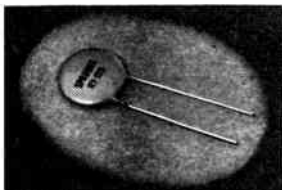
## TYPE 2C, 3C, 4C, 5C Monolithic Ceramic Capacitors Formulation 067 $\pm 10\%$ Cap. Tol. 100 VDC

- Temperature-Stable; Developed For Application Requiring Stability of Capacitance Over a Wide Temperature Range
- High Capacitance Values in Small Physical Size
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 6205

$\mu\text{F}$	Catalog Number	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	$\mu\text{F}$	Catalog Number	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	$\mu\text{F}$	Catalog Number	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES
<b>TYPE 2C RADIAL LEADS</b>			<b>TYPE 4C RADIAL LEADS</b>			<b>TYPE 3C AXIAL LEADS</b>		
0.0018	2C067182X9191A3		0.012	4C067273X9101A3		0.27	3C067274X9101B3	
0.0022	2C067222X9191A3		0.015	4C067393X9101A3		0.33	3C067334X9101B3	
0.0027	2C067272X9191A3		0.018	4C067473X9101A3		0.39	3C067394X9101B3	
0.0033	2C067332X9101A3		0.022	4C067563X9101A3		0.47	3C067474X9101B3	
0.0039	2C067392X9101A3		0.027	4C067683X9101A3		0.56	3C067564X9101B3	
0.0047	2C067472X9101A3		<b>TYPE 5C RADIAL LEADS</b>			<b>TYPE 4C AXIAL LEADS</b>		
0.0056	2C067562X9101A3		0.033	5C067273X9101B3		0.0027	4C067273X9101B1	
0.0068	2C067682X9101A3		0.039	5C067333X9101B3		0.0033	4C067333X9101B1	
0.0082	2C067822X9101A3		0.047	5C067393X9101B3		0.0039	4C067393X9101B1	
0.01	2C067103X9101A3		0.056	5C067473X9101B3		0.0047	4C067473X9101B1	
0.015	2C067153X9101A3		0.068	5C067563X9101B3		0.0056	4C067563X9101B1	
0.018	2C067183X9101A3		0.082	5C067683X9101B3		0.0068	4C067683X9101B1	
0.022	2C067223X9101A3		0.10	5C067823X9101B3		0.0082	4C067823X9101B1	
0.033	2C067333X9101A3		0.12	5C067104X9101B3		0.010	4C067103X9101B1	
0.039	2C067393X9101A3		0.15	5C067124X9101B3		0.012	4C067123X9101B1	
0.047	2C067473X9101A3		0.18	5C067154X9101B3		0.015	4C067153X9101B1	
0.056	2C067563X9101A3		<b>TYPE 5C AXIAL LEADS</b>			0.018	4C067183X9101B1	
0.068	2C067683X9101A3		0.027	5C067273X9101B3		0.022	4C067223X9101B1	
0.082	2C067823X9101A3		0.033	5C067333X9101B3		0.027	4C067273X9101B1	
0.01	2C067103X9101A3		0.039	5C067393X9101B3		<b>TYPE 4C AXIAL LEADS</b>		
0.0027	3C067272X9101A3		0.047	5C067473X9101B3		0.033	4C067333X9101B1	
0.0033	3C067332X9101A3		0.056	5C067563X9101B3		0.039	4C067393X9101B1	
0.0039	3C067392X9101A3		0.068	5C067683X9101B3		0.047	4C067473X9101B1	
0.0047	3C067472X9101A3		0.082	5C067823X9101B3		0.056	4C067563X9101B1	
0.0056	3C067562X9101A3		0.1	5C067104X9101B3		0.068	4C067683X9101B1	
0.0068	3C067682X9101A3		0.12	5C067124X9101B3		0.082	4C067823X9101B1	
0.0082	3C067822X9101A3		0.15	5C067154X9101B3		0.10	4C067104X9101B1	
0.010	3C067103X9101A3		0.18	5C067184X9101B3		0.12	4C067124X9101B1	
			0.22	5C067224X9101B3		0.15	4C067154X9101B1	
						0.18	4C067184X9101B1	

# SPRAGUE CAPACITORS

## HYPERCON® CERAMIC DISCS



- Superior to Electrolytic Capacitors of Similar Capacitance Values because of the Very Low Power Factor of Hypercons
- Ultra-miniature Ceramic Discs Ideal for use in Transistorized Circuitry
- Designed for By-pass and Coupling Applications but Particularly Well-suited for any Low Voltage use Where High Capacitance and Low Power Factor are Important Considerations
- Tolerance: +80—20%

μF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	D. x T.
<b>3 VOLTS D-C</b>			
.1	HY-120	C052B3ROC104Z	1/4 x 5/32
.22	HY-125	C052B3ROE224Z	5/16 x 5/32
.47	HY-130	C052B3ROG474Z	7/16 x 5/32
.68	HY-132	C052B3ROH684Z	1/2 x 5/32
1.0	HY-135	C052B3ROK105Z	5/8 x 5/32
2.2	HY-150	C052B3ROP225Z	7/8 x 5/32
<b>10 VOLTS D-C</b>			
.047	HY-310	C052B100E473Z	5/16 x 5/32
.068	HY-315	C052B100F683Z	3/8 x 5/32
.1	HY-320	C052B100G104Z	7/16 x 5/32
.22	HY-325	C052B100J224Z	9/16 x 5/32
.33	HY-327	C052B100L334Z	1 1/16 x 5/32
.47	HY-330	C052B100P474Z	7/8 x 5/32

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	D. x T.
<b>16 VOLTS D-C</b>			
.01	HY-420	C069B160C103Z	1/4 x 5/32
.022	HY-425	C069B160E223Z	5/16 x 5/32
.033	HY-430	C069B160F333Z	3/8 x 5/32
.047	HY-435	C069B160G473Z	7/16 x 5/32
.068	HY-440	C069B160H683Z	1/2 x 5/32
.1	HY-450	C069B160J104Z	5/8 x 5/32
<b>25 VOLTS D-C</b>			
.01	HY-520	C069B250E103Z	5/16 x 5/32
.022	HY-525	C069B250F223Z	3/8 x 5/32
.033	HY-530	C069B250G333Z	7/16 x 5/32
.047	HY-535	C069B250H473Z	1/2 x 5/32
.068	HY-540	C069B250J683Z	5/8 x 5/32
.1	HY-550	C069B250L104Z	1 1/16 x 5/32

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

## HIGH-VOLTAGE DOORKNOB CERAMICS

- Molded Guard Rings Lengthen Surface Creepage Path.
- 20DK-T5 Comes Complete with 7 Terminals, as illustrated. (Packaged 2 per Plastic Box, with 14 terminals.)
- 30DK-T5 is Supplied with 2 Terminals, as per Style Marked "A".



μμF	KV	Diam. x Length	Cat. No.
500	20	1 x 3 1/32	20DK-T5
500	30	1 5/16 x 1 1/4	30DK-T5

Call Your Sprague Distributor for Current Prices

- Capacitor Body has Female Threads for interchangeable Screw-in Terminals.
- Molded in Non-Flammable, Moisture-resistant, Thermosetting Plastic.

## SPECIAL APPLICATION CERA-MITE® DISC CAPACITORS

### DISC CERAMICS FOR AC APPLICATIONS

- Rated at 125 VAC
- Standard Tolerance ± 20%
- For AC Line Bypass Application—Unlike Standard DC Rated Discs. Type 125L Meets 1500 Volt AC Flash Test— Type 125M Meets UL 10KV Discharge Test.
- Call Your Sprague Industrial Distributor for Current Quantity Prices

μF	Sprague Products Catalog No.	Sprague O.E.M. Part No.	D. x L.
.001	125L-D10	19C251	3/8 x 7/32
.0015	125L-D15	19C252	3/8 x 7/32
.002	125L-D20	19C253	3/8 x 7/32
.0047	125L-D47	29C145	5/16 x 7/32
.005	125L-D50	29C145A	5/16 x 7/32
.01	125L-S10	36C218	3/4 x 7/32
.02	125L-S20	36C220	3/4 x 1/4
2 x .005	125L-2D50	29C147	5/16 x 1/4
2 x .01	125L-2S10	36C219	3/4 x 1/4
470 μμF	125M-T47	20C235	7/16 x 1/4
.001	125M-D10	20C186	7/16 x 1/4
.0015	125M-D15	55C45	1/2 x 1/4
.002	125M-D20	29C304	5/16 x 1/4
.0047	125M-D47	33C114	1 1/16 x 1/4
.005	125M-D50	33C115	1 1/16 x 1/4
.01	125M-S10	41C157	7/8 x 1/4
.02	125M-S20	41C160	7/8 x 1/4

### MINIATURIZED DISC CERAMIC CAPACITORS FOR TRANSISTORIZED CIRCUITRY

- For Coupling and By-Pass Applications

Type TG Standard Tolerance ± 20%  
Sprague Products Catalog Number    Sprague O.E.M. Part Number

μF	Volts	Sprague Products Catalog Number	Sprague O.E.M. Part Number	T x D
.005	100	TG-D50	40C172A5	1/8 x 5/32
.01	100	TG-S10	19C214A6	1/8 x 1 1/32
.02	100	TG-S20	55C21A2	1/8 x 1 5/32
.025	100	TG-S25	55C22A2	1/8 x 1 5/32
.03	100	TG-S30	29C229A	1/8 x 9/16
.05	100	TG-S50	55C23A1	1/8 x 1/2
.1	100	TG-P10	33C41A3	1/8 x 1 1/16

#### HIGH K TYPE

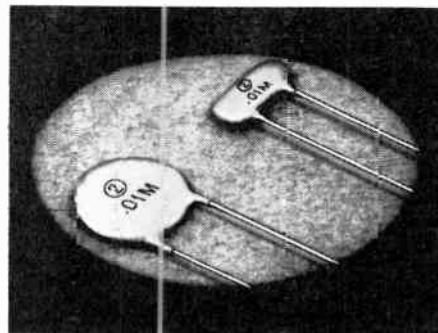
.005	200	TH-D50	19C384	5/32 x 3/8
.01	200	TH-S10	19C385	5/32 x 3/8
.02	200	TH-S20	29C371	5/32 x 9/16
.025	200	TH-S25	44C85	5/32 x 5/8
.03	200	TH-S30	33C159	5/32 x 1 1/16
.05	200	TH-S50	33C160	5/32 x 1 1/16
.1	200	TH-P10	41C208	5/32 x 7/8

Call Your Sprague Industrial Distributor For Current Prices

# SPRAGUE CAPACITORS

## CERA-MITE<sup>®</sup> CERAMIC CAPACITORS

- Tiny, Tough, Dependable In Every Application
- Low Self-Inductance Of Silvered Flat-plate Design Means Very High By-pass Efficiency In All TV Circuits
- Flat-plate Construction Permits Higher Self-resonant Frequency Than Tubular Ceramic Or Molded Mica Capacitors
- Tough Moisture-proof Coating Protects Against Short-circuiting And Assures Good Performance Under Severe Conditions Of Humidity And Vibration
- Cera-mite Capacitors Easily Fit Into Tight Spaces, Even Across Subminiature Tube Sockets
- Designed For 85C (185F) Continuous Operation
- Call your Sprague Industrial Distributor for Current Quantity Prices



### GENERAL APPLICATION TYPES

- Excellent Where Temperature Coefficient Is Not Important, Such As By-pass and Coupling Applications
- Ideal For Replacing Older Types Of General Application Capacitors Such as Molded Micras, Tubular Ceramics, etc.

$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size T. x W. x L.	$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.	$\mu\text{F}$	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
<b>500 WVDC (plates) <math>\pm 20\%</math> Tol.</b>				<b>1000 WVDC (discs) (cont.)</b>				<b>500 WVDC (discs) <math>\pm 20\%</math> Tol.</b>			
470	5GAB-T47*	35C11A1	$\frac{5}{32} \times \frac{7}{32} \times \frac{11}{32}$	220	5GA-T22	40C204	$\frac{5}{16} \times \frac{5}{32}$	.02	5GA-S20	C023A1G2P203M	$\frac{7}{8} \times \frac{5}{32}$
.001 $\mu\text{F}$	5GAB-D10*	35C35	$\frac{5}{32} \times \frac{7}{32} \times \frac{11}{32}$	240	5GA-T24	40C167	$\frac{5}{16} \times \frac{5}{32}$	.04	5GA-S40	44C124	$1\frac{1}{16} \times \frac{3}{16}$
.0022	5GAB-D22*	35C34	$\frac{5}{32} \times \frac{7}{32} \times \frac{11}{32}$	250	5GA-T25	40C101	$\frac{5}{16} \times \frac{5}{32}$	.05	5GA-S50	33C17A	$1\frac{1}{16} \times \frac{3}{16}$
.0047	5GAB-D47*	25C166	$\frac{5}{32} \times \frac{7}{32} \times \frac{9}{16}$	270	5GA-T27	40C93	$\frac{5}{16} \times \frac{5}{32}$	.1	5GA-P10	41C92A10	$\frac{7}{8} \times \frac{3}{16}$
.01	5GAB-S10	25C167	$\frac{7}{32} \times \frac{9}{32} \times \frac{9}{16}$	300	5GA-T30	40C100	$\frac{5}{16} \times \frac{5}{32}$	<b>3000 WVDC (discs) <math>\pm 20\%</math> Tol.</b>			
.022	5GAB-S22	38C32	$\frac{5}{32} \times \frac{7}{16} \times 1\frac{3}{16}$	330	5GA-T33	40C207	$\frac{5}{16} \times \frac{5}{32}$	1.5 $\mu\text{F}$	30GA-V15	19C306	$\frac{3}{8} \times \frac{1}{4}$
.047	5GAB-S47	42C8A	$\frac{5}{32} \times \frac{27}{32} \times 1\frac{1}{8}$	350	5GA-T35	40C146	$\frac{5}{16} \times \frac{5}{32}$	3.3	30GA-V33	19C307	$\frac{3}{8} \times \frac{1}{4}$
.1	5GAB-P10	42C9A	$\frac{7}{32} \times \frac{27}{32} \times 1\frac{1}{8}$	360	5GA-T36	40C154	$\frac{5}{16} \times \frac{5}{32}$	4.7	30GA-V47	19C308	$\frac{3}{8} \times \frac{1}{4}$
.15	5GAB-P15	112C9	$\frac{7}{32} \times 1\frac{1}{32} \times 1\frac{5}{8}$	390	5GA-T39	40C95	$\frac{5}{16} \times \frac{5}{32}$	5.0	30GA-V50	19C309	$\frac{3}{8} \times \frac{1}{4}$
<b>1000 WVDC (discs) <math>\pm 20\%</math> Tol.</b>				<b>500 WVDC (discs) <math>\pm 20\%</math> Tol.</b>				<b>3000 WVDC (discs) <math>\pm 20\%</math> Tol.</b>			
5	5GA-V50	40C32A4	$\frac{5}{16} \times \frac{5}{32}$	400	5GA-T40	40C104	$\frac{5}{16} \times \frac{5}{32}$	6.0	30GA-V60	19C310	$\frac{3}{8} \times \frac{1}{4}$
6	5GA-V60	40C103	$\frac{5}{16} \times \frac{5}{32}$	470	5GA-T47	40C209A	$\frac{5}{16} \times \frac{5}{32}$	6.8	30GA-V68	19C311	$\frac{3}{8} \times \frac{1}{4}$
7.5	5GA-V75	40C155	$\frac{5}{16} \times \frac{5}{32}$	500	5GA-T50	40C232A	$\frac{5}{16} \times \frac{5}{32}$	7.5	30GA-V75	19C291	$\frac{3}{8} \times \frac{1}{4}$
8	5GA-V80	40C38A	$\frac{5}{16} \times \frac{5}{32}$	560	5GA-T56	40C233A	$\frac{5}{16} \times \frac{5}{32}$	8.2	30GA-V82	19C290	$\frac{3}{8} \times \frac{1}{4}$
10	5GA-Q10	40C67A	$\frac{5}{16} \times \frac{5}{32}$	600	5GA-T60	40C305	$\frac{5}{16} \times \frac{5}{32}$	10	30GA-Q10	19C312	$\frac{3}{8} \times \frac{1}{4}$
12	5GA-Q12	40C138	$\frac{5}{16} \times \frac{5}{32}$	680	5GA-T68	40C212A	$\frac{5}{16} \times \frac{5}{32}$	12	30GA-Q12	19C313	$\frac{3}{8} \times \frac{1}{4}$
15	5GA-Q15	40C65A	$\frac{5}{16} \times \frac{5}{32}$	750	5GA-T75	40C235A	$\frac{5}{16} \times \frac{5}{32}$	15	30GA-Q15	19C314	$\frac{3}{8} \times \frac{1}{4}$
18	5GA-Q18	40C132A	$\frac{5}{16} \times \frac{5}{32}$	800	5GA-T80	40C213A	$\frac{5}{16} \times \frac{5}{32}$	18	30GA-Q18	19C292	$\frac{3}{8} \times \frac{1}{4}$
20	5GA-Q20	40C114	$\frac{5}{16} \times \frac{5}{32}$	820	5GA-T82	40C237A	$\frac{5}{16} \times \frac{5}{32}$	20	30GA-Q20	19C315	$\frac{3}{8} \times \frac{1}{4}$
22	5GA-Q22	40C16A2	$\frac{5}{16} \times \frac{5}{32}$	.001 $\mu\text{F}$	5GA-D10	C023B102E102M	$\frac{5}{16} \times \frac{5}{32}$	22	30GA-Q22	19C316	$\frac{3}{8} \times \frac{1}{4}$
25	5GA-Q25	40C113A1	$\frac{5}{16} \times \frac{5}{32}$	.0012	5GA-D12	C023B102E122M	$\frac{5}{16} \times \frac{5}{32}$	25	30GA-Q25	19C317	$\frac{3}{8} \times \frac{1}{4}$
27	5GA-Q27	40C153	$\frac{5}{16} \times \frac{5}{32}$	.0013	5GA-D13	—	$\frac{5}{16} \times \frac{5}{32}$	27	30GA-Q27	19C318	$\frac{3}{8} \times \frac{1}{4}$
30	5GA-Q30	40C111A	$\frac{5}{16} \times \frac{5}{32}$	.0015	5GA-D15	C023B102E152M	$\frac{5}{16} \times \frac{5}{32}$	30	30GA-Q30	19C319	$\frac{3}{8} \times \frac{1}{4}$
33	5GA-Q33	40C42A	$\frac{5}{16} \times \frac{5}{32}$	.0016	5GA-D16	—	$\frac{5}{16} \times \frac{5}{32}$	33	30GA-Q33	19C320	$\frac{3}{8} \times \frac{1}{4}$
39	5GA-Q39	40C43A	$\frac{5}{16} \times \frac{5}{32}$	.0018	5GA-D18	C023B102F182M	$\frac{5}{16} \times \frac{5}{32}$	39	30GA-Q39	19C321	$\frac{3}{8} \times \frac{1}{4}$
47	5GA-Q47	40C44A	$\frac{5}{16} \times \frac{5}{32}$	.002	5GA-D20	C023B102F202M	$\frac{5}{16} \times \frac{5}{32}$	47	30GA-Q47	19C322	$\frac{3}{8} \times \frac{1}{4}$
50	5GA-Q50	40C89	$\frac{5}{16} \times \frac{5}{32}$	.0022	5GA-D22	C023B102F222M	$\frac{5}{16} \times \frac{5}{32}$	50	30GA-Q50	19C323	$\frac{3}{8} \times \frac{1}{4}$
56	5GA-Q56	40C130A3	$\frac{5}{16} \times \frac{5}{32}$	.0025	5GA-D25	—	$\frac{7}{16} \times \frac{5}{32}$	56	30GA-Q56	19C324	$\frac{3}{8} \times \frac{1}{4}$
68	5GA-Q68	40C45A	$\frac{5}{16} \times \frac{5}{32}$	.0027	5GA-D27	—	$\frac{7}{16} \times \frac{5}{32}$	60	30GA-Q60	19C325	$\frac{3}{8} \times \frac{1}{4}$
75	5GA-Q75	40C46A	$\frac{5}{16} \times \frac{5}{32}$	.003	5GA-D30	—	$\frac{7}{16} \times \frac{5}{32}$	62	30GA-Q62	19C326	$\frac{3}{8} \times \frac{1}{4}$
82	5GA-Q82	40C47A	$\frac{5}{16} \times \frac{5}{32}$	.0033	5GA-D33	C023B102G332M	$\frac{7}{16} \times \frac{5}{32}$	68	30GA-Q68	19C327	$\frac{3}{8} \times \frac{1}{4}$
91	5GA-Q91	40C112	$\frac{5}{16} \times \frac{5}{32}$	.0039	5GA-D39	C023B102G392M	$\frac{7}{16} \times \frac{5}{32}$	75	30GA-Q75	19C328	$\frac{3}{8} \times \frac{1}{4}$
100	5GA-T10	40C200	$\frac{5}{16} \times \frac{5}{32}$	.004	5GA-D40	—	$\frac{5}{16} \times \frac{5}{32}$	82	30GA-Q82	20C184	$\frac{7}{16} \times \frac{1}{4}$
120	5GA-T12	40C91	$\frac{5}{16} \times \frac{5}{32}$	.0043	5GA-D43	—	$\frac{5}{16} \times \frac{5}{32}$	100	30GA-T10	20C43	$\frac{7}{16} \times \frac{1}{4}$
130	5GA-T13	40C147	$\frac{5}{16} \times \frac{5}{32}$	.0047	5GA-D47	C023B102H472M	$\frac{1}{2} \times \frac{5}{32}$	120	30GA-T12	20C44	$\frac{7}{16} \times \frac{1}{4}$
150	5GA-T15	40C202	$\frac{5}{16} \times \frac{5}{32}$	.005	5GA-D50	C023B102H502M	$\frac{1}{2} \times \frac{5}{32}$	150	30GA-T15	20C45	$\frac{7}{16} \times \frac{1}{4}$
180	5GA-T18	40C99	$\frac{5}{16} \times \frac{5}{32}$	.01	5GA-S10	C023A102K103M	$\frac{5}{8} \times \frac{5}{32}$	180	30GA-T18	20C46	$\frac{7}{16} \times \frac{1}{4}$
200	5GA-T20	40C102	$\frac{5}{16} \times \frac{5}{32}$	.015	5GA-S15	C023A102M153M	$\frac{3}{4} \times \frac{5}{32}$	200	30GA-T20	20C47	$\frac{7}{16} \times \frac{1}{4}$

# SPRAGUE CAPACITORS

## CERA-MITE<sup>®</sup> CERAMIC CAPACITORS, continued

$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O. E. M. Part No.	Size D. x T.	$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O. E. M. Part No.	Size D. x T.	$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O. E. M. Part No.	Size D. x T.
<b>3000 WVDC (cont.)</b>				<b>6000 WVDC (cont.)</b>				<b>7500 WVDC (discs <math>\pm 20\%</math> Tol.)</b>			
220	30GA-T22	20C48	$\frac{7}{16} \times \frac{1}{4}$	250	60GA-T25	33C191	$\frac{1}{16} \times \frac{3}{16}$	4.7	75GA-V47	29C387	$\frac{7}{16} \times \frac{3}{16}$
250	30GA-T25	20C49	$\frac{7}{16} \times \frac{1}{4}$	270	60GA-T27	33C192	$\frac{1}{16} \times \frac{3}{16}$	8.2	75GA-V82	29C380	$\frac{7}{16} \times \frac{3}{16}$
270	30GA-T27	20C50	$\frac{7}{16} \times \frac{1}{4}$	300	60GA-T30	36C265	$\frac{3}{4} \times \frac{3}{16}$	10	75GA-Q10	29C382	$\frac{7}{16} \times \frac{3}{16}$
300	30GA-T30	20C51	$\frac{7}{16} \times \frac{1}{4}$	330	60GA-T33	36C266	$\frac{3}{4} \times \frac{3}{16}$	12	75GA-Q12	29C383	$\frac{7}{16} \times \frac{3}{16}$
330	30GA-T33	20C28A	$\frac{7}{16} \times \frac{1}{4}$	390	60GA-T39	41C9A1	$\frac{7}{8} \times \frac{3}{16}$	15	75GA-Q15	29C378	$\frac{7}{16} \times \frac{3}{16}$
390	30GA-T39	20C176	$\frac{7}{16} \times \frac{1}{4}$	400	60GA-T40	41C142	$\frac{7}{8} \times \frac{3}{16}$	18	75GA-Q18	29C379	$\frac{7}{16} \times \frac{3}{16}$
400	30GA-T40	20C175	$\frac{7}{16} \times \frac{1}{4}$	470	60GA-T47	41C80A1	$\frac{7}{8} \times \frac{3}{16}$	20	75GA-Q20	29C405	$\frac{7}{16} \times \frac{3}{16}$
470	30GA-T47	29C289	$\frac{1}{32} \times \frac{1}{4}$	500	60GA-T50	33C185	$\frac{1}{16} \times \frac{3}{16}$	22	75GA-Q22	29C118A	$\frac{7}{16} \times \frac{3}{16}$
500	30GA-T50	29C90	$\frac{1}{32} \times \frac{1}{4}$	560	60GA-T56	33C186	$\frac{1}{16} \times \frac{3}{16}$	30	75GA-Q30	29C418A	$\frac{7}{16} \times \frac{3}{16}$
560	30GA-T56	29C290	$\frac{1}{32} \times \frac{1}{4}$	680	60GA-T68	33C107	$\frac{1}{16} \times \frac{3}{16}$	33	75GA-Q33	29C419A	$\frac{7}{16} \times \frac{3}{16}$
680	30GA-T68	29C288	$\frac{1}{32} \times \frac{1}{4}$	750	60GA-T75	33C108	$\frac{1}{16} \times \frac{3}{16}$	47	75GA-Q47	29C381	$\frac{7}{16} \times \frac{3}{16}$
750	30GA-T75	29C298	$\frac{1}{32} \times \frac{1}{4}$	820	60GA-T82	33C109	$\frac{1}{16} \times \frac{3}{16}$	56	75GA-Q56	29C30A	$\frac{7}{16} \times \frac{3}{16}$
820	30GA-T82	29C299	$\frac{1}{32} \times \frac{1}{4}$	.001 $\mu\text{F}$	60GA-D10	33C90A	$\frac{1}{16} \times \frac{3}{16}$	100	75GA-T10	33C56A2	$\frac{1}{16} \times \frac{3}{16}$
.001 $\mu\text{F}$	30GA-D10	29C300	$\frac{1}{32} \times \frac{1}{4}$	.0012	60GA-D12	33C101	$\frac{1}{16} \times \frac{3}{16}$	220	75GA-T22	33C224	$\frac{1}{16} \times \frac{3}{16}$
.0012	30GA-D12	29C301	$\frac{1}{32} \times \frac{1}{4}$	.0015	60GA-D15	36C253A	$\frac{3}{4} \times \frac{3}{16}$	470	75GA-T47	33C169	$\frac{1}{16} \times \frac{3}{16}$
.0015	30GA-D15	29C302	$\frac{1}{32} \times \frac{1}{4}$	.0022	60GA-D22	41C152	$\frac{7}{8} \times \frac{3}{16}$	500	75GA-T50	44C89	$\frac{2}{32} \times \frac{3}{16}$
.002	30GA-D20	29C303	$\frac{1}{32} \times \frac{1}{4}$	.0025	60GA-D25	41C250	$\frac{7}{8} \times \frac{3}{16}$	560	75GA-T56	44C90	$\frac{2}{32} \times \frac{3}{16}$
.0022	30GA-D22	29C255A	$\frac{1}{32} \times \frac{1}{4}$	.003	60GA-D30	41C252	$\frac{7}{8} \times \frac{3}{16}$	680	75GA-T68	44C92	$\frac{2}{32} \times \frac{3}{16}$
.0025	30GA-D25	44C63	$\frac{1}{32} \times \frac{1}{4}$	.0033	60GA-D33	41C253	$\frac{7}{8} \times \frac{3}{16}$	750	75GA-T75	33C175	$\frac{1}{16} \times \frac{3}{16}$
.0027	30GA-D27	44C65	$\frac{2}{32} \times \frac{1}{4}$	.0039	60GA-D39	41C254	$\frac{7}{8} \times \frac{3}{16}$	820	75GA-T82	33C177	$\frac{1}{16} \times \frac{3}{16}$
.003	30GA-D30	33C31A1	$\frac{1}{16} \times \frac{1}{4}$	.0047	60GA-D47	41C255	$\frac{7}{8} \times \frac{3}{16}$	.001 $\mu\text{F}$	75GA-D10	33C178	$\frac{1}{16} \times \frac{3}{16}$
.0033	30GA-D33	33C32A2	$\frac{1}{16} \times \frac{1}{4}$					.0012	75GA-D12	36C334	$\frac{3}{4} \times \frac{3}{16}$
.0039	30GA-D39	36C155A	$\frac{2}{32} \times \frac{1}{4}$					.0015	75GA-D15	41C221	$\frac{7}{8} \times \frac{3}{16}$
.004	30GA-D40	36C78A	$\frac{2}{32} \times \frac{1}{4}$					.0018	75GA-D18	41C223	$\frac{7}{8} \times \frac{3}{16}$
.0047	30GA-D47	36C339	$\frac{2}{32} \times \frac{1}{4}$					.002	75GA-D20	41C224	$\frac{7}{8} \times \frac{3}{16}$
.005	30GA-D50	36C124A	$\frac{2}{32} \times \frac{1}{4}$					.0022	75GA-D22	41C225	$\frac{7}{8} \times \frac{3}{16}$
.006	30GA-D60	41C34A	$\frac{2}{32} \times \frac{1}{4}$					.0025	75GA-D25	41C226	$\frac{7}{8} \times \frac{3}{16}$
.0068	30GA-D68	41C153	$\frac{2}{32} \times \frac{1}{4}$								
.008	30GA-D80	41C151	$\frac{2}{32} \times \frac{1}{4}$								
.0082	30GA-D82	41C150	$\frac{2}{32} \times \frac{1}{4}$								
.01	30GA-S10	41C121A2	$\frac{2}{32} \times \frac{1}{4}$								

### NPO TYPES

- Zero Temperature-coefficient Capacitors Used Where Capacitance Change with Temperature is Undesirable
- Superior to Silvered-mica Types in Stability, High "Q," and Insulation Resistance
- Rated at **1000 WVDC**
- Standard Capacitance Tolerance of  $\pm 5\%$
- Units listed below are discs

$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O. E. M. Part No.	Size D. x T.	$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O. E. M. Part No.	Size D. x T.
<b>6000 WVDC (discs) <math>\pm 20\%</math> Tol.</b>				<b>10TCC TYPES</b>			
1.5	60GA-V15	29C406	$\frac{7}{16} \times \frac{3}{16}$	30	10TCC-Q30	C030B102G300J	$\frac{7}{16} \times \frac{3}{32}$
4.7	60GA-V47	29C407	$\frac{7}{16} \times \frac{3}{16}$	33	10TCC-Q33	C030B102G330J	$\frac{7}{16} \times \frac{3}{32}$
6.8	60GA-V68	29C408	$\frac{7}{16} \times \frac{3}{16}$	39	10TCC-Q39	C030B102G390J	$\frac{7}{16} \times \frac{3}{32}$
8.2	60GA-V82	29C409	$\frac{7}{16} \times \frac{3}{16}$	47	10TCC-Q47	C030B102H470J	$\frac{1}{2} \times \frac{3}{32}$
10	60GA-Q10	29C410	$\frac{7}{16} \times \frac{3}{16}$	50	10TCC-Q50	C030B102H500J	$\frac{1}{2} \times \frac{3}{32}$
12	60GA-Q12	29C411	$\frac{7}{16} \times \frac{3}{16}$	56	10TCC-Q56	C030A102J560J	$\frac{7}{16} \times \frac{3}{32}$
15	60GA-Q15	29C412	$\frac{7}{16} \times \frac{3}{16}$	68	10TCC-Q68	C030A102J680J	$\frac{7}{16} \times \frac{3}{32}$
18	60GA-Q18	29C413	$\frac{7}{16} \times \frac{3}{16}$	75	10TCC-Q75	C030A102J750J	$\frac{7}{16} \times \frac{3}{32}$
20	60GA-Q20	29C414	$\frac{7}{16} \times \frac{3}{16}$	82	10TCC-Q82	C030A102K820J	$\frac{5}{8} \times \frac{3}{32}$
22	60GA-Q22	29C415	$\frac{7}{16} \times \frac{3}{16}$	100	10TCC-T10	C030A102L101J	$\frac{1}{16} \times \frac{3}{32}$
25	60GA-Q25	29C416	$\frac{7}{16} \times \frac{3}{16}$	120	10TCC-T12	C030A102L121J	$\frac{1}{16} \times \frac{3}{32}$
27	60GA-Q27	29C417	$\frac{7}{16} \times \frac{3}{16}$	150	10TCC-T15	C030A102M151J	$\frac{3}{4} \times \frac{3}{32}$
30	60GA-Q30	29C418	$\frac{7}{16} \times \frac{3}{16}$	175	10TCC-T175	—	$\frac{7}{8} \times \frac{3}{32}$
33	60GA-Q33	29C419	$\frac{7}{16} \times \frac{3}{16}$	180	10TCC-T18	C030A102P181J	$\frac{7}{8} \times \frac{3}{32}$
39	60GA-Q39	29C420	$\frac{7}{16} \times \frac{3}{16}$	200	10TCC-T20	C030A102P201J	$\frac{7}{8} \times \frac{3}{32}$
47	60GA-Q47	29C421	$\frac{7}{16} \times \frac{3}{16}$	220	10TCC-T22	—	$\frac{7}{8} \times \frac{3}{32}$
50	60GA-Q50	29C422	$\frac{7}{16} \times \frac{3}{16}$	270	10TCC-T27	—	$\frac{7}{8} \times \frac{3}{32}$
56	60GA-Q56	29C423	$\frac{7}{16} \times \frac{3}{16}$	300	10TCC-T30	—	$\frac{7}{8} \times \frac{3}{32}$
60	60GA-Q60	29C424	$\frac{7}{16} \times \frac{3}{16}$	330	10TCC-T33	—	$\frac{7}{8} \times \frac{3}{32}$
68	60GA-Q68	29C425	$\frac{7}{16} \times \frac{3}{16}$	390	10TCC-T39	—	$\frac{7}{8} \times \frac{3}{32}$
75	60GA-Q75	29C426	$\frac{7}{16} \times \frac{3}{16}$				
82	60GA-Q82	29C427	$\frac{7}{16} \times \frac{3}{16}$				
100	60GA-T10	29C428	$\frac{7}{16} \times \frac{3}{16}$				
120	60GA-T12	29C429	$\frac{7}{16} \times \frac{3}{16}$				
150	60GA-T15	33C187	$\frac{1}{16} \times \frac{3}{16}$				
180	60GA-T18	33C188	$\frac{1}{16} \times \frac{3}{16}$				
200	60GA-T20	33C189	$\frac{1}{16} \times \frac{3}{16}$				
220	60GA-T22	33C190	$\frac{1}{16} \times \frac{3}{16}$				



# SPRAGUE CAPACITORS

## CERA-MITE™ CERAMIC CAPACITORS, continued

### TEMPERATURE-COMPENSATING TYPES

- Eliminate oscillator drift in TV, f-m, v-h-f, and a-m receivers
- Negative Temperature Coefficient is 30 ppm/°C for N030 types, 80 ppm/°C for N080 types, 150 ppm/°C for N150 types, 220 ppm/°C for N220 types, 330 ppm/°C for N330 types, 470 ppm/°C for N470 types, and 750 ppm/°C for N750 types
- Rated at **1000 WVDC**
- Standard Capacitance Tolerance  $\pm 5\%$

$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O. E. M. Part No.	Size D. x T.
<b>N030</b>			
1.0	10TCM-V10	C025B102S1R0D	$\frac{3}{8} \times \frac{1}{4}$
1.2	10TCM-V12	C025B102S1R2D	$\frac{3}{8} \times \frac{1}{4}$
1.5	10TCM-V15	C025B102S1R5D	$\frac{3}{8} \times \frac{1}{4}$
1.8	10TCM-V18	C025B102S1R8D	$\frac{3}{8} \times \frac{1}{4}$
2.2	10TCM-V22	C025B102S2R2D	$\frac{3}{8} \times \frac{1}{4}$
2.7	10TCM-V27	C025B102S2R7D	$\frac{3}{8} \times \frac{1}{4}$
3.0	10TCM-V30	C025B102S3R0D	$\frac{3}{8} \times \frac{1}{4}$
3.3	10TCM-V33	C025B102S3R3D	$\frac{3}{8} \times \frac{1}{4}$
3.9	10TCM-V39	C025B102S3R9D	$\frac{3}{8} \times \frac{1}{4}$
4.7	10TCM-V47	C025B102E4R7D	$\frac{5}{16} \times \frac{5}{32}$
5.0	10TCM-V50	C025B102E5R0D	$\frac{5}{16} \times \frac{5}{32}$
5.6	10TCM-V56	C025B102E5R6D	$\frac{5}{16} \times \frac{5}{32}$
6.8	10TCM-V68	C025B102E6R8D	$\frac{5}{16} \times \frac{5}{32}$
8.2	10TCM-V82	C025B102E8R2D	$\frac{5}{16} \times \frac{5}{32}$
10	10TCM-Q10	C025B102E100J	$\frac{5}{16} \times \frac{5}{32}$
12	10TCM-Q12	C025B102E120J	$\frac{5}{16} \times \frac{5}{32}$
15	10TCM-Q15	C025B102E150J	$\frac{5}{16} \times \frac{5}{32}$
18	10TCM-Q18	C025B102F180J	$\frac{3}{8} \times \frac{5}{32}$
20	10TCM-Q20	C025B102F200J	$\frac{3}{8} \times \frac{5}{32}$
22	10TCM-Q22	C025B102F220J	$\frac{3}{8} \times \frac{5}{32}$
25	10TCM-Q25	C025B102F250J	$\frac{3}{8} \times \frac{5}{32}$
27	10TCM-Q27	C025B102G270J	$\frac{7}{16} \times \frac{5}{32}$
30	10TCM-Q30	C025B102G300J	$\frac{7}{16} \times \frac{5}{32}$
33	10TCM-Q33	C025B102G330J	$\frac{7}{16} \times \frac{5}{32}$
39	10TCM-Q39	C025B102G390J	$\frac{7}{16} \times \frac{5}{32}$
47	10TCM-Q47	C025B102H470J	$\frac{1}{2} \times \frac{5}{32}$
50	10TCM-Q50	C025B102H500J	$\frac{1}{2} \times \frac{5}{32}$
56	10TCM-Q56	C025B102H560J	$\frac{1}{2} \times \frac{5}{32}$
68	10TCM-Q68	C025A102J680J	$\frac{1}{16} \times \frac{5}{32}$
75	10TCM-Q75	C025A102J750J	$\frac{1}{16} \times \frac{5}{32}$
82	10TCM-Q82	C025A102K820J	$\frac{1}{16} \times \frac{5}{32}$
100	10TCM-T10	C025A102K101J	$\frac{5}{8} \times \frac{5}{32}$
120	10TCM-T12	C025A102L121J	$\frac{1}{16} \times \frac{5}{32}$
150	10TCM-T15	C025A102M151J	$\frac{3}{4} \times \frac{5}{32}$
175	10TCM-T175	_____	$\frac{3}{4} \times \frac{5}{32}$
180	10TCM-T18	C025A102P181J	$\frac{7}{8} \times \frac{5}{32}$
200	10TCM-T20	C025A102P201J	$\frac{7}{8} \times \frac{5}{32}$
220	10TCM-T22	C025A102P221J	$\frac{7}{8} \times \frac{5}{32}$
270	10TCM-T27	_____	$\frac{7}{8} \times \frac{5}{32}$
300	10TCM-T30	_____	$\frac{7}{8} \times \frac{5}{32}$
330	10TCM-T33	_____	$\frac{7}{8} \times \frac{5}{32}$
390	10TCM-T39	_____	$\frac{7}{8} \times \frac{5}{32}$

$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O. E. M. Part No.	Size D. x T.
<b>N080</b>			
2.2	10TCN-V22	C026B102S2R2D	$\frac{3}{8} \times \frac{1}{4}$
2.7	10TCN-V27	C026B102S2R7D	$\frac{3}{8} \times \frac{1}{4}$
3.0	10TCN-V30	C026B102S3R0D	$\frac{3}{8} \times \frac{1}{4}$
3.3	10TCN-V33	C026B102S3R3D	$\frac{3}{8} \times \frac{1}{4}$
3.9	10TCN-V39	C026B102S3R9D	$\frac{3}{8} \times \frac{1}{4}$
4.7	10TCN-V47	C026B102S4R7D	$\frac{3}{8} \times \frac{1}{4}$
5.0	10TCN-V50	C026B102E5R0D	$\frac{5}{16} \times \frac{5}{32}$
5.6	10TCN-V56	C026B102E5R6D	$\frac{5}{16} \times \frac{5}{32}$
6.8	10TCN-V68	C026B102E6R8D	$\frac{5}{16} \times \frac{5}{32}$
8.2	10TCN-V82	C026B102E8R2D	$\frac{5}{16} \times \frac{5}{32}$
10	10TCN-Q10	C026B102E100J	$\frac{5}{16} \times \frac{5}{32}$
12	10TCN-Q12	C026B102E120J	$\frac{5}{16} \times \frac{5}{32}$
15	10TCN-Q15	C026B102E150J	$\frac{5}{16} \times \frac{5}{32}$
18	10TCN-Q18	C026B102F180J	$\frac{3}{8} \times \frac{5}{32}$
20	10TCN-Q20	C026B102F200J	$\frac{3}{8} \times \frac{5}{32}$
22	10TCN-Q22	C026B102F220J	$\frac{3}{8} \times \frac{5}{32}$
25	10TCN-Q25	C026B102F250J	$\frac{3}{8} \times \frac{5}{32}$
27	10TCN-Q27	C026B102F270J	$\frac{3}{8} \times \frac{5}{32}$

$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O. E. M. Part No.	Size D. x T.
<b>N080 (cont.)</b>			
30	10TCN-Q30	C026B102G300J	$\frac{7}{16} \times \frac{5}{32}$
33	10TCN-Q33	C026B102G330J	$\frac{7}{16} \times \frac{5}{32}$
39	10TCN-Q39	C026B102G390J	$\frac{7}{16} \times \frac{5}{32}$
47	10TCN-Q47	C026B102H470J	$\frac{1}{2} \times \frac{5}{32}$
50	10TCN-Q50	C026B102H500J	$\frac{1}{2} \times \frac{5}{32}$
56	10TCN-Q56	C026B102H560J	$\frac{1}{2} \times \frac{5}{32}$
68	10TCN-Q68	C026A102J680J	$\frac{1}{16} \times \frac{5}{32}$
75	10TCN-Q75	C026A102J750J	$\frac{1}{16} \times \frac{5}{32}$
82	10TCN-Q82	C026A102J820J	$\frac{1}{16} \times \frac{5}{32}$
100	10TCN-T10	C026A102K101J	$\frac{5}{8} \times \frac{5}{32}$
120	10TCN-T12	C026A102L121J	$\frac{1}{16} \times \frac{5}{32}$
150	10TCN-T15	C026A102L151J	$\frac{1}{16} \times \frac{5}{32}$
175	10TCN-T175	_____	$\frac{3}{8} \times \frac{5}{32}$
180	10TCN-T18	C026A102P181J	$\frac{7}{8} \times \frac{5}{32}$
200	10TCN-T20	C026A102P201J	$\frac{7}{8} \times \frac{5}{32}$
220	10TCN-T22	C026A102P221J	$\frac{7}{8} \times \frac{5}{32}$
270	10TCN-T27	_____	$\frac{7}{8} \times \frac{5}{32}$
300	10TCN-T30	_____	$\frac{7}{8} \times \frac{5}{32}$
330	10TCN-T33	_____	$\frac{7}{8} \times \frac{5}{32}$
390	10TCN-T39	_____	$\frac{7}{8} \times \frac{5}{32}$
470	10TCN-T47	_____	$\frac{7}{8} \times \frac{5}{32}$

$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O. E. M. Part No.	Size D. x T.
<b>N150</b>			
2.2	10TCP-V22	C032B102S2R2D	$\frac{3}{8} \times \frac{1}{4}$
2.7	10TCP-V27	C032B102S2R7D	$\frac{3}{8} \times \frac{1}{4}$
3.0	10TCP-V30	C032B102S3R0D	$\frac{3}{8} \times \frac{1}{4}$
3.3	10TCP-V33	C032B102S3R3D	$\frac{3}{8} \times \frac{1}{4}$
3.9	10TCP-V39	C032B102S3R9D	$\frac{3}{8} \times \frac{1}{4}$
4.7	10TCP-V47	C032B102S4R7D	$\frac{3}{8} \times \frac{1}{4}$
5.0	10TCP-V50	C032B102S5R0D	$\frac{3}{8} \times \frac{1}{4}$
5.6	10TCP-V56	C032B102E5R6D	$\frac{5}{16} \times \frac{5}{32}$
6.8	10TCP-V68	C032B102E6R8D	$\frac{5}{16} \times \frac{5}{32}$
8.2	10TCP-V82	C032B102E8R2D	$\frac{5}{16} \times \frac{5}{32}$
10	10TCP-Q10	C032B102E100J	$\frac{5}{16} \times \frac{5}{32}$
12	10TCP-Q12	C032B102E120J	$\frac{5}{16} \times \frac{5}{32}$
15	10TCP-Q15	C032B102E150J	$\frac{5}{16} \times \frac{5}{32}$
18	10TCP-Q18	C032B102E180J	$\frac{5}{16} \times \frac{5}{32}$
20	10TCP-Q20	C032B102F200J	$\frac{3}{8} \times \frac{5}{32}$
22	10TCP-Q22	C032B102F220J	$\frac{3}{8} \times \frac{5}{32}$
25	10TCP-Q25	C032B102F250J	$\frac{3}{8} \times \frac{5}{32}$
27	10TCP-Q27	C032B102F270J	$\frac{3}{8} \times \frac{5}{32}$
30	10TCP-Q30	C032B102F300J	$\frac{3}{8} \times \frac{5}{32}$
33	10TCP-Q33	C032B102G330J	$\frac{7}{16} \times \frac{5}{32}$
39	10TCP-Q39	C032B102G390J	$\frac{7}{16} \times \frac{5}{32}$
47	10TCP-Q47	C032B102G470J	$\frac{7}{16} \times \frac{5}{32}$
50	10TCP-Q50	C032B102G500J	$\frac{7}{16} \times \frac{5}{32}$
56	10TCP-Q56	C032B102H560J	$\frac{1}{2} \times \frac{5}{32}$
68	10TCP-Q68	C032B102H680J	$\frac{1}{2} \times \frac{5}{32}$
75	10TCP-Q75	C032A102J750J	$\frac{1}{16} \times \frac{5}{32}$
82	10TCP-Q82	C032A102J820J	$\frac{1}{16} \times \frac{5}{32}$
100	10TCP-T10	C032A102K101J	$\frac{5}{8} \times \frac{5}{32}$
120	10TCP-T12	C032A102K121J	$\frac{5}{8} \times \frac{5}{32}$
150	10TCP-T15	C032A102L151J	$\frac{1}{16} \times \frac{5}{32}$
175	10TCP-T175	_____	$\frac{3}{4} \times \frac{5}{32}$
180	10TCP-T18	C032A102M181J	$\frac{3}{4} \times \frac{5}{32}$
200	10TCP-T20	C032A102P201J	$\frac{7}{8} \times \frac{5}{32}$
220	10TCP-T22	C032A102P221J	$\frac{7}{8} \times \frac{5}{32}$
270	10TCP-T27	_____	$\frac{7}{8} \times \frac{5}{32}$
300	10TCP-T30	_____	$\frac{7}{8} \times \frac{5}{32}$
330	10TCP-T33	_____	$\frac{7}{8} \times \frac{5}{32}$
390	10TCP-T39	_____	$\frac{7}{8} \times \frac{5}{32}$
470	10TCP-T47	_____	$\frac{7}{8} \times \frac{5}{32}$

$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O. E. M. Part No.	Size D. x T.
<b>N220</b>			
3	10TCR-V30	C033B102S3R0D	$\frac{3}{8} \times \frac{1}{4}$
3.3	10TCR-V33	C033B102S3R3D	$\frac{3}{8} \times \frac{1}{4}$
3.9	10TCR-V39	C033B102S3R9D	$\frac{3}{8} \times \frac{1}{4}$
4.7	10TCR-V47	C033B102S4R7D	$\frac{3}{8} \times \frac{1}{4}$
5	10TCR-V50	C033B102S5R0D	$\frac{3}{8} \times \frac{1}{4}$
5.6	10TCR-V56	C033B102S5R6D	$\frac{3}{8} \times \frac{1}{4}$
6.8	10TCR-V68	C033B102E6R8D	$\frac{5}{16} \times \frac{5}{32}$
8.2	10TCR-V82	C033B102E8R2D	$\frac{5}{16} \times \frac{5}{32}$
10	10TCR-Q10	C033B102E100J	$\frac{5}{16} \times \frac{5}{32}$
12	10TCR-Q12	C033B102E120J	$\frac{5}{16} \times \frac{5}{32}$
15	10TCR-Q15	C033B102E150J	$\frac{5}{16} \times \frac{5}{32}$
18	10TCR-Q18	C033B102E180J	$\frac{5}{16} \times \frac{5}{32}$
20	10TCR-Q20	C033B102E200J	$\frac{5}{16} \times \frac{5}{32}$
22	10TCR-Q22	C033B102F220J	$\frac{3}{8} \times \frac{5}{32}$
25	10TCR-Q25	C033B102F250J	$\frac{3}{8} \times \frac{5}{32}$
27	10TCR-Q27	C033B102F270J	$\frac{3}{8} \times \frac{5}{32}$
30	10TCR-Q30	C033B102F300J	$\frac{3}{8} \times \frac{5}{32}$
33	10TCR-Q33	C033B102F330J	$\frac{3}{8} \times \frac{5}{32}$
39	10TCR-Q39	C033B102G390J	$\frac{7}{16} \times \frac{5}{32}$
47	10TCR-Q47	C033B102G470J	$\frac{7}{16} \times \frac{5}{32}$
50	10TCR-Q50	C033B102G500J	$\frac{7}{16} \times \frac{5}{32}$
56	10TCR-C56	C033B102G560J	$\frac{7}{16} \times \frac{5}{32}$
68	10TCR-C68	C033B102H680J	$\frac{1}{2} \times \frac{5}{32}$
75	10TCR-C75	C033B102H750J	$\frac{1}{2} \times \frac{5}{32}$
82	10TCR-C82	C033A102J820J	$\frac{7}{16} \times \frac{5}{32}$
100	10TCR-T10	C033A102J101J	$\frac{5}{8} \times \frac{5}{32}$
120	10TCR-T12	C033A102K121J	$\frac{5}{8} \times \frac{5}{32}$
150	10TCR-T15	C033A102L151J	$\frac{1}{16} \times \frac{5}{32}$
175	10TCR-T175	_____	$\frac{3}{4} \times \frac{5}{32}$
180	10TCR-T18	C033A102M181J	$\frac{3}{4} \times \frac{5}{32}$
200	10TCR-T20	C033A102M201J	$\frac{3}{4} \times \frac{5}{32}$
220	10TCR-T22	C033A102P221J	$\frac{7}{8} \times \frac{5}{32}$
270	10TCR-T27	C033A102P271J	$\frac{7}{8} \times \frac{5}{32}$
300	10TCR-T30	C033A102P301J	$\frac{7}{8} \times \frac{5}{32}$
330	10TCR-T33	_____	$\frac{7}{8} \times \frac{5}{32}$
390	10TCR-T39	_____	$\frac{7}{8} \times \frac{5}{32}$
470	10TCR-T47	_____	$\frac{7}{8} \times \frac{5}{32}$
560	10TCR-T56	_____	$\frac{7}{8} \times \frac{5}{32}$

$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O. E. M. Part No.	Size D. x T.
<b>N330</b>			
3.0	10TCS-V30	C034B102S3R0D	$\frac{3}{8} \times \frac{1}{4}$
3.3	10TCS-V33	C034B102S3R3D	$\frac{3}{8} \times \frac{1}{4}$
3.9	10TCS-V39	C034B102S3R9D	$\frac{3}{8} \times \frac{1}{4}$
4.7	10TCS-V47	C034B102S4R7D	$\frac{3}{8} \times \frac{1}{4}$
5.0	10TCS-V50	C034B102S5R0D	$\frac{3}{8} \times \frac{1}{4}$
5.6	10TCS-V56	C034B102S5R6D	$\frac{3}{8} \times \frac{1}{4}$
6.8	10TCS-V68	C034B102S6R8D	$\frac{3}{8} \times \frac{1}{4}$
8.2	10TCS-V82	C034B102E8R2D	$\frac{5}{16} \times \frac{5}{32}$
10	10TCS-Q10	C034B102E100J	$\frac{5}{16} \times \frac{5}{32}$
12	10TCS-Q12	C034B102E120J	$\frac{5}{16} \times \frac{5}{32}$
15	10TCS-Q15	C034B102E150J	$\frac{5}{16} \times \frac{5}{32}$
18	10TCS-Q18	C034B102E180J	$\frac{5}{16} \times \frac{5}{32}$
20	10TCS-Q20	C034B102E200J	$\frac{5}{16} \times \frac{5}{32}$
22	10TCS-Q22	C034B102F220J	$\frac{3}{8} \times \frac{5}{32}$
25	10TCS-Q25	C034B102F250J	$\frac{3}{8} \times \frac{5}{32}$
27	10TCS-Q27	C03	

# SPRAGUE CAPACITORS

## CERA-MITE<sup>®</sup> CERAMIC CAPACITORS, continued

$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.	$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.	$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
<b>N330 (cont.)</b>				<b>N750 (cont.)</b>				<b>N750 (cont.)</b>			
300	10TCS-T30	C034A102P301J	$\frac{7}{8} \times \frac{5}{32}$	200	10TCU-T20	C036A102K201J	$\frac{5}{8} \times \frac{9}{32}$	470	10TCU-T47	C036A102P471J	$\frac{7}{8} \times \frac{5}{32}$
330	10TCS-T33	_____	$\frac{7}{8} \times \frac{5}{32}$	220	10TCU-T22	C036A102K221J	$\frac{5}{8} \times \frac{9}{32}$	560	10TCU-T56	_____	$\frac{7}{8} \times \frac{5}{32}$
390	10TCS-T39	_____	$\frac{7}{8} \times \frac{5}{32}$	270	10TCU-T27	C036A102L271J	$1\frac{1}{16} \times \frac{9}{32}$	680	10TCU-T68	_____	$\frac{7}{8} \times \frac{5}{32}$
470	10TCS-T47	_____	$\frac{7}{8} \times \frac{5}{32}$	300	10TCU-T30	C036A102M301J	$\frac{3}{4} \times \frac{9}{32}$	.00075 $\mu\text{F}$	10TCU-T75	41C293	$\frac{7}{8} \times \frac{5}{32}$
560	10TCS-T56	_____	$\frac{7}{8} \times \frac{5}{32}$	330	10TCU-T33	C036A102M331J	$\frac{3}{4} \times \frac{9}{32}$	.00082	10TCU-T82	41C294	$\frac{7}{8} \times \frac{5}{32}$
				390	10TCU-T39	C036A102P391J	$\frac{7}{8} \times \frac{5}{32}$	.001	10TCU-D10	41C295	$\frac{7}{8} \times \frac{5}{32}$

$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
<b>N470</b>			
3.0	10TCT-V30	C035B102S3R0D	$\frac{3}{8} \times \frac{1}{4}$
3.3	10TCT-V33	C035B102S3R3D	$\frac{3}{8} \times \frac{1}{4}$
3.9	10TCT-V39	C035B102S3R9D	$\frac{3}{8} \times \frac{1}{4}$
4.7	10TCT-V47	C035B102S4R7D	$\frac{3}{8} \times \frac{1}{4}$
5.0	10TCT-V50	C035B102S5R0D	$\frac{3}{8} \times \frac{1}{4}$
5.6	10TCT-V56	C035B102S5R6D	$\frac{3}{8} \times \frac{1}{4}$
6.8	10TCT-V68	C035B102S6R8D	$\frac{3}{8} \times \frac{1}{4}$
8.2	10TCT-V82	C035B102S8R2D	$\frac{3}{8} \times \frac{1}{4}$
10	10TCT-Q10	C035B102E100J	$\frac{5}{16} \times \frac{9}{32}$
12	10TCT-Q12	C035B102E120J	$\frac{5}{16} \times \frac{9}{32}$
15	10TCT-Q15	C035B102E150J	$\frac{5}{16} \times \frac{9}{32}$
18	10TCT-Q18	C035B102E180J	$\frac{5}{16} \times \frac{9}{32}$
20	10TCT-Q20	C035B102E200J	$\frac{5}{16} \times \frac{9}{32}$
22	10TCT-Q22	C035B102E220J	$\frac{5}{16} \times \frac{9}{32}$
25	10TCT-Q25	C035B102E250J	$\frac{5}{16} \times \frac{9}{32}$
27	10TCT-Q27	C035B102F270J	$\frac{5}{16} \times \frac{9}{32}$
30	10TCT-Q30	C035B102F300J	$\frac{5}{16} \times \frac{9}{32}$
33	10TCT-Q33	C035B102F330J	$\frac{5}{16} \times \frac{9}{32}$
39	10TCT-Q39	C035B102F390J	$\frac{5}{16} \times \frac{9}{32}$
47	10TCT-Q47	C035B102F470J	$\frac{5}{16} \times \frac{9}{32}$
50	10TCT-Q50	C035B102G500J	$\frac{7}{16} \times \frac{9}{32}$
56	10TCT-Q56	C035B102G560J	$\frac{7}{16} \times \frac{9}{32}$
68	10TCT-Q68	C035B102G680J	$\frac{7}{16} \times \frac{9}{32}$
75	10TCT-Q75	C035B102G750J	$\frac{7}{16} \times \frac{9}{32}$
82	10TCT-Q82	C035B102H820J	$\frac{1}{2} \times \frac{9}{32}$
100	10TCT-T10	C035A102H101J	$\frac{1}{2} \times \frac{9}{32}$
120	10TCT-T12	C035A102J121J	$\frac{5}{8} \times \frac{9}{32}$
150	10TCT-T15	C035A102K151J	$\frac{5}{8} \times \frac{9}{32}$
175	10TCT-T175	_____	$\frac{5}{8} \times \frac{9}{32}$
180	10TCT-T18	C035A102K181J	$\frac{5}{8} \times \frac{9}{32}$
200	10TCT-T20	C035A102L201J	$1\frac{1}{16} \times \frac{9}{32}$
220	10TCT-T22	C035A102L221J	$1\frac{1}{16} \times \frac{9}{32}$
270	10TCT-T27	C035A102M271J	$\frac{3}{4} \times \frac{9}{32}$
300	10TCT-T30	C035A102P301J	$\frac{7}{8} \times \frac{9}{32}$
330	10TCT-T33	C035A102P331J	$\frac{7}{8} \times \frac{9}{32}$
390	10TCT-T39	C035A102P391J	$\frac{7}{8} \times \frac{9}{32}$
470	10TCT-T47	_____	$\frac{7}{8} \times \frac{9}{32}$
560	10TCT-T56	_____	$\frac{7}{8} \times \frac{9}{32}$

$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
<b>N750</b>			
4.7	10TCU-V47	C036B102S4R7D	$\frac{3}{8} \times \frac{1}{4}$
5.0	10TCU-V50	C036B102S5R0D	$\frac{3}{8} \times \frac{1}{4}$
5.6	10TCU-V56	C036B102S5R6D	$\frac{3}{8} \times \frac{1}{4}$
6.8	10TCU-V68	C036B102S6R8D	$\frac{3}{8} \times \frac{1}{4}$
8.2	10TCU-V82	C036B102S8R2D	$\frac{3}{8} \times \frac{1}{4}$
10	10TCU-Q10	C036B102S100J	$\frac{5}{16} \times \frac{9}{32}$
12	10TCU-Q12	C036B102E120J	$\frac{5}{16} \times \frac{9}{32}$
15	10TCU-Q15	C036B102E150J	$\frac{5}{16} \times \frac{9}{32}$
18	10TCU-Q18	C036B102E180J	$\frac{5}{16} \times \frac{9}{32}$
20	10TCU-Q20	C036B102E200J	$\frac{5}{16} \times \frac{9}{32}$
22	10TCU-Q22	C036B102E220J	$\frac{5}{16} \times \frac{9}{32}$
25	10TCU-Q25	C036B102E250J	$\frac{5}{16} \times \frac{9}{32}$
27	10TCU-Q27	C036B102E270J	$\frac{5}{16} \times \frac{9}{32}$
30	10TCU-Q30	C036B102E300J	$\frac{5}{16} \times \frac{9}{32}$
33	10TCU-Q33	C036B102E330J	$\frac{5}{16} \times \frac{9}{32}$
39	10TCU-Q39	C036B102F390J	$\frac{5}{16} \times \frac{9}{32}$
47	10TCU-Q47	C036B102F470J	$\frac{5}{16} \times \frac{9}{32}$
50	10TCU-Q50	C036B102F500J	$\frac{5}{16} \times \frac{9}{32}$
56	10TCU-Q56	C036B102F560J	$\frac{5}{16} \times \frac{9}{32}$
68	10TCU-Q68	C036B102G680J	$\frac{7}{16} \times \frac{9}{32}$
75	10TCU-Q75	C036B102G750J	$\frac{7}{16} \times \frac{9}{32}$
82	10TCU-Q82	C036B102H820J	$\frac{7}{16} \times \frac{9}{32}$
100	10TCU-T10	C036B102H101J	$\frac{1}{2} \times \frac{9}{32}$
120	10TCU-T12	C036B102H121J	$\frac{1}{2} \times \frac{9}{32}$
150	10TCU-T15	C036A102J151J	$\frac{5}{8} \times \frac{9}{32}$
175	10TCU-T175	_____	$\frac{5}{8} \times \frac{9}{32}$
180	10TCU-T18	C036A102K181J	$\frac{5}{8} \times \frac{9}{32}$

### TEMPERATURE-STABLE TYPES

- Used where minimum capacitance change with temperature is an important consideration
- Standard capacitance tolerance:  $\pm 10\%$  except 10TS-S15 10TS-S20, 10TS-S30  $\pm 15\%$
- Rated at **1000 WVDC**

$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.	$\mu\mu\text{F}$	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
3.3	10TS-V33	40C300A	$\frac{5}{16} \times \frac{9}{32}$	350	10TS-T35	_____	$\frac{3}{8} \times \frac{5}{32}$
5.0	10TS-V50	40C49A1	$\frac{5}{16} \times \frac{9}{32}$	360	10TS-T36	_____	$\frac{3}{8} \times \frac{5}{32}$
6.0	10TS-V60	40C299A	$\frac{5}{16} \times \frac{9}{32}$	390	10TS-T39	C016B102E391K	$\frac{5}{16} \times \frac{9}{32}$
6.8	10TS-V68	40C97A2	$\frac{5}{16} \times \frac{9}{32}$	400	10TS-T40	_____	$\frac{3}{8} \times \frac{5}{32}$
7.5	10TS-V75	40C133A	$\frac{5}{16} \times \frac{9}{32}$	470	10TS-T47	C016B102F471K	$\frac{3}{8} \times \frac{5}{32}$
8.0	10TS-V80	40C38A2	$\frac{5}{16} \times \frac{9}{32}$	500	10TS-T50	C016B102F501K	$\frac{3}{8} \times \frac{5}{32}$
10	10TS-Q10	40C219A3	$\frac{5}{16} \times \frac{9}{32}$	560	10TS-T56	C016B102F561K	$\frac{3}{8} \times \frac{5}{32}$
12	10TS-Q12	40C252A	$\frac{5}{16} \times \frac{9}{32}$	500	10TS-T60	_____	$\frac{3}{8} \times \frac{5}{32}$
15	10TS-Q15	40C65A2	$\frac{5}{16} \times \frac{9}{32}$	680	10TS-T68	C016B102F681K	$\frac{3}{8} \times \frac{5}{32}$
18	10TS-Q18	40C139A3	$\frac{5}{16} \times \frac{9}{32}$	750	10TS-T75	C016B102F751K	$\frac{3}{8} \times \frac{5}{32}$
20	10TS-Q20	40C265A	$\frac{5}{16} \times \frac{9}{32}$	800	10TS-T80	_____	$\frac{3}{16} \times \frac{5}{32}$
22	10TS-Q22	40C56A	$\frac{5}{16} \times \frac{9}{32}$	820	10TS-T82	C016B102G821K	$\frac{3}{16} \times \frac{5}{32}$
25	10TS-Q25	40C113A	$\frac{5}{16} \times \frac{9}{32}$	.001 $\mu\text{F}$	10TS-D10	C106B102G102K	$\frac{7}{16} \times \frac{9}{32}$
27	10TS-Q27	40C287A	$\frac{5}{16} \times \frac{9}{32}$	.0012	10TS-D12	C016B102G122K	$\frac{7}{16} \times \frac{9}{32}$
30	10TS-Q30	40C303	$\frac{5}{16} \times \frac{9}{32}$	.0013	10TS-D13	_____	$\frac{7}{16} \times \frac{9}{32}$
33	10TS-Q33	40C57A	$\frac{5}{16} \times \frac{9}{32}$	.0015	10TS-D15	C016A102J152K	$\frac{7}{16} \times \frac{9}{32}$
39	10TS-Q39	40C58A	$\frac{5}{16} \times \frac{9}{32}$	.0016	10TS-D16	_____	$\frac{7}{16} \times \frac{9}{32}$
47	10TS-Q47	40C135A	$\frac{5}{16} \times \frac{9}{32}$	.0018	10TS-D18	C016A102J182K	$\frac{7}{16} \times \frac{9}{32}$
50	10TS-Q50	40C157A	$\frac{5}{16} \times \frac{9}{32}$	.0020	10TS-D20	C016A102J202K	$\frac{7}{16} \times \frac{9}{32}$
56	10TS-Q56	40C130A2	$\frac{5}{16} \times \frac{9}{32}$	.0022	10TS-D22	C016A102J222K	$\frac{7}{16} \times \frac{9}{32}$
68	10TS-Q68	40C270A	$\frac{5}{16} \times \frac{9}{32}$	.0025	10TS-D25	_____	$\frac{1}{16} \times \frac{9}{32}$
75	10TS-Q75	40C46A1	$\frac{5}{16} \times \frac{9}{32}$	.0027	10TS-D27	C016A102L272K	$1\frac{1}{16} \times \frac{9}{32}$
82	10TS-Q82	40C281A	$\frac{5}{16} \times \frac{9}{32}$	.0030	10TS-D30	_____	$\frac{3}{4} \times \frac{9}{32}$
91	10TS-Q91	40C302	$\frac{5}{16} \times \frac{9}{32}$	.0033	10TS-D33	C016A102L332K	$1\frac{1}{16} \times \frac{9}{32}$
100	10TS-T10	40C200A	$\frac{5}{16} \times \frac{9}{32}$	.0039	10TS-D39	C016A102M392K	$\frac{3}{4} \times \frac{9}{32}$
120	10TS-T12	40C60A	$\frac{5}{16} \times \frac{9}{32}$	.0040	10TS-D40	_____	$\frac{7}{8} \times \frac{9}{32}$
130	10TS-T13	40C147A	$\frac{5}{16} \times \frac{9}{32}$	.0043	10TS-D43	_____	$\frac{7}{8} \times \frac{9}{32}$
150	10TS-T15	40C202A	$\frac{5}{16} \times \frac{9}{32}$	.0047	10TS-D47	C016A102P472K	$\frac{7}{8} \times \frac{9}{32}$
180	10TS-T18	40C99A1	$\frac{5}{16} \times \frac{9}{32}$	.0050	10TS-D50	C016A102P502K	$\frac{7}{8} \times \frac{9}{32}$
200	10TS-T20	40C81A	$\frac{5}{16} \times \frac{9}{32}$	.0056	10TS-D56	33C100	$1\frac{1}{16} \times \frac{1}{4}$
220	10TS-T22	40C204A	$\frac{5}{16} \times \frac{9}{32}$	.0068	10TS-D68	36C108A	$\frac{3}{4} \times \frac{1}{4}$
240	10TS-T24	40C167A	$\frac{5}{16} \times \frac{9}{32}$	.0082	10TS-D82	41C306A	$\frac{7}{8} \times \frac{5}{32}$
250	10TS-T25	40C101A2	$\frac{5}{16} \times \frac{9}{32}$	.0075	10TS-D75	41C148	$\frac{7}{8} \times \frac{1}{4}$
270	10TS-T27	C016B102E271K	$\frac{5}{16} \times \frac{9}{32}$	.01	10TS-S10	41C121A1	$\frac{7}{8} \times \frac{5}{32}$
300	10TS-T30	_____	$\frac{5}{16} \times \frac{9}{32}$	.015	10TS-S15	41C123A1	$\frac{7}{8} \times \frac{5}{32}$
330	10TS-T33	C016B102E331K	$\frac{5}{16} \times \frac{9}{32}$	.02	10TS-S20	36C340A	$\frac{3}{4} \times \frac{1}{4}$
				.03	10TS-S30	41C284A	$\frac{7}{8} \times \frac{1}{4}$

### HIGH-K TYPES

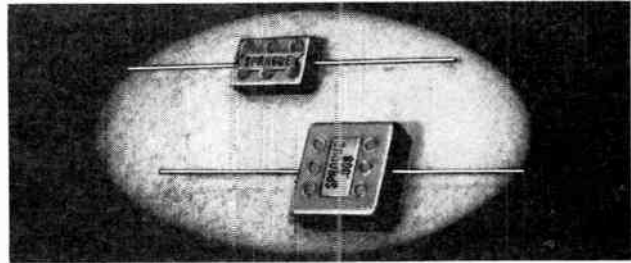
- Designed for By-Pass and Coupling Applications Where Additional Capacitance Will Not Affect Circuit Operation.
- Smallest Physical Size
- 5HK-S15 thru 5HK-P10, **500 WVDC**, Capacitance Tolerance:  $\pm 80$  -- 20%
- All Other 5HK are **1000 WVDC**, Capacitance Tolerance: GMV

$\mu\text{F}$	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.	$\mu\text{F}$	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
<b>SINGLE UNITS</b>				<b>SINGLE UNITS (cont.)</b>			
.001	5HK-D10	C023B102E102P	$\frac{5}{16} \times \frac{9}{32}$	.04	5HK-S40	44C124A	$1\frac{1}{16} \times \frac{3}{16}$
.0015	5HK-D15	C023B102F152P	$\frac{5}{16} \times \frac{9}{32}$	.05	5HK-S50	33C58	$1\frac{1}{16} \times \frac{3}{16}$
.002	5HK-D20	C023B102F202P	$\frac{5}{16} \times \frac{9}{32}$	.1	5HK-P10	41C92	$\frac{7}{8} \times \frac{3}{16}$
.0025	5HK-D25	_____	$\frac{7}{16} \times \frac{9}{32}$	<b>DUAL UNITS</b>			
.0033	5HK-D33	C023B102G332P	$\frac{7}{16} \times \frac{9}{$				

# SPRAGUE CAPACITORS

## MICA CAPACITORS TYPE MS and 1FM MICAS

- Each Mica Capacitor Section Receives a Radio Frequency Test Before Molding
- Careful Selection and Electrical Grading of Raw Mica Assures Maximum Quality
- Section Foils on Foil Micras are Connected to Terminals through Special Low-resistance R-F Bonds
- R-F Current Tested for Peak Ratings After Impregnation and Molding



### TYPE MS — SILVERED MICA (Standard Capacitance Tolerance ±5%)

μF	Cat. No.	μF	Cat. No.	μF	Cat. No.	μF	Cat. No.
<b>500 WVDC, 1000 V Test</b>		.000068	MS-468	.000470	MS-347	.002500	MS-225
.000005	MS-55	.000070	MS-47	.000500	MS-35	.002700	MS-227
.000010	MS-41	.000075	MS-475	.000510	MS-351	.003000	MS-23
.000012	MS-412	.000082	MS-482	.000560	MS-356	.003300	MS-233
.000015	MS-415	.000091	MS-491	.000600	MS-36	.003600	MS-236
.000018	MS-418	.000100	MS-31	.000620	MS-362	.003900	MS-239
.000020	MS-42	.000110	MS-311	.000680	MS-368	.004000	MS-24
.000022	MS-422	.000120	MS-312	.000700	MS-37	.004300	MS-243
.000024	MS-424	.000130	MS-313	.000750	MS-375	.004700	MS-247
.000025	MS-425	.000150	MS-315	.000800	MS-38	.005000	MS-25
.000027	MS-427	.000160	MS-316	.000820	MS-382	.005100	MS-251
.000030	MS-43	.000180	MS-318	.000900	MS-39	.005600	MS-256
.000033	MS-433	.000200	MS-32	.000910	MS-391	.006000	MS-26
.000036	MS-436	.000220	MS-322	.001000	MS-21	.006200	MS-262
.000039	MS-439	.000240	MS-324	.001100	MS-211	<b>300 WVDC, 600 V Test</b>	
.000040	MS-44	.000250	MS-325	.001200	MS-212	.008800	MS-268
.000043	MS-443	.000270	MS-327	.001300	MS-213	.007000	MS-27
.000047	MS-447	.000300	MS-33	.001500	MS-215	.007500	MS-275
.000050	MS-45	.000330	MS-333	.001600	MS-216	.008000	MS-28
.000051	MS-451	.000360	MS-336	.001800	MS-218	.008200	MS-282
.000056	MS-456	.000390	MS-339	.002000	MS-22	.009000	MS-29
.000060	MS-46	.000400	MS-34	.002200	MS-222	.009100	MS-291
.000062	MS-462	.000430	MS-343	.002400	MS-224	.010000	MS-11

### TYPE 1FM (Standard Capacitance Tolerance ±20%)

μF	Cat. No.	μF	Cat. No.	μF	Cat. No.	μF	Cat. No.
<b>500 WVDC, 1000 V Test</b>		.000082	1FM-482	.000470	1FM-347	.003000	1FM-23
.000010	1FM-41	.000091	1FM-491	.000500	1FM-35	.003300	1FM-233
.000012	1FM-412	.000100	1FM-31	.000510	1FM-351	.003600	1FM-236
.000015	1FM-415	.000110	1FM-311	.000560	1FM-356	.003900	1FM-239
.000018	1FM-418	.000120	1FM-312	.000620	1FM-362	.004000	1FM-24
.000020	1FM-42	.000130	1FM-313	.000680	1FM-368	.004300	1FM-243
.000022	1FM-422	.000150	1FM-315	.000700	1FM-37	.004700	1FM-247
.000024	1FM-424	.000160	1FM-316	.000750	1FM-375	.005000	1FM-25
.000027	1FM-427	.000180	1FM-318	.000800	1FM-382	.005100	1FM-251
.000030	1FM-43	.000200	1FM-32	.000820	1FM-391	.005600	1FM-256
.000033	1FM-433	.000220	1FM-322	.000910	1FM-21	.006000	1FM-26
.000036	1FM-436	.000240	1FM-324	.001000	1FM-211	.006200	1FM-262
.000039	1FM-439	.000250	1FM-325	.001100	1FM-212	<b>300 WVDC, 600 V Test</b>	
.000040	1FM-44	.000270	1FM-327	.001200	1FM-213	.006800	1FM-268
.000043	1FM-443	.000300	1FM-33	.001300	1FM-215	.007000	1FM-27
.000047	1FM-447	.000330	1FM-333	.001500	1FM-216	.007500	1FM-275
.000050	1FM-45	.000360	1FM-336	.001600	1FM-218	.008000	1FM-28
.000051	1FM-451	.000390	1FM-339	.001800	1FM-22	.008200	1FM-282
.000056	1FM-456	.000400	1FM-34	.002000	1FM 22	.009000	1FM-29
.000062	1FM-462	.000430	1FM-343	.002200	1FM 222	.009100	1FM-291
.000068	1FM-468			.002400	1FM 224	.0 0000	1FM-11
.000075	1FM-475			.002500	1FM 225		
				.002700	1FM 227		

### MS and 1FM Dimensions

Catalog Numbers	L x W x T	Catalog Numbers	L x W x T	Catalog Numbers	L x W x T
MS-55 thru MS-35	5/64 x 1 1/32 x 7/32	MS-233	5/64 x 5/64 x 7/32	1FM-482 thru 1FM-356	5/64 x 1 1/32 x 7/32
MS-351 thru MS-222	5/64 x 5/64 x 7/32	MS-236 thru MS-282	5/64 x 5/64 x 1 1/32	1FM-362 thru 1FM-233	5/64 x 5/64 x 7/32
MS-224	5/64 x 5/64 x 1 1/32	MS-29 thru MS-11	1 x 5/8 x 3/16	1FM-236 thru 1FM-282	5/64 x 5/64 x 1 1/32
MS-225 thru MS-227	5/64 x 5/64 x 7/32	1FM-41 thru 1FM-462	5/64 x 1 1/32 x 7/32	1FM-29 thru 1FM-11	1 x 5/8 x 3/16
MS-23	5/64 x 5/64 x 1 1/32	1FM-468 thru 1FM-475	5/64 x 5/64 x 7/32		

**PRICES**

Prices in this MASTER should not be considered as final. **INQUIRE ABOUT LATEST PRICES AND DELIVERY.**

**DISCOUNTS**

Trade discounts apply in most cases where **LIST PRICES** are shown.

**ORDERING**

Since previous editions of the **MASTER** are frequently referred to, it is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

**INVENTORY**

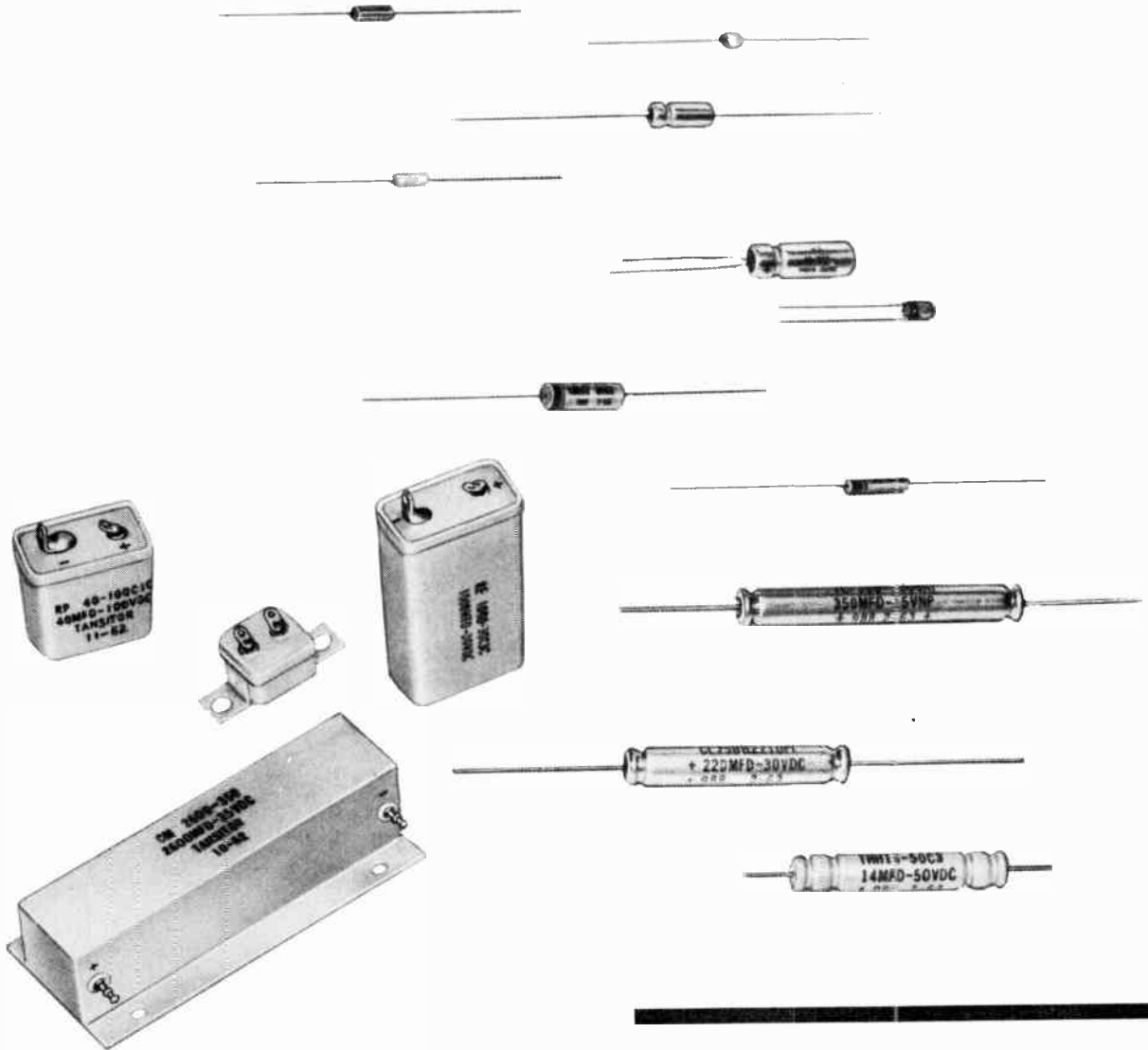
While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this **MASTER** catalog.

# Tansitor



## TANTALUM CAPACITORS

## CONDENSED CATALOG



TANSITOR  
ELECTRONICS, INC.

# Tansitor

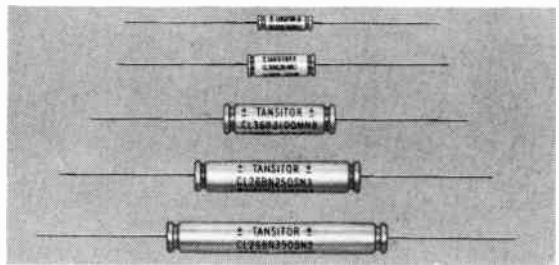
ELECTRONICS, INC.

## MIL-C-3965C

### TANSITOR TANTALUM FOIL CAPACITORS

TYPES: CL24, CL25, CL26, CL27, CL34, CL35, CL36, CL37  
 -55°C to +85°C

Tansitor Military Type 85°C capacitors are tantalum foil capacitors which will operate reliably over the temperature range -55°C to +85°C. These units are equivalent to Tansitor Type TEF capacitors.



#### MILITARY DESIGNATION CODE

CL26	B	Q	180	S	N	3
Style	Temp. Characteristic	Voltage	Capacitance	Capacitance Tolerance	Polarity	Vibration Grade

#### CASE DIMENSIONS CL24, CL26, CL34, CL36 — Uninsulated\*

CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches
C1	0.688 x 0.188
C2	0.875 x 0.281
C3	1.438 x 0.375
C4	2.125 x 0.375
C5	2.750 x 0.375

\*For dimensions of insulated units add approximately 0.125" to length, 0.015" to diameter.

#### MIL-C-3965/2 — ETCHED FOIL, POLAR

TYPE: CL24 (Uninsulated) CL25 (Insulated)

All Part Numbers are listed as CL24 Type. If insulating sleeve is required, change CL24 to CL25.

Designation Military	D.C. Volts	Mfds. Cap.	Case Size	Net Price (1-24)†	Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†
CL24BE150UP3	15	15	C1	\$ 4.20	CL24BJ101TP3	50	100	C4	20.55
CL24BE600UP3	15	60	C2	7.55	CL24BJ151TP3	50	150	C5	27.35
CL24BE201UP3	15	200	C3	12.40	CL24BL030TP3	75	3	C1	4.20
CL24BE401UP3	15	400	C4	20.55	CL24BL120TP3	75	12	C2	7.55
CL24BE581UP3	15	580	C5	27.35	CL24BL300TP3	75	30	C3	12.40
CL24BG100UP3	25	10	C1	4.20	CL24BL700TP3	75	70	C4	20.55
CL24BG400UP3	25	40	C2	7.55	CL24BL101TP3	75	100	C5	27.35
CL24BG121UP3	25	120	C3	12.40	CL24BN020SP3	100	2	C1	4.20
CL24BG251UP3	25	250	C4	20.55	CL24BN080SP3	100	8	C2	7.55
CL24BG351UP3	25	350	C5	27.35	CL24BN250SP3	100	25	C3	12.40
CL24BH080UP3	30	8	C1	4.20	CL24BN500SP3	100	50	C4	20.55
CL24BH320UP3	30	32	C2	7.55	CL24BN700SP3	100	70	C5	27.35
CL24BH111UP3	30	110	C3	12.40	CL24BQ010SP3	150	1	C1	4.20
CL24BH221UP3	30	220	C4	20.55	CL24BQ040SP3	150	4	C2	7.55
CL24BH301UP3	30	300	C5	27.35	CL24BQ130SP3	150	13	C3	12.40
CL24BJ4R5TP3	50	4.5	C1	4.20	CL24BQ250SP3	150	25	C4	20.55
CL24BJ180TP3	50	18	C2	7.55	CL24BQ360SP3	150	36	C5	27.35
CL24BJ600TP3	50	60	C3	12.40					

#### MIL-C-3965/12 — ETCHED FOIL, NON-POLAR

TYPE: CL26 (Uninsulated) CL27 (Insulated)

All Part Numbers are listed as CL 26 Type. If insulating sleeve is required, change CL 26 to CL27.

Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†	Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†
CL26BE100UN3	15	10	C1	\$ 4.20	CL26BJ600TN3	50	60	C4	20.55
CL26BE400UN3	15	40	C2	7.55	CL26BJ800TN3	50	80	C5	27.35
CL26BE121UN3	15	120	C3	12.40	CL26BL1R5TN3	75	1.5	C1	4.20
CL26BE251UN3	15	250	C4	20.55	CL26BL080TN3	75	6	C2	7.55
CL26BE351UN3	15	350	C5	27.35	CL26BL150TN3	75	15	C3	12.40
CL26BG050UN3	25	5	C1	4.20	CL26BL350TN3	75	35	C4	20.55
CL26BG200UN3	25	20	C2	7.55	CL26BL500TN3	75	50	C5	27.35
CL26BG700UN3	25	70	C3	12.40	CL26BN010SN3	100	1	C1	4.20
CL26BG141UN3	25	140	C4	20.55	CL26BN040SN3	100	4	C2	7.55
CL26BG201UN3	25	200	C5	27.35	CL26BN120SN3	100	12	C3	12.40
CL26BH4R5UN3	30	4.5	C1	4.20	CL26BN250SN3	100	25	C4	20.55
CL26BH180UN3	30	18	C2	7.55	CL26BN350SN3	100	35	C5	27.35
CL26BH600UN3	30	60	C3	12.40	CL26BQ0R5SN3	150	0.5	C1	4.20
CL26BH121UN3	30	120	C4	20.55	CL26BQ020SN3	150	2	C2	7.55
CL26BH171UN3	30	170	C5	27.35	CL26BQ060SN3	150	6	C3	12.40
CL26BJ2R5TN3	50	2.5	C1	4.20	CL26BQ120SN3	150	12	C4	20.55
CL26BJ100TN3	50	10	C2	7.55	CL26BQ180SN3	150	18	C5	27.35
CL26BJ300TN3	50	30	C3	12.40					

#### MIL-C-3965/3 — PLAIN FOIL, POLAR

TYPE: CL34 (Uninsulated) CL35 (Insulated)

All Part Numbers are listed as CL34 Type. If insulating sleeve is required, change CL34 to CL35.

Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†	Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†
CL34BA100MP3	3	10	C1	\$ 4.20	CL34BJ1R5MP3	50	1.5	C1	\$ 4.20
CL34BA500MP3	3	50	C2	6.60	CL34BJ060MP3	50	6	C2	6.60
CL34BB080MP3	6	8	C1	4.20	CL34BJ200MP3	50	20	C3	10.45
CL34BB300MP3	6	30	C2	6.60	CL34BJ400MP3	50	40	C4	14.60
CL34BB101MP3	6	100	C3	10.45	CL34BJ550MP3	50	55	C5	19.60
CL34BB201MP3	6	200	C4	14.60	CL34BL010MP3	75	1	C1	4.20
CL34BB301MP3	6	300	C5	19.60	CL34BL040MP3	75	4	C2	6.60
CL34BD060MP3	10	6	C1	4.20	CL34BL140MP3	75	14	C3	10.45
CL34BD250MP3	10	25	C2	6.60	CL34BL280MP3	75	28	C4	14.60
CL34BD800MP3	10	80	C3	10.45	CL34BL400MP3	75	40	C5	19.60
CL34BD161MP3	10	160	C4	14.60	CL34BN0R8MP3	100	0.8	C1	4.20
CL34BD221MP3	10	220	C5	19.60	CL34BN030MP3	100	3	C2	6.60
CL34BE4R5MP3	15	4.5	C1	4.20	CL34BN100MP3	100	10	C3	10.45
CL34BE100MP3	15	10	C2	6.60	CL34BN200MP3	100	20	C4	14.60
CL34BE180MP3	15	18	C2	6.60	CL34BN300MP3	100	30	C5	19.60
CL34BE550MP3	15	55	C3	10.45	CL34BQ0R5MP3	150	0.5	C1	4.20
CL34BE111MP3	15	110	C4	14.60	CL34BQ20MP3	150	2	C2	6.60
CL34BE161MP3	15	160	C5	19.60	CL34BQ40MP3	150	4	C3	10.45
CL34BH2R5MP3	30	2.5	C1	4.20	CL34BQ70MP3	150	7	C3	10.45
CL34BH300MP3	30	30	C3	10.45	CL34BQ80MP3	150	8	C4	14.60
CL34BH600MP3	30	60	C4	14.60	CL34BQ120MP3	150	12	C4	14.60
CL34BH850MP3	30	85	C5	19.60	CL34BQ140MP3	150	14	C4	14.60
					CL34BQ200MP3	150	20	C5	19.60

#### MIL-C-3965/14 — PLAIN FOIL, NON-POLAR

TYPE: CL36 (Uninsulated) CL37 (Insulated)

All Part Numbers are listed as CL36 Type. If insulating sleeve is required, change CL36 to CL37.

Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†	Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†
CL36BA100MN3	3	10	C1	\$ 4.20	CL36BH1R4MN3	30	1.4	C1	\$ 4.20
CL36BA150MN3	3	45	C2	6.60	CL36BH5R5MN3	30	5.5	C2	6.60
CL36BA141MN3	3	140	C3	10.45	CL36BH180MN3	30	18	C3	10.45
CL36BA281MN3	3	280	C4	14.60	CL36BH360MN3	30	36	C4	14.60
CL36BA401MN3	3	400	C5	19.60	CL36BH450MN3	30	45	C5	19.60
CL36BB070MN3	6	7	C1	4.20	CL36BJ0R8MN3	50	0.8	C1	4.20
CL36BB250MN3	6	25	C2	6.60	CL36BJ030MN3	50	3	C2	6.60
CL36BB850MN3	6	85	C3	10.45	CL36BJ100MN3	50	10	C3	10.45
CL36BB171MN3	6	170	C4	14.60	CL36BJ200MN3	50	20	C4	14.60
CL36BB251MN3	6	250	C5	19.60	CL36BJ300MN3	50	30	C5	19.60
CL36BD040MN3	10	4	C1	4.20	CL36BL0R5MN3	75	0.5	C1	4.20
CL36BD160MN3	10	16	C2	6.60	CL36BL020MN3	75	2	C2	6.60
CL36BD550MN3	10	55	C3	10.45	CL36BL070MN3	75	7	C3	10.45
CL36BD111MN3	10	110	C4	14.60	CL36BL140MN3	75	14	C4	14.60
CL36BD151MN3	10	150	C5	19.60	CL36BL200MN3	75	20	C5	19.60
CL36BE2R5MN3	15	2.5	C1	4.20	CL36BN0R4MN3	100	0.4	C1	4.20
CL36BE100MN3	15	10	C2	6.60	CL36BN1R5MN3	100	1.5	C2	6.60
CL36BE350MN3	15	35	C3	10.45	CL36BN050MN3	100	5	C3	10.45
CL36BE700MN3	15	70	C4	14.60	CL36BN100MN3	100	10	C4	14.60
CL36BE101MN3	15	100	C5	19.60	CL36BN150MN3	100	15	C5	19.60
CL36BG1R5MN3	25	1.5	C1	4.20	CL36BQ2R5MN3	150	0.25	C1	4.20
CL36BG100MN3	25	6	C2	6.60	CL36BQ010MN3	150	1	C2	6.60
CL36BG200MN3	25	20	C3	10.45	CL36BQ3R5MN3	150	3.5	C3	10.45
CL36BG400MN3	25	40	C4	14.60	CL36BQ070MN3	150	7	C4	14.60
CL36BG600MN3	25	60	C5	19.60	CL36BQ100MN3	150	10	C5	19.60

†See your Tansitor Distributor for prices for 25 or more pieces.



# Tansitor

ELECTRONICS, INC.

## TANSITOR TANTALUM CAPACITORS

TYPE: TES -55°C to +85°C

Tansitor Type TES tantalum capacitors are unique small foil tantalum capacitors ideally suited for use in printed circuits. They are similar in performance to CL34 and CL24 type capacitors, but offer significant savings in space because both leads emerge from one end of the capacitors. They operate reliably over the temperature range of -55°C to +85°C.

### CASE DIMENSIONS (Uninsulated)\*

CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches
C1	0.650 x 0.312
C2	1.000 x 0.375

\*For dimensions of insulated units add approximately 0.125" to length, 0.030" to diameter.

### HIGH CAPACITANCE TYPE

#### CASE DIMENSIONS (Uninsulated)\*

CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches	CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches
C30	0.813 x 0.563	C40	0.813 x 0.625
C32	0.938 x 0.563	C42	0.938 x 0.625
C33	1.188 x 0.563	C43	1.188 x 0.625
C34	1.250 x 0.563	C44	1.250 x 0.625
C35	1.563 x 0.563	C45	1.563 x 0.625
C36	1.688 x 0.563	C46	1.688 x 0.625
C37	1.938 x 0.563	C47	1.938 x 0.625
C38	2.188 x 0.563	C48	2.188 x 0.625
C39	2.438 x 0.563	C49	2.438 x 0.625

\*For dimensions of insulated units add approximately 0.065" to length, 0.015" to diameter.

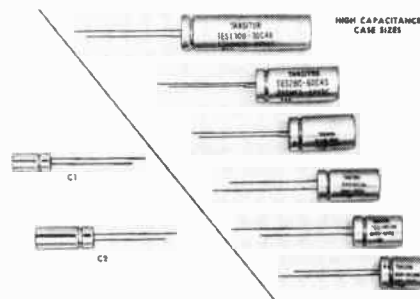
### ETCHED FOIL, POLAR\*

VOLTS D.C.	CASE SIZE	CAP. MFDS.	TANSITOR <sup>1</sup> CATALOG NO.	NET PRICE (1-24)†
6	C1	220	TES220-6C1	\$ 3.74
	C2	600	TES600-6C2	6.10
10	C1	140	TES140-10C1	3.74
	C2	375	TES375-10C2	6.10
15	C1	90	TES90-15C1	3.74
	C2	250	TES250-15C2	6.10
20	C1	70	TES70-20C1	3.74
	C2	180	TES180-20C2	6.10
35	C1	35	TES35-35C1	3.74
	C2	100	TES100-35C2	6.10
50	C1	25	TES25-50C1	3.74
	C2	60	TES60-50C2	6.10
60	C1	19	TES19-60C1	3.74
	C2	50	TES50-60C2	6.10
75	C1	14	TES14-75C1	3.74
	C2	35	TES35-75C2	6.10
100	C1	8.5	TES8.5-100C1	3.74
	C2	20	TES20-100C2	6.10
125	C1	5	TES5-125C1	3.74
	C2	14	TES14-125C2	6.10
150	C1	3.5	TES3.5-150C1	3.74
	C2	10	TES10-150C2	6.10

### ETCHED FOIL, NON-POLAR\*

VOLTS D.C.	CASE SIZE	CAP. MFDS.	TANSITOR <sup>1</sup> CATALOG NO.	NET PRICE (1-24)†
6	C1	150	TES150-6C1N	\$ 3.74
	C2	350	TES350-6C2N	6.10
10	C1	80	TES80-10C1N	3.74
	C2	200	TES200-10C2N	6.10
15	C1	50	TES50-15C1N	3.74
	C2	140	TES140-15C2N	6.10
20	C1	35	TES35-20C1N	3.74
	C2	100	TES100-20C2N	6.10
35	C1	18	TES18-35C1N	3.74
	C2	50	TES50-35C2N	6.10
50	C1	13	TES13-50C1N	3.74
	C2	30	TES30-50C2N	6.10
60	C1	9.5	TES9.5-60C1N	3.74
	C2	25	TES25-60C2N	6.10
75	C1	7	TES7-75C1N	3.74
	C2	18	TES18-75C2N	6.10
100	C1	4.2	TES4.2-100C1N	3.74
	C2	10	TES10-100C2N	6.10
125	C1	2.5	TES2.5-125C1N	3.74
	C2	7	TES7-125C2N	6.10
150	C1	1.8	TES1.8-150C1N	3.74
	C2	5	TES5-150C2N	6.10

\*Ratings in plain foil also available.



### HIGH CAPACITANCE FOIL, POLAR

VOLTS O.C.	CASE SIZE	CAP. MFDS.	TANSITOR <sup>1</sup> CATALOG NO.	NET PRICE (1-24)†
3	C40	2000	TES2000-3C40	\$ 8.84
	C42	3000	TES3000-3C42	13.20
	C43	4000	TES4000-3C43	17.42
	C44	5000	TES5000-3C44	22.04
	C45	7000	TES7000-3C45	30.80
	C46	8000	TES8000-3C46	35.16
	C47	10000	TES10K-3C47	44.00
	C48	12000	TES12K-3C48	52.76
	C49	14000	TES14K-3C49	61.54
25	C30	170	TES170-25C30	\$ 6.40
	C32	260	TES260-25C32	9.60
	C33	350	TES350-25C33	12.80
	C34	430	TES430-25C34	16.00
	C35	600	TES600-25C35	22.38
	C36	690	TES690-25C36	25.36
	C37	870	TES870-25C37	31.96
	C38	1000	TES1000-25C38	38.36
	C39	1200	TES1200-25C39	44.74
50	C40	100	TES100-50C40	8.84
	C42	150	TES150-50C42	13.20
	C43	210	TES210-50C43	17.42
	C44	260	TES260-50C44	22.04
	C45	360	TES360-50C45	30.80
	C46	410	TES410-50C46	35.16
	C47	520	TES520-50C47	44.00
	C48	620	TES620-50C48	52.76
	C49	720	TES720-50C49	61.54
100	C30	27	TES27-100C30	6.40
	C32	41	TES41-100C32	9.60
	C33	55	TES55-100C33	12.80
	C34	68	TES68-100C34	16.00
	C35	95	TES95-100C35	22.38
	C36	110	TES110-100C36	25.36
	C37	140	TES140-100C37	31.96
	C38	160	TES160-100C38	38.36
	C39	190	TES190-100C39	44.74
150	C40	23	TES23-150C40	8.84
	C42	34	TES34-150C42	13.20
	C43	46	TES46-150C43	17.42
	C44	57	TES57-150C44	22.04
	C45	80	TES80-150C45	30.80
	C46	92	TES92-150C46	35.16
	C47	115	TES115-150C47	44.00
	C48	140	TES140-150C48	52.76
	C49	160	TES160-150C49	61.54

### HIGH CAPACITANCE FOIL, NON-POLAR

VOLTS O.C.	CASE SIZE	CAP. MFDS.	TANSITOR <sup>1</sup> CATALOG NO.	NET PRICE (1-24)†
25	C40	140	TES140-25C40N	8.84
	C42	210	TES210-25C42N	13.20
	C43	280	TES280-25C43N	17.42
	C44	350	TES350-25C44N	22.04
	C45	490	TES490-25C45N	30.80
	C46	550	TES550-25C46N	35.16
	C47	690	TES690-25C47N	44.00
	C48	830	TES830-25C48N	52.76
	C49	970	TES970-25C49N	61.54
50	C30	37	TES37-50C30N	6.40
	C32	55	TES55-50C32N	9.60
	C33	75	TES75-50C33N	12.80
	C34	90	TES90-50C34N	16.00
	C35	130	TES130-50C35N	22.38
	C36	150	TES150-50C36N	25.36
	C37	180	TES180-50C37N	31.96
	C38	220	TES320-50C38N	38.36
	C39	260	TES260-50C39N	44.74
150	C30	8	TES8-150C30N	6.40
	C32	12	TES12-150C32N	9.60
	C33	16	TES16-150C33N	12.80
	C34	20	TES20-150C34N	16.00
	C35	28	TES28-150C35N	22.38
	C36	33	TES33-150C36N	25.36
	C37	41	TES41-150C37N	31.96
	C38	50	TES50-150C38N	38.36
	C39	57	TES57-150C39N	44.74

<sup>1</sup>When insulating tube is desired, add letter "I" as a suffix to catalog number.

†See your Tansitor Distributor for prices for 25 or more pieces.



# Tansitor

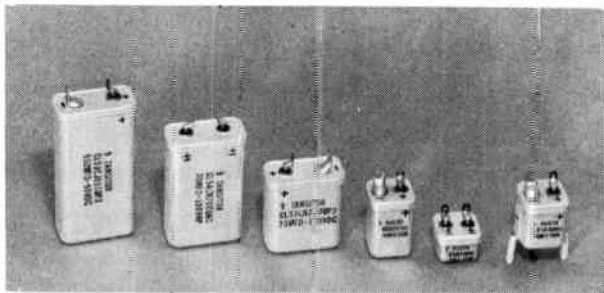
ELECTRONICS, INC.

## MIL-C-3965

### TANSITOR TANTALUM CAPACITORS

TYPE: CL51, CL52, CL53, CL54; -55°C to +125°C

Tansitor's Type CL51, 52, 53 & 54 tantalum foil capacitors answer industry's need for packages of high capacitance in moderate size, hermetically sealed cases, and meet all the requirements of the current issue of MIL-C-3965. These units are equivalent to Tansitor Types RE & RP. Brackets available on request.



CASE SIZE	DIMENSIONS, INCHES	CASE SIZE	DIMENSIONS, INCHES
C1	0.750 x 0.750 x 0.500	D1	0.783 x 1.331 x 1.375
C2	0.750 x 0.750 x 0.875	D2	0.783 x 1.331 x 2.000
C3	0.750 x 0.750 x 1.125	D3	0.783 x 1.331 x 2.500

#### MILITARY DESIGNATION CODE

CL53	C	J	551	U	P	3
Style	Temp. Characteristic	Voltage	Capacitance	Capacitance Tolerance	Polarity	Vibration Grade

#### STANDARD MILITARY RATINGS

TYPE: CL53 — ETCHED FOIL\*, POLAR

TYPE: CL54 — ETCHED FOIL\*, NON-POLAR

MIL-C-3965/11	D.C. VOLTAGE AT +125°C	CAPACITANCE MFDS.	CASE SIZE	NET PRICE (1-24)†
CL53CD122UP3	10	1200	D1	\$44.10
CL53CD242UP3	10	2400	D2	56.60
CL53CD352UP3	10	3500	D3	62.80
CL53CF661UP3	20	660	D1	44.10
CL53CF132UP3	20	1300	D2	56.60
CL53CF182UP3	20	1800	D3	62.80
CL53CH351UP3	30	350	D1	44.10
CL53CH701UP3	30	700	D2	56.60
CL53CH102UP3	30	1000	D3	62.80
CL53CJ201UP3	50	200	D1	44.10
CL53CJ401UP3	50	400	D2	56.60
CL53CJ551UP3	50	550	D3	62.80
CL53CL121UP3	75	120	D1	44.10
CL53CL241UP3	75	240	D2	56.60
CL53CL321UP3	75	320	D3	62.80
CL53CN700UP3	100	70	D1	44.10
CL53CN141UP3	100	140	D2	56.60
CL53CN201UP3	100	200	D3	62.80
CL53CH550UP3	30	55	C1	29.86
CL53CH111UP3	30	110	C2	41.16
CL53CH181UP3	30	180	C3	48.02
CL53CJ300UP3	50	30	C1	29.86
CL53CJ600UP3	50	60	C2	41.16
CL53CJ101UP3	50	100	C3	48.02
CL53CL180UP3	75	18	C1	29.86
CL53CL360UP3	75	36	C2	41.16
CL53CL600UP3	75	60	C3	48.02
CL53CN120UP3	100	12	C1	29.86
CL53CN240UP3	100	24	C2	41.16
CL53CN360UP3	100	36	C3	48.02

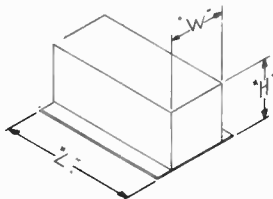
MIL-C-3965/12	D.C. VOLTAGE AT +125°C	CAPACITANCE MFDS.	CASE SIZE	NET PRICE (1-24)†
CL54CD751UN3	10	750	D1	\$56.49
CL54CD152UN3	10	1500	D2	74.09
CL54CD212UN3	10	2100	D3	89.96
CL54CF361UN3	20	360	D1	56.49
CL54CF721UN3	20	720	D2	74.09
CL54CF102UN3	20	1000	D3	89.96
CL54CH201UN3	30	200	D1	56.49
CL54CH401UN3	30	400	D2	74.09
CL54CH551UN3	30	550	D3	89.96
CL54CJ101UN3	50	100	D1	56.49
CL54CJ201UN3	50	200	D2	74.09
CL54CJ271UN3	50	270	D3	89.96
CL54CL600UN3	75	60	D1	56.49
CL54CL121UN3	75	120	D2	74.09
CL54CL161UN3	75	160	D3	89.96
CL54CN350UN3	100	35	D1	56.49
CL54CN700UN3	100	70	D2	74.09
CL54CN101UN3	100	100	D3	89.96
CL54CH300UN3	30	30	C1	41.52
CL54CH600UN3	30	60	C2	54.88
CL54CH101UN3	30	100	C3	62.44
CL54CJ150UN3	50	15	C1	41.52
CL54CJ300UN3	50	30	C2	54.88
CL54CJ500UN3	50	50	C3	62.44
CL54CL090UN3	75	9	C1	41.52
CL54CL180UN3	75	18	C2	54.88
CL54CL300UN3	75	30	C3	62.44
CL54CN060UN3	100	6	C1	41.52
CL54CN120UN3	100	12	C2	54.88
CL54CN180UN3	100	18	C3	62.44

† See your Tansitor Distributor for prices for 25 or more pieces.

\* Ratings in plain foil (CL51, CL52) also available.

## TANSITOR TANTALUM CAPACITORS

TYPE: CM, RECTANGULAR  
-55°C to +125°C

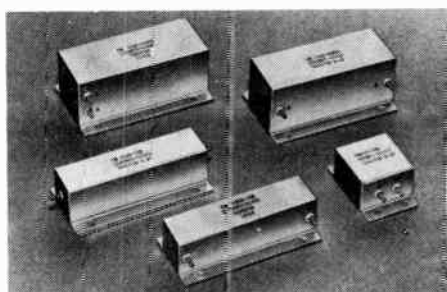


Tolerance on H, W & L dimensions is ±1/16"

#### SUGGESTED "STANDARD" CASE SIZES

DIMENSIONS IN INCHES		
H	W	L
1/16"	1 1/8"	3 7/8"
1/8"	1 1/8"	3 7/8"
1 1/8"	1 1/8"	3 7/8"
1 1/8"	1 1/8"	3 7/8"
1 1/8"	1 1/8"	3 7/8"
1 1/8"	2 1/8"	3 7/8"

DIMENSIONS IN INCHES		
H	W	L
2 1/8"	2 1/8"	3 7/8"
2 1/8"	2 1/8"	3 7/8"
2 1/8"	2 1/8"	3 7/8"
2 1/8"	3 1/8"	3 7/8"
3 1/8"	3 1/8"	3 7/8"
3 1/8"	3 1/8"	3 7/8"
3 1/8"	3 1/8"	3 7/8"



As the name implies, Tansitor Type CM or custom-made capacitor "packages" are designed to fill special or unusual tantalum capacitor needs, most frequently in the area of extra high capacitance.

In most cases, Type CM units have employed tantalum foil internally. By its nature, however, a CM unit may employ internal sections of solid or wet sintered anode tantalum capacitors where their respective characteristics are desired. Combinations of foil, solid and wet styles are also available, if needed.

A wide range of ratings are available, with capacitance values as high as 310,000 microfarads. The CM series, however is adaptable for many ratings beyond those suggested, even to 1 farad and above, if required.

Dual or plural ratings are available in a single case or other components can be potted in the same case with the capacitors. For specific applications contact Tansitor Electronics, Inc.

# Tansitor ELECTRONICS, INC.

## MIL-C-3965C TANSITOR TANTALUM CAPACITORS TYPES: CL64 & CL65 — CHARACTERISTICS "B" & "C" -55°C to +85°C and -55°C to +125°C

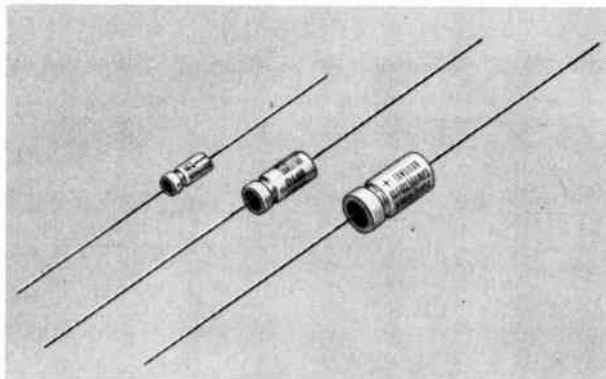
Tansitor wet sintered anode capacitors listed herein are manufactured to meet all the requirements of MIL-C-3965C for MIL types CL64 and CL65. Encased in a fine silver can, the sintered porous tantalum anode provides exceptionally high capacitance per unit volume. These units exhibit extremely low leakage currents, low power factor, and little change in capacitance with frequency.

As opposed to "Shoulder Type" construction of other wet types, the CL64 and CL65 offer a straight cylindrical shape, readily lending them to flat circuit applications. CL 64 and CL65 styles are equivalent to Tansitor Type W. Tansitor Type WF equivalent with neutral electrolyte is also available.

### CASE DIMENSIONS — CL64, CL65 (Uninsulated)\*

CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches
T1	0.453 x 0.188
T2	0.641 x 0.281
T3	0.766 x 0.375

\*For dimensions of insulated units add approximately 0.065" to length, 0.015" to diameter. Basic case dimensions for insulated style are same as uninsulated.



### MILITARY DESIGNATION CODE

CL65                      C                      J                      050                      M                      P                      3  
Style                      Temp. Characteristic                      Voltage                      Capacitance                      Capacitance Tolerance                      Polarity                      Vibration Grade

## STANDARD MILITARY 125°C RATINGS‡ TYPE: CL64 & CL65 — CHARACTERISTIC "C"

MIL-C-3965** DESIGNATION	VOLTS D.C. AT 125°C	CAPACITY MFDS.	CASE SIZE	NET PRICE (1-24)†
CL64(65)CB300MP3	4	30	T1	\$2.30
CL64(65)CB680MP3	4	68	T1	2.30
CL64(65)CB141MP3	4	140	T2	3.52
CL64(65)CB271MP3	4	270	T2	3.52
CL64(65)CB331MP3	4	330	T3	5.56
CL64(65)CB561MP3	4	560	T3	5.56
CL64(65)CC250MP3	5	25	T1	2.30
CL64(65)CC560MP3	5	56	T1	2.30
CL64(65)CC221MP3	5	220	T2	3.52
CL64(65)CC431MP3	5	430	T3	5.56
CL64(65)CD200MP3	7	20	T1	2.30
CL64(65)CD470MP3	7	47	T1	2.30
CL64(65)CD101MP3	7	100	T2	3.52
CL64(65)CD181MP3	7	180	T2	3.52
CL64(65)CD251MP3	7	250	T3	5.56
CL64(65)CD391MP3	7	390	T3	5.56
CL64(65)CE150MP3	10	15	T1	2.30
CL64(65)CE330MP3	10	33	T1	2.30
CL64(65)CE700MP3	10	70	T2	3.52
CL64(65)CE121MP3	10	120	T2	3.52
CL64(65)CE171MP3	10	170	T3	5.56
CL64(65)CE271MP3	10	270	T3	5.56
CL64(65)CG100MP3	15	10	T1	2.30
CL64(65)CG220MP3	15	22	T1	2.30
CL64(65)CG101MP3	15	100	T2	3.52
CL64(65)CG181MP3	15	180	T3	5.56
CL64(65)CH080MP3	20	8	T1	2.30
CL64(65)CH150MP3	20	15	T1	2.30
CL64(65)CH400MP3	20	40	T2	3.52
CL64(65)CH680MP3	20	68	T2	3.52
CL64(65)CH101MP3	20	100	T3	5.56
CL64(65)CH151MP3	20	150	T3	5.56

MIL-C-3965** DESIGNATION	VOLTS D.C. AT 125°C	CAPACITY MFDS.	CASE SIZE	NET PRICE (1-24)†
CL64(65)CJ050MP3	30	5	T1	\$2.30
CL64(65)CJ100MP3	30	10	T1	2.30
CL64(65)CJ250MP3	30	25	T2	3.52
CL64(65)CJ470MP3	30	47	T2	3.52
CL64(65)CJ600MP3	30	60	T3	5.56
CL64(65)CJ820MP3	30	82	T3	5.56
CL64(65)CK040MP3	40	4	T1	2.30
CL64(65)CK8R2MP3	40	8.2	T1	2.30
CL64(65)CK200MP3	40	20	T2	3.52
CL64(65)CK390MP3	40	39	T2	3.52
CL64(65)CK500MP3	40	50	T3	5.56
CL64(65)CK680MP3	40	68	T3	5.56
CL64(65)CL3R5MP3	50	3.5	T1	2.30
CL64(65)CL6R8MP3	50	6.8	T1	2.30
CL64(65)CL150MP3	50	15	T2	3.52
CL64(65)CL330MP3	50	33	T2	3.52
CL64(65)CL400MP3	50	40	T3	5.56
CL64(65)CL560MP3	50	56	T3	5.56
CL64(65)CN2R5MP3	70	2.5	T1	2.30
CL64(65)CN4R7MP3	70	4.7	T1	2.30
CL64(65)CN110MP3	70	11	T2	3.52
CL64(65)CN220MP3	70	22	T2	3.52
CL64(65)CN300MP3	70	30	T3	5.56
CL64(65)CN430MP3	70	43	T3	5.56
CL64(65)CP1R7MP3	85	1.7	T1	2.30
CL64(65)CP3R6MP3	85	3.6	T1	2.30
CL64(65)CP090MP3	85	9	T2	3.52
CL64(65)CP140MP3	85	14	T2	3.52
CL64(65)CP250MP3	85	25	T3	5.56

†See your Tansitor Distributor for prices for 25 or more pieces.

\*\*CL64 indicates uninsulated capacitors. If outer insulating sleeve is required, change CL64 to CL65.

‡Standard Military 85°C Ratings (formerly "B" characteristic) are also available.

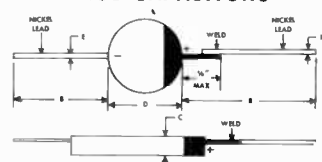
## TANSITOR MICRO-MODULE — TANTALUM CAPACITORS DISC TYPE — -80°C to +125°C

Tansitor Disc Type are a new concept in tantalum capacitors. This capacitor has the best volumetric efficiency of any tantalum capacitor yet designed and produced for volume use. Specifically aimed at the micro-module market it supplements other Tansitor tantalum capacitors. Its characteristics include extremely low electrical leakage current, high capacitance per unit volume, exceptional stability over its temperature range -80°C to +125°C.

### DISC CAPACITORS

Unit	B, ±1/4"	DIMENSIONS FOR O TYPE				NET PRICE (1-24)†
		C, Max.	D, ±0.015"	E, ±0.001"	F, ±0.001"	
C1	1 1/2"	0.060"	0.100"	0.010"	0.010"	\$4.00
C2	1 1/2"	0.100"	0.100"	0.010"	0.010"	4.50
C3	1 1/2"	0.060"	0.250"	0.010"	0.010"	5.00
C4	1 1/2"	0.100"	0.250"	0.010"	0.010"	5.50
C5	1 1/2"	0.060"	0.500"	0.010"	0.010"	6.00
C6	1 1/2"	0.100"	0.500"	0.010"	0.010"	6.50

These capacitors are not intended to be mounted by their leads.



### RATINGS AT 85 °C

RATED VOLTAGE AT 85°C	DIMENSIONS OF UNITS											
	C1		C2		C3		C4		C5		C6	
	0.100" Dia. x 0.060"	0.100" Dia. x 0.100"	0.100" Dia. x 0.100"	0.100" Dia. x 0.100"	0.250" Dia. x 0.060"	0.250" Dia. x 0.100"	0.250" Dia. x 0.100"	0.250" Dia. x 0.100"	0.500" Dia. x 0.060"	0.500" Dia. x 0.100"	0.500" Dia. x 0.100"	0.500" Dia. x 0.100"
3VDC	2.5	D2.5-3C1	5	D5-3C2	20	D20-3C3	40	D40-3C4	80	D80-3C5	160	D160-3C6
5	1.5	D1.5-5C1	3	D3-5C2	12	D12-5C3	24	D24-5C4	48	D48-5C5	96	D96-5C6
6	1.2	D1.2-6C1	2.4	D2.4-6C2	10	D10-6C3	20	D20-6C4	40	D40-6C5	80	D80-6C6
10	0.8	D0.8-10C1	1.6	D1.6-10C2	6	D6-10C3	12	D12-10C4	24	D24-10C5	48	D48-10C6
15	0.5	D0.5-15C1	1	D1-15C2	4	D4-15C3	8	D8-15C4	16	D16-15C5	32	D32-15C6
20	0.4	D0.4-20C1	0.8	D0.8-20C2	3	D3-20C3	6	D6-20C4	12	D12-20C5	24	D24-20C6
25	0.3	D0.3-25C1	0.6	D0.6-25C2	2.4	D0.6-25C3	4.8	D4.8-25C4	9.5	D9.5-25C5	19	D19-25C6
30	0.25	D0.25-30C1	0.5	D0.5-30C2	2	D2-30C3	4	D4-30C4	8	D8-30C5	16	D16-30C6
35	0.2	D0.2-35C1	0.4	D0.4-35C2	1.5	D1.5-35C3	3	D3-35C4	7	D7-35C5	14	D14-35C6
35	0.15	D0.15-35C1	0.3	D0.3-35C2	1.2	D1.2-35C3	2.4	D2.4-35C4	5	D5-35C5	10	D10-35C6
35	0.12	D0.12-35C1	0.24	D0.24-35C2	1	D1-35C3	2	D2-35C4	4	D4-35C5	8	D8-35C6

# Tansitor ELECTRONICS, INC.

## TANSITOR TANTALUM CAPACITORS — TYPE WF

(Equivalent to MIL Styles CL64 & CL65)  
-55°C to +85°C and -55°C to +125°C

Tansitor type WF capacitors listed herein are manufactured to meet all the requirements of MIL-C-3965 for the ratings listed under MIL Types CL64 & CL65, except that tantalum foil is used in place of tantalum sintered slugs.

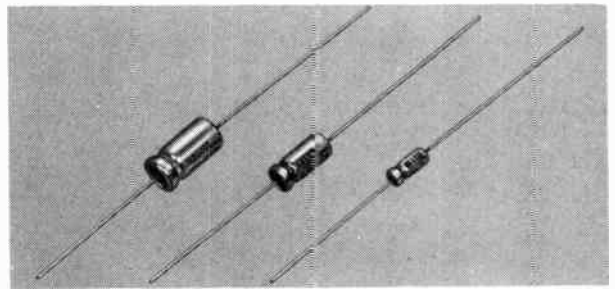
In addition to the advantages in volume, low leakage current and low power factor normally associated with this style of capacitor, the WF also offers an acid-free construction and voltage ratings up to 300 VDC at 85°C and up to 200 VDC at 125°C where 125 VDC and 85 VDC were previously considered the upper limits. The WF is lighter in weight, too, thus offering even more advantage for aerospace applications.

**Case Dimensions (Uninsulated)†**

CASE CODE	Length x Diameter, Inches, Nominal
D1	0.453 x 0.188
D2	0.641 x 0.281
D3	0.766 x 0.375

†For insulated case dimensions add 0.063" to length, 0.015" to diameter. Basic case dimensions for insulated style are same as uninsulated.

WF Style      5 Capacitance



**TANSITOR PART NUMBER CODE**

50 Voltage      D1 Case Size      M Tolerance      I Insulating Sleeve

**STANDARD WF 125°C RATINGS**

Tansitor Part No.*	Volts D.C. at 125°C	Cap. Mfds.	Case Size	Net Price (1-24)†
WF30-4D1M	4	30	D1	\$1.88
WF68-4D1M	4	68	D1	1.88
WF140-4D2M	4	140	D2	2.88
WF270-4D2M	4	270	D2	2.88
WF330-4D3M	4	330	D3	4.50
WF560-4D3M	4	560	D3	4.50
WF25-5D1M	5	25	D1	1.88
WF56-5D1M	5	56	D1	1.88
WF220-5D2M	5	220	D2	2.88
WF430-5D3M	5	430	D3	4.50
WF20-7D1M	7	20	D1	1.88
WF47-7D1M	7	47	D1	1.88
WF100-7D2M	7	100	D2	2.88
WF180-7D2M	7	180	D2	2.88
WF250-7D3M	7	250	D3	4.50
WF390-7D3M	7	390	D3	4.50
WF15-10D1M	10	15	D1	1.88
WF33-10D1M	10	33	D1	1.88
WF70-10D2M	10	70	D2	2.88
WF120-10D2M	10	120	D2	2.88
WF170-10D3M	10	170	D3	4.50
WF270-10D3M	10	270	D3	4.50
WF10-15D1M	15	10	D1	1.88
WF22-15D1M	15	22	D1	1.88
WF100-15D2M	15	100	D2	2.88
WF180-15D3M	15	180	D3	4.50
WF8-20D1M	20	8	D1	1.88
WF15-20D1M	20	15	D1	1.88
WF40-20D2M	20	40	D2	2.88
WF68-20D2M	20	68	D2	2.88
WF100-20D3M	20	100	D3	4.50
WF150-20D3M	20	150	D3	4.50
WF5-30D1M	30	5	D1	1.88
WF10-30D1M	30	10	D1	1.88
WF25-30D2M	30	25	D2	2.88
WF47-30D2M	30	47	D2	2.88
WF60-30D3M	30	60	D3	4.50
WF82-30D3M	30	82	D3	4.50

Tansitor Part No.*	Volts D.C. at 125°C	Cap. Mfds.	Case Size	Net Price (1-24)†
WF4-40D1M	40	4	D1	\$1.88
WF8.2-40D1M	40	8.2	D1	1.88
WF20-40D2M	40	20	D2	2.88
WF39-40D2M	40	39	D2	2.88
WF50-40D3M	40	50	D3	4.50
WF68-40D3M	40	68	D3	4.50
WF3.5-50D1M	50	3.5	D1	1.88
WF6.8-50D1M	50	6.8	D1	1.88
WF15-50D2M	50	15	D2	2.88
WF33-50D2M	50	33	D2	2.88
WF40-50D3M	50	40	D3	4.50
WF56-50D3M	50	56	D3	4.50
WF2.5-70D1M	70	2.5	D1	1.88
WF4.7-70D1M	70	4.7	D1	1.88
WF11-70D2M	70	11	D2	2.88
WF22-70D2M	70	22	D2	2.88
WF30-70D3M	70	30	D3	4.50
WF43-70D3M	70	43	D3	4.50
WF1.7-85D1M	85	1.7	D1	1.88
WF3.6-85D1M	85	3.6	D1	1.88
WF9-85D2M	85	9	D2	2.88
WF14-85D2M	85	14	D2	2.88
WF25-85D3M	85	25	D3	4.50
WF0.5-100D1M	100	0.5	D1	2.44
WF2.5-100D2M	100	2.5	D2	3.56
WF5-100D3M	100	5	D3	5.85
WF0.4-125D1M	125	0.4	D1	2.44
WF2-125D2M	125	2	D2	3.56
WF4-125D3M	125	4	D3	5.85
WF0.12-150D1M	150	0.12	D1	2.44
WF0.75-150D2M	150	0.75	D2	3.56
WF1.5-150D3M	150	1.5	D3	5.85
WF0.1-200D1M	200	0.1	D1	2.44
WF0.6-200D2M	200	0.6	D2	3.56
WF1.25-200D3M	200	1.25	D3	5.85

\*When outer insulating sleeve is desired, add letter "I" as suffix to part number.  
†See your Tansitor distributor for prices for 25 or more pieces.

## SOLID CHIP TANTALUM CAPACITORS

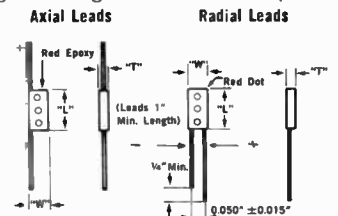
TYPE TC: -55°C to +125°C

Performance Characteristics.

Tansitor's type TC solid tantalum capacitor is tailored to meet the demand for rectangular shaped, or "chip" components as often used in modular type assemblies. The small size facilitates high density packaging. Larger sizes with higher ratings available on request.

**Partial List of Type TC Capacitors**

Part No.*	Cap. (Mfd.)	Working Voltage DC	Net Price (1-24)†
TC .0047-20C1	0.0047	20	\$1.00
TC .01-20C1	0.01	20	1.00
TC .033-20C1	0.033	20	1.00
TC .047-20C1	0.047	20	1.00
TC .068-20C1	0.068	20	1.00
TC 1-20C1	0.1	20	1.00
TC .33-10C1	0.33	10	1.00
TC .47-6C1	0.47	6	1.00
TC .68-4C1	0.68	4	1.00
TC 1-3C1	1.0	3	1.00
TC 1.5-2C1	1.5	2	1.00

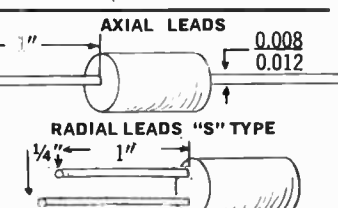


Case Size	L (Max.)	W (Max.)	T (Max.)
C1	0.125"	0.070"	0.040"

\*NOTE: Part numbers as listed denote Axial Lead Configuration. When the Radial Lead Configuration is desired, add the suffix "S" to the part number. If a special capacitance tolerance is required, add the tolerance letter (see paragraph 2) at the end of the part number.  
†See your Tansitor distributor for prices for 25 or more pieces.

### Tansitor Solid Tantalum Type HA: -55°C to +125°C

Tansitor's Type HA Solid Tantalum Capacitors are tailored for the Hearing Aid industry and offer size reductions never before available. Without increasing unit length, Tansitor has decreased unit diameter while maintaining and, in some cases, increasing Capacitor ratings. Larger sizes beyond C6 with higher ratings available on request.



Case Size	Diameter +0.012 -0.000	Length ±0.010
C1	0.053	0.100
C2	0.053	0.125
C3	0.053	0.140
C4	0.063	0.170
C5	0.063	0.190
C6	0.063	0.240

Case Size	Diameter +0.012 -0.000	Length ±0.010
C1	0.063	0.100
C2	0.063	0.125
C3	0.063	0.140
C4	0.073	0.170
C5	0.073	0.190
C6	0.073	0.240

### PARTIAL LIST TYPE HA SOLID TANTALUM CAPACITORS

Catalogue Number	Cap. Mfds.	Working Voltage DC	Net Price (1-24)†
HA 0.02-15C1	0.02	15	\$0.80
HA 0.1-8C1	0.1	8	0.80
HA 0.1-4C1	0.2	4	0.80
HA 0.5-1.5C1	0.5	1.5	0.80
HA 0.05-15C2	0.05	15	0.80
HA 0.15-15C2	0.15	15	0.80
HA 0.5-6C2	0.5	6	0.80
HA 1-3C2	1	3	0.80
HA 2-1.5C2	2	1.5	0.80
HA 0.01-15C3	0.01	15	0.80
HA 0.05-15C3	0.05	15	0.80
HA 0.1-15C3	0.1	15	0.80
HA 0.8-15C3	0.8	15	0.80
HA 0.1-10C3	0.1	10	0.80
HA 0.5-10C3	0.5	10	0.80

Catalogue Number	Cap. Mfds.	Working Voltage DC	Net Price (1-24)†
HA 1-10C3	1.0	10	0.80
HA 0.05-8C3	0.05	8	0.80
HA 0.5-8C3	0.5	8	0.80
HA 1-8C3	1.0	8	0.80
HA 0.8-6C3	0.8	6	0.80
HA 1-6C3	1.0	6	0.80
HA 1.2-6C3	1.2	6	0.80
HA 0.04-4C3	0.04	4	0.80
HA 0.2-4C3	0.2	4	0.80
HA 0.4-4C3	0.4	4	0.80
HA 0.5-4C3	0.5	4	0.80
HA 0.8-4C3	0.8	4	0.80
HA 1.5-4C3	1.5	4	0.80
HA 2-4C3	2	4	0.80
HA 1-3C3	1.0	3	0.80

Catalogue Number	Cap. Mfds.	Working Voltage DC	Net Price (1-24)†
HA 1.5-3C3	1.5	3	0.80
HA 2-3C3	2.0	3	0.80
HA 2.5-3C3	2.5	3	0.80
HA 2-2C3	2.0	2	0.80
HA 3-2C3	3.0	2	0.80
HA 4-2C3	4.0	2	0.80
HA 0.8-15C4	0.8	15	0.80
HA 1-15C4	1.0	15	0.80
HA 1.5-8C4	1.5	8	0.80
HA 2-8C4	2.0	8	0.80
HA 4-4C4	4.0	4	0.80
HA 5-4C4	5.0	4	0.80
HA 6-3C4	6.0	3	0.80
HA 7-2C4	7.0	2	0.80

Catalogue Number	Cap. Mfds.	Working Voltage DC	Net Price (1-24)†
HA 1.5-15C5	1.5	15	0.80
HA 1.5-6C5	1.5	6	0.80
HA 2-4C5	2.0	4	0.80
HA 4-4C5	4.0	4	0.80
HA 5-4C5	5.0	4	0.80
HA 4-3C5	4.0	3	0.80
HA 5-3C5	5.0	3	0.80
HA 6-3C5	6.0	3	0.80
HA 8-2C5	8.0	2	0.80
HA 10-2C5	10.0	2	0.80
HA 2.5-15C6	2.5	15	0.80
HA 5-8C6	5.0	8	0.80
HA 10-4C6	10.0	4	0.80
HA 14-2C6	14.0	2	0.80

†See your Tansitor distributor for prices for 25 or more pieces.

# Tansitor ELECTRONICS, INC.

## TANSITOR TYPE S POLAR AND NON-POLAR SOLID TANTALUM CAPACITORS

Tansitor Type S Polar and Non-polar Solid Tantalum Capacitors are designed for continuous, dependable use over their full operating range of -80°C to +125°C. The units are similar to MIL Styles CS12 and CS13.

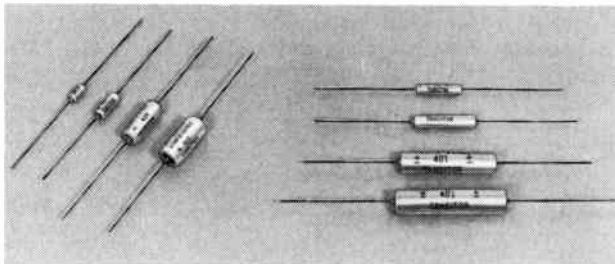
These advantages for the design engineer are further enhanced by the excellent showing made by S type units under conditions of high frequency application and when subjected to extensive vibration and shock, including all the stringent environmental requirements of MIL-C-26655, Styles CS12 and CS13.

### TYPE S POLARIZED CAPACITORS

Net Price (1-24)†

Case Size	Price (±20% tol.)	Case Size	Price (±20% tol.)
C1	\$1.29	C3	\$2.18
C2	1.52	C4	4.70

NOTE: Add 2¢ to unit price if sleeving is required.



## STANDARD RATINGS OF TYPE S POLARIZED SOLID ELECTROLYTE TANTALUM CAPACITORS\*

Cap. Mfds.	6VDC	10VDC	15VDC	20VDC	35VDC
0.0047	S0.0047-6C1	S0.0047-10C1	S0.0047-15C1	S0.0047-20C1	S0.0047-35C1
0.0056	S0.0056-6C1	S0.0056-10C1	S0.0056-15C1	S0.0056-20C1	S0.0056-35C1
0.0068	S0.0068-6C1	S0.0068-10C1	S0.0068-15C1	S0.0068-20C1	S0.0068-35C1
0.0082	S0.0082-6C1	S0.0082-10C1	S0.0082-15C1	S0.0082-20C1	S0.0082-35C1
0.01	S0.01-6C1	S0.01-10C1	S0.01-15C1	S0.01-20C1	S0.01-35C1
0.012	S0.012-6C1	S0.012-10C1	S0.012-15C1	S0.012-20C1	S0.12-35C1
0.015	S0.015-6C1	S0.015-10C1	S0.015-15C1	S0.015-20C1	S0.015-35C1
0.018	S0.018-6C1	S0.018-10C1	S0.018-15C1	S0.018-20C1	S0.018-35C1
0.022	S0.022-6C1	S0.022-10C1	S0.022-15C1	S0.022-20C1	S0.022-35C1
0.027	S0.027-6C1	S0.027-10C1	S0.027-15C1	S0.027-20C1	S0.027-35C1
0.033	S0.033-6C1	S0.033-10C1	S0.033-15C1	S0.033-20C1	S0.033-35C1
0.039	S0.039-6C1	S0.039-10C1	S0.039-15C1	S0.039-20C1	S0.039-35C1
0.047	S0.047-6C1	S0.047-10C1	S0.047-15C1	S0.047-20C1	S0.047-35C1
0.056	S0.056-6C1	S0.056-10C1	S0.056-15C1	S0.056-20C1	S0.056-35C1
0.068	S0.068-6C1	S0.068-10C1	S0.068-15C1	S0.068-20C1	S0.068-35C1
0.082	S0.082-6C1	S0.082-10C1	S0.082-15C1	S0.082-20C1	S0.082-35C1
0.1	S0.1-6C1	S0.1-10C1	S0.1-15C1	S0.1-20C1	S0.1-35C1
0.12	S0.12-6C1	S0.12-10C1	S0.12-15C1	S0.12-20C1	S0.12-35C1
0.15	S0.15-6C1	S0.15-10C1	S0.15-15C1	S0.15-20C1	S0.15-35C1
0.18	S0.18-6C1	S0.18-10C1	S0.18-15C1	S0.18-20C1	S0.18-35C1
0.22	S0.22-6C1	S0.22-10C1	S0.22-15C1	S0.22-20C1	S0.22-35C1
0.27	S0.27-6C1	S0.27-10C1	S0.27-15C1	S0.27-20C1	S0.27-35C1
0.33	S0.33-6C1	S0.33-10C1	S0.33-15C1	S0.33-20C1	S0.33-35C1
0.39	S0.39-6C1	S0.39-10C1	S0.39-15C1	S0.39-20C1	S0.39-35C1
0.47	S0.47-6C1	S0.47-10C1	S0.47-15C1	S0.47-20C1	S0.47-35C1
0.56	S0.56-6C1	S0.56-10C1	S0.56-15C1	S0.56-20C1	S0.56-35C1
0.68	S0.68-6C1	S0.68-10C1	S0.68-15C1	S0.68-20C1	S0.68-35C1
0.82	S0.82-6C1	S0.82-10C1	S0.82-15C1	S0.82-20C1	S0.82-35C1
1.0	S1.0-6C1	S1.0-10C1	S1.0-15C1	S1.0-20C1	S1.0-35C1
1.2	S1.2-6C1	S1.2-10C1	S1.2-15C1	S1.2-20C1	S1.2-35C1

Cap. Mfds.	6VDC	10VDC	15VDC	20VDC	35VDC
1.5	S1.5-6C1	S1.5-10C1	S1.5-15C1	S1.5-20C1	S1.5-35C2
1.8	S1.8-6C1	S1.8-10C1	S1.8-15C1	S1.8-20C1	S1.8-35C2
2.2	S2.2-6C1	S2.2-10C1	S2.2-15C1	S2.2-20C1	S2.2-35C2
2.7	S2.7-6C1	S2.7-10C1	S2.7-15C1	S2.7-20C2	S2.7-35C2
3.3	S3.3-6C1	S3.3-10C1	S3.3-15C1	S3.3-20C2	S3.3-35C2
3.9	S3.9-6C1	S3.9-10C1	S3.9-15C2	S3.9-20C2	S3.9-35C2
4.7	S4.7-6C1	S4.7-10C1	S4.7-15C1	S4.7-20C2	S4.7-35C2
5.6	S5.6-6C1	S5.6-10C2	S5.6-15C2	S5.6-20C2	S5.6-35C2
6.8	S6.8-6C1	S6.8-10C2	S6.8-15C2	S6.8-20C2	S6.8-35C2
8.2	S8.2-6C2	S8.2-10C1	S8.2-10C2	S8.2-20C2	S8.2-35C3
10.0	S10-6C2	S10-10C2	S10-15C2	S10-20C2	S10-35C3
12.0	S12-6C2	S12-10C2	S12-15C2	S12-20C2	S12-35C3
15.0	S15-6C2	S15-10C2	S15-15C2	S15-20C2	S15-35C3
18.0	S18-6C2	S18-10C2	S18-15C2	S18-20C3	S18-35C3
22.0	S22-6C2	S22-10C2	S22-15C2	S22-20C3	S22-35C3
27.0	S27-6C2	S27-10C2	S27-15C3	S27-20C3	S27-35C4
33.0	S33-6C2	S33-10C2	S33-15C3	S33-20C3	S33-35C4
39.0	S39-6C2	S39-10C2	S39-15C3	S39-20C3	S39-35C4
47.0	S47-6C2	S47-10C3	S47-15C3	S47-20C3	S47-35C4
56.0	S56-6C2	S56-10C3	S56-15C3	S56-20C4	XXXXXXXXXX
68.0	S68-6C3	S68-10C3	S68-15C3	S68-20C4	XXXXXXXXXX
82.0	S82-6C3	S82-10C3	S82-15C4	S82-20C4	XXXXXXXXXX
100.0	S100-6C3	S100-10C3	S100-15C4	S100-20C4	XXXXXXXXXX
120.0	S120-6C3	S120-10C3	S120-15C4	XXXXXXXXXX	XXXXXXXXXX
150.0	S150-6C3	S150-10C4	S150-15C4	XXXXXXXXXX	XXXXXXXXXX
180.0	S180-6C3	S180-10C4	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
220.0	S220-6C4	S220-10C4	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
270.0	S270-6C4	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
330.0	S330-6C4	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX

\*TO COMPLETE PART NUMBERS, ADD APPLICABLE TOLERANCE LETTER, AND IF FLEXIBLE OUTER INSULATING SLEEVE IS REQUIRED, ADD FINAL SUFFIX LETTER "I".

POLAR CASE DIMENSIONS (Uninsulated)*			
CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches	CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches
C1	0.125 x 0.250	C3	0.279 x 0.650
C2	0.175 x 0.438	C4	0.341 x 0.750

NON-POLAR CASE DIMENSIONS (Uninsulated)*			
CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches	CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches
N1	0.145 x 0.540	N3	0.304 x 1.320
N2	0.197 x 0.915	N4	0.366 x 1.520

\*For dimensions of insulated units add approximately 0.063" to length, 0.015" to diameter.

## STANDARD RATINGS OF TYPE S NON-POLAR SOLID ELECTROLYTE TANTALUM CAPACITORS\*

Cap. Mfds.	6 Volts	10 Volts	15 Volts	20 Volts	35 Volts
0.16	S0.16-6N1	S0.16-10N1	S0.16-15N1	S0.16-20N1	S0.16-35N1
0.24	S0.24-6N1	S0.24-10N1	S0.24-15N1	S0.24-20N1	S0.24-35N1
0.34	S0.34-6N1	S0.34-10N1	S0.34-15N1	S0.34-20N1	S0.34-35N1
0.50	S0.50-6N1	S0.50-10N1	S0.50-15N1	S0.50-20N1	S0.50-35N1
0.75	S0.75-6N1	S0.75-10N1	S0.75-15N1	S0.75-20N1	S0.75-35N2
1.1	S1.1-6N1	S1.1-10N1	S1.1-15N1	S1.1-20N1	S1.1-35N2
1.6	S1.6-6N1	S1.6-10N1	S1.6-15N1	S1.6-20N2	S1.6-35N2
2.4	S2.4-6N1	S2.4-10N1	S2.4-15N2	S2.4-20N2	S2.4-35N2
3.4	S3.4-6N1	S3.4-10N2	S3.4-15N2	S3.4-20N2	S3.4-35N2
5.0	S5-6N2	S5-10N2	S5-15N2	S5-20N2	S5-35N3
7.5	S7.5-6N2	S7.5-10N2	S7.5-15N2	S7.5-20N2	S7.5-35N3
11.0	S11-6N2	S11-10N2	S11-15N2	S11-20N3	S11-35N3
16.0	S16-6N2	S16-10N2	S16-15N3	S16-20N3	S16-35N4
24.0	S24-6N2	S24-10N3	S24-15N3	S24-20N3	S24-35N4
34.0	S34-6N3	S34-10N3	S34-15N3	S34-20N4	XXXXXXXXXX
50.0	S50-6N3	S50-10N3	S50-15N4	S50-20N4	XXXXXXXXXX
75.0	S75-6N3	S75-10N4	S75-15N4	XXXXXXXXXX	XXXXXXXXXX
110.0	S110-6N4	S110-10N4	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
160.0	S160-6N4	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX

### Type S. Non-Polar Capacitors

Net Price (1-24)†	
Case Size	Price (±20% tol.)
C1	\$2.78
C2	3.24
C3	5.34
C4	9.70

NOTE: Add 2¢ to unit price if sleeving is required.

\*To complete part numbers, add applicable tolerance letter, and if flexible outer insulating sleeve is required, add final suffix letter "I".  
†See your Tansitor distributor for prices for 25 or more pieces.

# CAIG LABORATORIES INC.

## CRAMOLIN-ELECTRONIC CONTACT CLEANER

"THE LESS YOU USE — THE BETTER IT WORKS!"

The amazing contact cleaner with a world wide reputation for excellence in performance. Used by the professionals who want only the best — Army, Air Force, Navy, Bureau of Standards and hundreds of top known manufacturers of electronic apparatus.

**"PEEL OFF THOSE HIGH RESISTANCE OXIDE FILMS"**



**FEATURES:**

- CLEANER
- LUBRICANT
- PRESERVATIVE
- ANTI-CORROSIVE

**THE BREAK-THRU FOR**

**HIGHER PERFORMANCE ELECTRIC CONTACTS**

Reduces contact resistance and sparking by dissolving oxide film formations. Temp. operating range — 34°C. to 150°C. Effective on all metals and their alloys including gold, silver, copper, etc. Stays on moving contacts. Free of acids. Safe to use. Lasts for years.

Write for Tech Facts.

CRAMOLIN: Fluid for protection & cleaning of old & new contacts.  
 CRAMOLIN-SPECIAL: Fluid for protection of new contacts.  
 CRAMOLIN-PASTE: Semi-solid for protection & cleaning High Voltage/Amperage contacts.

**PRICES**

DESCRIPTION	CRAMOLIN (Red Color)	CRAMOLIN-SPECIAL (Blue Color)	CRAMOLIN-PASTE	*CAEON SOLVENT #27
2 oz. Glass Bottle	\$1.95	\$2.25		
4 oz. Glass Bottle				\$1.60
½ pint Glass Bottle	6.75	7.50		2.85
1 pint, Glass Bottle	13.00	14.50		4.00
1 quart, Glass Bottle	25.50	28.00		6.00
¼ Kg Can (½ lb)			\$2.90	
6 oz. Spray	3.00	3.50		
Engineers Kit [with tech facts]	6.75			

(Contains: CRAMOLIN, CR-Special & Paste.)

### CONTACT CLEANER SPRAY

#### "CRAMOLIN — SPRAY R"

FREE — 6" EXTENSION SPRAY TUBE

Now — for those who prefer the spray can method of application. CRAMOLIN SPRAY R has same properties as CRAMOLIN FLUID. Packaged in neat spray can with automatic valve. Equipped with a whirl spray head, which will apply CRAMOLIN — breath thin — to most remote areas. The Hygrade propellant and speedy evaporating solvent leaves only a microfilm of actual CRAMOLIN on contact area.

**\$3.00** 6 OZ. SPRAY CAN



### MOISTURE REPELLENT

#### "CRAMOLIN SPRAY 35"

PROTECT — RESTORE — CLEAN  
LUBRICATE

For all electric and electronic equipment • Effective as a general cleaner, hydro-repellent, dielectric sealer and lubricant • Has excellent adherence. Safe to use on metals, rubber and synthetic materials • Reduces arcing, stops sparking and creeping currents in high voltage parts, switchboards, control panels, isolators, tube sockets, etc. • Temperature consistency between —50°C to +200°C • Can be used on all electronic equipment which is constantly used in high humidity and water, dust and gas fumes • Prevents corrosion, will not evaporate, will not gum, improves lubricating and sliding properties. Contains no silicon.

Write for Bulletin C-400

**\$4.25** 6 OZ. SPRAY CAN



### ACRYLIC PLASTIC SPRAY

#### "CRAMOLIN — SPRAY PLASTIK"

An air drying, colorless special plastic spray coating for electronic circuits, T.V., Radio, Aerial construction, automotive and many electric applications • It seals, protects, insulates and coats • Is age and weatherproof, water repellent, will not fade, has excellent adherence properties. Tropics proof • Resists acid and alkaline solutions as well as mineral oils • Withstands temperatures up to +180°C. Assures long lasting protective coatings on all metals, alloys & chrome • Protects against creeping currents, short circuits, weakened insulation breakdowns • As a sealant it helps to eliminate corrosion.

**\$2.75** 6 OZ. SPRAY CAN



### CLEANING SOLVENT

#### "CAEON SOLVENT #27"

(Trichlorotrifluorethane)

A cleaning agent for removal of oil, grease, and dirt from objects without harm to metal, plastic, or elastomeric parts.

- NON-FLAMMABLE • VIRTUALLY NON-TOXIC • CHEMICALLY AND PHYSICALLY PURE • CHEMICALLY AND THERMALLY INERT • STABLE

The solvent exhibits a washing and penetrating action which aids its cleaning ability. High density and low surface tension enables Caeon #27 to wet the surface of most materials and wash away dirt and sludge.

The solvent is useful in ultrasonic and vapor degreasing equipment. Soils which are normally insoluble in any solvent can often be removed by this solvent with cavitation in ultrasonic units. Vapor rinsing is more easily accomplished without exposing object to high temperatures.

The solvent is compatible with most organic systems. It will remove soils or contaminants and leave the surface 'Residue-Free'. All standard methods of using a solvent may be employed.

Write for Tech Facts.

\* See Price List on This Page



### WESCOLITE SOLDER KIT

#### SOLDERING SIMPLIFIED

Combines a New Wonder Flux and the finest silver solder for stronger bond. Fast and easy to use. Soldering of the difficult or impossible metals together or to each other.

**\$2.50**  
KIT



No Pre-Cleaning • No After Cleaning  
Removes oxides, promotes tinning and capillary flow.

WESCOL FLUX	
4 oz. dispenser.....	\$1.70
16 oz. dispenser.....	3.15
WESCOL SOLDER 220 ... Soft Silver Solder. 5/6% Silver. Balance Tin.	
1/16" dia., 3/32" dia., 1/8" dia. ....	\$19.95/lb.
1/32" dia., 3/64" dia. ....	21.00/lb.
Shipped in one (1) lb. reels	

CHEMTRONICS

## CHEMTRONICS



### COLOR LUBE Non-Drift Color TV Tuner Cleaner

A tuner cleaner specially formulated with TC-5 to safely clean and lubricate all color TV tuners.

- Will not detune tuners • Safe for all plastics
- Non-flammable

Cat. No.	Unit Size	Dealer Net
CL 8	8 oz.	2.39

### SUPER FROST AID Cools Faster • Leaves No Liquid Residue

SUPER FROST AID is a faster circuit freezer designed to locate thermal intermittent components...without leaving a liquid residue.

Cat. No.	Unit Size	Dealer Net
1550	15-oz.	2.79



### **new** New TUN-O-LUBE Tuner Cleaner Specially Formulated for Novistor & Transistor Tuners

- Leaves NO oily residual deposits
- Fast drying
- Will not detune the most critical tuners
- Safe for all plastics
- Non-flammable

Cat. No.	Unit Size	Dealer Net
800	8 oz.	1.98

### FROST AID Saves Hours in Locating Defective Components

FROST AID is a circuit freezer used to instantly cool and pin-point suspected intermittent resistors, capacitors, coils and other components.

Cat. No.	Description	Unit Size	Dealer Net
850	8 oz. ECONOMY SIZE	8-oz.	1.39
1650	16 oz. GIANT SIZE	16-oz.	2.19



### TUN-O-LUBE Triple Action Tuner Cleaner

Cleans • Lubricates • Protects

CHEMTRONICS "Non-Drift" TUN-O-LUBE is designed to clean and lubricate tuners in one simple operation.

- Will not harm plastic parts
- Non-flammable

AVAILABLE IN THREE SIZES

Cat. No.	Description	Unit Size	Dealer Net
301	Special "Caddy Size"	3 oz.	.98
810	8 oz. Economy Size	8 oz.	1.98
1610	16 oz. Giant Size	16 oz.	2.79

### TAPE HEAD CLEANER

With Special Felt Applicator

CHEMTRONICS' TAPE HEAD CLEANER is scientifically designed to clean heads, tape guides, capstan rollers and all other critical parts of TAPE RECORDERS.

- Increases the life of tape and heads
- Improves fidelity and eliminates tape squeal
- Guaranteed not to affect plastic parts of tape recorder.

Cat. No.	Unit Size	Dealer Net
504-3	2-oz.	.89



### TROL AID Activated Control-Contact Cleaner

Cleans and lubricates controls, contacts, switches, relays and all other sliding contact devices...in one fast operation.

- Safe for all plastics
- Longer lasting protection against oxidation
- Non-flammable

Cat. No.	Description	Unit Size	Dealer Net
302	Special "Caddy Size"	3-oz.	.98
820	8 oz. Economy Size	8-oz.	1.98
506-5	Bottle	2-oz.	.79



### NON-SLIP For Record Changers and Tape Recorders

Prevents slippage of rubber drives, belts and cords.

- Fast-drying
- Will not harm rubber
- Prevents slippage to insure uniform speed

Cat. No.	Unit Size	Dealer Net
507-7	2-oz.	.98



Will restore the gripping of old and hardened phono drives and belts.

### RECORD CLEANER With FREE "Lint-Free" Record Cleaning Cloth

CHEMTRONICS Anti-Static RECORD CLEANER is a specially formulated cleaner that is highly effective for cleaning phonograph records and keeping them static-free!

- Provides long lasting protection for all records
- Safe to use for all records

Cat. No.	Unit Size	Dealer Net
RC 33	6-oz.	.98



### MASK-N-GLAS Anti-Static Glass & Plastic Cleaner & Polisher

CLEANS and POLISHES Plastic TV Masks—Safety Glass—Face of Picture Tube.

MASK-N-GLAS is a non-abrasive dirt and grime remover...highly suitable for the cleaning of television masks, safety glass and the front of picture tubes.

FREE—Lint-Free Cleaning Cloth Attached!

Cat. No.	Unit Size	Dealer Net
840	6-oz.	1.79



FOR **INDUSTRY · RESEARCH · TECHNICIANS · SERVICING****CHEMTRONICS**

## CHEMTRONICS' ACTIVATED RESIN CORE SOLDER

### NEW IMPROVED! FAST FLOWING!

CHEMTRONICS' high quality solder is non-corrosive and non-hygroscopic. Easily solders such metals as Brass, Zinc, Copper and Ferrous Alloys. Exceeds requirements of Federal Specifications QQ-S-571d.

Composition	DIAMETER IN INCHES	DEALER NET	
		1 LB.	5 LBS.
40% Tin 60% Lead	1/16" (.062)	2.03	9.90
50% Tin 50% Lead	1/16" (.062)	2.31	11.30
60% Tin 40% Lead	1/32" (.031)	2.98	14.65
60% Tin 40% Lead	1/16" (.062)	1.69	8.20

Cat. No.	Description	Unit Size	Dealer Net
S-100	60/40 Pure tin-lead alloy. A high quality activated resin core solder in a handy dispenser.	110"	.39

OTHER ALLOYS AND SIZES AVAILABLE.  
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

## NO ARC Hi-Voltage Insulator

CHEMTRONICS' highly effective NO ARC provides a tough and protective insulating coating for hi-voltage transformers, yokes, chassis and leads in high voltage sections.

It is also recommended for printed circuits, waterproofing and exposed wiring.

- With more than 20,000 volts dielectric strength.
- Positively stops arcing and corona short in high voltage circuits.

NO ARC 830 is specifically designed to "jet-out" in a confined stream... for pin-point application. IT IS NOT A SPRAY!

Cat. No.	Unit Size	Dealer Net
501-1	2-oz.	.98
830	8-oz.	2.79

NO ARC is available in bulk quantities.



## CONTACT KLEEN Electrical Contact and Control Cleaner That Leaves No Oily Residue

CONTACT KLEEN restores and cleans relays, attenuators, controls, switches, prongs and all other contact devices.

- Will not harm plastic parts • Non-flammable

Cat. No.	Unit Size	Dealer Net
605	8-oz.	1.49



## KLEER SPRAY Clear Acrylic Insulating and Protective Spray

Dries in minutes • Will not "run" • Highest insulating properties • Fungus and chemical resistant. CHEMTRONICS' KLEER SPRAY is highly recommended for:

- Insulating exposed wiring
- Waterproofing auto ignition systems
- Prevention of rust and corrosion
- Protective coating for antennas

KLEER SPRAY leaves a high-gloss protective coating on metal, wood and paper surfaces.

Cat. No.	Unit Size	Dealer Net
890	16-oz.	1.39



## CHEM-OIL A Very Fine All-Purpose Lubricating-Penetrating Oil

CHEMTRONICS' CHEM-OIL is highly recommended as a lubricant on record changers, tape recorders and delicate instruments... and also as a "Frozen Yoke Remover".

CHEM-OIL provides superior "lubricating-penetrating" action against rust and corrosion. Non-gumming • non-drying • excellent rust-inhibiting properties.

Cat. No.	Unit Size	Dealer Net
870	8-oz.	1.79



## TV-RADIO CEMENT

CHEMTRONICS TV-RADIO CEMENT is an unexcelled high grade cement especially prepared for repairing speakers. It can also be used for glass or bakelite.

Cat. No.	Unit Size	Dealer Net
502-2	2-oz.	.55



## ALL-PURPOSE GLUE

CHEMTRONICS ALL-PURPOSE GLUE is the best all-purpose glue for servicemen. It is stronger, faster drying and is excellent for joining plastic, wood and metals.

Cat. No.	Unit Size	Dealer Net
503-6	2-oz.	.55



## LUBRIPLATE

LUBRIPLATE—a white grease compound for electronic and electrical switches, tuners, contacts, etc. Prevents corrosion...prolongs life of contacts. Also excellent for record changers, phonograph motors, gears, bearings, synchronous motors, etc.

Cat. No.	Unit Size	Dealer Net
105	1 3/4-oz.	.75



# CHEMICALS AND KITS



**GC Chemicals**  
(Cements, Thinners, Paints, Oils, Varnishes, etc.), are available in handy 2 oz. bottles with brush-in-cap. Also supplied in larger sizes.



**GC RADIO-TELEVISION SERVICE CEMENT**—This high grade cement is specially prepared for Radio, Television and Speaker Work. Unexcelled for cementing and replacing cones on dynamic speakers, repairing rattling or torn cones, cementing voice coils, spiders, etc.  
Cat. No. 30-2 GC 2-oz. Net \$ .55  
50-2 Walsco

**GC PLASTIC CEMENT**—Excellent for cementing broken plastic cabinets, cementing grille cloth in place, cementing dial and glass crystal assemblies, cementing knobs in dial, cords, etc.  
Cat. No. 32-2A GC 2 oz. Net \$ .55  
40-02 Walsco

**GC "BAKELITE" CEMENT**—This cement is especially made for cementing "BAKELITE" to "BAKELITE" and to other materials.  
Cat. No. 32-2 GC 2-oz. Net \$ .87  
66-02 Walsco

**GC "VINYLITE" CEMENT**—This new GC Cement based upon "VINYLITE" vinyl resins, has great adhesion, high tackiness and extreme flexibility.  
Cat. No. 58-2 GC 2-oz. Net \$ .55  
55-02 Walsco

**GC HOUSEHOLD and MODEL CEMENT**—Fast-drying cement, suitable for many uses. Excellent "Household Cement"; will cement wood, paper, plastics, metal, china, crockery, ceramics, etc.  
Cat. No. 45-2 2-oz. Net \$ .55

**GC FABRIC and GRILLE CLOTH CEMENT**—For cementing grille cloth and fabrics to either metal, plastic or wood cabinets.  
Cat. No. 22-2 GC 2-oz. Net \$ .60  
53-02 Walsco

**GC WOOD CABINET GLUE**—This is the ordinary well-known wood glue that is used in repair of furniture, chairs, radio cabinets, etc.  
Cat. No. 39-2 GC 2-oz. Net \$ .55  
78-02 Walsco

**GC No. 28 CEMENT THINNER**—This thinner is made of same solvents as GC Service Cement and makes the best thinner for GC Service Cement.  
Cat. No. 28-2 GC 2-oz. Net \$ .52

**GC RADIO SERVICE SOLVENT**—The best solvent for loosening cement on speaker cones, frames, etc., made to dissolve all types of cements. Can also be used as a thinner for GC Cement and other cements.  
Cat. No. 31-2 GC 2-oz. Net \$ .52  
201-02 Walsco

**GC No. 29 LACQUER THINNER**—Solvent for thinning all lacquers, lacquer enamels, telephone black and gray, touch-up lacquers.  
Cat. No. 29-2 2-oz. Net \$ .52

**GC No. 67 PAINT THINNER**—Excellent for Ruf-Koat, Krome-Koat, B-K Cement, Insulating Varnish and Rubber Cements.  
Cat. No. 67-2 GC 2-oz. Net \$ .52  
204-02 Walsco

**GC No. 41 Q-DOPE THINNER**—Excellent solvent for Polystyrene, Q-Dope and any other Polystyrene Coil Dopes and Cements. Will soften and dissolve polystyrene rods, sheets, etc. Clear water-white solvent will not change characteristics of original materials.  
Cat. No. 41-2 GC 2-oz. Net \$ .52  
56-02 Walsco

**GC RUBBER-TO-METAL & PHONO DRIVE CEMENT**—Specially prepared for cementing rubber phono and dial drives to shafts and pulleys.  
Cat. No. 35-2 GC 2-oz. Net \$ .60  
56-02 Walsco

**GC PLIORBOND CEMENT**—Bonds anything to anything—iron, steel, plastic, glass, aluminum, cotton, vinyl sheets, stainless steel, etc. A truly universal cement.  
Cat. No. 43-2 GC 2-oz. Net \$ .60  
67-02 Walsco

**GC ACRYLIC-PLEXIGLASS CEMENT**—Specially prepared for cementing Lucite, Plexiglass and other acrylic materials.  
Cat. No. 49-2 GC 2-oz. Net \$ .60  
65-02 Walsco

**GC NE-O-PRENE CEMENT**—For cementing neoprene rubber to neoprene or neoprene to other products, such as metal, wood, paper, etc.  
Cat. No. 52-2 2-oz. Net \$ .87

**GC LABEL CEMENT**—Here's a label cement that will make labels stick to anything—metal, glass, wood, tin, etc.  
Cat. No. 46-2 2-oz. Net \$ .55

**GC TV HIGH VOLTAGE CORONA DOPE**—Prevents corona shorts on high voltage circuits in Television sets.  
Cat. No. 47-2 GC 2-oz. Net \$ .78  
195-02 Walsco

**GC RED-X TV CORONA DOPE**—Prevents corona shorts in high voltage circuits in TV sets. Coat surfaces and sharp corners to stop corona effect.  
Cat. No. 49-2 GC 2-oz. Net \$ .78  
196-02 Walsco

**GC TV TUBE KOAT**—For recoating the outside of TV picture tubes that have become scratched or the surface is peeling.  
Cat. No. 49-2 GC 2-oz. Net \$ .72  
199-02 Walsco

**GC TV LINE SEAL FOR UHF and VHF**—Outdoor special acrylic sealer for sealing TV wires, terminals, screws, antennas, junction boxes.  
Cat. No. 17-2 2-oz. Net \$ .60

**GC PHONO NON-SLIP COMPOUND**—Prevents slippage of phono drives on changers, tape recorders, and all types of recorder drives.  
Cat. No. 86-2S GC 2-oz. Net \$ .96  
144-02 Walsco

**GC RED GLYPHTAL INSULATING VARNISH**—Most common of all protective insulating coatings, used on all solder connections, high voltage points, anti-corona.  
Cat. No. 90-2 GC 2-oz. Net \$ .63  
134-02 Walsco

**NON-SLIP COMPOUND FOR RADIO DIALS**—Powder Compound for treating friction type dial drives such as cords, cables and belts.  
Cat. No. 1210 Non-Slip, 2-oz. Net \$ .55

**LIQUID NON-SLIP**—Penetrating and fast-drying liquid dressing. Shrinks fibres, prolongs life of cables and belts and prevents slipping.  
Cat. No. 1211 1/2-oz. Net \$ .38

**GC DE-OX-ID**—Cleans and prevents oxidation on sensitive circuit contacts. Use in Television, Radio, Telephone, Relays, Instruments, etc.  
Cat. No. 19-1 GC 1-oz. 100-01 Walsco Net \$ .70  
19-2 GC 2-oz. 100-02 Walsco Net \$ 1.03

**GC CONTACT AND CRYSTAL CLEANER**—A fast-evaporating cleaner specially prepared for cleaning contacts and crystals. Cleans easily and will not injure delicate parts, crystals, etc.  
Cat. No. 127-2 2-oz. Net \$ .52

**NEW GC ELECTRONIC CONTACT CLEANER**—Most popular all-purpose contact cleaner on the market. Fast drying and fast acting. Leaves a non-corrosive film on the contacts that insures long, trouble-free action.  
Cat. No. 219-2 GC 2-oz. Net \$ .60  
80-02 Walsco

**GC DE-NOISE ELECTRONIC TV CONTACT and DETENT CLEANER**—Stops Noise on all types of contacts, volume controls, tuners, detents, switches, relays, etc.  
Cat. No. 51-2 2-oz. Net \$ 1.03

**GC CARBON CONTROL CLEANER**—Makes it easy to repair most noisy volume controls, tone controls, switches, band switches, push-buttons—in fact, most all types of moving contacts. A special chemical that both removes oxidation and minimizes future trouble by coating the contacts.  
Cat. No. 212-2 2-oz. Net \$ .52

**GC CARBON TETRA-CHLORIDE**—100% pure Carbon Tetra-Chloride, non-explosive and non-inflammable. For cleaning electrical controls and contacts.  
Cat. No. 211-2 2-oz. Net \$ .52

**GC GRAFOLINE**—Insures proper and lasting repairs for all air-exposed contacts, switches, and wire-wound volume controls—wherever dust and dirt affect the quiet action of adjustable radio parts or controls.  
Cat. No. 120-2 2-oz. Net \$ .60

**GC CARBON-X**—A practical method to touch up those worn and noisy spots on carbon volume controls.  
Cat. No. 120S GC 2-oz. Net \$ .80  
250-02 Walsco

**GC CONTACT DOPE**—Ideal contact cleaner for electronic switches, controls and contacts. Specially prepared to resist corrosion and oxidation on contacts.  
Cat. No. 1214 2-oz. Net \$ .48

**GC NON-CORROSIVE LIQUID SOLDERING FLUX**—Best quality non-corrosive flux for all types of radio and electrical soldering, for copper, brass, steel, nickel, etc.  
Cat. No. 42-2 2-oz. Net \$ .55

**GC Q-DOPE (COIL DOPE)**—Specially prepared for coating, doping, sealing, cementing and impregnating coils and paints in "Very High" and "Ultra High" frequency ranges.  
Cat. No. 37-2 GC 2-oz. Net \$ .55  
57-02 Walsco

**GC LIQUIDOX**—Gives coils a tough protective film that insures firmness and prevents characteristic changes due to weather.  
Cat. No. 36 2-oz. Net \$ .60

**GC INSULATING & DIPPING VARNISH**—Produces a smooth, tough film that is water-proof, oil-proof and non-corrosive. Recommended for treating field coils, noisy or buzzing transformers and choke coils.  
Cat. No. 56-2 GC 2-oz. Net \$ .60  
190-02 Walsco

**GC FUNGUS VARNISH**—Used on all types of Radio, Electronics and Communication equipment to prevent moisture absorption and fungus growth, when equipment is used in hot and humid climates.  
Cat. No. 57-2 GC 2-oz. Net \$ .66  
135-02 Walsco

**GC STRIP-X**—Removes insulating enamel from wires for easy soldering. Use on magnet wire, etc.  
Cat. No. 26-2 GC 2-oz. Net \$ .78  
251-02 Walsco

**GC RECO-STATIC CHASER**—Minimize dust accumulation on records and picture tube. Reduces dust attracting static electricity.  
Cat. No. 48-2 2-oz. Net \$ .55

**GC MAG-NETIK RECORDING HEAD CLEANER**—Cleans without injury to the recording head that gradually lose their sensitivity if oxide accumulates.  
Cat. No. 53-1 1-oz. Net \$ .67  
53-2 2-oz. Net \$ 1.03

**GC MAGNETIC CEMENT**—Permanently bonds iron cores, broken loopsticks, slugs, flyback and yoke cores. Renews part to original function.  
Cat. No. 38-2 2-oz. Net \$ 8.00

**GC No. 14-2 PRINT-KOTE SILICONE RESIN**—After repairing or replacing parts in printed circuits, protect the panel joints and parts. Fast air drying.  
Cat. No. 14-2 2-oz. Net \$ 1.40

**GC No. 13-2 PRINT-KOTE SOLVENT FOR SILICONE RESIN**—The only solvent for GC 14-2 Silicone Resin. Will dissolve and remove silicone resin from printed circuits.  
Cat. No. 13-2 2-oz. Net \$ .42

**GC PRINT-KOTE SOLDERING FLUX**—Non-corrosive liquid flux for easy soldering and repairing of printed circuits.  
Cat. No. 12-2 2-oz. Net \$ .60

**GC CEMENT KIT**—A kit containing a complete selection for every application. Kit includes 2-oz. samples of Service, Pli-O-Bond, Acrylic, Plastic, Bakelite, Vinylite, Grille Cloth, Model, Wood, Rubber-to-Metal, Electrical and Resistor, Neoprene, Label and Vinyl Cements. Ideal for research and development.  
Cat. No. 345 Net \$ 9.97

**GC RADIO AND TELEVISION CEMENT**—High grade speaker cement in a handy tube for those who prefer to use a tube. Cement can be applied directly from tube on the parts to be cemented without the use of a brush. Also used for television work, sealing nuts, bolts, etc., on antennas, rotators, etc.  
Cat. No. 34-2 2-oz. tube Net \$ .55

## GC SPRAY CANS

**NEW, ALL-PURPOSE SPR-KLEEN**—cleaner lubricant. Excellent for business and industrial machines, motors, relays, switches, adding machines, comptometers, etc.  
Cat. No. 32-8666 6 oz. Net \$ 1.49

**SPRA-KLEEN**—eliminates noise due to dust, dirt and corrosion on contacts. Just spray and work controls.  
Cat. No. 8666 6 oz. Net \$ .93  
Cat. No. 8666-16 16 oz. (sprays upside-down) Net \$ 1.95

**RELAY-KLEEN**—contact cleaner, excellent for cleaning relays and contacts in switchboards, automatic pin-ball or bowling machines, rocket or satellite circuitry.  
Cat. No. 8682 6 oz. Net \$ 1.69  
Cat. No. 8682-16 16 oz. Net \$ 3.49

**JIF**—contact and control cleaner will not harm plastics. Contains no harsh solvents. Cleans, lubricates, long-lasting protection.  
Cat. No. 8670-6 6 oz. Net \$ 1.79

**MP-5** outdoor metal protectant; provides chemisorption type bond to metal surfaces. Superior to other organic compounds. Contains UCARSIL<sup>®</sup> silicones. \*Trademark of Union Carbide Corp.  
Cat. No. 8681 6 oz. Net \$ 1.79

**ZERO-MIST SPRA KOAT**—instantly locates defective (intermittent) circuit components due to temperature change. Circuits cooled instantly. Components isolated.  
Cat. No. 8667 16 oz. Net \$ 2.42

**REK-O-MAGIC ANTI-STATIC SPRAY**—eliminates abrasive dust that ruins records. Cleans, easy to use.  
Cat. No. 98-12 12 oz. Net \$ 1.88

**RUF-KOAT WRINKLE VARNISH**—hard, durable finish.  
Cat. No. 60-12 12 oz. Black Net \$ 2.25  
Cat. No. 60-13 12 oz. Gray Net \$ 2.25

**GC DE-OX-ID**—electrical contact cleaner for silver, detent and radar contacts. For TV, radio, telephone, relays, contacts, etc.  
Cat. No. 19-6 6 oz. Net \$ 2.45

**GC STANDARD PRINTED CIRCUIT KIT**—contains foil, solder washers, solder wire, solder probe tool and brush, silicone resin lacquer and solvent, tweezers and instructions.  
Cat. No. 682 Net \$ 5.35

## PRINTED CIRCUIT SERVICE AIDS

**GC MASTER PRINTED CIRCUIT KIT** includes all items in standard kit plus one Ungar Soldering iron with special tip and 6-ounce spray can of 14-5 Silicone Resin spray and instructions.  
Cat. No. 683 Net \$ 10.25

**GC PRINTED CIRCUIT SILICONE RESIN SERVICE KIT**—used by leading TV set manufacturers. Everything necessary for printed circuit repairs.  
Cat. No. 680 Net \$ 6.35

**GC PRINT-KOTE SOLDER AID PROBE**  
Cat. No. 9093 Net \$ 1.00

**GC PRINT-KOTE BRUSH & SCRAPER**  
Cat. No. 9094 Net \$ .98

**GC PRINT-KOTE HEAVY DUTY SOLDERING AID TOOL**  
Cat. No. 9088 Net \$ 1.00

**K-27 PRINT-KOTE**—TV silicone resin for printed circuits. Insulates, protects, prevents shorts. As used by the original manufacturer.  
Cat. No. 14-6 GC 6-oz. Net \$ 2.42  
120-06 Walsco

**GC PRINT-KOTE SOLDER**—special non-corrosive flux and low-melting solder combined with Pure Silver.  
Cat. No. 9131 11-foot coil Net \$ .52

**GC SILVER PRINT**—for printed circuit repairs. Same Pure Silver as used by original printed circuit manufacturers.  
Cat. No. 21-1 GC 1/2 tray oz. Net \$ 3.30  
35 Walsco  
Cat. No. 21-2 GC 1 tray oz. Net \$ 5.75  
36-1 Walsco

**GC COPPERPRINT**—for repairing printed circuits. High conductive, fast drying.  
Cat. No. 20-2 Net \$ 1.95

**GC SOLDERING PASTE**—high quality, non-corrosive soldering paste for TV, Radio and Electrical repairs.  
Cat. No. 1207 2 oz. Net \$ .42





# CHEMICALS AND KITS

**GC NON-TOXIC ELECTRO-TET CLEANER**  
 Closely parallels Carbon Tetrachloride, but much safer. Non-flammable, fast drying.  
 Cat. No. 10-G... 1 gallon... Net \$ 7.50

**GC KLEEN-TEX CLEANER**  
 Removes grease, oil, wax. Safe, slow burning, high flash, inexpensive cleaner for motors, chassis, vacuum cleaners, etc.  
 Cat. No. 11-G... 1 gallon... Net \$ 3.75

**GC ELECTRONIC CONTACT CLEANER HYPODERMIC NEEDLE INJECTOR**  
 A handy applicator using the hypodermic injection method for cleaning and lubricating around controls and tight places.  
 Cat. No. 8383... Net \$ .48

**WALSCOLUB-B**  
 Electrically neutral lubricant that prevents corrosion... Makes for smooth, noise-free operation of electrical contacts, band switches, attenuators, push button tuners, remote control switches and other contacts.  
 No. Desc Net  
 22-01 1-3/4 oz tube .55

**AIR-DRY WRINKLE VARNISH**  
 Factory like finish without baking.  
 No. Desc Net  
 146-06 Bk. 6-oz jar 1.87  
 145-12 Bk. 16-oz spray can 2.25  
 145-33 Bk. 1 gall. can 15.91  
 146-12 Gray, 16-oz spray can 2.25  
 146-33 Gray, 1-gall. can 16.49

**INSUL-VOLT**  
 20K high voltage insulator. Positive insulation against high-voltage leaks, arcing and corona shorts.  
 No. Net  
 40-804 Walsco 8-oz. Spray Can 1.99  
 10-804 GC

**WALSCO ACTION**  
 Electronic Silicone Contact Cleaner-won't harm plastics, non-flammable. Provides long-lasting protection.  
 No. Net  
 99-06 6-ounce Spray Can .99  
 99-16 16-ounce Spray Can 1.49

**COLORMAGIC SPRA LUBE COLOR TV TUNER CLEANER**  
 Non-Drift cleaner especially formulated for cleaning and lubricating all color TV Tuners. Completely safe for plastics used in tuners. Made of highest quality chemicals. Safe to use - non-flammable.  
 Cat. No. 8888... 8oz spray can Net 1.95

**GC OE-OX-10 KIT WITH NEEDLE INJECTOR**  
 Contains 2-ounce bottle of Oe-Ox-10 cleaner and hypodermic type of applicator.  
 Cat. No. 8460... Net \$ 1.45

**GC PHONO TURNTABLE MOTOR & GEAR LUBRICANT**  
 A specially developed lubricant for phonographs. Lubricant clings to surface of parts; eliminates future repairs.  
 Cat. No. 1223-S 2-ounce Net \$ .55

**GC TRANSISTOR Z-5 SILICONE COMPOUND**  
 Essential in maintaining efficient transfer of heat from transistor to chassis. Use whenever replacing transistors.  
 Cat. No. 1-ounce tube Net 8101-S 2.17

**GC SKRATCH STIK KIT**  
 For Walnut, Mahogany and Light wood surfaces. Kit of 3 sticks.  
 Cat. No. 909-K... Net \$1.35

**LUBRIPLATE**  
 Super lubricant, grease type, protective. Reduces friction loss, prevents rust and corrosion. Extends bearing life 50%... increases mechanical efficiency 20% over ordinary lubricant.  
 No. Desc Net  
 23-02-S 2 oz tube .75

**SUPER GLUE**  
 New miracle cement. Bond strength of over 3000 lbs. per square inch. Particularly suitable for cementing non porous materials. Cures at room temperature through chemical action. Mixed in two ingredients which must be mixed before application.  
 No. Std. Pkg. Net  
 40-100 2 - 3/4 oz. tubes 12 .99

**FREEZE-MIST**  
 CIRCUIT COOLER saves hours locating defective intermittent circuit components caused by temperature changes. Walsco Freeze-Mist cools instantly pinpointing faulty capacitors, resistors, transistors, cold solder and oxidized junctions, etc. due to temperature variances.  
 No. Std. Pkg. Net  
 40-808 12 8-oz spray can 1.98

**WALSCO ACRY-SPRAY**  
 Prevents corrosion, rust, oxidation on all metals.  
 No. Net  
 140-12 Clear 1.50  
 8665 GC  
 141-12 Aluminum 1.63  
 8660 GC

**COLORMAGIC COLOR CLEAR COLOR TV TUBE CLEANER & ANTI-STATIC AGENT**  
 Keeps away unsightly dust and lint. Cleans and desatigrizes color TV picture tube surface sparking clear.  
 Cat. No. 8890... 8 oz spray can Net .99

**GC MASTER OELUXE CABINET REPAIR KIT**  
 Contains varnishes, enamels, spirit stains, all of the essentials needed to make cabinet repairs like a professional. Satisfies even the most exacting customer.  
 Cat. No. 900... Net \$ 9.65

**GC CABINET REPAIR KIT**  
 Repair wood, plastic, or bakelite cabinets, knobs, etc. Contains the necessary equipment for repairing dents, nicks, etc.  
 Cat. No. 901... Net \$ 7.55

**GC SCRATCH STIKS**  
 For Walnut, Mahogany and Light Wood. Removes scratches on all shades and colors of wood.  
 Cat. No. 909... Net \$ .48

**GC E.I.A. COLOR COOING KIT**  
 All standard E.I.A. colors: Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray and White. E.I.A. color chart included.  
 Cat. No. 677... Net \$ 1.47

**SUPER STRONG GC EPOX CEMENT**  
 "Bond Anything - Anything"  
 GC Epoxy Adhesive is one of the new miracle cements with properties never before attainable. This adhesive cures at room temperature through chemical reaction. It will provide high bond strength and exceptional adhesion to many materials which are normally difficult, if not impossible, to cement. This product is supplied in two ingredients which must be mixed before application.  
 No. Std. Pkg. Net  
 346 Kit of two tubes (approx. 3 oz.) 1 1.95

**GC MOTOR CLEANER**  
 Effectively and safely removes harmful, dangerous dust, metal and grease deposits. For electric motors, switches, generators, control panels, etc. Quick drying - leaves no oily residue.  
 Cat. No. 10-910 16 oz spray can Net 1.89

**GC PLASTIC & GLASS CLEANER**  
 Spray on - wipe off dirt, dust and grime from all glass and plastic surfaces without streaks or dulling residue. Contains grease - cutting ammonia.  
 Cat. No. 9082 16 oz spray can Net .79

**GC OIAL & SIGNAL LIGHT COLORING KITS**  
 For signal systems, radio dials, decorative lighting, etc. Contains Red, Green, Blue, Amber, Purple and solvent.  
 Cat. No. 66-5. Kit of 5, no purple Net \$ 1.23  
 Cat. No. 66-6. Kit of 6... Net \$ 1.43

**GC RADIO TV CHEMICAL LAB**  
 Twenty 2-ounce bottles in permanent bench rack. Every needed chemical and cement is included for all types of repairs on speakers, coils, contacts, dials, etc.  
 Cat. No. 997... Net \$13.75

**GC OELUXE RADIO-TV CHEMICAL LAB**  
 For service shop and industrial plant. Complete practical lab, designed for serviceman, engineer, technician. Contains solvents, cleaners, cements, etc.  
 Cat. No. 998... Net \$17.50

**GC DC-Z9 SILICONE HEAT SINK COMPOUND**  
 DC-Z9 increases the efficiency of electronic devices lowering overall temperature level. High heat conductive metallic oxides suspended in silicone dissipate "hot spots". DC-Z9 seals between transistors, diodes, etc., compound will not dry out or harden.  
 No. Net  
 8109 1-oz. Tube 2.39

**EPOXY GLUE "SUPER GRIP"**  
 This remarkable Epoxy Glue is specified by NASA for use in it's Space Program. The selection of this particular Epoxy Glue by NASA was made because of it's outstanding properties. Epoxy Glue is dimensionally stable... it won't shrink or expand. It is chemically stable, also resisting acids, alkali, grease, gas, water, etc. High electrical resistance is yet another of it's assets. Mixed in equal amounts from two tubes, it will harden in 5 minutes under 150 degrees F. heat lamp - 2 to 4 hours at room temperature.  
 No. Std. Pkg. Net  
 347 Kit of two tubes (approx. 4 oz.) 6 2.50

**GC PRESSURIZED LUBRICATING OIL**  
 For complete, thorough lubrication. Reaches into smallest areas. Excellent for ball bearings, moving machinery, gears, etc. A high-grade, light machine oil. No spilling. No waste.  
 Cat. No. 10-916 6 oz spray can Net .75

**GC BENCH FIRE EXTINGUISHER**  
 Works on all types of fires; electrical, oil, grease. Fast, low-cost method of fighting small fires - excellent supplemental fire protection. Keep one in garage shop or home.  
 Cat. No. 10-914 16 oz spray can Net 1.57

**INJECTORALL****CHEMICALS  
and TOOLS****INJECTORALL ELECTRONICS CORP.****ALIGNMENT TOOLS**

- IN 8606 5" HEX WRENCH — double end net \$ .48
- IN 8606L 11" HEX WRENCH — double end net \$ .63
- IN 8607 5" HEX WRENCH & SCREWDRIVER net \$ .48
- IN 8727 7" TUNER SCREWDRIVER — double end net \$ .43
- IN 8728L 12" TUNER SCREWDRIVER — double end net \$ .53
- IN 9300 5" MIDGET HEX WRENCH — double end net \$ .48

KIT NO. 6 Six Alignment Tools. Yellow delrin alignment tools as listed above.

KIT 6 6 alignment tools net \$1.95

**AIR CONDITIONER****Aero-Kleen**

Oil spray for air-conditioner filters, dripless and scented.

495 16 oz. spray can net \$1.29

**CEMENTS & GLUES****Phono Grip-Well**

Non-slip compound for dial cords, and slipping phono turntables.

68-2 2 oz. glass bottle net \$ .90

**Speaker Cement**

Vibration proof, fast drying, forms flexible bond; brush in cap, a plastic glue.

201 2 oz. glass bottle net \$ .48

**Stik-It Glue**

All purpose glue in squeeze bottle, spreads white, dries clear, spout with attached cap.

39 2 oz. squeeze bottle net \$ .24

**CIRCUIT COOLERS****Chill-It**

A refrigerant spray, to pin-point defective electronic components.

179-6 6 oz. spray can net \$1.29

179-16 16 oz. spray can net \$1.79

**CLEANERS****Contact Cleaner**

Superior non-toxic spray solvent, dries quickly; with 4" steel needle.

999WN 6 oz. spray can net \$1.79

**Degreaser No. 3**

Air drying cleaning compound, excellent for ultrasonic application.

3 1 gal. can net \$6.90

**Drive Wheel Cleaner**

Cleans and renews neoprene and rubber drive wheels.

251-2 2 oz. glass bottle net \$ .90

**Lens Kleen**

Plastic cleaner, antistatic, for plastic TV windows and meters; with cleaning cloth.

20 6 oz. aerosol can net \$ .99

**CLEANERS****Fidelity Record Cleaner**

Antistatic spray, cleans and protects records; with record cleaning cloth.

70WC 3 oz. spray can net \$ .90

**Hi-Fi Control Cleaner**

Cleaner and lubricant for volume controls; with plastic needle.

799-3 3 oz. spray can net \$ .90

**Tape Head Cleaner**

Cleans tape recorder heads, removes squeal, flutter, wow, safe to use, with cotton-covered wire brush.

250-2 2 oz. glass bottle net \$ .89

250-3 3 oz. spray can with plastic needle 1.19

**Super 100**

Tuner cleaner and lubricant, will not affect plastics, contains ANTI-STATIC agent, for color and black & white TV tuners. NET

100-3 3 oz. spray w/plastic Needle \$ .89

100-6 6 oz. spray w/steel Needle 1.95

100-8 8 oz. spray w/steel Needle 2.25

100-16 16 oz. spray w/steel Needle 2.99

**Tuner Cleaner**

Cleaner and lubricant for TV tuners and controls, non-toxic, non-flammable. NET

899-3WN 3 oz. spray w/plastic Needle \$ .89

899-6 6 oz. spray can only without Needle 1.79

899WN 6 oz. spray w/steel Needle 1.95

899-16WN 16 oz. spray w/steel Needle 2.99

**COATINGS & INSULATORS****Clear Spray**

A transparent plastic spray, waterproofs, insulates metal, wood, rubber and paper surfaces.

399 16 oz. spray can net \$1.29

**Red Hi-Volt**

Fast drying insulator, prevents arcing and corona in high voltage circuits, has high dielectric strength.

129-2 2 oz. glass bottle net \$ .89

129-6 6 oz. spray can 1.29

129-16 16 oz. spray can 2.28

129G 1 gallon can 7.50

**FURNITURE POLISH****Renew**

Scratch cover polish for dark or light finishes; with cloth.

30WC 6 oz. aerosol can net \$ .90

**OILS & LUBRICANTS****Slide E-Z Grease**

A Grease Gun In An Aerosol Can — contains ANTI-OXIDANT to prevent corrosion, extends part life.

668-4 4 oz. aerosol can net \$1.20

**Spot Lubricating Oil**

Non-gumming, for tape-recorders and record players; with plastic needle.

10-3 3 oz. spray can net \$ .90

10-16 16 oz. spray can net \$1.79

**Squeal-Stop**

Dry lubricant, leaves no oily film, won't affect wires; with plastic needle.

50 3 oz. spray can net \$ .90

**PAINTS & VARNISHES****Anti-Fungus Varnish**

Conforms to MIL 173B specifications, natural color; prevents fungus growth.

15-16 16 oz. spray can net \$2.40

**Injectorall Spray Paints**

With FREE masking tape - 13 oz. ea. net \$ .99

300-13 Gloss White  
301-13 Appliance White  
302-13 Gloss Black  
303-13 Clear  
307-13 Fire Red  
308-13 Ribbon Blue  
309-13 Pink  
310-13 Rich Blue  
311-13 Mist Green  
312-13 Light Gray  
313-13 Hunter Green  
316-13 Light Yellow

GLOSS

304-13 Flat White  
305-13 Flat Black  
306-13 Metal Primer Grey  
314-13 Gold  
315-13 Aluminum

FLAT

&  
METALLIC

Fluorescent Paints - 13 oz. spray can net \$1.87

325-13 Cerise Red  
326-13 Green  
327-13 Blue  
328-13 Red Orange  
329-13 Lemon Yellow

FLUORESCENT

**PRINTED CIRCUITS****Resist Ink Pen**

Use like any felt marker pen. Black only.

195 fine tip net \$1.25

196 medium tip net \$1.25

**Resist Ink Solvent**

Removes inks, markings and surplus flux. Evaporates quickly. Non-toxic, non-flammable.

198 2 oz. glass bottle net \$ .90

**Etchant**

Removes excess copper from printed circuit boards. Electronic grade solvent.

199 1 pint plastic bottle net \$1.25

**Poly Spray Insulator**

For Coating Printed Circuits — a polyurethane resin forms a smooth, transparent coating, conforms to MIL 1-46058A specifications.

65-16 16 oz. spray can net \$2.28

**SERVICE AIDS****E-Z Off Yoke Remover**

Loosens frozen yokes on picture tubes; with plastic needle.

40 3 oz. spray can net \$1.19

**Injectorall Steel Needle**

Stainless steel tube with special fitting for INJECTORALL spray cans.

6N 6 inch needle net \$ .66

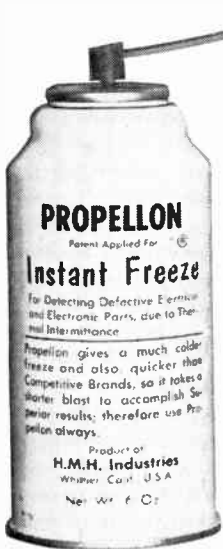
**Jet Air**

Removes dust, lint and dirt from electronic chassis, projectors and precision instruments. Dry air reaches hard-to-get-at places.

8 8 oz. spray can net \$1.19

Heeger, Inc., as national sales administrators, present the following chemicals that have found favor with engineers, laboratory technicians and production in industry, to assist them in procuring the best proven material to enable them to arrive at the best results.

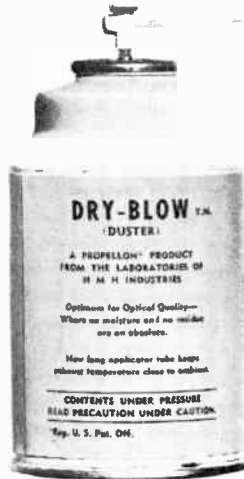
From the laboratories of  
**H. M. H. INDUSTRIES**



## PROPELLON INSTANT FREEZE

Used by electronic engineers and technicians for detecting defective electronic and electrical parts, due to thermal intermittance. Valuable in the laboratory, field testing, service bench or field work, maintenance of equipment and in the electronic and electrical analysis of trouble. Propellon "Instant Freeze" delivers the lowest temperature practical for above uses. Odorless, non-toxic and non-flammable.

The 12" extender facilitates in directing the spray directly onto the area tested. Also aids in getting into inaccessible places.



## "DRY-BLOW" T.M. (Duster)

A Propellon product for the service technician for cleaning before and after integrated circuitry repairs or replacements. For blowing dust and dirt out of chassis and between parts and tubes where it is impossible to reach with brush or cloth.

Used by electronic engineers and technicians, electronic and optical laboratories and any place where fine dust particles are a problem to eliminate.

12 TO A CASE

PACKED IN 7 OZ. CANS AND 15 OZ. CANS — 12" EXTENDER FREE WITH EACH CAN

7 OZ. CAN, with 12" extender.....ea. \$1.45  
15 OZ. CAN, with 12" extender.....ea. \$2.25

12 TO A CASE

PACKED IN 15 OZ. CANS — 18" EXTENDER FREE WITH EACH CAN  
15 OZ. CAN, with 18" extender.....ea. \$2.25

From the laboratories of  
**HASCOL ENTERPRISES**

## LOC-JAW



**A SCIENTIFICALLY COMPOUNDED  
ADHERENT FORMULA**

"Loc-Jaw" is an "Epoxy" base compound for bonding metal to metal, glass to glass, glass to wood, wood to wood, metal to wood, etc. Properly proportioned, it hermetically seals small parts and connections. After setting, it actively resists salt water and salt air, gasoline, chemicals and solvents of all types and withstands temperatures up to 300° F. Applicable to many industrial uses. Packed in its own plastic container and applicator. Indispensable where an adherent or sealer is needed.

INDIVIDUAL PLASTIC CONTAINER .....ea. \$ .98  
BAG OF 10 .....per bag \$7.50

From HASCOL LABORATORIES

## SAL-MET

**NON-CORROSIVE FLUX**

- SOLDERS COPPER TO ALUMINUM
- ALUMINUM TO ALUMINUM
- SOLDERS ALL METALS

A scientific laboratory non-corrosive flux for soldering all metals. By using "SAL-MET," copper can be soldered to aluminum, aluminum to aluminum, copper to steel, copper to copper; in fact, any metal to metal is possible. No special preparation on material to be soldered. Use conventional solder, applied with quick heat, regular soldering iron, torch or pot.

1 oz. Tubes.....ea. \$ .95  
1 lb. Can.....ea. \$7.88



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**L M B®**

# QUIETROLE

the original  
LUBRICANT  
CLEANER

## SPRAY IT OR DROP IT...

the  
NEW

### BIG THREE AEROSOLS for Electronic Servicing

"HARMLESS TO  
PLASTICS"  
"HARMLESS TO METAL"



OR  
**QUIETROLE**  
BOTTLE  
with the Eye Dropper



**MARK-II  
FOR TUNERS**

**SPRAY-PACK  
FOR CONTROLS &  
SWITCHES**

**SILITRON  
FOR GENERAL USE**

"QUIETROLE" is the preferred, standard product of the industry! Your guarantee for quieting noisy television and radio controls, switches and other moving parts is QUIETROLE. Here is the original, non-inflammable, most reliable lubricant-cleaner on the market today — developed through years of factual and authentic research. Perfect for all servicing, including color.

**NON-INFLAMMABLE — NON-CONDUCTIVE — NON-CORROSIVE**  
There is no substitute for **QUALITY**... get **QUIETROLE TODAY**

A First of the Industry... A 21 Year Plus Record of Proven Superiority. Built to Meet a Demand, Not a Price.

#### QUIETROLE BOTTLE

Cat. No.	Size	Min. Order	Min. Re-order	Distr. Net Resale price
10-2	2 oz.	24	24	\$1.69
10-3	4 oz.	16	8	2.54
10-4	8 oz.	8	6	5.07

#### QUIETROLE BOTTLE WITH BRUSH-N-CAP

10-3A	4 oz.	16	8	2.64
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#### QUIETROLE AEROSOLS

All include free plastic extender... **HARMLESS TO PLASTICS**... **ZERO EFFECTS ON CAPACITY & RESISTANCE**... **Non-Inflammable**... **Non-Conductive**... **Non-Corrosive**.

Cat. No.	Size	Order Min.	Min. Re-order	Distr. Net Resale price
10-5	6 oz.	12	12	2.89 Spray-Pack
10-7	6 oz.	12	12	2.89 Mark II
10-8	6 oz.	12	12	1.98 Silitron



# QUIETROLE COMPANY



a subsidiary of ICORE INDUSTRIES

ICORE Electro-Plastics offers a complete versatile series of air core inductors designed especially for RF transmission, or other equipment requiring high Q factors in the range from 100 to 500. Standard coils are available for prototype, production, or amateur use. These coils may be used for pi output circuits, conventional LC output circuits, interstage and oscillator circuits. All Air Dux coils are constructed of tinned copper wire wound on large low-loss polystyrene rods for the highest mechanical strength and lowest electrical losses.

AIR DUX is a trade name synonymous with quality. Workmanship and materials set the highest standards in the industry. Coils are free of defects or ICORE will replace free of charge.

### AIR DUX STICK COILS (T SERIES)

1/2" to 3" diameter tinned copper stick coils are stocked in various TPI (turns per inch), wire sizes and lengths. 4", 5" and 6" diameter coils, as well as silver plated coils, are available on special quotation.

### INDENTED PI DUX®

1" to 3" diameter precut coils with mounting plate are for direct use in pi networks. Each coil has an inductance of 18 micro henries. Alternate turns are indented for ease of tapping. Catalog numbers — 816A, 1014A, 1212A, 1411A, 1609A, 2007A, 2406A.

### VARI-PITCH PI DUX

1" to 3" diameter precut coils are similar to indented pi dux except that each coil has two different pitches. The reduced inductance per turn of the wider pitch facilitates the tapping of low value inductances. The vari-pitch constructions give a higher Q due to space factor. Catalog numbers — 820D10, 1212D6, 1608D6, 2008D5, 2408D4.

### 195 SERIES PI DUX

The 500 and 1000 watt pi dux assemblies are compact yet conservatively rated. The high frequency coil sections are silver plated for high tank circuit efficiency. A complete technical sheet is included with each assembly. Catalog numbers — 195-1 (500 watt); 195-2 (1000 watt).

### AIR DUX BALUN

Balun coils match impedance in both transmitters and receivers, without adjustment, from 10 through 80 meters. Also match 75 ohms unbalanced to 300 ohms, or 75 ohms balanced. Easily handle outputs from transmitters with power up to 750 watts if SWR is held low.

Cat. No. B2009—One balun coil (two required) with plastic mounting strips, insulator and hardware.

Cat. No. MB2009—Metal mounting plate with plastic terminal plate and hardware (less coax connector).

### AIR DUX COIL CLIPS

Air dux coil clips permit convenient tapping of coils and rapid movement of tap from turn to turn, where soldering is undesirable. Because of large grasping area, clips will not slip. Special solder hole permits fast soldering of leads.

Cat. No.	Price	100-999
	25 Pack	
Cat. No. CC-A (AWG wire sizes #20-14)	\$.12 ea. \$ 2.75/pk.	\$ 9.80/C
Cat. No. CC-B (AWG wire sizes #12- 8)	.12 ea. 2.75/pk.	9.80/C

### CUSTOM COILS

Air dux coils can be designed to specification for commercial, industrial, and military applications with special indenting, plating, mounting brackets, pre-attached leads. For quotations or applications assistance, submit specifications and requirements. Air dux - High Temperature use Lexan support rods and mounting plates, allowing for operation at temperatures up to

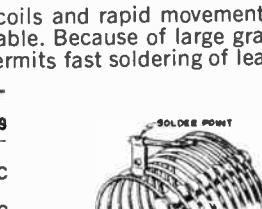
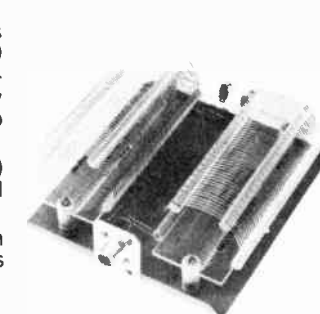
# air dux®

## AIR WOUND COILS

### Suggested Resale Prices

Cat. #	Dia.	TPI	Wire Size (AWG)	Length of Coil (Inches)	Price/ea.	
					1-49	50-249
195-1	3	—	—	—	\$13.80	\$ —
195-2	3	—	—	—	19.55	—
404 T	1/2	4	18	2	.58	.49
406 T	1/2	6	18	2	.58	.49
408 T	1/2	8	18	2	.58	.49
410 T	1/2	10	18	2	.63	.54
416 T	1/2	16	20	2	.63	.54
432 T	1/2	32	24	2	.63	.54
504 T	5/8	4	16	2	.69	.59
506 T	5/8	6	18	2	.69	.59
508 T	5/8	8	18	2	.69	.59
510 T	5/8	10	18	2	.69	.59
516 T	5/8	16	20	2	.69	.59
532 T	5/8	32	24	2	.69	.59
604 T	3/4	4	16	2	.69	.59
606 T	3/4	6	18	2	.75	.64
608 T	3/4	8	18	2	.75	.64
610 T	3/4	10	18	2	.81	.69
616 T	3/4	16	20	2	.81	.69
632 T	3/4	32	24	2	.81	.69
804 T	1	4	16	3	.86	.73
806 T	1	6	18	3	.92	.78
808 T	1	8	18	3	.92	.78
810 T	1	10	18	3	.92	.78
816 A	1	16	18	3 3/4	2.01	—
816 T	1	16	20	3	.98	.83
820 D10	1	20 & 10	18	3 3/4	2.47	—
832 T	1	32	24	3	.98	.83
1004 T	1 1/4	4	14	10	2.36	2.01
1006 T	1 1/4	6	14	10	2.36	2.01
1008 T	1 1/4	8	16	10	2.42	2.06
1010 T	1 1/4	10	18	10	2.42	2.06
1014 A	1 1/4	14	18	2 3/4	2.24	—
1016 T	1 1/4	16	20	10	2.47	2.10
1032 T	1 1/4	32	24	10	2.53	2.15
1204 T	1 1/2	4	14	10	2.53	2.15
1206 T	1 1/2	6	14	10	2.70	2.30
1208 T	1 1/2	8	16	10	2.70	2.30
1210 T	1 1/2	10	18	10	2.76	2.35
1212 A	1 1/2	12	16	2 3/4	2.47	—
1212 D6	1 1/2	12 & 6	14	3 1/4	3.22	—
1216 T	1 1/2	16	20	10	2.76	2.35
1232 T	1 1/2	32	24	10	2.76	2.35
1404 T	1 3/4	4	14	10	2.88	2.45
1406 T	1 3/4	6	14	10	2.93	2.49
1408 T	1 3/4	8	14	10	2.93	2.49
1410 T	1 3/4	10	16	10	2.99	2.54
1411 A	1 3/4	11	14	2 5/8	2.82	—
1416 T	1 3/4	16	18	10	2.99	2.54
1432 T	1 3/4	32	24	10	3.11	2.64
1604 T	2	4	12	10	2.70	2.30
1606 T	2	6	14	10	2.70	2.30
1608 D6	2	8 & 6	12	4 1/4	4.31	—
1608 T	2	8	14	10	2.70	2.30
1609 A	2	9	14	3	3.16	—
1610 T	2	10	16	10	2.70	2.30
1616 T	2	16	18	10	3.11	2.64
2004 T	2 1/2	4	12	10	3.22	2.74
2006 T	2 1/2	6	12	10	3.34	2.84
2007 A	2 1/2	7	12	3 1/4	3.91	—
2008 D5	2 1/2	8 & 5	12	3 3/4	5.52	—
2008 T	2 1/2	8	12	10	3.34	2.84
2010 T	2 1/2	10	16	10	3.74	3.18
2404 T	3	4	10	10	5.23	4.45
2406 A	3	6	10	3 3/4	5.00	—
2406 T	3	6	12	10	5.23	4.45
2408 D4	3	8 & 4	10	3 3/4	6.61	—
2408 T	3	8	14	10	5.23	4.45
2410 T	3	10	14	10	5.23	4.45
B2009	2 1/2	4 1/2	20	5 1/4	7.25	—
MB2009 (Mounting Plate)					3.68	—

Prices subject to change without notice.



280°F (140°C) before distortion, with a Q factor comparable to coils wound on polystyrene rods. These coils are applicable to high temperature environments or where heat from surrounding equipment must be considered. Normal operating temperatures are: Polystyrene: Up to 180°F ( 80°C)  
Lexan: Up to 280°F (140°C)



# MOLDED INDUCTORS

**J**EFFERS inductors are for use at radio frequencies and in pulse circuitry. The listed standard inductors, in values from 0.1  $\mu$ h through 10,000  $\mu$ h, are designed to meet the requirements of MIL-C-15305 Revision C.

### Important features of JEFFERS standard inductors.

- High Reliability, proven by over 157,000,000 unit test hours.
- High Q and SRF.
- Maximum protection with minimum dimension as a result of full encapsulation in a thermo-setting mineral filled plastic jacket.
- Assured uniformity of product, a result of stringent Quality Control and Inspection procedures at every production stage.

Suffix letter on part number denotes standard tolerance. J = 5%, K = 10%, M = 20%.

These inductors, in standard tolerances, are available for immediate delivery from your local JEFFERS Distributor.

### TYPE 15 — Dia. .156 ± .010 - Length .375 ± .010

Jeffer's P/N	L $\mu$ h	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms	Direct Current (MA)
4415-1M	0.15	125°	25.0	50	525	0.03	2450
4415-2M	0.22	125°	25.0	50	360	0.055	1900
4425-1M	0.33	125°	25.0	50	360	0.075	1410
4425-2M	0.47	125°	25.0	55	310	0.11	1225
4425-3K	0.56	125°	25.0	55	290	0.13	1220
4425-4K	0.68	105°	25.0	55	265	0.15	1100
4425-5K	0.82	125°	25.0	55	245	0.21	920
4425-6K	1.00	125°	25.0	55	220	0.29	830
4425-7K	1.20	125°	7.9	33	195	0.39	650
4425-8K	1.50	125°	7.9	33	180	0.49	600
4425-9K	1.80	125°	7.9	33	160	0.66	525
4425-10K	2.20	125°	7.9	33	145	0.96	435
4425-11K	2.70	125°	7.9	33	130	1.15	385
4425-12K	3.30	125°	7.9	33	115	1.90	300
4425-13K	3.90	125°	7.9	33	105	2.20	280
4425-14K	4.70	125°	7.9	33	100	2.50	260
4435-1K	5.60	125°	7.9	50	65	0.32	750
4435-2K	6.80	125°	7.9	50	60	0.46	600
4445-1K	8.20	125°	7.9	55	55	0.61	545
4445-2K	10.0	125°	7.9	60	49	0.90	445
4445-3K	12.0	125°	2.5	70	44	1.10	404
4445-4K	15.0	125°	2.5	70	40	1.40	370
4445-5J	18.0	125°	2.5	75	35	2.20	280
4445-6J	20.0	125°	2.5	80	34	2.30	275
4445-7J	22.0	125°	2.5	80	32	2.50	265
4455-1J	24.0	125°	2.5	65	27	2.20	265
4455-2J	27.0	125°	2.5	65	26	2.50	260
4465-1J	30.0	125°	2.5	70	22	2.80	255
4465-2J	33.0	125°	2.5	70	21	3.00	250
1315-1J	36.0	105°	2.5	60	15.5	2.50	180
1315-2J	39.0	105°	2.5	60	14.5	2.60	176
1315-3J	43.0	105°	2.5	60	13.7	2.70	172
1315-4J	47.0	105°	2.5	60	13.0	2.75	170
1315-5J	51.0	105°	2.5	55	12.7	3.00	167
1315-6J	56.0	105°	2.5	55	12.0	3.00	164
1315-7J	62.0	105°	2.5	55	11.5	3.15	160
1315-8J	68.0	105°	2.5	55	11.0	3.30	156
1315-9J	75.0	105°	2.5	55	10.5	3.70	147
1315-10J	82.0	105°	2.5	50	10.3	3.90	143
1315-11J	91.0	105°	2.5	50	10.0	4.30	136
1315-12J	100.0	105°	2.5	50	9.5	4.50	133
1315-13J	110.0	105°	.790	65	8.9	4.90	128
1315-14J	120.0	105°	.790	65	8.7	5.20	124
1315-15J	130.0	105°	.790	65	8.5	5.45	121
1315-16J	150.0	105°	.790	65	8.0	6.05	114
1315-17J	160.0	105°	.790	65	7.5	6.40	111
1315-18J	180.0	105°	.790	65	7.0	6.75	108
1315-19J	200.0	105°	.790	65	6.5	7.10	106
1315-20J	220.0	105°	.790	65	6.2	7.45	103
1315-21J	240.0	105°	.790	65	5.9	7.80	101

### TYPE 09 — Dia. .095 ± .005 - Length .250 ± .010

Jeffer's P/N	L $\mu$ h	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms	Direct Current (MA)
4416-1K	0.10	125°	25.0	34	680	0.08	1315
4416-2K	0.12	125°	25.0	34	640	0.09	1240
4416-3K	0.15	125°	25.0	34	600	0.10	1170
4416-4K	0.18	125°	25.0	34	550	0.12	1070
4416-5K	0.22	125°	25.0	32	510	0.14	990
4416-6K	0.27	125°	25.0	30	460	0.16	925
4416-7K	0.33	125°	25.0	28	410	0.22	790
4426-1K	0.39	125°	25.0	35	355	0.30	675
4426-2K	0.47	125°	25.0	35	325	0.34	635
4426-3K	0.56	125°	25.0	34	310	0.40	585
4426-4K	0.68	125°	25.0	33	280	0.54	500
4426-5K	0.82	125°	25.0	32	260	0.63	465
4426-6K	1.00	125°	25.0	32	240	0.74	430
4436-1K	1.20	105°	7.9	32	150	0.18	875
4436-2K	1.50	105°	7.9	32	140	0.22	790
4436-3K	1.80	105°	7.9	32	125	0.28	700
4436-4K	2.20	105°	7.9	32	115	0.38	600
4436-5K	2.70	105°	7.9	40	100	0.55	500
4436-6K	3.30	105°	7.9	45	90	0.80	415
4436-7K	3.90	105°	7.9	45	82	1.00	370
4436-8K	4.70	105°	7.9	45	75	1.20	340
4446-1K	5.60	105°	7.9	50	67	1.50	300
4446-2K	6.80	105°	7.9	50	60	1.80	375
4446-3K	8.20	105°	7.9	50	55	2.40	240
4446-4K	10.0	105°	7.9	60	50	3.10	210
1316-1K	12.0	105°	2.5	40	40	2.40	240
1316-2K	15.0	105°	2.5	40	36	2.75	225
1316-3K	18.0	105°	2.5	50	32	3.00	215
1316-4K	22.0	105°	2.5	50	28	3.30	205
1316-5K	27.0	105°	2.5	50	24	3.60	195
1326-1K	33.0	105°	2.5	45	29	2.80	225
1326-2K	39.0	105°	2.5	45	26	3.10	210
1326-3K	47.0	105°	2.5	45	24	4.30	180
1326-4K	56.0	105°	2.5	45	22	5.30	160
1326-5K	68.0	105°	2.5	50	19	6.00	152
1326-6K	82.0	105°	2.5	50	17	6.70	144
1326-7K	100.0	105°	2.5	50	14	7.50	135

### TYPE 19 — Dia. .190 ± .010 - Length .440 ± .010

Jeffer's P/N	L $\mu$ h	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms	Direct Current (MA)
4411-1M	0.15	125°	25.0	55	510	0.030	3000
4411-2M	0.22	125°	25.0	50	415	0.035	2940
4411-3M	0.33	125°	25.0	50	350	0.065	2020
4411-4M	0.47	125°	25.0	50	300	0.085	1740
4411-5K	0.56	125°	25.0	50	270	0.125	1450
4411-6K	0.68	125°	25.0	45	250	0.150	1300
4411-7K	0.82	125°	25.0	40	210	0.205	1100
4411-8K	1.00	125°	25.0	40	200	0.290	930
4411-9K	1.20	125°	7.9	30	180	0.400	785
4411-10K	1.50	125°	7.9	30	175	0.485	715
4411-11K	1.80	125°	7.9	30	150	0.740	580
4411-12K	2.20	125°	7.9	30	140	0.970	505
4411-13K	2.70	125°	7.9	30	120	1.200	460
4421-1K	3.30	105°	7.9	30	70	0.140	1350
4421-2K	3.90	105°	7.9	30	65	0.155	1250
4421-3K	4.70	105°	7.9	30	60	0.210	1100
4421-4K	5.60	105°	7.9	30	50	0.280	935
4421-5K	6.80	105°	7.9	30	50	0.375	810
4421-6K	8.20	105°	7.9	30	48	0.440	750
4421-7K	10.0	105°	7.9	30	42	0.600	640
4421-8K	12.0	105°	2.5	50	36	1.000	490
4421-9K	15.0	105°	2.5	55	30	1.200	460
4421-10K	18.0	105°	2.5	60	30	1.950	360
4421-11K	22.0	105°	2.5	60	24	2.200	335
4421-12K	27.0	105°	2.5	65	22	2.750	300
1331-21J	270.0	105°	.790	70	5.6	8.2	110
1331-22J	300.0	105°	.790	70	5.3	8.7	107
1331-23J	330.0	105°	.790	70	5.0	9.1	105
1331-24J	360.0	105°	.790	70	4.7	9.6	102
1331-25J	390.0	105°	.790	70	4.5	10.0	100
1331-26J	430.0	105°	.790	70	4.3	10.6	97
1331-27J	470.0	105°	.790	70	4.0	11.1	95
1331-28J	510.0	105°	.790	70	3.8	11.6	93
1331-29J	560.0	105°	.790	70	3.6	12.3	91
1331-30J	620.0	105°	.790	70	3.5	13.0	88
1331-31J	680.0	105°	.790	70	3.6	13.7	85
1331-32J	750.0	105°	.790	70	3.5	14.4	83
1331-33J	820.0	105°	.790	70	3.3	15.1	81
1331-34J	910.0	105°	.790	65	3.1	15.8	79
1331-35J	1000.0	105°	.790	65	3.0	16.5	78

TYPE 22 — Dia. .220 ± .010 - Length .560 ± .010

Jeffer's P/N	L $\mu$ h	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms	Direct Current (MA)
4412-1K	0.47	125°	25.0	65	300	0.06	1970
4412-2K	0.56	125°	25.0	65	270	0.08	1850
4412-3K	0.68	125°	25.0	65	240	0.08	1700
4412-4K	0.82	125°	25.0	65	220	0.11	1520
4412-5K	1.00	125°	25.0	65	200	0.14	1290
4412-6K	1.20	125°	7.9	40	180	0.19	1120
4412-7K	1.50	125°	7.9	40	160	0.28	925
4412-8K	1.80	125°	7.9	40	150	0.37	790
4412-9K	2.20	125°	7.9	40	135	0.50	680
4412-10K	2.70	125°	7.9	40	120	0.65	600
4412-11K	3.30	125°	7.9	40	105	1.00	480
4412-12K	3.90	125°	7.9	40	100	1.20	440
4412-13K	4.70	125°	7.9	40	90	1.80	360
4422-1K	5.60	125°	7.9	35	55	0.13	1340
4422-2K	6.80	125°	7.9	35	50	0.20	1080
4422-3K	8.20	125°	7.9	35	44	0.22	1030
4422-4K	10.0	125°	7.9	35	42	0.26	950
4422-5K	12.0	125°	2.5	45	34	0.45	720
4422-6K	15.0	125°	2.5	45	32	0.52	670
4422-7K	18.0	125°	2.5	50	28	0.70	580
4422-8K	22.0	125°	2.5	60	24	1.00	480
4422-9K	27.0	125°	2.5	65	22	1.30	420
4422-10K	33.0	125°	2.5	65	20	1.50	390
4422-11K	39.0	125°	2.5	70	18	2.00	340
1312-20J	1100	105°	.250	65	2.8	21.0	78
1312-21J	1200	105°	.250	65	2.7	22.0	76
1312-22J	1300	105°	.250	65	2.6	23.0	75
1312-23J	1500	105°	.250	70	2.5	25.0	72
1312-25J	1800	105°	.250	70	2.4	26.0	70
1312-24J	1600	105°	.250	70	2.3	28.0	68
1312-26J	2000	105°	.250	70	2.2	29.0	67
1312-27J	2200	105°	.250	75	2.1	30.0	66
1312-28J	2400	105°	.250	75	2.0	31.0	64
1312-29J	2700	105°	.250	75	1.9	33.0	62
1312-30J	3000	105°	.250	75	1.8	35.0	61
1312-31J	3300	105°	.250	75	1.7	38.0	58
1312-32J	3600	105°	.250	75	1.6	40.0	57

TYPE 24 — Dia. .240 ± .010 - Length .740 ± .010

Jeffer's P/N	L $\mu$ h	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms	Direct Current (MA)
1313-20J	3900	105°	.250	80	1.45	44	61
1313-21J	4300	105°	.250	80	1.40	46	59
1313-22J	4700	105°	.250	80	1.35	48	58
1313-23J	5100	105°	.250	80	1.30	50	57
1313-24J	5600	105°	.250	80	1.25	53	56
1313-25J	6200	105°	.250	80	1.20	56	54
1313-26J	6800	105°	.250	80	1.15	59	52
1313-27J	7500	105°	.250	80	1.10	62	51
1313-28J	8200	105°	.250	80	1.05	65	50
1313-29J	9100	105°	.250	80	1.00	68	49
1313-30J	10000	105°	.250	80	0.95	72	47

TYPE 25 — Dia. .250 ± .010 - Length .560 ± .010

Jeffer's P/N	L $\mu$ h	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms at 25°C	Direct Current (MA)
25-A-470K	47	125°	2.5	18	13.5	5.9	195
25-A-560K	56	125°	2.5	18	13.0	6.4	185
25-A-680K	68	125°	2.5	70	13.0	3.3	255
25-A-820K	82	125°	2.5	65	11.7	3.5	245
25-A-101K	100	125°	2.5	65	10.7	3.8	235
25-A-121K	120	125°	.790	75	9.3	4.7	215
25-A-151K	150	125°	.790	75	8.3	5.3	200

TYPE 28 — Dia. .280 ± .010 - Length .940 ± .010

Jeffer's P/N	L $\mu$ h	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms	Direct Current (MA)
4414-1K	1.20	125°	7.9	60	170	0.075	2400
4414-2K	1.20	125°	7.9	60	170	0.075	2200
4414-3K	1.80	125°	7.9	60	140	0.135	1780
4414-4K	2.20	125°	7.9	60	125	0.160	1650
4414-5K	2.70	125°	7.9	60	115	0.220	1415
4414-6K	3.30	125°	7.9	60	100	0.305	1195
4414-7K	3.90	125°	7.9	60	95	0.450	955
4414-8K	4.70	125°	7.9	60	90	0.560	880
4414-9K	5.60	125°	7.9	60	80	0.745	775
4414-10K	6.80	125°	7.9	60	75	1.050	660
4414-11K	8.20	125°	7.9	50	68	1.400	610
4414-12K	10.0	125°	7.9	60	60	1.900	520
4414-13K	12.0	125°	2.5	40	53	2.650	410
4414-14K	15.0	125°	2.5	40	50	3.250	370
4414-15K	18.0	125°	2.5	40	45	4.150	315
4424-1K	22.0	125°	2.5	50	24	0.295	1210
4424-2K	27.0	125°	2.5	50	24	0.295	1115
4424-3K	33.0	125°	2.5	60	19	0.550	865
4424-4K	39.0	125°	2.5	55	18	0.650	810
4424-5K	47.0	125°	2.5	65	16	1.000	650
4424-6K	56.0	125°	2.5	65	14	1.150	610
4424-7K	68.0	125°	2.5	75	13	1.850	475
4424-8K	82.0	125°	2.5	75	12	2.100	450
4424-9K	100.0	125°	2.5	75	12	2.500	420
4424-10K	120.0	125°	.790	95	10	4.100	350

TYPE 31 — Dia. .310 ± .010 - Length .560 ± .010

Jeffer's P/N	L $\mu$ h	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms at 25°C	Direct Current (MA)
31-A-181K	180	125°	.790	80	6.0	5.5	225
31-A-221K	220	125°	.790	80	5.5	5.9	220
31-A-271K	270	125°	.790	80	5.1	6.6	210
31-A-331K	330	125°	.790	75	4.2	7.8	185
31-A-391K	390	125°	.790	75	3.9	8.7	180

TYPE 37 — Dia. .375 ± .010 - Length .625 ± .010

Jeffer's P/N	L $\mu$ h	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms at 25°C	Direct Current (MA)
37-A-471K	470	125°	.790	80	3.7	9.0	190
37-A-561K	560	125°	.790	80	3.5	10.0	180
37-A-681K	680	125°	.790	75	3.2	11.2	170
37-A-821K	820	125°	.790	75	3.0	13.0	155
37-A-102K	1000	125°	.790	70	2.7	14.5	145

TYPE 46 — Dia. .468 ± .010 - Length .687 ± .010

Jeffer's P/N	L $\mu$ h	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms at 25°C	Direct Current (MA)
46-A-152K	1500	125°	.250	85	2.2	22.0	127
46-A-222K	2200	125°	.250	85	1.8	27.0	115
46-A-512K	2700	125°	.250	85	1.6	32.0	105
46-A-512K	5100	125°	.250	70	1.0	66.0	73
46-A-103K	10000	125°	.250	70	0.8	70.0	71

INDUCTOR LEAD MATERIAL

Standard All leads are 1/16" minimum length.

The leads of standard sizes cataloged, are 99.9% oxygen free copper. Before manufacturing, the coating is pure tin hot dipped to a minimum thickness of 0.0006 inch. After manufacturing into molded inductors the leads are hot dip coated with 60/40 tin-lead solder with a minimum thickness of 0.0006 inch.



JEFFERS ELECTRONICS DIVISION, SPEER CARBON COMPANY

Speer Carbon Company is a Division of Air Reduction Company, Inc.

SECTION 1800

PRICE LIST

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Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price
20A000-0	.75	22A154RBI	1.41	24A024-6	1.11	46A826CPC	1.68	60A022-2	1.44	70F254AI	.69
20A000-1	.90	22A155RBI	1.32	24A024-7	1.11	46A827CPC	1.62	60A022-3	1.44	70F255AI	.69
20A000-2	.90	22A222RBI	1.62	25A014-0	.69	47A024-0	1.47	60A022-4	1.44	70F273AI	.84
20A000-3	.90	22A223RBI	1.44	25A014-1	.84	47A024-1	1.53	60A022-5	1.62	70F274AI	.69
20A000-4	.90	22A224RBI	1.41	25A014-2	.84	47A024-2	1.53	60A022-6	1.44	70F275AI	.69
20A000-5	1.11	22A225RBI	1.41	25A014-3	.84	47A024-3	1.53	60A022-7	1.44	70F276AI	.60
20A000-6	.90	22A332RBI	1.65	25A014-4	.84	47A024-4	1.53	60A024-0	1.23	70F304AI	.69
20A000-7	.90	22A333RBI	1.47	25A014-5	1.14	47A024-5	1.77	60A024-1	1.29	70F333AI	.84
20A103RBI	1.23	22A334RBI	1.41	25A014-6	.84	47A024-6	1.53	60A024-2	1.44	70F334AI	.69
20A104RBI	1.20	22A335RBI	1.41	25A014-7	.84	47A024-7	1.53	60A024-3	1.44	70F335AI	.69
20A105RBI	1.20	22A472RBI	1.68	26A024-0	.96	47A103CPC	2.64	60A024-4	1.44	70F336AI	.60
20A106RBI	1.08	22A473RBI	1.47	26A024-1	1.11	47A104CPC	2.55	60A024-5	1.62	70F354AI	.69
20A107RBI	1.07	22A474RBI	1.41	26A024-2	1.11	47A105CPC	2.46	60A024-6	1.44	70F393AI	.84
20A154RBI	1.23	22A475RBI	1.41	26A024-3	1.11	47A106CPC	2.40	60A024-7	1.44	70F394AI	.75
20A155RBI	1.20	22A687RBI	1.71	26A024-4	1.11	47A107CPC	2.37	62A022-0	1.38	70F395AI	.69
20A156RBI	1.08	22A688RBI	1.47	26A024-5	1.41	47A124CPC	2.55	62A022-1	1.53	70F396AI	.60
20A157RBI	1.07	22A684RBI	1.41	26A024-6	1.17	47A125CPC	2.46	62A022-2	1.53	70F397AI	.84
20A224RBI	1.23	22A685RBI	1.41	26A024-7	1.17	47A126CPC	2.40	62A022-3	1.53	70F474AI	.75
20A225RBI	1.30	22A807RBI	1.80	27A013-0	.69	47A127CPC	2.37	62A022-4	1.53	70F475AI	.69
20A226RBI	1.08	22A823RBI	1.50	27A013-1	.84	47A154CPC	2.55	62A022-5	1.77	70F476AI	.60
20A227RBI	1.07	22A824RBI	1.41	27A013-2	.84	47A155CPC	2.46	62A022-6	1.53	70F504AI	.75
20A334RBI	1.23	22A875RBI	1.41	27A013-3	.84	47A156CPC	2.43	62A022-7	1.53	70F563AI	.84
20A335RBI	1.20	23A013-0	.72	27A013-4	.84	47A157CPC	2.37	62A024-0	1.38	70F564AI	.75
20A336RBI	1.08	23A013-1	.84	27A013-5	1.14	47A184CPC	2.55	62A024-1	1.53	70F565AI	.69
20A337RBI	1.08	23A013-2	.84	27A013-6	.84	47A185CPC	2.46	62A024-2	1.53	70F566AI	.60
20A474RBI	1.23	23A013-3	.84	27A013-7	.84	47A186CPC	2.43	62A024-3	1.53	70F683AI	.84
20A475RBI	1.20	23A013-4	.64	27A014-0	.69	47A187CPC	2.37	62A024-4	1.53	70F684AI	.75
20A476RBI	1.08	23A013-5	1.11	27A014-1	.84	47A224CPC	2.55	62A024-5	1.77	70F685AI	.69
20A477RBI	1.08	23A013-6	.84	27A014-2	.84	47A225CPC	2.46	62A024-6	1.53	70F686AI	.60
20A684RBI	1.23	23A013-7	.84	27A014-3	.84	47A226CPC	2.43	62A024-7	1.53	70F753AI	.84
20A685RBI	1.20	23A013-8	.84	27A014-4	.84	47A227CPC	2.40	64A022-0	1.65	70F754AI	.75
20A686RBI	1.08	23A014-0	.72	27A014-5	1.14	47A274CPC	2.55	64A022-1	1.80	70F755AI	.69
20A687RBI	1.08	23A014-1	.90	27A014-6	.84	47A275CPC	2.49	64A022-2	1.80	70F756AI	.60
20A824RBI	1.23	23A014-2	.90	27A014-7	.84	47A276CPC	2.43	64A022-3	1.80	70F823AI	.99
20A825RBI	1.20	23A014-3	.90	46A013-0	.72	47A277CPC	2.40	64A022-4	1.80	70F824AI	.75
20A826RBI	1.08	23A014-4	.90	46A013-1	.84	47A334CPC	2.61	64A022-5	1.95	70F825AI	.69
20A827RBI	1.08	23A014-5	1.11	46A013-2	.84	47A335CPC	2.49	64A022-6	1.80	70F826AI	.60
21A000-0	.75	23A014-6	.90	46A013-3	.84	47A336CPC	2.43	64A022-7	1.80	70F913AI	.99
21A000-1	.90	23A014-7	.90	46A013-4	.84	47A337CPC	2.40	64A024-0	1.65	70F914AI	.75
21A000-2	.90	23A014-8	.90	46A013-5	1.11	47A394CPC	2.61	64A024-1	1.80	70F915AI	.69
21A000-3	.90	23A101RPC	1.32	46A013-6	1.11	47A395CPC	2.49	64A024-2	1.80	70F916AI	.60
21A000-4	.90	23A102RPC	1.26	46A013-7	1.11	47A396CPC	2.43	64A024-3	1.80	73F102AF	1.05
21A000-5	1.11	23A103RPC	1.26	46A103CPC	1.80	47A397CPC	2.40	64A024-4	1.80	73F103AF	.81
21A000-6	.90	23A104RPC	1.17	46A104CPC	1.74	47A474CPC	2.61	64A024-5	1.95	73F104AF	.75
21A000-7	.90	23A105RPC	1.08	46A105CPC	1.68	47A475CPC	2.49	64A024-6	1.80	73F123AF	.81
21A102RBI	1.50	23A106RPC	.99	46A106CPC	1.62	47A476CPC	2.40	64A024-7	1.80	73F124AF	.75
21A103RBI	1.38	23A107RPC	.99	46A107CPC	1.59	47A477CPC	2.40	66A022-0	1.80	73F153AF	.81
21A104RBI	1.30	23A115RPC	1.26	46A124CPC	1.74	47A564CPC	2.61	66A022-1	1.98	73F154AF	.75
21A105RBI	1.23	23A113RPC	1.26	46A125CPC	1.68	47A565CPC	2.49	66A022-2	1.98	73F183AF	.81
21A106RBI	1.11	23A114RPC	1.17	46A126CPC	1.62	47A566CPC	2.40	66A022-3	1.98	73F184AF	.75
21A153RBI	1.38	23A115RPC	1.17	46A127CPC	1.59	47A567CPC	2.40	66A022-4	1.98	73F223AF	.81
21A154RBI	1.30	23A116RPC	.99	46A154CPC	1.74	47A684CPC	2.64	66A022-5	2.16	73F224AF	.75
21A155RBI	1.23	23A117RPC	.99	46A155CPC	1.68	47A685CPC	2.49	66A022-6	1.98	73F273AF	.81
21A156RBI	1.11	23A222RPC	1.32	46A156CPC	1.65	47A686CPC	2.46	66A022-7	1.98	73F274AF	.75
21A223RBI	1.38	23A223RPC	1.26	46A157CPC	1.59	47A687CPC	2.40	66A024-0	1.80	73F333AF	.90
21A224RBI	1.30	23A224RPC	1.17	46A184CPC	1.74	47A824CPC	2.64	66A024-1	1.98	73F334AF	.75
21A225RBI	1.23	23A225RPC	1.17	46A185CPC	1.68	47A825CPC	2.49	66A024-2	1.98	73F393AF	.90
21A226RBI	1.11	23A226RPC	1.08	46A186CPC	1.65	47A826CPC	2.46	66A024-3	1.98	73F394AF	.84
21A333RBI	1.38	23A227RPC	.99	46A187CPC	1.59	47A827CPC	2.40	66A024-4	1.98	73F473AF	.90
21A334RBI	1.30	23A332RPC	1.32	46A224CPC	1.74	50A103EBI	4.35	66A024-5	2.16	73F474AF	.75
21A335RBI	1.23	23A333RPC	1.26	46A225CPC	1.68	50A104EBI	4.23	66A024-6	1.98	73F563AF	.99
21A336RBI	1.11	23A334RPC	1.17	46A226CPC	1.65	50A105EBI	3.69	66A024-7	1.98	73F564AF	.75
21A473RBI	1.44	23A335RPC	1.17	46A227CPC	1.62	50A106EBI	3.60	70F102AI	.99	73F683AF	.99
21A474RBI	1.30	23A336RPC	1.08	46A274CPC	1.74	50A153EBI	4.35	70F103AI	.75	73F684AF	.81
21A475RBI	1.23	23A337RPC	.99	46A275CPC	1.71	50A154EBI	4.26	70F104AI	.69	73F823AF	1.05
21A476RBI	1.11	23A472RPC	1.32	46A276CPC	1.65	50A155EBI	3.69	70F105AI	.69	73F824AF	.81
21A687RBI	1.44	23A473RPC	1.26	46A277CPC	1.62	50A156EBI	3.60	70F106AI	.60	74F104AI	.60
21A684RBI	1.30	23A474RPC	1.17	46A334CPC	1.77	50A223EBI	4.38	70F122AI	1.08	74F105AP	.48
21A685RBI	1.23	23A475RPC	1.17	46A335CPC	1.71	50A224EBI	4.26	70F123AI	.75	74F106AP	.45
21A686RBI	1.11	23A476RPC	1.08	46A336CPC	1.65	50A225EBI	3.78	70F124AI	.69	74F125AP	.48
21A823RBI	1.44	23A477RPC	.99	46A337CPC	1.62	50A226EBI	3.60	70F125AI	.69	74F126AP	.45
21A824RBI	1.38	23A682RPC	1.32	46A394CPC	1.77	50A333EBI	4.38	70F126AI	.60	74F155AP	.48
21A825RBI	1.23	23A683RPC	1.26	46A395CPC	1.71	50A334EBI	4.29	70F152AI	1.08	74F156AP	.45
21A826RBI	1.11	23A684RPC	1.17	46A396CPC	1.65	50A335EBI	3.78	70F153AI	.75	74F185AP	.51
22A000-0	1.23	23A685RPC	1.17	46A397CPC	1.62	50A336EBI	3.63	70F154AI	.69	74F186AP	.45
22A000-1	1.38	23A686RPC	1.08	46A474CPC	1.77	50A473EBI	4.44	70F155AI	.69	74F225AI	.51
22A000-2	1.38	23A687RPC	.99	46A475CPC	1.71	50A474EBI	4.29	70F156AI	.60	74F226AP	.45
22A000-3	1.38	23A822RPC	1.32	46A476CPC	1.68	50A475EBI	3.81	70F182AI	1.08	74F275AI	.54
22A000-4	1.38	23A823RPC	1.26	46A477CPC	1.62	50A476EBI	3.63	70F183AI	.75	74F276AP	.45
22A000-5	1.59	23A824RPC	1.26	46A564CPC	1.77	50A683EBI	4.44	70F184AI	.69	74F335AI	.54
22A000-6	1.38	23A825RPC	1.17	46A565CPC	1.71	50A684EBI	4.32	70F185AI	.69	74F336AP	.45
22A000-7	1.38	23A826RPC	1.08	46A566CPC	1.68	50A685EBI	3.81	70F186AI	.60	74F354AI	.57
22A101RBI	1.50	23A827RPC	.99	46A567CPC	1.62	50A686EBI	3.63	70F204AI	.69	74F396AP	.45
22A102RBI	1.										



## PRICE LIST

Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price
74F825A1	.60	4503	1.56	4669-E	2.31	9220-42	1.35	9240-722	1.89	9320-32	.66
74F826AP	.45	4504	1.59	4670-E	2.31	9220-44	1.35	9240-723	1.89	9320-34	.66
970	.75	4505	1.65	4671-E	2.37	9220-46	1.35	9240-724	1.89	9320-35	.66
971	.75	4506	1.71	4672-E	2.70	9220-48	1.35	9240-725	1.89	9320-36	.66
972	.75	4507	1.77	6302	.93	9220-50	1.35	9240-726	1.89	9320-38	.66
973	.81	4508	1.80	6302-E	2.28	9220-52	1.35	9240-727	1.89	9330-00	.66
974	.81	4509	1.83	6304	1.08	9220-54	1.35	9240-728	1.89	9330-02	.66
975	.81	4511	1.86	6304-E	2.37	9220-56	1.50	9240-729	1.89	9330-04	.66
976	.84	4512	1.89	6306	1.20	9220-58	1.50	9240-730	1.89	9330-06	.66
977	.84	4513	1.92	6306-E	2.52	9220-60	1.50	9240-731	1.89	9330-08	.66
978	.84	4514	1.95	6308	1.26	9220-62	1.50	9240-732	1.89	9330-10	.66
979	.84	4514-1	2.01	6308-E	2.70	9220-64	1.50	9240-733	2.25	9330-12	.66
980	.87	4580	.51	6310	1.44	9220-66	1.50	9240-734	2.25	9330-14	.66
981	.87	4582	.51	6310-E	2.94	9220-68	1.50	9240-735	2.25	9330-16	.66
982	.87	4584	.51	9001	1.32	9220-70	1.50	9240-736	2.25	9330-18	.75
983	.87	4586	.51	9002	1.50	9220-72	1.50	9240-737	2.25	9330-20	.75
984	.89	4588	.51	9003	1.80	9220-74	1.50	9240-738	2.25	9330-22	.75
985	.89	4590	.51	9004	2.10	9220-76	1.50	9240-739	2.25	9330-24	.75
986	.93	4592	.51	9005	2.37	9230-00	1.02	9240-740	2.25	9330-26	.75
987	.98	4594	.51	9006	2.76	9230-02	1.02	9240-741	2.25	9330-28	.75
988	1.02	4602	.51	9007	2.85	9230-04	1.02	9240-742	2.25	9330-30	.75
989	1.05	4604	.51	9008	2.88	9230-06	1.02	9240-743	2.25	9330-32	.75
990	1.08	4606	.51	9009	2.97	9230-08	1.02	9240-744	2.25	9330-34	.75
991	1.14	4608	.51	9011	1.62	9230-10	1.02	9240-745	2.25	9330-36	.75
992	1.20	4609	.51	9012	1.80	9230-12	1.02	9240-746	2.25	9330-38	.75
993	1.26	4610	.54	9013	2.10	9230-14	1.02	9240-747	2.25	9340-00	.78
994	1.32	4611	.54	9014	2.40	9230-16	1.02	9240-748	2.25	9340-02	.78
4200-0	.66	4612	.54	9015	2.67	9230-18	1.02	9240-749	2.85	9340-03	.78
4200-1	.75	4622	.60	9016	2.79	9230-20	1.02	9240-750	2.85	9340-04	.78
4200-2	.75	4624	.60	9017	2.82	9230-22	1.08	9240-751	2.85	9340-06	.78
4200-3	.75	4626	.63	9018	3.18	9230-24	1.08	9240-752	2.97	9340-08	.78
4200-4	.75	4628	.63	9019	3.27	9230-26	1.08	9240-753	2.97	9340-10	.78
4200-5	.99	4629	.66	9050	1.80	9230-28	1.08	9240-754	2.97	9340-12	.78
4200-6	.72	4630	.66	9051	1.80	9230-30	1.08	9240-755	2.97	9340-14	.78
4200-7	.72	4631	.66	9052	1.83	9230-32	1.08	9240-756	2.97	9340-16	.78
4300-8	.72	4632	.66	9053	1.83	9230-34	1.08	9240-770	1.74	9340-18	.78
4300-0	.93	4642	.66	9054	1.86	9230-36	1.08	9240-771	1.74	9340-20	.78
4300-1	1.08	4644	.66	9055	1.86	9230-38	1.23	9240-772	1.74	9340-22	.78
4300-2	1.08	4646	.66	9056	1.86	9230-40	1.23	9240-773	1.74	9340-24	.78
4300-3	1.06	4648	.72	9057	1.95	9230-42	1.23	9240-774	1.74	9340-26	.78
4300-4	1.08	4649	.72	9058	1.95	9230-44	1.23	9310-00	.60	9340-28	.84
4300-5	1.26	4650	.72	9059	1.95	9230-46	1.32	9310-02	.60	9340-30	.84
4300-6	1.08	4651	.72	9060	2.10	9230-48	1.32	9310-04	.60	9340-32	.84
4300-7	1.08	4652	.72	9061	2.10	9230-50	1.32	9310-06	.60	9340-34	.84
4301	1.50	4662	.75	9062	2.10	9230-52	1.32	9310-07	.60	9340-36	.84
4302	1.50	4664	.81	9063	2.16	9230-54	1.32	9310-08	.60	9340-38	.84
4303	1.56	4666	.84	9210-54	.90	9230-56	1.41	9310-10	.60	9340-39	.84
4304	1.59	4663	.93	9210-56	.90	9230-58	1.65	9310-12	.60	9340-40	.84
4305	1.65	4669	1.05	9210-58	.90	9230-60	1.65	9310-14	.60	9340-42	.84
4306	1.71	4670	1.05	9210-60	.90	9230-62	1.65	9310-16	.60	9340-44	.84
4307	1.77	4671	1.11	9210-62	.90	9230-64	1.65	9310-18	.60	9350-00	1.02
4308	1.80	4672	1.29	9210-64	.90	9230-66	1.65	9310-20	.60	9350-02	1.02
4309	1.83	4580-E	1.38	9210-66	.90	9230-68	1.65	9310-22	.60	9350-04	1.08
4310	1.86	4582-E	1.38	9210-68	.90	9230-70	2.25	9310-24	.60	9350-06	1.08
4311	1.89	4584-E	1.38	9210-70	.90	9230-72	2.25	9310-26	.60	9350-08	1.08
4312	1.92	4586-E	1.38	9210-72	.90	9230-74	2.25	9310-28	.60	9350-10	1.08
4313	1.95	4588-E	1.38	9210-74	.90	9230-76	2.25	9310-30	.66	9350-12	1.08
4314	1.95	4590-E	1.38	9210-76	.99	9230-78	2.25	9310-32	.66	9350-14	1.08
4315	1.95	4592-E	1.38	9210-78	.99	9230-80	2.25	9310-34	.66	9350-16	1.08
4400-0	1.17	4594-E	1.38	9210-80	.99	9230-82	2.25	9310-36	.66	9350-18	1.08
4400-1	1.32	4602-E	1.38	9210-82	.99	9230-84	2.25	9310-38	.66	9350-20	1.08
4400-2	1.32	4604-E	1.38	9210-84	.99	9230-86	2.25	9310-40	.66	9350-22	1.08
4400-3	1.32	4606-E	1.38	9210-86	.99	9230-88	2.25	9310-42	.66	9350-24	1.11
4400-4	1.32	4608-E	1.38	9210-88	.99	9230-90	2.25	9310-44	.66	9350-26	1.11
4400-5	1.47	4609-E	1.41	9210-90	.99	9230-92	2.25	9310-46	.75	9350-28	1.11
4400-6	1.32	4610-E	1.41	9210-92	.99	9230-94	1.02	9310-48	.75	9350-30	1.11
4400-7	1.32	4611-E	1.41	9210-94	.99	9230-96	1.02	9310-50	.75	9350-32	1.14
4403	1.62	4612-E	1.41	9220-00	1.05	9240-701	1.74	9310-52	.75	9350-34	1.14
4404	1.65	4622-E	1.44	9220-02	1.05	9240-702	1.74	9320-00	.60	9350-36	1.14
4405	1.68	4624-E	1.44	9220-04	1.05	9240-703	1.74	9320-02	.60	9350-38	1.20
4406	1.74	4626-E	1.47	9220-06	1.05	9240-704	1.74	9320-04	.60	9350-39	1.20
4407	1.80	4628-E	1.47	9220-08	1.05	9240-705	1.74	9320-06	.60	9350-40	1.20
4408	1.83	4629-E	1.47	9220-10	1.05	9240-706	1.74	9320-07	.60	9350-41	1.20
4409	1.89	4630-E	1.47	9220-12	1.05	9240-707	1.74	9320-08	.60	9350-41	1.20
4410	1.92	4631-E	1.47	9220-14	1.05	9240-708	1.86	9320-09	.60	9350-44	1.20
4411	1.95	4632-E	1.47	9220-16	1.05	9240-709	1.86	9320-10	.60	9360-01	1.26
4412	1.98	4642-E	1.50	9220-18	1.14	9240-710	1.86	9320-11	.60	9360-02	1.26
4413	2.01	4644-E	1.50	9220-20	1.14	9240-711	1.86	9320-12	.60	9360-03	1.26
4414	2.01	4646-E	1.50	9220-22	1.14	9240-712	1.86	9320-13	.60	9360-04	1.26
4500-0	1.02	4648-E	1.65	9220-24	1.14	9240-713	1.86	9320-14	.60	9360-05	1.26
4500-1	1.17	4643-E	1.98	9220-26	1.14	9240-714	1.86	9320-16	.60	9360-06	1.26
4500-2	1.17	4650-E	1.98	9220-28	1.14	9240-715	1.86	9320-18	.66	9360-07	1.26
4500-3	1.17	4651-E	1.98	9220-30	1.35	9240-716	1.86	9320-20	.66	9360-08	1.35
4500-4	1.17	4652-E	1.98	9220-32	1.35	9240-717	1.86	9320-22	.66	9360-09	1.35
4500-5	1.35	4662-E	2.01	9220-34	1.35	9240-718	1.86	9320-24	.66	9360-10	1.35
4500-6	1.17	4664-E	2.04	9220-36	1.35	9240-719	1.86	9320-26	.66	9360-11	1.35
4500-7	1.17	4666-E	2.13	9220-38	1.35	9240-720	1.86	9320-28	.66	9360-12	1.35
4501	1.50	4668-E	2.19	9220-40	1.35	9240-721	1.86	9320-30	.66	9360-13	1.35

Prices Subject to Change or Withdrawal Without Notice

J. W. MILLER COMPANY

Nicknamed the "Micro-Mite", these rugged coils exhibit high Q and very low distributed capacity, all concentrated into an amazingly small package. They are ideal for use where weight, space and high Q considerations are involved. Size reduction ranges up to 80% of equivalent standard molded chokes. The construction of these coils permits miniaturization without the use of ferrite materials, thus maintaining temperature stability to 125° C. This series of molded coils conforms to MIL-C-15305

Miller Part Number	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum	Core Material
	Inductance Microhenries	Q Minimum	Testing Frequency				
9210-54	36 ± 5%	60	2.5 MHz	16.0	2.50	250	IRON
9210-56	39 ± 5%	60	2.5 MHz	15.0	2.60	245	IRON
9210-58	43 ± 5%	60	2.5 MHz	13.7	2.70	242	IRON
9210-60	47 ± 5%	55	2.5 MHz	13.0	2.75	240	IRON
9210-62	51 ± 5%	55	2.5 MHz	12.7	2.85	235	IRON
9210-64	56 ± 5%	55	2.5 MHz	12.0	3.00	230	IRON
9210-66	62 ± 5%	55	2.5 MHz	11.0	3.15	225	IRON
9210-68	68 ± 5%	55	2.5 MHz	11.0	3.30	220	IRON
9210-70	75 ± 5%	55	2.5 MHz	10.5	3.70	205	IRON
9210-72	82 ± 5%	50	2.5 MHz	10.3	3.90	200	IRON
9210-74	91 ± 5%	50	2.5 MHz	10.0	4.30	190	IRON
9210-76	100 ± 5%	50	2.5 MHz	9.5	4.50	185	IRON
9210-78	110 ± 5%	60	.790 MHz	8.5	4.90	180	IRON
9210-80	120 ± 5%	65	.790 MHz	8.5	5.20	175	IRON
9210-82	130 ± 5%	65	.790 MHz	8.5	5.45	170	IRON
9210-84	150 ± 5%	65	.790 MHz	8.0	6.05	165	IRON
9210-86	160 ± 5%	65	.790 MHz	8.0	6.40	160	IRON
9210-88	180 ± 5%	65	.790 MHz	7.0	6.50	155	IRON
9210-90	200 ± 5%	65	.790 MHz	6.5	6.90	150	IRON
9210-92	220 ± 5%	65	.790 MHz	6.0	7.20	145	IRON
9210-94	240 ± 5%	65	.790 MHz	6.0	7.40	140	IRON

Mold Size: .155 ± .010 diameter; .375 ± .010 length. Leads: AWG #22 TCW; 1.44 ± .125 length. Power Rating: .22 Watt Max. at 90° C. \*Current based on (1) Temperature rise not to exceed 35°C at 90° ambient. (2) Overload not to exceed 1 1/2 times rated current.

Miller Part Number	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum	Mold Size	Core Material
	Inductance Microhenries	Q Minimum	Testing Frequency					
9220-00	270 ± 5%	65	.790 MHz	5.3	8.0	150	A	IRON
9220-02	300 ± 5%	65	.790 MHz	5.0	8.6	145	A	IRON
9220-04	330 ± 5%	65	.790 MHz	5.0	8.9	142	A	IRON
9220-06	360 ± 5%	65	.790 MHz	4.7	9.6	137	A	IRON
9220-08	390 ± 5%	65	.790 MHz	4.5	9.9	135	A	IRON
9220-10	430 ± 5%	65	.790 MHz	4.3	10.4	131	A	IRON
9220-12	470 ± 5%	65	.790 MHz	4.0	10.9	128	A	IRON
9220-14	500 ± 5%	65	.790 MHz	3.7	11.3	126	A	IRON
9220-16	560 ± 5%	65	.790 MHz	3.5	11.8	123	A	IRON
9220-18	620 ± 5%	60	.790 MHz	3.5	12.5	120	A	IRON
9220-20	680 ± 5%	60	.790 MHz	3.3	13.5	115	A	IRON
9220-22	750 ± 5%	60	.790 MHz	3.3	14.0	113	A	IRON
9220-24	820 ± 5%	60	.790 MHz	3.0	15.0	110	A	IRON
9220-26	910 ± 5%	60	.790 MHz	3.0	15.5	107	A	IRON
9220-28	1000 ± 5%	60	.790 MHz	2.8	16.5	104	A	IRON
9220-30	1100 ± 5%	60	.250 MHz	2.7	21.0	117	B	IRON
9220-32	1200 ± 5%	60	.250 MHz	2.7	22.0	114	B	IRON
9220-34	1300 ± 5%	60	.250 MHz	2.6	22.5	113	B	IRON
9220-36	1500 ± 5%	65	.250 MHz	2.3	24.5	108	B	IRON
9220-38	1600 ± 5%	65	.250 MHz	2.2	25.7	106	B	IRON
9220-40	1800 ± 5%	65	.250 MHz	2.2	27.3	102	B	IRON
9220-42	2000 ± 5%	65	.250 MHz	2.0	29.0	99	B	IRON
9220-44	2200 ± 5%	70	.250 MHz	2.0	30.0	98	B	IRON
9220-46	2400 ± 5%	70	.250 MHz	1.9	31.5	96	B	IRON
9220-48	2700 ± 5%	70	.250 MHz	1.9	33.0	93	B	IRON
9220-50	3000 ± 5%	70	.250 MHz	1.8	35.0	91	B	IRON
9220-52	3300 ± 5%	70	.250 MHz	1.6	37.8	87	B	IRON
9220-54	3600 ± 5%	70	.250 MHz	1.5	39.3	85	B	IRON
9220-56	3900 ± 5%	80	.250 MHz	1.5	43.0	86	C	IRON
9220-58	4300 ± 5%	80	.250 MHz	1.5	45.0	85	C	IRON
9220-60	4700 ± 5%	80	.250 MHz	1.4	47.0	83	C	IRON
9220-62	5000 ± 5%	80	.250 MHz	1.3	48.3	82	C	IRON
9220-64	5600 ± 5%	80	.250 MHz	1.3	52.0	79	C	IRON
9220-66	6200 ± 5%	80	.250 MHz	1.2	54.0	77	C	IRON
9220-68	6800 ± 5%	80	.250 MHz	1.2	56.5	75	C	IRON
9220-70	7500 ± 5%	80	.250 MHz	1.2	59.5	73	C	IRON
9220-72	8200 ± 5%	80	.250 MHz	1.1	62.5	72	C	IRON
9220-74	9100 ± 5%	80	.250 MHz	1.0	66.5	69	C	IRON
9220-76	10000 ± 5%	80	.250 MHz	1.0	70.0	68	C	IRON

\*Current based on (1) Temperature rise not to exceed 35°C at 90° ambient. (2) Overload not to exceed 1 1/2 times rated current.

Mold Size	Mold Diameter	Mold Length	Lead Size	Lead Length	Max. Watt at 90° C.
A	.190 ± .010	.440 ± .010	AWG #22	1.44 ± .125	.25
B	.215 ± .010	.560 ± .010	AWG #21	1.44 ± .125	.40
C	.240 ± .010	.740 ± .010	AWG #20	1.44 ± .125	.45

Refer to Pages 1-2 for Prices

Miller Part Number	M S Type	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum <sup>⊙</sup>	Core Material
		Inductance Microhenries	Q Minimum	Testing Frequency				
9310-00	18130-1	.15 ± 20%	50	25 MHz	525	.03	2450	PHENOLIC
9310-02	18130-2	.22 ± 20%	50	25 MHz	450	.055	1900	PHENOLIC
9310-04	18130-3	.33 ± 20%	45	25 MHz	360	.09	1400	PHENOLIC
9310-06	18130-4	.47 ± 20%	45	25 MHz	310	.12	1225	PHENOLIC
9310-07	18130-5	.56 ± 10%	50	25 MHz	280	.135	1220	PHENOLIC
9310-08	18130-6	.68 ± 10%	50	25 MHz	250	.15	1100	PHENOLIC
9310-10	18130-7	.82 ± 10%	50	25 MHz	220	.22	900	PHENOLIC
9310-12	18130-8	1.00 ± 10%	50	25 MHz	200	.29	830	PHENOLIC
9310-14	18130-9	1.20 ± 10%	33	7.9 MHz	180	.42	650	PHENOLIC
9310-16	18130-10	1.50 ± 10%	33	7.9 MHz	160	.50	600	PHENOLIC
9310-18	18130-11	1.80 ± 10%	33	7.9 MHz	150	.65	525	PHENOLIC
9310-20	18130-12	2.20 ± 10%	33	7.9 MHz	135	.95	435	PHENOLIC
9310-22	18130-13	2.70 ± 10%	33	7.9 MHz	120	1.20	385	PHENOLIC
9310-24	18130-14	3.30 ± 10%	33	7.9 MHz	110	2.00	300	PHENOLIC
9310-26	18130-15	3.90 ± 10%	33	7.9 MHz	100	2.30	280	PHENOLIC
9310-28	18130-16	4.70 ± 10%	33	7.9 MHz	90	2.60	260	PHENOLIC
9310-30	18130-17	5.60 ± 10%	45	7.9 MHz	60	.32	750	IRON
9310-32	18130-18	6.80 ± 10%	50	7.9 MHz	55	.50	600	IRON
9310-34	18130-19	8.20 ± 10%	50	7.9 MHz	50	.60	545	IRON
9310-36	18130-20	10.0 ± 10%	55	7.9 MHz	45	.90	445	IRON
9310-38	18130-21	12.0 ± 10%	65	2.5 MHz	42	1.10	404	IRON
9310-40	18130-22	15.0 ± 10%	65	2.5 MHz	40	1.40	370	IRON
9310-42	18130-23	18.0 ± 10%	75	2.5 MHz	34	2.25	280	IRON
9310-44	18130-24	22.0 ± 10%	75	2.5 MHz	30	2.50	265	IRON
9310-46		24.0 ± 10%	60	2.5 MHz	26	2.50	265	IRON
9310-48	18130-25	27.0 ± 10%	60	2.5 MHz	25	2.60	260	IRON
9310-50		30.0 ± 10%	65	2.5 MHz	19	2.80	255	IRON
9310-52	18130-26	33.0 ± 10%	65	2.5 MHz	19	3.00	250	IRON

Mold Size: .155 ± .010 diameter; .375 ± .010 length. Leads: AWG #22 TCW; 1.437 ± .125 length. Power Rating: 1/4 Watt Max. at 90° C.  
 \*Current based on (1) Temperature rise not to exceed 35°C at 90° ambient. (2) Overload not to exceed 1 1/2 times rated current.

Miller Part Number	M S Type	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum <sup>⊙</sup>	Core Material
		Inductance Microhenries	Q Minimum	Testing Frequency				
9320-00	75008-21	.15 ± 20%	55	25 MHz	510	.03	3000	PHENOLIC
9320-02	75008-22	.22 ± 20%	55	25 MHz	415	.035	2800	PHENOLIC
9320-04	75008-23	.33 ± 20%	55	25 MHz	350	.05	2000	PHENOLIC
9320-06	75008-24	.47 ± 20%	55	25 MHz	300	.08	1700	PHENOLIC
9320-07	75008-25	.56 ± 10%	55	25 MHz	270	.100	1450	PHENOLIC
9320-08	75008-26	.68 ± 10%	55	25 MHz	250	.12	1300	PHENOLIC
9320-09	75008-27	.82 ± 10%	55	25 MHz	220	.180	1100	PHENOLIC
9320-10	75008-28	1.00 ± 10%	55	25 MHz	200	.25	930	PHENOLIC
9320-11	75008-29	1.20 ± 10%	35	7.9 MHz	180	.400	785	PHENOLIC
9320-12	75008-30	1.50 ± 10%	35	7.9 MHz	170	.485	700	PHENOLIC
9320-13	75008-31	1.80 ± 10%	35	7.9 MHz	150	.740	580	PHENOLIC
9320-14	75008-32	2.20 ± 10%	35	7.9 MHz	140	.90	505	PHENOLIC
9320-16	75008-33	2.70 ± 10%	35	7.9 MHz	120	1.10	460	PHENOLIC
9320-18	75008-34	3.30 ± 10%	35	7.9 MHz	70	.12	1350	IRON
9320-20	75008-35	3.90 ± 10%	35	7.9 MHz	65	.155	1250	IRON
9320-22	75008-36	4.70 ± 10%	35	7.9 MHz	60	.210	1100	IRON
9320-24	75008-37	5.60 ± 10%	35	7.9 MHz	50	.280	935	IRON
9320-26	75008-38	6.80 ± 10%	35	7.9 MHz	50	.375	810	IRON
9320-28	75008-39	8.20 ± 10%	35	7.9 MHz	48	.400	750	IRON
9320-30	75008-40	10.0 ± 10%	35	7.9 MHz	42	.60	640	IRON
9320-32	75008-41	12.0 ± 10%	50	2.5 MHz	36	.85	490	IRON
9320-34	75008-42	15.0 ± 10%	55	2.5 MHz	30	1.20	460	IRON
9320-35	75008-43	18.0 ± 10%	60	2.5 MHz	30	1.80	360	IRON
9320-36	75008-44	22.0 ± 10%	60	2.5 MHz	24	2.00	335	IRON
9320-38	75008-45	27.0 ± 10%	65	2.5 MHz	22	2.75	300	IRON

Mold Size: 0.185 ± .010 diameter; 0.437 ± .010 length. Leads: AWG #22 TCW; 1.437 ± .125 length. Power Rating: 25 Watt Max. at 90° C.  
 \*Current based on (1) Temperature rise not to exceed 35°C at 90° ambient. (2) Overload not to exceed 1 1/2 times rated current.

Miller Part Number	M S Type	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum <sup>⊙</sup>	Core Material
		Inductance Microhenries	Q Minimum	Testing Frequency				
9330-00	16222-1	.47 ± 20%	65	25 MHz	300	.06	1970	PHENOLIC
9330-02	16222-2	.68 ± 20%	65	25 MHz	240	.08	1700	PHENOLIC
9330-04	16222-3	1.00 ± 10%	65	25 MHz	200	.14	1290	PHENOLIC
9330-06	16222-4	1.50 ± 10%	40	7.9 MHz	160	.28	925	PHENOLIC
9330-08	16222-5	2.20 ± 10%	40	7.9 MHz	135	.50	680	PHENOLIC
9330-10	16222-6	2.70 ± 10%	40	7.9 MHz	120	.65	600	PHENOLIC
9330-12	16222-7	3.30 ± 10%	40	7.9 MHz	105	1.00	480	PHENOLIC
9330-14	16222-8	3.90 ± 10%	40	7.9 MHz	100	1.20	440	PHENOLIC
9330-16	16222-9	4.70 ± 10%	40	7.9 MHz	90	1.80	360	PHENOLIC
9330-18	16222-10	5.60 ± 10%	35	7.9 MHz	55	.13	1340	IRON
9330-20	16222-11	6.80 ± 10%	35	7.9 MHz	50	.20	1080	IRON
9330-22	16222-12	8.20 ± 10%	35	7.9 MHz	44	.22	1030	IRON
9330-24	16222-13	10.0 ± 10%	35	7.9 MHz	42	.26	950	IRON
9330-26	16222-14	12.0 ± 10%	45	2.5 MHz	34	.45	720	IRON
9330-28	16222-15	15.0 ± 10%	45	2.5 MHz	32	.52	670	IRON
9330-30	16222-16	18.0 ± 10%	50	2.5 MHz	28	.70	580	IRON
9330-32	16222-17	22.0 ± 10%	60	2.5 MHz	24	1.00	480	IRON
9330-34	16222-18	27.0 ± 10%	60	2.5 MHz	22	1.30	420	IRON
9330-36	16222-19	33.0 ± 10%	60	2.5 MHz	20	1.50	390	IRON
9330-38	16222-20	39.0 ± 10%	70	2.5 MHz	18	2.00	340	IRON

Mold Size: 0.215 ± .010 diameter; 0.560 ± .010 length. Leads: AWG #22 TCW; 1.437 ± .125 length. Power Rating: .33 Watt Max. at 90° C.  
 \*Current based on (1) Temperature rise not to exceed 35°C at 90° ambient. (2) Overload not to exceed 1 1/2 times rated current.

Refer to Pages 1-2 for Prices

Miller Part Number	M S Type	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum*	Core Material
		Inductance Microhenries	Q Minimum	Testing Frequency				
9340-00	91189-14	1.2 ± 10%	60	7.9 MHz	170	.075	2400	PHENOLIC
9340-02	91189-15	1.5 ± 10%	60	7.9 MHz	160	.090	2150	PHENOLIC
9340-03	91189-16	1.8 ± 10%	60	7.9 MHz	140	.135	1750	PHENOLIC
9340-04	91189-17	2.2 ± 10%	60	7.9 MHz	125	.160	1600	PHENOLIC
9340-06	91189-18	2.7 ± 10%	60	7.9 MHz	115	.220	1350	PHENOLIC
9340-08	91189-19	3.3 ± 10%	60	7.9 MHz	100	.305	1150	PHENOLIC
9340-10	91189-20	3.9 ± 10%	60	7.9 MHz	95	.45	955	PHENOLIC
9340-12	91189-21	4.7 ± 10%	60	7.9 MHz	90	.560	860	PHENOLIC
9340-14	91189-22	5.6 ± 10%	60	7.9 MHz	80	.745	745	PHENOLIC
9340-16	91189-23	6.8 ± 10%	60	7.9 MHz	75	1.05	635	PHENOLIC
9340-18	91189-24	8.2 ± 10%	60	7.9 MHz	68	1.4	550	PHENOLIC
9340-20	91189-25	10.0 ± 10%	60	7.9 MHz	60	1.9	460	PHENOLIC
9340-22	91189-26	12.0 ± 10%	40	2.5 MHz	53	2.65	395	PHENOLIC
9340-24	91189-27	15.0 ± 10%	40	2.5 MHz	50	3.25	355	PHENOLIC
9340-26	91189-28	18.0 ± 10%	40	2.5 MHz	45	4.15	315	PHENOLIC
9340-28	91189-29	22.0 ± 10%	50	2.5 MHz	25	.295	1150	IRON
9340-30	91189-30	27.0 ± 10%	45	2.5 MHz	22	.350	1050	IRON
9340-32	91189-31	33.0 ± 10%	60	2.5 MHz	20	.550	865	IRON
9340-34	91189-32	39.0 ± 10%	55	2.5 MHz	18	.65	810	IRON
9340-36	91189-33	47.0 ± 10%	65	2.5 MHz	16	1.0	640	IRON
9340-38	91189-34	56.0 ± 10%	65	2.5 MHz	14	1.15	620	IRON
9340-39	91189-35	68.0 ± 10%	75	2.5 MHz	13	1.85	470	IRON
9340-40	91189-36	82.0 ± 10%	75	2.5 MHz	13	2.10	440	IRON
9340-42	91189-37	100.0 ± 10%	75	2.5 MHz	12	2.50	405	IRON
9340-44	91189-38	120.0 ± 10%	95	.79 MHz	10	4.00	315	IRON

Mold Size: 0.280 ± .010 diameter; 0.900 ± .010 length. Leads: AWG #21 TCW; 1.437 ± .125 length. Power Rating: <sup>3</sup>Watt Max. at 90° C.  
 \*Current based on (1) Temperature rise not to exceed 35°C at 90° ambient. (2) Overload not to exceed 1 1/2 times rated current.

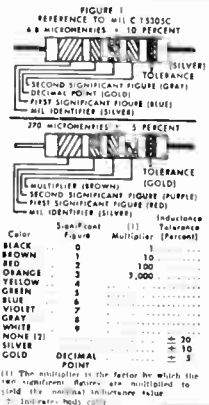
Miller Part Number	M S Type	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum*	Mold Size	Core Material
		Inductance Microhenries	Q Minimum	Testing Frequency					
9350-00	75052-1	47 ± 10%	18	2.5 MHz	13.5	5.9	195	A	PHENOLIC
9350-02	75052-2	56 ± 10%	18	2.5 MHz	13	6.4	185	A	PHENOLIC
9350-04	75052-3	68 ± 10%	70	2.5 MHz	13	3.3	255	A	IRON
9350-06	75052-4	82 ± 10%	65	2.5 MHz	11.7	3.5	245	A	IRON
9350-08	75052-5	100 ± 10%	65	2.5 MHz	10.7	3.8	235	A	IRON
9350-10	75052-6	120 ± 10%	75	.79 MHz	9.3	4.7	215	A	IRON
9350-12	75052-7	150 ± 10%	75	.79 MHz	8.3	5.3	200	A	IRON
9350-14	75053-1	180 ± 10%	80	.79 MHz	6.0	5.5	225	B	IRON
9350-16	75053-2	220 ± 10%	80	.79 MHz	5.5	5.9	220	B	IRON
9350-18	75053-3	270 ± 10%	80	.79 MHz	5.1	6.6	210	B	IRON
9350-20	75053-4	330 ± 10%	75	.79 MHz	4.2	7.8	185	B	IRON
9350-22	75053-5	390 ± 10%	75	.79 MHz	3.9	8.7	180	B	IRON
9350-24	75054-1	470 ± 10%	80	.79 MHz	3.7	9.0	190	C	IRON
9350-26	75054-2	560 ± 10%	80	.79 MHz	3.5	10.0	180	C	IRON
9350-28	75054-3	680 ± 10%	75	.79 MHz	3.2	11.2	170	C	IRON
9350-30	75054-4	820 ± 10%	75	.79 MHz	3.0	13.0	155	C	IRON
9350-32	75054-5	1000 ± 10%	70	.79 MHz	2.7	14.5	145	C	IRON
9350-34	75055-1	1500 ± 10%	85	.25 MHz	2.2	22.0	127	D	IRON
9350-36		2000 ± 10%	85	.25 MHz	1.9	26.0	125	D	IRON
9350-37	75055-2	2200 ± 10%	85	.25 MHz	1.8	27.0	115	D	IRON
9350-38		2500 ± 10%	85	.25 MHz	1.7	30.0	115	D	IRON
9350-39	75055-3	2700 ± 10%	85	.25 MHz	1.6	32.0	105	D	IRON
9350-40		5000 ± 10%	70	.25 MHz	1.2	65.0	78	D	IRON
9350-41	75055-4	5100 ± 10%	70	.25 MHz	1.0	66.0	73	D	IRON
9350-44	75055-5	10000 ± 10%	70	.25 MHz	0.8	70.0	71	D	FERRITE

\*Current based on (1) Temperature rise not to exceed 35°C at 90° ambient. (2) Overload not to exceed 1 1/2 times rated current.

COIL DIMENSIONS	A	B	C	D	LEAD DIMENSIONS
DIAMETER ± .010	.250	.310	.375	.468	AWG 20, 21, 22 TCW
LENGTH ± .010	.560	.560	.625	.687	1.437 ± .125
MAX. WATT. AT 90° C.	.30	.40	.45	.55	

### Molded Choke Coils Color Coding

For cylindrical choke coils. Cylindrical choke coils shall be marked with five colored bands. A silver band MIL identifier of double the width of the other four bands, located near one end of the coil, identifies military radiofrequency coils; four other bands of equal width, three indicating the inductance in microhenries and the fourth band indicating the tolerance in percent. Color coding shall be in accordance with the color code of table II. When either the first or second band of the three bands is gold, this band shall represent the decimal point for inductance values less than 10, and the other two bands shall represent significant figures. For inductance values of 10 or more, the first two bands shall represent significant figures, and the third band shall represent the multiplier. For small units, dots may be used instead of bands, when specified. The diameter of the MIL-identifier dot shall be larger than the other dots. The colors used shall be in accordance with MIL-STD-174. Typical color coding for units with inductance values less than 10 and for 10 or greater is shown on figure 1.



Refer to Pages 1-2 for Prices

Miller Part Number	M S Type	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum*	Core Material
		Inductance Microhenries	Q Minimum	Testing Frequency				
9310-00	18130-1	.15 ± 20%	50	25 MHz	525	.03	2450	PHENOLIC
9310-02	18130-2	.22 ± 20%	50	25 MHz	450	.055	1900	PHENOLIC
9310-04	18130-3	.33 ± 20%	45	25 MHz	360	.09	1400	PHENOLIC
9310-06	18130-4	.47 ± 20%	45	25 MHz	310	.12	1225	PHENOLIC
9310-07	18130-5	.56 ± 10%	50	25 MHz	280	.135	1220	PHENOLIC
9310-08	18130-6	.68 ± 10%	50	25 MHz	250	.15	1100	PHENOLIC
9310-10	18130-7	.82 ± 10%	50	25 MHz	220	.22	900	PHENOLIC
9310-12	18130-8	1.00 ± 10%	50	25 MHz	200	.29	830	PHENOLIC
9310-14	18130-9	1.20 ± 10%	33	7.9 MHz	180	.42	650	PHENOLIC
9310-16	18130-10	1.50 ± 10%	33	7.9 MHz	160	.50	600	PHENOLIC
9310-18	18130-11	1.80 ± 10%	33	7.9 MHz	150	.65	525	PHENOLIC
9310-20	18130-12	2.20 ± 10%	33	7.9 MHz	135	.95	435	PHENOLIC
9310-22	18130-13	2.70 ± 10%	33	7.9 MHz	120	1.20	385	PHENOLIC
9310-24	18130-14	3.30 ± 10%	33	7.9 MHz	110	2.00	300	PHENOLIC
9310-26	18130-15	3.90 ± 10%	33	7.9 MHz	100	2.30	280	PHENOLIC
9310-28	18130-16	4.70 ± 10%	33	7.9 MHz	90	2.60	260	PHENOLIC
9310-30	18130-17	5.60 ± 10%	45	7.9 MHz	60	.32	750	IRON
9310-32	18130-18	6.80 ± 10%	50	7.9 MHz	55	.50	600	IRON
9310-34	18130-19	8.20 ± 10%	50	7.9 MHz	50	.60	545	IRON
9310-36	18130-20	10.0 ± 10%	55	7.9 MHz	45	.90	445	IRON
9310-38	18130-21	12.0 ± 10%	65	2.5 MHz	42	1.10	404	IRON
9310-40	18130-22	15.0 ± 10%	65	2.5 MHz	40	1.40	370	IRON
9310-42	18130-23	18.0 ± 10%	75	2.5 MHz	34	2.25	280	IRON
9310-44	18130-24	22.0 ± 10%	75	2.5 MHz	30	2.50	265	IRON
9310-46		24.0 ± 10%	60	2.5 MHz	26	2.50	265	IRON
9310-48	18130-25	27.0 ± 10%	60	2.5 MHz	25	2.60	260	IRON
9310-50		30.0 ± 10%	65	2.5 MHz	19	2.80	255	IRON
9310-52	18130-26	33.0 ± 10%	65	2.5 MHz	19	3.00	250	IRON

Mold Size: .155 ± .010 diameter; .375 ± .010 length. Leads: AWG #22 TCW; 1.437 ± .125 length. Power Rating: ¼ Watt Max. at 90° C.  
 \*Current based on (1) Temperature rise not to exceed 35°C at 90° ambient. (2) Overload not to exceed 1/2 times rated current.

Miller Part Number	M S Type	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum*	Core Material
		Inductance Microhenries	Q Minimum	Testing Frequency				
9320-00	75008-21	.15 ± 20%	55	25 MHz	510	.03	3000	PHENOLIC
9320-02	75008-22	.22 ± 20%	55	25 MHz	415	.035	2800	PHENOLIC
9320-04	75008-23	.33 ± 20%	55	25 MHz	350	.05	2000	PHENOLIC
9320-06	75008-24	.47 ± 20%	55	25 MHz	300	.08	1700	PHENOLIC
9320-07	75008-25	.56 ± 10%	55	25 MHz	270	.100	1450	PHENOLIC
9320-08	75008-26	.68 ± 10%	55	25 MHz	250	.12	1300	PHENOLIC
9320-09	75008-27	.82 ± 10%	55	25 MHz	220	.180	1100	PHENOLIC
9320-10	75008-28	1.00 ± 10%	55	25 MHz	200	.25	930	PHENOLIC
9320-11	75008-29	1.20 ± 10%	35	7.9 MHz	180	.400	785	PHENOLIC
9320-12	75008-30	1.50 ± 10%	35	7.9 MHz	170	.485	700	PHENOLIC
9320-13	75008-31	1.80 ± 10%	35	7.9 MHz	150	.740	580	PHENOLIC
9320-14	75008-32	2.20 ± 10%	35	7.9 MHz	140	.90	505	PHENOLIC
9320-16	75008-33	2.70 ± 10%	35	7.9 MHz	120	1.10	460	PHENOLIC
9320-18	75008-34	3.30 ± 10%	35	7.9 MHz	70	.12	1350	IRON
9320-20	75008-35	3.90 ± 10%	35	7.9 MHz	65	.155	1250	IRON
9320-22	75008-36	4.70 ± 10%	35	7.9 MHz	60	.210	1100	IRON
9320-24	75008-37	5.60 ± 10%	35	7.9 MHz	50	.280	935	IRON
9320-26	75008-38	6.80 ± 10%	35	7.9 MHz	50	.375	810	IRON
9320-28	75008-39	8.20 ± 10%	35	7.9 MHz	48	.400	750	IRON
9320-30	75008-40	10.0 ± 10%	35	7.9 MHz	42	.60	640	IRON
9320-32	75008-41	12.0 ± 10%	50	2.5 MHz	36	.85	490	IRON
9320-34	75008-42	15.0 ± 10%	55	2.5 MHz	30	1.20	460	IRON
9320-35	75008-43	18.0 ± 10%	60	2.5 MHz	30	1.80	360	IRON
9320-36	75008-44	22.0 ± 10%	60	2.5 MHz	24	2.00	335	IRON
9320-38	75008-45	27.0 ± 10%	65	2.5 MHz	22	2.75	300	IRON

Mold Size: 0.185 ± .010 diameter; 0.437 ± .010 length. Leads: AWG #22 TCW; 1.437 ± .125 length. Power Rating: 25 Watt Max. at 90° C.  
 \*Current based on (1) Temperature rise not to exceed 35°C at 90° ambient. (2) Overload not to exceed 1/2 times rated current.

Miller Part Number	M S Type	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum*	Core Material
		Inductance Microhenries	Q Minimum	Testing Frequency				
9330-00	16222-1	.47 ± 20%	65	25 MHz	300	.06	1970	PHENOLIC
9330-02	16222-2	.68 ± 20%	65	25 MHz	240	.08	1700	PHENOLIC
9330-04	16222-3	1.00 ± 10%	65	25 MHz	200	.14	1290	PHENOLIC
9330-06	16222-4	1.50 ± 10%	40	7.9 MHz	160	.28	925	PHENOLIC
9330-08	16222-5	2.20 ± 10%	40	7.9 MHz	135	.50	680	PHENOLIC
9330-10	16222-6	2.70 ± 10%	40	7.9 MHz	120	.65	600	PHENOLIC
9330-12	16222-7	3.30 ± 10%	40	7.9 MHz	105	1.00	480	PHENOLIC
9330-14	16222-8	3.90 ± 10%	40	7.9 MHz	100	1.20	440	PHENOLIC
9330-16	16222-9	4.70 ± 10%	40	7.9 MHz	90	1.80	360	PHENOLIC
9330-18	16222-10	5.60 ± 10%	35	7.9 MHz	55	.13	1340	IRON
9330-20	16222-11	6.80 ± 10%	35	7.9 MHz	50	.20	1080	IRON
9330-22	16222-12	8.20 ± 10%	35	7.9 MHz	44	.22	1030	IRON
9330-24	16222-13	10.0 ± 10%	35	7.9 MHz	42	.26	950	IRON
9330-26	16222-14	12.0 ± 10%	45	2.5 MHz	34	.45	720	IRON
9330-28	16222-15	15.0 ± 10%	45	2.5 MHz	32	.52	670	IRON
9330-30	16222-16	18.0 ± 10%	50	2.5 MHz	28	.70	580	IRON
9330-32	16222-17	22.0 ± 10%	60	2.5 MHz	24	1.00	480	IRON
9330-34	16222-18	27.0 ± 10%	60	2.5 MHz	22	1.30	420	IRON
9330-36	16222-19	33.0 ± 10%	60	2.5 MHz	20	1.50	390	IRON
9330-38	16222-20	39.0 ± 10%	70	2.5 MHz	18	2.00	340	IRON

Mold Size: 0.215 ± .010 diameter; 0.560 ± .010 length. Leads: AWG #22 TCW; 1.437 ± .125 length. Power Rating: .33 Watt Max. at 90° C.  
 \*Current based on (1) Temperature rise not to exceed 35°C at 90° ambient. (2) Overload not to exceed 1/2 times rated current.

Refer to Pages 1-2 for Prices

Miller Part Number	M S Type	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum*	Core Material
		Inductance Microhenries	Q Minimum	Testing Frequency				
9340-00	91189-14	1.2 ± 10%	60	7.9 MHz	170	.075	2400	PHENOLIC
9340-02	91189-15	1.5 ± 10%	60	7.9 MHz	160	.090	2150	PHENOLIC
9340-03	91189-16	1.8 ± 10%	60	7.9 MHz	140	.135	1750	PHENOLIC
9340-04	91189-17	2.2 ± 10%	60	7.9 MHz	125	.160	1600	PHENOLIC
9340-06	91189-18	2.7 ± 10%	60	7.9 MHz	115	.220	1350	PHENOLIC
9340-08	91189-19	3.3 ± 10%	60	7.9 MHz	100	.305	1150	PHENOLIC
9340-10	91189-20	3.9 ± 10%	60	7.9 MHz	95	.45	955	PHENOLIC
9340-12	91189-21	4.7 ± 10%	60	7.9 MHz	90	.560	860	PHENOLIC
9340-14	91189-22	5.6 ± 10%	60	7.9 MHz	80	.745	745	PHENOLIC
9340-16	91189-23	6.8 ± 10%	60	7.9 MHz	75	1.05	635	PHENOLIC
9340-18	91189-24	8.2 ± 10%	60	7.9 MHz	68	1.4	550	PHENOLIC
9340-20	91189-25	10.0 ± 10%	60	7.9 MHz	60	1.9	460	PHENOLIC
9340-22	91189-26	12.0 ± 10%	40	2.5 MHz	53	2.65	395	PHENOLIC
9340-24	91189-27	15.0 ± 10%	40	2.5 MHz	50	3.25	355	PHENOLIC
9340-26	91189-28	18.0 ± 10%	40	2.5 MHz	45	4.15	315	PHENOLIC
9340-28	91189-29	22.0 ± 10%	50	2.5 MHz	25	.295	1150	IRON
9340-30	91189-30	27.0 ± 10%	45	2.5 MHz	22	.350	1050	IRON
9340-32	91189-31	33.0 ± 10%	60	2.5 MHz	20	.550	865	IRON
9340-34	91189-32	39.0 ± 10%	55	2.5 MHz	18	.65	810	IRON
9340-36	91189-33	47.0 ± 10%	65	2.5 MHz	16	1.0	640	IRON
9340-38	91189-34	56.0 ± 10%	65	2.5 MHz	14	1.15	620	IRON
9340-39	91189-35	68.0 ± 10%	75	2.5 MHz	13	1.85	470	IRON
9340-40	91189-36	82.0 ± 10%	75	2.5 MHz	13	2.10	440	IRON
9340-42	91189-37	100.0 ± 10%	75	2.5 MHz	12	2.50	405	IRON
9340-44	91189-38	120.0 ± 10%	95	.79 MHz	10	4.00	315	IRON

Mold Size: 0.280 ± .010 diameter; 0.900 ± .010 length. Leads: AWG #21 TCW; 1.437 ± .125 length. Power Rating: 3/8 Watt Max. at 90° C.  
 \*Current based on (1) Temperature rise not to exceed 35°C at 90° ambient. (2) Overload not to exceed 1/2 times rated current.

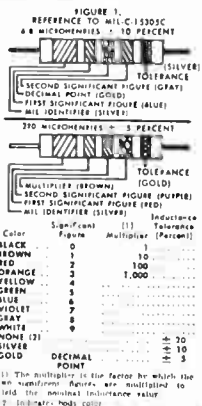
Miller Part Number	M S Type	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum*	Mold Size	Core Material
		Inductance Microhenries	Q Minimum	Testing Frequency					
9350-00	75052-1	47 ± 10%	18	2.5 MHz	13.5	5.9	195	A	PHENOLIC
9350-02	75052-2	56 ± 10%	18	2.5 MHz	13	6.4	185	A	PHENOLIC
9350-04	75052-3	68 ± 10%	70	2.5 MHz	13	3.3	255	A	IRON
9350-06	75052-4	82 ± 10%	65	2.5 MHz	11.7	3.5	245	A	IRON
9350-08	75052-5	100 ± 10%	65	2.5 MHz	10.7	3.8	235	A	IRON
9350-10	75052-6	120 ± 10%	75	.79 MHz	9.3	4.7	215	A	IRON
9350-12	75052-7	150 ± 10%	75	.79 MHz	8.3	5.3	200	A	IRON
9350-14	75053-1	180 ± 10%	80	.79 MHz	6.0	5.5	225	B	IRON
9350-16	75053-2	220 ± 10%	80	.79 MHz	5.5	5.9	220	B	IRON
9350-18	75053-3	270 ± 10%	80	.79 MHz	5.1	6.6	210	B	IRON
9350-20	75053-4	330 ± 10%	75	.79 MHz	4.2	7.8	185	B	IRON
9350-22	75053-5	390 ± 10%	75	.79 MHz	3.9	8.7	180	B	IRON
9350-24	75054-1	470 ± 10%	80	.79 MHz	3.7	9.0	190	C	IRON
9350-26	75054-2	560 ± 10%	80	.79 MHz	3.5	10.0	180	C	IRON
9350-28	75054-3	680 ± 10%	75	.79 MHz	3.2	11.2	170	C	IRON
9350-30	75054-4	820 ± 10%	75	.79 MHz	3.0	13.0	155	C	IRON
9350-32	75054-5	1000 ± 10%	70	.79 MHz	2.7	14.5	145	C	IRON
9350-34	75055-1	1500 ± 10%	85	.25 MHz	2.2	22.0	127	D	IRON
9350-36		2000 ± 10%	85	.25 MHz	1.9	26.0	125	D	IRON
9350-37	75055-2	2200 ± 10%	85	.25 MHz	1.8	27.0	115	D	IRON
9350-38		2500 ± 10%	85	.25 MHz	1.7	30.0	115	D	IRON
9350-39	75055-3	2700 ± 10%	85	.25 MHz	1.6	32.0	105	D	IRON
9350-40		5000 ± 10%	70	.25 MHz	1.2	65.0	78	D	IRON
9350-41	75055-4	5100 ± 10%	70	.25 MHz	1.0	66.0	73	D	IRON
9350-44	75055-5	10000 ± 10%	70	.25 MHz	0.8	70.0	71	D	FERRITE

\*Current based on (1) Temperature rise not to exceed 35°C at 90° ambient. (2) Overload not to exceed 1/2 times rated current.

COIL DIMENSIONS	A	B	C	D	LEAD DIMENSIONS
DIAMETER ± .010	.250	.310	.375	.468	AWG 20, 21, 22 TCW
LENGTH ± .010	.560	.560	.625	.687	1.437 ± .125
MAX. WATT. AT 90° C.	.30	.40	.45	.55	

### Molded Choke Coils Color Coding

For cylindrical choke coils. Cylindrical choke coils shall be marked with five colored bands. A silver band MIL identifier of double the width of the other four bands, located near one end of the coil, identifies military radiofrequency coils; four other bands of equal width, three indicating the inductance in microhenries and the fourth band indicating the tolerance in percent. Color coding shall be in accordance with the color code of table II. When either the first or second band of the three bands is gold, this band shall represent the decimal point for inductance values less than 10, and the other two bands shall represent significant figures. For inductance values of 10 or more, the first two bands shall represent significant figures, and the third band shall represent the multiplier. For small units, dots may be used instead of bands, when specified. The diameter of the MIL-identifier dot shall be larger than the other dots. The colors used shall be in accordance with MIL-STD-174. Typical color coding for units with inductance values less than 10 and for 10 or greater is shown on figure 1.



Refer to Pages 1-2 for Prices

## Molded R.F. Chokes

This series of molded chokes conforms to the requirements of Mil type LT8K.  
Mold Size: 0.300 ± .010 Diameter; .968 ± .010 Length.  
Leads: 1.400 ± .125.

Miller Part Number	M S Type	Measured on Model 260A Q-Meter			Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum	Core Material
		Inductance Microhenries	Q Minimum	Testing Frequency				
9360-01	91189-1	1.1 ± 20%	60	10.0 MHz	200	0.09	2800	PHENOLIC
9360-02	91189-2	2.2 ± 20%	65	10.0 MHz	165	.20	1800	PHENOLIC
9360-03	91189-3	3.3 ± 10%	50	6.0 MHz	130	.32	1500	PHENOLIC
9360-04	91189-4	4.7 ± 10%	45	5.0 MHz	100	.60	1100	PHENOLIC
9360-05	91189-5	6.8 ± 10%	40	4.0 MHz	90	1.10	800	PHENOLIC
9360-06	91189-6	10.0 ± 10%	40	3.5 MHz	70	1.80	600	PHENOLIC
9360-07	91189-7	15.0 ± 10%	40	3.0 MHz	55	3.00	500	PHENOLIC
9360-08	91189-8	22.0 ± 10%	30	2.5 MHz	27	.30	1500	IRON
9360-09	91189-9	33.0 ± 10%	45	2.0 MHz	21	.60	1100	IRON
9360-10	91189-10	47.0 ± 10%	70	1.5 MHz	16	1.20	700	IRON
9360-11	91189-11	82.0 ± 10%	85	1.2 MHz	14	2.20	600	IRON
9360-12	91189-12	100.0 ± 10%	85	1.0 MHz	14	2.80	500	IRON
9360-13	91189-13	120.0 ± 10%	85	1.0 MHz	13	4.00	400	IRON

## Micro Miniature Molded R.F. Chokes

We are pleased to offer the following series of molded R.F. chokes. They represent what we believe to be the smallest package for the current rating specified. Color Coding is per MIL-C-15305.

Miller Part Number	Measured on Model 260A Q-Meter			Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum*	Core Material
	Inductance Microhenries	Q Minimum	Test Frequency				
9230-94	.10 ± 10%	40	25.0 MHz	690	.07	1100	PHENOLIC
9230-96	.12 ± 10%	40	25.0 MHz	650	.08	1100	PHENOLIC
9230-00	.15 ± 10%	38	25.0 MHz	600	.10	1100	PHENOLIC
9230-02	.18 ± 10%	35	25.0 MHz	550	.12	1010	PHENOLIC
9230-04	.22 ± 10%	33	25.0 MHz	510	.14	930	PHENOLIC
9230-06	.27 ± 10%	33	25.0 MHz	430	.16	875	PHENOLIC
9230-08	.33 ± 10%	30	25.0 MHz	410	.20	780	PHENOLIC
9230-10	.39 ± 10%	30	25.0 MHz	380	.30	640	PHENOLIC
9230-12	.47 ± 10%	30	25.0 MHz	340	.35	590	PHENOLIC
9230-14	.56 ± 10%	30	25.0 MHz	300	.50	495	PHENOLIC
9230-16	.68 ± 10%	28	25.0 MHz	275	.60	450	PHENOLIC
9230-18	.82 ± 10%	28	25.0 MHz	250	.85	380	PHENOLIC
9230-20	1.00 ± 10%	25	25.0 MHz	230	1.00	350	PHENOLIC
9230-22	1.20 ± 10%	25	7.9 MHz	150	.18	825	IRON
9230-24	1.50 ± 10%	28	7.9 MHz	140	.22	745	IRON
9230-26	1.80 ± 10%	30	7.9 MHz	125	.30	640	IRON
9230-28	2.20 ± 10%	30	7.9 MHz	115	.40	550	IRON
9230-30	2.70 ± 10%	37	7.9 MHz	100	.50	495	IRON
9230-32	3.30 ± 10%	45	7.9 MHz	90	.85	380	IRON
9230-34	3.90 ± 10%	45	7.9 MHz	82	1.00	350	IRON
9230-36	4.70 ± 10%	45	7.9 MHz	75	1.20	310	IRON
9230-38	5.60 ± 10%	50	7.9 MHz	68	1.80	250	IRON
9230-40	6.80 ± 10%	50	7.9 MHz	60	2.00	245	IRON
9230-42	8.20 ± 10%	55	7.9 MHz	55	2.70	210	IRON
9230-44	10.0 ± 10%	55	7.9 MHz	50	3.70	180	IRON
9230-46	12.0 ± 10%	45	2.5 MHz	40	2.70	210	IRON
9230-48	15.0 ± 10%	45	2.5 MHz	35	2.80	205	IRON
9230-50	18.0 ± 10%	50	2.5 MHz	32	3.10	195	IRON
9230-52	22.0 ± 10%	50	2.5 MHz	25	3.30	190	IRON
9230-54	27.0 ± 10%	50	2.5 MHz	22	3.50	185	IRON
9230-56	33.0 ± 10%	45	2.5 MHz	24	3.40	187	FERRITE
9230-58	39.0 ± 10%	45	2.5 MHz	22	3.60	180	FERRITE
9230-60	47.0 ± 10%	45	2.5 MHz	20	4.50	165	FERRITE
9230-62	56.0 ± 10%	45	2.5 MHz	18	5.70	145	FERRITE
9230-64	68.0 ± 10%	50	2.5 MHz	15	6.70	135	FERRITE
9230-66	82.0 ± 10%	50	2.5 MHz	14	7.30	130	FERRITE
9230-68	100.0 ± 10%	50	2.5 MHz	13	8.00	125	FERRITE
9230-70	120.0 ± 10%	30	.79 MHz	12	13.00	97	FERRITE
9230-72	150.0 ± 10%	30	.79 MHz	11	15.00	85	FERRITE
9230-74	180.0 ± 10%	30	.79 MHz	10	17.00	79	FERRITE
9230-76	220.0 ± 10%	30	.79 MHz	9	21.00	73	FERRITE
9230-78	270.0 ± 10%	30	.79 MHz	8	25.00	65	FERRITE
9230-80	330.0 ± 10%	30	.79 MHz	7	28.00	62	FERRITE
9230-82	390.0 ± 10%	30	.79 MHz	6.5	35.00	55	FERRITE
9230-84	470.0 ± 10%	30	.79 MHz	6	42.00	50	FERRITE
9230-86	560.0 ± 10%	30	.79 MHz	5	46.00	48	FERRITE
9230-88	680.0 ± 10%	30	.79 MHz	4.2	60.00	42	FERRITE
9230-90	820.0 ± 10%	30	.79 MHz	3.8	65.00	40	FERRITE
9230-92	1000.0 ± 10%	30	.79 MHz	3.4	72.00	38	FERRITE

Mold Size: .095 ± .010 Diameter; .250 ± .010 Length. Leads AWG #24 TCW; 1.500 ± .125 Length.

Power Rating: .17 Watt Max. at 90°C. For -00 thru -70, 94 and 96

.15 Watt Max. at 90°C. For -72 thru -92.

\*Current based on (1) Temperature rise not to exceed 35° C at 90° C ambient. (2) Overload not to exceed 1½ times rated current.

Refer to Pages 1-2 for Prices

## MOLDED SHIELDED MINIATURE R.F. CHOKES

This is the first major development in R.F. Choke design for many years.

The electromagnetic shielding is fully effective at the ends of the coil as well as along the body.

Molded construction assures top performance under severe conditions.

Size: 0.157" Diameter, 0.375" Length

Power Rating: .20 watts @ 90° ambient and rated current flow

Shielding: Less than 2% coupling

\*Current based on (1) Temperature rise not to exceed 35°C at 90°C ambient

Inductance: 0.1 uh thru 10,000 uh (61 values)

(2) Overload not to exceed 1½ times rated current

Environment: Grade 1, Class B, MIL-C-15305

\*\*Current required to decrease inductance 5%



Miller Part Number	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	*Milliamp Rating Maximum	**Incremental Current Milliamps Approx.
	Inductance ± 10%	Q Minimum	Testing Frequency				
9240-770	.10uh.	50	25 MHz	250	.015	3100	3100
9240-771	.12uh.	50	25 MHz	250	.020	2650	2650
9240-701	.15uh.	50	25 MHz	250	.025	2400	2400
9240-772	.18uh.	50	25 MHz	250	.030	2190	2190
9240-702	.22uh.	50	25 MHz	250	.035	2030	2030
9240-773	.27uh.	50	25 MHz	250	.045	1790	1790
9240-703	.33uh.	45	25 MHz	250	.075	1380	1380
9240-774	.39uh.	45	25 MHz	250	.085	1300	1300
9240-704	.47uh.	45	25 MHz	235	.100	1200	1200
9240-705	.56uh.	45	25 MHz	210	.180	890	890
9240-706	.68uh.	45	25 MHz	190	.200	850	850
9240-707	.82uh.	45	25 MHz	180	.280	710	710
9240-708	1.0 uh.	45	25 MHz	150	.070	1430	1430
9240-709	1.2 uh.	45	7.9 MHz	145	.080	1340	1340
9240-710	1.5 uh.	45	7.9 MHz	130	.100	1200	1200
9240-711	1.8 uh.	50	7.9 MHz	120	.120	1090	1090
9240-712	2.2 uh.	50	7.9 MHz	110	.150	980	980
9240-713	2.7 uh.	50	7.9 MHz	105	.220	800	800
9240-714	3.3 uh.	50	7.9 MHz	90	.270	730	730
9240-715	3.9 uh.	50	7.9 MHz	85	.290	700	700
9240-716	4.7 uh.	55	7.9 MHz	82	.320	670	670
9240-717	5.6 uh.	55	7.9 MHz	80	.560	500	500
9240-718	6.8 uh.	55	7.9 MHz	75	.700	450	450
9240-719	8.2 uh.	55	7.9 MHz	70	.820	410	410
9240-720	10.0 uh.	50	7.9 MHz	60	.900	400	400
9240-721	12 uh.	55	2.5 MHz	50	.950	380	380
9240-722	15 uh.	45	2.5 MHz	45	.750	430	225
9240-723	18 uh.	45	2.5 MHz	42	.850	410	190
9240-724	22 uh.	50	2.5 MHz	40	.950	380	170
9240-725	27 uh.	50	2.5 MHz	35	1.10	360	150
9240-726	33 uh.	45	2.5 MHz	33	1.30	330	130
9240-727	39 uh.	50	2.5 MHz	29	1.80	280	115
9240-728	47 uh.	50	2.5 MHz	27	2.00	260	110
9240-729	56 uh.	50	2.5 MHz	25	2.20	250	100
9240-730	68 uh.	50	2.5 MHz	20	2.50	240	87
9240-731	82 uh.	50	2.5 MHz	15	3.50	215	85
9240-732	100 uh.	50	2.5 MHz	11	2.20	200	80
9240-733	120 uh.	60	.79 MHz	10	2.50	265	74
9240-734	150 uh.	60	.79 MHz	9	2.80	240	68
9240-735	180 uh.	60	.79 MHz	9	3.20	215	50
9240-736	220 uh.	60	.79 MHz	8	3.70	205	46
9240-737	270 uh.	60	.79 MHz	7	4.60	200	40
9240-738	330 uh.	60	.79 MHz	7	5.00	195	37
9240-739	390 uh.	60	.79 MHz	6	5.50	190	34
9240-740	470 uh.	60	.79 MHz	5.8	6.00	180	32
9240-741	560 uh.	60	.79 MHz	5.5	7.50	160	32
9240-742	680 uh.	60	.79 MHz	5	8.50	145	30
9240-743	820 uh.	60	.79 MHz	4.3	12.00	135	26
9240-744	1000 uh.	65	.79 MHz	4.2	13.00	105	24
9240-745	1.2 mh.	50	.25 MHz	4	16.50	100	22
9240-746	1.5 mh.	50	.25 MHz	3.8	20	90	20
9240-747	1.8 mh.	50	.25 MHz	3.2	25	80	18
9240-748	2.2 mh.	50	.25 MHz	2.6	27	75	15
9240-749	2.7 mh.	50	.25 MHz	2.1	35	65	13
9240-750	3.3 mh.	45	.25 MHz	2	40	60	13
9240-751	3.9 mh.	45	.25 MHz	1.8	44	55	12
9240-752	4.7 mh.	45	.25 MHz	1.4	58	50	11
9240-753	5.6 mh.	45	.25 MHz	2.1	72	45	10
9240-754	6.8 mh.	45	.25 MHz	1.5	80	42	8.0
9240-755	8.2 mh.	40	.25 MHz	1.4	107	40	7.0
9240-756	10.0 mh.	40	.25 MHz	1.3	137	38	6.5

Refer to Pages 1-2 for Prices



Sub-Miniature R.F. Chokes

An extremely versatile series of iron core R.F. chokes designed to meet the industries' demand for high reliability, ultra-miniature components. The coils are ideally suited to network and filter design, delay lines, and computer applications. Rated at 50 milliamperes maximum D.C. current they are more than satisfactory for most applications. The coils are impregnated with a moisture resistant lacquer and on special order they can be tungus-proofed per JAN-T-152 Using varnish per MIL-V-173A. They can also be encapsulated in epoxy resin to conform to Grade 1, Class B of MIL-C-15305.



Miller Part Number	Measured on Model Z60A Q-Meter			Resonant Frequency Minimum MHz	D.C. Resistance Maximum	Milliamp Rating Maximum	Diameter over Winding	Form Length $\pm \frac{1}{32}$
	Inductance Nominal <sup>1</sup>	Q Minimum	Test Frequency					
70F106AI	1 uh	41	7.9 MHz	133	.046	636	<sup>9</sup> / <sub>64</sub>	1/4
70F126AI	1.2 uh	44	7.9 MHz	121	.065	400	<sup>9</sup> / <sub>64</sub>	1/4
70F156AI	1.5 uh	48	7.9 MHz	105	.089	316	<sup>9</sup> / <sub>64</sub>	1/4
70F186AI	1.8 uh	39	7.9 MHz	96	.086	400	<sup>9</sup> / <sub>64</sub>	1/4
70F226AI	2.2 uh	48	7.9 MHz	87	.168	202	<sup>9</sup> / <sub>64</sub>	1/4
70F276AI	2.7 uh	39	7.9 MHz	79	.152	256	<sup>9</sup> / <sub>64</sub>	1/4
70F336AI	3.3 uh	48	7.9 MHz	73	.272	159	<sup>9</sup> / <sub>64</sub>	1/4
70F396AI	3.9 uh	44	7.9 MHz	67	.308	159	<sup>9</sup> / <sub>64</sub>	1/4
70F476AI	4.7 uh	46	7.9 MHz	60	.456	100	<sup>9</sup> / <sub>64</sub>	1/4
70F566AI	5.6 uh	44	7.9 MHz	53	.528	100	<sup>9</sup> / <sub>64</sub>	1/4
70F686AI	6.8 uh	44	7.9 MHz	51	.600	100	<sup>9</sup> / <sub>64</sub>	1/4
70F756AI	7.5 uh	40	7.9 MHz	46	.635	100	<sup>9</sup> / <sub>64</sub>	1/4
70F826AI	8.2 uh	40	7.9 MHz	45	.720	100	<sup>9</sup> / <sub>64</sub>	1/4
70F916AI	9.1 uh	40	7.9 MHz	21	1.25	75	<sup>1</sup> / <sub>8</sub>	1/4
70F105AI	10 uh	48	2.5 MHz	20	1.54	75	<sup>1</sup> / <sub>8</sub>	1/4
70F125AI	12 uh	52	2.5 MHz	18	1.66	75	<sup>9</sup> / <sub>64</sub>	1/4
70F155AI	15 uh	52	2.5 MHz	16	1.92	75	<sup>9</sup> / <sub>64</sub>	1/4
70F185AI	18 uh	52	2.5 MHz	15	2.16	75	<sup>9</sup> / <sub>64</sub>	1/4
70F225AI	22 uh	51	2.5 MHz	13	2.35	75	<sup>9</sup> / <sub>64</sub>	1/4
70F255AI	25 uh	48	2.5 MHz	11.6	2.4	75	<sup>9</sup> / <sub>64</sub>	1/4
70F275AI	27 uh	49	2.5 MHz	11	2.63	75	<sup>9</sup> / <sub>64</sub>	1/4
70F335AI	33 uh	50	2.5 MHz	11	2.93	75	<sup>9</sup> / <sub>64</sub>	1/4
70F395AI	39 uh	48	2.5 MHz	9.68	3.14	75	<sup>9</sup> / <sub>64</sub>	1/4
70F475AI	47 uh	48	2.5 MHz	8.96	3.48	75	<sup>9</sup> / <sub>64</sub>	1/4
70F565AI	56 uh	45	2.5 MHz	8.40	3.84	75	<sup>9</sup> / <sub>64</sub>	1/4
70F685AI	68 uh	45	2.5 MHz	8.2	4.25	75	<sup>5</sup> / <sub>32</sub>	1/4
70F755AI	75 uh	40	2.5 MHz	7.5	4.32	75	<sup>5</sup> / <sub>32</sub>	1/4
70F825AI	82 uh	44	2.5 MHz	7.36	4.68	75	<sup>5</sup> / <sub>32</sub>	1/4
70F915AI	91 uh	39	2.5 MHz	6.64	4.72	75	<sup>5</sup> / <sub>32</sub>	1/4
70F104AI	100 uh	40	790 kHz	3.52	8.04	75	<sup>9</sup> / <sub>64</sub>	1/4
70F124AI	120 uh	44	790 kHz	3.2	8.4	75	<sup>9</sup> / <sub>64</sub>	1/4
70F154AI	150 uh	44	790 kHz	2.88	9.85	75	<sup>9</sup> / <sub>64</sub>	1/4
70F184AI	180 uh	45	790 kHz	2.7	10.9	75	<sup>9</sup> / <sub>64</sub>	1/4
70F204AI	200 uh	45	790 kHz	2.6	10.6	75	<sup>9</sup> / <sub>64</sub>	1/4
70F224AI	220 uh	45	790 kHz	2.40	12.0	75	<sup>9</sup> / <sub>64</sub>	1/4
70F254AI	250 uh	46	790 kHz	2.32	12.3	75	<sup>5</sup> / <sub>32</sub>	1/4
70F274AI	270 uh	45	790 kHz	2.24	12.8	75	<sup>5</sup> / <sub>32</sub>	1/4
70F304AI	300 uh	45	790 kHz	2.17	13.3	75	<sup>5</sup> / <sub>32</sub>	1/4
70F334AI	330 uh	47	790 kHz	2.00	15.3	75	<sup>5</sup> / <sub>32</sub>	1/4
70F354AI	350 uh	44	790 kHz	2.00	15.3	75	<sup>5</sup> / <sub>32</sub>	1/4
70F394AI	390 uh	42	790 kHz	1.89	15.8	75	<sup>5</sup> / <sub>32</sub>	1/4
70F474AI	470 uh	47	790 kHz	1.84	18.0	75	<sup>5</sup> / <sub>32</sub>	1/4
70F504AI	500 uh	42	790 kHz	1.76	18.2	75	<sup>11</sup> / <sub>64</sub>	1/4
70F564AI	560 uh	39	790 kHz	1.7	18.7	75	<sup>11</sup> / <sub>64</sub>	1/4
70F684AI	680 uh	44	790 kHz	1.62	21.6	75	<sup>11</sup> / <sub>64</sub>	1/4
70F754AI	750 uh	35	790 kHz	1.58	22.0	75	<sup>11</sup> / <sub>64</sub>	1/4
70F824AI	820 uh	42	790 kHz	1.54	24.0	75	<sup>11</sup> / <sub>64</sub>	1/4
70F914AI	910 uh	35	790 kHz	1.45	24.5	75	<sup>11</sup> / <sub>64</sub>	1/4
70F103AI	1.00 mh	40	790 kHz	1.41	25.8	75	<sup>11</sup> / <sub>64</sub>	1/4
70F123AI	1.20 mh	37	250 kHz	1.17	31.3	75	<sup>11</sup> / <sub>64</sub>	1/4
70F153AI	1.50 mh	40	250 kHz	1.10	38.4	75	<sup>13</sup> / <sub>64</sub>	1/4
70F183AI	1.80 mh	40	250 kHz	.975	40.6	75	<sup>13</sup> / <sub>64</sub>	1/4
70F223AI	2.20 mh	40	250 kHz	865	49.2	75	<sup>13</sup> / <sub>64</sub>	1/4
70F253AI	2.50 mh	48	250 kHz	850	40.0	75	<sup>15</sup> / <sub>64</sub>	3/8
70F273AI	2.70 mh	50	250 kHz	844	41.5	75	<sup>15</sup> / <sub>64</sub>	3/8
70F333AI	3.30 mh	56	250 kHz	840	51.6	75	<sup>15</sup> / <sub>64</sub>	3/8
70F393AI	3.90 mh	47	250 kHz	757	53.4	75	<sup>15</sup> / <sub>64</sub>	3/8
70F473AI	4.70 mh	54	250 kHz	744	62.4	75	<sup>17</sup> / <sub>64</sub>	3/8
70F563AI	5.60 mh	46	250 kHz	655	66.5	75	<sup>17</sup> / <sub>64</sub>	3/8
70F683AI	6.80 mh	51	250 kHz	600	79.2	75	<sup>9</sup> / <sub>32</sub>	3/8
70F753AI	7.50 mh	44	250 kHz	590	80.3	75	<sup>9</sup> / <sub>32</sub>	3/8
70F823AI	8.20 mh	48	250 kHz	.576	87.6	75	<sup>19</sup> / <sub>64</sub>	3/8
70F913AI	9.10 mh	37	250 kHz	560	88.7	75	<sup>19</sup> / <sub>64</sub>	3/8
70F102AI	10.0 mh	48	250 kHz	552	101	75	<sup>5</sup> / <sub>16</sub>	3/8
70F122AI	12 mh	39	79 kHz	368	100	75	<sup>17</sup> / <sub>64</sub>	1/2
70F152AI	15 mh	40	79 kHz	.336	113	75	<sup>9</sup> / <sub>32</sub>	1/2
70F182AI	18 mh	41	79 kHz	.320	125	75	<sup>19</sup> / <sub>64</sub>	1/2
70F222AI	22 mh	42	79 kHz	.294	141	75	<sup>5</sup> / <sub>16</sub>	1/2

\*TOLERANCE 0.1 TO 1.0 UH  $\pm$  20%, 1.1 TO 15 UH  $\pm$  10%, OVER 15 UH  $\pm$  5%

Refer to Pages 1-2 for Prices

R.F. Chokes with Axial Leads

These chokes cover an inductance range from .1 microhenry to 10 millihenries or 5 decades with 8 coils per decade. Inductance values are increasing in steps of appr. 50%. Either single layer or 3-pi universal winding is used to insure low distributed capacity. Chokes are wound on low-loss molded phenolic or powdered iron core forms and are impregnated with a moisture and fungus-resistant varnish.

Phenolic Core Single Layer Windings

Dimensions of core: 3/16" diameter x 3/4" long. Leads are 1 1/2" long.



Miller Part Number	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum	Diameter over Winding	Total Turns
	Inductance Nominal *	Q Minimum	Test Frequency					
4580	.10 uh	68	25.0 MHz	500	.017	3000	.270	3
4582	.15 uh	73	25.0 MHz	410	.018	2900	.270	4
4584	.22 uh	77	25.0 MHz	340	.020	2800	.270	7
4586	.33 uh	80	25.0 MHz	288	.024	2600	.270	10
4588	.47 uh	90	25.0 MHz	243	.034	2500	.270	13
4590	.68 uh	83	25.0 MHz	208	.036	2400	.270	18
4592	.75 uh	81	25.0 MHz	204	.040	2200	.270	21
4594	.82 uh	88	25.0 MHz	200	.043	2100	.270	22
4602	1.0 uh	60	7.9 MHz	190	.050	2000	.270	28
4604	1.5 uh	58	7.9 MHz	149	.093	1800	.270	34
4606	2.4 uh	56	7.9 MHz	120	.190	1500	.270	44
4608	3.9 uh	60	7.9 MHz	93	.450	1000	.270	50
4609	5.5 uh	57	7.9 MHz	80	.670	850	.270	64
4610	6.2 uh	57	7.9 MHz	76	.830	700	.270	66
4611	8.2 uh	57	7.9 MHz	65	1.20	600	.270	77
4612	10.0 uh	36	2.5 MHz	61	1.50	500	.270	96

\*TOLERANCE 0.1 TO 1.0 UH ± 20%, 1.1 TO 10 UH ± 10%

Iron Core Single Layer Windings

Dimensions of core: 3/32" diameter x 7/8" long. Leads are 1 1/2" long.



Miller Part Number	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum	Diameter over Winding	Total Turns
	Inductance Nominal	Q Minimum	Test Frequency					
4622	10 uh ±5%	69	2.5 MHz	40	.11	1500	.29	32
4624	15 uh ±5%	62	2.5 MHz	33	.17	1000	.29	36
4626	24 uh ±5%	65	2.5 MHz	25	.34	800	.29	50
4628	39 uh ±5%	70	2.5 MHz	20	.65	600	.29	63
4629	55 uh ±5%	72	2.5 MHz	17	1.0	500	.29	83
4630	62 uh ±5%	83	2.5 MHz	16	1.2	475	.29	77
4631	82 uh ±5%	85	2.5 MHz	13	1.9	450	.29	92
4632	100 uh ±5%	107	.79 MHz	12	3.0	400	.29	96

Phenolic Core 3-Section Windings

Dimensions of core: 3/16" diameter x 3/4" long. Leads are 1 1/2" long.



Miller Part Number	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum	Diameter over Winding	Total Turns
	Inductance Nominal	Q Minimum	Test Frequency					
4642	.10 mh ±5%	49	.79 MHz	11	5.4	160	.406	219
4644	.15 mh ±5%	53	.79 MHz	8.8	6.5	160	.406	258
4646	.24 mh ±5%	56	.79 MHz	7.2	8.5	160	.438	321
4648	.39 mh ±5%	57	.79 MHz	5.6	11	160	.500	396
4649	.55 mh ±5%	58	.79 MHz	4.8	13	160	.500	420
4650	.62 mh ±5%	59	.79 MHz	4.5	15	160	.531	477
4651	.75 mh ±5%	56	.79 MHz	4.0	16	160	.531	495
4652	1.0 mh ±5%	59	.25 MHz	3.7	19	160	.563	574

Iron Core 3-Section Windings

Dimensions of core: 3/32" diameter x 7/8" long. Leads are 1 1/2" long.



Miller Part Number	Measured on General Radio Inductance Bridge Type 1632-A		Self Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum	Diameter over Winding	Total Turns
	Inductance @ 1000 CPS	Q Minimum					
4662	1.0 mh ±5%	83 @ 250 kHz	2.6	8.6	160	.469	300
4664	1.5 mh ±5%	82 @ 250 kHz	2.1	11	160	.469	366
4666	2.4 mh ±5%	80 @ 250 kHz	1.7	15	160	.531	471
4668	3.9 mh ±5%	73 @ 250 kHz	1.4	20	160	.563	585
4669	5.5 mh ±5%	69 @ 250 kHz	1.1	25	160	.594	600
4670	6.2 mh ±5%	89 @ 250 kHz	1.0	37	100	.531	750
4671	8.2 mh ±5%	83 @ 250 kHz	.94	46	100	.563	900
4672	10 mh ±5%	68 @ 79 kHz	.82	50	100	.594	948

Ferrite Core 3-Section Windings

Dimensions of core: 1/4" diameter x 7/8" long. Leads are 1 1/2" long.



Miller Part Number	Measured on General Radio Inductance Bridge Type 1632-A		Self Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum	Diameter over Winding	Total Turns
	Inductance @ 1000 CPS	Q Minimum					
6302	2.5 mh ±5%	106 @ 250 kHz	1.3	9.0	160	.469	300
6304	5.0 mh ±5%	91 @ 250 kHz	1.0	14	160	.531	432
6306	10 mh ±5%	108 @ 79 kHz	.71	31	100	.531	615
6308	25 mh ±5%	102 @ 79 kHz	.47	82	65	.531	969
6310	50 mh ±5%	113 @ 79 kHz	.33	127	65	.625	1392

Refer to Pages 1-2 for Prices

Encapsulated Radio Frequency Chokes

The following series of R.F. chokes range in value from 0.1 uh to 50 mh. These coils are encapsulated in epoxy resin and conform to MIL-C-15305. Min. lead length 1"

Miller Part Number	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum	Diameter and Length	Total Turns
	Inductance Nominal <sup>1</sup>	Q Minimum	Test Frequency					
4580-E	.10 uh	68	25 MHz	400	.017	3000	.312 x 1.000	3
4582-E	.15 uh	73	25 MHz	328	.018	2900	.312 x 1.000	4
4584-E	.22 uh	77	25 MHz	272	.020	2800	.312 x 1.000	7
4586-E	.33 uh	80	25 MHz	230	.024	2600	.312 x 1.000	10
4588-E	.47 uh	90	25 MHz	194	.034	2500	.312 x 1.000	13
4590-E	.68 uh	83	25 MHz	166	.036	2400	.312 x 1.000	18
4592-E	.75 uh	81	25 MHz	163	.040	2200	.312 x 1.000	21
4594-E	.82 uh	88	25 MHz	160	.043	2100	.312 x 1.000	22
4602-E	1.0 uh	60	7.9 MHz	152	.050	2000	.312 x 1.000	28
4604-E	1.5 uh	58	7.9 MHz	119	.093	1800	.312 x 1.000	34
4606-E	2.4 uh	56	7.9 MHz	96	.190	1500	.312 x 1.000	44
4608-E	3.9 uh	60	7.9 MHz	74	.450	1000	.312 x 1.000	50
4609-E	5.5 uh	57	7.9 MHz	64	.670	850	.312 x 1.000	64
4610-E	6.2 uh	57	7.9 MHz	61	.830	700	.312 x 1.000	66
4611-E	8.2 uh	57	7.9 MHz	52	1.20	600	.312 x 1.000	77
4612-E	10 uh	36	2.5 MHz	49	1.50	500	.312 x 1.000	96
4622-E	10 uh	69	2.5 MHz	32	.110	1500	.375 x 1.125	32
4624-E	15 uh	62	2.5 MHz	26	.170	1000	.375 x 1.125	36
4626-E	24 uh	65	2.5 MHz	20	.340	800	.375 x 1.125	50
4628-E	39 uh	70	2.5 MHz	16	.650	600	.375 x 1.125	63
4629-E	55 uh	72	2.5 MHz	13	1.00	500	.375 x 1.125	83
4630-E	62 uh	83	2.5 MHz	12	1.20	475	.375 x 1.125	77
4631-E	82 uh	85	2.5 MHz	10	1.90	450	.375 x 1.125	92
4632-E	100 uh	107	.79 MHz	9.6	3.00	400	.375 x 1.125	96
4642-E	10 mh	49	.79 MHz	8.8	5.40	160	.500 x 1.000	219
4644-E	15 mh	53	.79 MHz	7.0	6.50	160	.500 x 1.000	258
4646-E	24 mh	56	.79 MHz	5.7	8.50	160	.500 x 1.000	321
4648-E	.39 mh	57	.79 MHz	4.5	11.0	160	.500 x 1.000	396
4649-E	.55 mh	58	.79 MHz	3.8	13.0	160	.625 x 1.000	420
4650-E	.62 mh	59	.79 MHz	3.6	15.0	160	.625 x 1.000	477
4651-E	.75 mh	56	.79 MHz	3.2	16.0	160	.625 x 1.000	495
4652-E	1.0 mh	59	.25 MHz	2.9	19.0	160	.625 x 1.000	574
4662-E	1.0 mh	83	.25 MHz	2.1	8.6	160	.625 x 1.125	300
4664-E	1.5 mh	82	.25 MHz	1.7	11.0	160	.625 x 1.125	366
4666-E	2.4 mh	80	.25 MHz	1.3	15.0	160	.625 x 1.125	471
4668-E	3.9 mh	73	.25 MHz	1.1	20.0	160	.625 x 1.125	585
4669-E	5.5 mh	69	.25 MHz	.88	25.0	160	.625 x 1.125	600
4670-E	6.2 mh	89	.25 MHz	.80	37.0	100	.625 x 1.125	750
4671-E	8.2 mh	83	.25 MHz	.75	46.0	100	.625 x 1.125	900
4672-E	10 mh	68	.79 kHz	.65	50.0	100	.625 x 1.125	948
6302-E	2.5 mh	106	250 kHz	1.00	9.0	160	.625 x 1.125	300
6304-E	5.0 mh	91	250 kHz	.80	14.0	160	.625 x 1.125	432
6306-E	10 mh	108	79 kHz	.57	31.0	100	.625 x 1.125	615
6308-E	25 mh	102	79 kHz	.37	82.0	65	.625 x 1.125	969
6310-E	50 mh	113	79 kHz	.26	127	65	.625 x 1.125	1392

\*TOLERANCE 0.1 TO 1.0 UH ± 20%, 1.1 TO 15 UH ± 10%, OVER 15 UH ± 5%

Air Core Printed Circuit R.F. Chokes



The following R.F. Chokes have been designed to offer a wide range of inductance values for use in printed circuit applications. Our standard stock of these coils is impregnated with a high grade coil varnish to prevent

moisture absorption. On special orders we can supply these items treated with fungus resistant material, or encapsulated in epoxy resin to meet MIL-C-15305.

Coil length: 7/8" on all items. Diameter as tabulated.

Miller Part Number	Measured on General Radio Inductance Bridge Type 1632-A		Self Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum	Diameter over Winding	Total Turns
	Inductance @ 1000 CPS	Q Minimum					
970	1.0 mh. ±5%	45 @ 250 kHz	1.57	20.6	125	.700	251
971	1.2 mh. ±5%	47 @ 250 kHz	1.46	23.8	125	.720	278
972	1.5 mh. ±5%	49 @ 250 kHz	1.38	26.4	125	.740	305
973	1.8 mh. ±5%	50 @ 250 kHz	1.24	29.6	125	.750	335
974	2.2 mh. ±5%	51 @ 250 kHz	1.04	32.9	125	.770	373
975	2.7 mh. ±5%	52 @ 250 kHz	1.06	37.4	125	.800	410
976	3.3 mh. ±5%	52 @ 250 kHz	.985	41.8	125	.820	450
977	3.9 mh. ±5%	52 @ 250 kHz	.900	46.7	125	.850	490
978	4.7 mh. ±5%	52 @ 250 kHz	.848	51.8	125	.875	533
979	5.6 mh. ±5%	51 @ 250 kHz	.760	57.6	125	.910	580
980	6.8 mh. ±5%	51 @ 250 kHz	.716	64.4	125	.950	635
981	8.2 mh. ±5%	38 @ 250 kHz	.520	73.0	100	.850	785
982	10.0 mh. ±5%	43 @ 79 kHz	.480	81.6	100	.880	850
983	12.0 mh. ±5%	46 @ 79 kHz	.424	92.4	100	.910	940
984	15.0 mh. ±5%	48 @ 79 kHz	.398	105	100	.950	1050
985	18.0 mh. ±5%	51 @ 79 kHz	.370	117	100	.985	1130
986	22.0 mh. ±5%	51 @ 79 kHz	.320	130	75	.985	1347
987	27.0 mh. ±5%	51 @ 79 kHz	.294	145	75	1.045	1367
988	33.0 mh. ±5%	44 @ 79 kHz	.288	251	75	1.000	1527
989	39.0 mh. ±5%	44 @ 79 kHz	.264	277	75	1.050	1647
990	47.0 mh. ±5%	40 @ 79 kHz	.190	316	50	.910	1995
991	56.0 mh. ±5%	39 @ 79 kHz	.177	351	50	.950	2160
992	68.0 mh. ±5%	33 @ 79 kHz	.160	391	50	1.000	2390
993	82.0 mh. ±5%	31 @ 79 kHz	.145	442	50	1.025	2590
994	100.0 mh. ±5%	29 @ 79 kHz	.138	473	50	1.075	2720

Refer to Pages 1-2 for Prices



## Single Pi Ferrite Core R.F. Chokes

This series of single pi R.F. Chokes affords maximum Q with minimum resistance through the use of ferrite core material. The coils are impregnated in a fungus resistant lacquer. Form Dimensions .187 x  $\frac{3}{8}$ "

Part Number	L $\pm$ 5%	Min. Q at Freq. kc.	Min. fo Mc	Max. R Ohms	Approx. Coil Dia.	Max. Ma.
3F104AF	100 uh	140 @ 790	7.7	2.0	17/64	250
3F124AF	120 uh	140 @ 790	7.0	2.2	17/64	250
3F154AF	150 uh	160 @ 790	6.3	2.5	17/64	250
3F184AF	180 uh	160 @ 790	6.0	2.9	9/32	250
3F224AF	220 uh	160 @ 790	5.6	3.2	19/64	250
3F274AF	270 uh	160 @ 790	5.1	3.6	19/64	250
3F334AF	330 uh	160 @ 790	4.8	3.8	5/16	250
3F394AF	390 uh	160 @ 790	4.4	4.2	21/64	225
3F474AF	470 uh	160 @ 790	3.9	4.8	21/64	200
3F564AF	560 uh	160 @ 790	3.6	5.3	11/32	200
3F684AF	680 uh	160 @ 790	3.4	6.0	23/64	200
3F824AF	820 uh	150 @ 790	3.1	6.8	3/8	200
3F103AF	1.0 mh	140 @ 790	2.6	7.5	13/32	150
3F123AF	1.2 mh	140 @ 250	2.2	7.8	31/64	150
3F153AF	1.5 mh	140 @ 250	2.0	8.8	33/64	150
3F183AF	1.8 mh	140 @ 250	1.8	11.0	35/64	150
3F223AF	2.2 mh	100 @ 250	1.5	12.0	3/8	150
3F273AF	2.7 mh	100 @ 250	1.4	13.5	13/32	125
3F333AF	3.3 mh	100 @ 250	1.3	15.1	7/16	125
3F393AF	3.9 mh	95 @ 250	1.2	18.0	29/64	125
3F473AF	4.7 mh	95 @ 250	1.0	21.5	15/32	100
3F563AF	5.6 mh	95 @ 250	1.0	25.0	1/2	80
3F683AF	6.8 mh	95 @ 250	.90	29.0	17/32	80
3F823AF	8.2 mh	70 @ 250	.91	30.0	31/64	80
3F102AF	10.0 mh	65 @ 250	.85	34.0	33/64	80



## Single Layer Color Coded R.F. Chokes

The following solenoid wound R.F. Chokes are impregnated with a thermosetting varnish and are color coded to EIA standards. Form Dimensions .156 x  $\frac{1}{2}$ "

Part No.	L <sup>a</sup>	Min. Q @ F	Min. Fo. Mc.	R Ohms Max.	I Ma. Max.	Core Material
4F106AP	1.0 uh	45 @ 7.9 Mc	238	.20	1000	Phenolic
4F126AP	1.2 uh	45 @ 7.9 Mc	218	.22	950	Phenolic
4F156AP	1.5 uh	45 @ 7.9 Mc	200	.25	900	Phenolic
4F186AP	1.8 uh	45 @ 7.9 Mc	180	.28	850	Phenolic
4F226AP	2.2 uh	45 @ 7.9 Mc	165	.30	800	Phenolic
4F276AP	2.7 uh	45 @ 7.9 Mc	149	.50	700	Phenolic
4F336AP	3.3 uh	45 @ 7.9 Mc	136	.70	600	Phenolic
4F396AP	3.9 uh	45 @ 7.9 Mc	127	.80	500	Phenolic
4F476AP	4.7 uh	50 @ 7.9 Mc	114	1.00	400	Phenolic
4F566AP	5.6 uh	50 @ 7.9 Mc	104	1.80	350	Phenolic
4F686AP	6.8 uh	50 @ 7.9 Mc	94.8	1.85	300	Phenolic
4F826AP	8.2 uh	50 @ 7.9 Mc	86.1	1.90	275	Phenolic
4F105AP	10 uh	50 @ 7.9 Mc	78.5	3.00	250	Phenolic
4F125AP	12 uh	30 @ 2.5 Mc	71.6	3.60	200	Phenolic
4F155AP	15 uh	30 @ 2.5 Mc	63.9	6.00	150	Phenolic
4F185AP	18 uh	30 @ 2.5 Mc	57.5	7.50	100	Phenolic
4F225AI	22 uh	85 @ 2.5 Mc	36.1	2.00	500	Iron
4F275AI	27 uh	80 @ 2.5 Mc	33.2	1.85	450	Iron
4F335AI	33 uh	80 @ 2.5 Mc	30.6	2.00	450	Iron
4F395AI	39 uh	90 @ 2.5 Mc	26.6	2.60	400	Iron
4F475AI	47 uh	90 @ 2.5 Mc	24.9	3.50	350	Iron
4F565AI	56 uh	90 @ 2.5 Mc	23.6	3.75	300	Iron
4F685AI	68 uh	90 @ 2.5 Mc	21.6	4.00	250	Iron
4F825AI	82 uh	100 @ 2.5 Mc	19.0	5.10	200	Iron
4F104AI	100 uh	100 @ 2.5 Mc	17.8	6.00	150	Iron

Inductance in Micro-H	Color Code	Inductance in Micro-H	Color Code	Inductance in Micro-H	Color Code
1.0	Brown-Black-Gold	5.6	Green-Blue-Gold	27.0	Red-Violet-Black
1.2	Brown-Red-Gold	6.8	Blue-Gray-Gold	33.0	Orange-Orange-Black
1.5	Brown-Green-Gold	8.2	Gray-Red-Gold	39.0	Orange-White-Black
1.8	Brown-Gray-Gold	10.0	Brown-Black-Black	47.0	Yellow-Violet-Black
2.2	Red-Red-Gold	12.0	Brown-Red-Black	56.0	Green-Blue-Black
2.7	Red-Violet-Gold	15.0	Brown-Green-Black	68.0	Blue-Gray-Black
3.3	Orange-Orange-Gold	18.0	Brown-Gray-Black	82.0	Gray-Red-Black
3.9	Orange-White-Gold	22.0	Red-Red-Black	100.0	Brown-Black-Brown
4.7	Yellow-Violet-Gold				

\*Tolerance 1.0 to 2.2 uh  $\pm$  20%, 2.7 to 100 uh  $\pm$  10%

Refer to Pages 1-2 for Prices

Frequency Selective R.F. Chokes

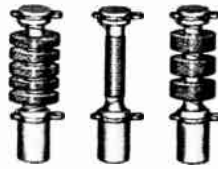


Designed for maximum efficiency and highest impedance at specific operating frequencies this group of R.F. chokes eliminates the designer's task of attempting to choose the best coil for a particular application from miscellaneous and often insufficient design data. Designed to cover the major Amateur and Industrial communication frequencies.

Part No.	Inductance ±10%	Freq. Mc	Fig.	Net Price
RFC-3.5	266 uh	1.8-5	1	\$1.26
RFC-7	208 uh	3-13	1	1.26
RFC-14	84 uh	7-20	1	1.11
RFC-21	38.5 uh	15-30	2	.87
RFC-28	24 uh	25-40	2	.99
RFC-50	8.2 uh	30-90	2	.84
RFC-144	1.72 uh	75-180	2	.60
RFC-220	.82 uh	160-340	2	.60
RFC-420	.22 uh	350-500	2	.72

The above R.F. Chokes have a conservative rating of 600 ma.

Ceramic Form R.F. Chokes



A series of high quality fixed coils wound on a silicone impregnated steatite form. The coils are the standoff type and are mounted by a single 6-32 screw. They find primary application in low power transmitters and associated equipment where relatively high current capacity and low distributed capacitance are important.

Form Dimensions: 1/16" Dia. x 1 15/16" long

Cal. Number	Inductance ± 5% @ 1000 Cycles	Resistance Max.	Rated Current	Net Price
4552	0.25 mh.	9.5	150 ma.	\$ .93
4553	0.50 mh.	14.4	150 ma.	.93
4554	1.0 mh.	20.4	150 ma.	1.02
4555	2.5 mh.	33.6	150 ma.	1.14
4556	5.0 mh.	54.0	150 ma.	1.17
4557	0.25 mh.	4.20	300 ma.	1.02
4558	0.50 mh.	6.50	300 ma.	1.02
4559	1.0 mh.	11.5	300 ma.	1.20
4560	2.5 mh.	20.4	300 ma.	1.32
4561	5.0 mh.	22.3	300 ma.	1.35

Ceramic Core R.F. Chokes



Miller ceramic core radio frequency chokes are the result of careful research and design, and present advantages found in no other comparable chokes. These chokes have extremely low distributed capacity. Dimensions: (form) 1/4" diameter by 1 1/2" long. All chokes are impregnated with a moisture- and fungus-resistant varnish. Schematic No. 1.

Single Layer Wound Chokes

Part No.	uh.*	Ohms Max.	ma	Net Price
4528-1	1	.036	300	\$ .63
4528	2.5	.108	300	.63
4529	5	.300	300	.63
4529-10	10	1.14	300	.63

Progressive Wound Chokes

Part No.	uh.*	Ohms Max.	ma	Net Price
4515	25	1.92	300	\$ .75
4517	50	2.52	300	.75
4519	100	3.60	300	.75

\*TOLERANCE 0.1 TO 1.0 UH ± 20%, 1.1 TO 10 UH ± 10%, OVER 10 UH ± 5%

Multiple Pi Wound Chokes

Part No.	mh*	Ohms Max.	ma	Net Price
4531-0	.25	9.6	200	\$ .87
4531	.5	14.4	200	.87
4531-1	1	20.4	200	.87
4532	1.5	25.2	200	.90
4537	2.5	33.6	200	.93
4538	5	50.4	125	1.08
4539	7.5	98.4	125	1.14
4540	10	114	125	1.20
4541	25	192	125	1.50

Single Pi R.F. Chokes



These chokes are wound on either a ceramic dowel or powdered iron core as indicated. The choke windings are thoroughly impregnated to prevent moisture absorption. Inductance values are maintained to an accuracy of five per cent.



Dimensions: 1 1/8" diameter by 5/8" high.				Item	Net Price
Part No.	Mh.	Ohms Max.	Ma.		
610	.25	9.6	125	{ Unshielded } Air Core R.F.C.	\$ .72
615	.5	14.4	125		
620	.75	19.2	125	{ " " " }	.72
622	1.0	21.6	125		
630	1.5	25.2	125	{ " " " }	.72
640	2.5	34.8	125		
650	5.0	52.8	125	{ " " " }	.87
660	7.5	66.0	125		
670	10	81.0	125	{ " " " }	.90
680	12.5	92.5	125		
690	15	102	125	{ " " " }	.90
691	20	120	125		
692	30	156	100	{ " " " }	1.05
693	60	240	100		
694	80	264	100	{ " " " }	1.29
670-T	10	80.4	125		
691-T	20	120	125		
693-T	60	240	100		

Dimensions: 1 1/4" diameter by 1 1/8" high. (Catalog No. 758 is 1 3/8" dia.)				Item	Net Price
Part No.	Mh.	Ohms Max.	Ma.		
751	.5	13.2	125	{ Shielded } Air Core R.F.C.	\$1.11
752	1.0	20.4	125		
753	2.5	33.6	125	{ " " " }	1.17
754	5.0	54.0	125		
755	7.5	69.6	125	{ " " " }	1.20
756	10	86.4	125		
757	25	156	125	{ " " " }	1.32
758	50	228	100		

Dimensions: 1 1/8" diameter by 5/8" high.				Item	Net Price
Part No.	Mh.	Ohms Max.	Ma.		
951	.5	8.4	125	{ Unshielded } Iron Core R.F.C.	\$ .99
952	1.0	13.2	125		
953	2.5	22.8	125	{ " " " }	.99
954	5.0	34.8	125		
955	7.5	44.4	125	{ " " " }	1.14
956	10	56.4	125		
957	25	99.5	100	{ " " " }	1.32
958	50	156	100		
959	75	204	100	{ " " " }	1.65
960	100	240	100		
961	150	312	100	{ " " " }	1.98

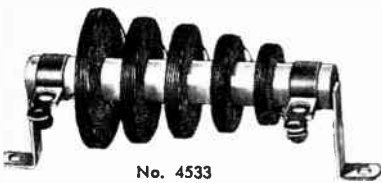
Dimensions: 1 1/4" diameter by 1 1/8" high.				Item	Net Price
Part No.	Mh.	Ohms Max.	Ma.		
851	.5	9.6	125	{ Shielded } Iron Core R.F.C.	\$1.35
852	1.0	13.2	125		
853	2.5	24.0	125	{ " " " }	1.35
854	5.0	37.2	125		
855	7.5	50.4	125	{ " " " }	1.47
856	10	56.4	125		
857	25	112	125	{ " " " }	1.65

Dimensions: 1 5/8" diameter by 1 1/8" high.				Item	Net Price
Part No.	Mh.	Ohms Max.	Ma.		
858	50	192	100	{ Shielded } Iron Core R.F.C.	\$1.71
859	75	228	100		
860	100	384	100	{ " " " }	2.04
861	150	576	100		

Prices Subject to Change or Withdrawal Without Notice

FILTERS AND RADIO FREQUENCY CHOKES

Transmitter R.F. Chokes



No. 4533

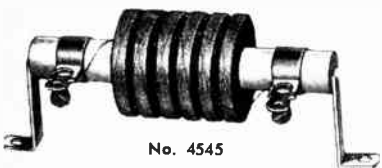
Dimensions: (form) 1/2" diameter by 3 1/2" long.

Part No.	mh.	Ohms Max.	ma	Schematic	Net Price
534	1.0	3.00	1000	1	\$1.98
535	1.5	4.32	1000	1	2.25
533	2.5	5.40	750	1	2.49
536	4.0	6.60	750	1	2.88
881	7.0	8.60	750	1	3.90

Dimensions: (form) 1/2" diameter by 2 1/2" long.

Part No.	mh.	Ohms Max.	ma	Schematic	Net Price
550	2.0	7.80	400	1	\$1.95
551	4.0	12.0	400	1	2.46

High Inductance Chokes



No. 4545

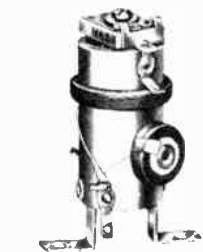
Dimensions: (form) 1/2" diameter by 2 1/2" long.

Part No.	mh.	Ohms Max.	Fo. Min.	ma.	Q Min.	Net Price
1542	50	266	344 kc.	100	65 @ 79 kc.	\$2.25
1543	75	348	312 kc.	100	66 @ 79 kc.	2.46
1544	100	420	256 kc.	100	60 @ 79 kc.	2.70

Dimensions: (form) 1/2" diameter by 3 1/2" long.

Part No.	mh.	Ohms Max.	Fo. Min.	ma.	Q Min.	Net Price
1545	150	576	196 kc.	75	75 @ 50 kc.	3.81
1546	200	636	168 kc.	75	75 @ 50 kc.	4.20
1547	250	828	160 kc.	75	80 @ 50 kc.	4.50

Capacity Relay Coil



This coil may be used for almost all types of capacity operated electronic devices such as alarm systems, show windows, counter displays, novelties, etc. The coil is a center-tapped oscillator winding with an adjustable grid coupling condenser and an r.f. choke, all assembled on a bakelite form. A typical wiring diagram is supplied.

Dimensions: 7/8" diameter (form) x 2 1/4" high.

Part No.	Use	Schematic	Net Price
595	Capacity Relay Coil	78	\$2.37

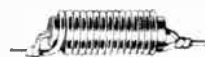
R.F. Transformer for HV Power Supply



These R.F. power supply transformers for use with television receivers and cathode ray oscilloscopes make it possible to construct an inexpensive source of high voltage DC. Two types are available, the #4525 for voltage to 5000 DC and the #4526 for voltages to 10,000 DC (or 30,000 DC in a voltage rectifier tripler circuit). Type 1B3-GT tubes are used as rectifiers and the R.F. oscillator circuit uses one or more type 6V6 or 6Y6 tubes connected in parallel. The high frequency AC source permits use of simple and inexpensive resistive capacitive filters with low ripple content in the output.

Part No.	Item	Schematic	Net Price
4525	H.V. R.F. Trans. (to 5 KV)	52	\$6.00
Dimensions: 1 1/4" diameter x 3 3/4" high. (Not Illustrated)			
4526	H.V. R.F. Trans. (to 30 KV)	52	\$9.00
Dimensions: 2 1/4" diameter x 6" high. (Illustrated)			

Heavy Duty Hash Chokes



Through the use of a molded powdered iron form we are able to offer a series of relatively high inductance, high current hash filter chokes.

Dimensions: 3/8" diameter x 1 1/4" long.

Part No.	Uh. ± 20%	Ohms Max.	Amperes	Schematic	Net Price
5218	3.35	.010	13	3	\$1.35
5219	4.9	.016	8	3	1.35
5220	8.8	.021	5	3	1.35
5230	4.0	.012	2	3	.99
5240	40.0	.082	2	3	1.05
5248	68.0	.054	2	3	1.17
5250	100.0	.216	2	3	1.17

Filament Choke

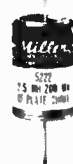


Designed to prevent ignition and generator interference noise pick-up from battery wiring systems and from vibrator and motor-generator plate supply systems.

Dimensions: 3/4" diameter by 2" long.

Part No.	Uh. ± 20%	Ohms Max.	Amperes	Schematic	Net Price
5221	4	.024	6	1	\$.99

Plate Supply Choke

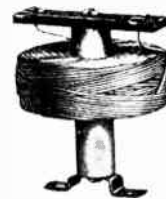


A companion choke to the #5221 filament choke for use in the power supply of battery and generator or vibrator "B" supply packs for portable or mobile radio and electronic equipment. Will prevent interference and r.f. "hash" present in the power source from interfering with normal operation of the equipment. Unit is a duo-lateral wound coil enclosed in a sealed Kraft container and provided with convenient axial wire leads. Insulated enclosure permits mounting in out-of-the-way corners of the chassis.

Dimensions: 3/4" diameter by 1 1/8" long.

Part No.	Mh. ± 10%	Ohms Max.	MA	Schematic	Net Price
5222	2.5	33.6	200	1	\$1.17

Rectifier Hash Filter Chokes



Duo-lateral wound chokes for use in series with the plate leads of mercury vapor rectifiers to prevent r.f. hash feed-back. The chokes are wound on Alsimag forms and have solder type lugs for connection. Two hole mounting brackets prevent the choke from turning. The terminal lugs are eyeleted to a canvas base bakelite strip and provide a spacing of 1 1/2" between connections. The insulation to ground will withstand in excess of 10,000 volts.

Dimensions: 2" diameter x 2 3/8" high.

Part No.	Mh. ± 10%	Ohms Max.	MA	Schematic	Net Price
7867	4.50	5.40	500	1	\$2.10
7868	2.75	2.76	1000	1	2.40

Twin Rectifier Filter Chokes



These chokes are similar to those listed above except that two duo-lateral wound coils are assembled on a single ceramic form with a bakelite terminal plate. They are for use with full wave mercury vapor rectifier tubes or with separate tubes having a maximum plate current of less than 300 MA. A two-hole mounting clip is provided. Insulation is adequate for peak voltages up to 2500. The entire assembly is thoroughly impregnated in tropicalized Q-Max lacquer.

Dimensions: 1 1/4" diameter x 1 3/4" high. Mounting centers: 1".

Part No.	Mh.	Ohms	MA	Net Price
7865	3.25 (per coil)	15.	300	\$1.95
9501	1 mh. (per coil)	1.72	1,000	1.80

Stud Mounted Low-Capacity R.F. Chokes



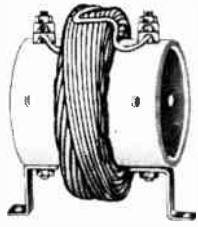
Single stud mounted resistor-type r.f. chokes for use in transmitters and receivers. Pi-wound for very low distributed capacity. Constructed on moulded bakelite forms and equipped with Miller "Sta-On" terminal clips which will not work loose. Co-axial #6-32 thread mounting stud.

Dimensions: 5/8" o.d. by 1 1/4" high (plus 1/8" stud)

Part No.	mh <sup>2</sup>	Ohms	ma	Schematic	Net Price
4527	1.0	16.8	200	1	\$1.02
4530	2.5	27.6	200	1	1.20

Prices Subject to Change or Withdrawal Without Notice

### Medium Duty Duo-Lateral Line Filter Chokes

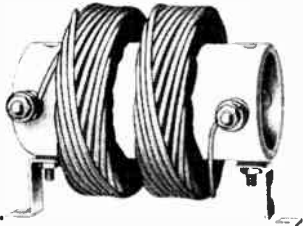


Miller Duo-Lateral wound chokes combine small physical size with low distributed capacity—an essential requirement for radio interference filter chokes—and are characteristics found in no other type of radio interference filter choke. These chokes are particularly recommended to manufacturers of farm lighting plants, sign flashers, signal systems, oil burners, diathermy equipment and all types of intermittent switching systems. Miller Duo-Lateral wound filter chokes are specially designed for technicians and electricians who find it desirable to construct their own filters as a part of the equipment being manufactured. When used with amateur and commercial transmitters, filters constructed with Miller Duo-Lateral wound chokes will prevent feed-back into the power line, thus eliminating carrier radiation within the electrical wiring system. Miller Duo-Lateral wound chokes are wound on ceramic forms with suitable brass terminals.

able to construct their own filters as a part of the equipment being manufactured. When used with amateur and commercial transmitters, filters constructed with Miller Duo-Lateral wound chokes will prevent feed-back into the power line, thus eliminating carrier radiation within the electrical wiring system. Miller Duo-Lateral wound chokes are wound on ceramic forms with suitable brass terminals.

Cat. No.	Amperes	Ohms	Uh.	Dimensions	Schematic	Net Price
7826	5	.28	570	2 1/2" x 4"	1	\$5.10
7827	10	.15	370	2 1/2" x 4"	1	5.40
7828	20	.085	200	2 1/2" x 4"	1	5.70
7829	30	.05	135	2 1/2" x 4"	1	6.15

### Dual Line Filter Chokes



Miller Dual Duo-Lateral Line Filter Chokes are wound with two coils on one form, giving the advantage of small physical size in cases where space requirements are stringent and two single coils would occupy too much area. Identical in specifications, except for dimensions, to our single type Duo-Lateral chokes. They are wound on white ceramic forms 2" in diameter by 4 1/2" long.

Cat. No.	Amperes	Ohms	Uh.	Dimensions	Net Price
D-7826	5	.28	570	4 1/2" x 4"	\$ 7.50
D-7827	10	.15	370	4 1/2" x 4"	9.00
D-7828	20	.085	200	4 1/2" x 4"	10.50
D-7829	30	.05	135	4 1/2" x 4"	12.00

### Light Duty Duo-Lateral Line Filter Chokes Single Line Filter Chokes



Dimensions: 1 7/8" x 1 3/4".

Cat. No.	Amperes	Ohms	Uh.	Schematic	Net Price
7825	2	.7	600	1	\$2.16
7825-3	3	.25	250	1	2.16
7825-5	5	.1	100	1	2.16
7825-8	8	.05	50	1	2.25

### Dual Line Filter Chokes

Dimensions: 3 1/4" x 2 1/8".

Cat. No.	Amperes	Ohms	Uh.	Net Price
D-7825	2	.7	600	\$4.86
D-7825-3	3	.25	250	4.86
D-7825-5	5	.1	100	4.86
D-7825-8	8	.05	50	5.10

### Phono-Oscillator Coil

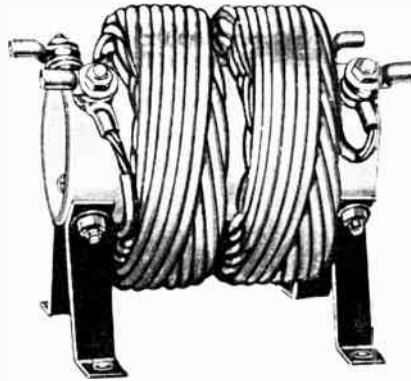


The Miller Phono-Oscillator coil is used in the construction of radio operated phonograph players. The coils are permeability tuned and are assembled in an aluminum shield. The frequency range as provided by the adjustable iron core is from 540 to 700 KC. The windings are of the sectional duo-lateral type. The oscillator grid leak and grid coupling condenser are included in the coil assembly. A typical circuit diagram is supplied with each coil.

Dimensions: 1 1/8" square x 2 1/2" high.

Cat. No.	Use	Range	Net Price
522	Phono-Oscillator	540-700 KC	\$2.97

### Heavy Duty Line Filter Chokes

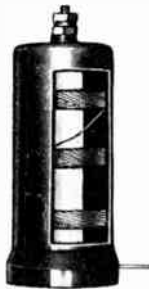


Miller Heavy Duty Line Filter Chokes are wound on electrical porcelain forms measuring 4" in diameter by 8" long. All windings are of the duo-lateral type and use double cotton covered stranded cable expressly made for this purpose. Copper terminal lugs and brass bolts are used on all current-carrying parts. Four sturdy steel mounting brackets are provided with each choke. Windings are thoroughly impregnated with glyptal varnish and baked. In

addition to their use for radio interference filter applications, these chokes find wide application in power circuits and high voltage rectifier circuits to reduce the peak value of transient surges and thus protect valuable equipment and switch gear. (Available from Los Angeles stock only.) (D-7830 is a dual type—two chokes on one form. Illustrated.)

Cat. No.	Amperes	Ohms	Uh.	Dimensions	Schematic	Net Price
7830	50	.036	250	8" x 10"	1	\$29.70
D-7830	50	.036	250	8" x 10"		58.50
7831	75	.023	215	8" x 10"	1	42.00
7832	100	.010	175	8" x 12 1/2"	1	52.50

### High Tension Filter Choke



Through extensive research, Miller has developed what is believed to be the only satisfactory filter choke for the elimination of radio interference generated by high tension (secondary circuit) neon sign animators and tubing. Chokes are sectional wound on 1/2" diameter by 2 1/2" long ceramic forms and are enclosed in a weatherproof bakelite shell. All windings are impregnated against moisture absorption and all hardware is cadmium plated. The #7875 choke is insulated for 15,000 volts and for continuous operation at currents up to 100 milliamps. The filter chokes are easily installed in existing installations and they are fully guaranteed. Many cities and communities have radio interference ordinances and these chokes are

an indispensable part of every neon sign installation. Each installation requires one choke per circuit, plus one for the common circuit of the transformer and one for the common circuit of the animator. A complete circuit diagram is supplied with each choke.

Dimensions: 1 3/8" diameter x 3 1/4" high.

Cat. No.	Volts	Amperes	Schematic	Net Price
7875	15,000	.1	1	\$2.70

### Radio Interference Filter Condenser



Highest quality mylar dielectric condenser especially developed for radio interference filter use. While rated at 220 volts AC-DC, this condenser is designed to withstand transient surges up to 1000 volts. Extremely low reactance to all interference frequencies is obtained by non-inductive construction. It will give a lifetime of trouble-free service and we give an unqualified guarantee against breakdown when used with interference filters on circuits having a maximum RMS voltage not exceeding 220.

Cat. No.	Capacity	Volts	Dimensions	Net Price
7804	2.0 mfd.	220 AC	7/8" x 1" x 2 1/2"	\$3.48

Prices Subject to Change or Withdrawal Without Notice

TV AND RADIO INTERFERENCE FILTERS

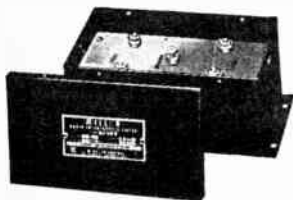
TV High-Pass Filters



This TV High-Pass Filter will eliminate or greatly reduce annoying interference which may be picked up by the intermediate-frequency amplifier section of your television receiver. Improves picture clarity by rejecting interference from short wave stations, amateur transmitters, X-Ray, and diathermy equipment, industrial r.f. heating units, electric appliances, etc. Clear, steady pictures insured with a minimum of noise streaks, sound bars or herringbone. Filter is designed to attenuate all signals from zero frequency to 40 megacycles. All television channels passed with minimum loss. No tuning required. Installed easily in antenna lead-in receiver. In aluminum shield with convenient "L"-type bracket for mounting.

Cat. No.	Use	Schematic	Net Price
6167	TV High-Pass Filter—72-ohm line	46	\$3.75
6168	TV High-Pass Filter—300-ohm line	47	3.75

Cash Register Filter



The radio interference produced by most cash registers and business machines, such as comptometers and billing machines, is, in many cases, quite severe and the general purpose type of filter does not always give adequate protection. The Miller Cash Register Filter has been expressly designed to meet the requirements of this type of equipment and will provide positive elimination of radio interference feed-back into the power supply line. The filter is of the two-section type and consists of four duo-lateral wound chokes and four .5 mfd. condensers.

Dimensions: 3 1/4" x 4" x 7" long.

Part No.	Volts	Amperes	Schematic	Net Price
7814	230	5	17	\$28.50

TV and Appliance Filter



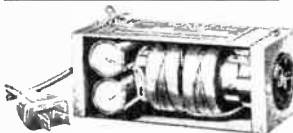
Similar in construction to the Cat. No. 7818, the Cat. No. 7815 is designed for use with larger household appliances and commutator-type motors as well as communications-type receivers and recording equipment. Useful for elimination of

TV interference in radio receivers when inserted in television receiver line cord. The #7815 filter uses larger capacitors and heavier capacity inductors to handle load requirements up to 550 watts. It is assembled in a gray Hammertone finished case.

Dimensions: 2 1/4" square x 4 1/2" long.

Cat. No.	Volts	Watts	Schematic	Net Price
7815	115	550	11	\$9.00

AC-DC Radio Filter



The Cat. No. 7813 is an All-Wave Interference Filter designed expressly for use on AC-DC radio receivers.

Dimensions: 2 1/4" square x 4 1/2" long.

Cat. No.	Volts	Watts	Schematic	Net Price
7813	115	220	11	\$8.97

Electric Shaver Filter



This filter contains an inductive-capacitive circuit consisting of two duo-lateral wound chokes and a non-inductive condenser, giving complete freedom from radio interference. No ground connection is needed for the filter and

the danger of accidental shock is avoided through the use of shock-proof, unbreakable moulded rubber construction.

Dimensions: 1 1/8" diameter x 3" long.

Cat. No.	Volts	Watts	Finish	Schematic	Net Price
7817	115	50	Black	14	\$3.30



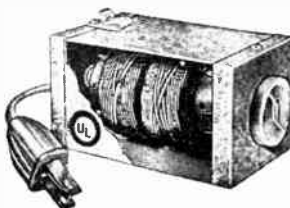
TV and FM Wave Traps

These new high-Q series-resonant wave traps may completely eliminate interference and undesirable images in television and FM receivers. When tuned to the frequency of interfering signal, they are very effective in reducing sound bars and herringbone patterns, or streaks and tearing in the television picture. Superimposed pictures from two different stations also may be prevented. For FM receiver use, cross-talk from interfering station is greatly diminished. Use of one of these traps generally will reduce interference caused by a near-by transmitter to a degree which will permit satisfactory reception from a weaker station.

Dimensions: 1 3/8" by 1 7/8" by 3/2" high.

Cat. No.	Frequency Range	Schematic	Net Price
6163	150-250 MC	45	\$3.00
6164	75-150 MC	45	3.00
6165	40- 80 MC	45	3.00
6166	20- 40 MC	79	3.00

All-Wave Interference Filter

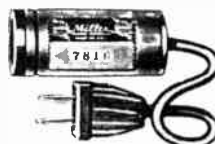


Designed to eliminate radio noises caused by small household appliances such as food mixers, sewing machines, vacuum cleaners, etc. When connected between the radio receiver and the power outlet, the filter will prevent pick-up of interference and unwanted signals through the house wiring system. When used with household appliances the filter prevents the interference energy from getting into the house wiring circuit and disturbing receivers throughout the neighborhood.

Dimensions: 2 1/4" square x 4 1/2" long.

Cat. No.	Volts	Watts	Schematic	Net Price
7818	115	220	13	\$8.37

Capacity Type Line Filter



The Miller Capacity Line filter is an all purpose filter for the elimination of radio interference caused by the operation of household appliances such as electric razors, heating pads, hair dryers, food mixers, vacuum cleaners and practically all common household devices and fractional horsepower motors. This filter will provide adequate filtering in less severe cases of interference and in instances where the cost of Miller Inductive-Capacitive type filters is not warranted. A bakelite receptacle at one end and one foot long cord with plug at the other end makes installation simple.

Dimensions: 1 1/8" diameter x 2 3/8" long.

Cat. No.	Volts	Watts	Schematic	Net Price
7816	115	660	15	\$2.25

Un-Cased Interference Filters



These filters utilize two duo-lateral wound chokes and a dual .2 mfd. non-inductive wound, oil impregnated condenser. The filters are assembled on 1" diameter bakelite tubes and are provided with solder-type terminals and brass mounting brackets. While designed primarily for use with traffic signals, its usefulness is by no means limited to this application. These filters may be used for built-in application with any type of radio interference producing electronic device whose voltage and current requirements are within the rating limits of the filters.

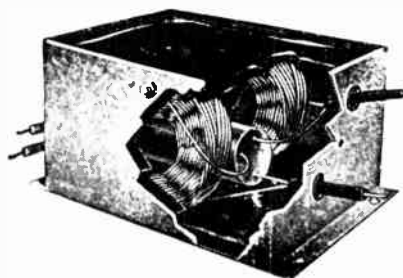
Dimensions: #7880—2 1/4" diameter x 5" long; 90 uh; .125 ohms; dual .2 mfd. condenser.  
#7881—3 1/4" diameter x 5" long; 125 uh; .065 ohms; dual .2 mfd. condenser.

Cat. No.	Volts	Amperes	Schematic	Net Price
7880	220	5.	10	\$6.00
7881	220	10.	10	7.20

Prices Subject to Change or Withdrawal Without Notice



**Industrial Filters**



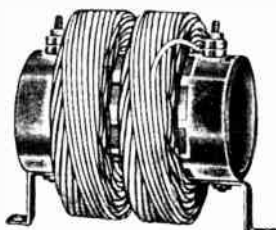
Miller industrial filters are designed for all types of radio interference producing devices and are highly effective at broadcast and short wave frequencies. The unique filter circuit, consisting of two duo-lateral wound chokes and two single layer solenoid chokes combined with two 2. mfd. non-inductive wound paper dielectric condensers.

For AC or DC to 220 volts. Full-load voltage drop is approximately 2 volts.

Dimensions: 9 3/4" x 6 1/2" x 5" high. Weight: Approx. 14 lbs.

Cat. No.	Volts	Amps.	Schematic	Net Price
7841	220	5	12	\$39.60
7842	220	10	12	45.00
7843	220	20	12	46.50
7844	220	30	12	49.50
7845	220	40	12	51.00

**Tower Lighting Chokes**



Duo-lateral wound chokes designed for use in the tower lighting circuits of broadcast and commercial transmitter antenna towers. These chokes offer high impedance to radio frequency and have extremely low distributed capacity. Low power-frequency reactance and DC resistance insure minimum lighting power loss. The chokes are wound on ceramic forms and the windings are of the two-pi sectional type and are protected by a baked glyptal varnish. One

choke should be used in series with each line of the tower lighting circuit. A suitable weatherproof cabinet should be used to house the chokes and is preferably mounted at the base of the tower. By-pass condensers from line-to-ground are NOT used with these chokes.

Dimensions: 4" diameter x 4 1/2" long.

Cat. No.	Amps.	Ohms	Mh.	Schematic	Net Price
7870	5	.56	1.20	1	\$ 9.00
7871	10	.30	.75	1	10.50
7872	20	.17	.45	1	12.00

**Teletype Radio Interference Filter**



A compact skeleton type filter using both inductance and capacity for maximum effectiveness in suppressing the interference generated by the small brush-type universal motors used on teletype printers. The filter is constructed for fastening directly to the motor terminals and is easily installed. The two duo-lateral chokes are wound on bakelite tubing and the dual condenser is fastened inside of the tube. A ground terminal is provided for connection to the motor frame. May be used on AC or DC circuits up to 120 volts and at a maximum current of .5 ampere.

Dimensions: 1 3/8" diameter x 3" high.

Cat. No.	Volts	Amperes	Schematic	Net Price
7812	120	.5	10	\$3.96

**Loop Antenna Wave Traps**



They are to be connected between the grid terminal of the loop antenna and the ground or grid return circuit of the receiver. When tuned to resonance these traps offer extremely low impedance to the interfering signal.

Dimensions: 1 3/8" square by 1 3/4" high.

Cat. No.	Band	KC Range	Schematic	Net Price
816-X1	I.F. & Commercial	250-500	81	\$1.95
816-X2	I.F. & Commercial	125-250	81	1.95
816-BC1	Broadcast	900-1800	81	1.95
816-BC2	Broadcast	500-900	81	1.95
816-A	Amateur	1500-2500	81	1.95
816-B	Amateur	2000-4500	81	1.95

**Miller Uni-Filters**



Universal type filters adaptable to any filter application through the simple process of making the necessary internal connections. They are designed for preventing feedback into the power lines from interference producing devices such as—farm lighting plants, electric refrigerators, diathermy and electrocautery devices, oil burner ignition systems, sign flashers, rotary converters, vibrator type converters, portable gas-electric plants and electric motors. Two capacitor blocks, each consisting of dual condensers, are included

with each Uni-Filter. The condensers are rated at 220 volts AC or DC. Complete data and circuit diagram supplied with each filter.

Dimensions: 8" long x 6 1/4" wide x 4 3/4" high.

Cat. No.	Amperes	Ohms	Inductance	Schematic	Net Price
7819	5	.26	.570 mh	16	\$28.50
7820	10	.15	.370 mh	16	30.00
7821	20	.085	.200 mh	16	31.68
7822	30	.05	.135 mh	16	33.30

**Fluorescent Lighting Filter Chokes**



The interference energy which is fed back into the AC lines may often affect the operation of radio and television receivers within a radius of several hundred feet. This interference energy may be absorbed by the use of suitable filter chokes and condensers. Miller Fluorescent filter chokes effectively block line interference feedback and may be simply installed in the lighting fixture. The chokes are assembled in aluminum shields 1 1/4" in diameter by 1 1/2" long, provided with a single hole mounting bracket, and flexible approved wire leads. Installation instructions supplied with each choke. Normally, two chokes should be used per fixture, each choke having a rating equal to the total wattage of all lamps in the fixture.

Cat. No.	Volts	Watts	Schematic	Net Price
7876	220	20	1	\$2.01
7877	220	40	1	2.01
7878	220	80	1	2.01
7879	220	160	1	2.01

**Shielded Wave Traps**

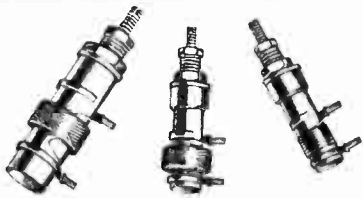


Miller 812 Series Wave Traps reaches a new high of performance in the elimination of interference from CW and amateur phone stations and from commercial transmitters. A completely shielded high "Q" parallel resonant circuit. The units are easily installed, simply connect them in series with the antenna. In order to eliminate interference from more than one station connect several of the units in series. The traps will not interfere with the operation of the receiver at frequencies other than that to which the traps are tuned.

Dimensions: 1 1/8" square x 2 1/2" high.

Cat. No.	Band	KC Range	Schematic	Net Price
812-X1	I.F. & Commercial	425-525	80	\$1.95
812-X2	I.F. & Commercial	225-325	80	1.95
812-X3	I.F. & Commercial	150-225	80	1.95
812-BC1	Broadcast	1200-1600	80	1.95
812-BC2	Broadcast	800-1200	80	1.95
812-BC3	Broadcast	500-800	80	1.95
812-A	Amateur	1500-2500	80	1.95
812-B	Amateur	2000-4500	80	1.95
812-C	Amateur	5000-8500	80	1.95
812-D	Amateur	12000-18000	80	1.95
812-E	Amateur	25000-35000	80	1.95

Prices Subject to Change or Withdrawal Without Notice



Resinite Adjustable R.F. Coils

Resinite is a phenolic impregnated tubing which combines the mechanical and dielectric advantages of phenolics with the high dielectric strength, moisture resistance, and non-corrosive properties of cellulose acetate. Resinite can be certified to MIL-P-79B Type PBG. This series features an extremely wide choice of inductance ranges and utilizes only the highest quality commercial materials throughout. They find application where the severe moisture resistant characteristics of the encapsulated units and the mechanical properties of the ceramics are not required.

Miniature Adjustable R.F. Coils

COILS WOUND ON FORM NO. 20A000  
Dimensions (form): 1/4" Diameter x 1 1/8" long. Mounting hole 1/8".

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Maximum	Maximum Current Milliamperes	Diameter over Winding	Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency				
20A107RBI	.088 uh	56	25. MHz	.120 uh	51	25. MHz	.041	1600	.343	3
20A157RBI	.108 uh	77	25. MHz	.180 uh	72	25. MHz	.044	1600	.343	4
20A227RBI	.162 uh	77	25. MHz	.264 uh	68	25. MHz	.051	1600	.343	5
20A337RBI	.238 uh	64	25. MHz	.396 uh	68	25. MHz	.054	1000	.343	6
20A477RBI	.356 uh	66	25. MHz	.564 uh	60	25. MHz	.078	1000	.343	7
20A687RBI	.508 uh	72	25. MHz	.816 uh	50	25. MHz	.082	635	.343	8
20A827RBI	.735 uh	57	25. MHz	.984 uh	41	25. MHz	.090	635	.343	9
20A106RBI	.885 uh	53	25. MHz	1.20 uh	42	7.9 MHz	.135	400	.343	10
20A156RBI	1.08 uh	44	7.9 MHz	1.80 uh	44	7.9 MHz	.205	400	.343	12
20A226RBI	1.62 uh	39	7.9 MHz	2.64 uh	44	7.9 MHz	.522	100	.343	13
20A336RBI	2.38 uh	40	7.9 MHz	3.96 uh	42	7.9 MHz	.640	100	.343	17
20A476RBI	3.56 uh	44	7.9 MHz	5.64 uh	42	7.9 MHz	.770	100	.343	20
20A686RBI	5.08 uh	43	7.9 MHz	8.16 uh	40	7.9 MHz	.950	100	.343	24
20A826RBI	7.35 uh	45	7.9 MHz	9.84 uh	38	7.9 MHz	1.00	100	.343	28
20A105RBI	8.85 uh	37	7.9 MHz	12.0 uh	45	2.5 MHz	1.45	100	.343	31
20A155RBI	10.8 uh	32	2.5 MHz	18.0 uh	52	2.5 MHz	1.70	100	.343	37
20A225RBI	16.2 uh	39	2.5 MHz	26.4 uh	42	2.5 MHz	2.10	100	.343	48
20A335RBI	23.8 uh	40	2.5 MHz	39.6 uh	40	2.5 MHz	2.59	100	.343	57
20A475RBI	35.6 uh	42	2.5 MHz	56.4 uh	37	2.5 MHz	3.10	100	.343	68
20A685RBI	50.8 uh	36	2.5 MHz	81.6 uh	32	2.5 MHz	3.84	100	.343	80
20A825RBI	73.5 uh	38	2.5 MHz	98.4 uh	36	2.5 MHz	4.71	100	.375	94
20A104RBI	88.5 uh	32	2.5 MHz	120. uh	37	.79 MHz	5.00	100	.406	105
20A154RBI	108. uh	28	.79 MHz	180. uh	40	.79 MHz	5.95	100	.406	125
20A224RBI	162. uh	40	.79 MHz	264. uh	38	.79 MHz	7.50	100	.406	154
20A334RBI	238. uh	43	.79 MHz	396. uh	44	.79 MHz	9.50	100	.437	187
20A474RBI	356. uh	43	.79 MHz	564. uh	38	.79 MHz	12.0	100	.500	224
20A684RBI	508. uh	40	.79 MHz	816. uh	32	.79 MHz	14.5	100	.500	266
20A824RBI	735. uh	39	.79 MHz	984. uh	32	.79 MHz	17.0	100	.562	308
20A103RBI	885. uh	40	.79 MHz	1.20 mh	24	.25 MHz	21.0	100	.594	341

Standard Adjustable R.F. Coils

COILS WOUND ON FORM NO. 21A000  
Dimensions (form): 3/8" Diameter x 1 1/8" long. Mounting hole 1/4".

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Maximum	Maximum Current Milliamperes	Diameter over Winding	Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency				
21A106RBI	.885 uh	64	25. MHz	1.20 uh	52	7.9 MHz	.121	635	.437	7
21A156RBI	1.08 uh	55	7.9 MHz	1.80 uh	52	7.9 MHz	.135	635	.437	9
21A226RBI	1.62 uh	56	7.9 MHz	2.64 uh	44	7.9 MHz	.160	635	.437	11
21A336RBI	2.38 uh	65	7.9 MHz	3.96 uh	35	7.9 MHz	.184	635	.437	15
21A476RBI	3.56 uh	60	7.9 MHz	5.64 uh	44	7.9 MHz	.210	635	.437	17
21A686RBI	5.08 uh	57	7.9 MHz	8.16 uh	41	7.9 MHz	.468	255	.437	18
21A826RBI	7.35 uh	53	7.9 MHz	9.84 uh	44	7.9 MHz	.780	255	.437	20
21A105RBI	8.85 uh	47	7.9 MHz	12.0 uh	51	2.5 MHz	1.46	100	.437	21
21A155RBI	10.8 uh	40	2.5 MHz	18.0 uh	49	2.5 MHz	1.76	100	.437	26
21A225RBI	16.2 uh	36	2.5 MHz	26.4 uh	41	2.5 MHz	2.08	100	.437	31
21A335RBI	23.8 uh	36	2.5 MHz	39.6 uh	32	2.5 MHz	2.56	100	.468	38
21A475RBI	35.6 uh	36	2.5 MHz	56.4 uh	38	2.5 MHz	3.50	100	.468	47
21A685RBI	50.8 uh	32	2.5 MHz	81.6 uh	32	2.5 MHz	3.50	100	.468	54
21A825RBI	73.5 uh	27	2.5 MHz	98.4 uh	36	2.5 MHz	3.94	100	.500	59
21A104RBI	88.5 uh	27	2.5 MHz	120. uh	40	.79 MHz	4.43	100	.500	65
21A154RBI	108. uh	20	.79 MHz	180. uh	40	.79 MHz	5.88	100	.531	86
21A224RBI	162. uh	33	.79 MHz	264. uh	39	.79 MHz	7.20	100	.531	103
21A334RBI	238. uh	34	.79 MHz	396. uh	38	.79 MHz	9.20	100	.562	128
21A474RBI	356. uh	33	.79 MHz	564. uh	35	.79 MHz	10.7	100	.562	155
21A684RBI	508. uh	32	.79 MHz	816. uh	32	.79 MHz	12.8	100	.625	180
21A824RBI	735. uh	26	.79 MHz	984. uh	26	.79 MHz	15.0	100	.625	200
21A103RBI	885. uh	26	.79 MHz	1.20 mh	28	.25 MHz	17.6	100	.687	235
21A153RBI	1.08 mh	32	.25 MHz	1.80 mh	32	.25 MHz	22.8	100	.687	291
21A223RBI	1.62 mh	36	.25 MHz	2.64 mh	35	.25 MHz	28.6	100	.781	350
21A333RBI	2.38 mh	32	.25 MHz	3.96 mh	31	.25 MHz	49.8	65	.687	422
21A473RBI	3.56 mh	37	.25 MHz	5.64 mh	32	.25 MHz	64.7	65	.750	507
21A683RBI	5.08 mh	36	.25 MHz	8.16 mh	32	.25 MHz	76.1	65	.812	591
21A823RBI	7.35 mh	36	.25 MHz	9.84 mh	20	.25 MHz	91.0	65	.843	694
21A102RBI	8.85 mh	36	.25 MHz	12.0 mh	18	79. kHz	104.	65	.950	774

Refer to Pages 1-2 for Prices

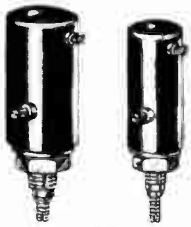
**Jumbo Adjustable R.F. Coils**

**COILS WOUND ON FORM NO. 22A000**

Dimensions (form): 1/2" Diameter x 1 7/8" long. Mounting hole 1/4".

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Maximum	Maximum Current Milliamperes	Diameter over Winding	Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency				
22A105RBI	8.85 uh	72	7.9 MHz	12.0 uh	59	2.5 MHz	.348	1000	.563	22
22A155RBI	10.8 uh	66	2.5 MHz	18.0 uh	49	2.5 MHz	.400	1000	.563	29
22A225RBI	16.2 uh	63	2.5 MHz	26.4 uh	52	2.5 MHz	.552	400	.563	31
22A335RBI	23.8 uh	68	2.5 MHz	39.6 uh	44	2.5 MHz	.798	400	.563	42
22A475RBI	35.6 uh	66	2.5 MHz	56.4 uh	56	2.5 MHz	1.85	160	.563	45
22A685RBI	50.8 uh	64	2.5 MHz	81.6 uh	48	2.5 MHz	2.33	160	.563	59
22A825RBI	73.5 uh	68	2.5 MHz	98.4 uh	76	2.5 MHz	3.48	160	.563	63
22A104RBI	88.5 uh	26	2.5 MHz	120. uh	56	790. kHz	4.56	100	.563	56
22A154RBI	108. uh	24	790. kHz	180. uh	60	790. kHz	5.60	100	.594	72
22A224RBI	162. uh	43	790. kHz	264. uh	49	790. kHz	7.02	100	.625	88
22A334RBI	238. uh	41	790. kHz	396. uh	45	790. kHz	8.25	100	.625	105
22A474RBI	356. uh	40	790. kHz	564. uh	44	790. kHz	9.70	100	.625	125
22A684RBI	508. uh	35	790. kHz	816. uh	36	790. kHz	12.1	100	.656	150
22A824RBI	735. uh	32	790. kHz	984. uh	53	790. kHz	14.7	100	.688	175
22A103RBI	885. uh	29	790. kHz	1.20 mh	56	250. kHz	17.1	100	.688	195
22A153RBI	1.08 mh	42	250. kHz	1.80 mh	56	250. kHz	21.0	100	.718	240
22A223RBI	1.62 mh	45	250. kHz	2.64 mh	63	250. kHz	27.6	100	.781	295
22A333RBI	2.38 mh	45	250. kHz	3.96 mh	57	250. kHz	33.7	100	.843	385
22A473RBI	3.56 mh	48	250. kHz	5.64 mh	54	250. kHz	41.1	100	.875	425
22A683RBI	5.08 mh	43	250. kHz	8.16 mh	61	250. kHz	51.6	100	.938	510
22A823RBI	7.35 mh	50	250. kHz	9.84 mh	39	250. kHz	78.0	65	.688	609
22A102RBI	8.85 mh	51	250. kHz	12.0 mh	42	79. kHz	87.6	65	.718	699
22A152RBI	10.8 mh	56	79. kHz	18.0 mh	47	79. kHz	122.	65	.718	837
22A222RBI	16.2 mh	33	79. kHz	26.4 mh	56	79. kHz	150.	65	.750	1035
22A332RBI	23.8 mh	35	79. kHz	39.6 mh	52	79. kHz	195.	65	.781	1260
22A472RBI	35.6 mh	41	79. kHz	56.4 mh	60	79. kHz	210.	65	.843	1485
22A682RBI	50.8 mh	48	79. kHz	81.6 mh	64	79. kHz	290.	65	.968	1800
22A822RBI	73.5 mh	48	79. kHz	98.4 mh	65	79. kHz	300.	65	.984	1950
22A101RBI	88.5 mh	49	79. kHz	120. mh	60	79. kHz	340.	65	1.00	2142

**Encapsulated Adjustable R.F. Coils**

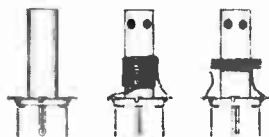


"UNISEAL," a recent development of the J. W. Miller Co., has successfully been applied to the production of encapsulated adjustable R.F. inductors. The primary difficulty encountered in the encapsulation of adjustable inductors is the prevention of moisture entering the coil form around the threaded stud. The moisture being subsequently absorbed by the coil form resulting in deterioration of coil efficiency. The open end is filled with silicone grease and bonded to the brass bushing which holds the adjustable core. The grease in this case is not intended to prevent moisture absorption since the coil is completely sealed by the use of the epoxy form. It does serve to provide a smoother turning core. The coil assembly is next inserted into another epoxy shell and the entire assembly filled with epoxy resin. This forms one solid mass of epoxy from the inner coil form to the outer shell. The unit is impervious to moisture and is extremely shock and vibration resistant.

FORM LENGTH: 1.000

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Maximum	Maximum Current Milliamperes	Diameter Inches	Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency				
50A106EBI	.73 uh	100	25. MHz	1.02 uh	90	7.9 MHz	.07	636	.437	9
50A156EBI	1.15 uh	90	7.9 MHz	1.65 uh	86	7.9 MHz	.11	636	.437	12
50A226EBI	1.88 uh	83	7.9 MHz	2.40 uh	82	7.9 MHz	.12	636	.437	16
50A336EBI	2.32 uh	64	7.9 MHz	3.20 uh	73	7.9 MHz	.22	400	.437	19
50A476EBI	3.20 uh	62	7.9 MHz	4.95 uh	49	7.9 MHz	.24	400	.437	25
50A686EBI	4.80 uh	60	7.9 MHz	7.05 uh	64	7.9 MHz	.69	160	.437	27
50A826EBI	5.41 uh	63	7.9 MHz	7.83 uh	66	7.9 MHz	.75	160	.437	31
50A105EBI	6.25 uh	56	7.9 MHz	10.0 uh	58	7.9 MHz	1.2	100	.437	32
50A155EBI	9.25 uh	64	7.9 MHz	15.0 uh	58	2.5 MHz	1.5	100	.437	43
50A225EBI	16.2 uh	44	2.5 MHz	24.4 uh	72	2.5 MHz	3.2	65	.437	51
50A335EBI	22.3 uh	34	2.5 MHz	33.0 uh	51	2.5 MHz	2.4	100	.437	61
50A475EBI	31.2 uh	31	2.5 MHz	46.5 uh	46	2.5 MHz	2.7	100	.437	75
50A685EBI	46.7 uh	32	2.5 MHz	70.0 uh	42	2.5 MHz	3.5	100	.437	98
50A825EBI	54.0 uh	42	2.5 MHz	83.5 uh	58	2.5 MHz	6.0	65	.437	104
50A104EBI	76.8 uh	30	2.5 MHz	99.2 uh	51	2.5 MHz	6.7	65	.625	102
50A154EBI	108. uh	30	2.5 MHz	142. uh	45	.79 MHz	9.0	65	.625	100
50A224EBI	169. uh	36	.79 MHz	232. uh	52	.79 MHz	12.	65	.625	120
50A334EBI	258. uh	36	.79 MHz	346. uh	50	.79 MHz	15.	65	.625	148
50A474EBI	344. uh	38	.79 MHz	460. uh	50	.79 MHz	17.	65	.625	172
50A684EBI	505. uh	37	.79 MHz	655. uh	50	.79 MHz	21.	65	.625	206
50A824EBI	650. uh	37	.79 MHz	855. uh	44	.79 MHz	23.	65	.625	234
50A103EBI	860. uh	34	.25 MHz	1.10 mh	46	.79 MHz	26.	65	.625	270
50A153EBI	1.2 mh	32	.25 MHz	1.56 mh	46	.25 MHz	34.	65	.625	320
50A223EBI	2.0 mh	36	.25 MHz	2.40 mh	49	.25 MHz	44.	65	.625	400
50A333EBI	3.0 mh	40	.25 MHz	3.44 mh	52	.25 MHz	53.	65	.625	476
50A473EBI	4.2 mh	41	.25 MHz	4.81 mh	48	.25 MHz	66.	60	.625	560
50A683EBI	6.1 mh	41	.25 MHz	6.88 mh	45	.25 MHz	83.	60	.625	660
50A823EBI	6.9 mh	34	.25 MHz	8.75 mh	36	.25 MHz	83.	60	.625	990

Refer to Pages 1-2 for Prices



Vertical Mounted Printed Circuit  
Ceramic Adjustable R.F. Coils

COILS WOUND ON FORM NO. 46A013

\*Self resonant frequency measured at maximum inductance.

For use where mechanical and electrical stability is of paramount importance. This series features a silicone impregnated ceramic form and a silicone fiberglass terminal collar. A Kel-F locking insert is provided with each coil to prevent accidental core movement under conditions of shock and vibration.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min. Fo. MHz.	Dia. over Winding	Color Code	
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency					1	2
46A107CPC	.095 uh	70	25.0 MHz	.105 uh	74	25.0 MHz	.02	2500	370.	.343	Brown	
46A127CPC	.114 uh	55	25.0 MHz	.126 uh	75	25.0 MHz	.04	2000	340.	.343	Red	
46A157CPC	.142 uh	70	25.0 MHz	.158 uh	90	25.0 MHz	.03	2500	300.	.343	Orange	
46A187CPC	.171 uh	80	25.0 MHz	.189 uh	90	25.0 MHz	.03	2000	280.	.343	Yellow	
46A227CPC	.209 uh	70	25.0 MHz	.231 uh	90	25.0 MHz	.04	1300	245.	.343	Green	
46A277CPC	.256 uh	85	25.0 MHz	.284 uh	90	25.0 MHz	.06	635	220.	.343	Blue	
46A337CPC	.314 uh	85	25.0 MHz	.347 uh	90	25.0 MHz	.07	810	200.	.343	Violet	
46A397CPC	.370 uh	85	25.0 MHz	.410 uh	90	25.0 MHz	.08	635	185.	.343	Grey	
46A477CPC	.446 uh	85	25.0 MHz	.495 uh	85	25.0 MHz	.08	400	175.	.343	White	
46A567CPC	.532 uh	85	25.0 MHz	.590 uh	85	25.0 MHz	.09	400	160.	.343	Brown	Black
46A687CPC	.645 uh	85	25.0 MHz	.715 uh	85	25.0 MHz	.10	400	142.	.343	Brown	Brown
46A827CPC	.770 uh	85	25.0 MHz	.850 uh	85	25.0 MHz	.11	400	130.	.343	Brown	Red
46A106CPC	.950 uh	85	25.0 MHz	1.05 uh	85	25.0 MHz	.13	400	119.	.343	Brown	Orange
46A126CPC	1.14 uh	67	7.9 MHz	1.26 uh	67	7.9 MHz	.14	635	108.	.343	Brown	Yellow
46A156CPC	1.42 uh	71	7.9 MHz	1.58 uh	70	7.9 MHz	.16	635	97.	.343	Brown	Green
46A186CPC	1.62 uh	71	7.9 MHz	1.98 uh	68	7.9 MHz	.16	400	86.	.343	Brown	Blue
46A226CPC	1.99 uh	76	7.9 MHz	2.42 uh	73	7.9 MHz	.17	400	78.	.343	Brown	Violet
46A276CPC	2.42 uh	76	7.9 MHz	2.96 uh	75	7.9 MHz	.19	400	70.	.343	Brown	Grey
46A336CPC	2.96 uh	76	7.9 MHz	3.64 uh	75	7.9 MHz	.21	400	64.	.343	Brown	White
46A396CPC	3.50 uh	61	7.9 MHz	4.27 uh	52	7.9 MHz	.24	400	59.	.343	Red	Black
46A476CPC	4.24 uh	65	7.9 MHz	5.20 uh	51	7.9 MHz	.38	400	53.	.343	Red	Brown
46A566CPC	5.00 uh	65	7.9 MHz	6.30 uh	51	7.9 MHz	1.0	100	23.	.343	Red	Red
46A686CPC	6.10 uh	52	7.9 MHz	7.50 uh	52	7.9 MHz	1.1	100	21.	.343	Red	Orange
46A826CPC	7.30 uh	48	7.9 MHz	8.90 uh	56	7.9 MHz	1.2	100	20.	.343	Red	Yellow
46A105CPC	8.50 uh	48	7.9 MHz	11.5 uh	52	7.9 MHz	1.3	100	18.	.343	Red	Green
46A125CPC	10.8 uh	48	2.5 MHz	13.2 uh	56	2.5 MHz	1.4	100	16.	.343	Red	Blue
46A155CPC	13.2 uh	60	2.5 MHz	16.5 uh	56	2.5 MHz	1.6	100	14.	.343	Red	Violet
46A185CPC	16.2 uh	59	2.5 MHz	19.5 uh	56	2.5 MHz	1.8	100	12.	.343	Red	Grey
46A225CPC	19.5 uh	63	2.5 MHz	24.3 uh	56	2.5 MHz	2.0	100	11.	.375	Red	White
46A275CPC	24.2 uh	61	2.5 MHz	29.5 uh	68	2.5 MHz	2.2	100	10.	.375	Orange	Black
46A335CPC	29.5 uh	59	2.5 MHz	36.5 uh	67	2.5 MHz	2.7	100	9.2	.375	Orange	Brown
46A395CPC	35.0 uh	58	2.5 MHz	43.0 uh	64	2.5 MHz	2.9	100	8.0	.375	Orange	Red
46A475CPC	42.0 uh	56	2.5 MHz	51.5 uh	56	2.5 MHz	2.9	100	6.8	.406	Orange	Orange
46A565CPC	50.0 uh	56	2.5 MHz	62.0 uh	60	2.5 MHz	3.2	100	5.8	.406	Orange	Yellow
46A685CPC	61.0 uh	52	2.5 MHz	75.0 uh	59	2.5 MHz	3.5	100	5.3	.406	Orange	Green
46A825CPC	74.0 uh	56	2.5 MHz	90.0 uh	55	2.5 MHz	3.9	100	4.8	.406	Orange	Blue
46A104CPC	90.0 uh	48	2.5 MHz	110.0 uh	52	2.5 MHz	4.1	100	4.4	.406	Orange	Violet
46A124CPC	108.0 uh	65	.79 MHz	132.0 uh	62	.79 MHz	4.5	100	4.1	.406	Orange	Grey
46A154CPC	132.0 uh	64	.79 MHz	165.0 uh	72	.79 MHz	5.0	100	3.7	.406	Orange	White
46A184CPC	162.0 uh	59	.79 MHz	198.0 uh	62	.79 MHz	5.5	100	3.5	.406	Yellow	Black
46A224CPC	197.0 uh	64	.79 MHz	243.0 uh	63	.79 MHz	6.0	100	3.2	.437	Yellow	Brown
46A274CPC	242.0 uh	68	.79 MHz	295.0 uh	68	.79 MHz	6.6	100	3.0	.437	Yellow	Red
46A334CPC	295.0 uh	67	.79 MHz	365.0 uh	60	.79 MHz	7.3	100	2.8	.437	Yellow	Orange
46A394CPC	350.0 uh	64	.79 MHz	430.0 uh	64	.79 MHz	8.0	100	2.5	.468	Yellow	Yellow
46A474CPC	420.0 uh	67	.79 MHz	515.0 uh	64	.79 MHz	10.	100	2.3	.468	Yellow	Green
46A564CPC	500.0 uh	65	.79 MHz	620.0 uh	62	.79 MHz	12.	100	2.2	.500	Yellow	Blue
46A684CPC	610.0 uh	64	.79 MHz	750.0 uh	60	.79 MHz	13.	100	2.1	.500	Yellow	Violet
46A824CPC	740.0 uh	60	.79 MHz	900.0 uh	58	.79 MHz	15.	100	2.0	.531	Yellow	Grey
46A103CPC	900.0 uh	61	.79 MHz	1100.0 uh	58	.79 MHz	18.	100	1.9	.531	Yellow	White

Adjustable Wide Range Inductors

Dimensions: Max. dia. 7/8"x2 1/4" long. Mtg. hole 3/16"

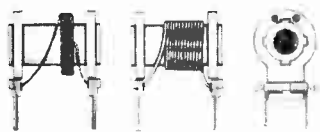
\*Inductance calculated at frequency shown.

\*\*Minimum self resonant frequency measured at maximum inductance.

Due to the wide range of these coils they will find immediate application in many prototype designs where the exact value of the required inductance is not known.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min. Fo. MHz.	Dia. over Winding	Total Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency					
9001	40. uh	85	2.5 MHz	.240 mh	220	790. kHz	2.04	250	6.0	.40	102
9002	.180 mh	80	790. kHz	.800 mh	170	790. kHz	4.08	250	4.0	.45	204
9003	.570 mh	73	790. kHz	2.80 mh	110	250. kHz	8.52	250	.90	.58	376
9004	2.10 mh	72	250. kHz	8.00 mh	88	250. kHz	15.4	250	.62	.68	608
9005	6.00 mh	69	250. kHz	16.0 mh	105	79. kHz	33.6	200	.40	.80	1000
9006	12.0 mh	43	79. kHz	40.0 mh	72	79. kHz	91.2	125	.26	.75	1480
9007	30.0 mh	43	79. kHz	105. mh	76	50 kHz*	148.	75	.14	.68	2480
9008	78.0 mh	36	79. kHz	240. mh	61	20 kHz*	264.	75	.10	.75	3860
9009	180. mh	20	20. kHz*	750. mh	41	20 kHz*	620.	50	.03	.75	6100

Refer to Pages 1-2 for Prices



Horizontal Mounted Printed Circuit  
Ceramic Adjustable R.F. Coils

COILS WOUND ON FORM NO. 47A024

\*Self resonant frequency measured at maximum inductance

Fundamentally equivalent to the 10A series in electrical characteristics, this series provides the designer with the choice of a horizontally mounted coil for use where height is a problem or access to the top of the P.C. board is restricted.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min.* Fo. MHz.	Dia. over Winding	Color Code	
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency					1	2
47A107CPC	.095 uh	70	25.0 MHz	.105 uh	90	25.0 MHz	.02	2500	500.0	.312	Brown	---
47A127CPC	.114 uh	55	25.0 MHz	.126 uh	85	25.0 MHz	.04	2000	500.0	.312	Red	---
47A157CPC	.142 uh	70	25.0 MHz	.158 uh	90	25.0 MHz	.03	2500	450.0	.312	Orange	---
47A187CPC	.171 uh	80	25.0 MHz	.189 uh	90	25.0 MHz	.03	2000	450.0	.312	Yellow	---
47A227CPC	.209 uh	70	25.0 MHz	.231 uh	90	25.0 MHz	.04	1300	450.0	.312	Green	---
47A277CPC	.256 uh	85	25.0 MHz	.284 uh	90	25.0 MHz	.06	635	400.0	.312	Blue	---
47A337CPC	.314 uh	85	25.0 MHz	.347 uh	90	25.0 MHz	.07	810	380.0	.312	Violet	---
47A397CPC	.370 uh	85	25.0 MHz	.410 uh	90	25.0 MHz	.08	635	330.0	.312	Grey	---
47A477CPC	.446 uh	85	25.0 MHz	.495 uh	90	25.0 MHz	.08	400	280.0	.312	White	---
47A567CPC	.532 uh	85	25.0 MHz	.590 uh	90	25.0 MHz	.09	400	240.0	.312	Brown	Black
47A687CPC	.645 uh	85	25.0 MHz	.715 uh	90	25.0 MHz	.10	400	220.0	.312	Brown	Brown
47A827CPC	.770 uh	90	25.0 MHz	.850 uh	90	25.0 MHz	.11	400	200.0	.312	Brown	Red
47A106CPC	.950 uh	90	25.0 MHz	1.05 uh	90	25.0 MHz	.13	400	180.0	.312	Brown	Orange
47A126CPC	1.14 uh	90	7.9 MHz	1.26 uh	80	7.9 MHz	.14	400	170.0	.312	Brown	Yellow
47A156CPC	1.42 uh	75	7.9 MHz	1.58 uh	80	7.9 MHz	.16	400	140.0	.312	Brown	Green
47A186CPC	1.62 uh	75	7.9 MHz	1.98 uh	85	7.9 MHz	.16	400	130.0	.312	Brown	Blue
47A226CPC	1.99 uh	75	7.9 MHz	2.42 uh	80	7.9 MHz	.17	400	110.0	.312	Brown	Violet
47A276CPC	2.42 uh	80	7.9 MHz	2.96 uh	80	7.9 MHz	.19	400	90.0	.312	Brown	Grey
47A336CPC	2.96 uh	80	7.9 MHz	3.64 uh	75	7.9 MHz	.21	400	90.0	.312	Brown	White
47A396CPC	3.50 uh	80	7.9 MHz	4.27 uh	65	7.9 MHz	.24	400	80.0	.312	Red	Black
47A476CPC	4.24 uh	80	7.9 MHz	5.20 uh	60	7.9 MHz	.38	400	70.0	.312	Red	Brown
47A566CPC	5.00 uh	65	7.9 MHz	6.30 uh	65	7.9 MHz	1.0	100	29.0	.343	Red	Red
47A686CPC	6.10 uh	65	7.9 MHz	7.50 uh	70	7.9 MHz	1.1	100	27.0	.343	Red	Orange
47A826CPC	7.30 uh	60	7.9 MHz	8.90 uh	70	7.9 MHz	1.2	100	25.0	.343	Red	Yellow
47A105CPC	8.50 uh	60	7.9 MHz	11.5 uh	70	7.9 MHz	1.3	100	23.0	.343	Red	Green
47A125CPC	10.8 uh	60	2.5 MHz	13.2 uh	70	2.5 MHz	1.4	100	20.0	.343	Red	Blue
47A155CPC	13.2 uh	65	2.5 MHz	16.5 uh	70	2.5 MHz	1.6	100	18.0	.343	Red	Violet
47A185CPC	16.2 uh	65	2.5 MHz	19.5 uh	70	2.5 MHz	1.8	100	16.0	.343	Red	Grey
47A225CPC	19.5 uh	65	2.5 MHz	24.3 uh	70	2.5 MHz	2.0	100	14.5	.375	Red	White
47A275CPC	24.2 uh	65	2.5 MHz	29.5 uh	70	2.5 MHz	2.2	100	13.0	.375	Orange	Black
47A335CPC	29.5 uh	65	2.5 MHz	36.5 uh	70	2.5 MHz	2.7	100	11.5	.375	Orange	Brown
47A395CPC	35.0 uh	65	2.5 MHz	43.0 uh	70	2.5 MHz	2.9	100	10.0	.375	Orange	Red
47A475CPC	42.0 uh	70	2.5 MHz	51.5 uh	70	2.5 MHz	2.9	100	8.5	.375	Orange	Orange
47A565CPC	50.0 uh	70	2.5 MHz	62.0 uh	70	2.5 MHz	3.2	100	7.3	.406	Orange	Yellow
47A685CPC	61.0 uh	65	2.5 MHz	75.0 uh	70	2.5 MHz	3.5	100	6.7	.406	Orange	Green
47A825CPC	74.0 uh	65	2.5 MHz	90.0 uh	65	2.5 MHz	3.9	100	6.1	.406	Orange	Blue
47A104CPC	90.0 uh	65	2.5 MHz	110.0 uh	65	2.5 MHz	4.1	100	5.5	.406	Orange	Violet
47A124CPC	108.0 uh	60	.79 MHz	132.0 uh	65	.79 MHz	4.5	100	5.2	.406	Orange	Grey
47A154CPC	132.0 uh	65	.79 MHz	165.0 uh	65	.79 MHz	5.0	100	4.8	.406	Orange	White
47A184CPC	162.0 uh	70	.79 MHz	198.0 uh	70	.79 MHz	5.5	100	4.4	.406	Yellow	Black
47A224CPC	197.0 uh	70	.79 MHz	243.0 uh	70	.79 MHz	6.0	100	4.1	.437	Yellow	Brown
47A274CPC	242.0 uh	70	.79 MHz	295.0 uh	70	.79 MHz	6.6	100	3.8	.437	Yellow	Red
47A334CPC	295.0 uh	75	.79 MHz	365.0 uh	75	.79 MHz	7.3	100	3.5	.468	Yellow	Orange
47A394CPC	350.0 uh	75	.79 MHz	430.0 uh	75	.79 MHz	8.0	100	3.2	.468	Yellow	Yellow
47A474CPC	420.0 uh	75	.79 MHz	515.0 uh	75	.79 MHz	10.0	100	2.9	.468	Yellow	Green
47A564CPC	500.0 uh	75	.79 MHz	620.0 uh	75	.79 MHz	12.0	100	2.75	.500	Yellow	Blue
47A684CPC	610.0 uh	70	.79 MHz	750.0 uh	70	.79 MHz	13.0	100	2.65	.500	Yellow	Violet
47A824CPC	740.0 uh	65	.79 MHz	900.0 uh	65	.79 MHz	14.5	100	2.5	.531	Yellow	Grey
47A103CPC	900.0 uh	65	.79 MHz	1100.0 uh	65	.79 MHz	17.5	100	2.4	.562	Yellow	White

Adjustable Wide Range Tapped Inductors



Dimensions: Max. dia. 7/8" x 2 1/4" long. Mtg. hole 5/16"

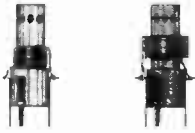
\* Inductance calculated at frequency shown.

\*\* Minimum self resonant frequency measured at maximum inductance.

An inexpensive series of adjustable inductors that feature large inductance change, excellent Q, and a tap at one third the total turns. These coils should find application in many prototype designs.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min.* Fo. MHz.	Dia. over Winding	Total Turns	Turns to Tap
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency						
9011	40. uh	85	2.5 MHz	.240 mh	220	790 kHz	2.04	250	6.0	.40	102	34
9012	.180 mh	80	790. kHz	.800 mh	170	790 kHz	4.08	250	4.0	.45	204	68
9013	.570 mh	73	790. kHz	2.80 mh	110	250 kHz	8.52	250	.90	.58	376	128
9014	2.10 mh	72	250. kHz	8.00 mh	88	250 kHz	15.4	250	.62	.68	608	203
9015	6.00 mh	69	250. kHz	16.0 mh	105	79 kHz	33.6	200	.40	.80	1000	333
9016	12.0 mh	43	79. kHz	40.0 mh	72	79 kHz	91.2	125	.26	.75	1480	493
9017	30.0 mh	43	79. kHz	105. mh	76	50 kHz*	148.	75	.14	.68	2480	827
9018	78.0 mh	36	79. kHz	240. mh	61	20 kHz*	264.	75	.10	.75	3860	1286
9019	180. mh	20	20. kHz*	750. mh	41	20 kHz*	620.	50	.03	.75	6100	2030

Refer to Pages 1-2 for Prices



**Vertical Mounted Printed Circuit Velvetork Adjustable R.F. Coils**

**COILS WOUND ON FORM NO. 23A013**

Dimensions (form only) Over Collar 3/8" Dia. x 3/4" long.

\*Minimum self resonant frequency measured at maximum inductance

The coil form is Polyester impregnated Alpha-Cellulose tubing with internally bonded resilient ribs which provide both thread and torque control. Coils may be adjusted from either end of form.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min.* Fo. MHz.	Dia. over Winding	Color Code		
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency					1	2	3
23A107RPC	.095 uh	77	25.0 MHz	.125 uh	94	25.0 MHz	.02	4100	350.	.40	Brown	Black	Silver
23A157RPC	.130 uh	68	25.0 MHz	.170 uh	92	25.0 MHz	.02	1600	300.	.37	Brown	Green	Silver
23A227RPC	.185 uh	88	25.0 MHz	.265 uh	100	25.0 MHz	.02	1600	230.	.37	Red	Red	Silver
23A337RPC	.285 uh	88	25.0 MHz	.410 uh	93	25.0 MHz	.03	1000	198.	.37	Orange	Orange	Silver
23A477RPC	.420 uh	100	25.0 MHz	.580 uh	80	25.0 MHz	.03	2500	150.	.37	Yellow	Violet	Silver
23A687RPC	.540 uh	101	25.0 MHz	.850 uh	89	25.0 MHz	.03	1600	136.	.37	Blue	Grey	Silver
23A827RPC	.640 uh	101	25.0 MHz	1.00 uh	78	25.0 MHz	.03	1600	118.	.37	Grey	Red	Silver
23A106RPC	.760 uh	98	25.0 MHz	1.25 uh	70	7.9 MHz	.04	1600	114.	.37	Brown	Black	Gold
23A156RPC	1.20 uh	65	7.9 MHz	1.87 uh	70	7.9 MHz	.06	1000	89.	.37	Brown	Green	Gold
23A226RPC	1.65 uh	61	7.9 MHz	2.75 uh	65	7.9 MHz	.14	400	77.	.37	Red	Red	Gold
23A336RPC	2.40 uh	64	7.9 MHz	4.10 uh	60	7.9 MHz	.17	400	62.	.37	Orange	Orange	Gold
23A476RPC	3.40 uh	68	7.9 MHz	5.80 uh	60	7.9 MHz	.24	400	53.	.37	Yellow	Violet	Gold
23A686RPC	4.60 uh	64	7.9 MHz	8.50 uh	56	7.9 MHz	.39	250	45.	.37	Blue	Grey	Gold
23A826RPC	5.60 uh	64	7.9 MHz	10.0 uh	57	2.5 MHz	.64	160	40.	.37	Grey	Red	Gold
23A105RPC	7.10 uh	68	7.9 MHz	12.5 uh	55	2.5 MHz	.77	160	38.	.37	Brown	Black	Black
23A155RPC	10.0 uh	58	2.5 MHz	18.7 uh	95	2.5 MHz	1.68	100	11.7	.37	Brown	Green	Black
23A225RPC	14.8 uh	61	2.5 MHz	27.5 uh	90	2.5 MHz	1.91	100	8.4	.37	Red	Red	Black
23A335RPC	22.0 uh	60	2.5 MHz	41.0 uh	75	2.5 MHz	2.34	100	6.7	.37	Orange	Orange	Black
23A475RPC	31.0 uh	58	2.5 MHz	58.0 uh	68	2.5 MHz	2.72	100	5.6	.40	Yellow	Violet	Black
23A685RPC	43.5 uh	56	2.5 MHz	85.0 uh	55	2.5 MHz	3.30	100	4.6	.40	Blue	Grey	Black
23A825RPC	61.0 uh	48	2.5 MHz	100.0 uh	88	790. kHz	3.89	100	4.3	.40	Grey	Red	Black
23A104RPC	76.0 uh	52	2.5 MHz	125.0 uh	90	790. kHz	4.39	100	3.8	.40	Brown	Black	Brown
23A154RPC	105.0 uh	57	790. kHz	187.0 uh	92	790. kHz	5.46	100	3.3	.40	Brown	Green	Brown
23A224RPC	160.0 uh	63	790. kHz	275.0 uh	90	790. kHz	6.70	100	2.9	.44	Red	Red	Brown
23A334RPC	240.0 uh	66	790. kHz	410.0 uh	90	790. kHz	8.30	100	2.5	.44	Orange	Orange	Brown
23A474RPC	360.0 uh	68	790. kHz	580.0 uh	81	790. kHz	10.50	100	2.1	.48	Yellow	Violet	Brown
23A684RPC	530.0 uh	66	790. kHz	850.0 uh	75	790. kHz	12.90	100	1.75	.48	Blue	Grey	Brown
23A824RPC	700.0 uh	64	790. kHz	1.00 mh	80	250. kHz	14.90	100	1.70	.53	Grey	Red	Brown
23A103RPC	910.0 uh	66	790. kHz	1.25 mh	85	250. kHz	17.10	100	1.61	.58	Brown	Black	Red
23A153RPC	990.0 uh	35	250. kHz	1.87 mh	60	250. kHz	28.20	65	.73	.45	Brown	Green	Red
23A223RPC	1.60 mh	39	250. kHz	2.75 mh	62	250. kHz	34.80	65	.62	.45	Red	Red	Red
23A333RPC	2.40 mh	41	250. kHz	4.10 mh	60	250. kHz	42.90	65	.60	.48	Orange	Orange	Red
23A473RPC	3.40 mh	42	250. kHz	5.80 mh	57	250. kHz	51.60	65	.53	.48	Yellow	Violet	Red
23A683RPC	5.15 mh	42	250. kHz	8.50 mh	50	250. kHz	63.60	65	.50	.55	Blue	Grey	Red
23A823RPC	7.40 mh	42	250. kHz	10.00 mh	50	79. kHz	75.60	65	.40	.55	Grey	Red	Red
23A102RPC	9.80 mh	40	250. kHz	12.50 mh	52	79. kHz	87.30	65	.38	.55	Brown	Black	Orange
23A152RPC	12.00 mh	39	79. kHz	18.70 mh	55	79. kHz	111.0	65	.32	.60	Brown	Green	Orange
23A222RPC	12.10 mh	20	79. kHz	27.50 mh	51	79. kHz	197.0	33	.26	.60	Red	Red	Orange
23A332RPC	18.20 mh	24	79. kHz	41.00 mh	54	79. kHz	244.0	33	.21	.60	Orange	Orange	Orange
23A472RPC	27.50 mh	28	79. kHz	58.00 mh	56	79. kHz	302.0	33	.20	.60	Yellow	Violet	Orange
23A682RPC	40.00 mh	32	79. kHz	85.00 mh	56	79. kHz	378.0	33	.16	.58	Blue	Grey	Orange
23A822RPC	50.00 mh	34	79. kHz	100.00 mh	58	79. kHz	423.0	33	.15	.58	Grey	Red	Orange
23A101RPC	62.00 mh	35	79. kHz	125.00 mh	56	79. kHz	468.0	33	.14	.60	Brown	Black	Yellow

**Shielded Subminiature Adjustable R.F. Coils**

These compact adjustable coils offer a minimum two-to-one inductance range with relatively small changes in Q. The tuning adjustment is accessible from either the top or bottom of the coil assembly. Magnetic shielding is achieved through the use of cup cores while the metal shield offers effective electrostatic shielding. Printed circuit terminals on base and shield.

Dimension: 1/2" sq. x 3/8" high. \*Minimum self resonant frequency measured at maximum inductance.

Miller Part Number	Maximum Core Position			Minimum Core Position			R Ohms Max.	Max. Current Ma.	Min.* Fo. MHz
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency			
9050	1.5 uh	40	7.9 MHz	3.0 uh	41	7.9 MHz	.66	80	39.
9051	3.0 uh	46	7.9 MHz	7.0 uh	45	7.9 MHz	.85	125	23.
9052	7.0 uh	40	7.9 MHz	14.0 uh	62	2.5 MHz	1.38	80	12.
9053	14.0 uh	48	2.5 MHz	28.0 uh	66	2.5 MHz	2.10	80	7.2
9054	28.0 uh	48	2.5 MHz	60.0 uh	45	2.5 MHz	3.00	100	4.9
9055	60.0 uh	40	2.5 MHz	120. uh	69	790. kHz	4.00	100	3.6
9056	120. uh	52	790. kHz	280. uh	68	790. kHz	5.75	80	2.5
9057	280. uh	52	790. kHz	650. uh	62	790. kHz	12.0	80	1.7
9058	650. uh	36	790. kHz	1.3 mh	68	250. kHz	15.0	100	1.2
9059	1.3 mh	43	250. kHz	3.0 mh	53	250. kHz	23.0	100	.57
9060	3.0 mh	32	250. kHz	10.0 mh	32	79. kHz	76.0	30	.48
9061	8.0 mh	35	250. kHz	20.0 mh	38	79. kHz	110.	30	.33
9062	15.0 mh	25	79. kHz	40.0 mh	40	79. kHz	150.	30	.24
9063	20.0 mh	36	79. kHz	60.0 mh	60	79. kHz	175.	25	.09

Refer to Pages 1-2 for Prices

### Sub-Miniature Adjustable R.F. Coils



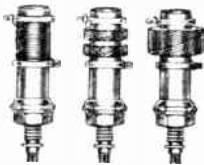
The following permeability tuned coils wound on silicone impregnated ceramic forms will find many applications where space restrictions rule out the use of the larger size coils in the 4100 and 4500 series. These coils mount by means of a bushing which requires an 11/64" hole.

Dimensions (form): 3/16" diameter x 5/8" long.

\*Minimum self resonant frequency measured at maximum inductance.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min. Fo. MHz.	Dia. over Winding	Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency					
4301	.190 uh	64	25. MHz	.250 uh	53	25. MHz	.014	1600	288.	.312	5 1/4
4302	.300 uh	57	25. MHz	.390 uh	44	25. MHz	.017	1600	212.	.312	7 1/4
4303	.440 uh	61	25. MHz	.620 uh	44	25. MHz	.031	1000	184.	.312	9 1/4
4304	.770 uh	62	25. MHz	.900 uh	41	25. MHz	.054	636	148.	.312	11 1/4
4305	1.00 uh	40	7.9 MHz	1.40 uh	37	7.9 MHz	.15	256	114.	.312	13 1/4
4306	1.60 uh	40	7.9 MHz	2.40 uh	36	7.9 MHz	.25	202	92.	.312	17 1/4
4307	2.70 uh	40	7.9 MHz	4.20 uh	36	7.9 MHz	.62	100	69.	.312	21 1/4
4308	4.70 uh	42	7.9 MHz	6.80 uh	33	7.9 MHz	.91	100	60.	.312	30 1/4
4309	7.80 uh	30	7.9 MHz	12.0 uh	42	2.5 MHz	1.4	100	18.	.312	47
4310	14.0 uh	34	2.5 MHz	19.0 uh	37	2.5 MHz	1.9	100	13.	.312	73
4311	22.0 uh	33	2.5 MHz	31.0 uh	38	2.5 MHz	2.2	100	12.	.343	75
4312	36.0 uh	32	2.5 MHz	49.0 uh	33	2.5 MHz	3.1	100	9.6	.375	91
4313	56.0 uh	23	2.5 MHz	97.0 uh	24	2.5 MHz	5.6	64	7.3	.406	134
4314	111 uh	26	.79 MHz	171. uh	26	.79 MHz	7.9	64	6.0	.406	164
4315	196 uh	25	.79 MHz	285. uh	24	.79 MHz	11.	64	4.4	.437	

### Standard Adjustable R.F. Coils



This series of variable inductors offers a higher Q coil with a slightly larger inductance range than can be obtained in either of the two smaller series. The same high grade silicone-impregnated ceramic forms are used in their construction to insure a product of high quality. These coils mount by means of a bushing that requires a 1/4" diameter mounting hole. Hardware consisting of nut, lock washer, and spring clip is supplied.

Dimensions (form): 3/8" diameter x 1 1/16" long.

\*Minimum self resonant frequency measured at maximum inductance.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min. Fo. MHz.	Dia. over Winding	Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency					
4403	.990 uh	18	25. MHz	1.50 uh	57	7.9 MHz	.04	1600	75.	.500	9 1/4
4404	1.60 uh	67	7.9 MHz	3.10 uh	52	7.9 MHz	.08	1000	51.	.500	12 1/4
4405	3.30 uh	70	7.9 MHz	6.50 uh	44	7.9 MHz	.17	636	41.	.500	18 1/4
4406	7.30 uh	50	7.9 MHz	14.0 uh	35	2.5 MHz	.57	256	26.	.500	26 1/4
4407	16.0 uh	52	2.5 MHz	29.0 uh	56	2.5 MHz	2.2	100	7.6	.500	34
4408	33.0 uh	51	2.5 MHz	66.0 uh	37	.79 MHz	3.1	100	4.9	.500	49
4409	74.0 uh	42	2.5 MHz	124 uh	44	.79 MHz	4.5	100	3.7	.500	73
4410	138 uh	47	2.5 MHz	238 uh	44	.79 MHz	6.6	100	3.0	.531	103
4411	270 uh	57	.79 MHz	451 uh	43	.79 MHz	8.9	100	2.2	.562	138
4412	495 uh	56	.79 MHz	760 uh	41	.79 MHz	12.	100	2.0	.625	180
4413	825 uh	41	.79 MHz	1.30 mh	27	.25 MHz	20.	100	1.7	.593	268
4414	1.40 mh	40	.25 MHz	2.00 mh	33	.25 MHz	25.	100	1.6	.656	346



### Miniature Adjustable R.F. Coils

A new series of small adjustable coils designed for the most exacting requirements. Wound on silicone impregnated high grade ceramic forms. Tuning is by means of a powdered iron core. These coils require little space and are for mounting in a 3/16" diameter hole.

Dimensions (form): 1/4" diameter x 7/8" long.

\*Minimum self resonant frequency measured at maximum inductance.

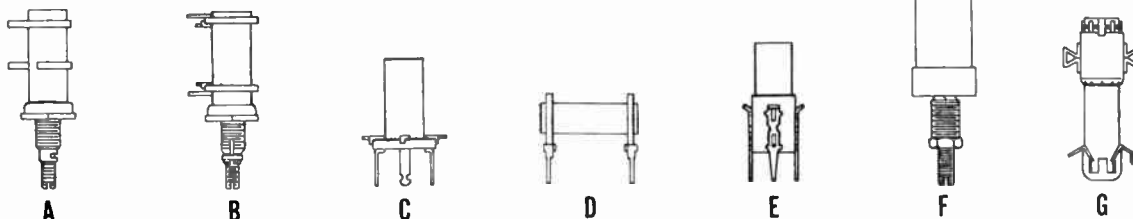
Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min. Fo. MHz.	Dia. over Winding	Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency					
4501	.440 uh	80	25. MHz	.760 uh	52	25. MHz	.03	1600	142.	.406	8 1/4
4502	1.10 uh	72	25. MHz	1.50 uh	40	7.9 MHz	.06	1000	95.	.406	12 3/4
4503	1.70 uh	51	7.9 MHz	2.70 uh	36	7.9 MHz	.11	636	80.	.406	17 1/4
4504	3.10 uh	56	7.9 MHz	4.80 uh	33	7.9 MHz	.23	400	58.	.406	23 1/4
4505	5.50 uh	60	7.9 MHz	8.60 uh	33	7.9 MHz	.49	256	43.	.406	33
4506	9.90 uh	52	7.9 MHz	15.0 uh	41	2.5 MHz	1.5	100	32.	.406	40
4507	17.0 uh	47	2.5 MHz	23.0 uh	53	2.5 MHz	2.3	100	19.	.406	50
4508	26.0 uh	48	2.5 MHz	33.0 uh	51	2.5 MHz	2.9	100	15.	.406	62
4509	38.0 uh	50	2.5 MHz	57.0 uh	48	2.5 MHz	3.4	100	13.	.406	76
4511	66.0 uh	44	2.5 MHz	114. uh	40	.79 MHz	4.1	100	5.2	.406	88
4512	120. uh	46	.79 MHz	190. uh	40	.79 MHz	5.7	100	4.1	.437	117
4513	209. uh	45	.79 MHz	314. uh	32	.79 MHz	7.7	100	3.2	.468	157
4514	350. uh	53	.79 MHz	475. uh	41	.79 MHz	10.	100	2.9	.500	193
4514-1	528. uh	44	.79 MHz	760. uh	40	.79 MHz	14.	100	2.5	.562	234

Refer to Pages 1-2 for Prices

Ceramic, Phenolic, Nylon and Alpha Cellulose Coil Forms  
Printed Circuit and Bushing Mount

This short form listing of our adjustable coils forms tabulates the major parameters and available cores. All metal parts are plated for protection against corrosion and the powdered iron core materials are moisture proofed. For detailed information, request our Coil Form Catalog.

ILLUSTRATIONS FOR STYLE ONLY  
For detailed information request our  
Coil Form Catalog or General Catalog



Miller Part Number	Style	Form Material	Form Dimensions	Mounting	Terminals
4300	A	Ceramic	.205 x .593	Bushing	2 Wire rings
60A022	B	Ceramic	.205 x .593	Bushing	2 Collors with 1 Terminal on each
60A024	B	Ceramic	.205 x .593	Bushing	2 Collors with 2 Terminols on each
4500	A	Ceromic	.260 x .858	Bushing	2 Wire rings
62A022	B	Ceromic	.260 x .858	Bushing	2 Collors with 1 Terminal on each
62A024	B	Ceromic	.260 x .858	Bushing	2 Collors with 2 Terminols on each
4400	A	Ceromic	.375 x 1.060	Bushing	2 Wire rings
64A022	B	Ceromic	.375 x 1.060	Bushing	2 Collors with 1 Terminal on each
64A024	B	Ceromic	.375 x 1.060	Bushing	2 Collors with 2 Terminols on each
66A022	B	Ceromic	.500 x 1.249	Bushing	2 Collors with 1 Terminal on each
66A024	B	Ceromic	.500 x 1.249	Bushing	2 Collors with 2 Terminols on each
20A000	A	Phenolic (PBG)	.250 x .860	Bushing	2 Wire rings
21A000	A	Phenolic (PBG)	.375 x 1.125	Bushing	2 Wire rings
22A000	F	Phenolic (PBG)	.500 x 1.937	Bushing	4 Terminols
27A013 (1)	C	Alpha Cellulose	.162 x .400	Printed Circuit	3 Terminols
27A014 (1)	C	Alpha Cellulose	.162 x .400	Printed Circuit	4 Terminols
26A024 (1)	D	Alpha Cellulose	.162 x .520	Printed Circuit	2 Collors with 2 Terminols on each
25A014 (1)	C	Alpha Cellulose	.211 x .625	Printed Circuit	4 Terminols
24A024 (1)	D	Alpha Cellulose	.211 x .680	Printed Circuit	2 Collors with 2 Terminols on each
46A013	C	Ceromic	.260 x .625	Printed Circuit	3 Terminols
47A024	D	Ceromic	.260 x .625	Printed Circuit	2 Collors with 2 Terminols on each
23A013*	E	Alpha Cellulose	.281 x .750	Printed Circuit	3 Terminols
23A014*	E	Alpha Cellulose	.281 x .750	Printed Circuit	4 Terminols
4200*	G	Nylon	.285 x 1.250	Clip	2 Terminols

The following cores are available for all listed coil forms.  
Add the Core Dash No. after the Miller Part No., i.e. 4500-4.

Core Dash No.	Recommended Frequency Range	Material	Color Code
-0	Form only		
-1	0.2 — 1.5 MHz	Powdered Iron	Yellow
-2	1.0 — 20 MHz	Powdered Iron	Red
-3	20 — 50 MHz	Powdered Iron	Green
-4	50 — 200 MHz	Powdered Iron	White
-5	100 ond up MHz	Bross	None
-6	2.0 — 25 MHz	Powdered Iron	Purple
-7	25 ond up MHz	Powdered Iron	Blue
-8*	Under 25 MHz	Ferrite	None

(1) —6 and —7 cores are ferrite for these coil forms.  
\*Available for 23A013, 23A014 and 4200 forms only.  
Mounting hardware supplied where required.

Refer to Pages 1-2 for Prices





### 10.7 MC Transistor Transformers

A complete series of I.F. Transformers specifically designed for operation with transistors in intermediate frequency stages operating at 10.7 megacycles. Proper impedance matching is assured when these transformers are used with the specified transistor shown on our data sheet. Through the use of a Discriminator, maximum efficiency, and good limiting of the F.M. signal are assured.

#### Miniature Double Tuned

Dimensions: 3/4" Sq. x 2" High.

Cat. No.	Item	Schematic	List Price
1601	10.7 Mc. Transistor First I.F.	114	\$3.80
1602	10.7 Mc. Transistor Second I.F.	114	3.95
1603	10.7 Mc. Transistor Third I.F.	114	3.95
1604	10.7 Mc. Discriminator	20	4.25
1605	10.7 Mc. Ratio Detector with diodes	94	8.00
1606	10.7 Mc. Ratio Detector	95	4.25

#### Miniature Printed Circuit Double Tuned

Electrically the same as part numbers 1601, 1602, 1603 and 1605, these items have printed circuit terminals and shield lugs.

Dimensions: 3/4" sq. x 2 1/8" high.

Cat. No.	Item	Schematic	List Price
1601-PC	10.7 Mc. Transistor First I.F.	114	\$4.75
1602-PC	10.7 Mc. Transistor Second I.F.	114	4.95
1603-PC	10.7 Mc. Transistor Third I.F.	114	4.25
1605-PC	10.7 Mc. Ratio Detector with Diodes	94	9.50

#### Sub Miniature Style

##### Single Tuned I.F.'s and Double Tuned Ratio Detector

Dimensions: I.F. Transformers 1 3/32" sq. x 1/2" high  
Ratio Detector 1 3/32" length x 3/4" width x 1/2" high.

Cat. No.	Description	List Price
2070	First I.F. 10.7 Mc.	\$3.75
2071	Second I.F. 10.7 Mc.	3.75
2072	Third I.F. 10.7 Mc.	3.75
2073	Ratio Detector 10.7 Mc.	4.50

### I.F. Components Sub Miniature



The transformers in this series represent the state of the art, as it relates to a commercial product. In both the 455 kc. and 10.7 Mc. groups there are a complete set of I.F. transformers as well as Ratio Detector and Discriminator transformers. Part No. 8814 incorporates a single section mechanical filter that sharpens the I.F. passband appreciably 4 kc. @ 6 db and 12 kc. @ 20 db. The physical dimensions of this unit are .415 wide .460 deep and .600 high.

Dimensions: 8849, 8850, 8851, 8805, 8806 & 8807—2 5/32" x 7/16" x 1/2" high.  
8852, 8853 & 8854—1 3/32" sq. x 5/8" high.  
8808\* & 8809\*—1/4" sq. x 7/16" high.  
\*To be used as a pair.  
8810, 8811, 8812 & 8813—9/32" sq. x 15/32" high.  
8814—1 3/32" x 15/32" x 9/16".

Cat. No.	Specs.	Description	Schematic	List Price
<b>10.7 Mc. Transistor Transformers</b>				
8849 *	500 kc. P/P	10.7 Mc. Ratio Detector		\$4.50
8850	300 kc. P/P	10.7 Mc. Discriminator		3.50
8851-A	6 db 300 kc.	10.7 Mc. Double Tuned I.F.		3.50
8852	100K-300	10.7 Mc. Single Tuned I.F.	27	3.00
8853	20K-500	10.7 Mc. Single Tuned I.F.	27	3.00
8854	25K-500	10.7 Mc. Single Tuned I.F.	27	3.00
<b>455 Kc. Transistor Transformers</b>				
8805	20 kc. P/P	455 kc. Ratio Detector		3.50
8806	20 kc. P/P	455 kc. Discriminator		3.50
8807	6 db 15 kc.	455 kc. Double Tuned I.F.		3.50
8808	100K Input	455 kc. Discriminator Pri.*	101	2.50
8809	20 kc. P/P	455 kc. Discriminator Sec.*	44	2.50
8810	50K - 800	455 kc. Single Tuned I.F.	72	2.50
8811	30K - 500	455 kc. Single Tuned I.F.	72	2.50
8812	20K - 5K	455 kc. Single Tuned I.F.	72	2.50
8813	Oscillator (455 kc. I.F.), (Tuning Cap. 78 to 110 pf. Mcx.)		101	2.50
8814	70K - 800	455 kc. Single tuned I.F. with Single Section Mechanical Filter		4.50

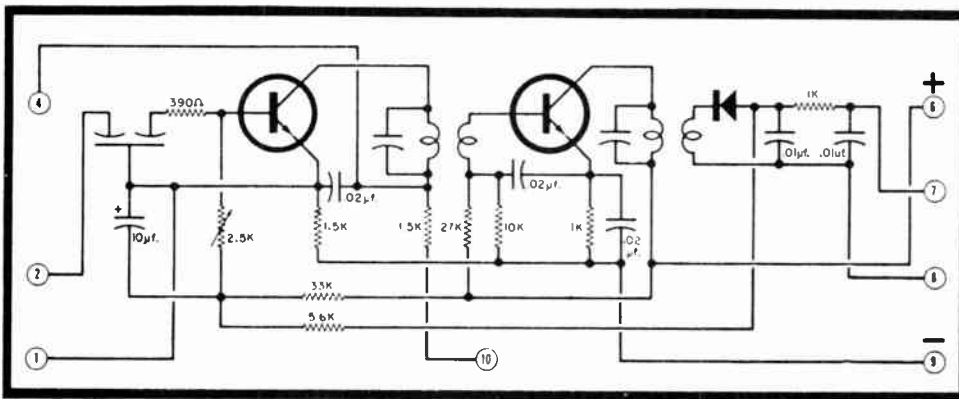
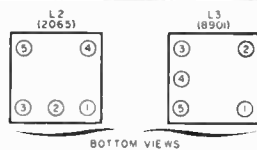
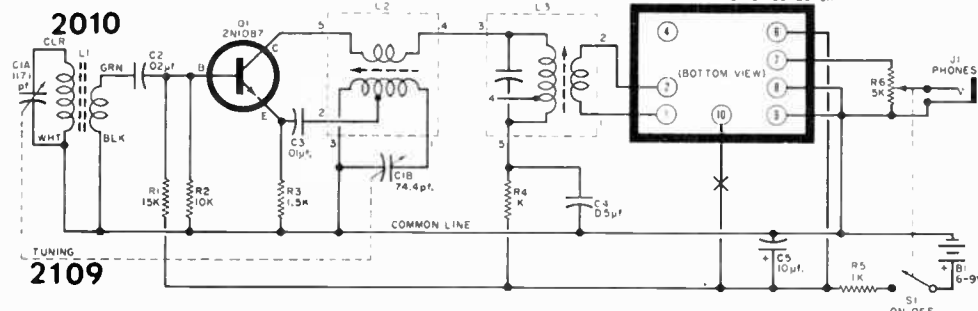


Fig. 4. Optional 0-1 ma. meter at point X serves as tuning indicator. Superhet circuit can give AM broadcast "voice" to tape recorder or record player.



See Dec. 1964  
**POPULAR  
ELECTRONICS**



### 455 kc I.F. Amplifier

A pre-packaged, pre-tuned IF strip that simplifies the construction of many projects.

Gain 50 db average  
Selectivity 8 kc @ 6 db

By purchasing Cat. No. 8903, which consists of one 8901 input matching transformer and one 8902 IF strip, a substantial savings can be realized.

Dimensions 8902: 1.5"x.55"x.51"

Cat. No.	Net Price
8901	\$2.10
8901-B	\$2.10
8902-B	4.75
8903-B	5.75

Prices Subject to Change or Withdrawal Without Notice

### FM Variable Capacitor



This 3-gang 7-plate variable capacitor is rigidly constructed with widely spaced (.042 Air Gap) plates to assure highest stability. The plate contour results in an almost linear frequency versus rotation characteristic. Although the capacitor is supplied with 3 trimmer capacitors attached, it is recommended that the oscillator trimmer be replaced with a small NPO adjustable ceramic. The tuning capacitor has a 1/4" diameter shaft 1 3/16" long. Capacitor range is 6.6-23 mmfd. Trimmer capacitor will add to these values.

Dimensions: 3 3/16" x 1 13/16" x 1 5/8".

Cal. No.	Item	Net Price
1461-BS	3-Gang FM Tuning Capacitor	\$4.05

### Midget Variable Condensers



These midget variable condensers have the same precision construction as our standard series and will find ready application in the construction of portable and compact receivers of all types. Split outer plates on the rotors permit accurate alignment. High frequency trimmers are provided on the short side of the condenser. Mounting is provided by tapped holes in the frame of the condenser. Maximum rotor swing is 1". Counter-clock rotation for capacity increase. Shaft is 1/4".

Capacity range—10 to 365 mmf.

Cal. No.	Sections	Dimensions	Net Price
2111	1	1 3/16" x 1 3/8" x 1 5/16"	\$2.10
2112	2	2 3/16" x 1 3/8" x 1 5/8"	2.55
2113	3	3 3/16" x 1 3/8" x 1 5/8"	3.57

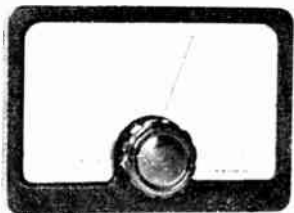
### Variable Condensers



A miniature 2-gang variable condenser. The antenna section has a range of 10-130 mmf. The oscillator section has a range of 10-78 mmf. Trimmer capacitors are self-contained and have a range of approximately 12 mmf. Tapped mounting holes provided on front of condenser. Counter clockwise rotation. Shaft is 1/4" dia. x 3/4" long.

Cal. No.	Sections	Dimensions	Net Price
2110	2	1 5/16" x 1 3/8" x 1 3/16"	\$2.10

### Front Panel Dials



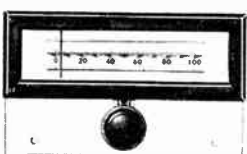
High quality panel dials with black crackle finish on the exterior metal work while the calibration plate is finished in a light grey color with the calibration scale 0-100 printed in red. The self calibration scales are in black and a supply of numerals for use on these scales are included to give a professional finish. Dials MD-5 and MD-6 use a 9:1 drive mechanism while the MD-7 and 8 use a drive that features a combination 6:1 and 36:1 drive.

Dials MD-5 and MD-7 are 6 1/4" wide 4 1/8" high 1/2" deep

Dials MD-6 and MD-8 are 7 1/2" wide 4 7/8" high 1/2" deep

Cal. No.	Scales	Net Price
MD-5	4	\$ 8.25
MD-6	6	9.00
MD-7	6	15.00
MD-8	6	15.00

### Slide Rule Dial

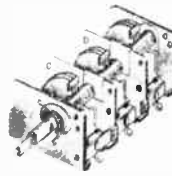


A top quality slide rule dial for use on projects where this feature would add to the appearance of the completed assembly. The dial face opening is 6 1/2" wide by 1 3/8" high and requires a slightly larger opening in the metal panel.

This dial has a 10:1 turns ratio.

Cal. No.	Description	Net Price
5L-16	Slide Rule Dial	\$6.00

### FM Three Gang Variable with Planetary Drive



A commercial quality FM variable having a delta C of 10 picofarads and intended for use in circuits having a minimum amount of stray capacitance. Capacitor is an ideal unit for use as a bandspread variable in short wave receivers.

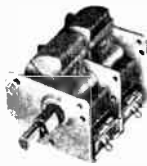
This capacitor features a planetary drive that has a 6:1 turning ratio, and can be used with knobs #565-24 and 565-26.

Capacitance range 7.0 to 17.7pf per section

Trimmers on all three sections 2-15pf

Cal. No.	Dimensions	Net Price
777-VC	3 3/16" x 1 3/16" x 1 5/8"	\$4.65

### Two Section Variable Capacitor with Planetary Drive



A two section variable capacitor having equal values of capacitance for use in tuned radio frequency circuits or in superhet circuits where a series padder is used in the oscillator circuit. This capacitor features a planetary drive that has a 6:1 turning ratio and can be used with knobs #565-24 and 565-26.

Capacitance range 10 to 365pf. per section

Trimmers on both sections 2-15pf.

Cal. No.	Dimensions	Net Price
565-8	2 3/16" x 1 3/16" x 1 5/8"	\$3.15

### Cut Section Two Gang with Planetary Drive



A two section variable capacitor for use in broadcast band (535 to 1650 kc) receivers. The special design of the oscillator plate makes the use of a padding capacitor unnecessary. This capacitor features a planetary drive that has a 6:1 turning ratio and can be used with knobs #555-20 and 555-21.

Capacitance range RF section 10 to 365pf

Osc section 8.6 to 170.6pf

Trimmers on both sections 2-15pf

Cal. No.	Dimensions	Net Price
555-27	2 3/16" x 1 3/16" x 1 5/8"	\$3.15

### Planetary Drive Knobs



A two piece knob that has been specifically designed for use with the planetary drives used on the above variable capacitors. The larger knob #555-20 has a gold stamped calibration covering 550 to 1600 kc while #565-24 has a gold marker for use with a self calibrated scale on the front panel of a piece of equipment.

The two drive knobs have a metallic inlaid insert.

Diameter of larger knob 2 1/2 inches

Diameter of drive knob 1 1/4 inches

Cal. No.	Description	Net Price
555-20	Calibrated knob	\$1.20
555-21	Drive knob	.51
565-24	Marker knob	1.02
565-26	Drive knob	.51

### Sub-Miniature Three Gang Variable Cap.



An extremely small but stable air dielectric variable capacitor. Each section is composed of 4 stator and 5 rotor plates. Trimmer capacitors are mounted on the antenna and R.F. sections only. Capacitor range: 5.7-20.7 mmfd.; Trimmer range: 2.0-12 mmfd. Shaft .250" diameter and 1 5/16" long.

Dimensions: 1 1/16" wide x 1 3/16" high x 2" deep.

Cal. No.	Item	Net Price
1460	3-Gang Variable Capacitor	\$3.96

Prices Subject to Change or Withdrawal Without Notice

**Micro Miniature B.C. Variable Capacitor**



To our knowledge this unit represents the smallest two section Broadcast Band variable capacitor generally available. The capacitor is manufactured by evaporating silver on the ceramic plates, which are lapped to insure perfect mechanical register. This construction assures against shock and vibration with a complete absence of microphonics.

Ant. Section 6.5 to 145 pf. use JWM#2009

Osc. Section 6.5 to 69.7 pf. use JWM#2069

Trimmers on both sections 1.5 to 6.5 pf.

Dimensions .60" sq. by .43" deep

Cal. No.	Description	Net Price
2108	2 Section Variable	\$3.30
2069	Companion Osc. Coil	2.10

**Micro Miniature F.M. Variable Capacitor**



A companion variable capacitor to our part No. 2108 ceramic variable. The ceramic material has a temperature coefficient of -120 parts per million per degree C over the range of -20 to +70°C. The use of silvered ceramic rotor and stator assemblies results in a capacitor that is completely free of microphonics. This is very important in the design of small F.M. receivers that are subject to shock and vibration.

Size .51" sq. x .39" deep

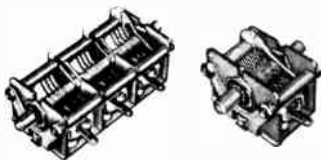
Ant. Section 3.0 to 19.0 pf.

Osc. Section 3.0 to 19.0 pf.

Trimmers both sections 1.5 to 5.0 pf.

Cal. No.	Net Price
1401	\$2.85

**Precision Variable Capacitors**



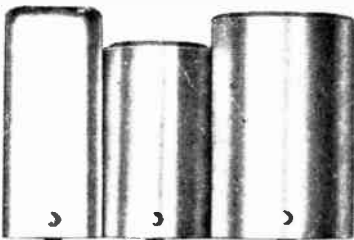
The capacitors we list in this group represent the highest standards that can be achieved in a commercial product. The rotor shaft revolves in a ball race at both front and back, with the torque controlled very closely. Each section has its own wipers

grounded to the frame to assure that the rotor does not present ground loops. The stator in each section is supported on four ceramic pillars to assure excellent mechanical stability as well as insulation resistance better than 1000 megohms. The complete mechanical assembly is silver plated to keep R.F. losses to a minimum.

Dimensions 2101 1.5" x 1.26" x 1.0"  
2102 1.5" x 1.26" x 3.0"

Cal. No.	Sections	Capacitance pf.	Net Price
2101	1	10.5 to 104	\$6.65
2102	3	5 to 22.5	9.75

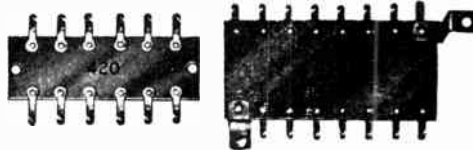
**Aluminum Coil Shields**



All Miller coil shields are of the finest quality drawn aluminum and have a satin finish which will not show finger marks and does not tarnish. Two #6-32 threaded spade bolts are riveted to the shield for easy attachment to the chassis.

Cal. No.	Dimensions	Mounting - Center	List Price
S-21	2 1/16" diameter x 3 1/2"	2"	\$.95
S-31	1 3/8" diameter x 3"	1 11/16"	.95
S-32	1 1/8" square x 2 1/8"	1 1/16"	.95
S-33	1 1/8" square x 2 1/8"	1 1/16"	.95
S-34	1" square x 1 1/4" high		.95
S-41	2" diameter x 3"	1 15/16"	.95
S-42	2" diameter x 3" high	No spadebolts	.90
S-42-C	Cover for S-42		.75
S-51	1 3/8" square x 3 1/4"	1 5/16"	.95
S-74	1 1/4" diameter x 2"	1 3/16"	.95
L-110	2" square x 4 1/4"	1 15/16"	1.35
S-727	2 1/16" diameter x 2 1/2"	2"	.95
L-727	2 1/16" diameter x 4"	2"	1.35

**Bakelite Terminal Plates**



These terminal plates, provided with securely riveted solder type terminal lugs, are particularly adaptable to the assembly of groups

of resistors and by-pass condensers. They will facilitate wiring of the chassis and provide rigid mounting of parts which cannot be properly assembled by point-to-point wiring. Lugs are on 1/16" thick bakelite sheet stock and the terminal spacing is 7/16".

Cal. No.	Dimensions	Lugs per Side	List Price
420	1" x 3"	6	\$ .75
430	1 3/4" x 2 1/2"	5	.85
440	1" x 5 3/4"	14	1.10
450	1 3/4" x 3 3/4"	8	1.35
460	1 3/4" x 5 1/4"	11	1.70
470	1 3/4" x 8 3/8"	19	1.90

Special types available on order. Please supply sketch and indicate quantity desired.

**Adjustable Padding Condensers**



These adjustable oscillator padding condensers are of the finest quality mica-compression type with ceramic body. Capacity adjustable from both top and bottom of condenser. Single hole mounting by means of a 1/4" threaded stud, supplied with nut. Plates may be removed for lower capacity ranges, or shunt mica condensers may be used for higher capacity.

Used as adjustable oscillator padding condenser in super-het receivers to insure proper three-point tracking. They also find application as the horizontal drive control in television receivers.

Cal. No.	Capacity Range	List Price
160-A	360-1000 mmfd.	\$1.55
160-B	50-400 mmfd.	1.35
160-C	200-600 mmfd.	1.55
160-D	10-160 mmfd.	1.20
160-E	25-280 mmfd.	1.30

**Oscillator Padding Condensers**

Accurate Molded Mica Type

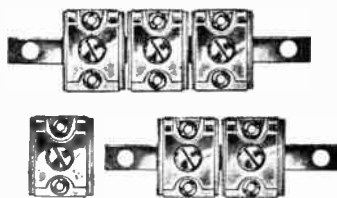


For your convenience, we carry a complete stock of the more commonly used capacities of mica tracking condensers for use in oscillator circuits. The

condensers are of the familiar molded bakelite mica dielectric type with wire leads. Capacities are guaranteed to be within the specified tolerance. Condensers having wider tolerance ratings should not be used in oscillator circuits as series padding condensers.

Cal. No.	Capacity	Accuracy	List Price
160	.00012 mfd.	3%	\$.55
161	.0004 mfd.	3%	.60
162	.0005 mfd.	3%	.60
163	.0006 mfd.	3%	.60
164	.001 mfd.	3%	.75
165	.0016 mfd.	3%	.85
166	.003 mfd.	3%	1.10
168	.005 mfd.	5%	1.35
167	.01 mfd.	5%	2.20

**H.F. Trimmer Condensers**



Ideal for trimming the high frequency end of multi-band circuits, these trimmers are available in single to quadruple section types. Ceramic insulation and mica plate spacer insures low-loss operation. The dimensions per section are 3/8" wide by 3/4" long. Terminals are plated for easy soldering.

Cal. No.	Range (mmfd.)	No. of Sections	List Price
MA-1	3-40	1	\$.95
MA-2	3-40	2	1.45
MA-3	3-40	3	1.85

Prices Subject to Change or Withdrawal Without Notice



**NORTH HILLS ELECTRONICS, INC.**

**ADJUSTABLE COILS**

Cover Every Frequency Range from Audio to 200MHz

These high quality coils enable engineers and experimenters to save valuable development time by filling a vast number of requirements with standard components from stock. Special coils made to order

**COILS ON CERAMIC FORM PER MIL-10**

**Subminiature 1100 Series**



- 5/8" above mounting surface
- Mounting — 11/64" hole
- For R.F. and I.F. applications

Part No.	Nominal Microhenries	Average Q
1100-A	0.9-1.4	60 @ 7.9 MHz
1100-B	1.4-1.9	70 @ 7.9 MHz
1100-C	1.9-2.6	65 @ 7.9 MHz
1100-D	2.6-3.7	65 @ 7.9 MHz
1100-E	3.7-5.5	65 @ 7.9 MHz
1100-F	5.5-7.4	60 @ 7.9 MHz
1100-G	7.4-12.5	85 @ 2.5 MHz
1100-H	12.5-18.0	75 @ .79 MHz
1100-I	18.0-28.0	80 @ .79 MHz
1100-J	28.0-38.0	85 @ .79 MHz
1100-K	38.0-55.0	75 @ 2.5 MHz

**Miniature 1000 Series**



- 3/4" above mounting surface
- Mounting — #10 hole
- For R.F. and I.F. applications

Part No.	Nominal Microhenries	Average Q
1000-A	1.0-1.6	70 @ 7.9 MHz
1000-B	1.6-2.7	80 @ 7.9 MHz
1000-C	2.7-4.5	85 @ 7.9 MHz
1000-D	4.5-8.5	85 @ 7.9 MHz
1000-E	8.5-14.5	75 @ 2.5 MHz
1000-F	14.5-22	65 @ 2.5 MHz
1000-G	22-29	65 @ 2.5 MHz
1000-H	29-55	85 @ 2.5 MHz
1000-I	55-110	80 @ 2.5 MHz
1000-J	110-185	85 @ .79 MHz
1000-K	185-305	85 @ .79 MHz
1000-L	305-515	85 @ .79 MHz
1000-M	515-820	85 @ .79 MHz
1000-N	820-1100	75 @ .79 MHz

**Transmitter 1300 Coils, Variable**



- 1 3/4" above mounting surface
- Mounting — 1/4" hole
- For low power transmitters and high Q receiver circuits

Part No.	Nominal Microhenries	Average Q
1300-A		For use from 90-200 MHz
1300-B		For use from 40-90 MHz
1300-C		For use from 20-40 MHz
1300-D	0.7-1.1	170 @ 25 MHz
1300-E	1.1-1.7	130 @ 7.9 MHz
1300-F	1.7-2.7	140 @ 7.9 MHz
1300-G	2.7-4.5	140 @ 7.9 MHz
1300-H	4.5-6.8	140 @ 7.9 MHz
1300-I	6.8-10.8	140 @ 7.9 MHz
1300-J	10.8-17.0	110 @ 2.5 MHz
1300-K	17.9-29.0	95 @ 2.5 MHz
1300-L	29.0-45.0	100 @ 2.5 MHz
1300-M	45.0-75.0	100 @ 2.5 MHz

See Section 5600 for Wideband Transformers

**COILS ON MICA FILLED FORMS PER MIL-P-14-D**

**Standard 120 Series**



- 1 1/4" above mounting surface
- Mounting #10 hole
- For R.F. and I.F. applications

Part No.	Nominal Microhenries	Average Q
120-A	2-3	70 @ 7.9 MHz
120-B	3-5	80 @ 7.9 MHz
120-C	5-9	85 @ 7.9 MHz
120-D	9-18	65 @ 2.5 MHz
120-E	18-36	70 @ 2.5 MHz
120-F	36-64	65 @ 2.5 MHz
120-G	64-105	85 @ 2.5 MHz
120-H	105-200	80 @ .79 MHz
120-I	200-500	75 @ .79 MHz
120-J	500-1000	85 @ .79 MHz
120-K	1000-2000	50 @ .25 MHz

**Printed Circuit PCS-120 Series**



- Mounting — Terminals are soldered directly to printed circuit board.

Part No.	Nominal Microhenries	Average Q
PCS-120-A	2-3	70 @ 7.9 MHz
PCS-120-B	3-5	80 @ 7.9 MHz
PCS-120-C	5-9	85 @ 7.9 MHz
PCS-120-D	9-18	65 @ 2.5 MHz
PCS-120-E	18-36	70 @ 2.5 MHz
PCS-120-F	36-64	65 @ 2.5 MHz
PCS-120-G	64-105	85 @ 2.5 MHz
PCS-120-H	105-200	80 @ .79 MHz
PCS-120-I	200-500	75 @ .79 MHz
PCS-120-J	500-1000	85 @ .79 MHz
PCS-120-K	1000-2000	50 @ .25 MHz

**Printed Circuit Variable PC-120 Coils**



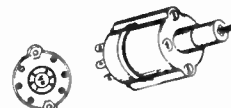
- 1/2" O.D. x 1 1/4" long
- For printed circuitry
- Video applications
- RF-IF use

Part No.	Nominal Microhenries	Average Q
PC-120-A	2-3	70 @ 7.9 MHz
PC-120-B	3-5	80 @ 7.9 MHz
PC-120-C	5-9	85 @ 7.9 MHz
PC-120-D	9-18	65 @ 2.5 MHz
PC-120-E	18-36	70 @ 2.5 MHz
PC-120-F	36-64	65 @ 2.5 MHz
PC-120-G	64-105	85 @ 2.5 MHz
PC-120-H	105-200	80 @ .79 MHz
PC-120-I	200-500	75 @ .79 MHz
PC-120-J	500-1000	85 @ .79 MHz
PC-120-K	1000-2000	50 @ .25 MHz

See eem Section 4000 for Precision AC & DC Power Sources.

**ENCAPSULATED CUP-CORE COILS**

**Audio and Ultrasonic 700 Series**



- 1 1/2" above mounting surface
- Mounting Centers — Two #6 holes spaced 1 1/4"
- Magnetically shielded—High Q
- For standard or printed circuits

Part No.	Nominal Millihenries	Average Q
700-A	1.5-3	70 @ 100 KHz
700-B	3-7	70 @ 100 KHz
700-C	7-13	70 @ 60 KHz
700-D	13-25	70 @ 60 KHz
700-E	25-50	50 @ 40 KHz
700-F	50-100	50 @ 15 KHz
700-G	100-250	50 @ 10 KHz
700-H	250-500	50 @ 5 KHz
700-I	500-1000	50 @ 5 KHz

**SHIELDED COILS**

**900 Series**



- 3/8" Diameter
- Shielded and Encapsulated

Part No.	Nominal Microhenries	Average Q
900-A	0.5-0.8	80 @ 25 MHz
900-B	0.8-1.3	70 @ 18 MHz
900-C	1.3-2.0	60 @ 15 MHz
900-D	2.0-4.0	70 @ 8 MHz
900-E	4.0-7.0	70 @ 5 MHz
900-F	7.0-12.0	70 @ 4 MHz
900-G	12.0-20.0	70 @ 3 MHz
900-H	20.0-35.0	70 @ 2.5 MHz
900-I	35.0-60.0	70 @ 2.0 MHz
900-J	60.0-100.0	70 @ 1.0 MHz

**1500 Series**



- 5/8" Diameter
- Shielded and Encapsulated

Part No.	Nominal Millihenries	Average Q
1500-A	.100-.175	80 @ 790 KHz
1500-B	.175-.300	80 @ 790 KHz
1500-C	.300-.500	80 @ 790 KHz
1500-D	.500-.800	75 @ 790 KHz
1500-E	.800-1.15	55 @ 500 KHz
1500-F	1.15-1.50	55 @ 250 KHz
1500-G	1.50-2.30	55 @ 250 KHz
1500-H	2.30-3.50	50 @ 250 KHz
1500-I	3.50-7.50	40 @ 250 KHz

See Section 2900 for Insulation Testers, Short Turn Testers, Bridges, Transformer Turns Ratio Meter.



**NORTH HILLS ELECTRONICS, INC.**

**COILS AND COIL FORMS**

**High Q**

**RF Coils, Fixed**



- 3 3/4" O.D. x 5/8"H
- Hermetically sealed
- Complete shielding
- For printed circuitry
- For standard circuitry

Part No.	Nominal Microhenries	Average Q
1219-A	0.47 ± 5%	170 @ 20 MHz
1219-B	1.0 ± 5%	170 @ 10 MHz
1219-C	2.2 ± 5%	170 @ 8 MHz
1219-D	4.7 ± 5%	170 @ 5 MHz
1219-E	10 ± 5%	170 @ 3 MHz
1219-F	22 ± 2%	170 @ 1.5 MHz
1219-G	47 ± 2%	170 @ 1 MHz
1219-H	100 ± 2%	170 @ 0.8 MHz
1219-I	220 ± 2%	170 @ 0.7 MHz
1219-J	470 ± 2%	170 @ 0.6 MHz
1219-K	1000 ± 2%	170 @ 0.5 MHz
1219-L	2200 ± 2%	150 @ 0.250 MHz

**RF Printed Circuit Coils, Variable**



- 1/2" Max. O.D. x 5/8"L
- Ceramic Form
- Video Use
- RF-IF application

Part No.	Minimum Range Microhenries	Average Q
1020-A	0.41 - 0.53	75 @ 25 MHz
1020-B	0.85 - 1.15	65 @ 7.9 MHz
1020-C	1.87 - 2.50	65 @ 7.9 MHz
1020-D	4.0 - 5.4	70 @ 7.9 MHz
1020-E	0.75 - 1.25	70 @ 2.5 MHz
1020-F	20 - 29	80 @ 2.5 MHz
1020-G	33 - 61	80 @ 2.5 MHz
1020-H	80 - 120	60 @ 0.79 MHz
1020-I	170 - 260	70 @ 0.79 MHz

**HF Coils, Variable (Approx. Range ± 15%)**



- 1/4" O.D. x 7/8"L
- Grooved ceramic form
- For HF-VHF use

Part No.	Turns	Nominal Microhenries	Average Q
1010-A	3	0.118	115 @ 50 MHz
1010-B	5	0.225	125 @ 25 MHz
1010-C	7	0.315	130 @ 25 MHz

**Subminiature 600 Series**



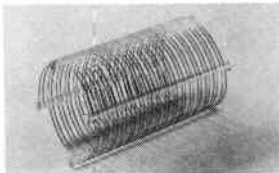
- Variable ±10%
- Shielded
- 0.3 O.D. x 0.4H

Part No.	Nominal Microhenries	Average Q
600U1X0	1.0	90 @ 7900 KHz
600U1X5	1.5	90 @ 7900 KHz
600U2X2	2.2	90 @ 7900 KHz
600U3X3	3.3	90 @ 7900 KHz
600U4X7	4.7	90 @ 7900 KHz
600U6X8	6.8	90 @ 7900 KHz
600U10X	10	90 @ 7900 KHz
600U15X	15	90 @ 2500 KHz
600U22X	22	90 @ 2500 KHz
600U33X	33	90 @ 2500 KHz
600U47X	47	90 @ 2500 KHz
600U68X	68	90 @ 2500 KHz
600M10X	100	90 @ 790 KHz
600M15X	150	90 @ 790 KHz
600M22X	220	90 @ 790 KHz
600M33X	330	90 @ 790 KHz
600M47X	470	90 @ 790 KHz
600M68X	680	90 @ 790 KHz
600M1X0	1000	90 @ 790 KHz

**Coil Forms—Shield Cans**

S120 Can	7/8 x 7/8 x 1 3/8
S120A Can	1 1/8 x 1 1/8 x 1 3/8
F120 Form	See Coil Data
F1000 Form	See Coil Data
F1100 Form	See Coil Data
F1300 Form	See Coil Data
PC120 Form	See Coil Data
PCS120 Form	See Coil Data

**High Q — Air-wound Coils Type 50**



- Tinned Copper
- Polystyrene Rods
- High Q
- Standard Series
- Specials to order
- Send for Data Sheet

**Hi Q 801, 802 Series**



- 1 1/8" O.D. x 7/8"H
- Adjustable ±10%
- Shielded

Part No.	Nominal Microhenries	Average Q
801M1X0	1.0	100 @ 10 KHz
801M1X5	1.5	100 @ 10 KHz
801M2X2	2.2	100 @ 10 KHz
801M3X3	3.3	100 @ 10 KHz
801M4X7	4.7	100 @ 10 KHz
801M6X8	6.8	100 @ 10 KHz
801M10X	10	200 @ 20 KHz
801M15X	15	200 @ 20 KHz
801M22X	22	200 @ 20 KHz
801M33X	33	200 @ 20 KHz
801M47X	47	200 @ 20 KHz
801M68X	68	200 @ 20 KHz
801HX10	100	300 @ 30 KHz
801HX15	150	300 @ 30 KHz
801HX22	220	300 @ 30 KHz
801HX33	330	250 @ 20 KHz
801HX47	470	250 @ 20 KHz
801HX68	680	250 @ 20 KHz
801H1X0	1000	150 @ 15 KHz
802M1X0	1.0	400 @ 100 KHz
802M1X5	1.5	400 @ 100 KHz
802M2X2	2.2	400 @ 100 KHz
802M3X3	3.3	400 @ 100 KHz
802M4X7	4.7	400 @ 100 KHz
802M6X8	6.8	400 @ 100 KHz
802M10X	10	400 @ 70 KHz
802M15X	15	400 @ 70 KHz
802M22X	22	400 @ 70 KHz
802M33X	33	400 @ 70 KHz
802M47X	47	400 @ 40 KHz

**Variable Inductors Hermetically Sealed MS801, MS802 Series**



- 1 1/4" O.D. x 1 1/8"H
- High Q
- Adjustable ± 10%
- Shielded
- Mil Spec.

Part No.	Nominal Millihenries	Average Q
MS801M1X0	1.0	100 @ 10 KHz
MS801M1X5	1.5	100 @ 10 KHz
MS801M2X2	2.2	100 @ 10 KHz
MS801M3X3	3.3	100 @ 10 KHz
MS801M4X7	4.7	100 @ 10 KHz
MS801M6X8	6.8	100 @ 10 KHz
MS801M10X	10	200 @ 20 KHz
MS801M15X	15	200 @ 20 KHz
MS801M22X	22	200 @ 20 KHz
MS801M33X	33	200 @ 20 KHz
MS801M47X	47	200 @ 20 KHz
MS801M68X	68	200 @ 20 KHz
MS801HX10	100	300 @ 30 KHz
MS801HX15	150	300 @ 30 KHz
MS801HX22	220	300 @ 30 KHz
MS801HX33	330	250 @ 20 KHz
MS801HX47	470	250 @ 20 KHz
MS801HX68	680	250 @ 20 KHz
MS801H1X0	1000	150 @ 15 KHz
MS802M1X0	1.0	400 @ 100 KHz
MS802M1X5	1.5	400 @ 100 KHz
MS802M2X2	2.2	400 @ 100 KHz
MS802M3X3	3.3	400 @ 100 KHz
MS802M4X7	4.7	400 @ 100 KHz
MS802M6X8	6.8	400 @ 100 KHz
MS802M10X	10	400 @ 70 KHz
MS802M15X	15	400 @ 70 KHz
MS802M22X	22	400 @ 70 KHz
MS802M33X	33	400 @ 70 KHz
MS802M47X	47	400 @ 40 KHz

SEE SECTION 5600 FOR WIDE BAND TRANSFORMERS



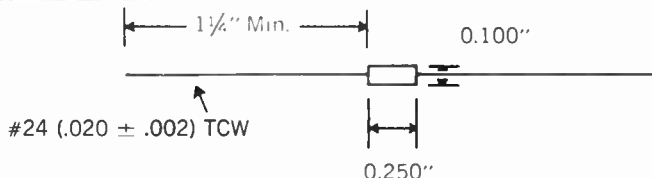
**NYTRONICS, INC.**

**Inductors**

**DECI-DUCTOR**

New Subminiature Inductor 0.10uH to 1000uH Range  
0.100" diameter by 0.250" length 49 STANDARD VALUES

The **DECI-DUCTOR** offers the design engineer epoxy-molded reliability and uniformity in a subminiature R.F. Inductor. This smallest of Nytronics growing R.F. Inductor line is designed to meet all the environmental specifications of MIL-C-15305C, Grade 1, Class B.



**ELECTRICAL CHARACTERISTICS**

Inductance Tolerance: ±10% over entire range.  
Dielectric Strength: 700 volts RMS at sea level.  
Self-Resonant Frequency: Measured per MIL-C-15305C.  
Rating: Maximum Current based on 35°C rise in 90°C ambient.

**PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS**

Operating Temperature: -55°C to +125°C  
Terminal Strength: Meets three pound pull test; five 360° rotations in alternate directions per MIL-C-15305C.  
Moisture, Vibration, and Shock Resistance: Meets requirements of MIL-C-15305C, 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS. (body mounted)

**DENSITY CHARACTERISTICS**

Volume: 0.002 cubic inches Weight: 0.35 grams

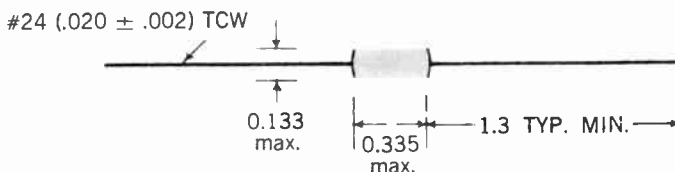
NYTRONICS CATALOG NO.	L	Q Min.		Min. Fo	Max. DCR at 25°C	Max. I
	uH	MC	MC	MC	OHMS	mA
DD-0.10	0.10	40	25	690	0.07	2000
DD-0.12	0.12	40	25	650	0.08	1900
DD-0.15	0.15	38	25	600	0.09	1750
DD-0.18	0.18	38	25	550	0.10	1600
DD-0.22	0.22	35	25	510	0.11	1550
DD-0.27	0.27	35	25	470	0.15	1350
DD-0.33	0.33	32	25	410	0.21	1150
DD-0.39	0.39	32	25	370	0.29	970
DD-0.47	0.47	32	25	340	0.35	820
DD-0.56	0.56	32	25	310	0.48	700
DD-0.68	0.68	33	25	280	0.65	600
DD-0.82	0.82	30	25	255	0.82	500
DD-1.00	1.00	30	25	240	1.10	475
DD-1.20	1.20	30	7.9	155	0.16	1200
DD-1.50	1.50	32	7.9	140	0.20	1100
DD-1.80	1.80	35	7.9	130	0.32	900
DD-2.20	2.20	35	7.9	120	0.37	760
DD-2.70	2.70	37	7.9	105	0.49	700
DD-3.30	3.30	45	7.9	95	0.67	575
DD-3.90	3.90	45	7.9	87	0.95	500
DD-4.70	4.70	45	7.9	80	1.10	475
DD-5.60	5.60	52	7.9	75	1.60	380
DD-6.80	6.80	52	7.9	65	1.80	350
DD-8.20	8.20	60	7.9	62	2.40	300
DD-10.0	10.0	60	7.9	52	3.40	265

NYTRONICS CATALOG NO.	L	Q Min.		Min. Fo	Max. DCR at 25°C	Max. I
	uH	MC	MC	MC	OHMS	mA
DD-12.0	12.0	45	2.5	42	2.40	300
DD-15.0	15.0	47	2.5	36	2.70	275
DD-18.0	18.0	50	2.5	32	3.00	260
DD-22.0	22.0	50	2.5	28	3.30	250
DD-27.0	27.0	50	2.5	25	3.80	240
DD-33.0	33.0	50	2.5	30	3.80	260
DD-39.0	39.0	50	2.5	26	4.10	240
DD-47.0	47.0	50	2.5	24	4.40	210
DD-56.0	56.0	50	2.5	22	5.70	205
DD-68.0	68.0	52	2.5	19	6.50	180
DD-82.0	82.0	52	2.5	17	7.30	175
DD-100	100	50	2.5	15	8.20	165
DD-120	120	28	0.79	14	14	110
DD-150	150	28	0.79	13	16	105
DD-180	180	28	0.79	12	18	100
DD-220	220	26	0.79	11	25	90
DD-270	270	26	0.79	10	33	75
DD-330	330	26	0.79	9.0	37	70
DD-390	390	25	0.79	8.0	51	60
DD-470	470	27	0.79	7.0	56	58
DD-560	560	27	0.79	6.5	61	55
DD-680	680	28	0.79	6.0	70	50
DD-820	820	28	0.79	5.5	91	45
DD-1000	1000	28	0.79	5.2	102	40

**WEE WEE-DUCTOR**

The smallest shielded inductor for high density circuits  
0.10 to 10,000uH 0.133" diameter x 0.335" length  
61 stock values

The **WEE WEE-DUCTOR** offers the Design Engineer a subminiature shielded inductor to solve special problems in density circuit application. This shielded inductor has great inductance-to-size ratio and is designed to meet the stringent requirements of MIL-C-15305C, Grade 1, Class B. Unique "T" lead construction used on all values from 1200uH to 10,000uH provides excellent reliability in ranges where fine wire sizes are used.



**ELECTRICAL CHARACTERISTICS**

Inductance Tolerance: ±10% (Q-Meter).  
Dielectric Strength: 700 volts RMS at sea level.  
Self-Resonant Frequency: Minimum f<sub>0</sub> to be not less than 80% of published data, and measured with full length leads on Q-Meter.  
Q and Rp Values: Measured on Q-Meter.  
Rating: 1 maximum based on 1/2 watt dissipation.

**PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS**

Operating Temperature: -55°C to +125°C.  
Terminal Strength: Meets five pound pull test; five 360° rotations in alternate directions per MIL-C-15305C.  
Moisture, Vibration and Shock Resistance: Meets requirements of MIL-C-15305C, Grade 1, Class B. High Frequency: 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS.  
Marking: Color coded per MIL-C-15305C.

**DENSITY CHARACTERISTICS**

Volume: 0.0041 cubic inches Weight: 0.50 grams maximum  
Shielding: Less than 3% coupling with two units mounted side by side at 1000 cycles.



**NYTRONICS, INC.**

**Inductors**

**WEE WEE-DUCTOR** The smallest shielded inductor for high density circuits  
 0.10 to 10,000uH 0.133" diameter x 0.335" length  
 61 stock values

NYTRONICS PART NO.	L	Q min.		approx. Fo	approx. Cd	min. Rp		min. Rp		Max. DCR at 125°C	Max. I	Incr.* I
		uH	MC	MC	uF	K (Ω)	MC	K (Ω)	MC			
WEE-WEE- 0.10	0.10	42	25	> 500	0.67	9	125	15	230	.112	1720	>1720
WEE-WEE- 0.12	0.12	42	25	> 500	0.67	10	125	16	230	.126	1630	>1630
WEE-WEE- 0.15	0.15	42	25	> 500	0.67	10	100	18	230	.138	1550	>1550
WEE-WEE- 0.18	0.18	42	25	458	0.67	10	100	20	230	.165	1420	>1420
WEE-WEE- 0.22	0.22	42	25	414	0.67	12	100	23	230	.198	1330	>1330
WEE-WEE- 0.27	0.27	42	25	373	0.67	14	100	25	230	.220	1230	>1230
WEE-WEE- 0.33	0.33	42	25	360	0.66	15	100	27	230	.258	1140	>1140
WEE-WEE- 0.39	0.39	42	25	339	0.57	19	100	29	230	.292	1060	>1060
WEE-WEE- 0.47	0.47	41	25	309	0.57	18	75	31	230	.360	960	>960
WEE-WEE- 0.56	0.56	39	25	295	0.52	19	75	36	230	.397	915	>915
WEE-WEE- 0.68	0.68	36	25	270	0.52	20	75	39	230	.472	840	>840
WEE-WEE- 0.82	0.82	35	25	250	0.52	25	75	41	230	.638	720	>720
WEE-WEE- 1.0	1.0	42	25	170	0.87	14	75	11	170	.206	1260	>1260
WEE-WEE- 1.2	1.2	38	7.9	150	0.94	13	50	13	150	.225	1210	>1210
WEE-WEE- 1.5	1.5	38	7.9	139	0.87	16	50	14	139	.265	1120	>1120
WEE-WEE- 1.8	1.8	38	7.9	129	0.85	18	50	16	129	.285	1080	>1080
WEE-WEE- 2.2	2.2	36	7.9	118	0.83	20	40	22	118	.330	1000	>1000
WEE-WEE- 2.7	2.7	38	7.9	106	0.83	24	40	23	106	.387	935	>935
WEE-WEE- 3.3	3.3	38	7.9	98	0.81	27	30	28	98	.432	875	>875
WEE-WEE- 3.9	3.9	40	7.9	91	0.79	29	30	29	91	.574	755	>755
WEE-WEE- 4.7	4.7	42	7.9	83	0.79	26	25	32	83	.787	650	>650
WEE-WEE- 5.6	5.6	42	7.9	77	0.79	31	25	33	77	1.04	565	>565
WEE-WEE- 6.8	6.8	45	7.9	67	0.83	28	20	37	67	1.40	485	>485
WEE-WEE- 8.2	8.2	47	7.9	62	0.81	29	20	38	62	1.68	440	>440
WEE-WEE- 10	10	51	7.9	55	0.83	38	20	39	55	2.58	355	>355
WEE-WEE- 12	12	51	2.5	49	0.88	42	15	40	49	3.65	300	>300
WEE-WEE- 15	15	45	2.5	55	0.56	9	15	9	55	.862	620	200
WEE-WEE- 18	18	43	2.5	50	0.57	10	15	10	50	1.02	570	175
WEE-WEE- 22	22	42	2.5	45	0.57	16	10	11	45	1.12	545	160
WEE-WEE- 27	27	37	2.5	41	0.58	17	10	13	41	1.28	510	155
WEE-WEE- 33	33	46	2.5	37	0.57	22	10	15	37	1.70	440	150
WEE-WEE- 39	39	38	2.5	33	0.59	27	5	18	33	1.99	405	145
WEE-WEE- 47	47	42	2.5	29	0.64	34	5	21	29	2.41	370	140
WEE-WEE- 56	56	41	2.5	27	0.54	37	5	24	27	2.85	340	130
WEE-WEE- 68	68	46	2.5	23	0.71	57	5	31	23	3.21	320	120
WEE-WEE- 82	82	46	2.5	21	0.71	62	4	33	21	3.57	305	115
WEE-WEE- 100	100	43	2.5	19	0.71	68	4	47	19	4.10	280	100
WEE-WEE- 120	120	50	0.79	16	0.79	100	4	54	16	5.97	235	80
WEE-WEE- 150	150	49	0.79	15	0.75	130	3	78	15	7.04	215	68
WEE-WEE- 180	180	56	0.79	14	0.72	153	3	99	14	8.12	200	64
WEE-WEE- 220	220	53	0.79	12	0.79	256	3	164	12	14.8	150	60
WEE-WEE- 270	270	57	0.79	11.5	0.72	300	3	196	11.5	16.8	140	58
WEE-WEE- 330	330	57	0.79	10.5	0.70	340	3	270	10.5	18.6	130	56
WEE-WEE- 390	390	57	0.79	10.0	0.65	340	2.5	270	10	21.1	120	54
WEE-WEE- 470	470	50	0.79	8.5	0.75	340	2.0	320	8.5	32.2	100	52
WEE-WEE- 560	560	50	0.79	7.5	0.80	340	2.0	320	7.5	36.4	95	50
WEE-WEE- 680	680	56	0.79	7.0	0.77	320	1.5	320	7.0	41.1	90	48
WEE-WEE- 820	820	49	0.79	6.5	0.74	320	1.5	320	6.5	45.0	85	47
WEE-WEE- 1000	1000	49	0.79	6.0	0.74	320	1.5	320	6.0	52.0	80	45
WEE-WEE- 1200	1200	55	0.25	3.4	1.9	500	3.4	400	1.0	31	100	40
WEE-WEE- 1500	1500	55	0.25	3.3	1.6	600	3.3	500	1.0	41	90	35
WEE-WEE- 1800	1800	55	0.25	3.1	1.5	700	3.1	600	1.0	45	86	32
WEE-WEE- 2200	2200	55	0.25	3.0	1.3	800	3.0	700	0.8	55	78	30
WEE-WEE- 2700	2700	55	0.25	2.8	1.2	900	2.8	800	0.8	60	74	28
WEE-WEE- 3300	3300	55	0.25	2.7	1.1	1000	2.7	900	0.8	80	65	26
WEE-WEE- 3900	3900	55	0.25	2.25	1.1	1200	2.25	800	0.6	105	56	23
WEE-WEE- 4700	4700	55	0.25	2.2	1.1	1600	2.2	1000	0.6	118	53	20
WEE-WEE- 5600	5600	55	0.25	2.1	1.0	2000	2.1	1100	0.6	140	48	18
WEE-WEE- 6800	6800	50	0.25	1.85	1.0	2100	1.85	1200	0.5	177	43	15
WEE-WEE- 8200	8200	50	0.25	1.80	1.0	2200	1.80	1400	0.5	202	40	12
WEE-WEE-10,000	10,000	50	0.25	1.60	1.0	2000	1.6	1400	0.5	231	37	10

\*Incremental Current: The D.C. current required to cause a maximum reduction of 5 percent from nominal inductance value.





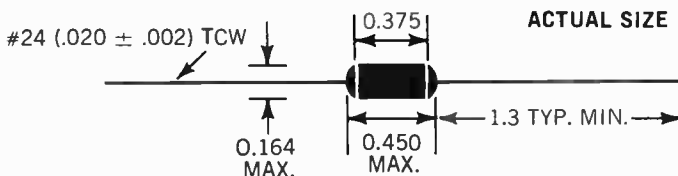
**NYTRONICS, INC.**

**Inductors**

**WEE-DUCTOR**

Subminiature Shielded Inductor with high inductance-to-size ratio.  
0.10uH to 180,000uH in 76 values  
Designed to meet MIL-C-15305C.

The WEE-DUCTOR was the first miniature shielded inductor that Nytronics standardized for stock delivery. This encapsulated non-flammable shielded unit in a 0.164" diameter by 0.450" long envelope offers the design engineer extremely high inductance for density packaging. The WEE-DUCTOR is designed to meet the environmental requirements of MIL-C-15305C, Grade 1, Class B.



**ELECTRICAL CHARACTERISTICS**

**Inductance Tolerance:** 0.1 to 22uH ±10% (Q-Meter); 27uH to 1,000 ±5% (1KC Bridge); 1,200uH to 56,000uH ±10% (1KC Bridge) 68,000uH to 180,000uH ±20% (1KC Bridge) measured at point on leads 1/2 inch from body.

**Dielectric Strength:** 700 volts RMS at sea level.

**Self-Resonant Frequency:** Minimum f<sub>0</sub> to be not less than 80% of published data, and measured with full length leads on Q-Meter.

**Q and R<sub>p</sub> Values:** Measured on Q-Meter. Minimum R<sub>p</sub> values on published data sheet are conservative.

**Maximum Current:** Based on temperature rise not to exceed 40°C at 85°C ambient.

**DENSITY CHARACTERISTICS**

**Volume:** 0.0087 cubic inches **Weight:** 0.75 grams maximum  
**Shielding:** Less than 3% coupling with two units measured side by side at 1000 cycles.

**PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS**

**Operating Temperature:** -55°C to +125°C.  
**Terminal Strength:** Meets five pound pull test; five 360° rotations in alternate directions per MIL-C-15305C.

**Moisture, Vibration, and Shock Resistance:** Meets requirements of MIL-C-15305C, Grade 1, Class B. Low frequency 10 to 55 cps @ .06" maximum total excursion at rate of 1 linear sweep per minute for 2 hours repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS.

**Marking:** Printed with pertinent data.

NYTRONICS PART NO.	L	Q min		approx. Fo	approx. Cd	min. Rp		Max. OCR at 125°C		Max. I	Incr* I	
		uH	MC	MC	uF	K(Ω)	MC	K(Ω)	Ω			mA
WEE-0.10	0.10	63	25	>500	0.67	6	100	11	230	0.020	4000	>4000
WEE-0.12	0.12	61	25	>500	0.67	7	100	13	230	0.029	3350	>3350
WEE-0.15	0.15	59	25	>500	0.67	8	100	16	230	0.032	3000	>3000
WEE-0.18	0.18	57	25	458	0.67	10	100	20	230	0.040	2850	>2850
WEE-0.22	0.22	56	25	414	0.67	13	100	28	230	0.045	2700	>2700
WEE-0.27	0.27	50	25	373	0.67	15	100	32	230	0.08	2000	>2000
WEE-0.33	0.33	48	25	337	0.67	18	100	37	230	0.09	1900	>1900
WEE-0.39	0.39	48	25	310	0.67	21	100	41	230	0.16	1420	>1420
WEE-0.47	0.47	48	25	283	0.67	27	100	51	230	0.17	1400	>1400
WEE-0.56	0.56	45	25	258	0.67	32	100	56	230	0.36	960	>960
WEE-0.68	0.68	45	25	235	0.67	40	100	65	230	0.37	940	>940
WEE-0.82	0.82	41	25	214	0.67	47	100	72	230	0.46	870	>870
WEE-1.0	1.0	42	7.9	164	0.92	12	75.0	13	164	0.062	2300	>2300
WEE-1.2	1.2	43	7.9	150	0.92	13	75.0	14	150	0.067	2200	>2200
WEE-1.5	1.5	41	7.9	135	0.92	16	50.0	17	135	0.16	1420	>1420
WEE-1.8	1.8	42	7.9	124	0.92	18	50.0	20	124	0.17	1370	>1370
WEE-2.2	2.2	42	7.9	112	0.92	21	40.0	23	112	0.15	1300	>1300
WEE-2.7	2.7	41	7.9	107	0.92	24	40.0	26	107	0.20	1270	>1270
WEE-3.3	3.3	40	7.9	91.5	0.92	23	30.0	31	91.5	0.31	1030	>1030
WEE-3.9	3.9	40	7.9	84.5	0.92	26	30.0	34	84.5	0.33	1000	>1000
WEE-4.7	4.7	40	7.9	76.5	0.92	28	25.0	41	76.5	0.58	750	>750
WEE-5.6	5.6	40	7.9	69.5	0.92	32	25.0	45	69.5	0.64	710	>710
WEE-6.8	6.8	40	7.9	63.5	0.92	29	20.0	51	63.5	0.68	680	>680
WEE-8.2	8.2	45	7.9	57.5	0.92	33	20.0	57	57.5	1.3	500	>500
WEE-10	10	46	2.5	52.5	0.92	33	15.0	59	52.5	1.4	480	>480
WEE-12	12	47	2.5	47.5	0.92	37	15.0	61	47.5	1.5	460	>460
WEE-15	15	47	2.5	42.5	0.92	43	15.0	64	42.5	1.7	440	>440
WEE-18	18	45	2.5	53.5	0.49	12	20.0	14	53.5	0.88	610	235
WEE-22	22	47	2.5	47.0	0.50	13	15.0	17	47.0	0.95	590	220
WEE-27	27	42	2.5	44.0	0.48	17	15.0	20	44.0	1.15	530	200
WEE-33	33	43	2.5	40.0	0.48	23	12.0	23	40.0	1.2	520	193
WEE-39	39	45	2.5	36.5	0.48	27	12.0	27	36.5	1.6	450	183
WEE-47	47	46	2.5	33.0	0.49	31	12.0	31	33.0	1.8	420	177
WEE-56	56	40	2.5	30.0	0.49	33	10.0	33	30.0	2.2	390	170
WEE-68	68	40	2.5	27.0	0.50	35	10.0	35	27.0	2.3	375	165
WEE-82	82	42	2.5	17.5	1.0	44	8.0	44	17.5	2.4	360	160
WEE-100	100	63	.79	15.0	1.0	62	5.0	62	15.0	2.6	345	157
WEE-120	120	62	.79	14.0	1.0	75	5.0	75	14.0	2.9	330	145

NYTRONICS PART NO.	L	Q min		approx. Fo	approx. Cd	min. Rp		min. Rp		Max. OCR at 125°C		Max. I	Incr* I
		uH	MC	MC	uF	K(Ω)	MC	K(Ω)	MC	Ω	mA		
WEE-150	150	63	.79	12.5	1.0	84	4.0	84	12.5	3.3	315	126	
WEE-180	180	60	.79	11.5	1.0	95	4.0	95	11.5	3.6	300	110	
WEE-220	220	57	.79	11.0	0.94	98	4.0	106	11.0	4.1	280	105	
WEE-270	270	52	.79	10.0	0.92	115	3.0	117	10.0	4.8	260	91	
WEE-330	330	50	.79	9.0	0.92	125	3.0	130	9.0	5.6	240	87	
WEE-390	390	43	.79	8.5	0.87	130	3.0	132	8.5	6.2	230	72	
WEE-470	470	66	.79	8.0	0.83	220	1.5	230	8.0	10.0	180	67	
WEE-560	560	64	.79	7.5	0.82	269	1.5	275	7.5	11.5	170	65	
WEE-680	680	71	.79	6.5	0.87	320	1.5	340	6.5	12.0	160	60	
WEE-820	820	67	.79	6.0	0.87	355	1.5	420	6.0	13.8	150	55	
WEE-1000	1000	62	.79	5.6	0.87	430	1.5	450	5.6	16.0	140	52	
WEE-1200	1200	52	.250	1.490	9.0	225	.500	290	1.490	18.2	135	50	
WEE-1500	1500	51	.250	1.460	8.0	280	.500	425	1.460	23.7	118	48	
WEE-1800	1800	51	.250	1.420	6.5	340	.500	540	1.420	30.2	105	42	
WEE-2200	2200	50	.250	1.300	6.8	380	.500	560	1.300	33.7	99	37	
WEE-2700	2700	51	.250	1.180	6.8	510	.500	700	1.180	43.1	87	33	
WEE-3300	3300	52	.250	1.050	7.0	640	.500	830	1.050	48.7	82	30	
WEE-3900	3900	48	.250	.960	7.0	600	.500	850	960	62.7	72	29	
WEE-4700	4700	48	.250	.840	7.4	560	.400	860	840	70.5	68	28	
WEE-5600	5600	48	.250	810	6.8	610	.350	940	810	104	56	24	
WEE-6800	6800	45	.250	.740	6.8	690	.350	960	740	118	53	20	
WEE-8200	8200	38	.250	.580	9.2	710	300	1000	.580	146	47	18	
WEE-10,000	10,000	36	.079	.470	11.5	520	.200	670	.470	76.6	66	15	
WEE-12,000	12,000	36	.079	.370	15.0	580	.200	710	.370	109	55	14	
WEE-15,000	15,000	38	.079	.330	15.0	610	.150	780	.330	119	52	13	
WEE-18,000	18,000	38	.079	.305	15.0	630	.150	850	.305	138	49	13	
WEE-22,000	22,000	32	.079	.295	13.0	720	.150	970	.295	219	39	12	
WEE-27,000	27,000	32	.079	.270	13.0	810	.150	1000	.270	259	35	12	
WEE-33,000	33,000	32	.079	.250	12.5	1070	.150	1040	.250	296	33	11	
WEE-39,000	39,000	30	.079	.215	14.0	690	.100	1050	.215	395	29	10	
WEE-47,000	47,000	25	.079	.210	12.5	850	.100	1310	.209	452	27	9	
WEE-56,000	56,000	25	.079	.195	12.0	1050	.100	1450	.195	499	26	8	
WEE-68,000	68,000	20	.079	.130	18.4	860	.079	1300	.130	395	29	1.1	
WEE-82,000	82,000	20	.079	.125	16.5	900	.079	1340	.125	452	27	1.1	
WEE-100,000	100,000	20	.079	.115	16.2	940	.060	1450	.115	499	26	1.1	
WEE-120,000	120,000	20	.070	.105	16.8	1000	.055	1560	.105	540	23	1.1	
WEE-150,000	150,000	20	.060	.098	13.4	1175	.055	1600	.098	750	20	1.0	
WEE-180,000	180,000	20	.050	.094	13.4	1100	.050	1650	.094	880	18	0.8	

\*Incremental Current: The D.C. current required to cause a maximum reduction of 5 percent from nominal inductance value.





**NYTRONICS, INC.**

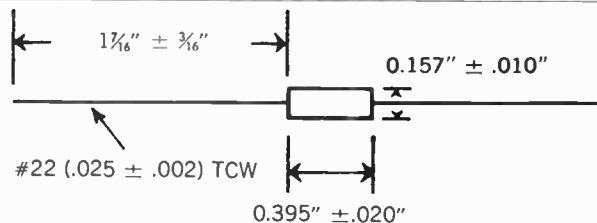
**Inductors**

**SUPER WEE-DUCTOR / 90537  
MOLDED SHIELDED INDUCTOR**

Manufactured per MS-90537

New Ultra-Reliable Molded Shielded Miniature Inductor.  
Inductance Range: 0.1uH to 100,000uH.  
Unique "T" design eliminates Fine Wire considerations.

The new SUPER WEE-DUCTOR is an R.F. Inductor specifically designed to meet the demanding requirements of MIL-C-15305C, Grade 1, Class B. The unique "T" design eliminates fine wire consideration that has previously concerned design engineers on critical circuitry. The SUPER WEE-DUCTOR epoxy molded envelope and shielding offers the design engineer reliability, electrical performance, and minimum coupling in high density packaging.



**ELECTRICAL CHARACTERISTICS**

Inductance Tolerance: ±10% over the entire inductance range.  
Dielectric Strength: 700 volts RMS at sea level.  
Self-Resonant Frequency: Measured per MIL-C-15305C.  
Q and Rp Values: Measured on a Q-Meter. Minimum Rp values at listed frequencies are all conservative.  
Maximum Current: Based on temperature rise not to exceed 35°C at 90°C ambient.

**DENSITY CHARACTERISTICS**

Volume: 0.0076 cubic inches Weight: 0.75 grams maximum  
Shielding: At 1000 cycles two units assembled side by side exhibit less than 3% coupling.

**PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS**

Operating Temperature: -55°C to +125°C.  
Terminal Strength: Meets five pound pull test; five 360° rotations in alternate directions per MIL-C-15305C.  
Moisture, Vibration, and Shock Resistance: Meets requirements of MIL-C-15305C, Grade 1, Class B. High frequency 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS.  
Marking: Color coded per MIL-C-15305C.

NYTRONICS CATALOG NO.	L	Q min		min. Fo	approx. Cd*	min. Rp*	min. Rp*	min. Rp*	Max DCR at 125°C	Max. I	Incr.** I	
		μH	MC									
90537-1	SWD-0.10	0.10	50	25	500	0.67	6	100	15	230	0.025	2900
90537-2	SWD-0.12	0.12	51	25	450	0.67	7	100	19	230	0.034	2800
90537-3	SWD-0.15	0.15	51	25	400	0.67	8	100	20	230	0.037	2750
90537-4	SWD-0.18	0.18	50	25	375	0.67	10	100	27	230	0.047	2200
90537-5	SWD-0.22	0.22	49	25	330	0.67	12	100	29	230	0.067	1700
90537-6	SWD-0.27	0.27	47	25	290	0.67	16	100	31	230	0.11	1500
90537-7	SWD-0.33	0.33	46	25	280	0.67	19	100	33	230	0.13	1300
90537-8	SWD-0.39	0.39	44	25	255	0.67	23	100	34	230	0.18	1100
90537-9	SWD-0.47	0.47	44	25	235	0.67	27	100	35	230	0.25	1000
90537-10	SWD-0.56	0.56	43	25	210	0.67	33	100	37	230	0.33	900
90537-11	SWD-0.68	0.68	42	25	190	0.67	43	100	38	230	0.45	750
90537-12	SWD-0.82	0.82	40	25	180	0.67	30	100	40	230	0.59	600
90537-13	SWD-1.0	1.0	47	25	140	0.84	13	75	12	164	0.070	1900
90537-14	SWD-1.2	1.2	46	7.9	130	0.83	15	75	15	150	0.093	1600
90537-15	SWD-1.5	1.5	45	7.9	115	0.83	17	50	17	135	0.12	1300
90537-16	SWD-1.8	1.8	43	7.9	105	0.83	19	50	19	124	0.14	1200
90537-17	SWD-2.2	2.2	45	7.9	100	0.73	21	40	25	112	0.19	1100
90537-18	SWD-2.7	2.7	46	7.9	92	0.73	26	40	27	107	0.28	950
90537-19	SWD-3.3	3.3	44	7.9	85	0.76	31	30	30	91	0.35	800
90537-20	SWD-3.9	3.9	44	7.9	75	0.73	33	30	32	84	0.40	750
90537-21	SWD-4.7	4.7	44	7.9	70	0.73	34	25	42	76	0.55	650
90537-22	SWD-5.6	5.6	47	7.9	65	0.73	38	25	44	69	0.72	550
90537-23	SWD-6.8	6.8	50	7.9	55	0.78	42	20	46	63	1.02	500
90537-24	SWD-8.2	8.2	50	7.9	50	0.78	45	20	48	57	1.32	475
90537-25	SWD-10	10	49	7.9	46	0.84	40	15	50	55	1.62	450
90537-26	SWD-12	12	55	2.5	44	0.73	44	15	65	54	2.00	400
90537-27	SWD-15	15	44	2.5	49	0.48	7	15	10	62	0.80	620
90537-28	SWD-18	18	45	2.5	45	0.48	8	15	12	57	0.89	610
90537-29	SWD-22	22	46	2.5	41	0.48	9	15	10	52	0.96	600
90537-30	SWD-27	27	49	2.5	38	0.48	10	15	11	48	1.19	500
90537-31	SWD-33	33	45	2.5	34	0.48	14	12	13	40	1.37	490
90537-32	SWD-39	39	53	2.5	29	0.48	16	12	15	37	1.93	410
90537-33	SWD-47	47	52	2.5	27	0.48	19	12	16	34	2.11	400
90537-34	SWD-56	56	49	2.5	25	0.48	25	10	20	33	2.23	380
90537-35	SWD-68	68	51	2.5	21	0.50	28	10	22	27	2.70	370
90537-36	SWD-82	82	45	2.5	10.5	1.70	42	8	29	13.5	2.44	360

NYTRONICS CATALOG NO.	L	Q min	min. Fo	approx. Cd*	min. Rp*	min. Rp*	min. Rp*	Max DCR at 125°C	Max. I	Incr.** I		
											μH	MC
90537-37	SWD-100	100	52	2.5	10.0	1.70	62	5	44	12.5	3.12	325
90537-38	SWD-120	120	57	.79	9.7	1.40	82	5	48	12.2	3.60	290
90537-39	SWD-150	150	56	.79	8.5	1.50	90	4	61	10.7	4.10	275
90537-40	SWD-180	180	60	.79	8.0	1.40	100	4	71	10.1	4.40	260
90537-41	SWD-220	220	58	.79	7.5	1.30	106	4	78	9.5	5.00	250
90537-42	SWD-270	270	60	.79	7.0	1.30	136	3	115	8.8	5.80	240
90537-43	SWD-330	330	54	.79	6.5	1.10	151	3	127	8.4	6.40	225
90537-44	SWD-390	390	67	.79	6.2	1.00	164	3	139	8.2	7.40	200
90537-45	SWD-470	470	60	.79	5.7	1.00	183	1.5	203	7.2	9.50	180
90537-46	SWD-560	560	60	.79	4.7	1.30	202	1.5	227	5.9	10.5	174
90537-47	SWD-680	680	60	.79	4.5	1.10	233	1.5	276	5.7	11.8	168
90537-48	SWD-820	820	57	.79	4.2	1.10	311	1.5	307	5.3	13.0	152
90537-49	SWD-1000	1000	65	.79	3.8	1.10	407	1.5	435	4.8	17.5	135
90537-50	SWD-1200	1200	45	.25	1.5	6.20	166	0.5	274	1.8	22.1	115
90537-51	SWD-1500	1500	49	.25	1.2	8.20	298	0.5	355	1.4	26.5	110
90537-52	SWD-1800	1800	47	.25	1.0	8.70	258	0.5	360	1.25	29.9	105
90537-53	SWD-2200	2200	50	.25	0.97	8.00	276	0.5	365	1.20	33.8	99
90537-54	SWD-2700	2700	47	.25	0.92	7.00	360	0.5	440	1.15	47.3	83
90537-55	SWD-3300	3300	43	.25	0.84	7.20	400	0.5	458	1.10	53.0	80
90537-56	SWD-3900	3900	43	.25	0.80	6.50	440	0.5	520	1.00	73.8	67
90537-57	SWD-4700	4700	44	.25	0.74	6.40	440	0.4	592	0.92	81.6	63
90537-58	SWD-5600	5600	45	.25	0.73	5.50	445	0.35	800	0.90	98.9	56
90537-59	SWD-6800	6800	43	.25	0.6E	5.50	457	0.30	840	0.83	111.0	54
90537-60	SWD-8200	8200	42	.25	0.5E	6.70	600	0.30	880	0.68	119.0	52
90537-61	SWD-10,000	10,000	39	.25	0.4	7.30	320	0.20	900	0.59	137.0	49
90537-62	SWD-12,000	12,000	31	.079	0.3	12.0	446	0.20	620	0.43	143.0	46
90537-63	SWD-15,000	15,000	31	.079	0.2	12.7	450	0.15	670	0.36	157.0	45
90537-64	SWD-18,000	18,000	31	.079	0.2	11.2	510	0.15	690	0.35	175.0	41
90537-65	SWD-22,000	22,000	27	.079	0.25	11.6	536	0.15	710	0.31	274.0	33
90537-66	SWD-27,000	27,000	27	.079	0.2	12.9	607	0.15	740	0.27	308.0	31
90537-67	SWD-33,000	33,000	27	.079	0.1	13.3	780	0.15	850	0.24	343.0	30
90537-68	SWD-39,000	39,000	27	.079	0.1	14.1	607	0.10	940	0.21	376.0	27
90537-69	SWD-47,000	47,000	23	.079	0.16	13.5	623	0.10	980	0.20	473.0	26
90537-70	SWD-56,000	56,000	23	.079	0.13	13.2	708	0.10	1000	0.18	512.0	25
90537-71	SWD-68,000	68,000	23	.079	0.13	13.2	675	0.079	1020	0.16	580.0	24
90537-72	SWD-82,000	82,000	21	.079	0.12	12.9	704	0.079	1050	0.15	618.0	23
90537-73	SWD-100,000	100,000	18	.079	0.11	12.2	918	0.060	1140	0.14	678.0	22

\*Applies to SWD only.  
\*\* INCREMENTAL CURRENT The D.C. current required to cause a 5% reduction in the nominal inductance value.



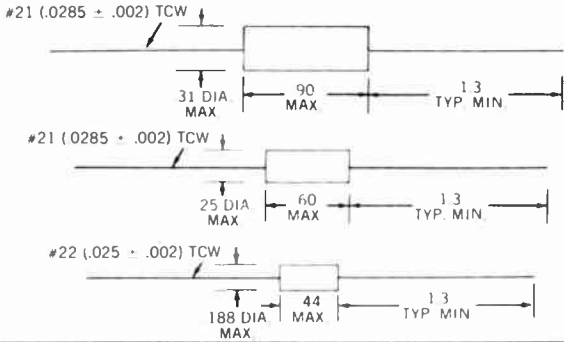


**NYTRONICS, INC.**

**Inductors**

**MOLDED NON-SHIELDED  
S, M, and L INDUCTORS**

Proven reliability molded inductors designed to meet MIL-C-15305A. Inductance 0.10 to 10,000 uH in three envelopes.



These units offer the design engineer a rugged, molded inductor that has been recognized for years throughout the industry for exceptional reliability in critical circuitry applications.

**ELECTRICAL CHARACTERISTICS**

- Inductance Tolerance:** 0.1 to 22uH ±10% on Q-Meter  
27uH to 10,000 ±5% 1,000 cps bridge
- Dielectric Strength:** 700 volts RMS at sea level.
- Self-Resonant Frequency:** Minimum f<sub>0</sub> to be not less than 80% of published data and measured with full length leads on Grid-Dip Meter.
- Q and Rp Values:** Measured on Q-Meter.
- Rating:** 1/3 watt dissipation for series S and M and 1/2 watt dissipation for L series.

**DENSITY CHARACTERISTICS**

- Volume:** S Type — 0.012 cu. in.  
M Type — 0.029 cu. in.  
L Type — 0.068 cu. in.
- Weight:** S Type — 0.90 grams  
M Type — 2.00 grams  
L Type — 4.10 grams

**PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS**

- Operating Temperature:** -55°C to +125°C.
- Terminal Strength:** Meets five pound pull test per MIL-C-15305C.
- Moisture, Vibration, and Shock Resistance:** Meets requirements of MIL-C-15305C, Grade 1, Class B. High frequency 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings, each of 20 minute duration repeated for each of three mutually perpendicular planes. (body mounted)

NYTRONICS PART NO.	L		Q min		approx. Fo	approx. Cd	min. Rp		min. Rp	max DCR at 125°C	max. I
	uH	MC	MC	MC	MC	uF	K Ω	MC	K Ω	MC	Ω
RFC-S- 0.10	0.10	85	50	>500	0.4	2.7	50	15	200	.02	4000
RFC-S- 0.12	0.12	85	50	500	0.4	3.2	50	20	200	.025	3500
RFC-S- 0.15	0.15	85	50	>500	0.4	4.1	50	25	200	.03	3000
RFC-S- 0.18	0.18	75	50	500	0.4	4.2	50	27	200	.03	3000
RFC-S- 0.22	0.22	75	50	500	0.4	5.2	50	30	200	.03	3000
RFC-S- 0.27	0.27	70	45	470	0.4	5.3	45	40	200	.04	2700
RFC-S- 0.33	0.33	70	40	440	0.4	6.0	40	50	200	.05	2500
RFC-S- 0.39	0.39	65	40	400	0.4	6.3	40	55	200	.08	2000
RFC-S- 0.47	0.47	60	25	360	0.4	4.5	25	60	200	.08	2000
RFC-S- 0.56	0.56	55	25	330	0.4	4.8	25	80	200	.10	1700
RFC-S- 0.68	0.68	55	25	300	0.4	6.0	25	120	200	.12	1500
RFC-S- 0.82	0.82	50	25	275	0.4	6.2	25	120	200	.18	1300
RFC-S- 1.0	1.0	50	20	250	0.4	6.5	20	120	200	.24	1100
RFC-S- 1.2	1.2	45	20	220	0.4	6.5	20	120	200	.35	1000
RFC-S- 1.5	1.5	45	15	200	0.4	6.5	15	120	200	.43	850
RFC-S- 1.8	1.8	45	15	180	0.4	7.6	15	120	180	.65	720
RFC-S- 2.2	2.2	45	15	165	0.4	9.5	15	120	165	.80	610
RFC-S- 2.7	2.7	55	10	110	0.7	9	10	20	110	.12	1600
RFC-S- 3.3	3.3	55	10	100	0.7	11	10	25	100	.15	1400
RFC-S- 3.9	3.9	60	10	95	0.7	14	10	27	95	.23	1200
RFC-S- 4.7	4.7	70	7.9	90	0.7	17	8	30	90	.30	1000
RFC-S- 5.6	5.6	65	7.9	80	0.7	18	8	35	80	.45	900
RFC-S- 6.8	6.8	65	7.9	70	0.7	22	8	45	70	.55	800
RFC-S- 8.2	8.2	60	7.9	65	0.7	24	8	47	65	.65	720
RFC-S- 10	10	60	5	60	0.7	19	5	50	60	.73	650
RFC-S- 12	12	65	5	53	0.7	24	5	60	53	1.1	590
RFC-S- 15	15	80	2.5	47	0.7	19	2.5	70	47	1.4	500
RFC-S- 18	18	75	2.5	43	0.7	18	2.5	72	43	1.6	460
RFC-S- 22	22	75	2.5	40	0.7	26	2.5	75	40	1.8	430
RFC-S- 27	27	75	2.5	36	0.7	30	2.5	75	36	2.7	360
RFC-S- 33	33	85	2.5	32	0.7	44	2.5	80	32	3.5	300
RFC-S- 39	39	80	2.5	26	0.9	48	2.5	80	26	3.8	290
RFC-S- 47	47	80	2.5	22	1.1	60	2.5	80	22	4.0	275
RFC-S- 56	56	75	2.5	19	1.3	66	2.5	80	19	4.4	265
RFC-S- 68	68	75	2.5	16	1.5	83	2.5	80	16	4.7	250
RFC-S- 82	82	75	2.5	13	2.0	96	2.5	80	13	5.3	235
RFC-S- 100	100	75	1.5	10	2.5	72	1.5	80	9.5	6.0	220
RFC-M- 120	120	95	1.5	14	1.1	100	1.5	150	14	7.5	200
RFC-M- 150	150	90	1.0	11	1.3	85	1.0	150	11	8	190
RFC-M- 180	180	85	1.0	9	1.8	96	1.0	150	9	9	185
RFC-M- 220	220	85	1.0	7	2.2	112	1.0	150	7	10	180
RFC-M- 270	270	80	1.0	5.5	3.0	135	1.0	135	5.5	11	172
RFC-M- 330	330	80	.8	4.5	3.8	136	.8	120	4.5	12	165
RFC-M- 390	390	75	.8	4.0	4.1	147	.8	120	4.0	13	157
RFC-M- 470	470	75	.8	3.5	4.4	180	.8	120	3.5	14	150
RFC-M- 560	560	65	.8	3.1	4.7	183	.8	135	3.1	16	145
RFC-M- 680	680	65	.8	2.7	5.0	225	.8	150	2.7	17	140
RFC-M- 820	820	65	.8	2.5	5.0	225	.8	150	2.5	19	132
RFC-M-1000	1000	70	.5	2.3	5.0	225	.5	150	2.3	21	125
RFC-L- 1200	1200	75	.5	2.1	4.4	250	.5	160	2.1	27	137
RFC-L- 1500	1500	75	.4	1.9	4.5	290	.4	200	1.9	29	130
RFC-L- 1800	1800	65	.4	1.7	4.6	290	.4	200	1.7	32	125
RFC-L- 2200	2200	65	.25	1.5	4.7	230	.25	200	1.5	35	120
RFC-L- 2700	2700	65	.25	1.3	5.0	277	.25	200	1.3	40	112
RFC-L- 3300	3300	65	.25	1.2	5.3	330	.25	200	1.2	45	105
RFC-L- 3900	3900	65	.25	1.05	5.6	395	.25	200	1.05	49	100
RFC-L- 4700	4700	65	.25	.95	6.2	470	.25	300	.95	53	95
RFC-L- 5600	5600	65	.25	.85	6.3	570	.25	300	.85	60	90
RFC-L- 6800	6800	65	.25	.75	6.3	700	.25	300	.75	67	85
RFC-L- 8200	8200	65	.25	.65	7.2	835	.25	400	.65	75	82
RFC-L-10000	10000	65	.15	.58	7.8	1040	.15	400	.58	80	80

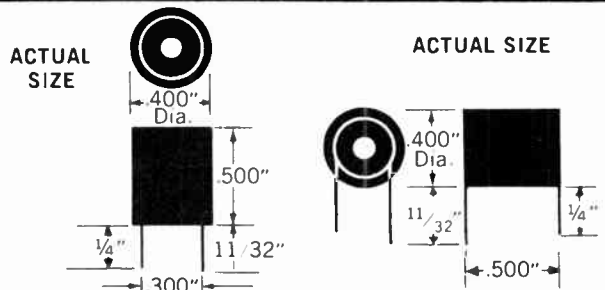


**NYTRONICS, INC.®**

**Inductors**

**VARIABLE INDUCTOR**

Miniature with inductance range of 0.10 to 4700uH in 29 values.  
Encapsulated in epoxy resin for reliability.  
Designed to meet MIL-C-15305A.



Terminal Leads #22 (.025 ± .002) TCW

VERTICAL STYLE

HORIZONTAL STYLE

The **VARIABLE INDUCTOR** offers high reliability and exceptional stability over extreme temperature variations. This small lightweight unit is furnished in vertical and horizontal styles to facilitate mounting on printed circuit boards. The unit is designed to meet the requirements of MIL-C-15305A, Grade 1, Class B.

**ELECTRICAL CHARACTERISTICS**

**Inductance Range:** 0.33 to 4700uH Tunable Range ±20%  
0.15 to 0.22uH Tunable Range ±15%  
0.1 Tunable Range ±10%  
All measurements at 25°C on Q-Meter using miniature alligator clips mounted 1/32" from body.  
Q values ±20%

**Self-Resonant Frequency:** Minimum  $f_0$  to be not less than 80% of published data as measured with Grid-Dip Meter

**DENSITY CHARACTERISTICS**

**Volume:** 0.063 cubic inches  
**Weight:** 2.6 grams

**PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS**

**Torque:** 0.75 to 5.0 inch-ounces  
Use Nytronics Tuning Tool No. B-305 or equal.

**Operating Temperature:** -55°C to +125°C

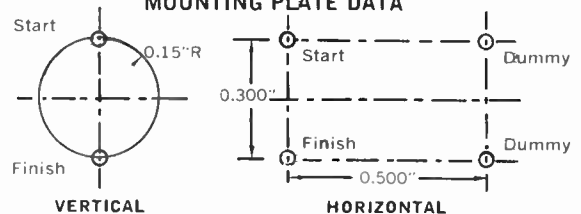
**Terminal Strength:** Meets five pound pull tests.

**Moisture, Vibration, and Shock Resistance:** Meets requirements of MIL-C-15305A, Grade 1, Class B. Low frequency 10 cps to 55 cps @ .06" total excursion at rate of 1 linear sweep per minute for 2 hours repeated for each of 3 mutually perpendicular planes. Shock: 50G, 11ms.

**Marking:** Manufacturer data printed.

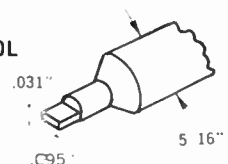
NYTRONICS PART NO.		L nom	Q at L nom		Approx. Fo, L nom	max DC R at 25°C
VIV	VIH	uH		MC	MC	Ω
VIV- 0.10	VIH- 0.10	0.10	85	25.	>500.	0.02
VIV- 0.15	VIH- 0.15	0.15	100	25.	>500.	0.035
VIV- 0.22	VIH- 0.22	0.22	100	25.	>500.	0.04
VIV- 0.33	VIH- 0.33	0.33	100	25.	334.	0.04
VIV- 0.47	VIH- 0.47	0.47	100	25.	285.	0.05
VIV- 0.68	VIH- 0.68	0.68	100	25.	237.	0.07
VIV- 1.00	VIH- 1.00	1.00	90	25.	205.	0.13
VIV- 1.50	VIH- 1.50	1.50	70	7.9	168.	0.24
VIV- 2.20	VIH- 2.20	2.20	73	7.9	135.	0.30
VIV- 3.30	VIH- 3.30	3.30	80	7.9	112.	0.45
VIV- 4.70	VIH- 4.70	4.70	75	7.9	100.0	0.80
VIV- 6.80	VIH- 6.80	6.80	80	7.9	80.0	1.1
VIV- 10.0	VIH- 10.0	10.0	82	7.9	67.0	1.9
VIV- 15.0	VIH- 15.0	15.0	65	2.5	54.2	3.2
VIV- 22.0	VIH- 22.0	22.0	55	2.5	17.5	3.4
VIV- 33.0	VIH- 33.0	33.0	54	2.5	15.0	3.6
VIV- 47.0	VIH- 47.0	47.0	51	2.5	13.2	4.5
VIV- 68.0	VIH- 68.0	68.0	55	2.5	12.0	5.5
VIV- 100	VIH- 100	100.0	50	2.5	10.5	6.7
VIV- 150	VIH- 150	150.	50	.79	3.0	11.0
VIV- 220	VIH- 220	220.	50	.79	2.70	13.0
VIV- 330	VIH- 330	330.	48	.79	2.24	16.0
VIV- 470	VIH- 470	470.	45	.79	1.90	18.0
VIV- 680	VIH- 680	680.	42	.79	1.70	21.0
VIV-1000	VIH-1000	1000.	40	.79	1.40	38.0
VIV-1500	VIH-1500	1500.	40	.25	1.14	54.0
VIV-2200	VIH-2200	2200.	44	.25	0.96	66.0
VIV-3300	VIH-3300	3300.	46	.25	0.86	85.0
VIV-4700	VIH-4700	4700.	48	.25	0.76	99.0

**MOUNTING PLATE DATA**



**TYPICAL ALIGNING TOOL**

**B-305**



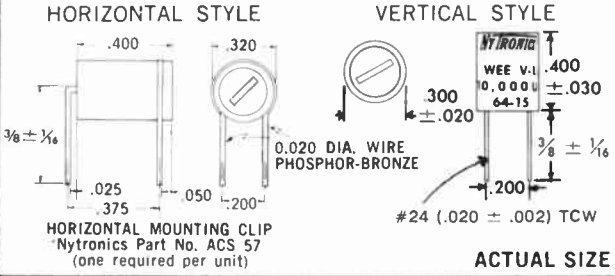


**NYTRONICS, INC.**

**Inductors**

**WEE V-L**

**Subminiature Shielded Adjustable Inductor**  
**High Q Values**  
**Vertical or Horizontal\* Mounting**  
**Unitized Epoxy-Molded Construction**  
**0.400" by 0.300"**  
**0.10 to 100,000uH**



NYTRONICS CATALOG NO.	L nom.		f		Q nom.	Fo nom.	D.C.R. 25°C Max.	Max. I	Incr. I
	μh	MC	MC	MC					
**WEE V-L 0.10	.10	25	70	>250	0.030	2500	2500		
**WEE V-L 0.12	.12	25	70	>250	0.030	2500	2500		
WEE V-L 0.15	.15	25	70	>250	0.030	2500	2500		
WEE V-L 0.18	.18	25	70	>250	0.035	2400	2400		
WEE V-L 0.22	.22	25	70	>250	0.038	2300	2300		
WEE V-L 0.27	.27	25	80	>250	0.040	2200	2200		
WEE V-L 0.33	.33	25	80	>250	0.040	2200	2200		
WEE V-L 0.39	.39	25	80	250	0.045	2100	2100		
WEE V-L 0.47	.47	25	80	230	0.045	2100	2100		
WEE V-L 0.56	.56	25	80	220	0.050	2000	2000		
WEE V-L 0.68	.68	25	80	190	0.055	1900	1900		
WEE V-L 0.82	.82	25	85	180	0.060	1800	1800		
WEE V-L 1.00	1.00	25	85	160	0.070	1700	1700		
WEE V-L 1.2	1.2	7.9	90	170	0.085	1670	1670		
WEE V-L 1.5	1.5	7.9	100	155	0.100	1510	1540		
WEE V-L 1.8	1.8	7.9	115	135	0.110	1470	1470		
WEE V-L 2.2	2.2	7.9	110	120	0.120	1410	1410		
WEE V-L 2.7	2.7	7.9	110	104	0.125	1380	1380		
WEE V-L 3.3	3.3	7.9	90	93.0	0.165	1200	1200		
WEE V-L 3.9	3.9	7.9	90	87.0	0.180	1135	1135		
WEE V-L 4.7	4.7	7.9	95	79.0	0.245	985	985		
WEE V-L 5.6	5.6	7.9	95	72.0	0.265	950	950		
WEE V-L 6.8	6.8	7.9	85	63.0	0.330	853	853		
WEE V-L 8.2	8.2	7.9	95	60.0	0.460	720	720		
WEE V-L 10	10	7.9	90	54.0	0.640	620	620		
WEE V-L 12	12	2.5	120	37.0	0.800	545	545		
WEE V-L 15	15	2.5	120	28.8	0.865	520	520		
WEE V-L 18	18	2.5	115	23.8	0.940	504	504		
WEE V-L 22	22	2.5	125	21.3	1.03	460	460		
WEE V-L 27	27	2.5	115	20.6	1.18	418	418		
WEE V-L 33	33	2.5	120	18.6	1.30	398	398		
WEE V-L 39	39	2.5	120	17.7	1.41	385	385		
WEE V-L 47	47	2.5	110	14.9	1.61	350	350		
WEE V-L 56	56	2.5	115	13.9	2.08	330	330		
WEE V-L 68	68	2.5	105	12.9	2.20	320	320		
WEE V-L 82	82	2.5	105	11.7	2.42	300	300		
WEE V-L 100	100	2.5	95	10.5	2.15	333	333		
WEE V-L 120	120	0.790	95	5.60	2.38	316	190		
WEE V-L 150	150	0.790	90	5.20	2.52	306	175		
WEE V-L 180	180	0.790	95	4.90	2.88	288	150		
WEE V-L 220	220	0.790	95	4.60	3.18	273	125		
WEE V-L 270	270	0.790	100	4.20	3.50	260	120		
WEE V-L 330	330	0.790	100	3.55	4.80	222	110		
WEE V-L 390	390	0.790	100	3.45	5.44	209	105		
WEE V-L 470	470	0.790	100	3.20	5.90	201	100		
WEE V-L 560	560	0.790	95	2.90	6.30	194	90		
WEE V-L 680	680	0.790	100	2.70	7.20	181	80		
WEE V-L 820	820	0.790	90	2.50	8.00	172	70		
WEE V-L 1,000	1,000	0.790	100	2.35	12.0	141	65		
WEE V-L 1,200	1,200	0.250	95	2.20	13.5	132	60		
WEE V-L 1,500	1,500	0.250	90	1.90	16.5	119	55		
WEE V-L 1,800	1,800	0.250	100	1.80	18.0	114	47		
WEE V-L 2,200	2,200	0.250	100	1.70	20.5	107	43		
WEE V-L 2,700	2,700	0.250	95	1.50	22.5	102	39		
WEE V-L 3,300	3,300	0.250	90	1.40	42.0	76	36		
WEE V-L 3,900	3,900	0.250	85	1.27	47.5	71	35		
WEE V-L 4,700	4,700	0.250	85	1.24	53.0	67	34		
WEE V-L 5,600	5,600	0.250	85	0.93	62.5	65	31		
WEE V-L 6,800	6,800	0.250	75	0.79	69.5	58	27		
WEE V-L 8,200	8,200	0.250	80	0.75	75.0	56	26		
WEE V-L 10,000	10,000	0.250	70	0.70	100.0	49	24		
WEE V-L 12,000	12,000	0.079	70	.50	64	60	40		
WEE V-L 15,000	15,000	0.079	70	.38	84	52	34		
WEE V-L 18,000	18,000	0.079	70	.36	93	50	30		
WEE V-L 22,000	22,000	0.079	70	.32	104	45	28		
WEE V-L 27,000	27,000	0.079	70	.30	173	35	26		
WEE V-L 33,000	33,000	0.079	70	.27	187	32	24		
WEE V-L 39,000	39,000	0.079	70	.26	220	30	22		
WEE V-L 47,000	47,000	0.079	70	.25	253	28	20		
WEE V-L 56,000	56,000	0.079	70	.24	285	26	19		
WEE V-L 68,000	68,000	0.079	60	.20	311	24	18		
WEE V-L 82,000	82,000	0.079	60	.19	385	22	16		
WEE V-L 100,000	100,000	0.079	60	.17	420	20	15		

The WEE V-L is designed to accommodate close inductance adjustments in high-density circuits that demand exceptional stability and high "Q" in the smallest size available. The WEE V-L is designed to meet MIL-C-15305C, Grade 1, Class B. Printed board mounting is facilitated by 0.200 grid spacing and unit has shield construction to allow maximum density packaging. Standardized in 73 stock values.

**ELECTRICAL CHARACTERISTICS**

- Adjustable Inductance Range:** ± 10%\* over entire range as measured per MIL-C-15305C
- Q and f<sub>o</sub> Values:** Minimum not less than 80% of specified value at L nominal.
- Dielectric Strength:** 840 Volts R.M.S. at sea level.
- Working Voltage:** 300 Volts D.C.
- Maximum Current:** Based on temperature rise not to exceed 35°C at 90°C ambient.
- Incremental Current:** Defined as the DC current required to cause a five percent reduction in the nominal inductance value.

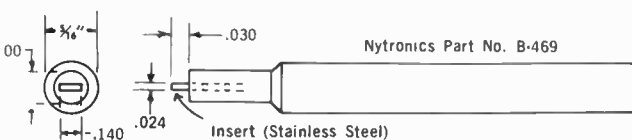
**DENSITY CHARACTERISTICS**

- Weight:** 1.5 grams maximum
- Volume:** .0346 cubic inches
- Shielding:** 3% coupling maximum when two units are tested side by side.

**PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS**

Use Nytronic Tuning Tool No. B-469 or equal.

- Torque:** 0.75 to 6.0 inch-oz.
- Operating Temperature:** -55°C to +125°C.
- Moisture, Vibration, and Shock Resistance:** Meet requirements of MIL-C-15305C, Grade 1, Class B. Low frequency 10 to 55 cps @ .06" maximum total excursion at rate of 1 linear sweep per minute for 2 hours repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS. (body mounted)
- Marking:** Manufacturer data printed.
- Terminal Pull:** Three pounds.



\*For Horizontal mounting use Nytronic mounting clip No. ACS-57 or order with prefix H (i.e. H WEE V-L 0.10).

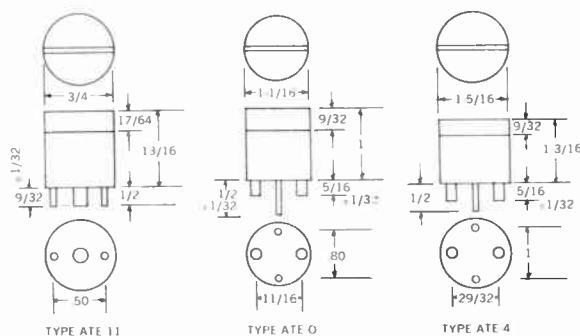
\*\*Tunable range ± 5.0% on 0.10uH & 0.12uH


**NYTRONICS, INC.**
**Inductors**

## ADJUSTOROID

(U.S. Patent Numbers 2,762,020 and 3,100,882)

**Miniature Variable Toroid**  
**Stepless Adjustment**  
**Very High "Q"**  
**Available to 12 Henries**  
**Completely Hermetically Sealed**  
**Fully Shielded**



This radically new development in the toroidal coil field offers a miniature variable toroid in one of three case sizes as shown above. The **ADJUSTOROID** was developed especially for printed circuit and similar lightweight applications. This unit is hermetically sealed, and there is no physical contact between the adjusting screw and the toroidal winding.



### ELECTRICAL CHARACTERISTICS:

<b>Adjustable Inductance Range:</b>	Not less than $\pm 5\%$ from nominal
<b>Q and fo values:</b>	Minimum not less than 80% of specified value at nominal inductance.
<b>Incremental Current:</b>	Defined as the D.C. current required to cause a 5% reduction in the nominal inductance value.

### PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS:

<b>Weight:</b>	Type ATE-11: 0.83 oz. Type ATE-0: 2.0 oz. Type ATE-4: 4.0 oz.
<b>Moisture Resistance:</b>	Hermetically sealed to meet MIL-C-15305A.

Nytronics Catalog No.	L nom. (Hy)	Q Nom.	Freq. (KC)	Fo Nom. (KC)	DCR Nom. ( $\Omega$ )	Incr. I (Ma.)
ATE-11-0.010	.010	75	15	350	6	55
ATE-11-0.012	.012	75	15	300	8	51
ATE-11-0.015	.015	75	15	250	9	45
ATE-11-0.018	.018	75	15	250	10	41
ATE-11-0.022	.022	75	15	200	13	37
ATE-11-0.027	.027	75	15	200	14	34
ATE-11-0.033	.033	70	15	150	20	30
ATE-11-0.039	.039	70	15	150	22	28
ATE-11-0.047	.047	70	15	150	29	25
ATE-11-0.056	.056	70	15	100	32	23
ATE-11-0.068	.068	65	10	100	35	21
ATE-11-0.082	.082	65	10	100	48	19
ATE-11-0.100	.100	60	10	95	53	17
ATE-11-0.120	.120	60	10	90	58	16
ATE-11-0.150	.150	55	10	80	85	14
ATE-11-0.180	.180	55	10	70	92	13
ATE- 0-0.220	.220	95	7	45	55	21
ATE- 0-0.270	.270	95	7	40	76	19
ATE- 0-0.330	.330	95	7	35	83	17
ATE- 0-0.390	.390	90	6	35	111	16
ATE- 0-0.470	.470	90	6	30	122	14
ATE- 0-0.560	.560	90	6	25	181	12
ATE- 0-0.680	.680	85	6	20	185	12
ATE- 0-0.820	.820	85	6	20	202	11
ATE- 0-1.00	1.00	85	5	20	291	10
ATE- 0-1.20	1.20	80	5	20	320	9
ATE- 0-1.50	1.50	80	5	15	358	8
ATE- 4-1.80	1.80	100	4	13	198	14
ATE- 4-2.20	2.20	90	3	12	220	13
ATE- 4-2.70	2.70	90	3	11	300	11
ATE- 4-3.30	3.30	90	3	9	331	10
ATE- 4-3.90	3.90	80	2	8	455	9
ATE- 4-4.70	4.70	80	2	7	500	8
ATE- 4-5.60	5.60	80	2	7	545	8
ATE- 4-6.80	6.80	60	1.5	6	785	7
ATE- 4-8.20	8.20	60	1.5	5	862	6
ATE- 4-10.0	10.0	40	1	5	1207	6
ATE- 4-12.0	12.0	40	1	4	1323	5

SANGAMO ELECTRIC COMPANY  
**inductors**



## Toroidal Inductors

Sangamo toroidal inductors are designed and manufactured to meet the highest standards of quality and reliability with maximum attention to user convenience. The use of powdered molybdenum permalloy cores assures inductors with a high Q factor and exceptional stability of inductance. Types ET and LT encapsulated toroids, specifically designed for printed circuit board mounting, feature a unique coil protection scheme and construction that is virtually impervious to moisture. Types WT (wax-impregnated) and NT (unimpregnated) units display the same electrical qualities.

### ENCAPSULATED UNITS

**Terminals**—The terminals are soft brass with a hot solder finish and are made on automatic screw machines to a special design which minimizes moisture creepage. The terminal length beyond the mounting surface is 0.13" minimum. The 0.04" diameter permits use in printed circuit boards with or without eyelets. The terminal ends are rounded to simplify assembly.

**Inserts**—The inserts are also made on automatic screw machines to a design which minimizes moisture creepage and provides a convenient and rigid means of mounting the inductors.

**Header and Terminal Assembly**—The terminals and the insert are hot molded into the header, an important feature in making the unit moisture resistant.

**Encapsulation**—The coil is rigidly held and protected from shock or vibration damage by a specially selected epoxy encapsulating compound. Vacuum encapsulation assures a void-free envelope around the coil.

**Mounting**—All units are designed so the terminal area is elevated from the mounting surface. This permits easy flux removal and prevents moisture accumulation.

### WAX-IMPREGNATED UNITS

Sangamo Type WT inductors are available in all standard core sizes described in bulletin 2721A. The electrical characteristics of these units are identical to those of corresponding Sangamo Type ET encapsulated inductors. Units can be supplied on special order without wax-impregnation. These are designated Type NT inductors.

**Impregnation:** All standard units are impregnated in a high quality, electrical grade, micro-crystalline wax which provides effective protection against moisture.

**Leads:** In accordance with MIL-W-16878, leads are stranded tinned copper lead wire with Type B insulation. Minimum length is 6 inches.

### MAXIMUM OPERATING TEMPERATURE:

105°C for encapsulated units  
65°C for wax-impregnated units.

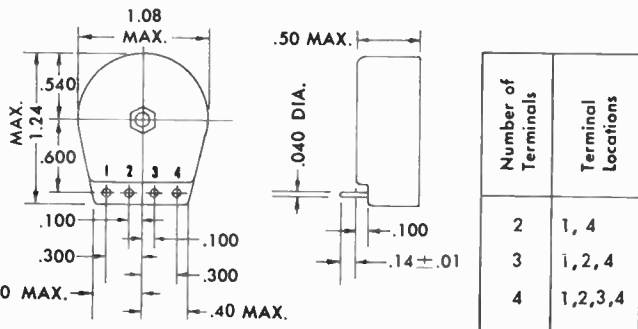
### MILITARY APPLICATIONS

Sangamo inductors meet or exceed all requirements of military specification MIL-T-27B for grade 5, Class R and life expectancy X.

## TERMINAL LOCATIONS AND PIN CONNECTIONS

(NOTE: Numbers refer to terminal locations and are not marked on unit).

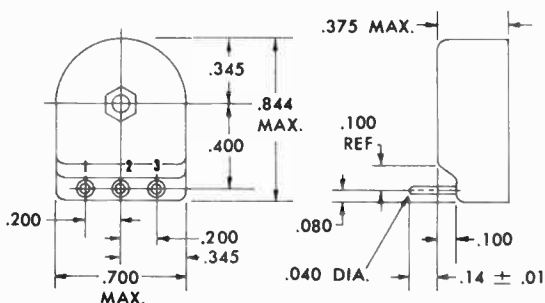
### TYPE LT-2



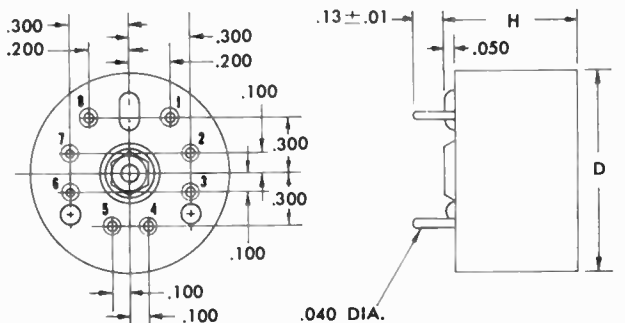
Type	D (max.)	H (max.)
ET-9	.950	.640
ET-2	1.080	.660
ET-3	1.210	.730
ET-4	1.340	.860
ET-5	1.710	.970

Number of Terminals	Terminal Locations
2	2, 6
3	1, 3, 6
4	1, 4, 5, 8
5	1, 3, 5, 6, 8
6	1, 3, 4, 5, 6, 8
7	1, 2, 3, 4, 5, 6, 7
8	1, 2, 3, 4, 5, 6, 7, 8

### TYPE ET-1



### TYPES ET-9, 2, 3, 4 & 5



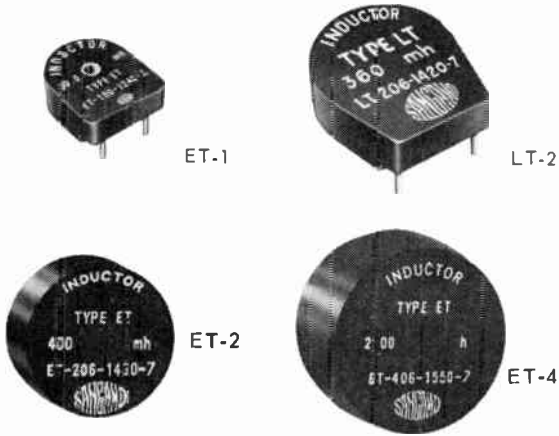
SANGAMO ELECTRIC COMPANY

# inductors



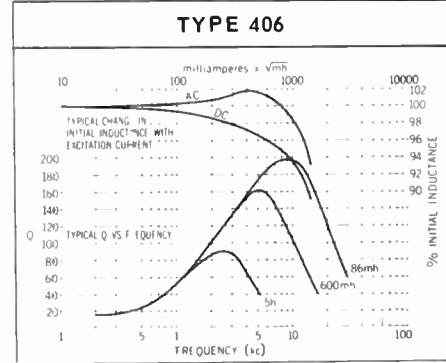
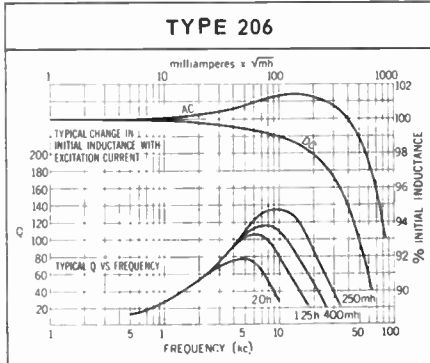
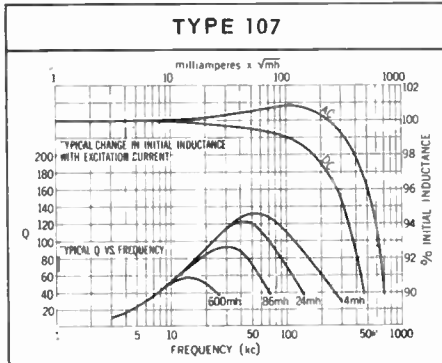
ELECTRONIC COMPONENTS

## TYPE ET-1, ET-2, ET-4 AND LT-2 INDUCTORS



Sangamo type ET-1 and LT-2 encapsulated inductors are specifically designed for printed circuit card applications where board spacing is a critical factor. All encapsulated inductors are designed so the terminal area is elevated from the mounting surface. The type ET-2 and ET-4 package is available with up to 8 terminals; permitting various designs such as center tapped inductors, or multiple winding transformers. Sangamo inductors are designed and manufactured in accordance with all requirements of Military specification MIL-T-27B. 72 hour delivery is available on all prototype units.

**For complete information, including additional listings and sizes, write for bulletin 2721A.**



ET-WT-NT		Net Price For Type ET Only	
Specification Number	Inductance	1-14	15-49*
107-1050-2	2.40 mh	\$ 7.12	\$ 5.34
107-1070-2	3.00	7.12	5.34
107-1080-2	3.60	7.12	5.34
107-1090-2	4.00	7.12	5.34
107-1110-2	5.00	7.12	5.34
107-1120-2	6.00	7.12	5.34
107-1124-2	6.40	7.12	5.34
107-1140-2	7.50	7.12	5.34
107-1150-2	8.60	7.12	5.34
107-1160-2	10.00	7.12	5.34
107-1170-2	12.00	7.12	5.34
107-1190-2	15.00	7.12	5.34
107-1210-2	20.00	7.12	5.34
107-1230-2	25.00	7.12	5.34
107-1240-2	30.00	7.12	5.34
107-1250-2	36.00	7.12	5.34
107-1260-2	40.00	7.12	5.34
107-1280-2	50.00	7.12	5.34
107-1290-2	60.00	7.12	5.34
107-1310-2	75.00	7.58	5.69
107-1320-2	86.00	7.58	5.69
107-1330-2	100.00	7.58	5.69
107-1340-2	120.00	7.58	5.69
107-1350-2	125.00	7.58	5.69
107-1360-2	150.00	7.94	5.96
107-1370-2	175.00	7.94	5.96
107-1380-2	200.00	7.94	5.96
107-1390-2	240.00	7.94	5.96
107-1400-2	250.00	7.94	5.96
107-1410-2	300.00	8.28	6.21
107-1430-2	400.00	8.46	6.35
107-1450-2	500.00	8.70	6.53
107-1460-2	600.00	8.84	6.63
107-1480-2	750.00	9.04	6.78
107-1490-2	860.00	9.28	6.96
107-1496-2	960.00	9.46	7.10

ET-WT-NT		Net Price For Type ET Only	
Specification Number	Inductance	1-14	15-49*
206-1110-7	5.00 mh	\$5.22	\$3.92
206-1120-7	6.00	5.22	3.92
206-1124-7	6.40	5.22	3.92
206-1140-7	7.50	5.22	3.92
206-1150-7	8.60	5.42	4.07
206-1160-7	10.00	5.42	4.07
206-1170-7	12.00	5.42	4.07
206-1190-7	15.00	5.60	4.20
206-1200-7	17.50	5.60	4.20
206-1210-7	20.00	5.60	4.20
206-1230-7	25.00	5.60	4.20
206-1240-7	30.00	5.80	4.35
206-1260-7	40.00	5.80	4.35
206-1280-7	50.00	5.80	4.35
206-1290-7	60.00	5.98	4.49
206-1310-7	75.00	5.98	4.49
206-1320-7	86.00	5.98	4.49
206-1330-7	100.00	6.18	4.64
206-1340-7	120.00	6.18	4.64
206-1360-7	150.00	6.18	4.64
206-1380-7	200.00	6.36	4.77
206-1400-7	250.00	6.36	4.77
206-1410-7	300.00	6.36	4.77
206-1430-7	400.00	6.56	4.92
206-1450-7	500.00	6.56	4.92
206-1460-7	600.00	6.56	4.92
206-1480-7	750.00	6.74	5.06
206-1500-7	1,000 h	6.74	5.06
206-1530-7	1,500	6.94	5.21
206-1550-7	2.00	6.94	5.21
206-1570-7	2.50	7.12	5.34
206-1580-7	3.00	7.12	5.34
206-1590-7	3.60	7.12	5.34
206-1600-7	4.00	7.52	5.64
206-1620-7	5.00	7.52	5.64
206-1634-7	6.40	7.52	5.64

ET-WT-NT		Net Price for Type ET Only	
Specification Number	Inductance	1-14	15-49*
406-1130-7	7.20 mh	\$ 6.34	\$ 4.76
406-1150-7	8.60	6.34	4.76
406-1170-7	12.00	6.34	4.76
406-1190-7	15.00	6.34	4.76
406-1210-7	20.00	6.34	4.76
406-1230-7	25.00	6.34	4.76
406-1240-7	30.00	6.34	4.76
406-1260-7	40.00	6.34	4.76
406-1280-7	50.00	6.34	4.76
406-1290-7	60.00	5.62	4.97
406-1310-7	75.00	5.62	4.97
406-1320-7	86.00	5.62	4.97
406-1330-7	100.00	6.62	4.97
406-1340-7	120.00	6.62	4.97
406-1360-7	150.00	6.88	5.16
406-1380-7	200.00	6.88	5.16
406-1390-7	240.00	6.88	5.16
406-1420-7	360.00	7.16	5.37
406-1430-7	400.00	7.16	5.37
406-1450-7	500.00	7.16	5.37
406-1460-7	600.00	7.16	5.37
406-1480-7	750.00	7.44	5.58
406-1490-7	860.00	7.44	5.58
406-1500-7	1,000 h	7.44	5.58
406-1530-7	1,500	7.72	5.79
406-1550-7	2.00	7.72	5.79
406-1570-7	2.50	7.98	5.99
406-1590-7	3.60	7.98	5.99
406-1600-7	4.00	7.98	5.99
406-1620-7	5.00	7.98	5.99
406-1650-7	7.50	8.25	6.20
406-1664-7	9.10	8.25	6.20
406-1680-7	12.00	8.26	6.20
406-1700-7	15.00	8.26	6.20
406-1710-7	17.50	8.26	6.20
406-1714-7	19.00	8.26	6.20

\*Prices for larger quantities are available on request. ‡ET=Encapsulated Toroid, WT=Wax-impregnated Toroid, NT=Non-impregnated Toroid, LT=Low-Profile Encapsulated Toroid - Please use correct prefix when ordering.

TYPES ET-1, WT-1 AND NT-1
Inductance Range: 1.0 mh to 2.5 h
Inductance Tol: ±1%
Max. Oper. Temp: 105°C Type ET 65°C Type WT
Freq. Range: 3 kc to 500 kc
Approx. Weight: 0.30 oz. Type ET 0.26 oz. Type WT

TYPES ET-2, LT-2, WT-2 AND NT-2
Inductance Range: 1.20 mh to 10.30 h
Inductance Tol: ±1%
Max. Oper. Temp: 105°C Type ET 65°C Type WT
Freq. Range: 400 cps to 250 kc
Approx. Weight: 0.95 oz. Type ET 0.65 oz. Type WT

TYPES ET-4, WT-4 AND NT-4
Inductance Range: 3.60 mh to 30.40 h
Inductance Tol: ±1%
M.x. Oper. Temp: 105°C Type ET 65°C Type WT
Freq. Range: 200 cps to 100 kc
Approx. Weight: 2.20 oz. Type ET 1.70 oz. Type WT

SANGAMO ELECTRIC COMPANY

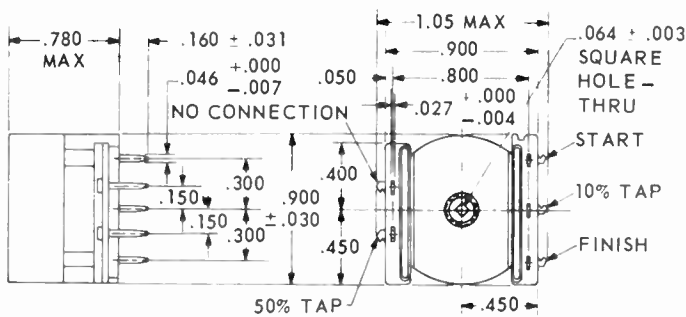
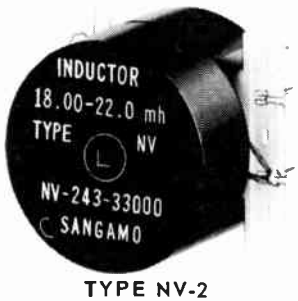
# inductors



ELECTRONIC COMPONENTS

## TYPE NV-2 VARIABLE INDUCTORS

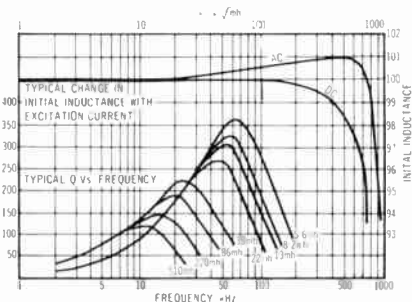
The Sangamo Type NV-2 variable inductor with its plug-in terminals is specially designed for printed circuit board mounting. It utilizes a communication grade, ferrite pot core which assures a high Q factor and excellent temperature stability of inductance while utilizing a small core area. The standard NV-2 has a five-terminal configuration, and a 50 percent turns top and a 10 percent tap as well as the start to finish nominal inductance. Custom versions can be supplied with from 4 to 10 terminals for use as special multi-tapped inductors or multiple-winding transformers.



TOLERANCE UNLESS OTHERWISE SPECIFIED ± 0.15

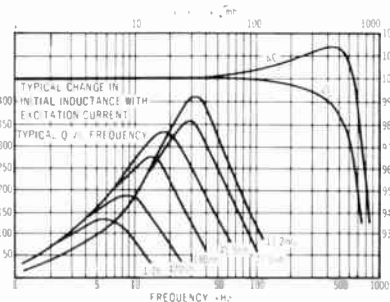
For additional information, including additional listings and sizes, write for bulletin 5103.

TYPE NV-243



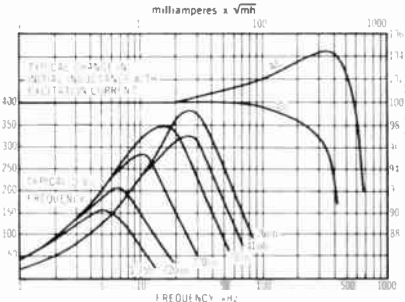
Specification Number	Tuning Range		Net Prices	
	Low	High	100-249	250-499*
NV-243-31400	3.52mh	5.08mh	\$2.36	\$2.25
NV-243-31600	4.18	6.02	2.36	2.25
NV-243-31770	4.92	7.08	2.36	2.25
NV-243-31960	5.90	8.50	2.36	2.25
NV-243-32100	6.72	9.68	2.36	2.25
NV-243-32200	7.46	10.74	2.36	2.25
NV-243-32300	8.20	11.80	2.36	2.25
NV-243-32500	9.84	14.16	2.36	2.25
NV-243-32600	10.66	15.34	2.36	2.25
NV-243-32700	12.30	17.70	2.36	2.25
NV-243-32900	14.76	21.3	2.36	2.25
NV-243-33000	16.40	23.6	2.36	2.25
NV-243-33240	20.5	29.5	2.36	2.25
NV-243-33400	24.6	35.4	2.36	2.25
NV-243-33600	29.5	42.5	2.36	2.25
NV-243-33720	32.8	47.2	2.36	2.25
NV-243-33810	35.2	50.8	2.36	2.25
NV-243-34000	41.8	60.2	2.36	2.25
NV-243-34180	49.2	70.8	2.36	2.25
NV-243-34300	55.7	80.3	2.36	2.25
NV-243-34400	61.5	88.5	2.36	2.25
NV-243-34550	70.5	101.5	2.36	2.25
NV-243-34620	75.4	108.6	2.36	2.25
NV-243-34700	82.0	118.0	2.36	2.25
NV-243-34900	92.40	141.6	2.36	2.25
NV-243-35000	106.6	153.4	2.36	2.25
NV-243-35200	131.2	188.8	2.36	2.25
NV-243-35300	147.6	213	2.36	2.25
NV-243-35400	164.0	236	2.36	2.25
NV-243-35600	196.8	284	2.36	2.25
NV-243-35800	246	354	2.36	2.25
NV-243-36000	295	425	2.36	2.25
NV-243-36120	328	472	2.36	2.25
NV-243-36370	410	590	2.36	2.25
NV-243-36580	492	708	2.36	2.25
NV-243-36690	549	791	2.36	2.25

TYPE NV-245



Specification Number	Tuning Range		Net Prices	
	Low	High	100-249	250-499*
NV-245-32300	9.50mh	10.50mh	\$2.36	\$2.25
NV-245-32500	11.40	12.60	2.36	2.25
NV-245-32700	14.25	15.75	2.36	2.25
NV-245-32800	15.20	16.80	2.36	2.25
NV-245-32900	17.10	18.90	2.36	2.25
NV-245-33000	19.00	21.0	2.36	2.25
NV-245-33240	23.7	26.3	2.36	2.25
NV-245-33400	28.5	31.5	2.36	2.25
NV-245-33600	34.2	37.8	2.36	2.25
NV-245-33720	38.0	42.0	2.36	2.25
NV-245-33970	47.5	52.5	2.36	2.25
NV-245-34180	57.0	63.0	2.36	2.25
NV-245-34370	68.4	75.6	2.36	2.25
NV-245-34500	77.9	86.1	2.36	2.25
NV-245-34600	86.4	95.6	2.36	2.25
NV-245-34700	95.0	105.0	2.36	2.25
NV-245-34800	104.5	115.5	2.36	2.25
NV-245-34950	118.7	131.3	2.36	2.25
NV-245-35050	133.	147.0	2.36	2.25
NV-245-35100	142.5	157.5	2.36	2.25
NV-245-35200	152.0	168.0	2.36	2.25
NV-245-35300	171.0	189.0	2.36	2.25
NV-245-35400	190.0	210	2.36	2.25
NV-245-35640	237	263	2.36	2.25
NV-245-35800	285	315	2.36	2.25
NV-245-36120	380	420	2.36	2.25
NV-245-36370	475	525	2.36	2.25
NV-245-36580	570	630	2.36	2.25
NV-245-36700	646	714	2.36	2.25
NV-245-36800	712	788	2.36	2.25
NV-245-36950	817	903	2.36	2.25
NV-245-37020	874	966	2.36	2.25
NV-245-37100	0.950	1.050	2.36	2.25
NV-245-37300	1.140	1.260	2.36	2.25
NV-245-37350	1.187	1.313	2.36	2.25
NV-245-37450	1.330	1.470	2.36	2.25

TYPE NV-246



Specification Number	Tuning Range		Net Prices	
	Low	High	100-249	250-499*
NV-246-32650	13.65mh	14.35mh	\$2.36	\$2.25
NV-246-32800	15.60	16.40	2.36	2.25
NV-246-32900	17.55	18.45	2.36	2.25
NV-246-33200	23.4	24.6	2.36	2.25
NV-246-33240	24.3	25.7	2.36	2.25
NV-246-33500	32.1	33.9	2.36	2.25
NV-246-33700	38.0	40.0	2.36	2.25
NV-246-33810	41.9	44.1	2.36	2.25
NV-246-33970	48.7	51.3	2.36	2.25
NV-246-34180	58.5	61.5	2.36	2.25
NV-246-34370	70.2	73.8	2.36	2.25
NV-246-34500	79.9	84.1	2.36	2.25
NV-246-34600	88.7	93.3	2.36	2.25
NV-246-34700	97.5	102.5	2.36	2.25
NV-246-34900	117.0	123.0	2.36	2.25
NV-246-35000	126.7	133.3	2.36	2.25
NV-246-35200	156.0	164.0	2.36	2.25
NV-246-35300	175.5	184.5	2.36	2.25
NV-246-35400	195.0	205	2.36	2.25
NV-246-35600	234	246	2.36	2.25
NV-246-35640	243	257	2.36	2.25
NV-246-35700	263	277	2.36	2.25
NV-246-35800	292	308	2.36	2.25
NV-246-36120	390	410	2.36	2.25
NV-246-36370	487	513	2.36	2.25
NV-246-36580	585	615	2.36	2.25
NV-246-36770	702	738	2.36	2.25
NV-246-36800	731	769	2.36	2.25
NV-246-36900	799	841	2.36	2.25
NV-246-37020	897	943	2.36	2.25
NV-246-37100	0.975h	1.025h	2.36	2.25
NV-246-37350	1.218	1.262	2.36	2.25
NV-246-37450	1.365	1.435	2.36	2.25
NV-246-37500	1.462	1.538	2.36	2.25
NV-246-37700	1.755	1.845	2.36	2.25
NV-246-37890	2.12	2.24	2.36	2.25

Prices on other quantities are available on request.

TYPE NV-243

GENERAL SPECIFICATIONS

Nom. Ind. Range: 4.30 mh to 670 mh  
 Tuning Range: ± 18%  
 Frequency Range: 2 kHz to 100 kHz  
 Oper. Temp.: -30°C to +85°C

TYPE NV-245

GENERAL SPECIFICATIONS

Nom. Ind. Range: 10.0 mh to 1.40 h  
 Tuning Range: ± 5%  
 Frequency Range: 1 kHz to 50 kHz  
 Oper. Temp.: -30°C to +86°C

TYPE NV-246

GENERAL SPECIFICATIONS

Nom. Ind. Range: 14.0 mh to 2.18 h  
 Tuning Range: + 2.5%  
 Frequency Range: 800 Hz to 40 kHz  
 Oper. Temp.: -30°C to +85°C



# Precision-Built Short Wave Receivers and Citizens Band Equipment


**Model WR-600 SWL/AM Receiver**

World-wide receiver. Compact and hand-somely styled with many features. Electrical bandspread. 540 kc-32 mc in four bands. Adjustable BFO. May also be used with an 8-ohm remote speaker. Walnut colored metal cabinet. Dimensions: 13½" x 5½" x 7¾". Ship. wt. 12 lbs. \$69.95

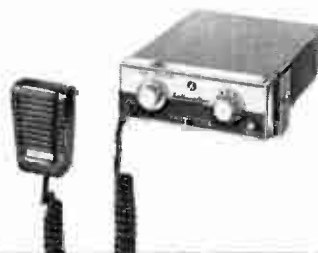

**Model CB-20 5-channel Solid State Transceiver**

Five channel capability (Channel 11 crystals included). Twelve transistors, 8 diodes and 1 zener voltage regulator. Power output, 3 watts. Complete with microphone. 12 VDC operation. Dimensions: 7" x 6" x 2½". Ship. wt. 4 lbs. \$99.95

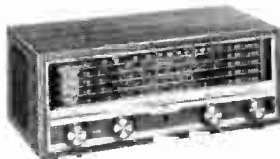

**Model S-240 FM/AM/SWL 5-band Receiver**

Solid state table model receiver—11 transistors, 6 diodes. Broadcast 550-1600 kc, three S/W bands (2.5 mc, 4.8-11.5 mc, 11-30 mc) and FM 88-108 mc. Fine tuning control, meter plus slide rule dial. AGC circuitry softens AM blasts, AFC controls FM drift. Over 1.0 watts audio output, minimum 5% distortion at 500 MW. Size:

5⅞" x 13⅞" x 8". Black vinyl covered metal cabinet, silver trim. Ship. wt. approx. 10 lbs. \$109.95


**Model CB-21 8-channel Solid State Transceiver**

Solid State circuitry with AGC, built-in noise limiter, squelch control. 17 transistors and 6 diodes—audio output over 4.0 watts. Dual conversion receiver with ceramic filters. Provision for PA or hailing. Low battery drain, receive 1.1-3 amp., transmit .6 amp. Size: 2-3/16" x 6" x 8" (HWD). Ship. wt. approx. 5½ lbs. \$139.95


**Model S-200 SWL/AM Receiver**

Broadcast 550 to 1600 kc, four S/W bands 5.9 mc. to 15.55 mc. Hallicrafters' exclusive S-P-R-E-A-D tuning with expanded, precision slide-rule dial. Two antennas (ferrite loop and wire). Four tubes plus rectifier. Built-in speaker. Front panel headphone jack. 105/125V. AC/DC. Trim walnut wood-grained steel cabinet with silver trim

measures 13½" x 5⅞" x 8¾". Ship. wt. 12 lbs. (U/L approved.) \$59.95


**Model CB-24 23-channel Solid State Transceiver**

A deluxe transceiver with 21 transistors, 8 diodes and 4 thermistors. Crystal control synthesizer. Dual conversion receiver with ceramic filters. Squelch control and loud hailer capability. Combination "S" meter and relative output indicator. Power output over 3.0 watts. 12 VDC operation. 2-3/16" x 6" x 8" (HWD). Ship. wt. approx. 6 lbs. \$199.95


**Model S-210 FM/AM/SWL Receiver**

FM/AM four SW bands. New Hallicrafters' S-P-R-E-A-D Tuning greatly simplifies "zeroing-in" on foreign stations. Beautiful wood-grained vinyl-clad metal cabinet. Built-in speaker. Size: 13½" x 5⅞" x 8¾". Ship. wt. 12 lbs. \$79.95


**Model CB-181 2 channel Portable Transceiver**

Rugged solid state dual conversion superheterodyne receiver with ceramic filters, full 2 watt transmitter. Squelch control and built-in noise limiting circuit. 14 transistors and 4 diodes. Two channel operation (Ch. 11 supplied) plug-in crystals. Powered by penlight, alkaline cells or nicad batteries. Size 3⅜" x 8-3/16" x 1-13/16" (WHD). Ship. wt. approx. 2 lbs. \$79.95

Model MA-18 18" fiberglass antenna

Model BC-181 Battery recharger for nickel cadmium battery

Model BT-181 Nickel cadmium batt. (2)

Model CC-181 Two system carry-case


**Model CR-3000 AM/SWL/FM FM Multiplex Stereo Receiver**

A solid state precision-engineered radio covering all important entertainment frequencies. With 34 transistors, 22 diodes and 4 thermistors. Audio output, 10 watts RMS continuous and 17 watts peak per channel at less than 1% distortion. Response of ±2db-3db 70-15,000 cps. AGC and AFC circuitry. Input for tape, changer,

phone; stereo headphone jack. BFO circuitry for CW reception. Automatic FM-stereo indicator light. Size: 5" x 15⅞" x 14¼". Ship. wt. approx. 22 lbs. \$269.95


**Special-frequency Monitoring Receivers**

Sensitive, highly selective industrial quality solid state superheterodyne receivers. 9 transistors and 2 diodes AGC circuitry. Built-in noise limiting circuits. Operates on 9 volt battery. Provision for earphone and AC power supply. Size: 6" x 2¾" x 1⅞". Ship. wt. approx. 1 lb.

Model CRX-100 27-50 mc Low Band \$39.95

Model CRX-101 108-135 mc V-Hf Aircraft \$39.95

Model CRX-102 144-174 mc Industrial \$39.95



The new ideas in communications

are born at . . .

# hallicrafters

A Subsidiary of Northrop Corporation

Prices subject to change without notice.

# JAN HARDWARE

MANUFACTURING COMPANY, INC.

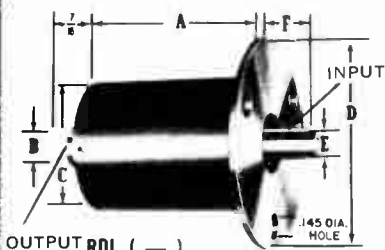
## RATIO DRIVES

for FINE INSTRUMENT AND MACHINE CONTROLS

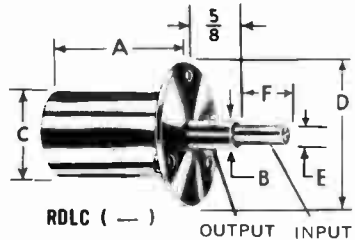
**Ball Bearing Type** Compact, durable, exceptionally smooth action

These unique ratio drives employ precision ball bearings. Used for rotary control of components in instruments, they provide unexcelled smooth motion. Ruggedly built, permanently sealed and lubricated, JAN Ratio Drives accommodate applications where miniaturization is essential.

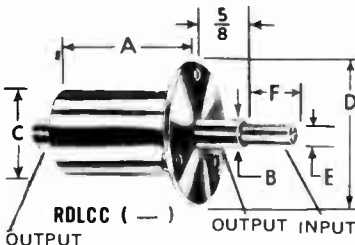
Input and output shafts of these units operate in the SAME DIRECTION. Types "RDL" and "RDS" provide "in-line" input-output shafts. Type "RDLC" is supplied with concentric shafts whereby the output envelopes the input shaft. An added feature of type RDLC is the output shaft in the rear.



OUTPUT RDL ( — )



RDLC ( — ) OUTPUT INPUT



RDLC ( — ) OUTPUT INPUT

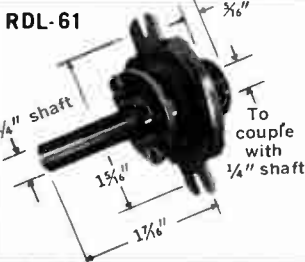
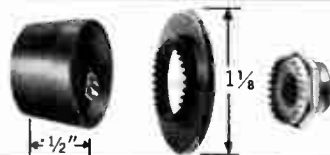
CAT. No.	RATID	A	B		C	D	Input Shaft		Bolt-Mtg. Dia.
			O.D.	I.D.			E	F	
RDL-1	2.6-1	1	3/8	1/4	1 1/8	1 1/16	1/4	3/4	1 15/32
RDL-2	7.0-1	1 13/32	3/8	1/4	1 1/8	1 13/16	1/4	3/4	1 15/32
RDL-3	17.0-1	1 13/16	3/8	1/4	1 1/8	1 13/16	1/4	3/4	1 15/32
RDLC-1	2.6-1	1	3/8	1/4	1 1/8	1 13/16	1/4	1 1/2	1 15/32
RDLC-2	7.0-1	1 13/32	3/8	1/4	1 1/8	1 13/16	1/4	1 3/4	1 15/32
RDLC-3	17.0-1	1 13/16	3/8	1/4	1 1/8	1 13/16	1/4	2 3/32	1 15/32
RDLC-1	2.6-1	1 13/32	3/8	1/4	1 1/8	1 13/16	1/4	1 3/4	1 15/32
RDLC-3	17.0-1	1 13/16	3/8	1/4	1 1/8	1 13/16	1/4	1 3/4	1 15/32
RDLC-1	2.6-1	1 13/32	3/8	1/4	1 1/8	1 13/16	1/4	1 3/4	1 15/32
RDLC-3	17.0-1	1 13/16	3/8	1/4	1 1/8	1 13/16	1/4	1 3/4	1 15/32

ALL RATIOS ARE ±10%

**KNOB RATIO DRIVE**  
 9 to 1 ratio (to dial skirt).  
 1:1 to potentiometer.  
 Cat. No. KRD-11  
 (plain gripping surface)  
 Cat. No. KRD-12  
 (knurled gripping surface)



Exploded view shows engineered miniature gear system, to permit precise, fine tuning of controls. As shown, 9 to 1 ratio (to dial skirt). 1:1 to potentiometer. Other ratios designed to specifications. Brass gears; black anodized aluminum knob and dial. Available with knurled or non-knurled outside knob. Available for 1/8" shafts. 1/4" on special order.



### IN-LINE RATIO DRIVE

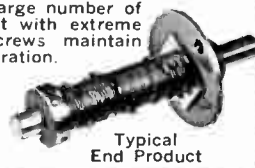
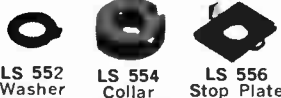
6.3 : 1

Variations available to customers specifications. For smooth rotary control of components requiring Vernier adjustments. Suitable for use where panel space is at a premium. Durable, ruggedized ball bearing mechanism.

### LIMIT STOP COMPONENTS

Designers can now consider the limit stop as a component to design with, such as potentiometers, capacitors, or other standard units. The simplicity of adjustment and the large number of available turns enables the stop range to be set with extreme precision. Conveniently located dual locking screws maintain settings under all conditions of shock and vibration.

Available for 1/4" and 3/16" shafts.  
 Specify — (3) for 3/16"  
 — (4) for 1/4"

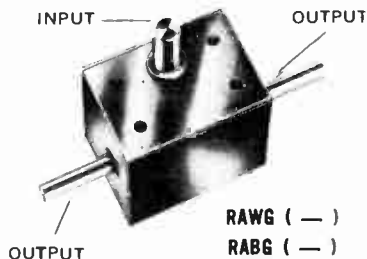


### Versatile, miniaturized, right angle rotary controls.

Featuring dual output stainless steel shafts at right angles to input, these engineered drives provide an ideal type of instrument control. Available with matched bevel or worm gears covering a wide range of ratios.

JAN'S RIGHT ANGLE DRIVES are especially useful for handling spring or gravity-loaded components since the output shaft automatically locks in any desired position yet remains free for smooth adjustment by the input shaft. Assembled in dust-proof housings, the gears are permanently pinned in place on stainless-steel shafts mounted in oilite bearings and held under constant pressure.

### RIGHT ANGLE RATIO DRIVES



RAWG ( — )  
 RABG ( — )

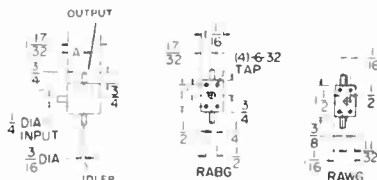
#### BEVEL GEAR RIGHT ANGLE DRIVES

CAT. No.	RATIO	"A"
RABG-1	1:1	3/8
RABG-2	2:1	3/8
RABG-3	3:1	3/8



#### WORM GEAR RIGHT ANGLE DRIVES

CAT. No.	RATIO	"A"
RAWG-1	5:1	3/4
RAWG-2	10:1	3/4
RAWG-22	12:1	3/4
RAWG-3	20:1	3/4





# JAN HARDWARE

MANUFACTURING COMPANY, INC.



U.S. PATENT NO. 2,681,378

## HI-VOLTAGE INSULATED COUPLINGS

MEETS MIL SPECS: TEMPERATURE - HUMIDITY - SHOCK - VIBRATION - FUNGUS

### HI-VOLTAGE INSULATED COUPLINGS

15 KV Breakdown 10 inch pounds torque  
Series No. AK-5079 & No. AK-5164

Engineered with stainless steel shaft and precision, screw-driver tip molded integrally with Dialyl Phthalate Material in accordance with Military Specifications. Completely shock, vibration and fungus proof, they operate with ease over an amioient temperature range of -75 to +175° C. Supplied complete with nickel plated mounting hardware.

Stainless steel screw driver tip fits all standard slotted shafts (potentiometer, etc.) without need for further machining. Ideally suited to adjust high voltage controls thus protecting operating personnel against danger. They are also used to reduce ground capacitance on other types of sensitive instrument controls.

For Commercial Instrument Applications . . .  
These couplings are available in general Purpose Black Bakelite.  
Cat. No. 6164-(X or B)-( ) For Standard Type  
Cat. No. 6079-(X or B)-( ) with Locking Type Bushing.  
Dimensions are identical with 5000 series, in chart above.

CAT No.	"A"	"B"	SHAFT	"C"
AK-5164-X-1	3/8"	3/8"	Slotted	3/8"
AK-5164-B-1	3/8"	3/8"	Slotted	3/8"
AK-5164-X-2	3/8"	3/8"	Slotted	3/8"
AK-5164-B-2	3/8"	3/8"	Slotted	3/8"
AK-5164-X-3	3/8"	3/8"	No Slot	1 1/8"
AK-5164-B-3	3/8"	3/8"	No Slot	1 1/8"
AK-5164-X-4	3/8"	3/8"	No Slot	1 1/8"
AK-5164-B-4	3/8"	3/8"	No Slot	1 1/8"
AK-5164-X-5	3/8"	3/8"	Slotted	Minus 1/8"
AK-5164-B-5	3/8"	3/8"	Slotted	Minus 1/8"
AK-5079-X-1	3/8"	3/8"	Slotted	3/8"
AK-5079-B-1	3/8"	3/8"	Slotted	3/8"
AK-5079-X-2	3/8"	3/8"	Slotted	3/8"
AK-5079-B-2	3/8"	3/8"	Slotted	3/8"

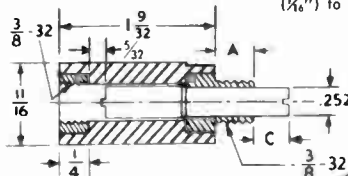
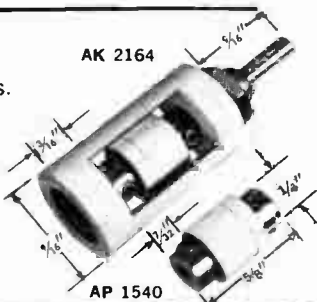
STANDARD TYPE

WITH LOCKING TYPE BUSHING

\* (3/8") to be used with 1/8" long shaft.  
(1/8") to be used with 1/4" long shaft.

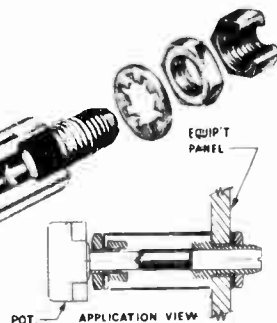
### New! Hi-Voltage Insulated Couplings for 1/8" shafts.

White Cycalac material.  
Voltage rating: 6000VDC.  
Hubs—Brass, Nickel Plated  
Shafts—Stainless Steel



AK-5164-( )  
AK-5079-( )

.040

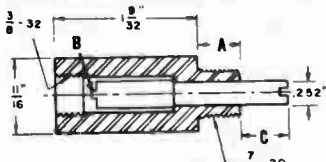


POT. APPLICATION VIEW

### COMMERCIAL INSULATED COUPLINGS

30 KV Breakdown Series No. AK-4160  
10 inch pounds torque For TV and Industrial Applications

These handy couplings, capable of withstanding 30 KV, are made of high grade Bakelite throughout except for the stainless steel screwdriver tip molded within the drive shaft. Mounting hardware supplied.



CAT No.	"A"	"B"	SHAFT	"C"
AK-4160-X-1	3/8"	3/8"	Slotted	3/8"
AK-4160-B-1	3/8"	3/8"	Slotted	3/8"
AK-4160-X-2	3/8"	3/8"	No Slot	1 1/8"
AK-4160-B-2	3/8"	3/8"	No Slot	1 1/8"

STANDARD TYPE

REDUCER INSERT BUSHING  
Cat. No. AK771

Used as an adapter with high voltage insulated couplings to accommodate miniature (1/8" shaft) potentiometers. External thread 3/8x32. Internal thread 1/4x32.

AK-15150

AP-15151

### SHAFT COUPLING

Cat. No. AP-15150

A rugged, nickel plated brass coupling for joining two 1/4" shafts. Supplied with 4 set screws for firm attachment to shafts.

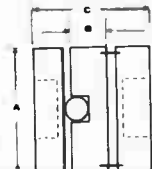
CAT. NO. AP-15151

Same as above, 2 set screws.

### AUTOLINEAR (INSULATED) SHAFT COUPLINGS

2.5 - 5KV BREAKDOWN  
Universal, miniature, self-aligning  
Cat. No. AP-1530 & AP-1538

A unique series of shaft couplers that accommodate either similar or dissimilar 1/8", 3/16", 1/4" or 1/2" shafts. Permits offset misalignment to 1/4" and 5° angle. Operates free of backlash. Plastic insulator between precision cast aluminum hubs. Each hub has 2 set screws for firm attachment. Alodine finish.



PART NO.	DIA. HOLE	"A"	"B"	"C"
AP-1530	-2 -3 -4	1/8" 3/16" 1/4"	1/2" 3/4" 5/8"	3/8" ± 1/32"
AP-1538	-2 -3 -4	1/8" 3/16" 1/4"	1/2" 3/4" 1 1/4"	1 1/4" ± 1/32"

TYPICAL PART NUMBERS:

AP-1530-34  
AP-1538-22

VOLTAGE RATING:

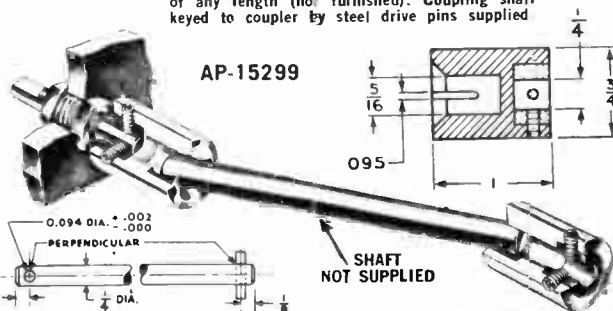
AP-1530 — 2500 VOLTS  
AP-1538 — 5000 VOLTS

### OFFSET-SHAFT (INSULATED) COUPLINGS

10 KV Breakdown—±30° Offset  
Cat. No. AP-15299

Highly versatile, durable insulated couplings made with single-unit, molded Nylon-to-metal insert construction. Application requires two couplings—permits smooth control for two parallel shafts offset from each other up to 30 degrees at separations greater than 3 inches. Secured to component and control shafts by 2 set screws.

Note: Coupling is accomplished with a 1/4" shaft of any length (not furnished). Coupling shaft keyed to coupler by steel drive pins supplied



AP-15299

095

0.094 DIA. ± .002

PERPENDICULAR

SHAFT NOT SUPPLIED



# JAN HARDWARE

MANUFACTURING COMPANY, INC.



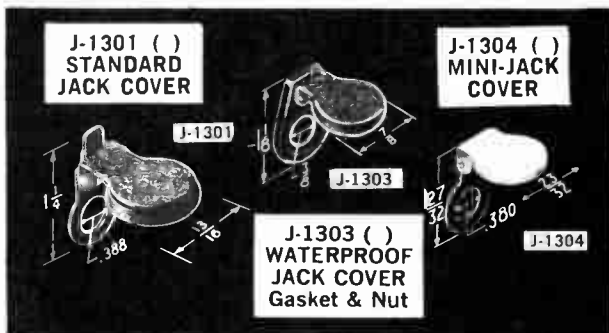
## JACK COVERS (TRIMMER COVERS)

These sturdy Jack Covers fit jack or panel bushings and are used to keep out dust and moisture as well as to prevent inadvertent disturbance of control settings. Outer surfaces are finished in standard colors of baked enamel.

**To Order Colors: Specify:**

- (-1) Black Wrinkle; (-2) Smooth Gray; (-3) Smooth Olive; (-4) Smooth Black. Other colors on request.

**Example:** Jack cover, color black wrinkle, order as J-1301 (-1)



## SHAFT LOCKS

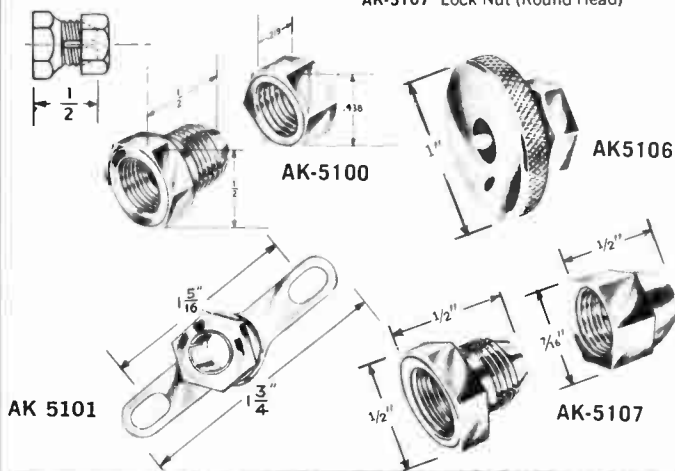
Cat. No. AK-5100 thru No. AK-5107  
 Split-bushing, collet type locks.

Used to securely hold the shaft of volume controls, capacitors, switches, etc. in position. Body and lock nut are brass—nickel plated. Supplied with nickel plated internal tooth lock washers, upon request.

**SPLIT BUSHING TYPE For 1/4" shafts**

- AK-5100 Standard Lock Nut
- AK-5101 Panel Mount Type

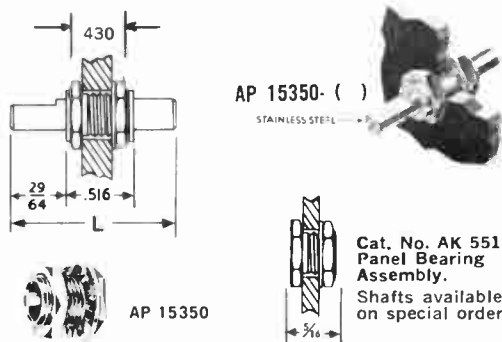
- AK-5106 Knurled Shaft Lock (1" O.D. Knurl)
- AK-5107 Lock Nut (Round Head)



## PANEL BEARING & SHAFT ASSEMBLIES

Cat. No. AP-15350 series

Used for rotary control of components. Passivated stainless steel shaft is 1/4" dia. with one end flattened for attaching to knob control by set screws. Supplied completely assembled with two retaining rings, jam nut with lock washer and nickel plated, brass panel bearing. Fits panels up to 3/8" thick; mounts in 1 1/2" dia. hole.



Cat. No.	Item	"L" Shaft Length
AP 15350	Panel Bearing	—
AP 15350-1	Panel Bearing & Shaft Assembly	1 3/8"
AP 15350-2		3"
AP 15350-3		6"

## NYLON SHAFT LOCK Cat. No. AK-1050

One-piece, black nylon; fits standard 3/8"-32 thread of shaft bushing. Friction grip holds 1/4" shaft to prevent accidental or vibrational disturbance of control settings. Adjustment for semi-permanent locking, provided.



## SHAFT KNOB LOCK

- Cat. No. AK 1055-2 (1/8" shaft)
- AK 1055-4 (1/4" shaft)



Prevents movement of controls due to shock...vibration...or accidental manual contact. Available in matte or glossy finish, for commercial or military applications.

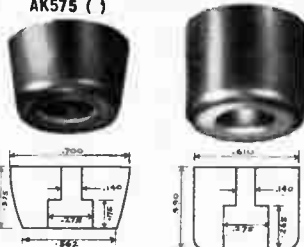
## CHASSIS & CABINET BUMPERS

Durable, low-friction polyethylene. Guards against scuffing. Supplied in either black or russet brown, with recessed hole for screw or bolt usage.

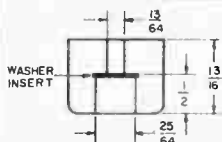
**To Order Colors:**  
 Black, specify (4);  
 Brown specify (7).  
 Other colors on request.

Cat. No. AK575 ( )

Cat. No. AK574 ( )



**No. AK 576-4 HEAVY DUTY CHASSIS & CABINET BUMPER.**  
 (with steel washer insert).  
 Molded neoprene. 1" Diameter, 1 3/8" high. Configuration similar to AK 574 above. Color. Black. Other colors on request.



## BUSHING EXTENDERS Cat. No. AK-5075-1 thru No. AK-5075-11

Permit staggered mounting of components having 1/4" shafts, behind a panel. Useful in meeting problems of space economy. Supplied in nickel plated brass.

Note: Extender No. AK-5075-9 is a locking (collet) type and is supplied by JAN with lock nut.



Cat. No.	"B"	"A"	Cat. No.	"B"	"A"
AK5075-1	3/8"	3/8"	AK5075-6	1 3/8"	1/4"
AK5075-2	3/8"	1/4"	AK5075-7	1 1/2"	3/8"
AK5075-3	3/8"	3/8"	AK5075-8	1 1/4"	1/4"
AK5075-4	3/4"	1/4"	AK5075-9	1 1/8"	1/4"
AK5075-5	2 1/4"	1/4"	AK5075-10	1 3/8"	3/8"
			AK5075-11	3/4"	3/8"



# JAN HARDWARE

MANUFACTURING COMPANY, INC.



**Cat. No. H 465**  
**VIEWING HOOD**  
and/or **ADAPTER**

Can be used as viewing hood, on 2 3/4" dia. bezels. (#1427; 1428; 1429). Also serves as adapter to permit use of face-fitting neoprene rubber viewing hoods. (see above). All aluminum. Dull black enamel finish.



**VIEWING HOOD**

No. H-689-1 (5 3/8" I.D.)

Black neoprene rubber. contour-molded, fits shape of face. Keeps out ambient light when viewing scope.

Used with following Jan Bezels: 19636; 19495; 13584; 1465

No. H-689-2 (4 7/8" I.D.)  
Used with Jan Bezel #545



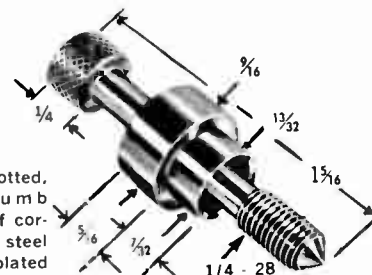
**VIEWING HOOD**  
to fit rectangular bezels

**Cat. No. H-1008**

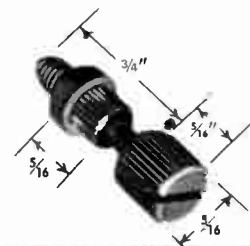
Black, contour molded neoprene rubber. Keeps ambient light out, when viewing scope. Fits shape of face. Can be adapted for smaller I.D.'S.

Used with Jan Bezel #1328. Can be adapted for #1533-P

**CAPTIVE SCREW & NUT ASSEMBLIES**



**Cat. No. Ap-711**  
Consists of slotted, knurled thumb screws made of corrosion resistant steel bar, and nickel-plated (on brass) panel inserts.

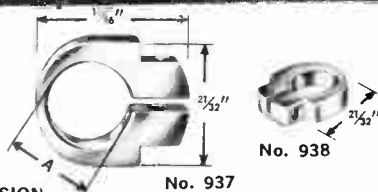


**Cat. No. AP1039**  
Insert, Captive

**Cat. No. AP1040**  
Screw, Captive

**"NO-MAR" CLAMPS**

Set screw does not touch shaft. Ideal for knob and gear applications. Variety of sizes available.



**A DIMENSION**

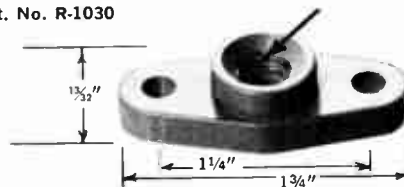
**No. 937**

**No. 938**

Cat. No.	-2	-3	-4	-5	-6	-7	-8
937	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"
938	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"

**RETAINER NUT**  
**Cat. No. R-1030**

3/8-16 NC2

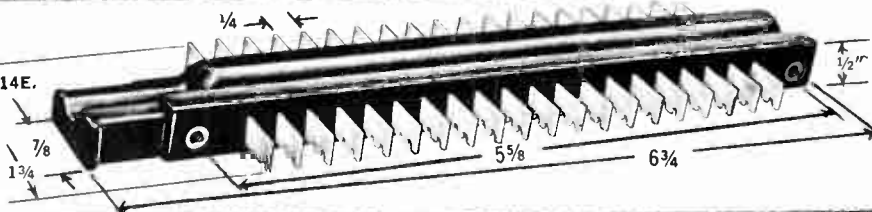


Used in conjunction with captive screw and nut assemblies. Die casting. Can be painted. Other thread sizes available upon special order.

**"FEED THROUGH" TERMINAL BOARDS**

**Cat. No. T-746**  
Molded of wood-filled melamine per MIL-M-14E.

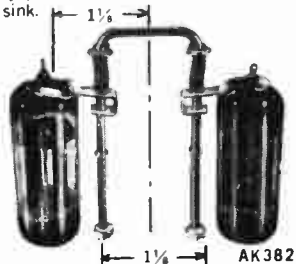
Avoid expensive tooling. Design around this integrally-molded 20 feed-through terminal board. Equally-spaced terminals can be used for wrap around and/or solder connections. Voltage Breakdown 4000 Volts.



**TUBE BAIL ASSEMBLIES**

Positive protection against vibration and shock. Spring-loaded tube holders give positive protection that is free of strain on tube. Available as single and twin tube hold-downs.

Holds securely in any position,—can't shake loose. Also provides excellent heat sink.

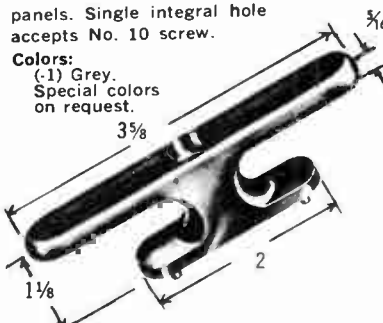


**AK382**

**HANDLE, CORD** **Cat. No. H-692-1**

This durable, die-cast aluminum handle is designed for use on small instrument panels. Single integral hole accepts No. 10 screw.

**Colors:**  
(1) Grey.  
Special colors on request.



The service of JAN's design engineers is available to assist you with your Component requirements.

JAN will design and manufacture special Components to customers' specifications.

Complete facilities for prototype work.



# JAN HARDWARE

MANUFACTURING COMPANY, INC.

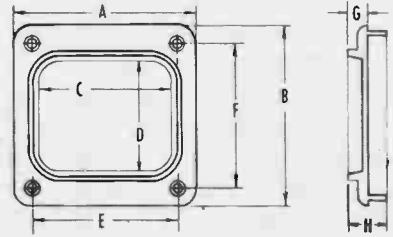


JAN's Bezels enhance the appearance of the instruments on which they are used. These units are functionally designed to provide OPTIMUM UTILIZATION OF THE CRT SCREEN, as well as safety against tube breakage and danger to operating personnel.

JAN Bezel Assemblies are supplied with a bezel, calibrated graticule, (where applicable) light filter and CRT cushion. Bezels are finished in a smooth dull black non-reflecting surface. These units fit JAN Mu-Metal Shields.

**Edge-lit Bezels\*\* (E.L.B.A.)** These Bezels are designed to provide edge lighting of the engraved scale-calibrated graticule by means of pilot lights.

**Camera Mount Bezel** These units provide an integral cast mounting flange that fits all standard 3", 5" and 7" CRT cameras.

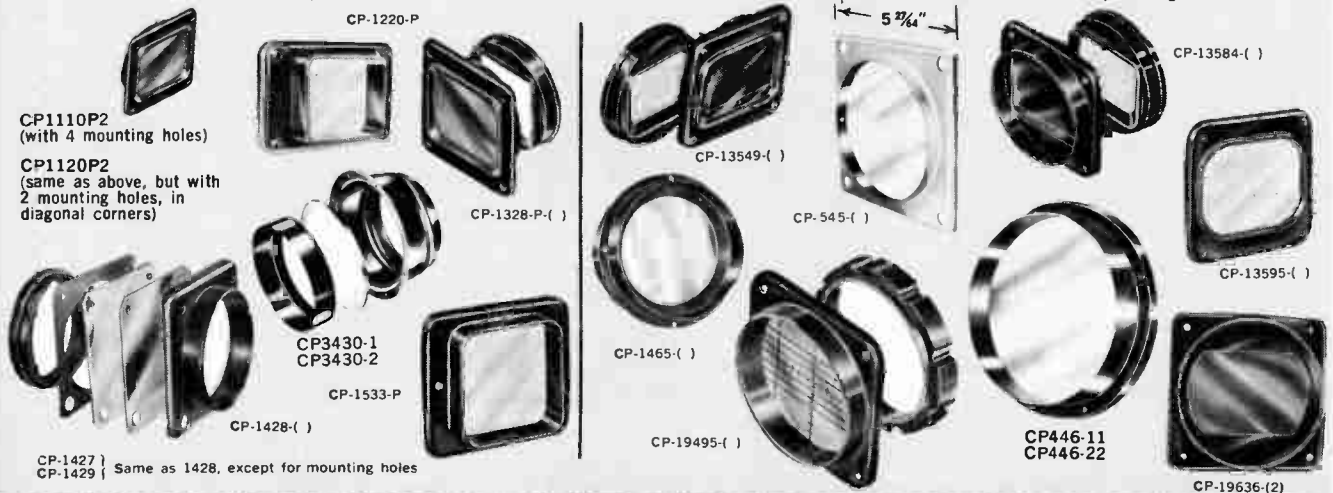


Catalog No.	CRT Face	Material	Type	Panel Opening	A Overall Width	B Overall Height	C Visible Area (Bezel) Width	D Visible Area (Bezel) Height	E Mounting Holes Width	F Mounting Holes Height	G Thickness (Face Only)	H Thickness (incl. Flange)	Visible Area (Cushion) Height	Visible Area (Cushion) Width
<b>BEZELS FOR 2" C.R.T.</b>														
CP-1110-P-2	Flat	Plastic*	Standard	2 3/8"	2 5/8"	2 5/8"	1 3/4"	1 3/4"	2"	2"	3/8"	7/8"	1 3/4"	1 3/4"
<b>BEZELS FOR 3" C.R.T.</b>														
CP-1220-P:	Curved or Flat	Plastic*	Camera Mount	—	4 7/8"	3 1/4"	2 3/4"	2 1/4"	4"	2 1/2"	3/8"	1 3/8"	—	—
CP-1328-P-1	Curved Flat	Plastic*	Standard	3 3/4"	3 3/4"	3 3/4"	2 5/8"	2 3/4"	3"	3"	3/8"	1 1/4"	2 1/2"	2 3/4"
CP-1328-P-2	Curved Flat	Plastic*	Standard	3 3/4"	3 3/4"	3 3/4"	2 5/8"	2 3/4"	3"	3"	3/8"	1 1/4"	2 1/2"	2 3/4"
CP-1427-1	Curved Flat	Aluminum	Camera Mount	3 3/4"	4"	4"	2 3/4" Dia.	2 1/4"	3"	3"	3/8"	7/8"	2 3/8" Dia.	—
CP-1427-2	Curved Flat	Aluminum	Camera Mount	3 3/4"	4"	4"	2 3/4" Dia.	2 1/4"	3"	3"	3/8"	7/8"	2 3/8" Dia.	—
CP-1428-1**	Curved Flat	Aluminum	Camera Mount E.L.B.A.**	3 3/4"	4"	4"	2 3/4" Dia.	2 1/4"	3"	3"	3/8"	7/8"	2 3/8" Dia.	—
CP-1428-2**	Curved Flat	Aluminum	Camera Mount E.L.B.A.**	3 3/4"	4"	4"	2 3/4" Dia.	2 1/4"	3"	3"	3/8"	7/8"	2 3/8" Dia.	—
CP-1429-1	Curved Flat	Aluminum	Camera Mount	3 3/4"	4"	4"	2 3/4" Dia.	2 1/4"	3"	3"	3/8"	7/8"	2 3/8" Dia.	—
CP-1429-2	Curved Flat	Aluminum	Camera Mount	3 3/4"	4"	4"	2 3/4" Dia.	2 1/4"	3"	3"	3/8"	7/8"	2 3/8" Dia.	—
CP-3430-1	Curved Flat	Steel	Standard	—	4 1/4" Dia.	—	3 3/8" Dia.	—	3 3/4"	3 3/4"	1 1/4"	1 1/4"	2 3/8" Dia.	—
CP-3430-2	Curved Flat	Steel	Standard	—	4 1/4" Dia.	—	3 3/8" Dia.	—	3 3/4"	3 3/4"	1 1/4"	1 1/4"	2 3/8" Dia.	—
<b>BEZELS FOR 4" C.R.T.</b>														
CP-1533-P:	—	Plastic*	Camera Mount	3 1/2"	4 3/4"	3 3/4"	3"	3"	4"	—	1 3/8"	1 3/8"	No Cushion	—
<b>BEZELS FOR 5" C.R.T.</b>														
CP-13549-1	Curved Flat	Aluminum	Standard	6.0"	6 1/4"	6 1/4"	4 7/8"	3 3/4"	4 1/8"	4 1/8"	1 1/2"	1 3/8"	4 1/8"	3 3/4"
CP-13549-2	Curved Flat	Aluminum	Standard	6.0"	6 1/4"	6 1/4"	4 7/8"	3 3/4"	4 1/8"	4 1/8"	1 1/2"	1 3/8"	4 1/8"	3 3/4"
CP-13584-1	Curved Flat	Aluminum	Camera Mount	6.0"	6 1/4"	6 1/4"	4 7/8"	3 3/4"	4 1/8"	4 1/8"	1 1/2"	1 3/8"	4 1/8"	3 3/4"
CP-13584-2	Curved Flat	Aluminum	Camera Mount	6.0"	6 1/4"	6 1/4"	4 7/8"	3 3/4"	4 1/8"	4 1/8"	1 1/2"	1 3/8"	4 1/8"	3 3/4"
CP-13595-1**	Curved Flat	Aluminum	Standard E.L.B.A.**	5 3/4"	6 1/4"	6 1/4"	4 7/8"	3 3/4"	4 1/8"	4 1/8"	1 1/2"	—	4 3/4" Dia.	—
CP-13595-2**	Curved Flat	Aluminum	Standard E.L.B.A.**	5 3/4"	6 1/4"	6 1/4"	4 7/8"	3 3/4"	4 1/8"	4 1/8"	1 1/2"	—	4 3/4" Dia.	—
CP-1465	Curved or Flat	Steel	Camera Mount	5 1/8"	6 3/8" Dia.	6 3/8" Dia.	5 3/4" Dia.	5 3/4" Dia.	6"	6"	7/8"	7/8"	No Cushion	4 1/2" Dia.
CP-1465-2	Curved or Flat	Steel	Camera Mount	5 1/8"	6 3/8" Dia.	6 3/8" Dia.	5 3/4" Dia.	5 3/4" Dia.	6"	6"	7/8"	7/8"	No Cushion	4 1/2" Dia.
CP-19495-1**	Curved Flat	Aluminum	Camera Mount E.L.B.A.**	5 3/8"	6 1/4"	6 1/4"	5 1/4" Dia.	5 1/4" Dia.	4 1/8"	4 1/8"	1 1/2"	—	4 3/4" Dia.	—
CP-19495-2**	Curved Flat	Aluminum	Camera Mount E.L.B.A.**	5 3/8"	6 1/4"	6 1/4"	5 1/4" Dia.	5 1/4" Dia.	4 1/8"	4 1/8"	1 1/2"	—	4 3/4" Dia.	—
CP-19636-2**	Flat	Aluminum	Camera Mount E.L.B.A.**	5 3/8"	5 7/8"	5 7/8"	4 1/2" Dia.	3"	4 7/8"	4 7/8"	1 1/4"	—	4 1/2" Dia.	—
CP-446-11	Flat	Steel	Camera Mount	—	6 1/8" Dia.	—	5 1/8" Dia.	—	6 5/8"	6 5/8"	1"	1 1/8"	4 1/2" Dia.	—
CP-446-22	Flat	Steel	Camera Mount	—	6 1/8" Dia.	—	5 1/8" Dia.	—	6 5/8"	6 5/8"	1"	1 1/8"	4 1/2" Dia.	—

\* All Plastic Bezels are furnished in shock resistant plastic, per MIL P-3414

\*\* Edge Lit Bezel Assemblies

‡ Rectangular C.R.T.





# JAN HARDWARE

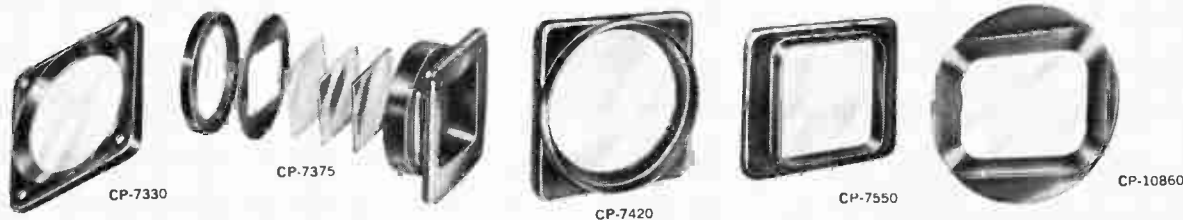
MANUFACTURING COMPANY, INC.



Catalog No.	CRT Face	Material	Type	Panel Opening	A	B	C Visible Area (Bezel)		E Mounting Holes		G-Thickness (Face Only)	H-Thickness (Incl. Flange)	Visible Area (Cushion)	
					Overall Width	Overall Height	Width	Height	Width	Height			Height	Width
<b>BEZELS FOR 7" C.R.T.</b>														
CP-7330 -1** CP-7331 -2**	Curved Flat	Aluminum	Standard E.L.B.A.**	7 <sup>13</sup> / <sub>32</sub> "	7 <sup>13</sup> / <sub>16</sub> "	7 <sup>13</sup> / <sub>16</sub> "	6 <sup>3</sup> / <sub>16</sub> " Dia.		6 <sup>3</sup> / <sub>16</sub> "	6 <sup>3</sup> / <sub>16</sub> "	3 <sup>1</sup> / <sub>16</sub> "	3 <sup>1</sup> / <sub>16</sub> "	6 <sup>3</sup> / <sub>16</sub> " Dia.	
CP-7375 -1** -2**	Curved Flat	Aluminum	E.L.B.A.**	7 <sup>13</sup> / <sub>32</sub> "	8"	8"	4 <sup>1</sup> / <sub>2</sub> "	4 <sup>1</sup> / <sub>2</sub> "	6 <sup>3</sup> / <sub>16</sub> "	6 <sup>3</sup> / <sub>16</sub> "	1 <sup>1</sup> / <sub>32</sub> "	2 <sup>29</sup> / <sub>32</sub> "	4 <sup>1</sup> / <sub>2</sub> "	4 <sup>1</sup> / <sub>2</sub> "
CP-7420 -1** -2**	Curved Flat	Aluminum	Camera Mount	7 <sup>13</sup> / <sub>32</sub> "	7 <sup>13</sup> / <sub>16</sub> "	7 <sup>13</sup> / <sub>16</sub> "	6 <sup>3</sup> / <sub>16</sub> " Dia.		6 <sup>3</sup> / <sub>16</sub> "	6 <sup>3</sup> / <sub>16</sub> "	3 <sup>1</sup> / <sub>16</sub> "	1 <sup>3</sup> / <sub>8</sub> "	6 <sup>3</sup> / <sub>16</sub> " Dia.	
CP-7550	Curved or Flat	Aluminum	Camera Mount	4 <sup>25</sup> / <sub>32</sub> "	7 <sup>3</sup> / <sub>8</sub> "	6 <sup>1</sup> / <sub>4</sub> "	4 <sup>3</sup> / <sub>4</sub> "	4 <sup>3</sup> / <sub>4</sub> "	6 <sup>1</sup> / <sub>4</sub> "	5 <sup>1</sup> / <sub>8</sub> "	1 <sup>1</sup> / <sub>16</sub> "	1 <sup>3</sup> / <sub>16</sub> "	No Cushion	

\*\* Edge Lit Bezel Assemblies

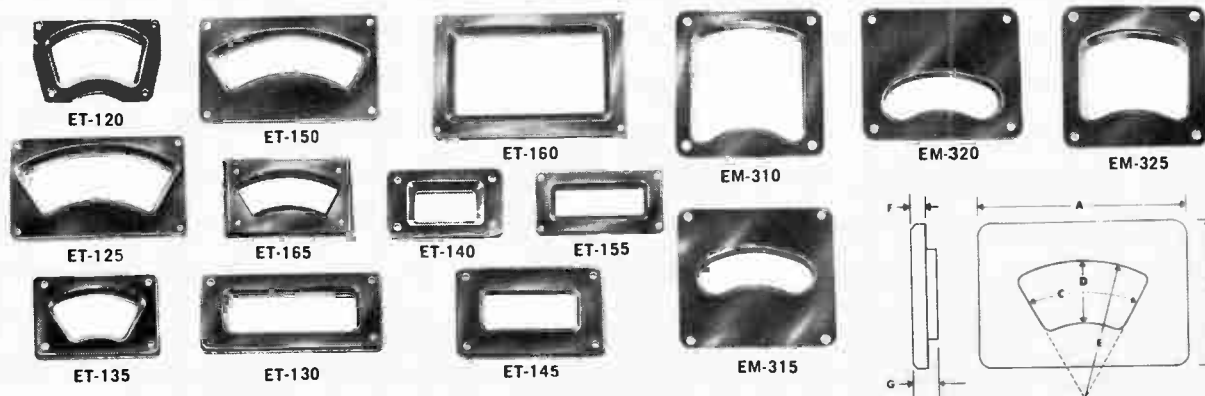
<b>BEZEL FOR 10" C.R.T.</b>														
CP-10860	Curved or Flat	Aluminum	Standard	11 <sup>1</sup> / <sub>32</sub> "	12 <sup>1</sup> / <sub>4</sub> " Dia.		8 <sup>3</sup> / <sub>16</sub> "	6 <sup>1</sup> / <sub>4</sub> "	11 <sup>1</sup> / <sub>2</sub> " B.C.		1 <sup>1</sup> / <sub>16</sub> "	1 <sup>3</sup> / <sub>16</sub> "	No Cushion	



**DISTINCTIVE FEATURES**

- Engineered for 2", 3", 4", 5", 7", 8" and 10" CRT
- Maximum display area
- Precision engraved, scale-calibrated graticules; standard or to customer's specifications
- Materials and finish to "Mil Spec"
- Heavy buna-S shock cushion
- Models for edge-lighting
- Phosphor-matched light filters
- Non-reflecting matte surfaces
- Rugged camera mounts
- Models for curved and flat-faced CRT

## ESCUTCHEON PLATES For Elegant Framing of Panel Openings



**SPECIFICATIONS — JAN ESCUTCHEONS**

Escutcheon Cat. No.	A Overall Width	B Overall Height	C Window Width	D Window Height	E Effective Outer Dial Radius	F Thickness Face Only	G Thickness Face Flange	H Incl. Flange	Panel Opening Width	Panel Opening Height	Mounting Holes Width	Mounting Holes Height	Type of Dial	Material
ET-120	2 <sup>27</sup> / <sub>32</sub>	1 <sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>8</sub>	1"	1 <sup>13</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	2 <sup>13</sup> / <sub>32</sub>	1 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>16</sub> top 2 <sup>1</sup> / <sub>16</sub> bottom	1 <sup>1</sup> / <sub>16</sub>	Circular	Injection Molded Tenite II, Black Matt. Finish
ET-125	3 <sup>7</sup> / <sub>8</sub>	2 <sup>11</sup> / <sub>16</sub>	2 <sup>7</sup> / <sub>8</sub>	1"	3 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub>		
ET-135	2 <sup>1</sup> / <sub>4</sub>	1 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	1 <sup>13</sup> / <sub>32</sub>	1 <sup>13</sup> / <sub>32</sub>	2 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>16</sub>		
ET-150	3 <sup>7</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>25</sup> / <sub>32</sub>	1 <sup>13</sup> / <sub>32</sub>	3 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub>		
ET-165	2 <sup>27</sup> / <sub>32</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>		
ET-130	4	1 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>4</sub>	—	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	2 <sup>13</sup> / <sub>32</sub>	1 <sup>13</sup> / <sub>32</sub>	3 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub>	Flexible Tape, Digital Counter, Cylinder or Drum	Injection Molded Tenite II, Black Matt. Finish
ET-140	2 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>4</sub>	—	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	2 <sup>13</sup> / <sub>32</sub>	1 <sup>13</sup> / <sub>32</sub>	2 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>16</sub>		
ET-145	3 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	1 <sup>13</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>4</sub>	—	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	2 <sup>13</sup> / <sub>32</sub>	1 <sup>13</sup> / <sub>32</sub>	2 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>16</sub>		
ET-155	2 <sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>13</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>4</sub>	—	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	2 <sup>13</sup> / <sub>32</sub>	2 <sup>13</sup> / <sub>32</sub>	2 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>16</sub>		
ET-160	3 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>13</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>8</sub>	—	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3	2 <sup>13</sup> / <sub>32</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>		
EM-310	3	3	2 <sup>1</sup> / <sub>4</sub>	1 <sup>13</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>13</sup> / <sub>32</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	Helical Circular	Soft Aluminum with Black Matte Enamel Finish
EM-315	3 <sup>1</sup> / <sub>4</sub>	3	2 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	2 <sup>25</sup> / <sub>32</sub>	1 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>		
EM-320	3 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	2 <sup>25</sup> / <sub>32</sub>	1 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>		
EM-325	3	3	2 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	2 <sup>13</sup> / <sub>32</sub>	1 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>		

\* To Order specify: (1) frame only; (2) frame with clear window; (3) frame with clear window scribed with a center line.

JAN'S molded, black, shock-resistant plastic escutcheons are available in an exceptionally wide variety of different types and sizes. They provide a pleasing window to frame dial plates mounted behind the panel. Plastic escutcheons are available in the following ways: frame only; frame with clear windows; frame with clear window scribed with a center line. For especially large working areas, stamped aluminum escutcheons, finished in dull black are available to meet the needs for space economy. Withstands temperature shock -65° to +85° C. **NON INFLAMMABLE**



# JAN HARDWARE

MANUFACTURING COMPANY, INC.



## PACKAGED SHIELD-BEZEL ASSEMBLIES

### PILOT LIGHT ASSEMBLIES FOR EDGE LIGHTING



Cat. No. 100306



Cat. No. 100232

**SAVES** TIME / MONEY     **ELIMINATES** MULTIPLE PURCHASING / COMPLEX ENGINEERING

All necessary items for CRT Magnetic Shield and Bezel applications are packaged in one unit.

EACH ASSEMBLY CONTAINS } Shield, JAN Bezel, CRT Rubber Cushion, Graticule, Filter, Light Sockets, Pilot Lamps (for edge-lit bezel-shield assemblies) plus Hardware.



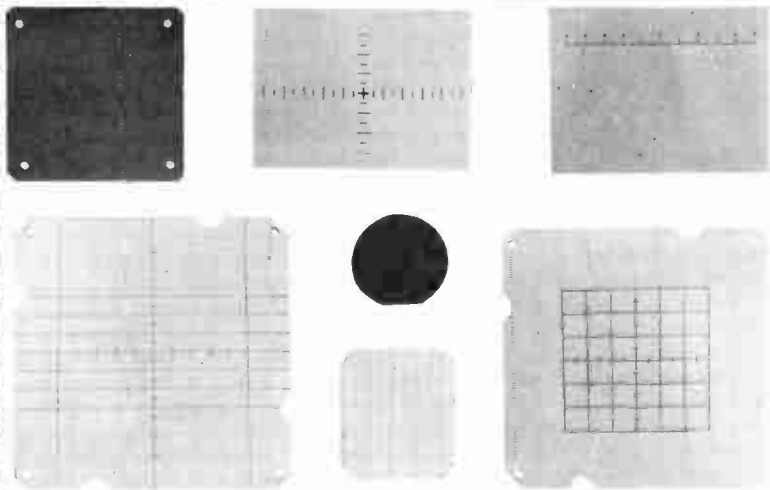
CIS-3008

When ordering specify:

"JAN PACKAGED UNIT" giving JAN shield No., JAN bezel No. and CRT tube type with which it is to be used.

## CUSHIONS — GRATICULES — FILTERS — SHIELD/BEZEL ASSEMBLIES

Available in Assorted Sizes and Shapes



**New! Non-reflective filter material.**  
Minimizes light reflection. Matte 1 side.  
Grey or Blue. Other colors on special order.







# JAN HARDWARE

MANUFACTURING COMPANY, INC.



SHIELD CAT. NO.	FOR USE WITH C.R.T. NO.	MATCHING JAN BEZEL	
S3027	4KP 4ER	CP1533P	
S4001	SC3511 4MP	CP-1533P	
S5001	5UP	CP1465 CP13584-1 CP13549-1 CP13595-1 CP19495-1 CP446-11 CP446-22	
S5002 adaptable for edge-lighting	5BP 5CP  5ABP 5ADP	Same as S5001  Same as S5006	
S5003	5UP	CP1465 CP13584-1 CP13549-1 CP13595-1 CP19495-1	
S5005 adaptable for edge-lighting	5AQP 5ABP 5ADP	CP1465-2 CP13549-2 CP13584-2 CP13595-2 CP19495-2 CP446-11 CP446-22	
S5006 adaptable for edge-lighting	5RPA 5 AWP	CP1465-2 CP13549-2 CP13584-2 CP13595-2 CP19495-2	





# JAN HARDWARE

MANUFACTURING COMPANY, INC.



SHIELD CAT. NO.	FOR USE WITH C.R.T. NO.	MATCHING JAN BEZEL	
S5008 adaptable for edge-lighting	5AMP	CP1465-2 CP13549-2 CP13584-2 CP13595-2 CP19495-2	
S5017 adaptable for edge-lighting	5ABP 5ADP	CP1465-2  CP19636-2	
S5027	5BTP	CP19495-2	
S5032	5CEP	CP19495-2	
S5500	5BXP		
S6600	6E17P		

ALL SHIELDS ARE FABRICATED WITH OVERLAPPED AND SPOT WELDED CONSTRUCTION

*The service of JAN's design engineers is available to assist you with your Shield & Bezel requirements. We will design and manufacture special Shields & Bezels to customers specifications. Complete facilities for prototype work.*







# JAN HARDWARE

MANUFACTURING COMPANY, INC.



## TRANSILLUMINATED POINTER KNOBS



NAS 539-1B



USAF 61D 404 74



MS25165-1



NAS 539-1C

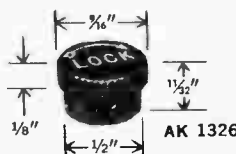
MS91528



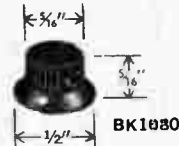
Precision molded of JAN's transparent plastic material, to NAS specs, with dull finish. Transilluminated pointers permit easy reading under subdued lighting conditions. For use on instrument panels, switchboards, electrical and electronic apparatus.

## NEW METAL MINIATURE KNOBS

AK 1326  
For 1/4" Shaft

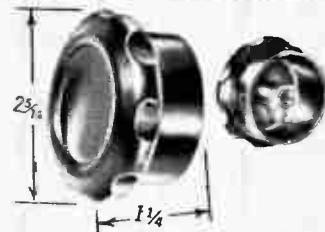


BK 1080  
For 1/8" Flatted Shaft



## TUNING KNOB Cat. No. K243

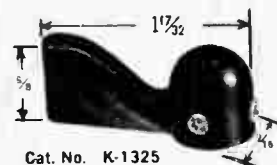
For 3/16" shaft. Die cast aluminum. Made to Fed. Spec. QQ-A-591 and MIL-F.14072. Use no-mar clamp Cat. No. 937-7 for mounting. (Not supplied).



## BAR-KNOB

Cat. No. AK-1325

Precision cast aluminum for 1/4" shafts. Furnished with twin 8-32 set screws for shaft attachment. Provides a 1.0" integrally cast lever arm for heavy-load switching. Finished to specifications.



Cat. No. K-1325

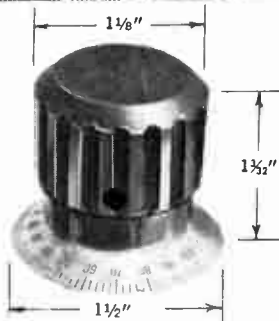
## Cat. No. K936-5

Black phenolic molded knob, with beveled satin aluminum skirt, anodized finish. Deeply etched and filled contrasting markings.

Accurately centered brass insert, for 3/16" shafts.

## Cat. No. K936-4 (1/4" shaft)

Variations on shaft sizes and markings available in production quantities.



## KNOB ONLY

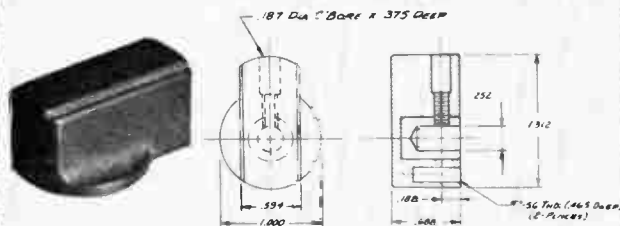
Cat. No. K 929-5 (3/16" shaft)

Same as above, less skirt

Cat. No. K-929-4 (1/4" shaft)

## BAR KNOB Cat. No. K783

Phenolic molded knob, with metal insert. Set screw at back, for shaft attachment. Finished to specifications.



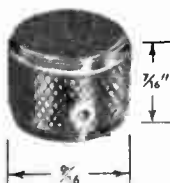
## POINTER KNOB Cat. No. K-706

Molded thermo-setting phenolic. Type CFG per MIL-P-14. Designed for square shaft, providing positive action.



## KNOB Cat. No. K-897

Machined knurled edge for easy turning. Has set screw for firm attachment to 1/4" shafts. Height 3/16", x 3/16" diam.



## STANDARD PLASTIC KNOBS

Knobs to satisfy almost any design or demand. Can be produced in any color or finish, either illuminated or non-illuminated.

Knobs shown are only part of our stock.

Let us quote on your specifications.

Knobs Back Lighted on special request only





# JAN HARDWARE

MANUFACTURING COMPANY, INC.



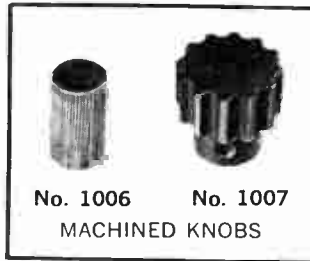
## KNOBS TO MILITARY SPECIFICATIONS

One of the largest assortment of Military Knobs in the country.

### NEW CAST KNOBS



**No. 1005**  
Available with or without skirt



**No. 1006**    **No. 1007**  
MACHINED KNOBS



**No. 1020**



**No. 1021**

### CAST ALUMINUM KNOBS

Available in black. Other colors on request. Specify shaft hole size required.



**No. 1022**  
Full Round Skirt



**No. 1023**  
Flat Back Round Skirt

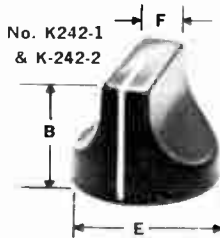


**No. 1024**  
With Cam Shape Cut-out.



### SIGNAL CORPS DIE CAST KNOBS

#### ZINC ALLOY



**No. K242-1 & K-242-2**



**No. K242-3**

#### ALUMINUM



**Cat. No. 984**  
Dimensions as per 242-3  
No markings. Aluminum.

Cat. No.	B	E	F	Marking
242-1	3/4"	1 1/8"	3/8"	White
242-2	7/8"	1 1/8"	3/8"	White
242-3	3/4"	1 1/8"	3/8"	None

Manufactured in accordance with applicable military specifications.

### MS SIGNAL CORPS DIE-CAST ALUMINUM & ZINC ALLOY CONTROL KNOBS

Manufactured in accordance with applicable Military Specifications



**SMC 414401**



**MS 91525**



**SMC 91018**



**SMB 134094**

**SMB 134171**

**SMB 134884**

**MS 91524**



**K 680**



**SMC 414393**    **SMC 414399**



**SMC 414680-1 Thru 10**

(Many sizes available. Lengths from 1 1/8" to 2 1/8").



# JAN HARDWARE

MANUFACTURING COMPANY, INC.



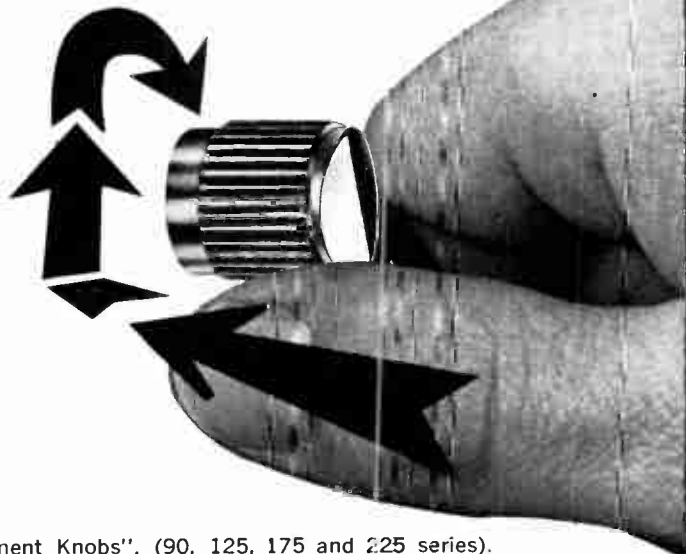
## SAFETY KNOBS

### "PRESS-TO-TURN" KNOBS.

For Low Torque Applications

Knobs spin freely... and **MUST BE PRESSED-IN** while making changes.

Developed specifically to prevent inadvertent changing of settings.



For basic dimensions, see our "De-luxe Instrument Knobs", (90, 125, 175 and 225 series).

### SLIP-CLUTCH

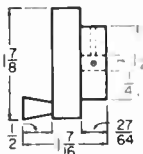
With Fixed or Retractable Spinners

Cat. Nos. K-1375 & K-1376 (For 1/4" shafts)

Designed for driving devices such as variable capacitors, inductors, potentiometers, etc., these knobs are based upon the principle of the "slip-clutch", automatically disengaging and slipping when a pre-determined torque has been exceeded. JAN'S SLIP-CLUTCH SAFETY KNOBS are fluted to aid in sensitive adjustments and are equipped with either a fixed or retractable spinner for fast turning. Insert-molded-to-Bakelite construction provide durable, backlash-free units to safeguard delicate and costly instruments against careless or inadvertent cranking beyond their normal stops.

\*Normally set for 3-6" lbs. Can be modified for other requirements.

Model No. K-1376 is identical with No. K-1375 but has the additional feature of a retractable spinner. Spring loading provides positive, toggle-type action to lock spinner in either open or closed position. Model No. K-1376 is designed for use where economy of space is essential.



K1376



K1375

### SPINNER KNOBS

With Fixed or Retractable Spinners

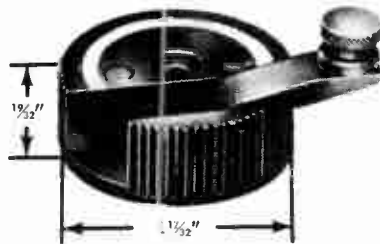
Cat. Nos. K-1275 & K-1276 (For 1/4" shafts)

In appearance, these knobs are identical with No. K-1375 and No. K-1376 but without JAN'S Slip-Clutch mechanism. Made with single-unit, molded Bakelite-to-metal-insert construction, with two set screws for firm attachment to shafts.

Standard: glossy finish.  
(Matte finish available on special order).

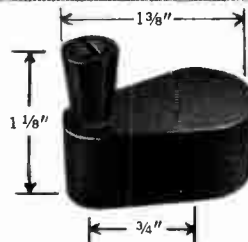
Cat. No. MS 91522-1

### SAFETY CRANK KNOB



Retractable Spinner. Aluminum Olive Drab. Other colors on request. For 1/4" shaft. Other shaft diameters on request.

Cat. No. K 1125  
**SPINNER KNOB**  
For limited space applications.  
For 3/16" shaft.



**PARTIAL LIST OF GOV'T KNOBS MFG'D BY JAN**

SMC 100446	SMB 134957	MS 25165	SMC 414393	SMC 447226	SCB -72687
SCB 104717	SMB 143975	SMC 328371	SMC 414399	SMB 456374	NAV ORD 814528
SMC 108874	SMB 144318	SMC 344847	SMC 414401	SMC 500407	SCB 82716
SMC 108875	SMB 144319	SMC 345389	SMC 414680-1	SMC 502491	SMB 902574-1
SMC 108876	SMB 144358	SCB 35862	thru -10	NAS 539 1B	SMC 91018
SMC 108951	SMB 144517	SCB 35863	SMD 415160	NAS 539 1C	MS 91524
SMB 134093	SMB 16505	SCB 40771	SMD 415161	USA# 61D40474	MS 91525-1
SMB 134094	SMB 16552	SCB 40859	SMD 415223	SCB 16532	thru -4
SMB 134171	SMB 180288A2	SCB 40860	BU ORD 416956 PT2	SCB 65684	MS 91528
SMB 134884	SMB 180465A1	SCB 41848	SMC 447052	SCB 72585	MS 91522



# DELUXE INSTRUMENT KNOBS

MEETS PERFORMANCE OF MIL-STD-242D (SHIPS) AND MS 91528C

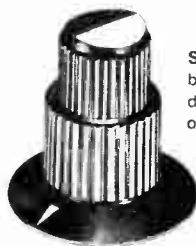
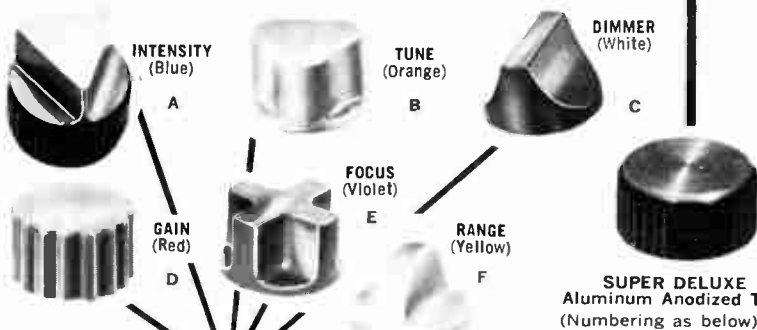


JAN's Standard Instrument Control Knobs for use with electronic equipment. Molded of polycarbonate, these knobs will withstand the extreme environmental conditions of

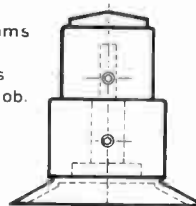
MIL-E-16400. Either knob-cap or entire knob is available in a variety of colors, in MATTE (M) or GLOSSY (G) finish. Complete range of sizes... send for catalog.

## TACTILE SHAPE CONTROL KNOBS

Expressly made for both visual and tactile function identification. Each Tactile knob is produced in the standard recognizable color identified with its configuration. Available in other colors on special order. See column—below, for applicable tactile shape.



See diagrams below for dimensions of each knob.



### DUAL KNOBS FOR CONCENTRIC CONTROLS APPROVED FOR USE MIL STD 242D and MS 91528C

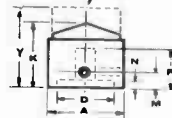
Molded of polycarbonate plastic, these "piggy-back" knobs are used with dual concentric potentiometers and in other similar applications. Meet performance of military specs above.

**SUPER DELUXE**  
Aluminum Anodized Top.  
(Numbering as below)

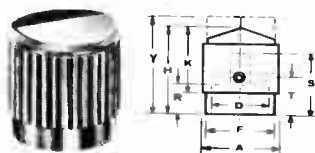
### DIMENSIONS

PART NO.		A	D	F	G	H	K	M	N	P	R	S	T	Y
5	1 A	.505	.302				.509	.158	.026	.408				
7	1 A	.708	.486				.626	.158	.026	.406				.915
9	1 A	.911	.645				.798	.255	.114	.521				1.171
12	1 A	1.255	.974				.703	.260	.115	.458				1.220
17	1 A	1.755	1.465				.854	.255	.114	.521				
22	1 A	2.255	1.870				.885	.255	.114	.521				
5	1 B	.505	.302	.450		.660	.509				.181	.563	.324	
7	1 B	.708	.486	.670		.805	.626				.188	.568	.340	1.100
9	1 B	.911	.654	.826		1.027	.798				.323	.730	.484	1.399
12	1 B	1.255	.974	1.155		.870	.703				.262	.605	.427	1.399
17	1 B	1.755	1.465	1.666		1.088	.854				.333	.740	.489	
22	1 B	2.255	1.870	2.153		1.114	.885				.333	.740	.489	
5	1 C	.505	.302		.885	.660	.509				.181	.563	.324	
7	1 C	.708	.486		1.135	.805	.626				.188	.568	.340	1.100
9	1 C	.911	.645		1.510	1.027	.798				.323	.730	.484	1.399
12	1 C	1.255	.974		1.822	.870	.703				.262	.605	.427	1.399
17	1 C	1.755	1.465		2.453	1.088	.854				.333	.740	.489	
22	1 C	2.255	1.870		3.005	1.114	.885				.333	.740	.489	

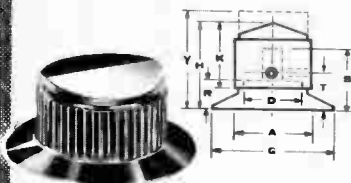
NO SKIRT



PLAIN SKIRT



DIAL SKIRT



SPECIFY AS REQUIRED

### TYPICAL PART NUMBERS

- 91C4GA — 90 Dia./Round/Plat/1/4"/Glossy/Black
- A71B4MA — Triangle Top Blue/.72/Round/Plain/1/4"/Matte/Black
- BA71B4MA — Triangle Top Red/.72/Round/Plain/1/4"/Matte/Black
- BT71B4MA — Standard Top Red/.72/Round/Plain/1/4"/Matte/Black
- \*\* 071B4MA — No Top/.72/Round/Plain/1/4"/Matte/Black

(Specify whether Hole is drilled thru for Dual Knob Mounting)\*\*

—Specify if .127, .190, .250 hole is required for dual mounting

NOTE: \*T Preceded by color code (BT—would mean Standard RED top)

IF WHITE DOTS ARE REQUIRED—ADD SUFFIX WD TO CATALOG NO.  
FOR SPECIAL KNOBS—GIVE FULL DESCRIPTION OR SKETCH WITH ORDER.

- |                          |             |              |                    |                   |          |          |
|--------------------------|-------------|--------------|--------------------|-------------------|----------|----------|
| 1 TOP (Color or Tactile) | 2 BODY DIA. | 3 BODY STYLE | 4 SKIRT            | 5 SHAFT HOLE DIA. | 6 FINISH | 7 COLOR  |
| 0=NO TOP                 | 5=.51       | 1=ROUND      | A=NONE             | 2=.128            | M=MATTE  | A=BLACK  |
| *=STANDARD               | 7=.72       | 2=POINTER    | B=PLAIN            | 3=.190            | G=GLOSSY | B=RED    |
| A=INTENSITY—Blue         | 9=.90       |              | C=DIAL W/ POINTER  | 4=.253            |          | C=GREY   |
| B=TUNE—Orange            | 12=1.25     |              | D=DIAL W/O POINTER | 5=.312            |          | D=GREEN  |
| C=DIMMER—White           | 17=1.75     |              |                    | 6=.375            |          | E=YELLOW |
| D=GAIN—Red               | 22=2.25     |              |                    | 7=.268            |          | F=PURPLE |
| E=FOCUS—Violet           |             |              |                    |                   |          | G=BLUE   |
| F=RANGE—Yellow           |             |              |                    |                   |          | H=WHITE  |
|                          |             |              |                    |                   |          | J=ORANGE |
- "D" FLAT SHAFT HOLES  
B=.107 (1/8")  
D=.222 (3/4")





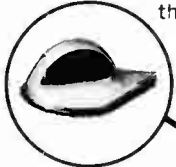
# DELUXE INSTRUMENT KNOBS



MEETS PERFORMANCE OF MIL-STD-242D (SHIPS) AND MS 91528C

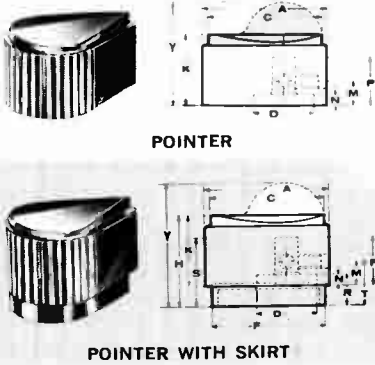
JAN's Standard Instrument Control Knobs for use with electronic equipment. Molded of polycarbonate, these knobs will withstand the extreme environmental conditions of

MIL-E-16400. Either knob-cap or entire knob is available in a variety of colors, in MATTE (M) or GLOSSY (G) finish. Complete range of sizes... send for catalog.



## POINTER KNOBS

### DIMENSIONS



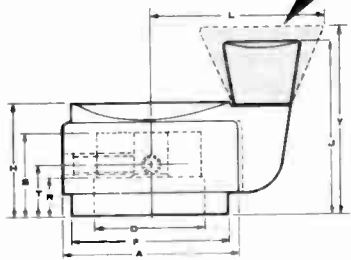
PART NO.				A	D	F	H	K	M	N	P	R	S	T	Y
5	2	A	SPECIFY AS REQUIRED	.750	.406			.505	.158	.026	.402				
7	2	A		1.038	.486			.619	.187	.026	.406				.918
9	2	A		1.344	.645			.796	.255	.114	.555				1.171
5	2	B	SPECIFY AS REQUIRED	.750	.406	.669	.655	.505			.402	.177	.563	.324	
7	2	B		1.038	.486	.940	.791	.619			.406	.193	.573	.364	1.100
9	2	B		1.344	.645	1.251	1.015	.796			.555	.328	.796	.475	1.400

- 1 TOP (Color or Tactile)  
G=(RANGE--Yellow)
- 2 BODY DIA.  
5=.51  
7=.72  
9=.90
- 3 BODY STYLE  
2=POINTER
- 4 SKIRT  
A=NONE  
B=PLAIN  
C=DIAL W/ POINTER  
D=DIAL W/O POINTER
- 5 SHAFT HOLE DIA.  
2=.128  
3=.190  
4=.253  
5=.312  
6=.375  
7=.268  
"D" FLAT SHAFT HOLES  
B=.107 (1/8")  
D=.222 (1/4")
- 6 FINISH  
M=MATTE  
G=GLOSSY
- 7 COLOR  
A=BLACK  
B=RED  
C=GREY  
D=GREEN  
E=YELLOW  
F=PURPLE  
G=BLUE  
H=WHITE  
J=ORANGE

TYPICAL PART NUMBERS  
72B4MA=Regular Top  
G72A4MA=Tactile Top



## CRANK KNOBS



PART NO.				A	D	F	H	J	L	P	R	S	T	Y
12	4	B	SPECIFY AS REQUIRED	1.250	0.685	1.185	.850	1.350	1.275		.250	.605	.427	1.475
17	4	B		1.750	0.685	1.690	1.070	1.758	1.735		.320	.740	.489	1.940
22	4	B		2.250	0.685	2.185	1.095	1.782	1.970		.320	.740	.489	1.970

- 1 TOP (Color or Tactile)  
H=GREEN  
J=GREY
- 2 BODY DIA.  
12=1.25  
17=1.75  
22=2.25
- 3 BODY STYLE  
4=SPINNER
- 4 SKIRT  
B=PLAIN
- 5 SHAFT HOLE DIA.  
4=253
- 6 FINISH  
M=MATTE  
G=GLOSSY
- 7 COLOR  
A=BLACK  
B=RED  
C=GREY  
D=GREEN  
E=YELLOW  
F=PURPLE  
G=BLUE  
H=WHITE  
J=ORANGE

TYPICAL PART NUMBERS  
1174B4MA=Grey Tactile Handle  
124E4MA=Standard Handle



# JAN HARDWARE

MANUFACTURING COMPANY, INC.



## JOLTA SHOCK TEST MACHINES

For reproducible impact-shock test pulses

Four models engineered to reproduce the entire spectrum of all significant impact shock waves.

Designed for laboratory and production testing of light to medium weight components as well as complete instrumentation. Produced to meet practically all requirements of common Mil. Spec. qualification tests. Each JOLTA is electronically calibrated to certify compliance with test specifications.

**JOLTA — Bench Model No. 1001** — Produced to meet JAN-S-44 & Mil-Std. 202 (202A). Standard model range 30-120G. Accessory plate springs available for test pulses to 500 G.

**JOLTA — Bench Model No. M-500** — Produced to meet Mil-T-12679A (Sig. C) and Mil. T-19500A. Standard model range —200 to 1000 G at 1.0 milliseecs. Alternate anvil and pad kits available to order.

**JOLTA—Floor Model Nos. F-3003-C1, C2, C-3**—Designed for high impact shock testing for small and moderate-sized components. Precision-machined magnesium casting utilized for higher shock amplitudes. Typical tests with these units 50 to 5000 G at .2 to 11.0 milliseecs. For high impact testing, accessory springs and twin anvil combinations yield impulses of 0.2 milliseecs to 5000 G.

Note: New design allows for quick changeovers of accessories.

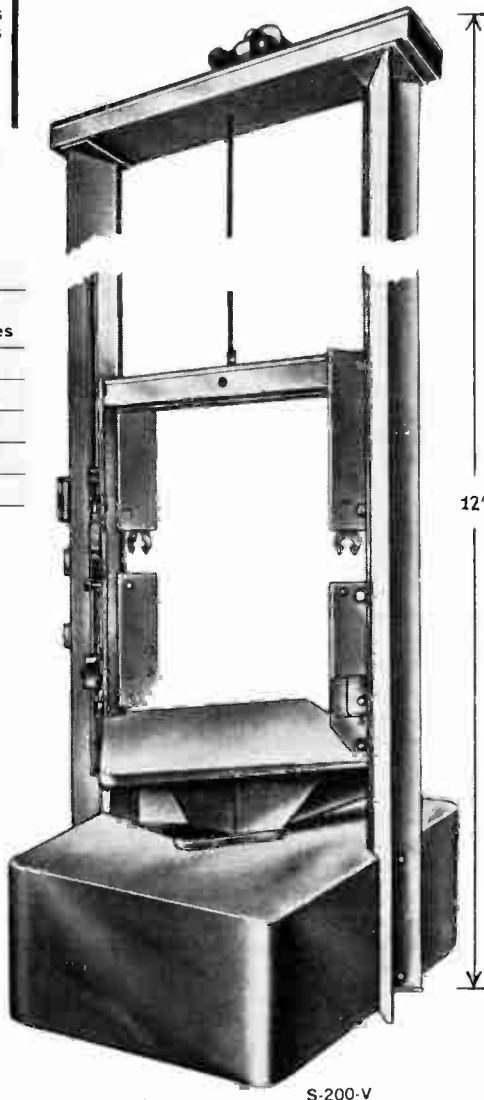
## FEATURES

- Economical
- Simple to operate
- Rugged
- Uniformly accurate

## JOLTA UNIVERSAL SHOCK TESTERS

No. S-200-V

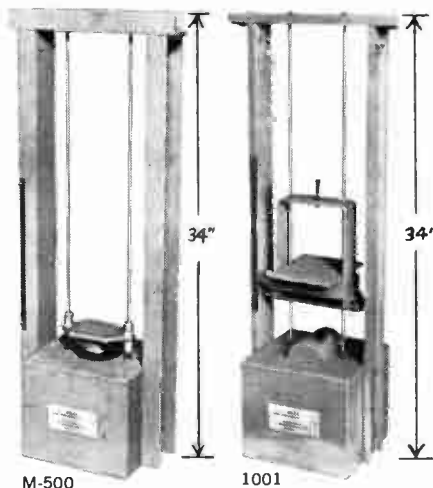
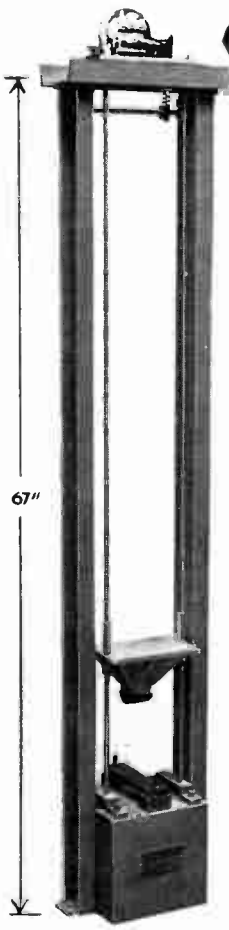
A functionally engineered test machine for large components and complete instrumentation. Accepts specimens up to 200 lbs. and volume of 2 cubic feet. Standard model provides pulses of from 20 to 250 G at 3.0 to over 30.0 milliseecs.



For Production Testing, JAN's Jolta Shock Test Machines can be automated for continuous operation.

### SPECIFICATIONS — JOLTA SHOCK TESTERS

Model No.	Carriage Volume	Test Weight	"G" Ranges
1001	4" x 4" x 5"	0-12 lbs.	25-500
M-500	3" cube	0-2.0 lbs.	100-1000
F-3003-C-1	5" cube	0-12 lbs.	50-1500
F-3003-C-2	5" cube	0-4.0 lbs.	350-5000
S-200-V	2 Foot cube	0-200 lbs.	20-250



NEW! Plastic impact pad for clean 1/2 MS-2000 G impact shock.

Free engineering services available to customers where adaptation or conversion of standard machines are needed to meet Mil. Spec. changes or other special needs.

# Philmore Guaranteed ELECTRONIC COMPONENTS

## 80 WATT SOLID STATE STEREO AMPLIFIER Model TA-1600



NEWLY developed circuitry incorporating 18 latest type transistors and 4 silicon diodes. Custom oiled walnut wood cabinet and knurled metal knobs on etched aluminum front panel.

**Rear Panel Inputs:**

- Tape Head
- Phono & Mag.
- Tuner
- Aux.
- Tape in
- Tape out
- Switched AC receptacle

**Front Panel:**

- Selector Switch: Tape head — phono — Tuner Aux.
- Controls: Volume, Bass, Treble, Balance.
- 5 position mode: Left, Right, Mono, Stereo, Reverse.
- Rocker Switch Selections: Tape monitor — Loudness — Rumble — Speaker Muting — Power.
- Stereo Headphone Jack

**SPECIFICATIONS:**

**Power Output:** 40 watts per channel IHFM music power  
**Frequency Response:** ±1db, from 20 to 20,000 cps  
**Harmonic Distortion:** Less than 1%  
**Hum and Noise:** —70db mag: —56db  
**Voltage:** 110-120 volts 50/60 cps — double-fused  
**Size:** 13 3/4" w x 4 1/2" H x 10" D  
**Model No. TA-1600** ..... **Audiophile Net \$99.95**

## MINIATURE 3 WATT PUSH-PULL AUDIO AMPLIFIER



**SPECIFICATIONS:**

**Frequency response:** 150-15,000 CPS.  
**Input impedance:** 2000 ohms.  
**Output impedance:** 8 ohms and 16 ohms.  
**Power source:** DC 9 volts.  
**Gain:** 10 MV for 3 watts output.  
**Dimensions:** 3" L x 2 1/8" W x 1 1/8" H.

**4 TRANSISTORS**

A 4 transistor push-pull output amplifier mounted on a printed circuit board completely wired and ready to be used as any one of a number of audio devices, such as, phonographs, intercoms, tape recorders, etc.

More gain and better sensitivity; output is rated at 3 watts-undistorted.

Protective metal cover shielding the 2 output transformers eliminates hum.

Individually boxed with connection wire lead instructions and schematic diagram.

**Model No. AA900**.....**Net Price \$7.75 ea.**

## GLOBULAR DYNAMIC MICROPHONE



This popular designed omnidirectional mike is especially excellent for entertainers in all fields, auditoriums, tape recording and P.A. systems. When two are used, it is unsurpassed for stereo recordings.

Its versatility enables it to be used as a hand

held or mounted on a floor stand, because it is supplied with a swivel mike holder having a standard 5/8" - 27 thread.

**Some of the "extras" are:**

- 20-ft. of detachable single conductor shielded mike cable.
- On-off switch.
- Rugged construction.
- Satin chrome finish.
- Strong wire mesh grille.

**Some of the Specifications are:**

- Frequency Response: 100 - 12,000 cps.
- Output Level: —60 db.
- Impedance: 50,000 ohms.
- Size: 6 1/4" x 1 3/4" at head of mike.

**Model No. GM60**.....**Net Price \$11.50 ea.**

## BLISTER-PACKED 2-STATION SOLID STATE WIRELESS INTERCOM



For instant communication between these two master intercoms, simply plug into any 110 volt AC outlet using common power source.

Used on desks and/or flush mounted on walls.

Two way clear conversation (additional units may be used) may be had in distances of at least up to 3/4 of a mile, even in congested city areas.

**FEATURES:**

- Power Output: 80 MW.
- Carrier Frequency: 200 KC.
- Semiconductors: 3 transistors, 4 silicon rectifiers, 1 diode.
- Power: Line transformers operation.

**CABINET DATA:**

Pleasing neutral color, high impact plastic cabinet 6 1/4" x 4 1/2" x 1 7/8" high.

**THE CONTROLS CONSIST OF:**

- On/off switch and volume control.
- Locking device making intercoms an ideal baby sitter that is always on the job.
- Push to talk switch.
- Release switch to listen.
- Pilot light.

Adjustable squelch control is an added feature.

**Model No. TW6**.....**Net Price \$29.95 pair**

## 2 AMP BATTERY CHARGER



**for CARS - BOATS - PLANES - ALARM SYSTEMS**

Fast charge for any 12 volt battery when in a completely dead state — (under normal battery conditions) — builds battery up to peak condition within 12 hours.

Uses selenium rectifier and heavy duty power transformer and is supplied with two positive grip battery clips and UL labeled power cord with UL and CSA approved plug (4 1/2' long). Size: 3 3/4" x 2 1/4" x 2 1/2".

- AC — 117V 60 cycles.
- DC — 12WV 24 watts (2 amps).

**Model No. BC12**.....**Net Price \$4.95 ea.**

## ADAPTERS



Phone Jack to Phono Plug: Shielded Phone Jack at rear takes standard (1/4") phone plug. Front is RCA type phono plug. Overall size 2 1/8".

**No. 530A** .....**Net Price \$4.42**

Phono Jack to Miniature Phone Plug: Shielded RCA type phono jack at one end. Shielded miniature phone plug (1/8" diam.) at other end. Packed 5 to a bag, suitable for peg-rack sales.

**No. 533A** .....**Net Price Per Adapter \$4.42**

## TELEPHONE EXTENSION CABLE (30 Feet)



Supplied completely assembled with telephone plug and jack. Complete with simple hookup instructions. Individually blister packed for peg-rack sales.

**No. TEC30** ..... **Net Price \$2.75 ea.**

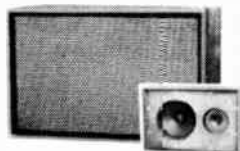
## SUB-MINIATURE PUSH BUTTON SWITCH



Panel mount, momentary contact, single pole two circuit push to make and break switch. Has red button, washer, and mounting nut. Overall diameter 1/2". Overall depth including knob 1 1/4". Protrudes 3/4" behind panel. Mounting hole dimension 1/4" diam.

**No. 2291** .....**Net Price \$.25 ea.**

## Low Suspension Type 2-Way Speaker System



Highest quality 2-way acoustic suspension speaker system.

The size of this compact wonder of sound is 8 3/4" x 13 3/4" x 7 1/4".

The enclosure is made of genuine oiled walnut. Includes high compliance 6 1/2" woofer for clean full bass tone and a 4" tweeter bringing out sounds that really mean HIGH fidelity.

**Other specifications:**

- L-C Crossover network at 1900 CPS
- Capacity: 20 watts
- Frequency Response: 60 to 18,000 CPS
- Magnet Structure: 1 Pound
- Impedance: 8 Ohms

**Model No. SS4** ..... **Net Price \$28.50**

## 20000 OHM PER VOLT MULTIMETER



A compact versatile Multitester incorporating features found in more costly test equipment. Range switching. Includes low DC Voltage ranges for checking Transistor Circuits.

**SPECIFICATIONS:**

**Sensitivity:** 20,000 Ohms per Volt DC. 10,000 Ohms per Volt AC.

**RANGE OF MEASUREMENT AND ALLOWANCE:**

**DC Voltage:** C.25v, 1v, 10v, 50v, 250v, 1000v (20K ohm/v)

**AC Voltage:** 10v, 50v, 250v, 500v, 1000v (10K ohms/v)

**Decibels:** —20db + 22db.

**DC Current:** 50 UA (250mv), 10MA 500MA.

**Resistance:** (5 range) x1, x10, x100, 0-10K - 100K - 1 Meg. (Max.)

**Capacitance:** 250mmfd - .02mfd.

**Inductance:** 0-5000 henries.

**Size:** 1 3/4" H x 5" L x 3 1/2" W.

**Weight:** 12 ounces.

**Meter Scale:** 3 1/2". Diode Protected meter movement.

**Battery:** Uses one 1 1/2v Penlite Battery. Complete with Test leads, battery and instructions individually boxed.

**Model No. PM2000**.....**Net Price \$13.30 ea.**

## MINIATURE ELECTROLYTIC CAPACITORS AXIAL LEADS



Aluminum Containers with vinyl plastic insulated cover. Each capacitor clearly stamped with capacity and voltage.

No.	Mfd.	D.C.WV	Diameter	Length	Net Price Each
E29	5	15	1/4"	1/2"	\$.17
E30	10	15	1/4"	1/2"	.18
E31	30	15	3/8"	5/8"	.23
E32	50	15	3/8"	5/8"	.23
E33	100	15	3/8"	3/4"	.27
E46	200	15	1/2"	1 1/4"	.30
E47	300	15	1/2"	1 3/8"	.33
E48	500	15	1/2"	1 3/8"	.40
E49	1000	15	1 1/8"	1 3/4"	.60
E50	2000	15	1 1/8"	2 1/4"	.90

## HI-FI ALUMINUM KNOBS



Individually packaged in a poly bag suitable for peg-rack sales.

Push-on soft gold finish knob with depressed indicator line on side of knob. Fits 1/4" shaft. Diameter 3/4". Height 5/8".

**No. 325** .....**Net Price \$.36 ea.**

Set Screw knob with dark gray depressed indicator line on the side. Fits 1/4" shaft. Diameter 3/4" tapered to 5/8". Height 3/4".

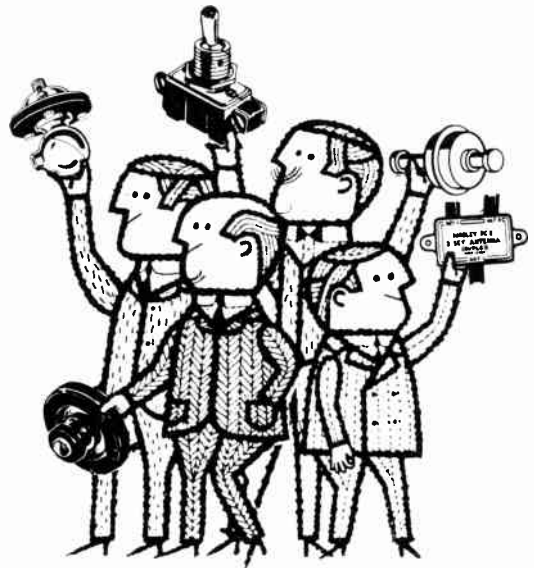
**No. 327** .....**Net Price \$.40 ea.**

# PHILMORE MANUFACTURING CO. INC.

We will be pleased to send our latest Catalog upon request.

*You can depend on your local  
**ELECTRONIC DISTRIBUTOR** for ...*

- *Instant off-the-shelf delivery*
- *In-depth inventories*
- *Wide varieties*
- *Prompt service*
- *Technical assistance*
- *Availability of the latest products*
- *Speedy purchasing – one order does the job*



*Contact your local **ELECTRONIC DISTRIBUTOR**  
for all your requirements!*



# ADC PRODUCTS

## PLUGS



PJ-5 PJ-1 PJ-3 PJ-6 D7200 PJ-327

**PJ-5** Equivalent, PJ-055, WE-47, fits 1/4" phone jacks. Black plastic shell. Screw terminals. Two conductor.  
**Net \$ 7.78**

**PJ-1** Equivalent WE-241, heavy duty die cast frame. Black phenolic shell. Self aligning plug prongs on 5/8" center for use with all standard jack panels. Two tip conductors, plus sleeve connection common to both sleeves.  
**Net \$2.55**

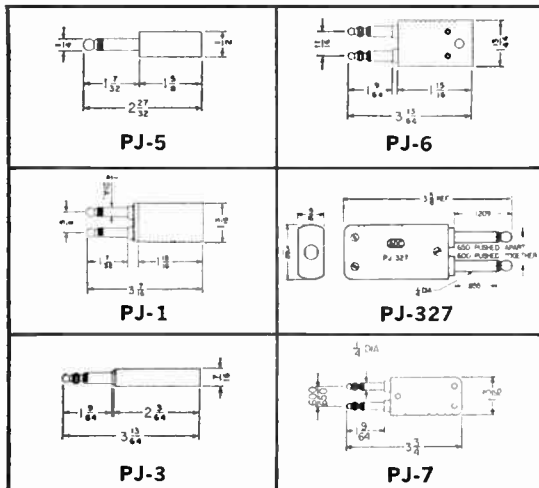
**PJ-3** Equivalent PJ-051, WE-310. Designed for use with 1/4" tip, ring and sleeve jacks. Molded insulation, red plastic shell. Three conductor.  
**Net \$2.40**

**PJ-6** Equivalent WE-213. Designed for applications requiring two separate 3 conductor circuits. Popularly used with operator's intercom/monitor headsets. Black shell notched for polarity identification. Self aligning plug prongs on 11/16" centers.  
**Net \$9.78**

**D7200** Equivalent WE-315B. Four prong, self aligning plug. Molded insulation. Brass shell notched for polarity is nickel plated and connected to plug stems to provide shielding for tip conductors. For use with four PJ-318 double jacks mounted on 5/8" centers. Five conductors.  
**Net \$14.70**

**PJ-327** Equivalent WE-327. The PJ-327 Twin Plugs provides two electrically independent, 2 conductor plugs in a black plastic shell which is notched to indicate polarity. Self aligning plug sleeves are on 5/8" centers. Designed and constructed in accordance with Specification MIL-P-642A.  
**Net \$2.55**

**PJ-7** Twin type plug with tip, ring and sleeve conductors on 5/8" centers for use with all standard jack panels. Designed to mate with three conductor jacks having 1/4" diameter sleeves. Molded insulation. Black phenolic shell is notched to indicate polarity.  
**Net \$7.20**



## PATCH CORDS



Length	Cord With PJ-1 Plugs	Net Price	Cord With PJ-5 Plugs	Net Price	Replacement Cords Only	Net Price
6-inch	PJ-10 1/2	\$6.38	PJ-50 1/2	\$3.48	PJ-20 1/2	\$1.11
1-foot	PJ-11	6.60	PJ-51	3.63	PJ-21	1.50
2-feet	PJ-12	6.75	PJ-52	3.84	PJ-22	1.65
3-feet	PJ-13	6.90	PJ-53	4.11	PJ-23	1.74
4-feet	PJ-14	7.13	PJ-54	4.44	PJ-24	1.80
5-feet	PJ-15	7.28	PJ-55	4.77	PJ-25	1.89
6-feet	PJ-16	7.58	PJ-56	5.25	PJ-26	2.49
10-feet	PJ-10	8.10	PJ-50	5.82	PJ-20	3.15

Length	Cord With PJ-3 Plugs	Net Price	Replacement Cords Only	Net Price
2-feet	PJ-82	\$8.70	PJ-62	\$2.10
4-feet	PJ-84	9.30	PJ-64	2.40
6-feet	PJ-86	9.90	PJ-66	2.82

ADC patch cords have become standards in the communications industry. Unmatched in quality, these shielded cords are made of tinned copper conductor wire with a heavy braided cover reinforced at each end. These cords, as well as cord assemblies with PJ-1 double plugs, PJ-5 or PJ-3 single plugs and standard black patch cords with shields grounded both ends, are considered standard. Unshielded cords or assemblies with shields grounded one end only available on special order. Gray, red, other color cords available on special order.

Length	Cord with PJ-7 Plugs
1 foot	PJ-171
2 feet	PJ-172
3 feet	PJ-173
4 feet	PJ-174
5 feet	PJ-175
6 feet	PJ-176

Four tinsel wire conductors plus shield (shield grounded to both sleeves of PJ-7 plugs). Conductors are rubber insulated. Heavy black braided glazed cotton cover overall.

Patch Cords Length	Nylon Cord With PJ-327 Plugs
1 foot	PJ-181
2 feet	PJ-182
3 feet	PJ-183
4 feet	PJ-184
5 feet	PJ-185
6 feet	PJ-186

Four tinsel wire conductors, thermoplastic insulated. Slate colored Nylon braided cover overall resists wear.



ADC PRODUCTS

JACKS.....



TELEPHONE TYPE

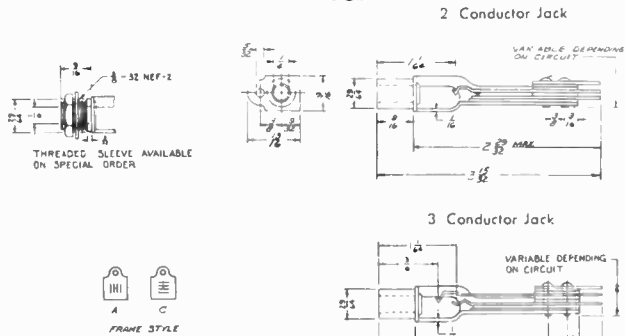
ADC is recognized as a leading supplier of long frame, telephone type jacks. As evidence of their outstanding quality, ADC jacks are used by the country's foremost manufacturers of communication equipment. The unique, ADC one piece frame is strong, dimensionally stable and readily interchangeable both mechanically and electrically with commonly used jacks. Plating withstands 50-hour salt spray tests. Coin silver contacts are welded to nickel silver springs. Lugs are hot tin dipped. Insulation is high grade phenolic.

Schematic Diagram	Jacks	W. E. Equiv.	Frame Style	Net Price
	PJ-115	215-A	A	\$ .90
	PJ-116	216-A	A	.90
	PJ-117	217-A	A	.90
	PJ-123	223-A	A	.60
	PJ-125	225-A	A	1.02
	PJ-202	None	C	1.02
	PJ-203	303-A	A	.78
	PJ-204	None	A	1.02
	PJ-205	240-A	A	1.32
	PJ-206	242-A	A	1.32
	PJ-207	285-A	A	1.50
	PJ-208	284-A	A	1.50
	PJ-209	411-A	A	1.02
	PJ-226	226-A	A	1.02
	PJ-237	237-A	A	.87
	PJ-238	238-A	A	.66
	PJ-240	240-C	C	1.23
	PJ-241	241-A	A	1.02
	PJ-242	242-C	C	1.23
	PJ-318	218-A	A	.66
	PJ-336	236-C	C	1.14
	PJ-338	438-C	C	1.23
	PJ-339	239-A	A	.92
	PJ-418	218-C	C	.69

MILITARY JACKS

Designed to meet the rugged, exacting requirements of military applications. These ADC jacks are made in accordance with Mil-J-641B specifications. Highest quality materials and closely held tolerances on dimensions conform with military specifications.

Schematic Diagram	Mil Jacks	Net Price	Schematic Diagram	Mil Jacks	Net Price
	JJ-015	1.17		JJ-073	1.50
	JJ-016	.90		JJ-074	1.17
	JJ-017	1.17		JJ-075	1.50
	JJ-019	1.41		JJ-077	1.71
	JJ-022	.75		JJ-078	1.71
	JJ-024	.75		JJ-084	1.05
	JJ-035	1.17		JJ-085	1.05
	JJ-042	1.02		JJ-086	.66
	JJ-072	1.05		JJ-087	1.17



TERMINAL BLOCKS



Type	No. Rows	No. Terminals	Net Price
PJ-101	1	20	\$3.45
PJ-102	2	40	4.65
PJ-103	3	60	5.85
PJ-104	4	80	7.05
PJ-105	5	100	8.25
PJ-106	6	120	9.45

Molded of durable black phenolic plastic material. Terminals are .040" plated brass. Rows of terminals are graduated in length for ease of wiring, and are identified by numbering along the top row. Base 3" x 6-1/16".



ADC PRODUCTS

**new!**



**BANTAM JACK PANELS**

Bantam Jack Panels are designed to satisfy the increasing demand for more compact patchfields in modern electronic and communication equipment. Bantam Jack Panels, with miniaturized jacks, provide twice the number of jacks in a standard size panel. They require only 1/2 the rack space previously used by conventional panels. The new panel assemblies weigh 65% less when compared to an assembly using an equivalent number of jacks in a conventional jack panel. ■ Bantam Jack Panels are compact, lightweight, and yet provide the same dependable service as the long established telephone types. This new design offers 96 jacks (48 pairs) in a 1 1/4 inch x 19 inch standard sized panel. The jacks on this panel are spaced to prevent the cross patching of adjacent circuits when using double plugs.

**BANTAM JACK PANEL SPECIFICATIONS**

**Panel:** Aluminum alloy, extruded 1 1/4 inches wide for standard 19-inch rack mounting  
**Jack Mounting:** Four molded plastic inserts, each provides for 24 jacks. Pairs of jacks on 1/4 inch centers. Double row panel provides 96 jacks total. Blank inserts can be furnished where only single row of jacks is required  
**Panel mounting:** Mounting brackets are integral part of panel  
**Designation Strip:** Extruded clear plastic  
**Panel Finish:** Anodized, Black

	NET
PJ-731 Double row panel, assembly less jacks, hold 96 jacks	\$ 19.20
PJ-737 Double row panel, with 48 pair (96 total) PJ-818 jacks	92.40
PJ-739 Double row panel, with 48 pair (96 total) PJ-839 jacks	116.40
PJ-724 Panel inserts, less jacks, 24 holes	2.40
PJ-700 Panel inserts, blank (same as PJ-724 without holes)	1.20

Custom panel assemblies with up to 108 jacks are available on special order.

**BANTAM JACKS**

Bantam Jacks will meet the electrical, mechanical and environmental requirements of the military specification for long frame telephone jacks. Although reduced in size these jacks will provide the same reliable service equal to that expected from regular size telephone jacks. These jacks are available in a variety of two and three conductor types, with isolated circuit contacts as well as normaling contact.

**SPECIFICATIONS:**

**Frame:** Steel, Cadmium plate with chromate conversion coating to withstand 50 hours of salt spray.  
**Springs:** Nickel silver.  
**Contacts:** Palladium, cross-bar contacts are welded to springs.  
**Insulation:** Spacers, Phenolic Type PBE-P per Mil-P-3115B.  
**Bushing:** Brass, silver soldered to frame. Finish same as frame.

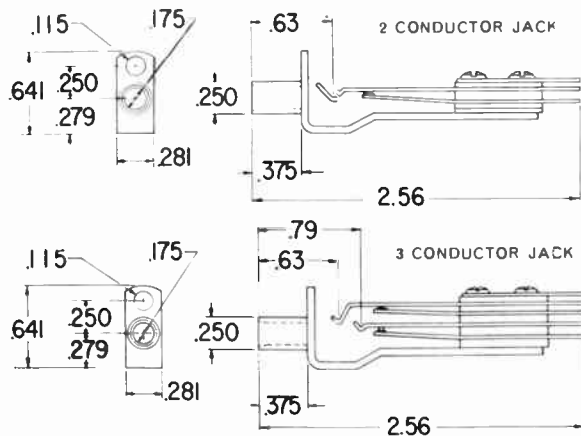
2 conductor—tip and sleeve	PJ-803	
2 conductor—tip and sleeve	PJ-818	
2 conductor—tip and sleeve	PJ-823	
3 conductor—tip, ring and sleeve	PJ-838	
3 conductor—tip, ring and sleeve	PJ-839	

**SPECIFICATIONS:**

**Cord:** Plastic jacketed, shielded tinned copper conductors. Jacket color, Gray  
**Plugs:** Conductor parts are precision machined of brass.  
**Plug Insulation:** Molded polystyrene, black.  
**Internal connections:** Soldered.  
**Plug shell:** Plastic, molded to cord. Gray.

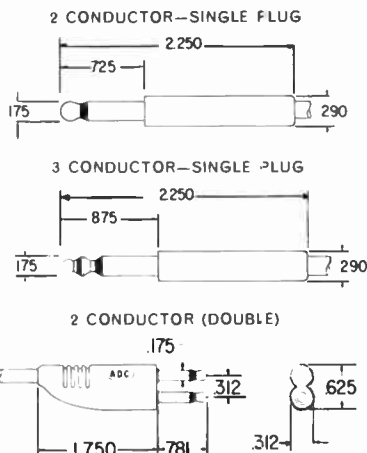
**BANTAM PATCH CORDS**

Length	Single (2) Conductor Plug	Net	Double (2) Conductor Plug	Net	Single (3) Conductor Plug	Net
6 inch	PJ-701	\$3.30	PJ-751	\$3.96	PJ-711	\$3.90
12 inch	PJ-702	3.36	PJ-752	4.02	PJ-712	3.96
24 inch	PJ-704	3.42	PJ-754	4.08	PJ-714	4.02
36 inch	PJ-706	3.48	PJ-756	4.14	PJ-716	4.08
48 inch	PJ-708	3.54	PJ-758	4.20	PJ-718	4.20



**BANTAM PATCH CORDS**

Bantam Patch Cords are plastic jacketed, shielded cords complete with molded-on plugs. The plugs are made with molded insulation between conductors. Bantam Patch Cords are available with single and double two conductor plugs and single three conductor plugs. A cord strain relief feature is included in the plug construction.

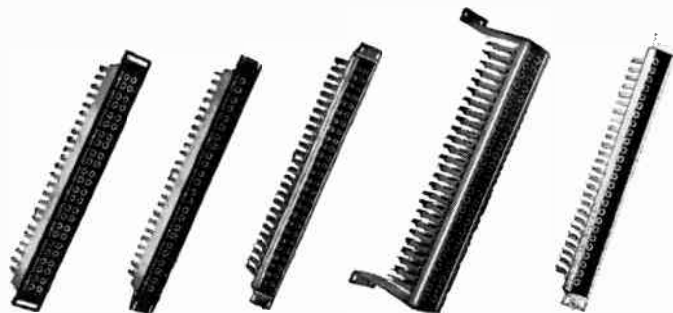




# ADC PRODUCTS

## JACK PANELS...

ADC offers the most complete assortment of jack panels available today. ADC panels are used in television and broadcasting stations, recording studios, industrial paging systems, and communication equipment of all kinds where there is a need to efficiently switch and distribute audio signals. Molded of solid phenolic, reinforced with steel to provide maximum rigidity and strength. Jacks are spaced to permit use of any standard double plug with  $\frac{3}{8}$ " spacing. Mounting brackets and designation strips furnished with each panel. All panels designed to fit standard 19" relay rack. Consult ADC for your standard and special jack panel requirements.



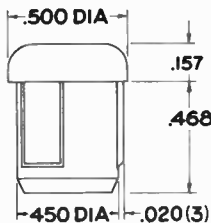
**PJ-31**    **PJ-33**    **PJ-30**    **PJ-35**    **PJ-36**  
**PJ-341**    **PJ-343**    **PJ-340**    **PJ-350**    **PJ-360**  
**PJ-391**    **PJ-393**    **PJ-390**    **PJ-395**    **PJ-396**

### HOLE PLUG

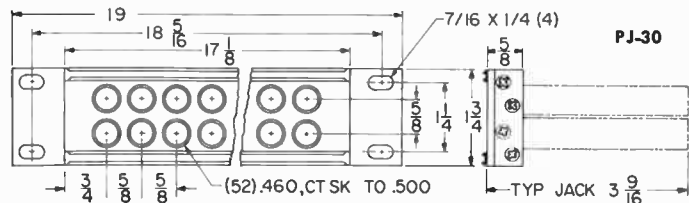
Molded of black polyethylene plastic. Fits all ADC standard jack panels. Made to plug mused jack mounting holes in jack panels.

PJ-29

Net \$ .15

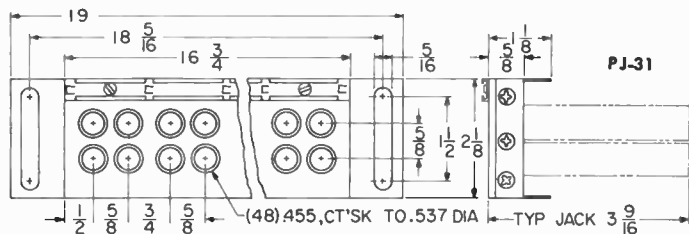


Panel less Jacks	Net Price	Panel with PJ-318 Jacks	Net Price	Panel with PJ-339 Jacks	Net Price
PJ-30	\$12.90	PJ-340	\$49.50	PJ-390	\$64.80
PJ-31	9.45	PJ-341	42.75	PJ-391	57.30
PJ-33	8.52	PJ-343	25.14	PJ-393	32.40
PJ-35	15.60	PJ-350	52.50	PJ-395	67.50
PJ-36	8.70	PJ-360	27.90	PJ-396	35.10



### PJ-30

Double panel. Holds 52 jacks—requires 1 1/2" panel space. Double designation strip. Brackets for flush rack mounting. All jack mounting holes on  $\frac{3}{8}$ " centers.

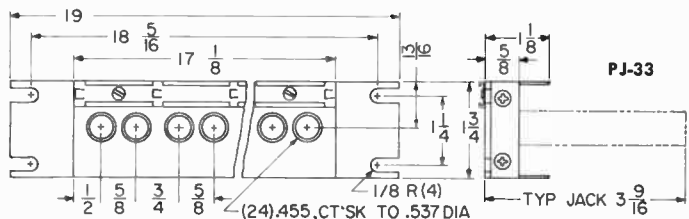


### PJ-35

Double panel. Same as PJ-30 except with stand off brackets to hold panel 7" in front of mounting rack.

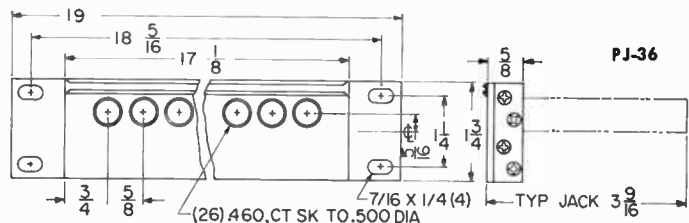
### PJ-31

Double panel. Holds 48 jacks. Holes spaced to prevent patching adjacent circuits. Requires 2 1/2" panel space.



### PJ-33

Single panel. Holds 24 jacks. Holes spaced to prevent patching adjacent circuits. Requires 1 1/2" panel space.



### PJ-36

Single panel. Holds 26 jacks—requires 1 1/2" panel space. Brackets for flush rack mounting. All jack mounting holes on  $\frac{3}{8}$ " centers.

Panels with mil jacks and other telephone type jacks also available.





COAXIAL PATCHING COMPONENTS

COAX JACKS



CJ-1005  
CJ-1009



CJ-1000  
CJ-1100



CJ-1011  
CJ-1111

SPECIFICATIONS

**JACK SLEEVE AND FRAME:** Brass  
**FINISH (CONDUCTOR SURFACES):** Gold Plating over Silver\*  
**INSULATION:** Teflon  
**CONTACT FINGERS:** Phosphor Bronze (Gold Plating over Silver\*)  
**CENTER CONDUCTOR:** Beryllium Copper (Gold Plating over Silver\*)  
**SHIELD TERMINATION:** Brass (Gold Plating over Silver\*) A sleeve is furnished for use when a crimped on solderless connection for shield is desired\*\*

\*Mil-G-45024, Type II  
 \*\*For crimped solderless connections recommended tool: Thomas & Betts crimping tool •WT-412

Net

CJ-1000 Single Jack (WE 477B equivalent)	4.50
CJ-1011 Single Jack (with BNC connector)	5.00
CJ-1005 Dual Jack (WE 465C equivalent)	8.75
CJ-1009 Dual Jack (WE 491A equivalent)	8.50
CJ-1100 Single Jack	4.50
CJ-1111 Single Jack with BNC connector	5.00

COAX PLUGS

SPECIFICATIONS

**PLUG FINGERS:** Brass  
**FINISH (CONDUCTOR SURFACES):** Gold Plating over Silver\*  
**CENTER CONDUCTOR—BRASS:** Gold Plating over Silver\*  
**INSULATION:** Teflon  
**HANDLE:** Single & Termination Plugs—Brass Nickel Plated  
 Looping Plugs—High Impact Resistant Plastic (Implex) Black  
 Dummy Plugs—Brass—Black Nickel



CP 1040 CP 1042  
CP 1140 CP 1142  
CP 1041 CP 1141  
CP 1049 CP 1149

WE Compatible	Part Numbers	Net
TERMINATION	CP-104Q (WE 340C)	4.50
SINGLE	CP-1041 (WE 358A)	3.00
LOOPING	CP-1042 (WE 372A) <sup>3</sup>	6.00
LOOPING WITH PIN JACKS <sup>1</sup>	CP-1043 <sup>3</sup>	7.50
DUMMY	CP-1049 (WE 339A)	2.25

RCA Compatible Part Numbers

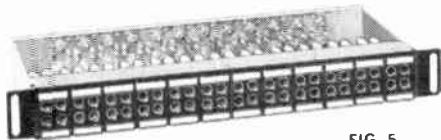
TERMINATION	CP-114Q	4.50
SINGLE	CP-114I	3.00
LOOPING	CP-1142	6.00
LOOPING WITH PIN JACKS <sup>1</sup>	CP-1143	7.50
DUMMY	CP-1149	2.25

Same as CP1042 with pin jacks Same as single plug, except without center conductor or insulator Both 50 and 75 ohm looping plugs are available. 75 ohm plug will be supplied unless order specifies 50 ohm version

COAX PANELS



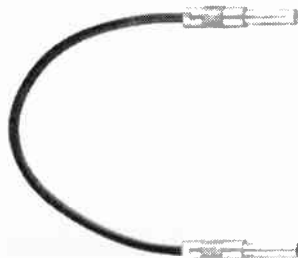
FIG. 1 FIG. 2 FIG. 3 FIG. 4



Double and single row available. FIG. 5

CAT. NO.	FIG.	DESCRIPTION	Net
CM-1020	1	1 3/4" wide Panel (Single Row) with 24 CJ-1000 jacks	115.00
CM-1022	5	1 3/4" wide Panel (Single Row) with 24 CJ-1000 jacks and Subchassis with 12 VHF Connectors	130.00
CM-1021	1	1 3/4" wide Panel (Single Row) with 24 CJ-1011 jacks	128.00
CM-1025	2	2 1/8" wide Panel (Double Row) with 48 CJ 1000 jacks	225.00
CM-1027	5	2 1/8" wide Panel (Double Row) with 48 CJ 1000 jacks and Subchassis with 24 VHF Connectors	255.00
CM-1026	2	2 1/8" wide Panel (Double Row) with 48 CJ 1011 jacks	250.00
CM-1028	3	1 3/4" wide Panel (Single Row) with 26 CJ-1000 jacks	125.00
CM-1029	3	1 3/4" wide Panel (Single Row) with 26 CJ-1011 jacks	138.00
CM-1031	4	1 3/4" wide Panel (Double Row) with 52 CJ 1000 jacks	254.00
CM-1032	4	1 3/4" wide Panel (Double Row) with 52 CJ 1011 jacks	270.00
CM-1120	1	1 3/4" wide Panel (Single Row) with 24 CJ-1100 jacks	115.00
CM-1122	5	1 3/4" wide Panel (Single Row) with 24 CJ-1100 jacks and Subchassis with 12 VHF Connectors	130.00
CM-1121	1	1 3/4" wide Panel (Single Row) with 24 CJ-1111 jacks	128.00
CM-1125	2	2 1/8" wide Panel (Double Row) with 48 CJ 1100 jacks	225.00
CM-1127	5	2 1/8" wide Panel (Double Row) with 48 CJ 1100 jacks and Subchassis with 24 VHF Connectors	255.00
CM-1126	2	2 1/8" wide Panel (Double Row) with 48 CJ 1111 jacks	250.00
CM-1128	3	1 3/4" wide Panel (Single Row) with 26 CJ-1100 jacks	125.09
CM-1129	3	1 3/4" wide Panel (Single Row) with 26 CJ-1111 jacks	138.00
CM-1131	4	1 3/4" wide Panel (Double Row) with 52 CJ-1100 jacks	254.00
CM-1132	4	1 3/4" wide Panel (Double Row) with 52 CJ-1111 jacks	270.00

COAX PATCH CORDS



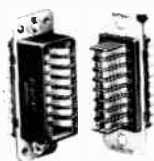
Length	WE Compatible Part Numbers 50 ohm cable (RG-58U) with CP-1041 plugs	RCA Compatible Part Numbers 50 ohm cable (RG-58U) with CP-1141 plugs	WE Compatible Part Numbers 75 ohm cable (RG-59U) with CP-1041 plugs	RCA Compatible Part Numbers 75 ohm cable (RG-59U) with CP-1141 plugs	Net
6"	CC-1051	CC-1151	CC-1071	CC-1171	6.00
12"	CC-1052	CC-1152	CC-1072	CC-1172	6.00
18"	CC-1053	CC-1153	CC-1073	CC-1173	6.25
24"	CC-1054	CC-1154	CC-1074	CC-1174	6.25
30"	CC-1055	CC-1155	CC-1075	CC-1175	6.50
36"	CC-1056	CC-1156	CC-1076	CC-1176	6.50

# AMPHENOL RACK & PANEL CONNECTORS



**AMPHENOL  
DISTRIBUTOR  
DIVISION**

For Immediate Service Contact Your Local Amphenol Sales Office



## BLUE *Ribbon*® CONNECTORS

The Amphenol gold-plated ribbon connector provides more contact mating surface than any connector of its type. Applying the principle of the wedge, ribbon contacts exert a continuous flexing action against each other while mated, providing unusually low contact resistance. The Blue Ribbon® contact is self-wiping for reliability throughout its long life, and is available with 8 to 32 contacts. Cable to panel versions are also available.



## *Micro* RIBBON® CONNECTORS

Amphenol's Micro Ribbon® connector is a miniature version of the Blue Ribbon. It features 14 to 50 contacts, low contact resistance, self-wiping action and miniature size.



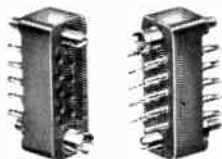
## *Min-Rac 17* CONNECTORS

Amphenol's Min-Rac 17® connector is highly suited for saving needed space for proper ventilation, component mounting, or chassis size reduction. Mounting depth is less than most "shell-less" rack-and-panel connectors. It provides up to 50 Poke-Home® terminals in half the insert space required for standard rack-and-panel connectors. Poke-Home contacts are available in either crimp or solder versions.



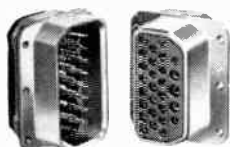
## HEX-TYPE CONNECTORS

Amphenol provides a complete family of miniature rack-and-panel and cable-to-chassis connectors for interconnection in a wide range of applications. Hardware and contacts are interchangeable. Bodies are molded of diallylphthalate; gold-over-silver contacts will not tarnish or corrode and can be soldered without pre-tinning even after long storage. All hardware is nickel-plated solid brass.



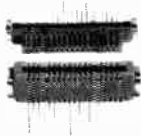
## 126 SERIES CONNECTORS

The 126 Series is a versatile group of connectors available in 11, 15, and 20 contacts—with or without protective can and cable clamp. Rated at 900 volts RMS, 60 CPS at sea level. Bodies are mica-filled phenolic; contacts are gold-plated.



## 94 SERIES POKE-HOME® CONNECTORS

Amphenol's 94 Series rack-and-panel connectors feature Poke-Home contacts. Aluminum shells are cadmium plate, chromate treated. Useful for any rack-and-panel application, the 94 Series is especially valuable where circuits must be changed frequently within the connector. Poke-Home contacts can be wired and then inserted into the mounted or unmounted connectors in any desired position.



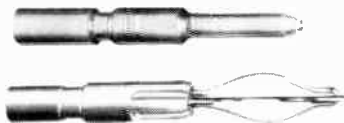
## MICRO-MINIATURE CONNECTORS

Amphenol provides three additional complete series of subminiature connectors designed for modules, stick-circuitry, thin style printed circuit boards, and other micro-miniature applications. Use of the Micro-Mod®, Micro-Min® Series, and Micro-Edge® connectors is limited only by the imagination of the design engineer.



## PRINTED CIRCUIT CONNECTORS

Amphenol's printed circuit connectors are available with ribbon or tuning fork contacts. The broad selection of contact tails represents the most complete line in the industry.



## POKE-HOME® CRIMP MICRO-MINIATURE CONNECTORS

Amphenol micro-miniature connectors are now available with a choice of high-density contacts: Wire-Form for economically solving virtually every contact application or new Relia-Tac for extra high reliability. Both feature handy crimp termination on the following connectors:

Mighty-Mite®—cable-to-panel and cable-to-cable application; 7 to 61 contacts.  
Tiny Tim®—module and rack-and-panel application; 5 to 33 contacts.  
Micro-Rac®—rack-and-panel, cable, and module application; 52 to 104 contacts.  
The 221 Series Strip—permits cutting and stacking in unlimited shapes.

FOR COMPLETE TECHNICAL INFORMATION . . . CONSULT AMPHENOL'S 44 PAGES OF PRODUCT AND ORDERING SPECIFICATIONS APPEARING IN THE ELECTRONIC ENGINEERS MASTER (eem).

# AMPHENOL POWER CONNECTORS



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## MS CONNECTORS

Amphenol builds MS connectors to the latest issue of MIL-C-5015 Specification. They are designed, manufactured, and approved under this specification for the armed forces, and are ideal for commercial and industrial applications which require the same versatility and dependability. Available for all environmental requirements.



## ASTRO/348

Astro/348 High Density Subminiature connectors solve the problem of more electrical connections and the elimination of space and weight. Up to 85 contacts in an 18 size shell. Serviceable crimp contacts, front release retention device, voidless internal dielectric assembly, environmental protection and standard connector hardware are some of the features of the Astro/348 Series. Astro /348 Series is available in standard configurations.



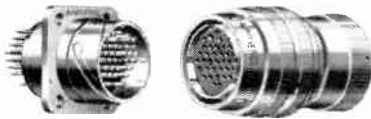
## MS — R & 69 POKE-HOME<sup>®</sup> CONNECTORS

Amphenol Poke "R" solderless connectors provide all the lightweight environmental-resistant features of MIL-C-5015s "R" Class with two important additions: Poke-Home contacts and superior environmental performance. Incorporation of these two features make Poke "R" a highly preferred MIL-C-5015-type connector.



## 48 SERIES — MIL-C-26500 MIL-C-38300 (USAF)

Meeting or exceeding all MIL-C-26500 and MIL-C-38300 requirements, Amphenol's 48 Series combines miniature environmentally-resistant construction and Poke-Home crimp type contacts. MIL-C-26500 connectors perform with utmost reliability in temperatures of  $-55^{\circ}\text{C}$  to  $+260^{\circ}\text{C}$ , with no re-rating up to 360,000 ft. Available with threaded and bayonet coupling.



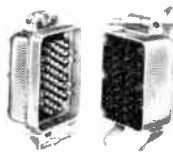
## 67 SERIES MINNIE<sup>®</sup> CONNECTORS

Amphenol 67 Series MinnieE connectors are quick-disconnect, multi-contact, miniature bayonet types. MinnieE connectors feature inclined stainless steel slots and spring loaded coupling rings. A bright orange visual indicator signals full coupling. The 67 Series has a wide variety of shell styles with environmental capability. Receptacles are available in hermetics.



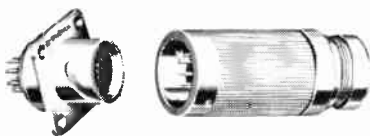
## 89 SERIES CONNECTORS

Rugged and completely leakproof, Amphenol 89 Series connectors provide efficient and dependable service even when entirely submerged in mud, ice, water, or mire. They are used extensively in missile ground-and-support systems, radar antenna installations, oil well and digging equipment, and other hard-service applications. Available in more than 70 insert configurations with 2 to 52 contacts.



## 115 SERIES CONNECTORS

Amphenol 115 Series connectors accommodate 50 or 100 No. 16 contacts and are nominally rated at 750 volts RMS, 60 CPS at sea level. They provide maximum space efficiency for all applications where a large number of circuits must be broken quickly and conveniently. The vise-action of the screw lock permits a quick-make quick-break switching action of all contacts.



## MINIATURE "AN" CONNECTORS

Compact, efficient Amphenol 165 Series connectors are miniature versions of standard AN/MS types. Because of their weight and space saving design they are widely used in aircraft and miniaturized electronic equipment. 165 Series connectors use bayonet couplings, and are both pressure-proof and completely waterproof—mated or apart. Hermetically sealed, 182 Series connectors mate with connectors of the 165 Series.



## 172 SERIES HERMETIC CONNECTORS

Amphenol 172 Series hermetic receptacles use an improved hard-glass compression seal with high visibility "Identoseal" contact identification. Both insert faces have ceramic white marking permanently fused to the dark brown glass. Receptacles mate with MIL-C-5015 MS plugs. The 172 Series is available in round flange, square flange, hex flange, and flangeless shells.

FOR COMPLETE TECHNICAL INFORMATION . . . CONSULT AMPHENOL'S 44 PAGES OF PRODUCT AND ORDERING SPECIFICATIONS APPEARING IN THE ELECTRONIC ENGINEERS MASTER (eem).

# AMPHENOL TUBE SOCKETS & MICROPHONE CONNECTORS



**AMPHENOL  
DISTRIBUTOR  
DIVISION**

For Immediate Service Contact Your Local Amphenol Sales Office



## "S" TYPE TUBE SOCKETS

Amphenol "S" type tube sockets mount quickly and easily without screws or rivets by means of a patented "Retainer Ring Mounting." Sockets position to line up contacts for convenient wiring. The "S" type tube socket may be used with "Plug Caps" to make high-quality, low-cost cable connectors. Available also in mica-filled phenolic.



## "MIP" SOCKETS

Amphenol's famous "MIP" socket (Molded-in-Plate) features Bakelite dielectric, and 4 to 20 contacts.



## "CP" PLUGS

Amphenol "CP" plugs also mount simply through use of the patented "Retainer Ring Mounting." "CP" plugs are ideal as chassis connectors with plug-in units and are available optionally in mica-filled phenolic. They also adapt to cable applications when used with steel caps.



## 110/220 VOLT PLUGS & RECEPTACLES

Amphenol's 110/220 volt plugs and receptacles may be panel or cable mounted. Available with rubber grommets or cable clamp type shields, recessed or raised mountings, two or three contacts.



## 110 VOLT GROUND PLUGS & RECEPTACLES

Amphenol's 110 volt ground plugs and receptacles meet latest UL requirements. The 160 Series may be panel or cable mounted.



## MIKE CONNECTORS

Designed for use with shielded microphone cables, Amphenol's family of microphone connectors are available in several series and include "Quick" Microphone Connectors with quick-button disconnect, 75 Series, single and double contact 80 Series, and its companion, 3, 4 and 6 contact 91 Series.



## RELAY SOCKETS

Amphenol relay sockets are available in a broad range of contact styles and sizes, with up to 20 contacts.



## MILITARY TIP JACKS

Amphenol military tip jacks feature a recessed silver-plated contact for top durability and high performance. Available in a wide range of colors, and other options. 1/4 inch mounting hole.

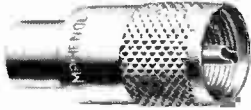
FOR COMPLETE TECHNICAL INFORMATION . . . CONSULT AMPHENOL'S 44 PAGES OF PRODUCT AND ORDERING SPECIFICATIONS APPEARING IN THE ELECTRONIC ENGINEERS MASTER (eem).

# AMPHENOL RF PRODUCTS



**AMPHENOL  
DISTRIBUTOR  
DIVISION**

For Immediate Service Contact Your Local Amphenol Sales Office



## 83 SERIES UHF CONNECTORS

Amphenol's UHF 83 Series consists of both small and large single and twin contact connectors. All are low-cost, general purpose connectors of non-constant impedance. They operate satisfactorily at frequencies up to 200 megacycles, can be used with caution up to 500 megacycles, and can be used at peak voltages up to 500 volts.



## MIL-CRIMP, QUICK-CRIMP & SOLDER BNC CONNECTORS

Amphenol Series BNC connectors for small coaxial cables consist of non-constant impedance types and an improved constant 50 ohm impedance type. All incorporate quick-connect and disconnect bayonet-lock coupling and are weatherproof. Now you can have your MIL-spec and crimp it, too — with the first quick-crimp connector to meet MIL-C-23329A, Amphenol's MIL-Crimp.



## SERIES N CONNECTORS

Completely weatherproof Series N connectors are the most popular constant impedance connectors for medium size coaxial cables. They can be used throughout microwave frequencies with minimum line unbalance or increase in standing-wave ratio. Although Series N 50 ohm and 70 ohm connectors do not mate, 70 ohm cables may be used with 50 ohm Series N connectors where impedance matching is not critical.



## SUB*Minax*® RF CONNECTORS

Amphenol's SubMinax RF connector family provides the most complete subminiature line available from one source. The SubMinax 27 Series is gold-plated and uses a MIL-C-22557 screw-on and push-on coupling. The SubMinax 5116 is silver-plated and mates with competitive non-MIL-C-22557 screw-on, push-on coupling types. The 5116 contains only five components, saving as much as two-thirds assembly time.



## BETWEEN SERIES ADAPTERS

Amphenol can provide the most complete line available of between-series adapters.



## OTHER RF CONNECTORS

Types C, HN, LC, BN, TNC, LN, SKL, MB, MC, SM, TWINAX, MHV, and Terminations, as well as a variety of modifications, make up the complete Amphenol line.



## COAXIAL CABLE

Amphenol provides the broadest line of RG and non-RG coaxial cable available, and is generally accepted as the quality leader in this field. Dielectric includes Teflon, Polyethylene, and Polyfoam.



## COAXIAL SWITCHES

Amphenol coaxial switches provide remote and manual switching up through 4000 mc. Single pole, single throw—through 12 pole. Available with a variety of terminating connectors and relay voltages.

FOR COMPLETE TECHNICAL INFORMATION . . . CONSULT AMPHENOL'S 44 PAGES OF PRODUCT AND ORDERING SPECIFICATIONS APPEARING IN THE ELECTRONIC ENGINEERS MASTER (eem).

# BEAUCHAINE



## BEAUPUG 3300 SERIES PLUGS & SOCKETS

The 3300 Series BEAUCHAINE ELECTRICAL CONNECTOR line has been developed to fulfill the industry need for a reasonably priced, reliable and versatile connector for chassis, cable and modular use where space is not a prime consideration. The 3300 Series is made in 2, 3, 4, 6, 8, 10, 12, 15, 18, 21, 24, 27, 30 & 33 contact configurations.

Male contacts are brass, cadmium plated. Female contacts are phosphor bronze, also cadmium plated and are covered

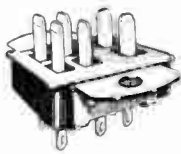
by U. S. Patents # 3,271,728 & 3,311,867 For greater dielectric strength, protection and economy, we have developed the molded POLYPROPYLENE and the new POLYCARBONATE backshells (or caps) which are described on the following page.

BEAUPUGS meet or exceed UL Std. #498, all contacts carrying "rated" current simultaneously.

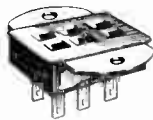
Current (2-12 Contacts) -- 7.5 amperes & 1875 watts  
Current (15-33 Contacts) -- 4.5 amperes & 1125 watts

### CHASSIS MOUNTED CONNECTORS

Part Number	Price Each Net			
	1-49	50-99	100-249	250-499
<b>Plug, Angle Bracket Mounted, (-AB) End Bracket (-EB), Snap C Clip (-SCC)</b>				
P-3302-AB, -SCC	.21	.175	.14	.133
03	.246	.205	.164	.156
04	.252	.21	.168	.16
06	.306	.255	.204	.194
06-8	.366	.305	.244	.232
08	.366	.305	.244	.232
10	.414	.345	.276	.262
12	.462	.385	.308	.293
P-3315-AB (or -EB)	.63	.525	.42	.399
18	.78	.65	.52	.494
21	.99	.825	.66	.627
24	1.20	1.00	.80	.76
27	1.41	1.175	.94	.893
30	1.62	1.35	1.08	1.026
33	1.83	1.525	1.22	1.159
<b>Socket, Angle Bracket Mounted (-AB) End Bracket (-EB), Snap C Clip (-SCC)</b>				
S-3302-AB, -SCC	.228	.19	.152	.144
03	.258	.215	.172	.163
04	.264	.22	.176	.167
06	.33	.275	.22	.209
06-8	.414	.345	.276	.262
08	.414	.345	.276	.262
10	.492	.41	.328	.312
12	.57	.475	.38	.361
S-3315-AB (or -EB)	.72	.60	.48	.456
18	.87	.725	.58	.551
21	1.08	.90	.72	.684
24	1.29	1.075	.86	.817
27	1.50	1.25	1.00	.95
30	1.74	1.45	1.16	1.102
33	1.92	1.60	1.28	1.216

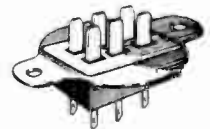


P-3306-8-AB (for positive orientation)



S-3306-AB

Part Number	Each, Net			
	1-49	50-99	100-249	250-499
<b>Plug, Flat Plate Mounted (-FP)</b>				
P-3302-FP	.366	.305	.244	.232
03	.378	.315	.252	.239
04	.384	.32	.256	.243
06	.426	.355	.284	.27
06-8	.486	.405	.324	.308
08	.486	.405	.324	.308
10	.54	.45	.36	.342
12	.582	.485	.388	.369
S-3302-FP	.372	.31	.248	.236
03	.39	.325	.26	.247
04	.396	.33	.264	.251
06	.45	.375	.30	.285
06-8	.534	.445	.356	.338
08	.534	.445	.356	.338
10	.618	.515	.412	.391
12	.69	.575	.46	.437
<b>Plug, Shallow Bracket Mounted (-SB)</b>				
P-3315-SB	.828	.69	.552	.524
18	1.02	.85	.68	.646
21	1.242	1.035	.828	.787
24	1.50	1.25	1.00	.95
27	1.68	1.40	1.12	1.064
30	1.92	1.60	1.28	1.216
33	2.13	1.775	1.42	1.349
<b>Socket, Shallow Bracket Mounted (-SB)</b>				
S-3315-SB	.948	.79	.632	.60
18	1.14	.95	.76	.722
21	1.35	1.125	.90	.855
24	1.502	1.335	1.068	1.015
27	1.80	1.50	1.20	1.14
30	2.04	1.70	1.36	1.292
33	2.25	1.875	1.50	1.425

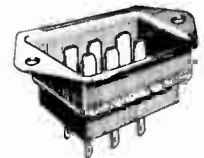


P-3306-FP



S-3321-SB

<b>Plug, Deep Bracket Mounted (-DB)</b>				
P-3302-DB	.522	.435	.348	.331
03	.528	.44	.352	.334
04	.534	.445	.356	.338
06	.60	.50	.40	.38
06-8	.648	.54	.432	.41
08	.648	.54	.432	.41
10	--	--	--	--
12	.78	.65	.52	.494
15	.93	.775	.62	.589
18	1.146	.955	.764	.726
21	1.35	1.125	.90	.855
24	1.602	1.335	1.068	1.015
27	1.80	1.50	1.20	1.14
30	2.07	1.725	1.38	1.311
33	2.274	1.895	1.516	1.44
<b>Socket, Deep Bracket Mounted (-DB)</b>				
S-3302-DB	.546	.455	.364	.346
03	.558	.465	.372	.353
04	.564	.47	.376	.357
06	.636	.53	.424	.403
06-8	.714	.595	.476	.452
08	.714	.595	.476	.452
10	--	--	--	--
12	.90	.75	.60	.57
15	1.044	.87	.696	.661
18	1.242	1.035	.828	.787
21	1.452	1.21	.968	.92
24	1.716	1.43	1.144	1.087
27	1.914	1.595	1.276	1.212
30	2.178	1.815	1.452	1.379
33	2.382	1.985	1.588	1.509



P-3306-DB

### 3300 SERIES SNAP "C" CLIP BEAUPUGS (SCC) FOR PANEL MOUNTING



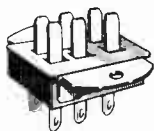
S-3306-SCC

IMPORTANT - - -

Customer must advise the Factory as to the chassis thickness "X" from which we will determine the location of the milled slot.



<b>Plug, Angle Bracket Mounted w/ Tapped Holes (-ABT) End Bracket w/ Tapped Holes (-EBT)</b>				
P-3303-ABT	.288	.24	.192	.182
04	.312	.26	.208	.198
06	.366	.305	.244	.232
06-8	.426	.355	.284	.27
08	.426	.355	.284	.27
10	.474	.395	.316	.30
12	.522	.435	.348	.331
P-3315-ABT (or -EBT)	.69	.575	.46	.437
18	.90	.75	.60	.57
21	1.11	.925	.74	.703
24	1.32	1.10	.88	.836
27	1.53	1.275	1.02	.969
30	1.746	1.455	1.164	1.106
33	1.95	1.625	1.30	1.235
<b>Socket, Angle Bracket Mounted w/ Tapped Holes (-ABT) End Bracket w/ Tapped Holes (-EBT)</b>				
S-3303-ABT	.30	.25	.20	.19
04	.324	.27	.216	.205
06	.39	.325	.26	.247
06-8	.474	.395	.316	.30
08	.474	.395	.316	.30
10	.552	.46	.368	.35
12	.63	.525	.42	.399
S-3315-ABT (or -EBT)	.78	.65	.52	.494
18	.99	.825	.66	.627
21	1.20	1.00	.80	.76
24	1.41	1.175	.94	.893
27	1.62	1.35	1.08	1.026
30	1.86	1.55	1.24	1.178
33	2.04	1.70	1.36	1.292



P-3306-ABT



-ABT & -EBT detail

SERIES CROSS REFERENCE			
BEAUCHAINE	3300 Series	-----	C-J 300 Series
BEAUCHAINE	4400 Series	-----	C-J 400 Series
BEAUCHAINE	5400 Series	-----	C-J 2400 Series

# BEAUCHAINE



## BEAUPUG 3300 SERIES

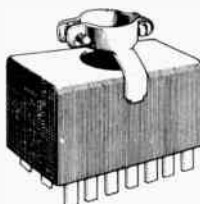
All connectors in the 3300 & 5400 Series are available in the -FHT (Flared Hole, Top) and -FHE (Flared Hole, End) configurations. We have not listed them here because of space considerations.

Number 1-49 50-99 100-249 250-499

Plug, Cable Clamp Top (-CCT) Cable Clamp End (-CCE)

Also for P-3303-12-CCT-63A-AB

P-3302-CCT etc.	.48	.40	.32	.304
03	.492	.41	.328	.312
04	.498	.415	.332	.315
06	.552	.46	.368	.35
06-8	.594	.495	.396	.376
08	.594	.495	.396	.376
10	.666	.555	.444	.422
12	.732	.61	.488	.464
15	.936	.78	.624	.593
18	1.098	.915	.732	.695
21	1.32	1.10	.88	.836
24	1.536	1.28	1.024	.973
27	1.752	1.46	1.168	1.11
30	2.016	1.68	1.344	1.277
33	2.25	1.875	1.50	1.425



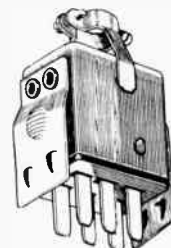
P-3321-CCT

Number 1-49 50-99 100-249 250-499

Plug, Cable Clamp Top-Latch (-CCT-L) Cable Clamp Top-Keeper (-CCT-K)

also P-3315-33-CCT-63A-5B or -CCT-63A-DB

P-3302-CCT-L etc.	.588	.49	.392	.372
03	.594	.495	.396	.376
04	.612	.51	.408	.388
06	.66	.55	.44	.418
06-8	.708	.59	.472	.448
08	.708	.59	.472	.448
10	.774	.645	.516	.49
12	.858	.715	.572	.543
15	1.062	.885	.708	.673
18	1.296	1.08	.864	.821
21	1.50	1.25	1.00	.95
24	1.776	1.48	1.184	1.125
27	1.992	1.66	1.328	1.262
30	2.208	1.84	1.472	1.398
33	2.43	2.025	1.62	1.539



P-3306-CCT-L

Socket, Cable Clamp Top (-CCT) Cable Clamp End (-CCE)

Also for S-3303-12-CCT-63A-AB

S-3302-CCT etc.	.486	.405	.324	.308
03	.498	.415	.332	.315
04	.504	.42	.336	.319
06	.57	.475	.38	.361
06-8	.666	.555	.444	.422
08	.666	.555	.444	.422
10	.738	.615	.492	.467
12	.852	.71	.568	.54
15	1.032	.86	.688	.654
18	1.20	1.00	.80	.76
21	1.38	1.15	.92	.874
24	1.632	1.36	1.088	1.034
27	1.836	1.53	1.224	1.163
30	2.136	1.78	1.424	1.353
33	2.298	1.915	1.532	1.455



S-3306-CCT

Socket, Cable Clamp Top, Keeper (-CCT-K) Cable Clamp Top, Latch (-CCT-L)

also S-3315-33-CCT-63A-5B or -CCT-63A-DB

S-3302-CCT-K etc.	.606	.505	.404	.384
03	.612	.51	.408	.388
04	.618	.515	.412	.391
06	.684	.57	.456	.433
06-8	.768	.64	.512	.486
08	.768	.64	.512	.486
10	.858	.715	.572	.543
12	.948	.79	.632	.60
15	1.182	.985	.788	.749
18	1.38	1.15	.92	.874
21	1.566	1.305	1.044	.992
24	1.80	1.50	1.20	1.14
27	2.04	1.70	1.36	1.292
30	2.28	1.90	1.52	1.444
33	2.502	2.085	1.66E	1.585

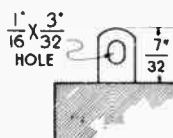


S-3306-CCT-K

BEAUCHAINE BACKSHELLS (or Caps) are molded of UL and CSA approved black POLYPROPYLENE which has excellent dielectric qualities, resists scuffing and abrasion, most acids and alkalis, and won't rust. One of the most interesting features from the standpoint of your Design, Engineering and Purchasing people, is that a wide variety of cable hole sizes and shapes are available from stock tooling. (We also supply these in the -BBS or "Blank Backshell" form, which have no cable openings.) Please

refer to Pages 3300.14 and 3300.15 in our B-5 Catalog.

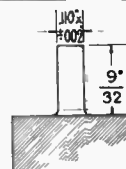
As some of our customers have extreme requirements for connectors using backshells, we now offer, at a slight premium, all of our cable-mounted connectors with POLYCARBONATE (Lexan) molded backshells. These are on Factory Order only and are not stocked by Distributors. However, your Distributor can order them for you.



### CONTACT TAIL configurations offered in the 3300 Series

1. Standard Solder Type in both male and female. (P-3300 & S-3300)

2. Solderless spade type for use with "faston" type .120" receptacles, such as Amp #41960 or similar. (P<sub>1</sub>-3300 & S<sub>1</sub>-3300)



## 4400 SERIES PLUGS & SOCKETS

Plug, Less Angle Bracket (-LAB)

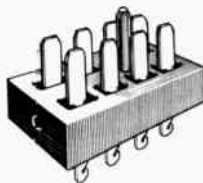
P-4404-LAB	.432	.36	.288	.274
06	.516	.43	.344	.327
08	.612	.51	.408	.388
10	.756	.63	.504	.479
12	.876	.73	.584	.555

Socket, Less Angle Bracket (-LAB)

S-4404-LAB	.48	.40	.32	.304
06	.75	.625	.50	.475
08	.84	.70	.56	.532
10	.96	.80	.64	.608
12	1.152	.96	.768	.73

Plug, Angle Bracket Mounted (-AB)

P-4404-AB	.618	.515	.412	.391
06	.75	.625	.50	.475
08	.858	.715	.572	.543
10	.978	.815	.652	.619
12	1.074	.895	.716	.68



P-4408-LAB

Socket, Angle Bracket Mounted (-AB)

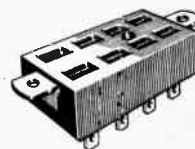
S-4404-AB	.762	.635	.508	.483
06	.894	.745	.596	.566
08	1.062	.885	.708	.673
10	1.20	1.00	.80	.76
12	1.338	1.115	.892	.847

Plug, Angle Bracket (with Tapped Hole) Mounted (-ABT)

P-4404-ABT	.702	.585	.468	.445
06	.834	.695	.556	.528
08	.942	.785	.628	.597
10	1.062	.885	.708	.673
12	1.158	.965	.772	.733

Socket, Angle Bracket (with Tapped Hole) Mounted (-ABT)

S-4404-ABT	.846	.705	.564	.536
06	.978	.815	.652	.619
08	1.146	.955	.764	.726
10	1.284	1.07	.856	.813
12	1.422	1.185	.94E	.901



S-4408-ABT

The 4400 Series BEAUPUGS are chassis mounted only and are used where the connectors have been pre-wired for installation from the rear of the panel. Many of our customers are using the Tapped Angle Bracket (-ABT) types, which save

on parts inventory and installation time.

For mating cable connectors using backshells (or caps), use the 5400 Series, which are listed on the following page. Electrical ratings are identical.

# BEAUCHAINE



## BEAUPUG 5400 SERIES PLUGS & SOCKETS

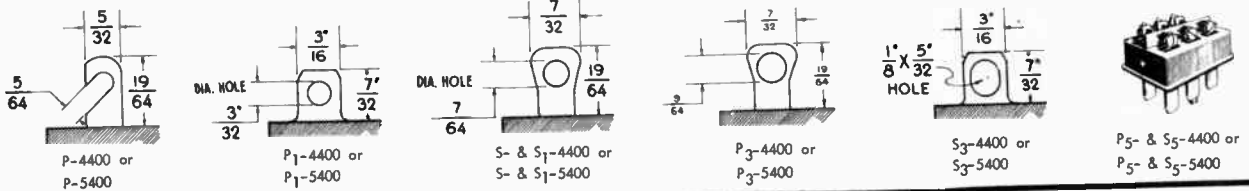
5400 Series Plugs and Sockets mate with our 4400 Series, as well as C-J 400 and 2400 Series. Electrical Ratings: 15 Amps @ 250 Volts, UL Listing No. E 34742 and CSA No. 22156, both of which include the 3300 Series.

Male contacts are of 1/4" x 1/16" brass and are cadmium plated: gold, silver and rhodium are available on special order. The double-wiping action female contacts are made of phosphor bronze and are also cadmium plated.

Number	1-49	50-99	100-249	250-499	Number	1-49	50-99	100-249	250-499
<b>Plug, Less Angle Bracket (-LAB)</b> P-5404-LAB .48 .40 .32 .304 06 .57 .475 .38 .361 08 .66 .55 .44 .418 10 .846 .705 .564 .536 12 .966 .805 .644 .612									
<b>Socket, Less Angle Bracket (-LAB)</b> S-5404-LAB .552 .46 .368 .35 06 .666 .555 .444 .422 08 .804 .67 .536 .509 10 .93 .775 .62 .589 12 1.068 .89 .712 .676									
<b>Plug, Angle Bracket Mounted (-AB)</b> P-5404-AB .672 .56 .448 .426 06 .762 .635 .508 .483 08 .87 .725 .58 .551 10 1.056 .88 .704 .669 12 1.188 .99 .792 .752									
<b>Socket, Angle Bracket Mounted (-AB)</b> S-5404-AB .762 .635 .508 .483 06 .876 .73 .584 .555 08 1.02 .85 .68 .646 10 1.14 .95 .76 .722 12 1.272 1.06 .848 .806									
<b>Plug, Cable Clamp Top (-CCT) Cable Clamp End (-CCE)</b> P-5404-CCT or CCE 1.02 .85 .68 .646 06 1.158 .965 .772 .733 08 1.224 1.02 .816 .775 10 1.41 1.175 .94 .893 12 1.554 1.295 1.036 .984									
<b>Socket, Cable Clamp Top (-CCT) Cable Clamp End (-CCE)</b> S-5404-CCT or CCE 1.122 .935 .748 .711 06 1.212 1.01 .808 .768 08 1.368 1.14 .912 .866 10 1.506 1.255 1.004 .954 12 1.65 1.375 1.10 1.045									

All connectors in the 3300 & 5400 Series are available in the -FHT (Flared Hole, Top) and -FHE (Flared Hole, End) configurations. We have not listed them here because of space considerations.

4400 & 5400 Series CONTACT TAILS AVAILABLE at no extra charge (Except for Screw Type Terminals, an application)



## 2001 SERIES BEAUCAPS

Molded of rugged Linear Polyethylene, the single piece 2001 Series "BEAUCAP" replaces the metal cap with rubber grommet and fishpaper insulation.



### PRICE LIST

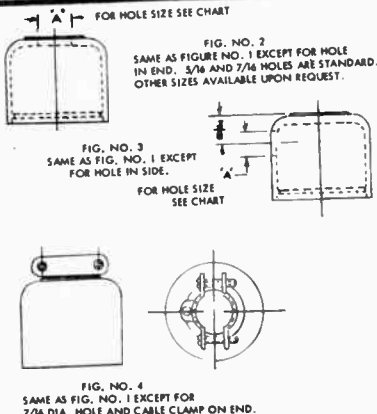
Number	1-49	50-99	100-249	250-499
2001-1	.09	.075	.06	.057
2001-2	.102	.085	.068	.065
2001-3	.102	.085	.068	.065
2001-4	.162	.135	.108	.103

### HOW TO ORDER:

PART NO.	FIG. NO.	COLOR	HOLE SIZE
2001 - 1	1	Add Suffix B-Black, R-Red, G-Green, BL-Blue	Add Suffix -5 5/16 Dia. Hole -7 7/16 Dia. Hole
2001 - 2	2		
2001 - 3	3		
2001 - 4	4		

### EXAMPLE:

A cap with opening in end 5/16 dia., green color would be ordered as shown below.  
 (2001 - 2) (G) (-5)  
 Part No. and Style Color 5/16 Dia. Hole Opening

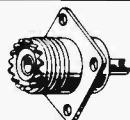




# BEAUCHAINE



PL-259 Plug



SO-239 Receptacle



PL-258 Adapter, F-F



PL-259A Plug

UG-75/U Adapter, Reducing, 13/64 to 5/16  
UG-76/U Adapter, Reducing, 1/4 to 5/16

## R-F Coaxial Cable Connectors

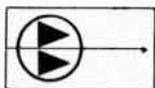
The connectors shown above represent only the most popular of the "UG" type connectors and in small quantity price breaks. For more detailed information, complete larger quantity pricing and many more types, call your local BEAU-TECH Distributor.

Type	Govt. No.	1-24	59-99
<b>BNC SERIES—</b>			
Plugs			
UG-88/U		.64	.59
UG-88B/U		.66	.61
UG-88C/U		.67	.64
UG-88D/U		.86	.81
UG-88E/U		.86	.81
UG-260/U		.64	.59
UG-260A/U		.67	.64
UG-260B/U		.72	.67
UG-260C/U		.85	.79
UG-260D/U		.86	.81
UG-913/U		2.11	1.99
UG-913A/U		2.43	2.29
<b>BNC SERIES—</b>			
Resistive Plugs			
MX-554/U		1.50	1.41
MX-554A/U		1.52	1.43
<b>BNC SERIES—</b>			
Cap and Chain			
CW-123A/U		.41	.39
CW-155A/U		.34	.32
CW-159A/U		1.07	1.00
CW-282/U		.58	.55
<b>BNC SERIES—</b>			
Jacks			
UG-89/U		.78	.74
UG-89A/U		.75	.70
UG-89B/U		.75	.70
UG-89C/U		.77	.73
UG-261/U		.86	.81
UG-261A/U		.90	.85
UG-261B/U		.90	.85
UG-261C/U		.91	.86
UG-262/U		1.12	1.06
UG-262A/U		1.20	1.12
UG-262B/U		1.20	1.12
UG-262C/U		1.20	1.12
UG-291/U		.86	.81
UG-291A/U		.96	.90
UG-291C/U		.94	.88
UG-909/U		1.10	1.03
UG-909A/U		1.07	.99
UG-909B/U		1.10	1.03
UG-910/U		1.20	1.12
UG-910A/U		1.23	1.17
UG-910B/U		1.68	1.58
<b>BNC SERIES—</b>			
Receptacles			
UG-185/U		.73	.68
UG-290/U		.64	.59
UG-290A/U		.66	.62
UG-447/U		.69	.65
UG-526/U		.64	.59
UG-625A/U		.64	.59
UG-657A/U		1.10	1.03
UG-912A/U		1.78	1.67
UG-1094/U		.64	.59
UG-1094A/U		.71	.67
UG-1098A/U		1.98	1.87
<b>BNC SERIES—</b>			
Adapters			
UG-274/U			
F-M-F Tee		1.79	1.69
UG-274A/U			
F-M-F Tee		1.82	1.71
UG-274B/U			
F-M-F Tee		1.85	1.74
UG-306/U M-F		1.50	1.41
UG-306A/U M-F		1.47	1.39
UG-306B/U M-F		1.57	1.47
UG-414/U F-F		1.41	1.32
UG-414A/U F-F		1.20	1.12
UG-491A/U M-M		1.89	1.78
UG-491B/U M-M		1.90	1.79
UG-492A/U F-F		2.04	1.91
UG-492B/U F-F		2.16	2.02
UG-492C/U F-F		2.16	2.02
UG-492D/U F-F		2.35	2.22
UG-914/U F-F		1.01	.95

Type	Govt. No.	1-24	59-99
<b>C SERIES—</b>			
Plugs			
UG-573A/U		1.79	1.69
UG-573B/U		1.82	1.71
UG-628A/U		2.34	2.20
UG-709A/U		2.09	1.97
UG-710A/U		3.28	3.08
UG-710B/U		3.29	3.10
<b>C SERIES—</b>			
Receptacles			
UG-568/U		1.61	1.52
UG-706/U		2.06	1.94
<b>C SERIES—</b>			
Jacks			
UG-570A/U		2.08	1.96
UG-571A/U		1.85	1.74
UG-572A/U		1.68	1.58
UG-630A/U		2.35	2.22
UG-632/U		3.18	2.99
UG-704A/U		1.84	1.73
<b>C SERIES—</b>			
Cap and Chain			
MX-1142/U		.86	.81
MX-1143/U		.86	.81
<b>C SERIES—</b>			
Adapters			
UG-556A/U			
F-M-F Tee		2.09	1.74
UG-567A/U			
M-F Angle		3.09	2.90
<b>HN SERIES—</b>			
Plugs			
UG-598/U		2.67	2.52
UG-59E/U		2.99	2.11
UG-494B/U		6.36	5.98
UG-495D/U		6.51	6.13
<b>HN SERIES—</b>			
Jacks			
UG-60B/U		2.24	2.11
UG-60E/U		2.99	2.82
UG-61B/U		2.45	2.31
UG-61E/U		2.99	2.82
<b>HN SERIES—</b>			
Adapters			
UG-212C/U			
M-F Angle		3.93	3.70
UG-413/U			
F-F-F Tee		9.35	8.80
<b>LC-LT SERIES—</b>			
Plugs			
UG-154A/U		7.02	6.60
<b>LC-LT SERIES—</b>			
Adapters			
UG-216B/U			
M-F Angles		1.20	1.12
<b>N SERIES</b>			
UG-188B/U		1.44	1.35
UG-18C/U		1.34	1.27
UG-18D/U		1.36	1.29
UG-21B/U		1.04	1.00
UG-21C/U		1.10	1.03
UG-31D/U		1.07	1.00
UG-21E/U		1.10	1.03
UG-91A/U		1.85	1.74
UG-94A/U		1.61	1.52
UG-536/U		1.68	1.58
UG-536A/U		1.28	1.20
UG-526B/U		1.28	1.20
UG-603A/U		1.52	1.43
UG-941A/U		1.97	1.85
UG-1185/U		1.22	1.14
UG-1185A/U		1.22	1.14

Type	Govt. No.	1-24	59-99
<b>N SERIES—</b>			
Jacks			
UG-19D/U		1.51	1.43
UG-20B/U		1.28	1.20
UG-20C/U		1.31	1.23
UG-20D/U		1.34	1.27
UG-22B/U		1.29	1.21
UG-22C/U		1.44	1.35
UG-22D/U		1.39	1.30
UG-22E/U		1.41	1.32
UG-22F/U		1.42	1.34
UG-23B/U		1.14	1.08
UG-23C/U		1.22	1.14
UG-23D/U		1.22	1.14
UG-23E/U		1.23	1.17
UG-92A/U		1.89	1.78
UG-93A/U		2.04	1.91
UG-95A/U		1.57	1.47
UG-96A/U		1.71	1.61
UG-159B/U		2.30	2.17
UG-159C/U		2.51	2.35
UG-160B/U		1.87	1.76
UG-169C/U		2.16	2.02
UG-160D/U		2.06	1.94
UG-160E/U		2.09	1.97
UG-935B/U		2.13	2.00
UG-936A/U		2.99	2.82
UG-940B/U		2.17	2.05
UG-1186/U		1.39	1.30
UG-1186A/U		1.44	1.35
UG-1187/U		1.63	1.53
UG-1187A/U		1.63	1.53
<b>N SERIES—</b>			
Receptacles			
UG-58/U		1.12	1.06
UG-58A/U		.90	.85
UG-680A/U		1.89	1.78
<b>N SERIES—</b>			
Cap & Chain			
MX-913/U		.58	.55
<b>N SERIES—</b>			
Adapters			
UG-27A/U			
M-F Angle		2.34	2.20
UG-27B/U			
M-F Angle		2.43	2.29
UG-27C/U			
M-F Angle		2.35	2.22
UG-28A/U			
F-F-F Tee		2.43	2.29
UG-28B/U F-F		1.34	1.27
UG-30C/U F-F		2.40	2.26
UG-30D/U F-F		2.22	2.09
UG-57B/U M-M		1.72	1.62
UG-107B/U			
F-M-T Tee		2.67	2.52
<b>Beau-Tech</b>			
No.	Version of		
<b>TNC SERIES—</b>			
Plugs			
8001	UG-88D/U	1.07	.89
8002	UG-260C/U	1.01	.85
8012	UG913/U	2.35	1.96
8013	UG-959A/U	2.06	1.72
<b>TNC SERIES—</b>			
Jacks			
8003	UG-89C/U	.81	.68
8004	UG-261C/U	.90	.75
8005	UG-262C/U	1.07	.89
8006	UG-291C/U	1.01	.85
8007	UG-909A/U	1.00	.83
8008	UG-910A/U	1.05	.87
<b>TNC SERIES—</b>			
Receptacles			
8009	UG-290A/U	.85	.70
8010	UG-625B/U	.66	.55
8011	UG-1098/U	1.93	1.61
8028	UG-1104A/U	1.31	1.19
8043	UG-535/U	1.89	1.57
8093	UG-1174/U	1.76	1.46
8111	UG-1049A/U	.80	.67
8145	UG-185/U	1.05	.87

Type	Govt. No.	1-24	59-99
<b>TERMINATIONS—</b>			
MX-1530/U		.47	.44
MX-1530A/U		.54	.51
MX-1684/U		.41	.39
MX-1684A/U		.48	.46
MX-1744A/U		.62	.58
MX-1801/U		.58	.55
MX-1802A/U		.66	.61
MX-1884/U		.69	.65
<b>UHF SERIES—</b>			
Plugs			
PL-259 (Phenolic Insul.)		.54	.44
PL-259 (Teflon Insul.)		1.03	.82
PL-259A (Phen. Insul.)		.79	.63
<b>UHF SERIES—</b>			
Receptacles			
SO-239 (Phen. Insul.)		.38	.30
SO-239 (Teflon Insul.)		.60	.48
<b>UHF SERIES—</b>			
Adapter F-F			
PL-258		.94	.74
<b>UHF SERIES—</b>			
Adapter, Reducing			
UG-175/U		.19	.18
UG-176/U		.19	.18
<b>ADAPTERS—</b>			
Series & Sex			
UG-838/U			
N(M)-UHF(F)		1.74	1.64
UG-201A/U			
N(M)-BNF(F)		1.23	1.17
UG-255/U			
BNC(M)-UHF(F)		1.68	1.58
UG-255A/U			
BNC(M)-UHF(F)		2.24	2.11
UG-273/U			
BNC(F)-UHF(M)		1.22	1.14
UG-309/U			
BNC(F)-HN(M)		2.53	2.38
UG-349A/U			
N(F)-BNC(M)		1.85	1.74
UG-349B/U			
N(F)-BNC(M)		2.62	2.46
UG-564/U			
N(M)-C(F)		2.34	2.20
UG-565/U			
N(F)-C(M)		2.24	2.11
UG-565A/U			
N(F)-C(M)		2.24	2.11
UG-635/U			
BNC(M)-N(F)		2.34	2.20
UG-636/U			
BNC(F)-C(M)		2.22	2.09
UG-636A/U			
BNC(F)-C(M)		2.30	2.17
UG-690/U			
BNC(F)-SM(F)		.66	.62
UG-691/U			
BNC(F)-SM(M)		1.41	1.32
UG-970/U TWIN(M)-UHF(F)		5.21	4.91
UG-971/U TWIN(M)-			



## BINDING POSTS

### BINDING POST

"Standard" Type

**DESCRIPTION:** Banana Plug Receptacle, .161 I.D.; Head non-removable from Stud; Molded in Brass Bushing in Head; Molded in Brass Bushing in Washers; For Panels  $\frac{1}{16}$ " to  $\frac{1}{4}$ " thick; Drill  $\frac{1}{8}$ " hole for mounting washers; Wire Hole is at right angle to Flat on Insulated Washers; Production Punch for keyed Slot for mounting Washers.

Cat. No. 274 Standard Brass Red or Black



### BINDING POST

30 Amp. 2000 VDC

Molded Nylon Body Banana Plug Receptacle, .161 I.D.; Head non-removable from Stud; Molded in Brass Bushing in Head; Molded in Brass Bushing in Washers; For Panels  $\frac{1}{16}$ " to  $\frac{1}{4}$ " thick; Drill  $\frac{1}{8}$ " hole for mounting washers; Wire Hole is at right angle to Flat on Insulated Washers; Production Punch for keyed Slot for mounting Washers.

**WRAP AROUND TYPE**

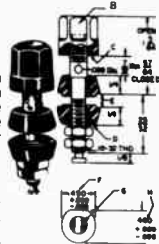
Cat. No. 275 Brass, Nickel Plated, Red, Black, Yellow, Green, White, Blue, Brown, Grey.

Cat. No. 275A Brass Plated, Red, Black, Yellow, Green, White, Blue, Brown, Grey.

### TIP JACK TYPE

Similar to 275A, Plated, Brass, except with Tip Jack receptacle.

Cat. No. 277 Red, Black



### BINDING POST FLUTED HEAD

New fluted nut design is attractive and functional molded nylon body per MIL-P-20693A completely insulates panel from binding post. Makes ideal connection for electrical and electronic equipment. Brass nickel plated "Wrap Around Type" solder connection to stud rated 30 amp. 2000 VAC test capacitance 5.0 mmfd. Similar construction as our No. 275.

Cat. No. 273 Nickel plated Red, Black



### BINDING POST

**NEW! BIRNBACH "Multi-Use" Binding Posts**  
Safe-Positive-Heavy Duty

Rugged, versatile "Multi-Use" binding post made of molded nylon with molded-in brass inserts in head and washer for complete insulation from panel. For use on panels  $\frac{1}{16}$ " to  $\frac{1}{2}$ " thick. Mounting hole  $\frac{1}{8}$ ". Current Capacity: 30 Amps. Voltage: 2000 VAC. RMS Test. No. 276 can be soldered directly to stud. Will permit six different methods of connection above panel and three below panel.

Cat. No. 276 Nickel Plated; Red, Black, Yellow, Green, White, Blue, Brown, Grey.



### BINDING POST

Wrap Around Type

Designed to accept phone tip plug, spade lug, banana plug, alligator clip and wire strand. Direct solder connection. Molded nylon head (non-removable from stud) and washer completely insulates post from panel. Mounts in  $\frac{1}{8}$ " or keyed hole for panels  $\frac{1}{16}$ " to  $\frac{1}{2}$ " thick. Nickel-plated brass metal parts. Molded-in brass bushings in head and washers. Rated 2,000 volts AC RMS test. 30 amp safe current-carrying capacity.

Cat. No. 271 Red, Black



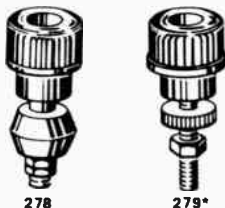
### STANDARD DUTY 5-WAY BINDING POST

Molded-in brass bushings for complete insulation. Useful for standard duty work. Available in Red or Black. Specify color. Body is brass nickel plated.

6 AMPS

Cat. No. 278 Red, Black  
Cat. No. 279\* Red, Black

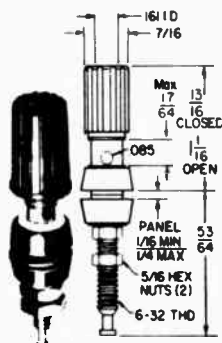
\* Same as above, but normally grounded. (Without bottom insulating section.)



### NYLON BINDING POST

**Head:** MOLDED NYLON, with brass plated insert. **Body:** Brass Plated. **Washers:** MOLDED NYLON, brass plated inserts. **Accepts:** Phone tip plug, spade lug, banana plug, alligator clip, or wire strand. **Rating:** 15 Amps AC for 10°C Temp. rise, continuous duty. 1 KV Volts 60 cycle AC continuous working voltage. **CAPACITANCE** 3.0 mmfd., Molded washers completely insulate post from panel. Miniature washers and narrow fluted head require minimum panel space. Mounts in  $\frac{3}{16}$ " round or "D" hole in panel as indicated. Wrap-around solder terminal on stud for direct connection.

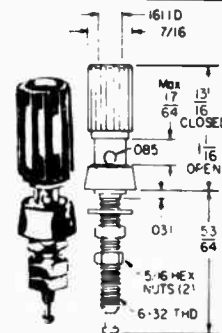
Cat. No. 280 Red, Black, Yellow, Green.



### METAL BINDING POST

**Head:** Fluted Brass, Plated. **Body:** Brass, Plated. **Washer:** MOLDED BLACK NYLON, with brass plated insert. **Accepts:** Phone tip plug, spade lug, banana plug, alligator clip, or wire strand. **Rating:** 15 Amps AC for 10°C temp. rise, continuous duty. Fluted-head metal post to match our No. 280. For use where direct ground connection is made to panel or chassis. Supplied with brass, gold-plated flat metal washer for grounding.

Cat. No. 281

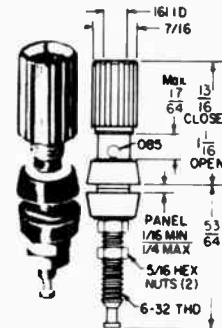


### METAL BINDING POST

Insulated

**Head:** Fluted Brass, plated. **Body:** Brass plated. **Washer:** MOLDED BLACK NYLON, with brass plated insert. **Accepts:** Phone tip plug, spade lug, banana plug, alligator clip, or wire strand. **Rating:** 15 Amps AC for 10°C temp. rise, continuous duty. 1 K Volts, 60 cycle AC continuous working voltage. **CAPACITANCE** 3.0 mmfd. Fluted-head metal post to match our No. 280. Molded washers insulate post from panel for use where internal ground circuit is isolated from chassis or panel.

Cat. No. 282



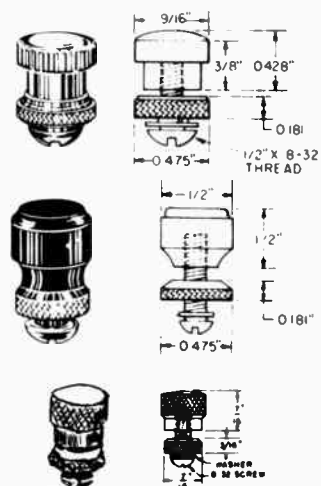
### INSULATED BINDING POST

Molded bakelite head with brass insert molded-in. Supplied complete with 8/32 x  $\frac{1}{2}$ " screw, lock washer. Has brass insert molded-in. Supplied with washer. Available in black. Cat. No. 184

Binding Post Molded bakelite head with brass insert molded-in. Supplied complete with 8/32 x  $\frac{1}{2}$ " screw, lock washer. Has brass nickel-plated retaining washer. Red, Black. Cat. No. 185

Binding Post Brass, heavily nickel-plated overall. Complete with screw and lock washer. Designed for high amperage, low resistance connections.

Cat. No. 186  
Metal Binding Post





## BINDING POSTS

### COMBINATION POST-PLUG

Head: CAPTIVE, Molded Butyrate. Body: Brass, nickel plated. Spring: Four-leaved phosphor bronze, nickel plated. Rating: 15 Amps AC for 10°C Temp. rise, continuous duty. Converts any panel-mounted banana jack into a five-way binding post termination. Accepts phone tip, spade lug, banana plug, alligator clip, or solid or stranded wire.



Cat. No. 283 Red, Black

Head: Molded Nylon, SPECIFY COLOR. Body: Brass, nickel plated. Spring: Four-leaved phosphor bronze, nickel plated. Rating: 15 Amps AC for 10°C Temp. rise, continuous duty.



Converts any panel-mounted banana jack into a nylon five-way binding post termination. Accepts phone tips, spade lugs, banana plug, alligator clips, or solid or stranded wires.

Cat. No. 284 Red, Black, Yellow, Green, Blue, White.

### BINDING POST Metal Five-Way

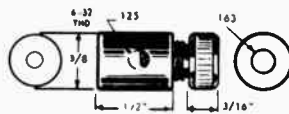
Head: CAPTIVE, Hex brass nickel plated. Body: Brass, nickel plated. Accepts: Phone tip, spade lug, banana plug, alligator clip or wire strand.



Cat. No. 285 Wrap-around

### METAL BINDING POST

Head: BRASS nickel plated. Body: Brass nickel plated. Accepts standard phone tips or banana plugs.



Cat. No. 286

### COMBINATION TERMINALS

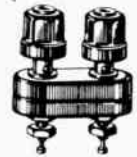
Material: BRASS, nickel plated. Combination Screw and Turret Terminal. Knurled shank prevents turning.



Cat. No.	A	B	C	D	E	F	G	Bhms	Panel Thk.
187	3/8	1/4	3/16	1/8	1/16	1/8	.220	6-32	3/32
188	3/8	3/8	3/16	1/8	1/16	1/8	.257	10-32	3/16

### DUAL ASSEMBLY

Nylon  
MOLDED black STYRENE, cross slotted (-) to accept standard phone tips in post either forward or sideways. Body: Brass, nickel plated. Head: Captive: MOLDED NYLON, with molded in brass insert. Rating: 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel. Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.



Cat. No. 188BB Two Black Heads  
Cat. No. 188RR Two Red Heads  
Cat. No. 188RB One Red, One Black Head

### DUAL BINDING POST

MOLDED black STYRENE, cross slotted (-) to accept standard phone tips in post either forward or sideways. Body: Brass, nickel plated. Head: Captive: MOLDED BUTYRATE, Red, Black. Rating: 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel. Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.



Cat. No. 189BB Two Black Heads  
Cat. No. 189RR Two Red Heads  
Cat. No. 189RB One Red, One Black Head

### BLACK STYRENE INSULATOR

Insul: STYRENE. Rating: 2 K Volts 60 cycle AC continuous working voltage. Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick.



Cat. No. 190

## TELEPHONE PLUGS & JACKS

### TELEPHONE TYPE PLUGS



Standard two and three conductor plugs fits all standard jacks. All metal parts brass with nickel plating except for contact screw.

Barrel — molded bakelite; Red, Black

Cat. No.	Circuit	Terminals
251	two	solder
251A	two	screw
253	three	solder
253A	three	screw

### SHIELDED PHONE PLUG



Barrel — brass, nickel plated with tubular insulator.

Cat. No.	Circuit	Terminals
252	two	solder
252A	two	screw
254	three	solder
254A	three	screw

### MINIATURE PLUGS



Insulated type. Solder terminals, two conductor mini. phone plug. Ideal for hearing aids, portable receivers, small instruments, etc. Rated 500 volts.

Cat. No. 130 Red, Black

### SHIELDED MINIATURE PHONE PLUG

Same as No. 130 except with brass, bright nickel plated barrel with insulating tube inside.

Cat. No. 131

### MILITARY PLUGS

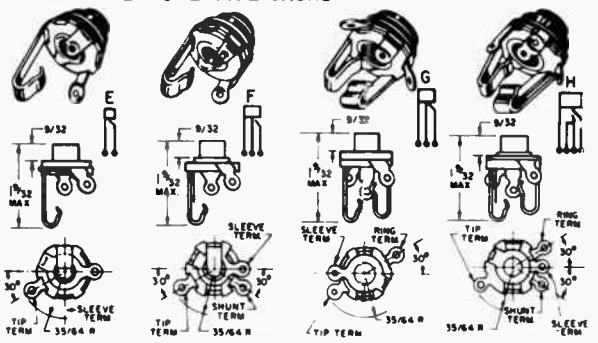
Cat. No.	Barrel — MIL type	Circuit	Terminals
255	PJC54	2	Screw
256	PJC55	2	Screw

### TELEPHONE TYPE JACKS

The body is brass nickel plated. Small, rugged and they are designed for long life, with low contact resistance snap springs made specially from nickel silver alloy which is corrosion resistant. Mounts in 3/4" hole.

E — Cat. No. 257  
F — Cat. No. 258  
G — Cat. No. 259  
H — Cat. No. 260

Cat. No.	Circuit	Terminals
257	Open Circuit Two Conductor	SLEEVE TERM
258	Single Closed Circuit Two Conductor	SLEEVE TERM, RING TERM
259	Open Circuit Three Conductor	TIP TERM, RING TERM, SHUNT TERM
260	Single Closed Circuit Three Conductor	TIP TERM, RING TERM, SHUNT TERM, SLEEVE TERM

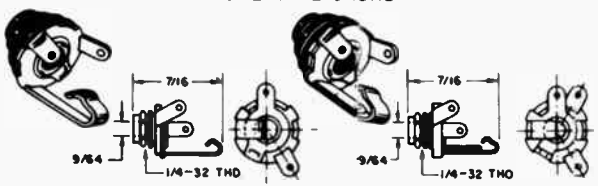


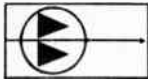
### MINIATURE TELEPHONE TYPE JACKS

Rugged construction, smaller than standard type Jacks. Mount in 1/4" dia. hole in panels up to 1/4" thick.

Cat. No. 132  
Cat. No. 133

Cat. No.	Circuit	Terminals
132	Open circuit type.	9/64
133	Single closed circuit type.	9/64, 1/4-32 THD





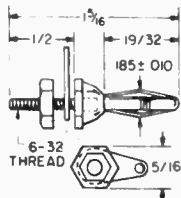
# NON-INSULATED BANANA PLUGS

Variations of Standard Plugs Available to Order. Plated to Gov't. Specs.

## BANANA PLUG No. 400

Hexed brass nickel plated. Fits all standard banana plugs. Complete with hex brass n.pl. nut and tinned copper lug. Spring is four-leaved nickel plated. Rated at 5 amps.

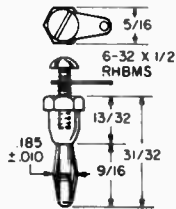
Cat. No.	Spring	Dim. "A"
400	Phos. Bronze	1 1/2"
400A	Phos. Bronze	3/8"
400B	Beryl. Copper	1 1/2"



## BANANA PLUG No. 401

Hexed brass nickel plated. One-piece four-leaved spring. Complete with brass n.pl. screw and tinned copper lug. Rated at 5 amps. Fits all standard banana jacks.

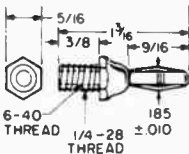
Cat. No.	Spring
401	Phos. Bronze
401B	Beryl. Copper



## BANANA PLUG No. 404A

Hexed brass and four-leaved phosphor bronze spring nickel plated. Rated at 5 amps. Fits all standard banana jacks.

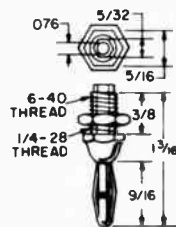
Cat. No.	Spring
404A	Banana Plug



## BANANA PLUG No. 404S

Hexed brass nickel pl. Complete with hex brass n.pl. nut. Has solderless Scroluk connection. Fits all standard banana plugs. Spring is four-leaved phosphor bronze nickel plated. Rated at 5 amps.

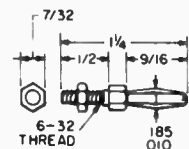
Cat. No.	Spring
404S	Phos. Bronze
404SB	Beryl. Copper
Scroluk Banana Plug	



## BANANA PLUG No. 414

Hexed brass, nickel plated. One-piece construction. Four-leaved phosphor bronze spring. Complete with brass hexed nut n.pl. Rated at 5 amps. Fits all standard banana jacks.

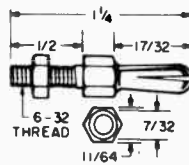
Cat. No.	Spring
414	Phos. Bronze



## BANANA PLUG No. 416

Hexed brass nickel plated. Cross slotted for positive contact. One-piece construction. Fits all standard banana jacks. Complete with hexed brass n.pl. nut.

Cat. No.	Spring
416	Banana Plug

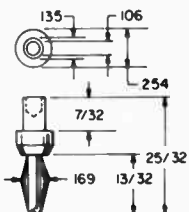


## MIDGET BANANA PLUG Rivet Type — No. 426

Brass silver plated body. One-piece four-leaved phosphor bronze spring silver plated. Also made to Rigid Jan specs.

Cat. No.	"A"
426	7/32"
426A	3/32"

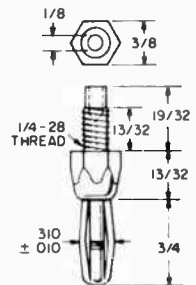
Midget Banana Plug Rivet Type



## GIANT PLUG No. 392A

Body is hexed brass nickel plated. Rated at 25 amps. Has large soldering well in threaded shank. Fits all Giant Banana Jacks.

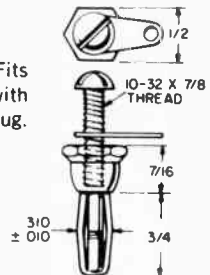
Cat. No.	Spring
392A	Phos. Bronze



## GIANT PLUG No. 396

Body is hexed brass, nickel plated. Fits all giant banana jacks. Complete with nickel plated screw and soldering lug. Rated at 25 amps.

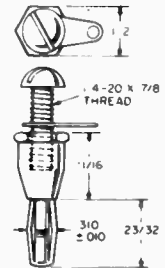
Cat. No.	Spring
396	Phos. Bronze
396B	Beryl. Copper



## GIANT PLUG No. 397

Body is hexed brass, nickel plated. Fits all giant banana jacks. Complete with nickel plated screw and soldering lug. Heavy duty, 25 amp. rating.

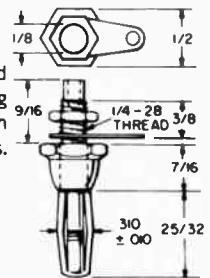
Cat. No.	Spring
397	Phos. Bronze
397B	Beryl. Copper



## GIANT PLUG No. 398

Body is hexed brass, n.pl. nut and tinned copper lug. Has large soldering well in threaded shank. Used in high amperage circuits rated at 25 amps. Fits all giant banana jacks.

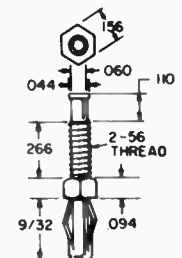
Cat. No.	Spring
398	Phos. Bronze
398B	Beryl. Copper

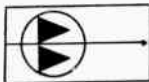


## SUB MINIATURE BANANA PLUGS

One piece beryllium copper springs insure positive and lasting contact. Silver plated overall.

Cat. No.	Description
590	Rivet Type Plug
591	Screw Type Plug





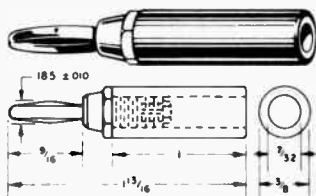
# INSULATED BANANA PLUGS

## INSULATED BANANA PLUG

Hexed brass n.pl. spring type. Fits standard banana jacks. Scrulok solderless connection. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	Spring	Plating
404	Phos. Brz.	Nickel
404CB	Beryl. Cop.	Nickel
404SP	Phos. Brz.	Silver
404CB-SP	Beryl. Cop.	Silver

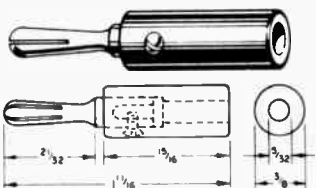


## INSULATED BANANA PLUG

Split type plug brass n.pl. fits standard banana jacks. Set screw. Solderless connection. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	Banana Plug
604	Banana Plug

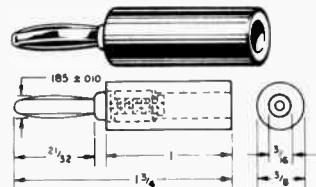


## INSULATED BANANA PLUG

Brass n.pl. plug. Fits standard banana jacks. Spring type. Scrulok solderless connection. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	Spring	Plating
465	Phos. Brz.	Nickel
465B	Beryl. Cop.	Nickel
465SP	Phos. Brz.	Silver
465B-SP	Beryl. Cop.	Silver

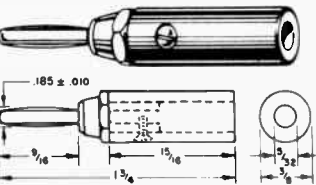


## SPRING BANANA PLUG

Hexed brass n.pl. plug. Set screw solderless connection. 404BC Beryllium springs, highly resilient. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	Spring
404B	Phos. Brz.
404BC	Beryl. Cop.

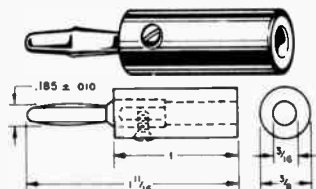


## INSULATED BANANA PLUG

Plug brass n.pl. set screw solderless connection. Spring type. Fits standard banana jacks. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	Hdl.	Spring
466	1"	Ph. Brz.
466A	1 1/2"	Ph. Brz.

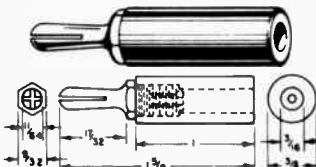


## INSULATED BANANA PLUG

Split type, brass n.pl. Scrulok solderless connection. Fits standard jacks. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	Banana Plug
606	Banana Plug

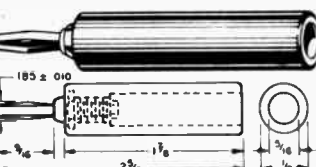


## INSULATED BANANA PLUG

Plug brass n.pl. Scrulok solderless connection. Spring type. Fits standard jacks. Plastic handle.

Colors: Red, Black.

Cat. No.	Spring
341	Phos. Brz.
341B	Beryl. Cop.

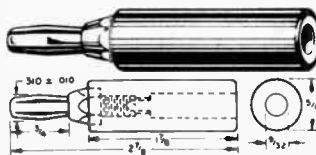


## INSULATED GIANT PLUG

Plug brass n.pl. Wire can be soldered to plug. Spring type. Fits giant banana jacks. Plastic handle.

Colors: Red, Black.

Cat. No.	Spring
392	Phos. Brz.
392B	Beryl. Cop.

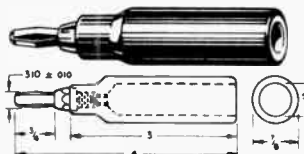


## INSULATED GIANT PLUG

Plug brass n.pl. Wire can be soldered to plug. Spring type. Fits giant banana jacks. Polished giant hard rubber handle.

Colors: Red, Black.

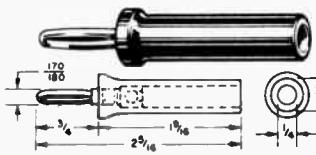
Cat. No.	Spring
342	Phos. Brz.
342B	Beryl. Cop.



## Long Shoulder Handle INSULATED BANANA PLUG

Long shoulder handle insulated banana plug. Handle made of bakelite. Available in various colors. Red, Black, Yellow, Blue, Green, White.

Cat. No. 424

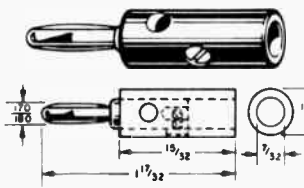


## STACK BANANA PLUG Solderless

Brass, nickel plated, solderless connection. Accepts standard banana plugs in top and side. Interconnects unlimited amount of multiple circuits.

Colors: Red, Black, Yellow, Green.

Cat. No.	Spring
425	Phos. Brz.
425A	Beryl. Cop.

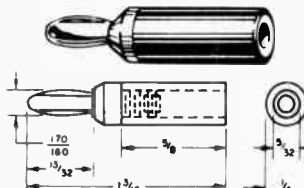


## INSULATED MIDGET BANANA PLUG

Spring type. Fits all standard Banana jacks. Beryllium spring retains resiliency after thousands of insertions. Wire soldered directly into plug.

Colors: Red, Black.

Cat. No.	Spring	Plating
455	Phos. Brz.	Nickel
455BC	Beryl. Cop.	Silver
455A	Phos. Brz.	Silver
455A-BC	Beryl. Cop.	Nickel

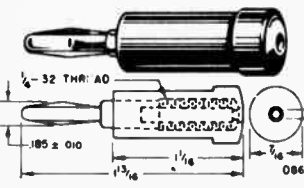


## TIP PLUG TO BANANA PLUG ADAPTER

Fits standard banana jacks. Adapter for phone tip to banana plug. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

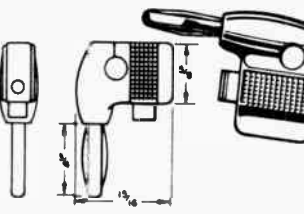
Cat. No.	Spring
467	Phos. Brz.
467B	Beryl. Cop.



## PUSH BUTTON BANANA PLUG

Wire is fastened easily, speedily, and securely without soldering. Simply by pressing the push buttons the bare wire can be inserted into the opening of the plug.

Cat. No. 122 Push Button Banana Plug. Red, Black, Yellow, Green, White.  
No. 122 Banana Plug will fit all Standard Banana Jacks.





# INSULATED PHONE TIPS, TEST PRODS

## SOLDERLESS PHONE TIPS

Brass, nickel plated. Wire fits thru body of tip, tightened around screw with nickel plated knurled nut. Fits all standard phone tip jacks.

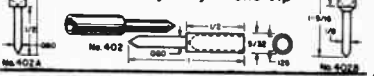
- Cat. No.  
 23 Junior Solderless Phone Tip  
 24 Senior Solderless Phone Tip



## BRASS NICKEL PLATED TIPS

Fits all standard phone tip jacks

- Cat. No.  
 402 Standard Phone Tip  
 402A Phone Tip Larger Diam  
 402B Heavy Duty Phone Tip

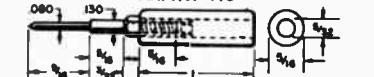


## SCRULOK PHONE TIP

Fits standard phone tip jacks. Plug is brass, nickel plated. Has Scrulok solderless connection. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No. 419



## PHONE TIP

Plugs into standard phone tip jacks. Brass nickel plated plug. Accommodates standard banana plug in molded plastic handle.

Colors: Red, Black, Yellow, Blue, Green, White.

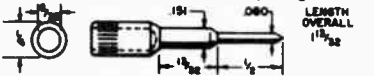
Cat. No. 331



## PHONE TIP PLUG No. 331A

Plugs into all standard phone tip jacks. Barrel of plug accommodates all standard banana jacks. Brass, nickel plated.

Cat. No. 331A Phone Tip Plug



## NEEDLE POINT PLUG

Brass nickel plated body. Needle point tip. Accommodates standard banana plug in molded plastic handle.

Colors: Red, Black.

Cat. No. 330

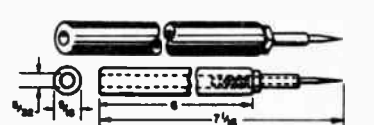


## BAKELITE PENCIL TEST PROD

Body is brass nickel plated with steel n.p. needle. Has Scrulok solderless connection. Bakelite handle.

Colors: Red, Black.

Cat. No. 411 Bakelite Pencil Test Prod

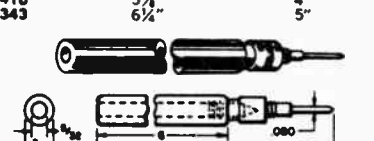


## SOLDERLESS TEST PRODS

Body is brass nickel plated with solderless knurled nut connection. Heavy duty needle-point, nickel plated.

Colors: Red, Black.

Cat. No. (A) Overall (B) Handle Length  
 410 5 1/4" 4"  
 343 6 1/4" 5"



## SCRULOK PHONE TIP

Brass nickel plated. Fits standard phone tip jacks. Scrulok solderless connection. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No. 412

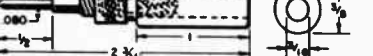


## INSULATED SOLDERLESS PHONE TIPS No. 409

Insulated handles, fitted to solderless phone tips. Made of Brass, Nickel Plated. Wire easily attached by threading through hole in handle and tightening knurled nut.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No. 409 Senior Solderless Phone Tip



## JUNIOR SOLDERLESS PHONE TIP

Same as above except 2" overall length. Specify colors.

Cat. No. 415 Jr.

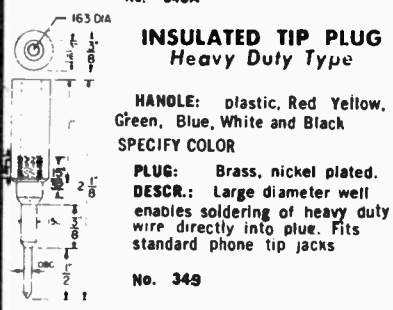


## HEAVY DUTY TIP PLUG Threaded

BODY: Brass, nickel plated.

DESCR.: Extra large well for soldering. Rear of plug accepts standard banana plugs. Fits standard phone tip jacks. Threaded for easy assembly in plastic handle.

No. 349A



## INSULATED TIP PLUG Heavy Duty Type

HANDLE: Plastic, Red Yellow, Green, Blue, White and Black

SPECIFY COLOR

PLUG: Brass, nickel plated.

DESCR.: Large diameter well enables soldering of heavy duty wire directly into plug. Fits standard phone tip jacks

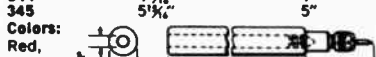
No. 349

## TEST PRODS

### NEEDLEPOINT TEST PRODS

Brass nickel plated body with steel nickel plated needle. Chuck threaded in end of handle is removable for replacing needles. Polished cast phenolic handle.

Cat. No. (A) Overall (B) Handle Length  
 344 4 1/4" 4"  
 345 5 1/4" 5"



Colors: Red, Black.

### SCRULOK NEEDLEPOINT TEST PRODS

Phenolic insulated prod, has Scrulok solderless connection. Body is brass nickel plated with steel n.p. needle.

Colors: Red, Black.

Cat. No. (A) Overall (B) Handle Length  
 417 5 3/4" 4"  
 418 6 3/4" 5"



### HEAVY DUTY HIGH VOLTAGE TEST PROD HANDLES No. 550

These bakelite prods are the same as used on the meter end of high voltage test leads Cat. No. 562. Tips are heavy brass with nickel plating.

Colors: Red, Black.

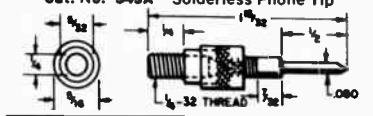
Cat. No. 550 1 1/2" H.V. Test Prod Handles



## SOLDERLESS PHONE TIP No. 343A

Brass, nickel plated. Wire easily attached by threading thru hole provided, and tightening knurled nut. Threaded to take plastic handle.

Cat. No. 343A Solderless Phone Tip

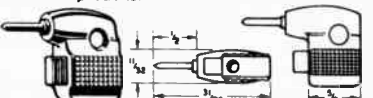


## PUSH BUTTON PHONE TIP PLUGS

Wire is fastened easily, speedily, and securely without soldering. Simply by pressing the push buttons the bare wire can be inserted into the opening of the plug.

Colors: Red, Black.

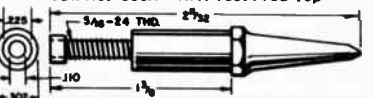
Cat. No. 121 Push Button Phone Tip Plug No. 121 Phone Tip Plug will fit all Standard Phone Tip Jacks.



## HIGH VOLTAGE TEST PROD TIP No. 558A

Heavy brass, nickel plated. Large solder well accommodates heavy wires. As used on Birnbach High Voltage Test prod Handle. No. 559 and 562 Test Leads.

Cat. No. 558A H.V. Test Prod Tip



## NEEDLE POINT PROD TIP No. 439

Extra heavy needle point for piercing insulations or plating. Solderless Scrulok wire connection. Brass, nickel plated body; needle point, steel, nickel plated. Replacement tip for No. 408 Leads.

Replacement Needle Point Prod Tip

Cat. No. 439



## NEEDLE POINT PLUG No. 345A

Has a brass, nickel plated body, steel nickel plated needle. Sharp point will pierce insulation or plating. Has removable chuck for replacing needle. Threaded to take handle.

Cat. No. 345A Needlepoint Plug

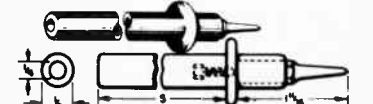


## HEAVY DUTY HI-VOLTAGE TEST PROD HANDLE

Tip is heavy brass nickel plated. Bakelite finger guard. Accommodates IN-34 diode and condenser for use as RF Probe.

Colors: Red, Black.

Cat. No. 550 6" H.V. Test Prod Handles



## TEST PROD No. 424A

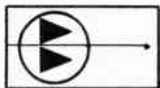
Shouldered insulated handle made of bakelite. Tip made of nickel-plated brass has set screw in side for securing conductor and thus making a solderless connection. Tip screw into handle. Available in Red and Black. Indicate color.

## TEST PROD No. 424B with Banana Plug Adapter

Same as No. 424A except with a banana plug adapter in back of handle.

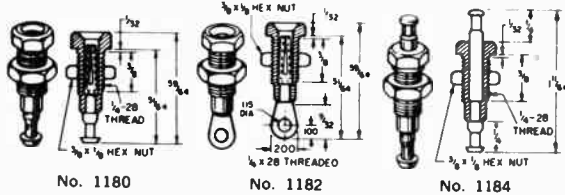






# NYLON TIP JACKS AND PLUGS

## ALL NYLON TIP JACKS



**Completely Molded Nylon Jack.** Fits all standard phone tip plugs. Contact recessed in head for safe contact. Hexagon head for grip in tightening. Mounts in 1/4" hole in panels up to 1/4" thick. Meets following requirements:

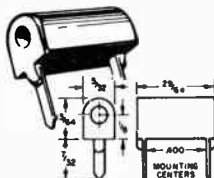
- Salt Spray Test — Withstands 100 hours
- Rated Voltage & Current — 1000 volts peak at 5 amps max.
- Test Voltage — 9000 volts DC peak
- Insulation Resistance — 5000 megohms
- Operating Temperature — 55 to 150C
- Nominal Capacity — 2.0 mmf.
- Material Specifications — A. Body: Nylon Grade FM 10001; A. Center Contact: Numbers 1180 and 1182 Heat Treated Beryllium Copper Silver plated per Spec 72-53. Number 1184 Brass Tin Pl.; Hex Nut: Brass Nickel Pl.

- Colors: Red, Black, Orange, Green, Blue, White, Brown, Yellow, Grey & Purple. Specify Color.

Cat. No. 1180 Wrap Around      Cat. No. 1182 Spade Terminal  
Cat. No. 1184 Feed Through

## PRINTED CIRCUIT TEST JACKS

Designed for permanent, soldered assembly to printed circuit boards. Nylon bodies. Has gold over silver plated Beryllium copper contacts which provide low resistance contact. Takes standard .080" diameter test probes.

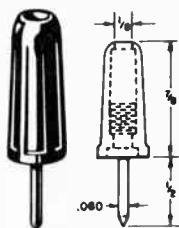


- Colors: Red, Black, Green, Brown, Yellow, Blue, Purple, Grey, Orange, White.

Cat. No. 1177 Printed Circuit Jack  
PER MIL-F-14072, M301

## NYLON INSULATED PLUG

Molded of tough low-loss Nylon — provides high voltage insulation. Withstands extreme temperature changes without chipping or cracking. This series fits all standard Banana Jacks and standard Phone Tip Jacks.



Nylon Solderless Short Tip Plug. Molded nylon handle, recessed metal head provides flush contact without metal exposure in any standard tip jack brass nickel plated plug. Solderless wire fits thru handle.

NYLON PER MIL-P-20693A

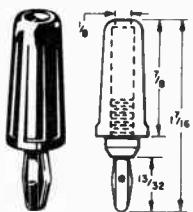
Cat. No. 1169

Specify color as indicated below.

## NYLON BANANA PLUG — MIDGET

NYLON PER MIL-P-20693A

Molded Nylon Handle Brass N.P.I. Wire can be soldered directly into stud. Fits all Standard Banana Jacks.

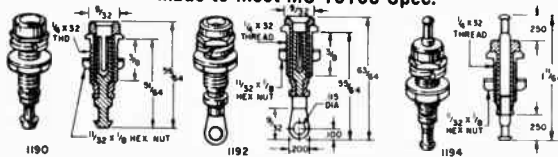


- | Cat. No. | Spring Material         | Plating |
|----------|-------------------------|---------|
| 1172     | Phospor Nickel Bronze   |         |
| 1173     | Phospor Silver Bronze   |         |
| 1174     | Beryllium Nickel Copper |         |
| 1175     | Beryllium Silver        |         |

Specify color as indicated in Color Code below.

## NYLON TIP JACK WITH METAL SHELL

Made to meet MS 16108 Spec.



**Molded Nylon Tip Jack.** Metal shell eliminates possibility of stripping threads during assembly. Meets following requirements: • Salt Spray Test—Withstands 100 hours. • Rated Voltage & Current—1000 volt peak @ 5 amps. maximum.

- Test Voltage—2500 peak.
- Insulation Resistance—5000 megohms.
- Operating Conditions—A. Continuous; 23 hours on, 1 hour off; B. Elevation: Up to 15,000 feet; C. Temperature: —55 to +85 C; D. Humidity: Up to 95%.

- Material Specifications—A. Insulator: Nylon, Grade FM 10001; B. Shell & Nut: Brass Nickel Plated Per Spec 72-53; C. Lockwasher: Phosphor Bronze Nickel Plated Per Spec 72-53; D. Center Contact: Numbers 1190 and 1192 Heat Treated Bery. Copper Silver Plated per Spec 72-53. Number 1194 Brass, Tin Plated.

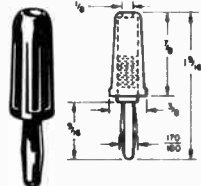
- Non-Operating Conditions—A. Elevation: Up to 50,000 feet; B. Temperature: Continuous exposure for 72 hours @ +160 F and 240 hours @ —80 F; C. Humidity: Up to 100%.

- Colors: Red, Black, Orange, Green, Blue, White, Brown, Yellow, Grey and Purple. Specify Color.

Cat. No. 1190 Wrap Around      Cat. No. 1192 Spade Terminal  
Cat. No. 1194 Feed Through

## NYLON BANANA PLUG

Molded Nylon handle, Brass N.P.I. plug. Springs Phosphor Bronze or Beryllium Copper. Nickel or Silver plated. Wire can be soldered into plug or brass stud.



NYLON PER MIL-P-20693A

- | Cat. No. | Spring      | Plating |
|----------|-------------|---------|
| 1160     | Phos. Brz.  | Nickel  |
| 1161     | Phos. Brz.  | Silver  |
| 1162     | Beryl. Cop. | Nickel  |
| 1163     | Beryl. Cop. | Silver  |

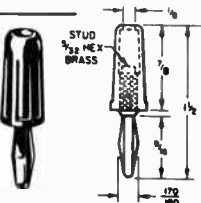
Specify color as indicated in color code below.

## Same as above with Solderless Scrollock Connection

MIL-P-20693A

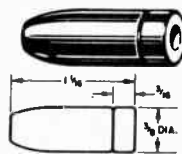
- | Cat. No. | Spring      | Plating |
|----------|-------------|---------|
| 1164     | Phos. Brz.  | Nickel  |
| 1165     | Phos. Brz.  | Silver  |
| 1166     | Beryl. Cop. | Nickel  |
| 1167     | Beryl. Cop. | Silver  |

Specify color as indicated in color code below.



## NYLON HANDLE JACK

Made with our Nylon Tip Jack #1180 without mounting nut inside of threaded molded nylon insulated sleeve.



- Cat. No. 1179 Nylon Handle Jack

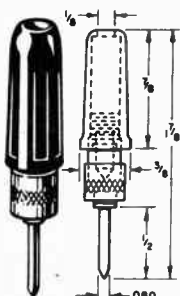
Specify color as indicated below.  
NYLON PER MIL-P-20693A

## NYLON SOLDERLESS TIP PLUG

Molded Nylon handle, Brass N.P.I. Solderless plug. Wire fits thru body of tip and is wrapped around screw portion and then tightened. Fits all standard tip jacks.

Cat. No. 1170

Specify color as indicated above.

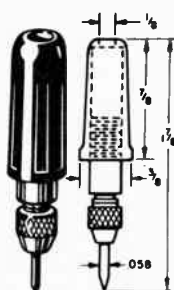


## PHONE NEEDLE TIP PLUG

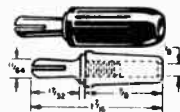
Molded Nylon Handle, Brass N.P.I. Plug. Has removable chuck for easy replacement of needles. Needle makes positive contact thru insulation or corrosion.

Cat. No. 1171  
NYLON PER MIL-P-20693A

Specify color as indicated above.



## NYLON BANANA PLUG



NYLON PER MIL-P-20693A

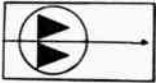
Molded Nylon handle, brass N.P. plug, split type with solderless scrollock connection.

Cat. No. 1160  
Specify color as indicated above.

## Color Code For NYLON HANDLE PLUGS

- Add to Catalog Numbers
- 01 White
  - 02 Red
  - 03 Black
  - 04 Dk. Green
  - 05 Lt. Blue
  - 06 Orange
  - 07 Yellow
  - 08 Brown
  - 09 Lt. Green
  - 10 Dk. Blue
  - 11 Ivory
  - 12 Violet (Purple)
  - 13 Grey



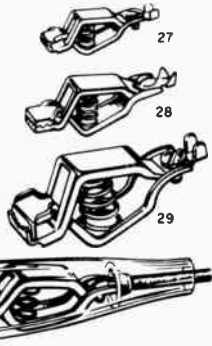


# ALLIGATOR CLIPS—TEST CLIPS

## TEST CLIPS

They are sturdily constructed. The teeth mesh correctly permitting good contact to be made. The No. 27-C is a solid copper clip with a brass screw designed for high frequency work.

Cat. No.	Length	Jaw Spread	Capacity
27—Pee Wee	1½"	¾"	5 Amp
28—Midget	2"	½"	10 Amp
29—Medium	2¾"	¾"	25 Amp
30—Large	4"	1¼"	50 Amp
27C—Pee Wee Copper	1½"	¾"	10 Amp
27R—Vinyl Sleeve	— Red or Black		
28R—Vinyl Sleeve	— Red or Black		
29R—Vinyl Sleeve	— Red or Black		
30R—Vinyl Sleeve	— Red or Black		

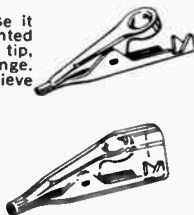


## MICRO-GATOR CLIPS

The Alligator Clip with the Microscopic Tip. Use it where no other clip can go — for tight spots, printed circuits, etc. Length, 1½". Jaw spread, ¼". Tiny tip, ½" across. New extra strong "keyed in" type hinge. Solder connection with clinching ears to relieve strain on wire.

Cat. No.	Type
31 MG/S	Steel, Cad. Plated
31 MG/C	Solid Copper
31 FB	Insulator Boots to Fit 31 MG/S or 31 MG/C

Specify Color: Red, Black, Blue, Yellow, White, Green for 31 FB.



## MINIATURE ALLIGATOR CLIPS

Very small and compact. Useful where space is important. Accurately matching jaws for finger-tight grip. Length 1½". Jaws open to ¾". Has lip for soldering.

Cat. No.	Type
31 MS	STEEL (Cad Plate)
31 MC	Solid Copper

31 MB INSULATOR BOOT to fit 31 MS or 31 MC.

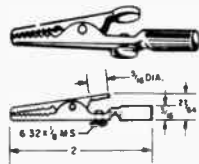
Specify Color: Black, Red, Blue, Yellow, White, Green for 31 MB.



## ALLIGATOR CLIP

Made of cadmium plated steel. The jaws match accurately, permitting them to grip all kinds of wire securely. Has screw for solderless wire connection. Banana plug fits into rear of clip.

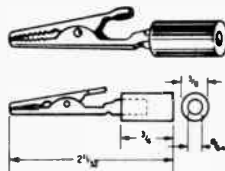
- 31 —Alligator Clip (no screw)
- 31S—Alligator Clip with screw
- 31C—Alligator Clip (Copper) with screw



## INSULATED ALLIGATOR CLIP

Made of steel, cadmium plated. Insulated handle allows use of all banana plugs. Has small soldering lip. Colors: Red, Black.

- Cat. No.
- 310 —Insulated Alligator Clip
- 310B—1½" Insulated handle Alligator Clip



## ALLIGATOR CLIP VINYL INSULATOR BOOT

Extremely flexible. Made to fit Nos. 31, 31S, 31C. Colors: White, Red, Black, Yellow, Blue, Green.

Cat. No. 31R—Vinyl Insulator



## PHONE TIP TO ALLIGATOR CLIP

MOLDED THERMOSETTING plastic, Red or Black  
 CLIP: Steel, cadmium plated  
 BODY: Brass.  
 CONTACT: Phosphor bronze.

RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Jack in rear permits adapting standard phone tip plug to alligator clips.

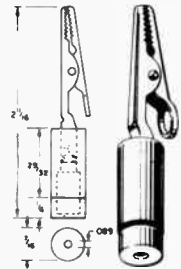
- No. Description
- 311 Steel Clip

## ALLIGATOR CLIP WITH PHONE TIP JACK

Handle has our No. 31 clip and our No. 407 tip jack in rear for all standard phone tip plugs.

Colors: Red, Black.

- Cat. No.
- 334—Alligator Clip with Phone Tip Jack
- 336—Same as above except with our #31C screw type Copper Alligator Clip



## ALL INSULATED ALLIGATOR CLIP

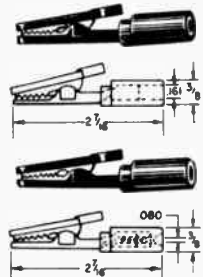
Steel Cadmium plated alligator clip. All metal parts covered with vinyl plastic insuring against shock. Solder Type connection. Red or Black. Specify color.

Cat. No. 123

## PHONE TIP TO CLIP ADAPTER

Same as above with spring in rear of handle enabling the adapting of standard phone tip plugs to alligator clips. Red or Black. Specify color.

Cat. No. 124

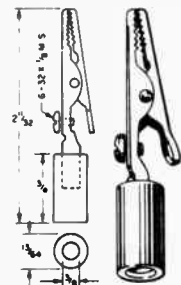


## INSULATED ALLIGATOR CLIP (Screw Type)

Made of steel, cadmium plated. Accurately matching jaws for tight grip. Has screw for solderless connection. Banana plug fits into rear of clip. Insulated handle. Colors: Red, Black.

Cat. No.

- 310S—Insulated Alligator Clip
- 310C—Insulated Copper Alligator Clip

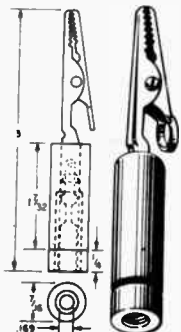


## ALLIGATOR CLIP COMBINATION JACK

Insulated alligator clip is composed of our #31, steel, cadmium plated Alligator Clip with our #333 Combination Jack in rear allowing the adaption of both standard senior phone tip plugs and banana plugs to Alligator Clips. Colors: Red, Black.

Cat. No.

- 335—Alligator Clip Combination Jack
- 337—Same as above except with our #31C screw type Copper Alligator Clip

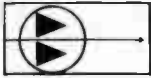


## ALL INSULATED ALLIGATOR CLIP

Completely insulated. Made of finest materials. Extra strong grip, sharp teeth. Overall lgt 2½". Red or Black—Specify Color.

Cat. No. 338

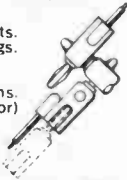




PATCH CORDS—TEST LEADS

MOLDED "STACKING TYPE" PATCH CORDS

- Never ending banana plug receptacle.
- Interconnects unlimited amount of multiple circuits.
- Positive & lasting contact for all standard banana plugs.
- Four leaved heat treated beryllium copper spring.
  - 360 spring contact.
  - Maintains resiliency after thousands of insertions.
- Supplied in Red, Black, Yellow or Green. (Specify Color) (Special colors on request)
- Handle molded to body and to wire.
- 10,000 volt rubber covered flexible wire.
  - 65 strands #36 insulated to an O.D. of .140.



Cat. No.	Wire	Cat. No.	Wire	Cat. No.	Wire	Cat. No.	Wire
655-8	8"	655-12	12"	655-24	24"	655-36	36"

Provides a never-ending banana plug receptacle to interconnect an unlimited amount of multiple circuits. The cross hole is designed for positive contact of all standard banana plugs. Fits all standard banana jacks. Four-leaved phosphor bronze nickel plated spring. Red or Black assemblies. Specify color.

Cat. No.	Wire Length	Cat. No.	Wire Length
653-8	8" Wire Length	653-24	24" Wire Length
653-12	12" Wire Length	653-36	36" Wire Length



BIRNBACH PATCH CORDS

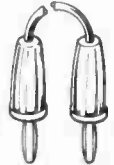
Birnbach No. 465 Banana Plugs connected to our kinkless test lead wire. Used to interconnect circuits. Fits all standard banana jacks. Specify red or black.

Cat. No.	Wire Length	Cat. No.	Wire Length
607A	8" Wire Length	609	36" Wire Length
607	12" Wire Length	610	48" Wire Length
608	24" Wire Length		

BIRNBACH NYLON HANDLE PATCH CORDS

Birnbach #1162 Banana Plugs using molded nylon handles connected to our plastic kinkless test lead wire #18 65/36 TC Suitable for 10 KV. Wire is same color as handle. For interconnecting circuits. Fits standard Banana Jacks. Color: Red, Blk., Yel., Green.

Cat. No.	Wire Length	Cat. No.	Wire Length
657-8	8"	657-36	36"
657-12	12"	657-48	48"
657-24	24"		



TEST LEADS

BIRNBACH HEAVY DUTY HIGH VOLTAGE TEST LEADS

Overall length 60". Tips are heavy solid brass nickel plated. Rugged, dependable heavy duty bakelite prods. Color coded Red and Black. Uses our Hi Volt kinkless test lead wire.



Cat. No. 562—Heavy Duty High Voltage Test Leads

ALLIGATOR CLIP TEST LEADS

Black and Red kinkless test lead wire with Alligator Clips at each end.



Cat. No.	Wire	Cat. No.	Wire
675	12"	677	36"
676	24"	678	48"

STRETCH LEADS

Kink-Proof Retracted 9" Coil No tangling or knotting of wires. Lead coil only 9", extends to 6 feet.



Cat. No. 564—Solderless phone tip, retractile wire, solderless prod.

DELUXE AND BAKELITE PENCIL TYPE TEST LEADS

No. 408 Bakelite pencil test leads, color coded. Red, Black, all with kinkless test lead wire. Overall length 60". #560 and #561 polished cast phenolic resin handles, solderless type tips. 50" long. Color coded Red, Black.



Cat. No. 408 Bakelite Pencil Type Test Leads, 6" han. 560 Deluxe Solderless Prod Test Leads, 5" handles 561 Deluxe Needlepoint Prod Test Leads, 5" handles

PUSH BUTTON KINKLESS TEST LEADS

556 Solderless phone tip one end, push button tip other end.



557 Solderless phone tip one end, push button banana plug other end.

BIRNBACH NEEDLEPOINT TEST LEADS

Have Red and Black 4" fibre handles. Use kinkless lead wire. Overall length 50". Good, dependable low priced leads.



- Cat. No.
- 420 Needlepoint Phone Tip Test Leads
  - 421 Needlepoint Spade Lug Test Leads
  - 422 Solderless Phone Tip Test Leads
  - 423 Solderless Spade Lug Test Leads

INSULATED ALLIGATOR CLIP TEST LEADS

CLIPS: STEEL, cadmium plated (#31).

BOOTS: Vinyl plastic, Red and Black (#31R).

Cat. No.	Wire
424-12	12"
424-24	24"
424-36	36"
424-48	48"



MIDGET ALLIGATOR CLIP TEST LEAD

CLIPS: Steel, Cadmium Plated (#31MS).

BOOTS: Vinyl plastic (#31MB). Red and Black.

Cat. No.	Wire
425-12	12"
425-18	18"
425-24	24"
425-36	36"



ALLIGATOR CLIP TEST LEAD

CLIP HANDLES: Red and Black. #310

PLUG HANDLES: Red and Black. #409

CLIPS: Steel, Cadmium Plated #310

TIPS: Solderless, Brass, Nickel Plated Cat. No. 427



ALLIGATOR CLIP TEST LEAD

CLIP HANDLES: Red and Black. #310. Steel, Cadmium Plated.

ELBOWS: Red and Black. #121

TIPS: Brass, Nickel Plated Cat. No. 427A



ALLIGATOR CLIP TEST LEAD

CLIP HANDLES: Molded, Red and Black. Steel, Cadmium Plated. #310

ELBOWS: Red and Black. #122 Cat. No. 428



ALLIGATOR CLIP TEST LEAD

CLIP HANDLES: Molded, Red and Black. #310 Steel, Cadmium Plated.

LUGS: #332 Cat. No. 428A



ALLIGATOR CLIP TEST LEAD

HANDLES: Molded, Red and Black. #410

TIPS: Solderless: Brass, nickel plated.

CLIPS: Steel, cadmium plated. #31

BOOT: Vinyl Plastic, Red & Black. #31R Cat. No. 429



CROCODILE CLIP TEST LEAD

CLIP: Steel, cadmium plated.

BOOT: Vinyl plastic, Red and Black.

HANDLE: Spade Lug: Molded tenite 3/4" long x 3/4" O.D. Red and Black. #332 Cat. No. 563



CROCODILE CLIP TEST LEAD

CLIP: Steel, cadmium plated.

BOOT: Vinyl Plastic, Red and Black.

ELBOW: Molded bakelite, Red and Black. #121 Cat. No. 563A



CROCODILE CLIP TEST LEAD

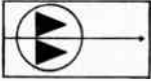
CLIPS: Steel, cadmium plated.

BOOTS: Vinyl Plastic, Red and Black.

ELBOWS: Molded Bakelite, Red and Black. #122 Cat. No. 563B



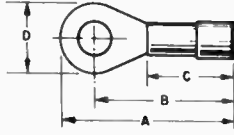
SPECIAL ASSEMBLIES AVAILABLE TO ORDER



SOLDERLESS TERMINALS AND CONNECTORS

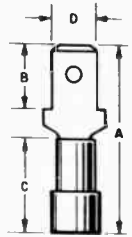
INSULATED

RING TONGUE

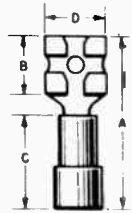


Cat. No.	Wire Size	Stud Size	A	B	C	D
5651-4	22-16	4	3/32	13/64	1/2	3/16
5651-6	22-16	6	3/32	13/64	1/2	3/16
5651-8	22-16	8	3/32	13/64	1/2	3/16
5652-4	16-14	4	27/32	23/32	1/2	1/4
5652-6	16-14	6	27/32	23/32	1/2	1/4
5653-6	16-14	6	27/32	31/64	1/2	11/32
5653-8	16-14	8	27/32	31/64	1/2	11/32
5653-10	16-14	10	27/32	31/64	1/2	11/32
5654-1/4	16-14	1/4	13/32	33/64	1/2	13/32
5655-6	12-10	6	41/64	49/64	1/2	3/8
5655-8	12-10	8	41/64	49/64	1/2	3/8
5655-10	12-10	10	41/64	49/64	1/2	3/8
5656-1/4	12-10	1/4	111/64	39/64	1/2	1/2
5657-3/8	12-10	3/8	11/4	41/64	1/2	13/32

QUICK DISCONNECT TERMINALS

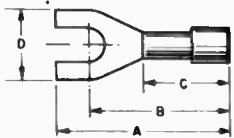


Cat. No.	Wire Size	A	B	C	D
5670	22-16	29/32	3/16	1/2	3/16
5672	16-14	29/32	3/16	1/2	3/16
5674	12-10	29/32	3/16	1/2	3/16



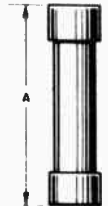
5671	22-16	1"	3/16	1/2	1/4
5673	16-14	1"	3/16	1/2	1/4
5675	12-10	1"	3/16	1/2	1/4

SPADE TONGUE



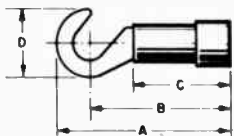
Cat. No.	Wire Size	Stud Size	A	B	C	D
5666-4	22-16	4	1"	13/64	1/2	3/16
5666-6	22-16	6	1"	13/64	1/2	3/16
5666-8	22-16	8	1"	13/64	1/2	3/16
5666-10	22-16	10	1"	13/64	1/2	3/16
5658-4	16-14	4	37/32	23/32	1/2	23/64
5658-6	16-14	6	37/32	23/32	1/2	23/64
5658-8	16-14	8	37/32	23/32	1/2	23/64
5658-10	16-14	10	37/32	23/32	1/2	23/64
5667-6	12-10	6	43/64	23/32	1/2	3/8
5667-8	12-10	8	43/64	23/32	1/2	3/8
5667-10	12-10	10	43/64	23/32	1/2	3/8

BUTT CONNECTOR



Cat. No.	Wire Size	A
5663	22-16	13/16
5664	16-14	13/16
5665	12-10	13/16

HOOK TONGUE



Cat. No.	Wire Size	Stud Size	A	B	C	D
5660-6	22-16	6	37/32	13/64	1/2	3/16
5660-8	22-16	8	37/32	13/64	1/2	3/16
5660-10	22-16	10	37/32	13/64	1/2	3/16
5661-6	16-14	6	37/32	23/32	1/2	23/64
5661-8	16-14	8	37/32	23/32	1/2	23/64
5661-10	16-14	10	37/32	23/32	1/2	23/64
5662-6	12-10	6	1"	13/64	1/2	3/8
5662-8	12-10	6	1"	13/64	1/2	3/8
5662-10	12-10	10	1"	13/64	1/2	3/8

UNIVERSAL CRIMPING TOOL

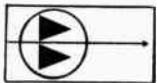
Crimps both insulated and non-insulated terminals, wire sizes 22 thru 10. Cuts and strips wire.

Cat. No. 4676

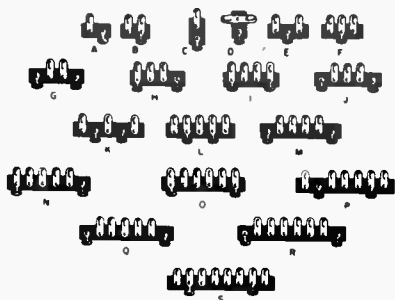


Color coded for easy matching to wire sizes.

- Red — 22-15
- Blue — 16-14
- Yellow — 12-10



TERMINAL STRIPS • LUGS • CLAMPS



TIE DOWN LUG TERMINAL STRIPS  
STANDARD TYPE

These lugs made of 1/16" (.062" thick) XP bakelite x 3/8" wide with cadmium plated steel lugs. Lugs are 3/4" centers with .140 diam. mounting holes. Strips illustrated are standard; special combinations on request.

Cat. No.	Illustration	Std. Pkg.
1382	A	100
1382A	B	100
1382B	C	100
1382C	D	100
1382D	E	100
1383	F	100
1383A	G	100
1384	H	100
1384B	I	100
1385	J	100
1385A	K	100

MINIATURE TYPE

These lugs made of 1/16" (.062" thick) XP bakelite x 3/8" wide. Steel, Cadmium plated lugs are 1/2" centers; .096 diam. mounting hole. Clearance for 3/32" rivet or No. 3 screw. Strips illustrated are standard; special combinations on request.

Cat. No.	Illustration	Std. Pkg.
1352	A	100
1352A	B	100
1352B	C	100
1352C	D	100
1353	E	100
1353A	F	100
1354	G	100
1354A	H	100
1354B	I	100
1355	J	100

BIRNBACH TINNED TERMINAL LUGS



Cat. No.	Hole For Screw	Material	Thickness	Length	Std. Pkg.
1	6	Tinned Copper	.015"	1 1/2"	1000
2	10	Tinned Copper	.016"	3 1/2"	1000
3	.252	Tinned Copper	.015"	1 1/2"	1000
3A	1/4	Tinned Copper	.015"	1 1/2"	1000
4	3/4	Tinned Copper	.016"	1 1/2"	1000
5	1/2	Hot Tinned Copper	.024"	1 1/2"	1000
21	10	Hot Tinned Copper	.020"	1 1/2"	1000
22	1/4	Hot Tinned Copper	.025"	1 1/2"	1000
201	8	Brass Hot Tinned	.020"	1 1/2"	1000
96	4-6-8-10	Brass Hot Tinned	.020"	1 1/2"	1000
97	8	Tinned Copper	.016"	5 1/2"	1000
98	4-6-8-10	Brass Hot Tinned	.020"	1 1/2"	1000
99	4-6-8-10	Brass Hot Tinned	.020"	1 1/2"	1000
100	10	Brass Hot Tinned	.020"	1 1/2"	1000
1017	10	Nickel Plated Copper	.023"	1 1/2"	1000

BIRNBACH TAPPED ANGLE BRACKET

Steel cadmium plated. 1/2" by 3/4". One plain .165 hole and one 8/32 tapped hole.

Cat. No. 1120



BRASS & STEEL ANGLES

Cat. No.	Material	Size	Mtg. Holes
1121	Brass N. Pl.	2" x 1 1/2"	169
1122	Brass N. Pl.	3" x 3"	169
1123	Steel H.T.	3" x 3"	144
1124	Steel H.T.	5" x 1 1/2"	169



BIRNBACH LOCKING TYPE  
TERMINAL LUGS

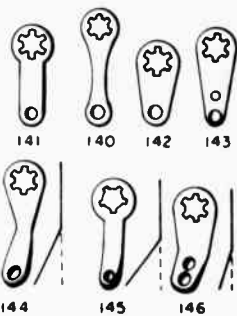
BRASS ELECTRO PLATED

Cat. No.	Hole	Thickness	Length	Std. Pkg.
193	4	.020"	1 1/2"	1000
194	6	.020"	3 1/2"	1000
195	8	.020"	1 1/2"	1000
196	1	.020"	1 1/2"	1000
197	10	.020"	1 1/2"	1000



LOCKWASHER TERMINAL LUGS BRASS HOT TINNED

Cat. No.	Hole for Screw	Thickness	Lgth	Std. Pkg. 1000
140-4	4	.018"	1 1/2"	
140-6	6	.018"	3 1/2"	
140-8	8	.018"	1 1/2"	
140-10	10	.018"	1 1/2"	
141-4	1 1/4"	.018"	1 1/2"	
141-6	6	.018"	3 1/2"	
141-8	8	.018"	1 1/2"	
142-4	4	.018"	1 1/2"	
142-6	6	.018"	3 1/2"	
142-8	8	.018"	1 1/2"	
143-4	4	.018"	1 1/2"	
143-6	6	.018"	3 1/2"	
143-8	8	.018"	1 1/2"	
144-4	4	.018"	1 1/2"	
144-6	6	.018"	3 1/2"	
144-8	8	.018"	1 1/2"	
144-10	10	.018"	1 1/2"	
145-4	4	.018"	1 1/2"	
145-6	6	.018"	3 1/2"	
145-8	8	.018"	1 1/2"	
146-4	4	.018"	1 1/2"	
146-6	6	.018"	3 1/2"	
146-8	8	.018"	1 1/2"	



BAKELITE TERMINAL STRIPS

Terminals are made of brass and cadmium plated. Available from 2 to 10 terminals either marked or plain. Terminals are mounted on 1/16" bakelite x 3/4" width, 7, 8, 9 and 10 terminals mounted on 3/32" bakelite. All terminals are spaced 1/16" center to center.

PLAIN			MARKED		
Cat. No.	Terminals	Mounting Center	Cat. No.	Terminals	Terminals Marked
1372	2	1 3/4"	1260	2:	AG
1373	3	1 3/4"	1261	2:	Output
1374	4	2 3/4"	1262	2:	Input
1375	5	2 3/4"	1263	3:	1-2-3
1376	6	3 1/4"	1264	4:	1-2-3-4
1377	7	3 1/4"	1265	5:	1-2-3-4-5
1378	8	3 1/4"	1266	6:	1-2-3-4-5-6
1379	9	4 3/4"			
1380	10	4 3/4"			

TERMINAL STRIPS 2 POST

Excellent mounting for twin lead transmission lines. Brass hot tinned lugs spaced 1/4" center to center. 1/16" bakelite. 1 3/4" mounting center.

Cat. No. T16

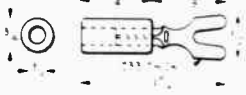
BIRNBACH 3 POST

A synchronizing lock strip for RCA type television receivers. Brass hot tinned lugs. Spaced 1/4" center to center. Mounting center 1 3/4" bakelite.

Cat. No. T16A

INSULATED SPADE LUG No. 332

This insulated Spade Lug accommodates all standard banana plugs into the rear of lug enabling same to be adapted to a spade lug. Lug is Steel Hot Tinned. Colors: Red or Black. Cat. No. 332 Insulated Spade Lug



SPADE LUG No. 332A

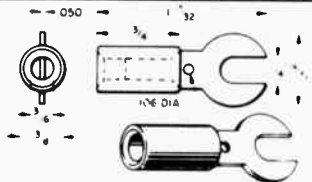
Barrel accommodates all standard banana type plugs. Lug is Steel Hot Tinned. Cat. No. 332A Spade Lug 50



INSULATED SPADE LUG

Colors: Red or Black. Lug: Brass, .050 thick, nickel plated. Rating: 30 Amps AC for 10°C Temp. rise, continuous duty. Descr.: 1 1/2" I.D. fits all standard Multi-purpose binding posts. Accepts up to =10 insulated wire, which solders in front hole.

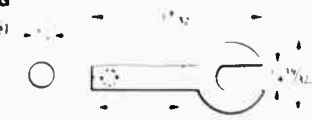
Cat. No. 332B



UNINSULATED SPADE LUG

Lug: Brass, .050 thick, nickel plated.

Cat. No. 333 C



BIRNBACH CABLE CLAMPS

Cat. No.	To Fit Cable Up To	Length	Width	Mtg. Hole
1153	3/8"	1 1/2"	3/8"	No. 4
1154	1/2"	1 1/2"	3/8"	No. 6
1155	3/4"	1 1/2"	3/8"	No. 6
1156	1"	1 1/2"	3/8"	No. 8
1157	1 1/4"	1 1/2"	3/8"	No. 10



SPRING WIRE CLIPS

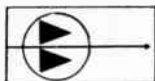
They will hold a wire, up to No. 10 B&S Gauge in a secure contact. All clips are brass nickel-plated.

Cat. No.	Length	Width	Mtg. Hole
32A Spring Clip	1 1/2"	3/8"	6
32 Spring Clip	1"	3/8"	10
33 Twin Clip	1 1/2"	3/8"	10



**BIRNBACH**

COMPANY INC. FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.



# TRANSISTOR HEAT SINKS & RETAINERS TRANSMITTING SOCKETS & ADAPTER PLUGS

## TRANSISTOR HEAT SINKS

Immediate Delivery from Stock

The standard "off the shelf" line of beryllia heat sinks are available in JEDEC-TO Numbers: 3, 5, 8, 9, 11, 12, 16, 18, 33, 38, 39, etc. Standard thickness  $\frac{1}{16}$ ". Also available in  $\frac{1}{32}$ " thickness.

## TRANSISTOR HEAT SINKS

Beryllium oxide is unique among inorganic materials in that it combines the characteristic pure oxide electrical properties of high resistivity and low dielectric loss with a thermal conductivity equal to aluminum metal. Where electronic applications require both dielectric insulation and high heat transfer from device to chassis, only Beryllium Oxide (BeO) can provide a satisfactory solution to the design engineers problems. Beryllium oxide, a high purity sintered BeO was developed to answer this problem. Its excellent physical and electrical properties are contained in the charts which follow.

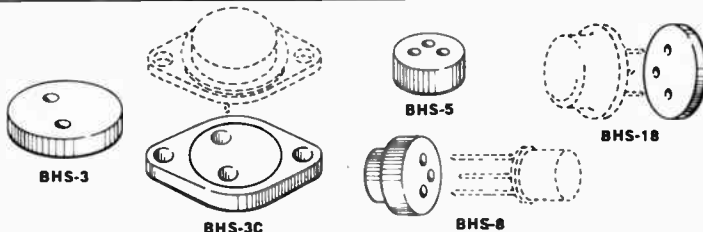
### BERYLLIUM OXIDE HEAT SINKS GIVE YOU THESE ADVANTAGES

- Increased transistor life and output
- Freedom from outgassing
- Extremely resistant to shocks, vibration and moisture
- Infinite shelf life

## PHYSICAL PROPERTIES

Chemical Purity: 99+ per cent Beryllium Oxide  
Density: 2.9 Grams/cc  
Melting Point: 4650°F  
Heat Capacity at 350°F: 0.3 BTU/lb  
Thermal Expansion:  $3.2 \times 10^{-6}/°F$   
Thermal Conductivity: 140 BTU/FT<sup>2</sup>HR°F-FT  
Transverse Strength: 25,000 PSI  
Elastic Modulus:  $40 \times 10^4$  PSI

Cat. No.	For Jecdec Transistor Case Type	Cat. No.	For Jecdec Transistor Case Type
BHS-1	MT-1	BHS-10	MT-10
BHS-3	TO-3	BHS-11	TO-11
BHS-3A	MT-3	BHS-12	TO-12
BHS-3C	TO-3	BHS-14	MT-14
(With glass epoxy outline)		BHS-16	TO-16
BHS-4	DO-4	BHS-18	TO-18
BHS-5	TO-5	BHS-33	TO-33
BHS-5A	DO-5	BHS-36	TO-36
BHS-5B	MT-5	BHS-38	TO-38
BHS-6	TO-6	BHS-39	TO-39
BHS-8	TO-8	BHS-43	TO-43
BHS-9	TO-9	BHS-46	TO-46
		BHS-66	TO-66



## BERYLLIUM OXIDE TRANSISTOR RETAINERS for HEAT DISSIPATION AND ELECTRICAL INSULATION

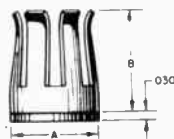
### TRANSISTOR RETAINERS

Optimum thermal conductivity, with absolute electrical insulation reliability, are offered by spring clip transistor retainers. The retainers provide electrical isolation for the semiconductor by means of a disc of beryllium oxide ceramic brazed to the base of the beryllium copper retainer. Solid ceramic disc, in contrast to a thin insulating coating, is practically immune to loss of insulating value through cracking, abrasion, chipping or other results of rough treatment in assembly. Heat transfer from the semiconductor to chassis or heat sink is not sacrificed since the high-purity (BeO) has thermal conductivity equal to that of aluminum metal.

Maximum soldering temperature — 300°C.

### FOR SOLDERING MOUNTING

### FOR MECHANICAL MOUNTING



Type Part. No.	T0-5 BTR-21 Solder	T0-5 BTR-22 Screw	T0-18 BTR-26 Solder	T0-18 BTR-25 Screw
A. O.D.	$\frac{3}{4}$	$\frac{3}{4}$	.221	.221
B. Length	.37	.37	.28	.28
C. Screw Size	—	4-40 x $\frac{3}{4}$	—	2-56 x $\frac{3}{4}$

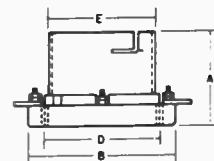
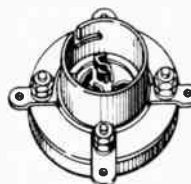
## TRANSMITTING SOCKETS

### Medium 4 Pin Bayonet and Jumbo 4 Pin Bayonet

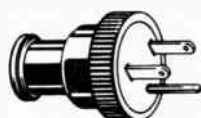
No. 434 — "50 watt" socket for medium power bayonet based tubes such as 575A, 805, 810, 838, 845, 872A, 8000 and others with Retma Base No. A4-29. Has heavy phosphor bronze cadmium plated double wiping filament contacts will handle heavy currents. Terminals designed for solder or screw connections. Two mounting holes. Has polished nickel plated brass shell; white glazed porcelain base.

No. 435 — "10 watt" socket for economy, has heavy phosphor bronze, cadmium plated side wiping contacts; white glazed porcelain base; heavy plated brass shell. Two mounting holes, for medium 4 pin bayonet based tubes such as 3B25, 3B28, 10Y, 801A, 808, 809, 811A, 812A, 834, 836, 860, 865, 866A, 1616, 8005 with Retma Base No. A4-10.

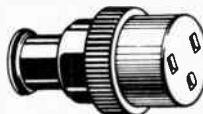
Cat. No.	Watt Socket	A	B	O	E	Mtg. Holes	Pin	Tube Base
434	50	$2\frac{1}{2}$ "	$3\frac{3}{4}$ "	$2\frac{1}{4}$ "	1.886"	2	4	Std. Jumbo
435	10	$1\frac{1}{4}$ "	$2\frac{1}{4}$ "	$2\frac{1}{4}$ "	1.386"	2	4	Med. Bay



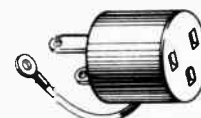
Nos. 434-435



**NEW TYPE 3 PRONG PLUG No. 814T**  
Two parallel blades plus ground pin for safe grounding of appliance.



**ADAPTER PLUGS FEMALE CONNECTOR No. 811**  
For new type 3 prong plug. Female mate to No. 814T.



**ADAPTER FOR USING NEW TYPE 3 PRONG PLUG IN STANDARD OUTLET No. 812**

# THE ORIGINAL AC POWER CONTROL UNITS

*"Much more than an outlet box"*

## FEATURES

- PROTECTION BY FUSE OR CIRCUIT BREAKER
- U L APPROVED COMPONENTS
- PORTABLE OR STATIONARY
- SELF CONTAINED POWER SWITCHES
- RUGGED CONSTRUCTION
- REQUIRES LITTLE SPACE & EASY TO STORE
- LIFETIME NEON INDICATOR
- 2 PRONG & "U" GROUND OUTLETS
- EASY TO KEEP CLEAN
- FINISH OF BROWN HAMMERTONE OR CHROME
- RATED FOR 15 AMPS 130 VOLTS
- HEAVY DUTY LINE CORD



**SS-GD Series** — All models contain four colored sets of power switches and heavy duty "U" type outlets, paired for easy identification. Choice of fuse or circuit breaker protection. Dimension  $13\frac{1}{8}'' \times 2\frac{1}{4}'' \times 1\frac{1}{2}''$ .

Model SS-GD (Fuse type, 10 Ft. cord) ..... \$ 8.95

Model SS-GD-15 (Fuse type, 15 Ft. cord) ..... 9.95

Model SS-GD-CB (Circuit breaker, 10 Ft. cord) ..... 10.75

Model SS-GD-CB-15 (Circuit breaker, 15 Ft. cord) ..... 11.75

Add suffix CR to model number for chrome plating plus an additional \$1.50 to the net price.



**SS Series** — Provides four independently controlled 2 prong outlets, each set in a contrasting color for easy recognition. Choice of fuse or circuit breaker protection. Dimensions  $13\frac{1}{8}'' \times 2\frac{1}{4}'' \times 1\frac{1}{2}''$ .

Model SS (Fused plug 10 Ft. cord) ..... \$ 6.75

Model SS-F (Same as SS but with one fuse) ..... 6.25

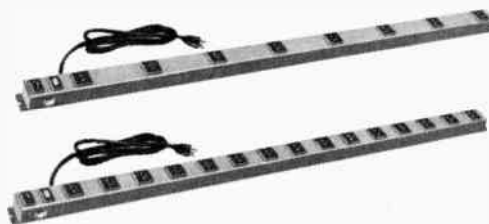
Model SS-CB (Circuit breaker 10 Ft. cord) ..... 8.75

Add suffix CR to the model number for chrome plating plus an additional \$1.50 to the net price.

**Model SS-2** — Provides two independently controlled 2 prong outlets, each set in a contrasting color for easy recognition. Dimensions  $5'' \times 2'' \times 1\frac{1}{4}''$ .

(Fused plug 6 Ft. cord) ..... \$ 4.15

Add suffix CR to the model number for chrome plating plus an additional \$1.00 to the net price.



**LL-GD Series** — 4' HEAVY DUTY LONG LINE — Each unit has a switch and pilot light. With "U" type grounded outlets. Choice of fuse or circuit breaker protection. Dimensions  $49'' \times 2'' \times 1\frac{1}{2}''$ .

### 8 OUTLETS

LL-GD-8-10 (Fuse type, 10 Ft. cord) ..... \$14.95

LL-GD-8-15 (Fuse type, 15 Ft. cord) ..... 15.95

LL-GD-CB-8-10 (Circuit breaker, 10 Ft. cord) ..... 15.95

LL-GD-CB-8-15 (Circuit breaker, 15 Ft. cord) ..... 16.95

### 15 OUTLETS

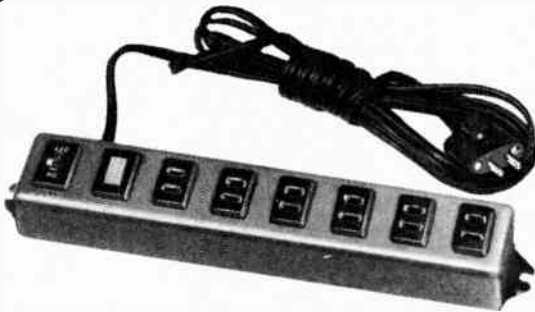
LL-GD-15-10 (Fuse type, 10 Ft. cord) ..... 18.95

LL-GD-15-15 (Fuse type, 15 Ft. cord) ..... 19.95

LL-GD-CB-15-10 (Circuit breaker 10 Ft. cord) ..... 19.95

LL-GD-CB-15-15 (Circuit breaker 15 Ft. cord) ..... 20.95

All prices are net and subject to change without notice.



**MO Series** — One switch controls six 2 prong outlets. Pilot light indicates when power is on. Choice of fuse or circuit breaker protection. Dimensions 13 1/8" x 2 1/4" x 1 1/2".

- Model MO (Fused plug 10 Ft. cord) \$ 6.75
  - Model MO-F (Same as MO but with one fuse) 6.25
  - Model MO-CB (Circuit breaker 10 Ft. cord) 8.75
- Add suffix CR to model number for chrome plating plus an additional \$1.50 to the net price.

**Model MO-4** — Four 2 prong outlets where just additional outlets are required. No switch. Dimensions 5" x 2" x 1 1/4".

- (Fused plug, 6 Ft. cord) \$ 3.75

**Model MO-3** — One switch controls three 2 prong outlets. Dimensions 5" x 2" x 1 1/4".

- (Fused plug, 6 Ft. cord) \$ 3.90
- Add suffix CR to the model numbers for chrome plating plus an additional \$1.00 to the net price.



**MO-5 Series** — One switch controls five 2 prong outlets. Pilot light shows when power is on. Choice of fuse or circuit breaker protection. Dimensions 8 5/8" x 2 1/4" x 1 1/2".

- Model MO-5-10 (Fused type, 10 Ft. cord) \$ 5.95
  - Model MO-5-15 (Fused type, 15 Ft. cord) 6.95
  - Model MO-CB-5-10 (Circuit breaker 10 Ft. cord) 6.95
  - Model MO-CB-5-15 (Circuit breaker 15 Ft. cord) 7.95
- Add suffix CR to model number for chrome plating plus an additional \$1.25 to the net price.

**APPROVED UNITS FOR MILITARY APPLICATION**

**Model MO-GD-4** — 7 "U" type grounding outlets. 3 ten foot leads. grey housing.

**Model MO-GD-5** — 3 "U" type grounding outlets. 3 ten foot leads. grey housing.

Used in Missile Ground Support Equipment \$15.00 Each



**MO-GD Series** — Six 3-wire "U" type ground outlets, switch and pilot light. Choice of fuse or circuit breaker protection. Dimensions 13 1/8" x 2 1/4" x 1 1/2".

- Model MO-GD (Fuse type, 10 Ft. cord) \$ 8.50
- Model MO-GD-15 (Fuse type, 15 Ft. cord) 9.50
- Model MO-GD-CB-10 (Circuit breaker, 10 Ft. cord) 10.50
- Model MO-GD-CB-15 (Circuit breaker, 15 Ft. cord) 10.95

Add suffix CR to model number for chrome plating plus an additional \$1.50 to the net price.



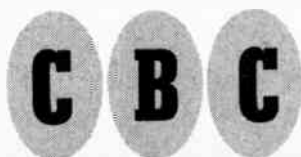
**MO-GD-3 Series** — Three 3-wire "U" type ground outlets, switch and pilot light. Choice of fuse or circuit breaker protection. Dimensions 8 5/8" x 2 1/4" x 1 1/2".

- Model MO-GD-3-10 (Fuse type, 10 Ft. cord) \$ 5.95
- Model MO-GD-3-15 (Fuse type, 15 Ft. cord) 6.95
- Model MO-GD-CB-3-10 (Circuit breaker, 10 Ft. cord) 6.95
- Model MO-GD-CB-3-15 (Circuit breaker, 15 Ft. cord) 7.95

Add suffix CR to the model number for chrome plating plus an additional \$1.25 to the net price.

All prices are net and subject to change without notice.

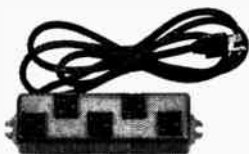
SEE FOLLOWING PAGE FOR ADDITIONAL CONTROL UNITS



*Industries Inc.*

**NEW! NOISE LIMITER —**

Line Filter available in any CBC power control. Shielded filter network prevents R.F. feedback into line. Add prefix "NL" to Power Control model number ..... \$2.25 additional



**NEW!  
COMPACT  
POWER CENTER**

Model C-MO-GD-15 — A convenient outlet box with 5 "U" type grounded outlets. Includes 15 ft., heavy-duty line cord. Dimensions 8<sup>5</sup>/<sub>8</sub>" x 2<sup>1</sup>/<sub>4</sub>" x 1<sup>1</sup>/<sub>2</sub>" ..... \$5.80

**NEW!**

**19" RACK-MOUNT CONTROL PANELS**

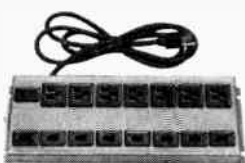


**TR-MO-GD Series**—One master switch controls power to six "U" type grounded outlets. Pilot light shows when power is on. Choice of fuse or circuit breaker protection. Dimensions 3<sup>1</sup>/<sub>2</sub>" x 19".

- Model TR-MO-GD-10 (Fuse type, 10 Ft. cord)..... \$10.95
- Model TR-MO-GD-15 (Fuse type, 15 Ft. cord)..... 11.95
- Model TR-MO-GD-CB-10 (Circuit breaker, 10 Ft. cord)..... 11.95
- Model TR-MO-GD-CB-15 (Circuit breaker, 15 Ft. cord)..... 12.95

**TR-MO-GD-R Series**—Same as above except that two outlets are on front of panel; four in rear.

- Model TR-MO-GD-R-10 (Fuse type, 10 Ft. cord).....\$12.95
- Model TR-MO-GD-R-15 (Fuse type, 15 Ft. cord)..... 13.95
- Model TR-MO-GD-R-CB-10 (Circuit breaker, 10 Ft. cord)..... 13.95
- Model TR-MO-GD-R-CB-15 (Circuit breaker, 15 Ft. cord)..... 14.95



**ML-SS-GD Series**

One master switch controls power to seven color-coded "U" type ground outlets with color-matched sub-switches. Pilot light shows when master power switch is on. Choice of fuse or circuit breaker protection. Dimensions 13<sup>1</sup>/<sub>8</sub>" x 4<sup>3</sup>/<sub>4</sub>" x 1<sup>5</sup>/<sub>8</sub>".

7 OUTLETS

- Model ML-SS-GD-10 (Fuse type, 10 Ft. cord).....\$15.50
- Model ML-SS-GD-15 (Fuse type, 15 Ft. cord)..... 16.50
- Model ML-SS-GD-CB-10 (Circuit breaker, 10 Ft. cord)..... 16.50
- Model ML-SS-GD-CB-15 (Circuit breaker, 15 Ft. cord)..... 17.50



**ML-MO-GD Series**

Same as above except with 10 "U" type grounded outlets and without individual switches for each outlet.

10 OUTLETS

- Model ML-MO-GD-10 (Fuse type, 10 Ft. cord).....\$13.50
- Model ML-MO-GD-15 (Fuse type, 15 Ft. cord)..... 14.50
- Model ML-MO-GD-CB-10 (Circuit breaker, 10 Ft. cord)..... 14.50
- Model ML-MO-GD-CB-15 (Circuit breaker, 15 Ft. cord)..... 15.50

**CBC INDUSTRIES INC.**

**NEW!**

**Economy Long-Line Power Control**



**Model E-LL-GD-CB**

One master switch controls 14 "U" type grounded outlets. Pilot light indicates when power is on. Circuit breaker protection. 10 Ft. line cord. Dimensions 49" x 2" x 1<sup>1</sup>/<sub>2</sub>" . . . \$16.75



**POPULAR  
EXTENSION  
OUTLETS**

**MO-GD-S Series**—Lets you series string from the end of one unit to the cord at the beginning of the next. Seven "U" type grounded outlets with an 8th and 9th "U" type grounded outlet for series stringing. Dimensions 13<sup>1</sup>/<sub>8</sub>" x 2<sup>1</sup>/<sub>4</sub>" x 1<sup>1</sup>/<sub>2</sub>".

- Model MO-GD-S-10 (10 Ft. cord).....\$6.75
- Model MO-GD-S-15 (15 Ft. cord)..... 7.75



Model LL-SS-GD-CB



Model LL-SS-PL-GD-CB

**LL-SS-GD-CB Series** — 4 Ft., Heavy-Duty, Long-Line. Eight pairs of individually color-matched switches and "U" type grounded outlets. Individually colored pilot lights available on LL-SS-PL-GD Series. Circuit breaker protection on all models. Dimensions 49" x 2" x 1<sup>1</sup>/<sub>2</sub>".

- Model LL-SS-GD-CB-8-10 (10 Ft. cord).....\$19.95
- Model LL-SS-GD-CB-8-15 (15 Ft. cord)..... 20.95
- Model LL-SS-PL-GD-CB-8-10 (with Pilot Lights, 10 Ft. cord).. 20.95
- Model LL-SS-PL-GD-CB-8-15 (with Pilot Lights, 15 Ft. cord).. 21.95

**SPEEDTROL —**



**Solid-State Motor Speed Control**

**MODEL SC-2000**—For use with any standard AC-DC universal motor. Handles up to 800 watts. Constant motor torque at all speed control settings. Precise speed adjustment from 3% to 50%. Speed can also be increased to 100%. Fused for circuit protection. Grounding type line cord and receptacle for maximum safety. Industrial quality for use with power tools and other heavy-duty applications. . . \$11.95

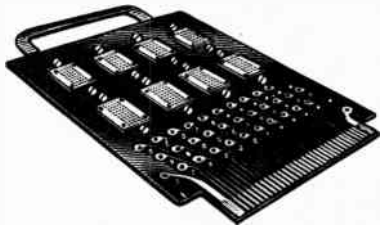
**CBC INDUSTRIES INC.**



# CAMBRIDGE THERMIONIC CORPORATION GAMBION®

## INTEGRATED CIRCUIT Holders, Boards and Sockets

### CAMBI-CARD CIRCUIT BOARDS



Permit highly flexible interconnection of standard micro-electronic packages. Sockets or holders can be plugged into boards having jacks for flexible jumpering or hard wiring; fixed permanently to board with hard wiring on backs of sockets; or used with permanent etch patterns for

in-line sockets, flat pack holders, or TO-5 cans. Five board types available, with jacks or solder terminals. Each epoxy glass board is 4.5" wide, for 8 or 16 integrated circuits. Permanent etch pattern provided for ground and supply voltages, with 70-pin edge connector for interconnection between boards. Cambi-Cards with .040"/.040" or .025"/.040" combination jacks accept .040" patch cords.

#### FOR DIRECT (PERMANENT) CONNECTION OF IN-LINE CIRCUITS

Cambion Number	No. of Holders or Cans	Board Hardware	Board Lgth.	Net Each, Lots of	
				1-9	10-49
7050112-1	16	Jack-Jack	9.250"	\$ 99.95	\$ 86.50
7050113-1	16	Terminal	9.250"	44.20	37.90
7050114-1	8	Jack-Jack	6.062"	63.00	54.00
7050115-1	8	Terminal	6.062"	28.50	24.50

#### FOR SOCKET MOUNTING OF IN-LINE CIRCUITS

Specify suffix -1 for flat pin IC or -2 for round pin IC. Prices include sockets. Write for prices on boards without sockets.

7051000	8	Terminal	6.062"	\$ 44.05	\$ 38.15
7051001	16	Terminal	9.250"	66.80	53.70

#### FOR DIRECT (PERMANENT) CONNECTION OF FLAT PACKS

7050110-1	16	Jack-Jack	9.250"	\$ 99.95	\$ 86.50
7050111-1	16	Terminal	9.250"	43.30	37.20
7050118-1	8	Jack-Jack	6.062"	63.70	54.70
7050119-1	8	Terminal	6.062"	29.20	25.10

#### FOR SOCKET MOUNTING OF FLAT PACK CIRCUITS

Prices include holders. Boards also can be supplied without holders if desired; send for price information.

7052003-1	16	Terminal	9.250"	\$ 58.70	\$ 47.10
7052001-1	16	Jack-Jack*	9.250"	134.00	111.50
7052002-2	16	Jack-Term.†	9.250"	91.80	75.50
7052002-1	8	Terminal	6.062"	38.70	34.00
7052000-1	8	Jack-Jack*	6.062"	81.80	70.80
7052000-2	8	Jack-Term.†	6.062"	52.10	45.30

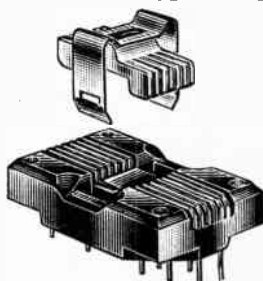
\*.025"/.040" combination jack. †.025" jack above board.

#### FOR DIRECT (PERMANENT) CONNECTION TO-5 CANS

7050116-1	16	Jack-Jack	9.250"	\$ 75.00	\$ 64.50
7050117-1	16	Terminal	9.250"	34.90	29.90
7050120-1	8	Jack-Jack	6.062"	50.60	43.50
7050121-1	8	Terminal	6.062"	25.30	21.90
7050135-1	8	Jack-Jack	6.062"	54.80	47.10
7050136-1	8	Terminal	6.062"	25.80	22.20
7050138-1	16	Jack-Jack	9.250"	83.30	71.50
7050139-1	16	Terminal	9.250"	37.50	32.20
7050141-1	8	Jack-Jack	6.062"	59.30	50.80
7050142-1	8	Terminal	6.062"	27.30	23.50
7050144-1	16	Jack-Jack	9.250"	81.80	78.80
7050145-1	16	Terminal	9.250"	40.10	34.50

Cambion No. 7029-1 Cambi-Board 70-Pin Edge Connector—  
Net Each, Lots of: 1-9...\$5.60; 10-49.....\$4.80

### FLAT PACK HOLDERS

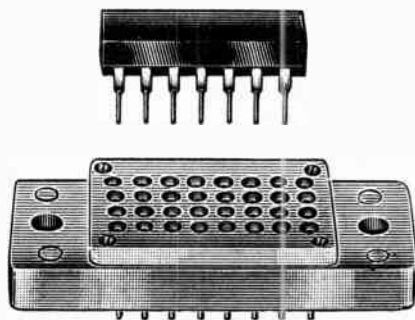


Flat pack holders accept any standard 14-lead flat microelectronic package. Designed to fit Cambi-Card circuit boards shown above. Type 3773-1 can be assembled directly to P-C board and soldered; raised platforms prevent moisture trapping. Base assembly portion has 14 contacts assembled into dially base, gold plated for long life; close tolerance assures uniform contact. High molded dially barriers prevent misalignment and shorting. Base shape permits visual identification of each flat pack. Spring clip and foot assembly has a spring clip of nickel plated beryllium copper, with

clear Lexan\* plastic foot that withstands temperatures to 125° C. Individual spring contacts assure uniform pressure on each flat pack lead. Available with .025" dia. pin plug contacts that can be patched, plugged or soldered; or with .025" square Wire-Wrap contacts. Size: 1.200" long, .776" wide; height with spring clip, less pins, .625".

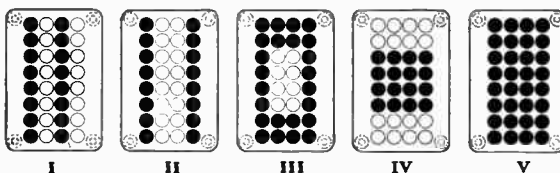
Cambion Number	Contact Type	Net Each, Lots of		
		1-9	10-49	50-99
3773-1	.025" dia. pin plug	\$2.40	\$2.25	\$1.95
3774-1	.025" square Wire-Wrap	3.15	2.80	2.50

### IN-LINE SOCKETS



Designed to accept standard in-line integrated circuit modules, with up to 32 jacks in five configurations as shown below. Illustration shows typical in-line integrated circuit with socket, ready for insertion. Patented cage jacks have ribbon insert for use with flat pin modules, or cage insert for .020" dia. round pins. Both inserts are made of beryllium copper, heat treated for reliable electrical contact. Jacks and inserts are gold plated for long life. Socket body is 2-piece molded dially, available with four types of contacts at bottom of socket: solder terminal, solder pot terminal. Wire-Wrap terminal, or .025" dia. pin plug. Non-rotation flats assure uniform positioning. Socket Size: 1.500" long, .600" wide; mounting centers, 1.200"; height, .275", less terminals at bottom; contact spacing, .100".

#### JACK LOCATIONS



#### WITH SOLDER TERMINAL CONTACTS

Cambion Number	For Pin Type	No. of Jacks	Jack Locations	Net Each, Lots of		
				1-9	10-49	50-99
3792-1-0312	Round	16	I	\$3.30	\$3.00	\$2.60
3792-2-0312	Round	14/16	II	3.30	3.00	2.60
3792-3-0312	Round	24	III	4.10	3.80	3.30
3792-4-0312	Round	16	IV	3.30	3.00	2.60
3792-5-0312	Round	32	V	5.00	4.60	4.00
3793-1-0316	Flat	16	I	3.30	3.00	2.60
3793-2-0316	Flat	14/16	II	3.30	3.00	2.60
3793-3-0316	Flat	24	III	4.10	3.80	3.30
3793-4-0316	Flat	16	IV	3.30	3.00	2.60
3793-5-0316	Flat	32	V	5.00	4.60	4.00

#### WITH SOLDER POT CONTACTS

3794-1-0312	Round	16	I	\$4.60	\$4.20	\$3.70
3794-2-0312	Round	14/16	II	4.60	4.20	3.70
3794-3-0312	Round	24	III	5.40	5.00	4.30
3794-4-0312	Round	16	IV	4.60	4.20	3.70
3794-5-0312	Round	32	V	6.30	5.80	5.00
3795-1-0316	Flat	16	I	4.60	4.20	3.70
3795-2-0316	Flat	14/16	II	4.60	4.20	3.70
3795-3-0316	Flat	24	III	5.40	5.00	4.30
3795-4-0316	Flat	16	IV	4.60	4.20	3.70
3795-5-0316	Flat	32	V	6.30	5.80	5.00

#### WITH WIRE-WRAP TERMINALS

3796-1-0312	Round	16	I	\$3.60	\$3.30	\$2.90
3796-2-0312	Round	14/16	II	3.60	3.30	2.90
3796-3-0312	Round	24	III	4.40	4.10	3.50
3796-4-0312	Round	16	IV	3.60	3.30	2.90
3796-5-0312	Round	32	V	5.30	4.90	4.20
3797-1-0316	Flat	16	I	3.60	3.30	2.90
3797-2-0316	Flat	14/16	II	3.60	3.30	2.90
3797-3-0316	Flat	24	III	4.40	4.10	3.50
3797-4-0316	Flat	16	IV	3.60	3.30	2.90
3797-5-0316	Flat	32	V	5.30	4.90	4.20

#### WITH .025" DIA. PIN PLUG

3798-1-0312	Round	16	I	\$3.30	\$3.00	\$2.60
3798-2-0312	Round	14/16	II	3.30	3.00	2.60
3798-3-0312	Round	24	III	4.10	3.80	3.30
3798-4-0312	Round	16	IV	3.30	3.00	2.60
3798-5-0312	Round	32	V	5.00	4.60	4.00
3799-1-0316	Flat	16	I	3.30	3.00	2.60
3799-2-0316	Flat	14/16	II	3.30	3.00	2.60
3799-3-0316	Flat	24	III	4.10	3.80	3.30
3799-4-0316	Flat	16	IV	3.30	3.00	2.60
3799-5-0316	Flat	32	V	5.00	4.60	4.00

\*General Electric trademark. †Gardner-Denver trademark.

SEND FOR COMPLETE GAMBION CATALOG FOR FULL DATA ON ALL GAMBION PRODUCTS

CAMBRIDGE THERMIONIC CORPORATION

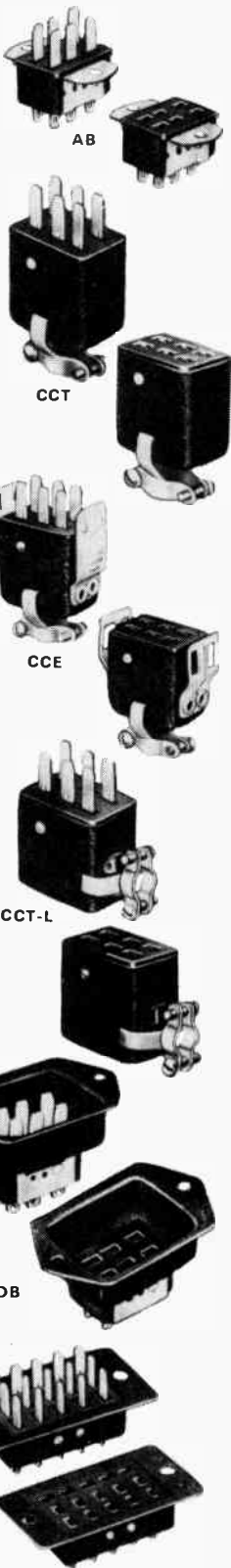


# "Jones" Type Plugs, Sockets

300 SERIES CONNECTORS are from the famous line of "Jones" plugs and sockets which have been a standard of the electrical and electronic industry for over a generation. For medium duty applications, they are small in size with good separation between contacts.

Molded bakelite insulator has 2 to 33 cadmium-plated phosphor-bronze contacts, for cap or panel mounting. All plugs and sockets are polarized so that plugs of one size cannot fit into sockets of another size. "Knife-switch" type socket contacts engage both sides of flat plug contacts, providing double contact area. Rated Voltage... 730 Volts rms. Contact Resistance... .016 Ohms max. Rated Current... 10A max.

In accordance with UL Standard #498, (all contacts carrying "rated" current simultaneously) as follows: Current (2-12 contacts).....7.5 amperes Wattage (2-12 contacts).....1875 watts (15-33 contacts).....4.5 amperes (15-33 contacts).....1125 watts



PLUGS WITH ANGLE BRACKETS						
C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-302-AB	2	0.29	0.23	0.20	0.16	0.15
P-303-AB	3	.33	.26	.22	.18	.17
P-304-AB	4	.37	.29	.25	.20	.19
P-306-AB	6	.46	.37	.31	.24	.23
P-308-AB	8	.53	.42	.35	.28	.27
P-310-AB	10	.59	.47	.40	.32	.30
P-312-AB	12	.66	.53	.44	.35	.33
P-315-AB	15	.89	.71	.59	.47	.45
P-318-AB	18	1.07	.85	.71	.57	.54
P-321-AB	21	1.34	1.07	.89	.71	.68
P-324-AB	24	1.62	1.30	1.08	.86	.82
P-327-AB	27	1.90	1.52	1.27	1.01	.96
P-330-AB	30	2.18	1.74	1.45	1.16	1.10
P-333-AB	33	2.45	1.96	1.63	1.30	1.24

PLUGS WITH CABLE CLAMPS/TOP						
C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-302-CCT	2	0.60	0.48	0.40	0.32	0.30
P-303-CCT	3	.66	.53	.44	.35	.33
P-304-CCT	4	.70	.56	.47	.37	.35
P-306-CCT	6	.80	.64	.53	.42	.40
P-308-CCT	8	.86	.69	.58	.46	.44
P-310-CCT	10	.95	.76	.64	.51	.46
P-312-CCT	12	1.03	.82	.69	.55	.52
P-315-CCT	15	1.60	1.33	.92	.73	.70
P-318-CCT	18	1.60	1.28	1.07	.85	.81
P-321-CCT	21	1.91	1.79	1.28	1.02	.97
P-324-CCT	24	2.24	2.19	1.50	1.20	1.14
P-327-CCT	27	2.57	2.05	1.71	1.37	1.30
P-330-CCT	30	2.89	2.31	1.93	1.54	1.46
P-333-CCT	33	3.20	2.56	2.14	1.71	1.62

PLUGS WITH CABLE CLAMPS/TOP & LOCKS						
C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-302-CCT-L	2	0.75	0.60	0.50	0.40	0.38
P-303-CCT-L	3	.81	.65	.54	.43	.41
P-304-CCT-L	4	.85	.68	.57	.45	.43
P-306-CCT-L	6	.95	.76	.63	.50	.48
P-308-CCT-L	8	1.01	.81	.68	.54	.51
P-310-CCT-L	10	1.10	.88	.74	.59	.56
P-312-CCT-L	12	1.18	.94	.79	.63	.60
P-315-CCT-L	15	1.75	1.40	1.17	.91	.89
P-318-CCT-L	18	1.75	1.40	1.17	.91	.89
P-321-CCT-L	21	2.06	1.65	1.38	1.10	1.05
P-324-CCT-L	24	2.39	1.91	1.60	1.28	1.21
P-327-CCT-L	27	2.72	2.17	1.81	1.45	1.38
P-330-CCT-L	30	3.04	2.43	2.03	1.62	1.54
P-333-CCT-L	33	3.35	2.68	2.24	1.79	1.70

PLUGS WITH CABLE CLAMPS/END						
C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-306-CCE	6	0.83	0.67	0.56	0.44	0.42
P-308-CCE	8	.90	.72	.60	.48	.46
P-310-CCE	10	.99	.79	.66	.53	.50
P-312-CCE	12	1.07	.85	.71	.57	.54
P-315-CCE	15	1.41	1.13	.94	.75	.71
P-318-CCE	18	1.64	1.31	1.09	.87	.83
P-321-CCE	21	1.95	1.56	1.30	1.04	.99
P-324-CCE	24	2.28	1.82	1.52	1.22	1.16
P-327-CCE	27	2.60	2.08	1.74	1.39	1.32
P-330-CCE	30	2.92	2.34	1.95	1.56	1.48
P-333-CCE	33	3.24	2.59	2.16	1.73	1.64

PLUGS WITH DEEP BRACKETS						
C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-302-DB	2	0.72	0.58	0.48	0.38	0.37
P-303-DB	3	.73	.58	.49	.39	.37
P-304-DB	4	.77	.61	.51	.41	.39
P-306-DB	6	.86	.68	.57	.46	.43
P-308-DB	8	.92	.74	.62	.49	.47
P-312-DB	12	1.06	.85	.71	.56	.54
P-315-DB	15	1.30	1.04	.87	.69	.66
P-318-DB	18	1.55	1.24	1.04	.83	.79
P-321-DB	21	1.86	1.49	1.24	.99	.94
P-324-DB	24	2.18	1.75	1.46	1.16	1.11
P-327-DB	27	2.50	2.00	1.67	1.33	1.27
P-330-DB	30	2.81	2.25	1.88	1.50	1.43
P-333-DB	33	3.12	2.50	2.08	1.66	1.58

PLUGS WITH SHALLOW BRACKETS						
C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-315-SB	15	1.30	1.04	0.87	0.69	0.66
P-318-SB	18	1.55	1.24	1.04	.83	.79
P-321-SB	21	1.86	1.49	1.24	.99	.94
P-324-SB	24	2.18	1.75	1.46	1.16	1.11
P-327-SB	27	2.50	2.00	1.67	1.33	1.27
P-330-SB	30	2.81	2.25	1.88	1.50	1.43
P-333-SB	33	3.12	2.50	2.08	1.66	1.58

SOCKETS WITH ANGLE BRACKETS						
C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-302-AB	2	0.31	0.25	0.21	0.16	0.16
S-303-AB	3	.35	.28	.23	.18	.18
S-304-AB	4	.39	.31	.26	.21	.20
S-306-AB	6	.49	.39	.33	.26	.25
S-308-AB	8	.59	.47	.40	.32	.30
S-310-AB	10	.69	.55	.46	.37	.35
S-312-AB	12	.82	.65	.55	.44	.41
S-315-AB	15	1.04	.83	.69	.55	.52
S-318-AB	18	1.19	.95	.80	.64	.60
S-321-AB	21	1.47	1.18	.98	.78	.75
S-324-AB	24	1.75	1.40	1.17	.93	.89
S-327-AB	27	2.03	1.62	1.35	1.08	1.03
S-330-AB	30	2.33	1.86	1.55	1.24	1.18
S-333-AB	33	2.60	2.08	1.73	1.38	1.32

SOCKETS WITH CABLE CLAMPS/TOP						
C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-302-CCT	2	0.62	0.50	0.42	0.33	0.32
S-303-CCT	3	.68	.54	.45	.36	.34
S-304-CCT	4	.72	.58	.48	.38	.37
S-306-CCT	6	.83	.66	.55	.44	.42
S-308-CCT	8	.93	.74	.62	.50	.47
S-310-CCT	10	1.05	.84	.70	.56	.53
S-312-CCT	12	1.19	.95	.79	.63	.60
S-315-CCT	15	1.52	1.22	1.02	.81	.77
S-318-CCT	18	1.73	1.38	1.15	.92	.87
S-321-CCT	21	2.05	1.64	1.37	1.09	1.04
S-324-CCT	24	2.37	1.90	1.58	1.26	1.14
S-327-CCT	27	2.69	2.13	1.80	1.44	1.36
S-330-CCT	30	3.04	2.43	2.03	1.62	1.54
S-333-CCT	33	3.35	2.68	2.24	1.79	1.70

SOCKETS WITH CABLE CLAMPS/TOP & KEYPERS						
C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-302-CCT-K	2	0.77	0.62	0.52	0.41	0.39
S-303-CCT-K	3	.83	.66	.55	.44	.42
S-304-CCT-K	4	.87	.70	.58	.46	.44
S-306-CCT-K	6	.98	.78	.65	.52	.49
S-308-CCT-K	8	1.08	.86	.72	.58	.55
S-310-CCT-K	10	1.20	.96	.80	.64	.61
S-312-CCT-K	12	1.34	1.07	.89	.71	.68
S-315-CCT-K	15	1.67	1.34	1.12	.89	.85
S-318-CCT-K	18	1.88	1.50	1.25	1.00	.95
S-321-CCT-K	21	2.20	1.76	1.47	1.17	1.11
S-324-CCT-K	24	2.52	2.02	1.68	1.34	1.28
S-327-CCT-K	27	2.84	2.27	1.90	1.52	1.44
S-330-CCT-K	30	3.19	2.55	2.13	1.70	1.62
S-333-CCT-K	33	3.50	2.80	2.34	1.87	1.78

SOCKETS WITH CABLE CLAMPS/END						
C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-306-CCE	6	0.86	0.69	0.58	0.46	0.44
S-308-CCE	8	.97	.77	.65	.52	.49
S-310-CCE	10	1.09	.87	.72	.58	.55
S-312-CCE	12	1.22	.98	.82	.65	.62
S-315-CCE	15	1.56	1.25	1.04	.84	.80
S-318-CCE	18	1.76	1.41	1.18	.94	.89
S-321-CCE	21	2.09	1.67	1.39	1.11	1.06
S-324-CCE	24	2.41	1.93	1.61	1.28	1.22
S-327-CCE	27	2.73	2.18	1.82	1.46	1.38
S-330-CCE	30	3.07	2.45	2.05	1.64	1.55
S-333-CCE	33	3.39	2.71	2.26	1.81	1.72

SOCKETS WITH DEEP BRACKETS						
C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-302-OB	2	0.74	0.59	0.50	0.40	0.38
S-303-OB	3	.74	.59	.50	.40	.38
S-304-OB	4	.79	.63	.53	.42	.40
S-306-OB	6	.89	.71	.59	.47	.45
S-308-OB	8	.99	.79	.66	.53	.50
S-312-OB	12	1.22	.97	.81	.65	.62
S-315-OB	15	1.45	1.16	.97	.77	.73
S-318-OB	18	1.68	1.34	1.12	.90	.85
S-321-OB	21	2.00	1.60	1.33	1.06	1.01
S-324-OB	24	2.32	1.85	1.55	1.24	1.17
S-327-OB	27	2.63	2.10	1.75	1.40	1.33
S-330-OB	30	2.96	2.37	1.98	1.58	1.50
S-333-OB	33	3.27	2.62	2.18	1.74	1.66

SOCKETS WITH SHALLOW BRACKETS						
C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-315-SB	15	1.45	1.16	0.97	0.77	0.73
S-318-SB	18	1.68	1.34	1.12	.90	.85
S-321-SB	21	2.00	1.60	1.33	1.06	1.01
S-324-SB	24	2.32	1.85	1.55	1.24	1.17
S-327-SB	27	2.63	2.10	1.75	1.40	1.33
S-330-SB	30	2.96	2.37	1.98	1.58	1.51
S-333-SB	33	3.27	2.62	2.18	1.74	1.66

# "Jones" Type Plugs, Sockets



400 SERIES PLUGS AND SOCKETS are rated for duty beyond the range of the 300 series. Maximum rating is 1200 volts r.m.s. at 15 amperes. Average contact resistance is .001 ohms.

2, 4, 6, 8, 10 and 12 contact sizes are available, each size being polarized and suitable for either cap or panel mounting. "Knife-switch" type socket contacts are made of cadmium-plated phosphor bronze. These contacts engage both sides of the flat plug contacts, providing double the contact area.

Plug prongs are made of cadmium-plated brass 1/4" wide by 1/16" thick. Caps are finished in black wrinkle and equipped with fibre lining.

**PLUGS WITH ANGLE BRACKETS**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-402-AB	2	0.71	0.57	0.48	0.38	0.36
P-404-AB	4	.87	.70	.58	.46	.44
P-406-AB	6	1.03	.82	.69	.55	.49
P-408-AB	8	1.19	.95	.79	.63	.60
P-410-AB	10	1.34	1.07	.90	.72	.68
P-412-AB	12	1.50	1.20	1.00	.80	.76

**PLUGS WITH CABLE CLAMPS/TOP**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-402-CCT	2	1.19	0.95	0.79	0.63	0.60
P-404-CCT	4	1.35	1.08	.90	.72	.68
P-406-CCT	6	1.55	1.24	1.04	.83	.79
P-408-CCT	8	1.72	1.37	1.15	.92	.87
P-410-CCT	10	1.98	1.58	1.32	1.06	1.00
P-412-CCT	12	2.16	1.73	1.44	1.15	1.09

**PLUGS WITH CABLE CLAMPS/END**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-402-CCE	2	1.22	0.98	0.82	0.65	0.62
P-404-CCE	4	1.39	1.11	.93	.74	.70
P-406-CCE	6	1.59	1.27	1.06	.85	.81
P-408-CCE	8	1.76	1.40	1.17	.94	.89
P-410-CCE	10	2.02	1.61	1.35	1.08	1.02
P-412-CCE	12	2.20	1.76	1.47	1.17	1.11

**PLUGS WITH DEEP BRACKETS**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-402-DB	2	0.95	0.76	0.63	0.50	0.48
P-404-DB	4	1.15	.92	.77	.61	.58
P-406-DB	6	1.35	1.08	.90	.72	.68
P-408-DB	8	1.55	1.24	1.04	.83	.79
P-410-DB	10	1.76	1.40	1.17	.94	.89
P-412-DB	12	1.96	1.57	1.31	1.04	.99

**PLUGS WITH SHALLOW BRACKETS**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-402-SB	2	0.91	0.73	0.61	0.48	0.46
P-404-SB	4	1.11	.89	.74	.59	.56
P-406-SB	6	1.31	1.05	.88	.70	.67
P-408-SB	8	1.52	1.21	1.01	.81	.77
P-410-SB	10	1.72	1.37	1.15	.92	.87
P-412-SB	12	1.92	1.54	1.28	1.02	.97

**SOCKETS WITH ANGLE BRACKETS**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-402-AB	2	0.83	0.66	0.55	0.44	0.42
S-404-AB	4	1.07	.85	.71	.57	.54
S-406-AB	6	1.31	1.04	.87	.70	.66
S-408-AB	8	1.55	1.24	1.03	.82	.78
S-410-AB	10	1.79	1.43	1.19	.95	.86
S-412-AB	12	2.03	1.62	1.35	1.08	1.03

**SOCKETS WITH CABLE CLAMPS/TOP**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	35-49	50-99	100-249	250-499
S-402-CCT	2	1.34	1.07	0.89	0.71	0.68
S-404-CCT	4	1.60	1.28	1.07	.85	.81
S-406-CCT	6	1.86	1.49	1.24	.99	.94
S-408-CCT	8	2.12	1.70	1.42	1.13	1.08
S-410-CCT	10	2.39	1.91	1.60	1.28	1.21
S-412-CCT	12	2.66	2.12	1.77	1.42	1.35

**SOCKETS WITH CABLE CLAMPS/END**

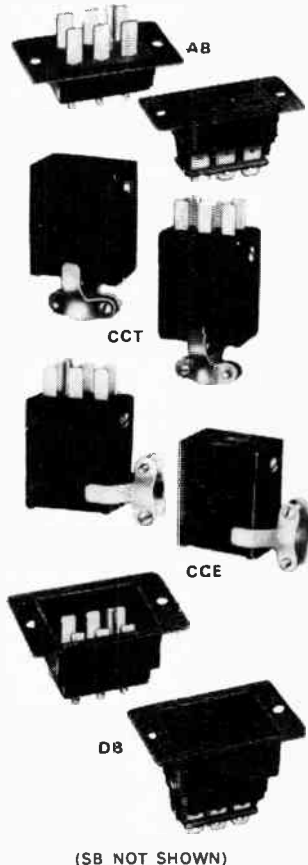
C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-402-CCE	2	1.38	1.10	0.92	0.74	0.70
S-404-CCE	4	1.64	1.31	1.10	.88	.83
S-406-CCE	6	1.91	1.52	1.27	1.02	.97
S-408-CCE	8	2.17	1.73	1.45	1.15	1.10
S-410-CCE	10	2.43	1.94	1.62	1.30	1.23
S-412-CCE	12	2.69	2.15	1.80	1.44	1.36

**SOCKETS WITH DEEP BRACKETS**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-402-DB	2	1.07	0.85	0.71	0.57	0.54
S-404-DB	4	1.35	1.08	.90	.72	.68
S-406-DB	6	1.64	1.31	1.09	.87	.83
S-408-DB	8	1.92	1.54	1.28	1.02	.97
S-410-DB	10	2.21	1.76	1.47	1.18	1.12
S-412-DB	12	2.49	1.99	1.66	1.33	1.26

**SOCKETS WITH SHALLOW BRACKETS**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-402-SB	2	1.03	0.82	0.69	0.66	0.52
S-404-SB	4	1.31	1.05	.88	.70	.67
S-406-SB	6	1.60	1.28	1.07	.85	.81
S-408-SB	8	1.88	1.51	1.26	1.00	.95
S-410-SB	10	2.17	1.73	1.45	1.16	1.10
S-412-SB	12	2.45	1.96	1.64	1.31	1.24



(SB NOT SHOWN)

2400 SERIES PLUGS AND SOCKETS are designed for excellent electrical and mechanical performance. Ratings for the 2400 Series are the same as for the 400 Series except for a higher voltage rating (1700 volts).

All units of the 2400 series are interchangeable with corresponding units of the 400 series.

**PLUGS WITH CABLE CLAMPS/TOP**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-2402-CCT	2	1.25	1.00	0.83	0.66	0.63
P-2404-CCT	4	1.42	1.13	.95	.76	.72
P-2406-CCT	6	1.59	1.27	1.06	.85	.81
P-2408-CCT	8	1.76	1.41	1.12	.94	.89
P-2410-CCT	10	1.94	1.55	1.29	1.03	.98
P-2412-CCT	12	2.03	1.63	1.36	1.08	1.03

**PLUGS WITH CABLE CLAMPS/END**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-2402-CCE	2	1.28	1.03	0.86	0.68	0.65
P-2404-CCE	4	1.46	1.16	.97	.78	.74
P-2406-CCE	6	1.63	1.30	1.09	.87	.83
P-2408-CCE	8	1.80	1.44	1.20	.96	.91
P-2410-CCE	10	1.97	1.58	1.32	1.05	1.00
P-2412-CCE	12	2.15	1.72	1.43	1.14	1.09

**PLUGS WITH DEEP BRACKETS**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-2402-DB	2	0.98	0.78	0.65	0.52	0.49
P-2404-DB	4	1.14	.91	.76	.61	.58
P-2406-DB	6	1.31	1.04	.87	.70	.66
P-2408-DB	8	1.47	1.18	.98	.78	.75
P-2410-DB	10	1.64	1.31	1.09	.87	.83
P-2412-DB	12	1.80	1.44	1.50	.96	.91

**PLUGS WITH SHALLOW BRACKETS**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-2402-SB	2	0.90	0.72	0.60	0.48	0.46
P-2404-SB	4	1.07	.85	.71	.57	.54
P-2406-SB	6	1.23	.98	.82	.66	.62
P-2408-SB	8	1.40	1.12	.93	.74	.71
P-2410-SB	10	1.56	1.25	1.04	.83	.79
P-2412-SB	12	1.73	1.38	1.15	.92	.87

**SOCKETS WITH CABLE CLAMPS/TOP**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-2402-CCT	2	1.36	1.09	0.91	0.72	0.69
S-2404-CCT	4	1.59	1.20	1.00	.80	.76
S-2406-CCT	6	1.68	1.34	1.12	.90	.85
S-2408-CCT	8	1.86	1.49	1.24	.99	.94
S-2410-CCT	10	2.04	1.63	1.36	1.09	1.03
S-2412-CCT	12	2.22	1.78	1.48	1.18	1.13

**SOCKETS WITH CABLE CLAMPS/END**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-2402-CCE	2	1.40	1.12	0.93	0.74	0.71
S-2404-CCE	4	1.54	1.23	1.03	.82	.78
S-2406-CCE	6	1.72	1.37	1.15	.92	.87
S-2408-CCE	8	1.90	1.52	1.27	1.01	.96
S-2410-CCE	10	2.08	1.66	1.39	1.11	1.05
S-2412-CCE	12	2.26	1.81	1.51	1.20	1.14

**SOCKETS WITH DEEP BRACKETS**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-2402-DB	2	1.05	0.84	0.70	0.56	0.50
S-2404-DB	4	1.22	.98	.82	.65	.62
S-2406-DB	6	1.40	1.12	.93	.74	.71
S-2408-DB	8	1.57	1.25	1.05	.84	.79
S-2410-DB	10	1.74	1.39	1.16	.93	.84
S-2412-DB	12	1.91	1.53	1.28	1.02	.97

**SOCKETS WITH SHALLOW BRACKETS**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-2402-SB	2	0.98	0.78	0.65	0.52	0.48
S-2404-SB	4	1.15	.92	.77	.61	.58
S-2406-SB	6	1.32	1.06	.88	.70	.67
S-2408-SB	8	1.49	1.19	1.00	.80	.76



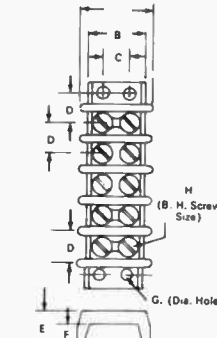
# Barrier Terminal Blocks

Interposed barriers between terminal positions in Jones Barrier Terminal Blocks produce higher voltage ratings and protection from frayed wire faults. Bakelite base has eyelets and binder screws of nickel plated brass.



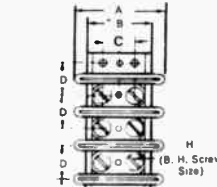
### TERMINALS

Barrier type terminal blocks are also available where indicated with "Y", "W" or "3/4 W" terminals. Made of hot-solder-dipped brass. For blocks with "W" terminals, change suffix "Y" to "W", for blocks with "3/4 W" terminals, change suffix "Y" to "3/4 W" (2-172-W, 2-172-3/4 W, etc.); same price.



### SERIES DIMENSIONS

	140	141	142	164
A	3/8"	1 1/8"	1 3/8"	3/8"
B	1 1/4"	3/8"	1 1/4"	1 1/4"
C	3/8"	2 3/8"	1/2"	3/8"
D	3/8"	3/8"	3/8"	3/8"
E	1 3/32"	1/2"	3/8"	1 3/32"
F	1/4"	3/8"	3/8"	1/4"
G	.160"	.175"	.209"	.171"
H	5/40 x 3/8"	6/32 x 1/8"	8/32 x 3/8"	6/32 x 1/8"



### SERIES DIMENSIONS

	150	151	152
A	1 1/8"	2"	2 1/2"
B	1 3/8"	1 1/2"	1 3/8"
C	3/8"	3/8"	3/8"
D	1 1/8"	3/8"	1 1/8"
E	3/8"	1 1/8"	1 1/8"
F	3/8"	1/2"	3/8"
G	.160"	.180"	.209"
H	10/32 x 3/8"	12/32 x 3/8"	1/4"/28 x 1/2"

### 140 SERIES

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
1-140	1	0.19	0.15	0.13	0.11	0.10
2-140	2	.23	.19	.16	.13	.12
3-140	3	.27	.22	.18	.15	.14
4-140	4	.33	.26	.22	.18	.17
5-140	5	.41	.32	.27	.22	.21
6-140	6	.47	.37	.31	.25	.24
7-140	7	.53	.43	.36	.28	.27
8-140	8	.61	.49	.41	.32	.31
9-140	9	.68	.54	.45	.36	.34
10-140	10	.75	.60	.50	.40	.38
11-140	11	.81	.65	.54	.43	.41
12-140	12	.89	.71	.59	.47	.45
13-140	13	.95	.76	.64	.51	.48
14-140	14	1.03	.82	.69	.55	.52
15-140	15	1.10	.88	.73	.58	.56
16-140	16	1.16	.93	.78	.62	.59
17-140	17	1.23	.98	.82	.66	.62
18-140	18	1.30	1.04	.87	.69	.66
19-140	19	1.37	1.09	.91	.73	.69
20-140	20	1.43	1.15	.96	.76	.73
21-140	21	1.51	1.21	1.01	.80	.76

### 141 SERIES

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
1-141	1	0.23	0.19	0.16	0.13	0.12
2-141	2	.26	.20	.17	.14	.13
3-141	3	.34	.27	.23	.18	.17
4-141	4	.43	.34	.29	.23	.22
5-141	5	.52	.41	.35	.28	.27
6-141	6	.59	.47	.40	.32	.30
7-141	7	.70	.56	.47	.37	.35
8-141	8	.78	.62	.52	.42	.40
9-141	9	.86	.69	.58	.46	.44
10-141	10	.96	.77	.64	.51	.49
11-141	11	1.04	.83	.70	.56	.53
12-141	12	1.13	.90	.75	.60	.57
13-141	13	1.22	.97	.81	.65	.62
14-141	14	1.31	1.04	.87	.70	.66
15-141	15	1.39	1.11	.93	.74	.70
16-141	16	1.48	1.18	.99	.79	.75
17-141	17	1.57	1.25	1.05	.84	.79
18-141	18	1.66	1.33	1.11	.88	.84
19-141	19	1.75	1.40	1.17	.93	.89
20-141	20	1.84	1.47	1.23	.98	.93

### 142 SERIES

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
1-142	1	0.26	0.20	0.17	0.14	0.13
2-142	2	.30	.24	.20	.16	.15
3-142	3	.41	.32	.27	.22	.21
4-142	4	.51	.41	.34	.27	.26
5-142	5	.62	.49	.41	.33	.31
6-142	6	.73	.58	.49	.39	.37
7-142	7	.84	.67	.56	.45	.43
8-142	8	.95	.76	.63	.50	.48
9-142	8	1.05	.84	.70	.56	.53
10-142	10	1.17	.94	.78	.62	.59
11-142	11	1.28	1.02	.85	.68	.65
12-142	12	1.39	1.11	.93	.74	.70
13-142	13	1.50	1.20	1.00	.80	.76
14-142	14	1.61	1.29	1.08	.86	.82
15-142	15	1.73	1.38	1.15	.92	.87
16-142	16	1.84	1.47	1.23	.98	.93
17-142	17	1.95	1.56	1.30	1.04	.99

### 150 SERIES

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
1-150	1	0.56	0.45	0.38	0.30	0.29
2-150	2	.75	.60	.50	.40	.38
3-150	3	1.05	.84	.70	.56	.53
4-150	4	1.36	1.09	.91	.72	.69
5-150	5	1.67	1.33	1.11	.89	.84
6-150	6	1.97	1.58	1.32	1.05	1.00
7-150	7	2.28	1.82	1.52	1.21	1.16
8-150	8	2.59	2.07	1.73	1.38	1.31
9-150	9	2.90	2.32	1.93	1.54	1.47
10-150	10	3.20	2.56	2.14	1.71	1.62

### 151 SERIES

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
1-151	1	0.83	0.66	0.55	0.44	0.42
2-151	2	1.35	1.08	.90	.72	.68
3-151	3	1.95	1.56	1.30	1.04	.99
4-151	4	2.55	2.04	1.70	1.36	1.29
5-151	5	3.15	2.52	2.10	1.68	1.59
6-151	6	3.75	3.00	2.50	2.00	1.90
7-151	7	4.35	3.48	2.90	2.32	2.20
8-151	8	4.95	3.96	3.30	2.64	2.51

### 152 SERIES

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
1-152	1	1.58	1.26	1.05	0.84	0.80
2-152	2	2.25	1.80	1.50	1.20	1.14
3-152	3	3.08	2.46	2.05	1.64	1.56
4-152	4	3.90	3.12	2.60	2.08	1.98
5-152	5	4.73	3.78	3.15	2.52	2.39
6-152	6	5.55	4.44	3.70	2.96	2.81

### 140-Y, W SERIES

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
1-140-Y	1	0.23	0.19	0.16	0.13	0.12
2-140-Y	2	.29	.23	.20	.16	.15
3-140-Y	3	.36	.29	.24	.19	.18
4-140-Y	4	.46	.37	.31	.24	.23
5-140-Y	5	.56	.45	.38	.30	.29
6-140-Y	6	.66	.53	.44	.35	.33
7-140-Y	7	.76	.61	.51	.40	.38
8-140-Y	8	.86	.69	.58	.46	.44
9-140-Y	9	.97	.77	.65	.52	.49
10-140-Y	10	1.07	.86	.72	.57	.54
11-140-Y	11	1.16	.93	.78	.62	.59
12-140-Y	12	1.27	1.01	.86	.68	.64
13-140-Y	13	1.37	1.10	.92	.73	.70
14-140-Y	14	1.48	1.18	.99	.79	.75
15-140-Y	15	1.58	1.26	1.05	.84	.80
16-140-Y	16	1.67	1.34	1.12	.89	.85
17-140-Y	17	1.78	1.42	1.19	.95	.90
18-140-Y	18	1.88	1.50	1.25	1.00	.95
19-140-Y	19	1.97	1.58	1.32	1.05	1.00
20-140-Y	20	2.07	1.66	1.38	1.10	1.05
21-140-Y	21	2.18	1.75	1.46	1.16	1.11

\*For 3/4W or W Series, substitute for Y such as 1-140-3/4W. Mounting Centers and Overall Lengths same as 140 Series. See Distributor for exact prices which are slightly higher than for Y Series.

### 141-Y, W SERIES

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
1-141-Y	1	0.28	0.22	0.19	0.15	0.14
2-141-Y	2	.35	.28	.23	.18	.18
3-141-Y	3	.47	.38	.32	.25	.24
4-141-Y	4	.61	.49	.41	.32	.31
5-141-Y	5	.74	.59	.49	.39	.37
6-141-Y	6	.85	.68	.57	.45	.43
7-141-Y	7	1.00	.80	.67	.53	.51
8-141-Y	8	1.12	.89	.75	.60	.57
9-141-Y	9	1.24	.99	.83	.66	.63
10-141-Y	10	1.38	1.10	.92	.74	.70
11-141-Y	11	1.51	1.21	1.01	.80	.76
12-141-Y	12	1.64	1.31	1.09	.87	.83
13-141-Y	13	1.78	1.42	1.19	.95	.90
14-141-Y	14	1.91	1.53	1.28	1.02	.97
15-141-Y	15	2.04	1.63	1.38	1.09	1.03
16-141-Y	16	2.18	1.75	1.46	1.16	1.11
17-141-Y	17	2.32	1.85	1.55	1.24	1.17
18-141-Y	18	2.45	1.96	1.64	1.31	1.24
19-141-Y	19	2.60	2.08	1.73	1.38	1.32
20-141-Y	20	2.73	2.18	1.82	1.46	1.38

\*For 3/4W or W Series, substitute for Y, such as 1-141-3/4W. Mounting Centers and Overall Lengths same as 141 Series. See Distributor for exact prices which are slightly higher than for Y Series.

### 142-Y, W SERIES

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
1-142-Y	1	0.31	0.25	0.21	0.16	0.16
2-142-Y	2	.42	.34	.28	.22	.21
3-142-Y	3	.57	.46	.38	.30	.29
4-142-Y	4	.74	.59	.49	.39	.37
5-142-Y	5	.89	.71	.60	.48	.45
6-142-Y	6	1.07	.85	.71	.57	.54
7-142-Y	7	1.23	.98	.82	.66	.62
8-142-Y	8	1.39	1.11	.93	.74	.70
9-142-Y	9	1.55	1.24	1.03	.82	.78
10-142-Y	10	1.73	1.38	1.15	.92	.87
11-142-Y	11	1.88	1.51	1.26	1.00	.95
12-142-Y	12	2.05	1.64	1.37	1.09	1.04
13-142-Y	13	2.22	1.78	1.48	1.18	1.13
14-142-Y	14	2.38	1.90	1.59	1.27	1.21
15-142-Y	15	2.55	2.04	1.70	1.36	1.29
16-142-Y	16	2.72	2.18	1.82	1.45	1.38
17-142-Y	17	2.88	2.30	1.92	1.54	1.46

\*For 3/4W or W Series, substitute for Y, such as 1-142-3/4W. Mounting Centers and Overall Lengths same as 142 Series. See Distributor for exact prices which are slightly higher than for Y Series.

### 164 SERIES

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-2	

# Barrier Terminal Blocks



The new 500 series Jones Barrier Terminal Blocks are designed for applications where electrical and mechanical performance requirements are especially critical. Bottoms are closed so that insulating strips are not required. Knockouts are molded into the base so that Y terminals can be accommodated if desired. The heavy construction adds strength to the block, minimizing warpage and shrinkage. A top-mounted marker strip can be furnished.

**ELECTRICAL RATINGS**

Series	Max. Volts r.m.s. Without Marker Strip	Max. Volts r.m.s. With Marker Strip	Max. Current In Amps	Max. Watts per terminal
140	1100	1200	15	3,750
141	1100	1600	20	5,000
142	1600	2500	30	7,500
150	1700	2600	50	12,500
151	1800	3400	70	17,500
152	2100	3800	90	54,000
164	1100	1200	15	3,750
174	1000	2000*	5	625
540	2300	—	15	—
541	2800	—	20	—
542	4000	—	30	—

\*No marker strip available for Series 174.

**171 SERIES**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
2-171	2	.27	.22	.18	.14	.14
3-171	3	.44	.37	.30	.24	.24
4-171	4	.60	.52	.43	.34	.34
5-171	5	.76	.67	.55	.44	.44
6-171	6	.93	.82	.67	.54	.54
7-171	7	1.10	.97	.79	.63	.63
8-171	8	1.27	1.12	.91	.73	.73

**172 SERIES**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
2-172	2	.47	.37	.31	.25	.24
3-172	3	.69	.57	.47	.38	.37
4-172	4	.92	.78	.64	.51	.50
5-172	5	1.15	.99	.82	.66	.65
6-172	6	1.38	1.20	.99	.80	.78
7-172	7	1.61	1.41	1.17	.95	.93
8-172	8	1.84	1.61	1.34	1.09	1.07
9-172	9	2.07	1.82	1.51	1.22	1.20
10-172	10	2.30	2.03	1.68	1.35	1.33
11-172	11	2.53	2.23	1.87	1.50	1.48
12-172	12	2.76	2.43	2.04	1.64	1.62
13-172	13	2.99	2.63	2.21	1.77	1.75
14-172	14	3.22	2.83	2.38	1.90	1.88

**172-Y, 3/4W, W SERIES**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
2-172-Y	2	0.53	0.43	0.36	0.28	0.27
3-172-Y	3	.69	.57	.47	.37	.35
4-172-Y	4	.84	.70	.56	.45	.43
5-172-Y	5	1.00	.80	.67	.53	.51
6-172-Y	6	1.16	.92	.77	.62	.59
7-172-Y	7	1.31	1.05	.88	.70	.67
8-172-Y	8	1.47	1.18	.98	.78	.75
9-172-Y	9	1.62	1.30	1.08	.86	.82
10-172-Y	10	1.78	1.42	1.19	.95	.90
11-172-Y	11	1.94	1.55	1.29	1.03	.98
12-172-Y	12	2.09	1.67	1.40	1.12	1.06
13-172-Y	13	2.25	1.80	1.50	1.20	1.14
14-172-Y	14	2.40	1.92	1.60	1.28	1.22

\*For 3/4W and W Series, substitute for Y, such as 2-172-3/4W Mounting Centers and Overall Lengths same as 172 Series.

**173 SERIES**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
2-173	2	0.28	.22	.19	.15	.14
3-173	3	.43	.35	.30	.24	.24
4-173	4	.57	.46	.38	.30	.29
5-173	5	.71	.58	.48	.38	.37
6-173	6	.86	.70	.57	.46	.45
7-173	7	1.00	.82	.67	.54	.53
8-173	8	1.14	.94	.77	.62	.61
9-173	9	1.28	1.05	.86	.70	.69
10-173	10	1.42	1.17	.96	.78	.77

**174 SERIES**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
2-174	2	.23	.18	.15	.12	.11
3-174	3	.38	.30	.25	.20	.19
4-174	4	.53	.42	.35	.28	.27
5-174	5	.68	.55	.46	.37	.36
6-174	6	.83	.68	.56	.45	.44
7-174	7	.98	.80	.66	.53	.52
8-174	8	1.13	.92	.76	.61	.60
9-174	9	1.28	1.04	.86	.69	.68
10-174	10	1.43	1.16	.96	.78	.77

Mounting Centers and Overall Lengths same as 173 Series.

**JUMPERS**

C-J No.	Use With Series	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
95B	142	15c	12c	10c	8c	8c
140J-1	140	15c	12c	10c	8c	8c
141J	141	15c	12c	10c	8c	8c
141J-1	141	15c	12c	10c	8c	8c
142J-1	142	15c	12c	10c	8c	8c
142J-2	142	15c	12c	10c	8c	8c
540J	540	15c	12c	10c	8c	8c
541J	541	15c	12c	10c	8c	8c
542J	542	15c	12c	10c	8c	8c

**540 SERIES**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
2-540	2	\$0.50	\$0.40	\$0.34	\$0.27	\$0.26
3-540	3	.62	.50	.42	.33	.32
4-540	4	.75	.60	.50	.40	.38
5-540	5	.88	.70	.58	.47	.45
6-540	6	1.00	.80	.67	.53	.51
7-540	7	1.13	.90	.75	.60	.57
8-540	8	1.25	1.00	.84	.67	.64
9-540	9	1.37	1.10	.92	.73	.70
10-540	10	1.50	1.20	1.00	.80	.76
11-540	11	1.63	1.30	1.09	.87	.83
12-540	12	1.76	1.44	1.17	.93	.89
13-540	13	1.88	1.50	1.24	1.00	.96
14-540	14	2.00	1.60	1.34	1.07	1.02
15-540	15	2.12	1.70	1.42	1.13	1.08
16-540	16	2.25	1.80	1.50	1.20	1.14
17-540	17	2.38	1.90	1.59	1.27	1.21
18-540	18	2.50	2.00	1.67	1.33	1.27
19-540	19	2.63	2.10	1.75	1.40	1.33
20-540	20	2.75	2.20	1.84	1.47	1.40
21-540	21	2.87	2.30	1.91	1.53	1.46
22-540	22	3.00	2.40	2.00	1.60	1.53
23-540	23	3.13	2.50	2.09	1.67	1.60
24-540	24	3.25	2.60	2.17	1.73	1.65
25-540	25	3.38	2.70	2.25	1.80	1.71
26-540	26	3.50	2.80	2.34	1.87	1.78
27-540	27	3.62	2.90	2.41	1.93	1.84
28-540	28	3.75	3.00	2.50	2.00	1.90
29-540	29	3.88	3.10	2.59	2.07	1.97
30-540	30	4.00	3.20	2.67	2.13	2.03
31-540	31	4.13	3.30	2.75	2.20	2.09

**541 SERIES**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
2-541	2	\$0.62	\$0.50	\$0.42	\$0.33	\$0.32
3-541	3	.75	.60	.50	.40	.38
4-541	4	.88	.70	.58	.47	.45
5-541	5	1.00	.80	.67	.53	.51
6-541	6	1.13	.90	.75	.60	.57
7-541	7	1.25	1.00	.84	.67	.64
8-541	8	1.40	1.10	.92	.73	.70
9-541	9	1.50	1.20	1.00	.80	.76
10-541	10	1.63	1.30	1.09	.87	.83
11-541	11	1.76	1.44	1.17	.93	.89
12-541	12	1.88	1.50	1.24	1.00	.96
13-541	13	2.00	1.60	1.34	1.07	1.02
14-541	14	2.12	1.70	1.42	1.13	1.08
15-541	15	2.25	1.80	1.50	1.20	1.14
16-541	16	2.38	1.90	1.59	1.27	1.21
17-541	17	2.50	2.00	1.67	1.33	1.27
18-541	18	2.63	2.10	1.75	1.40	1.33
19-541	19	2.75	2.20	1.84	1.47	1.40
20-541	20	2.87	2.30	1.91	1.53	1.46
21-541	21	3.00	2.40	2.00	1.60	1.53
22-541	22	3.13	2.50	2.09	1.67	1.60
23-541	23	3.25	2.60	2.17	1.73	1.65
24-541	24	3.38	2.70	2.25	1.80	1.71
25-541	25	3.50	2.80	2.34	1.87	1.78
26-541	26	3.62	2.90	2.41	1.93	1.84
27-541	27	3.75	3.00	2.50	2.00	1.90
28-541	28	3.88	3.10	2.59	2.07	1.97
29-541	29	4.00	3.20	2.67	2.13	2.03
30-541	30	4.13	3.30	2.75	2.20	2.09

**542 SERIES**

C-J No.	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
2-542	2	\$0.67	\$0.53	\$0.45	\$0.36	\$0.34
3-542	3	.83	.67	.56	.44	.42
4-542	4	1.00	.80	.67	.53	.51
5-542	5	1.16	.93	.78	.62	.59
6-542	6	1.33	1.06	.89	.71	.69
7-542	7	1.50	1.20	1.00	.80	.76
8-542	8	1.67	1.33	1.11	.89	.84
9-542	9	1.83	1.46	1.22	.98	.93
10-542	10	2.00	1.60	1.33	1.06	1.01
11-542	11	2.17	1.73	1.45	1.16	1.10
12-542	12	2.33	1.86	1.55	1.24	1.18
13-542	13	2.50	2.00	1.67	1.33	1.27
14-542	14	2.66	2.13	1.78	1.42	1.35
15-542	15	2.82	2.26	1.89	1.51	1.44
16-542	16	3.00	2.40	2.00	1.60	1.53
17-542	17	3.17	2.53	2.11	1.69	1.62
18-542	18	3.33	2.66	2.22	1.78	1.71
19-542	19	3.50	2.80	2.33	1.86	1.79
20-542	20	3.67	2.93	2.45	1.96	1.86
21-542	21	3.83	3.07	2.56	2.04	1.94
22-542	22	4.00	3.20	2.67	2.13	2.03
23-542	23	4.16	3.33	2.78	2.22	2.11
24-542	24	4.33	3.46	2.89	2.31	2.19
25-542	25	4.50	3.60	3.00	2.40	2.28
26-542	26	4.67	3.73	3.11	2.49	2.36

**SOLDER TERMINALS**

C-J No.	W-Type	3/4 W-Type	Y-Type	Net Each, Lots of				
				1-24	25-49	50-99	100-249	250-499
W-140	3/4 W-140	Y-140	8c					



# Barrier Block Fanning Strips

Fanning strips serve as a convenient means for rapidly making and removing connections from barrier terminal blocks. They facilitate cable or harness wiring and minimize the possibility of subsequent wiring errors. Both straight and angle type fanning strips are available. Terminals are made of .032" brass, cadmium-plated. The 3/32" thick, 1/2" wide XP black phenolic mounts are furnished with a hole, in either the right or left side, for securing the cable with lacing twine. For larger sizes, use of a cable clamp is recommended.

STRAIGHT TYPE FANNING STRIPS—160 SERIES

160 SERIES Fits 140 Series Barrier Blocks 3/4" Terminal Centers	No. of Term.	160 Series		Net Each, Lots of					160B Series		Net Each, Lots of				
		C. C. Hole on left	C. C. Hole on right	1-24	25-49	50-99	100-249	250-499	C. C. Hole on left	C. C. Hole on right	1-24	25-49	50-99	100-249	250-499
2	2-160-L	2-160-R	0.19	0.15	0.13	0.11	0.10	2-160B-L	2-160B-R	0.23	0.19	0.16	0.13	0.12	
3	3-160-L	3-160-R	.23	.19	.16	.13	.12	3-160B-L	3-160B-R	.29	.23	.20	.16	.15	
4	4-160-L	4-160-R	.29	.23	.20	.16	.15	4-160B-L	4-160B-R	.38	.30	.25	.20	.19	
5	5-160-L	5-160-R	.34	.27	.23	.18	.17	5-160B-L	5-160B-R	.46	.37	.31	.24	.22	
6	6-160-L	6-160-R	.38	.30	.25	.20	.19	6-160B-L	6-160B-R	.55	.44	.37	.29	.28	
7	7-160-L	7-160-R	.44	.35	.29	.23	.22	7-160B-L	7-160B-R	.61	.49	.41	.32	.31	
8	8-160-L	8-160-R	.48	.38	.32	.26	.24	8-160B-L	8-160B-R	.75	.60	.50	.40	.38	
9	9-160-L	9-160-R	.55	.44	.37	.29	.28	9-160B-L	9-160B-R	.83	.67	.56	.44	.42	
10	10-160-L	10-160-R	.61	.49	.41	.32	.31	10-160B-L	10-160B-R	.90	.72	.60	.48	.46	
11	11-160-L	11-160-R	.67	.53	.45	.36	.34	11-160B-L	11-160B-R	1.00	.80	.67	.53	.51	
12	12-160-L	12-160-R	.75	.60	.50	.40	.38	12-160B-L	12-160B-R	1.04	.83	.70	.56	.53	
13	13-160-L	13-160-R	.82	.65	.55	.44	.41	13-160B-L	13-160B-R	1.15	.92	.77	.61	.58	
14	14-160-L	14-160-R	.86	.68	.57	.46	.43	14-160B-L	14-160B-R	1.25	1.00	.84	.67	.64	
15	15-160-L	15-160-R	.90	.72	.60	.48	.46	15-160B-L	15-160B-R	1.34	1.07	.87	.71	.68	
16	16-160-L	16-160-R	.97	.77	.65	.52	.49	16-160B-L	16-160B-R	1.42	1.13	.95	.76	.72	
17	17-160-L	17-160-R	1.00	.80	.67	.53	.51	17-160B-L	17-160B-R	1.50	1.20	1.00	.80	.76	
18	18-160-L	18-160-R	1.04	.83	.70	.56	.53	18-160B-L	18-160B-R	1.61	1.28	1.07	.86	.81	
19	19-160-L	19-160-R	1.10	.88	.74	.59	.56	19-160B-L	19-160B-R	1.71	1.37	1.14	.91	.87	
20	20-160-L	20-160-R	1.15	.92	.77	.61	.58	20-160B-L	20-160B-R	1.77	1.42	1.18	.94	.90	
21	21-160-L	21-160-R	1.21	.97	.81	.64	.61	21-160B-L	21-160B-R	1.85	1.48	1.24	.99	.94	

ANGLE TYPE FANNING STRIPS—160 SERIES

160A SERIES Fits 140 Series Barrier Blocks 3/4" Terminal Centers	No. of Term.	160A SERIES		Net Each, Lots of					160BA SERIES		Net Each, Lots of				
		C. C. Hole on left	C. C. Hole on right	1-24	25-49	50-99	100-249	250-499	C. C. Hole on left	C. C. Hole on right	1-24	25-49	50-99	100-249	250-499
2	2-160-AL	2-160-AR	0.23	0.19	0.16	0.13	0.12	2-160B-AL	2-160B-AR	0.23	0.19	0.16	0.13	0.12	
3	3-160-AL	3-160-AR	.29	.23	.20	.16	.15	3-160B-AL	3-160B-AR	.29	.23	.20	.16	.15	
4	4-160-AL	4-160-AR	.38	.30	.25	.20	.19	4-160B-AL	4-160B-AR	.38	.30	.25	.20	.19	
5	5-160-AL	5-160-AR	.46	.37	.31	.24	.22	5-160B-AL	5-160B-AR	.46	.37	.31	.24	.22	
6	6-160-AL	6-160-AR	.55	.44	.37	.29	.28	6-160B-AL	6-160B-AR	.55	.44	.37	.29	.28	
7	7-160-AL	7-160-AR	.61	.49	.41	.32	.31	7-160B-AL	7-160B-AR	.61	.49	.41	.32	.31	
8	8-160-AL	8-160-AR	.75	.60	.50	.40	.38	8-160B-AL	8-160B-AR	.75	.60	.50	.40	.38	
9	9-160-AL	9-160-AR	.83	.67	.56	.44	.42	9-160B-AL	9-160B-AR	.83	.67	.56	.44	.42	
10	10-160-AL	10-160-AR	.90	.72	.60	.48	.46	10-160B-AL	10-160B-AR	.90	.72	.60	.48	.46	
11	11-160-AL	11-160-AR	1.00	.80	.67	.53	.51	11-160B-AL	11-160B-AR	1.00	.80	.67	.53	.51	
12	12-160-AL	12-160-AR	1.04	.83	.70	.56	.53	12-160B-AL	12-160B-AR	1.04	.83	.70	.56	.53	
13	13-160-AL	13-160-AR	1.15	.92	.77	.61	.58	13-160B-AL	13-160B-AR	1.15	.92	.77	.61	.58	
14	14-160-AL	14-160-AR	1.25	1.00	.84	.67	.64	14-160B-AL	14-160B-AR	1.25	1.00	.84	.67	.64	
15	15-160-AL	15-160-AR	1.34	1.07	.87	.71	.68	15-160B-AL	15-160B-AR	1.34	1.07	.87	.71	.68	
16	16-160-AL	16-160-AR	1.42	1.13	.95	.76	.72	16-160B-AL	16-160B-AR	1.42	1.13	.95	.76	.72	
17	17-160-AL	17-160-AR	1.50	1.20	1.00	.80	.76	17-160B-AL	17-160B-AR	1.50	1.20	1.00	.80	.76	
18	18-160-AL	18-160-AR	1.61	1.28	1.07	.86	.81	18-160B-AL	18-160B-AR	1.61	1.28	1.07	.86	.81	
19	19-160-AL	19-160-AR	1.71	1.37	1.14	.91	.87	19-160B-AL	19-160B-AR	1.71	1.37	1.14	.91	.87	
20	20-160-AL	20-160-AR	1.77	1.42	1.18	.94	.90	20-160B-AL	20-160B-AR	1.77	1.42	1.18	.94	.90	
21	21-160-AL	21-160-AR	1.85	1.48	1.24	.99	.94	21-160B-AL	21-160B-AR	1.85	1.48	1.24	.99	.94	

STRAIGHT TYPE—161 SERIES (FITS 141 BARRIER BLOCKS)

No. of Term.	C. C. Hole on left	C. C. Hole on right	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-499
2	2-161-L	2-161-R	0.21	0.17	0.14	0.12	0.11
3	3-161-L	3-161-R	.26	.20	.17	.14	.13
4	4-161-L	4-161-R	.29	.23	.20	.16	.15
5	5-161-L	5-161-R	.35	.28	.24	.19	.18
6	6-161-L	6-161-R	.40	.32	.27	.21	.20
7	7-161-L	7-161-R	.46	.37	.31	.24	.23
8	8-161-L	8-161-R	.50	.40	.34	.27	.26
9	9-161-L	9-161-R	.55	.44	.37	.29	.28
10	10-161-L	10-161-R	.63	.50	.42	.34	.32
11	11-161-L	11-161-R	.71	.57	.48	.38	.36
12	12-161-L	12-161-R	.77	.62	.52	.41	.39
13	13-161-L	13-161-R	.83	.67	.56	.44	.42
14	14-161-L	14-161-R	.88	.70	.59	.47	.45
15	15-161-L	15-161-R	.92	.73	.61	.49	.46
16	16-161-L	16-161-R	.98	.79	.66	.52	.50
17	17-161-L	17-161-R	1.02	.82	.68	.54	.52
18	18-161-L	18-161-R	1.10	.88	.73	.58	.55
19	19-161-L	19-161-R	1.13	.90	.75	.60	.57
20	20-161-L	20-161-R	1.19	.95	.79	.63	.60

STRAIGHT TYPE—162 SERIES (FITS 142 BARRIER BLOCKS)

No. of Term.	C. C. Hole on left	C. C. Hole on right	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-499
2	2-162-L	2-162-R	0.23	0.19	0.16	0.13	0.12
3	3-162-L	3-162-R	.27	.22	.18	.15	.14
4	4-162-L	4-162-R	.34	.27	.23	.18	.17
5	5-162-L	5-162-R	.38	.30	.25	.20	.19
6	6-162-L	6-162-R	.44	.35	.29	.23	.22
7	7-162-L	7-162-R	.48	.38	.32	.26	.24
8	8-162-L	8-162-R	.55	.44	.37	.29	.28
9	9-162-L	9-162-R	.59	.47	.39	.31	.30
10	10-162-L	10-162-R	.65	.52	.44	.35	.33
11	11-162-L	11-162-R	.73	.58	.49	.39	.37
12	12-162-L	12-162-R	.82	.65	.55	.44	.41
13	13-162-L	13-162-R	.86	.68	.57	.46	.43
14	14-162-L	14-162-R	.90	.72	.60	.48	.46
15	15-162-L	15-162-R	.96	.77	.64	.51	.49
16	16-162-L	16-162-R	1.00	.80	.67	.53	.51
17	17-162-L	17-162-R	1.04	.83	.70	.56	.53

ANGLE TYPE—161 SERIES (FITS 141 BARRIER BLOCKS)

No. of Term.	C. C. Hole on left	C. C. Hole on right	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-499
2	2-161-AL	2-161-AR	0.23	0.19	0.16	0.13	0.12
3	3-161-AL	3-161-AR	.29	.23	.20	.16	.15
4	4-161-AL	4-161-AR	.38	.30	.25	.20	.19
5	5-161-AL	5-161-AR	.46	.37	.31	.24	.23
6	6-161-AL	6-161-AR	.55	.44	.37	.29	.28
7	7-161-AL	7-161-AR	.61	.49	.41	.32	.31
8	8-161-AL	8-161-AR	.75	.60	.50	.40	.38
9	9-161-AL	9-161-AR	.83	.67	.56	.44	.42
10	10-161-AL	10-161-AR	.90	.72	.60	.48	.46
11	11-161-AL	11-161-AR	1.00	.80	.67	.53	.51
12	12-161-AL	12-161-AR	1.04	.83	.70	.56	.53
13	13-161-AL	13-161-AR	1.15	.92	.77	.61	.58
14	14-161-AL	14-161-AR	1.25	1.00	.84	.67	.64
15	15-161-AL	15-161-AR	1.34	1.07	.87	.71	.68
16	16-161-AL	16-161-AR	1.42	1.13	.95	.76	.72
17	17-161-AL	17-161-AR	1.50	1.20	1.00	.80	.76
18	18-161-AL	18-161-AR	1.61	1.28	1.07	.86	.81
19	19-161-AL	19-161-AR	1.71	1.37	1.14	.91	.87
20	20-161-AL	20-161-AR	1.77	1.42	1.18	.94	.90

ANGLE TYPE—162 SERIES (FITS 142 BARRIER BLOCKS)

No. of Term.	C. C. Hole on left	C. C. Hole on right	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-499
2	2-162-AL	2-162-AR	0.27	0.22	0.18	0.15	0.14
3	3-162-AL	3-162-AR	.34	.27	.23	.18	.17
4	4-162-AL	4-162-AR	.44	.35	.29	.23	.22
5	5-162-AL	5-162-AR	.50	.40	.34	.27	.26
6	6-162-AL	6-162-AR	.59	.47	.39	.31	.30
7	7-162-AL	7-162-AR	.65	.52	.44	.35	.33
8	8-162-AL	8-162-AR	.82	.65	.55	.49	.41
9	9-162-AL	9-162-AR	.88	.70	.59	.47	.45
10	10-162-AL	10-162-AR	.96	.77	.64	.51	.49
11	11-162-AL	11-162-AR	1.04	.83	.70	.56	.53
12	12-162-AL	12-162-AR	1.15	.92	.77	.61	.58
13	13-162-AL	13-162-AR	1.23	.98	.82	.66	.62



# Marker Strips

Marker strips are used for the purpose of labelling terminal positions on barrier terminal blocks and insulating exposed portions of terminals from metallic mounting surface. Marker strip mounting holes correspond with those on appropriate barrier terminal block. Made of 1/32" vulcanized fibre and numbered sequentially from 1 with legible white numerals. Part number indicates number of terminal positions accommodated.

"500" series marker strips are made of 1/16" XP Bakelite, 1/4" wide and numbered sequentially from 1 with 1/8" legible white numerals. Mounted on top of terminal strip as illustrated, with mounting screws furnished.

FOR 140 AND 164 SERIES TERMINAL BLOCKS (MARKER STRIPS)

C-J No.	Term.	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
MS-2-140	2	0.13	0.10	0.09	0.08	0.07
MS-3-140	3	.13	.10	.09	.08	.07
MS-4-140	4	.13	.10	.09	.08	.07
MS-5-140	5	.13	.10	.09	.08	.07
MS-6-140	6	.13	.10	.09	.08	.07
MS-7-140	7	.15	.12	.10	.09	.08
MS-8-140	8	.15	.12	.10	.09	.08
MS-9-140	9	.15	.12	.10	.09	.08
MS-10-140	10	.17	.13	.11	.10	.09
MS-11-140	11	.17	.13	.11	.10	.09
MS-12-140	12	.17	.13	.11	.10	.09
MS-13-140	13	.19	.15	.13	.11	.10
MS-14-140	14	.19	.15	.13	.11	.10
MS-15-140	15	.19	.15	.13	.11	.10
MS-16-140	16	.21	.17	.14	.12	.11
MS-17-140	17	.21	.17	.14	.12	.11
MS-18-140	18	.21	.17	.14	.12	.11
MS-19-140	19	.23	.19	.16	.13	.12
MS-20-140	20	.23	.19	.16	.13	.12
MS-21-140	21	.23	.19	.16	.13	.12

FOR 141 SERIES TERMINAL BLOCKS

C-J No.	Term.	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
MS-2-141	2	0.13	0.10	0.09	0.08	0.07
MS-3-141	3	.13	.10	.09	.08	.07
MS-4-141	4	.13	.10	.09	.08	.07
MS-5-141	5	.15	.12	.10	.09	.08
MS-6-141	6	.15	.12	.10	.09	.08
MS-7-141	7	.15	.12	.10	.09	.08
MS-8-141	8	.17	.13	.11	.10	.09
MS-9-141	9	.17	.13	.11	.10	.09
MS-10-141	10	.17	.13	.11	.10	.09
MS-11-141	11	.19	.15	.13	.11	.10
MS-12-141	12	.19	.15	.13	.11	.10
MS-13-141	13	.21	.17	.14	.12	.11
MS-14-141	14	.21	.17	.14	.12	.11
MS-15-141	15	.23	.19	.16	.13	.12
MS-16-141	16	.23	.19	.16	.13	.12
MS-17-141	17	.26	.20	.17	.14	.13
MS-18-141	18	.26	.20	.17	.14	.13
MS-19-141	19	.27	.22	.18	.15	.14
MS-20-141	20	.27	.22	.18	.15	.14

FOR 142 SERIES TERMINAL BLOCKS

C-J No.	Term.	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
MS-2-142	2	0.13	0.10	0.09	0.08	0.07
MS-3-142	3	.13	.10	.09	.08	.07
MS-4-142	4	.15	.12	.10	.09	.08
MS-5-142	5	.15	.12	.10	.09	.08
MS-6-142	6	.15	.12	.10	.09	.08
MS-7-142	7	.17	.13	.11	.10	.09
MS-8-142	8	.17	.13	.11	.10	.09
MS-9-142	9	.19	.15	.13	.11	.10
MS-10-142	10	.21	.17	.14	.12	.11
MS-11-142	11	.21	.17	.14	.12	.11
MS-12-142	12	.23	.19	.16	.13	.12
MS-13-142	13	.23	.19	.16	.13	.12
MS-14-142	14	.26	.20	.17	.14	.13
MS-15-142	15	.26	.20	.17	.14	.13
MS-16-142	16	.29	.23	.20	.16	.15
MS-17-142	17	.32	.25	.21	.17	.16

FOR 540 SERIES TERMINAL BLOCKS

C-J No.	Term.	Net Each, Lots of			
		1-24	25-49	50-99	100-249
MSX-2-540	2	0.17	0.13	0.11	0.10
MSX-3-540	3	.17	.13	.11	.10
MSX-4-540	4	.17	.13	.11	.10
MSX-5-540	5	.17	.13	.11	.10
MSX-6-540	6	.17	.13	.11	.10
MSX-7-540	7	.17	.13	.11	.10
MSX-8-540	8	.17	.13	.11	.10
MSX-9-540	9	.17	.13	.11	.10
MSX-10-540	10	.17	.13	.11	.10
MSX-11-540	11	.19	.15	.13	.11
MSX-12-540	12	.19	.15	.13	.11
MSX-13-540	13	.21	.17	.14	.12
MSX-14-540	14	.21	.17	.14	.12
MSX-15-540	15	.23	.19	.16	.13
MSX-16-540	16	.23	.19	.16	.13
MSX-17-540	17	.26	.20	.17	.14
MSX-18-540	18	.26	.20	.17	.14
MSX-19-540	19	.27	.22	.18	.15
MSX-20-540	20	.27	.22	.18	.15
MSX-21-540	21	.27	.22	.18	.15
MSX-22-540	22	.23	.19	.16	.13

C-J No.	Term.	Net Each, Lots of			
		1-24	25-49	50-99	100-249
MSX-23-540	23	.23	.19	.16	.13
MSX-24-540	24	.23	.19	.16	.13
MSX-25-540	25	.23	.19	.16	.13
MSX-26-540	26	.23	.19	.16	.13
MSX-27-540	27	.23	.19	.16	.13
MSX-28-540	28	.23	.19	.16	.13
MSX-29-540	29	.23	.19	.16	.13
MSX-30-540	30	.23	.19	.16	.13
MSX-31-540	31	.23	.19	.16	.13

FOR 541 SERIES TERMINAL BLOCKS

C-J No.	Term.	Net Each, Lots of			
		1-24	25-49	50-99	100-249
MSX-2-541	2	0.17	0.13	0.11	0.10
MSX-3-541	3	.17	.13	.11	.10
MSX-4-541	4	.17	.13	.11	.10
MSX-5-541	5	.17	.13	.11	.10
MSX-6-541	6	.17	.13	.11	.10
MSX-7-541	7	.17	.13	.11	.10
MSX-8-541	8	.17	.13	.11	.10
MSX-9-541	9	.17	.13	.11	.10
MSX-10-541	10	.17	.13	.11	.10
MSX-11-541	11	.19	.15	.13	.11
MSX-12-541	12	.19	.15	.13	.11
MSX-13-541	13	.19	.15	.13	.11
MSX-14-541	14	.19	.15	.13	.11
MSX-15-541	15	.19	.15	.13	.11
MSX-16-541	16	.21	.17	.14	.12
MSX-17-541	17	.21	.17	.14	.12
MSX-18-541	18	.21	.17	.14	.12
MSX-19-541	19	.21	.17	.14	.12
MSX-20-541	20	.21	.17	.14	.12
MSX-21-541	21	.26	.20	.17	.14
MSX-22-541	22	.26	.20	.17	.14
MSX-23-541	23	.27	.22	.18	.15
MSX-24-541	24	.27	.22	.18	.15
MSX-25-541	25	.27	.22	.18	.15
MSX-26-541	26	.27	.22	.18	.15
MSX-27-541	27	.27	.22	.18	.15
MSX-28-541	28	.29	.23	.20	.16
MSX-29-541	29	.29	.23	.20	.16
MSX-30-541	30	.29	.23	.20	.16

FOR 542 SERIES TERMINAL BLOCKS

C-J No.	Term.	Net Each, Lots of			
		1-24	25-49	50-99	100-249
MSX-2-542	2	0.17	0.13	0.11	0.10
MSX-3-542	3	.17	.13	.11	.10
MSX-4-542	4	.17	.13	.11	.10
MSX-5-542	5	.17	.13	.11	.10
MSX-6-542	6	.17	.13	.11	.10
MSX-7-542	7	.19	.15	.13	.11
MSX-8-542	8	.19	.15	.13	.11
MSX-9-542	9	.19	.15	.13	.11
MSX-10-542	10	.19	.15	.13	.11
MSX-11-542	11	.19	.15	.13	.11
MSX-12-542	12	.21	.17	.14	.12
MSX-13-542	13	.21	.17	.14	.12
MSX-14-542	14	.21	.17	.14	.12
MSX-15-542	15	.21	.17	.14	.12
MSX-16-542	16	.26	.20	.17	.14
MSX-17-542	17	.26	.20	.17	.14
MSX-18-542	18	.26	.20	.17	.14
MSX-19-542	19	.27	.22	.18	.15
MSX-20-542	20	.27	.22	.18	.15
MSX-21-542	21	.27	.22	.18	.15
MSX-22-542	22	.27	.22	.18	.15
MSX-23-542	23	.27	.22	.18	.15
MSX-24-542	24	.29	.23	.20	.16
MSX-25-542	25	.29	.23	.20	.16
MSX-26-542	26	.29	.23	.20	.16



"Y" TYPE AVAILABLE AT SLIGHT EXTRA COST



# Printed Circuit Edge Connectors

## BIFURCATED CONTACT EDGE CONNECTORS



Designed for minimum printed circuit card wear, low insertion force and positive contact with printed circuit board. Insulation is glass-filled diallyl phthalate, type SDG-F per MIL-M-14. Contacts are of phosphor bronze with .00003" minimum gold plated. Types 250, 251 and 252 utilize bifurcated contacts, permitting two flexing surfaces instead of one for positive contact.

Bifurcated contacts are especially recommended for added contact reliability where vibration or printed circuit board irregularities would otherwise cause trouble. Connectors meet requirements of MIL-C-21097A (Ships) where applicable. One plastic polarizing key furnished unassembled. Rating: 830 v. AC rms.

TYPE 250		C-J No.	Cont. Pos.	No. of Cont.	Net Each. Lots of				
1-24	25-49				50-99	100-249	250-499		
50-6A-20	6	6	1.23	0.98	0.82	0.66	0.62		
50-10A-20	10	10	1.65	1.32	1.10	.88	.84		
50-12A-20	12	12	1.86	1.49	1.24	.99	.94		
50-15A-20	15	15	2.18	1.74	1.45	1.16	1.10		
50-18A-20	18	18	2.49	1.99	1.66	1.33	1.26		
50-22A-20	22	22	2.91	2.33	1.94	1.55	1.47		
50-25A-20	25	25	3.47	2.77	2.31	1.85	1.76		

TYPE 251		C-J No.	Cont. Pos.	No. of Cont.	Net Each. Lots of				
1-24	25-49				50-99	100-249	250-499		
50-12A-30	6	12	1.23	0.98	0.82	0.66	0.62		
50-20A-30	10	20	1.65	1.32	1.10	.88	.84		
50-24A-30	12	24	1.86	1.49	1.24	.99	.94		
50-30A-30	15	30	2.18	1.74	1.45	1.16	1.10		
50-36A-30	18	36	2.49	1.99	1.66	1.33	1.27		
50-44A-30	22	44	2.91	2.33	1.94	1.55	1.47		
50-50A-30	25	50	3.47	2.77	2.31	1.85	1.76		

TYPE 252		C-J No.	Cont. Pos.	No. of Cont.	Net Each. Lots of				
1-24	25-49				50-99	100-249	250-499		
50-12B-10	6	12	1.23	0.98	0.82	0.66	0.62		
50-20B-10	10	20	1.65	1.32	1.10	.88	.84		
50-24B-10	12	24	1.86	1.49	1.24	.99	.94		
50-30B-10	15	30	2.18	1.74	1.45	1.16	1.10		
50-36B-10	18	36	2.49	1.99	1.66	1.33	1.26		
50-44B-10	22	44	2.91	2.33	1.94	1.55	1.47		

TYPE 253		C-J No.	Cont. Pos.	No. of Cont.	Net Each. Lots of		
1-24	25-49				50-99		
50-12B-20	6	12	3.00	2.40	2.00		
50-20B-20	10	20	3.75	3.00	2.50		
50-24B-20	12	24	4.13	3.30	2.75		
50-30B-20	15	30	4.69	3.75	3.13		
50-36B-20	18	36	5.25	4.20	3.50		

## TYKON EDGE CONNECTORS



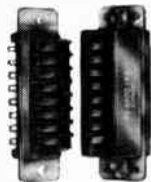
High density edge connectors with .050" centers for use with double-sided .062" printed circuit boards. Conventional wiring tails. Insulator is diallyl phthalate, type SDG-F per MIL-M-14. Contacts are phosphor bronze with .00003" gold plate. Carbon steel mounting for use in semi-flush printed circuit mounting, and cellulose acetate polarizing key available as separate items.

C-J No.	Cont. Pos.	No. of Cont.	Net Each. Lots of				
			1-24	25-49	50-99	100-249	250-499
50-12A-40	6	12	3.35	2.68	2.23	1.78	1.70
50-20A-40	10	20	4.13	3.30	2.75	2.20	2.09
50-30A-40	15	30	5.10	4.09	3.41	2.72	2.59
50-40A-40	20	40	6.08	4.86	4.05	3.24	3.08
50-50A-40	25	50	7.05	5.64	4.70	3.76	3.57
50-MC	(Mounting Clip)		.15	.12	.10	.09	.08
50-PK	(Polarizing Key)		.15	.12	.10	.09	.08

# Rack and Panel Connectors

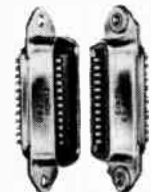
## BLUE *Ribbon* CONNECTORS

Ideal and used universally in a wide variety of applications. Proven reliability combines with smooth, easy insertion action. Self-wiping and self-cleaning contacts available in linear arrays up to 32 per unit. Barrier-type polarization and interlocking mating of dielectric bodies gives easy alignment without visual aid. Ribbon contacts "can" bend. Rectangular body for easy layout. Corrosion resistant, passivated stainless steel mounting plates are molded in. Current: 5 amps. Voltage: 800 VDC at sea level; 300 VDC at 70,000 ft. Insulator: Diallyl phthalate per MIL-M-14F. Type MIDG. Plug Contacts: Gold per MIL-G-14204 over silver per QQ-S-365 on copper per ASTM-B-152. Type ETP. Receptacle Contacts: Gold per MIL-G-14202 over silver per QQ-S-365 on phosphor bronze per ASTM-B-103-51. MIL-B-892. Grade A. Size: (Other than shown in table below): Body 3/8" w. x 1/2" d. below mtg. plate. socket; 3/4" d. plug Mtg. plate 3/8" wide. Plug mtg. holes .125" dia.; socket, in bushing .116" dia. Code: Suffix indicates number of contacts (-8, -16, etc.); S, socket; P, plug.



PLUGS		C-J No.	Con-tacts	Net Each. Lots of			
1-8	10-49			50-99	100-249		
26-4100-8P	8	1.01	.85	.69	.62		
26-4100-16P	16	1.89	1.59	1.29	1.16		
26-4100-24P	24	2.27	1.91	1.55	1.39		
26-4100-32P	32	2.64	2.22	1.80	1.62		

RECEPTACLES		C-J No.	Con-tacts	Net Each. Lots of			
1-8	10-49			50-99	100-249		
26-4200-8S	8	1.85	1.39	1.13	1.01		
26-4200-16S	16	2.40	2.02	1.64	1.47		
26-4200-24S	24	2.84	2.39	1.94	1.74		
26-4200-32S	32	3.39	2.85	2.31	2.08		

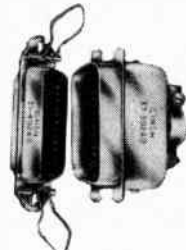


## Micro RIBBON RACK AND PANEL PLUGS and RECEPTACLES

Extremely small, ribbon-contact connectors suited for airborne and computer applications with high reliability. Shell type polarization; easily inserted or withdrawn without visual aid; self-wiping, self-cleaning contacts in units up to 50 per connector. Float-mounted receptacle prevents mis-alignment. Current: 5 amps. Voltage: 700 VDC at sea level; 200 VDC at 70,000 ft. Insulator: Diallyl phthalate per MIL-M-14F. Type MIDG. Contacts: Gold plate per MIL-G-14204 over silver plate per QQ-S-365 on cadmium bronze. ASTM-B-105. Shells: Cadmium-plated brass (ASTM-B-36, Alloy 6) with clear chromate finish. Size: Dimensions on request. Cable plugs come with hoods; chassis-mounted sockets come with spring latches.

PLUGS		C-J No.	Con-tacts	Net Each. Lots of			
1-9	10-49			50-99	100-249		
57-10140	14	1.78	1.48	1.20	1.08		
57-10240	24	2.35	1.98	1.61	1.44		
57-10360	36	2.88	2.26	1.83	1.65		
57-10500	50	3.54	2.88	2.42	2.17		

RECEPTACLES		C-J No.	Con-tacts	Net Each. Lots of			
1-9	10-49			50-99	100-249		
57-20140	14	1.80	1.52	1.23	1.11		
57-20240	24	2.40	2.02	1.64	1.47		
57-20360	36	2.75	2.31	1.88	1.69		
57-20500	50	3.59	3.02	2.45	2.20		



## CABLE TO CHASSIS PLUGS and RECEPTACLES

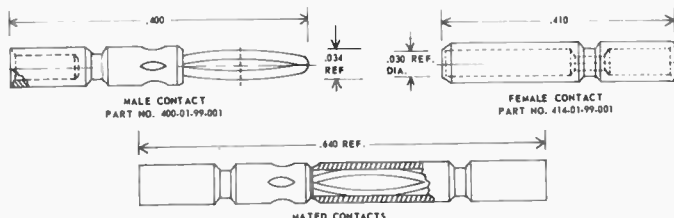
PLUGS WITH HOODS		C-J No.	Con-tacts	Net Each. Lots of			
1-9	10-49			50-99	100-249		
57-30140	14	3.37	2.83	2.30	2.07		
57-30240	24	3.70	3.11	2.62	2.27		
57-30360	36	4.53	3.81	3.09	2.78		
57-30500	50	4.97	4.18	3.39	3.05		

RECEPTACLES WITH HOODS		C-J No.	Con-tacts	Net Each. Lots of			
1-9	10-49			50-99	100-249		
57-40140	14	2.22	1.87	1.52	1.36		
57-40240	24	2.64	2.22	1.80	1.62		
57-40360	36	2.84	2.39	1.94	1.74		
57-40500	50	3.72	3.13	2.54	2.28		





# "BOW-PIN" CONTACT AND CONNECTOR STRIPS



For both miniaturization and a high degree of reliability, the Cinch "Bow-Pin" is the answer. This versatile little contact can be utilized in strip connectors (as shown), circular connectors or rack and panel connectors.

The unique "Bow-Pin" principle provides distinct advantages over conventional miniature contact devices.

**Positive contact** is assured by the flexing action of the bowed spring wire (unattached at the front end) that results when the contact is inserted into a tube having an ID smaller than the widest dimension of the bow.

**Rugged construction**—the flexing members are of relatively large cross-section to withstand abuse. No welding is used in the assembly, eliminating the possibility of heat change in spring characteristics.

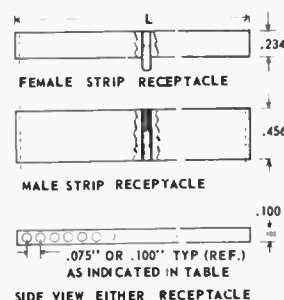
The female contact is made of copper while the male contact has a copper barrel and phosphor bronze blades. Both contacts have a finish of 30 micro-inches of gold. Contact terminations will accommodate the following wire sizes: AWG 22-24-26 solid or AWG-24-26 stranded.

**CONTACT PERFORMANCE DATA**—Individual contact insertion/withdrawal force: 2-12 ounces; Durability: 500 cycles; Current: 3 amperes; Contact resistance: .003 ohms average; Low level contact resistance: current flowed with applied voltage of .1 microvolt. Contact resistance did not vary more than  $\pm 25\%$  from the contact resistance measured at rated current. Shock: 9 blows of 50G per MIL-STD. 202C, Method 202B. Salt Spray: 48 hours per MIL-STD. 202C, Method 101B, Test condition B. Vibration: 5 to 2,000 cps at .5 inch displacement and 30G units.



## CONNECTOR STRIPS

Cinch "Bow-Pin" connector strips provide a relatively inexpensive yet highly reliable method of interconnection for a variety of ultraminiature applications. Strips are currently available with either .075" or .100" center spacing. Molded of polycarbonate resin, these strips are furnished in approximately 6" lengths and can be cut to the desired length and number of contacts.



C-J No.	Description	Centers	Length (Dimen. L)	No. of Contact Positions	Net Each, Lots of				
					1-24	25-49	50-99	100-249	250-499
28-MC	Male contact				11c	9c	8c	7c	8c
28-FC	Female contact				9c	8c	7c	6c	5c
28-M60	Male strip	.100"	6.000"	60	75c	60c	50c	40c	38c
28-F60	Female strip	.100"	6.000"	60	68c	54c	45c	36c	34c
28-M80	Male strip	.075"	6.025"	80	75c	60c	50c	40c	38c
28-F80	Female strip	.075"	6.025"	80	68c	54c	45c	36c	34c

## HINGE CONNECTORS

No contact damage due to insertion and extraction. Maximum contact in minimum space; engaged with normal pres-ure. Simple locking device insures positive contact. Spring action contacts separate units after releasing the lock. Wiping contact action for clean contacts at all times. Castings are of black Bakelite, type CFG. Contacts are of phosphor bronze, cadmium plated (.0001). Current rating is 4.5 amps. **Alternate Lock:** For more secure locking, order Alternate Lock No. 37AL separately. It has a special device to prevent accidental unlocking. **Caps:** Furnished with formed fiber liners, nickel-plated cable clamps. Designed to take the alternate lock when required. Black wrinkle finish.



C-J No.	No. of Cont.	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
37-M20L	20	2.51	2.00	1.67	1.34	1.27
37-M30L	30	2.96	2.36	1.97	1.58	1.50
37-M40L	40	3.40	2.72	2.27	1.82	1.73
37-M50L	50	3.86	3.08	2.57	2.06	1.95
37-M60L	60	4.30	3.44	2.87	2.30	2.18
37-M70L	70	4.76	3.80	3.17	2.54	2.41
37-M80L	80	5.21	4.16	3.47	2.78	2.64
37-M90L	90	5.66	4.52	3.77	3.02	2.87
37-M100L	100	6.11	4.88	4.07	3.26	3.09

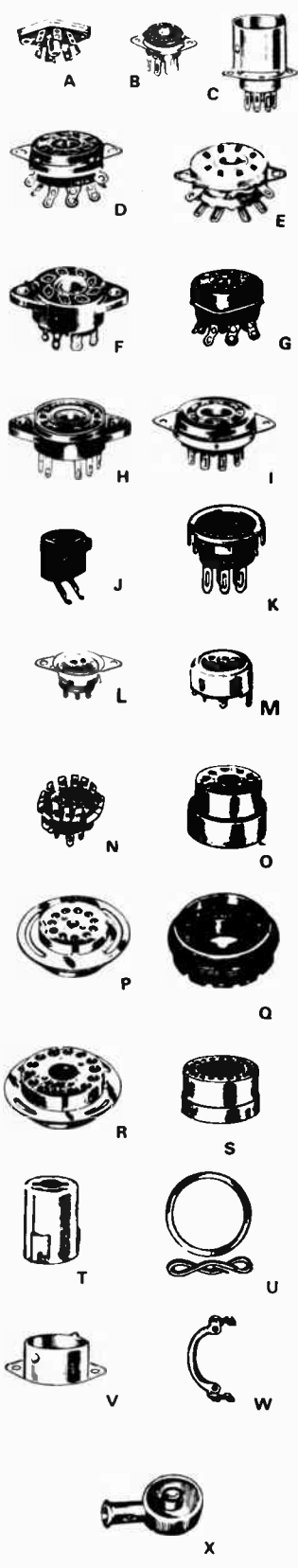
C-J No.	No. of Cont.	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
37-F20L	20	2.51	2.00	1.67	1.34	1.27
37-F30L	30	2.96	2.36	1.97	1.58	1.50
37-F40L	40	3.41	2.72	2.27	1.82	1.73
37-F50L	50	3.86	3.08	2.57	2.06	1.95
37-F60L	60	4.31	3.44	2.87	2.30	2.18
37-F70L	70	4.76	3.80	3.17	2.54	2.41
37-F80L	80	5.21	4.16	3.47	2.78	2.63
37-F90L	90	5.66	4.52	3.77	3.02	2.87
37-F100L	100	6.11	4.88	4.07	3.26	3.09

C-J No.	No. of Cont.	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
37-M20	20	2.25	1.80	1.50	1.20	1.14
37-M30	30	2.70	2.16	1.80	1.44	1.37
37-M40	40	3.15	2.52	2.10	1.68	1.60
37-M50	50	3.60	2.88	2.40	1.92	1.82
37-M60	60	4.05	3.24	2.70	2.16	2.05
37-M70	70	4.50	3.60	3.00	2.40	2.28
37-M80	80	4.95	3.96	3.30	2.64	2.51
37-M90	90	5.40	4.32	3.60	2.88	2.74
37-M100	100	5.85	4.68	3.90	3.12	2.96

C-J No.	No. of Cont.	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
37-F20	20	2.25	1.80	1.50	1.20	1.14
37-F30	30	2.70	2.16	1.80	1.44	1.37
37-F40	40	3.15	2.52	2.10	1.68	1.60
37-F50	50	3.60	2.88	2.40	1.92	1.82
37-F60	60	4.05	3.24	2.70	2.16	2.05
37-F70	70	4.50	3.60	3.00	2.40	2.28
37-F80	80	4.95	3.96	3.30	2.64	2.51
37-F90	90	5.40	4.32	3.60	2.88	2.74
37-F100	100	5.85	4.68	3.90	3.12	2.96



# Tube Sockets



C-J No.	Fig.	No. of Contacts and Tube Group	Description	Construction Materials		Top or Bottom Mount	Mtg. Ctrs.	MIL-S-12883A No.	Net Each, Lots of				
				Insulator*	Contacts†				1-24	25-49	50-99	100-249	250-499
7W2A	A	7 miniature	Wafer	A	A	Bottom	1 1/2"		\$0.11	\$0.09	\$0.08	\$0.07	\$0.06
7W12	A	7 miniature	Wafer	A	A	Bottom	1 1/2"		.09	.07	.07	.06	.05
7W14	A	7 miniature	Wafer	A	A	Both	1 1/2"		.15	.12	.10	.09	.08
7EB	B	7 miniature	Saddle	B	A	Bottom	1 1/2"		.11	.09	.08	.07	.06
7EC	B	7 miniature	Saddle	D	A	Bottom	1 1/2"		.42	.34	.28	.22	.21
7EM	B	7 miniature	Saddle	C	A	Bottom	1 1/2"		.13	.10	.09	.08	.07
7AB1	B	7 miniature	Saddle	C	A	Top	1 1/2"		.13	.10	.09	.08	.07
7JM-3	B	7 miniature	Saddle	C	B	Bottom	1 1/2"	TS1021P03	.15	.12	.10	.09	.08
7JC-3	B	7 miniature	Saddle	D	B	Bottom	1 1/2"	TS102C03	.34	.27	.23	.18	.17
7JMN-1	B	7 miniature	Saddle	C	B	Top	1 1/2"	TS102P02	.21	.17	.14	.12	.11
7JMN-2	B	7 miniature	Saddle	C	B	Top	1 1/2"	TS102P02	.21	.17	.14	.12	.11
7JCN-1	B	7 miniature	Saddle	D	B	Top	1 1/2"	TS102C02	.34	.27	.23	.18	.17
7JCN-2	C	7 miniature	Shield base	C	B	Top	1 1/2"	TS102C02	.34	.27	.23	.18	.17
7XB1	C	7 miniature	Shield base	B	A	Top	1 1/2"	TS102P01	.15	.12	.10	.09	.08
7XM1	C	7 miniature	Shield base	C	A	Top	1 1/2"		.19	.15	.13	.11	.10
7XC	C	7 miniature	Shield base	D	A	Top	1 1/2"		.40	.32	.27	.21	.20
7JC-2	C	7 miniature	Shield base	D	B	Top	1 1/2"	TS102C01	.35	.28	.24	.19	.18
8AB	D	8 octal	Saddle	F	A	Bottom	1 1/2"		.15	.12	.10	.09	.08
8AM	D	8 octal	Saddle	C	A	Bottom	1 1/2"		.13	.10	.09	.08	.07
8EB	E	8 octal	Saddle	E	A	Bottom	1 1/2"		.13	.10	.09	.08	.07
8EM	E	8 octal	Saddle	C	A	Bottom	1 1/2"		.15	.12	.10	.09	.08
8XM	F	8 octal	All-molded	C	A	Both	1 1/2"		.13	.10	.09	.08	.07
8XB	F	8 octal	All-molded	B	A	Both	1 1/2"		.11	.09	.08	.07	.06
8R1	G	8 octal	Ring mount*	E	A	Top	1 1/2"		.19	.15	.13	.11	.10
8R2	G	8 octal	Ring mount*	E	A	Top	1 1/2"		.32	.25	.21	.17	.16
8R3	G	8 octal	Ring mount*	E	A	Top	1 1/2"		.23	.19	.16	.13	.12
8R4	G	8 octal	Ring mount*	E	A	Top	1 1/2"		.32	.25	.21	.17	.16
8R5	G	8 octal	Ring mount*	C	A	Top	1 1/2"		.44	.35	.29	.23	.22
8R6	G	8 octal	Ring mount*	C	A	Top	1 1/2"		.44	.35	.29	.23	.22
8CS-B	H	8 compactron	All-molded	C	A	Both	1 1/2"		.44	.35	.29	.23	.22
8CS-M	H	8 compactron	All-molded	C	A	Both	1 1/2"		.48	.38	.32	.26	.23
9NS-B	I	9 novar	Saddle	E	A	Bottom	1 1/2"		.13	.10	.09	.08	.07
9NS-B1	I	9 novar	Saddle	E	A	Top	1 1/2"		.23	.19	.16	.13	.12
9NS-M	I	9 novar	Saddle	C	A	Bottom	1 1/2"		.17	.13	.11	.10	.09
9NS-M1	I	9 novar	Saddle	C	A	Top	1 1/2"		.26	.20	.17	.14	.13
9W1	A	9 noval	Wafer	A	A	Bottom	1 1/2"		.13	.10	.09	.08	.07
9W2	A	9 noval	Wafer	A	A	Both	1 1/2"		.13	.10	.09	.08	.07
9AB	B	9 noval	Saddle	B	A	Top	1 1/2"		.13	.10	.09	.08	.07
9AM	B	9 noval	Saddle	C	A	Top	1 1/2"		.15	.12	.10	.09	.08
9EB	B	9 noval	Saddle	B	A	Bottom	1 1/2"		.13	.10	.09	.08	.07
9EM	B	9 noval	Saddle	C	A	Bottom	1 1/2"		.15	.12	.10	.09	.08
9JM-3	B	9 noval	Saddle	C	B	Bottom	1 1/2"	TS103P03	.26	.20	.17	.14	.13
9JM-4	B	9 noval	Saddle	C	B	Bottom	1 1/2"	TS103P03	.26	.20	.17	.14	.13
9JC-1	B	9 noval	Saddle	D	B	Bottom	1 1/2"	TS103C03	.40	.32	.27	.21	.20
9JCN-3	B	9 noval	Saddle	D	B	Top	1 1/2"	TS103C02	.40	.32	.27	.21	.20
9JMN-1	B	9 noval	Saddle	C	B	Top	1 1/2"	TS103P02	.26	.20	.17	.14	.13
9JMN-2	B	9 noval	Saddle	C	B	Top	1 1/2"	TS103P02	.26	.20	.17	.14	.13
9XB	C	9 noval	Shield base	B	A	Top	1 1/2"		.19	.15	.13	.11	.10
9XM	C	9 noval	Shield base	B	A	Top	1 1/2"		.21	.17	.14	.12	.11
9XC	C	9 noval	Shield base	D	A	Top	1 1/2"		.32	.25	.21	.17	.16
9JM-2	C	9 noval	Shield base	C	B	Top	1 1/2"	TS103P01	.37	.30	.25	.20	.19
9JC-2	C	9 noval	Shield base	D	B	Top	1 1/2"	TS103C01	.48	.38	.32	.26	.23
12CS-B	H	12 compactron	All-molded	E	A	Both	1 1/2"		.15	.12	.10	.09	.08
12CS-M	H	12 compactron	All-molded	E	A	Both	1 1/2"		.59	.47	.39	.31	.30

## SPECIAL PURPOSE TUBE SOCKETS

C-J No.	Fig.	No. of Contacts and Tube Group	Description	Construction Materials		Mtg. Ctrs.	Net Each, Lots of				
				Insulator*	Contacts†		1-24	25-49	50-99	100-249	250-499
2B2	J	2 cetron	For CE701, CE702	B	A	50.75	50.60	50.50	50.40	50.38	
2M2	J	2 cetron	For CE701, CE702	C	A	1.10	.88	.74	.59	.56	
5NS	K	5 nuvistor	Crimp tab mount	C	A	.26	.20	.17	.14	.13	
5NS-1	L	5 nuvistor	Saddle	C	A	.42	.34	.28	.22	.21	
5NS-2	M	5 nuvistor	PC standoff	C	A	.23	.19	.16	.13	.12	
5NS-3	N	5 nuvistor	Heat dissipating	C	A	2.38	1.90	1.59	1.27	1.21	
7-VT	O	7 vidleon	For RCA vidleon	C	B	2.38	1.90	1.59	1.27	1.21	
8-VT7	O	8 vidleon	For RCA vidleon	C	B	4.50	3.60	3.00	2.40	2.28	
3M11	P	11 magnal	For 5B11, etc.	A	A	.61	.49	.41	.32	.31	
3B12	Q	12 duodecal	For 10BPA, etc.	B	C	1.82	1.45	1.21	.97	.92	
3M14	R	14 diheptal	CRT	B	C	1.58	1.27	1.06	.84	.80	
3M14	R	14 diheptal	CRT	C	C	1.67	1.33	1.11	.89	.84	
20-PM	S	20 photomult	For RCA 6810, etc.	F	A	5.00	4.00	3.34	2.67	2.54	

\*Insulator material: A indicates echochrome phenolic; B, black phenolic; C, MFE plastic; D, ceramic; E, high-dielectric black phenolic (CFG); F, MAI-60 Alkyd Glass Fiber (JETEC No. 20-120). †Contact material: A indicates cadmium-plated brass; B, silver-plated phosphor bronze; C, silver-plated beryllium copper. -JETEC No. ES-11. \*Crimped retaining ring furnished; mounting centers dimensions column lists chassis thickness accommodated.

## J-SLOT TUBE SHIELDS (FIG. T)

C-J No.	Description	Length, Inches	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-499
7S2	Steel	1 1/2"	\$0.15	\$0.12	\$0.10	\$0.09	\$0.08
7S3	Steel	1 1/2"	.17	.13	.11	.10	.09
7S4	Steel	2 1/2"	.23	.19	.16	.13	.12
7S2-1	MIL*, brass	1 1/2"	.23	.19	.16	.13	.12
7S3-1	MIL*, brass	1 1/2"	.26	.20	.17	.14	.13
7S4-1	MIL*, brass	2 1/2"	.29	.23	.20	.16	.15
9S1	Steel	1 1/2"	.21	.17	.14	.12	.11
9S2	Steel	1 1/2"	.21	.17	.14	.12	.11
9S3	Steel	2 1/2"	.40	.32	.27	.21	.20
9S1-1	MIL*, brass	1 1/2"	.27	.22	.18	.15	.14
9S2-1	MIL*, brass	1 1/2"	.32	.25	.21	.17	.16
9S3-1	MIL*, brass	2 1/2"	.34	.27	.23	.18	.17

\*JAN-S-28A.

## MODEL 8R0 RETAINER RING (FIG. U)

A crimped retaining ring formed of .020" spring steel. Will securely anchor sockets designed for ring mounting. Standard finish is cadmium.

C-J No. 8R0—Net Each, Lots 1-24	8c; 25-49	7c
Lots 50-99	6c; 100-249	5c; 250-499

## MOUNTING RINGS

C-J No. 3R11—Steel mounting ring for No. 3M11	
Net Each, Lots 1-24	53c; 25-49
Net Each, Lots 100-249	28c; 250-499
C-J No. 3R14—Steel mounting ring for Nos. 3B14 and 3M14	
Net Each, Lots 1-24	58c; 25-49
Net Each, Lots 100-249	31c; 250-499

## SHIELD BASES (FIG. V)

Material: 7SB2, brass; others, steel.

C-J No.	H.	Mtg. Hole	Mtg. Ctrs.	Net Each, Lots of				
				1-24	25-49	50-99	100-249	250-499
7SB1	3/8"	.125 dia.	1/2"	\$0.11	\$0.09	\$0.08	\$0.07	\$0.06
7SB2	3/8"	.125 dia.	1/2"	.15	.12	.10	.09	.08
9SB1	3/8"	1/2 dia.	1 1/2"	.13	.10	.09	.08	.07

## STRAP NUTS (FIG. W)

C-J No. 7SN—Cadmium-plated brass strap nuts for use in mounting sockets with saddles or shield bases. One strap nut takes the place of two conventional type nuts. Mounting centers, 1/4". For 7-contact sockets. Ground lugs are hot-solder-dipped. Net Each, Lots of 1-24

26c; 25-49	20c
Lots 50-99	17c; 100-249
14c; 250-499	13c

C-J No. 9SN—Same as Model 7SN except mounting centers are 1 1/2" and are for 9-contact sockets. Net Each, Lots of 1-24

27c; 25-49	22c
Lots 50-99	18c; 100-249
15c; 250-499	14c

## MODEL 3A1 SECOND ANODE CONNECTOR (FIG. X)

Snap over .096" dia. prong on side of diheptal tubes. Cadmium-plated brass contact surrounded by rubber insulator. Size, 3/4" x 1 1/4" lg.

C-J No. 3A1—Net Each, Lots 1-24	\$1.04; 25-49
Lots 50-99	70c; 100-249
	58c; 250-499



PRINTED CIRCUIT TUBE SOCKETS

Center-shield types have special tabs to prevent the tube shields from contacting the printed wire chassis.

C-J No.	Fig.	No. of Contacts and Tube Group	Description	Materials		Net Each, Lots of				
				Insulator*	Contacts†	1-24	25-49	50-99	100-249	250-499
7PC-B	A	7 miniature	Center shield and tabs	A	A	\$0.11	\$0.09	\$0.08	\$0.07	\$0.06
7PC-B1	A	7 miniature	No shield or tabs	A	A	.09	.08	.07	.06	.05
7PC-B4	B	7 miniature	Snap in; no shield or tabs	A	A	.11	.09	.08	.07	.06
7PC-M4	B	7 miniature	Snap in; no shield or tabs	B	A	.11	.09	.08	.07	.06
7PC-B5	B	7 miniature	Snap in; center shield	A	A	.11	.09	.08	.07	.06
7PC-M5	B	7 miniature	Snap in; center shield	B	A	.11	.09	.08	.07	.06
7PC-M2	E	7 miniature	Shield base, center shield and tabs	A	B	.90	.72	.60	.48	.45
9PC-B	C	9 noval	Center shield and tabs	A	A	.13	.10	.09	.08	.07
9PC-B1	C	9 noval	No shield or tabs	A	A	.13	.10	.09	.08	.07
9PC-B4	D	9 noval	Snap in; no shield or tabs	B	A	.13	.10	.09	.08	.07
9PC-M4	D	9 noval	Snap in; no shield or tabs	A	A	.13	.10	.09	.08	.07
9PC-B5	D	9 noval	Snap in; center shield	A	A	.13	.10	.09	.08	.07
9PC-M5	D	9 noval	Snap in; center shield	B	A	.13	.10	.09	.08	.07
9PC-M2	F	9 noval	Shield base, center shield and tabs	B	B	1.00	.80	.67	.53	.51

\*Insulator material: A indicates black phenolic; B, mica-filled phenolic. †Contact material: A indicates hot solder-coated brass; B, hot tinned-phosphor bronze.

SUBMINIATURE TUBE SOCKETS

Use extensively for hearing aids, radios and other electronic apparatus. Molded from mica-filled low loss Bakelite with silver-plated beryllium copper contacts. No. 514\* can be used for four prong tube or as a transistor socket. No. 514\* for printed circuits. No. 5VC for wired circuits.

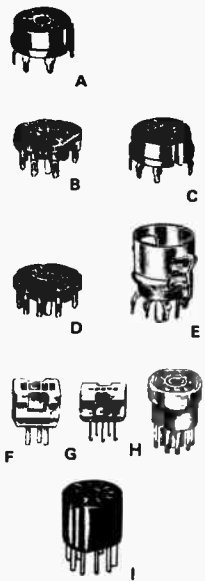
C-J No.	Pin	Fig.	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-499
2M3	3	F	\$0.23	\$0.19	\$0.16	\$0.13	\$0.12
2M5	5	G	.19	.15	.13	.11	.10
2M6	6	...	.90	.72	.60	.48	.46
2M7	7	...	.34	.27	.23	.18	.17
8SM	8	H	.50	.40	.34	.27	.26
8SM-P*	8	...	.63	.50	.42	.34	.32

\*Has mounting plate; all others include mounting ring.

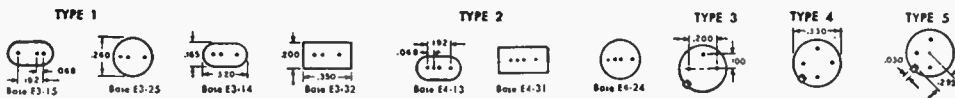
TO-5 CASE INTEGRATED CIRCUIT SOCKETS—FIG. 1

Designed especially for the interconnection of integrated circuits mounted in 6, 8 or 10 lead, TO-5 cases. Molded of diallyl phthalate, type SDG per MIL-M-18794. Contacts are beryllium copper, gold plated.

C-J	No. of Contacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
6-ICS	6	50c	40c	34c	27c	26c
8-ICS	8	61c	49c	41c	32c	31c
10-ICS	10	67c	53c	45c	36c	37c



Transistor Sockets & Accessories



UNIVERSAL TRANSISTOR SOCKETS (FIG. J)

Universal transistor socket that can be used with all transistor bases shown in illustration above. Casting is of mica-filled phenolic (MFE). Contacts are beryllium copper and are gold plated. Contacts may be used with either one or two-sided 1/4" printed circuit boards.

C-J No.	Base Type	Tabs Used (See Diag.)	Cont. Pos. Used	Net Each, Lots of				
				1-24	25-49	50-99	100-249	250-499
7UTS-1	All	A-E	1, 3, 4, 7	\$0.88	\$0.70	\$0.59	\$0.47	\$0.45
7UTS-1	1, 3	C, D, E	1, 3, 4, 7	.50	.40	.34	.27	.26
7UTS-3	3	C, D, E	1, 4, 7	.46	.37	.31	.24	.23
7UTS-4	4	A-E	1, 4, 5, 6, 7	.69	.55	.46	.37	.35
7UTS-5	5	B, D, E	1, 6, 7	.46	.37	.31	.24	.23
7UTS-6	1, 3	C, D, E	1, 3, 4, 7	.50	.40	.34	.27	.26

GENERAL PURPOSE TRANSISTOR SOCKET (FIG. K)

This new transistor socket was originally designed for an all-transistor television set; however, its future applications are many. This socket may be used in industrial communications, test equipment, ham gear, etc. Socket has a triangular base layout with 0.2" by 0.1" (JEDEC-30) contact centers, as well as three contacts in line (.048" by .192" contact centers). Casting is molded of general purpose Bakelite; contacts are phosphor bronze, cadmium plated. May be used with the following EIA base designations: E3-14, E3-15, E3-25, E3-32, E3-38, E3-39, E3-42, E3-43, E3-44, E3-51, E3-53, E3-13, E3-24, E3-31, E3-43, E3-52, ET-103-D. C-J No. 2TS-4—Net Each, Lots 1-24, 11c; 25-49, 12c; Lots 50-99, 10c; 100-249, 9c; 250-499, 8c

POWER TRANSISTOR SOCKETS LAMINATED TYPE

C-J No. 2TS-1 (Fig. L)—Top and bottom plates are of natural XP Bakelite\*, vacuum wax impregnated. Contacts are of brass, cadmium plated. Formed thread for 6-20 screw. Has .104/.110" dia. hole in CR steel plate. Provides easy attachment to a heat sink. Net Each, Lots 1-24, 11c; 25-49, 10c; 50-99, 9c; 100-249, 7c; 250-499, 6c

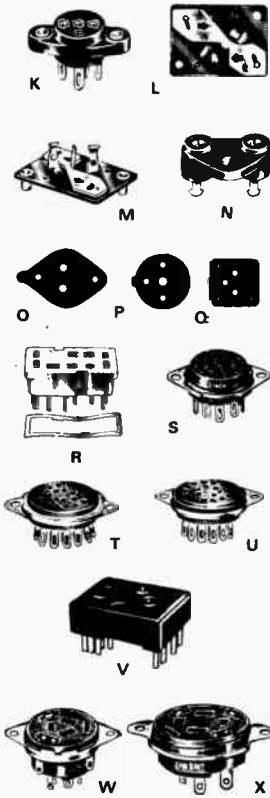
C-J No. 2TS-2 (Fig. M)—Identical with above except equipped with integral eyelets for easy assembly to chassis. Net Each, Lots 1-24, 11c; 25-49, 10c; 50-99, 9c; 100-249, 7c; 250-499, 6c

MODEL 2TS-3 MOLDED TYPE (FIG. N)  
Molded power transistor socket. Casting is molded of general purpose Bakelite. Contacts are phosphor bronze, cadmium plated. Mounting holes are .098" dia.; mounting centers are .425/.435". C-J No. 2TS-3—Net Each, Lots 1-24, 11c; 25-49, 10c; 50-99, 9c; 100-249, 7c; 250-499, 6c

POWER TRANSISTOR HEAT SINKS

Hard anodized aluminum insulator wafers for use with power transistors. Feature high thermal conductivity, high dielectric resistance, high abrasion resistance and high corrosion resistance.

C-J No.	Fig.	For Transistor	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-499
2W-1	O	Motorola 2N179, 2N176, 2N354	\$0.32	\$0.25	\$0.21	\$0.17	\$0.16
2W-2	P	Delco 2N174	.34	.27	.23	.18	.17
2W-3	Q	Texas Instr. 2N389	.32	.25	.21	.17	.16



RELAY AND CAPACITOR SOCKETS

C-J No.	Relay or Cap.	Fig.	No. of Contacts and Shape	Materials		Socket Type	Top or Bottom Mount	Mtg. Ctrs. or Size	Net Each, Lots of				
				Insulator*	Contacts†				1-24	25-49	50-99	100-249	250-499
8RS	Relay	R	8 rectangular	A	A	Clip mt.	Top	1 1/2"	\$0.50	\$0.40	\$0.34	\$0.27	\$0.26
14RS	Relay	S	14 round	A	A	Saddle	Bottom	1 1/2"	.77	.62	.52	.41	.39
14RS-2	Relay	S	14 round	A	A	Saddle	Top	1 1/2"	.77	.62	.52	.41	.39
20RS	Relay	T	20 round	A	A	Saddle	Top	1 1/2"	1.94	1.55	1.29	1.03	.98
20RS-1	Relay	T	20 round	A	A	Saddle	Bottom	1 1/2"	1.94	1.55	1.29	1.03	.98
14RS-1	Relay	U	14 round	A	A	Saddle	Bottom	1 1/2"	1.29	1.03	.86	.69	.65
16RS-1	Relay	V	16 rectangular	A	B	Saddle	Bottom	1 1/2" x 1 1/2"	1.56	1.25	1.04	.83	.79
16RS-2	Relay	V	16 rectangular	B	B	Top mt.	Top	1 1/2" x 1 1/2"	.96	.72	.60	.48	.46
16RS-3	Relay	V	16 rectangular	B	C	Top mt.	Top	1 1/2" x 1 1/2"	1.09	.87	.73	.58	.55
28RS	Relay	V	28 rectangular	B	B	Top mt.	Top	1 1/2" x 1.960"	1.35	1.08	.90	.72	.68
2C5/	Cap.	W	3 center, 2 outer	B	B	Saddle	Bottom	1 1/2"	.49	.39	.33	.26	.25
2C7/	Cap.	X	4 center, 3 outer	B	B	Saddle	Bottom	1 1/2"	.71	.57	.48	.38	.36

\*Insulator material: A indicates low mica-filled phenolic; B, high dielectric phenolic. †Contact material: A indicates silver-plated beryllium copper; B, cadmium plated; C, gold plated. ‡Fits following relays: Advance MV-2C, AEMCO 95-3274, Brubaker K110-A, Filora P-26, A1-P-6A, G.E. D300A and G-203A, P&B SL and Ace 50-6-A (single-contact type); C-J No. 20731 clip included. §Same as No. 20RS-1 with contacts removed. ¶No. 2C5 for 1" and No. 2C7 for 1 1/2" Mallory and Magnavox Type F1 capacitors; four ground lugs on saddle.

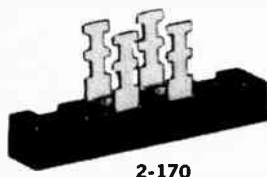


# Terminal Strips

## NO. 170 TERMINAL STRIPS

A heavy-duty solder-type terminal of .012" brass, hot solder coat-d. Insulation: Black molded Bakelite,  $\frac{1}{8}$ " wide,  $\frac{1}{4}$ " thick. Terminals mounted on  $\frac{3}{8}$ " centers. Mounting holes are  $\frac{1}{8}$ " from center of end terminals. Mounting hole size is .128.

C-J No.	No. of Terminals	Mtg. Centers	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-499
1-170	1	$\frac{3}{4}$ "	.203	.162	.135	.108	.103
2-170	2	$1\frac{1}{8}$ "	.255	.204	.17	.136	.129
3-170	3	$1\frac{1}{2}$ "	.308	.246	.205	.164	.156
4-170	4	$1\frac{3}{4}$ "	.36	.288	.24	.192	.182
5-170	5	$2\frac{1}{4}$ "	.413	.33	.275	.22	.209
6-170	6	$2\frac{3}{4}$ "	.465	.372	.31	.248	.236
7-170	7	3"	.518	.414	.345	.276	.262
8-170	8	$3\frac{1}{2}$ "	.57	.456	.38	.304	.289
9-170	9	$3\frac{3}{4}$ "	.623	.498	.415	.332	.315
10-170	10	$4\frac{1}{2}$ "	.675	.54	.45	.36	.342



## SCREW-TYPE TERMINAL STRIPS

These strips are ideal for chassis or breadboard layouts. Strips with 1 to 6 lugs are of  $\frac{1}{2}$ " bakelite; those with 7 to 10 terminals are of  $\frac{3}{4}$ " bakelite. Ends of screws are captivated to prevent removal. Terminals: Cadmium-plated brass. Spaced on  $\frac{1}{8}$ " centers. Mounting Holes: 0.136" diameter. Screws: Cadmium-plated steel.

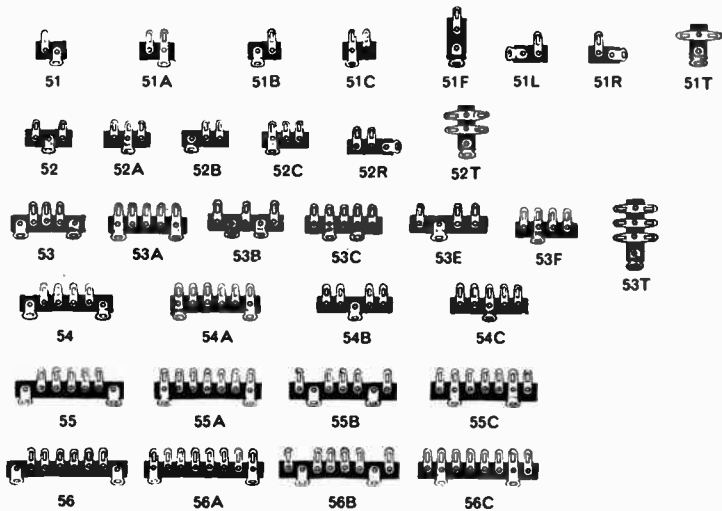
C-J No.	No. of Terminals	Mtg. Centers	Net Each, Lots of	
			1-99	100-199
17-1	1	$\frac{1}{2}$ "	.05	.025
17-2	2	$1-5/16$ "	.07	.037
17-3	3	$1\frac{1}{8}$ "	.10	.05
17-4	4	$2-3/16$ "	.14	.07
17-5	5	$2\frac{1}{4}$ "	.17	.084
17-6	6	$3-1/16$ "	.20	.10
17-7	7	$3\frac{1}{2}$ "	.25	.125
17-8	8	$3-15/16$ "	.28	.14
17-9	9	$4\frac{1}{2}$ "	.31	.155
17-10	10	$4-13/16$ "	.35	.175

## NO. 2000 TERMINAL STRIPS

These compact and sturdy junction terminal strips are useful in assembling radio chassis, wiring, etc. Terminals: .019" brass, pre tin plate spaced on  $\frac{1}{8}$ " centers. Insulation: Bakelite. Brackets: Cadmium-plated steel. Mounting holes: .140 diameter. Center of mounting hole to end of bracket:  $\frac{1}{2}$ ".

C-J No.	No. of Terminal Positions	Mtg. Hole Centers	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-499
2002	2	1"	.09	.072	.06	.048	.046
2003	3	$1-5/16$ "	.098	.078	.065	.052	.049
2004	4	$1\frac{1}{2}$ "	.113	.09	.075	.06	.057
2005	5	$1-15/16$ "	.12	.086	.08	.064	.061
2006	6	$2\frac{1}{4}$ "	.135	.108	.09	.072	.068
2007	7	$2-9/16$ "	.143	.114	.095	.076	.072
2008	8	$2\frac{3}{4}$ "	.158	.126	.105	.084	.08
2009	9	$3-3/16$ "	.173	.138	.115	.092	.087
2010	10	$3\frac{1}{2}$ "	.18	.144	.12	.096	.091
2011	11	$3-13/16$ "	.195	.156	.13	.104	.099
2012	12	$4\frac{1}{2}$ "	.203	.162	.135	.108	.103
2013	13	$4-7/16$ "	.218	.174	.145	.116	.11

## LUG-TYPE TERMINAL STRIPS



These terminal strips are handy for neatly supporting resistors, capacitors, etc. in circuit wiring. Cadmium-plated steel lugs are spaced on  $\frac{1}{8}$ " centers with 0.140" dia. mounting holes. Chocolate-colored phenolic is used. Strips are  $\frac{1}{8}$ " thick and  $\frac{1}{2}$ " wide.

C-J No.	Mtg. Centers	Net Each, Lots of		C-J No.	Mtg. Centers	Net Each, Lots of	
		1-99	100-999			1-99	100-999
51	.02	.01	53C	$\frac{1}{2}$ "	.038	.019	
51A	.02	.01	53E	...	.031	.016	
51B	.02	.01	53F	...	.032	.016	
51C	.02	.01	53T	...	.195	.098	
51F	.025	.013	54	$1\frac{1}{2}$ "	.049	.025	
51L	.02	.010	54A	$1\frac{1}{2}$ "	.049	.025	
51R	.02	.010	54B	...	.037	.019	
51T	.028	.014	54C	...	.038	.019	
52	.025	.013	55	$2\frac{1}{4}$ "	.055	.028	
52A	.026	.013	55A	$2\frac{1}{4}$ "	.056	.028	
52B	.025	.013	55B	$1\frac{1}{2}$ "	.055	.028	
52C	.028	.013	55C	$1\frac{1}{2}$ "	.056	.028	
52R	.025	.013	56	$2\frac{3}{4}$ "	.061	.03	
52T	.043	.022	56A	$2\frac{3}{4}$ "	.062	.031	
53	$1\frac{1}{2}$ "	.043	.022	56B	$1\frac{1}{2}$ "	.061	
53A	$1\frac{1}{2}$ "	.043	.022	56C	$1\frac{1}{2}$ "	.062	
53B	$\frac{3}{4}$ "	.043	.022			.03	

# CANNON® AUDIO CONNECTORS for low level circuit applications



ITT Cannon Audio Connectors are designed for use on audio/video and other low level circuit applications in the electronic/ industrial fields where reliability, quiet operation and the elimination of mechanical interference are necessary. Some common uses are: microphones, tape recorders, hi-fi equipment, medical instruments, cameras, test instrumentation and computers.

## XLR CONNECTOR SERIES

The XLR incorporates the most advanced audio/electronic design concepts. Small and compact, it features resilient insulators on the socket side plus resilient ribs for shock protection and quiet operation.

Shells are aluminum alloy (receptacles), or steel or aluminum alloy (plugs), with satin nickel finish. Insulators are rigid molded plastic (pin side), or resilient polychloroprene (socket side). Contacts are brass, silver plated. Coupling is by the latch-lock method.

### FEATURES

- **QUIET OPERATION**  
Thick aluminum cross sections for shell strength, plus resilient insulators and resilient ribs on the socket side, insure elimination of mechanical interference from shock.
- **EASY TO WORK WITH**  
Finger grips for positive handling.  
Integral cable clamp with two clamping positions for positive grip on cable sizes from 7/32 to 5/16 of an inch.  
Large internal space for ease of wiring.



XLR\*-11C  
XLR\*-11SC (steel shell)  
SOCKET  
Straight Cord Plug



XLR\*-12C  
XLR\*-12SC (steel shell)  
PIN  
Straight Cord Plug



XLR\*-13  
SOCKET  
Wall Mounting Receptacle



XLR\*-14  
PIN  
Wall Mounting Receptacle



XLR\*-13N  
SOCKET  
Panel Mounting Receptacle



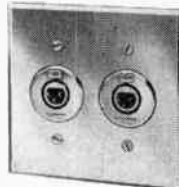
XLR\*-14N  
PIN  
Panel Mounting Receptacle



XLR\*-35  
SOCKET  
Wall Mounting Receptacle



XLR\*-36  
PIN  
Wall Mounting Receptacle



XLR\*-35-2G  
SOCKET  
Wall Mounting Receptacle



XLR\*-36-2G  
PIN  
Wall Mounting Receptacle



XLR\*-31  
SOCKET  
Wall Mounting Receptacle



XLR\*-32  
PIN  
Wall Mounting Receptacle



XLR\*-42  
PIN  
90° Wall or Microphone Receptacle



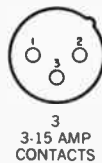
XLR\*-15  
SOCKET  
90° Cord Plug

Adapter Receptacles



XLR\*-50 (with plain shell)  
XLR\*-50N (with coupling nut)  
XLR\*-50T (with threaded barrel)

### CONTACT ARRANGEMENTS FACE VIEW OF PIN INSERTS



\*Add contact arrangement to complete part number. Example XLR-4-12C

## P CONNECTOR SERIES

The ITT Cannon P is a versatile connector in terms of the wide range of contact arrangements offered. It is a proven connector and has been the standard of quality in the audio field for many years. Socket contacts are full floating and precision-made from milled bar stock.

Shells are zinc (receptacles), or steel or zinc (plugs), with satin chrome finish. Insulators are phenolic. Contacts are brass, silver plated. Coupling is by the latch-lock method.

P Series connectors not shown.

- P\*-CG-12S Straight cord plug. (Pin)
- P\*-13 Flush panel receptacle. (Socket)
- P\*-CG-15 90° angle cord plug. (Socket)
- P\*-CG-16 90° angle cord plug. (Pin)
- P\*-17 Surface panel receptacle. (Socket)
- P\*-18 Surface panel receptacle. (Pin)
- P\*-23 Straight cord plug. (Socket)
- P\*-24 Straight cord plug. (Pin)
- P\*-35 Single gang wall receptacle. (Socket)
- P\*-36 Single gang wall receptacle. (Pin)
- P\*-35-2G Two gang wall receptacle. (Socket)
- P\*-36-2G Two gang wall receptacle. (Pin)
- P\*-41 Microphone mounting receptacle. (Socket)
- P\*-42 Microphone mounting receptacle. (Pin)

\*Add contact arrangement to complete part number. Example P2-CG-12S



P\*-CG-11S  
SOCKET  
Straight Cord Plug



P\*-14  
PIN  
Wall Mounting Receptacle

### CONTACT ARRANGEMENTS FACE VIEW OF PIN INSERTS



SEE YOUR ITT CANNON AUTHORIZED DISTRIBUTOR

CANNON ELECTRIC **ITT**  
A DIVISION OF INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**DABURN SOLDERLESS TERMINALS**

Material is pure electrolytic copper with heavy cadmium plating, chromate finish resists corrosion and assures long shelf life — one piece design for maximum conductivity and strength. Beveled edges to facilitate wire insertion, barrels are full 1/4" length, "V" grooves for wire protection.

**NON INSULATED • QUICK DISCONNECT TERMINALS**

**COLOR CODE:** For matching to wire sizes.

**RED:** For 22-16 wire, .160" I.D. **BLUE:** For 16-14 wire, .185" I.D.

**YELLOW:** For 12-10 wire, .260" I.D.

Female disconnect terminals are .020" brass, cadmium plated. Male disconnect terminals are .032" copper, cadmium plated. Beveled mouth and "V" grooves plus full 1/4" length barrels for all.

**INSULATED TERMINALS • QUICK DISCONNECT TERMINALS**

The insulated terminals have strong, permanently attached rigid vinyl insulating sleeves for increased vibration resistance.

**QUICK DISCONNECT TERMINALS  
NON-INSULATED**

Wire Size Range	Male Catalog No.	Female Catalog No.	Standard Package
22-16	21-12	21-22	100
16-14	21-13	21-23	100
12-10	21-14	21-24	100

**INSULATED**

Wire Size Range	Male Catalog No.	Female Catalog No.	Standard Package
22-16	21-17	21-27	100
16-14	21-18	21-28	100
12-10	21-19	21-29	100

**SOLDERLESS TERMINALS  
NON-INSULATED — HOOK TONGUE**

Wire Size Range	Stud Size	Catalog No.	Standard Package
22-16	6	21-31	100
	8	21-32	100
16-14	6	21-34	100
	8	21-35	100
	10	21-36	100

**INSULATED**

Wire Size Range	Stud Size	Catalog No.	Standard Package
22-16	6	21-38	100
	8	21-39	100
16-14	6	21-41	100
	8	21-42	100
	10	21-43	100

**BUTT CONNECTORS  
NON-INSULATED**

Wire Size Range	Catalog No.	I.D.	Stub Clearance	Standard Package
22-16	21-47	.140"	37/64	100
16-14	21-48	.170"	37/64	100

**INSULATED**

Wire Size Range	Catalog No.	I.D.	Stub Clearance	Standard Package
22-16	21-51	.140"	37/64	100
16-14	21-52	.170"	37/64	100

**RING TONGUE  
NON-INSULATED**

Wire Size Range	Specify Stud Sizes	Catalog No.	Standard Package
22-16	4, 6, 8, 10	21-60	100
16-14	4, 6	21-61	100
16-14	6, 8, 10	21-62	100
12-10	6, 8, 10	21-63	100
12-10	1/4	21-64	100

**INSULATED**

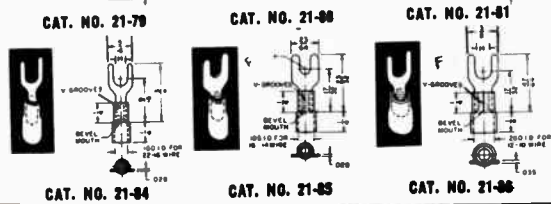
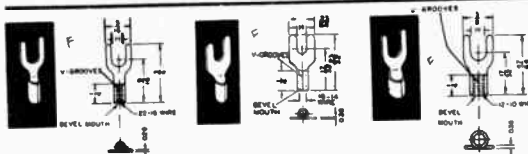
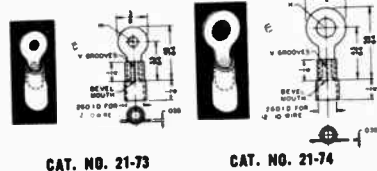
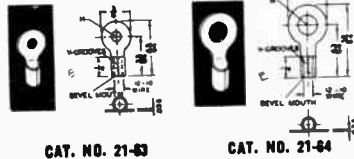
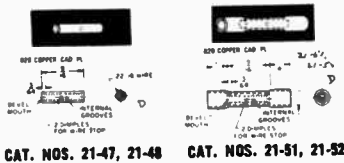
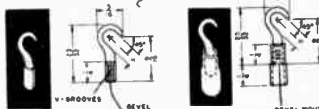
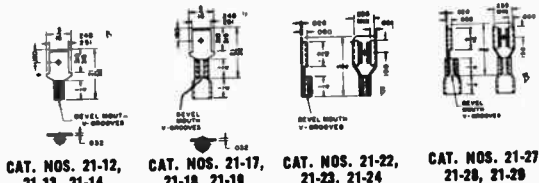
Wire Size Range	Specify Stud Sizes	Catalog No.	Standard Package
22-16	4, 6, 8, 10	21-70	100
16-14	4, 6	21-71	100
16-14	6, 8, 10	21-72	100
12-10	6, 8, 10	21-73	100
12-10	1/4	21-74	100

**SPADE TONGUE  
NON-INSULATED**

Wire Size Range	"H" Stud Sizes Specify	Catalog No.	Standard Package
22-16	4, 6, 8, 10	21-79	100
16-14	4, 6, 8, 10	21-80	100
12-10	6, 8, 10	21-81	100

**INSULATED**

Wire Size Range	Specify Stud Sizes	Catalog No.	Standard Package
22-16	4, 6, 8, 10	21-84	100
16-14	4, 6, 8, 10	21-85	100
12-10	6, 8, 10	21-86	100



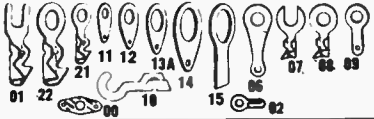
**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**LUGS — TERMINAL BOARDS, STRIPS  
BEARINGS • BUSHINGS • SPACERS**

**DABURN TINNED TERMINAL LUGS**



Daburn No.	Hole Size	Material	L'gth	Thick-ness
101-11	6	Tinned Copper	1/2"	.015"
101-12	10	Tinned Copper	5/8"	.016"
101-13	.252	Tinned Copper	1/2"	.015"
101-13A	1/4	Tinned Copper	1/4"	.015"
101-14	3/8	Tinned Copper	7/8"	.016"
101-15	1/2	Hot Tin. Copper	1 1/4"	.024"
101-21	10	Hot Tin. Copper	3/4"	.020"
101-22	1/4	Hot Tin. Copper	1 1/8"	.025"
101-00	8	Brass Hot Tin.	7/8"	.015"
101-01	10	Brass Hot Tin.	3/2"	.020"
101-02	6	Brass Hot Tin.	5/8"	.020"
101-06	4-6-8-10	Brass Hot Tin.	7/8"	.020"
101-07	8	Tinned Copper	5/8"	.016"
101-08	4-6-8-10	Brass Hot Tin.	1 1/8"	.020"
101-09	4-6-8-10	Brass Hot Tin.	1 1/8"	.020"
101-10	10	Brass Hot Tin.	7/8"	.020"

Std. Pkg. 1000

**TERMINAL LUGS**

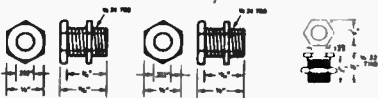


**LOCKWASHER • BRASS • HOT TINNED**

Daburn No.	Hole	Thickness	Length
101-40-4	4	.018"	7/8"
101-40-6	6	.018"	7/8"
101-40-8	8	.018"	7/8"
101-40-10	10	.018"	5/4"
101-40-14	1/4"	.018"	1 3/4"
101-41-4	4	.018"	4 3/4"
101-41-6	6	.018"	4 3/4"
101-41-8	8	.018"	4 3/4"
101-42-4	4	.018"	5/8"
101-42-6	6	.018"	5/8"
101-42-8	8	.018"	5/8"
101-43-4	4	.018"	2 3/2"
101-43-6	6	.018"	2 3/2"
101-43-8	8	.018"	2 3/2"
101-44-4	4	.018"	1 3/4"
101-44-6	6	.018"	1 3/4"
101-44-8	8	.018"	1 3/4"
101-44-10	10	.018"	5/4"
101-54-4	4	.018"	2 3/2"
101-45-6	6	.018"	2 3/2"
101-45-8	8	.018"	2 3/2"
101-46-4	4	.018"	4 3/4"
101-46-6	6	.018"	4 3/4"
101-46-8	8	.018"	4 3/4"

Std. Pkg. 1000

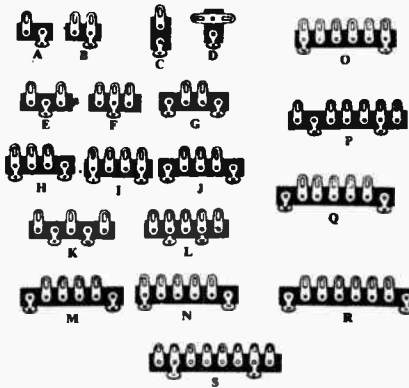
**PANEL BEARINGS**



Brass nickel plated. Same as used on the above bearing assemblies.

Daburn No.	Description	Std. Pkg.
14-370	3/8" Threaded Length	50
14-370A	1/2" Threaded Length	50
14-370B	3/8-32 Thread, 3/4" Threaded Length, 2 3/2" O.L.	50
14-370C	Miniature — 1/4-32 Thd., Threaded L'gth. 3/4", 3/8" O.L., .125" 1 1/2" Hex.	50

**LUG TERMINAL STRIPS**



**STANDARD TYPE**

Lugs are 3/8" centers with .140 diam. mounting holes. Lugs are 1/4" (.062") thick XP bakelite by 3/8" wide lugs. Special combinations available. Mount: .140 I.D. for no.6 screw.

**MINIATURE TYPE**

Lugs are 1/4" centers. Lugs are .062" thick XP bakelite x 3/8" wide. Steel cadmium plated. Mount: .096 I.D. for 3/32" rivet or No. 3 screw.

Std. Pkg. 100

Daburn No.	Illustration	Daburn No.
15-82	A	15-52
15-82A	B	15-52A
15-82B	C	15-52B
15-82C	D	15-52C
15-83	E	15-53
15-83A	F	15-53A
15-84	G	15-54
15-84A	H	15-54A
15-84B	I	15-54B
15-85	J	15-55
15-85A	K	15-55A
15-85B	L	15-55B
15-86	M	15-56
15-86A	N	15-56A
15-86B	O	15-56B
15-87	P	15-57
15-88	Q	15-58
15-89	R	15-59
15-90	S	15-60

**BAKELITE TERMINAL BOARD  
Screw Type**

Terminals made of brass hot tinned, mounted on X.P. Bakelite 3/8" wide x 1/4" thick, spaced 3/4" centers. Screws are 6-32 x 3/8" steel, cadmium plated.



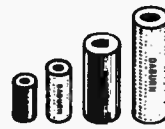
Daburn No.	Terminals	Mtg. Center	Std. Pkg.
15-72	2	1 1/4"	50
15-73	3	1 3/4"	50
15-74	4	2 1/4"	50
15-75	5	2 3/8"	50
15-76	6	3 1/4"	50
15-77	7	3 1/2"	50
15-81	SHORTING LINK		100

**DABURN TERMINAL BOARD  
Heavy Duty**

Terminals made of brass, cadmium plated .042" thick, spaced 1/2" centers. Mounted on XP bakelite 7/8" wide x 3/4" thick. Screws are 8-32 x 3/4" brass, nickel plated.

Daburn No.	Terminals	Mtg. Center	Std. Pkg.
15-61A	2	1 1/2"	25
15-61	3	2"	25
15-62	4	2 1/2"	25
15-63	5	3"	25
15-64	6	3 1/2"	25
15-65	7	4"	25
15-66	8	4 1/2"	25
15-67	9	5"	25
15-68	10	5 1/2"	25
15-69	11	6"	25
15-70	12	6 1/2"	25

**DABURN BRASS BUSHINGS  
AND SPACERS**



Suitable for raising sub panels, condensers, transformers, chassis, etc. Bushing hole accommodates a No. 4, No. 6 or No. 8 screw.

**1/4" O.D.**

Length	For No. 8 Screw Cat. No.	For No. 6 Screw Cat. No.	For No. 4 Screw Cat. No.
1/4"	14-320	14-315	14-310
3/8"	14-321	14-316	14-311
1/2"	14-322	14-317	14-312
3/4"	14-323	14-318	14-313
1"	14-324	14-319	14-314

Std. Pkg. 100

**3/8" O.D.**

Length	For No. 8 Screw Cat. No.	For No. 6 Screw Cat. No.	For No. 4 Screw Cat. No.
1/4"	14-330	14-325	14-305
3/8"	14-331	14-326	14-306
1/2"	14-332	14-327	14-307
3/4"	14-333	14-328	14-308
1"	14-334	14-329	14-309

Std. Pkg. 100

**THREADED BRASS SPACERS**

Threaded spacers for 4-40, 6-32 and 8-32 application.

**1/4" O.D.**

Length	For 8-32 Cat. No.	For 6-32 Cat. No.	For 4-40 Cat. No.
1/4"	14-340	14-335	14-300
3/8"	14-341	14-336	14-301
1/2"	14-342	14-337	14-302
3/4"	14-343	14-338	14-303
1"	14-344	14-339	14-304

Std. Pkg. 100

**DABURN FIBRE SPACERS**

Fibre material per MIL-F-1148A, Grade CH.

**1/4" O.D.**

Length	For No. 8 Screw Cat. No.	For No. 6 Screw Cat. No.	For No. 4 Screw Cat. No.
1/4"	14-365	14-360	14-355
3/8"	14-366	14-361	14-356
1/2"	14-367	14-362	14-357
3/4"	14-368	14-363	14-358
1"	14-369	14-364	14-359

Std. Pkg. 100

**DABURN HEX SPACERS  
Brass Cadmium Plated**

**1/4" Hex**

Length	For No. 8 Screw Cat. No.	For No. 6 Screw Cat. No.	For No. 4 Screw Cat. No.
1/4"	14-410	14-405	14-400
3/8"	14-411	14-406	14-401
1/2"	14-412	14-407	14-402
3/4"	14-413	14-408	14-403
1"	14-414	14-409	14-404

Std. Pkg. 100

**3/8" Hex**

Length	For No. 8 Screw Cat. No.	For No. 6 Screw Cat. No.	For No. 4 Screw Cat. No.
1/4"	14-430	14-425	14-420
3/8"	14-431	14-426	14-421
1/2"	14-432	14-427	14-422
3/4"	14-433	14-428	14-423
1"	14-434	14-429	14-424

Std. Pkg. 100

**THREADED BRASS HEX SPACERS  
1/4" Hex**

Length	Thread For 8-32 Cat. No.	Thread For 6-32 Cat. No.	Thread For 4-40 Cat. No.
1/4"	14-450	14-445	14-440
3/8"	14-451	14-446	14-441
1/2"	14-452	14-447	14-442
3/4"	14-453	14-448	14-443
1"	14-454	14-449	14-444

Std. Pkg. 100

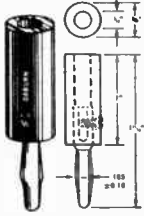
**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**BANANA, PHONE PLUGS & TIPS**

**INSULATED BANANA PLUG SOLDERLESS**

Fits standard banana jacks. Plug is brass nickel plated. Spring is four leaf phosphor bronze, nickel plated. Side set screw holds wire without soldering. Molded plastic handle.

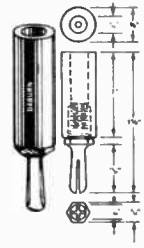


**COLORS**  
Red, Black, Yellow, Green, Blue (Specify)

DABURN No.	SPRING	Std. Pkg.
19-46	Phosphor Bronze N.P.	50
19-46A	Beryllium Copper N.P.	50

**INSULATED BANANA PLUG SOLDERLESS**

This split plug, brass N. PL., has internal brass N. PL., stud for solderless connection. Fits standard banana jacks. Molded plastic handle.



**COLORS**  
Red, Black, Yellow, Green, Blue. (Specify)

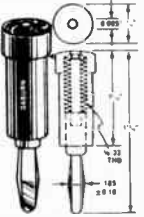
DABURN No.	Std. Pkg.
19-47	50

**BANANA PLUG**

**ADAPTER**

**TIP PLUG TO BANANA PLUG**

Fits standard banana jacks, accepts standard phone tips. Plug is brass nickel plated. Spring is four leaf phosphor bronze, nickel plated. Phone tip jack is phosphor bronze molded plastic handle and cap.



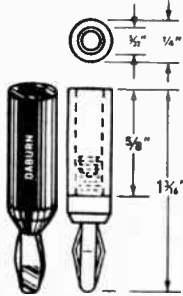
**COLORS**  
Red, Black (Specify)

DABURN No.	Std. Pkg.
19-67	50

**ADAPTER**

**INSULATED MIDGET BANANA PLUG SOLDERLESS**

Spring is four leaf phosphor bronze, or beryllium copper, nickel plated. Wire can be soldered directly into plug. Molded plastic handle. Fits standard banana jacks.



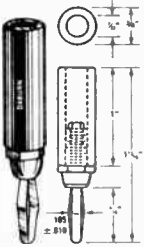
**COLORS**  
Red, Black. (Specify)

DABURN No.	Std. Pkg.
19-55	50
19-55B	50

**SPRING**  
Phosphor Bronze N.P.  
Beryllium Copper S.P.

**INSULATED BANANA PLUG SOLDERLESS**

Fits standard banana jacks. Plug is hex brass, Nickel plated. Spring is four leaf phosphor bronze nickel plated. Molded plastic handle.



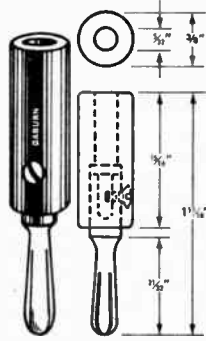
For solderless connection: wire can be passed thru hex brass N.P. stud and spread, which locks wire to plug. Wire can also be soldered directly to plug.

**COLORS**  
Red, Black, Yellow, Green, Blue. (Specify)

DABURN No.	SPRING	Std. Pkg.
19-04	Phosphor Bronze N.P.	50
19-04B	Beryllium Copper S.P.	50

**INSULATED BANANA PLUG SOLDERLESS**

Split plug, brass N. PL., with side screw fits standard banana jacks. Plug is slotted, set screw holds wire without soldering. Molded plastic handles.



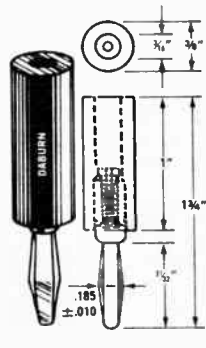
**COLORS**  
Red, Black, Yellow, Green, Blue. (Specify)

DABURN No.	Std. Pkg.
19-44	50

**BANANA PLUG**

**INSULATED BANANA PLUG SOLDERLESS**

Fits standard banana jacks. Plug is brass nickel plated. Spring is four leaf phosphor bronze nickel plated. Molded plastic handle.



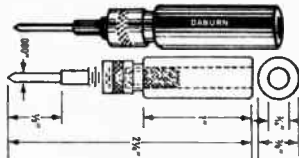
**COLORS**  
Red, Black, Yellow, Green, Blue. (Specify)

For solderless connection same as our No. 19-04.

DABURN No.	Std. Pkg.
19-65	50
19-65B	50

**SPRING**  
Phos. Bronze N.P.  
Beryllium Copper S.P.

**INSULATED PHONE TIP SOLDERLESS — SENIOR**



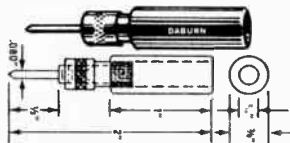
Fits standard phone tip jacks. Brass nickel plated. Solderless connection for wire which fits thru body of tip and fastens under knurled nut. Molded plastic handle.

**COLORS:** Red, Black, Yellow, Green, Blue. (Specify)

Daburn No.	Std. Pkg.
19-09	50

**Senior**

**INSULATED PHONE TIP SOLDERLESS — JUNIOR**



Fits standard phone tip jacks. Brass nickel plated. Solderless connection for wire which fits thru body of tip and fastens under knurled nut. Molded plastic handle.

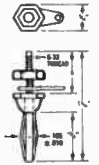
**COLORS:** Red, Black, Yellow, Green, Blue. (Specify)

Daburn No.	Std. Pkg.
19-15	50

**Junior**

**BANANA PLUG — No. 17-40**

Fits all standard banana jacks. Hex brass, nickel plated. Comes thru with hex N. PL. nut and tinned copper lug. Spring is four leaf phosphor bronze, nickel plated.



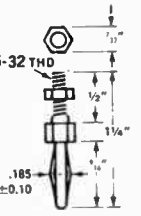
**RATED:** 15 Amps. AC.

DABURN No.	Spring	Dim. A	Std. Pkg.
17-40	Phosphor Bronze	1/2"	100
17-40A	Phosphor Bronze	3/8"	100
17-40B	Beryllium Copper	1/2"	100

**BANANA PLUG —**

**No. 17-14**

Nickel plated hex brass; spring is four leaf phosphor bronze, nickel plated. Comes thru with hex nut, nickel plated. Fits all standard banana jacks.

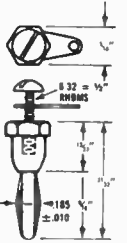


**RATED:** 15 Amps. AC.

DABURN No.	Spring	Std. Pkg.
17-14	Phosphor Bronze	100

**BANANA PLUG — No. 17-41**

Body is hex brass, nickel plated, comes thru complete with N. PL. screw and tinned copper lug; spring is four leaf phosphor bronze or beryllium copper, nickel plated. Fits all standard banana jacks.



**RATED:** 15 Amps. AC.

DABURN No.	Spring	Std. Pkg.
17-41	Phosphor Bronze	100
17-41B	Beryllium Copper	100

**MIDGET BANANA PLUG**

**RIVET TYPE**

Brass silver plated body. Spring is four leaf phosphor bronze, silver plated.

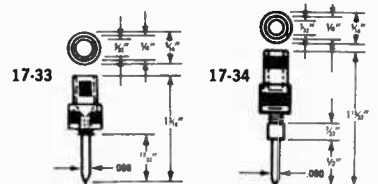
**RATED:** 10 Amps. AC.

DABURN No.	Std. Pkg.
17-26	100

Rivet Type Midget Plug

Additional Midget Plugs & Jacks Available. Also Sub-Miniature Plugs & Jacks.

**SOLDERLESS PHONE TIP PLUG**



Brass nickel plated. Both fit all standard phone tip jacks. Slipping the wire thru body of tip, then wrapping same around screw, is tightened by knurled collar.

DABURN No.	Description Type	Std. Pkg.
17-33	Junior	100
17-34	Senior	100



**DABURN**

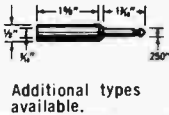
**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**TELEPHONE PLUGS • JACKS • PRINTED CIRCUIT JACK**

**TELEPHONE TYPE PLUGS**

Fits all standard phone jacks. Body tip, sleeve is brass, nickel plated. 5 amp. AC rating, continuous duty. 750V, 60 cycle AC. Specify red or black bakelite barrel.

DABURN Cat. No.	Circuit	Terminals	Std. Pkg.
19-81	2	Solder	100
19-81A	2	Screw	100
19-83	3	Solder	100
19-83A	3	Screw	100



Additional types available.

**MINIATURE PHONE PLUGS**

Insulated, molded plastic handle; brass nickel plated body; solder terminals; 5 amp. rating continuous duty.

DABURN Cat. No.	Standard Package
19-130	Solder Term. 50
19-131	Shielded 50



**SHIELDED PHONE PLUG**

DABURN Cat. No.	Circuit	Terminals	Standard Package
19-82	2	Solder	100
19-82A	2	Screw	100
19-84	3	Solder	100
19-84A	3	Screw	100

Shielded phone plug. Barrel-brass, nickel plated with tubular insulator.



**RUBBER MALE PLUG**

DABURN Cat. No.	Standard Package
9-30	2 Prong Male Plug — Brass 100 Rated: 15 Amps, 125V.



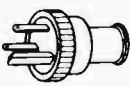
**ADAPTER FOR 3 PRONG PLUG FOR STANDARD OUTLET**

DABURN Cat. No.	Standard Package
9-19	Adapter 50



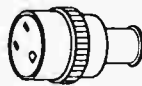
**3 PRONG MALE PLUG**

DABURN Cat. No.	Standard Package
9-17	3 Parallel Blades and Ground Pin 50



**FEMALE CONNECTOR**

DABURN Cat. No.	Standard Package
9-31	Mate to 9-17 50



**PHONO PLUGS**

**STANDARD PHONO PLUGS**

RCA Type — useful with record players, recording equipment. Extra large hole in cap .175" for coaxial cable.

DABURN Cat. No.	Standard Package
9-148	Long Pin 1" Overall 100
9-148S	Short Pin 3/8" Overall 100



**NEW RCA TYPE PHONO PLUG**

DABURN Cat. No.	Standard Package
9-147	Long Pin 1" Overall 100
147-S	Short Pin 3/8" Overall 100



**MOTOROLA TYPE PLUGS**

Nickel plated 3/8" tube pin extends from split brass shell cadmium plated.

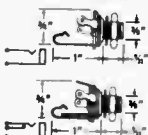
DABURN Cat. No.	Standard Package
9-146	100
9-146S	For Smaller Cable 100



**TELEPHONE TYPE JACK**

Body is brass nickel plated. Designed for long life. Nickel Silver alloy spring. Rated 10 amp. AC continuous duty. Mounts in 3/8" hole in panels up to 3/32" thick.

DABURN Cat. No.	Standard Package
19-157	2 Cond., Open 50
19-158	2 Cond., Closed 50
19-159	3 Cond., Open 50
19-160	3 Cond., Closed 50



**MINIATURE TELEPHONE JACKS**

Brass, nickel plated, mounts in 1/4" hole in panels up to 3/8" thick.

DABURN Cat. No.	Standard Package
19-132	2 Cond., Open 50
19-133	2 Cond., Closed 50



**PHONO JACKS**

Female for our Nos. 9-148, 9-147. Positive grip, single prong 3/16" bakelite, 1/16" mounting center.

DABURN Cat. No.	Standard Package
9-149	100
9-149-1	Insulating Washer 100



**Miniature Phono Jack**

Small, compact 3/16" mounting centers.

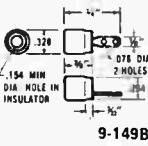
9-149A	100
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**Phono Input Jack**

Where space is at a premium. Mounts in 1/4" hole. Rivets and grounds to chassis.

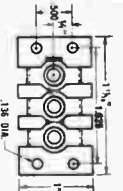
9-149B	100
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**PHONO JACKS**

Used on recording equipment, phonographs, etc.

DABURN Cat. No.	Standard Package
9-15D	Double Phono Jack 50
9-150A	Triple Phono Jack 50
9-150B	Quadruple Phono Jack 50
9-150-1	Insulating Washer for 9-150 50

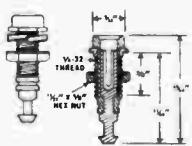


**NYLON TIP JACK WITH METAL SHELL MADE TO MEET MS-16108 Spec — WRAP AROUND**

Molded nylon tip jack with metal shell eliminates possibility of threads stripping during assembly. Made to meet the requirements of MS-16108 specification. Contact recessed in head for safety. Nylon, grade FM 10001, brass N.P. Shell and nut per Spec. 72-53. Tough and rugged. Fits all standard phone tip plugs.

**CENTER CONTACT:** Heat treated beryllium copper, silver plated.  
**COLORS:** Red, Black, Yellow, Green, Blue, White. (Specify Color)

Daburn No.	Std. Pkg.
19-90	Wrap Around 25

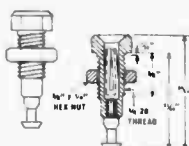


**ALL NYLON TIP JACK WRAP AROUND**

All nylon molded tip jack. Takes all standard phone tip plugs. Contact recessed in head for safety. Hex head for ease in tightening. Mounts in 1/4" hole in panels up to 3/4" thick. Body is nylon, grade FM 10001. Tough and rugged. Complete with brass nickel plated hex nut. Center contact. Heat treated beryllium copper, silver plated.

**COLORS:** Red, Black, Yellow, Green, Blue, White. (Specify Color)

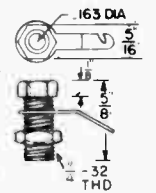
Daburn No.	Std. Pkg.
19-80	Wrap Around 25



**BANANA JACK**

Hexed brass nickel plated hex nut and tinned copper lug. Has recessed head. Mounts in 1/4" hole in panels up to 3/8" thick. Fits all standard banana plugs. Rated: 15 amps AC.

Daburn No.	Std. Pkg.
17-03	Banana Jack 100

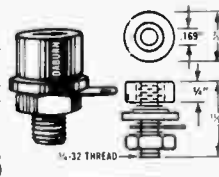


**INSULATED BANANA JACK**

Body is brass nickel plated, mounts in 3/8" hole in panels up to 3/8" thick. Comes thru with hex nut, tinned copper lug and fibre washer. Takes all standard banana plugs. Molded plastic head.

**COLORS:** Red, Black, Yellow, Green, Blue, (Specify)

DABURN No.	Description	Std. Pkg.
19-06	Insulated Jack	50

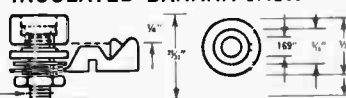


**INSULATED BANANA JACK**

Body is brass nickel plated. Mounts in 3/8" hole in panels up to 3/8" thick. Comes thru with hex nut, tinned copper lug, lockwasher, fibre washer. Takes all standard banana plugs. Jack body is recessed for tight contact. Molded plastic head.

**COLORS:** Red, Black, Yellow, Green, Blue. (Specify)

DABURN No.	Description	Std. Pkg.
19-91	Insulated Jack	50

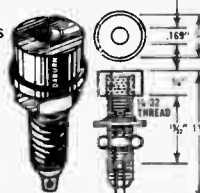


**INSULATED JACK COMBINATION**

Will take senior phone tips or standard banana plugs. Body is brass, nickel plated. Mounts in 3/8" hole in panels up to 1/2" thick. Springs are phosphor bronze. Comes thru with hex nut and fibre washer.

**COLORS:** Red, Black, Yellow, Green, Blue. (Specify)

DABURN No.	Description	Std. Pkg.
19-33	Insulated Combination Jack	50

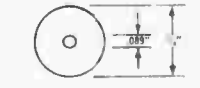


**INSULATED PHONE TIP JACK**

Fits all standard phone tips. Brass nickel plated body. Phosphor bronze spring provides positive contact. Comes thru complete with hex nut and fibre washer. Molded plastic head.

**COLORS:** Red, Black, Yellow, Green, Blue. (Specify)

DABURN No.	Std. Pkg.
19-07	50

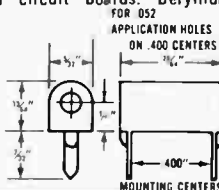


**PRINTED CIRCUIT TEST JACKS**

Nylon bodies, designed for permanent, soldered connection to printed circuit boards. Beryllium copper contacts have gold over silver plate. Accepts .080" diameter per MIL F-14072, M301 test probes. For .052 application holes on .400 centers.

**COLORS:** Red, Black, Green, Yellow, Blue. Additional colors available.

DABURN No.	Std. Pkg.
19-77	Printed Circuit Jacket 25



**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**POSTS • PRODS • CAPTIVE HARDWARE**

**COMBINATION POST — BANANA PLUG**



Molded fluted nylon captive head rated at 15 amps AC. Body is brass nickel plated; spring — N.P.L. phosphor bronze. Converts a standard banana jack into a five way binding post.

Cat. No. 18-40 Combination plug 100  
Std. Pkg. 100  
COLORS: Red, Black.

**COMBINATION POST — BANANA PLUG**



Molded hex head nylon captive head. Rated at 15 amps AC. Body is brass nickel plated; spring — N.P.L. Phosphor bronze. Converts a standard banana jack into a five way binding post.

Cat. No. 18-42 Combination plug 100  
Std. Pkg. 100  
COLORS: Red, Black.

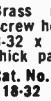
**COMBINATION TERMINAL METAL BINDING POST**



Brass nickel plated turret terminal screw head. Knurled shank. Knurled end. For 3/4" thick panel. 10-32 x 1/4" long BHM screw.

Cat. No. 18-30 Combination terminal 100  
Std. Pkg. 100

**COMBINATION TERMINAL METAL BINDING POST**



Brass nickel plated turret terminal screw head. Knurled shank. Knurled end. 8-32 x 1/4" long BHM screw. For 1/8" thick panel.

Cat. No. 18-32 Combination terminal 100  
Std. Pkg. 100

**METAL BINDING POST — 5 WAY**



Hex brass, nickel plated. Wrap around terminal. Captive head.

Cat. No. 18-34 Binding 100  
Std. Pkg. 100

**BINDING POST — 5 WAY**



Hex head molded nylon with spade lug. Brass nickel plated.

Cat. No. 18-77 Binding post 100  
Std. Pkg. 100

**STANDARD DUTY BINDING POST**



Molded nylon body. Accepts tip plug, spade lug, banana plug, wire alligator clip and direct solder connection. Has molded-in brass inserts in head and washer. Rated at 30 amps AC. capacitance 5.0 MMFD. Banana plug receptacle .161" I.D. head non-removable from stud and washer completely insulates post from panel. For panels 1/8" to 1/4" thick; drill 1/2" hole for mounting washers. Wire hole is at right angle to flat on insulated washer.

Cat. No. 18-78 All Insulated Type 100  
18-79 Grounding Type 100  
Std. Pkg. 100

**BINDING POSTS — MULTI-PURPOSE Wrap Around Type**



Molded nylon body. Accepts tip plug, spade lug, banana plug, wire alligator clip and direct solder connection. Has molded-in brass inserts in head and washer. Rated at 30 amps AC. capacitance 5.0 MMFD. Banana plug receptacle .161" I.D. head non-removable from stud and washer completely insulates post from panel. For panels 1/8" to 1/4" thick; drill 1/2" hole for mounting washers. Wire hole is at right angle to flat on insulated washer.

Cat. No. 18-72 Nylon Fluted Head Post 100  
18-75 Nylon Binding Post 100  
Std. Pkg. 100

**DUAL BINDING POSTS NYLON — 5 WAYS**



Fluted nylon captive head. Brass nickel plated. Turret terminals — wrap around. 15 amp rating AC. Mounts in 3/4" centers. Available in red or black combinations. Specify

Cat. No. 18-52 Dual Binding Post 100  
Std. Pkg. 100

**DUAL BINDING POSTS NYLON — 5 WAYS**

Fluted nylon captive head. Brass nickel plated. Turret terminals — wrap around. 15 amp rating AC. Mounts in 3/4" centers. Available in red or black combinations. Specify

Cat. No. 18-52 Dual Binding Post 100  
Std. Pkg. 100

**INSULATED SPADE LUG**



Molded plastic handle lug is steel hot tinned. Rated at 25 amps AC. Rear barrel accommodates all standard banana plugs.

Cat. No. 19-32 Insulated Spade Lug 50  
19-32A Spade Lug Only 50  
Std. Pkg. 50

**ALLIGATOR CLIPS**

Steel, cadmium plated. 5 amp continuous duty. 1/2" jaw opening. Jaws match accurately, grips securely. Accepts standard banana plugs.

Cat. No. 20-3 Clip (no screw) 50  
20-3S Clip (with screw) 50  
Std. Pkg. 50

**ALLIGATOR CLIP ALL INSULATED**



Fully insulated. Cadmium plated sharp steel jaws. Accepts banana plug in rear.

Cat. No. 20-25 Insulated Clip 100  
Std. Pkg. 100

**NYLON HANDLE PRODS AND TIPS**



Handle is molded nylon per MIL-P-20693A with brass, silver plated tip. Solderless prods made to meet Signal Corps Drawing SC-C-82761. Rated at 10 amps AC for 10° temperature rise, continuous duty.

DABURN Cat. No.	Sig. Corps. Drawing & Part No.	Size "A"	Color	Std. Pkg.
19-57	MX-1906/U	1"	Red	25
19-58	MX-1907/U	1"	Black	25
19-59	MX-1909/U	4"	Red	25
19-60	MX-1910/U	4"	Black	25

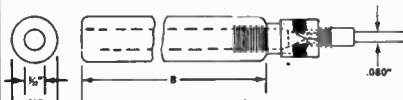
**NEEDLEPOINT TEST PROD**



Brass ricket plated plug, chuck is removable for replacement of broken needles. Sharp needle pierces insulation or corrosion for testing purposes. Molded plastic handle.

DABURN No.	Handle (B)	Overall L'gth (A)	Std. Pkg.
19-20	4"	4 7/8"	50
19-21	5"	6 3/8"	50

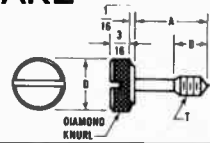
**SOLDERLESS TEST PROD**



Body is brass nickel plated with molded plastic handle. Solderless connection, for wire fits thru handle and plug body and wraps under knurled nut.

DABURN No.	Handle (B)	Overall L'gth (A)	Std. Pkg.
19-10	4"	5 3/8"	50
19-43	5"	6 1/2"	50

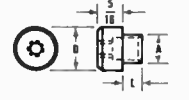
**CAPTIVE SCREW**



Cat. No.	A	B	D	T	Material
14-555	3/4	3/4	3/4	6-32	Brass
14-555SS	3/4	3/4	3/4	6-32	St. St.
14-556	3/4	3/4	3/4	8-32	Brass
14-556SS	3/4	3/4	3/4	8-32	St. St.
14-557	7/8	3/4	3/4	10-32	Brass
14-557SS	7/8	3/4	3/4	10-32	St. St.
14-558	7/8	3/4	5/8	1/4-20	Brass
14-558SS	7/8	3/4	1/2	1/4-20	St. St.

MATERIAL: Brass per QQB-626A, Comp. 22, 1/2 Hard. FINISH: Nickel Plate and Polish per MIL-QQ-N-290, Type VI. Stainless Steel per QQS-763, Class 7, Type A available  
Standard Package 100

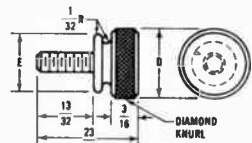
**CAPTIVE BUSHING**



Cat. No.	D	A	L	T	Panel Thickness
14-560	3/8	3/4	3/32	6-32	1/8
14-561	3/8	3/4	3/32	8-32	3/8
14-562	3/8	3/4	3/32	10-32	3/8
14-563	3/8	3/4	3/32	1/4-20	3/8
14-564	3/8	3/4	3/32	6-32	3/4
14-565	3/8	3/4	3/32	8-32	3/4
14-566	3/8	3/4	3/32	10-32	3/4
14-567	3/8	3/4	3/32	1/4-20	3/4
14-568	3/8	3/4	3/32	6-32	1/4
14-569	3/8	3/4	3/32	8-32	1/4
14-570	3/8	3/4	3/32	10-32	1/4
14-571	3/8	3/4	3/32	1/4-20	1/4

MATERIAL: Brass per QQB-626A, Comp. 22, 1/2 Hard. FINISH: Nickel Plate per MIL-QQ-N-290, Type VI. Available in Stainless Steel, add suffix .S to part number.  
Special Sizes Also Available. Standard Package 100

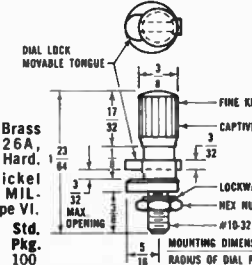
**THUMB SCREW**



Cat. No.	D	E	Thread
14-501	3/8	3/4	6-32
14-502	3/8	3/4	8-32
14-503	3/8	3/4	10-32
14-504	3/8	3/4	6-32
14-505	3/8	3/4	8-32
14-506	3/8	3/4	10-32
14-507	1/2	3/4	6-32
14-508	1/2	3/4	8-32
14-509	1/2	3/4	10-32

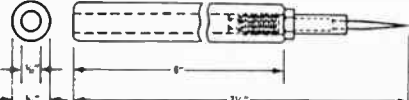
MATERIAL: Brass per QQB-626A, Comp. 22, 1/2 Hard. FINISH: Nickel Plate per MIL-QQ-N-290, Type VI.  
Standard Package 100

**DIAL LOCK**



MATERIAL: Brass per QQB-626A, Comp. 22, 1/2 Hard. FINISH: Nickel Plate per MIL-QQ-N-290, Type VI.  
DABURN Cat. No. 14-500  
Std. Pkg. 100

**BAKELITE PENCILTYPE TEST PROD**



Body is brass nickel plated with heavy steel phono needle in tip. Handle is XX bakelite per MIL-P-79 Spec. Wire threaded thru stud and tightened allows for solderless connection.

DABURN No.	Std. Pkg.
19-11	Bakelite Pencil Type Prod 25

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**DABURN TRANSISTOR HEAT SINKS AND RETAINERS**

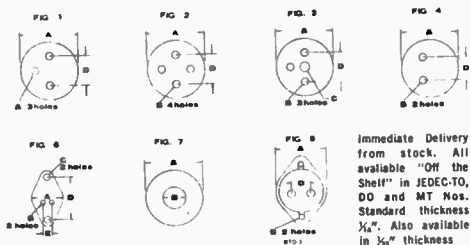
Transistor heat sinks made with beryllium oxide, which is unique among inorganic materials, insulates electrically like a ceramic, but conducts heat like a metal. Where electrical applications require both dielectric insulation and hi-heat transfer from device to chassis, only beryllium oxide (BeO) can provide a satisfactory solution to design problems. Heat generating devices will operate at higher power levels longer and more reliably, with beryllia cooling.

Beryllium oxide heat sinks offers these advantages:

- Extremely resistant to shocks, vibration and moisture.
- High resistivity — low dielectric loss
- Increased transistor life and output
- Freedom from outgassing, infinite shelf life

GREATER THAN: 300 Volts/MIL  
 CHEMICAL PURITY: 99+% Beryllium oxide  
 DENSITY: 2.9 Grams/CC  
 MELTING POINT: 4650°F

**PHYSICAL PROPERTIES & DIELECTRIC STRENGTH**  
 HEAT CAPACITY AT 350°: 0.3 BTU/LB  
 THERMAL EXPANSION:  $3.2 \times 10^{-4}/^{\circ}F$   
 THERMAL CONDUCTIVITY: 140 BTU/FT<sup>2</sup> HR-°F-FT  
 TRANSVERSE STRENGTH: 25,000 PSI  
 ELASTIC MODULES:  $40 \times 10^6$  PSI



Immediate Delivery from stock. All available "Off the Shelf" in JEDEC, TO, DO and MT Nos. Standard thickness  $\frac{1}{16}$ ". Also available in  $\frac{1}{32}$ " thickness

DABURN Cat. No.	Transistor Case Type	Fig. No. For JEDEC	DIMENSIONS				
			"A" Dim.	"B" Dim.	"C" Dim.	"D" Dim.	"E" Dim.
DHS-1	MT-1	7	.781±.015	.328±.015	—	—	—
DHS-3	TO-3	4	.980±.010	.165±.010	—	.435±.015	—
DHS-3A	MT-3	7	.625±.005	.320±.005	—	—	—
DHS-3C	TO-3C	8	1.125±.030	.140±.015	(Consists of Round TO Insulator with Glass Epoxy Case)		
DHS-4	DO-4	7	.560±.015	.200±.005	—	—	—
DHS-5	TO-5	1	.437±.015	.054±.005	—	.200±.010	—
DHS-5A	DO-5	7	.812±.015	.270±.005	—	—	—
DHS-5B	MT-5	7	.250±.015	.156±.010	—	—	—
DHS-6	TO-6	3	1.225±.025	.187±.015	.218±.015	.690±.015	—
DHS-8	TO-8	1	.600±.030	.062±.015	—	.282±.015	—
DHS-9	TO-9	1	.437±.015	.054±.005	—	.200±.010	—
DHS-10	MT-10	7	.672±.015	.265±.015	—	—	—
DHS-11	TO-11	1	.437±.015	.054±.005	—	.200±.010	—
DHS-12	TO-12	2	.437±.015	.054±.005	—	.200±.005	—
DHS-14	MT-14	7	1.250±.015	.540±.010	—	—	—
DHS-16	TO-16	1	.437±.015	.054±.005	—	.200±.010	—
DHS-18	TO-18	1	.312±.015	.031±.005	—	.100±.010	—
DHS-33	TO-33	2	.437±.015	.054±.010	—	.200±.005	—
DHS-36	TO-36	3	1.225±.025	.187±.015	.218±.015	.690±.015	—
DHS-38	TO-38	1	.750±.015	.062±.005	—	.200±.010	—
DHS-39	TO-39	1	.437±.015	.054±.005	—	.200±.010	—
DHS-43	TO-43	2	.437±.015	.054±.010	—	.200±.005	—
DHS-46	TO-46	1	.312±.015	.031±.005	—	.100±.010	—
DHS-66	TO-66	6	.700±.010	.094±.010	.155±.010	.960±.010	.200±.010

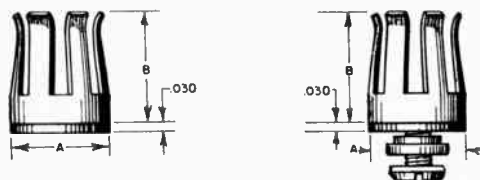
STD. PUT-UP: 5, 25, 100.

**BERYLLIUM OXIDE FOR TRANSISTOR RETAINER CLIPS, HEAT DISSIPATION AND ELECTRICAL INSULATION**

TRANSISTOR RETAINERS: Optimum thermal conductivity, with absolute electrical insulation reliability, is offered by spring clip transistor retainers. The retainers provide electrical isolation for the semiconductor by means of a disc of beryllium oxide ceramic brazed to the base of the beryllium copper retainer. Solid ceramic disc, in contrast to a thin insulating coating, is practically immune to loss of insulating value thru cracking, abrasion, chipping or other results of rough treatment in assembly. Heat transfer from the semiconductor to chassis or heat sink is not sacrificed since the high purity BeO has thermal conductivity to that of aluminum metal. Maximum soldering temperature — 300°C.

FOR SOLDER MOUNTING

FOR MECHANICAL MOUNTING



DABURN Cat. No.	Mounting Style	Type	"A" O.D.	"B" Length	"C" Screw Size
DTR-01	Solder	TO-5	$\frac{3}{16}$ "	.37"	—
DTR-02	Screw	TO-5	$\frac{3}{16}$ "	.37"	4-40 x $\frac{3}{16}$ "
DTR-05	Solder	TO-18	.221"	.28"	—
DTR-06	Screw	TO-18	.221"	.28"	2-56 x $\frac{3}{16}$ "

STD. PUT-UP: 5, 25, 100

**SUB-MINIATURE TEFLON\* TERMINALS**

Material, pure virgin Teflon, conforms to MIL-P- and AMS 3651B spec. This terminals series provides instant mounting without any extra fastening hardware. Easily inserted into punched or drilled holes, self locking, unaffected by soldering. Resistant to thermal-mechanical shock, vibration, corrosion moisture. Speeds up assembly cuts production costs. Suitable for crowded assemblies. Brass meets QQ-B-626 comp.  $\frac{1}{2}$  H.

JACK MATERIAL: Beryllium copper with .00030 min. gold flash over .0003 min. silver plate.

PLATING: Solder finish electro solder plate. Available in all other platings.

COLOR: Natural (White).

Standard Package: 100, 1000.

Daburn No.	Fig.	Cap. MMF.	A	B	C	D	E	F	G
11-06	1	.41	.35	.04	.10	.148	.172	.210	.040
11-07	1	.39	.41	.04	.16	.148	.172	.210	.040
11-08	1	.32	.50	.04	.25	.148	.172	.210	.040
11-10	2	.41	.35	.04	.10	.148	.172	.210	.040
11-11	2	.36	.375	.04	.125	.148	.172	.210	.040
11-12	2	.36	.35	.04	.100	.179	.200	.210	.040
11-10-01	2	.45	.428	.093	.125	.148	.172	.210	.040
11-10-02	2	.37	.50	.040	.250	.148	.172	.210	.040
11-11-01	5	.58	.522	.125	.150	.165	.187	.250	.040
11-15	3	.55	.443	.04	.100	.148	.172	.210	.040
11-14	3	.73	.515	.04	.100	.148	.172	.210	.045
11-16	3	.71	.725	.04	.100	.148	.172	.210	.040
11-18	4	.62	.500	.04	.100	.148	.172	.210	.040
11-19	4	.69	.500	.04	.165	.148	.172	.210	.040
11-17	6	—	.193	.025	.063	.125	.150	.105	.040
11-20	7	.80	.540	.063	.171	.171	.187	.133	.046
11-21	8	.72	.836	.187	.165	.148	.172	.250	.040
11-22	9	.81	.821	—	—	.171	.187	.203	.148
11-25-01	11	.70	.637	.050	.40	.185	.218	.187	.054
11-25-02	11	.80	.437	.046	.271	.185	.218	.120	.054
11-25-03	11	.50	.345	.046	.179	.148	.172	.120	.046
11-23	12	.50	.687	.046	.287	.185	.218	.354	.105

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you require...**



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faster in  
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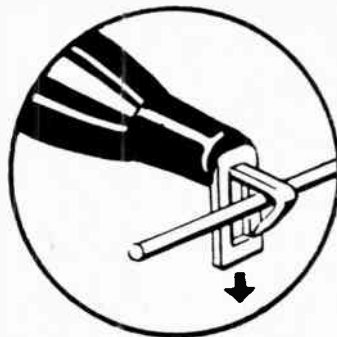
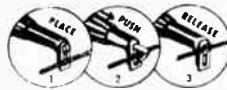


# E-Z-HOOK

## TEST AND PRODUCTION CONNECTORS

• CLIPS • ADAPTERS • TEST LEADS • PROBES

- Instantly connects anywhere — Won't cut or nick.
- Won't short or jump off — Leaves your hands free.
- Saves time and temper — Money back guarantee.



Patented hook tip connects anywhere. 1. Push to connect. 2. Push again to remove.

U.S. PATENT No. 2702892

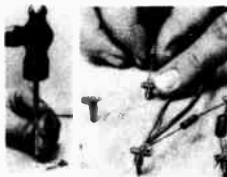
## HARNESS BOARD CLIPS

- Save Up to 30% in Board Construction Time!
- Speeds wiring... Improves Quality

No need to waste valuable time drilling holes, placing screws, nuts, & washers. The "Nail" Clip drives into wood like a nail! Pulls out as easy. Make Eng. Changes in seconds. Use them to speed Processing—Save Construction & Production time.

Easy finger-tip operation speeds wire placing — makes it easier. Patented E-Z-HOOK holds firmly — won't cut nick or damage wire ends. L. 1 3-16". Made of tough Stainless Steel and Durable Nylon.

... Over 62,000 used by Company X...



E-Z-HOOK "Nail" Clips

No. 81-1	E-Z-HOOK "Nail" Clip (Use T-20 Tool)	24¢ ea.	10 for 1.98
No. K8150T-1	"Nail" Clip Kit (50 Clips, Tool & Instr.)	Wt. 2 oz.	ea. 8.95
No. T-20	E-Z-HOOK "Nail" Clip Driving Tool	Wt. 1-3 oz.	ea. .35

## TEST PROD TIP ADAPTERS

- For testing as you like it
- Sharp point to an E-Z-HOOK in seconds

Handiest, most trouble-free adapter you can get. Convenient E-Z-HOOK Tip slips easily on, or off, — in seconds! Doubles regular test prod utility, 1. as a sharp point for probing, 2. as an extra hand when needed.

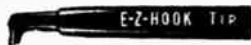
Safer, tool... remote connections made easily while your hand stays out in the clear — safe from shock.

A smart investment in trouble-free design. Exclusive spring chuck eliminates loose, wobbly fit on Prod... insures pleasant, irritation-free performance.

... Over 12,300 used by Company Y...

Made of rust-proof Stainless Steel, Brass, and tough Zytel Nylon in Red, Black, Blue, Green, Orange, and Yellow. Lgth. 2 1-16", O.D. 19-64", Wt. 1-8 oz.

No. 55-0	E-Z-HOOK Tip (Needle—.060")	ea. .69
No. 56-1	E-Z-HOOK Tip (Standard—.080")	ea. .69
No. 57-10	E-Z-HOOK Tip (Tec—10-32 female thread)	ea. .69
No. 59-4	E-Z-HOOK Tip (Banana—Standard.)	ea. .69



Slips Easily On—Off



Trouble Eliminator 4 springs insure firm grip

## SUBSTITUTION CLIPS

- Eliminate Guessing

You can be sure! — when you substitute, and this E-Z-H Sub is just the thing to use... quick, easy, temporary connections in seconds... no lead twisting or solder tacking to damage parts or wiring. Speeds trouble-shooting, makes it easier... saves hours and dollars in valuable production time and material.

Long-lasting Zytel Nylon and tough Stainless Steel. In colors for easy lead identification: Red, Black, Blue, Green, Orange, and Yellow. Length 2 1-2", O.D. 19-64", Weight, 1-12th oz.

No. 71-1	E-Z-HOOK Sub	ea. .49
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Solderless Clips Eliminate Broken Lugs

## JUMPER - METER CLIPS

- Convert needless delays... to pleasant productive checks



Let carefree E-Z-HOOK Clips help speed your checks... make it easier. They quickly pay for themselves in savings.

Easy slip-on design saves in assembly and maintenance... safe solder connection and strain relief assures longer trouble-free lead life.

... Over 37,000 used by Company Z...

Made of tough Stainless, durable Nylon in colors for easy lead identification: Red, Black, Blue, Green, Orange, Yellow. Lgth. 2 1-8", OD 5-8", Wt. 1-13 oz.

No. 61-1	E-Z-HOOK Clip (Standard)	ea. .39
No. 61-2	E-Z-HOOK Clip (Gold Plated)	ea. .59

## Miniature CLIP & LEADS

- Make Impossible

Connections... Easy



Now enjoy famous E-Z-HOOK reliability and performance on your small, sub-miniature jobs, too. Easily make test connections never before possible.

Tiny E-Z-HOOK with the new "Hypa Action" gives you the small size and positive control needed to make such tedious work easier, more efficient, pleasant and profitable.

Use "Q" Balls two ways—1. as a versatile low voltage test connector, 2. as a tiny mechanical hand to handle small parts. Will save you hours of unnecessary delays and aggravation.

Durably constructed of the finest materials—Red Nylon insulation, Stainless Steel spring, & Beryllium Copper conductor—to assure reliable performance.

Also available on 32"—Ready-to-Plug-In—Test Leads of flexible Red and Black striped, 24 AWG (19-36) thermoplastic wire—Standard or Banana Tip.

Over all length 2 1-4". Maximum width at hook only .079". Wt. 1-6th oz.

No. X-100	E-Z-HOOK "Q" Ball Mini-HOOK (No lead)	ea. .49
No. AX-1	E-Z-HOOK "Q" Ball Test Lead (32"—Std. Tip)	ea. .89
No. BX-1	E-Z-HOOK "Q" Ball Test Lead (32"—Ban. Tip)	ea. .94

## SCOPE - METER PROBES

- Now—Special Probes assembled in minutes



Never before such efficiency and convenience in a replacement probe... SPECIAL TERMINALS speeds assembly, makes it easier... E-Z-HOOK for easy time-saving care-free connections... SCREW-ON COVER for ready access and repair... STRAIN-RELIEF prolongs life of single or shielded leads.

For Professional or Production use. Finest streamlined feather-weight construction of rust proof Stainless, durable Zytel Nylon (slide), tough Tenite (body) in Red, Black, Blue, Green, Orange, & Silver. Lgth. 4 3-4", O.D. 15-32", Wt. 1-3 oz.

No. 54-1	E-Z-HOOK Custom PROBE	ea. .89
No. 54-2	E-Z-HOOK Custom PROBE (Gold Plated)	ea. 1.09

### LET THEM HELP YOU CUT YOUR COSTS

To Order:— Order E-Z-HOOKS from your convenient Parts Distributor.

Factory Delivery:— Usually shipped - via Parcel Post - within 10 days.

Terms:— Rated Firms — 2% 10th E.O.M. — Net 30 Days E.O.M.

Prices:— All Prices Net U.S.A., and Subject to Change Without Notice. All Patent Rights Reserved. (In Canada order from Len Finkler Ltd.)

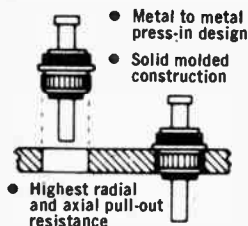
E-Z-HOOK Test Products

# Nurl-Loc<sup>®</sup> TERMINALS

STANDOFFS  
FEED-THRUS



(Pats. and Pats. Pend.)

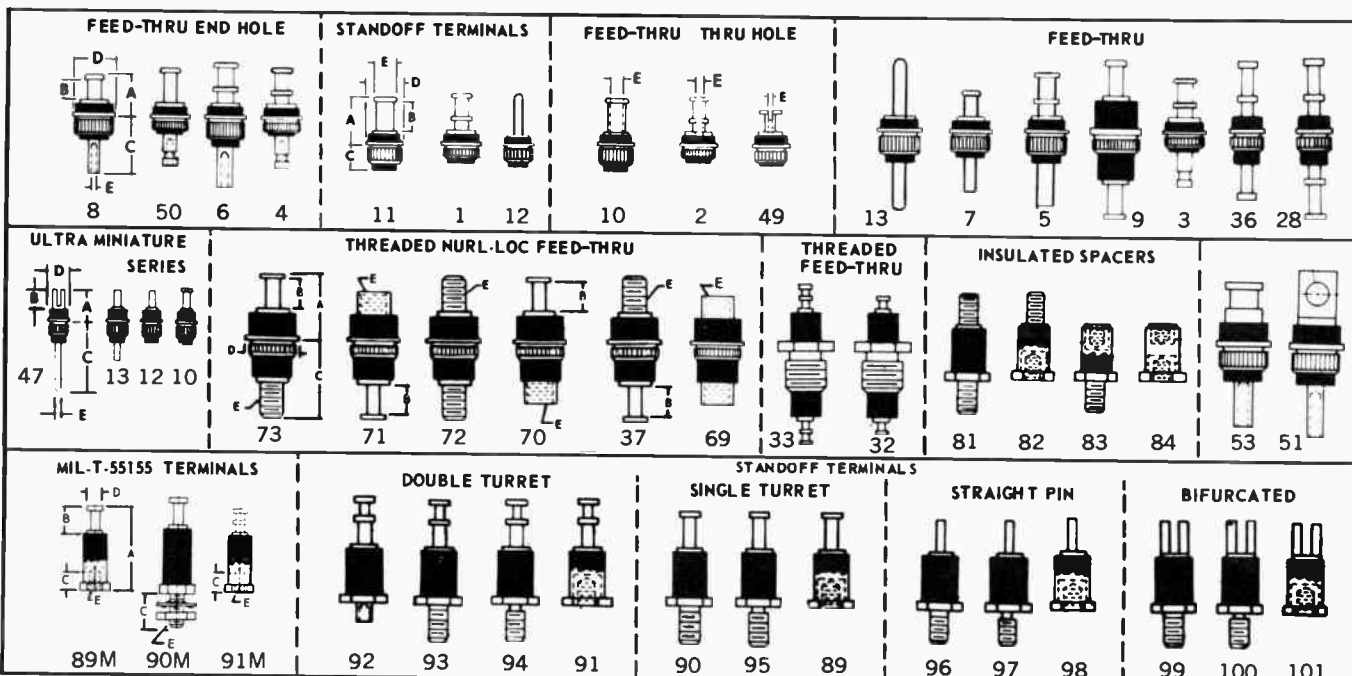


Electronic Molding offers the largest variety of molded insulated terminals available anywhere. The metal inserts are molded into high-temperature Diallyl Phthalate, (500°F) forming a strong integral unit that will not crack while soldering. The metal to metal Nurl-Loc press-in feature (shown left) assures highest radial and axial pullout resistance of any terminal of this type. Ten colors are available, in a wide range of types for various applications, many designed to meet military specifications, plus mounting tools.

WRITE FOR COMPLETE CATALOG describing and illustrating over 800 items, and FREE SAMPLES for evaluation.



NURL-LOC DESIGN



PART NO.	TYPE	A	B	C	D	E	MTG. HOLE	PART NO.	TYPE	A	B	C	D	E	MTG. HOLE	PART NO.	TYPE	A	B	C	D	E	MTG. HOLE
2781-4-1	1	.151	.075	.060	.155	.070	.136	3337-4-1	12	.145	.075	.090	.098	.030	.086	3327-53-1	84	17/32	5/32	5/32	1/4	6-32	.156
2772-4-1	1	.195	.120	.060	.155	.083	.136	2945-4-1	13	.250	.205	.265	.155	.04C	.136	4096-52-1	89M	.593	.218	.156	.140	4-40	.125
4786-14-1	1	.437	.210	.105	.187	.093	.156	3336-4-1	13	.145	.075	.180	.098	.030	.086	2014-91-1	89	19/32	7/32	5/32	.140	4-40	.125
2912-4-1	1	.195	.120	.075	.155	.083	.136	4156-4-1	28	.380	.225	.420	.180	.072	.161	2175-91-1	89	25/64	5/32	5/64	.072	2-56	.093
2497-4-1	2	.151	.075	.060	.155	.025	.136	4363-64-1	32	.272	.077	.397	7/32	.080	.203	3045-92-1	90M	3/8	.156	.218	.093	2-56	.093
4361-4-1	2	.275	.200	.060	.155	.036	.136	3376-64-1	33	7/16	.130	5/8	.312	.078	.265	3046-92-1	90M	17/32	.156	.218	.093	2-56	.093
2598-4-1	2	.195	.120	.060	.155	.025	.136	4047-64-1	33	11/32	.123	17/32	.312	.092	.265	2050-91-1	90	19/32	7/32	7/32	.140	4-40	.125
2764-4-1	3	.195	.120	.185	.155	.050	.136	4388-14-1	36	.437	.210	.400	.187	.093	.156	24C4-91-1	90	29/64	7/32	5/32	.072	2-56	.093
2767-4-1	3	.151	.075	.185	.155	.050	.136	4179-126-1	37	.065	.025	.150	.281	4-40	.250	2899-91-1	90	25/64	5/32	7/32	.072	2-56	.093
2526-4-1	4	.195	.120	.185	.155	.029	.136	4801-126-1	37	.275	.156	.406	.281	4-40	.250	2989-52-1	91M	.718	.343	.156	.140	4-40	.125
2599-4-1	4	.151	.075	.185	.155	.029	.136	3223-4-1	47	.145	.090	.365	.098	.030	.086	2990-52-1	91M	.937	.343	.218	.140	4-40	.125
2806-4-1	5	.210	.135	.200	.155	.055	.136	4295-4-1	47	.145	.090	.490	.098	.030	.086	2013-91-1	91	23/32	11/32	7/32	.140	4-40	.125
2809-4-1	5	.210	.135	.150	.155	.055	.136	4485-4-1	49	.135	.075	.060	.155	.031	.136	4064-91-6	91	23/32	7/32	1/8	7/64	4-40	.125
4490-4-1	5	.210	.135	1.000	.155	.055	.136	4174-4-1	49	.150	.090	.075	.155	.015	.136	2174-91-1	91	25/64	5/32	5/64	.072	2-56	.093
4495-4-1	5	.210	.135	1.125	.155	.055	.136	3034-4-1	50	.195	.117	.185	.156	.029	.136	2037-91-1	91	7/8	11/32	7/32	.140	4-40	.125
2798-4-1	6	.210	.135	2.00	.155	.034	.136	4066-4-1	50	.115	.033	.185	.156	.029	.136	4554-54-5	92	1/2	.240	.165	.093	.113	.120
4031-4-1	6	.210	.135	1.000	.155	.034	.136	4338-4-1	51	.260	.182	.300	.187	.037	.156	2049-91-1	93	23/32	11/32	7/32	.140	4-40	.125
2803-4-1	6	.210	.135	.375	.155	.034	.136	4250-4-1	53	.218	.062	.277	.187	.037	.156	2162-91-1	93	25/64	5/32	7/32	.072	2-56	.093
2778-4-1	7	.150	.075	.200	.155	.040	.136	4803-126-1	69	.270	.125	.325	.281	4-40	.250	4463-91-1	93	19/32	7/32	5/16	.093	6-32	.156
2779-4-1	7	.150	.075	.100	.155	.040	.136	4804-126-1	69	.270	.125	.325	.281	6-32	.250	4661-91-1	94	25/64	5/32	7/32	.072	2-56	.093
4130-4-1	7	.140	.065	.500	.155	.040	.136	4805-126-1	70	.351	.156	.325	.281	4-40	.250	2606-91-1	95	19/32	7/32	7/32	.140	4-40	.125
2792-4-1	8	.150	.075	.200	.155	.025	.136	4806-126-1	70	.351	.156	.325	.281	6-32	.250	2702-91-1	95	29/64	7/32	1/8	.072	2-56	.093
2918-4-1	8	.150	.075	.100	.155	.025	.136	4807-126-1	71	.362	.187	.406	.281	4-40	.250	2696-91-1	95	25/64	5/32	1/8	.072	2-56	.093
3013-4-1	8	.185	.110	.090	.155	.016	.136	4808-126-1	71	.362	.187	.406	.281	6-32	.250	4720-91-1	96	5/8	1/4	7/32	.078	4-40	.125
4111-4-1	8	.187	.112	.485	.155	.033	.136	4809-126-1	72	.331	.156	.417	.281	4-40	.250	2154-91-1	96	27/64	3/16	5/32	.062	2-56	.093
2819-4-1	9	.255	.105	.295	.180	.072	.161	4810-126-1	72	.331	.156	.417	.281	6-32	.250	2630-91-1	97	.665	.290	7/32	.070	4-40	.125
2926-4-1	10	.171	.096	.075	.155	.030	.136	4811-126-1	73	.351	.156	.417	.281	4-40	.250	2738-91-1	97	27/64	3/16	3/16	.062	2-56	.093
4340-4-1	10	.225	.110	.120	.187	.030	.156	4812-126-1	73	.351	.156	.417	.281	6-32	.250	2762-91-1	98	5/8	1/4	5/32	.078	2-56	.093
2930-4-1	10	.115	.040	.060	.155	.025	.136	2479-53-1	81	5/8	1/4	7/32	1/4	4-40	.125	2178-91-1	98	27/64	3/16	5/64	.062	2-56	.093
4547-4-1	10	.160	.075	.090	.098	.023	.086	2480-53-1	81	25/32	1/4	7/32	1/4	4-40	.125	2529-91-1	99	5/8	1/4	5/32	.062	2-56	.093
2932-4-1	11	.171	.096	.075	.155	.093	.136	3320-53-1	82	5/8	1/4	5/32	1/4	4-40	.125	2541-91-1	99	25/32	1/4	7/32	3/16	4-40	.125
2934-4-1	11	.115	.040	.075	.155	.083	.136	2485-53-1	82	3/4	1/4	7/32	1/4	4-40	.125	2666-91-1	100	5/8	1/4	7/32	3/16	4-40	.125
2996-4-1	11	.193	.117	.060	.155	.093	.136	3329-53-1	83	3/8	5/32	7/32	1/4	4-40	.125	2671-91-1	100	27/32	1/4	7/32	3/16	6-32	.156
4090-4-1	11	.193	.117	.075	.155	.093	.136	2482-53-1	83	1/2	7/32	7/32	1/4	4-40	.125	2304-91-1	101	9/16	3/16	5/32	3/16	4-40	.125
2939-4-1	12	.250	.205	.075	.155	.043	.136	3325-53-1	84	1/2	5/32	5/32	1/4	4-40	.125	2994-91-1	101	27/32	1/4	7/32	3/16	4-40	.125

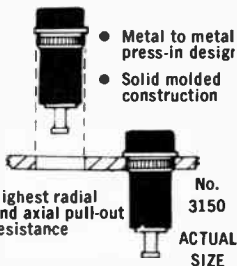
# ELECTRONIC MOLDING CORPORATION

# Nurl-Loc<sup>®</sup> TEST JACKS

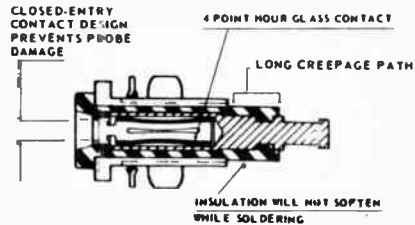
THREADED  
PUSH-ON  
NURL-LOC  
PRINTED CIRCUIT



(Pats. and Pats. Pend.)



- Rugged Milled Construction assures high reliability.
- A wide range of colors for coding.
- High temperature Diallyl Phthalate (500°F).
- Closed entry feature guards against damaging contact with over-size test probe.
- Short test jack NO. 4274 allows minimum space requirements.
- Good resistance to shock and vibration.
- Hour Glass type spring contact maintains a low millivolt drop after repeated insertions and withdrawals.
- High temperature insulation allows long creepage path at solder terminal end of jack.
- High temperature rigid insulation will not soften and flow at soldering temperature.



MILITARY CLOSED ENTRY TEST JACKS

MS-16108 TEST JACKS										NURL-LOC TEST JACKS														
PART NO.	TYPE	A	B	C	O	E	MTG. HOLE	PART NO.	TYPE	A	B	C	O	E	MTG. HOLE	PART NO.	TYPE	A	B	C	D	E	MTG. HOLE	
4762-104-*	42	35/64	.080	.080	.115	.218	.172	3150-113-*	78	.574	.093	.080	.093	.281	.250	4653-86-*	85	27/32	9/64	.080	.120	1/4-32	.265	
4516-104-*	52	1/2	.061	.040	.040	.203	.181	4928-144-*	78	.315	.098	.040	.079	.216	.172	4825-86-*	85	19/32	9/64	.080	.120	1/4-32	.265	
4763-116-*	65	9/16	.125	.080	.093	17/32	.266	4962-134-*	78	.400	.156	.080	.093	.281	.250	5075-139-*	85	.12	.312	.080	.048	.195	.052	
4835-124-*	75	5/8	.187	.185	.093	17/32	.266	4242-86-*	85	13/16	9/64	.080	.116	1/4-32	.265	5173-125-*	1C4	.13	.467	.080	.400	.600	.052	
4836-126-*	76	39/64	.207	.185	.093	.375	.343	4274-86-*	85	35/64	9/64	.080	.093	1/4-32	.265	5419-139-*	1C2	.080	3/4	.080	.065	.200	.052	
4879-125-*	77	.125	.230	.080	.400	.600	.052	4876-86-*	85	13/16	9/64	.080	.116	1/4-32	.265	NURL-LOC PROBE								
																5194-148-1	60	.406	.675	.080	.140	.281	.250	

\* SPECIFY COLOR WHEN ORDERING

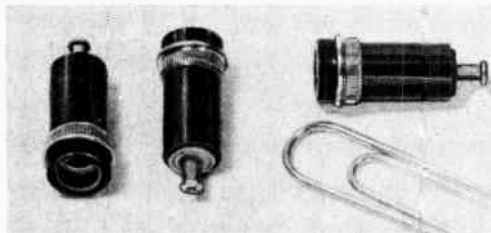


MIL-C-39024  
SPECIFICATION

MIL-C-39024 NUMBER	EMC PART NUMBER
MIL-C-39024/1	4242 4274
MIL-C-39024/2	4876
MIL-C-39024/3	4877 4879
MIL-C-39024/5	3150 4928 4962

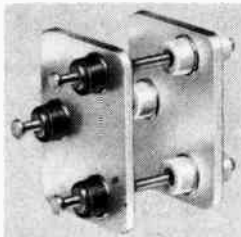
MS 16108 CROSS REF.

MILITARY STANDARD NUMBER	EMC NUMBER
MS 16108-1A	4,42-86-9
MS 16108-2A	4242-86-2
MS 16108-3A	4242-86-0
MS 16108-4A	4242-86-1
MS 16108-5A	4242-86-5
MS 16108-6A	4,42-86-3
MS 16108-7A	4,42-86-6
MS 16108-8A	4242-86-4
MS 16108-9A	4242-86-8
MS 16108-10A	4242-86-7
MS 16108-1C	4653-86-9
MS 16108-2C	4653-86-2
MS 16108-3C	4653-86-0
MS 16108-4C	4653-86-1
MS 16108-5C	4653-86-5
MS 16108-6C	4653-86-3
MS 16108-7C	4653-86-6
MS 16108-8C	4653-86-4
MS 16108-9C	4653-86-8
MS 16108-10C	4653-86-7

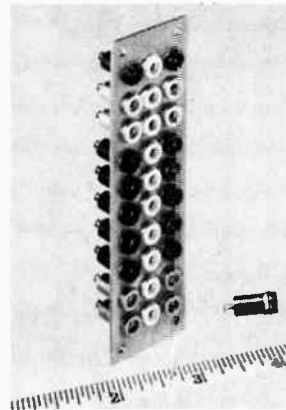


EMC Test Jacks are designed to offer the most rugged construction and dependable performance, combined with minimum size for the most sophisticated electronic applications. Samples are available upon request. Please indicate your basic requirements.

DESIGN-YOUR-OWN CONNECTORS



Male/female custom connectors may be fabricated "on-the-job" through the use of Nurl-Loc Probes and Jacks, to fulfill any immediate or specialized requirements. Merely drill or stamp holes and add Probes and jacks as required. While not a stock item, EMC can furnish pre-assembled connectors to your specifications on special order.



TEST/PATCH PANELS

Metal panels of desired size and shape may be drilled or stamped to specification with .250" mounting holes. Nurl-Loc closed entry test jacks are pressed in for fast installation. With connectors or test panels, an infinite combination of layouts is possible, with up to 10 colors of jacks for coding.

# ELECTRONIC MOLDING CORPORATION



# ELECTROCRAFT ELECTRONIC COMPONENTS

## BANANA PLUGS

ILLUSTRATIONS	DESCRIPTION								
	<p><b>BANANA PLUG*</b></p> <p>DESC: Hex brass body, separate internal brass stud for solderless or soldered connection.</p> <p>RATING: 15 amps AC for 10 degrees C Temp. rise continuous duty.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.</p> <p>TIP: Four leaved, phosphor bronze nickel plated spring.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-000-BU</td> <td>Red</td> <td>33-002-BU</td> <td>Blk</td> </tr> </table> <p>Net per C 23.00</p>	No.	Color	No.	Color	33-000-BU	Red	33-002-BU	Blk
No.	Color	No.	Color						
33-000-BU	Red	33-002-BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>BANANA PLUG*</b></p> <p>DESC: Lead wire connection with set screw through plastic handle.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.</p> <p>TIP: Four leaved, phosphor bronze nickel plated spring.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-006-BU</td> <td>Red</td> <td>33-008-BU</td> <td>Blk</td> </tr> </table> <p>Net per C 19.00</p>	No.	Color	No.	Color	33-006-BU	Red	33-008-BU	Blk
No.	Color	No.	Color						
33-006-BU	Red	33-008-BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>DUAL BANANA PLUG</b></p> <p>DESC: Brass, nickel plated plug. Mates with standard dual binding posts.</p> <p>RATING: 15 amps AC for 10 degrees C Temp. rise, continuous duty.</p> <p>BODY: Molded cycloc plastic, per MIL-M-22544, type 4.</p> <p>TIPS: Four leaved, phosphor bronze nickel plated springs.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-010-BU</td> <td></td> <td></td> <td></td> </tr> </table> <p>Net per C 72.00</p>	No.	Color	No.	Color	33-010-BU			
No.	Color	No.	Color						
33-010-BU									

ILLUSTRATIONS	DESCRIPTION								
	<p><b>BANANA PLUG*</b></p> <p>DESC: Separate internal brass stud for solderless or soldered connection.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.</p> <p>TIP: Cross slotted, nickel plated brass.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-012-BU</td> <td>Red</td> <td>33-014-BU</td> <td>Blk</td> </tr> </table> <p>Net per C 19.00</p>	No.	Color	No.	Color	33-012-BU	Red	33-014-BU	Blk
No.	Color	No.	Color						
33-012-BU	Red	33-014-BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>BANANA PLUG*</b></p> <p>DESC: Lead wire connection with set screw through plastic handle.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.</p> <p>TIP: Cross slotted, nickel plated brass.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-018-BU</td> <td>Red</td> <td>33-020-BU</td> <td>Blk</td> </tr> </table> <p>Net per C 18.00</p>	No.	Color	No.	Color	33-018-BU	Red	33-020-BU	Blk
No.	Color	No.	Color						
33-018-BU	Red	33-020-BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>BANANA PLUG</b></p> <p>DESC: Midjet type; lead wire connection solders to drilled body.</p> <p>RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.</p> <p>TIP: Four leaved, phosphor bronze, nickel plated spring.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-024-BU</td> <td>Red</td> <td>33-026-BU</td> <td>Blk</td> </tr> </table> <p>Net per C 19.00</p>	No.	Color	No.	Color	33-024-BU	Red	33-026-BU	Blk
No.	Color	No.	Color						
33-024-BU	Red	33-026-BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>BANANA PLUG</b></p> <p>DESC: Lead wire connection with set screw through plastic handle.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.</p> <p>TIP: Four leaved, nickel plated phosphor bronze spring.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-028-1BU</td> <td>Red</td> <td>33-028-2BU</td> <td>Blk</td> </tr> </table> <p>Net per C 35.00</p>	No.	Color	No.	Color	33-028-1BU	Red	33-028-2BU	Blk
No.	Color	No.	Color						
33-028-1BU	Red	33-028-2BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>BANANA PLUG*</b></p> <p>DESC: Wire solders to stud; or brass stud locks wire in place for solderless connection.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.</p> <p>TIP: Four leaved, nickel plated, phosphor bronze spring.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-032-1BU</td> <td>Red</td> <td>33-032-2BU</td> <td>Blk</td> </tr> </table> <p>Net per C 19.00</p>	No.	Color	No.	Color	33-032-1BU	Red	33-032-2BU	Blk
No.	Color	No.	Color						
33-032-1BU	Red	33-032-2BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>BANANA PLUG</b></p> <p>DESC: Threaded shank type, supplied with terminal lug and hex nut.</p> <p>BODY: Brass, nickel plated.</p> <p>TIP: Four leaved, phosphor bronze nickel plated spring.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-034-BU</td> <td></td> <td></td> <td></td> </tr> </table> <p>Net per C 20.00</p>	No.	Color	No.	Color	33-034-BU			
No.	Color	No.	Color						
33-034-BU									

ILLUSTRATIONS	DESCRIPTION								
	<p><b>INSULATED BANANA PLUG</b></p> <p>DESC: Nickel plated brass plug, fits standard Banana Jack.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.</p> <p>TIP: Four leaved beryllium copper, nickel plated spring.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-036-1BU</td> <td>Red</td> <td>33-036-2BU</td> <td>Blk</td> </tr> </table> <p>Net per C 32.00</p>	No.	Color	No.	Color	33-036-1BU	Red	33-036-2BU	Blk
No.	Color	No.	Color						
33-036-1BU	Red	33-036-2BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>INSULATED BANANA PLUG*</b></p> <p>DESC: Solderless connection, nickel plated brass plug. Fits standard Banana Jack.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Molded Nylon, per MIL-P-20693A.</p> <p>TIP: Four leaved beryllium copper nickel plated spring.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-037-1BU</td> <td>Red</td> <td>33-037-2BU</td> <td>Blk</td> </tr> </table> <p>Net per C 27.00</p>	No.	Color	No.	Color	33-037-1BU	Red	33-037-2BU	Blk
No.	Color	No.	Color						
33-037-1BU	Red	33-037-2BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>BANANA PLUG</b></p> <p>DESC: Flexible handle type.</p> <p>HANDLE: Unbreakable, shockproof plastic.</p> <p>TIP: Phosphor bronze, nickel plated spring.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-040-1BU</td> <td>Red</td> <td>33-040-2BU</td> <td>Blk</td> </tr> </table> <p>Net per C 21.00</p>	No.	Color	No.	Color	33-040-1BU	Red	33-040-2BU	Blk
No.	Color	No.	Color						
33-040-1BU	Red	33-040-2BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>BANANA PLUG</b></p> <p>DESC: Flexible handle, stack type.</p> <p>HANDLE: Unbreakable, shockproof plastic.</p> <p>TIP: Phosphor bronze, nickel plated spring.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-042-1BU</td> <td>Red</td> <td>33-042-2BU</td> <td>Blk</td> </tr> </table> <p>Net per C 23.00</p>	No.	Color	No.	Color	33-042-1BU	Red	33-042-2BU	Blk
No.	Color	No.	Color						
33-042-1BU	Red	33-042-2BU	Blk						

\*Also available in Bulk quantities in yellow, green, or blue. To order: add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue. Example: No. 33-000-3BU (for yellow).

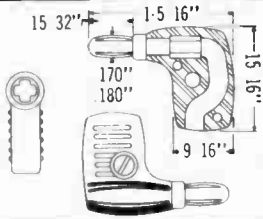




# ELECTROCRAFT ELECTRONIC COMPONENTS

## BANANA PLUGS

### ILLUSTRATIONS



### DESCRIPTION

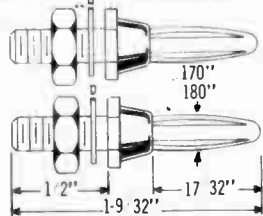
#### BANANA PLUG

DESC: Right angle "Gun" Tip (meter plug), lead wire solders to body.  
 RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty.  
 HANDLE: Molded plastic, per MIL-P-14 CFG.  
 TIP: Four leaved, phosphor bronze, nickel plated springs.

No.	Color	No.	Color
33-046-BU	Red	33-048-BU	Blk

Net per C 36.00

#### BANANA PLUG

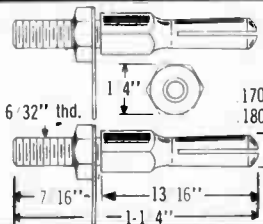


DESC: All metal, threaded shank type, with terminal lug and hex nut.  
 BODY: Brass, nickel plated.  
 TIP: Four leaved, nickel plated phosphor bronze spring.

No.	Color	No.	Color
33-058-BU			

Net per C 18.00

#### BANANA PLUG

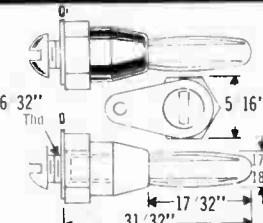


DESC: Threaded shank type, supplied with terminal lug and hex nut.  
 BODY: Brass, nickel plated.  
 TIP: Cross slotted, brass, nickel plated.

No.	Color	No.	Color
33-060-BU			

Net per C 14.00

#### BANANA PLUG

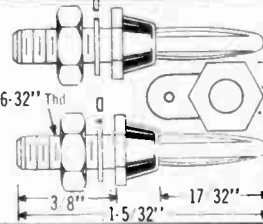


DESC: Panel mounting type, number 6-32 tapped body, with screw and terminal lug.  
 BODY: Brass, nickel plated.  
 TIP: Four leaved, phosphor bronze, nickel plated spring.

No.	Color	No.	Color
33-062-BU			

Net per C 13.00

#### BANANA PLUG

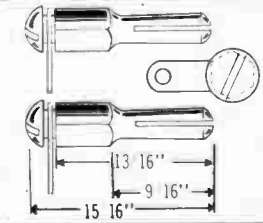


DESC: Threaded shank type, with terminal lug and hex nut.  
 BODY: Brass, nickel plated.  
 TIP: Four leaved, phosphor bronze, nickel plated spring.

No.	Color	No.	Color
33-064-BU			

Net per C 20.00

#### BANANA PLUG

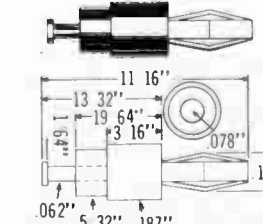


DESC: Panel mounting type, tapped number 6-32, with screw and terminal lug.  
 BODY: Brass, nickel plated.  
 TIP: Cross slotted, brass, nickel plated.

No.	Color	No.	Color
33-066-BU			

Net per C 15.00

#### BANANA PLUG

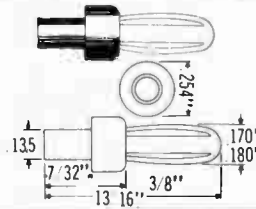


DESC: Printed circuit, sub-miniature rivet type, solder connection, fits jacks with .104 I.D.  
 TIP: Four leaved, beryllium copper, silver plated spring.

No.	Color	No.	Color
33-068-BU			

Net per C 15.00

## ILLUSTRATIONS

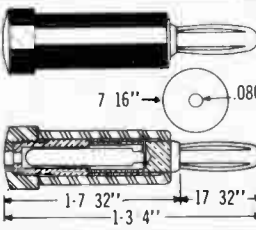


#### MIDGET BANANA PLUG

DESC: R vet type, fits all standard Banana Jacks.  
 TIP: Four leaved phosphor bronze silver plated spring.

No.	Color	No.	Color
33-069-BU			

Net per C 16.20

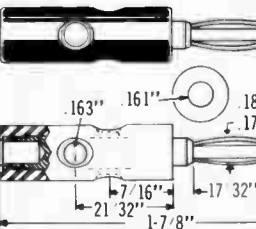


#### BANANA PLUG ADAPTOR

DESC: Adapts tip plug to banana plug, ends are standard tip jack and banana plug.  
 RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.  
 HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.  
 TIP: Standard tip jack one end; other end four leaved banana plug.

No.	Color	No.	Color
33-072-BU	Red	33-074-BU	Blk

Net per C 30.00

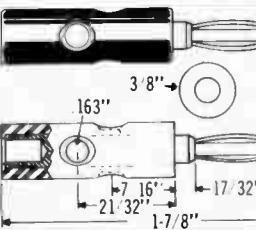


#### STACK BANANA PLUG

DESC: Stack type, fits standard banana plugs in top and side.  
 RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.  
 HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.  
 TIP: Four leaved phosphor bronze, nickel plated spring.

No.	Color	No.	Color
33-084-1BU	Red	33-084-2BU	Blk

Net per C 33.00



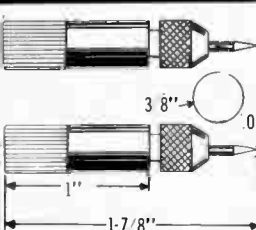
#### STACK BANANA PLUG

DESC: Stack type, fits standard banana plugs in top and side.  
 RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.  
 HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.  
 TIP: Four leaved beryllium copper, nickel plated spring.

No.	Color	No.	Color
33-086-1BU	Red	33-086-2BU	Blk

Net per C 36.00

## TIP PLUGS

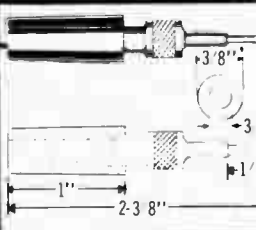


#### PHONO NEEDLE TIP PLUG

DESC: Nickel plated brass body, chuck design to hold #58 replaceable phono needle. Wire solders to body.  
 RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.  
 HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.  
 TIP: Phono needle, brass alloy.

No.	Color	No.	Color
33-100-BU	Red	33-102-BU	Blk

Net per C 20.00

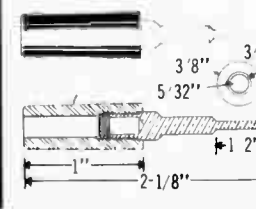


#### INSULATED TIP PLUG\*

DESC: Solderless type, wire tightens under knurled collar machined brass body, nickel plated.  
 RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.  
 HANDLE: Molded Butyrate per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.  
 TIP: Phono needle, brass alloy.

No.	Color	No.	Color
33-108-BU	Red	33-108-BU	Blk

Net per C 15.00



#### HEAVY DUTY PHONE TIP PLUG\*

DESC: Standard tip, large diameter body for accepting heavy duty wire solder type.  
 RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.  
 HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.  
 TIP: Brass, nickel plated phono needle.

No.	Color	No.	Color
33-110-1BU	Red	33-110-2BU	Blk

Net per C 15.00

\*Also available in Bulk quantities in yellow, green, or blue. To order: add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue. Example: No. 33-000-3BU (for yellow).

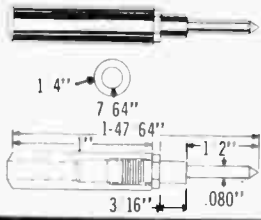


# ELECTROCRAFT ELECTRONIC COMPONENTS

## TIP PLUGS

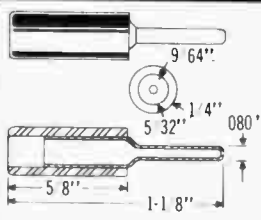
### ILLUSTRATIONS

### DESCRIPTION



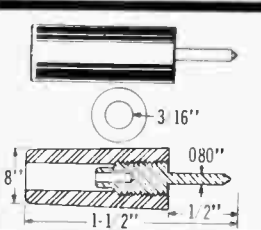
**SUBMINIATURE PHONE TIP PLUG**  
 DESC: Standard tip, extra-small diameter, nickel plated, brass body. Solder type.  
 RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.  
 HANDLE: Fibre, Per MIL-F-1148-A type BH.  
 TIP: Brass, nickel plated

No.		Color		No.		Color		Net per C 18.00	
33-112-BU		Red		33-114-BU		Bik			



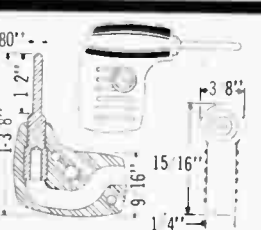
**INSULATED HOLLOW PHONETIP**  
 DESC: Drawn brass, nickel plated, solder type.  
 RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.  
 HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.  
 TIP: Hollow, brass, nickel plated.

No.		Color		No.		Color		Net per C 11.00	
33-116-1BU		Red		33-116-2BU		Bik			



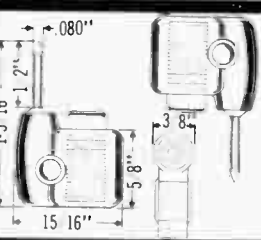
**INSULATED SHORT TIP PLUG\***  
 DESC: Specially designed where minimum amount of metal can be exposed. Solder type.  
 RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.  
 HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.  
 TIP: Brass, nickel plated.

No.		Color		No.		Color		Net per C 12.00	
33-118-BU		Red		33-120-BU		Bik			



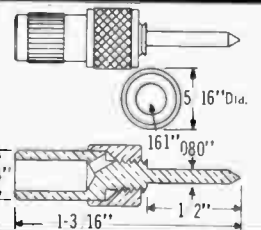
**RIGHT ANGLE TIP PLUG**  
 DESC: Right angle "gun" tip (meter plug). Lead wire solders to body.  
 RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.  
 HANDLE: Molded Plastic, per MIL-P-14 CFG.  
 TIP: Brass, nickel plated.

No.		Color		No.		Color		Net per C 27.00	
33-128-BU		Red		33-130-BU		Bik			



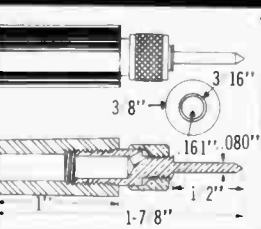
**"TRIGGER-QUIK" TIP PLUG**  
 DESC: Right angle plug, spring loaded solderless wire connection.  
 RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.  
 HANDLE: Molded Plastic, per MIL-P-14 CFG.  
 TIP: Brass, nickel plated

No.		Color		No.		Color		Net per C 39.00	
33-132-BU		Red		33-134-BU		Bik			



**"JR." SOLDERLESS PHONE TIP**  
 DESC: Press fit, nickel plated brass body; wire fastens under knurled collar.  
 RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.  
 TIP: Brass, nickel plated.

No.		Color		No.		Color		Net per C 12.00	
33-142-BU									

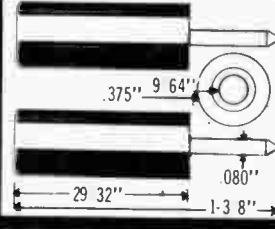


**"JR." SOLDERLESS PHONE TIP\***  
 DESC: Threaded nickel plated brass body. Wire fastens under knurled collar.  
 RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.  
 HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.  
 TIP: Brass, nickel plated.

No.		Color		No.		Color		Net per C 15.00	
33-144-1BU		Red		33-144-2BU		Bik			

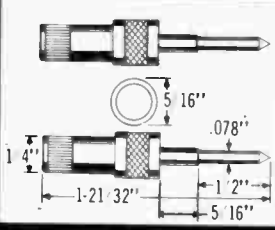
### ILLUSTRATIONS

### DESCRIPTION



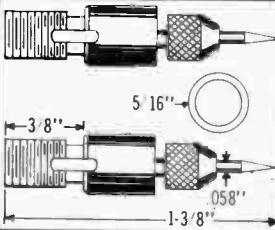
**INSULATED TIP PLUG\***  
 DESC: Short tip, nickel plated brass plug; fits standard phone tip jack. Solder type.  
 RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.  
 HANDLE: Nylon, per MIL-P-20693A.  
 TIP: Brass, nickel plated.

No.		Color		No.		Color		Net per C 15.00	
33-145-1BU		Red		33-145-2BU		Bik			



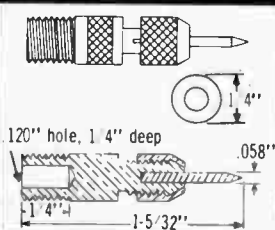
**SOLDERLESS TIP PLUG**  
 DESC: All metal; wire fastens under knurled collar.  
 BODY: Precision machined brass, nickel plated.  
 TIP: Brass, nickel plated.

No.		Color		No.		Color		Net per C 12.00	
33-146-BU									



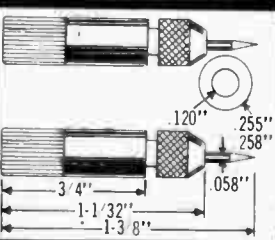
**PHONO NEEDLE TIP PLUG**  
 DESC: Threaded shank type with 1/4-20 thread; chuck to hold phono needle.  
 BODY: Brass, nickel plated.  
 TIP: Steel, nickel plated phono needle.

No.		Color		No.		Color		Net per C 14.00	
33-148-BU									



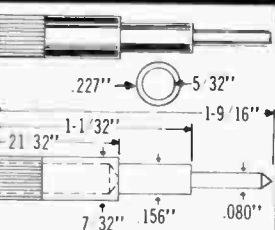
**NEEDLE TIP AND CHUCK**  
 DESC: Threaded shank type. Tip is removable for quick replacement.  
 BODY: Brass, nickel plated  
 TIP: Steel, nickel plated phono needle.

No.		Color		No.		Color		Net per C 19.00	
33-149-BU									



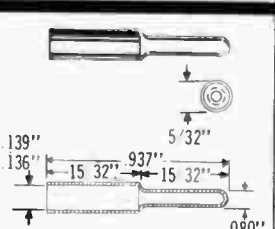
**PUSH-ON NEEDLE CHUCK**  
 DESC: Knurled body for press fit into Test Prod handles drilled with 1/4" hole.  
 BODY: Brass, nickel plated, solder connection.  
 TIP: Steel, nickel plated phono needle.

No.		Color		No.		Color		Net per C 13.20	
33-150-BU									



**HEAVY DUTY PHONE TIP PLUG**  
 DESC: Knurled shank for press fit into Test Prod handles, drilled with 7/32" hole; extra large well for lead wires up to No. 10 gauge; solder connection.  
 BODY: Brass, nickel plated.  
 TIP: Brass, nickel plated phone tip.

No.		Color		No.		Color		Net per C 11.00	
33-152-BU									



**STANDARD HOLLOW PHONE TIP**  
 DESC: Solder type, hollow design.  
 BODY: Drawn brass, nickel plated.  
 TIP: Hollow, brass, nickel plated.

No.		Color		No.		Color		Net per C 1.50	
33-154-BU									

\* Also available in Bulk quantities in yellow, green, or blue. To order: add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue. Example: No. 33-000-3BU (for yellow).



# ELECTROCRAFT ELECTRONIC COMPONENTS

## TIP PLUGS

### ILLUSTRATIONS DESCRIPTION

**STANDARD SOLID PHONE TIP**

DESC: Solder type, solid metal tip.  
 BODY: Brass, nickel plated.  
 TIP: Solid, brass, nickel plated.

No.	33-156-BU	Net per C	2.50
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**HEAVY DUTY PHONE TIP PLUG**

DESC: Solder type. Solid metal tip for heavy duty applications.  
 BODY: Brass, nickel plated.  
 TIP: Solid, brass, nickel plated.

No.	33-158-BU	Net per C	2.70
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**COMBINATION POST-PLUG**

DESC: Captive head, type; for converting panel mounted banana jack to 5-way binding post termination. Accepts solid or standard wire, spade lug, phone tip, banana plug or alligator clip. Brass, nickel plated body.  
 RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.  
 HANDLE: Nylon - Dupont Zytel No. 101, per MIL-M-20693A.  
 TIP: Four leaved, phosphor bronze, nickel plated spring.

No.	33-165-1BU	Color	Red	No.	33-165-2BU	Color	Blk	Net per C	30.00
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**COMBINATION POST-PLUG\***

DESC: Captive head, type; for converting panel-mounted banana jack to 5-way binding post termination. Accepts solid or standard wire, spade lug, phone tip, banana plug or alligator clip. Brass, nickel plated body.  
 RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.  
 HEAD: Molded nylon, per MIL-M-20693A.  
 TIP: Four leaved, phosphor bronze, nickel plated spring.

No.	33-166-1BU	Color	Red	No.	33-166-2BU	Color	Blk	Net per C	30.00
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**COMBINATION POST-PLUG**

DESC: Captive head type. For converting panel-mounted banana jack to a spring-loaded push post. Accepts solid or stranded wire, standard phone tip which locks in place upon release of pressure on cap. Brass, nickel plated body.  
 HEAD: Molded styrene cap per MIL-L-416, type 1.  
 TIP: Four leaved phosphor bronze, nickel plated spring.

No.	33-167-BU	Net per C	42.00
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**HEAVY DUTY PHONE TIP PLUG**

DESC: All metal, nickel plated brass body is large enough to accept standard banana plug. Body is threaded to fit into plastic handle.

No.	33-170-BU	Net per C	12.00
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## ILLUSTRATIONS DESCRIPTION

**"JR" SOLDERLESS PHONE TIP "THREADED"**

DESC: Threaded shank type. Wire fastens under knurled collar.  
 BODY: Brass, nickel plated.  
 RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.  
 TIP: Brass, nickel plated phone tip.

No.	33-172-BU	Net per C	12.00
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**DUAL STANDARD TIP PLUG**

DESC: Solderless type; brass, nickel plated body. Designed mates with No. 33-206.  
 BODY: Molded Cycotac plastic, per MIL-M-22544, type 4.  
 TIPS: 2 brass, nickel plated tips on 3/4" centers.

No.	33-174-BU	Net per C	74.00
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**DUAL SHORT TIP PLUG SOLDERLESS TYPE**

DESC: Brass, nickel plated body. Mates with No. 33-206.  
 BODY: Molded Cycotac plastic, per MIL-M-22544, type 4.  
 TIPS: 2 brass, nickel plated tips on 3/4" centers.

No.	33-176-BU	Net per C	72.00
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**DUAL BANANA JACK**

DESC: Mounts in 2 - 3/8" holes on 3/4" centers in panel up to 1/4" thick. Accepts standard and dual banana plugs. Solder connection.  
 RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. Capacitance 2.0 mmfd. between conductors, 4.0 mmfd. to panel.  
 HEAD: Insulated, molded black styrene, per MIL-L-P4 6, type 1.  
 BODY: Brass, nickel plated.

No.	33-179-BU	Net per C	50.00
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## BANANA & TIP PLUG JACKS

**BANANA JACK \***

DESC: Mounts in 5/16" hole. Fits panel up to 3/8" thick. Accepts Standard Banana Plug.  
 RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.  
 HEAD: Melamine MIL-14F, type CM/C.  
 BODY: Brass, nickel plated, with tinned solder lug.

No.	33-180-BU	Color	Red	No.	33-182-BU	Color	Blk	Net per C	14.00
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**BANANA JACK**

DESC: Mounts in 1/4" hole and fits panel up to 3/8" thick. Accepts standard banana plugs.  
 BODY: Brass, nickel plated; with tinned solder lug.

No.	33-184-BU	Net per C	12.00
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\* Also available in Bulk quantities in yellow, green, or blue. To order: add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue. Example: No. 33-000-3BU (for yellow).



# ELECTROCRAFT ELECTRONIC COMPONENTS

## BANANA & TIP PLUG JACKS

ILLUSTRATIONS	DESCRIPTION								
	<p><b>HEAVY DUTY BANANA JACK*</b></p> <p>DESC: Exclusive hex design prevents turning in assembly; with fibre insulating washer.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HEAD: Molded plastic per MIL-P-14 CFG.</p> <p>BODY: Brass, nickel plated; with heavy duty solder lug.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-186-BU</td> <td>Red</td> <td>33-188-BU</td> <td>Blk</td> </tr> </table> <p>Net per C 16.00</p>	No.	Color	No.	Color	33-186-BU	Red	33-188-BU	Blk
No.	Color	No.	Color						
33-186-BU	Red	33-188-BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>TIP JACK *</b></p> <p>DESC: Positive-hold hex lock between molded head and jack body. Exclusive hex design prevents turning in assembly. Insulated.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HEAD: Molded plastic, per MIL-P-14 CFG.</p> <p>BODY: Brass, nickel plated.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-190-1BU</td> <td>Red</td> <td>33-190-2BU</td> <td>Blk</td> </tr> </table> <p>Net per C 17.00</p>	No.	Color	No.	Color	33-190-1BU	Red	33-190-2BU	Blk
No.	Color	No.	Color						
33-190-1BU	Red	33-190-2BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>HIGH VOLTAGE NYLON BANANA JACK *</b></p> <p>DESC: High voltage flashover to panel prevented by heavy molded nylon body and cup washer.</p> <p>HANDLE: Molded nylon per MIL-P-20693A.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty. 5KV 60 cycle continuous working voltage. Millivolt drop per MIL-J-6751.</p> <p>BODY: Brass, bright nickel plated per QQ-N-290, type V(FC).</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-191-1BU</td> <td>Red</td> <td>33-191-2BU</td> <td>Blk</td> </tr> </table> <p>Net per C 45.00</p>	No.	Color	No.	Color	33-191-1BU	Red	33-191-2BU	Blk
No.	Color	No.	Color						
33-191-1BU	Red	33-191-2BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>BANANA JACK</b></p> <p>DESC: All metal body, with hex mounting nut. Mounts in 1/4" hole; fits panel up to 3/8".</p> <p>BODY: Brass, nickel plated with tinned solder lug.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-192-BU</td> <td></td> <td></td> <td></td> </tr> </table> <p>Net per C 12.00</p>	No.	Color	No.	Color	33-192-BU			
No.	Color	No.	Color						
33-192-BU									

ILLUSTRATIONS	DESCRIPTION								
	<p><b>INSULATED BANANA JACK*</b></p> <p>DESC: Mounts in 5/16" hole in panels up to 3/8" thick, solder direct to turret terminal. Supplied with hex nut and fibre washer. Accepts standard banana plugs.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HEAD: TB-30 Melamine-MIL-14F type CMG - red and black. Urea - LU-671 type 1 - colors.</p> <p>BODY: Brass, nickel plated.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-193-1BU</td> <td>Red</td> <td>33-193-2BU</td> <td>Blk</td> </tr> </table> <p>Net per C 15.00</p>	No.	Color	No.	Color	33-193-1BU	Red	33-193-2BU	Blk
No.	Color	No.	Color						
33-193-1BU	Red	33-193-2BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>BANANA-TIP JACK COMBINATION*</b></p> <p>DESC: Accepts both Banana Plug and Standard Tip Plug; with extruded fibre washer and mounting nut. Mounts in 5/16" hole; fits panel up to 5/8" thick.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HEAD: TB-30 Melamine-MIL-14F type CMG - red and black. Urea - LU-671 type 1 - colors.</p> <p>BODY: Brass, nickel plated; phosphor bronze contact.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-194-BU</td> <td>Red</td> <td>33-196-BU</td> <td>Blk</td> </tr> </table> <p>Net per C 17.00</p>	No.	Color	No.	Color	33-194-BU	Red	33-196-BU	Blk
No.	Color	No.	Color						
33-194-BU	Red	33-196-BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>DUAL BANANA AND STANDARD TIP PLUG</b></p> <p>DESC: Mounts in two 3/8" holes on 3/4" centers on panels up to 5/16" thick. Mates with dual banana plug No. 33-010 and dual tip plug 33-174; with two hex nuts and washers.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HEAD: Molded black styrene body, per MIL-L-P 416, type 1.</p> <p>BODY: Brass, nickel plated; phosphor bronze contacts.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-197-BU</td> <td></td> <td></td> <td></td> </tr> </table> <p>Net per C 73.00</p>	No.	Color	No.	Color	33-197-BU			
No.	Color	No.	Color						
33-197-BU									

ILLUSTRATIONS	DESCRIPTION								
	<p><b>BANANA PLUG SPLICE</b></p> <p>DESC: For coupling 2 standard Banana Plugs. For extending test leads, etc.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.</p> <p>BODY: Brass</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-200-BU</td> <td>Red</td> <td>33-202-BU</td> <td>Blk</td> </tr> </table> <p>Net per C 24.00</p>	No.	Color	No.	Color	33-200-BU	Red	33-202-BU	Blk
No.	Color	No.	Color						
33-200-BU	Red	33-202-BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>DUAL TIP JACK ASSEMBLY</b></p> <p>DESC: Mounts in two 3/8" holes on 3/4" centers in panels up to 1/4" thick. Accepts phone tip plugs; with two hex nuts.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HEAD AND WASHER: Molded black styrene body, per MIL-L-P 416, type 1.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-206-BU</td> <td></td> <td></td> <td></td> </tr> </table> <p>Net per C 55.00</p>	No.	Color	No.	Color	33-206-BU			
No.	Color	No.	Color						
33-206-BU									

ILLUSTRATIONS	DESCRIPTION								
	<p><b>INSULATED TIP JACK*</b></p> <p>DESC: Requires 5/16" hole; fits panels up to 1/4" thick; with hex nut.</p> <p>HEAD: Dupont Nylon, per MIL-M-20693A.</p> <p>BODY: Brass, nickel plated.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-208-1BU</td> <td>Red</td> <td>33-208-2BU</td> <td>Blk</td> </tr> </table> <p>Net per C 25.00</p>	No.	Color	No.	Color	33-208-1BU	Red	33-208-2BU	Blk
No.	Color	No.	Color						
33-208-1BU	Red	33-208-2BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>STANDARD TIP JACK*</b></p> <p>DESC: Requires 5/16" mounting hole; fits panels up to 1/4" thick with insulating washer &amp; hex nut.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HEAD: Molded plastic, red and black per MIL-M-14F type CMG. Yellow, green and blue per LU-671 type 1.</p> <p>BODY: Brass, nickel plated; phosphor bronze contact.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-210-BU</td> <td>Red</td> <td>33-212-BU</td> <td>Blk</td> </tr> </table> <p>Net per C 14.00</p>	No.	Color	No.	Color	33-210-BU	Red	33-212-BU	Blk
No.	Color	No.	Color						
33-210-BU	Red	33-212-BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>HIGH VOLTAGE NYLON PHONE TIP JACK*</b></p> <p>DESC: High voltage flashover to panel prevented by heavy molded nylon body and cup washer. Colors conform to Federal Standard 595. Hex nuts and insert shell are nickel plated brass per QQ-N-290 type V (FC). Phosphor bronze contact, silver plated per QQ-S-365, overall gold plated. Withstands 100 hours salt spray test.</p> <p>HANDLE: Molded nylon body per MIL-P-20693A.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-214-1BU</td> <td>Red</td> <td>33-214-2BU</td> <td>Blk</td> </tr> </table> <p>Net per C 45.00</p>	No.	Color	No.	Color	33-214-1BU	Red	33-214-2BU	Blk
No.	Color	No.	Color						
33-214-1BU	Red	33-214-2BU	Blk						

\* Also available in Bulk quantities in yellow, green, or blue. To order: add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue. Example: No. 33-000-3BU (for yellow).



# ELECTROCRAFT ELECTRONIC COMPONENTS

## BANANA & TIP PLUG JACKS

ILLUSTRATIONS	DESCRIPTION												
	<p><b>TIP JACK, ALL-INSULATED*</b></p> <p>DESC: Mounts in 3-8" hole; fits panel up to 5/16" thick; with mounting nut.</p> <p>RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty. 5K Volts 60 cycle AC continuous working voltage. Capacitance 3.0 mmfd.</p> <p>BODY: Molded of nylon per MIL-M-20693A.</p> <p>CONTACT: Phosphor bronze.</p> <table border="1"> <tr> <td colspan="4">Net per C 18 00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-216-BU</td> <td>Red</td> <td>33-218-BU</td> <td>Blk</td> </tr> </table>	Net per C 18 00				No.	Color	No.	Color	33-216-BU	Red	33-218-BU	Blk
Net per C 18 00													
No.	Color	No.	Color										
33-216-BU	Red	33-218-BU	Blk										

	<p><b>MINIATURE BANANA JACK*</b></p> <p>DESC: Insulating washer provides isolation from panel. Fits 5/16" mounting hole; for panels up to 1/4" thick.</p> <p>HEAD AND WASHER: Molded nylon per MIL-M-20693A.</p> <p>BODY: Brass, nickel plated body; tinned solder lug.</p> <table border="1"> <tr> <td colspan="4">Net per C 24.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-220-1BU</td> <td>Red</td> <td>33-220-2BU</td> <td>Blk</td> </tr> </table>	Net per C 24.00				No.	Color	No.	Color	33-220-1BU	Red	33-220-2BU	Blk
Net per C 24.00													
No.	Color	No.	Color										
33-220-1BU	Red	33-220-2BU	Blk										

	<p><b>TIP JACK, ALL-METAL</b></p> <p>DESC: Brass nickel plated body; mounts in 1/4" hole; fits panels up to 3/8" thick.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>TIP: Phosphor bronze contact.</p> <table border="1"> <tr> <td colspan="4">Net per C 12.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-226-BU</td> <td></td> <td></td> <td></td> </tr> </table>	Net per C 12.00				No.	Color	No.	Color	33-226-BU			
Net per C 12.00													
No.	Color	No.	Color										
33-226-BU													

	<p><b>TIP JACK, IN-LINE STYLE</b></p> <p>DESC: Brass nickel plated body; mounts on end of cords. For test lead extensions, etc.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter, QUD4-59-4820 type 3.</p> <p>CONTACT: Phosphor bronze.</p> <table border="1"> <tr> <td colspan="4">Net per C 21.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-228-BU</td> <td>Red</td> <td>33-230-BU</td> <td>Blk</td> </tr> </table>	Net per C 21.00				No.	Color	No.	Color	33-228-BU	Red	33-230-BU	Blk
Net per C 21.00													
No.	Color	No.	Color										
33-228-BU	Red	33-230-BU	Blk										

	<p><b>NYLON IN-LINE TIP JACK*</b></p> <p>DESC: Accommodates all standard phone tip plugs; for extension cords or mounting on panel when wrap around terminal must be insulated in rear.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty. 5 KV 60 cycle AC continuous working voltage.</p> <p>BODY: Molded nylon per MIL-P-20693A.</p> <p>CONTACT: Heat-treated, gold plated, phosphor bronze.</p> <table border="1"> <tr> <td colspan="4">Net per C 30.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-231-1BU</td> <td>Red</td> <td>33-231-2BU</td> <td>Blk</td> </tr> </table>	Net per C 30.00				No.	Color	No.	Color	33-231-1BU	Red	33-231-2BU	Blk
Net per C 30.00													
No.	Color	No.	Color										
33-231-1BU	Red	33-231-2BU	Blk										

	<p><b>TIP PLUG SPLICE</b></p> <p>DESC: Brass nickel plated body. For making extensions to test leads, etc.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.</p> <p>CONTACT: Phosphor bronze spring.</p> <table border="1"> <tr> <td colspan="4">Net per C 27.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-232-BU</td> <td>Red</td> <td>33-234-BU</td> <td>Blk</td> </tr> </table>	Net per C 27.00				No.	Color	No.	Color	33-232-BU	Red	33-234-BU	Blk
Net per C 27.00													
No.	Color	No.	Color										
33-232-BU	Red	33-234-BU	Blk										

ILLUSTRATIONS	DESCRIPTION												
	<p><b>NYLON TIP JACK (WRAP AROUND TYPE)*</b></p> <p>DESC: Hex head for sure grip tightening. Mounts in 1/4" hole in panels up to 1/4" thickness.</p> <p>SALT SPRAY TEST: 100 hours.</p> <p>INSULATION RESISTANCE: 5000 Meg Resistance Ohms.</p> <p>RATED VOLTAGE &amp; CURRENT: 1000 volts peak at 5 amp max.</p> <p>OPERATING TEMPERATURE: -55 degree to +150C</p> <p>NOMINAL CAPACITY: .20 mmfd</p> <p>TEST VOLTAGE: 9000 volts DC peak.</p> <p>BODY: Nylon per MIL-M-20693A.</p> <table border="1"> <tr> <td colspan="4">Net per C 21.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-240-1BU</td> <td>Red</td> <td>33-242-BU</td> <td>Blk</td> </tr> </table>	Net per C 21.00				No.	Color	No.	Color	33-240-1BU	Red	33-242-BU	Blk
Net per C 21.00													
No.	Color	No.	Color										
33-240-1BU	Red	33-242-BU	Blk										

	<p><b>NYLON TIP JACK WITH SPADE TERMINAL*</b></p> <p>DESC: Fits phone tip plugs. Mounts in 1/4" hole in panel up to 1/4" thick with hex nut.</p> <p>BODY: Insulated molded nylon per MIL-M-20693A.</p> <p>CONTACT: Spade terminal.</p> <table border="1"> <tr> <td colspan="4">Net per C 30.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-245-1BU</td> <td>Red</td> <td>33-245-2BU</td> <td>Blk</td> </tr> </table>	Net per C 30.00				No.	Color	No.	Color	33-245-1BU	Red	33-245-2BU	Blk
Net per C 30.00													
No.	Color	No.	Color										
33-245-1BU	Red	33-245-2BU	Blk										

	<p><b>NYLON FEED-THRU JACK*</b></p> <p>DESC: Feed-thru type. Fits all standard phone tip plugs. Mounts in 1/4" hole in panel up to 1/4" thick with hex nut.</p> <p>BODY: Insulated nylon per MIL-M-20693A.</p> <p>CONTACT: Brass, silver plated.</p> <table border="1"> <tr> <td colspan="4">Net per C 28.20</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-247-1BU</td> <td>Red</td> <td>33-247-2BU</td> <td>Blk</td> </tr> </table>	Net per C 28.20				No.	Color	No.	Color	33-247-1BU	Red	33-247-2BU	Blk
Net per C 28.20													
No.	Color	No.	Color										
33-247-1BU	Red	33-247-2BU	Blk										

## BINDING POSTS

BINDING POST													
	<p>DESC: Brass nickel plated body, supplied with 8-32 mounting screw and lock washer.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HEAD: Molded plastic.</p> <table border="1"> <tr> <td colspan="4">Net per C 18.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-251-BU</td> <td>Red</td> <td>33-252-BU</td> <td>Blk</td> </tr> </table>	Net per C 18.00				No.	Color	No.	Color	33-251-BU	Red	33-252-BU	Blk
Net per C 18.00													
No.	Color	No.	Color										
33-251-BU	Red	33-252-BU	Blk										

BINDING POST													
	<p>DESC: Brass, nickel plated body, comes complete with 3-32 threaded screw - 1/2" long, nickel plated, brass lockwasher. Head diameter 1/2"</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HEAD: Molded bakelite.</p> <table border="1"> <tr> <td colspan="4">Net per C 18.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-254-BU</td> <td>Red</td> <td>33-255-BU</td> <td>Blk</td> </tr> </table>	Net per C 18.00				No.	Color	No.	Color	33-254-BU	Red	33-255-BU	Blk
Net per C 18.00													
No.	Color	No.	Color										
33-254-BU	Red	33-255-BU	Blk										

BINDING POST COMBINATION TYPE													
	<p>DESC: Brass nickel plated body. Accepts banana plug tip plug, bare wire, or spade lug. Threaded No. 3-32 mounting stud 1/2" long; supplied with 2 hex nuts.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HEAD: Molded nylon per MIL-M-20693A.</p> <table border="1"> <tr> <td colspan="4">Net per C 22.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-256-BU</td> <td>Red</td> <td>33-258-BU</td> <td>Blk</td> </tr> </table>	Net per C 22.00				No.	Color	No.	Color	33-256-BU	Red	33-258-BU	Blk
Net per C 22.00													
No.	Color	No.	Color										
33-256-BU	Red	33-258-BU	Blk										

\*Also available in Bulk quantities in yellow, green, or blue. To order: add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue. Example: No. 33-000-3BU (for yellow).



# ELECTROCRAFT ELECTRONIC COMPONENTS

## BINDING POSTS

ILLUSTRATIONS	DESCRIPTION								
<p>1-7/16" 8-32 thd. 3 3/32" dia. 1.2" 161" 9-1/16" 7-1/16"</p>	<p><b>BINDING POST COMBINATION TYPE</b></p> <p>DESC: Similar in design and construction as 33-256, 8, except, supplied with molded shoulder-type plastic washers to insulate post from chassis.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HEAD: Molded nylon per MIL-M-20693A.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-260-BU</td> <td>Red</td> <td>33-262-BU</td> <td>Blk</td> </tr> </table> <p>Net per C 25.00</p>	No.	Color	No.	Color	33-260-BU	Red	33-262-BU	Blk
No.	Color	No.	Color						
33-260-BU	Red	33-262-BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
<p>161" 1/2" 9-1/16" 1-11 16/32" 15 16/32" 3 3/32" 8-32 thd.</p>	<p><b>BINDING POST INSULATED UNIVERSAL TYPE</b></p> <p>DESC: Brass, nickel-plated body with threaded No. 8-32 mounting stud; accepts banana plug, tip plug, needle tip, spade lug, alligator clip or bare wire. Heavy duty spacers insulate post from chassis. Mounts in 5/16" hole.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HEAD: Molded nylon per MIL-M-20693A.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-264-BU</td> <td>Red</td> <td>33-266-BU</td> <td>Blk</td> </tr> </table> <p>Net per C 40.00</p>	No.	Color	No.	Color	33-264-BU	Red	33-266-BU	Blk
No.	Color	No.	Color						
33-264-BU	Red	33-266-BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
<p>1-2" 1-9/32" closed 1-15/32" open 9-1/16" 3 3/32" 10-32 thd.</p>	<p><b>BINDING POST</b></p> <p>DESC: Brass, nickel plated body with insulating washer and two hex nuts. 8-32 threaded stud. Accepts phone tip plug, spade lug, alligator clip, banana plug or stranded wire.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HEAD AND WASHER: Molded nylon per MIL-M-20693A.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-265-BU</td> <td>Red</td> <td>33-267-BU</td> <td>Blk</td> </tr> </table> <p>Net per C 25.00</p>	No.	Color	No.	Color	33-265-BU	Red	33-267-BU	Blk
No.	Color	No.	Color						
33-265-BU	Red	33-267-BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
<p>161" 1 15/16" open 1-3/4" closed 1 2" 3 3/32" 10-32 thd.</p>	<p><b>HEAVY DUTY BINDING POST*</b></p> <p>DESC: Brass, nickel plated body; accepts standard banana or tip plug, spade lug alligator clip or bare wire; supplied with a thick molded insulating spacer; punched, keyed slot for mounting washers; spacer has "D" shaped shoulder; shoulder keys into chassis mounting hole and prevents post from turning; supplied with two hex nuts.</p> <p>RATING: (Maximum) 30 amps...2000 RMS Volt.</p> <p>HEAD AND WASHER: Molded nylon per MIL-M-20693A.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-268-BU</td> <td>Red</td> <td>33-270-BU</td> <td>Blk</td> </tr> </table> <p>Net per C 42.00</p>	No.	Color	No.	Color	33-268-BU	Red	33-270-BU	Blk
No.	Color	No.	Color						
33-268-BU	Red	33-270-BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
<p>1 2" 161" 3 3/32" 1 16" 1-15/16" closed 2-1/8" open</p>	<p><b>HEAVY DUTY BINDING POST*</b></p> <p>DESC: Identical in design to binding post No. 33-268/270, except, that end of stud is milled flat and drilled for solder connection.</p> <p>HEAD AND WASHER: Molded nylon per MIL-M-20693A.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-272-BU</td> <td>Red</td> <td>33-274-BU</td> <td>Blk</td> </tr> </table> <p>Net per C 42.00</p>	No.	Color	No.	Color	33-272-BU	Red	33-274-BU	Blk
No.	Color	No.	Color						
33-272-BU	Red	33-274-BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
<p>161" 9 16" 1-27 32" closed 2" open 5 8" 10-32 thd.</p>	<p><b>BINDING POST</b></p> <p>DESC: 5-way, nylon. Fluted style, insulated, Banana adapter type. Wrap around tips, brass nickel plated.</p> <p>HEAD AND WASHER: Molded nylon per MIL-M-20693A.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-279-1BU</td> <td>Red</td> <td>33-279-2BU</td> <td>Blk</td> </tr> </table> <p>Net per C 42.00</p>	No.	Color	No.	Color	33-279-1BU	Red	33-279-2BU	Blk
No.	Color	No.	Color						
33-279-1BU	Red	33-279-2BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
<p>1 2" .080" 2-1/8" open 1-15/16" closed 3 3/32" 10-32 thd.</p>	<p><b>NYLON BINDING POST*</b></p> <p>DESC: Tip plug receptacle .080" I.D. Wire hole at right angle to flat on insulated washers. Punched keyed slot for mounting washers. Mounts in 3/8" hole in panels up to 1/4" thick. Solder connection to stud. Body and inserts are brass, bright nickel plated.</p> <p>HEAD AND WASHER: Molded nylon per MIL-M-20693A.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-275-1BU</td> <td>Red</td> <td>33-275-2BU</td> <td>Blk</td> </tr> </table> <p>Net per C 42.00</p>	No.	Color	No.	Color	33-275-1BU	Red	33-275-2BU	Blk
No.	Color	No.	Color						
33-275-1BU	Red	33-275-2BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
<p>5/8" 161" 3 4" 3 3/32" 1 16" 5/8" closed</p>	<p><b>DUAL BINDING POST</b></p> <p>DESC: Accepts standard dual banana plug and wire, etc. Mounts in two 3/8" holes on 3/4" centers in 1/16" to 1/4" panels. With wrap-around solder studs.</p> <p>RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>BDDY: Black plastic.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-276-BU</td> <td></td> <td></td> <td></td> </tr> </table> <p>Net per C 75.00</p>	No.	Color	No.	Color	33-276-BU			
No.	Color	No.	Color						
33-276-BU									

ILLUSTRATIONS	DESCRIPTION								
<p>1 2" 161" 2-1/8" open 1-15/16" closed 3 3/32" 10 3/32" thd.</p>	<p><b>HEAVY DUTY BINDING POST*</b></p> <p>DESC: Brass nickel plated body; accepts banana or tip plug, spade lug, alligator clip or bare wire; supplied with a thick molded insulating spacer with "D" shaped shoulder; shoulder keys into chassis mounting hole and prevents post from turning; maximum rating 30 amps...2000 RMS volts; with 2 hex nuts.</p> <p>RATING: 30 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HEAD AND WASHER: Molded nylon per MIL-M-20693A.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-278-BU</td> <td>Red</td> <td>33-280-BU</td> <td>Blk</td> </tr> </table> <p>Net per C 36.00</p>	No.	Color	No.	Color	33-278-BU	Red	33-280-BU	Blk
No.	Color	No.	Color						
33-278-BU	Red	33-280-BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
<p>9/16" 161" 2-1/16" open 1-29/32" closed 5 8" .085" .062"</p>	<p><b>BINDING POST</b></p> <p>DESC: 5-way, nylon. Fluted style, insulated, banana adapter type. Spade type tip...brass nickel plated.</p> <p>HEAD AND WASHER: Molded nylon per MIL-M-20693A.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-281-1BU</td> <td>Red</td> <td>33-281-2BU</td> <td>Blk</td> </tr> </table> <p>Net per C 45.00</p>	No.	Color	No.	Color	33-281-1BU	Red	33-281-2BU	Blk
No.	Color	No.	Color						
33-281-1BU	Red	33-281-2BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
<p>161" 3/16" 1/2" 3 8" 1/8"</p>	<p><b>BINDING POST, ALL METAL</b></p> <p>DESC: Knurled cap; accepts banana plug, phone tip or wire. Mounts to panel with No. 6-32 screw (not supplied).</p> <p>BODY: Brass, nickel plated.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-282-BU</td> <td></td> <td></td> <td></td> </tr> </table> <p>Net per C 21.00</p>	No.	Color	No.	Color	33-282-BU			
No.	Color	No.	Color						
33-282-BU									

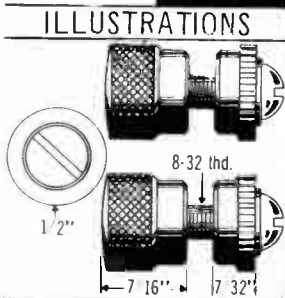
ILLUSTRATIONS	DESCRIPTION								
<p>6-32 thd. 5/32" deep 375" 23 3/32" open 19 3/32" closed .350" 105" slot</p>	<p><b>BINDING POST</b></p> <p>DESC: Compression type, captive brass, nickel plated knurled head. Screw head down to tighten wire between body and sliding contact. Threaded internally for No. 6-32 mounting screw.</p> <p>BDDY: Brass, nickel plated.</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-283-BU</td> <td></td> <td></td> <td></td> </tr> </table> <p>Net per C 21.00</p>	No.	Color	No.	Color	33-283-BU			
No.	Color	No.	Color						
33-283-BU									

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# ELECTROCRAFT ELECTRONIC COMPONENTS

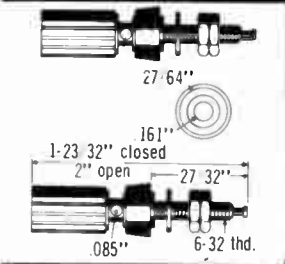
## BINDING POSTS



### BINDING POST, ALL METAL

**DESC:** Knurled cap; designed for connection of bare wires or spade lugs; No. 8-32 x 1.2" mounting screw and lock washer supplied.  
**BODY:** Heavy brass, nickel plated.

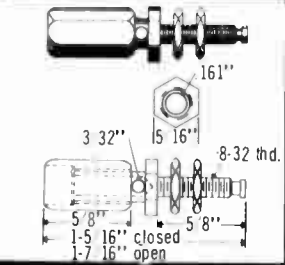
No.		Net per C 24.00
33-284-BU		



### METAL BINDING POST

**DESC:** Gold plated, fluted brass, captive head. Molded black nylon washer with gold plated brass insert. Use where direct ground connection is made to panel or chassis. Complete with gold plated brass flat washer for grounding. Accepts phone tip plug, spade lug, banana plug, alligator clip or stranded wire.

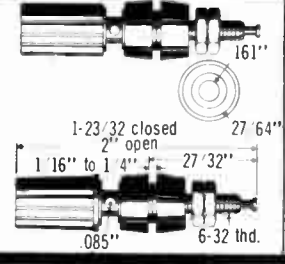
No.		Net per C 45.00
33-285-BU		



### BINDING POST

**DESC:** 5-way metal binding post. Can accept banana plug. Mounts in .171" hole in 1.16" to 3.8" panels. Has wrap-around solder stud 8-32 thread.

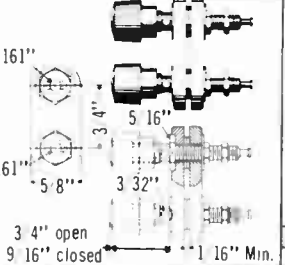
No.		Net per C 33.00
33-286-BU		



### METAL BINDING POST

**DESC:** Gold plated, fluted brass, captive head, molded black nylon washer with gold plated brass insert. Use where internal ground circuit is isolated from chassis or panel. Accepts phone tip plug, spade lug, banana plug, alligator clip or wire strand.

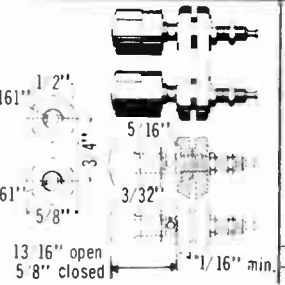
No.		Net per C 50.00
33-287-BU		



### DUAL BINDING POST INSULATED

**DESC:** 5-way binding post with fluted heads. Accepts Dual Banana Plug. Mounts in two 3.8" holes, on 3.4" centers in panels from 1.16" to 1.4". Has soldered studs. With four hex nuts, black styrene washers.  
**RATING:** 15 amps AC for 10 degree C Temp. rise, continuous duty.  
**HEAD:** Molded nylon per MIL-M-20693A.

No.		Net per C 54.00
33-288-BU		



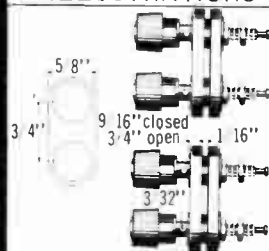
### DUAL BINDING POST

**DESC:** Accepts standard phone tips, forward or sideways. Brass, nickel plated body. Mounts in two 3.8" holes on 3.4" centers in panels up to 1.4" thick. Accommodates single or dual banana plugs.  
**RATING:** 15 amps AC for 10 degree C Temp. rise, continuous duty.  
**HEAD:** Molded nylon per MIL-M-20693A.

No.	Color	No.	Color	Net per C 70.00
33-290-BU	Blk	33-299-BU	Red	

\* Also available in Bulk quantities in yellow, green, or blue. To order add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue. Example: No. 33-000-3BU (for yellow).

## ILLUSTRATIONS

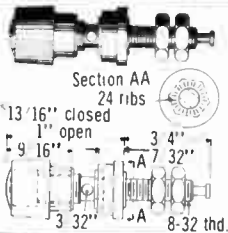


## DESCRIPTION

### DUAL BINDING POST

**DESC:** Brass, nickel plated body. Molded styrene washer; cross slot accommodates phone tip forward, back or sideways. With hex nuts and washers. Mounts in two 3.8" holes on 3.4" centers on panels up to 1.4" thick.  
**RATING:** 15 amps AC for 10 degree C Temp. rise, continuous duty.  
**HEAD:** Nylon heads per MIL-M-20693A.

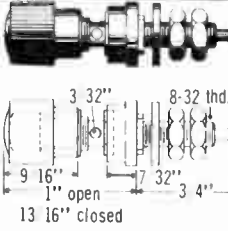
No.	Color	No.	Color	Net per C 65.00
33-291-BU	Blk	33-293-BU	Red	



### NYLON BINDING POST

**DESC:** Grounding type, with molded nylon, non-removable head takes direct solder connection to stud.  
**RATING:** 15 amps AC for 10 degree C Temp. rise, continuous duty.  
**HEAD AND WASHER:** Molded nylon per MIL-M-20693A.

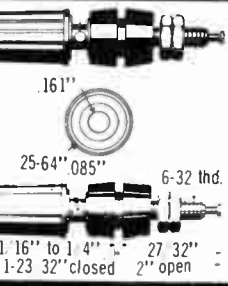
No.	Color	No.	Color	Net per C 35.00
33-294-1BU	Red	33-294-2BU	Blk	



### NYLON BINDING POST

**DESC:** Brass, nickel plated body. Takes direct solder connection to stud.  
**RATING:** 15 amps AC for 10 degree C Temp. rise, continuous duty.  
**HEAD AND WASHER:** Molded nylon per MIL-M-20693A.

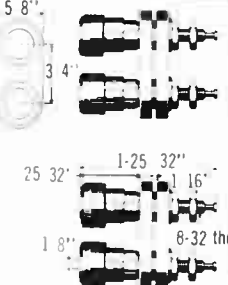
No.	Color	No.	Color	Net per C 35.00
33-296-1BU	Red	33-296-2BU	Blk	



### NYLON BINDING POST\*

**DESC:** Gold plated body. Miniature washers and narrow head require minimum mounting space. Requires 5/16" round or "D" hole in panel. Wrap around solder terminal. Accepts phone tip plug, banana plug, spade lug, alligator clip or stranded wire.  
**RATING:** 15 amps AC for 10 degree C Temp. rise, continuous duty.  
**HEAD:** Molded nylon per MIL-M-20693A.

No.	Color	No.	Color	Net per C 40.00
33-297-1BU	Red	33-297-2BU	Blk	

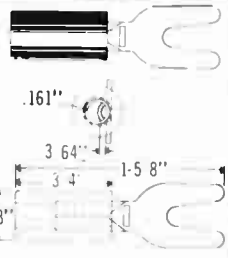


### DUAL SPRING LOADED BINDING POST

**DESC:** Cross-slotted to accept standard phone tips or wire either forward or sideways. Molded black styrene cap; nickel plated brass body. Requires 2-3/8" holes on 3.4" centers for mounting on panels; up to 1.4" thick. Accommodates phone tips or wires in side holes and secures them when pressure on cap is released. With hex nuts and flat washers.  
**RATING:** 15 amps AC for 10 degree C Temp. rise, continuous duty. 5 KV 60 cycle AC continuous working voltage.

No.		Net per C 120.00
33-293-BU		

## SPADE LUGS, ALLIGATOR & BATTERY CLIPS



### SPADE LUG, INSULATED

**DESC:** Tapered "fork" fits binding posts and terminal screws up to No. 10 size. Accepts soldered wire or banana plug.  
**RATING:** 25 amps AC for 10 degree C Temp. rise, continuous duty.  
**HANDLE:** Molded Butyrate, per MIL-LP-349A and ASEA letter QUD4-59-4820 type 3.  
**LUG:** Brass, nickel plated.

No.	Color	No.	Color	Net per C 10.80
33-303-BU	Red	33-302-BU	Blk	



# ELECTROCRAFT ELECTRONIC COMPONENTS

## SPADE LUGS, ALLIGATOR & BATTERY CLIPS

ILLUSTRATIONS	DESCRIPTION												
	<p><b>INSULATED SPADE LUG</b></p> <p>DESC: Fits all standard multi-purpose binding posts. Wire up to No. 10 solders in front hole.</p> <p>RATING: 30 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349A and ASES letter QUD4-59-4820 type 3.</p> <p>LUG: Brass, nickel plated.</p>												
	<table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 12.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-304-1BU</td> <td>Red</td> <td>33-304-2BU</td> <td>Blk</td> </tr> </table>			Net per C 12.00		No.	Color	No.	Color	33-304-1BU	Red	33-304-2BU	Blk
		Net per C 12.00											
No.	Color	No.	Color										
33-304-1BU	Red	33-304-2BU	Blk										

	<p>DESC: 3.8" jaw opening; made of cadmium plated steel, accepts banana plug or wires. May be soldered to clip.</p> <p>RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349A and ASES letter QUD4-59-4820 type 3.</p>												
	<table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 8.50</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-310-BU</td> <td>Red</td> <td>33-312-BU</td> <td>Blk</td> </tr> </table>			Net per C 8.50		No.	Color	No.	Color	33-310-BU	Red	33-312-BU	Blk
		Net per C 8.50											
No.	Color	No.	Color										
33-310-BU	Red	33-312-BU	Blk										

	<p>DESC: Molded plastic handle; cadmium plated steel jaws with 3.8" opening. Wire fastens with screw or soldered to clip.</p> <p>RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349A and ASES letter QUD4-59-4820 type 3.</p>												
	<table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 9.50</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-314-BU</td> <td>Red</td> <td>33-316-BU</td> <td>Blk</td> </tr> </table>			Net per C 9.50		No.	Color	No.	Color	33-314-BU	Red	33-316-BU	Blk
		Net per C 9.50											
No.	Color	No.	Color										
33-314-BU	Red	33-316-BU	Blk										

ILLUSTRATIONS	DESCRIPTION												
	<p><b>ALLIGATOR CLIP SOLID COPPER</b></p> <p>DESC: Identical to No. 33-314/16, except, made of solid copper for higher current carrying capacity.</p> <p>RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349A and ASES letter QUD4-59-4820 type 3.</p>												
	<table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 13.67</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-318-BU</td> <td>Red</td> <td>33-320-BU</td> <td>Blk</td> </tr> </table>			Net per C 13.67		No.	Color	No.	Color	33-318-BU	Red	33-320-BU	Blk
		Net per C 13.67											
No.	Color	No.	Color										
33-318-BU	Red	33-320-BU	Blk										

	<p><b>ALLIGATOR CLIP</b></p> <p>DESC: With extra long insulated handle; cadmium plated steel jaws; 3.8" opening, wire solders to clip.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349A and ASES letter QUD4-59-4820 type 3.</p>												
	<table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 12.50</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-322-BU</td> <td>Red</td> <td>33-324-BU</td> <td>Blk</td> </tr> </table>			Net per C 12.50		No.	Color	No.	Color	33-322-BU	Red	33-324-BU	Blk
		Net per C 12.50											
No.	Color	No.	Color										
33-322-BU	Red	33-324-BU	Blk										

	<p>DESC: Completely insulated with black molded plastic to insure against shock or grounding. Accepts banana plug in receptacle end.</p>																								
	<table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 24.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-326-1BU</td> <td>Red</td> <td>33-326-BU</td> <td>Blk</td> </tr> </table> <p>Accepts tip plug in receptacle end.</p> <table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 36.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-328-1BU</td> <td>Red</td> <td>33-328-BU</td> <td>Blk</td> </tr> </table>			Net per C 24.00		No.	Color	No.	Color	33-326-1BU	Red	33-326-BU	Blk			Net per C 36.00		No.	Color	No.	Color	33-328-1BU	Red	33-328-BU	Blk
		Net per C 24.00																							
No.	Color	No.	Color																						
33-326-1BU	Red	33-326-BU	Blk																						
		Net per C 36.00																							
No.	Color	No.	Color																						
33-328-1BU	Red	33-328-BU	Blk																						

ILLUSTRATIONS	DESCRIPTION												
	<p><b>ALLIGATOR CLIP ADAPTOR</b></p> <p>DESC: Accommodates standard tip plug, or banana plug; steel cadmium plated jaws.</p> <p>RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Butyrate, per MIL-LP-349A and ASES letter QUD4-59-4820 type 3.</p>												
	<table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 39.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-330-BU</td> <td>Red</td> <td>33-332-BU</td> <td>Blk</td> </tr> </table>			Net per C 39.00		No.	Color	No.	Color	33-330-BU	Red	33-332-BU	Blk
		Net per C 39.00											
No.	Color	No.	Color										
33-330-BU	Red	33-332-BU	Blk										

ILLUSTRATIONS	DESCRIPTION												
	<p><b>ALLIGATOR CLIP ADAPTOR</b></p> <p>DESC: Adapts standard tip plug to alligator clips; steel cadmium plated jaws.</p> <p>RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Butyrate, per MIL-LP-349A and ASES letter QUD4-59-4820 type 3.</p>												
	<table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 33.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-334-BU</td> <td>Red</td> <td>33-336-BU</td> <td>Blk</td> </tr> </table>			Net per C 33.00		No.	Color	No.	Color	33-334-BU	Red	33-336-BU	Blk
		Net per C 33.00											
No.	Color	No.	Color										
33-334-BU	Red	33-336-BU	Blk										

	<p><b>MINI-GATOR CLIP (MUELLER)</b></p> <p>DESC: Miniature alligator clip. For use where space is a factor; wires solder to clip.</p>																								
	<table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 5.00</td> </tr> <tr> <td>No.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>33-342-BU</td> <td>Steel</td> <td></td> <td></td> </tr> </table> <table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 6.80</td> </tr> <tr> <td>No.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>33-344-BU</td> <td>Copper</td> <td></td> <td></td> </tr> </table>			Net per C 5.00		No.				33-342-BU	Steel					Net per C 6.80		No.				33-344-BU	Copper		
		Net per C 5.00																							
No.																									
33-342-BU	Steel																								
		Net per C 6.80																							
No.																									
33-344-BU	Copper																								

	<p><b>ALLIGATOR CLIP ALL METAL</b></p> <p>DESC: Cadmium plated jaws with 3.8" opening accepts standard banana plug or wires may be soldered directly onto clip.</p>												
	<table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 5.00</td> </tr> <tr> <td>No.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>33-346-BU</td> <td></td> <td></td> <td></td> </tr> </table>			Net per C 5.00		No.				33-346-BU			
		Net per C 5.00											
No.													
33-346-BU													

	<p><b>ALLIGATOR CLIP-ALL METAL</b></p> <p>DESC: For solderless connection of wire by means of a No. 6-32 binding head screw; also accepts banana plug.</p>																								
	<table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 7.00</td> </tr> <tr> <td>No.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>33-348-BU</td> <td>Steel</td> <td></td> <td></td> </tr> </table> <table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 11.00</td> </tr> <tr> <td>No.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>33-350-BU</td> <td>Copper</td> <td></td> <td></td> </tr> </table>			Net per C 7.00		No.				33-348-BU	Steel					Net per C 11.00		No.				33-350-BU	Copper		
		Net per C 7.00																							
No.																									
33-348-BU	Steel																								
		Net per C 11.00																							
No.																									
33-350-BU	Copper																								

	<p><b>ALLIGATOR CLIP</b></p> <p>DESC: All insulated with standard Banana Plug adaptor. Molded plastic over steel jaws and clips.</p>												
	<table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 41.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-352-1BU</td> <td>Red</td> <td>33-352-2BU</td> <td>Blk</td> </tr> </table>			Net per C 41.00		No.	Color	No.	Color	33-352-1BU	Red	33-352-2BU	Blk
		Net per C 41.00											
No.	Color	No.	Color										
33-352-1BU	Red	33-352-2BU	Blk										

	<p><b>ALLIGATOR CLIP INSULATOR</b></p> <p>DESC: Flexible molded vinyl insulator which fits over most standard alligator clips. It completely insulates. Permits maximum jaw opening.</p>												
	<table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 4.80</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-360-BU</td> <td>Red</td> <td>33-362-BU</td> <td>Blk</td> </tr> </table>			Net per C 4.80		No.	Color	No.	Color	33-360-BU	Red	33-362-BU	Blk
		Net per C 4.80											
No.	Color	No.	Color										
33-360-BU	Red	33-362-BU	Blk										

ILLUSTRATIONS	DESCRIPTION												
	<p><b>MINIATURE ALLIGATOR CLIP BOOTS</b></p> <p>DESC: Molded vinyl plastic; allow maximum jaw opening of clip while still insulating clip. Miniature size.</p>												
	<table border="1"> <tr> <td colspan="2"></td> <td colspan="2">Net per C 4.00</td> </tr> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-363-1BU</td> <td>Red</td> <td>33-363-2BU</td> <td>Blk</td> </tr> </table>			Net per C 4.00		No.	Color	No.	Color	33-363-1BU	Red	33-363-2BU	Blk
		Net per C 4.00											
No.	Color	No.	Color										
33-363-1BU	Red	33-363-2BU	Blk										





# ELECTROCRAFT ELECTRONIC COMPONENTS

## SPADE LUGS, ALLIGATOR & BATTERY CLIPS

ILLUSTRATIONS	DESCRIPTION								
	<p><b>BATTERY CONNECTING &amp; TESTING CLIP</b></p> <p>DESC: Steel cadmium plated jaws with 1 2'' spread.</p> <p>RATING: 5 amps</p> <p>Net per C 6.50</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-370-BU</td> <td></td> <td></td> <td></td> </tr> </table>	No.	Color	No.	Color	33-370-BU			
No.	Color	No.	Color						
33-370-BU									

	<p><b>BATTERY CONNECTING &amp; TESTING CLIP</b></p> <p>DESC: Steel cadmium plated jaws with 9 16'' spread.</p> <p>RATING: 10 amps</p> <p>Net per C 6.50</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-372-BU</td> <td></td> <td></td> <td></td> </tr> </table>	No.	Color	No.	Color	33-372-BU			
No.	Color	No.	Color						
33-372-BU									

## TEST PRODS, LEADS & ADAPTORs

	<p><b>SOLDERLESS FIBRE TEST PROD</b></p> <p>DESC: Features 1 4'' inside diameter for heavy duty wire. Overall length 5 1/4''</p> <p>RATING: 12 amps AC for 10 degree C Temp. rise continuous duty.</p> <p>HANDLE: Fibre, per MIL-F-1148-A type BH.</p> <p>TIP: Brass, nickel plated.</p> <p>Net per C 30.00</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-376-1BU</td> <td>Red</td> <td>33-376-2BU</td> <td>Blk</td> </tr> </table>	No.	Color	No.	Color	33-376-1BU	Red	33-376-2BU	Blk
No.	Color	No.	Color						
33-376-1BU	Red	33-376-2BU	Blk						

	<p><b>HEAVY DUTY TEST PROD</b></p> <p>DESC: Brass, nickel plated. Overall length 6-3 16''</p> <p>RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349A and ASES letter QUD4-59-4820 type 3</p> <p>TIP: Extra heavy, brass, nickel plated.</p> <p>Net per C 33.00</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-378-1BU</td> <td>Red</td> <td>33-378-2BU</td> <td>Blk</td> </tr> </table>	No.	Color	No.	Color	33-378-1BU	Red	33-378-2BU	Blk
No.	Color	No.	Color						
33-378-1BU	Red	33-378-2BU	Blk						

	<p><b>DELUXE TEST PROD</b></p> <p>DESC: Solderless design; wire fits through handle and is fastened to tip with knurled collar. 6-3 8'' long.</p> <p>RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Butyrate, per MIL-LP-349A and ASES letter QUD4-59-4820 type 3.</p> <p>TIP: Brass, nickel plated.</p> <p>Net per C 25.50</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-380-BU</td> <td>Red</td> <td>33-382-BU</td> <td>Blk</td> </tr> </table>	No.	Color	No.	Color	33-380-BU	Red	33-382-BU	Blk
No.	Color	No.	Color						
33-380-BU	Red	33-382-BU	Blk						

	<p><b>NEEDLE POINT TEST PROD</b></p> <p>DESC: Extra safe, long handle; wire solders to nickel plated brass chuck.</p> <p>RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Butyrate, per MIL-LP-349A and ASES letter QUD4-59-4820 type 2.</p> <p>TIP: Replaceable Phono Needle.</p> <p>Net per C 31.50</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-384-BU</td> <td>Red</td> <td>33-386-BU</td> <td>Blk</td> </tr> </table>	No.	Color	No.	Color	33-384-BU	Red	33-386-BU	Blk
No.	Color	No.	Color						
33-384-BU	Red	33-386-BU	Blk						

	<p><b>SOLDERLESS TEST PROD</b></p> <p>DESC: Brass, nickel plated plug. Wire can be soldered to plug. Stud locks wire to pellet for solderless connections.</p> <p>RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: XX-5 Spaldite - PB6-MIL-P-79.</p> <p>TIP: Steel Phono Needle</p> <p>Net per C 81.00</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-387-1BU</td> <td>Red</td> <td>33-387-2BU</td> <td>Blk</td> </tr> </table>	No.	Color	No.	Color	33-387-1BU	Red	33-387-2BU	Blk
No.	Color	No.	Color						
33-387-1BU	Red	33-387-2BU	Blk						

ILLUSTRATIONS	DESCRIPTION								
	<p><b>SUBMINIATURE TEST PROD</b></p> <p>DESC: Designed for checking all types of miniature products and equipment only. 4-2 3'' long.</p> <p>RATING: 2 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Fibre, per MIL-F-1148-A type BH.</p> <p>TIP: Brass, nickel plated.</p> <p>Net per C 35.00</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-388-1BU</td> <td>Red</td> <td>33-388-2BU</td> <td>Blk</td> </tr> </table>	No.	Color	No.	Color	33-388-1BU	Red	33-388-2BU	Blk
No.	Color	No.	Color						
33-388-1BU	Red	33-388-2BU	Blk						

	<p><b>THIN HANDLE TEST PROD</b></p> <p>DESC: Solderless wire connection; slim type for hard-to-reach places. Ideal for portable testers.</p> <p>RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Butyrate, per MIL-LP-349A and ASES letter QUC4-59-4820 type 3.</p> <p>TIP: Brass, nickel plated.</p> <p>Net per C 21.00</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-392-BU</td> <td>Red</td> <td>33-394-BU</td> <td>Blk</td> </tr> </table>	No.	Color	No.	Color	33-392-BU	Red	33-394-BU	Blk
No.	Color	No.	Color						
33-392-BU	Red	33-394-BU	Blk						

	<p><b>LONG REACH TEST PROD</b></p> <p>DESC: Has a long thin insulated extension beyond handle, to reach hard-to-get places or for work in crowded quarters. Wire solders to prod.</p> <p>HANDLE: Butyrate, per MIL-LP-349A and ASES letter QUC4-59-4820 type 3.</p> <p>TIP: Brass, nickel plated.</p> <p>Net per C 24.60</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-396-BU</td> <td>Red</td> <td>33-398-BU</td> <td>Blk</td> </tr> </table>	No.	Color	No.	Color	33-396-BU	Red	33-398-BU	Blk
No.	Color	No.	Color						
33-396-BU	Red	33-398-BU	Blk						

	<p><b>SOLDERLESS TEST PROD</b></p> <p>DESC: 5'' long handle, 3 8'' diameter Wire fits through handle, wraps around screw portion of body.</p> <p>RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Butyrate, per MIL-LP-349A and ASES letter QUC4-59-4820 type 3.</p> <p>TIP: Nickel plated phone tip.</p> <p>Net per C 31.50</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-404-1BU</td> <td>Red</td> <td>33-404-2BU</td> <td>Blk</td> </tr> </table>	No.	Color	No.	Color	33-404-1BU	Red	33-404-2BU	Blk
No.	Color	No.	Color						
33-404-1BU	Red	33-404-2BU	Blk						

	<p><b>TEST PROD</b></p> <p>DESC: Tapered slim-type. Fully insulated plastic-solder type. 5-9 16'' overall length.</p> <p>TIP: Nickel plated brass.</p> <p>Net per C 75.00</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-406-1BU</td> <td>Red</td> <td>33-406-2BU</td> <td>Blk</td> </tr> </table>	No.	Color	No.	Color	33-406-1BU	Red	33-406-2BU	Blk
No.	Color	No.	Color						
33-406-1BU	Red	33-406-2BU	Blk						

	<p><b>HIGH VOLTAGE TEST PROD</b></p> <p>DESC: Heavy duty type; has guard ring to prevent accidental touching of tip; accepts wires up to 3 8'' diameter. Solderless connection.</p> <p>RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty. 15 KV cycle AC continuous working voltage.</p> <p>HANDLE: Fibre, per MIL-F-1148-A type BH.</p> <p>TIP: Nickel plated brass.</p> <p>Net per C 72.00</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-408-EU</td> <td>Red</td> <td>33-410-BU</td> <td>Blk</td> </tr> </table>	No.	Color	No.	Color	33-408-EU	Red	33-410-BU	Blk
No.	Color	No.	Color						
33-408-EU	Red	33-410-BU	Blk						

	<p><b>R.F. TEST PROBE</b></p> <p>DESC: Heavily insulated Coax cable or IN-34 crystal for R.F. Probes may be used because of larger inside diameter.</p> <p>HANDLE: Fibre, per MIL-F-1148-A type BH.</p> <p>TIP: Heavy duty; removable. Brass, nickel plated.</p> <p>Net per C 72.00</p> <table border="1"> <tr> <td>No.</td> <td>Color</td> <td>No.</td> <td>Color</td> </tr> <tr> <td>33-411-BU</td> <td>Red</td> <td>33-411-2BU</td> <td>Blk</td> </tr> </table>	No.	Color	No.	Color	33-411-BU	Red	33-411-2BU	Blk
No.	Color	No.	Color						
33-411-BU	Red	33-411-2BU	Blk						



# ELECTROCRAFT ELECTRONIC COMPONENTS

## TEST PRODS, LEADS & ADAPTORS

ILLUSTRATIONS	DESCRIPTION
	<p><b>UNIVERSAL TEST LEADS</b></p> <p>DESC: Interchangeable tips; one end solderless tip plug; other end banana plug; includes alligator clips, spade lugs and phono tip plugs, which fit on banana plug end.</p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>CABLE: 50" flexible</p> <p style="text-align: right;">Net per pair 1.88</p>
3 16" 078" 3 8" 5" 1-11 32"	<p>No. 33-450-S One pair, red and black</p>

ILLUSTRATIONS	DESCRIPTION
	<p><b>UNIVERSAL "NEEDLEPOINT" TEST LEADS</b></p> <p>DESC: Interchangeable tips, one end interchangeable Phono needle type test prod, other end banana plug; includes spade lugs, alligator clips and phono tip plugs, which fit on banana plug end.</p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>CABLE: 50" flexible</p> <p style="text-align: right;">Net per pair 1.88</p>
3 16" 058" 3 8" 5" 6"	<p>No. 33-452-S One pair, red and black</p>

ILLUSTRATIONS	DESCRIPTION
	<p><b>"THRIFTY" TEST LEADS</b></p> <p>DESC: One end 4" test prods, other end terminated in standard phone tip.</p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>CABLE: 50" flexible</p> <p style="text-align: right;">Net per pair .75</p>
5 32" 080" 11 32" 4" 1-3 8"	<p>No. 33-454-S One pair, red and black</p>

ILLUSTRATIONS	DESCRIPTION
	<p><b>SOLDERLESS TIP TEST LEADS</b></p> <p>DESC: 5" x 3 8" diameter handle, available with either spade lugs or alligator clips.</p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>CABLE: 50" flexible</p> <p style="text-align: right;">Net per pair .85</p>
3 16" 080" 3 8" 6-3 8" 1-3 8"	<p>No. 33-455-S 1 pair, red and black, W spade lug A</p> <p style="text-align: right;">Net per pair .91</p>
	<p>No. 33-457-S 1 pair, red and black, W alligator clip B</p>

ILLUSTRATIONS	DESCRIPTION
	<p><b>HEAVY DUTY TEST LEADS</b></p> <p>DESC: 6-11 32" long; solderless wire connections. Available in tip plug or right angle meter type.</p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>CABLE: 50" flexible</p> <p style="text-align: right;">Net per pair 1.27</p>
3 16" 080" 3 8" 5" 1-11 32"	<p>Pair of 1 red and 1 black with solderless straight tip plugs.</p> <p>No. 33-456-S</p> <p style="text-align: right;">Net per pair 1.38</p>
	<p>Pair of 1 red and 1 black with right angle, meter-type, insulated tip plug.</p> <p>No. 33-458-S</p>

ILLUSTRATIONS	DESCRIPTION
	<p><b>PHONO NEEDLE TEST LEADS</b></p> <p>DESC: 5" x 3 8" diameter, tips are sharp phono-graph needles. Available in spade lugs or alligator clips.</p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>CABLE: 50" flexible</p> <p style="text-align: right;">Net per pair .87</p>
3 16" 058" 3 8" 5" 6"	<p>No. 33-459-S One pair, red and black With spade lug</p> <p style="text-align: right;">Net per pair .93</p>
	<p>No. 33-461-S One pair, red and black With alligator clip</p>

ILLUSTRATIONS	DESCRIPTION
	<p><b>HEAVY DUTY "NEEDLEPOINT" TEST LEADS</b></p> <p>DESC: 6" long, heavy duty needle point prods. Available in tip plugs or right angle meter plug.</p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>CABLE: 50" flexible</p> <p style="text-align: right;">Net per pair 1.33</p>
3 16" 058" 3 8" 5" 6"	<p>Pair of 1 red and 1 black with solderless straight tip plugs</p> <p>No. 33-460-S</p> <p style="text-align: right;">Net per pair 1.43</p>
	<p>Pair of 1 red and 1 black with right angle, meter-type insulated tip plug.</p> <p>No. 33-462-S</p>

ILLUSTRATIONS	DESCRIPTION
	<p><b>LONG REACH TEST LEADS</b></p> <p>DESC: One end with 5" insulated test prod, very thin extension beyond handle to reach hard-to-get places; other end terminated in right angle, meter-type insulated tip plug.</p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>CABLE: 50" flexible</p> <p style="text-align: right;">Net per pair 1.65</p>
3 16" 080" 3 8" 5" 8-13 16"	<p>No. 33-464-S One pair, red and black</p>

ILLUSTRATIONS	DESCRIPTION
	<p><b>RETRACTABLE TEST PROD</b></p> <p>DESC: Electrocraft's own printed circuit test prod with the exclusive retractable tip. This exclusive feature allows complete testing of printed circuitry without shorting or shock to the user.</p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>CABLE: 48" flexible</p> <p style="text-align: right;">Net each 1.65</p>
3 16" .093" 3 8" 3-1 8" 5-5 8" 1-1 2"	<p>No. 33-465-1-S Red</p> <p style="text-align: right;">Net each 1.65</p>
	<p>No. 33-465-2-S Blk</p>

ILLUSTRATIONS	DESCRIPTION
	<p><b>SUB-MINIATURE TEST LEADS</b></p> <p>DESC: O.D. only 1 4"; insulated tips. Other end threaded phone tips.</p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>CABLE: 50" flexible</p> <p style="text-align: right;">Net per pair 1.26</p>
3 16" 080" 3 8" 4-23 32" 4" 1 2" 080"	<p>No. 33-466-S One pair, red and black</p>

ILLUSTRATIONS	DESCRIPTION
	<p><b>STRETCH TYPE TEST LEADS</b></p> <p>DESC: One end 6-3 8" heavy duty test prods; other end insulated, solderless tip plug.</p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>CABLE: spiral type, 9"; 6" extended.</p> <p style="text-align: right;">Net per pair 2.97</p>
1-3 8" 5" 1-3 8" 1" 080"	<p>No. 33-470-S One pair, red and black</p>

ILLUSTRATIONS	DESCRIPTION
	<p><b>HIGH VOLTAGE TEST LEADS</b></p> <p>DESC: Extra heavy-duty with finger guard type test prod handles. Available in tip plugs, spade lugs, or alligator clips.</p> <p>HANDLE: Large-fibre, per MIL-F-1148-A type BH. Small Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>CABLE: 48" heavy insulated high tension wire (22,000 V)</p> <p style="text-align: right;">Net per pair 2.57</p>
3 16" 080" 3 8" 6-3 16" 1 2"	<p>Pair of 1 red, 1 black, terminated with tip plugs.</p> <p>No. 33-472-S</p> <p style="text-align: right;">Net per pair 2.40</p>
	<p>Pair of 1 red, 1 black, terminated with insulated spade lugs.</p> <p>No. 33-474-S</p> <p style="text-align: right;">Net per pair 2.46</p>
	<p>Pair of 1 red, 1 black, terminated with alligator clips.</p> <p>No. 33-476-S</p>



# ELECTROCRAFT ELECTRONIC COMPONENTS

## TEST PRODS, LEADS & ADAPTORS

ILLUSTRATIONS	DESCRIPTION
	<b>HEAVY DUTY TEST LEAD SETS</b> DESC: 2 New heavy duty Test Lead sets. Both sets have 5" long solderless Phone Tip Test Prods - other ends have right angle or straight Banana Plugs. Net per pair 1.50 No. 33-440-S Straight Banana Plugs
	Net per pair 1.50 No. 33-442-S Right Angle Banana Plugs

ILLUSTRATIONS	DESCRIPTION
	<b>ALLIGATOR CLIP TEST LEADS</b> DESC: Cadmium plated steel alligator clips on both ends of heavy duty test lead wire. CABLE: Flexible. choice of lengths Net per pair 55
	No. 33-496-S   12" length   One pair, red and black   Net per pair 61
	No. 33-497-S   24" length   One pair, red and black   Net per pair 70
	No. 33-498-S   36" length   One pair, red and black   Net per pair 79
	No. 33-499-S   48" length   One pair, red and black

ILLUSTRATIONS	DESCRIPTION
	<b>ALLIGATOR CLIP JUMPER LEADS</b> DESC: Terminated at each end with fully insulated steel nickel plated alligator clips. CABLE: Flexible. choice of lengths Net per pair 92
	No. 33-500-S   12" length   One pair, red and black   Net per pair 95
	No. 33-502-S   24" length   One pair, red and black   Net per pair 1.05
	No. 33-504-S   36" length   One pair, red and black   Net per pair 1.10
	No. 33-506-S   48" length   One pair, red and black

ILLUSTRATIONS	DESCRIPTION
	<b>MIDGET ALLIGATOR CLIP TEST LEADS</b> DESC: Cadmium plated steel alligator clips with red vinyl plastic boots. CABLE: Flexible. choice of lengths Net per pair 81
	No. 33-501-S   12" length   One pair, red and black   Net per pair 84
	No. 33-503-S   18" length   One pair, red and black   Net per pair 87
	No. 33-505-S   24" length   One pair, red and black   Net per pair 96
	No. 33-507-S   36" length   One pair, red and black

ILLUSTRATIONS	DESCRIPTION
	<b>TEST LEAD WIRE</b> DESC: Flexible, rubber-coated and kink-resistant replacement wire for test leads. Net per pair 60
	Package of two, 50" length, red and black, 6000 V insulation. No. 33-518-S   Net per pair 87
	Package of two, 48" length, red and black, heavy duty, 1 4" diameter, 22000 V test leads. No. 33-520-S

ILLUSTRATIONS	DESCRIPTION
	<b>STRETCH LEAD WIRE</b> DESC: Coiled wire, for all applications where it is desirable to have leads retract. Package contains 1 red and 1 black lead, .9" long - stretches to 6" Net per pair 1.95 No. 33-522-S

ILLUSTRATIONS	DESCRIPTION
	<b>UNIVERSAL TEST LEAD KIT</b> DESC: Two 55" leads and 12 interchangeable testing tips and connectors. Both ends convert to different types. Has four phone tips, two alligator clips, two needle tips, two banana plugs, two spade lugs. Plastic wallet-style kit. HANDLE: Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3. CABLE: 55" flexible Net per pair 3.00 No. 33-578

ILLUSTRATIONS	DESCRIPTION
	<b>TEST LEAD PLUG INTERCHANGE KIT</b> DESC: Contains pairs of alligator clips, banana plugs, spade lugs and phone tips. (1 each in red and black) to adapt standard test leads to different types of terminations. Attractive plastic case. HANDLE: Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3. Net each 2.25 No. 33-530

ILLUSTRATIONS	DESCRIPTION
	<b>2-CCND., SCREW TERMINALS</b> RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty, 750 volts 60 cycle AC continuous working voltage. HANDLE: Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3. Net per C 44.83
	No. 33-600-BU   with black plastic handle.   Net per C 44.83
	No. 33-602-BU   with red plastic handle.   Net per C 62.89
	No. 33-604-BU   with metal (shielded) handle.

ILLUSTRATIONS	DESCRIPTION
	<b>2-CCND., CLAMP OR SOLDER</b> DESC: Standard size plug, with large "grounding" terminals which clamp around cable insulation or shield, and acts as strain relief. HANDLE: Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3. Net per C 39.90
	No. 33-606-BU   With black plastic handle.   Net per C 39.90
	No. 33-608-BU   with red plastic handle.   Net per C 57.50
	No. 33-610-BU   with metal (shielded) handle.

ILLUSTRATIONS	DESCRIPTION
	<b>TWO-CONDUCTOR PHONE PLUG, PLAIN SOLDER LUGS</b> DESC: Standard size plug. HANDLE: Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3. Net per C 39.17
	No. 33-612-1BU   Red   Net per C 39.17
	No. 33-612-2BU   Black

ILLUSTRATIONS	DESCRIPTION
	<b>STUBBY" SHIELDED TWO-CONDUCTOR PHONE PLUG</b> DESC: standard phone plug with special, short metal handle: plain solder lugs. Net per C 51.30
	No. 33-614-1BU   Net per C 51.30

ILLUSTRATIONS	DESCRIPTION
	<b>STANDARD SHIELD TWO-CONDUCTOR PHONE PLUG</b> DESC: Regular plug with metal (shielded) handle, plain solder lugs. Net per C 57.00
	No. 33-616-BU   Net per C 57.00



# ELECTROCRAFT ELECTRONIC COMPONENTS

ILLUSTRATIONS	DESCRIPTION
	<p><b>TWO-CONDUCTOR PHONE PLUG TYPE PJ-055B</b></p> <p>DESC: Solder terminal and screw connection. Supplied with black, break-resistant molded shell.</p> <p>No. <input type="text"/> Net per C 80.63</p> <p>33-618-BU</p>

	<p><b>SHORT FINGER, 2-COND. PHONE PLUG</b></p> <p>DESC: Special short finger (barrel) type plug to connect microphone or telephone pickup to Revere Wollensack tape recorders. Combination clamp and solder lug connection, metal shielded handle.</p> <p>No. <input type="text"/> Net per C 63.30</p> <p>33-620-BU</p>
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	<p><b>LARGE HANDLE 2-COND. PHONE PLUG</b></p> <p>DESC: Standard size plugs with sturdy large handles where space is no factor; all supplied with screw type terminals.</p> <p>RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. 750 volts 60 cycles AC working voltage.</p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASESALetter QUD4-59-4820 type 3.</p> <p>No. <input type="text"/> Net per C 42.30</p> <p>33-622-BU   with black plastic handle, 1-1 2" long Net per C 42.30</p> <p>33-624-BU   with red plastic handle, 1-1 2" long Net per C 63.06</p> <p>33-626-BU   with metal (shielded) handle, 1" long Net per C 69.00</p> <p>33-628-BU   with metal (shielded) handle, 2-1 16" Net per C 69.00</p>
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	<p><b>"THIN-FINGER" 2-COND. PHONE PLUGS</b></p> <p>DESC: Special plugs, with undersize barrel diameter of .206", for applications where polarized input is desired to distinguish between different connections. Plugs have combination clamp and solder lug connection and mate with jacks No. 33-700 2.</p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASESALetter QUD4-59-4820 type 3.</p> <p>No. <input type="text"/> Color <input type="text"/> No. <input type="text"/> Color <input type="text"/> Net per C 41.40</p> <p>33-630-1BU   Red 33-630-2BU   Blk</p> <p>33-632-BU   with metal (shielded) handle. Net per C 51.00</p>
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	<p><b>3-CONDUCTOR PHONE PLUG: COMB. CLAMP AND SOLDER LUG TERMINALS</b></p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASESALetter QUD4-59-4820 type 3.</p> <p>No. <input type="text"/> Color <input type="text"/> No. <input type="text"/> Color <input type="text"/> Net per C 58.35</p> <p>33-640-1BU   Red 33-640-2BU   Blk</p> <p>33-642-BU   Metal Net per C 73.35</p>
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	<p><b>SCREW TERMINALS 3-CONDUCTOR PHONE PLUG</b></p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASESALetter QUD4-59-4820 type 3.</p> <p>No. <input type="text"/> Net per C 70.83</p> <p>33-644-BU   with black plastic handle Net per C 70.83</p> <p>33-646-BU   with red plastic handle Net per C 83.17</p> <p>33-648-BU   with metal (shielded) handle</p>
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ILLUSTRATIONS	DESCRIPTION
	<p><b>LARGE HANDLE 3-CONDUCTOR PHONE PLUG</b></p> <p>DESC: For heavy duty applicator, can accommodate large diameter cables, with room in handle for wired-in resistors or capacitors; with 1" long metal (shielded) handle.</p> <p>No. <input type="text"/> Net per C 72.00</p> <p>33-650-BU</p>

	<p><b>3-CONDUCTOR PHONE PLUG, TYPE PJ-068B</b></p> <p>DESC: With solder terminal and screw connection, made in accordance with military specifications.</p> <p>No. <input type="text"/> Net per C 209.99</p> <p>33-654-BU</p>
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	<p><b>MIN. PHONE PLUGS COMB. CLAMP &amp; SOLDER TER.</b></p> <p>DESC: These small plugs are designed for use with hearing aids, pocket radios, portable recorders, etc. Two-conductor style: tested for 500 V breakdown.</p> <p>RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty.</p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASESALetter QUD4-59-4820 type 3.</p> <p>No. <input type="text"/> Net per C 51.66</p> <p>33-660-BU   with metal (shielded) handle Net per C 40.02</p> <p>33-662-BU   with black plastic handle Net per C 40.02</p> <p>33-664-BU   with red plastic handle</p>
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	<p><b>MIN. PHONE PLUGS COMB. CLAMP &amp; SOLDER TER.</b></p> <p>DESC: Same plug as 33-660 except for different style terminals.</p> <p>HANDLE: Butyrate, per MIL-LP-349-A and ASESALetter QUD4-59-4820 type 3.</p> <p>No. <input type="text"/> Net per C 59.85</p> <p>33-666-BU   with metal (shielded) handle. Net per C 42.51</p> <p>33-668-BU   with black plastic handle. Net per C 42.51</p> <p>33-670-BU   with red plastic handle.</p>
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**PHONE JACKS**

	<p><b>PANEL MOUNTING TWO-CONDUCTOR PHONE JACKS</b></p> <p>DESC: Open circuit, 2-conductor.</p> <p>RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty. 1.2 K Volts 60 cycle AC continuous working voltage.</p> <p>WASHER: Phenolic, per MIL-LL-31 and ASTM-D-709 type 1.</p> <p>No. <input type="text"/> Net per C 27.00</p> <p>33-690-BU</p>
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	<p><b>PANEL MOUNTING TWO-CONDUCTOR PHONE JACKS</b></p> <p>DESC: Panel mounting, two conductor Phone Jack. Use with Revere Wollensack type. Will accommodate 33-620 phone plug.</p> <p>No. <input type="text"/> Net per C 29.83</p> <p>33-691-BU</p>
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# ELECTROCRAFT ELECTRONIC COMPONENTS

ILLUSTRATIONS	PHONE JACKS DESCRIPTION
	<p><b>MINIATURE CORD MOUNTED JACKS</b></p> <p>DESC: Miniature type, mates with plugs No. 33-660 through 33-670, with solder lugs and metal (shielded) handle.</p> <p>No. _____ Net per C 70.00</p> <p>33-746-BU</p>

ILLUSTRATIONS	DESCRIPTION
	<p><b>PHONO PLUG</b></p> <p>DESC: New RCA type, 1 8" tube pin, nickel plated, brass, cadmium plated shell. Eliminates damaging shielded cable when connecting. Short Pin (13 16" overall) Long Pin (1" overall)</p> <p>No. _____ A _____ Net per C 7.50</p> <p>33-769-BU short 1-1 16"</p>

**LONG FRAME JACKS**



GC Electrocraft Long Frame Jacks are designed for heavy duty use and where long service is required. Special metal frame construction permits mounting on 5/8" centers. These jacks are made with nickel-silver alloy springs; mounted with phenolic insulator to cadmium plated steel frames. Steel nickel plated washer and nickel plated brass lock nut is supplied. Rating of standard jacks is 3 amps. On special orders, these jacks can be supplied with

PART NO.	SCHEMATIC	DIM A	PART NO.	SCHEMATIC	DIM A	PART NO.	SCHEMATIC	DIM A
33-750	[Schematic]	21 32	33-757	[Schematic]	3 4	33-760	[Schematic]	3 4
33-751	[Schematic]	21 32	33-758	[Schematic]	3 4	33-762	[Schematic]	15 16
33-752	[Schematic]	21 32	33-759	[Schematic]	3 4	33-763	[Schematic]	15 16
33-753	[Schematic]	21 32	33-761	[Schematic]	23 32			
33-754	[Schematic]	21 32	33-762	[Schematic]	21 32			

contacts up to 10 amps at 110V AC non-inductive load. Also available, on special order, are jacks made in accordance with MIL-J-641 specifications. The jacks listed below are the most popular models, stocked at distributors. Many additional contact configurations and solder lug arrangements are available on order.

No.	Description	Net per C
33-750-BU	2-conductor, open circuit	44.16
33-751-BU	2-conductor, closed circuit	51.20
33-752-BU	3-conductor, single closed circuit	61.65
33-753-BU	2-conductor, closed circuit, grounded	51.20
33-754-BU	3-conductor, single closed circuit, ring grounded	61.65
33-755-BU	3-conductor, open circuit	51.20
33-756-BU	2-conductor, open circuit w/insulated break	61.65

No.	Description	Net per C
33-757-BU	2-conductor, closed circuit and make	55.83
33-758-BU	3-conductor, 2 closed circuits	70.80
33-759-BU	2-conductor, insulated make	55.83
33-760-BU	2-conductor, closed circuit w/insulated break and make	70.80
33-761-BU	3-conductor, 2 closed circuit	66.60
33-762-BU	2-conductor, closed circuit w/insulated break and make	80.63
33-763-BU	3-conductor, 2 closed circuits w/insulated break and make	92.70

ILLUSTRATIONS	PHONO PLUGS & JACKS DESCRIPTION
	<p><b>PHONO PLUGS</b></p> <p>DESC: Motorola type, tube pin nickel plated-1 8". Pin extends from split brass, cadmium plated shell. Provides positive ground connection when inserted into connector.</p> <p>No. _____ Net per C 10.35</p> <p>33-765-BU</p>

ILLUSTRATIONS	DESCRIPTION
	<p><b>PHONO PLUG</b></p> <p>DESC: Combination clamp, solder type, with removable metal (shielded) handle. Much easier to attach than the standard phono plug, and provides "finished" appearance. Mates with 33-774.</p> <p>No. _____ Net per C 28.50</p> <p>33-772-BU</p>

ILLUSTRATIONS	PHONO PLUG DESCRIPTION
	<p><b>PHONO PLUG</b></p> <p>DESC: Motorola type, tube pin nickel plated-1 8". Pin extends from split brass shell, designed for use with small diameter cable. Shell is cadmium plated.</p> <p>No. _____ Net per C 10.35</p> <p>33-766-BU</p>

ILLUSTRATIONS	DESCRIPTION
	<p><b>PHONO JACK, CORD MOUNTED</b></p> <p>DESC: Also known as "extension" or "inline" jacks. Combination clamp and solder terminal; removable metal (shielded) handle. Mates with 33-772.</p> <p>No. _____ Net per C 34.17</p> <p>33-774-BU</p>

ILLUSTRATIONS	PHONO PLUG DESCRIPTION
	<p><b>PHONO PLUG</b></p> <p>DESC: Motorola type 1 8" tube pin extends from solid brass, cadmium plated shell, small ribbed.</p> <p>No. _____ Net per C 10.35</p> <p>33-767-BU</p>

ILLUSTRATIONS	DESCRIPTION
	<p><b>SOLDERLESS PHONO PLUGS</b></p> <p>DESC: Completely new design, requires only stripping of cable, inserting in plastic shell, and tightening w/ assembly with 2 screws. Positive, noise-free pressure connection without soldering. Right angle style, designed for regular shielded cable with a approximately 3/16" OD.</p> <p>No. _____ Net per C 23.40</p> <p>33-776-BU grey plastic shell 33-777-BU black plastic shell 33-780-BU red plastic shell 33-782-BU yellow plastic shell 33-784-BU blue plastic shell</p>

ILLUSTRATIONS	PHONO PLUG DESCRIPTION
	<p><b>PHONO PLUG</b></p> <p>DESC: Solder type.</p> <p>No. _____ Net per C 5.80</p> <p>33-768-BU 15 16" overall</p> <p>No. _____ Net per C 4.80</p> <p>33-770-BU 13 16" overall</p>



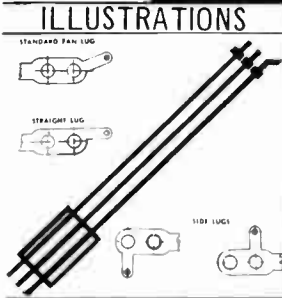
# ELECTROCRAFT ELECTRONIC COMPONENTS

ILLUSTRATIONS	PHONE JACKS	ILLUSTRATIONS	DESCRIPTION																		
<p>3 4" 276" 33 64" 1 4" 3 8" - 32 Nef-2 thd.</p>	<p><b>PANEL MOUNTING 2-CONDUCTOR PHONE JACKS</b></p> <p>DESC: Closed circuit, 2-conductor.                      RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty. 1.2 K Volts 60 cycle AC continuous working voltage.                      WASHER: Phenolic, per MIL-LL-31 and ASTM-D-709 type 1.</p> <p>Net per C 29.83</p> <p>No. _____ 33-692-BU</p>	<p>3 4" 276" 1 4" 3 8" - 32 Nef-2 thd.</p>	<p><b>STEREO TELEPHONE JACK</b></p> <p>DESC: New jack designed for switching out speakers when connecting stereo headphones and for switching three wire stereo input circuits. Open circuit, 3-conductor, MIL-type JJ-033.                      WASHER: Phenolic, per MIL-LL-31 and ASTM-D-709 type 1.</p> <p>Net per C 39.98</p> <p>No. _____ 33-712-BU</p>																		
<p>25 32" 9 32" 1-3 64" 281" 3 8" - 32 Nef-2A</p>	<p><b>PANEL MOUNTING TWO-CONDUCTOR PHONE JACKS</b></p> <p>DESC: Open circuit, 2-conductor.                      WASHER: Per MIL type, JJ-034.</p> <p>Net per C 34.17</p> <p>No. _____ 33-694-BU</p>	<p>7 16" 7 16" 9 32" 146" 1 4" x 32 Nef-2A thd.</p>	<p><b>MINIATURE PANEL MOUNTING JACKS</b></p> <p>DESC: These jacks mate with plugs No. 33-660 through 33-670. Open circuit, 2-conductor.                      RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. 500 Volts 60 cycle AC continuous working voltage.                      WASHER: Phenolic, per MIL-LL-31 and ASTM-D-709 type 1.</p> <p>Net per C 23.32</p> <p>No. _____ 33-720-BU</p>																		
<p>3 4" 276" 33 64" 210" 3 8" - 32 Nef-2 thd.</p>	<p><b>PANEL MOUNTING TWO-CONDUCTOR PHONE JACKS</b></p> <p>DESC: Open circuit, 2-conductor .210" I.D. sleeve fit plugs No. 33-630 2.                      WASHER: Phenolic, per MIL-LL-31 and ASTM-D-709, Washers type 1.</p> <p>Net per C 24.98</p> <p>No. _____ 33-700-BU</p>	<p>7 16" 203" 7 16" 146" 9 32"</p>	<p><b>MINIATURE PANEL MOUNTING JACKS</b></p> <p>DESC: These jacks mate with plugs No. 33-660 through 33-670. Closed circuit, 2-conductor.                      RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. 500 Volts 60 cycle AC continuous working voltage.                      WASHER: Phenolic per MIL-LL-31 and ASTM-D-709 type 1.</p> <p>Net per C 26.66</p> <p>No. _____ 33-722-BU</p>																		
<p>3 4" 276" 33 64" 210" 3 8" - 32 NCF - 2 thd.</p>	<p><b>PANEL MOUNTING TWO-CONDUCTOR PHONE JACKS</b></p> <p>DESC: Closed circuit, 2-conductor .210" I.D. sleeve...fits plugs No. 33-630 2.                      WASHER: Phenolic, per MIL-LL-31 and ASTM-D-709 type 1.</p> <p>Net per C 26.67</p> <p>No. _____ 33-702-BU</p>	<p>5 8" 3 8" - 32 thd 11 16" 5 16" dp</p>	<p><b>BUSHING AND NUT</b></p> <p>DESC: Bushing and Nut assembly for controls, potentiometers, etc. Internally threaded to screw in control. Brass-bright nickel plated.</p> <p>Net per C 35.50</p> <p>No. _____ 33-724-BU</p>																		
<p>3 4" 276" 33 64" 1 4" 3 8" - 32 Nef - 2 thd.</p>	<p><b>PANEL MOUNTING 3-COND. PHONE JACKS</b></p> <p>DESC: Open circuit, 3-conductor.                      RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty. 1.2 K Volts 60 cycle AC continuous working voltage.                      WASHER: Phenolic, per MIL-LL-31 and ASTM-D-709 type 1.</p> <p>Net per C 36.00</p> <p>No. _____ 33-708-BU</p>	<p>11 16" 3 8" 2-3 16" 1 4"</p>	<p><b>CORD MOUNTED JACKS</b></p> <p>DESC: Often referred to as "extension jacks" or "inline jacks", available in 2 or 3 conductor types.</p> <table border="1"> <tr> <td>No.</td> <td>Net per C</td> </tr> <tr> <td>33-730-BU metal</td> <td>77.51</td> </tr> <tr> <td>33-732-BU plastic</td> <td>55.83</td> </tr> <tr> <td>2-conductor, open circuit style, with screw type terminals.</td> <td></td> </tr> <tr> <td>33-734-BU metal</td> <td>90.00</td> </tr> <tr> <td>33-736-BU plastic</td> <td>66.60</td> </tr> <tr> <td>3-conductor, open circuit style, with screw or solder type terminals. and metal (shielded) handle.</td> <td></td> </tr> <tr> <td>33-740-BU solder</td> <td>99.90</td> </tr> <tr> <td>33-742-BU screw</td> <td>110.01</td> </tr> </table>	No.	Net per C	33-730-BU metal	77.51	33-732-BU plastic	55.83	2-conductor, open circuit style, with screw type terminals.		33-734-BU metal	90.00	33-736-BU plastic	66.60	3-conductor, open circuit style, with screw or solder type terminals. and metal (shielded) handle.		33-740-BU solder	99.90	33-742-BU screw	110.01
No.	Net per C																				
33-730-BU metal	77.51																				
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3-conductor, open circuit style, with screw or solder type terminals. and metal (shielded) handle.																					
33-740-BU solder	99.90																				
33-742-BU screw	110.01																				
<p>3 4" 276" 33 64" 1 4" 3 8" - 32 Nef-2 thd.</p>	<p><b>PANEL MOUNTING 3-COND. PHONE JACKS</b></p> <p>DESC: Single closed circuit, 3-conductor.                      RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty. 1.2 K Volts 60 cycle AC continuous working voltage.                      WASHER: Phenolic, per MIL-LL-31 and ASTM-D-709 type 1.</p> <p>Net per C 44.32</p> <p>No. _____ 33-710-BU</p>	<p>3 4" 276" 1 4" 3 8" - 32 Nef-2 thd.</p>	<p><b>STEREO TELEPHONE JACK</b></p> <p>DESC: New Jack designed for switching out speakers when connecting stereo headphones and for switching three stereo input circuits. Normally closed dual switch contacts open both stereo circuits separately when three circuit plug is inserted.                      WASHER: Phenolic per MIL-LL-31 and ASTM-D-709 type 1.</p> <p>Net per C 54.00</p> <p>No. _____ 33-711-BU</p>																		
<p>3 4" 276" 1 4" 3 8" - 32 Nef-2 thd.</p>	<p><b>STEREO TELEPHONE JACK</b></p> <p>DESC: New Jack designed for switching out speakers when connecting stereo headphones and for switching three stereo input circuits. Normally closed dual switch contacts open both stereo circuits separately when three circuit plug is inserted.                      WASHER: Phenolic per MIL-LL-31 and ASTM-D-709 type 1.</p> <p>Net per C 54.00</p> <p>No. _____ 33-711-BU</p>	<p>FR-66-I      FR-029-E</p>	<p><b>SEND FOR FREE ELECTROCRAFT CATALOG &amp; WALL CHART</b></p>																		



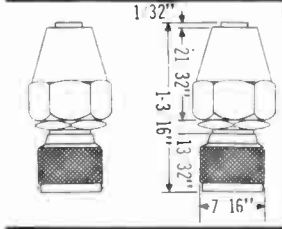
# ELECTROCRAFT ELECTRONIC COMPONENTS

## STACK ASSEMBLIES

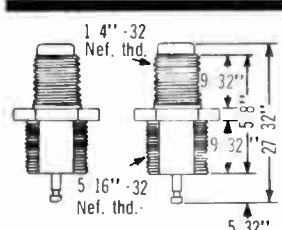


**DESCRIPTION**  
**STACK ASSEMBLIES**  
 DESC: High grade stack assemblies can be supplied in a wide variety of circuit arrangements and contact ratings. Basic contacts can be placed at any one or more locations. Assemblies are tightly held together by press-fit insulator tubing. Length of blade is variable up to a maximum of 2-5 8". Available in lug design, as shown below. With a small tooling charge, blades are available in various forms to act as cam followers or other types of actuators.  
 We will be happy to consult with you on any special application where stack assemblies are used.

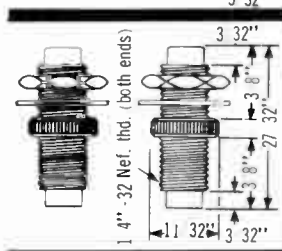
## SPECIAL CONNECTORS & ADAPTORS



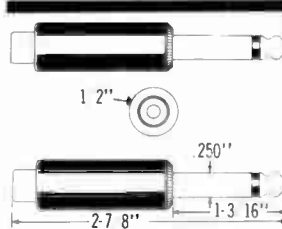
**FEMALE COAXIAL CONNECTORS**  
 DESC: Low-cost solderless coaxial cable connectors. For use with RG-8 U, RG-11 U and RG-59 U. Mates with No. 33-836 receptacle or No. 33-838 female coupler. Low-loss insulation.  
 Net per C 48.00  
 No. 33-834-BU



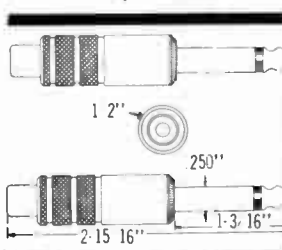
**MALE CHASSIS FITTING**  
 DESC: Silver-plated, low-loss insulated coaxial cable connector. Mates with No. 33-834. 5 8" threaded stem.  
 Net per C 48.00  
 No. 33-836-BU



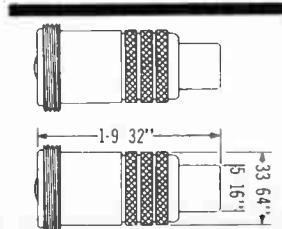
**MALE COUPLER**  
 DESC: Highly conductive, silver-plated cable connector. Mates at either end with No. 33-834 connector.  
 Net per C 60.00  
 No. 33-838-BU



**ADAPTOR**  
 DESC: Phono jack input, standard phone plug output.  
 HANDLE: Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.  
 Net per C 67.50  
 No. 33-850-BU

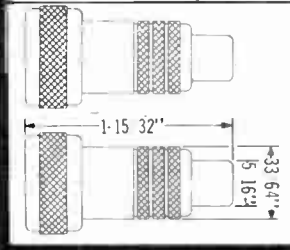


**ADAPTOR**  
 DESC: Phono jack input, standard phone plug output, heavy duty metal shielded type.  
 Net per C 78.30  
 No. 33-852-BU

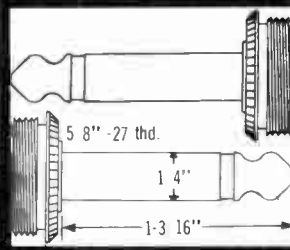


**MALE ADAPTOR**  
 DESC: Phone jack input, microphone connector output.  
 Net per C 59.40  
 No. 33-854-BU

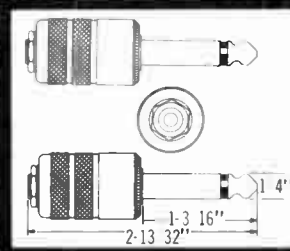
## ILLUSTRATIONS DESCRIPTION



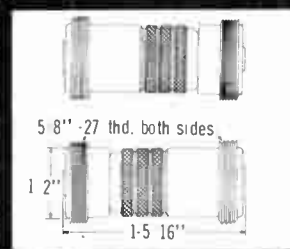
**FEMALE ADAPTOR**  
 DESC: Phono jack input, microphone connector output.  
 Net per C 67.50  
 No. 33-856-BU



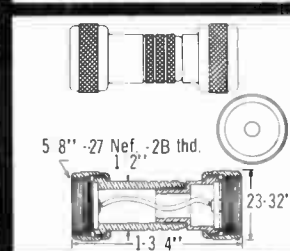
**MALE ADAPTOR**  
 DESC: Microphone connector input, standard phone plug output.  
 Net per C 30.00  
 No. 33-858-BU



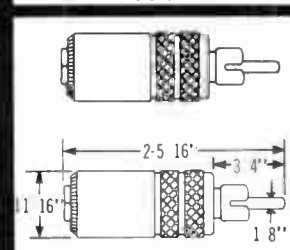
**ADAPTOR**  
 DESC: Miniature phone jack input, standard phone plug output.  
 Net per C 78.30  
 No. 33-860-BU



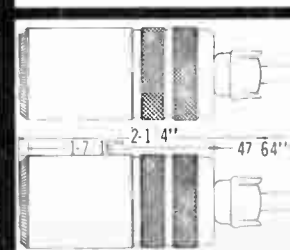
**MALE CONNECTOR**  
 DESC: Connects 2 female microphone connectors.  
 Net per C 40.00  
 No. 33-862-BU



**FEMALE CONNECTOR**  
 DESC: Connects 2 male microphone connectors.  
 Net per C 44.17  
 No. 33-864-BU



**ADAPTOR**  
 DESC: Miniature phone jack input, standard phone plug output.  
 Net per C 78.30  
 No. 33-866-BU



**ADAPTOR**  
 DESC: Standard phone jack input, phono plug output.  
 Net per C 105.84  
 No. 33-868-BU







# ELECTROCRAFT ELECTRONIC COMPONENTS

## SPECIAL CONNECTORS & ADAPTORS

ILLUSTRATIONS	DESCRIPTION
<p>2-5 64" 5 8" -27 female thd.</p>	<p><b>FEMALE ADAPTOR</b></p> <p>DESC: Standard phone jack input microphone connector output.</p> <p>No. 33-868-BU</p> <p>Net per C 99.17</p>

<p>5 8" -27 thd.</p> <p>1-29 32"</p>	<p><b>MALE ADAPTOR</b></p> <p>DESC: Standard phone jack input microphone connector output.</p> <p>No. 33-870-BU</p> <p>Net per C 89.10</p>
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<p>1-2" Dia.</p> <p>1-15 32"</p> <p>1 2"</p> <p>5 8" -27 thd.</p> <p>1 8"</p>	<p><b>MALE ADAPTOR</b></p> <p>DESC: Microphone connector input, phono plug output.</p> <p>No. 33-872-BU</p> <p>Net per C 67.50</p>
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<p>1 2" Dia.</p> <p>1-15 32"</p> <p>1 2"</p> <p>1 8"</p>	<p><b>FEMALE ADAPTOR</b></p> <p>DESC: Microphone connector input, phono plug output.</p> <p>No. 33-872-1BU</p> <p>Net per C 99.17</p>
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<p>2-5 16"</p> <p>1-3 16"</p> <p>1 4"</p>	<p><b>"Y" ADAPTOR</b></p> <p>DESC: Input - 2 phono jacks (in parallel); output phone plug.</p> <p>No. 33-880-BU</p> <p>Net per C 98.50</p>
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<p>1-7 16"</p> <p>5 16"</p>	<p><b>"Y" ADAPTOR</b></p> <p>DESC: Input - 2 phono jacks (in parallel); output - single phono jack.</p> <p>No. 33-882-BU</p> <p>Net per C 94.50</p>
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<p>5 16"</p> <p>1 8"</p> <p>1 1 16"</p> <p>1-27 32"</p>	<p><b>"Y" ADAPTOR</b></p> <p>DESC: Input - 2 phono jacks (in parallel); output - standard phono pin plug.</p> <p>No. 33-884-BU</p> <p>Net per C 94.50</p>
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ILLUSTRATIONS	DESCRIPTION
<p>2-5 16"</p> <p>1-3 16"</p> <p>1 4"</p> <p>5 8" -27 thd.</p>	<p><b>"Y" ADAPTOR</b></p> <p>DESC: Input - 2 male microphone connectors (in parallel); output standard phone plug.</p> <p>No. 33-886-EU</p> <p>Net per C 102.60</p>

<p>5 8" -27 thd.</p> <p>1 1 16"</p> <p>1-5 16"</p>	<p><b>"Y" ADAPTOR</b></p> <p>DESC: Input - 2 male microphone connectors (in parallel); output - female microphone connector.</p> <p>No. 33-888-EU</p> <p>Net per C 89.63</p>
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KIPZON BANANA PLUG-KLIPZON ADAPTOR	
<p>Pat. No. 2,580,682</p> <p>1-3 16"</p> <p>5 8"</p> <p>3 8"</p> <p>171"</p> <p>094"</p>	<p>DESC: Designed to adapt unterminated wire ends to Banana Jack.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>TIP: One end cross-slotted, brass, nickel plated banana plug; other end "Klipzon" self holding wire piercing tip.</p> <p>No. 33-076-BU Red</p> <p>No. 33-078-BU Blk</p> <p>Net per C 45.00</p>

ADAPTER, KLIPZON TIP TO BANANA PLUG	
<p>Pat. No. 2,580,682</p> <p>060"</p> <p>3 8"</p> <p>5 8"</p> <p>1-3 16"</p> <p>171"</p>	<p>DESC: For connection of test leads terminated with Klipzon prods to equipment with banana jacks or standard tip plugs.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>TIP: Adapts tip plugs to banana plugs.</p> <p>No. 33-080-BU Red</p> <p>No. 33-082-BU Blk</p> <p>Net per C 36.00</p>

KLIPZON MINI-PROD	
<p>Pat. No. 2,580,682</p> <p>9 32"</p> <p>5 32"</p> <p>028"</p> <p>1-1 8"</p> <p>1-11 16"</p>	<p>DESC: Ingeniously designed; insulated tip plug which can be snapped securely on wires; sharp point to pierce insulation; fits standard tip jacks; wire solders to body.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>TIP: Wire piercing Klipzon</p> <p>No. 33-13-BU Red</p> <p>No. 33-140-BU Blk</p> <p>Net per C 36.00</p>

KLIPZON MINI-PROD ADAPTOR	
<p>Pat. No. 2,580,682</p> <p>9 32"</p> <p>1-1 2"</p> <p>1 2"</p>	<p>DESC: Converts standard Tip Plug and Test Prod to self-holding Klipzon wire piercing prod.</p> <p>HANDLE: Molded Butyrate, per MIL-LP-349-A and ASES letter QUD4-59-4820 type 3.</p> <p>TIP: Wire piercing Klipzon.</p> <p>No. 33-16-BU Red</p> <p>No. 33-162-BU Blk</p> <p>Net per C 36.00</p>

KLIPZON PANEL MOUNTS	
<p>Pat. No. 2,580,682</p> <p>1-1 8"</p> <p>19 32"</p> <p>17 32"</p> <p>8-32 thd.</p>	<p>DESC: Wire holding patented Klipzon Test Prod with threaded shank (8-32 x 3 8") for panel mount. Designed for test setups. Quickly connects and disconnects Resistors, Capacitors, Diodes or Transistor leads.</p> <p>TIP: Wire piercing Klipzon.</p> <p>No. 33-154-BU</p> <p>Net per C 45.00</p>

# ELECTROCRAFT ELECTRONIC COMPONENTS



**KLIPZON**

**ILLUSTRATIONS**

Pat. No. 2,580,682

3 8"  
5 8"  
2-1 4"

**DESCRIPTION**

**ALLIGATOR-KLIPZON PROD ADAPTOR**

DESC: Adapts Klipzon Prod connectors and standard tip plugs to Alligator clip. Has very short insulated handle and cadmium plated steel jaws.

HANDLE: Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.

No.	Color	No.	Color
33-338-BU	Red	33-340-BU	Blk

Net per C 36 00

**ILLUSTRATIONS**

Pat. No. 2,580,682

9 32"  
5 32"  
5-5 16"  
9 16"

**DESCRIPTION**

**KLIPZON TEST PROD**

DESC: Ingenious Klipzon tip has self-holding point which clips on wire or chassis. Sharp point easily penetrates insulation, has convenient, thin handle, wire solders to tip.

HANDLE: Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.

TIP: Wire piercing Klipzon.

No.	Color	No.	Color
33-400-BU	Red	33-402-BU	Blk

Net per C 63 00

**ILLUSTRATIONS**

Pat. No. 2,580,682

3 16"  
028"  
1-1 8"

**DESCRIPTION**

**KLIPZON CRYSTAL PROD KIT**

DESC: Self-holding prod in molded, streamlined handle with Germanium Diode and other parts to assemble a low capacity crystal probe.

HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.

TIP: Self-holding, patented Klipzon tip. Aluminum body, spring wire tip.

No.	Color	No.	Color
33-412	Red	33-414	Blk

Net each 1 83

RF Probe for use with Vacuum Tube Volt Meter

RF Probe for use with Vacuum Ohm Milliammeter

**ILLUSTRATIONS**

Pat. No. 2,580,682

7 32"  
3-5 8"  
1-3 16"

**DESCRIPTION**

**KLIPZON JUMBO PROD HANDLE**

DESC: Solder type. Clips on wires up to .229" in diameter, chassis, screws, terminals, etc.

HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.

TIP: Self-holding, patented Klipzon tip. Aluminum body, spring wire tip.

No.	Color	No.	Color
33-416-BU	Red	33-418-BU	Blk

Net per C 66 00

**ILLUSTRATIONS**

Pat. No. 2,580,682

9 32"  
080"  
028"  
3-1 8"

**DESCRIPTION**

**KLIPZON LONGIE ADAPTOR**

DESC: Long, slender, self-holding point. Fits standard tip plug and test prod.

HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.

TIP: Self-holding, patented Klipzon tip. Aluminum body, spring wire tip.

No.	Color	No.	Color
33-420-BU	Red	33-422-BU	Blk

Net per C 45 00

**ILLUSTRATIONS**

Pat. No. 2,580,682

5 32"  
080"  
040"  
2-9 16"  
1-1 16"

**DESCRIPTION**

**KLIPZON JUMBO ADAPTOR**

DESC: Adapts regular Tip Plug or Test Prod to Jumbo self-holding Klipzon type. Designed to clip on large wires, chassis, screws, lugs, etc.

HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.

TIP: Self-holding, patented "Jumbo" Klipzon tip. Aluminum body, spring wire tip.

No.	Color	No.	Color
33-424-BU	Red	33-426-BU	Blk

Net per C 63 00

**ILLUSTRATIONS**

Pat. No. 2,580,682

9 32"  
5-5 16"  
9 16"

**DESCRIPTION**

**KLIPZON TEST LEADS**

DESC: 48" flexible leads. One end on all leads is 4-3 4" long handle with Klipzon tip; other end is 1-1 8" handle with choice of Klipzon tip, standard Phone Tip, or Banana Plug.

HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.

TIP: Self-holding, patented Klipzon. Aluminum body, spring wire tip.

No.	Length	Color	Net each
33-480-S	12"	Red	2 03
33-482-S	24"	Blk	1.65
33-484-S	24"	Blk	1.95

**ILLUSTRATIONS**

Pat. No. 2,580,682

4-5 16"  
9 16"

**DESCRIPTION**

**KLIPZON CRYSTAL PROBES**

DESC: Germanium diode probe with Klipzon self-holding points for measuring high frequency voltage with Vacuum Tube Volt Meter. Flexible lead wires are terminated on meter end with Klipzon tip plug. Completely shielded model, with flexible coaxial cable and separate grounding terminals on probe and cable end for frequencies to 200 Mc.

HANDLE: Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.

No.	Color	Net each
33-486-S		4.35

**ILLUSTRATIONS**

Pat. No. 2,580,682

4-5 16"  
9 16"

**DESCRIPTION**

**KLIPZON CRYSTAL PROBE**

DESC: Standard type, consisting of lead, with Klipzon crystal probe on one end, plus ground lead terminated on each end with Klipzon tip plug; for use with regular v.t.f. meter. Frequency range to 200 Mc.

HANDLE: Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.

No.	Color	Net each
33-488-S		4.35

**ILLUSTRATIONS**

Pat. No. 2,580,682

028"  
1-11 16"  
1-1 8"

**DESCRIPTION**

**SHIELDED LOW CAPACITY**

DESC: 36" low capacity, coaxial type lead, terminated on each end with self-holding insulation piercing, Klipzon tip prods. Ground connection of each end with separate Klipzon plug tips.

HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.

TIP: Self-holding, patented Klipzon Tip. Aluminum body, spring wire tip.

No.	Color	Net each
33-490-S		2 97

**ILLUSTRATIONS**

Pat. No. 2,580,682

3-11 16"  
1-3 16"

**DESCRIPTION**

**HEAVY DUTY KLIPZON LEADS**

DESC: 48" leads with "Jumbo" Klipzon type terminals one end, hook type other end. One pair red and black.

HANDLE: Molded Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.

TIP: Self-holding, patented Klipzon Tip. Aluminum body, spring wire tip.

No.	Color	Net each pair
33-492-S	One pair, red and black	2.87

**ILLUSTRATIONS**

Pat. No. 2,580,682

156"  
9 32"  
028"  
1-11 16"  
1-1 8"

**DESCRIPTION**

**KLIPZON JUMPER LEADS**

DESC: 48" leads, terminated on each end with patented Klipzon tips, which clip on wires and terminals, have sharp insulation and corrosion piercing points, and will also plug in any standard tip jack. Single jumper.

HANDLE: Butyrate, per MIL-LP-349-A and ASEA letter QUD4-59-4820 type 3.

TIP: Self-holding, patented Klipzon Tip. Aluminum body, spring wire tip.

No.	Length	Color	Net each
33-510-S	12"	Red	.77
33-512-S	12"	Blk	.77
33-514-S	24"	Red	1.12
33-516-S	24"	Blk	1.12



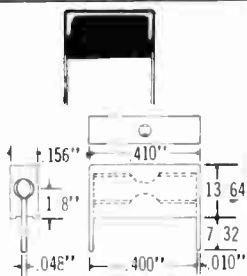
# ELECTROCRAFT ELECTRONIC COMPONENTS

## PRINTED CIRCUIT CONNECTORS

## PUSH BUTTON SWITCHES

### ILLUSTRATIONS

### DESCRIPTION

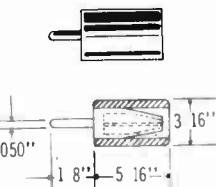


#### MINIATURE HORIZONTAL JACK\*

DESC: unique design accepts .080" diameter tip plug in either end or from top or bottom. Only .400" in width, .156" in depth.  
 BODY: Tough, low-loss plastic, per MIL-P-17091.  
 CONTACT: Silver-plated, beryllium copper formed contact. 2 terminals.  
 RATING: 5 amperes maximum current capacity.  
 OPERATING VOLTAGE: 1500 volts RMS 50,000 feet.

No.		Color		No.		Color	
33-235-1BU		Red		33-235-2BU		Blk	

Net per C 9.90

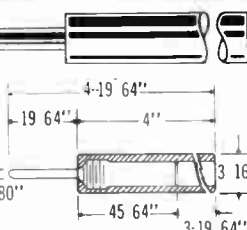


#### MINIATURE VERTICAL JACK\*

DESC: Mounts through single .052" hole, requires minimum mounting area. Overall length is 7.16".  
 BODY: Tough, low-loss plastic, per MIL-P-17091.  
 CONTACT: Silver-plated, machined beryllium-copper contact.  
 RATING: 5 amperes maximum current capacity.  
 OPERATING VOLTAGE: 1500 volts RMS at 50,000 feet.

No.		Color		No.		Color	
33-237-1BU		Red		33-237-2BU		Blk	

Net per C 13.60

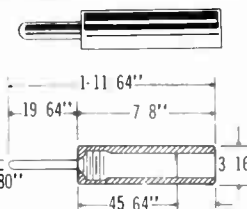


#### MINIATURE HANDLE TIP PLUG

DESC: For use with horizontal, vertical or standard .080" diameter tip jacks. 4" handle for ready access to "hard-to-reach" test points. Overall length is 4-19.64". 3.16" diameter.  
 BODY AND CONTACT: Nickel plated machined brass, solder-type lead connector.

No.		Color		No.		Color	
33-238-1BU		Red		33-238-2BU		Blk	

Net per C 28.90



#### SUB MINIATURE TIP PLUG\*

DESC: For use with horizontal, vertical or standard .080" diameter tip jacks. Overall length is 1-11.64". 3.16" diameter.  
 BODY AND CONTACT: Nickel plated machined brass, solder type lead connectors.

No.		Color		No.		Color	
33-239-1BU		Red		33-239-2BU		Blk	

Net per C 16.80

## TERMINAL STRIPS



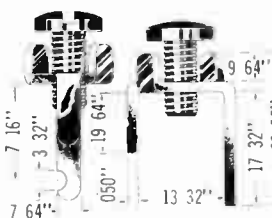
#### HEAVY DUTY TERMINAL BOARDS

DESC: Brass and cadmium plated lug .042 thick with spaced 1.2" centers and numbered terminals. X.P. bakelite strip 7.8" wide x 3.32 thick and numbered. The brass screw is a nickel plated 8-32 x 5.16".

No.	Terminals	Mtg. Center	Net per C
33-930-BU	2	1 1/2"	23.40
33-931-BU	3	2"	28.20
33-932-BU	4	2 1/2"	34.20
33-934-BU	5	3"	40.20
33-935-BU	6	3 1/2"	46.20
33-936-BU	7	4"	52.20
33-937-BU	8	4 1/2"	58.20



## TERMINAL LUGS & SCREWS



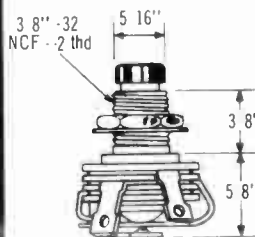
#### TERMINAL LUGS AND SCREWS

DESC: Designed for heavy duty terminal strips. Brass hot tinned lugs with screw inserted.

No.	Net per C
33-940-BU	5.40

### ILLUSTRATIONS

### DESCRIPTION

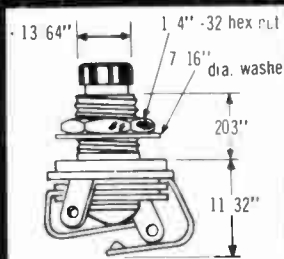


#### STANDARD SMALL PUSH BUTTON SWITCHES

DESC: Specially designed for test equipment, audio and inter-communication devices, electronic medical equipment, etc.. Standard design is with integral contacts for low level circuits, can also be supplied with silver contacts for 3 amps, 115 V. AC rating (on special orders in production quantities).

WASHERS: Phenolic, per MIL-LL-31 and ASTM-D-709 type 1.

No.	Description	Net per C
34-000-EU	Single make - black button	51.66
34-002-EU	Single make - red button	51.66
34-004-EU	Single break - black button	51.66
34-006-EU	Single break - red button	51.66
34-008-EU	Single break-make-blk button	57.51
34-010-EU	Single break-make-red button	57.51



#### MINIATURE PUSH BUTTON SWITCHES

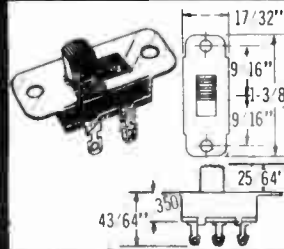
DESC: Designed for applications where space is extremely limited, such as aircraft, computers, portable test equipment, etc.. Made of the same specifications as standard small switches listed in this section.

No.	Description	Net per C
34-020-BU	Single make - black button	51.66
34-022-BU	Single make - red button	51.66
34-024-BU	Single break - black button	51.66
34-026-BU	Single break-make-blk button	57.51

## MISC. SMALL SWITCHES

### ILLUSTRATIONS

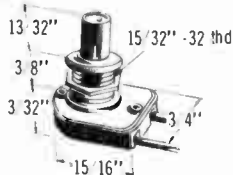
### DESCRIPTION



#### SLIDE SWITCHES

DESC: Small switches of sturdy design; UL approved for 1/2 amp, 125 V. Mount with 2 screws, No. 6 or rivets 1.8" with 1.8" spacing.

No.	SPDT	Amps	Net each
34-16C	SPDT	AC 4.0 DC 1.0	.18
34-16	DPDT	AC 3.0 DC 0.5	.22



#### ROTARY CANOPY SWITCH

DESC: With wire leads and 13/32" shank length. Standard replacement switch for lighting fixtures, bench lamps, small electrical appliances, instruments, etc. Rating: 3 amps, 125/V, 1 amp, 250/V. Mounts in 3/8" hole.

No.	Net each
34-16	.32

SEND FOR FREE GC CATALOG FR-67  
 THE COMPLETE LINE OF  
 ELECTRONIC PRODUCTS

ALSO AVAILABLE...  
 HANDY REFERENCE  
 WALL CHART FR-029-E  
 THE COMPLETE  
 ELECTROCRAFT LINE



\* Also available in Bulk quantities in yellow, green, or blue. To order: add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue. Example: No. 33-000-3BU (for yellow).

# SOLDERLESS TERMINALS and CONNECTORS

DESCRIPTION

WIRE  
SIZESTUD  
SIZE

LENGTH

100 PACK  
PART. NO.

NET/100

1000 PACK  
PART. NO.

NET/100

## RING TONGUE NON INSULATED



22-16	4-6	17/32	13-000-C	2.68	13-000-M	21.46
22-16	4-6	23/32	13-002-C	2.68	13-002-M	21.46
22-16	8	41/64	13-004-C	2.68	13-004-M	21.46
22-16	8	23/32	13-006-C	3.00	13-006-M	23.99
22-16	8-10	23/32	13-008-C	2.68	13-008-M	21.46
16-14	4-6	19/32	13-012-C	2.70	13-012-M	21.59
16-14	8	45/64	13-016-C	2.70	13-016-M	21.59
16-14	10	45/64	13-018-C	2.70	13-018-M	21.59
16-14	12-1/4	57/64	13-020-C	3.77	13-020-M	30.12
12-10	4-6	3/4	13-022-C	3.77	13-022-M	30.12
12-10	1/4"	1-1/32	13-026-C	4.70	13-026-M	37.58
16-14	10	55/64	13-030-C	7.93	13-030-M	63.44

## RING TONGUE INSULATED



22-16	4-6	45/64	13-050-C	6.08	13-050-M	48.65
22-16	4-6	29/32	13-052-C	6.08	13-052-M	48.65
22-16	8-10	29/32	13-054-C	6.08	13-054-M	48.65
16-14	4-6	25/32	13-056-C	6.08	13-056-M	48.65
16-14	4-6	57/64	13-058-C	6.08	13-058-M	48.65
16-14	10	57/64	13-060-C	6.08	13-060-M	48.65
16-14	12-1/4	1-5/64	13-062-C	7.11	13-062-M	56.91
12-10	8-10	1-3/64	13-064-C	7.11	13-064-M	56.91
12-10	1/4	1-21/64	13-066-C	8.16	13-066-M	65.31

## SPADE TERMINAL NON-INSULATED



22-16	4-6	3/4	13-100-C	2.68	13-100-M	21.46
22-16	8	3/4	13-102-C	2.35	13-102-M	18.79
16-14	4-6	3/4	13-104-C	2.68	13-104-M	21.46
16-14	8	3/4	13-105-C	2.68	13-105-M	21.46
16-14	10	3/4	13-106-C	2.68	13-106-M	21.46

## SPADE TERMINAL INSULATED



22-16	4-6	13/16	13-108-C	6.08	13-108-M	48.65
22-16	8	13/16	13-109-C	6.08	13-109-M	48.65
16-14	4-6	13/16	13-110-C	6.08	13-110-M	48.65
16-14	8	13/16	13-111-C	6.08	13-111-M	48.65
16-14	10	13/16	13-112-C	6.08	13-112-M	48.65

FLANGE SPADE TERMINAL  
NON INSULATED

22-16	4-6	5/8	13-114-C	2.68	13-114-M	21.46
16-14	10	3/4	13-116-C	3.70	13-116-M	29.59
16-14	4-6	3/4	13-118-C	5.48	13-118-M	43.85

## FLANGE SPADE TERMINAL INSULATED



22-16	4-6	13/16	13-124-C	8.98	13-124-M	71.84
22-16	8-10	13/16	13-126-C	11.10	13-126-M	88.76
16-14	4-6	13/16	13-128-C	9.60	13-128-M	76.77
16-14	8	13/16	13-130-C	11.80	13-130-M	94.36
16-14	10	13/16	13-132-C	11.80	13-132-M	94.36

## HOOK TERMINAL



22-16	4-6	23/32	13-200-C	2.35	13-200-M	18.79
22-16	8-10	23/32	13-202-C	2.73	13-202-M	21.86

## BUTT CONNECTOR NON-INSULATED



22-16	9/16		13-220-C	2.87	13-220-M	25.79
16-14	9/16		13-222-C	2.35	13-222-M	18.79
12-10	9/16		13-224-C	2.73	13-224-M	21.86

## BUTT CONNECTOR INSULATED



22-16	1		13-226-C	7.11	13-226-M	56.91
16-14	1		13-228-C	6.25	13-228-M	49.98
12-10	1-1/16		13-230-C	7.63	13-230-M	61.04

## PARALLEL CONNECTOR NON-INSULATED



22-16	5/16		13-240-C	2.88	13-240-M	23.06
16-14	5/16		13-242-C	4.97	13-242-M	39.72

## SNAP TERMINAL



16-14	5/8		13-250-C	2.38	13-250-M	19.06
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## TAB TERMINALS NON-INSULATED



18-14	male	23/32	13-260-C	2.78	13-260-M	22.26
18-14	female	23/32	13-262-C	2.78	13-262-M	22.26
18-14	90°male	9/16	13-264-C	3.05	13-264-M	24.39
18-14	90°female	15/32	13-266-C	2.87	13-266-M	22.92
18-14	male	7/8	13-268-C	6.41	13-268-M	51.31
18-14	female	7/8	13-269-C	6.41	13-269-M	51.31

## ADAPTER



		7/8	13-270-C	4.83	13-270-M	38.65
		5/16	13-272-C	4.88	13-272-M	39.05
		7/8	13-274-C	4.83	13-274-M	38.65
		49/64	13-276-C	4.83	13-276-M	38.65

INSULATING TUBING  
CONNECTOR INSULATOR

22-16		5/8	13-280-C	2.98	13-280-M	23.86
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## TERMINAL INSULATOR



16-14		1-5/8	13-284-C	2.98	13-284-M	23.86
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## KNIFE DISCONNECT



22-16		5/8	13-290-C	8.90	13-290-M	71.17
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## FLAG TERMINAL



22-16	8-10	5/8	13-294-C	2.87	13-294-M	25.79
16-14	8-10	5/8	13-296-C	2.68	13-296-M	21.46

**Kulka****TERMINAL BOARDS****STANDARD**

410, 600, 600A, 601, 602 Series. Current range 5 thru 30 Amps; Voltage Range 1000 thru; 600 RMS; Wire sizes 20-14 Ga.; 1 thru 26 Terminals.

**HEAVY DUTY**

603, 604, 605 Series, Current range 50 thru 90 Amps, Voltage 1700 thru 2100 RMS; Wire Sizes #6 to 2 ga.; 1 thru 12 terminals.

**SINGLE ROW**

599, 699, 812 Series. Current range 15 thru 30 Amps; Voltage range 1100 thru 1600 RMS; Wire sizes: #22 to #12 ga.; 1 thru 23 terminals.

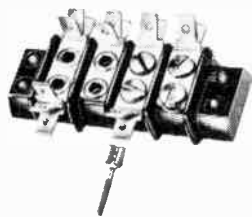
**STUD and TURRET**

For greater wiring convenience. Choice of terminals:

- Regular Screw Type
- Solder Turret • Feedthru
- Threaded Stud, etc.

Also, choice of finishes: electro-tinned, silver-plated, even gold over silver.

Our design facilities are available for your special requirements.

**"KLIPTITE"**

For fast connect and disconnect. Available on Kulka's full line of terminal boards.

- Just clip on wire terminal fast for tight connection.
- Up to 6 connections per stage.
- Vari-angled tabs.
- Available rivetted to terminal hardware or with screw assembly.

**PRESSURE CONTACT****9-85 SERIES**

Ideal for power equipment. One-piece molded plastic for industrial or military use. Extra-safe, completely enclosed. 2 to 12 terminals. Rated at 85 Amps, 8000 Volts.

**MILITARY BOARDS**

Per MIL-T-16784B

Designed by the Bureau of Ships according to MIL-T-16784B, superseding MIL-T-16784A (Ships). They are made to BUSHIPS 9000-S6505-73214 drawings, with the latest revisions, and BUORD S64101.

MOLDED MATERIAL: MAI-60, in accordance with MIL-M-14F.

**MILITARY BOARDS**

SOLID BACK

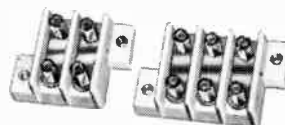
MADE TO MEET or EXCEED  
**MIL-T-55164**

Molded-in Terminals. Equal molded sections. Kulka improved design, for weight saving, greater strength, flexibility. All sizes available, classes 37TB thru 42TB.

**CLOSED BACK  
TERMINAL BOARDS**

CLOSED  
BACK

670, 670A, 671, 672 Series. Current range 15 to 30 Amps, Voltage range 2500 to 3300 Volts RMS. Wire sizes #22 thru #12 ga.; 1 thru 30 terminals.

**HIGH HEAT**

1215 SERIES

For temperatures up to 850°. Made in two and three terminal units with incremental configuration. Stainless steel stud type terminals.

**TOGGLE SWITCHES**

SCREW  
Terminals



SOLDER  
Terminals



KLIPTITE  
Terminals

Made to Military Specifications: JAN-S-23, MIL-S-21195, MIL-S-6745 and MIL-S-3950B. Available in SPST, SPDT, DPST and DPDT types. DA and AC up to 1600 cps. Your choice of terminals: Screw, solder or tab.

Also, MINIATURE, SUBMINIATURE, TAPER PIN, PRINTED CIRCUIT, WIRE-WRAP, SCREW CLAMP TERMINAL BOARDS AND ACCESSORIES. Available in a variety of Military and Commercial Grade materials

Manufacturers of  
Wiring Devices  
for more than a  
Quarter Century

Available thru Nationwide Network of Authorized Industrial Distributors

**Kulka Electric Corporation**

"THE FRANCHISE LINE"

KULKA  
COMPLETE  
TERMINAL BOARD  
CATALOG 17A  
ON REQUEST



E. F. JOHNSON COMPANY

# Connectors



## Sub-miniature, standard types

Whatever the choice . . . sub-miniature connectors for printed circuit use—or Johnson's patented "Six-Way" Binding Posts . . . time and time again design and development engineers specify Johnson connectors!

A complete line of polyamide insulated connectors are readily available to meet most military and commercial applications—included are: sub-miniatures for printed circuit applications; insulated solderless tip and banana plugs; tip and banana jacks; tip jack and sleeve assemblies; metal-clad and "rapid-mount" tip jacks; dual banana plugs and "6-way" binding posts. Available in 6 colors for coded applications, designed to operate throughout an extremely wide temperature range and under conditions of high relative humidity—voltage breakdowns available up to 11,000 volts on some types! For detailed information on the complete Johnson connector line and other Johnson electronic components—write today for our newest components catalog!

**SUB-MINIATURE INSULATED CONNECTORS**—Designed for printed circuit applications! Extremely compact, body is tough low-loss polyamide—resists extremes of shock, vibration, temperature and moisture. Operating voltages to 1500 volts RMS . . . 5 amperes current carrying capacity . . . contact resistance; less than 2 milliohms. Capacitance between two adjacent jacks: less than one pf. at 1 MC. 10 colors available. **Horizontal Jack**—Unique design accepts .080" diameter tip plug in either end or from top or bottom. **Vertical Jack**—Mounts through single .052" hole, requires minimum mounting area. **Sub-Miniature Tip Plug**—For use with miniature

jack, .080" dia. with machined brass tip and solder lead connection. **Long Sub-Miniature Tip Plug**—Identical to tip plug above, but with 4" plastic body to provide convenient access to test points. **New "Rib-Loc" Terminal Design**—Single or double turret stand-offs and feed-thrus, tip jacks and tip plugs. Mount securely in .136" hole. MIL-P-20693 insulation. **Test-Point Strip/Handle**—Rapid-mounting polyamide body contains 12 test points each rated at 5 amps., maximum current capacity. Operating voltage 1500 volts RMS at seal level, 350 volts RMS at 50,000 feet. Contact resistance less than 2 milliohms.

**STANDARD INSULATED CONNECTORS**—A complete line of connectors molded of tough, low-loss, shock-proof polyamide in 10 colors meeting Fed. Std. 595—won't chip or crack with the hardest usage. **Tip, Banana and Dual Banana Plugs**—Metal parts nickel-plated—solderless connection up to 16 gauge wire. Current rating: 10 and 15 amps., respectively. **Tip and Banana Jacks**—molded bodies, current rating: 10 and 15 amps., respectively. Available in six types: **Standard Tip Jack**—Recessed cadmium-plated formed contact. Voltage breakdown: 9,000 volts DC; **Deluxe Tip Jack**—Recessed silver-plated machined contact. Voltage breakdown: 11,000 volts DC; **Rapid-Mount Tip Jack**—Low cost fast mounting. "Speed clip" snaps into hole, then jack is inserted. Voltage breakdown: 7,000 volts DC; **Standard Metal-clad Jack**—Nickel-plated jacket, formed silver-plated contact. Voltage breakdown: 7,000 volts DC; **Metal-Clad Tip Jack, Military**—Nickel-plated jacket, machined gold-plated beryllium copper contact. Voltage breakdown: 8,000 volts DC; **Banana Jack**—Recessed cadmium-plated insert for .175" plugs. Voltage breakdown: 12,500 volts DC. **Jack and Sleeve**—Ideal for patch cords, or insulated rear connection of panel-mounted tip jack. **Binding Posts**—Versatile "6-way" usage. Silver-plated shank, self-captivated thumb nut. Voltage breakdown: 7,000 volts DC. Current ratings: 15 and 40 amps., respectively.

*Detailed components catalog free . . .  
Write today on company letterhead*

CAPACITORS • TUBE SOCKETS • CONNECTORS • PILOT LIGHTS • INSULATORS • TERMINALS • INDUCTORS

E. F. JOHNSON COMPANY




**E. F. JOHNSON COMPANY**

# Tube sockets, insulators, pilot lights, and hardware—



## Standard, industrial, military

Whatever the choice . . . steatite wafer, bayonet or low-loss Kel-F sockets for high power transmitting tubes . . . time and time again design and development engineers specify Johnson tube sockets! Sockets have been categorized under a socket standardization program, reducing the number of variations in each socket type. Standardization and immediately available stock shortens delivery cycles—permits fast selection of a Johnson socket for almost any application!

**ULTRA HIGH FREQUENCY TYPES**—Continuous heat resistance to 500° F. with low loss, glass filled silicone base and heat treated beryllium copper contacts. Low inductance screen by-pass capacitor available for VHF and UHF operation. For RCA 8072, 8121, 8122, 8462 and similar tubes.

**KEL-F SERIES**—Molded of low dielectric loss-factor Kel-F plastic—designed for use with a wide selection of high power transmitting tubes such as: 4X150A; 4X150D; 4X250B; 4CX250B; 4X250F, 7034; 7035. Basic sockets are available in several designs—with or without screen grid by-pass capacitors, mounting saddles, or steatite chimney to direct air flow through tube cooling fins. Control grid contact "guide" is machined for greater alignment accuracy, and tapped for 6-32 machine screw. All contacts are low resistance silver-plated beryllium copper. Tube pin contacts are heat treated to provide positive contact pressure as well as extended life. Annealed soldering tabs may be easily bent or formed.

**STEATITE WAFER TYPES**—Available in 4, 5, 6, 7, and 8-pin standard socket types, as well as Super Jumbo 4-pin for tubes with E.I.A. Base Nos. A4-15, A4-16, and A4-18. Giant 5 and 7-pin models for tubes with E.I.A. Base Nos. A5-19 and A7-17. Septor Sockets for tubes such as the 7094 with E.I.A. Base No. E7-2; and VHF Septor Sockets for tubes such as 5894, 6524, 6252, with E.I.A. Base No. E7-20; and 826, 832, 4D32 and E.I.A. Base No. E7-2.

**SPECIAL PURPOSE TYPES**—Includes sockets for special purpose tubes such as the: 204A and 849; the 833 and 833A; 152TL; 304TL; 750TL; 1500T; 2-2000A; 5D21; 705A and others.

**Note:** For detailed specifications, request Socket Standardization Booklet 536 on your company letterhead.

**CAPACITORS • TUBE SOCKETS • CONNECTORS • PILOT LIGHTS • INSULATORS • TERMINALS • INDUCTORS • HARDWARE**

Manufacturer of more than 5,000 items for all segments of the electronic industry, in addition to a wide line of connectors, tube sockets, and air variable capacitors, Johnson offers the hardware items described below: In addition, a complete line of heavy-duty RF components is available for broadcast transmitting, RF heating, antenna phasing, and other commercial applications.

Equipment in this line includes: fixed and variable inductors; antenna phase sampling locps, isolation filter inductors; feed-thru bowl insulators; static drain chokes; RF contactors; and heavy-duty make-before-break switches. For information on the Johnson RF component line, write for Catalog 560a.

**INSULATORS**—Low loss, high-voltage breakdown in either steatite or porcelain. High quality with heavy nickel-plated brass hardware—suitable for exposed applications. A complete line for immediate delivery from stock includes: Thru-panel Bushings and Insulators; Antenna Strain and Feeder Types; Cone and Stand-off Insulators; Lead-in Bushings; and Feed-Thru Bowl Assemblies.

**PILOT LIGHTS**—Over 47 separate assemblies immediately available from parts distributors throughout the country for original equipment or in-the-field replacement. Continuous indication neon types; models for high and low voltage incandescent bulbs; standard or wide angle glass; and lucite jewels. Specials, including types meeting military specifications, also available in production quantities. Detailed specifications listed in Pilot Light catalog 751—write today for your copy.

**PANEL BEARINGS**—For use on 1/4" shafts and panels up to 3/8" thick. **CRYSTAL SOCKETS**—For low capacity, high voltage and high temperature operation. Glazed steatite, Grade L-423 or better. DC-200 impregnated. **RF CHOKES**—High quality construction. For 1.7 to 30 mc range and VHF.

*Detailed components catalog free . . .  
Write today on company letterhead*

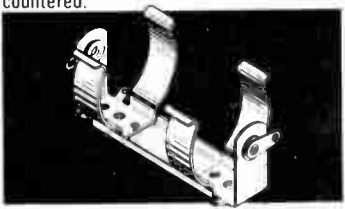
**E. F. JOHNSON COMPANY**




# KEYSTONE ALL STEEL BATTERY HOLDERS

## STANDARDIZED ALL STEEL BATTERY HOLDERS

An important advance in design that has gained wide acceptance for military and commercial usage. Battery when installed is held under spring tension at a constant pressure assuring low resistance contact will hold up to 4 cells in series in sturdy insulating tube. Retainer clips available to lock battery securely. This prevents shifting or loosening of battery in holder. Recommended for use where shock or severe vibration is encountered.



- CORROSION RESISTANT NICKEL PLATED
- STAINLESS STEEL CONTACTS
- MOISTURE PROOF INSULATING WASHERS
- IDEAL FOR NI-CAD AND ALKALINE CELLS

### SPECIFICATIONS

Made of SAE 1065 Carbon Steel to MIL Spec. 17919, heat treated to spring temper and nickel plated .0002 thick. Contact assembly consists of a stainless steel eyelet, moisture proof vulcoid washers and a coated copper solder lug. Ribbed carbon steel base for added support is nickel plated and has 2 mounting holes for ease in mounting.

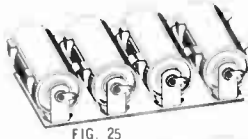


FIG. 25



FIG. 24

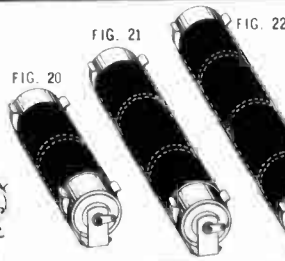


FIG. 21

FIG. 22



FIG. 23



FIG. 19

### MODIFICATIONS AVAILABLE

Variety of stock parts permits fast delivery on special requirements. Use our engineering service for your special custom-built holders.



### SPACE SAVER BATTERY CLIPS



These holders are available insulated contact or with a dimple contact. Provides positive contact in either case. They are compact and economical. The "AA", "C", "D", Mercury and Ni-Cad batteries are accommodated. Made of SAE 1065 steel heat treated to spring temper and nickel plated. Insulated type has steel nickel plated eyelet and resin impregnated vulcanized fibre insulation. Snap-on washer for polarization will be supplied upon request.

Cat. No.	Battery Types	Min. to max. Diameter	Net Each	
			5-19	20-99
92*	AA	.531-.660	.05	.04
99*	AA	.531-.660	.05	.07
100†	AA	.531-.660	.08	.08
86*	C	.875-1.125	.12	.11
87†	C	.875-1.125	.13	.12
88†	D	1.187-1.375	.10	.09
89*	D	1.187-1.375		

\*Non-Insulated

†Insulated



1100 SERIES

DIMPLE CONTACT



2100 SERIES

INSULATED CONTACTS

One Insulated Contact	Net Each		All Contacts Insulated	Net Each		Fig. No.	Holds No. of Cells	All Batteries in the Group are of Similar Size and Fit Holders Listed		
	5-19	20-99		5-19	20-99			Burgess	Eveready	RCA
<b>PENCCELL HOLDERS</b>										
Cat. No.			Cat. No.							
1139	.25	.23	2139	.30	.26	19	1	Z, HG9	E9, E12	VS034A
			2140*	.45	.43	23	2	CD6, 9R	E91, E133	VS144
			2171*	.70	.68	24	3	HG12R	E502, N46	VS149
			2182*	.80	.75	25	4	H133	515, 915	VS313A
1189	.40	.38	2189*	.40	.38	20	2	HG502R	1015	VS334
1191	.45	.41	2191	.45	.40	21	3	920		
1194	.50	.48	2194	.55	.51	22	4	930		

Cat. No.	Net Each		Cat. No.	Net Each		Fig. No.	Holds No. of Cells	Part No.	Part No.	Part No.
	5-19	20-99		5-19	20-99					
<b>"C" CELL HOLDERS</b>										
1173	.35	.30	2173	.35	.33	19	1	1		VS035A
			2174*	.60	.59	23	2	P6	E233	VS300
			2187*	.80	.75	24	3	120	635	VS335
			2188*	1.05	.95	25	4	130	935	VS400
1185	.50	.45	2185	.50	.49	20	2	H233		
1195	.50	.48	2195	.55	.51	21	3	302599		
1198	.55	.51	2198	.60	.57	22	4			

Cat. No.	Net Each		Cat. No.	Net Each		Fig. No.	Holds No. of Cells	Part No.	Part No.	Part No.
	5-19	20-99		5-19	20-99					
<b>"D" CELL HOLDERS</b>										
1175	.35	.30	2175	.35	.33	19	1	2	E42	VS036
			2176*	.60	.59	23	2	2R	N56	VS036A
			2190*	.85	.80	24	3	CD7	E95	VS336
			2192*	1.05	.95	25	4	210	D99	
1186	.48	.44	2186	.50	.49	20	2	230	A100	
1199	.55	.51	2199	.60	.56	21	3		950	
1162	.60	.54	2162	.65	.62	22	4		1050	
1179	.35	.30	2179	.35	.34	19	1		E94	

\*Clips mounted on phenolic 1/8" thick Mil Spec 3115B

### INSULATED POLARIZING WASHERS

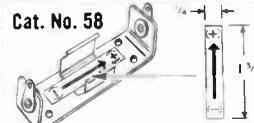


Cat. No. 59 (Red)

Cat. No. 60 (Black)

Molded Insulated Polarizing Washers. The washers hold securely when snapped over the eyelets used on our standardized battery holders.

### POLARITY LABELS



Cat. No. 58

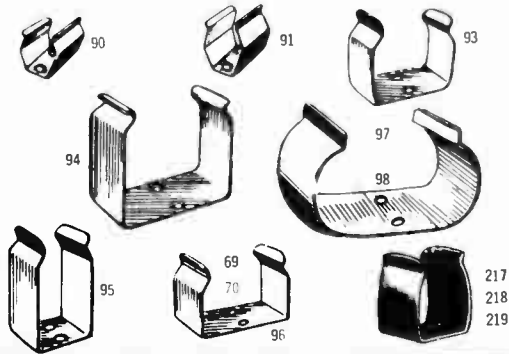
- PRESSURE SENSITIVE
- WILL ADHERE TO ANY SURFACE
- NO GLUE OR DAMPING REQUIRED
- ECONOMICAL

Wherever circuit polarity is to be shown labels colored Blue and Red.

### BATTERY AND COMPONENT HOLDERS

Cat. No.	Battery Types	Min. to Max. Diameters		NET EACH		Cat. No.	Battery Types	Min. to Max. Diameters		NET EACH	
		5-19	20-99	5-19	20-99			5-19	20-99		
69	2U6 or (2) AA	5/8 x 1 1/8		.07	.06	96	(1) K 20	5/8 x 1 1/4		.08	.07
70	(2) RM 12	5/8 x 1 1/8		.09	.08	97	(2) "C"	(2) 1 1/4 Dia.		.09	.08
90	7	3/8 to 2 3/4		.06	.04	98	(2) D	(2) 1 3/4 Dia.		.11	.10
91	(1) AA	1 1/2 to 2 1/2		.07	.05	217	1 1/2 Dia.	1 3/4 Dia.		.18	.14
93	(1) C	3/4 to 1 1/8		.07	.06	218	1 1/2 Dia.	1 1/2 Dia.		.20	.15
94	(1) D	1 1/8 to 1 3/8		.08	.07	219	2" Dia.	2" Dia.		.22	.16
95	(1) U-15	5/8 x 1 1/2		.07	.06						

Clips are made of Aluminum except Nos. 69, 217, 218, 219 are made of Steel.







# KEYSTONE BATTERY HOLDERS

Cat. No.	NET EACH		Holds No. of Cells	Fig. No.	ALL BATTERIES LISTED WITHIN BOXES ARE IN THE SAME SIZE GROUP BATTERY CROSS REFERENCE		
	5-19	20-99			Burgess	Eveready	RCA

### MINIATURE CELL HOLDERS

137	.23	.21	1	1	7	912	VS074
138	.38	.34	2	2			
169	.49	.44	3	3			
170	.64	.57	4	4			

### PENCIL HOLDERS

139	.23	.21	1	1	CDE	E9, E12	VS034A
140	.38	.34	2	2	9R, Z	E91	VS144
171	.49	.44	3	3	HC9	F133	VS149
182	.64	.57	4	4	HG-2R	333	VS313A
189	.45	.36	2	5	H133	E502	VS334
191	.49	.44	3	6	HF-02R	515	
192	.64	.54	4	7	920	915, 1015	
193	.93	.81	6	8	93C	N46	

### "C" CELL HOLDERS

173	.30	.26	1	1	1	226	VS035A
174	.38	.34	2	2	P6	F233	VS300
187	.45	.36	3	3	120	635	VS335
185	.45	.36	2	5	130	935	VS400
195	.49	.44	3	6	H233		
196	.64	.54	4	7	302599		
197	.93	.81	6	8			

### "D" CELL HOLDERS

175	.30	.26	1	1	2	E42	VS036A
176	.38	.34	2	2	2P	N56	VS036
190	.49	.44	3	3	CE7	E95	VS336
186	.46	.37	2	5	21D	D99	
199	.50	.45	3	6	23D	A100	
200	.65	.55	4	7		950	
201	.95	.85	6	8		1050	
205	.95	.85	6	12			

### 1 1/2 VOLT CELL HOLDERS

154	.21	.20	1	1	N	F340	VS073
155	.35	.32	2	2		F410	
156	.49	.44	3	3		F401	
160	.49	.44	1	1	2-R	964	VS236
179	.30	.26	1	1		E94	

### 4 1/2 VOLT CELL HOLDERS

139	.23	.21	1	1		333	VS1140
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### 9 VOLT CELL HOLDERS

139A	.26	.24	1	1		206	VS327
203P	.44	.30	1	14	206	216	VS323
173P	.36	.29	1	1	P6M	226	VS300A

### 15 VOLT CELL HOLDERS

163	.30	.26	1	11	430	417	
161	.30	.26	1	11	410	411	VS083
166	.30	.26	1	9			
167	.38	.34	2	10			
225	.21	.20	1	1	F10	504	
226	.35	.32	2	2			

### 22 1/2 VOLT CELL HOLDERS

164	.30	.26	1	11	K15		
168	.30	.26	1	11		420	
177	.30	.26	1	9	U15	412	VS084
178	.38	.34	2	10			
139A	.26	.24	1	1	F15	505	
140A	.41	.37	2	2			
171A	.52	.47	3	3			
182A	.67	.60	4	4			

### 30 VOLT CELL HOLDERS

157	.30	.26	1	14	Y20	506	
165	.30	.26	1	11	K20	430	
183	.30	.26	1	9	U20	413	VS085
184	.38	.34	2	10			
134	.38	.34	1	1	Y20S	507	

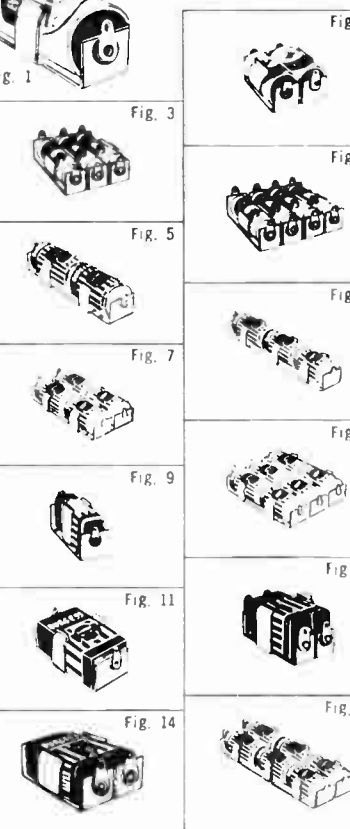
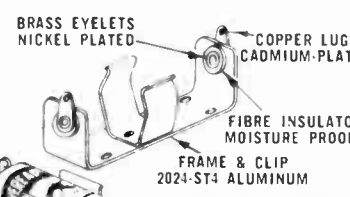
### INSULATED POLARIZING WASHERS

Insulated Polarizing Washers eliminate the danger of damage and short circuit to expensive transistor equipment. The washers hold securely when snapped over the eyelets used on our standardized battery holders. Material: Precision molded of plastic.

Cat. No.	NET COST EACH		5-19	20-99
	5-19	20-99		
59	.14	.03		



A standard line of battery holders available for immediate shipment from stock. Low cost, lightweight and sturdily constructed of quality materials. Good electrical contact, low leakage current and snap-fit clips are the outstanding features.



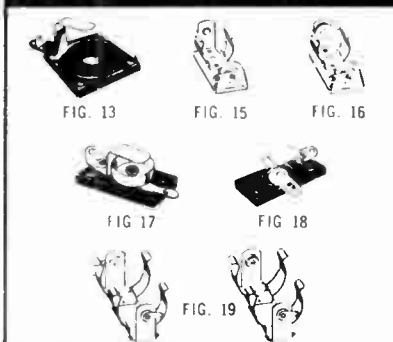
### RETAINER CLIPS



These retainers prevent the battery from shifting or loosening in the holder. Made of high carbon steel, heat treated to spring temper and nickel plated.

Cat. No. 61 Retainer for "A" or Mercury cells with diameters of 1 3/32" to 1/4" when used with Keystone #91, 92, 99 or 100 clips also clip #95 for rectangular battery.  
 Cat. No. 62 Retainer for C cells or other batteries with maximum diameter of 1 1/32" when used with Keystone #93, 86 or 87 clips.  
 Cat. No. 63 Retainer for D cells or other batteries with maximum diameter of 1 1/32" when used with Keystone #94, 88 or 89 clips.  
 Cat. No. 66 Retainer for mercury cells with .650 dia. when used with our #91 clips.  
 Any above, Net Each (5-19) .05; (20-99) .04

### MERCURY BATTERY HOLDERS



Mallory Mercury Battery Listing	Aluminum and Phenolic Base Holders		All Steel Holders One Insulated Contact		All Steel Holders All Contacts Insulated	
	Cat. No.	Fig. No.	Cat. No.	Fig. No.	Cat. No.	Fig. No.
RM1R	101*	13	1101	15	2101	16
RM3R	103*	13	1103	15	2103	16
RM4R	104*	13	1104	15	2104	16
ZM9	139	1	1139	19	2139	19
RM12R	139	1	1139	19	2139	19
RM42	175	1	1175	19	2175	19
TR113			1113	15	2113	16
TR114			1114	15	2114	16
TR115	132	1	1132	15	2132	16
TR132	132	1	1132	15	2132	16
TR133	139	1	1139	19	2139	19
TR134	134	1	1134	19	2134	19
TR135	135	5	1135	19	2135	19
TR136	189	5	1189	19	2189	19
TR137			1125	19	2125	19
TR145			1145	15	2145	16
TR152	124**	1				
TR153	106**	1				
TR162			1113	15	2113	16
TR163	132	1	1132	15	2132	16
TR164	109	1	1109	19	2109	19
TR165	110	1	1110	19	2110	19
TR169	189	5	1189	19	2189	19
TR175	124**	1				
TR177			1142	19	2142	19
TR213	173	1	1173	19	2173	19
TR234			1144	19	2144	19
RM400	111*	18				
RM401	124**	1				
RM411	166**	9				
RM412	177**	9				
RM413	183**	9				
RM450*	112**	17				
RM502	139	1	1139	19	2139	19
RM601			1116	15	2116	16
RME25	117*	17				
RM63C	126*	18				
RM4C	118*	13				
RM67E	127*	18				
30235*	119	1	1119	19	2119	19
30247*	120	5	1120	19	2120	19
30264*	121	1	1121	19	2121	19
30243*	122**	1				
30243	139	1	1139	19	2139	19
30259	173	1	1173	19	2173	19

\*Based on Base Holders  
 \*\*Available Only in Aluminum

### NET EACH PRICE LIST MERCURY BATTERY HOLDERS

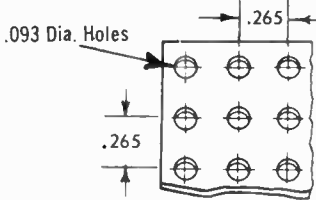
No.	5-19	20-99	No.	5-19	20-99	No.	5-19	20-99
101	.35	.31	175	.30	.26	1175	.35	.30
103	.37	.33	177	.30	.26	1189	.40	.38
104	.38	.34	183	.30	.26	2101	.35	.34
106	.30	.26	189	.45	.36	2103	.35	.34
109	.30	.26	1101	.35	.30	2104	.35	.34
110	.38	.34	1103	.35	.30	2109	.35	.34
111	.35	.31	1104	.35	.30	2110	.35	.34
112	.35	.31	1109	.35	.30	2113	.35	.34
117	.35	.31	1110	.35	.30	2114	.35	.34
118	.35	.31	1113	.35	.30	2116	.35	.34
119	.38	.34	1114	.35	.30	2119	.35	.34
120	.38	.34	1116	.35	.30	2120	.45	.41
121	.38	.34	1119	.35	.30	2121	.45	.41
122	.38	.34	1120	.40	.38	2125	.35	.34
124	.23	.21	1121	.40	.38	2132	.35	.34
126	.35	.31	1125	.35	.30	2134	.35	.34
127	.35	.31	1132	.35	.30	2135	.40	.37
132	.30	.26	1134	.35	.30	2139	.30	.26
134	.38	.34	1135	.35	.30	2142	.30	.26
135	.38	.34	1139	.25	.23	2144	.30	.26
139	.23	.21	1142	.25	.23	2145	.35	.34
166	.30	.26	1144	.25	.23	2173	.35	.33
173	.30	.26	1145	.35	.30	2175	.35	.33
			1173	.35	.30	2189	.40	.38



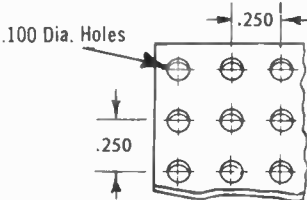
# KEYBOARDS

# PRE-PUNCHED TERMINAL BOARDS

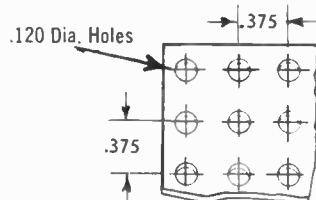
- COMPLETE RANGE OF SIZES AND SUITABLE HARDWARE
- "DO IT YOURSELF" STAKING TOOLS
- COPPER CLAD FOR PRINTED CIRCUITS
- UNCLAD TYPE FOR WIRED CIRCUITS
- STANDARD AND CUSTOM-MADE



"A" PATTERN .093 DIA. HOLES



"E" PATTERN .100 DIA. HOLES



"H" PATTERN .120 DIA. HOLES

## "A" PATTERN .093 DIA. HOLES .265 x .265 C to C

Size Width & Length	No. of Holes W & L	XXXP Natural	Glass Epoxy	Paper Base Epoxy
<b>1/16" THICK</b>				
		Cat. No.	Cat. No.	Cat. No.
.82 x 8.50	3 x 32	1731	1790	1796EP
1.88 x 8.50	7 x 32	1737	1791	1797EP
2.44 x 8.50	9 x 32	1738	1788	1798EP
3.25 x 8.50	13 x 32	1785	1789	1801EP
3.25 x 17.00	13 x 64	1786	1787	1802EP
4.88 x 4.88	18 x 18	1806	1807	1803EP
4.88 x 8.50	18 x 32	1784	1792	1804EP
4.88 x 17.00	18 x 64	1739	1793	1805EP
8.50 x 8.50	32 x 32	1732	1794	1808EP
8.50 x 17.00	32 x 64	1733	1795	1809EP
<b>3/32" THICK</b>				
1.38 x 1.88	5 x 7	1758	—	1758EP
1.38 x 4.00	5 x 15	1760	—	1760EP
1.38 x 8.50	5 x 32	1749	—	1749EP
1.88 x 2.94	7 x 11	1759	—	1759EP
1.88 x 8.50	7 x 32	1740	—	1740EP
2.44 x 8.50	9 x 32	1741	—	1741EP
3.25 x 8.50	13 x 32	1814	—	1814EP
3.25 x 17.00	13 x 64	1816	—	1816EP
4.88 x 8.50	18 x 32	1756	—	1756EP
4.88 x 17.00	18 x 64	1742	—	1742EP
8.50 x 8.50	32 x 32	1817	—	1817EP
8.50 x 17.00	32 x 64	1757	—	1757EP

## "E" PATTERN .100 DIA. HOLES .250 x .250 C to C

Size Width & Length	No. of Holes W & L	XXXP Natural
<b>1/16" THICK</b>		
		Cat. No.
2.13 x 4.00	8 x 16	1750
2.13 x 8.50	8 x 34	1765
3.63 x 8.50	14 x 34	1766
8.50 x 8.50	34 x 34	1767
8.50 x 17.00	34 x 68	1768
<b>3/32" THICK</b>		
2.13 x 8.50	8 x 34	1770
8.50 x 8.50	34 x 34	1771
8.50 x 17.00	34 x 68	1772

## "H" PATTERN .120 DIA. HOLES .375 x .375 C to C

Size Width & Length	No. of Holes W & L	XXXP Natural	Paper Base Epoxy
<b>1/16" THICK</b>			
		Cat. No.	Cat. No.
1.88 x 8.25	5 x 22	1743	—
2.25 x 8.25	6 x 22	1744	—
4.13 x 8.25	11 x 22	1782	—
4.13 x 16.50	11 x 44	1745	—
<b>3/32" THICK</b>			
1.88 x 8.25	5 x 22	1746	1746EP
2.25 x 8.25	6 x 22	1747	1747EP
4.13 x 8.25	11 x 22	1783	1783EP
4.13 x 16.50	11 x 44	1748	1748EP
6.00 x 8.25	16 x 22	1941	1941EP
6.00 x 16.50	16 x 44	1942	1942EP
8.25 x 8.25	22 x 22	1943	1943EP
8.25 x 16.50	22 x 44	1939	1939EP

## TERMINALS AND EYELETS For Boards with .093-.100 dia. Holes

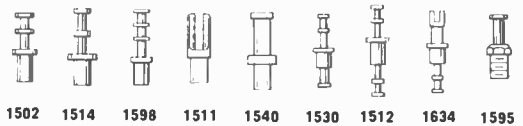
### TERMINALS

Brass (Mil Spec QQ626) and Silver Plated.

NOTE: When ordering Turret Terminals BE SURE TO SPECIFY Cat. No. of Terminal and add -2 for 1/16" thick Board and -3 for 3/32" thick Board

I.E. 1598-2 for 1/16" thick Board and 1598-3 for 3/32" thick Board

ALL TERMINAL DRAWINGS ARE ACTUAL SIZE.



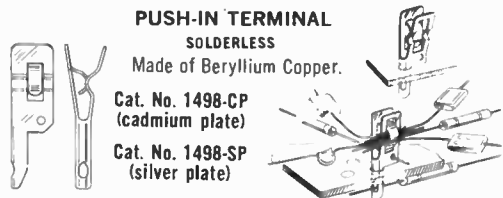
### PUSH-IN TERMINAL

SOLDERLESS

Made of Beryllium Copper.

Cat. No. 1498-CP (cadmium plate)

Cat. No. 1498-SP (silver plate)



### PRECISION MADE EYELETS

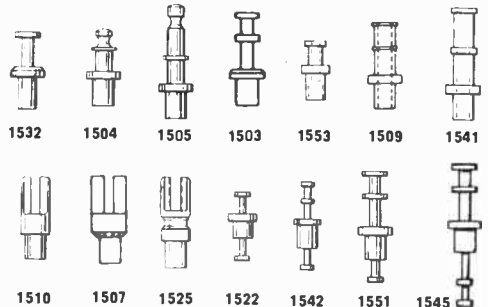
Made of Brass and Hot Tinned for easy solderability

Specify Cat. No. 33 for 1/16" thick Board  
Cat. No. 34 for 3/32" thick Board

## TERMINALS AND EYELETS For Boards with .120 dia. Holes

### TERMINALS

ALL TERMINAL DRAWINGS ARE ACTUAL SIZE.



### PRECISION MADE EYELETS

Specify Cat. No. 43 eyelet for 1/16" thick Board  
Cat. No. 44 eyelet for 3/32" thick Board



**KEYBOARDS**

# PRE-PUNCHED TERMINAL BOARDS

**THE PRACTICAL APPROACH TO SIMPLE OR COMPLEX CIRCUITRY**  
**LOW COST — IMMEDIATE DELIVERY — CHOICE OF SIX POPULAR PATTERNS AND MATERIALS**

**STANDARDIZED KEYBOARDS:** Permits time saving, low cost, assembly of components. Used extensively in development of prototype breadboarding, test design or production runs. A large selection of sizes and materials offers the designer the flexibility and convenience needed to create special circuitry on short notice.

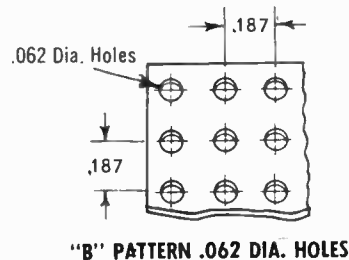
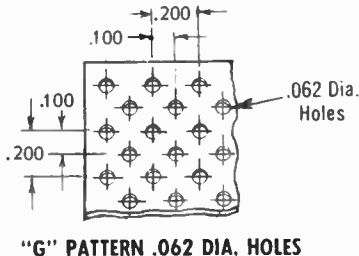
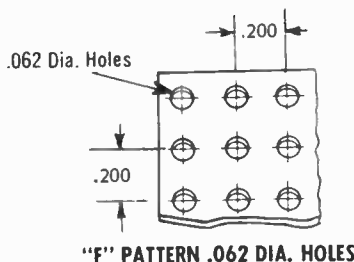
**ELECTRONIC HARDWARE:** A large selection of turret, push-in and stamped terminals, brackets, eyelets, etc. available from stock.

**STAKING TOOLS:** Inexpensive tooling supplied for staking eyelets, bushings, turret terminals, etc. You can do an entire assembly at your bench with ease, using our impact tool. Other tools for arbor, kickpress, drill press. See Staking Tool page

**SPECIAL SERVICES:** We will install eyelets or terminals to suit your application. We invite inquiries for special sizes or additional holes drilled. Prompt quotations rendered at no cost to you.

**MATERIAL SPECIFICATIONS & TOLERANCES**

XXXX Type PBE (Paper Base Elect.) Mil-P-3115C Temp. 250° F Max.  
 XXXPC Type PP Copper Clad Mil-P-13949 Temp. 250° F Max.  
 PAPER BASE EPOXY Mil-P-22324 (Type PEE) Temp. 250° F Max.  
 GLASS EPOXY UNCLAD Mil-P-18177 G-10 (GEE) Temp. 300° F. Max.  
 GLASS EPOXY Copper Clad Mil-P-13949B (GE) Temp. 300° F Max.  
**TOLERANCE:** Length and width overall dimension after fabrication Plus or Minus .015.  
**HOLE SIZE:** Plus or Minus .003.  
 Thickness of standard sheet varies Plus or Minus .008 for 1/16" or .010 for 3/32" thick.



"F" PATTERN .062 DIA. HOLES .200 x .200 C to C								
Size Width & Length	No. of Holes W & L	XXXX Natural	Glass Epoxy	Paper Base Epoxy	Glass Epoxy Cop. Clad (1 Side)	Glass Epoxy Cop. Clad (2 Sides)	XXXX Cop. Clad (1 Side)	XXXX Cop. Clad (2 Sides)
1.25 x 8.50	8 x 42	Cat. No. 1730	Cat. No. 1844	Cat. No. 1730EP	Cat. No. 1846	Cat. No. 1847	Cat. No. 1848	Cat. No. 1853
3.00 x 4.50	14 x 20	1835	1845	1835EP	1836	1837	1838	1839
3.63 x 8.50	18 x 42	1773	1854	1773EP	1855	1856	1857	1858
3.63 x 17.00	18 x 85	1775	1859	1775EP	1864	1865	1866	1867
4.50 x 6.50	22 x 30	1868	1870	1868EP	1876	1877	1878	1879
4.50 x 8.50	22 x 42	1869	1871	1869EP	1881	1886	1887	1888
4.88 x 8.50	24 x 42	1774	1872	1774EP	1882	1889	1894	1899
4.88 x 17.00	24 x 85	1776	1873	1776EP	1883	1891	1895	1902
8.50 x 8.50	42 x 42	1777	1874	1777EP	1884	1892	1896	1903
8.50 x 17.00	42 x 85	1778	1875	1778EP	1885	1893	1897	1904

"G" PATTERN .062 DIA. HOLES .100 GRID ALTERNATES						
Size Width & Length	No. of Holes W & L	XXXX Natural	Glass Epoxy	Paper Base Epoxy	Glass Epoxy Copper Clad (1 Side)	Glass Epoxy Copper Clad (2 Sides)
1.75 x 4.00	(8 x 19) x 2	Cat. No. 1752	Cat. No. 1909	Cat. No. 1752EP	Cat. No. 1919	Cat. No. 1920
2.25 x 8.50	(11 x 42) x 2	1754	1910	1754EP	1921	1922
3.50 x 4.00	(17 x 19) x 2	1753	1911	1753EP	1923	1924
3.50 x 8.50	(17 x 42) x 2	1905	1912	1905EP	1925	1926
3.50 x 17.00	(17 x 85) x 2	1906	1913	1906EP	1927	1928
3.88 x 8.50	(19 x 42) x 2	1907	1914	1907EP	1929	1930
4.88 x 8.50	(24 x 42) x 2	1908	1915	1908EP	1931	1932
4.88 x 17.00	(24 x 85) x 2	1779	1916	1779EP	1933	1934
8.50 x 8.50	(42 x 42) x 2	1780	1917	1780EP	1935	1936
8.50 x 17.00	(42 x 85) x 2	1781	1918	1781EP	1937	1938

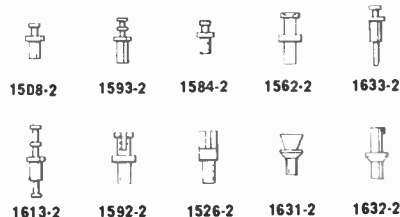
"B" PATTERN .062 DIA. HOLES .187 x .187 C to C			
Size Width & Length	No. of Holes W & L	XXXX Natural	XXXX Copper Clad (1 Side)
1.38 x 8.50	6 x 45	Cat. No. 1761	Cat. No. 1818
1.88 x 8.50	8 x 45	1734	1819
2.44 x 3.38	12 x 17	1812	1813
2.84 x 8.50	15 x 45	1735	1820
3.66 x 6.75	19 x 35	1824	1825
5.69 x 8.50	30 x 45	1762	1834
5.69 x 17.00	30 x 90	1736	1831
6.75 x 7.31	19 x 35	1826	1827
7.31 x 10.50	38 x 56	1828	1829
7.31 x 18.00	38 x 95	1832	1830
8.50 x 17.00	45 x 90	1763	1833

**TERMINALS AND EYELETS**  
**For Boards with .062 dia. Holes**

**TERMINALS**

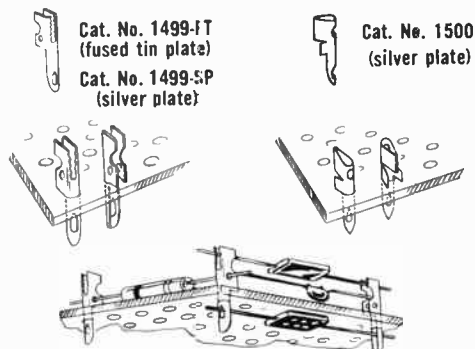
Brass, (Mil Spec QQ626) and Silver Plated.

ALL TERMINAL DRAWINGS ARE ACTUAL SIZE.



**PUSH-IN TERMINALS**

Made of Beryllium Copper.



**PRECISION MADE EYELETS**

Made of Brass and Hot Tinned for easy solderability.

**Cat. No. 23** For 1/16" thick Board

We welcome your inquiries for special boards and assemblies.



# STANDARDIZED TERMINAL BOARDS

## STANDARDIZED TURRET TERMINAL BOARDS

Cut your production cost by eliminating the tooling and setup charge usually applied to nonstandardized boards. Terminals are securely riveted and hot tinned for easy soldering.

**TERMINALS:** Your choice of most popular types.  
 Made of Brass: QQ-626, comp. 22, 1/2 hard.  
 Hot Dip Solder finish: Mil-F-14072 Type 221.

**Material:** Your choice of either PBE or GEE Phenolic.

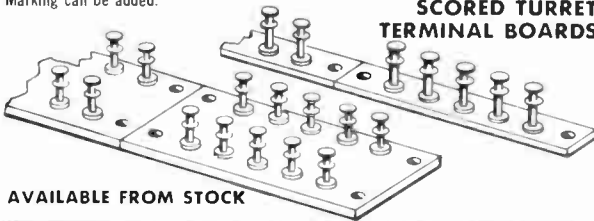
**PBE:** Paper base electrical, Mil-P-3115C, Temp. 250° F max. Type XXXP.

**GEE:** Glass Epoxy, Mil-P-18177, Temp. 300° F max. Type G-10.

Five sections SCORED for easy separation M'tg. holes in each section.

These boards CAN BE MODIFIED with terminals staked in all holes, scoring eliminated. Marking can be added.

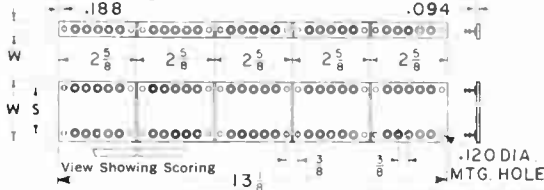
### SCORED TURRET TERMINAL BOARDS



AVAILABLE FROM STOCK

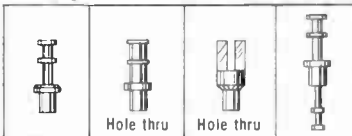
### 3/8" SPACING AND SCORED

3/32 THICK PHENOLIC — Choice of 4 Types of Terminals  
 Overall Length of Board 13 1/8", FIVE 2 5/8" Sections



Five sections SCORED for easy operation  
 M'tg. holes in each section

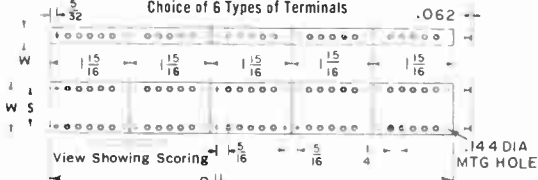
CHOICE OF TERMINALS



W	S	No. of Terms.	Material	With 1503 Term. Cat. No.	With 1509 Term. Cat. No.	With 1507 Term. Cat. No.	With 1545 Term. Cat. No.
1/2	Single Row	25	PBE	15031	15091	15071	15041
			GEE	15231	15291	15271	15241
1 1/2	1	50	PBE	15032	15092	15072	15042
			GEE	15232	15292	15272	15242
1 1/2	1 3/16	50	PBE	15036	15096	15076	15046
			GEE	15236	15296	15276	15246
2	1 1/2	50	PBE	15033	15093	15073	15043
			GEE	15233	15293	15273	15243
2 1/2	2	50	PBE	15034	15094	15074	15044
			GEE	15234	15294	15274	15244
3	2 1/2	50	PBE	15035	15095	15075	15045
			GEE	15235	15295	15275	15245

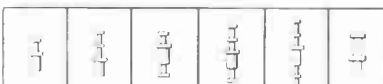
## MINIATURE TURRET TERMINAL BOARDS

1/4 SPACING AND SCORED — 1/16 THICK PHENOLIC  
 Overall Length of Board Is 9 11/16", Five 1 15/16" Sections  
 Choice of 6 Types of Terminals



Five sections SCORED for easy operation.  
 M'tg. holes in each section.

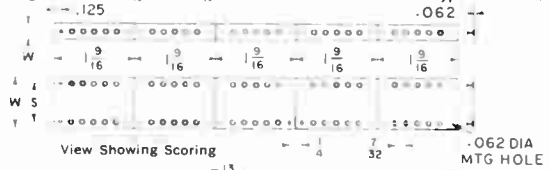
CHOICE OF TERMINALS



W	S	No. of Terms.	Material	With 1572 Term. Cat. No.	With 1573 Term. Cat. No.	With 1574 Term. Cat. No.	With 1575 Term. Cat. No.	With 1583 Term. Cat. No.	With 1559 Term. Cat. No.
5/16	Single Row	25	PBE	15047	15057	15067	15077	15087	15097
			GEE	15247	15257	15267	15277	15287	15297
7/8	9/16	50	PBE	15048	15058	15068	15078	15088	15098
			GEE	15248	15258	15268	15278	15288	15298
1 1/8	13/16	50	PBE	15049	15059	15069	15079	15089	15099
			GEE	15249	15259	15269	15279	15289	15299

## MINIATURE TURRET TERMINAL BOARDS

7/32 SPACING AND SCORED — 1/16" THICK PHENOLIC  
 Overall Length of Board 7 13/16", Five 1 1/16" Sections  
 Choice of 5 Types of Terminals



Five sections SCORED for easy operation.  
 M'tg. holes in each section

CHOICE OF TERMINALS



W	S	No. of Terms.	Material	With 1502 Term. Cat. No.	With 1562 Term. Cat. No.	With 1525 Term. Cat. No.	With 1512 Term. Cat. No.	With 1533 Term. Cat. No.
5/16	Single Row	25	PBE	15021	15023	15025	15063	15053
			GEE	15221	15223	15225	15263	15253
3/4	1/2	50	PBE	15028	15029	15026	15064	15054
			GEE	15228	15229	15226	15264	15254
1	3/4	50	PBE	15022	15024	15030	15065	15056
			GEE	15222	15224	15230	15265	15256

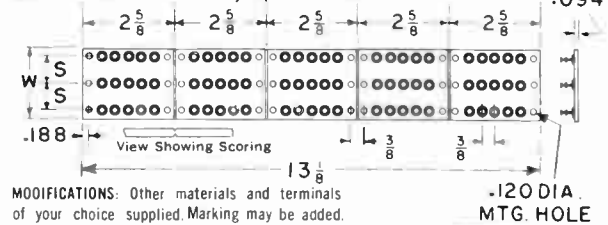
## UNIVERSAL TERMINAL BOARDS

Designed for production or experimental use, these standardized boards are well suited for any electronic application requiring a sturdy mounting surface for resistors, condensers and components.

**TERMINAL:** 1503-3 HOT TIN DIP finish for easier soldering and infinite shelf life.

**MATERIALS:** PBE (Paper Base Elect. Mil-P-3115C type XXXP) or GEE (Glass Epoxy Mil-P-18177 type G-10)

**NOTE:** 5 Sections Scored for easy separation. 3 Rows of Terminals.



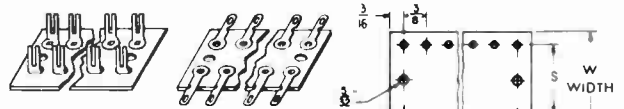
MODIFICATIONS: Other materials and terminals of your choice supplied. Marking may be added.



W	S	Total No. of Terms.	Material	Cat. No.
2 1/2	1	75	PBE	15332
			GEE	15342
3 1/2	1 1/2	75	PBE	15333
			GEE	15343

## READI-MADE TERMINAL BOARDS

- ECONOMICAL • SAVE TOOLING COST
- DELIVERY FROM STOCK • RANGE OF SIZES • APPROVED MATERIALS



Read-Made Terminal Boards are ideal for General Use Excellent for mounting resistors, condensers, etc Choice of Terminals

**MATERIAL:** 1 16" thick Bakelite (Mil Spec 31153 Pbe P grade)

**TERMINALS:** 1204 and 1268 are stamped from .023 thick brass 1539 is turned from 3 16" dia brass rod

**PLATING:** 1204 is Cadmium plated 1268 and 1539 are Hot Tinned for easy soldering

### CHOICE OF TERMINALS



W	L	S	A	Terminals Each Side	With 1268 Term. Cat. No.	With 1204 Term. Cat. No.	With 1539 Term. Cat. No.
1	1 3/4	1 1/8	1 1/2	5	1268-10	1204-10	1239-10
1	2 1/4	1 1/8	1 3/4	6	1268-12	1204-12	1239-12
1	5 1/4	1 1/8	4 1/4	14	1268-28	1204-28	1239-28
1 3/8	3 3/8	1 3/8	3 3/8	10	1268-20	1204-20	1239-20
1 3/8	4 1/8	1 3/8	3 3/4	11	1268-22	1204-22	1239-22
1 3/8	7 1/8	1 3/8	6 1/4	19	1268-38	1204-38	1239-38
1 1/2	7 1/2	Single Row	6 1/2	19	1268-19	1204-19	1239-19



# STANDARDIZED TERMINAL BOARDS AND BRACKETS

## STANDARDIZED TURRET TERMINAL BOARDS



- SAVE TOOLING
- COMPLETE RANGE OF SIZES
- ECONOMICAL
- DELIVERY FROM STOCK

READ-MADE TERMINAL BOARDS are low cost and meet commercial and military specifications. They are produced in large quantities, making it possible to eliminate tooling and setup charges usually applied to non-standardized boards.

**TERMINALS:** Made of BRASS, QQ-B-626, COMP. 22, 1/2 HARD. Terminals are staked in all holes except end mounting holes.

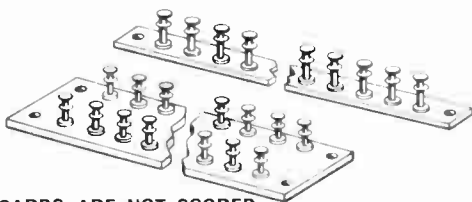
**PLATING:** HOT DIP SOLDER finish, MIL-P-14072. Recommended for longer shelf life and better solderability. Other platings can be furnished.

**MATERIAL:** Your choice of either PBE or GEE phenolic.

PBE: Paper base electrical, MIL-P-3115C, Type XXXP natural, Temp. 250 deg. F max.

GEE: Glass epoxy, MIL-P-18177, Type G-10, Temp. 300 deg. F max.

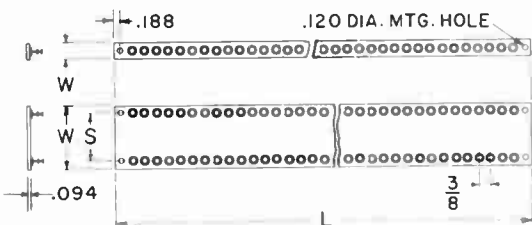
**MODIFICATIONS:** Other materials and terminals of your choice supplied. Marking may be added.



BOARDS ARE NOT SCORED

**TERMINAL:** 1503-3 HTD used on these boards. Height above board 23/64" (MIL-T-55155 — SE12-X-C-08 style SE12-8).

**MATERIAL:** Choice of PBE or GEE 3/32" thick.

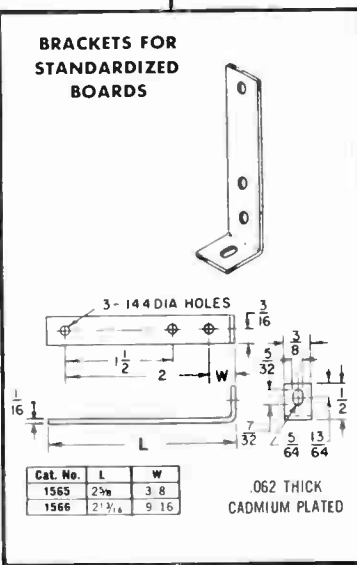


### 3/8" SPACING

Terminals are staked in all holes except end mounting holes.

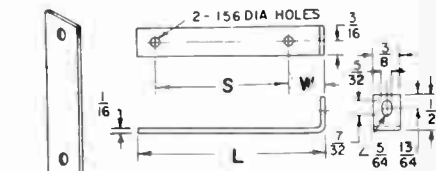
W	S	L	No. of Terms. Each Side	Material PBE Cat. No.	Material GEE Cat. No.
1/2	Single Row	2 5/8	5	15101	15301
		5 1/4	12	15102	15302
		7 7/8	19	15103	15303
		10 1/2	26	15104	15304
		13 1/8	33	15105	15305
13/16	3/4	2 5/8	5	15106	15306
		5 1/4	12	15107	15307
		7 7/8	19	15108	15308
		10 1/2	26	15109	15309
		13 1/8	33	15110	15310
1 1/2	1	2 5/8	5	15111	15311
		5 1/4	12	15112	15312
		7 7/8	19	15113	15313
		10 1/2	26	15114	15314
		13 1/8	33	15115	15315
2	1 1/2	2 5/8	5	15116	15316
		5 1/4	12	15117	15317
		7 7/8	19	15118	15318
		10 1/2	26	15119	15319
		13 1/8	33	15120	15320
2 1/2	2	2 5/8	5	15121	15321
		5 1/4	12	15122	15322
		7 7/8	19	15123	15323
		10 1/2	26	15124	15324
		13 1/8	33	15125	15325
3	2 1/2	2 5/8	5	15126	15326
		5 1/4	12	15127	15327
		7 7/8	19	15128	15328
		10 1/2	26	15129	15329
		13 1/8	33	15130	15330

### BRACKETS FOR STANDARDIZED BOARDS



### BRACKETS FOR STANDARDIZED BOARDS

Originally designed for our line of standardized terminal boards, these brackets will find many uses for a variety of applications. Available in both steel with cad. plate finish or aluminum.



### CHOICE OF STEEL OR ALUMINUM

.062 thick Steel — Per Mil Spec. QQ-S 633 B Grade FS-1010 cadmium plated per QQ-P-416 A Type II, Class B.  
.062 thick Aluminum — Per QQ-A-318.

Cat. No.	Steel Alum.	W	L	S	FOR BOARDS Cat. Nos.		
1556	622	3 8	1 3/8	1	15032	15072	15092
1567	623	3 8	2 1/8	1 1/2	15033	15073	15093
1568	624	3 8	2 5/8	2	15034	15074	15094
1569	625	3 8	3 1/8	2 1/2	15035	15075	15095
1570	626	9 32	1 7/8	3/4	15022	15024	15030
*571	627	9 32	1 3/8	1 1/8	15036	15076	15096

## MINIATURE TURRET TERMINAL BOARDS

### 7/32" SPACING

These GENERAL USE TERMINAL BOARDS are made of certified materials to JAN and MIL specs. can be supplied in other grades of materials and with terminals of your choice; also marking when requested.

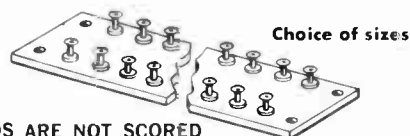


**TERMINAL:** Made of BRASS, QQ-B-626, COMP. 22,

1/2 Hrd. HOT DIP SOLDER finish MIL-F-14072.

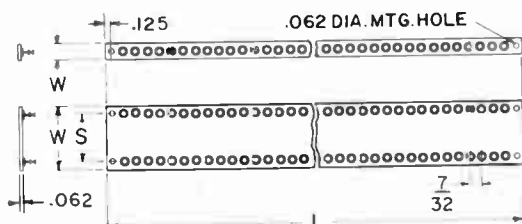
Mounting holes in board at each end.

The 1562 terminal is often specified for support and connection of transistors, resistors and small component parts. There is a .043 dia. hole thru the terminal and it stands 5.32" above the board.



BOARDS ARE NOT SCORED

**MATERIAL:** Choice of PBE or GEE 1/16" thick.



Terminals are staked in all holes except end mounting holes.

W	S	L	No. of Terms. Each Side	Material PBE Cat. No.	Material GEE Cat. No.
5/16	Single Row	1 1/8	5	15401	15501
		3 3/2	12	15402	15502
		4 5/8	19	15403	15503
		6 3/2	26	15404	15504
		7 1/8	33	15405	15505
3/4	1/2	1 5/8	5	15406	15506
		3 3/2	12	15407	15507
		4 5/8	19	15408	15508
		6 3/2	26	15409	15509
		7 1/8	33	15410	15510
1	3/4	1 5/8	5	15411	15511
		3 3/2	12	15412	15512
		4 5/8	19	15413	15513
		6 3/2	26	15414	15514
		7 1/8	33	15415	15515

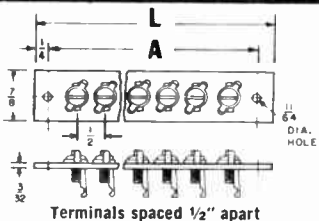


# KEYSTONE TERMINAL BOARDS

## BINDING POST STRIPS

## YOUR CHOICE OF GLASS EPOXY OR FIBERGLASS MATERIALS

Terminal supplied on these boards is No. 1209



Terminals spaced 1/2" apart

HEAVY DUTY 3/2" THICK MATERIAL 3/8" WIDE

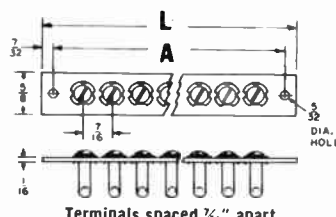
Glass Epoxy Cat. No.	Fiber-glass Cat. No.	L Length	A Mtg. C'trs	No. Term.
4147	4157	1 1/2	1	1
4148	4158	2	1 1/2	2
4149	4159	2 1/2	2	3
4150	4160	3	2 1/2	4
4151	4161	3 1/2	3	5
4152	4162	4	3 1/2	6
4153	4163	4 1/2	4	7
4154	4164	5	4 1/2	8
4155	4165	5 1/2	5	9
4156	4166	6	5 1/2	10

- Available from Stock
- Eliminate Costly Setup Charges

**MATERIAL SPECIFICATIONS:**  
**LOW COST TAN COLORED FIBERGLASS**  
 — Nema Grade GPO-1 a glass polyester rated for 300°F.

OR

**GEE:**  
**GLASS EPOXY:** MIL-P-18177 temp. 300°F. MAX. Type G-10.



Terminals spaced 3/16" apart

STANDARD 3/16" THICK MATERIAL 3/8" WIDE

Glass Epoxy Cat. No.	Fiber-glass Cat. No.	L Length	A Mtg. C'trs	No. Term.
4177	4167	1 1/4	1/4	1
4178	4168	1 1/8	1 3/8	2
4179	4169	2 1/8	1 3/4	3
4180	4170	2 3/8	2 3/8	4
4181	4171	3	2 5/8	5
4182	4172	3 3/8	3 1/8	6
4183	4173	3 1/2	3 1/2	7
4184	4174	4 3/8	3 3/8	8
4185	4175	4 3/4	4 3/4	9
4186	4176	5 3/8	4 1/4	10

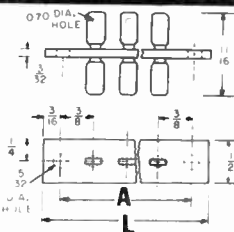
Terminal supplied on these boards is No. 1248



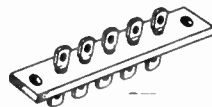
## FEED-THRU TERMINAL BOARDS

- Low Cost Feed-Thru Terminations
- For Light or Heavy Duty Applications

Copper pins are forced into hole of the phenolic, then flattened and pierced. Terminals are hot tin dipped for good solderability.



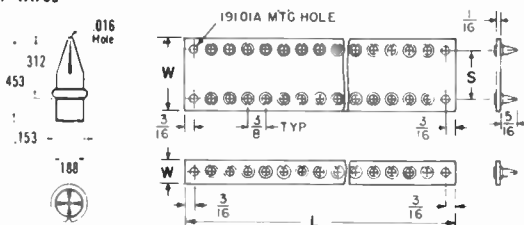
Cat. No.	No. Lugs	A Mtg. Ctr.	L Length
1220-1	1	3/4	1 1/8
1220-2	2	1 1/8	1 1/2
1220-3	3	1 1/2	1 7/8
1220-4	4	1 7/8	2 1/4
1220-5	5	2 1/4	2 3/8
1220-6	6	2 3/8	3
1220-7	7	3	3 3/4
1220-8	8	3 3/8	3 3/4
1220-9	9	3 3/4	4 1/8
1220-10	10	4 1/8	4 1/2



## CONICAL GRIP BOARDS

- Spring Action Fingers Hold Leads
- Eliminates Time-consuming Wrapping of Wires

- More Reliable
- Less Costly
- Time Saving
- Easily Serviced



CAT. NO. 1641



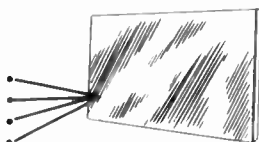
**MATERIAL:**

Brass, tinned Conical Terminals are firmly staked to 3/16" thick fiberglass insulator that will withstand temperatures to 300 degrees F. Wire leads are retained until ready to multiple dip solder.

## STANDARD LAMINATED PHENOLIC MATERIAL

- RANGE OF SIZES
- CERTIFIED MATERIAL

- CHOICE OF —  
 XXXP  
 GLASS EPDXY  
 COPPER CLAD  
 FIBERGLASS



the finest grade laminated phenolic sheets we use in our production fabrication are available to you in a range of standard sizes or special sizes cut to order; and in a variety of types.

**EMA GRADE XXXP-MIL-P-3115C**, paper base electrical-color natural. Most commonly used for panels and terminal boards. Excellent electrical grade and dimensional stability. Max. operating temp. continuous 250 deg. F.

**EMA GRADE G-10, MIL-P-18177B-GEE**, color green **GLASS CLOTH EPOXY**. Superior chemical resistance, excellent mechanical and electrical properties. Max. operating temp. continuous 300 deg. F.

**COPPER CLAD LAMINATES, XXXP MIL-P-13949 TYPE PP and GLASS EPOXY MIL-13949B TYPE FL-GE**, are used mainly for printed circuitry. The copper foil serves as the conductor and the laminate provides the insulating support. One-ounce copper foil is laminated to one or both sides of the insulator. We catalog both types in XXXP and G-10.

**FIBERGLASS REINFORCED POLYESTER NEMA GRADE GPO-1** with a class 155C (300°F) rating. Color is Tan. Excellent mechanical and electrical properties. Fabricates similar to Phenolic and can be punched cold.

- SPECIFIED SIZES CUT TO ORDER

Size Width & Length	XXXP Natural	Glass Epoxy	XXXP Cop. Clad (1 Side)	XXXP Cop. Clad (2 Sides)	Glass Epoxy Cop. Clad (1 Side)	Glass Epoxy Cop. Clad (2 Sides)	Fiber-glass Polyester
<b>1/16 THICK MATERIALS</b>							
	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
3/4 x 7 1/4	2006	2022	—	—	—	—	2304
3/4 x 7 1/8	2020	2023	—	—	—	—	2305
1 x 7 1/8	2021	2024	—	—	—	—	2306
2 x 4 1/2	1970	1978	1985	1992	1999	2013	2307
2 1/4 x 3	1971	1979	1986	1993	2007	2014	2308
3 x 4 1/2	1972	1980	1987	1994	2008	2015	2309
4 1/2 x 6 1/2	1973	1981	1988	1995	2009	2016	2310
4 1/2 x 8 1/2	1974	1982	1989	1996	2010	2017	2311
8 1/2 x 17	1975	1983	1990	1997	2011	2018	2312
9 x 12	1976	1984	1991	1998	2012	2019	2313
<b>3/32 THICK MATERIALS</b>							
	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
1/2 x 13 1/8	2025	2031	—	—	—	—	2314
1 3/4 x 13 1/8	2026	2032	—	—	—	—	2315
1 1/2 x 13 1/8	2027	2033	—	—	—	—	2316
2 x 13 1/8	2028	2034	—	—	—	—	2317
2 1/2 x 13 1/8	2029	2035	—	—	—	—	2318
3 x 13 1/8	2030	2036	—	—	—	—	2319

NOT SUPPLIED IN THESE TYPES

## STANDARDIZED PLUG-IN HOUSINGS



## PLUG IN HOUSINGS

Enhance the appearance and give that professional look to your products using these molded housings. Ideally suited for packaging relays, logic packages, networks and miniature circuitry. Durable, lightweight covers that will withstand vibrations and rough usage. A most popular size metal cover is included in this listing of stock items.

**HEADERS:** Molded of G.P. black phenolic and fit standard sockets.

Pins are Brass, Nickel Plated. Guide hole tapped 8-32 for terminal board mounting stud.

- VARIETY OF MOLDED MATERIALS
- GOOD CHEMICAL RESISTANCE
- LOW WATER ABSORPTION

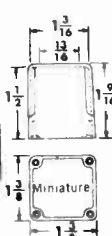


FIG. 1

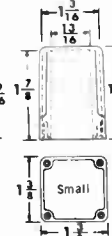


FIG. 2

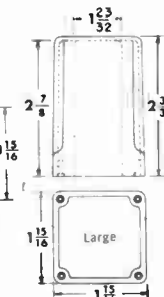


FIG. 3

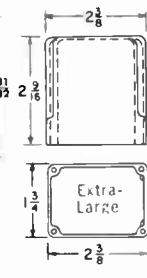


FIG. 4



FIG. 5

Housing with Octal Header & 4 Screws CAT. NO.	Housing Only CAT. NO.	Fig. No.	Type	Material	Color
660	670	1	Mini	Butyrate	Clear
661	671	1	Mini	Nylon	White
662	672	1	Mini	Polystyrene	Clear
641	645	1	Mini	Polystyrene	Opaque Black
642	646	1	Mini	Polystyrene	Transp. Red
663	673	2	Small	Butyrate	Clear
664	674	2	Small	Nylon	White
665	676	2	Small	Polystyrene	Clear
643	647	2	Small	Polystyrene	Opaque Black
644	648	2	Small	Polystyrene	Transp. Red
650	649	3	Large	Butyrate	Clear
668	679	3	Large	Polystyrene	Clear
677	666	3	Large	Polystyrene	Opaque Black
678	667	3	Large	Polystyrene	Transp. Red
639	640	4	Extra-Large	Polystyrene	Clear
669	680	5	Small	Steel	Electro Tin Plate

## HEADERS

**HEADERS:** Headers are available in two sizes and a variety of pin configurations that fit standard sockets. Molded of general purpose phenolic with brass nickel plated pins sturdily staked. Guide hole tapped 8-32 for terminal board mounting stud.

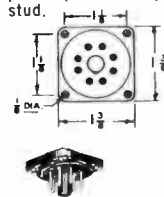


FIG. 1

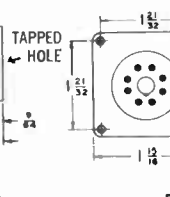


FIG. 2

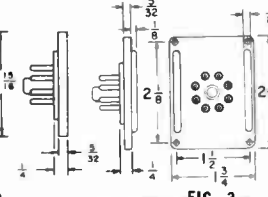


FIG. 3

$1\frac{3}{8}$ Sq. Headers for Mini & Small Housing (FIG. 1) CAT. NO.	Pin Configuration	$1\frac{1}{4}$ Sq. Headers for Large Housing (FIG. 2) CAT. NO.	$1\frac{3}{4} \times 2\frac{3}{8}$ Headers for Extra Large Housing (FIG. 3) CAT. NO.
681	Octal	685	690
682	Nine Pin	Not Available	Not Available
683	Eleven Pin	686	Not Available
684	Twenty Pin	687	691

## SELF-TAPPING SCREWS

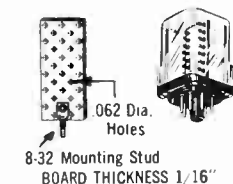
CAT. NO. 688 — For miniature & small covers #4 x  $\frac{3}{8}$ "

CAT. NO. 689 — For large covers #4 x  $\frac{1}{2}$ "

## TERMINAL BOARDS

(FOR USE WITH ABOVE HOUSINGS)

THESE BOARDS ARE STOCKED IN XXXP PAPERBASE AND GLASS EPOXY MATERIAL. SPACING OF HOLES IS .100 and .200 ALTERNATES. AN 8-32 THREADED STUD IS FIRMLY EYELETTED TO THE BOARD AND IS EASILY ASSEMBLED INTO THE TAPPED HOLE OF THE HEADERS.



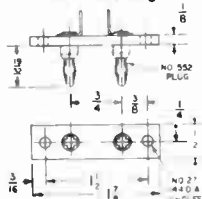
8-32 Mounting Stud  
BOARD THICKNESS  $1/16$ "

XXX PBE MIL-P-3115C Bakelite Cat. No.	Glass Epoxy G-10, GEE MIL-P-18177B Cat. No.	Size of Board with Stud	For Covers Listed Above
692	696	$1 \times 1\frac{1}{4}$	Miniature
693	697	$1\frac{1}{8} \times 1\frac{3}{4}$	Small
694	698	$1\frac{1}{2} \times 2\frac{3}{4}$	Large
695	699	$1\frac{1}{8} \times 1\frac{1}{4}$	Metal Case
637	638	$1\frac{1}{4} \times 2\frac{3}{8}$	Xtra Large

## BANANA PLUG AND JACK STRIP

3/4" Centers — Mate with all Stack-Up Plugs

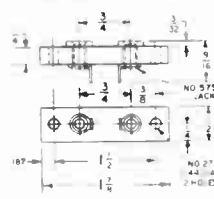
BANANA PLUG STRIP  
Panel Mounting



Cat. No. 651

A much needed accessory for patchcord boards and stack-up plugs. Low resistance banana plugs are spaced on  $\frac{3}{4}$ " centers, staked into  $\frac{1}{8}$ " thick black bakelite and solder plugs.

JACK STRIP  
Panel Mount Jack Strip



Cat. No. 653

These panel mounting strips mate with any  $\frac{3}{4}$ " spaced stack-up plug or individual patchcords. Silver plated jacks are staked into  $\frac{1}{4}$ " thick black bakelite with solder lugs. Multiples can be supplied in most instances without tooling or setup charges.

## BANANA PLUG IN MODULES

- Suitable for test adaptors, modules, filters, etc.
- Low resistance Beryllium Copper spring plugs
- Shielded or molded hi-impact Butyrate cover
- Mates with all standard patch board plugs

## PLASTIC HOUSING



BANANA PLUG SPRINGS: One piece Beryllium Copper per QQ-C-533 and heat treated to 15N, 73-79.

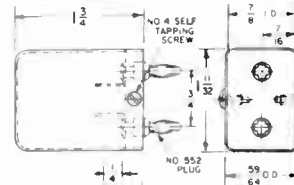
PLUG BODY: Brass QQ-626 Comp. 22½ H; silver plated, MIL-P-14072 per QQ S-365.

## ALUMINUM SHELL



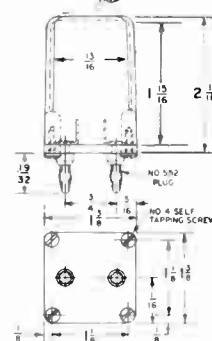
Cat. No. 659

Complete with header and 2 screws



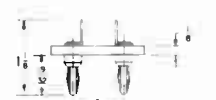
Cat. No. 657

Header only



Cat. No. 658

Complete with header and 4 screws



Cat. No. 656

Header only

KEYSTONE ELECTRONICS CORP.

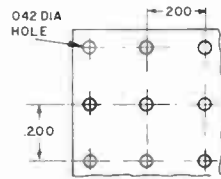
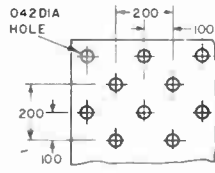
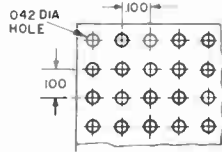


# KEYBOARDS, STANDOFFS & SPACERS

## MICRO-MINIATURE KEYBOARDS

### WITH .042 DIA. HOLES

- PERMITS HIGHER COMPONENT DENSITY FOR SUBMINIATURE CIRCUITRY
- FOR MODULE STACKS
- SMALLER PLUG-IN CARDS POSSIBLE

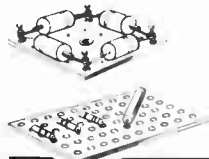


**Material:**  
 GLASS EPOXY UNCLAD Mil-P-18177 G-10 (GEE) Temp. 300°F. Max.  
 GLASS EPOXY Copper Clad Mil-P-13949B (GE) Temp. 300°F. Max.  
**Tolerance:** Length and width overall dimension after fabrication Plus or Minus .015

"P" PATTERN .042 HOLES .100 x .100				"M" PATTERN .042 HOLES .100 x .200				"J" PATTERN .042 HOLES .200 x .200			
Width & Length	No. Holes W & L	Glass Epoxy	Glass Epoxy Cop. Clad (1 Side)	Width & Length	No. Holes W & L	Glass Epoxy	Glass Epoxy Cop. Clad (1 Side)	Width & Length	No. Holes W & L	Glass Epoxy	Glass Epoxy Cop. Clad (1 Side)
<b>1/32" Thick Material</b>				<b>1/32" Thick Material</b>				<b>1/32" Thick Material</b>			
2x4 1/2	19x44	4225	4234	2x4 1/2	9x22x2	4242	4250	2x4 1/2	9x22	4258	4266
2x6	19x59	4226	4235	2x6	9x29x2	4243	4251	2x6	9x29	4259	4267
4 1/2 x 6	44x59	4227	4236	4 1/2 x 6	22x29x2	4244	4252	4 1/2 x 6	22x29	4260	4268
6x17	59x169	4228	4237	6x17	29x84x2	4245	4253	6x17	29x84	4261	4269
<b>3/64" Thick Material</b>				<b>3/64" Thick Material</b>				<b>3/64" Thick Material</b>			
2x4 1/2	19x44	4229	4238	2x4 1/2	9x22x2	4246	4254	2x4 1/2	9x22	4262	4270
2x6	19x59	4230	4239	2x6	9x29x2	4247	4255	2x6	9x29	4263	4271
4 1/2 x 6	44x59	4231	4240	4 1/2 x 6	22x29x2	4248	4256	4 1/2 x 6	22x29	4264	4272
6x17	59x169	4232	4241	6x17	29x84x2	4249	4257	6x17	29x84	4265	4273

## EYELET KEYBOARDS

An essential building block that will assist the designer and engineer in planning and layout of electronic circuitry. Eyelets are tinned for each soldering. Boards can be stored indefinitely and will retain soldering characteristics.



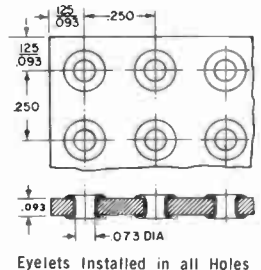
- Replaces Costly Terminal Board Assemblies
- For Lab or Production Use

**Material:** PBE XXXP Phenolic MIL-P-3115C.  
**Eyelets:** Brass QQ626 Comp. 22 —  
 1/4" Spacing in Both Directions  
**Finish:** Tinned, Mil-P-14072, Type 221.

## FOR MINIATURE CIRCUITRY

- Available from Stock
- Construct Modules—Bridge Circuits—Printed Circuit Layout

Cat. No.	No. of Holes W & L	Width	Length	No. of Eyelets
4283	5x5	1 1/4	1 1/4	25
4284	6x10	1 1/2	2 1/2	60
4285	10x13	2 1/2	3 1/4	130
4286	13x18	3 1/4	4 1/2	234
4287	14x16	3 1/2	4	224
4288	16x24	4	6	384

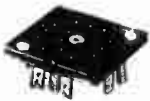


Eyelets Installed in all Holes

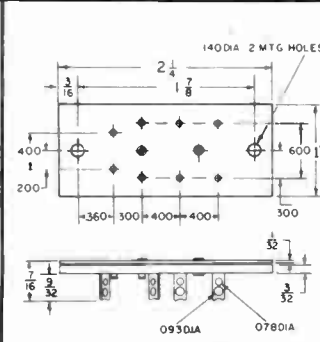
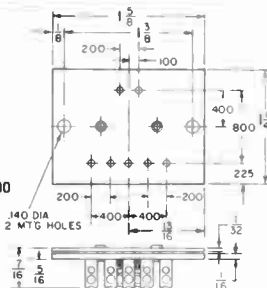
## MODULE WAFER SOCKETS FOR .040 PINS

Precision drilled wafers hold contacts in perfect alignment. Insertion is easy and pins are grasped firmly.

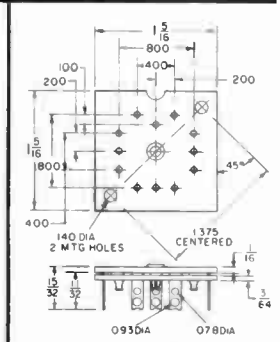
Most Standard Encapsulated Operational Amplifiers and Module Circuits



Cat. No. 1400



Cat. No. 1401

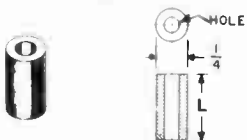


Cat. No. 1402

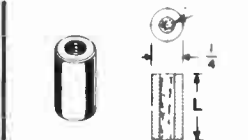
**Material:** NEMA Grade XP Phenolic Wafers.

## PHENOLIC SPACERS

- Good Mechanical Strength
  - Resists Abrasions & Chemicals
  - Excellent Dielectric
  - Low Moisture Absorption
- Material:** PBE Grade MIL-P-79A Natural Color Phenolic — Special Sizes Made to Order — Promptly Quoted



SPACERS — DRILLED HOLE ONLY



SPACERS — WITH TAPPED HOLE

Length Inches	Screw			Thread		
	For #4 .120 Hole Cat. No.	For #6 .140 Hole Cat. No.	For #8 .171 Hole Cat. No.	4-40 Thread Cat. No.	6-32 Thread Cat. No.	8-32 Thread Cat. No.
1/4 (250)	360	367	1490	376	383	390
3/8 (.375)	361	368	1491	377	384	391
1/2 (.500)	362	369	1492	378	385	392
3/4 (.750)	363	370	1493	379	386	393
1 (1.000)	364	371	1494	380	387	394
1 1/2 (1.500)	365	372	374	381	389	395
2 (2.000)	366	373	375	382	389	396

1.500 and 2" are tapped 3/8 deep each end

## ALUMINUM ECONOMY SPACERS

### FOR No. 4, 6 or 8 SCREWS

- Precision Formed
- No Burrs

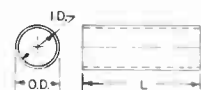
Made of flat strip aluminum and rolled on precision equipment. Assures maximum bearing surface. Square ends.

### Description and Tol.

Spacer For	I.D. ±.005	D.D. ±.007
#4	.125	.167
#6	.151	.193
#8	.178	.232



Tight Joint on Outside Diameter



L Length Inches	For #4			For #6			For #8		
	For #4 Cat. No.	For #6 Cat. No.	For #8 Cat. No.	For #4 Cat. No.	For #6 Cat. No.	For #8 Cat. No.	For #4 Cat. No.	For #6 Cat. No.	For #8 Cat. No.
3/4	397	—	—	418	425	432	418	425	432
1/2	398	405	412	419	426	433	420	427	434
3/8	399	406	413	420	427	434	421	428	435
1/4	400	407	414	421	428	435	422	429	436
1/8	401	408	415	422	429	436	—	430	437
1/16	402	409	416	423	430	437	—	—	—
1/32	403	410	417	424	431	438	—	—	—



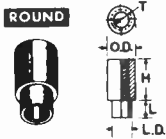


# STANDOFFS & SPACERS

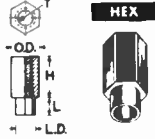
## SWAGE TYPE THREADED STANDOFFS

MATERIAL: ALL HARDWARE ON THIS PAGE IS MADE OF: BRASS MIL SPEC. QQ-B-626A COMP. 22—1/2 HARD.

ROUND



HEX



Nickel Plate Mil-F-14072  
QQ-N-290 Type V

Cadmium plate per QQ-P-416 Type 2  
Class B and clear chromate.

ROUND Nickel Plated Cat. No.	H Height Above Panel	L	For Panel Thickness	LD	OD	T Thread	HEX Cadmium Plated Cat. No.
1589-2	1/8	.109	1/16	.125	3/32	2-56	—
1589-3	1/8	.140	3/32	.125	3/32	2-56	—
1590-2	3/16	.109	1/16	.125	3/32	2-56	—
1590-3	3/16	.140	3/32	.125	3/32	2-56	—
1591-2	1/4	.109	1/16	.125	3/32	2-56	—
1591-3	1/4	.140	3/32	.125	3/32	2-56	—
1596-2	3/8	.109	1/16	.125	3/32	2-56	—
1596-3	3/8	.140	3/32	.125	3/32	2-56	—
1560 A	1/8	.109	1/16	.187	1/4	4-40	1653-2
1560 F	1/8	.140	3/32	.187	1/4	4-40	1653-3
1650-2	1/8	.109	1/16	.187	1/4	4-40	1627-2
1650-3	1/8	.140	3/32	.187	1/4	4-40	1627-3
1651-2	3/16	.109	1/16	.187	1/4	4-40	1628-2
1651-3	3/16	.140	3/32	.187	1/4	4-40	1628-3
1623-2	1/2	.109	1/16	.187	1/4	4-40	1629-2
1623-3	1/2	.140	3/32	.187	1/4	4-40	1629-3
1624-2	5/8	.109	1/16	.187	1/4	4-40	1654-2
1624-3	5/8	.140	3/32	.187	1/4	4-40	1654-3
1625-2	3/4	.109	1/16	.187	1/4	4-40	1655-2
1625-3	3/4	.140	3/32	.187	1/4	4-40	1655-3
1652-2	1	.109	1/16	.187	1/4	4-40	1630-2
1652-3	1	.140	3/32	.187	1/4	4-40	1630-3
1560 B	1/8	.109	1/16	.187	1/4	6-32	1621-2
1560 C	1/8	.140	3/32	.187	1/4	6-32	1620-3
1560 D	1/8	.171	1/8	.187	1/4	6-32	1620-4
1612-2	3/16	.109	1/16	.187	1/4	6-32	—
1612-3	3/16	.140	3/32	.187	1/4	6-32	—
1612-4	3/16	.171	1/8	.187	1/4	6-32	—
1546	1/4	.109	1/16	.187	1/4	6-32	1621-2
1546 B	1/4	.140	3/32	.187	1/4	6-32	1621-3
1546 C	1/4	.171	1/8	.187	1/4	6-32	1621-4
1561 B	3/8	.109	1/16	.187	1/4	6-32	1622-2
1561 C	3/8	.140	3/32	.187	1/4	6-32	1622-3
1561 D	3/8	.171	1/8	.187	1/4	6-32	1622-4
1604-2	1/2	.109	1/16	.187	1/4	6-32	—
1604-3	1/2	.140	3/32	.187	1/4	6-32	—
1604-4	1/2	.171	1/8	.187	1/4	6-32	—
1605-2	5/8	.109	1/16	.187	1/4	6-32	—
1605-3	5/8	.140	3/32	.187	1/4	6-32	—
1605-4	5/8	.171	1/8	.187	1/4	6-32	—
1608-2	3/4	.109	1/16	.187	1/4	6-32	—
1608-3	3/4	.140	3/32	.187	1/4	6-32	—
1608-4	3/4	.171	1/8	.187	1/4	6-32	—
1609-2	1	.109	1/16	.187	1/4	6-32	—
1609-3	1	.140	3/32	.187	1/4	6-32	—
1609-4	1	.171	1/8	.187	1/4	6-32	—

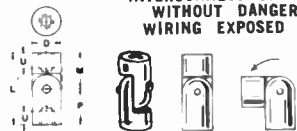
### STAKING TOOLS FOR ABOVE STAND-OFFS

Precision made tools—heat treated and plated. Will give your job the professional appearance. Set of tools consist of: Top Staking Tool and Anvil.



Cat. No.	Description
TL-19	For Bushing 3/32 OD with 2-56 Thd.
TL-20	For Bushing 1/4 OD with 4-40 Thd.
TL-21	For Bushing 1/2 OD with 6-32 Thd.

**CUT COST OF SERVICING • SPACE SAVER**  
INTERCONNECT CIRCUITS OR SERVICES  
WITHOUT DANGER OF SHORTING  
WIRING EXPOSED FOR EASY TEST



Material: Made of Brass  
Finish: Nickel Plate

These standoffs mount at front of the board.

Hinge Cat. No.	T Thread	D Diam.	L Length	U	M	P	Standoff Only Cat. No.
351	4-40	.187	3/4	.172	.375	.375	1657A
352	4-40	.187	1	.250	.375	.625	1657B
353	6-32	.250	3/4	.172	.375	.375	1548E
354	6-32	.250	1	.250	.375	.625	1548F
355	8-32	.250	3/4	.172	.375	.375	1692D
356	8-32	.250	1	.250	.375	.625	1692E

## THREADED SPACERS

THREADED SPACERS 1/4" O.D. THREADED 4-40, 6-32, 8-32 AVAILABLE EITHER IN ROUND OR HEX. ROUND TYPE IS NICKEL PLATED, HEX TYPE IS CADMIUM.



Cadmium plate per QQ-P-416 Type 2  
Class B and clear chromate.

Nickel Plate Mil-F-14072  
QQ-N 290 Type V

HEX Cadmium Plated Cat. No.	D	L	T Thread	ROUND Nickel Plated Cat. No.
1450	3/16	1/4	4-40	1547
1656	3/16	1/2	4-40	1657
1656A	3/16	3/4	4-40	1657A
1656B	3/16	1	4-40	1657B
1450A	1/4	1/4	4-40	1547A
1450B	1/4	1/2	4-40	1547B
1450C	1/4	3/4	4-40	1547C
1450D	1/4	1	4-40	1547D
1450E	1/4	1	4-40	1547E
1451A	1/4	1/4	6-32	1548A
1451B	1/4	1/2	6-32	1548B
1451C	1/4	3/4	6-32	1548C
1451D	1/4	1	6-32	1548D
1451E	1/4	1	6-32	1548E
1635	1/4	1	6-32	1548F
1474A	1/4	1/4	8-32	1692A
1474B	1/4	3/8	8-32	1692B
1474C	1/4	1/2	8-32	1692C
1474D	1/4	3/4	8-32	1692D
1474E	1/4	1	8-32	1692E
1452A	3/8	3/4	8-32	1549A
1452B	3/8	1/2	8-32	1549B
1452C	3/8	3/4	8-32	1549C
1452D	3/8	1	8-32	1549D
1452E	3/8	1	8-32	1549E

## HEX SPACERS 6-32 TAPPED BOTH ENDS

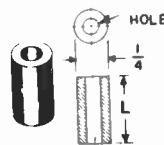
Extra long length spacers ideal as standoff legs for Keystone pre-punched boards or your special application. Brass cad. plated and chromate. 1/4" O.D. with 6-32 x 3/8" deep tapped holes both ends.



Cat. No.	Length
1635	1
1636	1 1/4
1637	1 1/2
1638	1 3/4
1639	2
1642	2 1/4
1643	2 1/2

## ROUND BRASS SPACERS

Made of Brass MIL Spec. QQ-2-626A Comb. 22 1/2 Hard.  
Finishes: Nickel Plate Mil-F-14072 QQ-N-233 Type V.

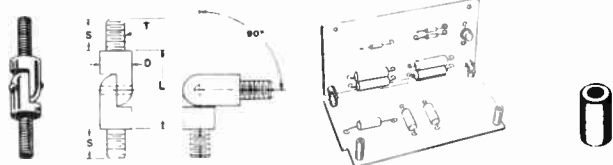


Length Inches	For #4 Sc'R .120 I.D. Cat. No.	For #6 Sc'R .140 I.D. Cat. No.	For #8 Sc'R .171 I.D. Cat. No.
1/4	1454A	1457A	1480
1/2	1454B	1457B	1481
3/4	1454C	1457C	1482
1	1454D	1457D	1483
1	1454E	1457E	1484

## HINGED STANDOFFS FOR TERMINAL BOARDS

- APPLICATIONS UNLIMITED
- TIME SAVING

Only 2 screws used to fasten board in place or open the hinged board.

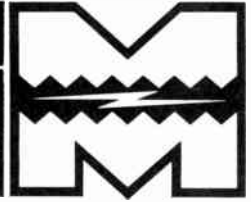


Hinge Cat. No.	T Thread	L Length	O Diam.	S	P	Standoff Only For Front of Board Cat. No.
357	4-40	1/2	.187	1/4	1/4	1657
358	6-32	1/2	.250	3/8	1/4	1548C
359	8-32	1/2	.250	3/8	1/4	1692C

# mueller clips

a complete line of  
**ALLIGATOR TEST & BATTERY CLIPS**

*Mueller Electric Co.*



**"60 SERIES" ALLIGATOR CLIPS**

**No. 60—CONVENTIONAL TYPE**

New slim design with full-meshing teeth. Convenient, round thumb grip, barrel connection for banana plug. Equipped with small soldering tip. Strong spring with a hard bite. Cadmium plated. 2" long.



EACH NET.....\$0.07      LOTS OF 10.....\$0.048

**No. 60-S—SCREW CONNECTION**

Eliminates necessity for soldering. Otherwise same as No. 60.



EACH NET.....\$0.08      LOTS OF 10.....\$0.058

**No. 60-CS—COPPER ALLIGATOR CLIP**

Solid copper version of No. 60-S. Screw connection. 2" long. 10 per box.

EACH NET.....\$0.12      LOTS OF 10.....\$0.086

**No. 60PR-2—SPECIAL BARREL**

**FOR TEST PROD OR PHONE TIP**

Barrel crimped to provide friction fit on standard test prod or phone tip. Holds prod on test, frees hand for other work.



EACH NET.....\$0.10      LOTS OF 10.....\$0.072

**No. 62 FLEXIBLE VINYL INSULATOR**

Red and black insulators for Alligator Clips 60, 60-S, 60-CS, 60PR-2.



EACH NET.....\$0.05      LOTS OF 10.....\$0.035

**No. 60-HS—STEEL ALLIGATOR CLIP WITH INSULATED HANDLE**

Same as No. 60-S except equipped with red and black insulating sleeves on end. Very convenient for distinguishing leads. Has screw connection also. Cadmium plated. 2 1/2" long. Shipped half red, half black.



EACH NET.....\$0.12      LOTS OF 10.....\$0.08

**No. 60-CHS—COPPER ALLIGATOR CLIP, INSULATED HANDLE**

Solid copper version of No. 60-HS. Screw connection. Shipped with half red, half black insulating sleeves. 10 per box.

EACH NET.....\$0.15      LOTS OF 10.....\$0.106

**"70 SERIES" ALLIGATOR CLIPS**

U.S. Patent No. 2,782,028

A trim, modern Alligator Clip. Features simplified design, fast connection of wire with cord strain relief ears, patented hinge construction and lower cost. Mueller's traditionally snappy spring, full jaw spread, fine meshing teeth, round thumb grip and trim shape give most wanted features for test work in close quarters.

**No. 70—FOR SOLDERED CONNECTION**

Steel, cadmium plated. 1 1/4" long.

EACH NET.....\$0.07      LOTS OF 10.....\$0.042



**No. 70-S—SCREW CONNECTION**

Otherwise same as No. 70.

EACH NET.....\$0.08      LOTS OF 10.....\$0.05



**No. 70-CS—COPPER SCREW CONNECTION**

Solid copper version of No. 70-S.

EACH NET.....\$0.11      LOTS OF 10.....\$0.077



**No. 72—SKIN-TIGHT INSULATOR**

**FOR 70 SERIES ALLIGATOR CLIPS:**

For the first time complete, skin-tight, one-piece insulation for a standard size Alligator Clip! Covers entire clip right down to nose. Special tip slot permits full jaw opening without exposing teeth.

EACH NET.....\$0.05      LOTS OF 10.....\$0.035

**MICRO-GATOR CLIP**

(Smallest Insulated Clip Ever Made)

U.S. Patent No. 2,762,028      Trademark Reg.



Micro-Gator



Micro-Gator with Insulator

The alligator clip with the microscopic tip! This is the alligator clip you now can use where no other clip will do . . . on printed circuits, in tight spots and on tiny terminals too crowded for anything but its microscopic tip. Including separate skin-tight insulator the tip is no bigger than the head of a pin! Yet the Micro-gator has ample thumb grip, and plenty of bite to stand up straight on the smallest terminals. Ample 1/32" jaw spread, 1 3/32" long. Solder connection. Skin-tight flexible vinyl insulator (sold separately) has "lip-action" tip slot so that jaws stay covered whether open or closed.

**No. 34 (Steel, cadmium plated)**

EACH NET.....\$0.06      LOTS OF 10.....\$0.041

**No. 34-C (Solid Copper)**

EACH NET.....\$0.08      LOTS OF 10.....\$0.053

**No. 36 (Insulator for Nos. 34 and 34-C)**

EACH NET.....\$0.05      LOTS OF 10.....\$0.03

**MINI-GATOR CLIP**

Trademark Reg.



Mini-gator



Mini-gator with Insulator

Indispensable for testing or incorporation into miniaturized equipment. New design features rivet hinge for greater strength, full-meshing teeth to grip finest wires. Skin-tight flexible Vinyl insulator (sold separately) covers completely — has "slotted" "lip action" tip. Clip weighs 1/20th oz., has tiny 1/64" O.D. nose, but ample 3/16" jaw spread 1 1/8" long. Crimping ears. Solder connection. Surprisingly strong bite penetrates corrosion and coatings.

**No. 30 (Steel, cadmium plated)**

EACH NET.....\$0.07      LOTS OF 10.....\$0.049

**No. 30-C (Solid Copper)**

EACH NET.....\$0.09      LOTS OF 10.....\$0.061

**No. 32 (Insulator for Nos. 30 and 30-C)**

EACH NET.....\$0.05      LOTS OF 10.....\$0.03

**COMPLETELY INSULATED ALLIGATOR CLIPS**

Patent Pending

**No. 63 or 63-C Clip**

Sold only as a unit, with factory-applied insulators.



Completely insulated right down to the nose. Flexible 2-piece skin-type vinyl insulator of high dielectric strength, with "lip action" slotted tip that permits opening of clip without exposing metal. Insulator nose is only 13/64" O.D. The tight fitting sheath preserves all the slimmness of the Alligator Clip, still giving complete protection against shorts in even the tightest spots. Screw connection easily made by slipping insulator forward. 2 1/8" long.

**No. 63—INSULATED ALLIGATOR CLIP (STEEL)**

Composed of Mueller No. 60-S Alligator Clip steel, cadmium plated, screw connection, complete with 2-piece vinyl insulator. Shipped half with red insulators, half black. 10 per box.

EACH NET.....\$0.19      LOTS OF 10.....\$0.13

**No. 63-C—INSULATED ALLIGATOR CLIP (COPPER)**

Composed of Mueller No. 60-CS Alligator Clip, solid copper, screw connection. Shipped half with red insulators, half black. 10 per box.

EACH NET.....\$0.22      LOTS OF 10.....\$0.15

**CROCODILE CLIPS**



No. 85 or 85-C Clip with No. 87 Insulator



No. 85-T Clip

No. 85—A very small clip with slender, elongated jaws for getting into tight places in radio or electrical test work. Screw connection. 2 3/8" long.

EACH NET.....\$0.10      LOTS OF 10.....\$0.071

No. 85-C—Same as No. 85, except solid copper with phosphor bronze spring, brass screw. A radio frequency, entirely non-ferrous test clip. 10 per box.

EACH NET.....\$0.19      LOTS OF 10.....\$0.13

No. 85-T—Crocodile "Tip-Clip"—equipped with standard phone tip on one jaw, otherwise same as No. 85. Ideal for use as a prod, for ordinary clip connections, and for connections to insulated binding posts having non-removable heads. 2 5/8" long. 10 per box.

EACH NET.....\$0.25      LOTS OF 10.....\$0.173

Use No. 87 Insulators for clips 85, 85-C and 85-T. Red and Black. Cover entire clip except nose. Protect against short and shock. Help to distinguish leads.



# mueller clips

a complete line of  
**ALLIGATOR TEST & BATTERY CLIPS**  
*Mueller Electric Co.*

## TEST CLIPS



**No. 45 PEE WEE**

A very small test clip for radio, ignition, meter and similar work. 1 1/2" long. Jaw spread 1/8". Steel, cadmium plated.

EACH NET.....\$0.09      LOTS OF 10.....\$0.06



**No. 45-C Clip  
No. 47 Insulator**

**No. 45-C  
Solid Copper R.F. Test Clip**

Solid copper radio frequency test clip. Phosphor bronze spring, brass screw. Will not heat up in high frequency test work, entirely non-ferrous. 1 1/2" long. 10 per box.

EACH NET.....\$0.14      LOTS OF 10.....\$0.10

Use No. 47 Insulator for clips 45 and 45-C.



**No. 48-B**

A small test and battery clip for radio use and general testing purposes. 2" long. Jaw spread 1/2". Steel, cadmium plated. 10 per box.

EACH NET.....\$0.12      LOTS OF 10.....\$0.086

No. 48C—Solid Copper. Same size as 48-B.

EACH NET.....\$0.17      LOTS OF 10.....\$0.12



**No. 50-C Needle Clip**

Solid bronze. Needle pierces insulation of wire for quick test contact. 2 1/4" long. 10 per box.

EACH NET.....\$0.28      LOTS OF 10.....\$0.20

No. 51-C—Large crocodile clip. Same as 50-C but without needle. 10 per box.

EACH NET.....\$0.20      LOTS OF 10.....\$0.137

Use No. 49 Insulator for Clips 48-B, 48-C, 50-C and 51-C.



**No. 27**

A high grade test clip with meshing teeth on three sides of jaws. For laboratory and shop test work 2 1/4" long. Jaw spread 5/8". Steel, cadmium plated. 10 per box.

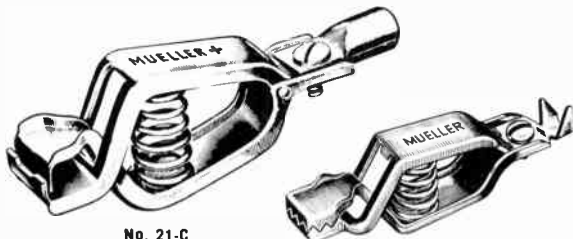
EACH NET.....\$0.15      LOTS OF 10.....\$0.10

No. 27-C—Solid copper. Same size as No. 27. 10 per box.

EACH NET.....\$0.24      LOTS OF 10.....\$0.17

Use No. 29 Insulator for clips 27 and 27-C.

## LARGER SIZES OF CLIPS



**No. 21-C**

**No. 25-C**

All packed 10 per box.

	Each Net	Lots of 10
No. 24-A — 25 Amp. Steel, lead plated, 2 3/4" long.....	\$0.24	\$0.163
No. 25 — 40 Amp. Steel, cadmium plated, 3" long.....	.22	.16
No. 25-C — 75 Amp. Solid Copper, 3" long.....	.43	.30
No. 21-A — 50 Amp. Steel, lead plated, 4" long.....	.43	.30
No. 21-C* — 100 Amp. Solid Copper, 4 1/2" long.....	1.05	.73
No. 11-A* — 100 Amp. Steel, lead plated, 6" long.....	1.12	.78
No. 11-C* — 200 Amp. Solid Copper, 6" long.....	1.96	1.37
No. 33-A* — 300 Amp. Solid Copper, 7 3/4" long.....	3.75	2.62

(\*Furnished with detachable lug connection for easy securing to large cables.)

## GROUND CLAMP



**CLAMPIPE  
No. 58**

The ClampPipe will not spread, bend or lop over when applied. Point of large screw bites through corrosion into clean metal to insure good contact. Applicable to pipe 3/4" to 1 3/8" O.D. The best ground clamp on the market!

EACH NET.....\$0.20      LOTS OF 10.....\$0.14

## FLEXIBLE INSULATORS FOR CLIPS



A convenient protection against short circuit and electric shock. Colors help to distinguish leads. Packed half red and half black to indicate polarity. Long tail prevents breakage of wire. Constructed so that clip is held in firmly. NOW AVAILABLE also in blue, white, yellow and green at 10% above regular price are insulators marked \* below.

Insulator No.	For Use with Clip No.	Each Net	Lots of 10
13*	11-A, 11-C.....	\$0.80	\$0.56
23*	21-A, 21-C.....	.40	.28
26*	24-A, 25, 25-C.....	.21	.15
29*	27, 27-C.....	.13	.09
32*	30, 30-C.....	.05	.03
35*	33-C.....	3.13	2.19
36*	34, 34-C.....	.05	.03
47*	45, 45-C.....	.06	.04
49*	48-B, 48-C, 50-C, 51-C.....	.09	.065
62*	60, 60-S, 60-CS, 60PR-2 (also 70 Serie)	.05	.035
72*	70, 70-S, 70-CS.....	.05	.035
87*	85, 85-C, 85-T.....	.06	.04

\*Also available in blue, white, yellow and green.

## MUELLER QUALITY BATTERY BOOSTER CABLES

Highest quality cables, equipped with famous Hippo-Clips, for boosting "dead" 6 or 12-volt vehicle batteries with an external battery. Cables are pure copper, finely stranded for high flexibility and covered with rubber insulation which stays flexible in the coldest weather and resists oil, grease and acid. 413 strands of No. 30 wire in the 4-gauge cable and 259 strands of No. 30 wire in the 6-gauge cable. The many fine features of the Hippo-Clips alone are listed elsewhere on this page. The clips are both soldered to the cable and clinched around the cable insulation by means of clinching ears.

Packaged: pair of cables with clips in a bright, attractive display carton. Standard shipping container 10 cartons.

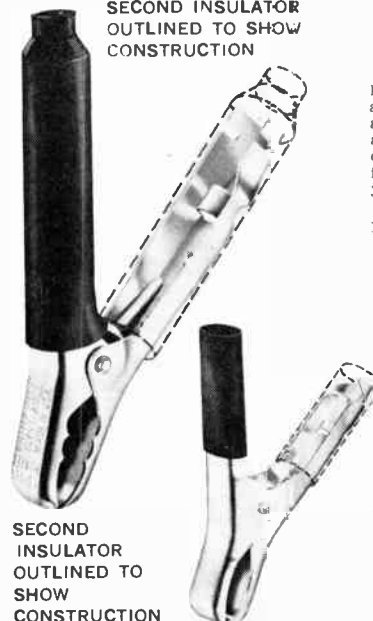
No. 8A6—8 ft., 6-gauge, with No. 41A Hippo-Clips (Steel, bright copper plated)  
NET PRICE PER PAIR.....\$5.70

No. 12A6—12 ft., 6-gauge, with No. 41A Hippo-Clips (Steel, bright copper plated)  
NET PRICE PER PAIR.....\$7.20



No. 12C4—12 ft., 4-gauge, with No. 41C Hippo-Clips (Solid Copper)  
NET PRICE PER PAIR.....\$12.60

## SECOND INSULATOR OUTLINED TO SHOW CONSTRUCTION



SECOND INSULATOR OUTLINED TO SHOW CONSTRUCTION

## HIPPO-CLIP

HIPPO-CLIP—For battery booster cables and fast chargers. Proved highest quality and superior design. Built-in solder strap and clinching ears for fast, sure cable connection. Supplied with vinyl handle insulators in red or black. Full 1-9/16" jaw spread. 6" long.

Net price ea.  
No. 41-A Steel, bright copper plated, 100 amp. .... \$ .45  
No. 41-C Solid Copper, 200 amp. .... .99

## PIGMY HIPPO-CLIP

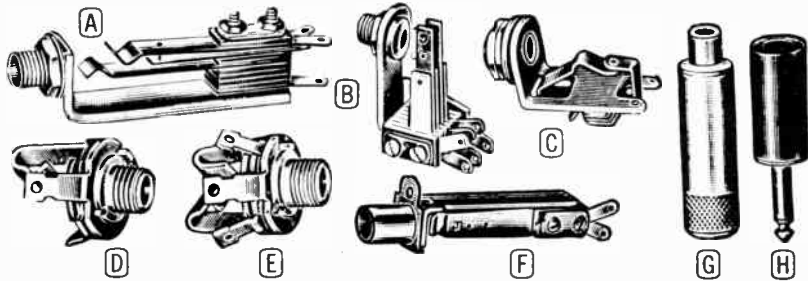
PIGMY HIPPO-CLIP—A new small plier clip for battery operated equipment and automotive test. Flat, wide handle allows positive grip. Won't "squirt away". Built-in solder strap and wire clinching ears. Supplied with vinyl handle insulators in red or black. Ample 1 1/4" jaw spread. 3" long.

Net price ea.  
No. 46-A Steel, bright copper plated, 50 amp. .... \$ .15  
No. 46-C Solid Copper, 75 amp. .... .24



# Jacks, Plugs, Control-Switch Hardware

## JACKS AND PLUGS



### PHONE JACKS

Four configurations meet a wide range of applications. Circuit arrangements shown in chart. Supplied with nut and washer. Bushing  $\frac{3}{16}$ "-32 x  $\frac{3}{4}$ ". Nickel-plated alloy springs, silver contacts, cadmium-plated frames.

Long Fr. (Fig. A)		Junior (Fig. B)		Infant and Midget (Fig. C)		Schem.
Mal. No.	Net Ea.	Mal. No.	Net Ea.	Mal. No.	Net Ea.	
1	45c	701	45c	A-1	33c	[Schematic diagrams for phone jacks]
2	57c	702	51c	A-2	48c	
2A	57c	702A	57c	A-2A	57c	
2B	57c	702B	57c			
3	60c	703	60c			
		703A	60c	A-3A	66c	
3B	60c	703B	60c			
		703C	60c			
		704	69c			
4A	75c	704A	69c			
4B	75c	704B	69c			
5	90c	705	75c			
6	1.05					

### COMPACT JACKS (FIGS. D AND E)

JJ033 and JJ034 meet all requirements of JAN-J-641.

Mallory Number	No. Cond.	Circuit Type	Net Each
LA1	2	Open	36c
LA2	2	Closed	42c
LA2A	2	Closed	48c
SC1A	2	Open	36c
JJ034	2	Open	39c
SCA2B	2	Open	42c
JJ033	3	Open	48c

For aircraft grounds and similar applications. **Mallory No. GJ-1—Net Each... 36c**

### GROUNDING JACK

### TELEPHONE JACKS (FIG. F)

For close strip mounting in switchboards; plain round bushing. Mounts by screw through mounting plate.

**Mallory No. XP1—Open circuit type. Net Each... 63c**  
**Mallory No. XP2B—Three circuit microphone type. Net Each... 75c**  
**Mallory No. XP3B—Single circuit, make before break type. Net Each... 90c**

### EXTENSION JACKS (FIG. G)

Mallory No.	Circuit	Shell	Net Each
100	2-way	Fiber	\$1.08
100N	2-way	1-piece nickel	1.08
100A	2-way	2-piece nickel, built-in clamp	1.50

### PHONE PLUGS (FIG. H)

Mal. No.	Circuit	Shell	Net Each
55	.....	Adapts mike con. to stand. jack	\$0.30
75	2-way	Phenolic tie-cord anchor, shielded	.45
75A	2-way	Nickel, 2-piece tie-cord anchor, built-in cable. clip.	1.05
75N	2-way	Nickel, tie-cord anchor, shielded	.66
76	3-way	Phenolic	.90
76A	3-way	Nickel, 2-piece, built-in cable. clip.	1.17
85	2-way	Miniature phone plug, shielded	.36
H75-76	.....	Repl. handle for 75 and 76 plugs	.25

## DIAL PLATES



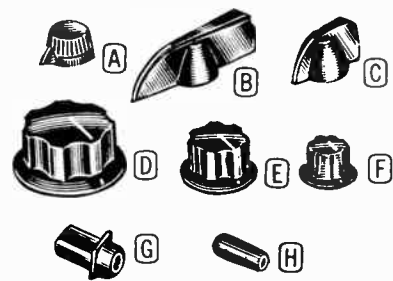
Aluminum dial plates with figures etched on solid black background.  $1\frac{1}{16}$ " dia.,  $\frac{7}{16}$ " hole, figures  $\frac{7}{16}$ " high, .020" thick.

Mallory No. -20° Spacing	Mallory No. -30° Spacing	Marking	Net Each
372	372	1 to 2	12c
453	373	1 to 3	12c
454	374	1 to 4	12c
455	375	1 to 5	12c
456	376	1 to 6	12c
457	377	1 to 7	12c
458	378	1 to 8	12c
459	379	1 to 9	12c
460	380	1 to 10	12c
461	381	1 to 11	12c
462	382	1 to 12	12c
463	.....	1 to 13	12c
464	.....	1 to 14	12c
465	.....	1 to 15	12c
466	.....	1 to 16	12c
467	.....	1 to 17	12c
468	.....	1 to 18	12c
472	.....	Off 1 to 2	12c
473	383	Off 1 to 3	12c
474	384	Off 1 to 4	12c
475	385	Off 1 to 5	12c
476	386	Off 1 to 6	12c
477	387	Off 1 to 7	12c
478	388	Off 1 to 8	12c
479	389	Off 1 to 9	12c
480	390	Off 1 to 10	12c
481	.....	Off 1 to 11	12c
482	.....	Off 1 to 12	12c
483	.....	Off 1 to 13	12c
484	.....	Off 1 to 14	12c
485	.....	Off 1 to 15	12c
486	.....	Off 1 to 16	12c

### SPECIAL DIAL PLATES

Mal. No.	Description	Net Ea.
391	1 $\frac{1}{2}$ " dia., "Increase Volume"	12c
393	2 $\frac{1}{4}$ " dia., 0-10 (265°)	12c
394	1 $\frac{1}{16}$ " dia., 1 to 24, 15° spacing	12c
395	2 $\frac{1}{4}$ " dia., 0-10 (275°)	12c
396	2 $\frac{1}{4}$ " dia., 0-10 (250°) + SW (35°)	12c
397	2 $\frac{1}{4}$ " dia., 0-10 (260°)	12c
398	2 $\frac{1}{4}$ " dia., 0-10 (225°) + SW (40°)	12c
399	2 $\frac{1}{4}$ " dia., 0-10 (305°)	12c
487	1 $\frac{1}{16}$ " dia., 1 to 5, 60° spacing	12c
488	1 $\frac{1}{16}$ " dia., 1 to 4, 90° spacing	12c

## SWITCH AND CONTROL KNOBS

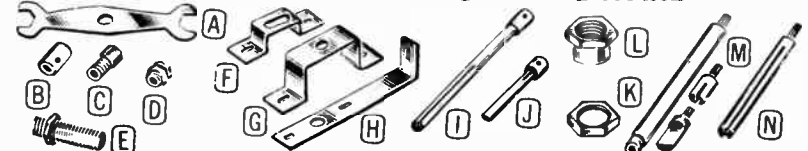


Mallory Number	Fig.	Description	Net Ea.
364	A	$1\frac{1}{16}$ " dia. black; point-er, $\frac{1}{4}$ " shaft	9c
365-1	B	2 $\frac{1}{4}$ " blk bar; $\frac{1}{4}$ " shaft	21c
366-1	C	1 $\frac{1}{4}$ " blk bar; $\frac{1}{4}$ " shaft	15c
366-R-1	C	1 $\frac{1}{4}$ " red bar; $\frac{1}{4}$ " shaft	15c
367-1	D	1 $\frac{1}{2}$ " black; $\frac{1}{4}$ " shaft	21c
368-1	E	1" dia. blk; $\frac{1}{4}$ " shaft	20c
1910K	F	$\frac{3}{4}$ " black; $\frac{1}{4}$ " shaft	20c
GS5149A	G	$\frac{3}{16}$ " x $\frac{1}{16}$ " for lever switches; black	10c
LK171-1	H	$\frac{5}{16}$ " dia. x $\frac{3}{4}$ " thd. for lever switch; black	10c

### SHAFT EXTENSIONS

**Mallory No. DS-36 (Fig. M)**— $\frac{1}{4}$ " dia. x  $2\frac{1}{16}$ " round for U, UT, UDT and TA controls. With one knurled and slotted, and one flattened shaft end knob adapter. Net Each... **33c**  
**Mallory No. DS-37 (Fig. N)**— $\frac{1}{4}$ " dia. x  $2\frac{1}{4}$ " round slotted for use with U, UT, UDT and TA controls. Net Each... **33c**

## CONTROL AND SWITCH HARDWARE



### VOLUME CONTROL NUT WRENCH

Mal. No.	Fig.	Description	Net Ea.
178	A	For $\frac{1}{2}$ " and $\frac{3}{8}$ " hex nuts	51c

### COUPLERS, BUSHINGS

EC240	B	Univ. coupling and reducer	43c
EB247	C	Univ. extension bushing	13c
UB241	D	Univ. bushing and nut	12c
EB158	E	$\frac{1}{8}$ " dbl. flat. bushg.	32c
EB214	E	$\frac{1}{2}$ " flatted bushing	75c

### CONTROL AND SWITCH WASHERS

Mal. No.	Description	Pkg. 10
203	Extruded fiber; $\frac{3}{4}$ " O.D., $\frac{3}{8}$ " I.D.	18c
212	Flat phenolic; $\frac{3}{4}$ " O.D., $\frac{3}{8}$ " I.D.	10c
225	Nickel finish metal, $\frac{3}{8}$ " I.D.*	21c
226	Nickel finish metal, $\frac{1}{4}$ " I.D.*	21c
227	Cadmium plated lock washer†	9c

\*  $\frac{1}{8}$ " O.D. †  $\frac{11}{16}$ " O.D.,  $\frac{23}{32}$ " I.D.

### ADJUSTABLE MOUNTING BRACKETS

Mal. No.	Fig.	Description	Net Ea.
RB248	F	$\frac{1}{4}$ " mounting centers	5c
RB249	G	$2\frac{1}{2}$ " mounting centers	5c
RB254	H	Universal	5c

### UNIVERSAL EXTENSION SHAFTS

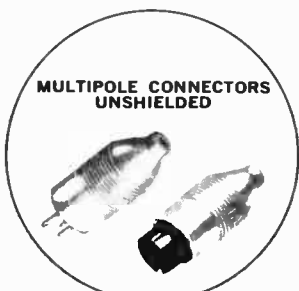
Mal. No.	Fig.	Description	Net Ea.
RS242	I	4" long, $\frac{1}{4}$ " dia., $\frac{1}{32}$ " flat	57c
RS243	I	4" long, $\frac{1}{4}$ " dia., $\frac{3}{32}$ " flat	57c
RS244	I	4" long, $\frac{3}{8}$ " dia., $\frac{1}{16}$ " flat	57c
RS245	J	2" long, $\frac{1}{4}$ " dia., $\frac{3}{32}$ " slot	81c

### HEX NUTS

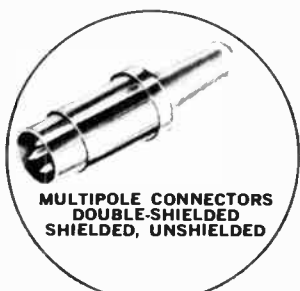
Mal. No.	Fig.	Description	Net
232	K	$\frac{1}{4}$ " hex. $\frac{1}{8}$ "-32	1c
255	L	$\frac{1}{4}$ " panel shoulder	8c
A11260-12	L	$\frac{1}{4}$ " panel shoulder	8c
A11260-2	L	$\frac{3}{8}$ " panel shoulder	8c



**MULTIPOLE PLUGS  
SOCKETS & CONNECTORS  
UP TO 36 POLES**



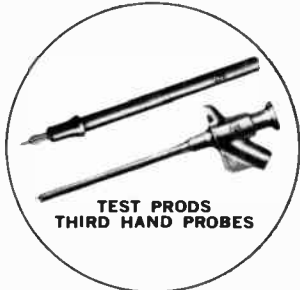
**MULTIPOLE CONNECTORS  
UNSHIELDED**



**MULTIPOLE CONNECTORS  
DOUBLE-SHIELDED  
SHIELDED, UNSHIELDED**



**MINIATURE SOCKETS  
SHIELDED AND UNSHIELDED**



**TEST PRODS  
THIRD HAND PROBES**



**PHONO PLUGS, SOCKETS  
AND ADAPTERS**



**BANANA  
PLUGS & JACKS**  
More than a hundred configurations. Bunch pin, transverse slot, leaf spring, rigid handles, unbreakable handles, quick-acting, with or without strain-relief. Available in over 20 colors.



**BANANA  
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**I.E.C. CONNECTORS**



**MULTI-WAY  
BINDING POSTS  
AND TERMINALS**



**ALLIGATOR CLIPS  
STAINLESS OR PLATED**



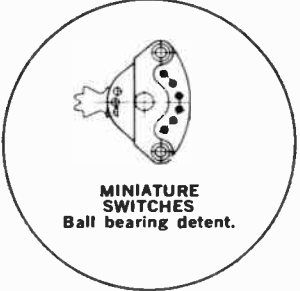
**ULTRA-MINIATURE  
AND MICRO-MESH  
ALLIGATOR CLIPS**



**ALLIGATOR CLIPS  
INSULATED, QUICK-ACTING**



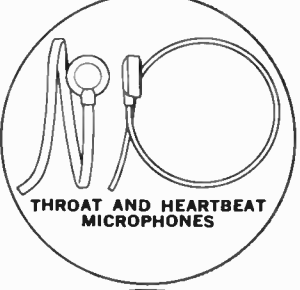
**UNDER  
THE  
CHIN  
HEADSETS**



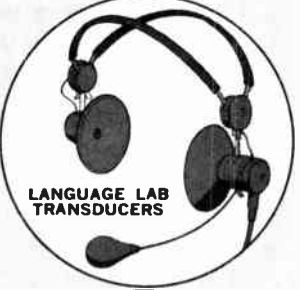
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SWITCHES**  
Ball bearing detent.



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**THROAT AND HEARTBEAT  
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**LANGUAGE LAB  
TRANSDUCERS**



**COMMUNICATION  
MICROPHONES**



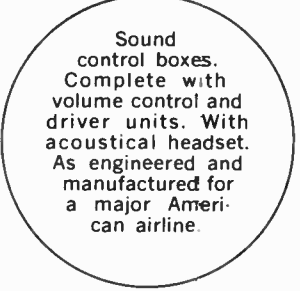
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 Plug, socket connector, test prod catalog.  
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**ACOUSTIC  
CONTROL BOX**



Sound control boxes. Complete with volume control and driver units. With acoustical headset. As engineered and manufactured for a major American airline.



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The complete, economical line of hardware with many important extra features. NT•T Sales Co., Inc. offers a fully comprehensive and extensive line of electronic hardware and components to meet all the needs of the distributor and manufacturer. Every item offers important features, is excellently packaged, and is economically priced.

## PHONE PLUGS

## PHONE JACKS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack		ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each					Color	USA Net Each
		<b>TWO CONDUCTOR Screw Type</b> Two conductor screw type, accommodates two conductor jacks #336 and #337.	300B 300R 300M	Black Red Metal	.45 .45 .63			<b>ULTRA-MINIATURE JACK</b> Two conductor closed circuit jack for miniaturized applications. Used on many transistor radios. Accommodates plug #300	310	Metal	.27
		<b>TWO CONDUCTOR Solder Type</b> Two conductor solder type, accommodates two conductor jacks #336 and #337.	301B 301R 301M	Black Red Metal	.39 .39 .60			<b>SUB-MINIATURE JACKS</b> Subminiature phone jack, two conductor closed circuit will accommodate plug #307.	311	Metal	.27
		<b>THREE CONDUCTOR Solder Type</b> Three conductor solder type, accommodates three conductor jacks #338 and #339.	302B 302R 302M	Black Red Metal	.63 .63 .78			<b>SUB-MINIATURE JACKS</b> Subminiature jacks, two conductor open circuit will accommodate plug #307.	313	Metal	.24
		<b>THREE CONDUCTOR Screw Type</b> Three conductor screw terminal phone plug. Accommodates jacks #338 and #339.	303-B 303-R 303-M	Black Red Metal	.72 .72 .84			<b>2-CONDUCTOR THICK PANEL JACK</b> For walls, floor or thick panel installation. 2-1/4" length.	314	Metal	.90
		<b>TWO CONDUCTOR Type P1055</b> Two conductor solder type, made to military specifications. Solder terminals are silver plated to facilitate soldering.	304B 304R	Black Red	.81 .81			<b>TWO CONDUCTOR Open Circuit</b> Two conductor, open circuit; will accommodate plugs #300, 301 and 304.	336	Metal	.24
		<b>TWO CONDUCTOR Type P1054</b> Two conductor solder type, made to military specifications. Solder terminals are silver plated to facilitate soldering.	305B 305R	Black Red	.81 .81			<b>TWO CONDUCTOR Closed Circuit</b> Two conductor, closed circuit; will accommodate plugs #300, 301 and 304.	337	Metal	.27
		<b>MINIATURE TWO CONDUCTOR Solder Type</b> Two conductor solder type, accommodates sub-miniature jacks #311 and #313.	307B 307R 307M	Black Red Metal	.42 .42 .63			<b>THREE CONDUCTOR Open Circuit</b> Three conductor, open circuit; will accommodate plug #302.	338	Metal	.33
		<b>ULTRA-MINIATURE TWO CONDUCTOR Solder Type</b> Two conductor solder type, accommodates ultra-miniature jack #310. Utilized on many tape recorders and transistor radios.	308B 308R 308T	Black Red Beige	.45 .45 .45			<b>THREE CONDUCTOR Open Circuit</b> Three conductor, open circuit with 210 I.O. Will accommodate plug #P1058.	338-B	Metal	.36
		<b>RIGHT ANGLE TWO CONDUCTOR Screw Type</b> Right angle plug prevents protrusion, accommodates two conductor jacks #336 and #337.	309M	Metal	.54			<b>THREE CONDUCTOR Closed Circuit</b> Three conductor closed circuit; will accommodate plug #302.	338-A	Metal	.42
		<b>COAXIAL JACK</b> Used extensively on AC adapters, and battery chargers for transistorized tape recorders, television receivers, and radios.	6-200 6-201	Green Red							.39

## PHONO PLUGS

ILLUSTRATION	DIMENSIONS	A	B	C	D	Catalog Number	Std. 10 Pack		ILLUSTRATION	DIMENSIONS	A	B	C	D	Catalog Number	Std. 10 Pack	
							Color	USA Net Each								Color	USA Net Each
		1/8	.175	11/16	15/16	36A	Metal	.06			1/8	.145	3/8	1- 1/8	44B	Metal	.09
		1/8	.175	3/8	5/8	36B	Metal	.06			1/8	.145	11/16	1- 3/32	42A	Metal	.17
		1/8	.145	11/16	1- 7/16	44A	Metal	.09			1/8	.145	3/8	25/32	42B	Metal	.17

# NATIONAL TEL-TRONICS CORP.



National Tel-tronics is a reliable, service oriented company devoted to the cost-conscious manufacture of component hardware for the electronics industry. We are equipped, experienced and eager to serve you with the largest, most comprehensive stocks of standard and custom designed items. Complete engineering assistance is at your service.

## PHONO PLUGS

ILLUSTRATION	DIMENSIONS	A	B	C	D	Catalog Number	Std. 10 Pack	
							Color	USA Net Each
	CRIMP TYPE Standard	1/8	.175	11/16	1- 7/32	46A	Metal	.09
	CRIMP TYPE Short Pin	1/8	.175	3/8	29/32	46B	Metal	.09
	PLASTIC HANDLE Standard	1/8	.175	11/16	1-5/8	60A-R	Red	.18
		1/8	.175	11/16	1-5/8	60A-B	Black	.18
		1/8	.175	11/16	1-5/8	60A-G	Gray	.18
		1/8	.175	11/16	1-5/8	60A-W	White	.18
	PLASTIC HANDLE Short Pin	1/8	.175	3/8	1-5/16	60B-R	Red	.18
		1/8	.175	3/8	1-5/16	60B-B	Black	.18
		1/8	.175	3/8	1-5/16	60B-G	Gray	.18
		1/8	.175	3/8	1-5/16	60B-W	White	.18
	SHIELDED HANDLE PLUG	Extremely easy to solder. Has neat appearance and provides finger grip for easy removal.				5-005	Metal	.30

## PHONO JACKS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>ROUND TYPE JACK</b> Single contact jack providing sure grip on all phono pin plugs.	318	--	.042
		<b>RECTANGULAR JACK</b> Single contact jack for replacement applications and use on new equipment.	319	--	.072
		<b>OVAL TYPE JACK</b> For smaller areas use this compact phono jack. 687 mounting centers.	326	--	.072
		<b>SINGLE HOLE JACK Front Mount</b> Mounts in 3/8" hole. Supplied with nut, washer, and solder lug. Mounts through front of panel.	340	Metal	.30
		<b>SINGLE HOLE JACK Rear Mount</b> Mounts in 3/8" hole. Supplied with nut, washer and solder lug. Mounts through rear of panel.	342	Metal	.33
		<b>DUAL PHONO JACK</b> Ideal for stereo applications; replacement and new projects.	352	--	.096
		<b>QUADRUPLE PHONO JACK</b> Versatile jack for all audio applications such as tuner, amplifier, and multiples inputs.	384	--	.171
		<b>SWITCHING JACKS</b> 317 is two conductor closed and 316 is a three conductor closed jack. Used as stereo, phonograph, or amplifier input.	316	--	.27
			317	--	.21
		<b>INLINE PHONO JACK</b> Combination clamp and solder type shielded handle jack. Mates with all phono pin plugs.	5-006	Metal	.36

## EXTENSION JACKS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>TWO CONDUCTOR JACK</b> Accommodates plug types 300, 301, and 309. Has numerous audio applications.	6-100	Black	.54
			6-101	Metal	.75
		<b>THREE CONDUCTOR JACK</b> Accommodates plug type 302. Utilized in many audio and stereo applications.	6-102	Black	.75
			6-103	Metal	.87

## PILOT LIGHT SHIELDS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>LIGHT SHIELD</b> Brass, cadmium plated shield intended for use in television, on radio receivers, meters, and all electronic equipment. Prevents glare and directs the light to the desired position.	3110	Metal	.036
		<b>LIGHT SHIELD</b> Bright brass dip shield intended for use in television, on radio receivers, meters, and all electronic equipment. Prevents glare and directs the light to the desired position.	3111	Metal	.033

## TEST PRODS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>TEST PROD No. 891</b> Shouldered insulated handle made of Bakelite. Tip made of nickel-plated brass has set screw in side for securing conductor and thus making a solderless connection. Tip screw into handle. Available in red and black. Indicate color.	891-B	Black	.60
			891-R	Red	.60
		Same as No. 891 except with a banana plug adapter in back of handle.	892-B	Black	.66
			892-R	Red	.66



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The complete, economical line of hardware with many important extra features. NT•T Sales Co., Inc. offers a fully comprehensive and extensive line of electronic hardware and components to meet all the needs of the distributor and manufacturer. Every item offers important features, is excellently packaged, and is economically priced.

## TEST PRODS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack																										
				Color	USA Net Each																									
<b>TEST PROD; SOLDERLESS THREADED TYPE</b>																														
	<table border="1"> <thead> <tr> <th>PART NO.</th> <th>"A" HANDLE</th> <th>"B" OVERALL</th> <th>"C" I.D.</th> <th>"D" O.D.</th> </tr> </thead> <tbody> <tr> <td>894</td> <td>4</td> <td>5 1/4</td> <td>3/16</td> <td>3/8</td> </tr> <tr> <td>895</td> <td>4</td> <td>5 1/4</td> <td>1/4</td> <td>3/8</td> </tr> <tr> <td>991</td> <td>5 1/2</td> <td>6 7/8</td> <td>3/16</td> <td>3/8</td> </tr> <tr> <td>992</td> <td>5 1/2</td> <td>6 7/8</td> <td>1/4</td> <td>3/8</td> </tr> </tbody> </table>	PART NO.	"A" HANDLE	"B" OVERALL	"C" I.D.	"D" O.D.	894	4	5 1/4	3/16	3/8	895	4	5 1/4	1/4	3/8	991	5 1/2	6 7/8	3/16	3/8	992	5 1/2	6 7/8	1/4	3/8	<p>Handle: Moulded plastic, red or black #805 solderless tip; nickel plated brass solderless tip plug. Wire fits through body and is then wrapped around threaded portion and knurled collar tightened. Fits standard phone tip jacks and is threaded for easier assembly into handle.</p>	<p>894-B 894-R 895-B 895-R 991-B 991-R 992-B 992-R</p>	<p>Black Red Black Red Black Red Black Red</p>	<p>.30 .30 .24 .24 .33 .33 .27 .27</p>
PART NO.	"A" HANDLE	"B" OVERALL	"C" I.D.	"D" O.D.																										
894	4	5 1/4	3/16	3/8																										
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<b>SOLDERLESS TEST PROD — Force Fit Type</b>																														
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PART NO.	"A" HANDLE	"B" OVERALL	"C" I.D.	"D" O.D.																										
896	4	5 1/4	3/16	3/8																										
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<b>TEST PROD — HEAVY DUTY SOLDER TYPE</b>																														
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PART NO.	"A" HANDLE	"B" OVERALL	"C" I.D.	"D" O.D.																										
897	4	5 1/4	3/16	3/8																										
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995	5 1/2	6 11/16	3/16	3/8																										
996	5 1/2	6 11/16	1/4	3/8																										
<b>TEST PROD — PHONO NEEDLE TYPE</b>																														
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PART NO.	"A" HANDLE	"B" OVERALL	"C" I.D.	"D" O.D.																										
901	4	4 7/8	3/16	3/8																										
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997	5 1/2	6 3/8	3/16	3/8																										
998	5 1/2	6 3/8	1/4	3/8																										

## ALLIGATOR CLIPS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>ALLIGATOR CLIP Solder Type</b> Cadmium-plated steel with 3/8" jaw opening. Accurately matched jaws grip securely.	740	Metal	.08
		<b>ALLIGATOR CLIP Screw Type</b> Screw supplied for solderless connection. Accurately matched, cadmium-plated steel jaws with 3/8" opening provide secure grip.	741	Metal	.09
		<b>INSULATED ALLIGATOR CLIP Solder Type</b> Accurately matched, cadmium-plated steel jaws, with 3/8" opening provide secure grip. Red and black molded plastic handles. Accepts standard banana plug in back.	742-B 742-R	Black Red	.12 .12
		<b>INSULATED ALLIGATOR CLIP Screw Type</b> Supplied with screw for solderless connection. All other features the same as clip #742.	743-B 743-R	Black Red	.15 .15
		<b>ALLIGATOR CLIP Special Screw Type</b> Jaws of cadmium-plated steel open to 3/8" and grip securely. Supplied with screw for solderless connection.	744	Metal	.144
		<b>ALLIGATOR CLIP Fully Insulated Type</b> Cadmium-plated steel jaws open to 3/8" and grip securely. Accepts standard banana plug in back. Can be supplied in red or black.	745-B 745-R	Black Red	.48 .48
		<b>MINIATURE CLIP</b> Solder type clip where space is a factor. Excellent for all labs, shops, and hobbyists.	748	Metal	.06
		<b>STANDARD INSULATORS</b> Insulators for clips #740 and #741. Made of flexible polyvinyl and allows for full jaw opening. Completely insulates clips.	749-B 749-R	Black Red	.05 .05
		<b>MINIATURE INSULATORS</b> Insulators for clips #748. Made of flexible polyvinyl which allow for full jaw opening. Completely insulates clips.	750-B 750-R	Black Red	.05 .05

## MICROPHONE CONNECTORS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>CORD MOUNTED Male</b> Flexible spring gives strain relief to cable. Shield is held securely by set screw. Used extensively for microphone, amplifier applications.	101	Metal	.21
		<b>CORD MOUNTED Female</b> Flexible spring gives strain relief to cable. Collar secures connector firmly to jack. Used extensively for microphone, amplifier applications.	102	Metal	.318
		<b>PANEL MOUNT Single Conductor</b> Mates with #102 connector. Mounts in 3/8" hole and may be isolated from chassis by insulation washer.	103	Metal	.21

## TIP PLUGS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>PHONE TIPS Solder Type</b> A nickel-plated brass solder type phone tip 1" long.	801	Metal	.021
		<b>TIP PLUG Threaded, Heavy Duty</b> Nickel-plated brass with exceptionally large well for soldering. Threaded for easy assembly in plastic handle. Accepts standard phone tip jacks. Rear of plug accepts standard banana plugs.	802	Metal	.12
		<b>SOLDERLESS TIP PLUG Large, Threaded</b> A nickel-plated brass solderless tip plug. Wire fits through body of tip and is then wrapped around threaded portion and knurled collar tightened. Fits standard phone tip jacks and is threaded for easier assembly in plastic handle.	805	Metal	.12

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## TIP PLUGS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>SOLDERLESS TIP PLUG Large, Knurled</b> A force-fit type nickel-plated brass tip plug fits standard phone tap jacks. Solderless wire fits through top body and then wrapped around screw portion. Knurled collar for tightening.	806	Metal	.11
		<b>SOLDERLESS TIP PLUG Small, Threaded</b> Manufactured exactly like No. 805 Solderless Tip Plug except shorter nickel-plated brass with wire going through top, then wrapped around screw portion and held firmly by tightening knurled collar.	807	Metal	.12
		<b>SOLDERLESS TIP PLUG Small, Knurled</b> A solderless nickel-plated brass tip plug which fits standard phone tap jacks. Made exactly like No. 805 except shorter length. Wire fits through body top, wraps around screw portion and then tightened with knurled collar.	808	Metal	.11
		<b>INSULATED TIP PLUG Meter Type, Push Button</b> Top is brass, nickel-plated, with molded Bakelite in red or black (indicate color desired). Push button, then feed conductor through hole. Release button, conductor is held firmly in position. Fits standard phone tap jacks.	837B 837R	Black Red	.36 .36
		<b>SOLDERLESS TIP PLUG Large Type</b> Handles of Milled Bakelite in choice of Red, Black, Yellow, White, Green. Blue indicate color desired. Nickel-plated brass body. Wire fits through body top, wraps around screw portion and tightened with knurled collar. Fits standard phone tap jacks.	855B 855BL 855G 855Y 855R 855W	Black Blue Green Yellow Red White	.15 .15 .15 .15 .15 .15
		<b>SOLDERLESS TIP PLUG Small Type</b> Milled Bakelite handles indicate desired color. Nickel-plated brass body. Knurled collar when tightened holds wire which has been passed through body top and wrapped around screw portion. Fits standard phone tap jacks.	856B 856BL 856G 856Y 856R 856W	Black Blue Green Yellow Red White	.15 .15 .15 .15 .15 .15
		<b>TIP PLUG Heavy Duty, Insulated</b> Nickel-plated brass plug with milled Bakelite handles. Large diameter with permits soldering of heavy duty wire directly into plug. Accepts standard phone tap jacks. Choice of Blue, Black, Red, Green, Yellow and White handles. Indicate color.	857B 857BL 857G 857R 857Y 857W	Black Blue Green Red Yellow White	.15 .15 .15 .15 .15 .15
		<b>INSULATED TIP PLUG</b> Plastic handle. Available in red or black. Nickel-plated brass body.	858B 858R	Black Red	.12 .12
		<b>NEEDLE TIP AND CHUCK</b> Nickel-plated brass body, nickel-plated steel needle. Chuck is removable for easy replacement. Handle permits plating or corrosion for positive reading.	866	Metal	.14
		<b>INSULATED NEEDLE TIP PLUG</b> Milled Bakelite handles in Red, Black, Yellow, White, Green and Blue indicate color desired. Nickel-plated brass body, nickel-plated steel needle. Chuck is removable for easy replacement. Handle permits plating or corrosion for positive reading.	868B 868BL 868G 868R 868Y 868W	Black Blue Green Red Yellow White	.18 .18 .18 .18 .18 .18

## TIP JACKS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>PHONE TIP JACK Non-Insulated Type</b> A nickel-plated brass body with a phosphor bronze spring. This phone tip jack provides positive contact with standard phone tap plug. Mounts in 1/4" hole in any panel up to 3/8" thick. Supplied with hex nut.	810	Metal	.11
		<b>PHONE TIP JACK Insulated Type</b> Nickel-plated brass body. Jack has Milled Bakelite head in choice of colors. Spring of phosphor bronze assures good contact. Mounts in 5/16" hole in any panel up to 3/8" thickness. Supplied with hex nut and ferris washer 7/16" diameter head.	842B 842BL 842G 842R 842Y 842W	Black Blue Green Red Yellow White	.14 .14 .14 .14 .14 .14

## NYLON TIP JACKS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>NYLON TIP JACK Wrap-Around Type with Metal Shell</b> Milled nylon tip jack with metal shell eliminates the possibility of threads stripping during assembly. Indicates color desired.	883B 883BL 883G 883R 883Y 883W	Black Blue Green Orange Yellow Red White	.288 .288 .288 .288 .288 .288
		<b>NYLON TIP JACK Spade Terminal Type with Metal Shell</b> Metal shell eliminates the possibility of threads stripping during assembly. Indicates color desired.	884B 884BL 884G 884R 884Y 884W	Black Blue Green Orange Yellow Red White	.42 .42 .42 .42 .42 .42
		<b>NYLON TIP JACK Feed-Through Type with Metal Shell</b> Thread stripping during assembly is eliminated with metal shell. Indicates color desired.	885B 885BL 885G 885R 885Y 885W	Black Blue Green Orange Yellow Red White	.39 .39 .39 .39 .39 .39
		<b>ALL NYLON TIP JACK Wrap-Around Type</b> Completely molded. Accepts all standard phone tap plugs. Contact recessed in bezel. Head for safe contact and for grip in tightening. Mounts in panels up to 1/4" thick in 1/8" hole. Nylon Grade FM 10001 is used for body. Nickel-plated brass has not indicate color desired.	886B 886BL 886G 886R 886Y 886W	Black Blue Green Orange Yellow Red White	.21 .21 .21 .21 .21 .21
		<b>ALL NYLON TIP JACK Spade Terminal Type</b> Completely molded. Accepts all standard phone tap plugs. Contact recessed in bezel. Head for safe contact and for grip in tightening. Mounts in panels up to 1/4" thick in 1/8" hole. Nylon Grade FM 10001 is used for body. Contact is heat treated silver-plated phosphor bronze. Nickel-plated brass has not.	887B 887BL 887G 887R 887Y 887W	Black Blue Green Orange Yellow Red White	.30 .30 .30 .30 .30 .30
		<b>ALL NYLON TIP JACK Feed-Through Type</b> Completely molded. Contact recessed in bezel. Head for safe contact and grip in tightening. Mounts in panels up to 1/4" thick in 1/2" hole. Nylon Grade FM 10001 for body. Center contact is nickel-plated brass. Nickel-plated brass has not.	888B 888BL 888G 888R 888Y 888W	Black Blue Green Orange Yellow Red White	.282 .282 .282 .282 .282 .282
		<b>"FAST-FASTER" TIP JACKS</b> Speed clip fastener speeds installation.	889R 889B	Red Black	.66 .66

## SPADE LUGS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>INSULATED SPADE LUG</b> Red or Black cone in handle indicate color desired. Heat-treated steel lug is .020 thick. Banana plug can be inserted in spade lug through back of handle.	870-B 870-R	Black Red	.108 .108

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## BANANA PLUGS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>MIDGET BANANA PLUG Rivet Type</b> Nickel or silver-plated brass body with phosphor bronze spring. Fits standard banana jacks.	809	Metal	.162
		<b>BANANA PLUGS</b> Nickel plated hex brass body with phosphor bronze spring supplied with or without soldering lug and nut. Threaded stud for panel mounting.	811	Metal	.18
		<b>BANANA PLUG Solderless</b> Nickel plated phosphor bronze spring. Side screw holds wire eliminating soldering. Accepts standard banana jacks. Threaded stem to fit plastic handle.	812	Metal	.18
		<b>MIDGET BANANA PLUG Threaded Type</b> Nickel or silver plated brass body with phosphor bronze spring.	814	Metal	.162
		<b>BANANA PLUG Phosphor Bronze</b> Nickel plated hex brass body with phosphor bronze spring. Wire can be directly soldered to brass stud or directly to plug. Solderless connection is made possible because stud locks wire to plug.	815	Metal	.18
		<b>BANANA PLUGS</b> Nickel plated hex brass body with phosphor bronze spring. Wire can be fed through side hole or can be soldered to brass stud. Threaded to facilitate the use of an insulated handle.	816	Metal	.18
		<b>BANANA PLUG Threaded Hole</b> Nickel plated brass banana plug fitting standard banana jacks. Four leaf phosphor bronze spring. Threaded end enables it to be used on any size panel. Supplied with screw and lined brass lug.	819	Metal	.18
		<b>BANANA PLUG 5-32 Thread, Lug, Nut</b> Nickel plated brass banana plug which fits standard banana jack. Four leaf nickel plated phosphor bronze spring. A hex nut and phosphor bronze lug are supplied. Slot is threaded for panel mounting.	821	Metal	.18
		<b>INSULATED BANANA PLUG Meter-Type, Push Button</b> Nickel plated brass body with nickel phosphor bronze slotted spring. Milled Bakelite handle in Red or Black. Indicator color desired. Push button. Three feed conductor through base. Battery button conductor is locked position. Fits standard banana jacks.	836B 836R	Black Red	.54 .54
		<b>INSULATED BANANA PLUG Miniature Type</b> Fits standard banana jacks with wire soldered directly into them. Machine Plastic handle in Red or Black. Indicator color desired. Nickel plated brass plug with nickel plated phosphor bronze spring.	840-B 840-R	Black Red	.19 .19
		<b>INSULATED BANANA PLUG</b> Fits all standard banana jacks. Milled bakelite handle can be furnished in Red, Black and Blue. Four leaf spring is made of phosphor bronze and is nickel-plated.	851-B 851-BL 851-R	Black Blue Red	.19 .19 .19
		<b>INSULATED BANANA PLUG With Side Screw</b> Fitting standard banana jacks, set screw heads were without soldering. This Banana Plug has Milled Bakelite handle in Red, White, Black, Blue, Yellow or Green. Indicator color desired. Plug is nickel plated brass with four-leaf phosphor bronze spring.	852-B 852-BL 852-GR 852-Y 852-R 852-W	Black Blue Green Yellow Red White	.19 .19 .19 .19 .19 .19
		<b>INSULATED BANANA PLUG</b> Milled Bakelite handles in Red, White, Blue, Black, Yellow, Green. Indicator desired color. Nickel plated brass body knurled collar when tightened holds wire which has been passed through body top and wrapped around screw portion. Fits standard phone tip jacks.	853-B 853-BL 853-GR 853-Y 853-R 853-W	Black Blue Green Yellow Red White	.22 .22 .22 .22 .22 .22

## BANANA JACKS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>BANANA JACK Non-Insulated Type</b> Mounting in 1/4" hole in any panel up to 3/8" thick. It will accept standard banana plug. Its body is MEE Brass, nickel plated and is supplied with hex nut and lined brass lug.	813	Metal	.11
		<b>BANANA JACK Insulated Type</b> Nickel plated brass body. Accepts standard banana plug. Mounts in any panel up to 3/8" thick in 5/16" hole. Supplied with hex nut, flare washer and lined brass lug.	844-B 844-BL 844-R	Black Blue Red	.16 .16 .16
		<b>BANANA JACK Insulated Type</b> Milled Bakelite head. Nickel plated brass body. Accepts standard banana plugs. Mounts in any panel up to 3/8" thick in 5/16" hole. Supplied with hex nut, flare washer and lined brass lug.	845-B 845-BL 845-GR 845-Y 845-W	Black Blue Green Red Yellow White	.14 .14 .14 .14 .14
		<b>BANANA JACK Insulated Type</b> With wrap around terminal. Milled bakelite head. Available in red, white, blue, green, yellow, black. Brass, nickel plated.	846-B 846-BL 846-GR 846-R 846-Y 846-W	Black Blue Green Red Yellow White	.15 .15 .15 .15 .15 .15
		<b>INSULATED JACK Combination Type</b> Accepts standard phone tip plugs or standard banana plugs. Milled Bakelite head in Red, Blue, Black, Yellow, Green. Wire indicate color desired. Nickel plated brass body with phosphor bronze spring. Supplied with hex nut and flare washer.	848-B 848-BL 848-GR 848-R 848-Y 848-W	Black Blue Green Red Yellow White	.17 .17 .17 .17 .17 .17

## BINDING POSTS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>COMBINATION BINDING POST AND BANANA PLUG</b> Converts any standard jack into 5 way binding post. Milled fluted captive nylon head. Phosphor Bronze nickel plated spring. Available in red or black.	863-B 863-R	Black Red	.30 .30
		<b>COMBINATION BINDING POST AND BANANA PLUG</b> Milled captive nylon hex head. Converts any standard jack into 5 way binding post. Phosphor Bronze nickel plated spring. Available in red or black.	864-B 864-R	Black Red	.30 .30
		<b>METAL BINDING POST Combination Terminal Stake-In Binding Post</b> Similar to 1-872 but smaller in size. Screw head turret terminal. Knurled Shank Lock Washer. Brass nickel plated. Knurled end is .32 x 1.14. BMS For 1/16" thick panel.	872	Metal	.114
		<b>METAL BINDING POST Combination Terminal Stake-In Binding Post</b> Screw head brass nickel plated turret terminal. Knurled Shank. Knurled end is 10/32 x 1/4. BMS For 1/16" thick panel.	1-872	Metal	.114
		<b>METAL BINDING POST</b> Captive head. Wrap around terminal. Hex shape. Brass nickel plated. Accepts phone tip, space lug, banana plug, alligator clip, or wire.	873	Metal	.25
		<b>METAL BINDING POST</b> Cold plated. Fluted brass. Milled black nylon insulator. 3 way wet accept phone tip, space lug, banana plug, alligator clip or wire.	1-873	Metal	.30



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## BINDING POSTS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>METAL BINDING POST</b> Brass nickel plated. Accepts standard phone tips or banana plugs.	874	Metal	.15
		<b>METAL BINDING POST</b> Brass nickel plated. Supplied complete with screw and lockwasher.	875	Metal	.18
		<b>5-WAY BINDING POST</b> Accepts tip and banana plugs, spade lugs, alligator clips, and wire strands. Direct solder or connection. Molded nylon head did wash or completely insulated post from panel. Mounts in 1/2" or 3/4" hole for panels. (1.176 to 1.194 inch). Nickel plated brass metal parts. Molded in brass bushings in head and washer.	876-B 876-BL 876-BR 876-Y 876-R 876-W	Black Blue Green Yellow Red White	.36 .36 .36 .36 .36 .36
		<b>5-WAY BINDING POST</b> Molded nylon. Hexagonal head. Screw and Accepts phone tip, spade lug, banana plug, alligator clip or wire connections. Available in red or black.	1-876-B 1-876-R	Black Red	.40 .40
		<b>5-WAY BINDING POST</b> Molded nylon. Hexagonal head. Spade lug. Accepts phone tip, spade lug, banana plug, alligator clip or wire connections. Available in red or black.	2-876-B 2-876-R	Black Red	.42 .42
		<b>5-WAY BINDING POST</b> Molded nylon. Gold plated. Hexagonal head. Wrap around lug. Accepts phone tip in head or shaft hole. Also alligator, spade or wire connection. Available in red and black.	3-876-B 3-876-R	Black Red	.42 .42
		<b>DUAL 5-WAY BINDING POST</b> Nylon hexagonal captive head. Brass nickel plated. Wrap around type. Accepts phone spade, banana, or wire connections. Available in red or black combination.	4-876-B 4-876-R 4-876-BR	Black Red Black/Red	.66 .66 .66
		<b>5-WAY BINDING POST</b> Molded nylon. Fluted head. Wrap around and Accepts phone tip, spade lug, banana plug, alligator clip or wire connections. Available in red or black.	877-B 877-R	Black Red	.49 .49
		<b>5-WAY BINDING POST</b> Molded nylon. Fluted head. Screw and Accepts phone tip, spade lug, banana plug, alligator clip or wire connections. Available in red or black.	1-877-B 1-877-R	Black Red	.45 .45

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>5-WAY BINDING POST</b> Molded nylon. Fluted head. Spade end. Accepts phone tip, spade lug, banana plug, alligator clip, or a wire connection. Available in red or black.	2-877B 2-877R	Black Red	.52 .52
		<b>5-WAY GROUNDING TYPE</b> Designed to accept phone tip plug, banana plug, spade lug, alligator clip, wire strand. Indicate color desired or molded plastic captive head: Red, black, 8-32 threaded stud. Nickel-plated brass body and insert in head.	878-B 878-R	Black Red	.18 .18
		<b>DUAL 5-WAY BINDING POST</b> Nylon fluted, captive head. Brass, nickel plated. Wrap-around type. Accepts phone tip, spade lug, banana plug, alligator clip, or wire connections. Available in red or black combinations.	2-878-B 2-878-R 2-878B/R	Black Red Black/Red	.54 .54 .54
		<b>FULLY INSULATED TYPE</b> Designed to accept phone tip plug, banana plug, spade lug, alligator clip, wire strand. Molded plastic captive head. Nickel-plated brass body. Molded plastic washers with nickel-plated brass inserts. 8-32 threaded stud. Mounts in panel with milled slot for locking in 5/16" hole, supplied with two hex nuts.	879-B 879-R	Black Red	.25 .25
		<b>BINDING POST</b> Molded Bakelite with molded-in brass threaded insert. Available in red or black. Brass, nickel plated. Supplied complete with screw and lockwasher.	880-B 880-R	Black Red	.18 .18
		<b>BINDING POST</b> Molded Bakelite with molded-in brass threaded insert. Available in red or black. Brass, nickel plated. Supplied complete with screw and lockwasher.	881-B 881-R	Black Red	.18 .18
		<b>5-WAY BINDING POST</b> Self-locking. Molded nylon. Fluted head. Screw end. Accepts phone, spade, banana, alligator or wire connection. Available in red and black.	882-B 882-R	Black Red	.27 .27

## ANODE CONNECTORS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>COLOR CONNECTOR</b> For use on color cathode ray tubes.	239-18"	--	.42
		<b>STANDARD CONNECTOR</b>	242-18"	--	.33
		<b>STANDARD CONNECTOR</b>	246-18"	--	.37
		<b>COLOR CONNECTOR</b> Large rubber cup for color tubes.	250-27	--	.57

## INTERLOCK RECEPTACLES

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>FLUSH RECEPTACLE</b> Standard 152 X 076 152 X 076 64 TYP 109" PINS 312 TYPICAL	714	--	.054
		<b>RECESSED RECEPTACLE</b> Standard 152 X 076 152 X 076 64 TYP 109" PINS 312 TYPICAL	718	--	.078
		<b>FLUSH RECEPTACLE</b> Polarized 152 X 076 152 X 076 64 TYP 109" PINS 312 TYPICAL	731	--	.054
		<b>RECESSED RECEPTACLE</b> Polarized 152 X 076 152 X 076 64 TYP 109" PINS 312 TYPICAL	733	--	.078

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National Tel-tronics is a reliable, service oriented company devoted to the cost-conscious manufacture of component hardware for the electronics industry. We are equipped, experienced and eager to serve you with the largest, most comprehensive stocks of standard and custom designed items. Complete engineering assistance is at your service.

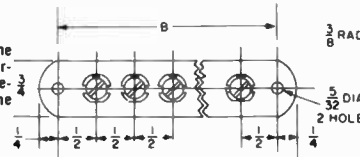
## BINDING POST TERMINALS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		.032 BRASS 6-32x5/16 SCREW	4403	Metal	.0396
		SHORTING LINK 7/16" Centers	4515	Metal	.018
		SHORTING LINK 1/2" Centers	4516	Metal	.018
		.050 BRASS 8-32x3/8 SCREW	4418	Metal	.054

## BINDING POST BOARDS

ILLUSTRATION	DIMENSIONS		TERMINAL POSITIONS	Cat. #	Std. 10 Pack USA Net Each					
	A	B								
	1	2				3	4	5	6	7
	1-1/2"	1"	• • • • •		2551	.042				
	2"	1-1/2"	• • • • •		2552	.066				
	2-1/2"	2"	• • • • •		2553	.09				
	3"	2-1/2"	• • • • •		2554	.114				
	3-1/2"	3"	• • • • •		2555	.132				
	4"	3-1/2"	• • • • •		2556	.174				
	4-1/2"	4"	• • • • •		2557	.216				
	5"	4-1/2"	• • • • •		2558	.234				
5-1/2"	5"	• • • • •		2559	.252					
6"	5-1/2"	• • • • •		2560	.270					

Utilized as replacements for antenna terminals on the rear of many television receivers, and as speaker terminals on many amplifiers. Makes an excellent replacement and is ideal for the engineer or hobbyist in the construction of new equipment.



## BINDING POST BOARDS

ILLUSTRATION	DIMENSIONS		LUG POSITIONS (As Per View "Z")	Cat. #	Std. 10 Pack USA Net Each						
	A	B									
	1	2				3	4	5	6	7	8
	1-1/4"	7/8"	• • • • •		2401	.04					
	1-11/16"	1-5/16"	• • • • •		2402	.06					
	2-1/8"	1-3/4"	• • • • •		2403	.09					
	2-9/16"	2-3/16"	• • • • •		2404	.114					
	3"	2-5/8"	• • • • •		2405	.132					
	3-7/16"	3-1/16"	• • • • •		2406	.168					
	3-7/8"	3-1/2"	• • • • •		2407	.21					
	4-5/16"	3-15/16"	• • • • •		2408	.234					
	4-3/4"	4-3/8"	• • • • •		2409	.246					
	5-3/16"	4-13/16"	• • • • •		2410	.262					
5-5/8"	5-1/4"	• • • • •		2411	.286						
6-1/16"	5-11/16"	• • • • •		2412	.32						

## FUSE MOUNTING BASES

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<b>PANEL MOUNTED HOLDERS</b> 3AG Type Fuses Molded from black, general purpose phenolic powder. All metal parts are plated to resist corrosion and solder lugs are plated to facilitate soldering. Rated at 15 amps, 250 volts and is Underwriter Laboratories approved.	450	Black	.43
		Bases are manufactured from XP laminated phenolic. clips are made from .020 spring brass, cadmium or silver plated. Two .140 diameter mounting holes.	403	Black	.24
		Bases are manufactured from XP laminated phenolic. clips are made from .020 spring brass, cadmium or silver plated. Three pole unit with mounting holes for #6 screws.	405	Black	.48
		Bases are manufactured from XP laminated phenolic. clips are made from .020 spring brass, cadmium or silver plated. Two pole unit with mounting holes for #6 screws.	406	Black	.36
		Bases are manufactured from XP laminated phenolic. clips are made from .020 spring brass, cadmium or silver plated. Single pole with .140 diameter mounting holes.	408	Black	.13
		Bases are manufactured from XP laminated phenolic. clips are made from .020 spring brass, cadmium or silver plated. Single pole with solder connector below base.	410	Black	.13

## ANTENNA BINDING POSTS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		UHF CONVERTER STRIP Replacement on many UHF converters on the market today	001-3	--	36
		STANDARD STRIP Used on many receivers providing only VHF reception. Tuner antenna wire plugs into strip allowing fast disconnect	001-4	--	18
		UHF-VHF STRIP Used on many of the new receivers with combination UHF-VHF tuners.	001-12	--	28



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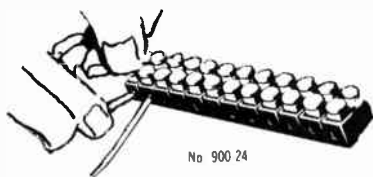


National Tel-tronics is a reliable, service oriented company devoted to the cost-conscious manufacture of component hardware for the electronics industry. We are equipped, experienced and eager to serve you with the largest, most comprehensive stocks of standard and custom designed items. Complete engineering assistance is at your service.

## MOLDED TERMINAL BLOCKS

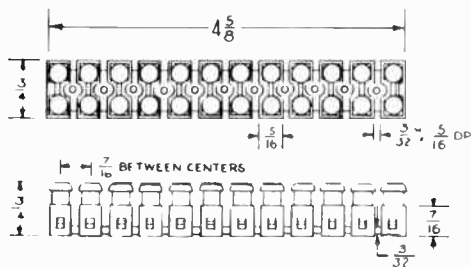


No 900-10



No 900-24

Catalog Number	Color	Std. 10 Pack		Bulk Pack*	
		USA Net Each	Qty.	USA Net Each	Qty.
900-4	Black	.52	100	.468	
900-6	Black	.75	100	.675	
900-8	Black	.98	100	.882	
900-10	Black	1.28	100	1.08	
900-12	Black	1.49	100	1.34	
900-14	Black	1.64	100	1.48	
900-16	Black	1.88	100	1.69	
900-18	Black	2.11	100	1.90	
900-20	Black	2.33	100	2.10	
900-22	Black	2.54	100	2.29	
900-24	Black	2.79	100	2.51	

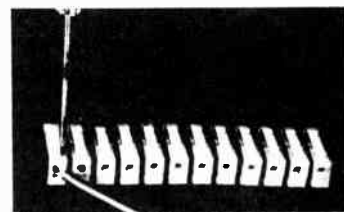


Like Type No. 905, the No. 900 terminal block is solderless, and is molded of hard black polyvinylchloride. Push buttons are molded of red polyvinylchloride.

These terminal blocks have extremely high dielectric properties and are approved to resist 440 volts or 500 volts when mounted on insulated surface. Maximum current 27 amperes, maximum heat capacity 70° C. Maximum wire size applicable AWG #12. Maximum contact pressure: 13.22 lbs. Connection of conductor is extremely fast. Press the red button and insert the wire. Release pressure for locking. The beryllium copper contacts are molded into the block. Type 900 is available for 24 connectors. It may be cut to smaller size if required.

## 910 SERIES PUSH TYPE RELEASE

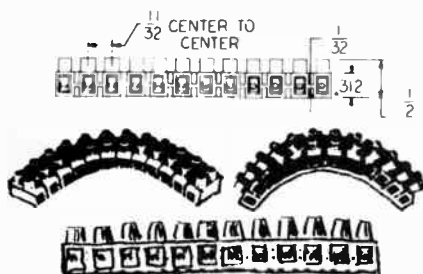
Catalog Number	Color	Std. 10 Pack		Bulk Pack*	
		USA Net Each	Qty.	USA Net Each	Qty.
910-4	Clear	.25	100	.225	
910-6	Clear	.48	100	.432	
910-8	Clear	.71	100	.639	
910-10	Clear	.94	100	.846	
910-12	Clear	1.17	100	1.05	
910-14	Clear	1.40	100	1.26	
910-16	Clear	1.63	100	1.47	
910-18	Clear	1.86	100	1.67	
910-20	Clear	2.09	100	1.88	
910-22	Clear	2.32	100	2.09	
910-24	Clear	2.55	100	2.30	



Solderless, flexible, Thermoplastic Terminal Block. Accepts stranded tinned or solid wire to 13 AWG. Just press wire into opening. No wrapping, no soldering. Place small blade screw driver in top slot and press to release wire. Contacts are Copper nickel-plated. Maximum operating temperature 212° F. Transit resistance 0.7 Ohms. Units are rated at 380-440 Volts D.C. Ideal for labs, schools, and hobbyists. Type 910 is available up to 24 connectors and may be cut down as desired.

## 905 SERIES • FLEXIBLE

Catalog Number	Color	Std. 10 Pack USA Net Each
905	Gray	1.95



Type No. 905 Solderless Terminal Blocks are specially designed for applications where space and weight conservation are important factors. Because they are molded of flexible polyvinylchloride material they may be bent in any direction to fit contours and sharp angles. Typical applications for these terminal blocks include missile guidance systems, computers, aircraft communications, underwater detecting equipment, etc.


The shortest distance between the live parts of Type No. 905 Terminal Block is 3/8". Its brass terminals will accommodate a #10 wire as a maximum. The polyester material of which the blocks are made is rated at max. of 30 amps, 380 volts, or 440 volts if mounted on insulated surface. Maximum heat capacity: 60° C. Insert conductor in block and tighten the set screw.

Flexible Terminal Block No. 905 measures 3-3/4" long, 5/8" wide, 1/2" high and 11/32" between terminal centers. It may be cut to smaller sizes as required.

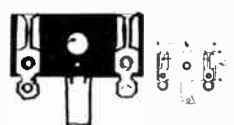
- No. 910-4 — Four-connector terminal block
- No. 910-6 — Six-connector terminal block
- No. 910-8 — Eight-connector terminal block
- No. 910-10 — Ten-connector terminal block
- No. 910-12 — Twelve-connector terminal block
- No. 910-14 — Fourteen-connector terminal block
- No. 910-16 — Sixteen-connector terminal block
- No. 910-18 — Eighteen-connector terminal block
- No. 910-20 — Twenty-connector terminal block
- No. 910-22 — Twenty-two-connector terminal block
- No. 910-24 — Twenty-four-connector terminal block

# NATIONAL TEL-TRONICS CORP.


## TERMINAL BLOCKS

DESCRIPTION	Catalog No.	Size	Standard 10 Pack	
			Color	U.S.A. Net Ea.
 <p>Unique terminal block for use with quick-disconnect type terminals. Ideal for breadboarding, test strips, simplifying installations. Solderless, exceptionally flexible. Available in 6 and 12 cels (12 and 24 connectors) that may be easily cut to match and in three overall and connector sizes. Moulded from transparent Polyvinyl chloride. Rated at 250 VDC, 20A, 80°C.</p>	915-12	5-5/8 × 1-3/32 × 1/4	CLEAR CLEAR CLEAR CLEAR CLEAR CLEAR	\$ .68
	915-24			\$ 1.23
	920-12	5-21/32 L × 1-21/32 × 1/4		\$ .71
	920-24			\$ 1.28
	925-12	5-21/32 L × 1-3/4 × 1/4		\$ .73
925-24	\$ 1.33			


## CONTACT CONNECTORS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack	
				Color	USA Net Each
		<p><b>TWO CONTACT STRIP</b>—Used on many television receivers for speaker hook-up or on the tuners to connect such circuits as AGC, pilot lights, or other voltage sources.</p>	002-5	—	.066

## CHEMICALS

ILLUSTRATION	DESCRIPTION	Catalog Number	Standard Pack	USA Net Each
	<p><b>LECTRO-KLEEN Tuner-Contact Cleaner</b>—There is no longer a need to stock contact cleaner for controls and another type for tuners. LECTRO-KLEEN will do all of your electronic cleaning jobs. LECTRO-KLEEN cleans, lubricates, and protects at the same time. Due to the low viscosity, UHF and VHF tuners will not drift. One swish shows the difference. Most important, LECTRO-KLEEN will not harm plastic . . . and it's non-toxic . . . safe for you, too. Insist on LECTRO-KLEEN.</p>	7-001	24-6 oz. Cans	1.12

## MAGNETIC MICROPHONE HOLDER

ILLUSTRATION	DESCRIPTION	Catalog Number	Std. 10 Pack	
			Color	USA Net Each
	<p>Ideal for mobile communication. No more fumbling to find the microphone holder. NT • T's Magnetic-Microphone holder will adhere to most metal surfaces such as dash boards, and the sides of set. This holder was designed not only for standard CB type applications, but also for heavy two-way radio work such as cat ambulances, and industrial communication. This convenience allows the driver to keep his eye on the road and avoid accidents. Fits most microphones.</p>	3-006	Metal	.99

## TERMINAL BOARDS

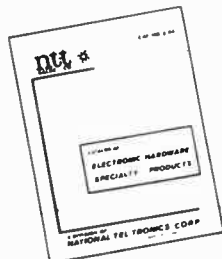
To your custom design or N.T.T. standard. Under-one-roof fabrication from any material, with any type terminals. Paper; cloth; glass; nylon laminates bonded with phenolic resins, silicon or melamine resins. MIL, Jan, Commercial Specs. Lacquered, varnished or plain. Imprinted all ways.

## FABRICATED PARTS

Terminal boards (without terminals), Jack panels boards, front panel plates, etc., all the above terminal board materials as well as aluminum, brass, copper, and steel. Metal parts may be finished in cadmium, anodized, iridite, lacquer, etc. All types of printing.

## PRINTED CIRCUITS

Photographic, silk screen or other types on copper clad XPP or glass epoxy. One or two sides. Sizes from 1/2" × 1/2" up to 12" × 24" thick.



**NEW DISTRIBUTOR CATALOG**—Complete, including resale prices and cross references. Thousands of items. Pictures, dimension drawings, full specification. Covers all the items sold by ntt Sales Co.

**NEW OEM CATALOG**— For engineering and purchasing departments, 48 pages of complete detailed information on the wide line of components, connectors, and hardware that is manufactured by National Tel-tronics, Inc.

Pomona Banana Plug and stack-up accessories are of the highest quality—tough thermo-plastic—molded directly on to the metal body of plugs and connectors for maximum strength, moisture resistance and insulative properties:

General Specifications listed below apply to items using banana plugs in this catalog.

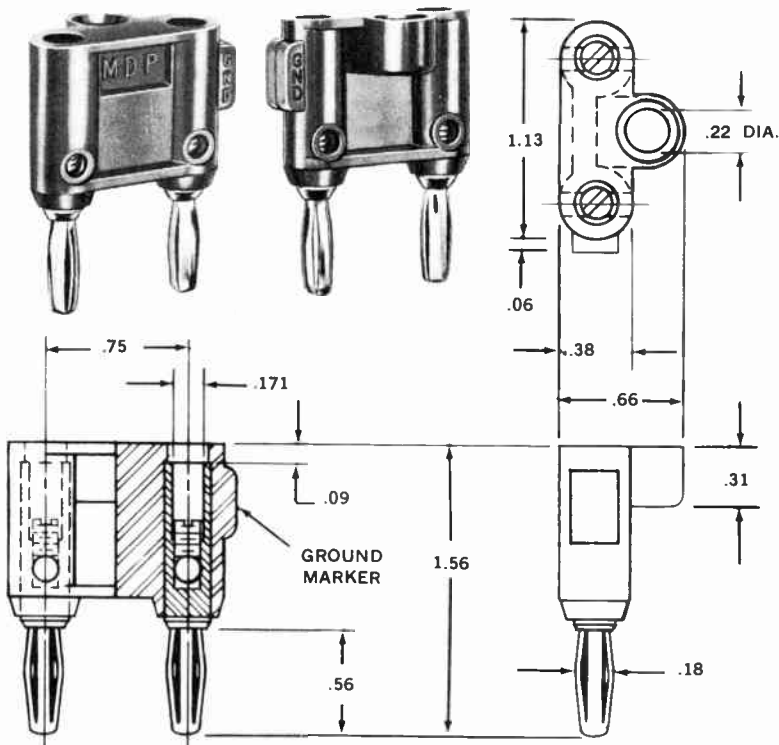
FEATURES . . .

- One piece beryllium copper heat treated spring for maximum long life.
- Rounded spring design results in maximum contact area.
- STACK-UP feature allows an unlimited number of connections at the same electrical point.

SPECIFICATIONS . . .

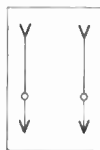
- Fits standard 0.166 dia. banana jacks.
- Spring, beryllium copper alloy 25 per QQ-C-533.
- Plug body, Brass per QQ-B-626 Comp. 22.
- Nickel plated per QQ-N-290, Class 2.
- Contact resistance less than 0.001 ohms per banana plug

ACTUAL SIZE



RATINGS	Models: MDP; MDP-ST; 1330; 1330-ST
Capacity :	0.8 pf to 10 MC
Current :	15 Amps. Cont., 30 Amps. Int.
Voltage :	5000 W.V. D.C.
Temperature :	-25°C to +85°C, operating temp.

DOUBLE BANANA PLUG

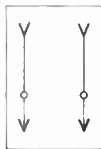


Double banana plug on 3/4" centers; set screws secure leads; simplifies cable construction or component mounting; banana jacks permit top Stack-Up for multiple connections.

COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

QUANTITY DISC. CODE **A** NET .75

COMPONENT MOUNTING DOUBLE BANANA PLUG

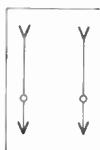


Double banana plug on 3/4" centers; set screws secure leads; features recess for mounting small components; banana jacks permit top Stack-Up for multiple connections.

COLORS: Black, Red

QUANTITY DISC. CODE **A** NET .75

DOUBLE BANANA PLUG WITH SOLDER TURRET TERMINALS

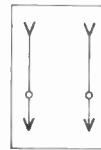


Similar to Model MDP, except has solder turret terminals for permanent noise-free connections of cables and components. Double banana plug on 3/4" centers; banana jacks permit top Stack-Up for multiple connections.

COLOR: Black

QUANTITY DISC. CODE **A** NET .85

COMPONENT PLUG WITH SOLDER TURRET TERMINALS



Similar to Model 1330, except has solder turret terminals for permanent noise-free connections of components, etc. Double banana plug on 3/4" centers; Banana jacks permit top Stack-Up for multiple connections.

COLORS: Black, Red.

QUANTITY DISC. CODE **A** NET .85



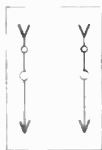
# POMONA ELECTRONICS

## 3/4" SPACED BANANA PLUG TEST ACCESSORIES

### BINDING POSTS TO DOUBLE BANANA PLUG



Features insulated binding posts on 3/4" centers for rapid mounting and interchangeability of components. Binding posts allow top Stack-Up for multiple connections. Side Stack-Up provided by thru-holes in plug body.

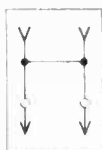


**UPPER:** Insulated double binding posts, on 3/4" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
**LOWER:** Double banana plug, on 3/4" centers.  
**COLORS:** Body, Black. Binding Posts, Black/Red.

MODEL 1286

QUANTITY DISC. CODE **A** NET 2.50

### INSULATED SHORTING BAR



Ideal as a connecting link for use with 3/4" spaced banana jacks. Banana plugs internally solder-bonded with #14 AWG wire. Banana jacks provide top Stack-Up. Cross holes (.166 dia.) in body provide side Stack-Up connections. Resistance less than 1.5 milliohms installed. Current rating 15 Amps. Cont., 30 Amps. Int. "Shorting Bar" marked on top of plug.  
**COLORS:** Natural, Black, Red.

MODEL MDP-S (Specify Color) QUANTITY DISC. CODE **A** NET .95

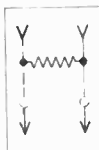
### METAL SHORTING BAR



Low profile, nickel plated brass shorting bar. Double banana plugs on 3/4" centers swaged to 3/32" thick brass bar. Resistance, less than 1.5 milliohms installed. Current rating: 15 Amps. Cont., 30 Amps. Int.

MODEL 1855 QUANTITY DISC. CODE **A** NET .75

### MOLDED PRECISION RESISTOR

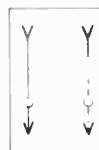


Ideal where rapid interchange of resistance values is required. Used in breadboarding, R & D labs., Standards, Terminations, etc. Deposited carbon 1% resistor, 1/2 watt, molded internally. Resistor soldered to double banana plug, on 3/4" centers. Top Stack-Up provided for multiple connections. Cross holes (.166 dia.) in body provide side Stack-Up connections. Resistance value stamped on top of plug.

(OHMS)	50	200	1K	100K	1 Meg.
	75	250	5K	200K	2 Meg.
	120	500	10K	250K	5 Meg.
	130	600	20K	500K	10 Meg.
	150	900	50K		

MODEL MDP-R (Specify Value) QUANTITY DISC. CODE **A** NET 2.75

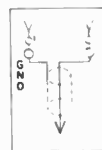
### ADAPTER — .080 TIP JACKS TO DOUBLE BANANA PLUG



Permits .080 Tip plugs to be used with equipment having banana jacks.  
**UPPER:** Tip jacks, beryllium copper, gold flashed; spaced on 3/4" centers to accept .080 dia. pin tip plugs.  
**LOWER:** Double banana plug, on 3/4" centers, nickel plated. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
**COLOR:** Black.

MODEL 1845 QUANTITY DISC. CODE **A** NET .85

### ADAPTER — BINDING POSTS TO PHONE PLUG



Permits single or double banana plug to be used with equipment having phone jacks. Ideal for rapid mounting of components and test leads.  
**UPPER:** Insulated binding posts, on 3/4" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.

**LOWER:** 1/4" dia. phone plug, 1-3/16" long.  
**COLOR:** Body, Black. Binding Posts: Black/Red.

MODEL 1285 NET 4.85

### ADAPTER — BANANA JACKS TO PHONE PLUG

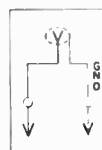


Permits single or double banana plugs to be used with equipment having phone jacks.  
**UPPER:** Double banana jack, on 3/4" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.

**LOWER:** Standard 1/4" dia. phone plug, 1-3/16" long.  
**COLOR:** Black.

MODEL 1980 NET 2.85

### ADAPTER — MICRODOT RECEPTACLE TO DOUBLE BANANA PLUG

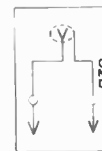


Permits Microdot miniature coaxial plug to be used with equipment having banana jacks. Cross holes in body provide side Stack-Up connections.

**UPPER:** Microdot receptacle, Screw-On Type.  
**LOWER:** Double banana plug, on 3/4" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.

MODEL	Type (Ohms)	Body Color	Receptacle Thread	NET QUANTITY DISC. CODE
1275	50	Green	10-32	6.85 <b>A</b>
1277	70	Violet	12-32	6.85
1279	93	White	1/4-32	6.85 <b>A</b>

### ADAPTER — MICRODOT RECEPTACLE TO DOUBLE BANANA PLUG

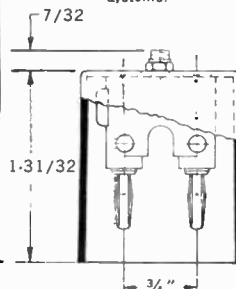


Permits Microdot miniature coaxial plug to be used with equipment having banana jacks. Cross holes in body provide side Stack-Up connections.

**UPPER:** Microdot Receptacle, Slide-On Type. Universally adapts to 50, 70 or 93 ohm type plug.  
**LOWER:** Double banana plug, on 3/4" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.

MODEL 1276 QUANTITY DISC. CODE **A** NET 7.85

### ADAPTER — MICRODOT RECEPTACLE TO SHIELDED BANANA PLUGS



Permits Microdot miniature coaxial plug, 50 ohm, to be used with equipment having banana jack binding posts. Black anodized aluminum shield reduces noise pick-up more than 70 DB. Ideal for noise reduction in low level acceleration systems.

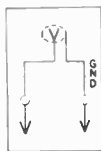
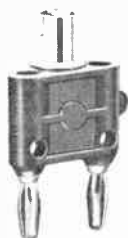
**UPPER:** Microdot Receptacle, Screw-On Type, Receptacle Thread 10-32.  
**LOWER:** Shielded Double banana plug, on 3/4" centers.  
**COLOR:** Black.

MODEL 1575 QUANTITY DISC. CODE **A** NET 6.85

POMONA ELECTRONICS

BNC ADAPTERS

**ADAPTER — BNC RECEPTACLE TO DOUBLE BANANA PLUG**



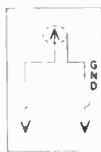
Permits BNC plug to be used with equipment having banana jacks. Excellent for adapting laboratory VTVM, oscilloscopes and signal generator inputs to readily available coaxial cables.

**UPPER:** BNC receptacle.  
**LOWER:** Double banana plug, on 3/4" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
**COLOR:** Black.

**MODEL 1269**

QUANTITY DISC. CODE **A** NET 2.85

**ADAPTER — BNC PLUG TO DOUBLE BANANA PLUG**



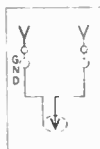
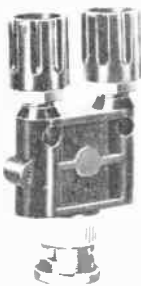
Permits BNC receptacle to be used with equipment having banana jacks. Minimizes number of coaxial connections for maximum efficiency.

**UPPER:** BNC plug.  
**LOWER:** Double banana plug, on 3/4" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
**COLOR:** Black.

**MODEL 1270**

QUANTITY DISC. CODE **A** NET 3.85

**ADAPTER — BINDING POSTS TO BNC PLUG**



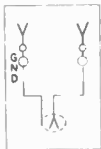
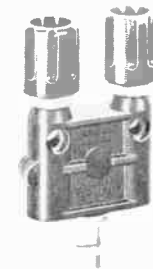
Permits single or double banana plugs to be used with equipment having BNC receptacle. Excellent for use with laboratory oscilloscopes.

**UPPER:** Insulated binding posts, on 3/4" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
**LOWER:** BNC plug.  
**COLOR:** Body, Black. Binding Posts: Black/Red.

**MODEL 1296**

QUANTITY DISC. CODE **A** NET 4.85

**ADAPTER — BINDING POSTS TO BNC RECEPTACLE**



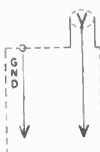
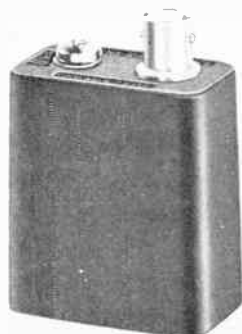
Permits single or double banana plugs to be used with equipment having BNC plug.

**UPPER:** Insulated binding posts, on 3/4" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
**LOWER:** BNC receptacle.  
**COLOR:** Body, Black. Binding Posts: Black/Red.

**MODEL 1452**

QUANTITY DISC. CODE **A** NET 4.85

**ADAPTER — BNC RECEPTACLE TO SHIELDED BANANA PLUGS**



Permits BNC plug to be used with equipment having banana jack binding posts. Black anodized aluminum shield reduces noise Pick-up more than 70 DB. Ideal for low level inputs to oscilloscopes, wave analyzers, etc.

**UPPER:** BNC receptacle.  
**LOWER:** Shielded double banana plug, on 3/4" centers.

**MODEL 1645**

QUANTITY DISC. CODE **A** NET 3.45

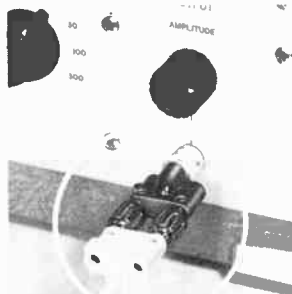
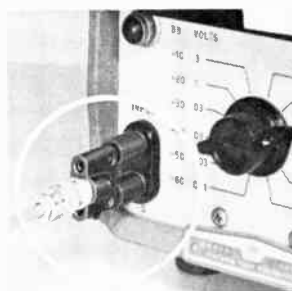
Now! Increase the flexibility of your laboratory with the use of POMONA molded test accessories.

Minimize the necessity of stocking a large quantity and variety of coaxial cables by using POMONA molded adapters.

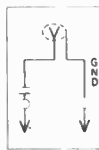
Tough thermo-plastic material molded to plug body or connectors insures maximum strength, moisture resistance and excellent insulative properties.

POMONA ELECTRONICS adapters are designed and engineered with you in mind, from the selection of the best in materials, incorporated with a quality control program that enables us to offer to you, products that are unequalled in reliability and quality.

Complete engineering facilities are offered to our customers for special adapter problems that may arise.



**ADAPTER — SIGNAL ISOLATOR — BNC RECEPTACLE TO DOUBLE BANANA PLUG**



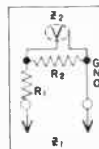
Permits BNC male connector to be used with equipment having banana jacks. General purpose ceramic capacitor molded internally. Rated @ .01 mfd ±20%, 200 WVDC. Insulation resistance 10,000 megohms min. Ideal for isolating DC signals from VTVM inputs and signal generator outputs.

**UPPER:** BNC receptacle.  
**LOWER:** Double banana plug, on 3/4" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.

**MODEL 1868**

QUANTITY DISC. CODE **A** NET 7.85

**ADAPTER — BNC MATCHING PAD**



Adapts 600 OHM sources to 50, 75 or 93 OHM cables. Excellent for matching signal generators and VTVM's to standard coaxial cables. Ideal for receiver alignment. Molded in deposited carbon resistors 1%, 1/4 W.

**UPPER:** BNC receptacle.  
**LOWER:** Double banana plug, on 3/4" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.

**MODEL**  
 1656-1  
 1656-2  
 1656-3

**COLOR**  
 Yellow  
 Red  
 White

**RANGE — OHMS**  
 600 to 50  
 600 to 75  
 600 to 93

**NET**  
 10.85  
 10.85  
 10.85

**QUANTITY DISC. CODE**  
**A**

**ADAPTER — BNC RECEPTACLE TO SHIELDED BANANA JACKS**



Permits BNC plug to be used with equipment having banana plugs. Black anodized aluminum shield reduces noise pick-up more than 70 DB. Ideal for low level inputs to oscilloscopes, wave analyzers, etc.

**UPPER:** BNC receptacle.  
**LOWER:** Shielded double banana jacks, on 3/4" centers.  
**COLOR:** Black.

**MODEL 1681**

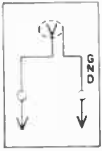
QUANTITY DISC. CODE **A** NET 3.45

POMONA ELECTRONICS

TNC & "N" ADAPTERS



ADAPTER — TNC RECEPTACLE TO DOUBLE BANANA PLUG



Permits TNC plug to be used with equipment having banana jacks. Perfect for connecting modern control systems to laboratory test equipment.

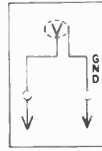
**UPPER:** TNC receptacle.  
**LOWER:** Double banana plug, on 3/4" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
**COLOR:** Black.

MODEL 1340

QUANTITY DISC. CODE **A** NET 5.85



ADAPTER — TYPE "N" RECEPTACLE TO DOUBLE BANANA PLUG



Permits Type "N" plug to be used with equipment having banana jacks. Ideal for connecting R.F. equipment to conventional test equipment.

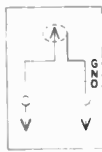
**UPPER:** Type "N" receptacle.  
**LOWER:** Double banana plug, on 3/4" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
**COLOR:** Black.

MODEL 1740

QUANTITY DISC. CODE **A** NET 5.85



ADAPTER — TNC PLUG TO DOUBLE BANANA PLUG



Permits TNC receptacle to be used with equipment having banana jacks. Minimizes your stock of coaxial cables.

**UPPER:** TNC plug.  
**LOWER:** Double banana plug, on 3/4" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
**COLOR:** Black.

MODEL 1981

QUANTITY DISC. CODE **A** NET 6.85



ADAPTER — TYPE "N" PLUG TO DOUBLE BANANA PLUG

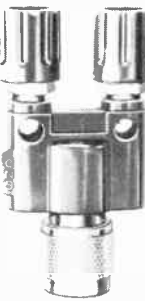


Permits type "N" receptacle to be used with equipment having banana jacks.

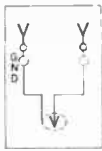
**UPPER:** Type "N" plug.  
**LOWER:** Double banana plug, on 3/4" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
**COLOR:** Black.

MODEL 1770

QUANTITY DISC. CODE **A** NET 5.85



ADAPTER — BINDING POSTS TO TNC PLUG



Permits single or double banana plugs to be used with equipment having a TNC receptacle. Exceptional for signal insertion with rapid interchangeability of terminations.

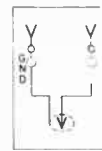
**UPPER:** Insulated binding posts, on 3/4" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
**LOWER:** TNC plug.  
**COLOR:** Body, Black. Binding Posts: Black/Red.

MODEL 1982

QUANTITY DISC. CODE **A** NET 6.85



ADAPTER — BINDING POSTS TO TYPE "N" PLUG



Permits single or double banana plugs to be used with equipment having Type "N" receptacle. Binding posts allow component insertion.

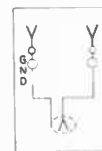
**UPPER:** Insulated binding posts, on 3/4" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
**LOWER:** Type "N" plug.  
**COLOR:** Black. Binding Posts: Black/Red.

MODEL 1796

QUANTITY DISC. CODE **A** NET 5.85



ADAPTER — BINDING POSTS TO TNC RECEPTACLE



Permits single or double banana plugs to be used with equipment having TNC plug. Useful for rapid interconnection of systems and components.

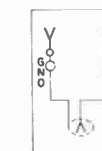
**UPPER:** Insulated binding posts, on 3/4" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
**LOWER:** TNC receptacle.  
**COLOR:** Body, Black. Binding Posts: Black/Red.

MODEL 1976

QUANTITY DISC. CODE **A** NET 5.85



ADAPTER — BINDING POSTS TO TYPE "N" RECEPTACLE



Permits single or double banana plugs to be used with equipment having type "N" plug. Useful for rapid interconnection of systems and components.

**UPPER:** Insulated binding posts, on 3/4" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
**LOWER:** Type "N" receptacle.  
**COLOR:** Body, Black. Binding Posts: Black/Red.

MODEL 1992

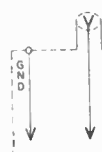
QUANTITY DISC. CODE **A** NET 5.85



ADAPTER — TNC RECEPTACLE TO SHIELDED BANANA PLUGS

Permits TNC plug to be used with equipment having banana jack binding posts. Black anodized aluminum shield reduces noise pick-up more than 70 DB.

**UPPER:** TNC receptacle.  
**LOWER:** Double banana plug, on 3/4" centers.  
**COLOR:** Black.



MODEL 1975

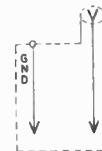
QUANTITY DISC. CODE **A** NET 4.85



ADAPTER — TYPE "N" RECEPTACLE TO SHIELDED BANANA PLUGS

Permits type "N" plug to be used with equipment having banana jack binding posts. Black Anodized aluminum shield reduces noise pick-up more than 70 DB.

**UPPER:** Type "N" receptacle.  
**LOWER:** Double banana plug, on 3/4" centers.  
**COLOR:** Black.



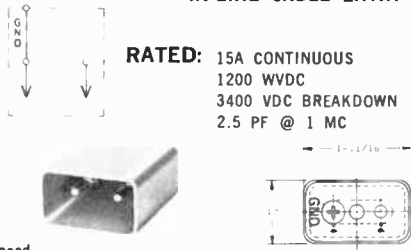
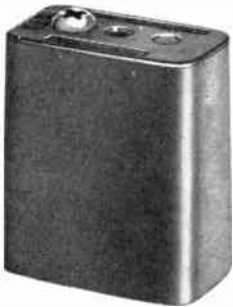
MODEL 1983

QUANTITY DISC. CODE **A** NET 4.85

**POMONA ELECTRONICS**

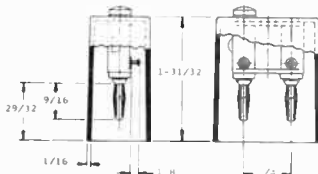
**SHIELDED BANANA PLUGS  
UHF ADAPTERS**

**SHIELDED DOUBLE BANANA PLUG  
IN-LINE CABLE ENTRY**



**RATED:** 15A CONTINUOUS  
1200 WVDC  
3400 VDC BREAKDOWN  
2.5 PF @ 1 MC

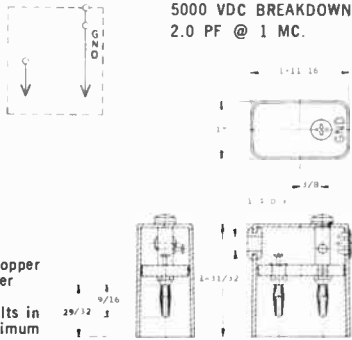
- Shielded double plug 3/4" spaced
- Die cast aluminum shell, black anodized
- Noise pick-up reduced 70 DB
- Gold flashed solder turret terminals for positive reliable cable connections
- One piece nickel plated beryllium copper springs for use with standard 0.166 dia. banana jack binding posts.
- Rounded banana spring design results in maximum contact area and minimum contact resistance
- GND clearly molded in shell
- Cable opening, 7/32" diameter



QUANTITY DISC. CODE **A** NET 2.25

**MODEL 1433**

**SHIELDED DOUBLE BANANA PLUG  
RIGHT ANGLE CABLE ENTRY**



**RATED:** 15A CONTINUOUS  
2800 PEAK WV  
5000 VDC BREAKDOWN  
2.0 PF @ 1 MC.

- Shielded double plug, 3/4" spaced
- Ceramic insulating base
- Die cast aluminum shell, black anodized
- GND clearly molded in shell
- Noise pick-up reduced 70 DB
- One piece nickel plated beryllium copper springs for use with 0.166 diameter banana jack binding posts.
- Rounded banana spring design results in maximum contact area and minimum contact resistance
- Vinyl grommet and nickel plated snap button supplied

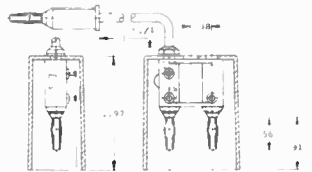
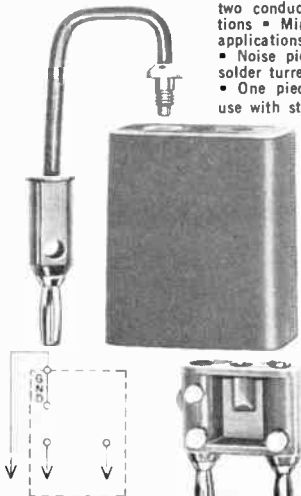
QUANTITY DISC. CODE **A** NET 2.95

**MODEL 1791**

**BALANCED LINE SHIELDED DOUBLE BANANA PLUG**

- Unique 3 terminal design allows connection to shielded two conductor cable while maintaining balanced conditions
- Minimizes ground loop errors in low signal level applications
- Die cast aluminum shell, black anodized
- Noise pick-up reduced at least 70 DB
- Gold flashed solder turret terminals for reliable noise free connections
- One piece nickel plated beryllium copper springs for use with standard 0.166 dia. banana jack binding posts.

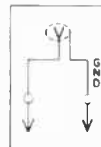
**RATED:**  
15A Continuous 5000 V peak break-down, line to line  
1000 WV Peak; line to shield  
2000 WV peak; line to line  
2500 V peak break-down; line to shield  
2.0 pf @ 1 MC Capacity; line to line  
3.0 pf @ 1 MC. capacity; both lines to shield.



QUANTITY DISC. CODE **A** NET 4.85

**MODEL 1921**

**ADAPTER — UHF RECEPTACLE  
TO DOUBLE BANANA PLUG**

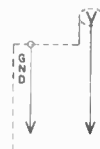


Permits UHF plug to be used with equipment having banana jacks.  
UPPER: UHF receptacle, 5/8" dia.  
LOWER: Double banana plug, on 3/4" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
COLOR: Black.

**MODEL 1707**

QUANTITY DISC. CODE **A** NET 4.85

**ADAPTER — UHF RECEPTACLE  
TO SHIELDED BANANA PLUGS**

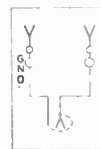
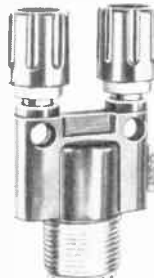


Permits UHF plug to be used with equipment having banana binding posts. Black anodized shield reduces noise pick-up at least 70 DB.  
UPPER: UHF receptacle, 5/8" dia.  
LOWER: Double banana plug on 3/4" centers.  
COLOR: Black.

**MODEL 1708**

QUANTITY DISC. CODE **A** NET 4.85

**ADAPTER — BINDING POSTS  
TO UHF RECEPTACLE**

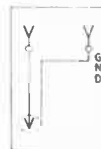


Permits single or double banana plugs to be used with equipment having UHF plug.  
UPPER: Insulated binding posts, on 3/4" centers with .166 dia. jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.  
LOWER: UHF receptacle, 5/8" dia.  
COLOR: Body, Black. Binding posts: Black/Red.

**MODEL 1792**

QUANTITY DISC. CODE **A** NET 5.85

**ADAPTER — BINDING POSTS  
TO UHF PLUG**



Permits single or double banana plugs to be used with equipment having a UHF receptacle, 5/8" dia. Convenient for use with modern oscilloscopes. Center conductor binding post Red; Ground, Black.  
UPPER: Insulated binding posts, on 3/4" centers with .166 dia. jacks.  
LOWER: UHF plug.

**MODEL 1699**

QUANTITY DISC. CODE **A** NET 4.85

**ADAPTER — BINDING POST  
TO UHF PLUG**



Permits single banana plug to be used with equipment having a UHF receptacle, 5/8" dia. Adds flexibility to your oscilloscope.  
UPPER: Insulated binding post with .166 dia. banana jack.  
LOWER: UHF plug.

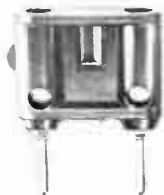
**MODEL 1698**

QUANTITY DISC. CODE **A** NET 3.85

# POMONA ELECTRONICS

## .080 TIP AND BANANA PLUG ACCESSORIES

### INSULATED SHORTING BAR



Used as a connecting link with equipment having tip jacks. Plugs internally solder bonded with 14 AWG wire. Top stack-up feature.

Current rating: 5 AMPS. cont., 10 AMPS. int. "Shorting Bar" marked on top of plug.

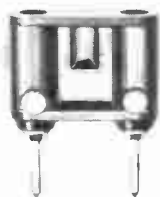
**UPPER:** Banana jacks, .166 dia. on 3/4" centers. Brass, nickel plated.

**LOWER:** Pin tips, .080 dia. on 3/4" centers. Brass, nickel plated. Cross holes (.166 dia.) in body provide side Stack-Up connections.

**COLORS:** Black, Red. **NET .75**

**MODEL 1730**  
(Specify color) **QUANTITY DISC. CODE A**

### PLUG — COMPONENT MOUNTING — DOUBLE PIN TIP PLUG—SOLDER TURRETS



Features recess for mounting components. Gold flashed solder turrent terminals for permanent noise free connections.

**UPPER:** Tip jacks, beryllium copper, gold flashed; spaced on 3/4" centers to accept .080 dia. pin tip plugs.

**LOWER:** Pin tips, .080 dia. brass, nickel plated.

**COLORS:** Black, Red.

**MODEL 1904** (Specify color) **QUANTITY DISC. CODE A** **NET .85**

### COMPONENT MOUNTING PLUG— BANANA JACKS TO DOUBLE PIN TIP —SET SCREWS



Permits single or double banana plugs to be used in equipment having tip jacks. Features recess for component mounting. Internal set screws firmly secure wire leads.

**UPPER:** Banana jacks, .166 dia., on 3/4" centers. Brass, nickel plated.

**LOWER:** Pin tips .080 dia. on 3/4" centers. Brass, nickel plated.

**COLOR:** Black.

**MODEL 1858** **QUANTITY DISC. CODE A** **NET .75**

### ADAPTER — BANANA JACK TO PIN TIP



Permits standard single banana plug patch cords to be used with equipment having tip jacks.

**UPPER:** Banana jack, .166 dia. Brass, nickel plated.

**LOWER:** Pin tip, .080 dia. Brass, nickel plated. Cross hole (.166 dia.) in body provides side Stack-Up connection.

**COLORS:** Black, Red. **Standard Package: 10 (per color)**

**MODEL 1432** (Specify Color) **QUANTITY DISC. CODE A** **NET .15 ea.**

### SOLDERLESS PIN TIP PLUG—STACK-UP



Wire firmly held in place with internal set screw, eliminating soldering. Assembly of test leads simplified.

**UPPER:** Tip jack, beryllium copper, gold flashed; accepts .080 dia. pin.

**LOWER:** Pin tip, .080 dia., brass, nickel plated.

**COLORS:** Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

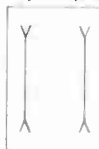
**MODEL 1922** (Specify color) **QUANTITY DISC. CODE A** **NET .50**

### DOUBLE BANANA PLUG SPLICE



Provides rapid method for splicing cables. Reduces necessity of storing extra long cables. Molded thermo-plastic body eliminates shock hazard by completely enclosing banana plug contact. Brass, nickel plated banana jacks, .166 dia., on 3/4" centers.

**COLORS:** Black, Red.



**MODEL 1823** (Specify color) **QUANTITY DISC. CODE A** **NET .50**

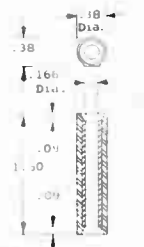
### SINGLE BANANA PLUG SPLICE



Provides rapid method for splicing single banana plug patch cords. Reduces the necessity of storing extra long patch cords. Molded thermo plastic body eliminates shock hazard by completely enclosing banana plug contact. Brass, nickel plated banana jack, .166 dia.

**COLORS:** Black, Red.

**Standard Package: 10 (per color)**



**MODEL 1829** (Specify color) **QUANTITY DISC. CODE A** **NET .25 ea.**

### ADAPTER — .080 TIP JACK TO BANANA PLUG



Permits .080 dia. pin tip patch cords to be used with equipment having banana jacks. Insulation molded to plug body.

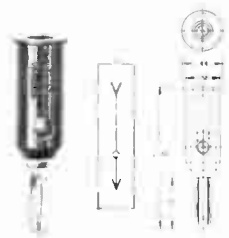
**UPPER:** Tip jack, beryllium copper, gold flashed. Accepts .080 dia. pin.

**LOWER:** Banana plug, one piece nickel plated beryllium copper spring for use with standard 0.166 dia. banana jack. Cross hole (.166 dia.) in body provides side Stack-Up connection.

**COLORS:** Black, Red.

**MODEL 1809** (Specify Color) **QUANTITY DISC. CODE A** **NET .50**

### SOLDERLESS BANANA PLUG —STACK-UP



Wire firmly held in place with internal set screw, eliminating soldering. Assembly of test leads simplified.

**UPPER:** Banana jack, .166 dia.; Brass, nickel plated.

**LOWER:** Banana plug, one piece nickel plated beryllium copper spring for use with standard 0.166 dia. banana jack

**COLORS:** Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

**MODEL 1325** (Specify color) **QUANTITY DISC. CODE A** **NET .50**

### SOLDERLESS BANANA PLUG WITH SAFETY COLLAR —STACK-UP



Features: Integral safety collar insulates exposed wire leads. Wire firmly held in place with internal set screw, eliminating soldering. Assembly of test leads simplified.

**UPPER:** Banana jack, .166 dia.; Brass, nickel plated.

**LOWER:** Banana plug, one piece nickel plated beryllium copper spring for use with standard 0.166 dia. banana jack.

**COLORS:** Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

**MODEL 1825** (Specify Color) **QUANTITY DISC. CODE A** **NET .50**

**CREATE** passive and active networks, voltage dividers, isolation networks or attenuators with the Split-Terminal isolation plugs described below.

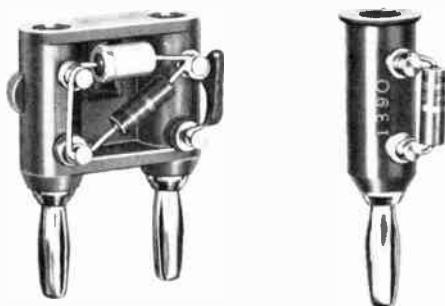
Gold flashed solder turret terminals provide permanent, reliable noise-free connections for component mounting.

Tough thermo-plastic material molded to plug body and connectors insures maximum strength, moisture resistance and excellent insulative properties.

Specifications for MDP-X, 1390, 1837, 1468:

- Fits standard 0.166 dia. banana jack.
- Spring, heat treated beryllium copper alloy 25 per QQ-C-533.
- Plug body, Brass per QQ-B-626 Comp. 22.
- Nickel plated per QQ-N-290, Class 2.
- Contact resistance less than 0.001 ohms per banana plug.

TYPICAL APPLICATION



ACTUAL SIZE

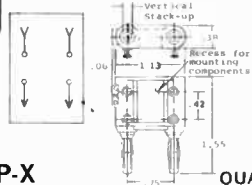
MODEL MDP-X

MODEL 1390

DOUBLE BANANA PLUG, FOUR TERMINAL ISOLATION



Provides four terminal isolation. Top Stack-Up receptacles isolated from lower plugs. Ideal for insertion of matching networks in laboratory VTVM's, signal generators, etc. Gold flashed solder turret terminals for permanent noise-free connections.



**UPPER:** Double banana jacks, .166 dia., on 3/4" centers.  
**LOWER:** Double banana plug on 3/4" centers.  
**COLOR:** Red.

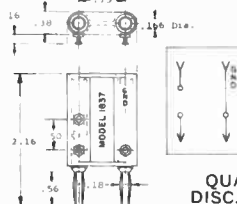
QUANTITY **A** NET 3.25  
DISC. CODE

MODEL MDP-X

DOUBLE BANANA PLUG, THREE TERMINAL ISOLATION



Provides three terminal isolation. Excellent for "L" and "Pi" networks. Plug and receptacle nickel plated. Gold flashed solder turret terminals for permanent noise-free connections. "Ground" is straight feed-thru. Hot side isolated.

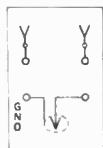
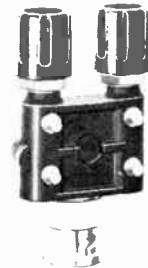


**UPPER:** Banana jacks, .166 dia. on 3/4" centers.  
**LOWER:** Double banana plug on 3/4" centers.  
**COLOR:** Blue.

QUANTITY **A** NET 2.50  
DISC. CODE

MODEL 1837

ADAPTER — BINDING POSTS TO BNC PLUG, ISOLATION



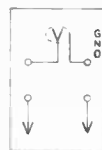
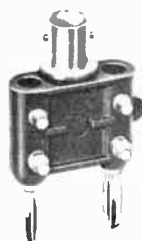
Permits single or double banana plugs to be used with equipment having BNC receptacle. Provides isolation for a four terminal network. Binding posts facilitate connections of test leads or additional components. Gold flashed solder turret terminals provide permanent noise-free connections.

**UPPER:** Insulated binding posts, on 3/4" centers with .166 dia. jacks.  
**LOWER:** BNC plug.  
**COLOR:** Body, Black.  
Binding Posts: Black/Red.

QUANTITY **A** NET 10.85  
DISC. CODE

MODEL 1469

ADAPTER — BNC RECEPTACLE TO DOUBLE BANANA PLUG, ISOLATION



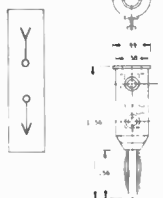
Permits BNC plug to be used with equipment having banana jacks. Provides isolation for a four terminal network. Excellent for matching pad networks. Gold flashed solder turret terminals for permanent noise-free connections.

**UPPER:** BNC receptacle.  
**LOWER:** Double banana plug, on 3/4" centers.  
**COLOR:** Black.

QUANTITY **A** NET 9.85  
DISC. CODE

MODEL 1468

PLUG — SINGLE BANANA, ISOLATION



Provides two terminal isolation. Top Stack-Up receptacle is isolated from lower plug to permit addition of series resistors, diodes, etc. Ideal for computers, lab. circuit design and testing. Gold flashed solder turret terminals for permanent noise-free connections.

**UPPER:** Banana jack, .166 dia.  
**LOWER:** Banana plug.  
**COLORS:** Black, Red.

QUANTITY **A** NET .95  
DISC. CODE

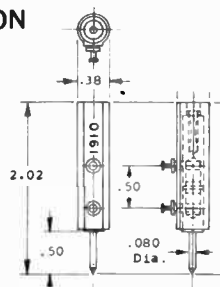
MODEL 1390 (Specify color)

PLUG — PIN TIP, ISOLATION



Pin tip jack is isolated from .080 pin tip plug. Provides for addition of series components. Ideal for use with computer boards, lab circuit designs, etc. Gold flashed solder turret terminals for permanent noise-free connections.

**UPPER:** Tip jack, beryllium copper, gold flashed; accepts .080 dia. pin.  
**LOWER:** Pin tip, .080 dia. Brass, nickel plated.  
**COLORS:** Black Red.



QUANTITY **A** NET .95  
DISC. CODE

MODEL 1910 (Specify color)



**POMONA ELECTRONICS**

**"BLACK BOXES"**

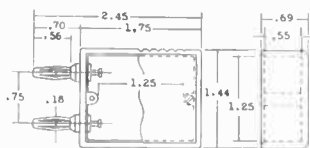
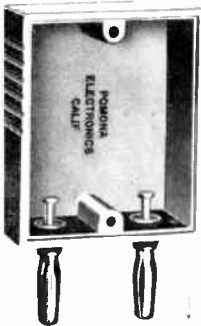
CREATE passive and active networks, voltage dividers, isolation networks or attenuators with these units. Solder turret terminals for permanent noise-free connection of components, etc. Entire unit may be potted or encapsulated.

Housing molded of thermosetting electrical grade phenolic. Cover, punched XXP laminated paper base phenolic. Color, housing and cover, BLACK. Cover plate and self tapping screws included.

**APPLICABLE SPECIFICATIONS:**

Operating Temp: -25°C to +125°C. Working Voltage: 5000 VDC. Current: 15 Amps Cont., 30 Amps Int.

**COMPONENT MOUNTING—ACROSS BANANA PLUGS**



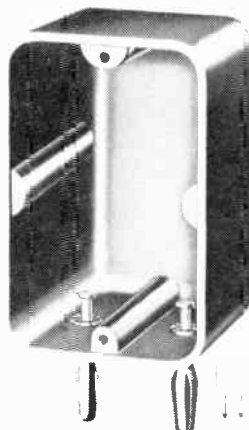
UPPER: No Connection.

LOWER: Banana plugs on 3/4" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

MODEL 2096

QUANTITY DISC. CODE **A** NET 1.95

**COMPONENT MOUNTING — ACROSS BANANA PLUGS — KING SIZE**



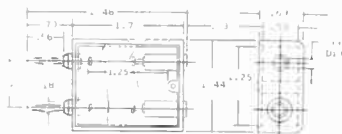
UPPER: No Connection.

LOWER: Banana plugs on 3/4" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

MODEL 1177

QUANTITY DISC. CODE **A** NET 1.95

**COMPONENT MOUNTING—BANANA JACKS TO DOUBLE BANANA PLUG—JUNIOR SIZE**



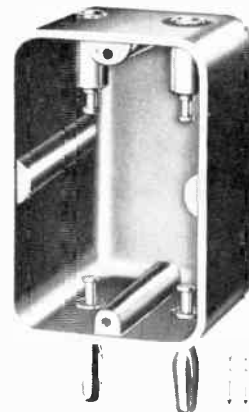
UPPER: Banana jacks, .166" dia. and solder turret terminals on 3/4" centers. Brass, nickel plated. Polarity indicator on top, color, RED.

LOWER: Banana plugs on 3/4" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

MODEL 2098

QUANTITY DISC. CODE **A** NET 2.85

**COMPONENT MOUNTING—BANANA JACKS TO DOUBLE BANANA PLUG—KING SIZE**



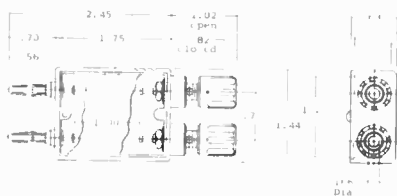
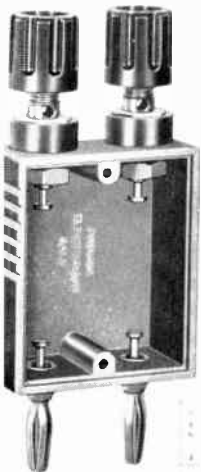
UPPER: Banana jacks, .166" dia. and solder turret terminals on 3/4" centers. Brass, nickel plated. Polarity indicator on top, color, RED.

LOWER: Banana plugs on 3/4" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

MODEL 2224

QUANTITY DISC. CODE **A** NET 2.95

**COMPONENT MOUNTING—BINDING POSTS TO DOUBLE BANANA PLUG—JUNIOR SIZE**



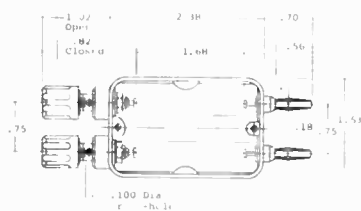
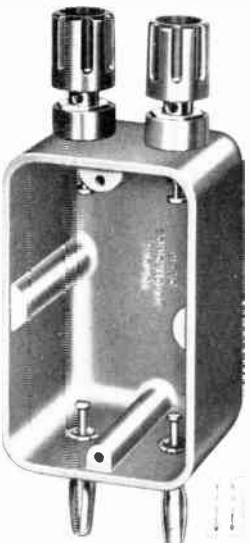
UPPER: Banana jack binding posts with solder turret terminals, on 3/4" centers. Red and Black.

LOWER: Banana plugs on 3/4" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

MODEL 2259

QUANTITY DISC. CODE **A** NET 4.85

**COMPONENT MOUNTING—BINDING POSTS TO DOUBLE BANANA PLUG—KING SIZE**



UPPER: Banana jack binding posts with solder turret terminals, on 3/4" centers. Red and Black.

LOWER: Banana plugs on 3/4" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

MODEL 2262

QUANTITY DISC. CODE **A** NET 4.85



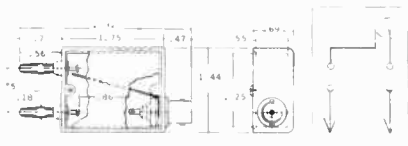
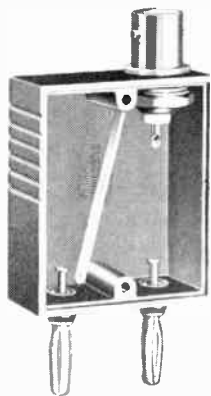
**POMONA ELECTRONICS**

**"BLACK BOXES"**

CREATE passive and active networks, voltage dividers, isolation networks or attenuators with these units. Solder turret terminals for permanent noise-free connection of components, etc. Entire unit may be potted or encapsulated.

Housing molded of thermosetting electrical grade phenolic. Cover, punched XXP laminated paper base phenolic. Color, housing and cover, BLACK. Cover plate and self tapping screws included.

**COMPONENT MOUNTING—BNC RECEPTACLE TO DOUBLE BANANA PLUG**

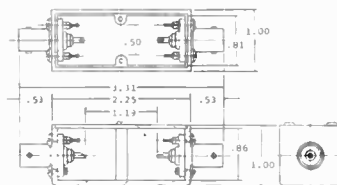


**UPPER:** BNC Receptacle UG1094/U  
**LOWER:** Banana plugs on 3/4" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.  
**APPLICABLE SPECIFICATIONS:**  
 Operating Temp: -25°C to +125°C.  
 Working Voltage: 500 V Peak.

**MODEL 2097**

QUANTITY DISC. CODE **A** NET 3.85

**COMPONENT MOUNTING—BNC RECEPTACLE BOTH ENDS**

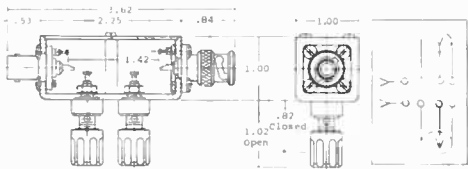
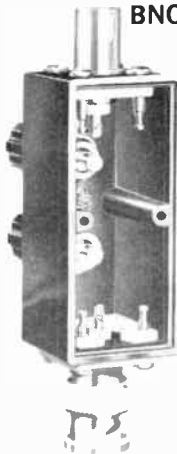


**UPPER:** BNC Receptacle UG290A/U  
**LOWER:** BNC Receptacle UG290A/U  
**APPLICABLE SPECIFICATIONS:**  
 Operating Temp: -25°C to +125°C.  
 Working Voltage: 500 V Peak.

**MODEL 2101**

QUANTITY DISC. CODE **A** NET 4.85

**COMPONENT MOUNTING—BNC RECEPTACLE TO BNC PLUG WITH BINDING POSTS**

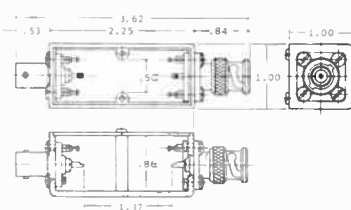


**UPPER:** BNC Receptacle UG290A/U  
**CENTER:** Banana jack binding posts with solder turret terminals. Red and Black.  
**LOWER:** BNC Plug, UG1104A/U.  
**APPLICABLE SPECIFICATIONS:**  
 Operating Temp: -25°C to +125°C.  
 Working Voltage: 500 V Peak.

**MODEL 2100**

QUANTITY DISC. CODE **A** NET 8.95

**COMPONENT MOUNTING—BNC RECEPTACLE TO BNC PLUG**

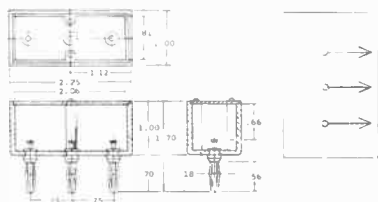
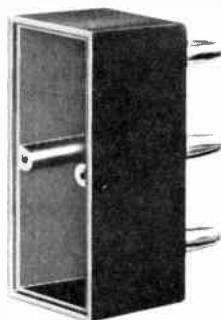


**UPPER:** BNC Receptacle UG290A/U  
**LOWER:** BNC Plug UG1104A/U  
**APPLICABLE SPECIFICATIONS:**  
 Operating Temp: -25°C to +125°C.  
 Working Voltage: 500 V Peak.

**MODEL 2099**

QUANTITY DISC. CODE **A** NET 6.85

**COMPONENT MOUNTING—(3) 3/4" SPACED BANANA PLUGS**

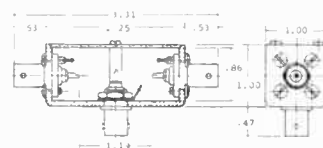
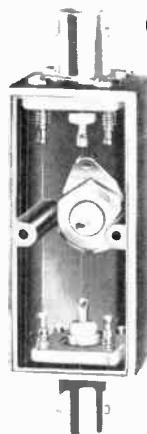


**Three-in-line 3/4" Spaced Banana Plugs.** One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.  
**APPLICABLE SPECIFICATIONS:**  
 Operating Temp: -25°C to +125°C.  
 Working Voltage: 5000 VDC.  
 Current: 15 Amps Cont., 30 Amps Int.

**MODEL 2095**

QUANTITY DISC. CODE **A** NET 2.75

**COMPONENT MOUNTING—BNC RECEPTACLE "T"**



**UPPER:** BNC Receptacle UG290A/U  
**CENTER:** BNC Receptacle UG1094/U  
**LOWER:** BNC Receptacle UG290A/U  
**APPLICABLE SPECIFICATIONS:**  
 Operating Temp: -25°C to +125°C.  
 Working Voltage: 500 V Peak.

**MODEL 2102**

QUANTITY DISC. CODE **A** NET 7.85

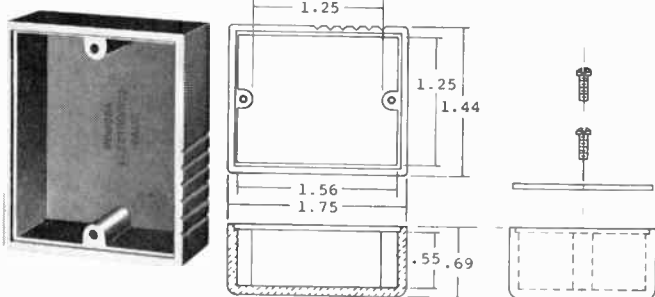
**POMONA ELECTRONICS**

**"BLACK BOXES"**

Boxes of unlimited uses for packaging of components and circuitry. Also ideal for potting and encapsulating. Available in three sizes as shown below. Housing molded of thermosetting electrical grade phenolic. Cover, punched XYP laminated paper base phenolic. Color, Housing and cover, Black. Cover plate and self tapping screws included.

Operating Temperature:  $-25^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .

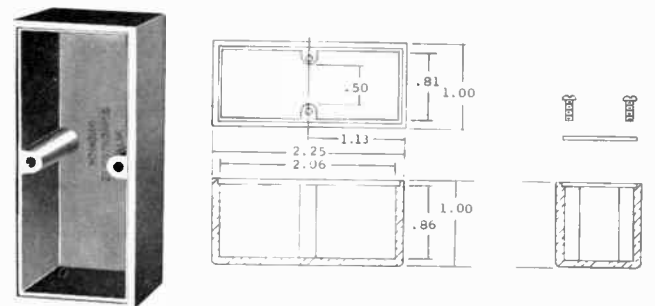
**BLACK BOX—JUNIOR SIZE**



MODEL 2105

QUANTITY DISC. CODE **A** NET .75

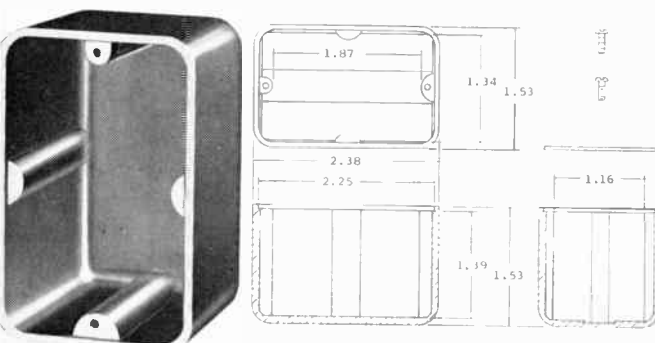
**BLACK BOX—QUEEN SIZE**



MODEL 2103

QUANTITY DISC. CODE **A** NET .75

**BLACK BOX—KING SIZE**



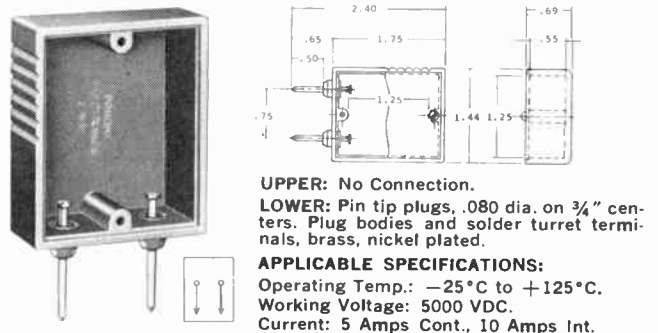
MODEL 2104

QUANTITY DISC. CODE **A** NET .75

**CREATE** passive and active networks, voltage dividers, isolation networks or attenuators with these units. Solder turret terminals for permanent noise-free connection of components, etc. Entire unit may be potted or encapsulated.

Housing molded of thermosetting electrical grade phenolic. Cover, punched XYP laminated paper base phenolic. Color, housing and cover, BLACK. Cover plate and self tapping screws included.

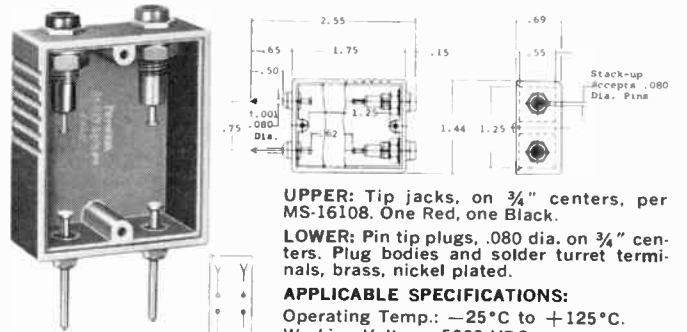
**COMPONENT MOUNTING—ACROSS PIN TIP PLUGS**



**UPPER:** No Connection.  
**LOWER:** Pin tip plugs, .080 dia. on  $\frac{3}{4}$ " centers. Plug bodies and solder turret terminals, brass, nickel plated.  
**APPLICABLE SPECIFICATIONS:**  
 Operating Temp.:  $-25^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .  
 Working Voltage: 5000 VDC.  
 Current: 5 Amps Cont., 10 Amps Int.

MODEL 2268 QUANTITY DISC. CODE **A** NET 1.95

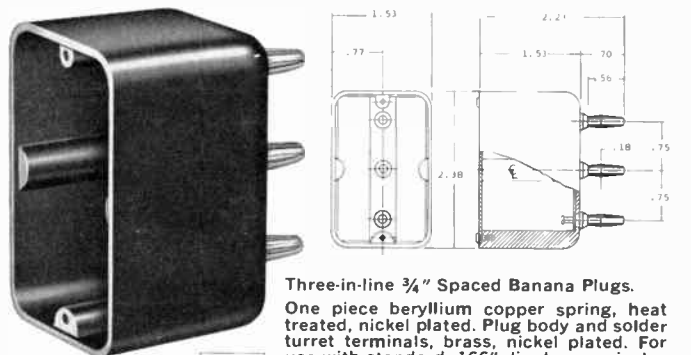
**COMPONENT MOUNTING—PIN TIP JACKS TO DOUBLE PIN TIP PLUG—JUNIOR SIZE**



**UPPER:** Tip jacks, on  $\frac{3}{4}$ " centers, per MS-16108. One Red, one Black.  
**LOWER:** Pin tip plugs, .080 dia. on  $\frac{3}{4}$ " centers. Plug bodies and solder turret terminals, brass, nickel plated.  
**APPLICABLE SPECIFICATIONS:**  
 Operating Temp.:  $-25^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .  
 Working Voltage: 5000 VDC.  
 Current: 5 Amps Cont., 10 Amps Int.

MODEL 2260 QUANTITY DISC. CODE **A** NET 4.85

**COMPONENT MOUNTING — (3)  $\frac{3}{4}$ " SPACED BANANA PLUGS — KING SIZE**



**Three-in-line  $\frac{3}{4}$ " Spaced Banana Plugs.**  
 One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.  
**APPLICABLE SPECIFICATIONS:**  
 Operating Temp.:  $-25^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .  
 Working Voltage: 5000 VDC.  
 Current: 15 Amps Cont., 30 Amps Int.

MODEL 1943 QUANTITY DISC. CODE **A** NET 2.75

TEST LEAD HOLDER

No need to spend time searching for a particular test lead. With this new rack, all of your patch cords and cable assemblies can be conveniently filed for instant selection — within easy reach. Holder mounts quickly on any vertical surface. Test leads are easy to store, easy to remove. Two models to choose from for different size cables.

MATERIAL: Cold Rolled Steel.  
FINISH: Baked Enamel.

**NEW** MODEL 1508  
MODEL 2708

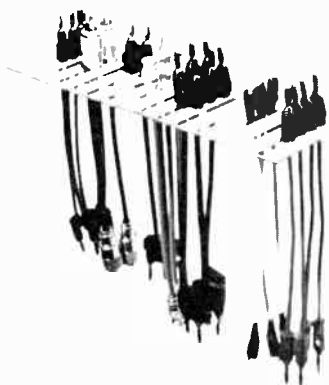
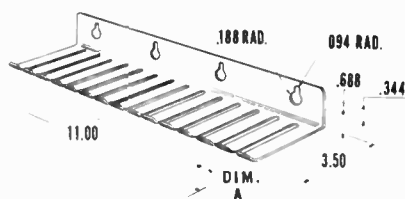
MAX. CABLE DIA. (DIM. A) .210" .450"

COLOR Orange Blue

NET 2.50 2.95

QUANTITY DISC. CODE

**A**

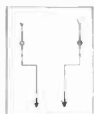


ADAPTER — AMP PROGRAM BOARD

Permits single or double banana plugs to be used with AMP program boards having 1/4" or 3/8" center to center spacing. Ideal for mounting components. Internal set screws secure leads. Useful in analog computer applications, etc.

UPPER: Banana jacks, on 3/4" centers. Brass, nickel plated.  
LOWER: Dual AMP pins, on 1/4" or 3/8" centers.

QUANTITY DISC. CODE **A**



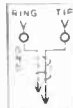
MODEL	PIN SPACING	COLOR	NET
1977	3/8"	Black	3.85
1991	1/4"	Gray	3.85



ADAPTER — BANANA JACKS TO PJ-051\* PHONE PLUG

Permits single or double banana plugs to be used with equipment having three circuit phone jacks for .250 dia. phone plugs. Tip connected to hot side of adapter and Ring connected to ground side. Sleeve, no connection.

UPPER: Double banana jack, on 3/4" centers. Crossholes (.166 dia.) in body provide side Stack-up connection.  
LOWER: Phone Plug, PJ-051\*  
COLOR: Black  
\*PJ-051 Interchangeable with WE310



MODEL 2112

QUANTITY DISC. CODE **A** NET 5.85

PJ-051\* PHONE PLUG BOTH ENDS



**B** QUANTITY DISC. CODE

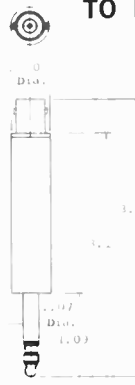
CONN.: } PJ-051\*  
1ST END } CABLE: TWO COND. TWISTED PAIR  
2ND END } PJ-051\*  
\*PJ-051 Interchangeable with WE310.  
Patch Cord is wired tip to tip, and ring to ring. No sleeve connection.

CABLE DESCRIPTION	MODEL	LENGTH	NET
Two Cond. Twisted pair, 18 AWG, Strand.	2524-A-18	18"	7.85
65 x 36 T.C. Vinyl Insulation, Vinyl jacket	2524-A-24	24"	7.85
.250" O.D., Nom. Cap. 30 pf/ft.	2524-A-36	36"	7.85
COLOR: Cable, Gray. Phone Plug Handle, Red.	2524-A-48	48"	8.00
	2524-A-60	60"	8.15

ADAPTER — BNC RECEPTACLE TO PJ-068 PHONE PLUG

Permits BNC plug to be used with equipment having three circuit phone jacks for .206 dia. phone plugs. Readily adapts equipment to available BNC coaxial cables. Tip connected to inner contact of connector and Ring connected to shell. Sleeve, no connection.

UPPER: BNC receptacle, UG1094/U.  
LOWER: Phone Plug, PJ-068.  
COLOR: Black.



MODEL 1794

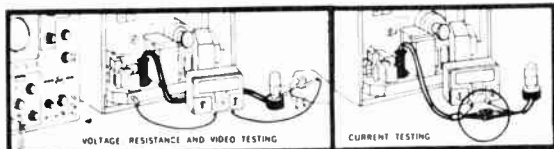
QUANTITY DISC. CODE **A** NET 6.85

Universal Harness

TESTING ADAPTER

Takes the Trouble out of Trouble Shooting!

TEST SOCKET: Extended test tabs, phosphor bronze contacts, heavy duty molded phenolic base with easy-to-read socket connections. CURRENT MEASUREMENT CONNECTIONS: Fully insulated, molded .080 phone tip plugs. INSULATED PLUG: Fits either shielded or unshielded tube sockets.



Model 1737 (7 Pin) Model 1738 (8 Pin) Model 1739 (9 Pin)

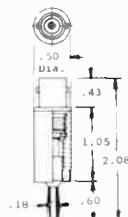
QUANTITY DISC. CODE **D** NET 9.95



ADAPTER — BNC RECEPTACLE TO SINGLE BANANA PLUG

Permits BNC plug to be used with equipment having banana jacks. Inner conductor connected only. Excellent for adapting laboratory VTVM, oscilloscopes and signal generator inputs to readily available coaxial cables.

UPPER: BNC receptacle, UG1094/U.  
LOWER: Single Banana Plug.  
COLOR: Black.



MODEL 1894 QUANTITY DISC. CODE **A** NET 2.50

\* Various lengths may be aggregated for best quantity price.

# POMONA ELECTRONICS

# 1/2" SPACED MINIATURE BANANA PLUGS AND ACCESSORIES

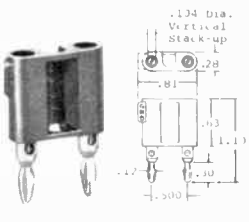
Miniature Double Banana plugs on 1/2" centers. A state of the art development for the ever increasing demand for miniaturization.

Banana plug springs precision formed of one piece beryllium copper, heat treated for maximum life and low contact resistance. Tough thermoplastic molded to plug bodies.

**SPECIFICATIONS:**

- Fits .104 dia. miniature banana jacks.
- Plug body brass, per QQ-B-626, Comp. #22.
- Gold flashed per MIL-G-45204 Type II (.00002/.00003).
- Spring, beryllium copper alloy 25 per QQ-C-533.

## MINIATURE—DOUBLE BANANA PLUG WITH SET SCREWS



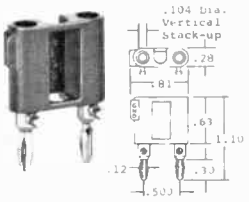
Miniature double banana plug on 1/2" centers. Internal set screws to secure cable or component leads. .104 dia. banana jacks on 1/2" centers permit top Stack-Up for multiple connections.

Operating Temp: -25°C to +85°C.  
Working voltage: 2500 VDC.  
Current: 5 Amps Cont., 10 Amps Int.

**COLORS:** Black, Red.  
**RATINGS:**  
MODEL 2244 Black  
MODEL 2244-2 Red

MODEL 2244 QUANTITY DISC. CODE **A** NET .75

## MINIATURE—DOUBLE BANANA PLUG WITH SOLDER TURRET TERMINALS

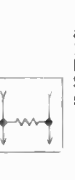
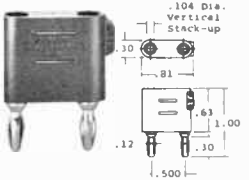


Miniature double banana plug on 1/2" centers. Solder turret terminals for permanent noise-free connections of cables or components. .104 dia. banana jacks on 1/2" centers permit top stack-up for multiple connections.

**COLORS:** Black, Red.  
**RATINGS:**  
Operating Temp: -25°C to +85°C.  
Working voltage: 2500 VDC.  
Current: 5 Amps Cont., 10 Amps Int.  
Model 2245 Black  
Model 2245-2 Red

MODEL 2245 QUANTITY DISC. CODE **A** NET .85

## MINIATURE—DOUBLE BANANA PLUG WITH MOLDED PRECISION RESISTOR



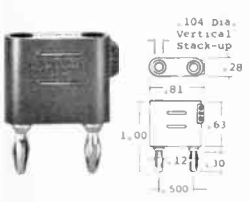
Ideal where rapid interchange of resistance values is required. Deposited carbon 1% 1/4 watt, molded internally. .104 dia. banana jacks on 1/2" centers permit Top Stack-Up for multiple connections. Resistance value stamped on plug.

**COLOR:** Blue (OHMS)

50	10K
600	50K
1K	100K

MODEL 2246 (Specify Value) QUANTITY DISC. CODE **A** NET 2.75

## MINIATURE—DOUBLE BANANA PLUG WITH SHORTING BAR



Ideal as a connecting link for use with 1/2" spaced banana jacks. .104 dia. banana jacks on 1/2" centers permit top Stack-Up for multiple connections. Banana plugs internally solder-bonded with #18 AWG wire. "Shorting Bar" stamped on plug.

**COLORS:** Black, Red.  
**RATINGS:**  
Operating Temp: -25°C to +85°C.  
Current: 5 Amps Cont., 10 Amps Int.

MODEL 2035 Black  
MODEL 2035-2 Red

MODEL 2035 QUANTITY DISC. CODE **A** NET .95

## MINIATURE BINDING POSTS

A complete 5-way Binding Post in "Miniature." Captive Thumb Nut and Binding Post Body, machined brass; gold or nickel plated. Thumb Nut and Mounting Base molded of High Impact Polycarbonate Thermoplastic. Heavy Duty Shouldered Ceramic Insulator. Lockwasher and hex nut included, unassembled, nickel plated.

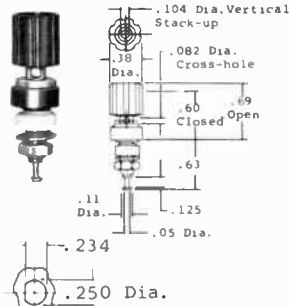
**SPECIFICATIONS:**

- 5-way Binding Post
- Mounts 1/4" dia. "D" hole
- Panels up to 3/16" thick
- Captive Thumb Nut
- .082 dia. Cross hole
- Thumb Nut and Binding Post Body — Gold Flashed per MIL-G-45204 Type 2 OR Nickel Plated per QQ-N-290 Class 2.

**RATINGS:**

- Operating Temp.: -65°C to +150°C.
- Working Voltage: 1500 VDC.
- Current: 5 Amps Cont., 10 Amps Int.

## MINIATURE—INSULATED BINDING POST



(\*) **COLORS** MODEL 2382-\*

- 0 Black
- 1 Brown
- 2 Red
- 3 Orange
- 4 Yellow
- 5 Green
- 6 Blue
- 7 Violet
- 8 Gray
- 9 White

\*(Specify Color) Gold Flashed Assembly NET .90

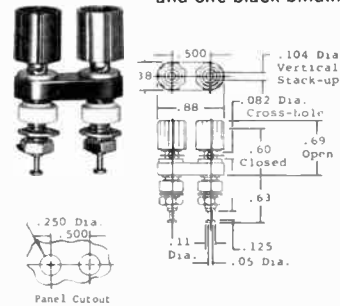
MODEL 2439-\*

\*(Specify Color) Nickel Plated Assembly NET .75

Panel Cutout QUANTITY DISC. CODE **A**

## MINIATURE—INSULATED DOUBLE BINDING POST

Double binding post body on 1/2" centers with one red and one black binding post. Choice of Black or Red plate.



**COLORS** MODEL 2383-\*

- 0 Black Plate
- 2 Red Plate

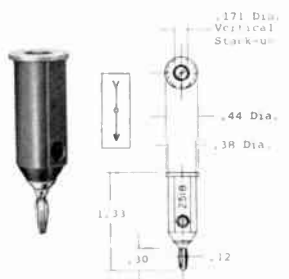
\*(Specify Color) Gold Flashed Assembly NET 1.80

MODEL 2440-\*

\*(Specify Color) Nickel Plated Assembly

QUANTITY DISC. CODE **A** NET 1.50

## MINIATURE SOLDERLESS BANANA PLUG-STACK-UP



Wire firmly held in place with internal set screw, eliminating soldering. Assembly of test leads simplified.

**UPPER:** Banana jack, .166 dia.; Brass, nickel plated.

**LOWER:** Miniature banana plug, one piece nickel plated beryllium copper spring for use with .104 dia. miniature banana jacks.

**COLORS:** Black, Red.  
2518-0 Black  
2518-2 Red

MODEL 2518 QUANTITY DISC. CODE **A** NET .50

# POMONA ELECTRONICS

# 1/2" SPACED MINIATURE BANANA PLUGS AND ACCESSORIES

## MINIATURE BANANA JACKS

Developed by the need for miniaturization of test equipment and test panels. The new generation of test jacks. Built to Pomona Electronics high standard of quality.

Wide selection of colors available.

Molded of High Impact Polycarbonate Thermoplastic. Banana Jack body, one piece machined brass, gold flashed. Heavy duty shouldered ceramic insulator. Lockwasher and hex nut included, unassembled, nickel plated.

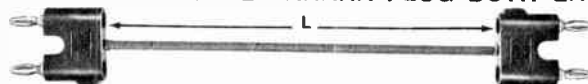
### SPECIFICATIONS:

- Closed entry jack .104 dia.
- Insulator head molded to body.
- Mounts in 1/4" dia hole
- Model 2142, Panels up to 1/4" thick
- Model 2143, Panels up to 3/16" thick
- Solder turret terminal

### RATINGS:

Operating Temp: -65°C to +150°C.  
Working Voltage: 1500 VDC  
Current: 5 Amps Cont., 10 Amps Int.

## MINIATURE - DOUBLE BANANA PLUG BOTH ENDS



CONN: } Miniature Double Banana plug on 1/2" centers.  
CABLE: } Shielded Coax., RG174/U.  
CONN: } Miniature double banana plug on 1/2" centers.

Banana jack body, one piece machined brass, gold flashed. .104 dia. banana jacks on 1/2" centers permit top Stack-Up for multiple connections. Tough thermoplastic molded to plug bodies. Molded double plug matches color of cable. RG174/U Cable, Black.

A miniature double banana plug on 1/2" centers. This patch cord enables miniaturization of test equipment and high density packaging for patch systems. Banana plug springs precision formed of one piece beryllium copper, heat treated for maximum life and low contact resistance.

RATINGS:	Operating Temp:	MODEL	LENGTH	NET
	25°C to +80°C.	2247-K-12	12"	4.85
	Working Voltage:	2247-K-24	24"	4.85
	1500 VDC.	2247-K-36	36"	4.85
		2247-K-48	48"	5.00
		2247-K-60	60"	5.15

★ QUANTITY DISC. CODE **B**

## MINIATURE - DOUBLE BANANA PLUG TO BNC MALE

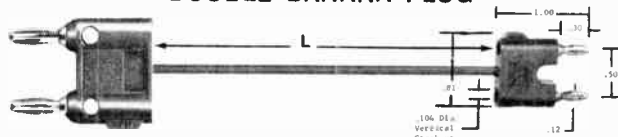


CONN: } Miniature Double Banana Plug on 1/2" centers  
CABLE: } Shielded Coax., RG174/U  
CONN: } Male BNC

CABLE DESCRIPTION:	MODEL	LENGTH	NET
Shielded coax., RG174/U, Polyethylene insulation	2248-K-12	12"	5.85
Vinyl jacket. Nom. Cap. 29.5 pf/ft. Nom. Imp. 50 Ohms. Nom. O.D. .100". Color: Cable and Double plug, Black.	2248-K-24	24"	5.85
	2248-K-36	36"	5.85
	2248-K-48	48"	6.00
	2248-K-60	60"	6.15

★ QUANTITY DISC. CODE **B**

## DOUBLE BANANA PLUG TO MINIATURE DOUBLE BANANA PLUG



CONN: } Double Banana Plug, on 3/4" Centers.  
CABLE: } Shielded Coax., RG174/U.  
CONN: } Miniature double banana plug on 1/2" Centers.

CABLE DESCRIPTION:	MODEL	LENGTH	NET
Shielded coax., RG174/U, Polyethylene insulation.	2443-K-12	12"	4.85
Vinyl jacket. Nom. Cap. 29.5 pf/ft. Nom. Imp. 50 Ohms. Nom. O.D. .100". Color: Cable and Double Plug, Black.	2443-K-24	24"	4.85
	2443-K-36	36"	4.85
	2443-K-48	48"	5.00
	2443-K-60	60"	5.15

★ QUANTITY DISC. CODE **B**

## ADAPTER - STANDARD BANANA JACK TO MINIATURE BANANA PLUG



Permits standard banana plug to be used with equipment having miniature banana jacks.

UPPER: Banana jack, .166 dia.; Brass, nickel plated.

LOWER: Miniature banana plug, one piece nickel plated beryllium copper spring for use with .104 dia. miniature banana jacks.

COLORS: Black, Red.

MODEL	2138-0 Black	2138-2 Red	NET
2138			.50

QUANTITY DISC. CODE **A**

## ADAPTER - MINIATURE BANANA JACK TO STANDARD BANANA PLUG



Permits miniature banana plugs to be used with equipment having standard banana jacks.

UPPER: Miniature banana jack, .104 dia.; Brass, nickel plated.

LOWER: Standard banana plug, one piece nickel plated beryllium copper spring for use with .166 dia. banana jacks.

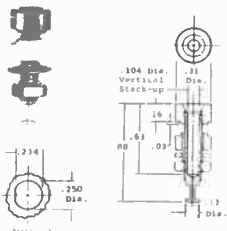
COLORS: Black, Red.

MODEL	2477-0 Black	2477-2 Red	NET
2477			.50

QUANTITY DISC. CODE **A**

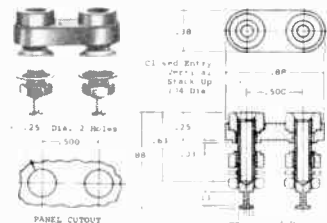
## MINIATURE - INSULATED BANANA JACK

- 2142 -Black
- 2142-1 -Brown
- 2142-2 -Red
- 2142-3 -Orange
- 2142-4 -Yellow
- 2142-5 -Green
- 2142-6 -Blue
- 2142-7 -Violet
- 2142-8 -Gray
- 2142-9 -White



MODEL 2142 Standard Package: 10 (per color) QUANTITY DISC. CODE **A** NET .25 ea.

## MINIATURE - INSULATED DOUBLE BANANA JACK

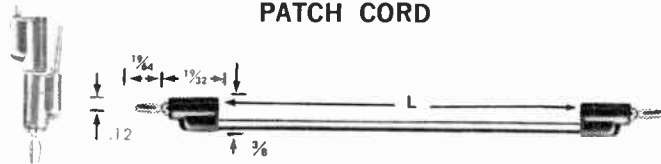


Double banana jack on 1/2" centers with one red and one black jack. Choice of Black or Red plate.

MODEL 2143 -Black Plate  
MODEL 2143-2 -Red Plate

MODEL 2143 QUANTITY DISC. CODE **A** NET .75

## MINIATURE - BANANA PLUG STACK-UP PATCH CORD



Fits miniature banana jacks with .104 dia. Compact size. For use where receptacles are spaced closely together.

BANANA PLUG: Spring, one piece beryllium copper heat treated. Gold flashed.  
WIRE: 20 AWG, Strand, 41 x 36 T.C. Extra flexible polyvinyl insulation .087" O.D.  
RATED: 5 A. Cont., 10 A. Int.  
5,000 W.V.D.C.  
OPERATING TEMP.: -0°C to +105°C.  
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

MODEL	LENGTH	NET	MODEL	LENGTH	NET
1081-4	4"	1.50	1081-24	24"	1.50
1081-8	8"	1.50	1081-36	36"	1.50
1081-12	12"	1.50	1081-48	48"	1.55
1081-18	12"	1.50	1081-60	60"	1.60

MODEL 1081 (Specify Color) ★ QUANTITY DISC. CODE **A**

★ Various lengths may be aggregated for best quantity price.

**POMONA ELECTRONICS**

**SHIELDED "BLACK BOXES"**

NOW AVAILABLE, *SHIELDED* "BLACK BOXES." Boxes that fulfill the requirement for RF applications.

Ideal for compact packaging, eg., voltage dividers, isolation networks, impedance matching networks, and other varied uses.

Cover and self-tapping screws included.

**APPLICABLE SPECIFICATIONS: (ALL MODELS)**

Operating Temp.: -55°C to +150°C.

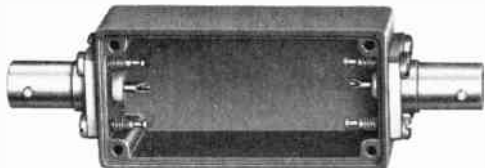
Working Voltage: 500 V Peak (Model 2415, 1500 V Peak).

Noise Rejection: Greater than 70DB.

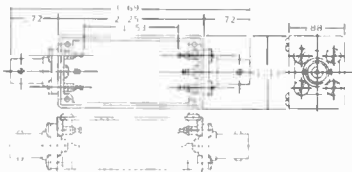
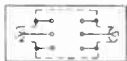
**FEATURES:**

- **SHIELDED HOUSING;** Die Cast Aluminum. **FINISH:** BLUE baked enamel per Federal Standard 595 #25109 over phosphoric etch per MIL-C-15328A.
- **COVER;** .040 Thick Aluminum #6061-T6 with clear anodized finish per MIL-A-8625A.
- Four screws secure cover for proper shielding.
- Solder turret terminals for permanent noise free connection of components.

**COMPONENT MOUNTING—  
BNC RECEPTACLE BOTH ENDS**



CONN: } BNC Receptacle Jack,  
1st END } UG290A/U.  
CONN: } BNC Receptacle Jack,  
2nd END } UG290A/U.

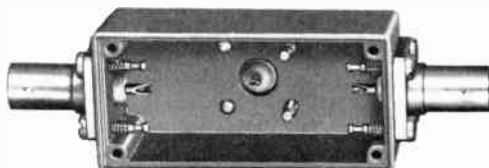


**MODEL 2390**

QUANTITY DISC. CODE **A**

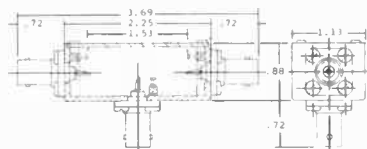
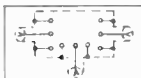
**NET 6.85**

**COMPONENT MOUNTING—  
BNC RECEPTACLE "T"**



CONN: } BNC Receptacle Jack,  
1st END } UG290A/U.  
CENTER: BNC Receptacle Jack,  
UG290A/U.

CONN: } BNC Receptacle Jack,  
2nd END } UG290A/U.

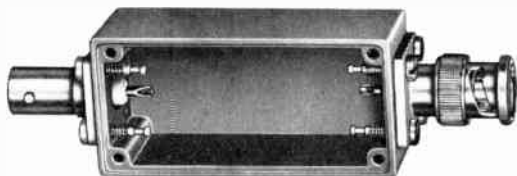


**MODEL 2392**

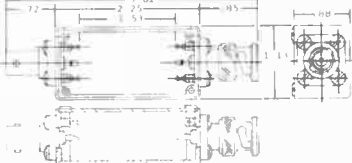
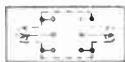
QUANTITY DISC. CODE **A**

**NET 9.50**

**COMPONENT MOUNTING—  
BNC RECEPTACLE TO BNC PLUG**



CONN: } BNC Receptacle Jack,  
1st END } UG290A/U.  
CONN: } BNC Receptacle Plug,  
2nd END } UG1104A/U.

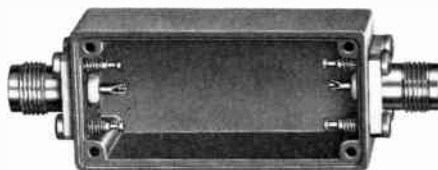


**MODEL 2391**

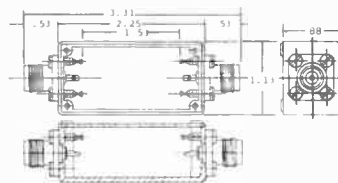
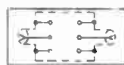
QUANTITY DISC. CODE **A**

**NET 7.85**

**COMPONENT MOUNTING—  
TNC RECEPTACLE BOTH ENDS**



CONN: } TNC Receptacle Jack.  
1st END }  
CONN: } TNC Receptacle Jack.  
2nd END }

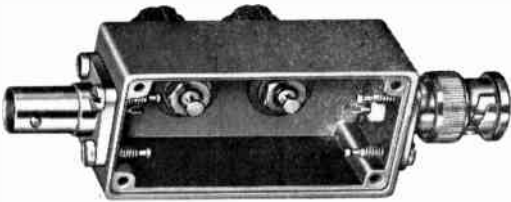


**MODEL 2396**

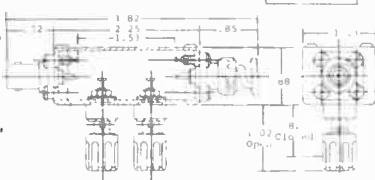
QUANTITY DISC. CODE **A**

**NET 7.85**

**COMPONENT MOUNTING—BNC RECEPTACLE TO  
BNC PLUG WITH BINDING POSTS**



CONN: } BNC Receptacle Jack,  
1st END } UG290A/U.  
CENTER: Banana jack binding  
posts with solder turret  
terminals. Red and Black.  
CONN: } BNC Receptacle Plug,  
2nd END } UG1104A/U.

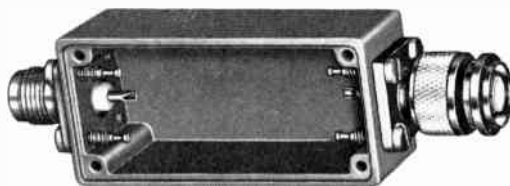


**MODEL 2393**

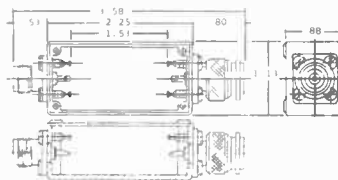
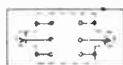
QUANTITY DISC. CODE **A**

**NET 10.85**

**COMPONENT MOUNTING—  
TNC RECEPTACLE TO TNC PLUG**



CONN: } TNC Receptacle Jack.  
1st END }  
CONN: } TNC Receptacle Plug.  
2nd END }



**MODEL 2395**

QUANTITY DISC. CODE **A**

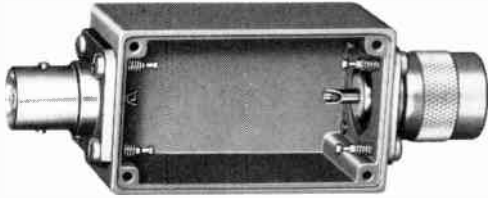
**NET 9.50**



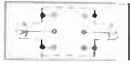
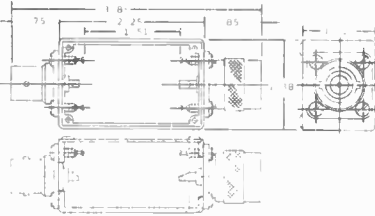
**POMONA ELECTRONICS**

**SHIELDED "BLACK BOXES"**

**COMPONENT MOUNTING—  
TYPE "C" RECEPTACLE TO TYPE "C" PLUG**



CONN: } Type "C" Receptacle  
1st END } Jack, UG568/U.  
CONN: } Type "C" Receptacle  
2nd END } Plug.



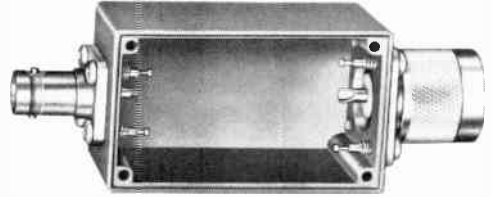
**MODEL 2415**

QUANTITY DISC. CODE **A**

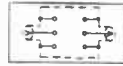
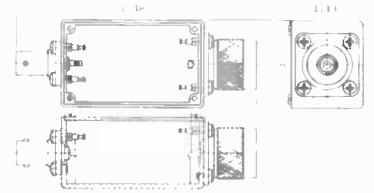
**NET 11.75**

**COMPONENT MOUNTING —  
BNC RECEPTACLE TO TYPE "N" PLUG**

**NEW**



CONN: } BNC Receptacle Jack,  
1st END } UG290A/U.  
CONN: } Type "N" Receptacle  
2nd END } Plug.

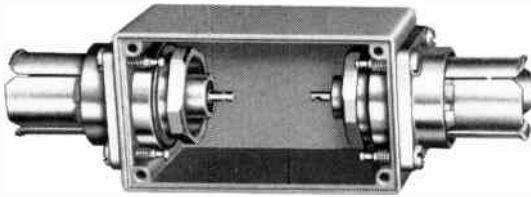


**MODEL 2420**

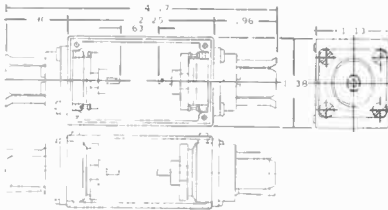
QUANTITY DISC. CODE **A**

**NET 9.85**

**COMPONENT MOUNTING—  
GR-874 CONNECTOR BOTH ENDS**



CONN: } Type GR-874 Connector.  
1st END }  
CONN: } Type GR-874 Connector.  
2nd END }



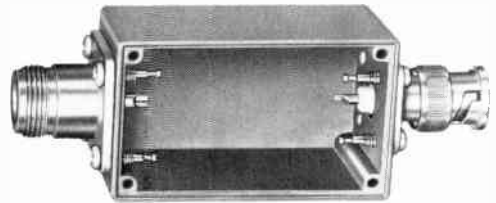
**MODEL 2416**

QUANTITY DISC. CODE **A**

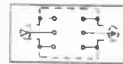
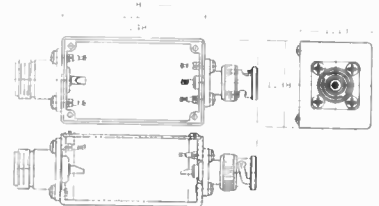
**NET 24.75**

**COMPONENT MOUNTING —  
TYPE "N" RECEPTACLE TO BNC PLUG**

**NEW**



CONN: } Type "N" Receptacle  
1st END } Jack, UG58A/U.  
CONN: } BNC Receptacle Plug,  
2nd END } UG1104A/U.

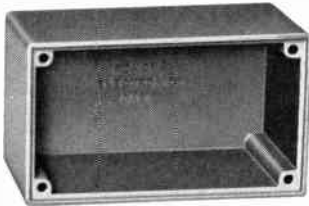


**MODEL 2421**

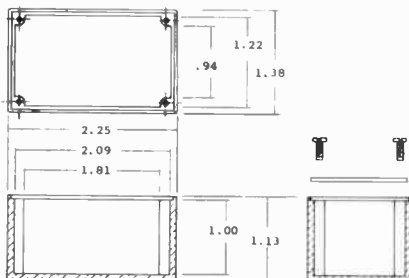
QUANTITY DISC. CODE **A**

**NET 7.85**

**EMPTY — SHIELDED "BLACK BOX"**



**FINISH:**  
Per above models.  
Includes cover and  
four cover screws.

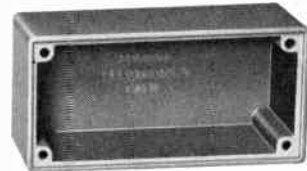


**MODEL 2417**

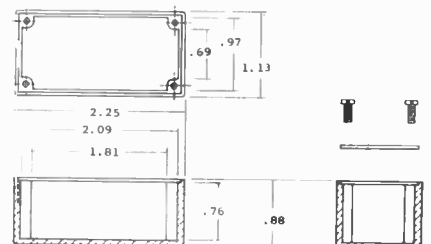
QUANTITY DISC. CODE **A**

**NET 1.50**

**EMPTY — SHIELDED "BLACK BOX"**



**FINISH:**  
Per above models.  
Includes cover and  
four cover screws.



**MODEL 2397**

QUANTITY DISC. CODE **A**

**NET 1.50**

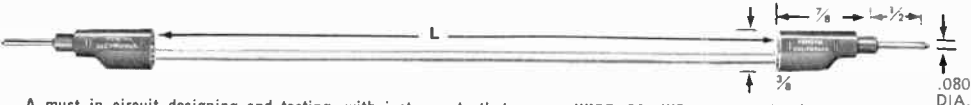


# POMONA ELECTRONICS

# PATCH CORDS .080 TIP

MODEL	LENGTH	NET
P-4	4"	1.75
P-8	8"	1.75
P-12	12"	1.75
P-18	18"	1.75
P-24	24"	1.75
P-36	36"	1.75
P-48	48"	1.80
P-60	60"	1.85

## PIN TIP VERTICAL STACKING PATCH CORD



A must in circuit designing and testing, with instruments that utilize tip jacks.  
**PIN TIP:** .080 dia., 1/2" long, brass, gold flashed.  
**TIP JACK, STACK-UP:** Beryllium copper, gold flashed. Accepts .080 dia. pin.

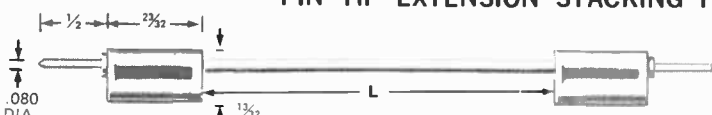
**WIRE:** 20 AWG, Strand. 41 x 36 T.C. Extra flexible polyvinyl insulation .087" O.D.  
**RATED:** 5 A. Cont., 10 A. Int. 5,000 W.V.D.C.  
**OPERATING TEMP.:** -0°C to +105°C.  
**COLORS:** Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

**MODEL P**  
 (Specify Color)

STACK-UP ★ QUANTITY DISC. CODE **A**

MODEL	LENGTH	NET
1727-4	4"	1.85
1727-8	8"	1.85
1727-12	12"	1.85
1727-18	18"	1.85
1727-24	24"	1.85
1727-36	36"	1.85
1727-48	48"	1.90
1727-60	60"	1.95

## PIN TIP EXTENSION STACKING PATCH CORD



Dual purpose, insulates exposed leads when used as an extension cord. Endless extension coupling possible. Also provides stacking from .080 jack.  
**PIN TIP:** .080 dia., 1/2" long, brass, gold flashed.  
**TIP JACK:** Beryllium copper, gpld flashed. Accepts .080 dia. pin.

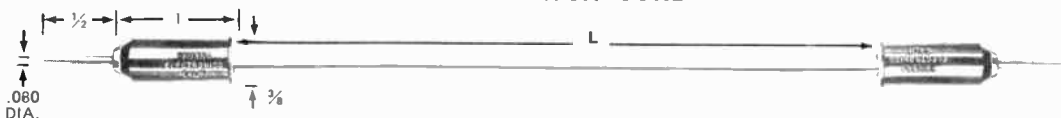
**WIRE:** 20 AWG, Strand. 41 x 36 T.C. Extra flexible polyvinyl insulation .087" O.D.  
**RATED:** 5 A. Cont., 10 A. Int. 5,000 W.V.D.C.  
**OPERATING TEMP.:** -0°C to +105°C.  
**COLORS:** Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

**MODEL 1727**  
 (Specify Color)

★ QUANTITY DISC. CODE **A**

MODEL	LENGTH	NET
1990-4	4"	.75
1990-8	8"	.75
1990-12	12"	.75
1990-18	18"	.75
1990-24	24"	.75
1990-36	36"	.75
1990-48	48"	.80
1990-60	60"	.85

## PIN TIP PATCH CORD



Heavy Duty patch cord. Excellent for general lab work. Permits interconnection between test instruments that utilize tip jacks.  
**PIN TIP:** .080 dia., 1/2" long, brass, nickel plated.  
**WIRE:** 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144" O.D.

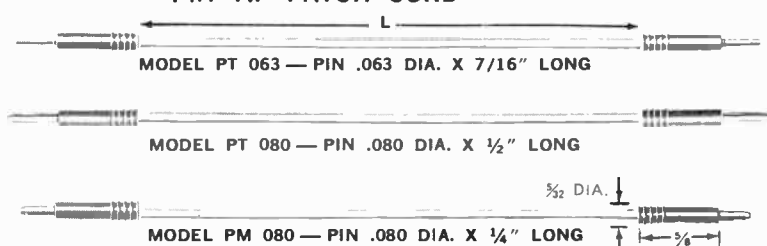
**RATED:** 5 A. Cont., 10 A. Int. 10,000 W.V.D.C.  
**OPERATING TEMP.:** -0°C to +105°C.  
**COLORS:** Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

**MODEL 1990**  
 (Specify Color)

★ QUANTITY DISC. CODE **A**

MODEL	LENGTH	NET	PIN TIP:		
PT063-4	PT080-4	PM080-4	4"	.85	Brass, gold flashed.
PT063-8	PT080-8	PM080-8	8"	.85	WIRE: 22 AWG, Strand. 19 x 34 T.C. Insulation, polyvinyl .064" O.D.
PT063-12	PT080-12	PM080-12	12"	.85	RATED: 3 A. Cont., 7.5 A. Int. 1,000 W.V.D.C.
PT063-18	P8080-18	PM080-18	18"	.85	OPERATING TEMP.: -0°C to +105°C.
PT063-24	PT080-24	PM080-24	24"	.85	COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.
PT063-36	PT080-36	PM080-36	36"	.85	
PT063-48	PT080-48	PM080-48	48"	.90	
PT063-60	PT080-60	PM080-60	60"	.95	

## PIN TIP PATCH CORD



**MODEL PT & PM**  
 (Specify Color)

Small body style permits usage in equipment having receptacles spaced closely together. Three models shown.

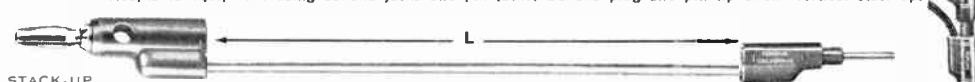
★ QUANTITY DISC. CODE **A**

MODEL	LENGTH	NET
1126-4	4"	1.75
1126-8	8"	1.75
1126-12	12"	1.75
1126-18	18"	1.75
1126-24	24"	1.75
1126-36	36"	1.75
1126-48	48"	1.80
1126-60	60"	1.85

## BANANA PLUG TO PIN TIP STACK-UP PATCH CORD



Adapts to equipment using banana jacks and pin jacks. Banana plug and pin tip allow vertical stack-up.



**BANANA PLUG:** Spring, one piece beryllium copper, heat treated, nickel plated.  
**PIN TIP:** .080 dia. 1/2" long, brass, gold flashed.

**TIP JACK, STACK-UP:** Beryllium copper, gold flashed. Accepts .080 Dia. pin.  
**WIRE:** 20 AWG, Strand. 41 x 36 T.C. Extra flexible

polyvinyl insulation .087" O.D.  
**RATED:** 5 A. Cont., 10 A. Int. 5,000 W.V.D.C.  
**OPERATING TEMP.:** -0°C to +105°C.  
**COLORS:** Black, Red.

**MODEL 1126**  
 (Specify Color)

SIDE CONNECTION

★ QUANTITY DISC. CODE **A**

POMONA ELECTRONICS

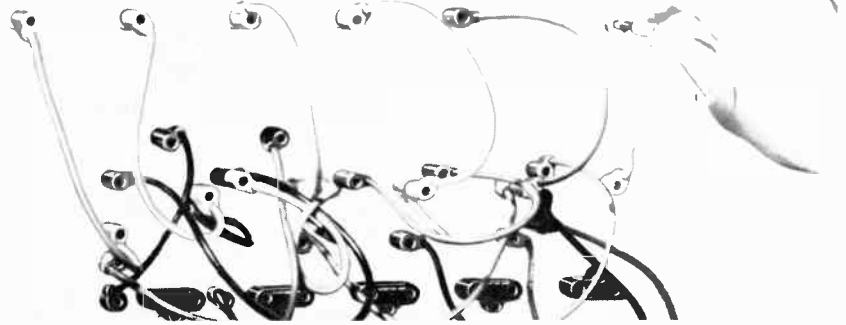
PATCH CORDS BANANA PLUGS

POMONA BANANA PLUG PATCH CORDS

Tough thermoplastic insulation molds the plug and leads into a strong moisture resistant integral unit. Excellent for computer board and test equipment applications. Used by leading industries in applications where extreme reliability is of prime importance.

FEATURES

- One piece beryllium copper heat treated spring for maximum long life.
- Rounded spring design results in maximum contact area.
- Extra flexible polyvinyl insulation used on all leads.

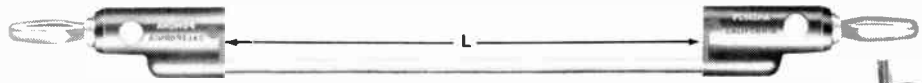


SPECIFICATIONS

- Fits standard 0.166 dia. banana jacks.
- Spring, beryllium copper alloy 25 per QQ-C-533.
- Plug body, brass per QQ-B-626, Comp. 22.
- Nickel plated per QQ-N-290, Class 2.
- Contact resistance less than 0.001 ohms per banana plug.
- Operating Temp.: -0°C to +105°C.
- Wire, 18 AWG, stranding 65 x 36 T.C.
- Insulation, polyvinyl .144" O.D.
- Ratings: 15 A. Cont., 30 A. Int. 10,000 W.V.D.C.

MODEL	LENGTH	NET
B-4	4"	1.50
B-8	8"	1.50
B-12	12"	1.50
B-18	18"	1.50
B-24	24"	1.50
B-36	36"	1.50
B-48	48"	1.55
B-60	60"	1.60

STACK-UP BANANA PLUG PATCH CORD

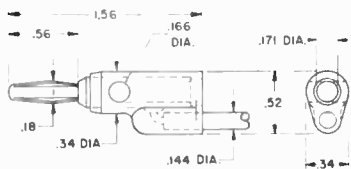


Multiple stacking feature accommodates the most complex stacking; keeps circuitry neater. Greatly simplifies circuit connections and changes. Reliable solder-bonded connections withstand pull test in excess of 50 lbs. Banana plugs both ends.

COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

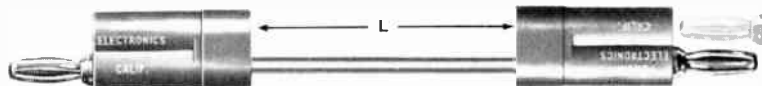


MODEL B (Specify Color) QUANTITY DISC. CODE **A** ★



EXTENSION STACKING BANANA PLUG PATCH CORD

MODEL	LENGTH	NET
HB-4	4"	1.75
HB-8	8"	1.75
HB-12	12"	1.75
HB-18	18"	1.75
HB-24	24"	1.75
HB-36	36"	1.75
HB-48	48"	1.80
HB-60	60"	1.85



Qual purpose. Insulates all hot leads when used as an extension cord. Endless extension couplings possible with any banana plug patch cord. Provides vertical stacking from any jack. Reliable solder-bonded connections withstand pull test in excess of 50 lbs. Banana plugs both ends.

COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

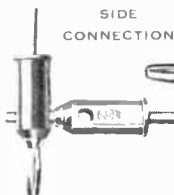


STACK UP

MODEL HB (Specify Color) QUANTITY DISC. CODE **A** ★

HORIZONTAL STACKING BANANA PLUG PATCH CORD

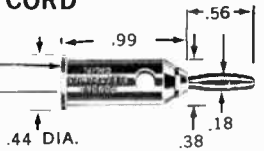
MODEL	LENGTH	NET
1440-4	4"	1.00
1440-8	8"	1.00
1440-12	12"	1.00
1440-18	18"	1.00
1440-24	24"	1.00
1440-36	36"	1.00
1440-48	48"	1.05
1440-60	60"	1.10



Ideal as an interconnecting lead between power supplies, test equipment, etc. Horizontal stacking feature. Banana plugs on both ends.

COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

MODEL 1440 (Specify Color) QUANTITY DISC. CODE **A** ★

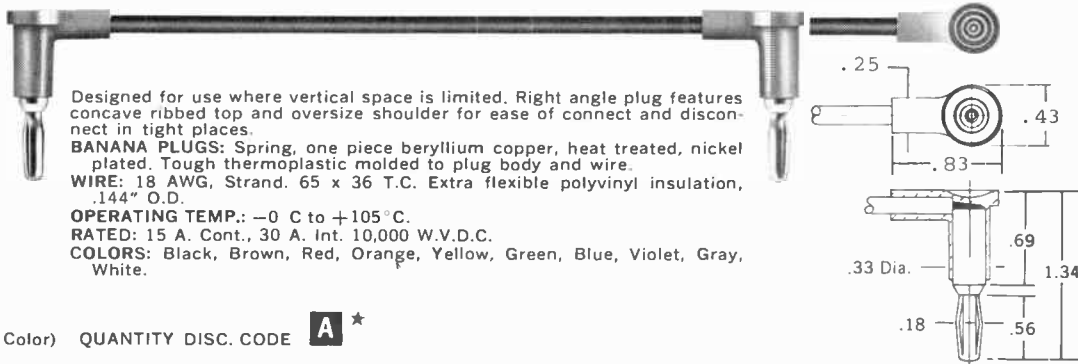


★ Various lengths may be aggregated for best quantity price.

OTHER LENGTHS AVAILABLE TO ORDER

RIGHT ANGLE BANANA PLUG PATCH CORD

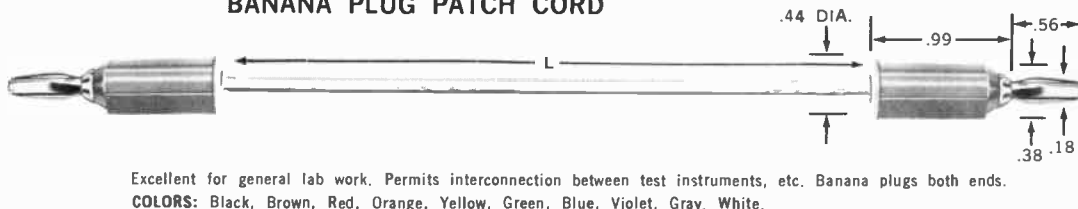
MODEL	LENGTH	NET
2700-4	4"	1.00
2700-8	8"	1.00
2700-12	12"	1.00
2700-18	18"	1.00
2700-24	24"	1.00
2700-36	36"	1.00
2700-48	48"	1.05
2700-60	60"	1.10



MODEL 2700 (Specify Color) QUANTITY DISC. CODE **A** \*

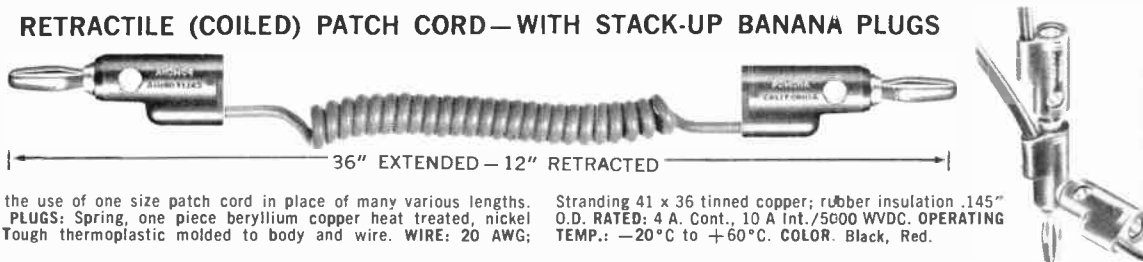
BANANA PLUG PATCH CORD

MODEL	LENGTH	NET
1985-4	4"	.85
1985-8	8"	.85
1985-12	12"	.85
1985-18	18"	.85
1985-24	24"	.85
1985-36	36"	.85
1985-48	48"	.90
1985-60	60"	.95



MODEL 1985 (Specify Color) QUANTITY DISC. CODE **A** \*

RETRACTILE (COILED) PATCH CORD—WITH STACK-UP BANANA PLUGS

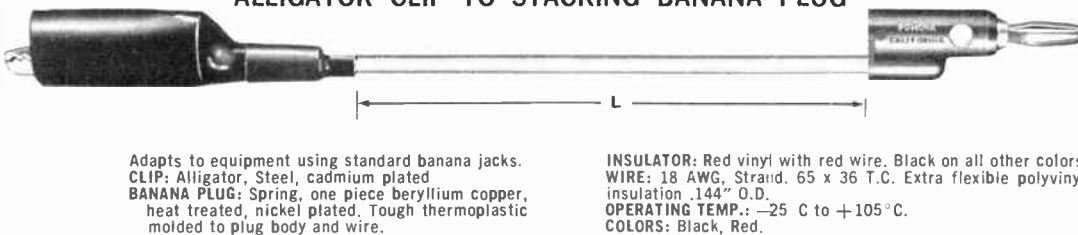


MODEL 2484-36 (Specify Color) QUANTITY DISC. CODE **A**

NET 2.50

ALLIGATOR CLIP TO STACKING BANANA PLUG

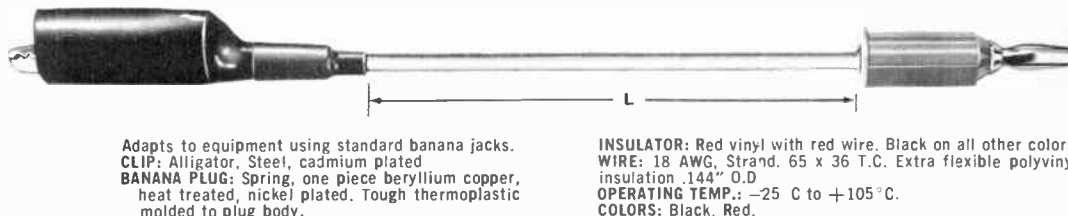
MODEL	LENGTH	NET
1166-4	4"	1.00
1166-8	8"	1.00
1166-12	12"	1.00
1166-24	24"	1.00
1166-36	36"	1.00
1166-48	48"	1.05
1166-60	60"	1.10



MODEL 1166 (Specify Color) QUANTITY DISC. CODE **A** \*

ALLIGATOR CLIP LEAD TO BANANA PLUG

MODEL	LENGTH	NET
1959-4	4"	.95
1959-8	8"	.95
1959-12	12"	.95
1959-24	24"	.95
1959-36	36"	.95
1959-48	48"	1.00
1959-60	60"	1.05



MODEL 1959 (Specify Color) QUANTITY DISC. CODE **A** \*

\* Various lengths may be aggregated for best quantity price.

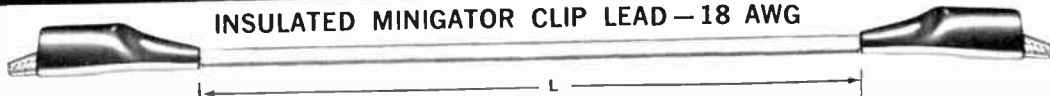
OTHER LENGTHS AVAILABLE TO ORDER

POMONA ELECTRONICS

JUMPERS—CLIP LEADS

MODEL	LENGTH	NET
MG-B-4	4"	.95
MG-B-8	8"	.95
MG-B-12	12"	.95
MG-B-24	24"	.95
MG-B-36	36"	.95
MG-B-48	48"	1.00
MG-B-60	60"	1.05

(Specify Color)



QUANTITY  
DISC. CODE  
**A** ★

CLIP: Minigator, steel, cad plated.  
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144" O.D.

INSULATOR: Red vinyl with red wire. Black on all other colors.  
OPERATING TEMP.: -25°C to +105°C.  
COLORS: Black, Red.

MODEL	LENGTH	NET
1236-4	4"	.95
1236-8	8"	.95
1236-12	12"	.95
1236-24	24"	.95
1236-36	36"	.95
1236-48	48"	1.00
1236-60	60"	1.05

(Specify Color)



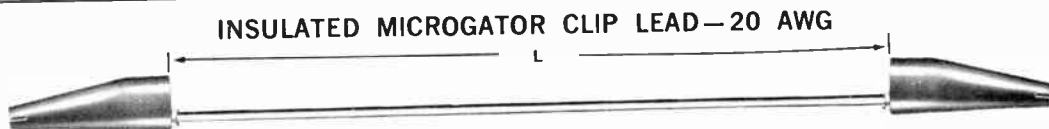
QUANTITY  
DISC. CODE  
**A** ★

CLIP: Minigator, steel, cad. plated.  
WIRE: 20 AWG, Strand. 41 x 36 T.C. Extra flexible polyvinyl insulation, .087" O.D.

INSULATOR: Red Vinyl with Red Wire. Black on all other colors.  
OPERATING TEMP.: -25°C to +105°C.  
COLORS: Black, Red.

MODEL	LENGTH	NET
1613-4	4"	.95
1613-8	8"	.95
1613-12	12"	.95
1613-24	24"	.95
1613-36	36"	.95
1613-48	48"	1.00
1613-60	60"	1.05

(Specify Color)



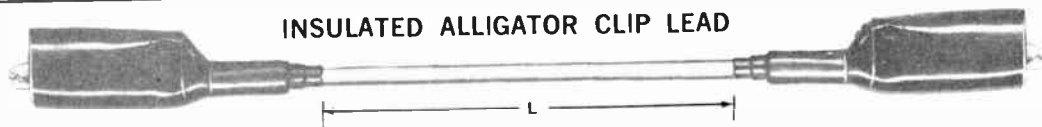
QUANTITY  
DISC. CODE  
**A** ★

CLIP: Microgator, solid copper.  
WIRE: 20 AWG, Strand. 41 x 36 T.C. Extra flexible polyvinyl insulation, .087" O.D.

INSULATOR: Red Vinyl with Red Wire. Black on all other colors.  
OPERATING TEMP.: -25°C to +105°C.  
COLORS: Black, Red.

MODEL	LENGTH	NET
AL-B-4	4"	.95
AL-B-8	8"	.95
AL-B-12	12"	.95
AL-B-24	24"	.95
AL-B-36	36"	.95
AL-B-48	48"	1.00
AL-B-60	60"	1.05

(Specify Color)



QUANTITY  
DISC. CODE  
**A** ★

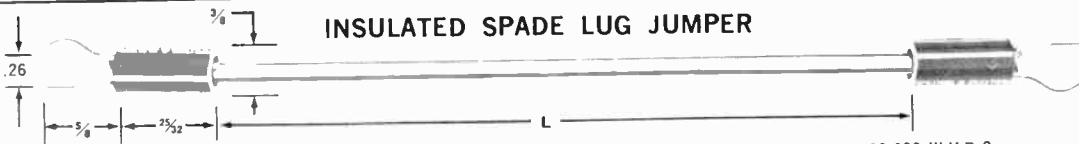
CLIP: Alligator, steel, cad plated.  
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144" O.D.

INSULATOR: Red vinyl with red wire. Black on all other colors.  
OPERATING TEMP.: -25°C to +105°C.  
COLORS: Black, Red.

MODEL	LENGTH	NET
1743-12	12"	.95
1743-24	24"	.95
1743-36	36"	.95
1743-48	48"	1.00
1743-60	60"	1.05

(Typical Dimensions spade lug)

(Specify Color)



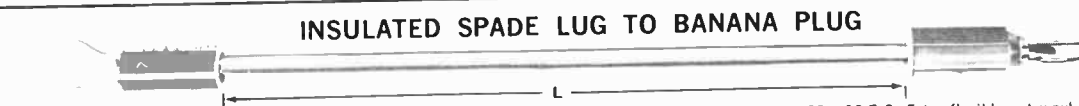
QUANTITY  
DISC. CODE  
**A** ★

Spade lug heavy duty machined one piece brass. Tough thermo-plastic molded to spade lug body.  
SPADE LUGS: Brass 1/4" thick, nickel plated.  
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144" O.D.

RATED: 15 A. Cont., 30 A Int. 10,000 W.V.D.C.  
OPERATING TEMP.: -25°C to +105°C.  
COLORS: Black, Red, Green, White.

MODEL	LENGTH	NET
1987-12	12"	.95
1987-24	24"	.95
1987-36	36"	.95
1987-48	48"	1.00
1987-60	60"	1.05

(Specify Color)



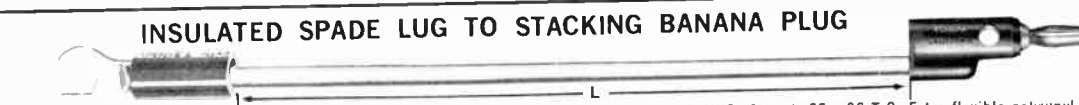
QUANTITY  
DISC. CODE  
**A** ★

Spade lug, heavy duty machined one piece brass. Tough thermo-plastic molded to spade lug and banana plug body.  
SPADE LUG: Brass 1/4" thick, nickel plated.  
BANANA PLUG: Spring one piece beryllium copper heat treated, nickel plated.

WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144" O.D.  
RATED: 15 A. Cont., 30 A. Int. 10,000 W.V.D.C.  
OPERATING TEMP.: -25°C to +105°C.  
COLORS: Black, Red, Green, White.

MODEL	LENGTH	NET
1370-12	12"	1.00
1370-24	24"	1.00
1370-36	36"	1.00
1370-48	48"	1.05
1370-60	60"	1.10

(Specify Color)



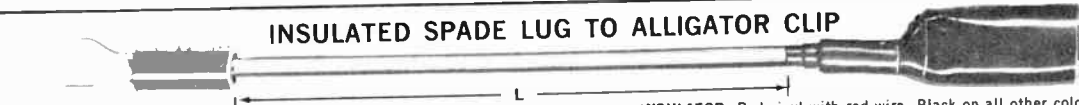
QUANTITY  
DISC. CODE  
**A** ★

Spade lug, heavy duty machined one piece brass. Tough thermo-plastic molded to spade lug and banana plug body.  
SPADE LUG: Brass 1/4" thick, nickel plated.  
BANANA PLUG: Spring one piece beryllium copper heat treated, nickel plated.

WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144" O.D.  
RATED: 15 A. Cont., 30 A. Int. 10,000 W.V.D.C.  
OPERATING TEMP.: -25°C to +105°C.  
COLORS: Black, Red, Green, White.

MODEL	LENGTH	NET
1960-12	12"	.95
1960-24	24"	.95
1960-36	36"	.95
1960-48	48"	1.00
1960-60	60"	1.05

(Specify Color)



QUANTITY  
DISC. CODE  
**A** ★

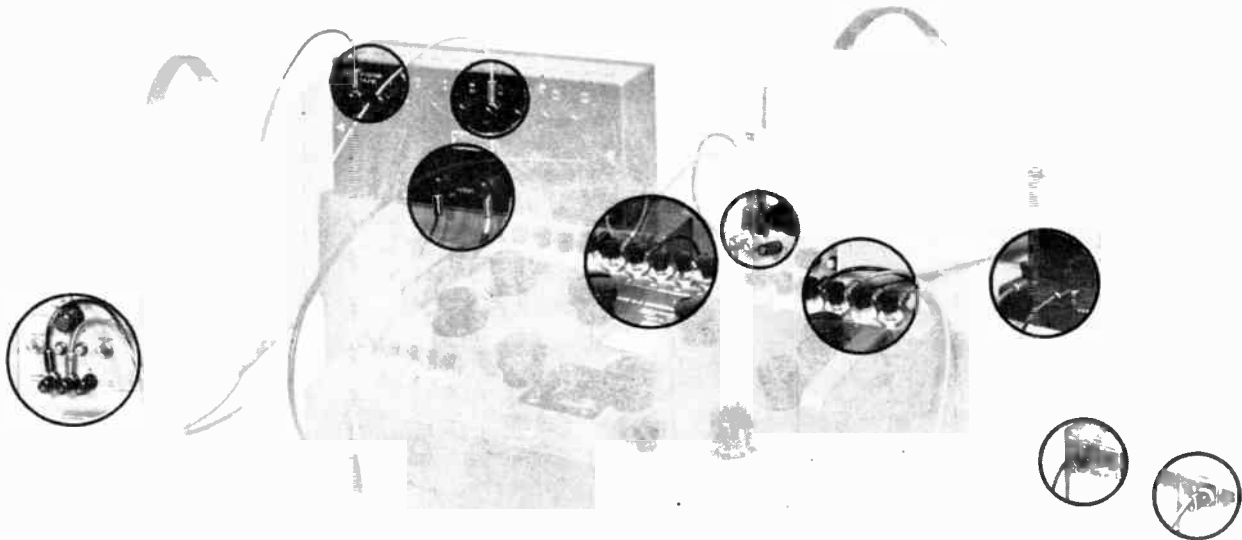
Spade lug, heavy duty machined one piece brass. Tough thermo-plastic molded to spade lug body.  
SPADE LUG: Brass 1/4" thick, nickel plated.  
CLIP: Alligator, steel, cad plated.

INSULATOR: Red vinyl with red wire. Black on all other colors.  
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144" O.D.  
OPERATING TEMP.: -25°C to +105°C.  
COLORS: Black, Red, Green, White.

OTHER LENGTHS AVAILABLE TO ORDER

\* Various lengths may be aggregated for best quantity price.

POMONA ELECTRONICS

JUMPERS —  
LOW THERMAL E.M.F.

## TELLURIUM COPPER LEADS FOR PRECISION MEASUREMENTS

POMONA ELECTRONICS has advanced the state of the art in measurements where Thermoelectric Effects are significant sources of error. Comparators designed for use with the Kelvin-Varley voltage divider and microvolt leads were tested with Primary Standards Laboratory equipment.

Thermoelectric voltages were not detected until the most sensitive galvanometer range was used.

**THERMOELECTRIC PROPERTIES**—Tellurium copper gold plated spade lugs cold-staked to multi-stranded

12 gauge CUPPER wire minimize thermoelectric effects—an absolute necessity for low voltage, high precision measurements.

**LOW RESISTANCE**—12 gauge multi-stranded CUPPER wire results in extremely low cable resistance. Spade lugs plated with 50 micro inches gold for minimum contact resistance and minimum thermal EMF when using copper binding posts. (Less than  $0.01 \mu\text{V}/\text{C}^\circ$ ).

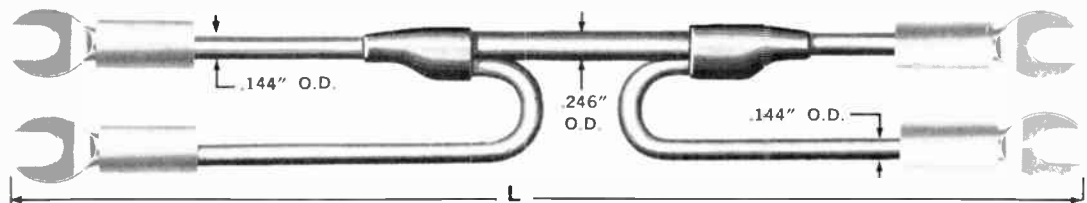
### TELLURIUM COPPER SPADE LUGS, SHIELDED LEAD

MODEL	LENGTH
1756-24	24"
1756-48	48"

**MODEL 1756**  
(Specify Length)

★ QUANTITY DISC. CODE **A**

NET 9.85

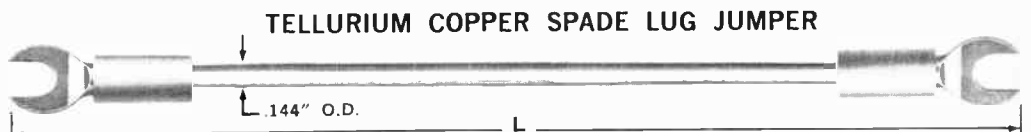


Designed for use with Kelvin Varley voltage dividers where extreme precision is required for low voltage measurements. Features guard shield to effectively reduce shunt resistance. Tough thermo-plastic molded to spade lug body, color; center conductor lug red, shield lug black. Tellurium copper heavy duty one piece machined spade lug gold plated per MIL-G-45204, Type II, Class I. Center conductor 12 AWG multi-stranded bare copper, shield lead wire, 18 AWG, stranded. Polyethylene primary insulation. Braided shield bare copper. Polyvinyl jacket, color black, per MIL-C-17C Type IIA.

MODEL	LENGTH	NET
1693-12	12"	2.50
1693-18	18"	2.50
1693-24	24"	2.50
1693-36	36"	2.50
1693-48	48"	2.55
1693-60	60"	2.60

**MODEL 1693** (Specify Color)

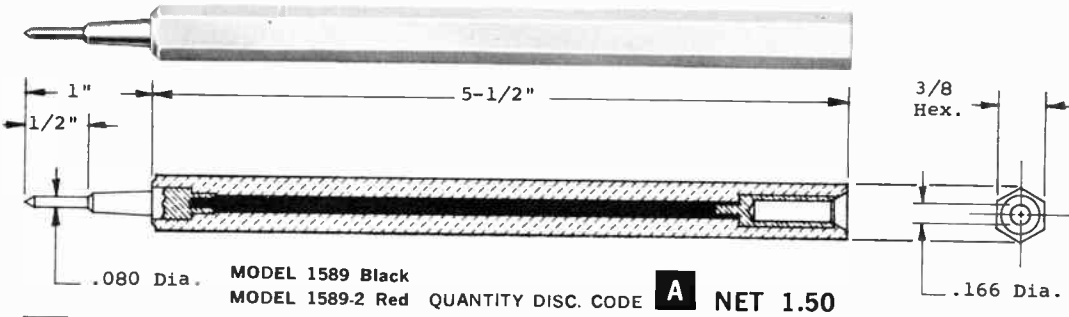
★ QUANTITY DISC. CODE **A**



Single conductor tellurium copper spade lug jumper used in applications where guard shield is not required. Tough thermo-plastic molded to spade lug body. Color matches wire. Tellurium Copper heavy duty one piece machined spade lug gold plated per MIL-G-45204, Type II, Class I. Conductor, 12 AWG multi-stranded bare copper. Insulation polyvinyl, 105°C, .144" O.D. COLORS: Black, Red, Green.

★ Various lengths may be aggregated for best quantity price.

TEST PROBE TO BANANA JACK



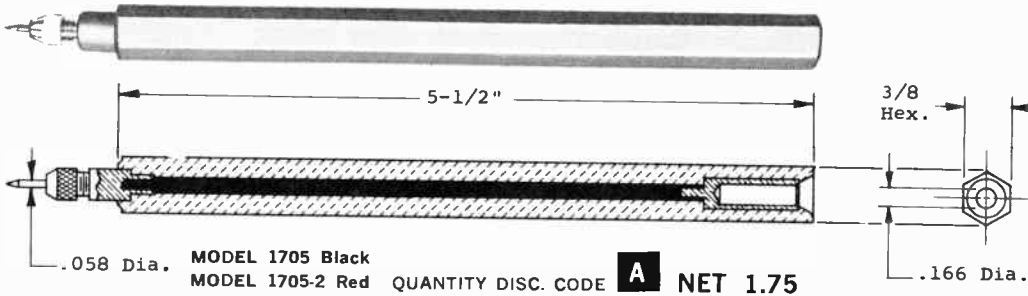
Banana jack in handle connected to tip. Permits use of standard banana plugs for circuit testing as a test prod. Heavy duty insulated handle molded to banana jack and tip.

**PIN TIP:** .080 dia. x 1/2" long, brass nickel plated.

**BANANA JACK:** .166 dia. Brass nickel plated. Accepts standard banana plug.

MODEL 1589 Black  
MODEL 1589-2 Red  
QUANTITY DISC. CODE **A** NET 1.50

NEEDLE TIP PROBE TO BANANA JACK



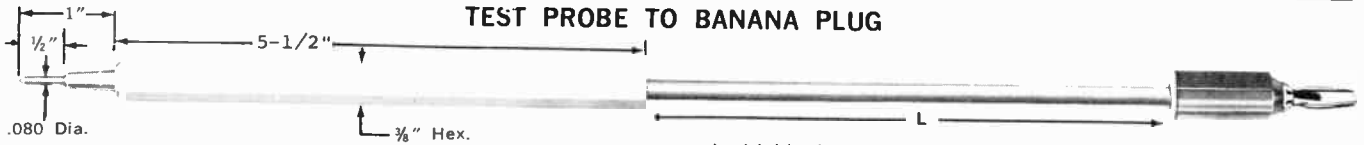
Sharp replaceable needle tip allows testing of encapsulated circuits. Banana jack in handle connected to tip. Permits use of standard banana plugs for circuit testing as a test prod. Heavy duty insulated handle molded to banana jack and tip.

**PIN TIP:** Replaceable needle tip, steel nickel plated.

**BANANA JACK:** .166 dia. Brass nickel plated. Accepts standard banana plug.

MODEL 1705 Black  
MODEL 1705-2 Red  
QUANTITY DISC. CODE **A** NET 1.75

TEST PROBE TO BANANA PLUG

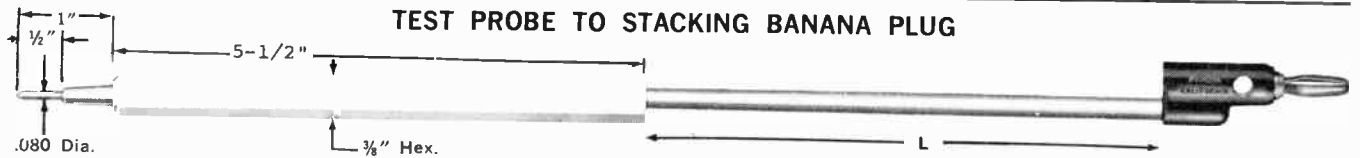


Insulated handle molded to probe tip and wire lead.  
**PROBE PIN TIP:** .080 dia. x 1/2" long. Brass nickel plated.  
**WIRE:** 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation, .144" O.D.  
**BANANA PLUG:** Spring, one piece beryllium copper, heat treated, nickel plated. Tough thermo-plastic molded to body.  
COLORS: Black, Red.

MODEL 1986-48-B | 48" Long | Black | NET 1.75  
MODEL 1986-48-R | 48" Long | Red | NET 1.75

QUANTITY DISC. CODE **A**

TEST PROBE TO STACKING BANANA PLUG

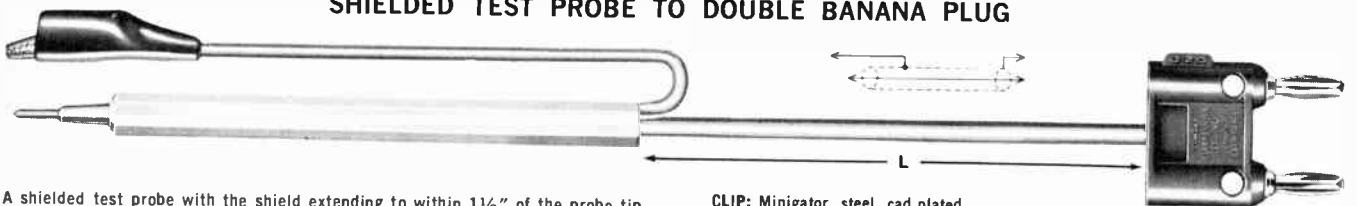


Insulated handle molded to probe tip and wire lead.  
**PROBE PIN TIP:** .080 dia. x 1/2" long. Brass nickel plated  
**WIRE:** 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation, .144" O.D.  
**BANANA PLUG:** Spring, one piece beryllium copper, heat treated, nickel plated. Tough thermo-plastic molded to plug body and wire.  
COLORS: Black, Red.

MODEL 1382-48B | 48" Long | Black | NET 1.95  
MODEL 1382-48R | 48" Long | Red | NET 1.95

QUANTITY DISC. CODE **A**

SHIELDED TEST PROBE TO DOUBLE BANANA PLUG



**CLIP:** Minigator, steel, cad plated.  
**INSULATOR, VINYL:** Color, Black.  
**CABLE:** Shielded microphone cable: Polyethylene insulation. Vinyl jacket. Nom. capacity 25 pf./ft. .205" O.D. Color, Gray.  
**HANDLE:** Color, red, molded of tough thermo-plastic.

A shielded test probe with the shield extending to within 1 1/2" of the probe tip end. One piece molded construction. Insulated handle molded to probe tip and cable. Insulated minigator clip connected to shield lead.  
**PROBE PIN TIP:** .080 dia. x 1/2" long. Brass nickel plated.  
**DOUBLE BANANA PLUG:** On 3/4" centers. Spring, one piece beryllium copper, heat treated, nickel plated. Tough thermo-plastic molded to double plug body. Color, Gray.

MODEL 1569-B-48 ..... 48" Long

QUANTITY DISC. CODE **B**

NET 5.85

OTHER LENGTHS AVAILABLE TO ORDER

# POMONA ELECTRONICS

# MOLDED BREAKOUTS AND TEST PROBES

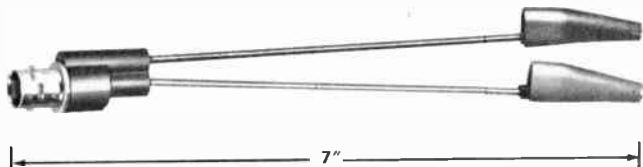
A new series of "Breakouts", designed to convert standard coaxial cables to test cables. By connecting proper Breakout receptacle to corresponding cable plug, any standard coaxial cable becomes a test cable equipped with clip leads. All receptacles feature a non-tarnish finish, and tough molded thermoplastic insulation molded to connector and wire.

**APPLICABLE SPECIFICATIONS:**

Wire: (With Alligator Clips) 18 AWG, Strand. 65 x 36 T.C.  
 Extra flexible polyvinyl insulation, .144" O.D.  
 Wire: (With Minigator Clips) 20 AWG, Strand. 41 x 36 T.C.  
 Extra flexible polyvinyl insulation, .087" O.D.  
 Operating Temp.: -25° C to +85° C.  
 Working Voltage: 500 V Peak.

**NEW**

## BNC RECEPTACLE TO TEST CLIPS

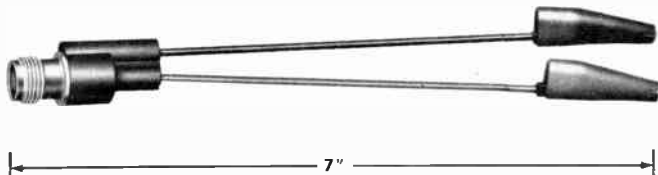


**CONNECTOR:** BNC Receptacle, UG1094/U.  
**INSULATION:** Tough thermoplastic molded to connector and wire.  
**WIRE:** See above.  
**TEST CLIPS:** Minigator or Alligator, Steel, cad. plated. Insulators, Vinyl: 1 Black, 1 Red.

**MODEL 2630 (ALLIGATOR CLIPS)** QUANTITY **A** NET 3.45  
**MODEL 2631 (MINIGATOR CLIPS)** DISC. CODE **A** NET 3.45

**NEW**

## TNC RECEPTACLE TO TEST CLIPS



**CONNECTOR:** TNC Receptacle Jack.  
**INSULATION:** Tough thermoplastic molded to connector and wire.  
**WIRE:** See above.  
**TEST CLIPS:** Minigator or Alligator, Steel, cad. plated. Insulators, Vinyl: 1 Black, 1 Red.

**MODEL 2634 (ALLIGATOR CLIPS)** QUANTITY **A** NET 3.45  
**MODEL 2635 (MINIGATOR CLIPS)** DISC. CODE **A** NET 3.45

**NEW**

## UHF RECEPTACLE TO TEST CLIPS



**CONNECTOR:** UHF Receptacle Jack.  
**INSULATION:** Tough thermoplastic molded to connector and wire.  
**WIRE:** See above.  
**TEST CLIPS:** Minigator or Alligator, Steel, cad. plated. Insulators, Vinyl: 1 Black, 1 Red.

**MODEL 2632 (ALLIGATOR CLIPS)** QUANTITY **A** NET 3.45  
**MODEL 2633 (MINIGATOR CLIPS)** DISC. CODE **A** NET 3.45

**NEW**

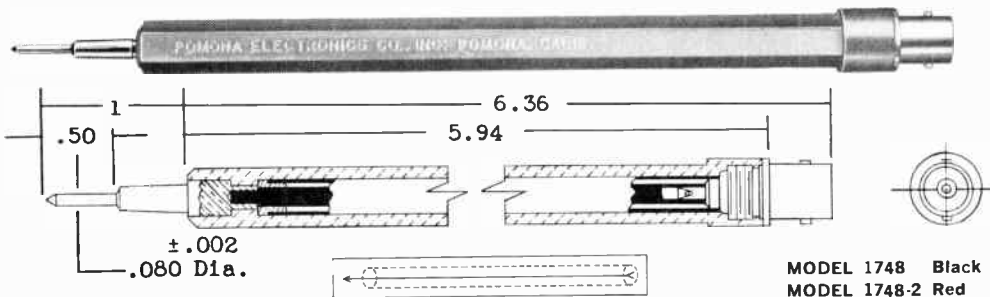
## TYPE "N" RECEPTACLE TO TEST CLIPS



**CONNECTOR:** Type "N" Receptacle, UG58A/U.  
**INSULATION:** Tough thermoplastic molded to connector and wire.  
**WIRE:** See above.  
**TEST CLIPS:** Minigator or Alligator, Steel, cad. plated. Insulators, Vinyl: 1 Black, 1 Red.

**MODEL 2636 (ALLIGATOR CLIPS)** QUANTITY **A** NET 3.85  
**MODEL 2637 (MINIGATOR CLIPS)** DISC. CODE **A** NET 3.85

## TEST PROBE TO BNC RECEPTACLE



BNC receptacle in handle connected to tip. Permits the use of coaxial cables with BNC plug for circuit testing as a test prod. Tough thermoplastic molded to BNC receptacle and tip. Shield extends to within 1/2" of the probe tip end.  
**PIN TIP:** .080" dia. x 1/2" long, brass, nickel plated.  
**RECEPTACLE:** BNC, UG1094/U.

**MODEL 1748 Black** QUANTITY **A** NET 4.85  
**MODEL 1748-2 Red** DISC. CODE **A** NET 4.85

**NEW**

## SHIELDED TEST PROBE TO BNC MALE



A shielded test probe with the shield extending to within 1/2" of the probe tip end. One piece molded construction. Insulated handle molded to probe tip and cable. Insulated minigator clip connected to shield lead.  
**PROBE PIN TIP:** .080 dia. x 1/2" long. Brass, nickel plated.  
**CONNECTOR:** BNC Male, UG88E/U.

**CLIP:** Minigator, steel, cad. plated.  
**INSULATOR, VINYL:** Color, Black.  
**CABLE:** Shielded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.  
**HANDLE:** Color, red, molded of tough thermo-plastic.  
**MODEL 2739-C-48** . . . . .48" Long QUANTITY **B** NET 5.85  
 DISC. CODE **B** NET 5.85

OTHER LENGTHS AVAILABLE TO ORDER

# POMONA ELECTRONICS

# PATCH CORDS DOUBLE BANANA PLUGS

## POMONA MOLDED DOUBLE BANANA PLUG PATCH CORDS AND TEST LEADS

... indispensable for bridge transformer connections, three terminal capacitor measurements and general hook-up for two wire systems. They are horizontally and vertically stackable in parallel.

Tough thermo-plastic material molded to plug body and cable insures maximum strength, moisture resistance and excellent insulative properties.

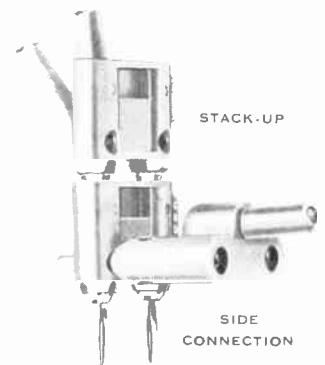
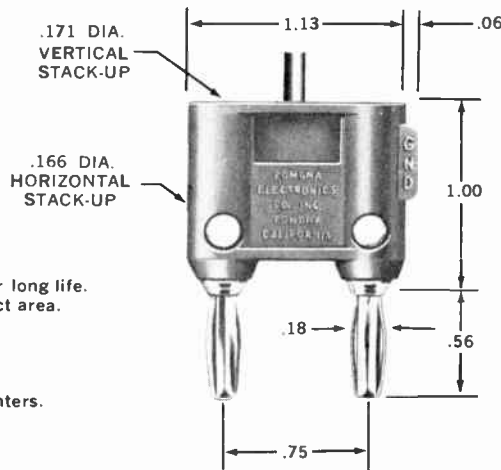
Used by leading industries in applications where extreme reliability is of prime importance.

### FEATURES . . .

- One piece beryllium copper heat treated spring for long life.
- Rounded spring design results in maximum contact area.
- GND., clearly molded on plug body and shell.
- Solder-bonded noise-free connections.

### SPECIFICATIONS . . .

- Fits standard 0.166 dia. banana jacks, on 3/4" centers.
- Contact resistance less than 0.001 ohms per plug.
- Spring beryllium copper alloy 25 per QQ-C-533.
- Plug body brass per QQ-B-626, Comp. 22.
- Nickel plated per QQ-N 290, Class 2.

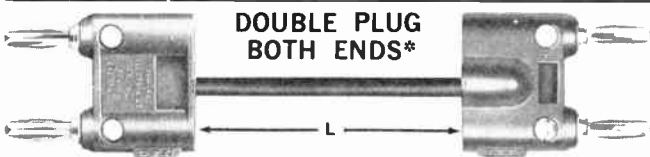


### CABLE TYPE DESCRIPTION

**TWO COND. TWISTED PAIR**  
18 AWG, Strand. 65 x 36 T.C.  
Vinyl insulation. Vinyl jacket, .250"  
O.D. Nom. Cap. 30 pf/ft.  
**COLOR: Gray.**

**SHIELDED MICROPHONE CABLE**  
Polyethylene insulation. Vinyl jacket,  
.205" O.D. Nom. Cap. 25 pf/ft.  
**COLOR: Gray.**

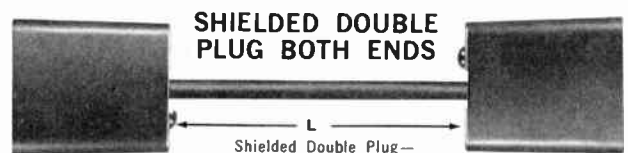
**SHIELDED COAXIAL CABLE**  
RG58C/U Polyethylene insulation.  
Vinyl jacket, .195" O.D.  
Nom. Cap. 28.5 pf/ft. **COLOR: Black.**



**DOUBLE PLUG BOTH ENDS\***

TWO COND. TWISTED PAIR	SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	CABLE LENGTH	NET
2BA-18	2BB-18	2BC-18	18"	4.85
2BA-24	2BB-24	2BC-24	24"	4.85
2BA-30	2BB-30	2BC-30	30"	4.85
2BA-36	2BB-36	2BC-36	36"	4.85
2BA-48	2BB-48	2BC-48	48"	5.00
2BA-60	2BB-60	2BC-60	60"	5.15

★ QUANTITY DISC. CODE **B**



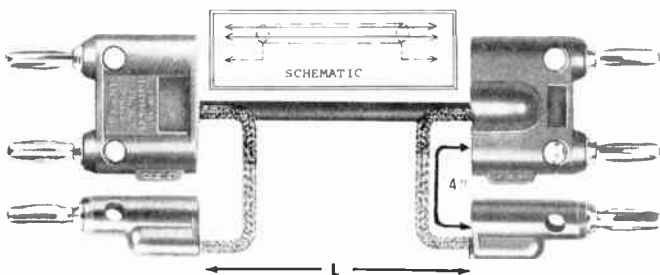
**SHIELDED DOUBLE PLUG BOTH ENDS**

Shielded Double Plug—black anodized aluminum

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
1550-B-18	1550-C-18	18"	5.85
1550-B-24	1550-C-24	24"	5.85
1550-B-30	1550-C-30	30"	5.85
1550-B-36	1550-C-36	36"	5.85
1550-B-48	1550-C-48	48"	6.00
1550-B-60	1550-C-60	60"	6.15

★ QUANTITY DISC. CODE **B**

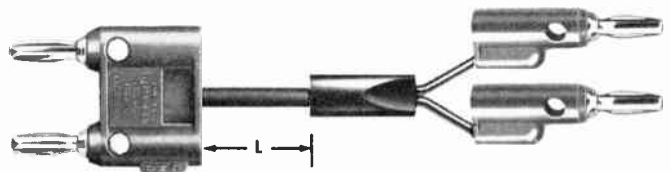
### TWO COND. SHIELDED BALANCED LINE



CABLE DESCRIPTION	MODEL	LENGTH	NET
2-Cond. shielded mic. cable. Polyethylene insulation. Vinyl jacket, .231" O.D. Nom. Cap. between cond. 18 pf./ft. Nom. Cap. between one cond. and remaining cond. connected to shield, 32 pf./ft. COLOR: Cable and double plug, Gray. Single ground plug, Green.	1167-18	18"	7.85
	1167-24	24"	7.85
	1167-30	30"	7.85
	1167-36	36"	7.85
	1167-48	48"	8.10
	1167-60	60"	8.35

★ QUANTITY DISC. CODE **B**

### DOUBLE PLUG TO SINGLE BANANA PLUGS



### CABLE DESCRIPTION

**TWO COND. TWISTED PAIR**

18 AWG, Strand. 65 x 36 T.C.  
Vinyl insulation. Vinyl jacket, .250" O.D. Nom. Cap. 30 pf/ft.  
**COLOR: Double Plug: Gray  
Single Plugs: Red. Black**

MODEL	LENGTH	NET
1368-A-18	18"	5.85
1368-A-24	24"	5.85
1368-A-30	30"	5.85
1368-A-36	36"	5.85
1368-A-48	48"	6.00
1368-A-60	60"	6.15

★ QUANTITY DISC. CODE **B**

\*NOTE: Molded double plug matches color of cable.

Two cond. Twisted pair, GRAY. Shielded mic. cable, GRAY. Coaxial RG58C/U Cable, BLACK.

★ Various lengths may be aggregated for best quantity price.

1. Other cable colors available to order on the Two Cond. Twisted Pair and Shielded Mic. cable models with plug to match.

COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

2. Other lengths and cable types available to order.

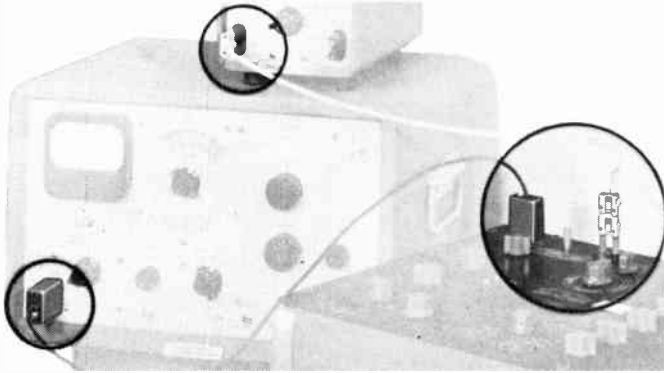


# POMONA ELECTRONICS

## PATCH CORDS BNC CONNECTING LEADS

Standard video and RF connecting leads available in both shielded microphone and shielded coaxial cables. Designed to meet rigid industrial and military applications. Reliable solder-bonded connections minimize noise.

Pomona Electronics cable assemblies and patch cords are used in applications where extreme reliability is of prime importance.



### CABLE TYPES

**SHIELDED MICROPHONE CABLE**

Polyethylene insulation, Vinyl jacket, .205" O.D. Nom. Cap. 25 pf.ft. COLOR: Gray.

**SHIELDED COAXIAL CABLE** RG58C/U RG59B/U RG62A/U



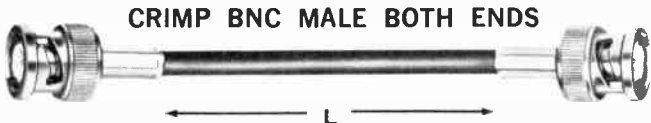
### BNC MALE BOTH ENDS

CONN: } UG88E/U Cable: Shielded Mic. or Shielded Coax., RG58C/U CONN: } UG88E/U 1st END } Male BNC 2nd END } Male BNC  
CONN: } UG260B/U Cable: Shielded Coax., RG59B/U or RG62A/U CONN: } UG260B/U 1st END } Male BNC 2nd END } Male BNC

### CABLE TYPES

SHIELDED MIC. CABLE	RG58C/U	RG59B/U	NET	RG62A/U	NET	LENGTH
BNC-B-18	BNC-C-18	BNC-E-18	5.85	BNC-M-18	6.85	18"
BNC-B-24	BNC-C-24	BNC-E-24	5.85	BNC-M-24	6.85	24"
BNC-B-30	BNC-C-30	BNC-E-30	5.85	BNC-M-30	6.85	30"
BNC-B-36	BNC-C-36	BNC-E-36	5.85	BNC-M-36	6.85	36"
BNC-B-48	BNC-C-48	BNC-E-48	6.00	BNC-M-48	7.00	48"
BNC-B-60	BNC-C-60	BNC-E-60	6:15	BNC-M-60	7.15	60"

★ QUANTITY DISC. CODE **B**



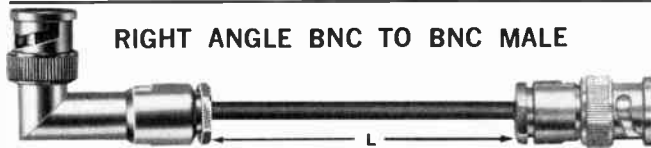
### CRIMP BNC MALE BOTH ENDS

CONN: } Crimp Male BNC Cable: Shielded Coax., RG58C/U CONN: } Crimp Male BNC 1st END } (Comparable to UG88E/U) 2nd END } (Comparable to UG88E/U)  
CONN: } Crimp Male BNC Cable: Shielded Coax., RG59B/U or RG62A/U CONN: } Crimp Male BNC 1st END } (Comparable to UG260B/U) 2nd END } (Comparable to UG260B/U)

### CABLE TYPES

RG58C/U	RG59B/U	NET	RG62A/U	NET	LENGTH
2249-C-12	2249-E-12	4.50	2249-M-12	5.85	12"
2249-C-24	2249-E-24	4.50	2249-M-24	5.85	24"
2249-C-36	2249-E-36	4.50	2249-M-36	5.85	36"
2249-C-48	2249-E-48	4.55	2249-M-48	6.00	48"
2249-C-60	2249-E-60	4.80	2249-M-60	6.15	60"

★ QUANTITY DISC. CODE **B**



### RIGHT ANGLE BNC TO BNC MALE

CONN: } UG913A/U, Cable: Shielded Mic. or Shielded Coax, RG58C/U. CONN: } UG88C/U, 1st END } Angle Male BNC 2nd END } Male BNC

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
1383-B-18	1383-C-18	18"	7.85
1383-B-24	1383-C-24	24"	7.85
1383-B-30	1383-C-30	30"	7.85
1383-B-36	1383-C-36	36"	7.85
1383-B-48	1383-C-48	48"	8.00
1383-B-60	1383-C-60	60"	8.15

★ QUANTITY DISC. CODE **B**

★ Various lengths may be aggregated for best quantity price.

### UHF MALE TO BNC MALE

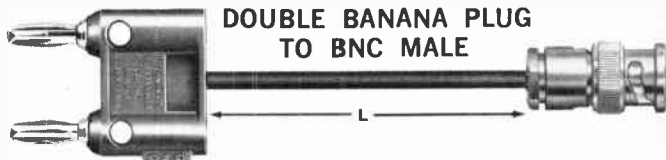


CONN: } PL259, Cable: Shielded Mic. or Shielded Coax., RG58C/U. CONN: } UG88C/U, 1st END } UHF Male 2nd END } Male BNC

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
1367-B-18	1367-C-18	18"	5.85
1367-B-24	1367-C-24	24"	5.85
1367-B-30	1367-C-30	30"	5.85
1367-B-36	1367-C-36	36"	5.85
1367-B-48	1367-C-48	48"	6.00
1367-B-60	1367-C-60	60"	6.15

★ QUANTITY DISC. CODE **B**

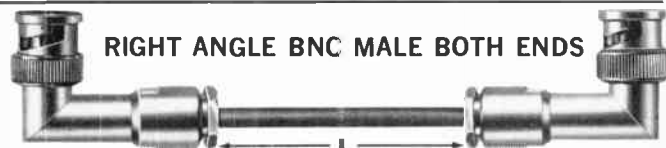
### DOUBLE BANANA PLUG TO BNC MALE



CONN: } Double Banana Plug, Cable: Shielded Mic. or Shielded Coax, RG58C/U. CONN: } UG88C/U, 1st END } on 3/4" Centers. 2nd END } Male BNC

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
2BB-BNC-18	2BC-BNC-18	18"	5.85
2BB-BNC-24	2BC-BNC-24	24"	5.85
2BB-BNC-30	2BC-BNC-30	30"	5.85
2BB-BNC-36	2BC-BNC-36	36"	5.85
2BB-BNC-48	2BC-BNC-48	48"	6.00
2BB-BNC-60	2BC-BNC-60	60"	6.15

★ QUANTITY DISC. CODE **B**

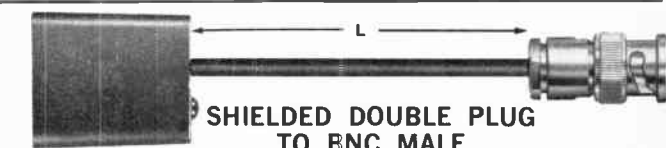


### RIGHT ANGLE BNC MALE BOTH ENDS

CONN: } UG913A/U, Cable: Shielded Mic. or Shielded Coax, RG58C/U. CONN: } UG913A/U, 1st END } Angle Male BNC 2nd END } Angle Male BNC

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
1155-B-18	1155-C-18	18"	10.85
1155-B-24	1155-C-24	24"	10.85
1155-B-30	1155-C-30	30"	10.85
1155-B-36	1155-C-36	36"	10.85
1155-B-48	1155-C-48	48"	11.00
1155-B-60	1155-C-60	60"	11.15

★ QUANTITY DISC. CODE **B**



### SHIELDED DOUBLE PLUG TO BNC MALE

CONN: } Shielded Double plug, Cable: Shielded Mic. or Shielded Coax, RG58C/U. CONN: } UG88C/U, 1st END } on 3/4" centers. Black anodized aluminum. 2nd END } Male BNC

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
1555-B-18	1555-C-18	18"	6.85
1555-B-24	1555-C-24	24"	6.85
1555-B-30	1555-C-30	30"	6.85
1555-B-36	1555-C-36	36"	6.85
1555-B-48	1555-C-48	48"	7.00
1555-B-60	1555-C-60	60"	7.15

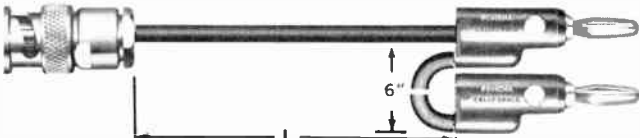
★ QUANTITY DISC. CODE **B**

OTHER LENGTHS AND CABLE TYPES AVAILABLE TO ORDER

# POMONA ELECTRONICS

## PATCH CORDS CONNECTING LEADS

### BNC MALE TO SINGLE BANANA PLUGS



CONN: } UG88E/U  
1st END } Male BNC

CABLE: Shielded Coax.,  
RG58C/U

CONN: } Single Banana Plugs  
2nd END } Color: 1 Black, 1 Red.


**CABLE DESCRIPTION:**

MODEL	LENGTH	NET
2241-C-18	18"	5.85
2241-C-24	24"	5.85
2241-C-36	36"	5.85
2241-C-48	48"	6.00

Shielded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

★ QUANTITY DISC. CODE **B**

### TNC MALE BOTH ENDS



CONN: } Male TNC  
1st END }

CABLE: Shielded coax.,  
RG58C/U

CONN: } Male TNC  
2nd END }

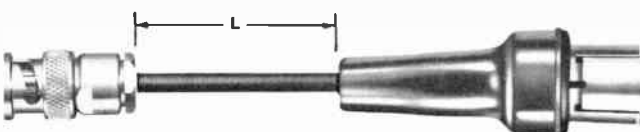
**CABLE DESCRIPTION**

MODEL	LENGTH	NET
1944-C-12	12"	7.85
1944-C-24	24"	7.85
1944-C-36	36"	7.85
1944-C-48	48"	8.00
1944-C-60	60"	8.15

Shielded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

★ QUANTITY DISC. CODE **B**

### BNC MALE TO GR-874



CONN: } UG88 E/U  
1st END } Male BNC

CABLE: Shielded Coax.,  
RG58C/U

CONN: } GR-874  
2nd END }

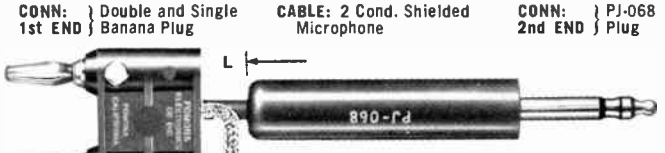
**CABLE DESCRIPTION:**

MODEL	LENGTH	NET
1703-C-24	24"	9.85
1703-C-36	36"	9.85
1703-C-48	48"	10.00

Shielded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

★ QUANTITY DISC. CODE **B**

### DOUBLE PLUG BALANCED LINE TO PJ-068



CONN: } Double and Single  
1st END } Banana Plug

CABLE: 2 Cond. Shielded  
Microphone

CONN: } PJ-068  
2nd END } Plug

**CABLE DESCRIPTION**

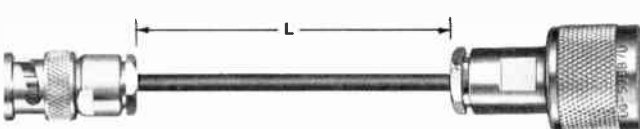
2 Cond. shielded microphone cable. Polyethylene insulation. Vinyl jacket, .231" O.D. Nom. Cap. between cond. 18 pf/ft. Nom. Cap. between one cond. and remaining cond. connected to shield, 32 pf/ft.

COLORS: Cable and double plug, GRAY. Single ground plug, GREEN.

MODEL	LENGTH	NET
2174-36	36"	9.85

★ QUANTITY DISC. CODE **B**

### BNC MALE TO SERIES "N" MALE



CONN: } UG88E/U  
1st END } Male BNC

CABLE: Shielded coax.,  
RG58C/U

CONN: } UG536B/U  
2nd END } "N" Male

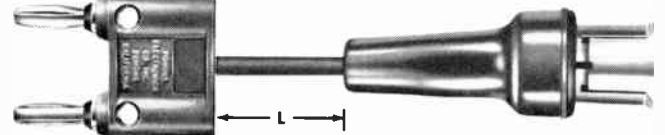
**CABLE DESCRIPTION:**

MODEL	LENGTH	NET
1366-C-24	24"	6.85
1366-C-36	36"	6.85
1366-C-48	48"	7.00

Shielded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

★ QUANTITY DISC. CODE **B**

### DOUBLE PLUG TO GR-874



CONN: } Double Banana Plug,  
1st END } on 3/4" Centers.

CABLE: Shielded Coax.,  
RG58C/U

CONN: } GR-874  
2nd END }

**CABLE DESCRIPTION**

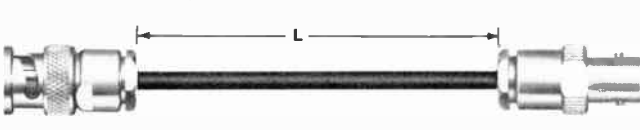
MODEL	LENGTH	NET
2243-C-24	24"	9.50
2243-C-36	36"	9.50
2243-C-48	48"	9.65

Shielded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

COLOR: Cable and double plug, Black.

★ QUANTITY DISC. CODE **B**

### BNC MALE TO BNC FEMALE



CONN: } UG88E/U  
1st END } Male BNC

CABLE: Shielded coax.,  
RG58C/U

CONN: } UG89C/U  
2nd END } Female BNC

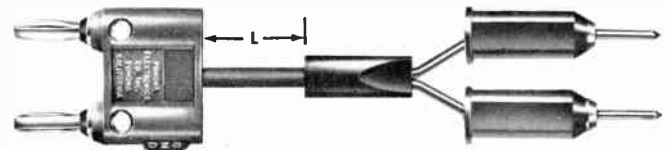
**CABLE DESCRIPTION:**

MODEL	LENGTH	NET
2223-C-12	12"	6.85
2223-C-24	24"	6.85
2223-C-36	36"	6.85
2223-C-48	48"	7.00
2223-C-60	60"	7.15

Shielded Coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

★ QUANTITY DISC. CODE **B**

### DOUBLE PLUG TO SINGLE PIN TIPS



CONN: } Double Banana  
1st END } Plug, on  
3/4" Centers.

CABLE: Two Cond.  
Twisted Pair

CONN: } Single Pin Tip  
2nd END } Plugs, .080 Dia.  
Color: 1 Black, 1 Red

**CABLE DESCRIPTION**

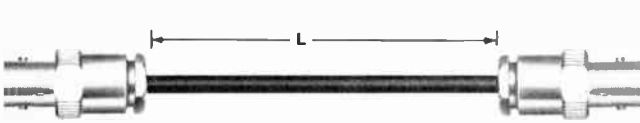
MODEL	LENGTH	NET
2184-A-24	24"	4.85
2184-A-36	36"	4.85
2184-A-48	48"	5.00

Two Cond. Twisted pair. 18 AWG, Strand. 65 x 36 T.C. Vinyl insulation, vinyl jacket, .250" O.D. Nom. Cap. 30 pf/ft.

COLOR: Cable and Double plug, Gray.

★ QUANTITY DISC. CODE **B**

### BNC FEMALE BOTH ENDS



CONN: } UG89C/U  
1st END } Female BNC

CABLE: Shielded Coax.,  
RG58C/U

CONN: } UG89C/U  
2nd END } Female BNC

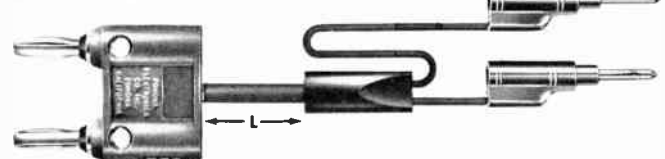
**CABLE DESCRIPTION:**

MODEL	LENGTH	NET
1808-C-12	12"	6.85
1808-C-24	24"	6.85
1808-C-36	36"	6.85
1808-C-48	48"	7.00
1808-C-60	60"	7.15

Shielded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

★ QUANTITY DISC. CODE **B**

### DOUBLE PLUG TO STACK-UP PIN TIPS



CONN: } Double Banana  
1st END } Plug, on  
3/4" Centers.

CABLE: Shielded  
Coax., RG58C/U

CONN: } Single Stack-Up  
2nd END } Pin Tip Plugs, .080 Dia.  
Color: 1 Black, 1 Red.

**CABLE DESCRIPTION**

MODEL	LENGTH	NET
2BC-PP-18	18"	7.50
2BC-PP-24	24"	7.50
2BC-PP-36	36"	7.50
2BC-PP-48	48"	7.65

Shielded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

COLOR: Cable and Double Plug, Black.

★ QUANTITY DISC. CODE **B**

★ Various lengths may be aggregated for best quantity price.

OTHER LENGTHS AVAILABLE TO ORDER

# POMONA ELECTRONICS

# PATCH CORDS CONNECTING LEADS

## ALLIGATOR CLIPS TO BNC MALE



CONN.: } Alligator Clips, Steel,  
1ST END } Steel, cad plated.  
Insulators, Vinyl:  
Black/Red.

CABLE: Shielded Mic. or  
Shielded Coax, RG58C/U.

CONN.: } UG88C/U,  
2ND END } BNC, Male.

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
AL-B-BNC-18	AL-C-BNC-18	18"	5.85
AL-B-BNC-24	AL-C-BNC-24	24"	5.85
AL-B-BNC-30	AL-C-BNC-30	30"	5.85
AL-B-BNC-36	AL-C-BNC-36	36"	5.85
AL-B-BNC-48	AL-C-BNC-48	48"	6.00
AL-B-BNC-60	AL-C-BNC-60	60"	6.15

★ QUANTITY DISC. CODE **B**

## MINIGATOR CLIPS TO BNC MALE



CONN.: } Minigator Clips,  
1ST END } Steel, cad plated.  
Insulators, Vinyl:  
Black/Red.

CABLE: Shielded Mic. or  
Shielded Coax, RG58C/U.

CONN.: } UG88C/U,  
2ND END } BNC, Male

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
MG-B-BNC-18	MG-C-BNC-18	18"	5.85
MG-B-BNC-24	MG-C-BNC-24	24"	5.85
MG-B-BNC-30	MG-C-BNC-30	30"	5.85
MG-B-BNC-36	MG-C-BNC-36	36"	5.85
MG-B-BNC-48	MG-C-BNC-48	48"	6.00
MG-B-BNC-60	MG-C-BNC-60	60"	6.15

★ QUANTITY DISC. CODE **B**

## ALLIGATOR CLIPS TO DOUBLE BANANA PLUG\*



CONN.: } Alligator Clips,  
1ST END } Steel, cad plated.  
Insulators, Vinyl:  
Black/Red.

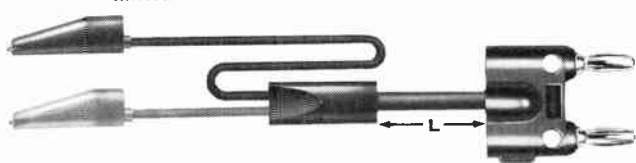
CABLE: Two Cond. Twisted  
Pair, Shielded Mic. or  
Shielded Coax, RG58C/U.

CONN.: } Double Banana  
2ND END } Plug, on 3/4"  
centers.

TWO COND. TWISTED PAIR	SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
2BA-AL-18	2BB-AL-18	2BC-AL-18	18"	5.85
2BA-AL-24	2BB-AL-24	2BC-AL-24	24"	5.85
2BA-AL-30	2BB-AL-30	2BC-AL-30	30"	5.85
2BA-AL-36	2BB-AL-36	2BC-AL-36	36"	5.85
2BA-AL-48	2BB-AL-48	2BC-AL-48	48"	6.00
2BA-AL-60	2BB-AL-60	2BC-AL-60	60"	6.15

★ QUANTITY DISC. CODE **B**

## MINIGATOR CLIPS TO DOUBLE BANANA PLUG\*



CONN.: } Minigator Clips,  
1ST END } Steel, cad plated.  
Insulators, Vinyl:  
Black/Red.

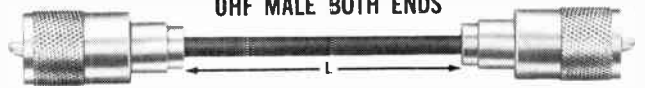
CABLE: Two Cond. Twisted  
pair, Shielded Mic. or  
Shielded Coax, RG58C/U.

CONN.: } Double Banana  
2ND END } Plug, on 3/4"  
centers.

TWO COND. TWISTED PAIR	SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
2BA-MG-18	2BB-MG-18	2BC-MG-18	18"	5.85
2BA-MG-24	2BB-MG-24	2BC-MG-24	24"	5.85
2BA-MG-30	2BB-MG-30	2BC-MG-30	30"	5.85
2BA-MG-36	2BB-MG-36	2BC-MG-36	36"	5.85
2BA-MG-48	2BB-MG-48	2BC-MG-48	48"	6.00
2BA-MG-60	2BB-MG-60	2BC-MG-60	60"	6.15

★ QUANTITY DISC. CODE **B**

## UHF MALE BOTH ENDS



CONN.: } PL259,  
1ST END } UHF, Male

CABLE: Shielded Mic. or  
Shielded Coax, RG58C/U.

CONN.: } PL259,  
2ND END } UHF, Male

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
UHF-B-18	UHF-C-18	18"	5.85
UHF-B-24	UHF-C-24	24"	5.85
UHF-B-30	UHF-C-30	30"	5.85
UHF-B-36	UHF-C-36	36"	5.85
UHF-B-48	UHF-C-48	48"	6.00
UHF-B-60	UHF-C-60	60"	6.15

★ QUANTITY DISC. CODE **B**

## ALLIGATOR CLIPS TO UHF MALE



CONN.: } Alligator Clips,  
1ST END } Steel, cad plated.  
Insulators, Vinyl:  
Black/Red.

CABLE: Shielded Mic. or  
Shielded Coax, RG58C/U.

CONN.: } PL259,  
2ND END } UHF, Male

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
AL-B-UHF-18	AL-C-UHF-18	18"	5.85
AL-B-UHF-24	AL-C-UHF-24	24"	5.85
AL-B-UHF-30	AL-C-UHF-30	30"	5.85
AL-B-UHF-36	AL-C-UHF-36	36"	5.85
AL-B-UHF-48	AL-C-UHF-48	48"	6.00
AL-B-UHF-60	AL-C-UHF-60	60"	6.15

★ QUANTITY DISC. CODE **B**

## MINIGATOR CLIPS TO UHF MALE



CONN.: } Minigator Clips,  
1ST END } Steel, cad plated.  
Insulators, Vinyl:  
Black/Red.

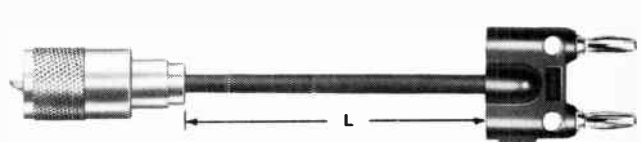
CABLE: Shielded Mic. or  
Shielded Coax, RG58C/U.

CONN.: } PL259,  
2ND END } UHF, Male

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
MG-B-UHF-18	MG-C-UHF-18	18"	5.85
MG-B-UHF-24	MG-C-UHF-24	24"	5.85
MG-B-UHF-30	MG-C-UHF-30	30"	5.85
MG-B-UHF-36	MG-C-UHF-36	36"	5.85
MG-B-UHF-48	MG-C-UHF-48	48"	6.00
MG-B-UHF-60	MG-C-UHF-60	60"	6.15

★ QUANTITY DISC. CODE **B**

## UHF MALE TO DOUBLE BANANA PLUG\*



CONN.: } PL259  
1ST END } UHF, Male

CABLE: Shielded Mic. or  
Shielded Coax, RG58C/U.

CONN.: } Double Banana Plug,  
2ND END } on 3/4"  
centers.

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
2BB-UHF-18	2BC-UHF-18	18"	5.85
2BB-UHF-24	2BC-UHF-24	24"	5.85
2BB-UHF-30	2BC-UHF-30	30"	5.85
2BB-UHF-36	2BC-UHF-36	36"	5.85
2BB-UHF-48	2BC-UHF-48	48"	6.00
2BB-UHF-60	2BC-UHF-60	60"	6.15

★ QUANTITY DISC. CODE **B**

\*NOTE: Molded double plug matches color of cable.  
Two cond. Twisted pair, GRAY. Shielded mic. cable, GRAY. Coaxial RG58C/U cable, BLACK.

1. Other CABLE COLORS available to order on the Two Cond. Twisted Pair and Shielded Mic. cable models, with plug to match.

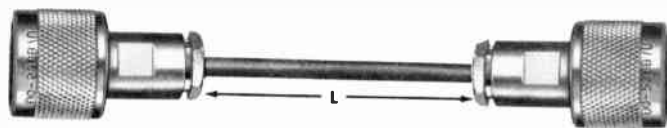
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.  
2. Other lengths and cable types available to order.

★ Various lengths may be aggregated for best quantity price.

# POMONA ELECTRONICS

# PATCH CORDS CONNECTING LEADS

## SERIES "N" MALE BOTH ENDS



CONN: } UG536B/U 1st END } "N" Male	CABLE: Shielded Coax., RG58C/U.	CONN: } UG536B/U 2nd END } "N" Male	
<b>CABLE DESCRIPTION:</b>	<b>MODEL</b>	<b>LENGTH</b>	<b>NET</b>
Shielded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.	2256-C-24	24"	7.85
	2256-C-36	36"	7.85
	2256-C-48	48"	8.00
	2256-C-60	60"	8.15

★ QUANTITY DISC. CODE **B**

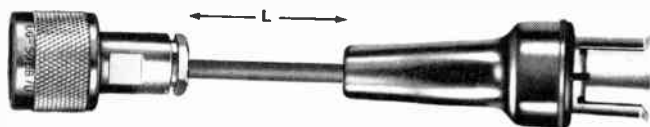
## SERIES "N" MALE BOTH ENDS



CONN: } UG21E/U 1st END } "N" Male	CABLE: Coax., RG213/U or RG214/U	CONN: } UG21E/U 2nd END } "N" Male			
<b>RG213/U</b>	<b>NET</b>	<b>CABLE TYPES</b>	<b>LENGTH</b>	<b>RG214/U</b>	<b>NET</b>
1658-S-18	10.85		18"	1658-T-18	12.85
1658-S-24	10.85		24"	1658-T-24	12.85
1658-S-36	10.85		36"	1658-T-36	12.85
1658-S-48	11.35		48"	1658-T-48	13.60
1658-S-60	11.85		60"	1658-T-60	14.35

★ QUANTITY DISC. CODE **B**

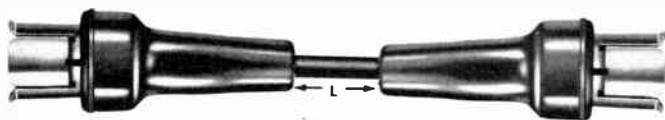
## SERIES "N" MALE TO GR-874



CONN: } UG536B/U 1st END } "N" Male	CABLE: Shielded Coax., RG58C/U	CONN: } GR-874 2nd END }	
<b>CABLE DESCRIPTION:</b>	<b>MODEL</b>	<b>LENGTH</b>	<b>NET</b>
Shielded coax., RG58C/U, Polyethylene Insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.	2438-C-24	24"	10.85
	2438-C-36	36"	10.85
	2438-C-48	48"	11.00
	2438-C-60	60"	11.15

★ QUANTITY DISC. CODE **B**

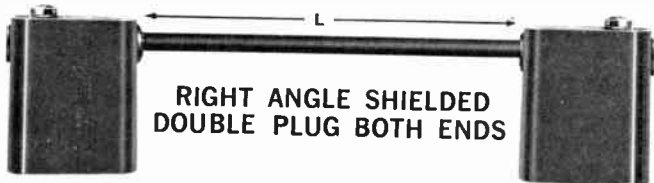
## GR-874 TO GR-874



CONN: } GR-874 1st END }	CABLE: Shielded coax., RG58C/U	CONN: } GR-874 2nd END }	
<b>CABLE DESCRIPTION:</b>	<b>MODEL</b>	<b>LENGTH</b>	<b>NET</b>
Shielded coax., RG58C/U, Polyethylene Insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.	2316-C-24	24"	16.85
	2316-C-36	36"	16.85
	2316-C-48	48"	17.00
	2316-C-60	60"	17.15

★ QUANTITY DISC. CODE **B**

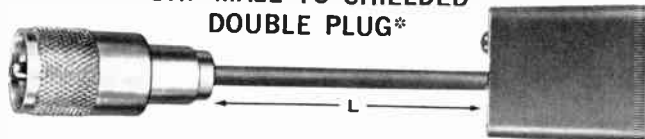
## RIGHT ANGLE SHIELDED DOUBLE PLUG BOTH ENDS



CONN: } Right Angle Shielded double plug on 3/4" centers. Black anodized aluminum shield.	CABLE: Shielded coax. RG58C/U.	CONN: } Right Angle Shielded double plug on 3/4" centers. Black anodized alu- minum shield.	
<b>CABLE DESCRIPTION:</b>	<b>MODEL</b>	<b>LENGTH</b>	<b>NET</b>
Shielded coax., RG58C/U, polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.	2204-C-24	24"	7.85
	2204-C-36	36"	7.85
	2204-C-48	48"	8.00
	2204-C-60	60"	8.15

★ QUANTITY DISC. CODE **B**

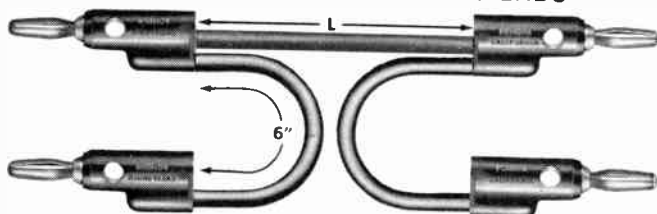
## UHF MALE TO SHIELDED DOUBLE PLUG\*



CONN: } PL259, 1st END } Male, UHF	CABLE: Shielded Mic. or Shielded Coax., RG58C/U.	CONN: } Shielded Double Plug, on 3/4" centers. Black anodized aluminum.	
<b>SHIELDED MIC. CABLE</b>	<b>SHIELDED COAX. CABLE</b>	<b>LENGTH</b>	<b>NET</b>
1556-B-18	1556-C-18	18"	6.85
1556-B-24	1556-C-24	24"	6.85
1556-B-36	1556-C-36	36"	6.85
1556-B-48	1556-C-48	48"	7.00
1556-B-60	1556-C-60	60"	7.15

★ QUANTITY DISC. CODE **B**

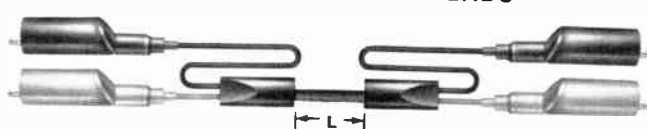
## SINGLE BANANA PLUGS BOTH ENDS



CONN: } Single Banana Plugs Colors: Inner Conductor Plug, Red. Ground Plug, Black.	CABLE: Shielded Coax., RG122/U	CONN: } Single Banana Plugs. Steel, cad plated Conductor Plug, Red. Ground Plug, Black.	
<b>CABLE DESCRIPTION:</b>	<b>MODEL</b>	<b>LENGTH</b>	<b>NET</b>
Shielded coax., RG122/U polyethylene insulation. Vinyl jacket, .160" O.D., Nom. Cap. 29.5 pf/ft.	2239-R-24	24"	4.85
	2239-R-36	36"	4.85
	2239-R-48	48"	5.00
	2239-R-60	60"	5.15

★ QUANTITY DISC. CODE **B**

## ALLIGATOR CLIPS BOTH ENDS



CONN: } Alligator Clips, Steel, cad plated Insulators, Vinyl: Black/Red.	CABLE: Shielded Coax., RG58C/U	CONN: } Alligator Clips, Steel, cad plated Insulators, Vinyl: Black/Red.	
<b>CABLE DESCRIPTION:</b>	<b>MODEL</b>	<b>LENGTH</b>	<b>NET</b>
Shielded coax., RG58C/U, Polyethylene Insulation Vinyl jacket, .195" O.D. Nom. Cap. 28.5 pf/ft.	1152-C-12	12"	5.85
	1152-C-24	24"	5.85
	1152-C-36	36"	5.85
	1152-C-48	48"	6.00
	1152-C-60	60"	6.15

★ QUANTITY DISC. CODE **B**

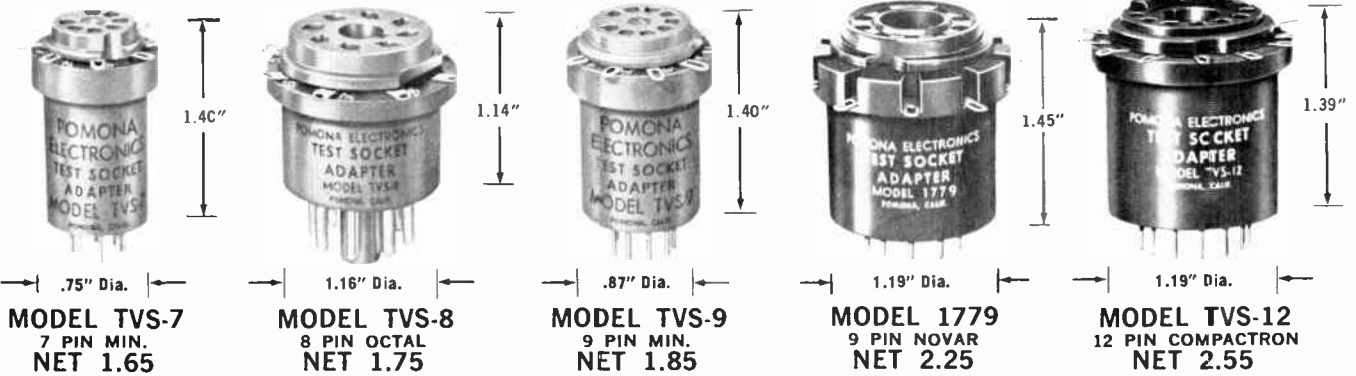
\*NOTE: Molded double plug matches color of cable. Two cond. Twisted pair, GRAY. Shielded mic. cable, GRAY. Coaxial RG58C/U cable, BLACK.  
1. Other CABLE COLORS available to order on the Two Cond. Twisted Pair and Shielded Mic. cable models, with plug to match.  
2. Other lengths and cable types available to order.  
★ Various lengths may be aggregated for best quantity price.

**POMONA ELECTRONICS**

**TEST SOCKET TUBE ADAPTERS  
BREADBOARD SOCKETS**

Pomona Test Socket Tube Adapters are ideal for making measurements of voltage, resistance, audio and video without tracing complicated circuits from the bottom of the chassis. They feature: Extended test tabs for easy use with either alligator clips or test prods; Low loss MICA-FILLED molded phenolic construction per MIL-M-14, MFE. Power factor less than 0.010

at 10 Mc; high insulation resistance, the I.R. exceeds 500,000 megohms at 40% R.H., at 24°C; Distributed capacity, inter-element approximately 1 micro-micro farad; high voltage operation, voltage breakdown elements exceeds 1700 volts AC or DC Model TVS-12 and 1779 molded of electrical grade Black phenolic.



**TVS-789 KIT SET OF THREE 5.25**  
(TVS-7, TVS-8, TVS-9)

**MODEL 2497 9 PIN MAGNOVAL (SIMILAR TO 1779 EXCEPT .050 CONTACTS & PINS) NET 2.75**

QUANTITY DISC. CODE **C**

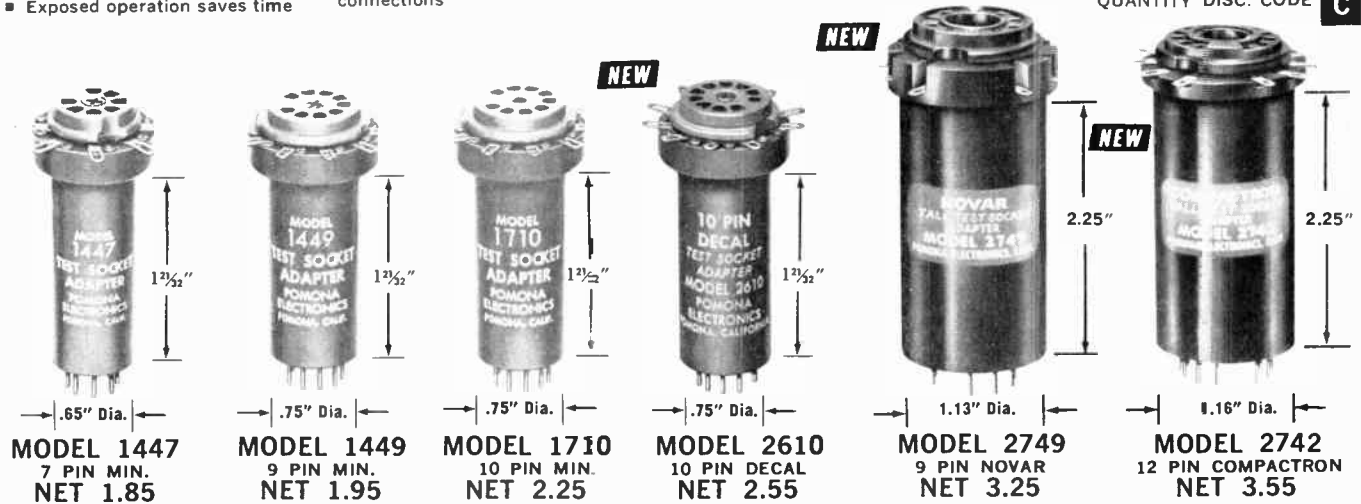
**TALL TEST SOCKET TUBE ADAPTERS**

FOR SOCKETS HAVING CAPTIVE OR TELESCOPING TUBE SHIELDS

- Extra height — clears shields
- Ready access to socket connections
- Exposed operation saves time

These adapters rise above the shield and place testing in the open. Shields or tuner covers do not have to be removed. All construction is the highest quality. Inter-element distributed capacity is approximately 1.5 micro-micro farad. Voltage breakdown elements exceed 1800 V. AC or DC.

QUANTITY DISC. CODE **C**

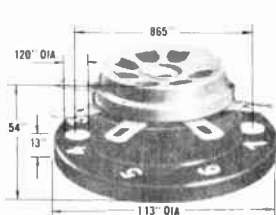


**SURFACE MOUNTED BREADBOARD SOCKETS**

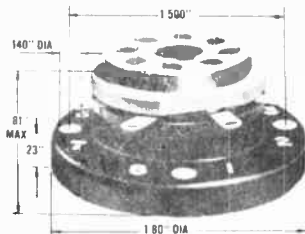
IDEAL FOR EXPERIMENTAL CIRCUIT DESIGN, portable and enclosed units, plug-in and packaged assemblies. They feature: An insulated base to prevent connections from shorting to chassis; Eliminates double chassis design; Circuits may be wired in an enclosed unit; The base connections are numbered for easy identification; Grade-A phosphor bronze spring

contacts; Standard center to center mounting holes; For ease of installation the 7 and 9 Pin Miniatures may be mounted either in the center or on the sides, the 8 Pin Octal is mounted on the sides; Small mounting holes permits the re-use of experimental chassis.

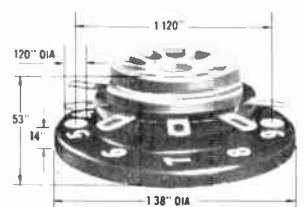
QUANTITY DISC. CODE **C**



**7 PIN MINIATURE  
MODEL XS-7 NET .59**



**8 PIN OCTAL  
MODEL XS-8 NET .75**



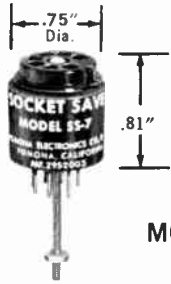
**9 PIN MINIATURE  
MODEL XS-9 NET .69**

POMONA ELECTRONICS

SOCKET SAVERS

The Socket Saver® is designed to be installed on tube checkers and other electronic equipment to prevent wear and tear of sockets on original equipment. They are easy to install and remove. This eliminates the necessity

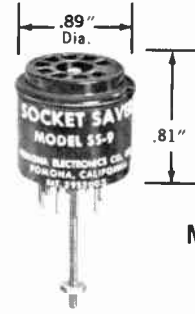
of replacing and rewiring sockets on original equipment. Built of quality materials. BERYLLIUM COPPER LONG LIFE CONTACTS to give maximum service.



**MODEL SS-7**  
SEVEN PIN  
MINIATURE  
NET 1.75



**MODEL SS-8**  
EIGHT PIN  
OCTAL  
NET 1.75



**MODEL SS-9**  
NINE PIN  
MINIATURE  
NET 1.75

U.S. PAT  
NO. 2952003

**MODEL SS-789 KIT SET OF THREE 5.25**  
(SS-7, SS-8, SS-9)

QUANTITY DISC. CODE **C**

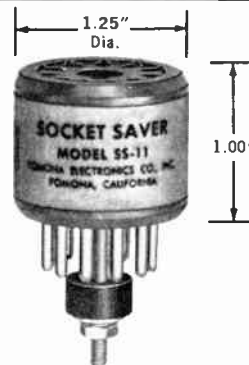


**MODEL 1751**  
9 PIN  
NOVAR  
NET 1.95

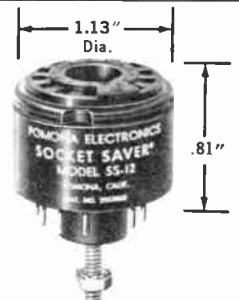
**NEW**



**MODEL 1451**  
9 PIN  
MAGNOVAL  
NET 2.25



**MODEL SS-11**  
11 PIN  
OCTAL STYLE  
NET 1.95

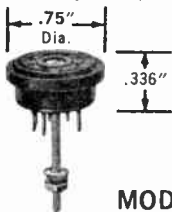


**MODEL SS-12**  
12 PIN  
COMPACTRON  
NET 2.25

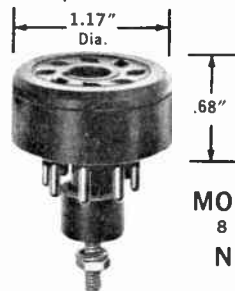
QUANTITY DISC. CODE **C**

MINIATURIZED SOCKET SAVERS®

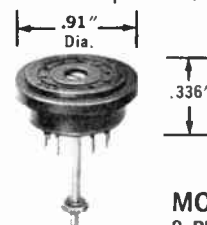
For use in applications where vertical height is restricted. Contacts made of beryllium copper, heat treated. Models 1847 and 1849 closed entry receptacles, contact and pin one piece formed beryllium copper, molded of black phenolic electrical grade.



**MODEL 1847**  
7 PIN MINIATURE  
NET 1.95



**MODEL 1848**  
8 PIN OCTAL  
NET 1.95



**MODEL 1849**  
9 PIN MINIATURE  
NET 1.95

QUANTITY DISC. CODE **C**

**NOVAR-6JE6 CATHODE CURRENT HORIZONTAL OUTPUT COLOR TEST ADAPTER**

When making adjustments of the horizontal efficiency coil this adapter is used to measure cathode current of horizontal output tubes without removing chassis or unsoldering jumpers. 9QL basing, with pin No. 3 interrupted.

TEST TAB ON PIN NO. 2 FOR CONTROL GRID (G-1) HORIZONTAL DRIVE MEASUREMENT

**MODEL 2599A**



QUANTITY DISC. CODE **C**

NET 3.75

**COMPACTRON - 6JS6 CATHODE CURRENT HORIZONTAL OUTPUT COLOR TEST ADAPTER**

When making adjustments of the horizontal efficiency coil this adapter is used to measure cathode current of horizontal output tubes without removing chassis or unsoldering jumpers. 12FY basing, with pin No. 2 interrupted.

TEST TAB ON PIN NO. 5 FOR CONTROL GRID (G-1) HORIZONTAL DRIVE MEASUREMENT

**MODEL 2712 A**



QUANTITY DISC. CODE **C**

NET 3.95

# POMONA ELECTRONICS

# CATHODE RAY TUBE TEST ADAPTERS

■ POMONA Test Socket Adapters are ideal for making measurements of voltage, resistance, and video from the base of the picture tube. The test socket adapter is inserted between the CR Tube base and its socket.

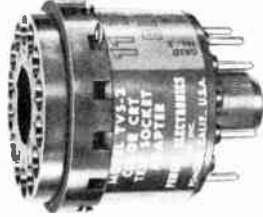
This completes the circuit and makes all connections readily accessible. Measurements can be made without tracing circuit wiring to test points below the chassis, thereby saving valuable time and increasing efficiency in trouble shooting.



### MODEL TVS-1

DUO DECAL  
For Television  
picture tubes

**NET 1.95**  
QUANTITY DISC. CODE **D**



### MODEL TVS-2

NEO-DIHEPTAL  
For color Television  
picture tubes

**NET 7.45**  
QUANTITY DISC. CODE **D**



### MODEL TVS-3

EIGHTAR (.040 PINS)  
For 110° Television  
picture tubes

**NET 2.55**  
QUANTITY DISC. CODE **D**



### MODEL TVS-4

7 PIN (.093 PINS)  
For 110° Television  
picture tubes

**NET 1.95**  
QUANTITY DISC. CODE **D**

## TUBE SOCKET CONVERSION ADAPTERS

110° CRT SOCKET ADAPTER TO DUO DECAL BASE.

FOR TESTING NEW NARROW-NECK 110° TUBES.

### MODEL 110-E

Similar to 110-G, except 8KP Basing, tests 23EP4 etc.

**NET 1.55**  
QUANTITY DISC. CODE **D**

Modernize your present test equipment with these simple adapters. Just plug in adapter to convert to 110° socket. Used for testing, ageing, and lifetesting, etc.



### MODEL 110-G

Eightar socket end, 8JS Basing, accepts pins with .040 dia., (.600 pin circle dia.). Wired to test 110° series similar to 17DLP4, 21ESP4, 23KP4, etc. Plug end wired to Duo Decal 12L Basing.

**NET 1.55**  
QUANTITY DISC. CODE **D**



### MODEL 110-P

Eightar socket end, 8JK Basing, accepts pins with .040 dia., (.600 pin circle dia.). Wired to test 110° Semi-Flat S-F series 17DAP4/SF17, 21EAP4/SF21, etc. Plug end wired to Duo Decal 12L Basing.

**NET 1.55**  
QUANTITY DISC. CODE **D**



### MODEL 110-R

Eightar socket end, 8HR Basing, accepts pins with .040 dia., (.600 pin circle dia.). Wired to test 110° series similar to 17BZP4, 21CEP4, 23CP4, etc. Plug end wired to Duo Decal 12L Basing.

**NET 1.55**  
QUANTITY DISC. CODE **D**



### MODEL 110-S

Socket end, button base, 7FA Basing, accepts 7 pins .093 dia., (.820 pin circle dia.). Wired to test 110° series similar to 17BVP4, 21CSP4, 23JP4, etc. Plug end wired to Duo Decal 12L Basing.

**NET 1.55**  
QUANTITY DISC. CODE **D**



### MODEL 110-RS

Eightar socket end, 8HR Basing, accept pins with .040 dia., (.600 pin circle dia.). Wired to test 110° series similar to 17BZP4, 21CEP4, 23CP4, etc. Plug end, 7 pin Button, 7FA Basing.

**NET 1.95**  
QUAN. DISC. CODE **D**

### SYLVANIA TO RCA 110° CRT-ADAPTER



Socket End: Sylvania Type 7FA Basing.  
Plug End: RCA Type 8HR Basing.

**MODEL 110-SYR NET 2.25**

QUANTITY DISC. CODE **D**

### COLOR-TUBE SOCKET CONVERSION ADAPTER



Closed Entry  
Contacts Accept  
.040 Dia. Pins  
.800 Dia.  
Pin Circle

Pins  
.093 Dia.  
1.550 Dia.  
Pin Circle

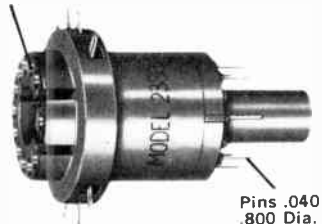
This single adapter will allow you to test both the new Motorola and RCA color tubes with your present test equipment. Provision for accepting bases equipped with spark gaps.

Socket End: Miniature Diheptal Socket, 14BE Basing.  
Plug End: Neo-Diheptal Base, 14AL/AU Basing.

QUANTITY DISC. CODE **D** **MODEL 2276 NET 5.95**

### COLOR-TEST ADAPTER MINIATURE DIHEPTAL

Closed Entry  
Contacts Accept  
.040 Dia. Pins  
.800 Dia. Pin Circle



Pins .040 Dia.  
.800 Dia.  
Pin Circle

MINIATURE DIHEPTAL  
For Color Television  
Picture Tubes  
Provision for spark gaps.

**MODEL 2380**

QUANTITY DISC. CODE **D** **NET 4.95**



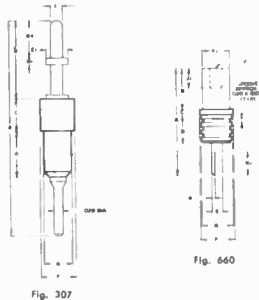
# SEALECTRO PRESS-FIT® TEFLON† TERMINALS

†Reg. Trademark, E. I. Du Pont de Nemours & Co.

## FEED-THRUS FOR WELDED CONNECTIONS

IC.	Part No.	TOOL No.	CAPACITANCE mmf	V.R.M.S. NOMINAL RATING	50 CPS FLASHOVER SEA LEVEL	A	B	B <sub>1</sub>	B <sub>2</sub>	C	D	E	F	G	J	J <sub>1</sub>	K	K <sub>1</sub>	
.60	FT-SM-705-L2	B10-5	.80	750	2500	.463	.100			.035	.155	.060	.149	.187	.172	.068	.100	.018	.125
.60	FT-SM-705-L4	B10-6	.80	750	2500	.581	.218			.035	.155	.060	.149	.187	.172	.068	.100	.018	.125
.07	FT-MM-47-TUR-BC*	B0-A	1.10	500	2000	1.500	.210	.020	.100	.040	.125	.032	.060	.093	.075				.080
.07	FT-MM-48-TUR-BC*	B0-S	0.70	500	2000	1.700	.210	.020	.100	.090	.125	.032	.060	.093	.075				.080

capacitance and voltage measured with terminals installed in .050" thick aluminum chassis  
 \*Beryllium copper gold plate over copper flash.



"Press-Fit" installation for deep holes. As the terminal is pressfitted into the hole, the lands and grooves of the body are deflected upward, thus providing a high degree of pull-out strength as illustrated in the accompanying sketch.

Typical deep hole terminal type FT-SM-705-L2 is a feedthru featuring a weld terminal at bottom. In this particular case, the wire is drawn through the hole and welded to the bottom terminal before terminal is pressfitted into place.

## BUSHINGS

FIG.	PART No.	A	D	D <sub>1</sub>	F	G	G <sub>1</sub>	J
1001	B-1440	.140	.100		.125	.093		.040
1001	B-1440-1	.140	.100		.125	.093		.035
1001	B-1441	.100	.060		.125	.093		.037
1001	B-1464	.100	.080		.125	.093		.038
1001	B-1414	.140	.100		.172	.148		.060
1001	B-1435	.140	.100		.172	.148		.040
1001	B-1439	.160	.120		.172	.148		.073
1001	B-1452	.125	.075		.172	.148		
1001	B-1455	.165	.125		.172	.148		.083
1001	B-1475	.140	.100		.172	.148		.073
1001	B-1446	.330	.250		.218	.185		
1001	B-1447	.225	.185		.218	.185		.120
1001	B-1447-1	.130	.090		.218	.185		.120
1001	B-1451	.327	.140		.218	.185		
1001	B-1473	.450	.400		.218	.185		.150
1001	B-1443	.140	.075		.250	.218		
1001	B-1454	.240	.200		.250	.218		
1002	B-1409	.080	.060		.172	.148		.030
1002	B-1447-2	.130	.090		.218	.185		.120
1003	B-1453	.082	.042	.017	.145	.103	.115	.067
1003	B-1449	.070	.040	.020	.187	.123	.143	.052
1003	B-1403	.104	.069	.040	.218	.154	.164	.120
1003	B-1401	.104	.054	.025	.218	.154	.164	.085
1003	B-1406	.094	.044	.015	.218	.154	.164	.099
1003	B-1407	.104	.069	.040	.218	.154	.164	.085
1003	B-1408	.094	.044	.015	.218	.154	.164	.085
1003	B-1413	.094	.044	.015	.218	.154	.164	.120
1003	B-1416	.104	.069	.040	.218	.154	.164	.099
1003	B-1418	.085	.035	.015	.195	.154	.164	.085
1003	B-1419	.134	.099	.070	.218	.154	.164	.120
1003	B-1420	.104	.054	.025	.218	.154	.164	.099
1003	B-1421	.104	.069	.040	.218	.154	.164	.120
1003	B-1424	.094	.044	.025	.195	.154	.164	.085
1003	B-1432	.104	.054	.025	.218	.154	.164	.120
1003	B-1437	.125	.075	.060	.218	.154	.164	.120
1003	B-1463	.104	.054	.035	.218	.154	.164	.099
1003	B-1466	.140	.105	.075	.218	.154	.164	.120
1003	B-1472	.135	.085	.060	.218	.154	.164	.085
1003	B-1462	.156	.106	.076	.218	.168	.178	.089
1003	B-1431	.104	.069	.040	.248	.184	.194	.150
1003	B-1467	.104	.054	.035	.250	.190	.200	.157
1003	B-1436	.104	.069	.040	.260	.199	.210	.128
1003	B-1450	.190	.140	.120	.230	.199	.210	.128
1003	B-1459	.104	.069	.040	.268	.204	.214	.170
1003	B-1459-1	.104	.069	.040	.268	.204	.214	.125
1004	B-1470	.260	.140	.070	.500	.431	.450	.302

‡ Can be used as Transistor Holder for T0-5 Header.

## FEED-THRUS FOR WIRE-WRAP CONNECTIONS

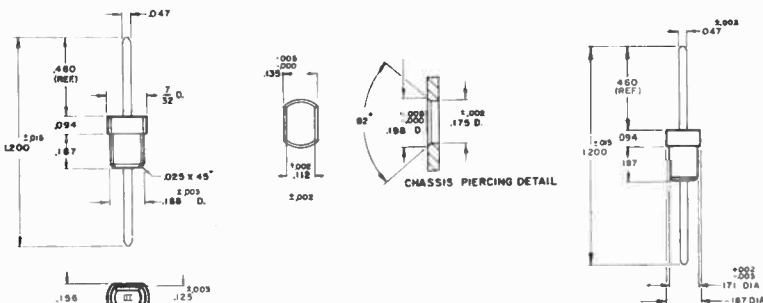


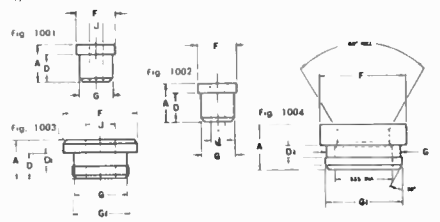
Fig. FT-WJ-100  
Insertion Tool No. B-19

Fig. FT-WJ-200  
Insertion Tool No. B13-5

## CLOVERLEAF® FEED-THRUS



The "Press-Fit" Cloverleaf Receptacle provides economical, yet uniformly perfect solder joints by means of dip-soldering with metal chassis. The unique Cloverleaf configuration permits insertion of four, or more wire leads, plus an optional center pin post for mounting additional components after the dip-soldering operation.



## SPACER/BUSHINGS

Fig. 1

Part Number	A	C
227298	1.021	.750
227294	.958	.687
227290	.896	.625
227286	.833	.562
227282	.771	.500
227278	.708	.437
227274	.646	.375
227270	.583	.312
227266	.521	.250
227262	.458	.187
227258	.396	.125

Fig. 2

Fig. 3

Part Number	A	C	D	E	F
228002	.490	.250	.030	.098	.100
228000	.400	.160	.036	.092	.092
228001	.392	.160	.028	.092	.092



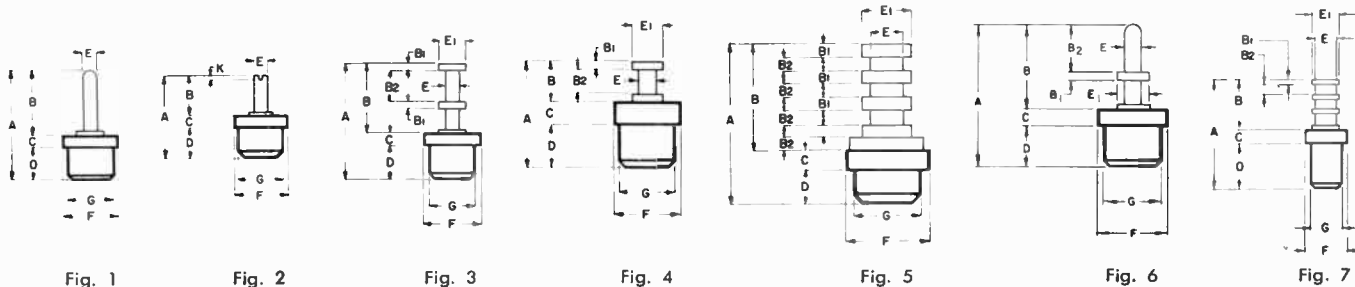
# SEAELECTRO PRESS-FIT<sup>®</sup> TEFLON<sup>†</sup> TERMINALS

†Reg. Trademark, E. I. Du Pont de Nemours & Co.

## STAND-OFFS MICROMINIATURE and SUBMINIATURE

FIG.	PART No.	TOOL NO.	CAPACITANCE mmf	V.RMS 60 CPS		A	B	B <sub>1</sub>	B <sub>2</sub>	C	D	E DIA.	E <sub>1</sub> DIA.	F DIA.	±.002 -.000 G DIA.	K	K <sub>1</sub>
				NOMINAL RATING	FLASHOVER SEA LEVEL												
1	ST-SM-3C1-L6	B3-10	0.35	750	2500	.213	.093			.031	.089	.040		.125	.093		
1	ST-SM-7	B3-1	0.30	1000	3000	.262	.147			.040	.075	.040		.125	.093		
1	ST-SM-7L2	B3-1	0.40	1000	3000	.299	.174			.040	.085	.040		.125	.093		
1	*ST-SM-16	B3-1	0.60	1000	3000	.350	.210			.040	.100	.040		.125	.093		
1	ST-SM-3C1-L4	B3-4	0.50	750	2500	.250	.130			.031	.089	.040		.125	.104		
1	*ST-SM-1	B-8	0.45	1000	3000	.350	.210			.040	.100	.040		.172	.148		
1	*ST-SM-1C2†	B-8	0.50	1000	3000	.410	.210			.040	.160	.040		.172	.148		
1	ST-SM-1C6	B-8	0.50	1000	3000	.500	.210			.040	.250	.040		.172	.148		
1	ST-SM-1L2	B-8	0.40	1000	3000	.265	.125			.040	.100	.040		.172	.148		
1	ST-SM-1L2-C2	B-8	0.40	1000	3000	.280	.125			.040	.115	.040		.172	.148		
1	ST-SM-1L4	B-8	0.35	1000	3000	.250	.110			.040	.100	.040		.172	.148		
1	ST-SM-1L6	B-8	0.40	1000	3000	.285	.145			.040	.100	.040		.172	.148		
1	ST-SM-1L6-C2	B-8	0.30	1000	3000	.260	.145			.040	.075	.040		.172	.148		
1	ST-SM-1L8	B-8	0.50	1000	3000	.750	.610			.040	.100	.040		.172	.148		
1	ST-SM-1L10	B-8	0.50	1000	3000	.594	.450			.040	.100	.040		.172	.148		
1	ST-SM-1L12	B-8	0.40	1000	3000	.460	.320			.040	.100	.040		.172	.148		
1	ST-SM-2	B-8	0.35	1000	3000	.310	.210			.050	.050	.040		.172	.148		
1	ST-SM-2C2	B-8	0.50	1000	3000	.335	.210			.050	.075	.040		.172	.148		
1	ST-SM-2C2-L2	B-8	0.20	1000	3000	.230	.105			.050	.075	.040		.172	.148		
1	ST-SM-2C4	B-8	0.40	1000	3000	.370	.210			.050	.110	.040		.172	.148		
1	ST-SM-2C6	B-8	0.40	1000	3000	.305	.145			.050	.110	.040		.172	.148		
1	ST-SM-2C6-C2	B-8	0.30	1000	3000	.247	.147			.050	.050	.040		.172	.148		
1	ST-SM-2L2†	B-8	0.35	1000	3000	.250	.150			.030	.070	.040		.172	.148		
1	ST-SM-2L4	B8-G1	0.30	1000	3000	.210	.120			.030	.060	.040		.172	.148		
1	ST-SM-500	B8-18A	0.40	1000	3000	.360	.204			.046	.110	.046		.172	.148		
1	ST-SM-6	B-8	0.40	1200	3500	.345	.210			.060	.075	.040		.172	.148		
1	ST-SM-8	B-8	0.45	1000	3000	.370	.210			.040	.120	.040		.172	.148		
1	ST-SM-15	B-8	0.35	1500	4000	.350	.210			.078	.062	.040		.172	.148		
1	ST-SM-19	B-8	0.45	1000	3000	.365	.193			.040	.132	.040		.172	.148		
1	ST-SM-3	B-15	0.45	1000	3000	.350	.210			.040	.100	.040		.195	.172		
1	ST-SM-4	B-16	0.35	1200	3500	.350	.210			.040	.100	.040		.200	.179		
2	ST-SM-5	B-22	0.35	1200	3500	.350	.210			.040	.100	.040		.250	.218		
2	ST-SM-1SL	B8-16	0.40	1000	3000	.265	.125			.040	.100	.040		.172	.148	.010	.010
3	ST-MM-10-TUR	B3-2C	0.40	1000	3000	.310	.170	.020	.060	.040	.100	.030	.060	.125	.093		
3	*ST-SM-16-TUR	B3-2B	0.60	1000	3000	.350	.210	.020	.100	.040	.100	.040	.080	.125	.093		
3	ST-SM-027-TUR	B8-A	0.60	1000	3000	.480	.250	.020	.093	.040	.190	.040	.093	.172	.130		
3	*ST-SM-1-TUR	B-8	0.40	1000	3000	.350	.210	.020	.100	.040	.100	.040	.080	.172	.148		
3	*ST-SM-1-TUR-C2	B-8	0.50	1000	3000	.375	.210	.020	.100	.040	.125	.040	.080	.172	.148		
3	*ST-SM-TUR-C4	B-8	0.40	1000	3000	.360	.210	.020	.100	.040	.110	.040	.080	.172	.148		
3	ST-SM-19-TUR-C2	B-8	0.55	1000	3000	.500	.210	.020	.100	.040	.250	.040	.080	.172	.148		
3	ST-SM-22-TUR	B-8	0.50	1700	4500	.428	.210	.020	.100	.093	.125	.040	.080	.172	.148		
3	ST-SM-22-TUR-C2	B-8	0.30	1700	4500	.461	.210	.020	.100	.093	.158	.040	.080	.172	.148		
3	*ST-SM-25-TUR†	B8-A	0.50	1000	3000	.334	.154	.020	.046	.040	.140	.046	.093	.172	.148		
3	ST-SM-25-TUR-C2	B8-A	0.35	1000	3000	.254	.154	.020	.046	.040	.060	.046	.093	.172	.148		
3	*ST-SM-29-TUR†	B8-A	0.50	1000	3000	.455	.250	.020	.093	.040	.165	.040	.093	.172	.148		
3	*ST-SM-29-TUR-C2	B8-A	0.60	1000	3000	.540	.250	.020	.093	.040	.250	.040	.093	.172	.148		
3	ST-SM-29-TUR-L2	B8-A	0.50	1000	3000	.470	.250	.020	.093	.040	.180	.040	.093	.172	.148		
3	ST-SM-51-TUR-C2	B8-A	0.45	1400	3800	.346	.156	.020	.047	.040	.150	.047	.093	.172	.152		
3	ST-SM-51-TUR-C4	B8-A	0.40	1000	3000	.296	.156	.020	.047	.040	.100	.047	.093	.172	.152		
3	ST-SM-51-TUR-C6	B8-A	0.50	1000	3000	.361	.156	.020	.047	.040	.165	.047	.093	.172	.152		
3	ST-SM-51-TUR-L2	B8-A	0.40	1000	3000	.335	.207	.020	.100	.040	.088	.047	.093	.172	.152		
3	ST-SM-52-TUR	B8-A	0.30	1000	3000	.347	.207	.020	.100	.040	.100	.047	.093	.172	.152		
3	ST-SM-4 TUR	B-16	0.35	1000	3000	.350	.210	.020	.100	.040	.100	.040	.080	.200	.179		
3	ST-SM-20 TUR	B-18	0.40	1000	3000	.350	.210	.020	.100	.040	.100	.040	.080	.218	.185		
3	ST-SM-21 TUR	B-18	0.40	1000	3000	.375	.210	.020	.100	.040	.125	.040	.080	.218	.185		
3	ST-SM-23 TUR	B-22	0.40	1200	3500	.350	.210	.020	.100	.040	.100	.040	.080	.250	.204		
4	ST-SM-50-TUR	B-8	0.30	1000	3000	.262	.125	.020	.085	.050	.087	.040	.080	.172	.148		
4	ST-SM-352-TUR	B-8	0.30	1000	3000	.250	.110	.020	.080	.040	.100	.040	.080	.172	.148		
4	ST-SM-36 TUR	B-16	0.35	1500	4000	.320	.120	.020	.080	.075	.125	.048	.090	.200	.172		
5	ST-SM-40 TUR	B-9	0.40	1000	3000	.392	.232	.029	.031	.050	.110	.070	.109	.172	.148		
5	ST-SM-45 TUR	B8-13B	0.40	1000	3000	.362	.232	.029	.031	.050	.080	.070	.109	.172	.148		
6	ST-SM-47-TUR	B-8	0.30	1000	3000	.328	.210	.020	.120	.040	.078	.040	.080	.172	.148		
6	*ST-SM-47-TUR-C2	B-8	0.40	1000	3000	.350	.210	.020	.120	.040	.100	.040	.080	.172	.148		
6	ST-SM-47-TUR-C4	B-8	0.50	1000	3000	.415	.210	.020	.120	.040	.165	.040	.080	.172	.148		
6	ST-SM-47-TUR-C6	B-8	0.50	1000	3000	.428	.210	.020	.120	.093	.125	.040	.080	.172	.148		
7	ST-SM-42 TUR	B3-2A	0.40	1000	3000	.334	.153	.015	.031	.041	.140	.068	.078	.125	.093		
7	ST-SM-44 TUR	B-2	0.40	1000	3000	.255	.150	.015	.031	.030	.075	.068	.078	.125	.093		

Terminal Lug: Brass, Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thick (†Silver — †Gold Flash over Silver).  
 Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.



\* Available off-the-shelf from Authorized Local Seaelectro Distributors (white only).



# SEAELECTRO PRESS-FIT® TEFLON† TERMINALS

†Reg. Trademark, E. I. Du Pont de Nemours &amp; Co.

## STAND-OFFS MICROMINIATURE and SUBMINIATURE

FIG.	PART No.	TOOL NO.	CAPACITANCE mmf	V <sub>RMS</sub> 60 CPS		A	B	B <sub>1</sub>	B <sub>2</sub>	C	D	E	E <sub>1</sub>	F	G	K	K <sub>1</sub>
				NOMINAL RATING	FLASHOVER SEA LEVEL												
51	RST-SM-3-C1	B-3-B	0.40	1000	3000	.250	.130			.031	.089	.040		.125	.093		
51	*RST-SM-16	B-3-2X	0.40	1000	3000	.350	.210			.040	.100	.040		.125	.093		
51	RST-SM-3	B-3-B	0.30	1000	3000	.250	.130			.031	.089	.040		.125	.104		
51	RST-SM-3-C3	B-3-B	0.30	1000	3000	.250	.130			.031	.089	.040		.125	.106		
51	RST-SM-11C1	B8-G	0.45	1500	4000	.350	.210			.020	.120	.040		.172	.112		
51	RST-SM-39-C1	B-8-M	0.35	1000	3000	.350	.210			.015	.125	.040		.172	.112		
51	RST-SM-13	B6-X1	0.50	500	2000	.310	.210			.040	.060	.040		.150	.125		
51	*RST-SM-1	B8-X1	0.40	1200	3500	.350	.210			.040	.100	.040		.172	.148		
51	*RST-SM-1B2	B8-G	0.40	1200	3500	.330	.210			.020	.100	.040		.172	.148		
51	RST-SM-1-CB	B8-X1	0.30	1000	3000	.330	.210			.046	.074	.040		.170	.148		
51	*RST-SM-1C6	B8-X1	0.40	2000	5000	.500	.210			.040	.250	.040		.172	.148		
51	RST-SM-1L2	B8-X1	0.50	1200	3500	.265	.125			.040	.100	.040		.172	.148		
51	RST-SM-1L8	B8-X1	0.50	1200	3500	.750	.610			.040	.100	.040		.172	.148		
51	RST-SM-2	B8-X2	0.40	1000	3000	.310	.210			.050	.050	.040		.172	.148		
51	RST-SM-6	B8-X	0.35	1200	3500	.345	.210			.060	.075	.040		.172	.148		
51	RST-SM-7C2	B8-X1	0.30	1200	3500	.382	.210			.040	.132	.045		.172	.148		
51	*RST-SM-11	B8-G	0.30	1200	3500	.350	.210			.020	.120	.040		.172	.148		
51	RST-SM-28	B8-X1	0.35	1500	4000	.390	.218			.040	.132	.040		.172	.148		
51	RST-SM-39	B-8-M	0.30	1200	3500	.350	.210			.015	.125	.040		.172	.148		
51	RST-SM-3C03	B-15-X	0.45	1000	3000	.500	.360			.040	.100	.040		.195	.172		
52	RST-SM-3SL	B3-2X	0.50	500	2000	.350	.210			.040	.100	.080		.125	.104	.036	.180
52	RST-SM-41SL	B6-C	0.30	750	2500	.150	.062			.025	.063	.050		.150	.125	.020	.047
53	RST-SM-47-TUR	B8-X-1	0.40	1000	3000	.328	.210	.020	.120	.040	.078	.040	.080	.172	.148		
53	RST-SM-47-TUR-C2	B8-X-1	0.40	1200	3500	.350	.210	.020	.120	.040	.100	.040	.080	.172	.148		
54	RST-MM-10-TUR	B1-2	0.40	500	2000	.310	.170	.020	.060	.040	.100	.030	.060	.125	.093		
54	*RST-SM-25-TUR-C4	B8-X-1	0.40	1500	4000	.295	.156	.020	.046	.040	.100	.046	.093	.172	.148		
54	*RST-SM-38-TUR	B10	0.40	1500	4000	.405	.210	.020	.100	.040	.155	.040	.080	.188	.171		
54	*RST-SM-1-TUR	B8-X-1	0.40	1200	3500	.350	.210	.020	.100	.040	.100	.040	.080	.172	.148		
54	RST-SM-4-TUR	B16	0.40	1500	4000	.350	.210	.020	.100	.040	.100	.040	.080	.200	.179		
54	RST-SM-20-TUR	B18	0.40	1500	4000	.350	.210	.020	.100	.040	.100	.040	.080	.218	.185		
54	*RST-SM-21-TUR	B18	0.30	1700	4500	.375	.210	.020	.100	.040	.125	.040	.080	.218	.185		
54	RST-SM-23-TUR	B22-X-2	0.30	1500	4000	.350	.210	.020	.100	.040	.100	.040	.080	.250	.204		
55	*RST-SM-31-TUR	B8-X-1	0.50	1700	4500	.455	.227	.020	.187	.040	.187	.040	.080	.172	.148		
55	RST-SM-31-TUR-C01	B8-3	0.35	1500	4000	.382	.227	.020	.187	.025	.130	.040	.080	.172	.148		
55	RST-SM-31-TUR-L2	B8-X-1	0.40	1200	3500	.296	.156	.020	.116	.040	.100	.046	.093	.172	.148		
55	RST-SM-352-TUR	B8-X-1	0.40	1200	3500	.250	.110	.020	.080	.040	.100	.040	.080	.172	.148		
55	RST-SM-350-TUR	B10	0.20	1500	4000	.320	.125	.020	.080	.040	.155	.040	.080	.188	.171		
55	RST-SM-36-TUR	B16	0.30	1500	4000	.320	.120	.020	.080	.075	.125	.048	.090	.200	.172		

Terminal Lug: Brass, Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thickness.  
Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.

‡ Gold flash over silver.

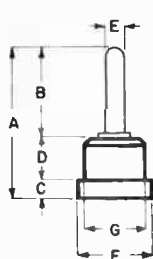


Fig. 51

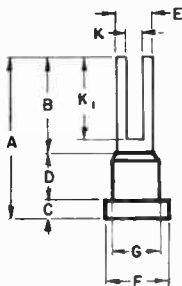


Fig. 52

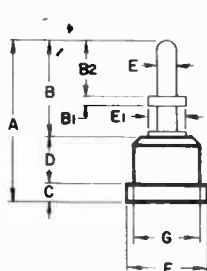


Fig. 53

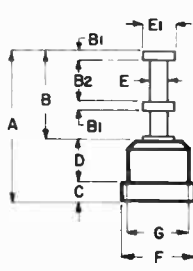


Fig. 54

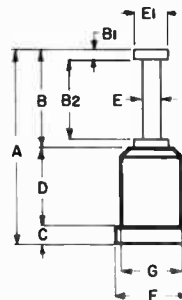


Fig. 55

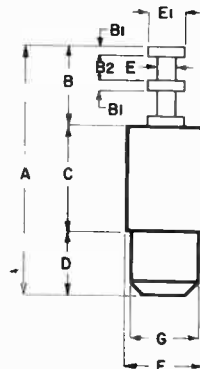


Fig. 101

\* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).



# SEALECTRO PRESS-FIT<sup>®</sup> TEFLON<sup>†</sup> TERMINALS

† Reg. Trademark, E. I. Du Pont de Nemours & Co.

## STAND-OFFS MINIATURE

FIG. #	PART No.	TOOL NO.	CAPACITANCE mm <sup>2</sup>	V,RMS		A	B	B <sub>1</sub>	B <sub>2</sub>	C	D	E	E <sub>1</sub>	F	G
				NOMINAL RATING	60 CPS FLASHOVER SEA LEVEL										
101	*ST-210	B3-A	0.50	1500	4000	.346	.156	.020	.046	.103	.087	.046	.093	.125	.104
101	ST-211	B3-A	0.50	1500	4000	.346	.156	.020	.046	.103	.087	.046	.093	.125	.104
101	ST-215	B3-A	0.50	1500	4000	.359	.156	.020	.046	.103	.100	.046	.093	.125	.104
101	ST-1200	B6-10	0.20	3000	7000	.531	.156	.020	.046	.219	.156	.046	.093	.156	.127
101	ST-1400L2	B12-3	0.30	2800	7500	.647	.250	.020	.093	.250	.150	.040	.093	.187	.135
101	ST-230L2	B9-3	0.50	2500	6000	.482	.250	.020	.094	.125	.110	.040	.093	.172	.148
101	*ST-1175L2	B9-3	0.30	3200	7500	.598	.250	.020	.093	.187	.165	.040	.093	.172	.148
101	*ST-250	B12	0.30	2500	6000	.431	.156	.020	.046	.125	.150	.046	.093	.187	.165
101	*ST-250L2	B12	0.50	2500	6000	.522	.250	.020	.093	.125	.150	.040	.093	.187	.165
101	ST-250L3	B12-2	0.60	2000	5000	.556	.281	.031	.093	.125	.150	.046	.125	.187	.165
101	ST-250L6	B12	0.50	2500	6000	.485	.210	.020	.100	.125	.150	.040	.093	.187	.165
101	ST-260L3	B13	0.60	3000	7000	.556	.281	.031	.093	.175	.100	.046	.125	.187	.165
101	*ST-1000	B13	0.20	2800	6700	.493	.156	.020	.046	.187	.150	.046	.093	.187	.165
101	*ST-1000L2	B13	0.30	2800	6700	.584	.250	.020	.093	.187	.150	.040	.093	.187	.165
101	ST-1000L3	B13-3B	0.65	2500	6000	.616	.281	.031	.093	.187	.150	.046	.125	.187	.165
101	ST-1000-2C	B13	0.30	2800	6700	.468	.156	.020	.046	.187	.125	.046	.093	.187	.165
101	ST-1450L3	B13-3B	0.55	3000	7000	.681	.281	.031	.093	.200	.200	.046	.125	.187	.165
101	*ST-1500	B12-3	0.20	3100	7300	.556	.156	.020	.046	.250	.150	.046	.093	.187	.165
101	ST-1500L2	B12-3	0.30	3100	7300	.647	.250	.020	.093	.250	.150	.040	.093	.187	.165
101	ST-1500L3	B13	0.35	3100	7300	.681	.281	.031	.093	.250	.150	.046	.125	.187	.165
101	ST-1525	B12-3	0.25	3000	7000	.706	.156	.020	.046	.250	.300	.046	.093	.187	.165
101	ST-1900	B13-4	0.20	3500	8000	.831	.281	.031	.093	.350	.200	.046	.125	.187	.165
101	ST-1901	B12	0.25	3500	8000	.893	.343	.031	.125	.350	.200	.047	.125	.187	.165
101	ST-2000	B13-3B	0.25	4500	10000	.831	.281	.031	.093	.400	.150	.046	.125	.187	.165
101	ST-2000L2	B12-3	0.20	4500	10000	.797	.250	.020	.093	.400	.150	.040	.093	.187	.165
101	ST-2000L2-C2	B12-3	0.20	4500	10000	.797	.250	.020	.093	.400	.100	.040	.093	.187	.165
101	ST-2000L3	B12-3	0.15	4500	10000	.706	.156	.020	.046	.400	.150	.046	.093	.187	.165
101	ST-2000L3-C2	B12-3	0.20	4500	10000	.656	.156	.020	.046	.400	.100	.046	.093	.187	.165
101	ST-250C1	B12	0.30	2500	6000	.431	.156	.020	.046	.125	.150	.046	.093	.187	.171
101	ST-250L3-C1	B12-2	0.60	2000	5000	.556	.281	.031	.093	.125	.150	.046	.125	.187	.171
101	*ST-250L4	B12-2	0.60	2000	5000	.556	.281	.031	.093	.125	.150	.062	.125	.187	.171
101	ST-250L4-C2	B12	0.65	2000	5000	.621	.281	.031	.093	.125	.215	.062	.125	.187	.171
101	ST-250L5	B12	0.50	2500	6000	.485	.210	.020	.100	.125	.150	.040	.080	.218	.171
101	ST-251C1	B12	0.35	2500	6000	.485	.210	.020	.100	.125	.150	.040	.080	.187	.171
101	ST-1000C1	B13	0.20	2800	6700	.493	.156	.020	.046	.187	.150	.046	.093	.187	.171
101	ST-1000L2-C1	B13	0.35	2800	6700	.584	.250	.020	.093	.187	.150	.040	.093	.187	.171
101	ST-1500C1	B12-3	0.25	3100	7300	.556	.156	.020	.046	.250	.150	.046	.093	.187	.171
101	ST-1500L3-C1	B13	0.40	3100	7300	.681	.281	.031	.093	.250	.150	.046	.125	.187	.171
101	ST-1500L4-C1	B12-3	0.15	3200	7500	.610	.210	.020	.100	.250	.150	.040	.080	.187	.171
101	ST-1501C1	B13	0.20	3100	7300	.593	.156	.020	.046	.250	.187	.046	.093	.187	.171
101	ST-1525C1	B12-3	0.20	3000	7000	.706	.156	.020	.046	.250	.300	.046	.093	.187	.171
101	ST-2000C1	B13-3B	0.25	4500	10000	.831	.281	.031	.093	.400	.150	.046	.125	.187	.171
101	ST-2000C4	B13-3B	0.40	3000	7000	.831	.281	.031	.093	.250	.300	.046	.125	.187	.171
101	ST-2500C1	B26	0.20	5500	12000	.968	.281	.031	.093	.500	.187	.046	.125	.250	.171
101	ST-4000C1	B26	0.25	6000	13000	1.268	.281	.031	.093	.800	.187	.046	.125	.250	.171
101	ST-941	B19-A	0.60	2500	6000	.546	.281	.031	.093	.125	.140	.046	.125	.218	.185
101	ST-1510L3	B24-1	0.40	3000	7000	.718	.281	.031	.093	.250	.187	.046	.125	.250	.215
101	ST-2500	B26	0.20	5500	12000	.968	.281	.031	.093	.500	.187	.046	.125	.250	.215
101	ST-2500B2	B24-1	0.30	4000	9000	.968	.281	.031	.093	.370	.317	.046	.125	.250	.215
101	ST-2500L2	B26	0.20	5200	11500	.934	.250	.020	.093	.500	.187	.040	.093	.250	.215
101	ST-2500L3	B26	0.20	5200	11500	.843	.156	.020	.046	.590	.187	.046	.093	.250	.215
101	ST-4000	B26	0.30	6000	13000	1.268	.281	.031	.093	.800	.187	.046	.125	.250	.215
101	ST-4000L2	B26	0.25	6000	13000	1.234	.250	.020	.093	.800	.187	.040	.093	.250	.215
101	ST-4000L3	B26	0.15	6000	13000	1.143	.156	.020	.046	.800	.187	.046	.093	.250	.215

Terminal Lugs: Brass, Silver Plate .0003" Min. Thick.

Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.

# See preceding page for figure drawing

\* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).



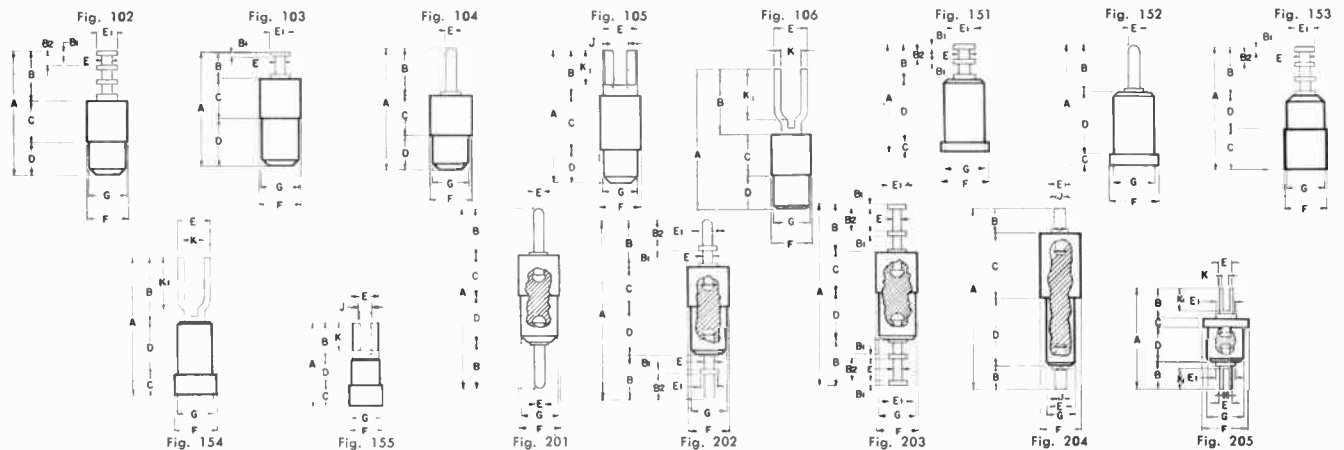
# SEAELECTRO PRESS-FIT® TEFLON<sup>†</sup> TERMINALS

†Reg. Trademark, E. I. Du Pont de Nemours & Co.

## STAND-OFFS MINIATURE and SUBMINIATURE

FIG.	PART No.	TOOL NO.	CAPACITANCE mmf	V,RMS 60 CPS		A	B	B <sub>1</sub>	B <sub>2</sub>	C	D	E DIA.	E <sub>1</sub> DIA.	F DIA.	±.002 — .000 G DIA.	J DIA.	K	K <sub>1</sub>
				NOM-INAL RAT. ING	FLASH OVER SEA LEVEL													
102	ST-1150	B.2	0.60	2500	6000	.555	.218	.020	.046	.187	.150	.046	.093	.187	.171			
103	ST-1500TUR	E12-3	0.20	2700	6500	.520	.120	.020		.250	.150	.048	.090	.187	.165			
103	ST-1600-TUR	E13-3B	0.20	2000	6000	.519	.120	.020		.187	.212	.048	.090	.187	.171			
104	ST-251†	B13-3	0.45	2000	5000	.485	.210			.125	.150	.040		.187	.165			
104	ST-1020L5†	B13-3	0.40	2200	5500	.547	.210			.187	.150	.040		.187	.165			
104	ST-1181†	B13	0.70	2200	5500	.718	.312			.187	.218	.040		.187	.165			
104	ST-1182†	B16-1	0.55	2500	5500	.600	.300			.125	.175	.062		.200	.180			
105	ST-1500SL-C3	B11	0.50	2700	6500	.603	.203			.250	.150	.148		.187	.165	.078		.156
105	*ST-250SL	B11	0.70	2000	5000	.478	.203			.125	.150	.148		.187	.171	.078		.161
105	ST-250SL-1L	B11	0.70	2000	5000	.478	.203			.125	.150	.148		.187	.171	.046		.156
105	ST-1000SL	B11	0.70	2300	5600	.540	.203			.187	.150	.148		.187	.171	.078		.156
105	ST-1000SL-1L	B11	0.70	2300	5600	.540	.203			.187	.150	.148		.187	.171	.046		.161
105	ST-1150SL-1L	B11	0.50	2300	5600	.555	.203			.187	.165	.148		.187	.171	.046		.156
105	ST-1180SL	B11	0.70	2300	5600	.602	.203			.187	.212	.148		.187	.171	.078		.156
105	ST-1180SL-C2	B11	0.80	2300	5600	.620	.203			.187	.230	.148		.187	.171	.078		.156
105	*ST-1500SL	B11	0.45	2700	6500	.603	.203			.250	.150	.148		.187	.171	.078		.156
105	ST-1500SL-1L	B11	0.45	2700	6500	.603	.203			.250	.150	.148		.187	.171	.046		.156
105	*ST-2000SL	B11	0.30	4200	9500	.753	.203			.400	.150	.148		.187	.171	.078		.156
105	ST-2000SL-1L	B11	0.30	4200	9500	.753	.203			.400	.150	.148		.187	.171	.046		.161
105	ST-2000SL-C2	B11	0.30	4200	9500	.703	.203			.400	.100	.148		.187	.171	.078		.156
105	ST-2500SL-C1	B25	0.30	5000	11000	.890	.203			.500	.187	.148		.250	.171	.078		.156
105	ST-4000SL-C1	B25	0.25	6000	13000	1.190	.203			.800	.187	.148		.250	.171	.078		.156
105	ST-2500SL	B25	0.30	5000	11000	.890	.203			.500	.187	.148		.250	.217	.078		.156
105	ST-2500SL-1L	B25	0.30	5000	11000	.890	.203			.500	.187	.148		.250	.217	.046		.161
105	ST-4000SL	B25	0.20	6000	13000	1.190	.203			.800	.187	.148		.250	.217	.078		.156
105	ST-4000SL-1L	B25	0.25	6000	13000	1.190	.203			.800	.187	.148		.250	.217	.046		.161
106	ST-35ML	B11-C	0.85	2000	5000	.633	.296			.187	.150	.150		.187	.171		.090	.234
151	*RST-1	B18-1B	0.40	3000	7000	.487	.154	.020	.046	.046	.287	.046	.093	.218	†.185			
151	*RST-1L2	B18-1B	0.20	3000	7000	.583	.250	.020	.093	.046	.287	.046	.093	.218	†.185			
152	RST-2	B18	0.15	3200	7500	.543	.210			.046	.287	.040		.218	.185			
152	RST-2C2	B18-1B	0.50	4000	9000	.756	.210			.046	.500	.040		.218	.185			
152	RST-2L2	B18	0.70	2500	6000	1.133	.800			.046	.333	.040		.218	.185			
153	RST-1150	B13-X	0.70	1200	3500	.555	.218	.020	.046	.187	.150	.046	.093	.187	.171			
154	RST-15ML	B13-X-2	0.75	2000	5000	.629	.296			.093	.240	.150		.187	.171		.090	.234
155	RST-250SL	B12-X	0.75	1900	4800	.478	.203			.125	.150	.148		.187	.165	.078		.156
201	DST-SM-110†	B8-16	0.20	1000	3000	.560	.180			.040	.160	.040		.172	.148			
201	DST-SM-110-L4†	B8-11	0.15	1500	4000	.600	.155			.080	.210	.040		.172	.148			
201	DST-1010-C2†	B13-3-1	0.20	2700	6400	.819	.210			.187	.212	.040		.187	.148			
201	DST-1010-C4†	B9	0.20	2700	6400	.819	.210			.187	.212	.040		.172	.148			
201	DST-SM-105†	B17	0.25	1000	3000	.640	.210			.050	.170	.040		.205	.169			
201	DST-900†	B12	0.15	2000	5000	.572	.110			.140	.212	.040		.187	.171			
201	DST1900-L2	B12	0.20	2000	5000	.696	.172			.140	.212	.040		.187	.171			
201	DST-1010†	B13-3-1	0.20	2700	6500	.819	.210			.187	.212	.040		.187	.171			
201	DST-1010-L1†	B13	0.20	1500	4000	.587	.125			.187	.150	.040		.187	.171			
202	DST-1001†	B13	0.20	2000	6000	.819	.210	.020	.120	.187	.212	.040	.080	.187	.171			
203	DST-SM-1000-C2†	B13	0.20	2000	5000	.819	.210	.020	.100	.187	.212	.040	.080	.187	.148			
203	DST-SM-105-TUR†	B17	0.20	1000	3000	.640	.210	.020	.100	.050	.170	.040	.080	.205	.169			
203	*DST-1000†	B13	0.20	2500	6000	.819	.210	.020	.100	.187	.212	.040	.080	.187	.171			
203	*DST-1015†	B20	0.20	2700	6500	.819	.210	.020	.100	.187	.212	.040	.080	.218	.187			
203	DST-1550	B24-1	0.40	3500	8000	1.187	.281	.031	.093	.250	.375	.046	.125	.250	.218			
203	DST-2550	B26	0.35	5000	11000	1.687	.281	.031	.093	.500	.625	.046	.125	.250	.218			
203	DST-4050	B26	0.30	6000	13000	2.287	.281	.031	.093	.800	.925	.046	.125	.250	.218			
204	DST-2560	B28	0.15	4000	9000	1.377	.176			.500	.525	.085		.312	.217	.062	.156	
205	DTS-SM-101SL†	B10-3	0.20	1000	3000	.480	.140			.040	.160	.060	.093	.185	.165		.032	.110
205	DST-SM-100SL†	B17	0.20	1000	3000	.480	.140			.040	.160	.060	.093	.205	.169		.032	.110

Terminal Lug: Brass, Silver Plate .0003" Min. Thick. † Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Min. Thick.  
 Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.



\* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).



# SEALECTRO PRESS-FIT<sup>®</sup> TEFLON<sup>†</sup> TERMINALS

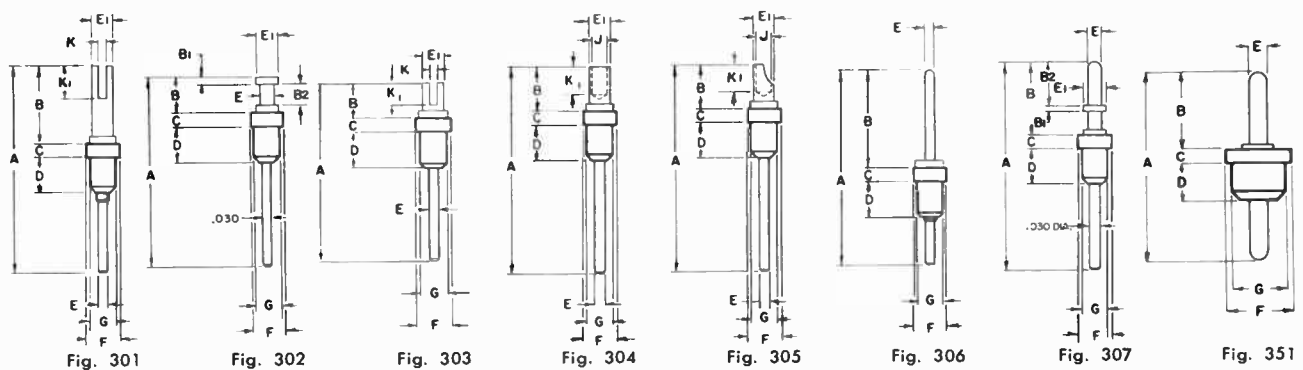
Reg. Trademark, E. I. Du Pont de Nemours & Co.

## FEED-THRUS MICROMINIATURE and SUBMINIATURE

FIG.	PART No.	TOOL NO.	CAPACITANCE mmf	V.RMS NOM- INAL RATING	60 CPS FLASH- OVER SEA LEVEL	A	B	B <sub>1</sub>	B <sub>2</sub>	C	D	E	E <sub>1</sub>	F	+.002 -.000 G OIA.	J	K	K <sub>1</sub>
301	FT-MM-3SL	B0-1	0.65	400	1800	.510	.100			.040	.090	.030	.060	.093	.075		.024	.080
301	FT-MM-3SL-2L	B0-1-A	0.75	400	1800	.635	.225			.040	.090	.030	.060	.093	.075		.024	.075
301	FT-MM-3SL-4L	B0-1	0.65	400	1800	.471	.110			.040	.090	.030	.060	.093	.075		.024	.080
302	FT-MM-5-TUR	B0	0.70	400	1800	.510	.100	.020	.060	.040	.100	.040	.060	.093	.075			
303	FT-MM-5SL	B0-1	0.70	400	1800	.510	.100			.040	.100	.030	.060	.093	.075		.024	.080
303	FT-MM-6SL	B0-1	0.70	400	1800	.552	.100			.040	.100	.030	.060	.093	.075		.024	.080
304	FT-MM-7	B0-1	0.70	400	1800	.588	.125			.040	.100	.030	.060	.093	.075	.040		.080
305	FT-MM-7ML	B0-1	0.70	400	1800	.588	.120			.040	.100	.030	.060	.093	.075	.040		.080
306	FT-MM-16L2	B0-2	0.70	400	1800	.550	.275			.040	.100	.030		.093	.075			
307	FT-MM-47-TUR	B0-A	1.05	500	2000	1.500	.210	.020	.100	.040	.125	.032	.060	.093	.075			
307	FT-MM-47-TUR-BC†	B0-A	1.10	500	2000	1.500	.210	.020	.100	.040	.125	.032	.060	.093	.075			
307	FT-MM-47-TUR-SS#	B0-A	1.00	500	2000	1.500	.210	.020	.100	.040	.125	.032	.060	.093	.075			
307	FT-MM-48-TUR-BC†	B0-5	0.70	500	2000	1.700	.210	.020	.100	.090	.125	.032	.060	.093	.075			
351	FT-SM-7	B3-1	0.50	500	2000	.375	.147			.040	.075	.040		.125	.093			
351	*FT-SM-16	B3-1	0.75	500	2000	.515	.210			.040	.100	.040		.125	.093			
351	FT-SM-16L2	B3-1	0.65	500	2000	.453	.156			.040	.100	.040		.125	.093			
351	FT-SM-16L6##	B3-1	0.80	500	2000	.987	.687			.040	.100	.040		.125	.093			
351	FT-SM-16L14##	B3-1	0.80	500	2000	.438	.125			.040	.100	.040		.125	.093			
351	FT-SM-13	B6	0.50	750	2500	.515	.210			.040	.060	.040		.150	.125			
351	FT-SM-23	B6	0.45	750	2500	.335	.125			.040	.060	.040		.150	.125			
351	FT-SM-23L2	B6	0.60	750	2500	.375	.125			.040	.100	.040		.150	.125			
351	*FT-SM-022	B8-A	0.65	1000	3000	.630	.210			.040	.170	.040		.172	.148			
351	FT-SM-023	B8	0.65	1000	3000	.630	.210			.040	.217	.040		.172	.148			
351	*FT-SM-1	B8-16	0.50	1000	3000	.515	.210			.040	.100	.040		.172	.148			
351	FT-SM-1C6	B8-A	0.70	1000	3000	.710	.210			.040	.250	.040		.172	.148			
351	*FT-SM-1L2	B8-16	0.50	1000	3000	.443	.210			.040	.100	.040		.172	.148			
351	FT-SM-1L3	B8-16	0.70	1000	3000	.725	.210			.040	.100	.040		.172	.148			
351	FT-SM-1L4	B8-16	0.70	1000	3000	1.000	.210			.040	.100	.040		.172	.148			
351	FT-SM-1L6	B8-16	0.55	1000	3000	.562	.210			.040	.100	.040		.172	.148			
351	FT-SM-2	B8-18	0.40	1000	3000	.515	.210			.050	.050	.040		.172	.148			
351	FT-SM-2C4	B8-18	0.50	1200	3500	.535	.210			.050	.110	.040		.172	.148			
351	FT-SM-2C4-L2	B8-13	0.50	1200	3500	.431	.106			.050	.110	.040		.172	.148			
351	FT-SM-2C6	B8-18	0.50	1200	3500	.410	.147			.050	.110	.040		.172	.148			
351	FT-SM-8	B8-16	0.60	1000	3000	.535	.210			.040	.120	.040		.172	.148			
351	*FT-SM-9	B8-16	0.50	1000	3000	.535	.210			.040	.132	.040		.172	.148			
351	FT-SM-9L1	B8-16	0.55	1000	3000	.515	.210			.040	.132	.040		.172	.148			
351	FT-SM-9L2	B8-16	0.50	1000	3000	.407	.125			.040	.132	.040		.172	.148			
351	*FT-SM-14† ##	B8*16	0.50	1000	3000	.375	.125			.040	.100	.040		.172	.148			
351	FT-SM-14L2† ##	B8-16	0.50	1000	3000	.325	.075			.040	.100	.040		.172	.148			
351	FT-SM-18	B8-16	0.55	1000	3000	.443	.093			.040	.100	.040		.172	.148			
351	*FT-SM-19	B8-16	0.60	1000	3000	.535	.210			.040	.160	.040		.172	.148			
351	FT-SM-19L1	B8-16	0.60	1000	3000	.571	.210			.040	.160	.040		.172	.148			
351	FT-SM-35	B8	0.70	1200	3500	.890	.625			.040	.100	.045		.172	.148			
351	FT-SM-35L2	B8	0.60	1000	3000	.585	.320			.040	.100	.045		.172	.148			
351	FT-SM-1C1	B8-16	0.55	1000	3000	.515	.210			.040	.100	.040		.172	.157			
351	FT-SM-10	B18	1.10	1000	3000	2.500	.460			.040	.100	.040		.219	.169			
351	FT-SM-10L1	B18	1.30	1000	3000	2.500	.460			.040	.100	.049		.219	.169			
351	FT-SM-10L2	B18	1.00	1000	3000	1.875	.125			.040	.100	.049		.218	.169			
351	FT-SM-10L4	B18	0.65	1000	3000	.937	.125			.040	.100	.049		.218	.169			
351	FT-SM-10L6	B18-E	0.85	1000	3000	1.250	.125			.040	.100	.049		.218	.169			
351	FT-SM-27L2	B18-1	0.70	1000	3000	1.090	.680			.050	.110	.040		.218	.171			
351	FT-SM-3	B15	0.50	1200	3500	.515	.210			.040	.100	.040		.195	.172			
351	FT-SM-3L2	B15	0.55	1200	3500	.560	.210			.040	.100	.040		.195	.172			
351	FT-SM-4	B16	0.50	1200	3500	.515	.210			.040	.100	.040		.200	.179			
351	FT-SM-5	B22	0.50	1200	3500	.515	.210			.040	.100	.040		.250	.218			

Terminal Lug: Brass, Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thick  
 Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.  
 † Beryllium Copper  
 # Stainless Steel

‡ Gold Flash over Silver  
 ## E Diameter ±.001



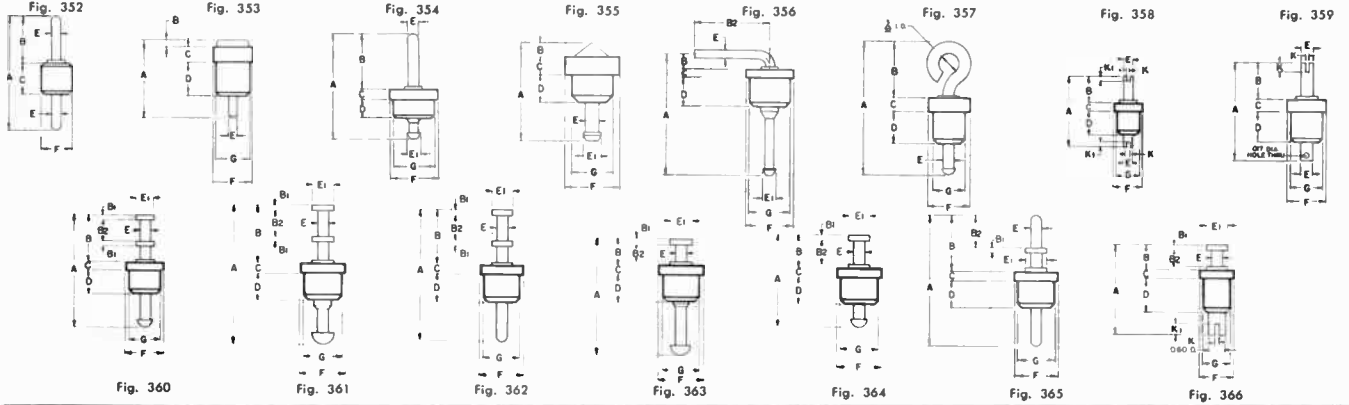
\* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).



## FEED-THRU SUBMINIATURE

FIG.	PART No.	TOOL NO.	CAPACITANCE mmf	V.RMS NOMINAL RATING	60 CPS FLASHOVER SEA LEVEL	A	B	B <sub>1</sub>	B <sub>2</sub>	C	D	E DIA.	E <sub>1</sub> DIA.	F DIA.	+002 -000 G DIA.	K	K <sub>1</sub>
352	FT-SM-024		—	—	—	.515	.210			.140		.040		.148			
352	FT-SM-17		—	—	—	.375	.200			.140		.040		.180			
353	FT-SM-80	B9-X	0.70	1700	4500	.531	.031			.156	.218	.050		.172	.148		
353	FT-SM-81	B9-X1	0.70	1000	3000	.281	.031			.040	.100	.040		.172	.148		
354	FT-SM-125	B3-1	0.50	500	2000	.306	.078			.040	.075	.040	.050	.125	.093		
354	FT-SM-021	B18	0.40	1200	3500	.449	.250			.046	.060	.051	.060	.218	.185		
355	FT-SM-706	B3-5	0.40	500	2000	.218	.031			.040	.060	.030	.040	.125	.093		
356	FT-SM-400	B18-H	1.00	1000	3000	.561	.053		.718	.040	.125	.040	.060	.218	.185		
356	FT-SM-400L2	B18-H	1.10	1000	3000	.718	.210		1.031	.040	.125	.040	.060	.218	.185		
356	FT-SM-400L4	B18-H	1.30	1000	3000	.938	.490		1.343	.040	.125	.040	.060	.218	.185		
357	FT-M-9L4	B10-2	0.80	1000	3000	.593	.250			.062	.140	.050		.187	.148		
357	FT-SM-9L6	B8-15-2	0.60	1000	3000	.479	.250			.040	.070	.050		.172	.148		
358	FT-SM-1SL	B3-1	0.60	500	2000	.312	.116			.040	.100	.040		.125	.106	.010	.020
358	FT-SM-100SL	B17	0.65	1500	4000	.480	.140			.040	.160	.060		.205	.169	.032	.110
359	FT-SM-1SL-1	B3-1	0.50	500	2000	.312	.116			.040	.100	.040		.125	.106	.010	.020
360	*FT-SM-16-TUR	B-3-2B	0.70	500	2000	.500	.210	.020	.100	.040	.100	.040	.080	.125	.093		
360	FT-SM-1-TUR-C6	B8	0.70	1000	3000	.500	.210	.020	.100	.040	.100	.040	.080	.172	.116		
360	FT-SM-028-TUR	B8	0.60	1000	3000	.550	.245	.020	.070	.040	.125	.040	.080	.172	.148		
360	FT-SM-029-TUR	B8	0.50	1000	3000	.812	.210	.020	.100	.040	.165	.040	.080	.172	.148		
360	*FT-SM-1-TUR	B8	0.50	1000	3000	.500	.210	.020	.100	.040	.100	.040	.080	.172	.148		
360	*FT-SM-1-TUR-C4	B8	0.50	1000	3000	.438	.210	.020	.100	.040	.083	.040	.080	.172	.148		
360	*FT-SM-1-TUR-C10	B8	0.50	1000	3000	.438	.210	.020	.100	.040	.100	.040	.080	.172	.148		
360	FT-SM-1-TUR-L2	B8	0.70	1000	3000	.609	.210	.020	.100	.040	.165	.040	.080	.172	.148		
360	FT-SM-22-TUR-C2	B9	0.70	1200	3500	.609	.210	.020	.100	.093	.158	.040	.080	.172	.148		
360	FT-SM-4-TUR	B16	0.50	1200	3500	.500	.210	.020	.100	.040	.100	.040	.080	.200	.179		
360	FT-SM-1-TUR-C8	B18	0.50	1200	3500	.438	.210	.020	.100	.040	.100	.040	.080	.218	.185		
360	FT-SM-33-TUR	B22	0.50	1500	4000	.500	.210	.020	.100	.040	.100	.040	.080	.250	.234		
361	FT-SM-2-TUR-C1	B8	0.50	1000	3000	.531	.210	.020	.100	.040	.100	.040	.080	.172	.112		
361	FT-SM-23-TUR	B6	0.50	750	2500	.500	.210	.020	.100	.040	.060	.040	.080	.150	.125		
361	*FT-SM-025-TUR	B8	0.65	1000	3000	.609	.210	.020	.100	.040	.165	.040	.080	.172	.148		
361	FT-SM-026-TUR	B8-A	0.55	1000	3000	.437	.156	.020	.047	.040	.065	.040	.080	.172	.148		
361	FT-SM-1-TUR-C2	B8	0.45	1000	3000	.500	.210	.020	.100	.040	.060	.040	.080	.172	.148		
361	*FT-SM-2-TUR	B8	0.70	1000	3000	.531	.210	.020	.100	.040	.100	.040	.080	.172	.148		
361	*FT-SM-2-TUR-C2	B8	0.70	1000	3000	.531	.210	.020	.100	.040	.125	.040	.080	.172	.148		
361	*FT-SM-22-TUR	B9	0.65	1200	3500	.609	.210	.020	.100	.093	.125	.040	.080	.172	.148		
361	FT-SM-51-TUR	B8-A	0.55	1000	3000	.437	.156	.020	.047	.040	.088	.047	.093	.172	.152		
361	FT-SM-51-TUR-C2	B8-A	0.65	1000	3000	.500	.156	.020	.047	.040	.150	.047	.093	.172	.152		
361	FT-SM-51-TUR-C4	B8-A	0.60	1000	3000	.437	.156	.020	.047	.040	.100	.047	.093	.172	.152		
361	FT-SM-20-TUR-C1	B18	0.55	1200	3500	.531	.210	.020	.100	.040	.100	.040	.080	.218	.175		
361	FT-SM-20-TUR	B18	0.65	1200	3500	.531	.210	.020	.100	.040	.100	.040	.080	.218	.185		
361	*FT-SM-21-TUR	B18	0.65	1200	3500	.531	.210	.020	.100	.040	.125	.040	.080	.218	.185		
361	FT-SM-34-TUR	B19-A	0.55	1500	4000	.609	.210	.020	.100	.093	.125	.040	.080	.218	.185		
361	FT-SM-26-TUR	B28-A	0.50	1500	4000	.531	.210	.020	.100	.040	.100	.040	.080	.312	.264		
362	FT-SM-1-TUR-L4	B8	0.50	1000	3000	.500	.210	.020	.100	.040	.100	.040	.080	.172	.148		
363	FT-SM-28-TUR	B6	0.45	750	2500	.350	.125	.020	.095	.040	.060	.040	.080	.150	.125		
363	FT-SM-18-TUR	B8	0.60	1000	3000	.443	.093	.020	.062	.040	.100	.040	.080	.172	.148		
363	FT-SM-37-TUR-C1	B8-G-1	0.65	750	2500	.493	.093	.020	.063	.020	.170	.040	.080	.172	.148		
363	FT-SM-84-TUR	B8	0.60	1000	3000	.640	.250	.020	.210	.040	.125	.040	.080	.172	.148		
363	FT-SM-36-TUR	B16	0.60	1200	3500	.500	.120	.020	.080	.075	.125	.048	.090	.200	.172		
363	FT-SM-36-TUR-L1	B16-I-A	1.00	1000	3000	.500	.120	.020	.080	.075	.125	.080	.125	.200	.172		
364	FT-SM-16-TUR-L2	B3-5	0.60	500	2000	.350	.125	.020	.085	.040	.100	.040	.080	.125	.093		
364	*FT-SM-32-TUR	B8	0.50	1000	3000	.350	.125	.020	.095	.040	.100	.040	.080	.172	.148		
364	FT-SM-32-TUR-L2	B8	0.60	1000	3000	.385	.160	.020	.130	.040	.100	.040	.093	.172	.148		
364	FT-SM-47-TUR-L2	B8	0.50	1000	3000	.380	.090	.020	.060	.040	.100	.040	.080	.172	.148		
365	FT-SM-47-TUR	B8	0.55	1000	3000	.500	.210	.020	.120	.040	.100	.040	.080	.172	.148		
365	FT-SM-47-TUR-L1	B8	0.50	1000	3000	.500	.210	.020	.120	.040	.100	.040	.080	.172	.148		
366	FT-SM-6-TUR-SL	B3-4-1	0.70	750	2500	.346	.093	.020	.060	.030	.130	.040	.080	.125	.106	.015	.047

Terminal Lug: Brass, Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thick  
 Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.  
 Available off-the-shelf from Authorized Local Sealectro Distributors (white only).





# SEALCRO

# PRESS-FIT

## SECTION 2100

# TEFLON<sup>†</sup> TERMINALS

†Reg. Trademark, E. I. Du Pont de Nemours & Co.

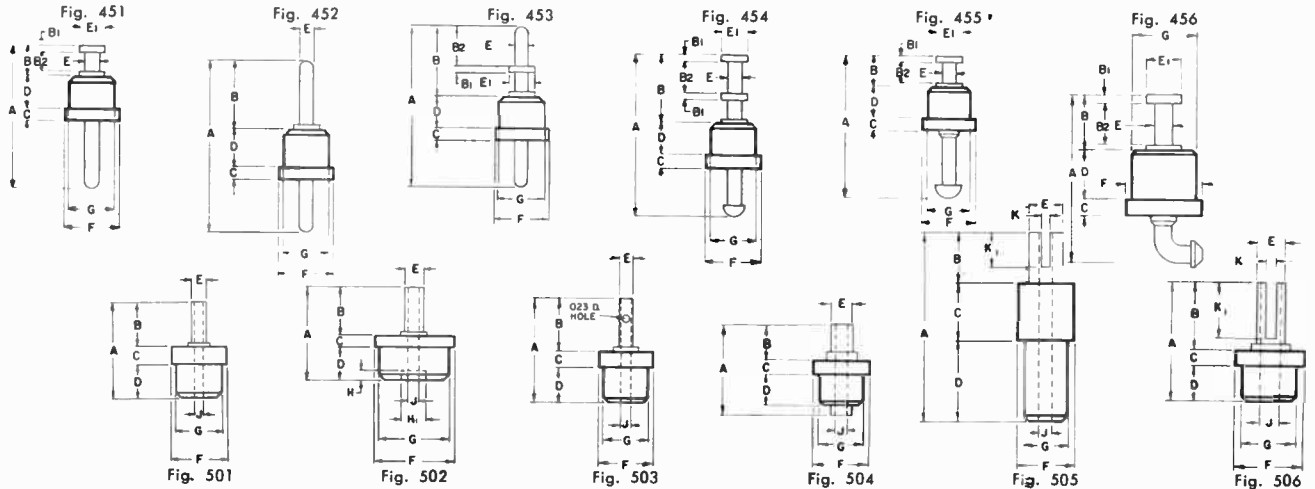
### FEED-THRUS SUBMINIATURE - SUBMINIATURE, MINIATURE (TUBULAR)

FIG.	PART No.	TOOL No.	CAPACITANCE mmf	60 CPS		A	B	B <sub>1</sub>	B <sub>2</sub>	C	D	E DIA.	E <sub>1</sub> DIA.	F DIA.	+.002 -.000 G DIA.
				V. RMS NOMINAL RATING	FLASHOVER SEA LEVEL										
451	RFT-SM-9	B8	0.50	1000	3000	.443	.093	.020	.062	.040	.100	.040	.080	.172	.148
452	*RFT-SM-1	B8	0.50	1000	3000	.515	.210			.040	.100	.040		.172	.148
452	RFT-SM-2	B8	0.40	750	2500	.515	.210			.050	.050	.040		.172	.148
452	RFT-SM-9L4	B8-19	1.15	1200	3500	2.500	1.750			.040	.132	.040		.172	.148
453	RFT-SM-47-TUR-L1	B8	0.60	1200	3500	.500	.210	.020	.120	.040	.100	.040	.080	.172	.148
454	RFT-SM-16-TUR	B3-12	0.85	500	2000	.500	.210	.020	.100	.040	.100	.040	.080	.125	.093
454	RFT-SM-23-TUR	B6	0.50	1000	3000	.500	.210	.020	.100	.040	.060	.040	.080	.150	.125
454	*RFT-SM-1-TUR	B8	0.50	1000	3000	.500	.210	.020	.100	.040	.100	.040	.080	.172	.148
454	RFT-SM-1-TUR-L6	B8	0.60	1200	3500	.609	.210	.020	.100	.040	.165	.040	.080	.172	.148
454	RFT-SM-2-TUR	B8	0.70	1000	3000	.531	.210	.020	.100	.040	.100	.040	.080	.172	.148
454	RFT-SM-2-TUR-C4	B8	0.60	1200	3500	.531	.210	.020	.100	.040	.165	.040	.080	.172	.148
454	RFT-SM-2-TUR-C6	B8	0.70	1200	3500	.531	.210	.020	.100	.040	.125	.040	.080	.172	.148
454	RFT-SM-22-TUR	B8	0.70	1200	3500	.609	.210	.020	.100	.093	.125	.040	.080	.172	.148
454	RFT-SM-21-TUR	B18	0.50	1500	4000	.531	.210	.020	.100	.040	.125	.040	.080	.218	.185
455	RFT-SM-18-TUR	B8	0.55	1000	3000	.443	.093	.020	.062	.040	.100	.040	.080	.172	.148
455	RFT-SM-32-TUR	B8	0.45	1000	3000	.350	.125	.020	.094	.040	.100	.040	.080	.172	.148
455	RFT-SM-35-TUR	B8	0.60	1000	3000	.500	.120	.020	.080	.040	.130	.040	.080	.172	.148
455	RFT-SM-37-TUR	B8	0.50	1200	3500	.493	.093	.020	.062	.040	.150	.040	.080	.172	.148
456	RFT-SM-18-TUR-L2##	B8-15-1	0.60	1000	3000	.378	.093	.020	.062	.040	.100	.040	.080	.172	.148

FIG.	PART No.	TOOL NO.	CAPACITANCE mmf	V. RMS NOMINAL RATING	60 CPS FLASHOVER SEA LEVEL	A	B	C	D	E DIA.	F DIA.	+.002 -.000 G DIA.	H	H <sub>1</sub> DIA.	J	K	K <sub>1</sub>	
																		501
501	FT-SM-59C2	B3-1	0.40	500	2000	.215	.125	.040	.050	.040	.125	.093			.030			
501	FT-SM-59L2	B3-1	0.45	500	2000	.312	.207	.040	.060	.040	.125	.093			.030			
501	FT-SM-600	B3-1	0.45	500	2000	.317	.187	.040	.090	.040	.125	.093			.030			
501	FT-SM-601	B3-1	0.40	500	2000	.405	.275	.040	.090	.040	.125	.093			.030			
501	FT-SM-54	B4-1	0.40	750	2500	.310	.207	.050	.053	.040	.130	.120			.030			
501	FT-SM-52	B6	0.40	750	2500	.225	.125	.040	.060	.040	.150	.125			.030			
501	FT-SM-50L2	B8-13-A	0.30	750	2500	.250	.147	.050	.053	.040	.172	.148			.030			
501	FT-SM-55	B8-4	0.50	1000	3000	.296	.136	.060	.100	.040	.172	.148			.030			
501	FT-SM-55L2	B8-4	0.45	1000	3000	.234	.074	.060	.100	.040	.172	.148			.030			
501	FT-SM-62	B8-13-A	0.75	750	2500	.367	.207	.050	.110	.085	.172	.148			.063			
501	FT-SM-62C2	B8-13-A	0.90	1000	3000	.413	.207	.050	.156	.085	.172	.148			.063			
501	FT-SM-62C6	B8-13-A	0.70	1000	3000	.332	.207	.050	.075	.085	.172	.148			.063			
501	FT-SM-62C8	B8-13-A	0.60	1000	3000	.312	.207	.050	.055	.085	.172	.148			.063			
501	FT-SM-62L1	B8-13-A	0.70	1000	3000	.367	.207	.050	.110	.085	.172	.148			.070			
501	FT-SM-57	B18-2	0.40	1200	3500	.367	.207	.050	.110	.040	.218	.171			.030			
501	FT-SM-60	B18-1	0.70	1000	3000	.367	.207	.050	.110	.085	.218	.171			.063			
501	FT-SM-63	B21-A	0.65	1200	3500	.367	.207	.050	.110	.085	.240	.200			.063			
502	FT-SM-56	B8-13-A	0.35	1200	3500	.307	.207	.050	.110	.040	.172	.148	.057	.050	.030			
502	FT-SM-58	B8-4	0.30	1000	3000	.282	.147	.060	.075	.040	.172	.148	.042	.070	.030			
502	FT-SM-61	B18-1	0.75	1200	3000	.417	.207	.050	.160	.085	.218	.171	.050	.085	.063			
502	FT-SM-61L2	B18-1	0.95	1000	3000	.710	.500	.050	.160	.085	.218	.171	.050	.085	.063			
502	FT-SM-51	B21	0.35	1200	3500	.367	.207	.050	.110	.040	.240	.200	.057	.050	.030			
502	FT-SM-53	B22	0.35	1200	3500	.287	.147	.040	.100	.060	.250	.218	.030	.050	.030			
503	FT-SM-55-1A	B8-4	0.45	1000	3000	.296	.136	.060	.100	.040	.172	.148			.030			
503	FT-SM-50L2-1A	B8-13-A	0.30	1000	3000	.250	.147	.050	.053	.040	.172	.148			.030			
504	FT-SM-71L4	B8-A	0.55	1000	3000	.270	.100	.040	.100	.060	.172	.148			.030			
505	FT-SM-42SL	B3-3	0.65	1500	4000	.412	.065	.109	.238	.062	.125	.089			.030	.020	.050	
505	FT-1025SL	B11	0.90	2000	5000	.602	.203	.187	.212	.148	.187	.171			.052	.072	.156	
505	†FT-150-SL	B11-A	1.0	1000	3000	.426	.203	.060	.163	.148	.218	.185			.078		.156	
506	FT-SM-59SL	B3-1	0.40	500	2000	.225	.125	.040	.060	.040	.125	.093			.030	.015	.115	
506	FT-SM-52SL	B6	0.40	750	2500	.225	.125	.040	.060	.040	.150	.125			.030	.015	.115	
506	FT-SM-50SL	B8-13-A	0.30	1000	3000	.310	.207	.050	.053	.040	.172	.148			.030	.010	.125	
506	FT-SM-62C4SL	B8-13-A	0.75	1000	3000	.320	.190	.050	.080	.085	.172	.148			.050	.030	.175	
506	FT-SM-50SL-C1	B8-13-A	0.30	1000	3000	.310	.207	.050	.053	.040	.172	.165			.030	.010	.125	
506	FT-SM-60SL	B18-1	0.70	1000	3000	.367	.207	.050	.110	.085	.218	.171			.062	.030	.175	

Terminal Lug: Brass, Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thick  
 Cavacitance and voltage measured with terminals installed in .050" thick aluminum chassis.  
 \*Available off-the-shelf from Authorized Local Sealcetro Distributors (white only).

†Silver Finish  
 ## Gold over Silver





# SEALECTRO PRESS-FIT<sup>®</sup> TEFLON<sup>†</sup> TERMINALS

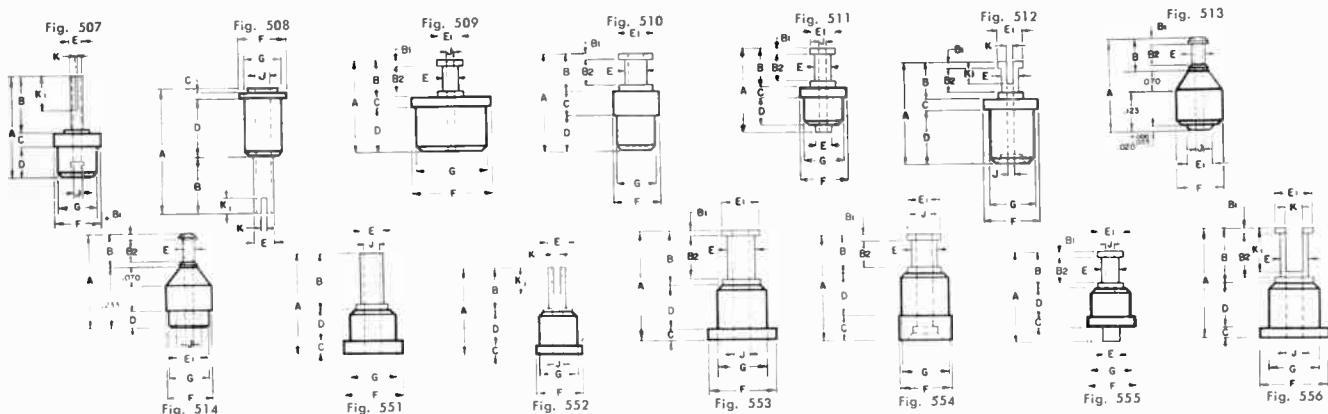
†Reg. Trademark, E. I. Du Pont de Nemours & Co.

## FEED-THRU SUBMINIATURE (TUBULAR)

FIG.	PART No.	TOOL No.	CAPACITANCE mmf	V.RMS		A	B	B <sub>1</sub>	B <sub>2</sub>	C	D	E DIA.	E <sub>1</sub> DIA.	F DIA.	+0.002 -0.000 G DIA.	J DIA.	K	K <sub>1</sub>
				NOMINAL RATING	60 CPS FLASHOVER SEA LEVEL													
507	FT-SM-65SL	B3-2B	0.40	750	2500	.294	.156			.078	.060	.060		.125	.105	.030	.015	.145
507	FT-SM-56SL	B8-13-A	0.25	1000	3000	.367	.207			.050	.110	.040		.172	.148	.030	.010	.125
508	FT-SM-66	B8-G-2	0.80	250	1500	.332	.072			.025	.220	.072		.172	.148	.052	.011	.062
508	FT-SM-66L2	B8-G-2	0.75	250	1500	.470	.210			.025	.220	.072		.172	.148	.052	.011	.062
508	FT-SM-66L4	B8-G-2	0.90	250	1500	.606	.346			.025	.220	.072		.172	.148	.052	.011	.062
509	FT-SM-702	B3-5	0.50	500	2000	.215	.125	.020		.040	.050	.040	.080	.125	.093	.030		
509	FT-SM-79	B6-A	0.50	750	2500	.273	.133	.020		.060	.080	.060	.090	.150	.125	.030		
509	FT-SM-79C4	B6-B	0.65	750	2500	.273	.133	.020	.093	.040	.100	.060	.090	.150	.125	.030		
509	FT-SM-701	B6	0.60	750	2500	.293	.133	.020		.050	.110	.060	.090	.150	.125	.030		
509	FT-SM-703	B6-B	0.50	750	2500	.233	.133	.020		.040	.060	.060	.090	.150	.125	.030		
509	FT-SM-704L2	B6-B	0.50	750	2500	.200	.090	.020	.050	.050	.060	.060	.090	.150	.125	.030		
509	FT-SM-71C2	B8-A	0.60	1000	3000	.303	.133	.020		.040	.130	.060	.090	.172	.148	.030		
509	FT-SM-71C4	B8-A	0.50	1000	3000	.238	.133	.020	.093	.040	.065	.060	.093	.172	.148	.030		
509	FT-SM-72L2	B8-13	0.50	1000	3000	.293	.133	.020	.093	.050	.110	.060	.093	.172	.148	.030		
509	FT-SM-71L2	B8-A	0.50	1000	3000	.273	.133	.020		.040	.100	.060	.090	.172	.148	.030		
509	FT-SM-350	B23-1	0.35	1200	3500	.273	.133	.020		.065	.075	.060	.090	.250	.218	.030		
509	FT-SM-70	B27	0.40	1700	4500	.333	.133	.020	.093	.040	.160	.060	.090	.297	.263	.030		
510	*FT-SM-74	B9-1	0.75	1000	3000	.351	.133	.020	.093	.093	.125	.082	.125	.172	.148	.062		
510	FT-SM-77	B10	0.80	1500	4000	.381	.133	.020	.093	.093	.155	.082	.125	.188	.171	.062		
511	FT-SM-79L2	B6-B	0.60	1000	3000	.303	.133	.020		.060	.080	.060	.090	.150	.125	.030		
511	*FT-SM-71	B8-A	0.50	1000	3000	.303	.133	.020	.093	.040	.100	.060	.090	.172	.148	.030		
511	FT-SM-71L8	B8-A	0.70	1000	3000	.460	.133	.020	.093	.040	.100	.060	.090	.172	.148	.030		
511	*FT-SM-72	B8-13	0.60	1200	3500	.333	.133	.020	.093	.050	.110	.060	.090	.172	.148	.030		
511	FT-SM-74L2	B8-13	0.85	1000	3000	.411	.133	.020		.093	.125	.082	.125	.172	.148	.062		
512	FT-SM-76SL	B17	0.75	1200	3500	.333	.133	.020	.093	.040	.160	.060	.093	.205	.169	.030	.032	.080
513	FT-SM-75		0.40	750	2500	.313	.120	.020	.080			.047	.090	.172		.031		
514	FT-EM-75L2		0.40	750	2500	.343	.120	.020	.080		.060	.047	.090	.172	.150†			
551	FT-MM-8	B3-2X	0.50	750	2500	.360	.055			.045	.260	.045		.125	.090	.030		
551	FT-SM-96	B3-2X	0.30	750	2500	.252	.100			.040	.110	.043		.125	.093	.030		
551	RFT-SM-40	B6-C	0.30	750	2500	.193	.105			.025	.063	.050		.150	.125	.030		
551	RFT-SM-52B2	B6-C	0.30	750	2500	.225	.125			.025	.075	.040		.150	.125	.030		
551	RFT-SM-52B4	B6-C	0.30	500	2000	.247	.147			.025	.075	.040		.150	.125	.030		
551	RFT-SM-50	B8	0.40	1000	3000	.310	.207			.050	.053	.040		.172	.148	.030		
551	RFT-SM-50B2	B8-X-1	0.30	1000	3000	.250	.147			.045	.053	.040		.172	.148	.030		
551	RFT-SM-50L2	B8-X-2	0.30	1000	3000	.250	.147			.050	.053	.040		.172	.148	.030		
551	RFT-SM-55	B8-X	0.45	1000	3000	.296	.136			.060	.100	.040		.172	.148	.063		
551	RFT-SM-62	B8-X-2	0.70	1000	3000	.367	.207			.050	.110	.085		.172	.148	.063		
551	RFT-SM-62L2	B8-X-2	0.70	950	2900	.310	.150			.050	.110	.085		.172	.148	.063		
551	RFT-SM-66	B8-3	0.35	750	2500	.193	.105			.025	.063	.080		.172	.148	.052		
551	RFT-SM-60	B18-X	0.70	1000	3000	.367	.207			.050	.110	.085		.218	.171	.063		
552	RFT-SM-103SL	B3-1X	0.40	500	2000	.225	.115			.020	.090	.065		.108	.093	.018	.023	.090
552	RFT-SM-1B4SL	B2-5	0.40	500	2000	.266	.146			.020	.100	.060		.125	.105	.030	.015	.130
552	RFT-SM-40SL	B6-C	0.40	500	2000	.193	.105			.025	.063	.050		.150	.125	.030	.020	.050
552	RFT-SM-41SL	B6-C	0.30	500	2000	.150	.062			.025	.063	.050		.150	.125	.030	.030	.047
552	RFT-SM-52B2-SL	B6-C	0.40	750	2500	.310	.160			.025	.125	.060		.150	.135	.030	.028	.100
553	RFT-SM-602	B3-6	0.40	500	2000	.200	.100	.010		.020	.080	.050	.070	.125	.093	.030		
553	RFT-SM-78D1	B6-C	0.35	750	2500	.200	.100	.010	.080	.025	.075	.060	.090	.150	.123	.030		
553	RFT-SM-74	B9	1.00	750	2500	.351	.133	.020	.093	.093	.125	.082	.125	.172	.148	.062		
554	RFT-SM-72BC-2	B9	0.60	1200	3500	.392	.162	.020	.130	.100	.130	.060	.093	.172	.148	.042		
554	RFT-SM-77	B10	0.60	1200	3500	.381	.133	.020	.093	.093	.155	.090	.125	.188	.177	.062		
555	RFT-SM-71	B8	0.60	1000	3000	.333	.133	.020	.093	.040	.100	.060	.093	.172	.148	.030		
555	RFT-SM-71L2	B8-X-1	0.50	750	2500	.273	.133	.020	.093	.040	.100	.060	.093	.172	.148	.030		
555	RFT-SM-72C4	B8	0.50	1000	3000	.333	.133	.020		.040	.130	.060	.093	.172	.148	.030		
556	RFT-SM-602SL	B3-6	0.40	500	2000	.200	.100	.010	.080	.020	.080	.050	.070	.125	.093	.030	.030	.080
556	RFT-SM-602SL-C2	B3-6	0.50	750	2500	.260	.100	.010	.080	.020	.140	.050	.070	.125	.093	.030	.030	.040
556	RFT-SM-78SL	B7-B	0.55	500	2000	.200	.100	.010	.080	.020	.080	.085	.115	.160	.143	.060	.030	.090

Terminal Lug: Brass, Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thick  
Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.

† ±.005



\* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).





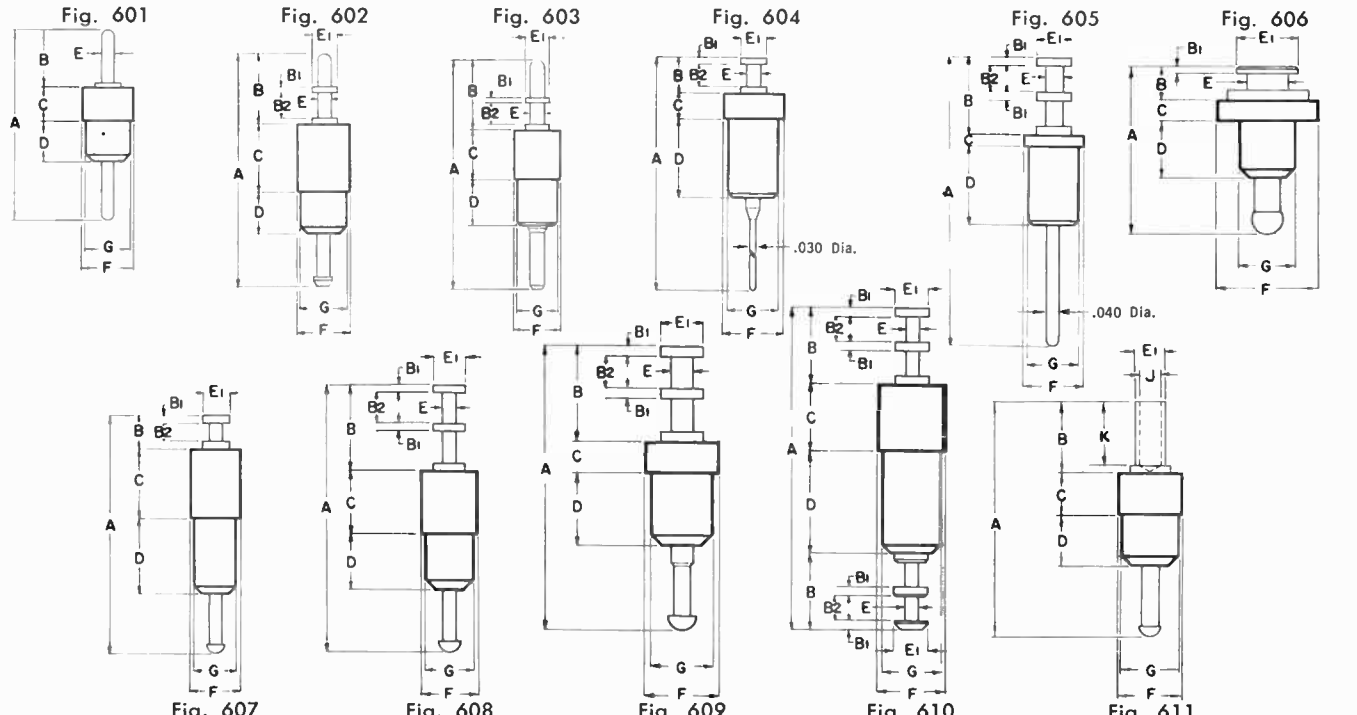
# SEAELECTRO PRESS-FIT<sup>®</sup> TEFLON<sup>†</sup> TERMINALS

† Reg. Trademark, E. I. Du Pont de Nemours & Co.

## FEED-THRU MINIATURE

FIG.	PART No.	TOOL No.	CAPACITANCE mmf	V.RMS		A	B	B <sub>1</sub>	B <sub>2</sub>	C	D	E DIA.	E <sub>1</sub> DIA.	F DIA.	+.002 - .000 G DIA.	J DIA.	K
				NOMINAL RATING	60 CPS FLASHOVER SEA LEVEL												
601	FT-225†	B9	0.60	1500	4000	.619	.187			.140	.105	.040		.172	.148		
601	FT-800-L5†	B12	0.60	1700	4500	.675	.200			.125	.150	.040		.187	.165		
601	FT-311†	B10	0.60	1700	4500	.540	.133			.063	.171	.046		.187	.171		
601	FT-1000-L5†	B13-3A	0.80	2000	5000	.740	.125			.187	.212	.063		.187	.171		
601	FT-1500-L5†	B13	0.80	2500	6000	.865	.125			.250	.275	.050		.187	.171		
602	FT-1101	B12-3	0.75	2000	5000	.836	.250	.020	.093	.250	.150	.050	.093	.187	.171		
603	FT-992	B9-3	0.75	1700	4500	.836	.250	.020	.073	.187	.165	.050	.093	.172	.148		
603	FT-1001	B13	0.75	2000	5000	.836	.250	.020	.093	.187	.212	.050	.093	.187	.171		
604	FT-M-1†	B19	1.10	2000	5000	2.005	.125	.020	.085	.093	.287	.050	.093	.218	.185		
604	FT-M-1L2†	B19	0.75	2000	5000	1.000	.125	.020	.085	.093	.287	.050	.093	.218	.185		
604	FT-M-2BC†	B19	1.00	2000	5000	2.000	.125	.020	.085	.230	.150	.050	.093	.218	.185		
605	FT-M-3‡	B18-1B	0.95	1000	3000	1.052	.281	.031	.093	.046	.287	.060	.125	.218	.185		
606	FT-310#	B10	0.75	1700	4500	.540	.133	.020	.093	.063	.171	.046	.093	.187	.171		
606	FT-320†#	B28-A	0.70	1700	4500	.540	.133	.020	.093	.063	.171	.046	.093	.312	.171		
606	FT-325‡	B28	1.20	750	2500	.506	.099	.020	.048	.063	.171	.125	.188	.312	.171		
607	FT-960	B13	0.70	1500	4000	.740	.125	.031	.062	.187	.125	.050	.093	.187	.171		
607	*FT-1000	B13	0.70	2200	5500	.740	.125	.031	.062	.187	.212	.050	.093	.187	.171		
607	*FT-1000B1	B24	0.80	2500	6000	.740	.125	.031	.062	.187	.212	.050	.093	.250	.171		
607	*FT-1100	B12-3	0.70	2500	6000	.740	.125	.031	.062	.250	.150	.050	.093	.187	.171		
607	*FT-1500	B12-3	0.70	3000	7000	.865	.125	.031	.062	.250	.275	.050	.093	.187	.171		
607	FT-1990	B13	0.90	2500	6000	1.115	.125	.031	.062	.365	.318	.050	.125	.187	.171		
607	FT-1995	B13	0.90	2500	6000	1.115	.125	.031	.062	.375	.340	.050	.125	.187	.171		
607	FT-2000	B13-3B	0.95	3500	8000	1.115	.125	.031	.062	.375	.400	.050	.125	.187	.171		
607	FT-2000B2	B13-3B	0.80	2000	5000	1.115	.125	.031	.062	.562	.212	.050	.125	.187	.171		
607	FT-2500C1	B26	1.45	4500	10000	1.365	.125	.031	.062	.500	.525	.050	.125	.250	.171		
607	FT-4000C1	B26	1.65	6000	13000	1.965	.125	.031	.062	.800	.825	.050	.125	.250	.171		
607	FT-400	B19-A	0.80	2000	5000	.640	.133	.020	.093	.093	.210	.046	.093	.215	.185		
607	FT-410	B19-A	0.80	2000	5000	.718	.133	.020	.093	.093	.288	.046	.093	.215	.185		
607	FT-2500	B26	1.70	4500	10000	1.365	.125	.031	.062	.500	.525	.050	.125	.250	.217		
607	FT-4000	B26	1.50	6000	13000	1.965	.125	.031	.062	.800	.825	.050	.125	.250	.217		
608	FT-990-DTUR	B9-3	0.80	1500	4000	.836	.250	.020	.093	.187	.165	.050	.093	.172	.148		
608	FT-995-DTUR	B9-3	0.85	1500	4000	.836	.250	.020	.093	.125	.230	.050	.093	.172	.148		
608	FT-1000-DTUR-C3	B13-3B	0.75	2000	5000	.836	.250	.020	.093	.187	.212	.050	.093	.187	.165		
608	*FT-1000-DTUR	B13-3B	0.80	2000	5000	.836	.250	.020	.093	.187	.212	.050	.093	.187	.171		
608	FT-1100-DTUR	B12-3	0.75	2000	5000	.836	.250	.020	.093	.250	.150	.050	.093	.187	.171		
608	FT-2000-DTUR	B13	1.00	3500	8000	1.337	.281	.031	.093	.375	.400	.050	.093	.187	.171		
608	FT-1050-DTCR	B24	0.80	2500	6000	.836	.250	.020	.093	.187	.212	.050	.093	.250	.204		
608	FT-1050-DTUR-C3	B24	0.70	2500	6000	.836	.250	.020	.093	.187	.212	.050	.093	.250	.230		
609	*FT-950-DTUR†	B12	1.00	1500	4000	.828	.281	.031	.093	.125	.200	.062	.125	.187	.171		
609	*FT-940-DTUR†	B19-A	1.00	1200	3500	.828	.281	.031	.093	.094	.210	.062	.125	.218	.185		
609	FT-996-DTUR†	B19-A	1.00	2500	6000	.828	.281	.031	.093	.187	.212	.062	.125	.218	.185		
610	*FT-1550-DTUR	B24-A	1.25	3000	7000	1.187	.281	.031	.093	.250	.375	.062	.125	.250	.218		
610	FT-2550-DTUR	B26	1.60	5000	11000	1.687	.281	.031	.093	.500	.625	.062	.125	.250	.218		
610	FT-4050-DTUR	B40	1.90	6000	13000	2.287	.281	.031	.093	.800	.925	.062	.125	.250	.218		
611	FT-800	B12	0.75	1700	4500	.680	.207			.125	.150		.085	.187	.171	.063	.187
611	FT-801‡	B12	0.70	1700	4500	.535	.062			.125	.150		.085	.187	.171	.067	.062

Terminal Lug: Brass, Silver Plated .0003" Min. Thick. † Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thick  
 Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis # Seating Turret E1 dimension.  
 ‡ Gold flash over silver.



\* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).



# SEAELECTRO PRESS-FIT<sup>®</sup> TEFLON<sup>†</sup> TERMINALS

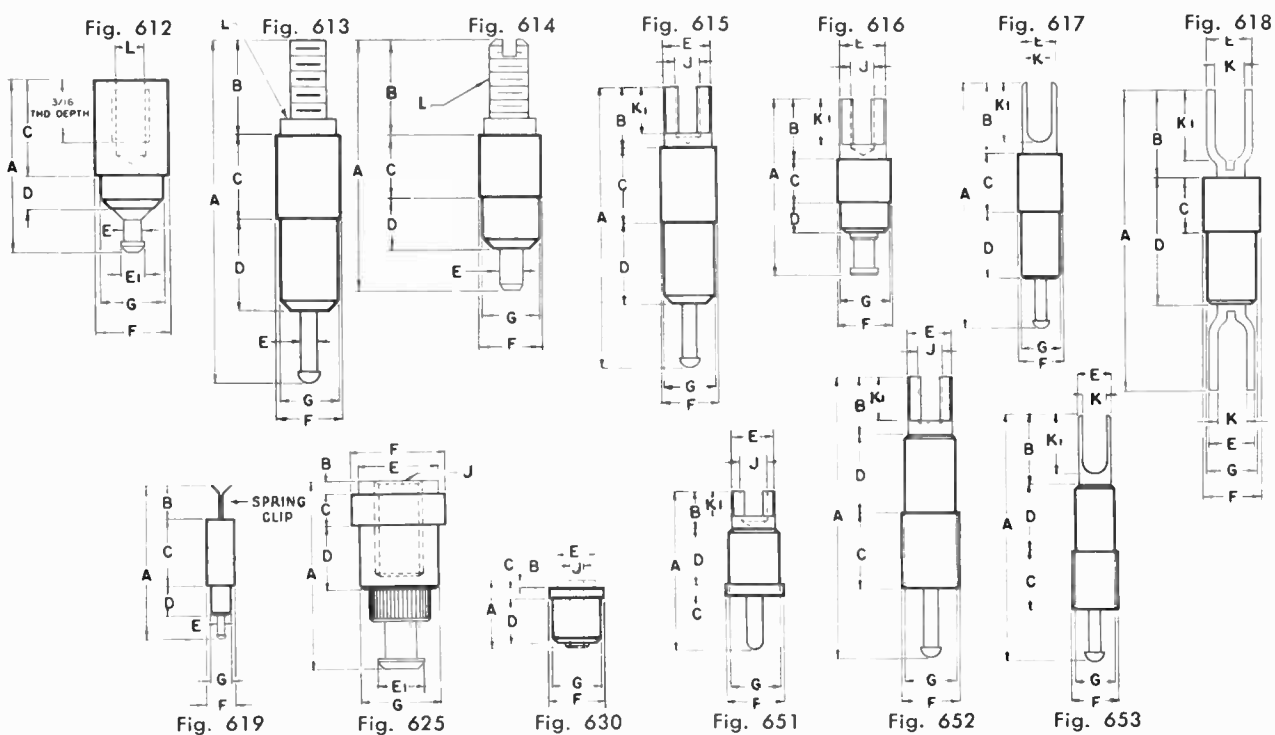
†Reg. Trademark, E. I. Du Pont de Nemours & Co.

## FEED-THRUS MINIATURE

FIG.	PART No.	TOOL No.	CAPACITANCE mmf	V.RMS		A	B	C	D	E DIA.	E <sub>1</sub> DIA.	F DIA.	+.002 -.000 G DIA.	J DIA.	K	K <sub>1</sub>	L Class 2
				NOMINAL RATING	60 CPS FLASHOVER SEA LEVEL												
612	FT-E-4‡	B19	1.00	1500	4000	.500		.281	.100	.050	.062	.218	.185				4-40
613	FT-1000T	B13-2	0.80	2000	5000	.899	.281	.187	.212	.050		.187	.171				4-36
613	FT-1000T1	B13-2	0.80	2000	5000	.899	.281	.187	.212	.050		.187	.171				4-40
613	FT-1500T	B13-2	0.90	2500	6000	1.024	.281	.250	.275	.050		.187	.171				4-36
613	FT-1500T1	B13-2	0.90	2500	6000	1.024	.281	.250	.275	.050		.187	.171				4-40
613	FT-1800T1	B13-6	0.90	2000	5000	1.039	.421	.187	.212	.050		.187	.171				4-40#
613	FT-2000T	B13-2	0.95	3500	8000	1.274	.281	.375	.400	.050		.187	.171				4-36
613	FT-2000T1	B13-2	0.95	3500	8000	1.274	.281	.375	.400	.050		.187	.171				4-40
614	FT-500T1	B13-4	0.80	1500	4000	.743	.281	.187	.150	.070		.187	.171				4-40
615	*FT-1000SL	B11	0.80	2000	5000	.821	.203	.187	.212	.148		.187	.171	.078		.156	
615	FT-1000SL-1L	B11	0.75	2000	5000	.821	.203	.187	.212	.148		.187	.171	.046		.156	
615	FT-1000SL-C2	B11	0.80	2000	5000	.821	.203	.187	.230	.148		.187	.171	.078		.156	
615	*FT-1500SL	B13-X-3	0.90	2500	6000	.947	.203	.250	.275	.148		.187	.171	.078		.156	
615	FT-1500SL-1L	B13-X-3	0.80	2500	6000	.947	.203	.250	.275	.148		.187	.171	.046		.156	
615	FT-2000SL	B11	1.20	3500	8000	1.197	.203	.375	.400	.148		.187	.171	.078		.156	
615	FT-2000SL-1L	B11	0.85	3500	8000	1.197	.203	.375	.400	.148		.187	.171	.046		.156	
615	FT-2030SL	B11	1.10	2500	6000	1.197	.203	.225	.550	.148		.187	.171	.078		.156	
615	FT-2035SL	B11	1.00	2500	6000	1.197	.203	.250	.525	.148		.187	.171	.078		.156	
616	FT-900SL	B11	0.90	1000	3000	.593	.203	.150	.100	.148		.187	.171	.078		.156	
617	FT-1500ML	B13-B	0.90	2500	6000	1.040	.296	.250	.275	.148		.187	.171		.110	.250	
618	FT-35ML	B11-C	1.40	2000	5000	1.015	.296	.187	.427	.150		.187	.171		.090	.234	
619	FT-2010ML†	B33	1.35	2500	6000	1.285	.281	.562	.250	.050		.250	.171				
625	FT-1600T10	B32-1	1.80	2000	5000	.737	.050	.125	.250	.125	.187	.375	.312	##			
630	FT-E-2‡	B10	0.85	1000	3000	.225	.020	.040	.150	.125		.187	.165	**			
630	FT-E-1	B23-X-1	0.90	1000	3000	.225	.015	.040	.155	.195		.250	.203	.096			
630	FT-E-5	B23-X-1	0.75	1000	3000	.210	.010	.040	.155	.170		.250	.203	.072			
651	RFT-195SL	B10	0.60	1000	3000	.477	.125	.040	.187	.148		.187	.171	.078		.078	
651	RFT-200SL	B10	0.70	1000	3000	.532	.125	.040	.187	.148		.187	.171	.078		.078	
651	RFT-210SL	B10	0.70	1000	3000	.586	.125	.040	.140	.148		.187	.171	.078		.078	
652	RFT-1000SL	B13	0.80	2000	5000	.821	.203	.187	.212	.148		.187	.171	.078		.156	
652	RFT-1500SL	B13-X-1	1.00	2500	6000	.947	.203	.250	.275	.148		.187	.171	.078		.156	
652	RFT-2000SL	B13	1.00	3500	8000	1.197	.203	.375	.400	.148		.187	.171	.078		.156	
653	RFT-1500ML	B13	0.95	2500	6000	1.040	.296	.250	.275	.148		.187	.171		.110	.250	

Terminal Lug: Brass, Silver Plated .0003" Min. Thick.  
 Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.  
 ‡ Gold Flash over Silver. # .156 Hex Brass Base.

\*\* 0-80 Thread.  
 ## 10/32 Thread.  
 † Solder dip on tail only.





# SEAELECTRO PRESS-FIT<sup>®</sup> TEFLON<sup>†</sup> TERMINALS

†Reg. Trademark, E. I. Du Pont de Nemours & Co.

## SEMI-ASSEMBLED STAND-OFFS SUBMINIATURE

Fig.	IBM Part No.	Description	Tool No.	A	B	B <sub>1</sub>	B <sub>2</sub>	C	D	E	E <sub>1</sub>	F Dia.	±.002 G Dia.	K	K <sub>1</sub>	±.015 R
1	045175	RST-2-SM-1160L3	2P-8	.290	.140			.060	.100	.040		.120	.084			.034
1	045185	RST-2-SM-1160L5	2P-8	.350	.200			.060	.100	.040		.120	.084			.054
1	045160	RST-2-SM-1160	2P-9	.350	.160			.075	.130	.040		.172	.132			.047
1	045165	RST-2-2M-1160L1	2P-9	.390	.200			.075	.130	.040		.172	.132			.047
1	045170	RST-2-SM-1160L2	2P-9	.480	.200			.080	.220	.040		.172	.132			.109
1	045180	RST-2-SM-1160L4	2P-21	.275	.125			.050	.115	.040		.172	.132			.047
1	045190	RST-2-SM-1160L6	2P-21	.350	.200			.050	.115	.040		.172	.132			.047
1	045485	RST-2-SM-1179L1	2P-4	.650	.200			.100	.370	.047		.167	.152			.050
2	045260	RST-2-SM-1160TUR	2P-7	.350	.160	.020	.110	.075	.130	.040	.C60	.172	.132			.047
3	045400	RST-2-SM-1165SL	2P-22	.290	.150			.050	.100	.078		.120	.084	.041	.130	.034
3	045430	RST-2-SM-1167SL	2P-5	.320	.160			.050	.120	.084		.120	.084	.041	.140	.051
3	045410	RST-2-SM-1166SL	2P-6	.380	.175			.050	.175	.098		.172	.132	.045	.098	.080
3	045260	RST-2-SM-1160SL	2P-6	.340	.175			.050	.130	.098		.172	.132	.045	.140	.051

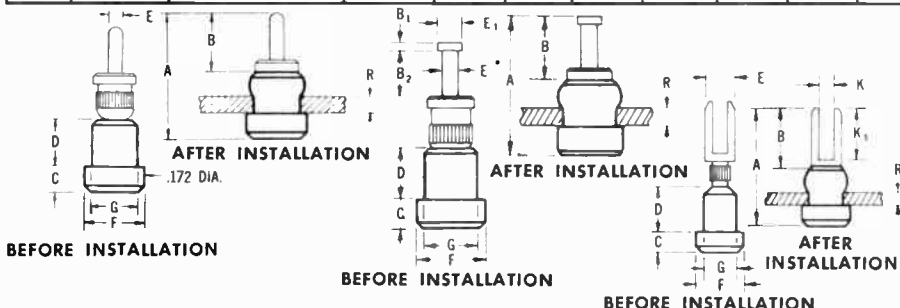


Fig. 1.

Fig. 2

Fig. 3

### CHASSIS HOLE INFORMATION

Minor Terminal Diameter (G)	Chassis Mounting Hole Dimensions (Dia.)
.084	.086
.132	.136
.134	.138
.152	.156

## SEMI-ASSEMBLED FEED-THRU SUBMINIATURE

Fig.	IBM Part No.	Description	Tool No.	A	B	B <sub>1</sub>	B <sub>2</sub>	C	D	E	E <sub>1</sub>	F Dia.	±.002 G Dia.	K	K <sub>1</sub>	±.015 R
4	075168	FT-2-SM-1162L1	2P-19	.480	.200			.060	.100	.040		.120	.084			.034
4	075167	FT-2-SM-1162	2P-19	.420	.140			.060	.100	.040		.120	.084			.034
4	075170	FT-2-SM-1162L2	2P-19	.375	.095			.060	.100	.040		.120	.084			.034
4	075160	FT-2-SM-1160	2P-23	.510	.160			.075	.130	.040		.172	.132			.047
4	075165	FT-2-SM-1161	2P-23	.590	.200			.075	.130	.040		.172	.132			.047
4	075180	FT-2-SM-1163	2P-14	.590	.200			.075	.130	.060		.172	.132			.047
4	075360	FT-2-SM-1200	2P-24	.350	.100			.050	.115	.040		.172	.132			.040
4	075240	FT-2-SM-1169	2P-23	.446	.125			.075	.100	.040		.172	.134			.016
4	075275	FT-2-SM-1179	2P-17	.900	.250			.100	.370	.047		.187	.152			.050
5	075280	*FT-2-SM-1180TUR	2P-15	.360	.080	.020	.040	.060	.100	.035	.055	.120	.084			.034
5	075300	*FT-2-SM-1182TUR	2P-15	.420	.140	.020	.100	.060	.100	.035	.055	.120	.084			.034
5	075330	*FT-2-SM-1185TUR	2P-25	.475	.160	.020	.140	.040	.130	.040	.C60	.172	.132			.047
6	075215	FT-2-SM-1166SL	2P-1	.395	.160			.040	.100	.040	.084	.120	.084	.041	.140	.034
6	075220	FT-2-SM-1167SL	2P-1	.445	.160			.040	.120	.035	.084	.120	.084	.041	.140	.051
6	075230	FT-2-SM-1168SL	2P-11	.415	.150			.040	.100	.035	.084	.120	.084	.041	.130	.034
6	075175	FT-2-SM-1162SL	2P-18	.525	.175			.075	.130		.098	.172	.132	.045	.140	.047
6	075185	FT-2-SM-1163SL	2P-13	.465	.175			.040	.130	.040	.098	.172	.132	.045	.140	.047
6	075195	FT-2-SM-1164SL	2P-13	.465	.175			.040	.130	.040	.098	.172	.132	.045	.140	.051
6	075340	FT-2-SM-1190SL	2P-26	.515	.175			.050	.175	.040	.098	.172	.132	.045	.140	.080
7	075270	FT-2-SM-1178	2P-10	.400	.125			.050	.115	.040	.080	.172	.132			.047

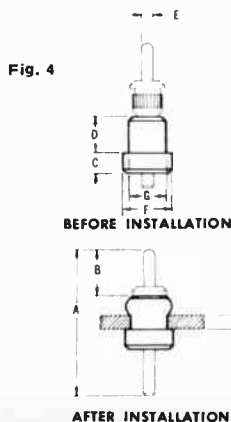


Fig. 4

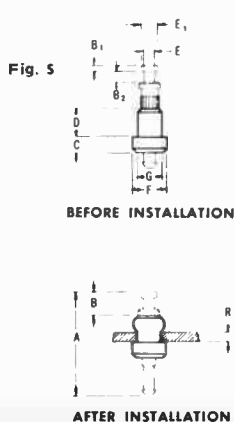


Fig. 5

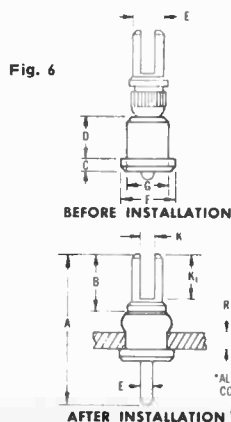


Fig. 6

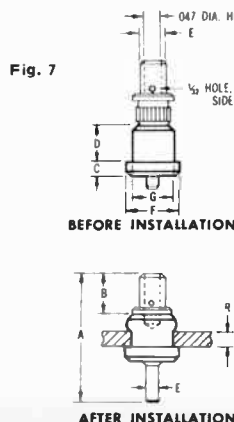


Fig. 7



# SEAELECTRO PRESS-FIT® TEFLON† TERMINALS

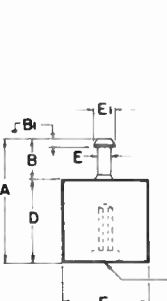
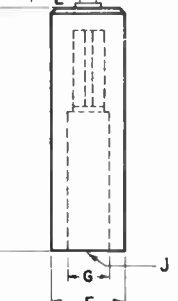
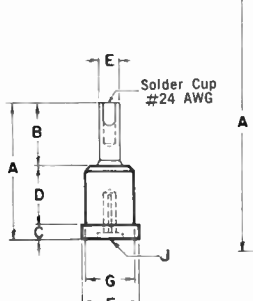
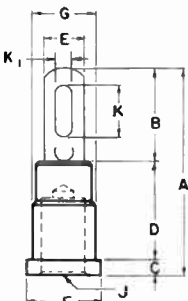
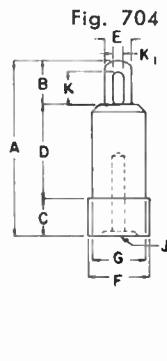
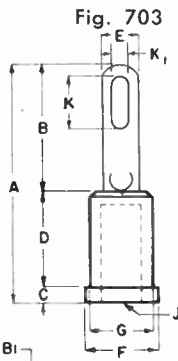
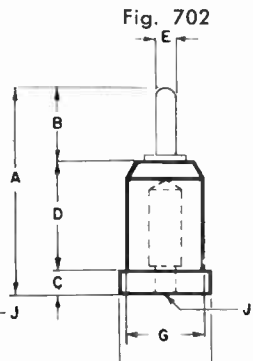
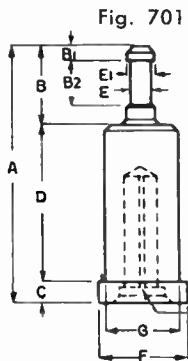
†Reg. Trademark, E. I. Du Pont de Nemours & Co.

## TEST POINT JACKS

FIG.	PART No.	TOOL No.	CAPACITANCE mmf	V.RMS		REF. A	B	B <sub>1</sub>	B <sub>2</sub>	C	D	E DIA.	E <sub>1</sub> DIA.	F DIA.	±.002 - .000 G DIA.	J* PROBE DIA.	J <sub>1</sub> PROBE LNTH	K	K <sub>1</sub>
				NOMINAL RATING	60 CPS FLASHOVER SEA LEVEL														
701	SKT-13C3	S13-1	0.45	500	2000	.203	.060	.010	.040	.030	.113	.046	.080	.150	.120	.040	.078		
701	SKT-22	S4	0.20	1500	4000	.449	.120	.030	.060	.046	.283	.040	.060	.142	.120	.040	.245		
701	SKT-22C2	S22	0.30	1500	4000	.410	.120	.030	.060	.046	.244	.040	.060	.142	.120	.040	.205		
701	SKT-13B2	S14	0.30	750	2500	.253	.060	.010	.040	.050	.143	.046	.080	.172	.140	.040	.125		
701	SKT-14B2	S14	0.30	1000	3000	.345	.120	.023	.077	.046	.179	.040	.060	.172	.140	.040	.140		
701	SKT-13B4	S13	0.40	750	2500	.203	.060	.010	.040	.046	.097	.046	.080	.172	.148	.040	.078		
701	SKT-13L2	S13	0.40	750	2500	.190	.050	.010	.030	.046	.094	.046	.080	.172	.148	.040	.078		
701	*SKT-14	S5	0.35	1000	3000	.345	.120	.023	.077	.046	.179	.040	.060	.172	.148	.040	.140		
701	*SKT-2BC	S2	0.70	1000	3000	.437	.120	.037	.053	.046	.271	.054	.074	.218	.185†	.090	.195		
701	*SKT-5BC	S2	0.60	1000	3000	.437	.120	.037	.053	.046	.271	.054	.074	.218	.185†	.080	.195		
701	SKT-5BC-C2	S35	0.45	1000	3000	.453	.120	.037	.053	.046	.287	.054	.074	.218	.185†	.050	.195		
701	*SKT-10	S1	0.70	1200	3500	.640	.187	.037	.104	.050	.400	.054	.074	.218	.185†	.080	.287		
701	*SKT-37C1	S12	0.55	1000	3000	.340	.120	.023	.077	.046	.174	.054	.074	.218	.185†	.090	.140		
701	*SKT-41	S2	0.55	1200	3500	.467	.120	.035	.047	.046	.301	.054	.074	.218	.185†	.080	.225		
701	SKT-42	S23-1	0.40	2000	5000	.455	.105	.020	.065	.050	.300	.080	.125	.218	.185†	.080	.315		
701	SKT-27	S11	0.80	3200	7500	.761	.187	.035	.116	.187	.386	.054	.074	.218	.200	.093	.455		
701	SKT-27L1	S12	0.70	2000	5000	.699	.187	.035	.116	.125	.386	.054	.074	.218	.200	.093	.390		
701	SKT-0930	S37	0.70	3200	7500	.834	.187	.035	.116	.230	.417	.054	.074	.375	.200	.093	.518		
701	*SKT-3BC	S2	0.60	1000	3000	.437	.120	.037	.053	.046	.271	.054	.074	.250	.204	.080	.195		
701	SKT-19	S9	0.60	1200	3500	.400	.060	.010	.037	.046	.294	.066	.098	.250	.218	.105	.250		
702	SKT-35	B8-14	0.25	1200	3500	.400	.150			.046	.204	.040		.172	.148	.032	.200		
703	*SKT-1	S31	0.55	1200	3500	.687	.354			.046	.287	.115		.218	.185†	.050	.250	.140	.042
703	SKT-4	S30	0.40	1200	3500	.687	.354			.046	.287	.104		.218	.185†	.041	.250	.140	.050
703	*SKT-8	S1	0.50	1200	3500	.687	.330			.046	.287	.103		.218	.185†	.080	.250	.156	.046
703	SKT-8B2	S1	0.55	2000	5000	.711	.354			.070	.287	.103		.218	.185†	.080	.274	.156	.048
703	SKT-18	S25	0.50	1500	4000	.687	.354			.052	.281	.115		.218	.185†	.050	.250	.140	.042
703	SKT-20	S27	0.80	1000	3000	.687	.330			.187	.146	.103		.218	.185†	.080	.187	.156	.046
703	SKT-20L1	S25	0.75	1000	3000	.687	.330			.187	.146	.110		.218	.185†	.050	.250	.156	
703	SKT-23	S28	0.65	1000	3000	.625	.355			.046	.224	.115		.218	.185†	.050	.200	.140	.042
703	SKT-26	S26	0.60	1000	3000	.718	.316			.046	.356	.104		.218	.185†	.060	.315	.125	.052
704	SKT-15	S32	0.60	3500	8000	.732	.188			.157	.387	.110		.250	.220	.050	.320	.140	.042
705	SKT-36	S28	0.80	1000	3000	.620	.287			.046	.287	.115		.218	.185†	.050	.250	.156	.052
706	SKT-31	S17	0.45	1000	3000	.408	.187			.046	.175	.060		.172	.148	.040	.135		
707	SKT-38					1.000	.060	.010			.940	.046	.078	.218	.125#	.090	.825		
707	SKT-38C1					1.000	.060	.010			.940	.046	.078	.187	.125#	.090	.825		
707	SKT-13					.203	.060	.010			.143	.046	.080	.140		.040	.075		
707	SKT-13C1					.203	.060	.010			.143	.046	.080	.120		.040	.075		
707	SKT-13L1					.203	.060	.010			.143	.046	.080	.140		.025	.075		
708	SKT-39					.370	.120	.023			.250	.040	.060	.250		.040	.165		
708	SKT-39C1					.370	.120	.023			.250	.040	.060	.270		.040	.140		
708	SKT-43B1					.460	.120	.037			.340	.054	.074	.400		.070	.250		

terminal Lug: Beryllium Copper — Gold Flash over Silver Plate.  
 capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.

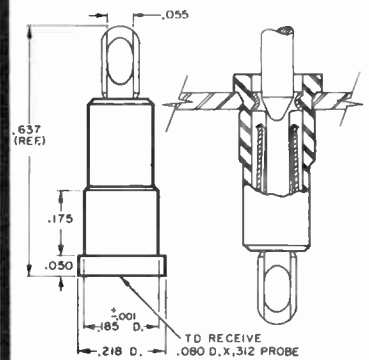
†±.001  
 ‡±.005



### SKT-0804—GUIDED ENTRY TEST POINT JACK FOR INCREASED CHASSIS PULL-OUT STRENGTH

Featuring a beryllium-copper formed lug with unique design configuration, the SKT-0804 test point jack offers greater pull-out strength and high torque resistance. The jack is designed to provide guided-entry for an .080" diameter probe. The SKT-0804 construction permits uniform retention and greater support of the Teflon bushing by the lug.

Insertion Tool No. S-38



# SEAELECTRO PRESS-FIT<sup>®</sup> TEFLON<sup>†</sup> TERMINALS

†Reg. Trademark, E. I. Du Pont de Nemours & Co.

## TEST POINT JACKS

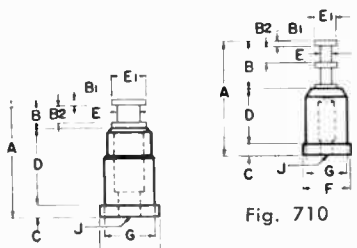


Fig. 709

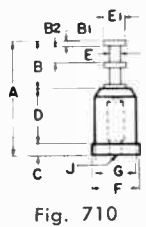


Fig. 710

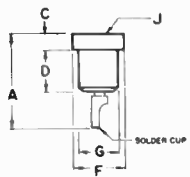


Fig. 713

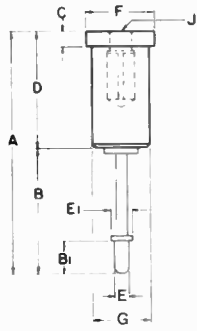


Fig. 711

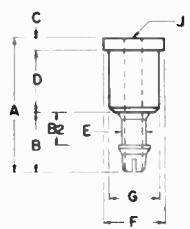


Fig. 712

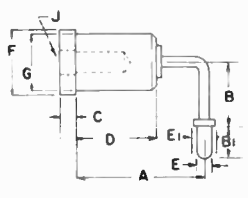


Fig. 731

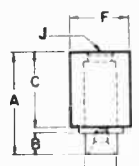


Fig. 714

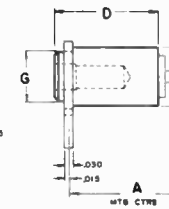


Fig. 732

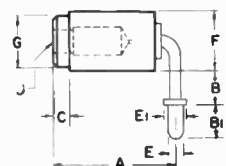


Fig. 733

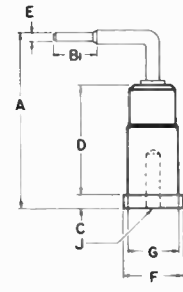


Fig. 730

FIG.	Part No.	Tool No.	Capacitance mmf	V <sub>RMS</sub> Nominal Rating	60 CPS Flashover Sea Level	Ref. A	B	B <sub>1</sub>	B <sub>2</sub>	C	D	E Dia.	E <sub>1</sub> Dia.	F Dia.	+0.002 Dia. G	J* Probe Dia.	J <sub>1</sub> Probe Lgth
709	SKT-50	S23	0.50	2700	5500	.435	.105	.020	.065	.046	.284	.080	.125	.218	.184	.080	.310
710	SKT-34	B8-14	0.25	1700	4500	.425	.175	.020	.060	.046	.250	.040	.080	.172	.184	.032	.200
710	SKT-24	S18	0.65	1000	3000	.437	.154	.020	.046	.046	.391	.050	.080	.250	.204	.080	.145
711	SKT-100	S8	0.60	2200	5500	.912	.534	.125		.060	.378	.050	.080	.250	.218	.080	.250
712	SKT-28	S20	0.70	1000	3000	.450	.180		.120	.046	.224	.110	.080	.218	.185*	.080	
713	*SKT-401	S17	0.50	1000	3000	.359	.140			.065	.154			.172	.148	.040	.125
713	*SKT-400	S17	0.50	1000	3000	.359	.140			.065	.154			.187	.148	.040	.125
713	SKT-620	S33	0.60	1200	3500	.437	.156			.065	.216			.218	.171	.062	.187
713	SKT-800	S18	0.60	1200	3500	.437	.156			.065	.216			.250	.185*	.080	.187
714	SKT-113PC					.381	.090			.281		.062		.187		.080	.250
714	SKT-110PC					.441	.078			.343		.112		.218		.080	.250
714	SKT-111PC					.381	.080			.281		.112		.218		.080	.250
730	SKT-16L2	S15	0.80	1200	3500	.640		.140		.050	.400	.031		.218	.185*	.050	.200
731	SKT-100PC	S8	0.55	2200	5500	.500	.250	.130		.042	.316	.050	.080	.250	.218	.080	.250
731	SKT-101PC	S8	0.45	2200	5500	.400	.250	.130		.042	.316	.050	.080	.250	.218	.080	.250
732	SKT-102PC		0.45	1200	3500	.500	.140	.125			.378	.050	.080	.218	.187*	.080	.250
732	SKT-102PC-B2		0.40	1500	4000	.520	.140	.130			.398	.040	.080	.218	.187*	.080	.250
732	SKT-103PC		0.50	1200	3500	.400	.140	.125			.378	.050	.080	.218	.187*	.080	.250
732	SKT-103PC-L1		0.50	1200	3500	.400	.140	.187			.378	.035	.080	.218	.187*	.080	.250
732	SKT-0802		0.50	2700	6500	.500	.140	.125			.689	.050	.080	.218	.187*	.080	.500
733	SKT-105PC					.385	.233	.125		.042		.050	.080	.219	.185*	.080	.250

Terminal Lug: Beryllium Copper, Gold Flash over Silver. \*±.001 †Tolerance ±.005  
 Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.

## TAPER PIN RECEPTACLES AND SPECIAL UNITS

Fig.	Part No.	TOOL No.	Capacitance mmf	V <sub>RMS</sub> Nominal Rating	60 CPS Flashover Sea Level	A	B	B <sub>1</sub>	B <sub>2</sub>	C	D	E Dia.	E <sub>1</sub> Dia.	F Dia.	+0.002 Dia. G
751	TP-ST-201	B22	0.70	1000	3000	.350	.133	.02C	.093	.080	.140	.093	.149	.250	.200
752	TP-ST-203	B8-13	0.90	1500	4000	.383	.133	.02C	.093	.050	.200	.093	.125	.172	.133
753	TP-ST-202	B22	0.65	1000	3000	.453	.293	.025	.093	.060	.140	.093	.149	.250	.200
753	TP-ST-202-B2	B23	0.75	1500	4000	.513	.293	.025	.093	.080	.140	.093	.149	.250	.200
754	TP-FT-200	S22	1.10	1000	3000	.593	.210	.02C	.180	.040	.143	.093	.125	.250	.200
755	TP-FT-201	B22	0.70	1000	3000	.500	.133	.02C	.093	.080	.140	.093	.149	.250	.200
756	TP-FT-100	B6A-1	1.10	1000	3000	1.798	.133	.02C	.093		.171	.080	.093		.150
757	RFT-340**	B22	0.90	1500	4000	.650	.182			.040	.138	.093	.125	.250	.200
758	PL-20**	B23-B	1.40	1000	3000	.940	.140	.02C		.050	.450	.050	.078	.250	.218

Terminal Lug: Brass, Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thick. Capacitance and voltage measured with terminals installed in .350" thick aluminum chassis. \*\*Gold Flash over Silver Plate.

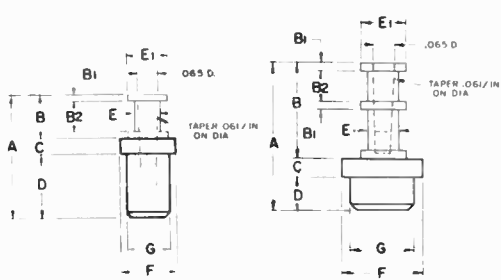


Fig. 752

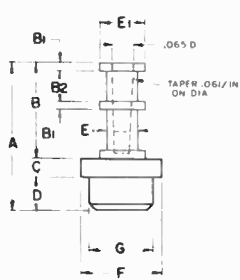


Fig. 753

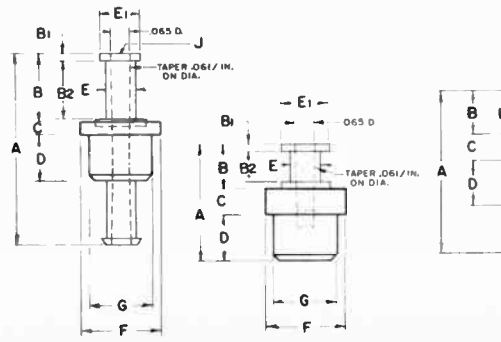


Fig. 754

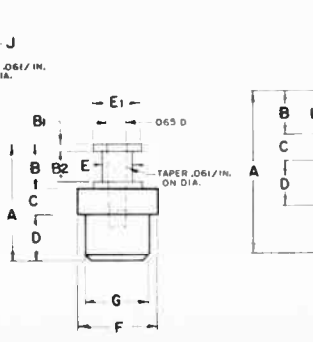


Fig. 751

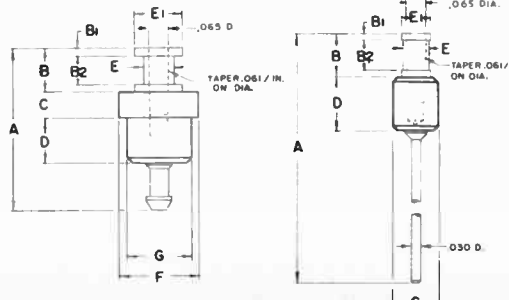


Fig. 755

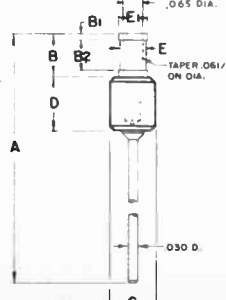


Fig. 756

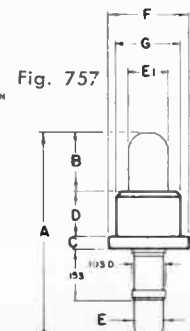


Fig. 757

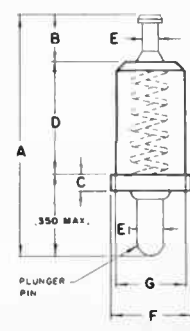


Fig. 758



# SEAELECTRO PRESS-FIT<sup>®</sup> TEFLON<sup>†</sup> TERMINALS

†Reg. Trademark, E. I. Du Pont de Nemours & Co.

## PROBES AND PLUGS

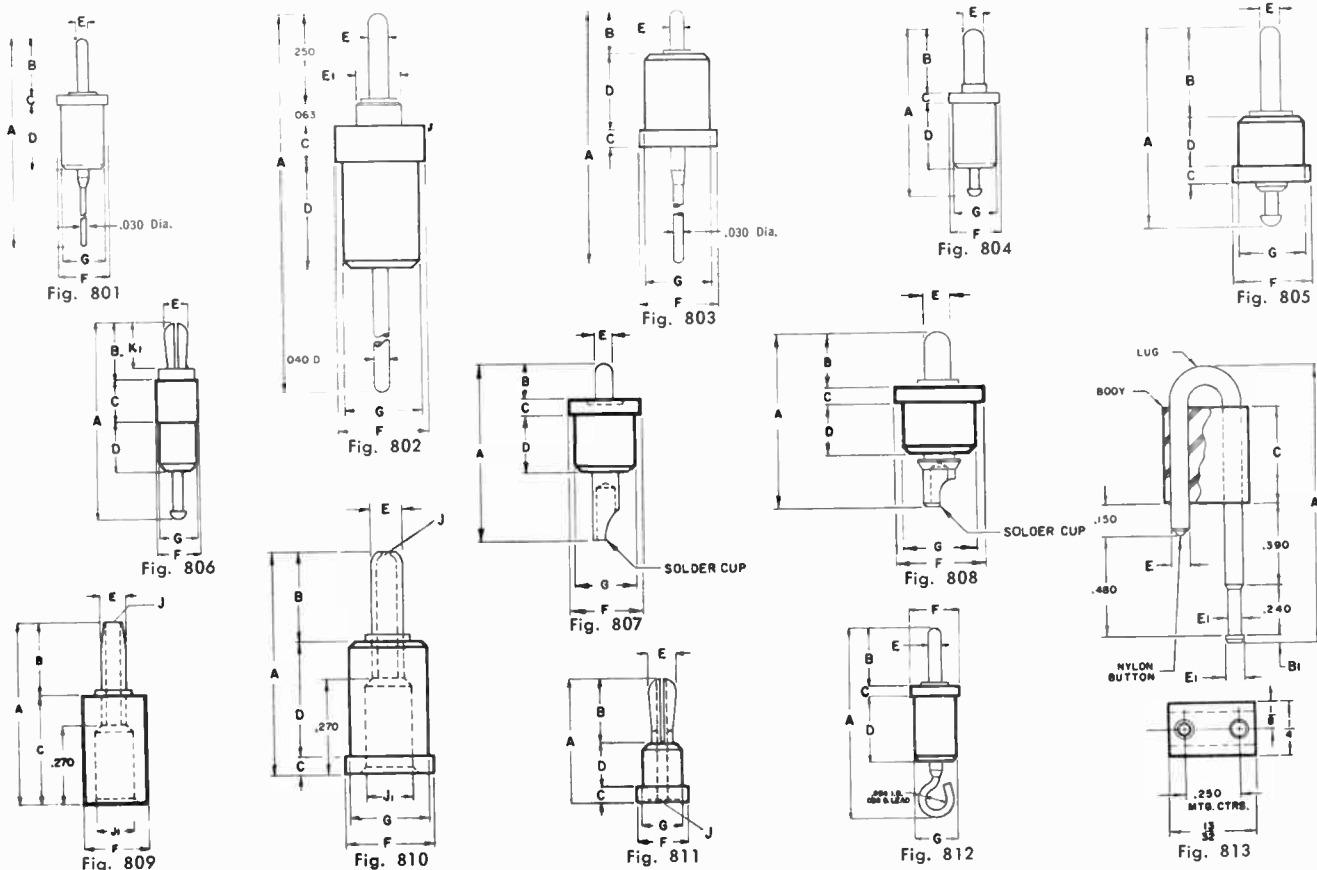
FIG.	PART No.	TOOL No.	CAPACITANCE mmf	V <sub>RMS</sub>		A	B	B <sub>1</sub>	C	D	±.001 E DIA.	E <sub>1</sub> DIA.	F DIA.	+.002 -.000 G DIA.	J DIA.	J <sub>1</sub> DIA.	K <sub>1</sub>
				NOMINAL RATING	60 CPS FLASHOVER SEA LEVEL												
801	FT-M-9C1	B8-16	1.0	1000	3000	1.937	.250		.046	.165	.050		.172	.148			
801	*FT-M-9	B18-1B	1.0	1000	3000	1.937	.250		.046	.141	.050		.218	.185†			
801	*FT-M-2	B18-1B	1.10	1000	3000	2.083	.250		.046	.287	.050*		.218	.185†			
801	FT-M-2L2	B18-1B	0.70	1000	3000	.906	.250		.046	.287	.050		.218	.185†			
801	FT-M-2L4	B18-1B	0.85	1000	3000	1.531	.250		.046	.287	.050*		.218	.185†			
801	FT-M-19	B18-1B	1.0	1000	3000	1.870	.120		.046	.250	.040		.218	.185†			
802	PR-15	B-23	0.90	3000	7000	1.531			.157	.375	.050*	.125	.250	.220			
803	RFT-M-14	B-18-1C	0.90	1700	4500	1.940	.120		.046	.320	.040*		.218	.185†			
804	FT-M-4#	B18-1B	0.80	1000	3000	.739	.281		.046	.287	.081*		.218	.185†			
804	FT-M-12	B-10	0.65	1000	3000	.687	.272		.040	.212	.040		.187	.171			
804	*FT-M-7	B18-1B	0.80	1000	3000	.739	.281		.046	.287	.081*		.218	.185†			
804	*FT-M-8	B18-1B	0.90	1000	3000	.562	.250		.046	.141	.050*		.218	.185†			
804	FT-M-8-L1	B18-E	0.90	1000	3000	.562	.250		.046	.141	.081		.218	.185†			
804	FT-M-11	B18-1B	0.90	1000	3000	.562	.250		.052	.135	.050*		.218	.185			
804	FT-M-14	B18-E	0.80	1000	3000	.906	.250		.046	.287	.050		.218	.185			
804	FT-M-16	B18-1B	0.80	1000	3000	.648	.190		.046	.287	.090*		.218	.185†			
804	FT-M-17	B18-1B	0.80	1000	3000	.612	.250		.046	.141	.062*		.218	.185†			
805	RFT-M-11	B18-E	0.80	1000	3000	.562	.250		.052	.135	.050*		.218	.185†			
806	FT-M-6###	B13-2	0.85	2000	5000	.867	.250		.187	.212	.100**		.187	.171			.203
807	*PR-10	B8-14	0.70	1000	3000	.538	.130		.046	.175	.040		.172	.148			
807	PR-10-B-L2	B-9-3	0.70	1500	4000	.571	.125		.125	.160	.040		.172	.148			
807	PR-13	B-8	0.65	1000	3000	.416	.080		.040	.135	.040		.172	.148			
807	PR-13C1	B-8	0.65	1000	3000	.416	.080		.040	.135	.040		.172	.148			
808	*PR-400	B13-3	0.55	1000	3000	.407	.125		.065	.090	.040		.187	.148			
808	PR-620	B18-1	0.55	1200	3500	.559	.187		.065	.176	.062		.218	.171			
808	*PR-800	B23-A	0.70	1200	3500	.559	.187		.065	.169	.080		.250	.185†			
809	PR-300					.645	.270		.375		.080		.218		.062	.128	
809	PR-0900					.645	.270		.375		.090		.218		.062	.128	
810	*PR-302	B22-X1				.645	.270		.050	.325	.080		.250	.218	.062	.128	
811	PR-100**	B6-X	0.75	750	2500	.365	.194		.046	.125	.077**		.150	.120	.030		
812	FT-M-5	B18-1B	0.70	1000	3000	.833	.250		.046	.287	.050		.218	.185			
812	FT-M-9L2	B18-1B	0.65	1000	3000	.682	.250		.046	.141	.050		.218	.185			
813	PR-28***					1.300	.030	.453			.080	.060					

Terminal Lug: Gold Flash over Silver Plate.  
 Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.  
 # No ball on end of Lug.  
 ## Silver Plate .0003" Min. Thick.

\*\*Beryllium Copper — E Dimension ±.003 — .002

\*\*\*Gold over Copper.

†±.001



\* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).

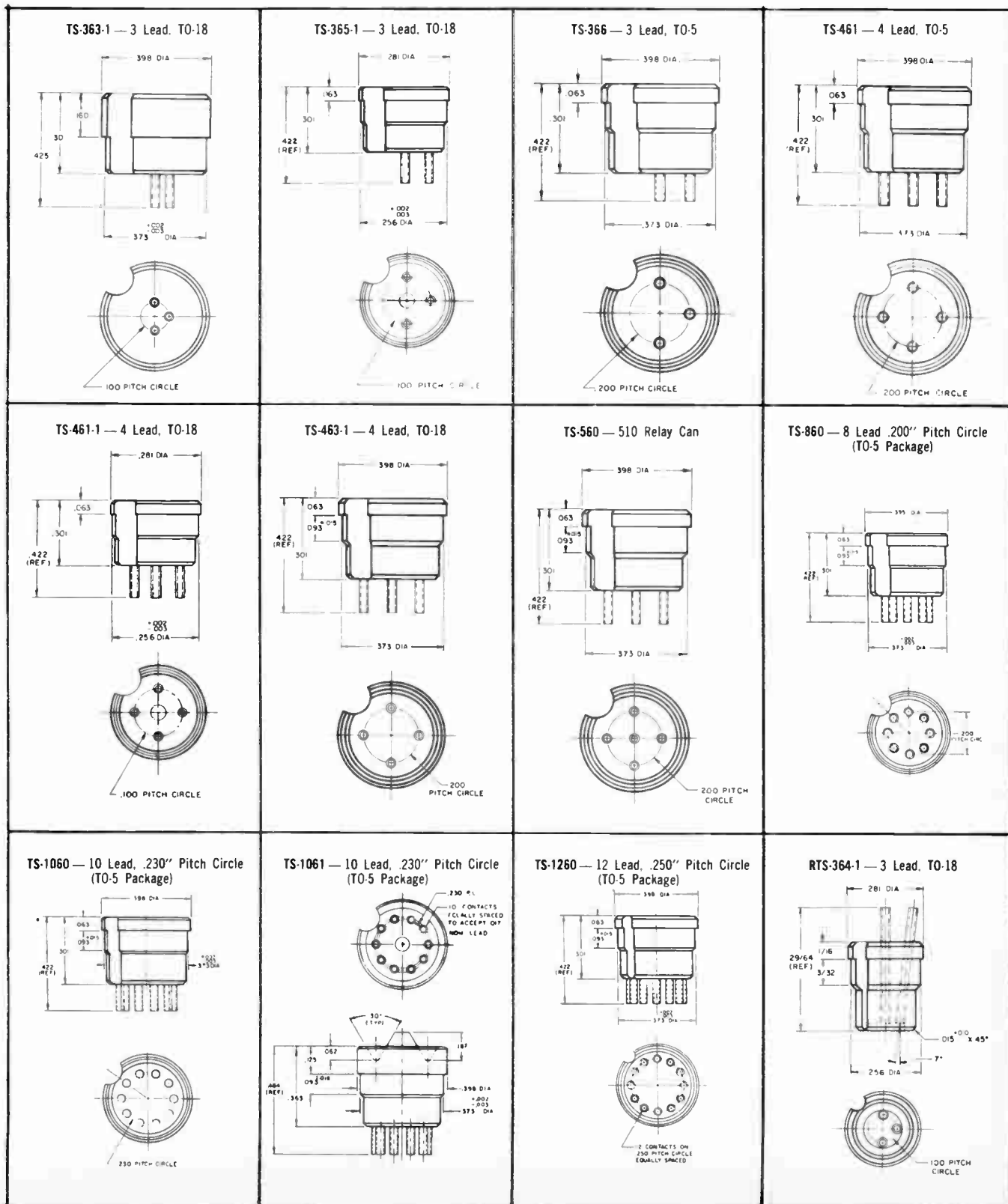


# SEALECTRO PRESS-FIT<sup>®</sup> TEFLON<sup>†</sup> TERMINALS

†Reg. Trademark, E. I. Du Pont de Nemours & Co.

## TRANSISTOR UNITS SOCKETS

### NEW — SERIES 60 TRANSISTOR AND I.C. SOCKETS

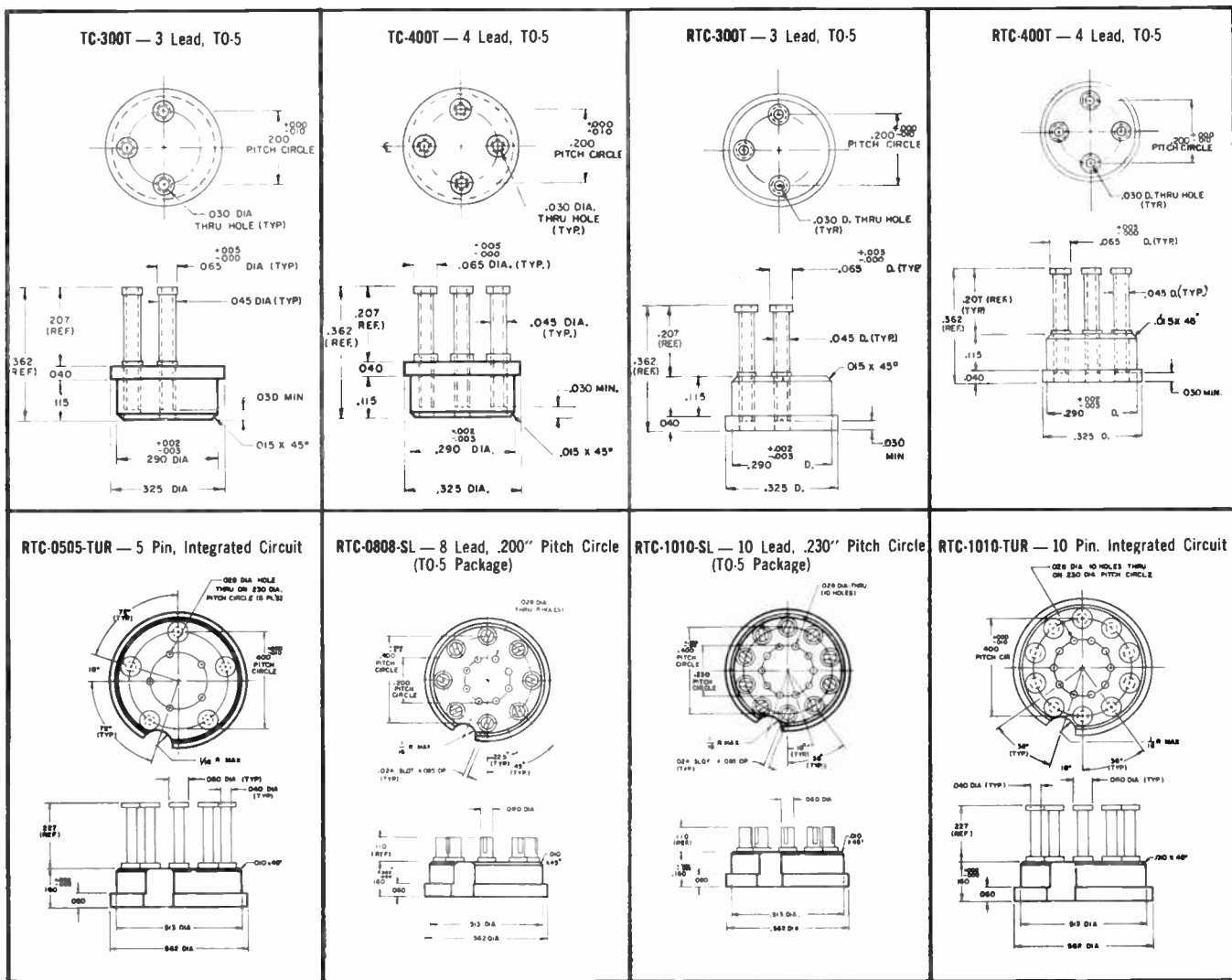




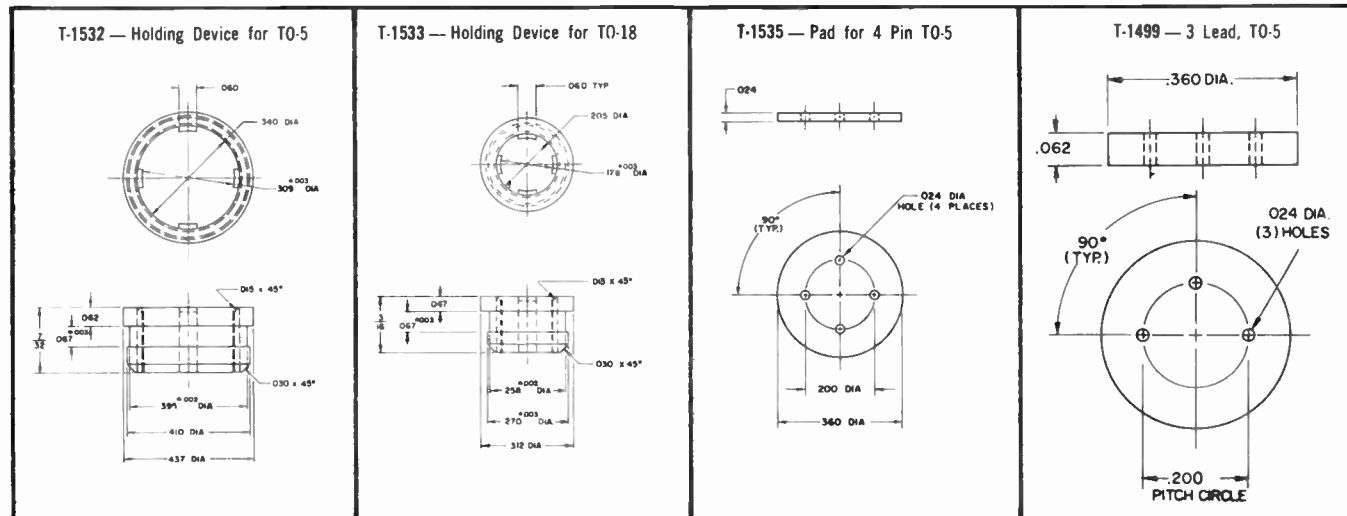
# SEALECTRO PRESS-FIT<sup>®</sup> TEFLON<sup>†</sup> TERMINALS

†Reg. Trademark, E. I. Du Pont de Nemours & Co.

## TRANSISTOR UNITS HOLDERS



## BUSHINGS AND PADS





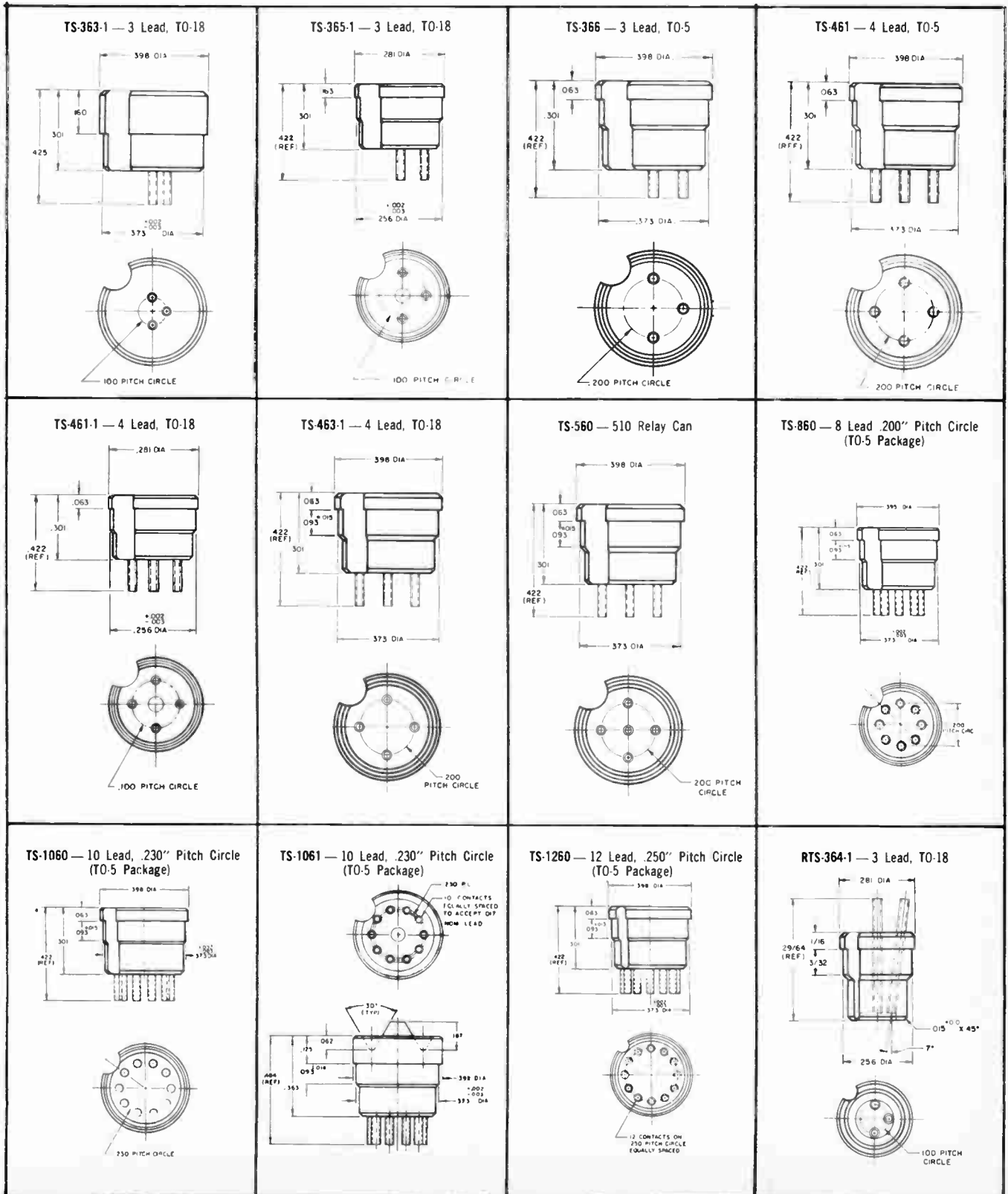


# SEALECTRO PRESS-FIT<sup>®</sup> TEFLON<sup>†</sup> TERMINALS

† Reg. Trademark, E. I. Du Pont de Nemours & Co.

## TRANSISTOR UNITS SOCKETS

### NEW — SERIES 60 TRANSISTOR AND I.C. SOCKETS







# SEALECTRO

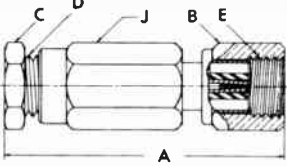
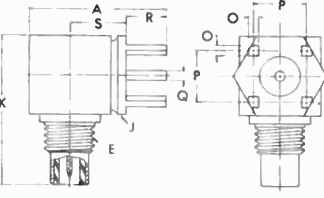
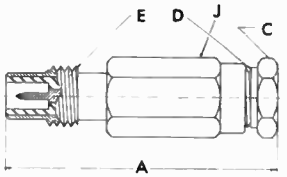
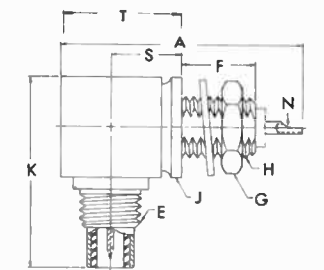
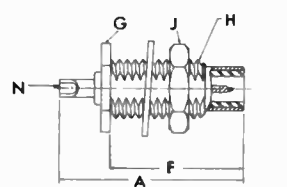
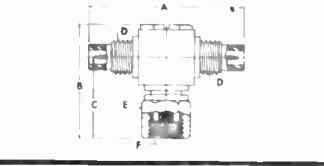
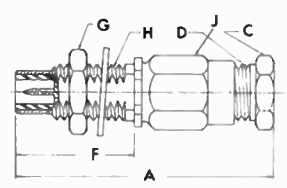
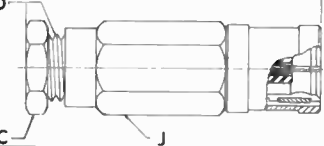
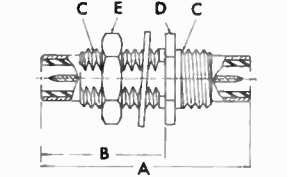
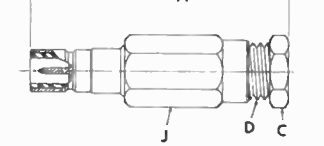
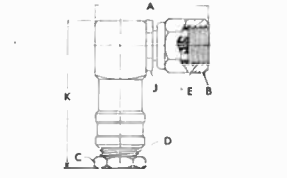
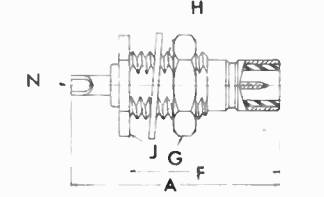
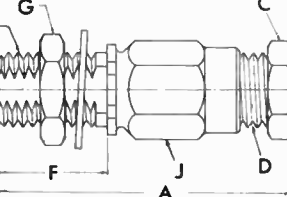
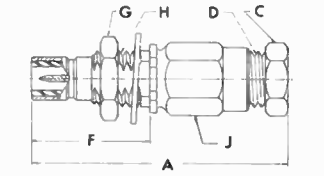
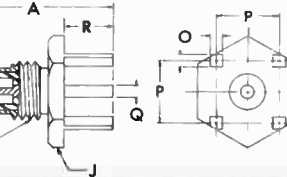
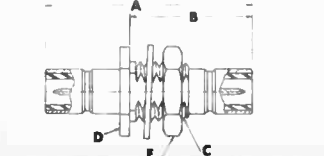


## SUB-MINIATURE R. F. CONNECTORS

PLATING: 0.0001 Gold over 0.0001 Copper.

MATING CONNECTORS: All Screw-On (Snap-On) plugs will mate with all Screw-On (Snap-On) jacks & receptacles of the same resistance rating.

U. S. Pat. No. 2,937,360

See listing on following page for typical cables.	50 OHM	75 OHM	See listing on following page for typical cables.	50 OHM	75 OHM
	<b>50-007-0000</b>	<b>50-107-0000</b>		<b>50-053-0000</b>	<b>50-153-0000</b>
	A 7/8 approx. B 15/64 HEX C 15/64 HEX D #10-32, UNF-2A E #10-32, UNF-2B J 15/64 HEX	13/16 approx. 11/32 HEX 5/16 HEX #9/32-40 UNS-2A #5/16-32, UNEF-2B 5/16 HEX		A 17/32 approx. E #10-32, UNF-2A J 5/16 HEX K 19/32 O .040 (Typ.) P .200 Q .038D R .155 S .215	19/32 approx. #5/16-32, UNEF-2A 3/8 HEX 21/32 .040 (Typ.) .200 .038D .155 .247
	<b>50-008-0000</b>	<b>50-108-0000</b>		<b>50-047-0000</b>	<b>50-147-0000</b>
	A 27/32 approx. C 15/64 HEX D #10-32, UNF-2A E #10-32, UNF-2A J 15/64 HEX	51/64 approx. 5/16 HEX #9/32-40, UNS-2A #5/16-32, UNEF-2A 5/16 HEX		A 3/4 approx. L #10-32, UNF-2A M 1/4 HEX N #10-32, UNF-2A O 5/16 HEX P 19/32 Q .038 O.D. x .025 I.D. x .078 Deep S .215 T .372	13/16 approx. #5/16-32, UNEF-2A .228 3/8 HEX #5/16-32, UNEF-2A 3/8 HEX 21/32 .038 O.D. x .025 I.D. x .078 Deep .247 .435
	<b>50-043-0000</b>	<b>50-143-0000</b>		<b>50-085-0000</b>	<b>50-185-0000</b>
	A 19/32 F .426 G 1/4 HEX H #10-32, UNF-2A J 1/4 HEX N .060 O.D. x .040 I.D. x .078 Deep	19/32 .426 3/8 HEX #5/16-32, UNEF-2A 3/8 HEX .060 O.D. x .040 I.D. x .078 Deep		A .860 B 21/32 approx. C 15/32 approx. D #10-32, UNF-2A E 15/64 HEX F #10-32, UNF-2B	.923 23/32 approx. 1/2 approx. #5/16-32, UNEF-2A 11/32 HEX #5/16-32, UNEF-2B
	<b>50-010-0000</b>	<b>50-110-0000</b>		<b>51-007-0000</b>	<b>51-107-0000</b>
	A 7/8 approx. C 15/64 HEX D #10-32, UNF-2A F .425 G 1/4 HEX H #10-32, UNF-2A J 15/64 HEX	7/8 approx. 5/16 HEX #9/32-40, UNS-2A .425 3/8 HEX #5/16-32, UNEF-2A 11/32 HEX		A 7/8 approx. C 15/64 HEX D #10-32, UNF-2A E 15/64 HEX J 15/64 HEX	27/32 approx. 5/16 HEX #9/32-40, UNS-2A 11/32 HEX
	<b>50-075-0000</b>	<b>50-175-0000</b>		<b>51-008-0000</b>	<b>51-108-0000</b>
	A .671 B .397 C #10-32, UNF-2A D 1/4 HEX E 1/4 HEX	.671 .397 #5/16-32, UNEF-2A 3/8 HEX 3/8 HEX		A 7/8 approx. C 15/64 HEX D #10-32, UNF-2A J 15/64 HEX	51/64 approx. 5/16 HEX #9/32-40, UNS-2A 5/16 HEX
	<b>50-011-0000</b>	<b>50-111-0000</b>		<b>51-043-0000</b>	<b>51-143-0000</b>
	A 39/64 approx. B 15/64 HEX C 15/64 HEX D #10-32, UNF-2A E #10-32, UNF-2B J 15/64 HEX K 3/4 approx.	23/32 approx. 11/32 HEX 5/16 HEX #9/32-40, UNS-2A #5/16-32, UNEF-2B 11/32 HEX 27/32 approx.		A 19/32 F .426 G 1/4 HEX H #10-32, UNF-2A J 1/4 HEX N .060 O.D. x .040 I.D. x .078 Deep	19/32 .426 3/8 HEX #5/16-32, UNEF-2A 3/8 HEX .060 O.D. x .040 I.D. x .078 Deep
	<b>55-013-0000</b>	<b>50-113-0000</b>		<b>51-010-0000</b>	<b>51-110-0000</b>
	A 49/64 approx. C 15/64 HEX D #10-32, UNF-2A E #10-32, UNF-2A F .277 G 1/4 HEX J 15/64 HEX L .067D.	3/4 approx. 5/16 HEX #9/32-40, UNS-2A #5/16-32, UNEF-2A .277 3/8 HEX 11/32 HEX .111D.		A 7/8 approx. C 15/64 HEX D #10-32, UNF-2A E 15/64 HEX J 15/64 HEX	7/8 approx. 5/16 HEX #9/32-40, UNS-2A 3/8 HEX 3/8 HEX #5/16-32, UNEF-2A 11/32 HEX
	<b>50-051-0000</b>	<b>50-151-0000</b>		<b>51-075-0000</b>	<b>51-175-0000</b>
	A .448 E #10-32, UNF-2A J 5/16 HEX O .040 (Typ.) P .200 Q .038D. R .155	.448 #5/16-32, UNEF-2A 3/8 HEX .040 (Typ.) .200 .038D. .155		A .671 B .430 C #10-32, UNF-2A D 1/4 HEX E 1/4 HEX	.671 .430 #5/16-32, UNEF-2A 3/8 HEX 3/8 HEX



# SEALECTRO



## SUB-MINIATURE R. F. CONNECTORS

See listing below for typical cables.	50 OHM	75 OHM	See listing below for typical cables.	50 OHM	75 OHM
	<b>51-011-0000</b> <b>51-111-0000</b> A 19/32 C 15/64 HEX D #10-32, UNF-2A J 15/64 HEX K 3/4 approx.	11/16 5/16 HEX #9/32-40, UNS-2A 11/32 HEX 27/32 approx.		<b>50-027-0000</b> <b>50-127-0000</b> A 1-1/8 approx. C 7/32 HEX F .425 G 1/4 HEX H #10-32, UNF-2A J 7/32 approx. M .375	1-5/32 approx. 5/16 HEX .425 3/8 HEX #5/16-32, UNEF-2A 11/32 HEX .400
	<b>51-051-0000</b> <b>51-151-0000</b> A .448 J 5/16 HEX O .040 (Typ.) P .200 Q .038D R .155	.448 3/8 HEX .040 (Typ.) .200 .038D .155		<b>50-028-0000</b> <b>50-128-0000</b> A 39/64 approx. B 15/64 HEX C 15/64 HEX E #10-32, UNF-2B K 5/8 approx. M .375	21/32 approx. 11/32 HEX 11/32 HEX #5/16-32, UNEF-2B 23/32 approx. .400
	<b>51-053-0000</b> <b>51-153-0000</b> A 17/32 approx. J 5/16 HEX K 19/32 O .040 (Typ.) P .200 Q .038D R .155 S .215	19/32 approx. 3/8 HEX 21/32 .040 (Typ.) .200 .038D .155 .247		<b>55-031-0000</b> <b>55-131-0000</b> A 47/64 approx. F .228 G 1/4 HEX H #10-32, UNF-2A J 7/32 HEX L .067D M .375	51/64 approx. .228 3/8 HEX #5/16-32, UNEF-2A 11/32 HEX .111D .400
	<b>51-047-0000</b> <b>51-147-0000</b> A 3/4 approx. F .228 G 1/4 HEX H #10-32, UNF-2A J 5/16 HEX K 19/32 N .038 O.D. x .025 I.D. x .078 Deep S .215 T .372	13/16 approx. .228 3/8 HEX #5/16-32, UNF-2A 3/8 HEX 21/32 .038 O.D. x .025 I.D. x .078 Deep .247 .435		<b>51-024-0000</b> <b>50-124-0000</b> A 1-1/64 approx. C 7/32 HEX J 7/32 HEX M .375	1-3/64 approx. 5/16 HEX 11/32 HEX .400
	<b>51-085-0000</b> <b>51-185-0000</b> A .860 B 41/64 C .456	.923 45/64 .488		<b>51-025-0000</b> <b>51-125-0000</b> A 63/64 approx. C 7/32 HEX J 7/32 HEX M .375	1-1/64 approx. 5/16 HEX 5/16 HEX .400
	<b>50-024-0000</b> <b>50-124-0000</b> A 1-1/32 approx. B 15/64 HEX C 7/32 HEX E #10-32, UNF-2B M .375	1-1/16 approx. 11/32 HEX 5/16 HEX #5/16-32, UNEF-2B .400		<b>51-027-0000</b> <b>51-127-0000</b> A 1-1/8 approx. C 7/32 HEX F .425 G 1/4 HEX H #10-32, UNF-2A J 7/32 HEX M .375	1-5/32 approx. 5/16 HEX .425 3/8 HEX #5/16-32, UNEF-2A 11/32 HEX .400
	<b>50-025-0000</b> <b>50-125-0000</b> A 63/64 approx. C 7/32 HEX E #10-32, UNF-2A J 7/32 HEX M .375	1-1/64 approx. 5/16 HEX #5/16-32, UNEF-2A 5/16 HEX .400		<b>51-028-0000</b> <b>51-128-0000</b> A 19/32 J 15/64 HEX K 5/8 approx. M .375	41/64 11/32 HEX 23/32 approx. .400

**CRIMP-ON ASSEMBLY TOOL** — Part No. CT-6

### TYPICAL SPEC CABLES FOR USE WITH "CONHEX" CONNECTORS

Standard 50 ohm **clamp-type** connectors accept:  
RG-161/U, 174/U, 179/U, 188/U and 316/U cables.

Standard 50 ohm **crimp-type** connectors accept:  
RG-161/U, 174/U, 179/U, 187/U, 188/U and 316/U cables.

Other cables having the same component diameters as those listed can also be used in the same series of connectors.

Standard 75 ohm **clamp-type** connectors accept:  
RG-180/U and 195/U cables.

Standard 75 ohm **crimp-type** connectors accept:  
RG-180/U and 195/U cables.



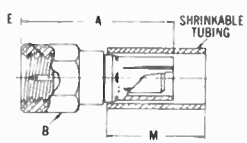
# SEALCRO



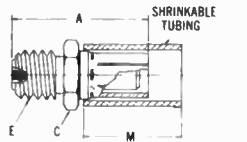
## MICRO-MINIATURE R.F. CONNECTORS

VSWR: Better than 1.15:1 to 10 KMC  
 Impedance: 50 ohms  
 Dielectric Withstanding Voltage:  
 450 volts RMS @ Sea Level  
 Contact Current Rating:  
 1.0 amps DC max.  
 Contact Voltage Drop:  
 4 mv max. @ 1 amp

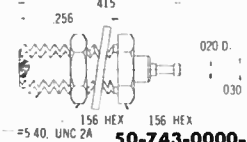
\*For use with RG-196/U and RG-178/U cables



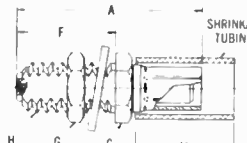
FLEXIBLE CABLE*	SEMI-RIGID CABLE**
<b>50-724-0000-2G</b>	<b>50-724-3701-2G</b>
A .39	.37
B .156 Hex	.156 Hex
E # 5-40, UNC-2B	# 5-40, UNC-2B
M .31	.31



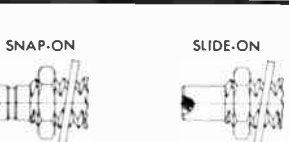
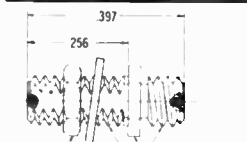
FLEXIBLE CABLE*	SEMI-RIGID CABLE**
<b>50-725-0000-2G</b>	<b>50-725-3701-2G</b>
A .34	.32
C .156 Hex	.156 Hex
E # 5-40, UNC-2A	# 5-40, UNC-2A
M .31	.31



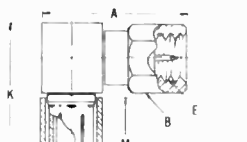
**51-743-0000-2G 52-743-0000-2G**



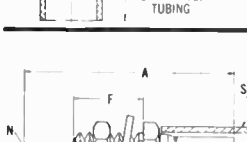
FLEXIBLE CABLE*	SEMI-RIGID CABLE**
<b>50-727-0000-2G</b>	<b>50-727-3701-2G</b>
A .48	.46
C .156 Hex	.156 Hex
F .256	.256
G .156 Hex	.156 Hex
H # 5-40, UNC-2A	# 5-40, UNC-2A
M .31	.31



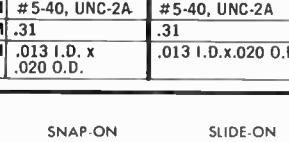
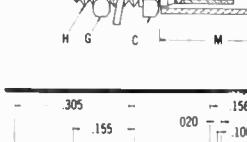
**51-775-0000-2G 52-775-0000-2G**  
 Designed for .062" thick panel



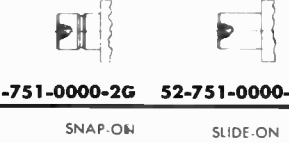
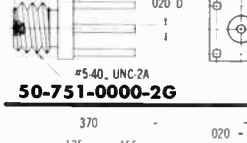
FLEXIBLE CABLE*	SEMI-RIGID CABLE**
<b>50-728-0000-2G</b>	<b>50-728-3701-2G</b>
A .38	.38
B .156 Hex	.156 Hex
E # 5-40, UNC-2B	# 5-40, UNC-2B
K .36	.34
M .31	.31



FLEXIBLE CABLE*	SEMI-RIGID CABLE**
<b>55-736-0000-2G</b>	<b>55-736-3701-2G</b>
A .53	.51
C .156 Hex	.156 Hex
F .177	.177
G .156 Hex	.156 Hex
H # 5-40, UNC-2A	# 5-40, UNC-2A
M .31	.31
N .013 I.D. x .020 O.D.	.013 I.D. x .020 O.D.



**51-751-0000-2G 52-751-0000-2G**

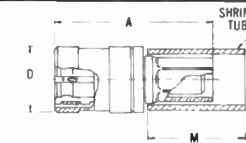


**51-753-0000-2G 52-753-0000-2G**

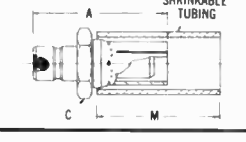


**51-762-2210-2G 52-762-2210-2G**  
 Designed for 1/4" ground plane spacing.

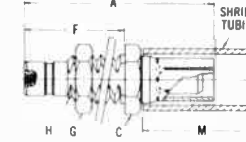
\*\*For use with .056" diameter cable



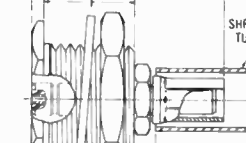
FLEXIBLE CABLE*	SEMI-RIGID CABLE**
<b>51-724-0000-2G</b>	<b>51-724-3701-2G</b>
A .40	.38
D .168 D.	.168 D.
M .31	.31



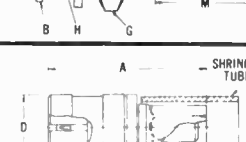
FLEXIBLE CABLE*	SEMI-RIGID CABLE**
<b>51-725-0000-2G</b>	<b>51-725-3701-2G</b>
A .34	.32
C .156 Hex	.156 Hex
M .31	.31



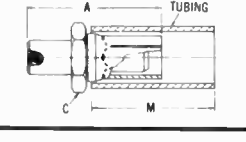
FLEXIBLE CABLE*	SEMI-RIGID CABLE**
<b>51-727-0000-2G</b>	<b>51-727-3701-2G</b>
A .48	.46
C .156 Hex	.156 Hex
F .256	.256
G .156 Hex	.156 Hex
H # 5-40, UNC-2A	# 5-40, UNC-2A
M .31	.31



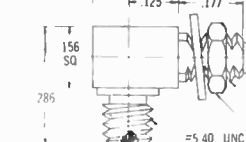
FLEXIBLE CABLE*	SEMI-RIGID CABLE**
<b>51-733-0000-2G</b>	<b>51-733-3701-2G</b>
A .49	.47
B .343 Hex	.343 Hex
F .228	.228
G .375 Hex	.375 Hex
H # 5/8-40, UNS-2A	# 5/8-40, UNS-2A
M .31	.31



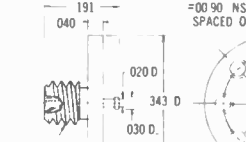
FLEXIBLE CABLE*	SEMI-RIGID CABLE**
<b>52-724-0000-2G</b>	<b>52-724-3701-2G</b>
A .40	.38
D .168 D.	.168 D.
M .31	.31



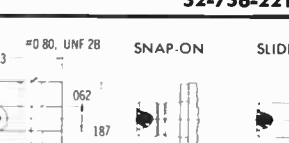
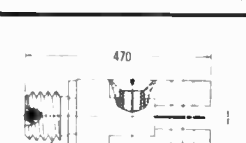
FLEXIBLE CABLE*	SEMI-RIGID CABLE**
<b>52-725-0000-2G</b>	<b>52-725-3701-2G</b>
A .34	.32
C .156 Hex	.156 Hex
M .31	.31



**50-747-000-2G 51-747-0000-2G 52-747-0000-2G**



**50-756-2210-2G 51-756-2210-2G 52-756-2210-2G**  
 Designed for 1/4" ground plane spacing.



**50-762-2210-2G 51-762-2210-2G 52-762-2210-2G**  
 Designed for 1/4" ground plane spacing.



# SEAELECTRO PROGRAMMING DEVICES

## SEAELECTRO PROGRAM SWITCHING

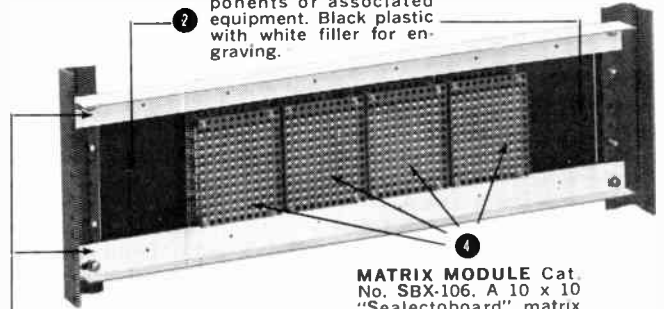
### SEAELECTOBOARD® MODULAR CORDLESS PROGRAM BOARDS\*

"Sealectoboard" programming and switching provides complete ease and simplicity of operation with drastic reductions in hardware and space. The units consist of two decks of bussed contacts running at right angles to each other in the X and Y directions, forming an electrical matrix. A single shorting or component holding pin is used to complete the program circuit... move the pin to a new location and a new program function is generated.

The "Modular Sealectoboard" provides an extremely flexible means of program system expansion with a built-in appearance. The system consists of only four standard component assemblies, designed such that when installed in a standard E.I.A. 19" relay rack, or bench cabinet, they result in a very attractive unit.

The "Modular Sealectoboard" can be expanded from a 10 x 10 hole matrix to a 10 x 60 hole matrix in one standard 5 7/8" x 19" rack panel. Additional panels can be added and interwired to expand program capacity as system requirements dictate.

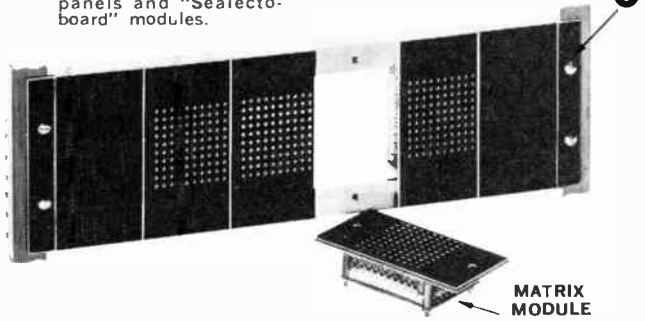
**BLANK PANEL** Cat. No. SBX-106-2. Fills in unused width. May be used for mounting other components or associated equipment. Black plastic with white filler for engraving.



**1 MODULE RAIL** Cat. No. SBX-106-1. Rails are designed for mounting on standard 19" relay racks. Offset is provided for flush panel installation. Mounting holes are provided for any combination (up to 6) of blank panels and "Sealectoboard" modules.

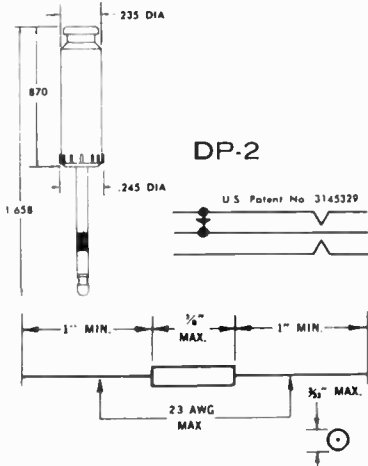
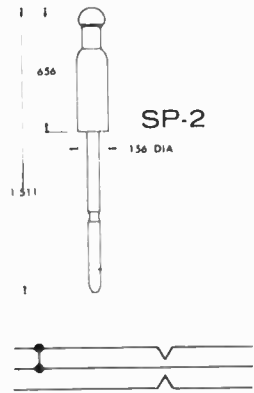
**MATRIX MODULE** Cat. No. SBX-106. A 10 x 10 "Sealectoboard" matrix bussed vertically and horizontally. Terminals are combination solder and Klip-on. Contact strips are silver plated.

**3 SIDE PLATE** Cat. No. SBX-106-3. Provides end dressing, or return to relay rack frame.



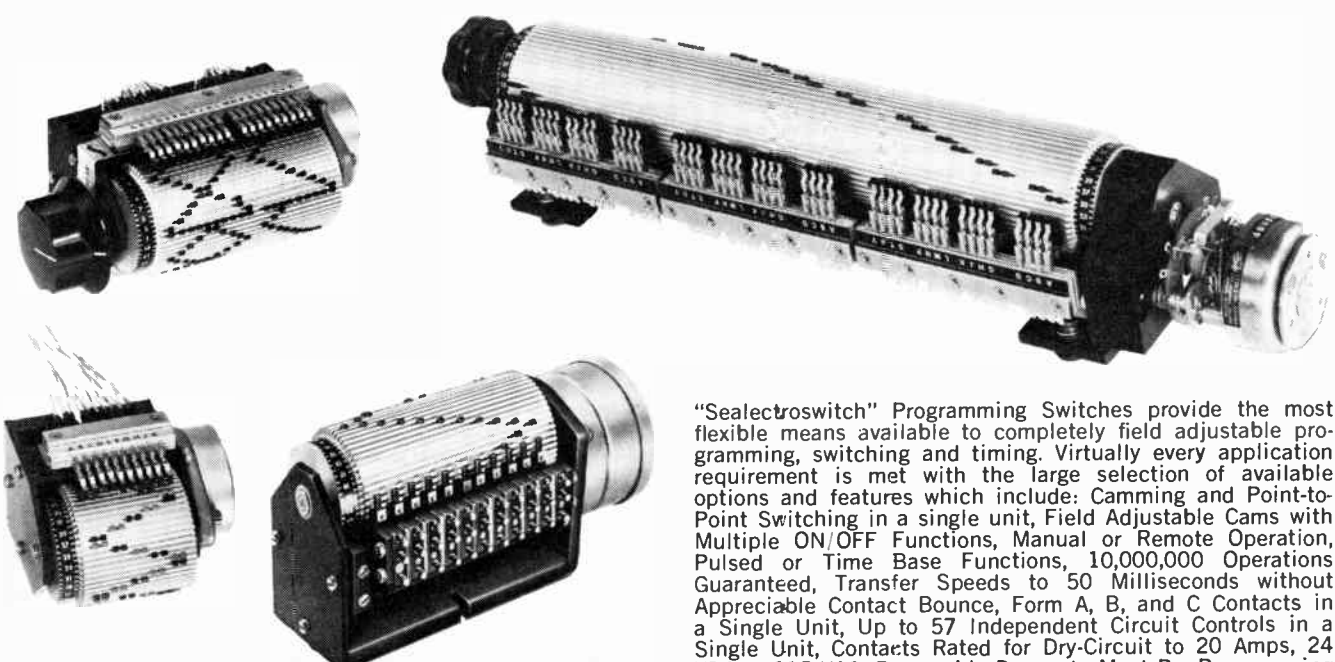
#### SHORTING PIN

#### COMPONENT PIN



\* Available off-the-shelf from Authorized Local Sealectro Distributors.

## SEAELECTOSWITCH™ FIELD ADJUSTABLE PROGRAMMING SWITCHES\*



"Sealectroswitch" Programming Switches provide the most flexible means available to completely field adjustable programming, switching and timing. Virtually every application requirement is met with the large selection of available options and features which include: Camming and Point-to-Point Switching in a single unit, Field Adjustable Cams with Multiple ON/OFF Functions, Manual or Remote Operation, Pulsed or Time Base Functions, 10,000,000 Operations Guaranteed, Transfer Speeds to 50 Milliseconds without Appreciable Contact Bounce, Form A, B, and C Contacts in a Single Unit, Up to 57 Independent Circuit Controls in a Single Unit, Contacts Rated for Dry-Circuit to 20 Amps, 24 VDC or 115 VAC, Removable Drums to Meet Pre-Programming Requirements, and Self-Homing on Timing Motor Drive Units.

\* Available through Authorized Local Sealectro Distributors.

# 5-WAY® Binding Posts

5 WAYS TO CONNECT • GOLD-PLATED BRASS PARTS • RANGE OF COLORS



### FLUTED NUT TYPES

Plastic parts of standard (not miniature) size types molded of Lexan polycarbonate resin; brass parts are gold-plated. Rated for 30 amperes, 1000 volts working. Nickel-plated brass types available on special order.



### HEX NUT TYPES

Rated for 30 amperes, 1000 volts working. Brass parts are gold-plated; plastic parts are of nylon compounded to meet military specifications MIL-P-20693A, Type IV. Nickel-plated brass types available on order.



### GROUNDING TYPE

For making rapid connections to ground. Made of finely machined brass nickel-plated and polished. Panel grounding collar frozen to shaft has "D" type shoulder for locking in keyed panel hole.



### MINIATURE TYPES

Fluted nut design only. Rated for 15 amperes, 1000 volts working. Gold-plated brass parts; nylon plastic parts compounded to meet military specification MIL-P-20693A, Type IV. Types with nickel-plated brass available also.



### DUAL ADAPTER TYPE

Designed to facilitate line voltage connections from output receptacles to binding posts. Has integral parallel-blade plug. Rating is 15 amperes, 125 volts. Body is black; captive black and white thumbnuts are mounted on 3/4" centers. Brass parts are gold-plated. Ideal for safe, rigid connections to equipment lacking a parallel-blade plug and cord assembly.



### DOUBLE ASSEMBLY TYPES

For instrument and equipment panels requiring binding posts mounted on 3/4" centers. Rated for a current capacity of 30 amperes and a working voltage of 1000 volts. Brass parts are gold-plated; panel insulators in black only. Rugged, self-contained assembly makes mounting more accurate.

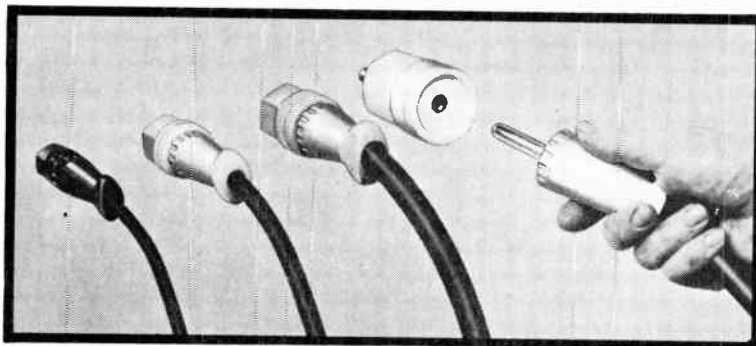
faster and easier than two individual binding posts and gives maximum strength where connections are frequently made.

STYLE	TYPE
<b>BINDING POSTS</b>	
FLUTED NUT — STANDARD	DF31*
HEX NUT — STANDARD	DF30*
GROUNDING — ALL METAL	GP30NC
FLUTED NUT — MINIATURE	DF21*

STYLE	TYPE
<b>DUAL ADAPTER TYPE</b>	
BLACK & WHITE FLUTED NUTS	DAP15BWC
<b>DOUBLE ASSEMBLY TYPES</b>	
BLACK & WHITE HEX NUTS	DF30-2-BWTC
TWO BLACK HEX NUTS	DF30-2-BBC
BLACK & RED HEX NUTS	DF30-2-BRC

\*Add desired color suffix to series designation number:  
 BC (black), BLC (blue), RC (red), WTC (white),  
 YC (yellow), GNC (green). For example: DF21BLC.

# SUPERCON® Electrical Connectors



- GOLD-PLATED CURRENT CARRYING PARTS
- SIMPLIFIED, QUICK ASSEMBLY

Incorporate many advanced engineering features designed to provide safe, rapid and positive panelboard connections. Nylon plastic parts, gold-plated brass current-carrying parts. Plugs accommodate either soldered or solderless connections to a wide range of cable sizes. Plug grips are of a simple, two-piece threaded construction for quick assembly. Receptacles have color-matched nylon caps and bodies. 25, 50 and 100 ampere types are rated 125-250 volts a-c or d-c current rupturing, 600 volts disconnect use only. 250 ampere types are rated 600 volts disconnect use only. 25, 50 and 100 ampere types are recognized under component investigation program of Underwriters' Laboratories (without published listing).

AMPERES	PIN PLUGS TYPE†	SOCKET RECEPTACLES TYPE†	SOCKET PLUGS TYPE†	PIN RECEPTACLES TYPE†
25	PP25G	RS25G	PS25G	RP25G
50	PP50G	RS50G	PS50G	RP50G
100	PP100G	RS100G	PS100G	RP100G
250	PP250G	RS250G	PS250G	RP250G

†Add desired color suffix to series designation number: B (black), BL (blue), R (red), WT (white), Y (yellow), GN (green). For example: PS25GWT.



**THE SUPERIOR ELECTRIC COMPANY**

SEE OTHER SUPERIOR ELECTRIC PRODUCT PAGES IN SECTIONS 3500, 4000, AND 5600

specify **SMITH**

HERMAN H. SMITH, INC.



ELECTRONIC COMPONENTS

**INSULATED TIP PLUG Solderless**

**HANDLE:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. **SPECIFY COLOR**  
**BODY:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Solderless: wire fits through body of tip then wrapped around screw portion and tightened with knurled collar. Threaded type. Fits standard phone tip jacks. **Std. Pkg. 100**

No.	Type	NET Per C
200	Senior	\$15.00

**INSULATED TIP PLUG Solderless**

**HANDLE:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. **SPECIFY COLOR**  
**BODY:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Solderless: wire fits through body of tip then wrapped around screw portion and tightened with knurled collar. Threaded type. Fits standard phone tip jacks. **Std. Pkg. 100**

No.	Type	NET Per C
201	Junior	\$15.00

**INSULATED TIP PLUG Signal Corps Approved**

**HANDLE:** ETHYL CELLULOSE, Type EM-1, per MIL-P-3412. Red, Black. **SPECIFY COLOR**  
**PLUG:** Steel, case hardened to Signal Corps specs. **SPECIFY COLOR**  
**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Recess at end of prod tip holds plugs more firmly in jack spring. Prevents tip from falling out when in an inverted position. **Std. Pkg. 50**

No.	Handle (A)	Overall (B)	NET Per C
250	1 1/4 inch	2 1/4"	\$54.00
358	3 inch	4 1/4"	84.00

**INSULATED TIP PLUG Solder Type**

**HANDLE:** MOLDED BUTYRATE, per FED. SPEC. L-1319A, Type 3, Class MS, Red or Black. **SPECIFY COLOR**  
**BODY:** Brass, nickel plated our No. 158.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Drawn hollow tip for easy soldering. Fits standard phone tip jack. **Std. Pkg. 100**

No.	NET Per C
237	\$11.00

**INSULATED TIP PLUG Heavy Duty Type**

**HANDLE:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. **SPECIFY COLOR**  
**PLUG:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Large diameter well enables soldering of heavy duty wire directly into plug. Fits standard phone tip jacks. **Std. Pkg. 100**

No.	NET Per C
229	\$15.00

**SUB-MINIATURE TIP PLUG**

**HANDLE:** FIBRE, per MIL-P-148A, Grade CH. Red, Black. **SPECIFY COLOR**  
**TIP:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Ideally suited for checking sub-miniature equipment. Fits standard phone tip jacks. **Std. Pkg. 100**

No.	NET Per C
270	\$18.00

**INSULATED SHORT TIP PLUG**

**HANDLE:** MOLDED THERMOSETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. **SPECIFY COLOR**  
**PLUG:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Inserts flush to insulate handle, no metal exposed; eliminates possibility of shock or grounding. Fits standard phone tip jacks. **Std. Pkg. 100**

No.	NET Per C
203	\$12.00

**INSULATED SHORT TIP PLUG Solderless**

**HANDLE:** MOLDED THERMOSETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. **SPECIFY COLOR**  
**PLUG:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Solderless: wire fits through handle and body of tip then wrapped around screw portion. Inserts flush to insulated handle, no metal exposed, eliminates possibility of shock or grounding. Fits standard phone tip jacks. **Std. Pkg. 50**

No.	NET Per C
212	\$14.00

**INSULATED TIP PLUG Phone Needle**

**HANDLE:** MOLDED THERMOSETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. **SPECIFY COLOR**  
**BODY:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Removable chuck for easy replacement of broken needle. Needle pierces corrosion or plating for positive reading. **Std. Pkg. 50**

No.	NET Per C
216	\$20.00

**ADAPTER Banana Plug to Tip Plug**

**HANDLE:** MOLDED BUTYRATE, per FED. SPEC. L-1319A, Type 3, Class MS, Red or Black. **SPECIFY COLOR**  
**BODY:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Accepts standard banana plugs, adapts to standard tip plug. **Std. Pkg. 100**

No.	NET Per C
215	\$15.00

**SUB-MINIATURE TIP PLUG AND TEST PROD**

**HANDLE:** Moulded Nylon, per MIL-P-20693A. Available in Red or Black. **SPECIFY COLOR**  
**TIP:** Brass, Silver plated.  
**DESCR.:** Solderless assembly. Ideal for use with sub-miniature printed-circuit tip jacks. Sharp tip breaks flux or oxide coating on printed-circuit pattern for positive contact when used as prod. Grooved head or prod makes positive contact when laid across wires. Fits all standard .080" tip jacks. **Std. Pkg. 25**

No.	Handle (A)	Overall (B)	NET Per C
348	1 inch	1 3/4"	\$33.00
349	4 inches	4 3/4"	42.00

**METER TIP PLUG**

**HANDLE:** MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black. **SPECIFY COLOR**  
**TIP:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.

**DESCR.:** Moulded in two halves for easy assembly with screw and nut. Fits standard phone tip jacks. **Std. Pkg. 50**

No.	NET Per C
235	\$27.00

**INSULATED BANANA PLUG**

**HANDLE:** MOLDED THERMOSETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. **SPECIFY COLOR**  
**PLUG:** Hex brass, nickel or silver plated.  
**SPRING:** Four-leaved phosphor bronze or beryllium copper, nickel or silver plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. **Std. Pkg. 100**

No.	Spring Material	Plating	NET Per C
212	Phosphor Bronze	Nickel	\$23.00
232	Phosphor Bronze	Silver	25.00
242	Beryllium Copper	Nickel	32.00
262	Beryllium Copper	Silver	35.00

**INSULATED BANANA PLUG**

**HANDLE:** MOLDED THERMOSETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. **SPECIFY COLOR**  
**PLUG:** Brass, nickel or silver plated.  
**SPRING:** Four-leaved phosphor bronze or beryllium copper, nickel or silver plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. **Std. Pkg. 100**

No.	Spring Material	Plating	NET Per C
211	Phosphor Bronze	Nickel	\$19.00
261	Phosphor Bronze	Silver	21.00
271	Beryllium Copper	Nickel	24.00
281	Beryllium Copper	Silver	27.00

**INSULATED BANANA PLUG Solderless**

**HANDLE:** MOLDED THERMOSETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. **SPECIFY COLOR**  
**PLUG:** Hex brass, nickel or silver plated.  
**SPRING:** Four-leaved phosphor bronze or beryllium copper, nickel or silver plated.  
**RATING:** 15 AC Amps for 10°C Temp. rise, continuous duty.  
**DESCR.:** Solderless: Wire fits through handle and body of tip then wrapped around screw portion. Fits standard banana jacks. **Std. Pkg. 50**

No.	Spring Material	Plating	NET Per C
295	Phosphor Bronze	Nickel	\$25.00
296	Phosphor Bronze	Silver	27.00
297	Beryllium Copper	Nickel	33.00
298	Beryllium Copper	Silver	36.00

**INSULATED BANANA PLUG Solderless**

**HANDLE:** MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II, Red, Black. **SPECIFY COLOR**  
**BODY:** Hex brass, nickel plated with mating brass spacer.  
**SPRING:** Four-leaved phosphor bronze, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Cross drilled hole in spacer enables quick solderless connection of wire to plug. Fits standard banana jacks. **Std. Pkg. 100**

No.	NET Per C
236	\$35.00

**METER BANANA PLUG**

**HANDLE:** MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black. **SPECIFY COLOR**  
**PLUG:** Brass, nickel plated.  
**SPRING:** Four-leaved phosphor bronze, nickel plated.

**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Moulded in two halves for easy assembly with screw and nut. Fits standard banana jacks. **Std. Pkg. 50**

No.	NET Per C
255	\$36.00





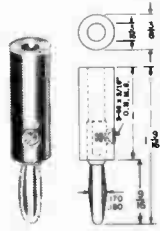
**INSULATED BANANA PLUG With Side Screw**

**HANDLE:** MOLDED THERMOSETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR

**PLUG:** Brass, nickel plated.  
**SPRING:** Four-leaved phosphor bronze or beryllium copper, nickel plated.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Set screw secures wire without soldering. Fits standard banana jacks. Std. Pkg. 100

No.	Spring Material	NET Per C
204	Phosphor Bronze	\$19.00
254	Beryllium Copper	27.00



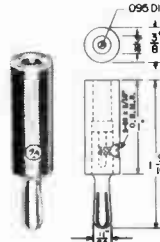
**INSULATED BANANA PLUG Split Type With Side Screw**

**HANDLE:** MOLDED THERMOSETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR

**PLUG:** Brass, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.

**DESCR.:** Cross-slotted for spring tension. Set screw secures wire, without soldering. Fits standard banana jacks. Std. Pkg. 100

No.	NET Per C
215	\$18.00



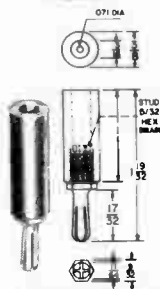
**INSULATED BANANA PLUG Split Type With Internal Stud**

**HANDLE:** MOLDED THERMOSETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR

**PLUG:** Brass, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.

**DESCR.:** Cross-slotted for spring tension. Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. Std. Pkg. 100

No.	NET Per C
253	\$19.00



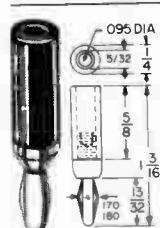
**INSULATED BANANA PLUG Midgett Type**

**HANDLE:** MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black, Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR

**PLUG:** Brass, nickel or silver plated.  
**SPRING:** Phosphor bronze or beryllium copper, nickel or silver plated.

**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Wire soldered directly into stud. Fits standard banana jacks. Std. Pkg. 50

No.	Spring Material	Plating	NET Per C
291	Phosphor Bronze	Nickel	\$19.00
292	Phosphor Bronze	Silver	21.00
293	Beryllium Copper	Nickel	24.00
294	Beryllium Copper	Silver	27.00



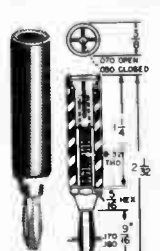
**INSULATED BANANA PLUG With Internal Spring Collett**

**HANDLE:** MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red or Black. SPECIFY COLOR

**BODY:** Hex brass, nickel plated.  
**SPRING:** Four-leaved phosphor bronze, nickel plated.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Solderless: Spring collett provides quick connect and disconnect of wire. Tin wire for secure contact. Fits standard banana jack. Std. Pkg. 100

No.	NET Per C
299	\$41.00



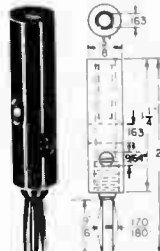
**STACK BANANA PLUG Solderless**

**HANDLE:** MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black, Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR

**BODY:** Brass, nickel plated.  
**SPRING:** Four-leaved phosphor bronze or beryllium copper, nickel plated.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Solderless connection. Accepts standard banana plugs in top and side. Interconnects unlimited amount of multiple circuits. Std. Pkg. 50

No.	Spring Material	NET Per C
1511	Phosphor Bronze	\$33.00
1512	Beryllium Copper	36.00



**NYLON PLUGS COLOR CODE SUFFIX**

Add to Catalog Number as required

- 101 WHITE
- 102 RED
- 103 BLACK

- 104 GREEN
- 105 BLUE

- 106 ORANGE
- 107 YELLOW
- 108 BROWN

- 112 PURPLE
- 113 GREY

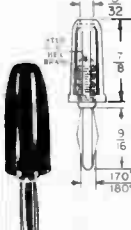
**BANANA PLUG TYPE**

**NYLON BANANA PLUG**

**HANDLE:** MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.

**PLUG:** Brass, nickel plated.  
**SPRING:** Phosphor bronze or beryllium copper nickel or silver plated.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. Std. Pkg. 100



No.	Spring Material	Plating	NET Per C
476	Phosphor Bronze	Nickel	\$21.00
477	Phosphor Bronze	Silver	24.00
478	Beryllium Copper	Nickel	27.00
479	Beryllium Copper	Silver	30.00

**NYLON BANANA PLUG Split Type**

**HANDLE:** MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.

**PLUG:** Brass, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.

**DESCR.:** Cross-slotted for spring tension. Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. Std. Pkg. 100

No.	NET Per C
494	\$20.00



**PIN TIP TYPE**

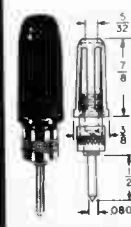
**NYLON TIP PLUG Solderless**

**HANDLE:** MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.

**PLUG:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.

**DESCR.:** Solderless: wire fits through body of tip then wrapped around screw portions and tightened with knurled collar. Threaded type. Fits standard phone tip jacks. Std. Pkg. 100

No.	NET Per C
490	\$16.00



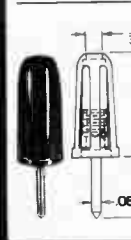
**NYLON SHORT TIP PLUG Solderless**

**HANDLE:** MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.

**PLUG:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.

**DESCR.:** Solderless: Wire fits through handle and body of tip then wrapped around screw portion. Inserts flush to handle, no metal exposed, eliminates possibility of shock or grounding. Fits standard phone tip jacks. Std. Pkg. 100

No.	NET Per C
492	\$20.00

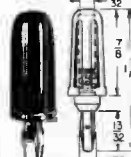


**NYLON BANANA PLUG Midgett**

**HANDLE:** MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.

**PLUG:** Brass, nickel or silver plated.  
**SPRING:** Phosphor bronze or beryllium copper, nickel or silver plated.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Wire soldered directly into stud. Fits standard banana jacks. Std. Pkg. 100



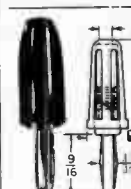
No.	Spring Material	Plating	NET Per C
426	Phosphor Bronze	Nickel	\$18.00
427	Phosphor Bronze	Silver	21.00
428	Beryllium Copper	Nickel	24.00
429	Beryllium Copper	Silver	27.00

**NYLON BANANA PLUG Solderless**

**HANDLE:** MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.

**PLUG:** Brass, nickel or silver plated.  
**SPRING:** Phosphor bronze or beryllium copper nickel or silver plated.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Solderless: Wire fits through handle and body of tip no metal exposed, eliminates possibility of shock or grounding. Fits standard banana jacks. Std. Pkg. 100



No.	Spring Material	Plating	NET Per C
455	Phosphor Bronze	Nickel	\$21.00
456	Phosphor Bronze	Silver	24.00
457	Beryllium Copper	Nickel	27.00
458	Beryllium Copper	Silver	30.00

**NYLON SHORT TIP PLUG**

**HANDLE:** MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.

**PLUG:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.

**DESCR.:** Inserts flush to insulated handle, no metal exposed; eliminates possibility of shock or grounding. Fits standard phone tip jacks. Std. Pkg. 100



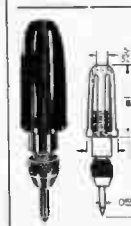
No.	NET Per C
491	\$15.00

**NYLON TIP PLUG Phono Needle**

**HANDLE:** MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.

**BODY:** Brass, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.

**DESCR.:** Removable chuck for easy replacement of broken needles. Needle pierces corrosion or plating for positive reading. Std. Pkg. 50



No.	NET Per C
493	\$20.00

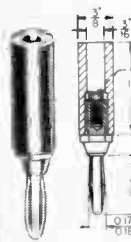
**HIGH TEMPERATURE BANANA PLUG**

**HANDLE:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR

**PLUG:** Hex brass, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.

**DESCR.:** Withstands temperature to 1200 degrees F. Full resiliency—non-oxidizing. Excellent for thermocouple connection on plastic extruding die heads. Std. Pkg. 10

No.	NET Per C
388	\$72.00



**STACK BANANA PLUG**

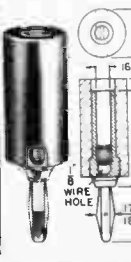
**BODY:** MOLDED POLYSTYRENE, per Fed. Spec. L-P416, Type 1 for electrical characteristics. Red or Black. SPECIFY COLOR

**PLUG:** Brass, nickel plated.  
**SPRING:** Four-leaved phosphor bronze, nickel plated.

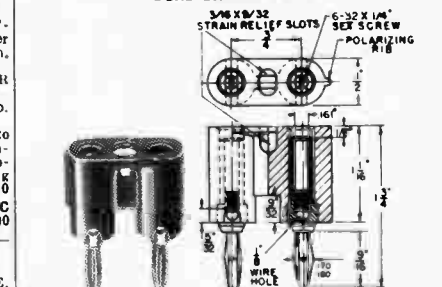
**SCREW:** Steel, cadmium plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.

**DESCR.:** Internal set screw for wire or phone tip connection. Can be stacked for multiple connections. Std. Pkg. 25

No.	NET Ea.
324	\$48.00



**DUAL BANANA PLUG**



**BODY:** MOLDED POLYSTYRENE, per Fed. Spec. L-P416 Type 1 for electrical characteristics. Red or Black. SPECIFY COLOR

**PLUG:** Brass, nickel plated.  
**SPRING:** Four-leaved phosphor bronze, nickel plated.

**SCREW:** Steel, cadmium plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 5K Volts 60 cycle AC continuous working voltage. CAPACITANCE 1.0 mmfd between conductors.

**DESCR.:** Mates with standard dual binding post ¼" centers. Polarity indicated on top and side. Wire held with internal set screw. Can be stacked for multiple connections. Std. Pkg. 25

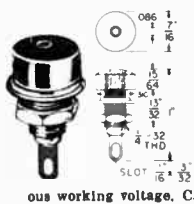
No.	NET Per C
210	\$72.00

# specify **SMITH**

HERMAN H. SMITH, INC.



**ELECTRONIC COMPONENTS**



### INSULATED PHONE TIP JACK

**HEAD:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1.

**SPECIFY COLOR**

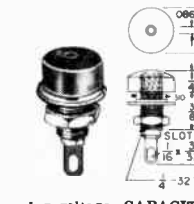
**BODY:** Brass, nickel plated.

**SPRING:** Phosphor bronze.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.

**DESCR.:** Positive contact with standard phone tip plugs. Supplied complete with hex nut and fibre washer. Mounts in 5/16" hole in panels up to 3/8" thick. Accepts standard phone tip plugs. **Std. Pkg. 100**

No. **NET Per C**  
202 **\$14.00**



### INSULATED PHONE TIP JACK

**HEAD:** MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class 1, Green, Black, Yellow, Green. **SPECIFY COLOR**

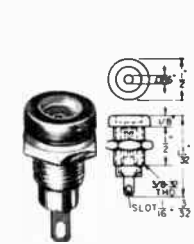
**BODY:** Brass, nickel plated.

**SPRING:** Phosphor bronze.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.

**DESCR.:** Complete with hex nut and fibre washer. Mounts in 5/16" hole in panels up to 3/8" thick. Accepts standard phone tip plugs. **Std. Pkg. 50**

No. **NET Per C**  
228 **\$21.00**



### MOLDED NYLON TIP JACK

**BODY:** MOLDED NYLON, per MIL-P-20693A. Red, Black, Yellow, Green, Blue, White. **SPECIFY COLOR**

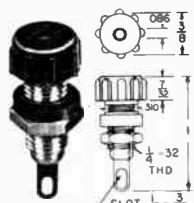
**CONTACT:** Phosphor bronze.

**CAP:** Brass, nickel plated.

**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty. 5 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 mmfd.

**DESCR.:** Mounts in 5/16" hole in panels up to 3/8" thick. Accepts standard phone tip plugs. **Std. Pkg. 100**

No. **NET Per C**  
240 **\$18.00**



### INSULATED PHONE TIP JACK

**HEAD:** Fluted Head, MOLDED NYLON, per MIL-P-20693A. With molded nylon washer. Red, Black, Yellow, Green, Blue. **SPECIFY COLOR**

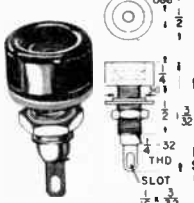
**BODY:** Brass, nickel plated.

**SPRING:** Phosphor bronze.

**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.

**DESCR.:** Extruded portion of head and washer provides excellent insulation from panel. Supplied with hex nut. Mounts in 5/16" hole in panels up to 3/8" thick. Accepts standard tip plugs. **Std. Pkg. 100**

No. **NET Per C**  
241 **\$25.00**



### INSULATED TIP JACK

**HEAD:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue per LC-726-1.

**SPECIFY COLOR**

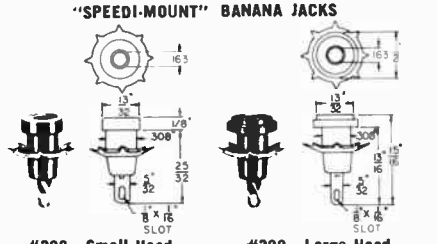
**BODY:** Brass, nickel plated.

**SPRING:** Phosphor bronze.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.

**DESCR.:** Supplied complete with hex nut and fibre washer. Mounts in 5/16" hole in panels up to 3/8" thick. Recessed jack body prevents possibility of shock or grounding. Accepts standard phone tip plugs. **Std. Pkg. 50**

No. **NET Per C**  
202 **\$17.00**



### "SPEEDI-MOUNT" BANANA JACKS

**BODY:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue per LC-726-1. **SPECIFY COLOR**

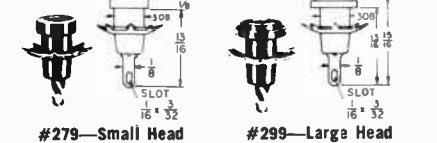
**CONTACT:** Brass, cadmium plated.

**WASHER:** Steel cadmium plated, internal and external tooth.

**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty. 3 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.

**DESCR.:** Unusual dishd lockwasher permits fast assembly. Teeth embed into jack and panels, prevent pulling out and turning. Mounts in 5/16" hole in panels up to 3/16" thick. Accepts standard banana plug.

No. **Std. Pkg. 100**  
398 **NET Per C** \$6.60  
399 **NET Per C** \$6.60



### "SPEEDI-MOUNT" TIP JACKS

**BODY:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. **SPECIFY COLOR**

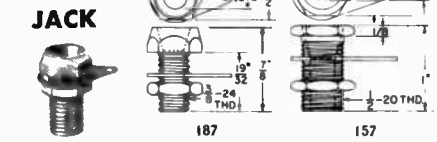
**SPRING:** Phosphor bronze.

**WASHER:** Steel cadmium plated, internal and external tooth.

**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty. 3 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 mmfd.

**DESCR.:** Unusual dishd lockwasher permits fast assembly. Teeth embed into jack and panels, prevents pulling out and turning. Mounts in 5/16" hole in panels up to 3/16" thick. Accepts standard phone tip plugs.

No. **Std. Pkg. 100**  
279 **NET Per C** \$6.60  
299 **NET Per C** \$6.60



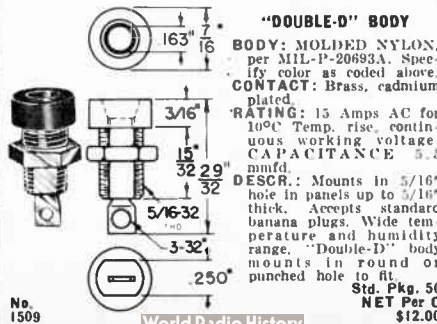
### GIANT BANANA JACK

**BODY:** HEX BRASS, nickel plated.

**RATING:** 25 Amps AC for 10°C Temp. rise, continuous duty.

**DESCR.:** Supplied with hex nut and brass tinned lug.

No. **Mtg. Hole Panel Net Per C**  
187 3/4" 1/2" \$30.00  
157 1/2" 3/8" 30.00



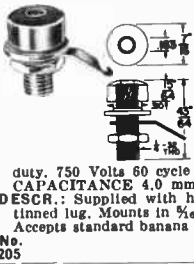
### NYLON BANANA JACKS

**BODY:** MOLDED NYLON, per MIL-P-20693A. Specify color as coded above. **CONTACT:** Brass, cadmium plated.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous working voltage. CAPACITANCE 5.5 mmfd.

**DESCR.:** Mounts in 5/16" hole in panels up to 3/16" thick. Accepts standard banana plugs. Wide temperature and humidity range. "Double-D" body mounts in round or punched hole to fit.

No. **Std. Pkg. 50**  
1509 **NET Per C** \$12.00



### INSULATED BANANA JACK

**HEAD:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. **SPECIFY COLOR**

**BODY:** Brass, nickel plated.

**TAB:** Brass, cadmium plated.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.

**DESCR.:** Supplied with hex nut and fibre washer. Mounts in 5/16" hole in panels up to 3/8" thick. Solder direct to tab. Accepts standard banana plugs. **Std. Pkg. 100**

No. **NET Per C**  
205 **\$14.00**



### INSULATED BANANA JACK

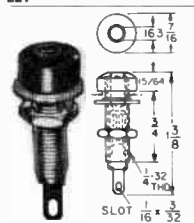
**HEAD:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue per LC-726-1. **SPECIFY COLOR**

**BODY:** Brass, nickel plated.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.

**DESCR.:** Supplied with hex nut, fibre washer, lockwasher and brass tinned lug. Mounts in 5/16" hole in panels up to 3/8" thick. Jack body recessed for snug contact. Accepts standard banana plugs. **Std. Pkg. 100**

No. **NET Per C**  
219 **\$16.00**



### INSULATED MIDGET BANANA JACK

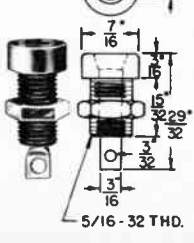
**HEAD:** Fluted Head, MOLDED NYLON, per MIL-P-20693A. With molded nylon washer. Red, Black, Yellow, Green, Blue. **SPECIFY COLOR**

**BODY:** Brass, nickel plated.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.

**DESCR.:** Extruded portion of head and washer provides excellent insulation from panel. Supplied with hex nut, brass tinned lug. Mounts in 5/16" hole in panels up to 3/8" thick. Accepts standard banana plugs. **Std. Pkg. 100**

No. **NET Per C**  
221 **\$24.00**



### INSULATED JACK

**HEAD:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. **SPECIFY COLOR**

**BODY:** Brass, nickel plated.

**SPRING:** Phosphor bronze.

**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.

**DESCR.:** Supplied with hex nut and fibre washer. Accepts standard phone tip plugs or standard banana plugs. **Std. Pkg. 100**



### INSULATED JACK

**HEAD:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. **SPECIFY COLOR**

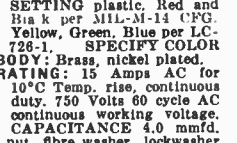
**BODY:** Brass, nickel plated.

**SPRING:** Phosphor bronze.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.

**DESCR.:** Mounts in 5/16" hole in panels up to 3/8" thick. Accepts standard banana plugs. Wide temperature and humidity range. **Std. Pkg. 50**

No. **NET Per C**  
1508 **\$12.00**



### FULL ROUND BODY

**BODY:** MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.

**CONTACT:** Brass, cadmium plated.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 5.0 mmfd.

**DESCR.:** Mounts in 5/16" hole in panels up to 3/8" thick. Accepts standard banana plugs. Wide temperature and humidity range. **Std. Pkg. 50**

No. **NET Per C**  
1508 **\$12.00**

- COLOR CODE SUFFIX — Add to Catalog Number as required**
- 01 WHITE
  - 02 RED
  - 03 BLACK
  - 04 GREEN
  - 05 BLUE
  - 06 ORANGE
  - 07 YELLOW
  - 08 BROWN
  - 09 PURPLE
  - 10 GREY

specify **SMITH**

**HERMAN H. SMITH, INC.**



**ELECTRONIC COMPONENTS**

**NYLON TIP JACKS**

With Metal Shell  
Made to Meet MS-16108 Spec.

**COLOR CODE SUFFIX**

(Add to Catalog Number as Required)

- 101 WHITE
- 102 RED
- 103 BLACK
- 104 GREEN
- 105 BLUE
- 106 ORANGE
- 107 YELLOW
- 108 BROWN
- 112 PURPLE
- 113 GREY

Molded Nylon Tip Jack. Metal shell eliminates possibility of stripping threads during assembly. Meets following requirements:

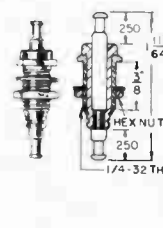
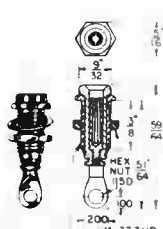
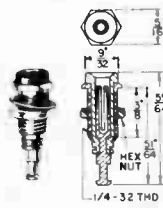
- Salt Spray Test - Withstands 100 hours.
- Rating - 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 10.0 mmfd.
- Insulation Resistance - 5,000 megohms.

- Operating Conditions -
  - A. Continuous: 23 hours on, 1 hour off.
  - B. Elevation: Up to 5,000 ft.
  - C. Temperature: -55 to +85°F.
  - D. Humidity: Up to 95%.

- Material Specifications -
  - A. Insulator: Molded Nylon, per MIL-P-20693A. Specify color as coded above.
  - B. Shell and Nut: Brass Nickel Plated per QQ-N-290, type V (FC).
  - C. Lockwasher: Phosphor Bronze Nickel Plated per Spec. QQ-N-290, type V (FC).
  - D. Center Contact: Heat Treated Bery. Cu per. Silver plated per QQ-N-365. Gold plated overall.

- Non-Operating Conditions -
  - A. Elevation: Up to 50,000 ft.
  - B. Temperature: 72 hours at +160°F and 240 hours at -80°F.
  - C. Humidity: Up to 100%.

No.	Type	Pkg.	Per C	Std.	NET
1501	Wrap Around	25	\$30.00		
1502	Spade Terminal	25	42.00		
1503	Feed Through	25	39.00		



**All Nylon**

Completely Molded Nylon Jack. Fits all standard phone tip plugs. Contact recessed in head for safe contact. Hexagon head for grip in tightening. Mounts in 1/4" hole in panels up to 1/4" thick. Meets following requirements:

- Salt Spray Test - Withstands 100 hours.
- Rating: 15 Amps AC for 10°C Temp. rise, continuous duty. 5 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 mmfd.
- Insulation Resistance - 5,000 megohms.
- Operating Temperature - -55 to +150°C.

- Material Specifications -
  - A. Body: Molded Nylon, per MIL-P-20693A. Specify Color as coded above.
  - B. Center contact: Heat treated Phosphor Bronze. Silver plated overall. No. 1507 Brass, per QQ-B-626, Comp. 22, plated as above.
  - C. Hex Nut: Brass Nickel Plated.

No.	Type	Pkg.	Per C	Std.	NET
1505	Wrap Around	25	\$21.00		
1506	Spade Terminal	25	30.00		
1507	Feed Through	25	28.20		

**HIGH VOLTAGE NYLON JACKS**

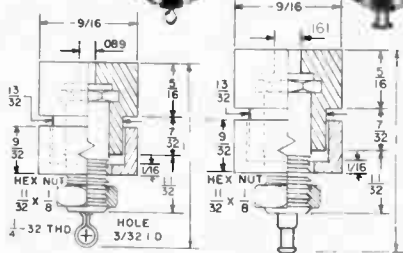
Color Code Suffix

Add to Catalog Number as Required

- 101 WHITE
- 102 RED
- 103 BLACK
- 104 GREEN
- 105 BLUE
- 106 ORANGE
- 107 YELLOW
- 108 BROWN

1521

1522



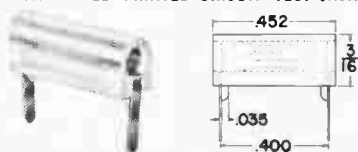
Made to meet MS-16107 Spec.

Heavy molded nylon body and cup washer prevent high-voltage flashover to panel. Meets following requirements:

- Salt Spray Test - Withstands 100 hours.
- Electrical Rating - 15 Amps AC for 10°C Temp. rise, continuous duty. 5 KV 60 cycle AC continuous working voltage. Millivolt drop per MIL-J-8751.
- Material Specifications -
  - A. Insulator and Washer: Nylon Grade FM 10001, in accordance with MIL-P-17091 spec.
  - B. Insert Shell and Nut: Brass, Nickel plated per spec. QQ-N-290, type V (FC). Insert gold washed overall.
  - C. Contact: Phosphor bronze or beryllium copper, gold washed.
  - D. Terminal style: Optional formed cylinder or slotted flat terminals as shown.

No.	Type	Std. Pkg	NET Per C
1521	TIP JACK	25	\$45.00
1522	BANANA JACK	25	\$45.00

**RIGHT ANGLE PRINTED CIRCUIT TEST JACK**



BODY: MOLDED NYLON, PER MIL-P-20693A. Specify color as coded above.

SPRING: Beryllium copper, per QQ-C-533.

FINISH: Silver underplate, .0002" min., per QQ-S-365, Type I, with .00003" Gold overplate; per MIL-F-14072, M310.

RATINGS: 5 Amps AC for 10°C Temp. rise, continuous duty. 1.5 KV, 60 cycle AC continuous working voltage. Contact resistance 5 milliohms max. at rated current. Capacitance less than 5 mmfd at 1 Mc.

MOUNTING: Mounts in .031" dia. holes, on .400" centers, in boards up to 3/16" thick. Can be spaced side-by-side .60" on centers min.

MECHANICAL DATA: Thermal shock, vibration, humidity, insulation resistance, and salt spray tests per MIL STD-2028. Solderability per MIL-S-8872. Insertion and withdrawal force: 8 oz. min.; 5 lbs. max. with .0007" dia. probe.

DESCR.: Double-entry design probe inserts from either end of jack. Closed entry construction will not accept probes larger than .081" will contact probes down to .071". Closed bottom construction keeps jack from fouling with solder or flux. Locking ears hold jack firmly in board until soldered. Precise dimensions allow for automated assembly on boards.

No.	NET Per C
430	\$10.00

**COMMERCIAL TYPE**

499	Spring-gold flash over .0002 silver.	\$9.00
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**NYLON TEST TIP JACK**

BODY: Nylon, Grade FM 10001. SPECIFY COLOR

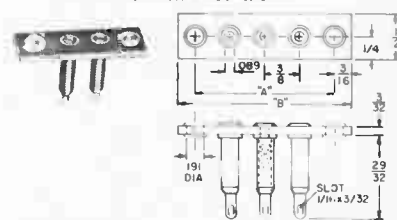
CONTACT: Phosphor bronze, gold plated.

RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 3 KV 60 cycle AC continuous working voltage.

DESCR.: Mounts in 1/4" hole, with Tinnerman Speed Nut for fast permanent assembly. Teeth embed into jack body, preventing pulling out and turning. Accepts standard phone tip plugs. Std. Pkg. 25

No.	NET Per C
1598	\$15.00

**PIN JACK STRIPS**



STRIP: LAMINATED PHENOLIC, XP, Black. Meets Federal Spec. L-L-31, Type I.

BODY: Brass, nickel plated.

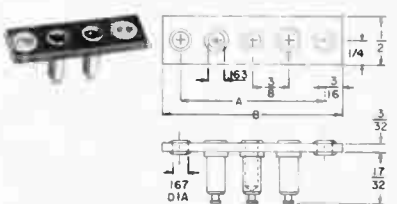
SPRING: Phosphor bronze.

RATING: 15 Amps AC for 10°C Temp. rise, continuous duty 1 KV, 60 cycle AC continuous working voltage.

DESCR.: From 2 to 10 pin jacks assembled on 3/8" centers on a heavy-duty board. Provides positive contact with standard phone tip plugs. Mounting holes accept screws up to #8.

No.	Jacks	Mtg. Ctrs. ("A")	Length ("B")	Std. Pkg.	NET Per C
1982	2	1 1/2"	1 1/2"	25	\$21.00
1983	3	1 1/2"	1 7/8"	25	27.00
1984	4	1 7/8"	2 1/4"	25	36.00
1985	5	2 1/4"	2 3/4"	25	45.00
1986	6	2 3/4"	3"	25	51.00
1987	7	3"	3 3/4"	25	60.00
1988	8	3 3/4"	3 3/4"	25	69.00
1989	9	3 3/4"	4 1/8"	25	75.00
1990	10	4 1/8"	4 1/8"	25	84.00

**BANANA JACK STRIPS**



STRIP: LAMINATED PHENOLIC, XP, Black. Meets Federal Spec. L-L-31, Type I.

BODY: Brass, nickel plated.

RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 KV, 60 cycle AC continuous working voltage.

DESCR.: From 2 to 10 Banana jacks assembled on 3/8" centers on a heavy-duty board. Provides positive contact with standard banana plugs. Mounting holes accept screws up to #8.

No.	Jacks	Mtg. Ctrs. ("A")	Length ("B")	Std. Pkg.	NET
1972	2	1 1/2"	1 1/2"	25	\$21.00
1973	3	1 1/2"	1 3/4"	25	27.00
1974	4	1 3/4"	2 1/4"	25	36.00
1975	5	2 1/4"	2 3/4"	25	45.00
1976	6	2 3/4"	3"	25	51.00
1977	7	3"	3 3/4"	25	60.00
1978	8	3 3/4"	3 3/4"	25	69.00
1979	9	3 3/4"	4 1/8"	25	75.00
1980	10	4 1/8"	4 1/8"	25	84.00

**IN-LINE PHONE TIP JACK**

HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II, Red, Black, Yellow, Green.

SPECIFY COLOR

CAP.: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CPG, Yellow, Green, per LC-726-1.

BODY: Brass, nickel plated.

SPRING: Phosphor bronze.

RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Suitable for test lead extension where long leads are required. Accepts standard phone tip plug.

No.	NET Per C
248	\$21.00

**IN-LINE BANANA JACK**

HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II, Red, Black, Yellow, Green.

SPECIFY COLOR

CAP.: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CPG, Yellow, Green, per LC-726-1.

BODY: Brass, nickel plated.

RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Suitable for test lead extension where long leads are required. Accepts standard banana plugs.

No.	NET Per C
251	\$21.00

# specify SMITH



ELECTRONIC COMPONENTS

**SOLDERLESS TIP PLUG**  
 BODY: Brass, nickel plated.  
 RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Solderless; wire fits through body of tip then wrapped around screw portion and tightened with knurled collar. Force fit type. Fits standard phone tip jacks.  
 Std. Pkg. 100

No.	Type	NET Per C
105	Senior	\$12.00

**SOLDERLESS TIP PLUG**  
 BODY: Brass, nickel plated.  
 RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Solderless; wire fits through body of tip then wrapped around screw portion and tightened with knurled collar. Force fit type. Fits standard phone tip jacks.  
 Std. Pkg. 100

No.	Type	NET Per C
106	Junior	\$12.00

**SOLDERLESS TIP PLUG Threaded Sr.**  
 BODY: Brass, nickel plated.  
 RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Solderless; wire fits through body of tip, then wrapped around screw portion and tightened with knurled collar. Threaded for easy assembly in plastic handle. Fits standard phone tip jacks.  
 Std. Pkg. 100

No.	Type	NET Per C
124	Senior	\$12.00

**SOLDERLESS TIP PLUG Threaded Jr.**  
 BODY: Brass, nickel plated.  
 RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Solderless; wire fits through body of tip, then wrapped around screw portion and tightened with assembly in plastic handle. Fits knurled collar. Threaded for easy standard phone tip jacks.  
 Std. Pkg. 50

Type	NET Per C
Junior	\$12.00

**HEAVY DUTY TIP PLUG Force-Fit**  
 BODY: Brass, nickel plated.  
 RATING: 12 Amps AC for 10°C Temp. rise continuous duty.  
 DESCR.: Extra large well for soldering. Rear of plug accepts standard banana plugs. Fits all standard phone tip jacks.  
 Std. Pkg. 25

No.	Type	NET Per C
156	Force Fit	\$11.00

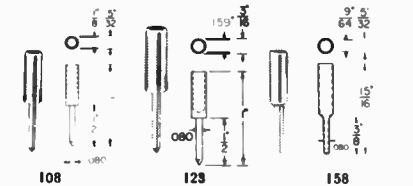
**HEAVY DUTY TIP PLUG Threaded**  
 BODY: Brass, nickel plated.  
 RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Extra large well for soldering. Rear of plug accepts standard banana plugs. Fits standard phone tip jacks. Threaded for easy assembly in plastic handle.  
 Std. Pkg. 50

No.	Type	NET Per C
125	Threaded	\$12.00

**NEEDLE TIP AND CHUCK**  
 BODY: Brass, nickel plated.  
 NEEDLE: Steel, nickel plated.  
 RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Removable chuck for easy replacement. Needle pierces plating or corrosion for positive reading.  
 Std. Pkg. 50

No.	NET Per C
128	\$19.00

**SOLDER TYPE PHONE TIPS**



No.	Type	NET Per C
08	Standard	\$2.50
23	Large I.D.	3.00
58	Drawn	1.50

**BANANA PLUG**  
 BODY: HEX BRASS, nickel plated.  
 SPRING: Four-leaved phosphor bronze, nickel plated.  
 RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Supplied with hex nut and phosphor bronze lug. Threaded stud for panel mounting. Fits standard banana jacks.  
 Std. Pkg. 100

No.	NET Per C
102	\$20.00

**BANANA PLUG**  
 BODY: HEX BRASS, nickel plated.  
 SPRING: Four-leaved phosphor bronze, nickel plated.  
 RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Supplied with hex nut and phosphor bronze lug. Threaded stud for panel mounting. Fits standard banana jacks.  
 Std. Pkg. 100

No.	NET Per C
103	\$20.00

**BANANA PLUG**  
 BODY: HEX BRASS, nickel plated.  
 SPRING: Four-leaved phosphor bronze or beryllium copper.  
 RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Supplied with screw and phosphor bronze tinued lug. Internal female permits use on all size panels. Fits standard banana jacks.  
 Std. Pkg. 100

No.	Spring Material	NET Per C
100	Phosphor Bronze	\$20.00
190	Beryllium Copper	24.00

**BANANA PLUG Split Type**  
 BODY: HEX BRASS, nickel plated, cross-slotted.  
 RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Fits all standard banana jacks. Supplied with hex nut and phosphor bronze lug, threaded stud for panel mounting. Fits standard banana jacks.  
 Std. Pkg. 100

No.	NET Per C
104	\$14.00

**MIDGET BANANA PLUG Rivet Type**  
 BODY: BRASS, silver plated.  
 SPRING: Four-leaved phosphor bronze, silver plated.  
 RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Can be furnished in varying types to meet Jan specs. Fits all standard banana jacks.  
 Std. Pkg. 100

No.	NET Per C
121	\$16.20

No. 3875 Staking Tool Net Ea. \$1.50

**MIL-SPEC. TYPE**

Same as above, made to meet Signal Corps Drawings SC-C2231. Std. Pkg. 100

No.	NET Per C
122	\$18.00

No. 3875 Staking Tool Net Ea. \$1.50

**RIVET TYPE BANANA PLUG Wrap Around Type**  
 BODY: BRASS, nickel plated.  
 SPRING: Four leaved, beryllium copper, nickel plated.  
 RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Rivets to panel or bakelite board. Wire wraps around stud and is then soldered. Std. Pkg. 100

No.	"X" Dim.	Panel	NET Per C
2082	.105	1/4"	\$18.00
2083	.135	3/8"	18.00
2084	.165	1/2"	18.00

**RIVET TYPE BANANA PLUG Solder Well Type**  
 BODY: BRASS, nickel plated.  
 SPRING: Four-leaved beryllium copper, nickel plated.  
 RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Rivets to panel or bakelite board. Wire solders to well in rear of plug. Std. Pkg. 100

No.	"X" Dim.	Panel	NET Per C
2067	.105	1/4"	\$18.00
2068	.135	3/8"	18.00
2069	.165	1/2"	18.00

**BANANA PLUG**  
 BODY: HEX BRASS, nickel or silver plated.  
 SPRING: Phosphor bronze or beryllium copper, nickel or silver plated.  
 RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Supplied with hex nut and tinued phosphor bronze lug threaded stud for panel mounting. Fits standard banana jacks.  
 Std. Pkg. 50

No.	NET Per C	A	B	No.	NET Per C
431	\$20.00	6-32x3/4"	1 1/2"	443	\$24.00
432	20.00	6-32x1/2"	1 1/2"	444	24.00
433	20.00	6-32x3/4"	1 1/2"	445	24.00
434	20.00	6-32x3/4"	1 1/2"	446	24.00
435	20.00	6-32x3/4"	1 1/2"	447	24.00
436	20.00	6-32x3/4"	1 1/2"	448	24.00

**PHOS. BR. SPRING Nickel Plated Overall**

No.	NET Per C	A	B	No.	NET Per C
437	\$23.00	6-32x3/4"	1 1/2"	449	\$27.00
438	23.00	6-32x1/2"	1 1/2"	450	27.00
439	23.00	6-32x3/4"	1 1/2"	451	27.00
440	23.00	6-32x3/4"	1 1/2"	452	27.00
441	23.00	6-32x3/4"	1 1/2"	454	27.00
442	23.00	6-32x3/4"	1 1/2"	453	27.00

**PHOS. BR. SPRING Silver Plated Overall**

No.	NET Per C	A	B	No.	NET Per C
431	\$20.00	6-32x3/4"	1 1/2"	443	\$24.00
432	20.00	6-32x1/2"	1 1/2"	444	24.00
433	20.00	6-32x3/4"	1 1/2"	445	24.00
434	20.00	6-32x3/4"	1 1/2"	446	24.00
435	20.00	6-32x3/4"	1 1/2"	447	24.00
436	20.00	6-32x3/4"	1 1/2"	448	24.00

**PHOS. BR. SPRING Silver Plated Overall**

No.	NET Per C	A	B	No.	NET Per C
437	\$23.00	6-32x3/4"	1 1/2"	449	\$27.00
438	23.00	6-32x1/2"	1 1/2"	450	27.00
439	23.00	6-32x3/4"	1 1/2"	451	27.00
440	23.00	6-32x3/4"	1 1/2"	452	27.00
441	23.00	6-32x3/4"	1 1/2"	454	27.00
442	23.00	6-32x3/4"	1 1/2"	453	27.00

**BANANA PLUG**  
 BODY: HEX BRASS, nickel or silver plated.  
 SPRING: Phosphor bronze or beryllium copper, nickel or silver plated.  
 RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Supplied with hex nut and tinued phosphor bronze lug threaded stud for panel mounting. Fits standard banana jacks.  
 Std. Pkg. 50

No.	NET Per C	A	B	No.	NET Per C
401	\$20.00	6-32x3/4"	1 1/2"	414	\$24.00
403	20.00	6-32x1/2"	1 1/2"	415	24.00
404	20.00	6-32x3/4"	1 1/2"	416	24.00
405	20.00	6-32x3/4"	1 1/2"	417	24.00
406	20.00	6-32x1/2"	1 1/2"	418	24.00
407	20.00	6-32x3/4"	1 1/2"	419	24.00

**PHOS. BR. SPRING Nickel Plated Overall**

No.	NET Per C	A	B	No.	NET Per C
408	\$23.00	6-32x3/4"	1 1/2"	420	\$27.00
409	23.00	6-32x1/2"	1 1/2"	421	27.00
410	23.00	6-32x3/4"	1 1/2"	422	27.00
411	23.00	6-32x3/4"	1 1/2"	423	27.00
412	23.00	6-32x1/2"	1 1/2"	424	27.00
413	23.00	6-32x3/4"	1 1/2"	425	27.00

**PHOS. BR. SPRING Silver Plated Overall**

No.	NET Per C	A	B	No.	NET Per C
401	\$20.00	6-32x3/4"	1 1/2"	414	\$24.00
403	20.00	6-32x1/2"	1 1/2"	415	24.00
404	20.00	6-32x3/4"	1 1/2"	416	24.00
405	20.00	6-32x3/4"	1 1/2"	417	24.00
406	20.00	6-32x1/2"	1 1/2"	418	24.00
407	20.00	6-32x3/4"	1 1/2"	419	24.00

**PHOS. BR. SPRING Silver Plated Overall**

No.	NET Per C	A	B	No.	NET Per C
408	\$23.00	6-32x3/4"	1 1/2"	420	\$27.00
409	23.00	6-32x1/2"	1 1/2"	421	27.00
410	23.00	6-32x3/4"	1 1/2"	422	27.00
411	23.00	6-32x3/4"	1 1/2"	423	27.00
412	23.00	6-32x1/2"	1 1/2"	424	27.00
413	23.00	6-32x3/4"	1 1/2"	425	27.00

**MIDGET BANANA PLUG**  
 BODY: BRASS, nickel or silver plated.  
 SPRING: Phosphor bronze or beryllium copper. Nickel or silver plated.  
 RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Supplied with hex nut and tinued phosphor bronze lug threaded stud for panel mounting. Fits standard banana jacks.  
 Std. Pkg. 50

No.	NET Per C	A	B	No.	NET Per C
460	\$18.00	4-40x3/4"	1 1/2"	468	\$21.00
461	18.00	4-40x1/2"	1 1/2"	469	21.00
462	18.00	6-32x3/4"	1 1/2"	470	21.00
463	18.00	6-32x1/2"	1 1/2"	471	21.00

**PHOS. BR. SPRING Silver Plated Overall**

No.	NET Per C	A	B	No.	NET Per C
464	\$21.00	4-40x3/4"	1 1/2"	472	\$24.00
465	21.00	4-40x1/2"	1 1/2"	473	24.00
466	21.00	6-32x3/4"	1 1/2"	474	24.00
467	21.00	6-32x1/2"	1 1/2"	475	24.00

**BANANA PLUG**  
 BODY: HEX BRASS, nickel plated.  
 SPRING: Phosphor bronze or beryllium copper, nickel plated.  
 RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Supplied with hex nut and tinued phosphor bronze lug threaded stud for panel mounting. Fits standard banana jacks.  
 Std. Pkg. 50

No.	Spring Material	NET Per M
145	Phosphor Bronze	\$21.00
135	Beryllium Copper	25.00

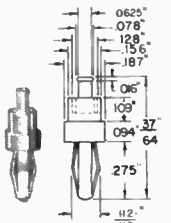
# specify SMITH

HERMAN H. SMITH, INC.



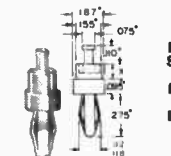
ELECTRONIC COMPONENTS

## SUBMINIATURE PLUGS & JACKS



**SUB MINIATURE BANANA PLUG Rivet Type**  
**BODY:** BRASS, silver plated.  
**SPRING:** Four leaved beryllium copper, silver plated.  
**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** One piece beryllium copper spring insures positive and lasting contact. Std. Pkg. 50  
 No. 191 NET Per C \$15.00

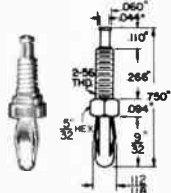
No. 3876 Staking Tool Kit Net Ea. \$3.00



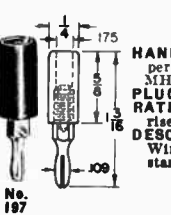
**Swager Type SUB MINIATURE BANANA PLUG**  
**BODY:** BRASS, silver plated.  
**SPRING:** Four leaved beryllium copper, silver plated.  
**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** One piece beryllium copper spring insures positive and lasting contact. Std. Pkg. 100

No.	"X" Dim.	Panel	NET Per C
2073	.105	1/8"	\$15.00
2074	.135	3/16"	15.00
2075	.165	1/4"	15.00

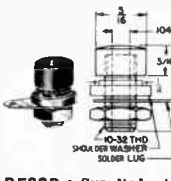
No. 3876 Staking Tool Kit Net Ea. \$3.00



**SUB MINIATURE BANANA PLUG**  
**BODY:** BRASS, silver plated.  
**SPRING:** Four leaved beryllium copper, silver plated.  
**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** One piece beryllium copper spring insures positive and lasting contact. Std. Pkg. 50  
 No. 192 NET Per C \$15.00

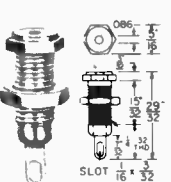


**INSULATED BANANA PLUG Sub Miniature**  
**HANDLE:** MACHINED BUTYRATE, per Fed. Spec. L-P344, Type 1, Class MH, Red or Black. SPECIFY COLOR  
**PLUG:** Brass, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Cross-slotted for spring tension. Wire solders directly into plug. Fits standard midget banana jacks. Std. Pkg. 100  
 No. 197 NET Per C \$17.00

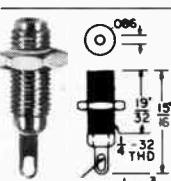


**INSULATED BANANA JACK Sub Miniature**  
**HEAD:** MACHINED BUTYRATE, per Fed. Spec. L-P344, Type 1, Class MH, Red or Black. SPECIFY COLOR  
**BODY:** Brass, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Supplied with hex nut, fibre washer and tinned lug. Mounts in 1/4" hole in panels up to 3/8" thick. Accepts standard midget banana plugs. Std. Pkg. 100  
 No. 198 NET Per C \$20.00

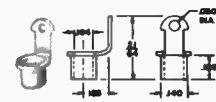
## STANDARD TIP JACKS



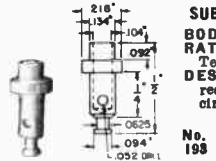
**PHONE TIP JACK**  
**BODY:** Brass, nickel plated.  
**SPRING:** Phosphor bronze.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Positive contact with standard phone tip plugs. Supplied with hex nut. Mounts in 1/4" hole in panels up to 3/8" thick. Std. Pkg. 100  
 No. 107 NET Per C \$12.00



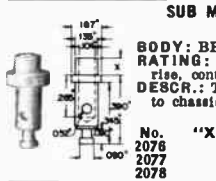
**HEADLESS PHONE TIP JACK**  
**BODY:** Brass, nickel plated.  
**SPRING:** Phosphor bronze.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Supplied with hex nut. Used with plastic molded instrument cases, where jack body is screwed in in case. Accepts standard phone tip plugs. Std. Pkg. 100  
 No. 147 NET Per C \$10.00



**SUB MINIATURE BANANA JACK**  
**BODY:** BRASS, silver plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** This jack is riveted directly to chassis or to printed circuit board for easy assembly. Std. Pkg. 100  
 No. 194 NET Per C \$1.20

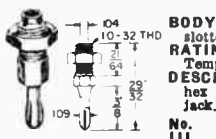


**SUB MINIATURE BANANA JACK**  
**BODY:** BRASS, silver plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** This jack is riveted directly to chassis or to printed circuit board for easy assembly. Std. Pkg. 50  
 No. 193 NET Per C \$9.00

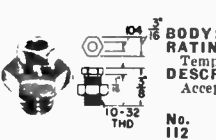


**SUB MINIATURE BANANA JACK Panel Mount**  
**BODY:** BRASS, silver plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** These jacks are riveted directly to chassis or bakelite board. Std. Pkg. 100  

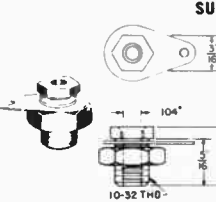
"X" Dim.	Panel	NET Per C
.105	1/8"	\$9.00
.135	3/16"	8.00
.165	1/4"	9.00



**MIDGET BANANA PLUG**  
**BODY:** BRASS, nickel plated, cross-slotted.  
**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Cross-slotted, supplied with hex nut. Fits our No. 112 midget jack. Std. Pkg. 50  
 No. 111 NET Per C \$10.20

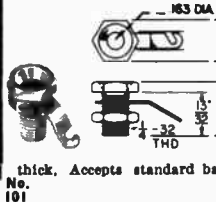


**MIDGET BANANA JACK**  
**BODY:** BRASS, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Supplied with hex nut. Accepts our No. 111 midget plug. Std. Pkg. 50  
 No. 112 NET Per C \$7.80

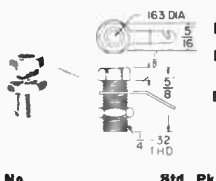


**SUB MINIATURE BANANA JACK**  
**BODY:** HEX BRASS, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Supplied with hex nut and brass tinned lug. Mounts in .198 (#10) hole in panels up to 3/8" thick. Accepts standard midget banana plugs. Std. Pkg. 100  
 No. 195 NET Per C \$7.80

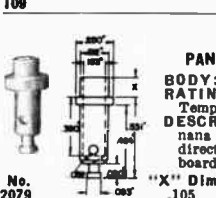
## STANDARD BANANA JACKS



**BANANA JACK**  
**BODY:** Hex brass nickel plated with recessed head.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Supplied with hex nut and brass tinned lug. Mounts in 1/4" hole; fits panels up to 3/8" thick. Accepts standard banana plugs. Std. Pkg. 100  
 No. 101 NET Per C \$12.00



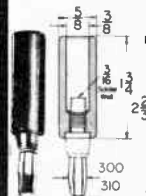
**BANANA JACK**  
**BODY:** Hex brass, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Supplied with hex nut and brass tinned lug. Mounts in 1/4" hole in panels up to 3/8" thick. Accepts standard banana plugs. Std. Pkg. 100  
 No. 109 NET Per C \$12.00



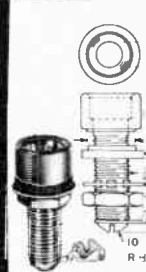
**PANEL MOUNT BANANA JACK**  
**BODY:** BRASS, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Accepts all standard banana plugs. These jacks are riveted directly to chassis or bakelite board. Std. Pkg. 100  

"X" Dim.	Panel	NET Per C
.105	1/8"	\$10.00
.135	3/16"	10.00
.165	1/4"	10.00

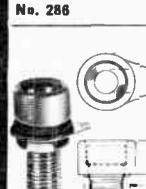
## GIANT BANANA PLUGS & JACKS



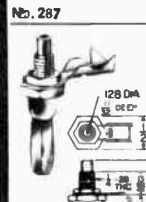
**INS. GIANT BANANA PLUG**  
**HANDLE:** MACHINED PHENOLIC plastic, per MIL-P-77B, Type I, Red or Black. SPECIFY COLOR  
**BODY:** Hex brass, nickel plated.  
**SPRING:** Six-leaved, phosphor bronze, nickel plated.  
**RATING:** 25 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Large deep internal well for soldering heavy duty wire. Recessed so that no metal portions are exposed when plugged into mating jack, in order to prevent shocks or grounding. Std. Pkg. 50  
 No. 285 NET Per C \$75.00



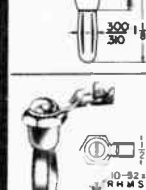
**INS. GIANT BANANA JACK**  
**HEAD:** MACHINED BUTYRATE, per Fed. Spec. L-P344, Type 1, class MH, Red or Black. SPECIFY COLOR  
**BODY:** HEX BRASS, nickel plated.  
**RATING:** 25 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 7.0 mmfd.  
**DESCR.:** Supplied with hex nut, fibre washer, lock-washer, screw and tinned copper lug. Jack body recessed for snug contact. Mounts in 1/2" hole in panel up to 3/8" thick. Std. Pkg. 50  
 No. 286 NET Per C \$46.00



**INS. GIANT BANANA JACK**  
**HEAD:** MACHINED BUTYRATE, per Fed. Spec. L-P344, Type 1, class MH, Red or Black. SPECIFY COLOR  
**BODY:** BRASS, nickel plated.  
**RATING:** 25 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 7.0 mmfd.  
**DESCR.:** Supplied with hex nut, fibre washer, lock-washer, and brass tinned lug. Jack body recessed for snug contact. Mounts in 1/2" hole in panel up to 3/8" thick. Std. Pkg. 50  
 No. 287 NET Per C \$45.00



**GIANT BANANA PLUG**  
**BODY:** HEX BRASS, nickel plated.  
**SPRING:** Six-leaved phosphor bronze, nickel plated.  
**RATING:** 25 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Plug portion of #285 plug. Supplied with hex nut and brass tinned lug. Large deep internal well for soldering heavy duty wire. Std. Pkg. 25  
 No. 185 NET Per C \$45.00



**GIANT BANANA PLUG**  
**BODY:** HEX BRASS, nickel plated.  
**SPRING:** Six-leaved phosphor bronze, nickel plated.  
**RATING:** 25 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Supplied with screw and brass tinned lug. Internal female permits use on all size panels. Std. Pkg. 25  
 No. 186 NET Per C \$35.00



**GIANT BANANA PLUG**  
**BODY:** HEX BRASS, nickel plated.  
**SPRING:** Six-leaved phosphor bronze, nickel plated.  
**RATING:** 25 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Supplied with screw and brass tinned lug. Female permits use on all size panels. Internal screw. Std. Pkg. 25  
 No. 188 NET Per C \$30.00



**GIANT BANANA JACK**  
**BODY:** HEX BRASS, nickel plated.  
**RATING:** 25 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Supplied with hex nut and brass tinned lug. Std. Pkg. 25  

No.	Hex Head	Mtg. Hole	Panel	NET Per C
187	1/2"	3/8"	1/2"	\$30.00
157	5/8"	1/2"	5/8"	30.00

# specify S M I T H

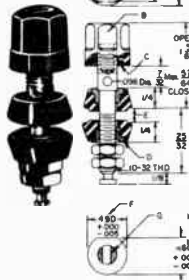


HERMAN H. SMITH, INC.  
ELECTRONIC COMPONENTS

### BINDING POST - Multipurpose

#### NOTES:

- A Banana Plug Receptacle, .161 I.D.
- B Head non-removable from stud.
- C Molded-In Brass Bushing in Head.
- D Molded-In Brass Bushing in Washers.
- E For Panels 1/16" to 1/4" thick.
- F Drill 1/2" hole for mounting washers.
- G Wire Hole is at right angle to Flat on insulated Washers. (Sample Washer Sent on Request.)
- H Production Punch for keyed Slot for mounting Washers. (Sample Washer Sent on Request.)



**RATING:** 30 Amps AC for 10°C Temp. rise, continuous working voltage. CAPACITANCE 5.0 mmfd.

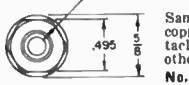
**CURRENT:** 30 amps safe current carrying capacity. **ACCEPTS:** Phone tip plug, spade lug, banana plug, alligator clip or wire strand. **DESCR.:** MOLDED NYLON, per MIL-P-20693A, head and washer completely insulates post from panel. Mounts in 1/2" or keyed hole as indicated. Wrap around type—direct solder connection to stud. Metal parts brass. **COLORS:** Red, Black, Yellow, Green, Blue, White. **Specify color.** St. Pkg. 100 **NET Per C \$40.00**

### MIL-SPEC BINDING POST

Same as our #257 above, made to meet MIL-P-5149-1/1. St. Pkg. 50 **NET Per C \$50.00**

### PIN JACK TYPE

Same as above, with Beryllium copper, gold plated pin tip receptacle replacing Note "A" above. All other specifications apply. St. Pkg. 100 **NET Per C \$46.00**

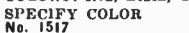


### NYLON BINDING POST

#### Insulated

**HEAD:** CAPTIVE, MOLDED NYLON, per MIL-P-20693A, with brass Gold-Plated Insert. **BODY:** Brass, Gold Plated. **WASHERS:** MOLDED NYLON, per MIL-P-20693A, with brass Gold-plated inserts. **ACCEPTS:** Phone tip plug, spade lug, banana plug, alligator clip, or wire strand. **RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 mmfd.

**DESCR.:** Molded washers completely insulate post from panel. Miniature washers and narrow fluted head require minimum panel space. Mounts in 3/8" round or "D" hole in panel as indicated. Wrap-around solder terminal on stud for direct connection. **COLORS:** Red, Black, Yellow, Green, Blue, White. **SPECIFY COLOR** St. Pkg. 100 **NET Per C \$40.00**

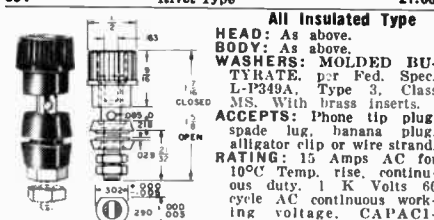


#### Five-Way Grounding Type

**HEAD:** CAPTIVE; MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. **BODY:** Brass, nickel plated. **ACCEPTS:** Phone tip plug, spade lug, banana plug, alligator clip or wire strand. **RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 5.0 mmfd.

**DESCR.:** Can be insulated from panel with our 2155 and 2163 fibre washers. Supplied with 2 hex nuts. St. Pkg. 100

No.	Description	NET Per C
220	8-32 x 1/2 Stud	\$22.00
230	6-32 x 3/8 Stud	\$22.00
391	Rivet Type	17.00
With brass nickel plated insert in head		
280	8-32 Stud	\$26.00
284	6-32 Stud	26.00
394	Rivet Type	21.00



**All Insulated Type**

**HEAD:** As above. **BODY:** As above. **WASHERS:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. With brass inserts. **ACCEPTS:** Phone tip plug, spade lug, banana plug, alligator clip or wire strand. **RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 mmfd.

**DESCR.:** Mounts in 1/8" hole in panel with milled slot for locking, supplied with two hex nuts. St. Pkg. 100

No.	Description	NET Per C
260	8-32 Stud	\$40.00
250	6-32 Stud	40.00
With brass nickel plated insert in head		
299	8-32 Stud	\$44.00
231	6-32 Stud	44.00

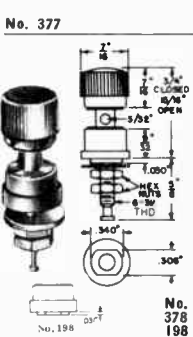
### NYLON BINDING POSTS

#### Grounding Type

**HEAD:** CAPTIVE; MOLDED NYLON, per MIL-P-20693A. Red or Black with brass nickel plated insert.

**SPECIFY COLOR** **WASHER:** Molded nylon with brass nickel plated insert. **BODY:** Brass, nickel plated. **RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage, when insulated from panel as recommended. CAPACITANCE 6.0 mmfd.

**DESCR.:** Supplied with 2 hex nuts. Grounds to panel but supplied with nylon washer for uniformity of height with No. 378 when used on same panel. Can be insulated from panel by using our No. 2150 shoulder washer. St. Pkg. 100 **NET Per C \$35.00**



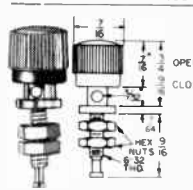
No. 378 198

#### ALL INSULATED

**HEAD:** CAPTIVE; MOLDED NYLON, per MIL-P-20693A. Red or Black with brass nickel plated insert.

**SPECIFY COLOR** **WASHER:** Molded nylon with brass nickel plated insert. **BODY:** Brass, nickel plated. **RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.

**DESCR.:** Supplied with two hex nuts. Boss washer insulates post from chassis when used with bakelite washer supplied. Min. Panel Std. Pkg. 100 Thickness 1/16" **NET Per C \$35.00**



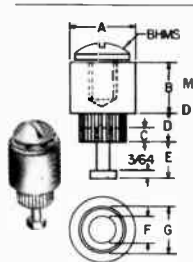
No. 379

#### GROUNDING TYPE

**HEAD:** CAPTIVE; MOLDED NYLON, per MIL-P-20693A. Red or Black with brass nickel plated insert.

**SPECIFY COLOR** **BODY:** Brass, nickel plated. **RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage, when insulated from panel as recommended. CAPACITANCE 7.0 mmfd.

**DESCR.:** Supplied with two hex nuts. Can be insulated from panel by using our No. 2150 shoulder washer and 2162 flat washer. St. Pkg. 100 **NET Per C \$25.00**

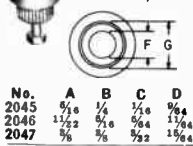


No. 379

### COMBINATION TERMINALS

#### MATERIAL: BRASS, alloy

**DESCR.:** Combination Screw and Turret Terminal. Knurled shank prevents turning. Supplied complete with BHMS and Internal Tooth Lockwasher, unassembled. St. Pkg. 25

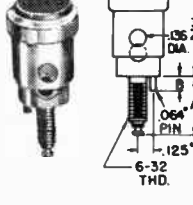


No.	A	B	C	D	E	F	G	BHMS	Thk	Net Panel Per C
2045	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	220	6-32	\$11.40
2046	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	250	8-32	11.40
2047	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	257	10-32	11.40

#### SPRING LOADED BINDING POSTS

**HEAD:** CAPTIVE, Brass nickel plated. **CAP:** STYRENE, per Fed. Spec. L-P416, Type 1, Black. **BODY:** Brass, nickel plated. **PIN:** Nickel Silver.

**ACCEPTS:** Standard phone tip or wire in side hole and locks them in place on release of pressure on cap. **RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. **DESCR.:** Side dowel pin locates and prevents post from turning when mounted in panel. St. Pkg. 50



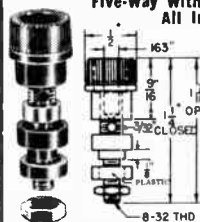
With Dowel Pin		No.	NET Per C	Less Dowel Pin		No.	NET Per C
1/4"	1/4"	2701	\$45.00	1/4"	1/4"	2801	\$41.00
1/2"	1/2"	2702	47.00	1/2"	1/2"	2802	43.00
3/8"	3/8"	2703	49.00	3/8"	3/8"	2803	45.00
1/2"	1/2"	2704	50.00	1/2"	1/2"	2804	46.00
5/8"	5/8"	2705	52.00	5/8"	5/8"	2805	48.00
3/4"	3/4"	2706	55.00	3/4"	3/4"	2806	51.00
1"	1"	2707	58.00	1"	1"	2807	54.00
1 1/4"	1 1/4"	2708	60.00	1 1/4"	1 1/4"	2808	56.00

Same as above less threaded stud. Supplied with 6-32 internal mounting thread.

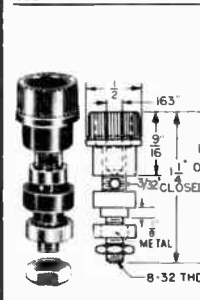
No.	Description	NET Per C
2709	With 1/2" lg. Dowel Pin	\$40.00
2809	Without Dowel Pin	36.00

### BINDING POST

#### Five-Way With Molded Mounting Washers All Insulated Type



**HEAD:** CAPTIVE; MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. **SPECIFY COLOR** **BODY:** Brass, nickel plated. **WASHERS:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. **ACCEPTS:** Phone tip plug, spade lug, banana plug, alligator clip or wire strand. **RATING:** 15 Amps AC for 10°C Temp. rise, continuous working voltage. CAPACITANCE 5.0 mmfd. **DESCR.:** Mounts in 1/4" hole in panel. Supplied with one hex nut. St. Pkg. 100 **NET Per C \$25.00**



No. 386

#### Grounding Type

**HEAD:** CAPTIVE; MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. **SPECIFY COLOR** **BODY:** Brass, nickel plated. **WASHERS:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Mounting Washer—plastic. Back-up Washer—Brass, nickel plated. **RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. **DESCR.:** Mounts in 1/4" hole in panel by back-up washer. Supplied with one hex nut. St. Pkg. 100 **NET Per C \$25.00**

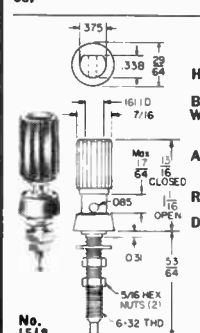


No. 387

### METAL BINDING POST

#### Grounded

**HEAD:** CAPTIVE, Fluted Brass, Gold-plated. **BODY:** Brass, Gold-plated. **WASHER:** MOLDED BLACK NYLON, per MIL-P-20693A, with brass Gold-plated insert. **ACCEPTS:** Phone tip plug, spade lug, banana plug, alligator clip, or wire strand. **RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. **DESCR.:** Fluted-head metal post to match our No. 1517. For use where direct ground connection is made to panel or chassis. Supplied with brass, gold-plated flat metal washer for grounding. St. Pkg. 100 **NET Per C \$45.00**

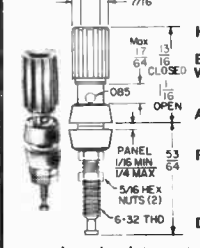


No. 1518

### METAL BINDING POST.

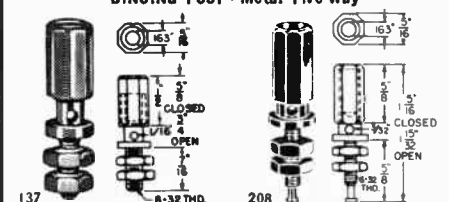
#### Insulated

**HEAD:** CAPTIVE, Fluted Brass, Gold-plated. **BODY:** Brass, Gold-plated. **WASHER:** MOLDED BLACK NYLON, per MIL-P-20693A, with brass Gold-plated insert. **ACCEPTS:** Phone tip plug, spade lug, banana plug, alligator clip, or wire strand. **RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 mmfd. **DESCR.:** Fluted-head metal post to match our No. 1517. Molded brass insulate post from panel where internal ground circuit is isolated from chassis or panel. St. Pkg. 100 **NET Per C \$50.00**



No. 1519

### BINDING POST - Metal Five-Way

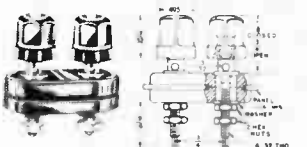


**HEAD:** CAPTIVE; octagonal brass, nickel plated. **BODY:** Brass, nickel plated. **ACCEPTS:** Phone tip, spade lug, banana plug, alligator clip or wire strand. **RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage, when insulated from panel as recommended. CAPACITANCE 5.0 mmfd. **DESCR.:** Can be completely insulated from panel by using our 2155 and 2163 fibre washers. Supplied with two hex nuts. St. Pkg. 100

No.	Description	NET Per C
137	Standard	\$25.00
208	Wrap-around	33.00



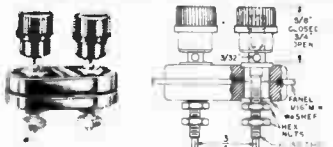
**DUAL ASSEMBLY With Insulated Head**



**WASHER:** MOLDED black STYRENE, per Fed. Spec. L-P416, Type I, cross slotted (+) to accept standard phone tips in post either forward or sideways.  
**BODY:** Brass, nickel plated.  
**HEAD:** Captive; MOLDED NYLON, per MIL-P-20693A, with molded in brass insert.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty, 2 K Volts 60 cycle AC continuous working voltage, CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel.  
**DESCR.:** Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.

No.	Description	Std. Pkg. 10	NET Per C
269BB	Two Black Heads		\$70.00
269RR	Two Red Heads		70.00
269RB	One Red, One Black Head		70.00

**DUAL ASSEMBLY With Insulated Head**



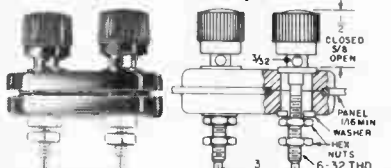
**WASHER:** MOLDED black STYRENE, per Fed. Spec. L-P416, Type I, cross slotted (+) to accept standard phone tips in post either forward or sideways.  
**BODY:** Brass, nickel plated.  
**HEAD:** Captive; MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty, 2 K Volts 60 cycle AC continuous working voltage, CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel.  
**DESCR.:** Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.

No.	Description	Std. Pkg. 10	NET Per C
224BB	Two Black Heads		\$54.00
224RR	Two Red Heads		54.00
224RB	One Red, One Black Head		54.00

Same as above with brass nickel plated insert in head

263BB	Two Black Heads		66.00
263RR	Two Red Heads		66.00
263RB	One Red, One Black Head		66.00

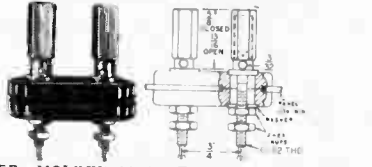
**DUAL ASSEMBLY With Nylon Heads**



**WASHER:** MOLDED black STYRENE, per Fed. Spec. L-P416, Type I, cross slotted (+) to accept standard phone tips in post either forward or sideways.  
**BODY:** Brass, nickel plated.  
**HEAD:** Captive; MOLDED NYLON, per MIL-P-20693A, with molded in brass insert.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous working voltage, CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel.  
**DESCR.:** Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Supplied with 4 hex nuts, 2 flat washers.

No.	Description	Std. Pkg. 10	NET Per C
284BB	Two Black Heads		\$65.00
284RR	Two Red Heads		65.00
284RB	One Red, One Black Head		65.00

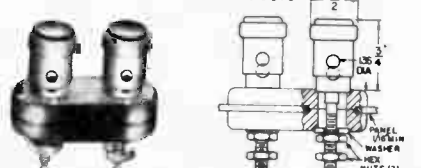
**DUAL METAL BINDING POST**



**WASHER:** MOLDED black STYRENE, per Fed. Spec. L-P416, Type I, cross slotted (+) to accept standard phone tips in post either forward or sideways.  
**BODY:** Brass, nickel plated.  
**HEAD:** Captive; Hex brass, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty, 2 K Volts 60 cycle AC continuous working voltage, CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel.  
**DESCR.:** Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.

No.	Description	Std. Pkg. 10	NET Per C
209			\$75.00

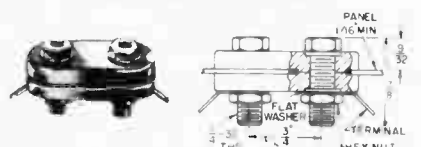
**DUAL SPRING-LOADED BINDING POSTS**



**WASHER:** MOLDED black STYRENE, per Fed. Spec. L-P416, Type I, cross slotted (+) to accept standard phone tips or wire in post either forward or sideways. Supplied in colors on special order.  
**HEAD:** Captive, brass, nickel plated.  
**BODY:** Brass, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty, 5 KV 60 cycle AC continuous working voltage.  
**DESCR.:** Accepts standard phone tips or wires in side holes, and locks them in place when pressure on cap is released.

No.	Description	Std. Pkg. 10	NET Per C
2713			\$120.00

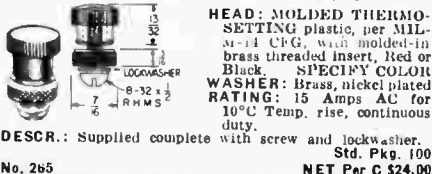
**DUAL BANANA JACK ASSEMBLY**



**WASHER:** MOLDED black STYRENE, per Fed. Spec. L-P416, Type I.  
**BODY:** Brass, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty, 2 K Volts 60 cycle AC continuous working voltage, CAPACITANCE 2.0 mmfd. between conductors, 4.0 mmfd. to panel.  
**DESCR.:** Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates standard and dual banana plugs. Supplied with two hex nuts and brass tinned lugs.

No.	Description	Std. Pkg. 10	NET Per C
489			\$50.00

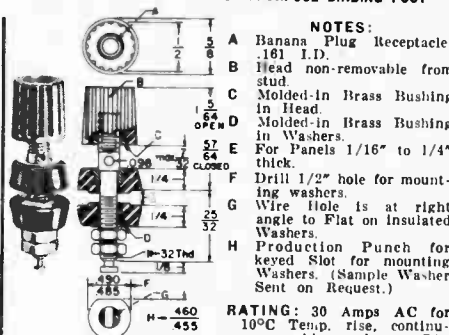
**BINDING POST**



**HEAD:** MOLDED THERMOSETTING plastic, per MIL-1111 C-10-G, with molded-in brass threaded insert, Red or Black, SPECIFY COLOR  
**WASHER:** Brass, nickel plated  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Supplied complete with screw and lockwasher.

No.	Description	Std. Pkg. 100	NET Per C
265			\$24.00

**NYLON FLUTED HEAD MULTI-PURPOSE BINDING POST**



**NOTES:**  
 A Banana Plug Receptacle, 161 I.D.  
 B Head non-removable from stud.  
 C Molded-in Brass Bushing in Head.  
 D Molded-in Brass Bushing in Washers.  
 E For Panels 1/16" to 1/4" thick.  
 F Drill 1/2" hole for mounting washers.  
 G Wire Hole is at right angle to Flat on Insulated Washers.  
 H Production Punch for keyed Slot for mounting Washers. (Sample Washer Sent on Request.)

**RATING:** 30 Amps AC for 10°C Temp. rise, continuous working voltage. CAPACITANCE 5.0 mmfd.

**CURRENT:** 30 amps safe current carrying capacity.  
**ACCEPTS:** Phone tip plug, spade lug, banana plug, alligator clip or wire strand.

**DESCR.:** MOLDED NYLON, per MIL-P-20693A, head and washer completely insulates post from panel. Mounts in 1/2" or keyed hole as indicated. Wrap around type—direct solder connection to stud. Metal parts brass.  
**COLORS:** Red, Black, Yellow, Green, Blue, White. Specify color.

No.	Description	Std. Pkg. 100	NET Per C
459			\$40.00

**MIL-SPEC BINDING POST**

Same as our #459 above, made to meet MIL-P-55149/1.

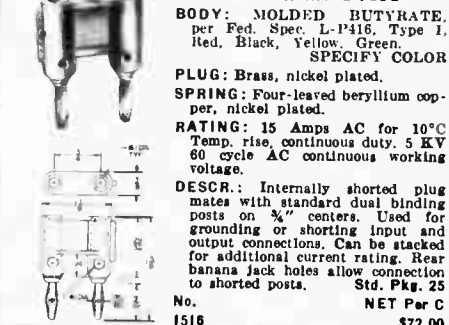
No.	Description	Std. Pkg. 50	NET Per C
495			\$50.00

**PIN JACK TYPE**

Same as above with Beryllium copper, gold plated pin tip receptacle replacing Note "A" above. All other specifications apply.

No.	Description	Std. Pkg. 100	NET Per C
497			\$46.00

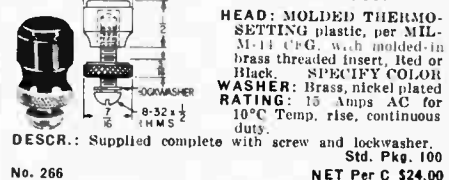
**DUAL SHORTING LUG**



**BODY:** MOLDED BUTYRATE, per Fed. Spec. L-P416, Type I, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR  
**PLUG:** Brass, nickel plated.  
**SPRING:** Four-leaved beryllium copper, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty, 5 KV 60 cycle AC continuous working voltage.  
**DESCR.:** Internally shorted plug mates with standard dual binding posts on 3/4" centers. Used for grounding or shorting input and output connections. Can be stacked for additional current rating. Rear banana jack holes allow connection to shorted posts.

No.	Description	Std. Pkg. 25	NET Per C
1516			\$72.00

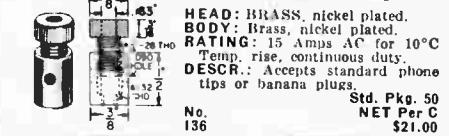
**BINDING POST**



**HEAD:** MOLDED THERMOSETTING plastic, per MIL-1111 C-10-G, with molded-in brass threaded insert, Red or Black, SPECIFY COLOR  
**WASHER:** Brass, nickel plated  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Supplied complete with screw and lockwasher.

No.	Description	Std. Pkg. 100	NET Per C
266			\$24.00

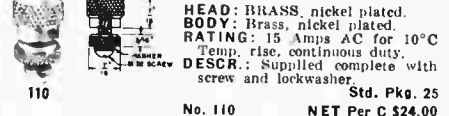
**METAL BINDING POST**



**HEAD:** BRASS, nickel plated.  
**BODY:** Brass, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Accepts standard phone tips or banana plugs.

No.	Description	Std. Pkg. 50	NET Per C
136			\$21.00

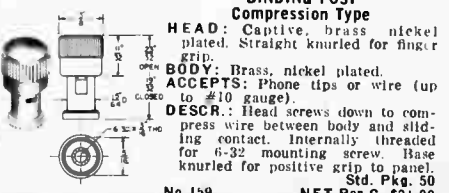
**METAL BINDING POST**



**HEAD:** BRASS, nickel plated.  
**BODY:** Brass, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Supplied complete with screw and lockwasher.

No.	Description	Std. Pkg. 25	NET Per C
110			\$24.00

**BINDING POST**

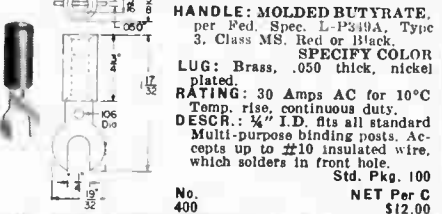


**HEAD:** Captive, brass nickel plated. Straight knurled for finger grip.  
**BODY:** Brass, nickel plated.  
**ACCEPTS:** Phone tips or wire (up to #10 gauge).  
**DESCR.:** Head screws down to compress wire between body and sliding contact. Internally threaded for 6-32 mounting screw. Base knurled for positive grip to panel.

No.	Description	Std. Pkg. 50	NET Per C
159			\$21.00

**ADDITIONAL DUAL BINDING POSTS ON SMITH PAGE 20**

**INSULATED SPADE LUG**



**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black.  
**LUG:** Brass, .050 thick, nickel plated.  
**RATING:** 30 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** 1/4" I.D. fits all standard Multi-purpose binding posts. Accepts up to #10 insulated wire, which solders in front hole.

No.	Description	Std. Pkg. 100	NET Per C
400			\$12.00

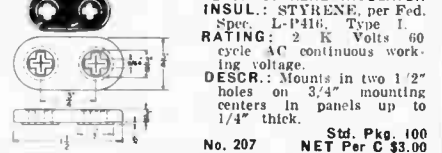
**SHORTING LINK**



**MATERIAL:** Spring brass, nickel plated, .033" thick.  
**RATING:** 50 Amps AC continuous duty, for 10°C Temp. rise.  
**DESCR.:** Snaps over contact barrels of dual binding posts with standard 3/4" mounting centers.

No.	Description	Std. Pkg. 50	NET Per C
327			\$6.00

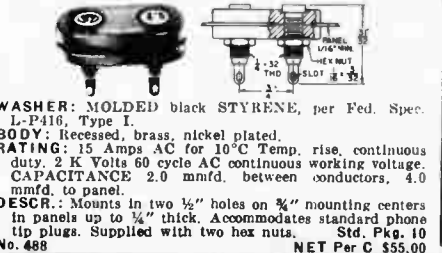
**BLACK STYRENE INSULATOR**



**INSUL.:** STYRENE, per Fed. Spec. L-P416, Type I.  
**RATING:** 2 K Volts 60 cycle AC continuous working voltage.  
**DESCR.:** Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick.

No.	Description	Std. Pkg. 100	NET Per C
207			\$3.00

**DUAL TIP JACK ASSEMBLY**



**WASHER:** MOLDED black STYRENE, per Fed. Spec. L-P416, Type I.  
**BODY:** Recessed, brass, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty, 2 K Volts 60 cycle AC continuous working voltage, CAPACITANCE 2.0 mmfd. between conductors, 4.0 mmfd. to panel.  
**DESCR.:** Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates standard phone tip plugs. Supplied with two hex nuts.

No.	Description	Std. Pkg. 10	NET Per C
488			\$55.00

# specify SMITH

HERMAN H. SMITH, INC.



ELECTRONIC COMPONENTS

### SOLDERLESS TIP TEST LEAD

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.

TIP: Solderless: Brass, nickel plated.

No.	Meter End	Std. Pkg. 6	NET Per Pr.
600	Phone Tips		\$.87
601	Spade Lugs		.87
602	Alligator Clips		.93

### PHONO NEEDLE TEST LEAD

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.

BODY: Brass, nickel plated.  
NEEDLE: Steel, nickel plated.

No.	Meter End	Std. Pkg. 6	NET Per Pr.
610	Phone Tips		\$.87
614	Spade Lugs		.87
615	Alligator Clips		.93

### ALL SOLDERLESS TEST LEAD

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.

PLUG: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG.

TIP: Solderless: Brass, nickel plated.

No.	Meter End	Std. Pkg. 6	NET Per Pr.
609			\$1.26

### HIGH TENSION TEST LEAD

HANDLE: FIBRE, per MIL-F-1184A, Grade CH. Red and Black.

PLUG: FIBRE, per MIL-F-1184A, Grade CH. Red and Black.

TIP: Brass, nickel plated.

No.	Meter End	NET Per Pr.
620	Ins. Phone Tips	\$1.98
621	Ins. Spade Lugs	1.98
622	Ins. Alligator Clips	2.40

### SHORT TIP TEST LEAD

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Grade CH. Red and Black.

PLUG: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG.

TIP: Brass, nickel plated.

No.	NET Per Pr.
624	\$1.05

### SLIM HANDLE TEST LEAD

HANDLES: MACHINED BUTYRATE, per MIL-P10408A, Type 1, Class 2. Red and Black.

TIPS: Prod: Brass, Nickel Plated. Meter End: Drawn Brass Nickel Plated.

No.	NET Per Pr.
670	\$.86

### BANANA PLUG TEST LEAD

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.

PLUG: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG.

TIP: Solderless: Brass, nickel plated.  
BODY: Brass, nickel plated.  
SPRING: Four leaved phosphor bronze, nickel plated.

No.	NET Per Pr.
623	\$1.50

### SUB MINIATURE TEST LEAD

HANDLE: FIBRE, per MIL-F-1184A, Grade CH. Red and Black.

PLUG: FIBRE, per MIL-F-1184A, Grade CH. Red and Black.

TIPS: Brass, nickel plated.

No.	NET Per Pr.
678	\$1.26

### TEST LEAD KIT

DESCR.: Each kit is supplied with one pair of test leads. One end test prods, other end ins. banana plugs.

FITTINGS: Two each: Phone tips, alligator clips, spade lugs.

No.	Type	NET Ea.
610	Solderless Prods	\$1.80
611	Needle Tip Prods	1.80

### SHIELDED TEST LEADS

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.

TIP: Prod tip brass, nickel plated. Meter end, see type.

DESCR.: Plugs insert flush to insulated handle. Prods have retractable cover leaving no metal exposed. Eliminates possibility of shock or grounding. Supplied with either phone tip or banana plug meter order. Other variations on special order.

No.	Type	NET Per Pr.
616	Phone Tip End	\$1.80
617	Banana Plug End	1.80

### ALLIGATOR CLIP TEST LEAD

HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.

TIPS: Solderless: Brass, nickel plated.

CLIPS: Steel, cadmium plated (No. 300).

BOOT: Vinyl Plastic, Red and Black

No.	NET Per Pr.
672	\$1.26

### ALLIGATOR CLIP TEST LEAD

CLIPS: STEEL, cadmium plated.

No.	Wire	Std. Pkg. 6	NET Per Pr.
604	12 inches		\$.57
605	24 inches		.63
606	36 inches		.72
607	48 inches		.81

### ALLIGATOR CLIP TEST LEAD

With Boots

CLIPS: Steel, Cadmium Plated

BOOTS: Vinyl plastic Red and Black.

No.	Wire	Std. Pkg. 6	NET Per Pr.
629	12 inches		\$.81
637	24 inches		.87
638	36 inches		.96
639	48 inches		1.02

### ALLIGATOR CLIP TEST LEAD

CLIP HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black

PLUG HANDLES: MOLDED THERMOSETTING PLASTIC, per MIL-M-11 CFG. Red and Black

CLIPS: Steel, cadmium plated

TIPS: Solderless: Brass, nickel plated.

No.	NET Per Pr.
627	\$.99

### ALLIGATOR CLIP TEST LEAD

CLIP HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black

CLIPS: Steel, cadmium plated.

ELBOWS: MOLDED THERMOSETTING PLASTIC per MIL-M-14 CFG. Red and Black

TIPS: Brass, nickel plated.

No.	NET Per Pr.
628	\$1.20

### ALLIGATOR CLIP TEST LEAD

CLIP HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black

CLIPS: Steel, cadmium plated.

ELBOWS: MOLDED THERMOSETTING PLASTIC, per MIL-M-14 CFG. Red and Black

No.	NET Per Pr.
647	\$1.20

### ALLIGATOR CLIP TEST LEAD

CLIP HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black

CLIPS: Steel, cadmium plated

LUGS: Steel, hot tinned

No.	Std. Pkg. 6	NET Per C
649		\$1.20

### CROCODILE CLIP TEST LEAD

CLIP: STEEL, cadmium plated.

BOOT: Vinyl plastic, Red and Black.

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black

No.	NET Per Pr.
671	\$1.20

### CROCODILE CLIP TEST LEAD

CLIPS: Steel, Cadmium plated.

BOOTS: Vinyl plastic, Red and Black.

ELBOWS: MOLDED THERMOSETTING PLASTIC, per MIL-M-14 CFG. Red and Black

No.	Std. Pkg. 6	NET Per Pr.
648		\$1.14

### CROCODILE CLIP TEST LEAD

CLIPS: STEEL, cadmium plated.

BOOT: Vinyl plastic, Red and Black.

ELBOW: MOLDED THERMOSETTING PLASTIC, per MIL-M-14 CFG. Red and Black

No.	Std. Pkg. 6	NET Per Pr.
675		\$1.14

### "UNIVERSAL TEST LEAD" Completely Interchangeable



Fifty Leads in One! One lead can make any required test lead combination. All parts adapt into prod handle or tip handle. Complete as shown. With plastic kit.

No.	NET Ea.
699	\$3.00

### "UNIVERSAL TEST LEAD" Miniature Accessories Completely Interchangeable



Fifty Leads in One. One lead can make any required test lead combination. All parts adapt into prod handle or meter tip. Supplied with miniature tips, clips, banana plugs and spade tips. Complete as shown. With plastic kit.

No.	NET Ea.
679	\$3.00

### METER TEST LEADS Solderless Prod



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.

TIP: Solderless: Brass, nickel plated.

ELBOW: MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black.

BODY: Brass, nickel plated.

SPRING: Four leaved, phosphor bronze, nickel plated.

No.	Type	NET Per Pr.
625	Phone Tip Meter Tip	\$1.35
685	Banana Meter Tip	1.50

### NEEDLE PROD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.

NEEDLE: Steel, nickel plated.

ELBOW: MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black.

BODY: Brass, nickel plated.

SPRING: Four leaved, phosphor bronze, nickel plated.

No.	Type	NET Per Pr.
626	Phone Tip Meter Tip	\$1.35
686	Banana Meter Tip	1.50

### SLIM JIM TEST LEAD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.

PROBE: Steel, cadmium plated.

INSULATOR: Vinyl spaghetti tubing, Red and Black.

ELBOWS: MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black.

TIPS: Brass, nickel plated.

No.	NET Per Pr.
698	\$1.14

### MIDGET ALLIGATOR CLIP TEST LEAD



CLIPS: STEEL, Cadmium plated

BOOTS: Vinyl plastic Red and Black.

No.	Wire	Std. Pkg. 6	NET Per Pr.
716	12 inches		\$.81
717	18 inches		.84
718	24 inches		.87
719	36 inches		.96

### RETRACTILE ALL SOLDERLESS TEST LEAD



HANDLE: MOLDED BUTYRATE per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.

PLUG: MOLDED THERMOSETTING plastic, Red and Black per MIL-M 14 CFG.

TIP: Solderless brass, nickel plated.

WIRE #20 gauge, 41/36 strand, 4000 volt, nom. O.D. .165. Retracts to 12". Extends to 6 ft.

No.	NET Per Pr.
618	\$2.95

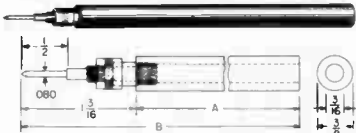
### TEST LEAD WIRE SPECIFICATIONS

All test leads on this page are supplied with extra-flexible rubber-covered kinkless wire, 50-in. long, unless specified otherwise. #20 wire, 26/34 strands, 5000 Volts, .125" O.D.





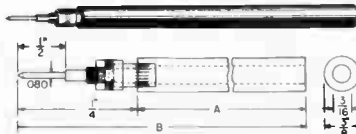
**SOLDERLESS TEST PROD—Threaded Type**



**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**BODY:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Solderless. Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled collar. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
302	4"	5 1/2"	\$30.00
303	5 1/2"	6 3/4"	\$3.00

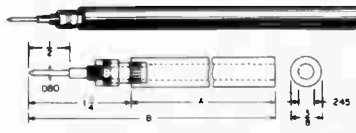
**SOLDERLESS TEST PROD—Force Fit Type**



**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**BODY:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Solderless. Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled collar. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
382	4"	5 1/2"	\$24.00
383	5 1/2"	6 3/4"	\$27.00

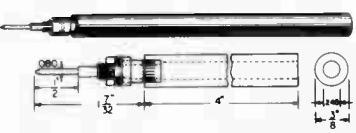
**SOLDERLESS TEST PROD—Force Fit Type  
Extra Large Inside Diameter**



**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**BODY:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Solderless. Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled collar. Extra large I.D. for heavy duty wire. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
352	4"	5 1/2"	\$24.00
353	5 1/2"	6 3/4"	\$27.00

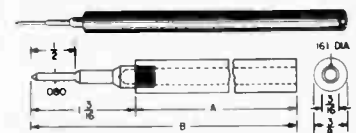
**SOLDERLESS FIBRE TEST PROD  
Extra Large Inside Diameter**



**HANDLE:** FIBRE, per MIL-F-1148A, Grade CH, Red or Black. SPECIFY COLOR  
**BODY:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Solderless. Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled collar. Large I.D. permits use of heavy duty wire. Std. Pkg. 25

No.	NET Per C
323	\$30.00

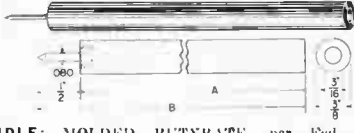
**HEAVY DUTY TEST PROD—Threaded Type**



**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**BODY:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Large diameter well enables soldering of heavy duty wire directly into plug. Fits standard phone tip jacks. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
319	4"	5 1/2"	\$30.00
329	5 1/2"	6 3/4"	\$3.00

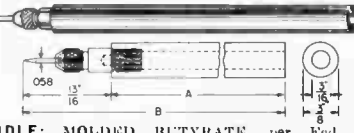
**SHORT TIP TEST PROD**



**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**BODY:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Inserts flush with insulated handle, no metal exposed; eliminates possibility of shock or grounding. Fits standard phone tip jacks. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
363	4"	4 1/4"	\$21.00
364	5 1/2"	6"	\$24.00

**PHONO NEEDLE TEST PROD**



**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**BODY:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, cont. duty.  
**DESCR.:** Removable chuck for easy replacement or broken needles. Needle pierces corrosion or plating for positive reading. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
317	4"	4 1/4"	\$30.00
318	5 1/2"	6 3/4"	\$3.00

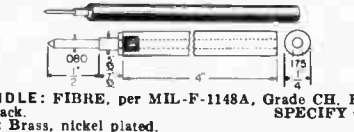
**SOLDERLESS PHONO NEEDLE TEST PROD**



**HANDLE:** XX BAKELITE, lacquered, per MIL-P-79, Form TR, Red or Black. SPECIFY COLOR  
**BODY:** Brass, nickel plated.  
**NEEDLE:** Phono needle, steel.  
**RATING:** 12 Amps AC for 10°C Temp. rise, cont. duty.  
**DESCR.:** Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to pellet for solderless connections. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
314	4"	5 1/2"	\$75.00
315	6"	7 1/2"	\$1.00

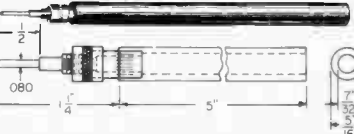
**SUB-MINIATURE TEST PROD**



**HANDLE:** FIBRE, per MIL-F-1148A, Grade CH, Red or Black. SPECIFY COLOR  
**TIP:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, cont. duty.  
**DESCR.:** Threaded for easy assembly. Ideally suited for checking all types sub-miniature equipment. Std. Pkg. 25

No.	NET Per C
322	\$35.00

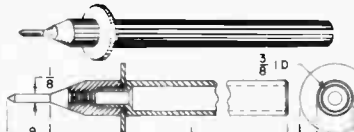
**PENCIL TYPE SOLDERLESS TEST PROD**



**HANDLE:** MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class 2, Red or Black. SPECIFY COLOR  
**PLUG:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Solderless. Wire fits through handle and body of plug, then wraps around screw portion and is tightened with knurled collar. Std. Pkg. 25

No.	NET Per C
384	\$21.00

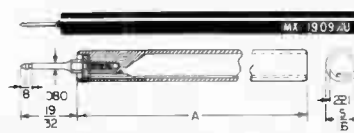
**Force Fit Type  
TEST PROBE HIGH VOLTAGE TYPE**



**HANDLE:** FIBRE, per MIL-F-1148A, Grade CH, Red or Black. SPECIFY COLOR  
**PROBE:** Brass, nickel plated.  
**RATING:** 12 Amps AC for 10°C Temp. rise, continuous duty. 15 KV 60 cycle AC continuous working voltage.  
**DESCR.:** Heavy insulated fibre probe with flash-over shield for high-voltage applications. Large internal I.D. accommodates shielded cable or R.F. networks. Heavy duty removal tip. Std. Pkg. 10

No.	NET Ea.
350	\$1.00

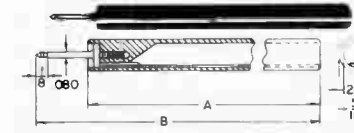
**NYLON HANDLE PRODS AND TIPS**



**HANDLE:** MOLDED NYLON, per MIL-P20693A. Specify color as code above.  
**TIP:** Brass, silver plated.  
**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Solderless. Made to meet Signal Corps Drawing SC-C-82761. Std. Pkg. 25

No.	Sig. Corps. Drawing	Size ("A")	Color	NET Per C
176	MX-1406/U	1"	Red	\$54.00
177	MX-1407/U	1"	Black	\$4.00
178	MX-1408/U	4"	Red	\$60.00
179	MX-1410/U	4"	Black	\$60.00

**SUB-MINIATURE TEST PROD**



**HANDLE:** Molded Nylon, per MIL-P-20693A. Available in Red or Black. SPECIFY COLOR  
**TIP:** Brass, Silver plated.  
**DESCR.:** Solderless assembly. Ideal for use with sub-miniature printed-circuit tip jacks. Sharp tip breaks flux or oxide coating on printed-circuit pattern for positive contact when used as prod. Grooved head of prod makes positive contact when laid across wires. Fits all standard .080" tip jacks. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
348	1"	1 1/4"	\$33.00
349	4"	4 1/4"	\$2.00

**RADIO CHASSIS PUNCHES**

An assortment of round, square, "D", and Keyed holes can be punched by inserting in drilled pilot hole, and turning with wrench. Finished hole is smooth, accurately sized without burrs. Round punches are provided with center-line markings for enlarging holes larger than pilot hole. Individually packed.



**ROUND**

No.	Hole Size	NET Ea.	No.	Hole Size	NET Ea.
3101	1/2"	\$2.70	3814	1 1/2"	\$3.15
3102	3/8"	2.70	3815	1 3/8"	3.75
3103	5/8"	2.70	3816	1 5/8"	3.75
3104	1 1/8"	2.70	3817	1 7/8"	1.25
3805	1 1/4"	2.70	3818	1 9/8"	5.10
3106	1 3/8"	2.70	3819	1 11/8"	5.85
3807	1 1/2"	2.70	3820	1 3/4"	7.30
3108	1 5/8"	3.00	3821	2"	7.80
3809	1 3/4"	3.00	3822	2 1/8"	8.45
3110	1 7/8"	3.15	3823	2 1/4"	8.45
3811	1 1/2"	3.15	3824	2 1/2"	13.75
3812	1 3/4"	3.15	3825	2 3/4"	19.00
3813	1 1/2"	3.15	3826	3"	26.50



**SQUARE**

No.	Hole Size	NET Ea.	No.	Hole Size	NET Ea.
3327	1/4"	\$6.45	3830	7/8"	\$8.30
3828	3/8"	6.35	3831	1"	8.60
3829	1/2"	7.10			



**"KEY"**

No.	Hole Size	NET Ea.	No.	Hole Size	NET Ea.
3332	1 5/8"	\$6.00	3834	1 1/4"	\$6.80
3533	1 1/2"	6.10	3835	1 1/8"	7.60



**"METER"**

No.	Hole Size	NET Ea.
3836	2 1/2"	\$13.10



**"D"**

No.	Hole Size	NET Ea.
3837	1/2 x 1 1/2"	\$4.90
3838	5/8 x 1 1/2"	\$5.25



**"BALL BEARING"**

No.	Use with No.	NET Ea.
3839	3804 to 3808	\$1.10
3840	3809 to 3817	1.20
3841	3818 to 3819	2.75
3842	3820 to 3824 and 3836	2.90
3843	3825 to 3826	5.40

**CHASSIS PUNCH SET**

A set of 7 of the most often used chassis punch sizes for electronic construction. Packed in a plastic platform box to keep punches sharp and rust-free. Contains the following sizes: 1/8", 3/16", 1/4", 3/8", 1/2", 5/8", 3/4".



No.	Description	NET Ea.
3844	Set of 7 Punches	\$21.50



No.	Description	NET Ea.
3845	P&H K111 Relay Socket Punch, 1.015 & .859	\$14.30

# specify **SMITH**

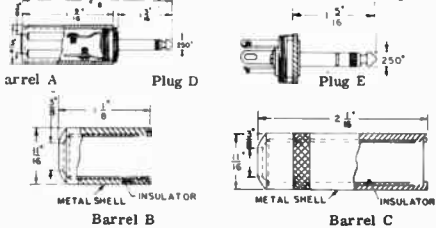
HERMAN H. SMITH, INC.



ELECTRONIC COMPONENTS

### STANDARD PHONE PLUGS

**BODY:** Body, tip, and sleeve—Brass, nickel plated.  
**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC working voltage.  
**DESCR.:** Fits standard phone jacks. Molded styrene separator insures maximum insulation between elements.  
**PLUGS:** 2 circuit plugs are screw terminals with ribbed clips and cord anchor. 3 circuit plugs are solder lugs.  
 Std. Pks. 25



### Bakelite Barrel

**BARREL:** MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black. SPECIFY COLOR

No.	Circuit	Terminals	Plug	Barrel	NET Per C
222	2	Solder	D	A	\$46.00
227	3	Solder	E	A	84.00

### Shielded Barrel

**BARREL:** BRASS, nickel plated with tubular insert.

No.	Circuit	Terminals	Plug	Barrel	NET Per C
152	2	Screw	D	B	\$60.00
272	2	Screw	D	C	75.00
228	3	Solder	E	B	80.00
238	3	Solder	E	C	120.00

### STANDARD PHONE PLUG Baby Bakelite Barrel



**BARREL:** MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black. SPECIFY COLOR  
**BODY:** Body, tip, sleeve—Brass, nickel plated.  
**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage.  
**DESCR.:** Molded styrene separator insures maximum insulation between conductors. Fits standard phone jacks.

No.	Circuit	Terminals	Plug	Barrel	NET Per C
248	Two	Solder			\$34.00

### PJ055 AND PJ068 PLUGS

**BARREL:** MOLDED plastic.  
**BODY:** Body, tip, sleeve—Machined brass.  
**TERM.:** Brass, hot tinned.  
**INSUL.:** Ethyl cellulose type EM-1 MIL-P-3412.  
**DESCR.:** Designed especially for high quality communications equipment and to meet the exacting requirements of the armed services. Parts are assembled together in a mold, providing a finished plug with complete continuity of thermo plastic insulation between the tip rod and plug sleeve.

No.	Type	Each
217	PJ055B	\$ .95
247	PJ068B	2.19

### CORD CLAMP STRAIN RELIEF

**MATERIAL:** Cold Rolled Steel, per QQ-S-636. Finish zinc per Spec. 7253, Table II, Type I.  
**DESCR.:** Used on Government cord assemblies. Made in accordance with Signal Corps. Spec. SC-A-7674.

No.	NET Per C
747	\$1.80

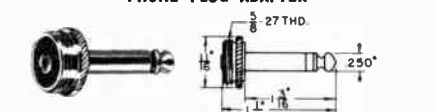
### TELEPHONE CORD SLEEVE



**MATERIAL:** Neoprene in accordance with Grade SC415A FF per MIL-R-3065.  
**DESCR.:** Used on Government cord assemblies, for Strain Relief, Dust and Moisture Seal.

No.	NET Per C
748	\$9.00

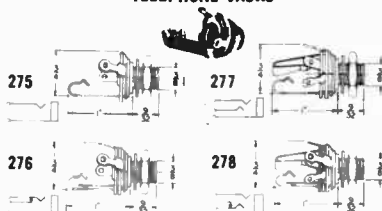
### PHONE PLUG ADAPTER



**BODY:** Body, Tip, Sleeve — Brass, nickel plated.  
**INSUL.:** XXXP Bakelite.  
**DESCR.:** Mates with No. 118 microphone connector. Fits standard phone jacks.

No.	NET Per C
113	\$30.00

### TELEPHONE JACKS

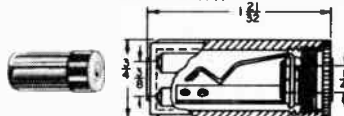


**BUSHING:** BRASS, nickel plated.  
**INSUL.:** Bakelite, type PBE-P per MIL-P-3115B.  
**SPRING:** Nickel-Silver alloy, spring temper. New tapered design provides for ease of insertion while eliminating possibility of shorts.

**SLEEVE TERM.:** Brass, hot tinned.  
**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty. 1.2 K Volts 60 cycle AC continuous working voltage.  
**DESCR.:** Notched insulating washers accurately locate all parts, and eliminate possibility of shorts and arc-over. Springs designed for firm, low-resistance electrical contact. Bushings 3/4" long, threaded 3/8"-32. Mounts in 3/4" hole in panels up to 1/2" thick. Overall diameter 7/8" require 1" clearance behind panel. Supplied with 3/4" hex brass nut and 3/8" steel panel washer, all nickel plated.

No.	Circuit	NET Per C
275	Two Conductor Open	\$24.00
276	Two Conductor Closed	27.00
277	Three Conductor Open	33.00
278	Three Conductor Closed	36.00

### IN-LINE EXTENSION JACK Bakelite Barrel



**BARREL:** MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black. SPECIFY COLOR  
**BODY:** Brass, nickel plated.  
**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage.  
**SPRING:** Nickel, silver, special alloy, spring temper.  
**INSUL.:** XXP Bakelite.  
**DESCR.:** For microphone and Hi-Fi extension cords. Mates with standard phone plugs.

No.	Type	NET Per C
274	Solder Connection	\$60.00
288	Screw Connection	68.00

### Shielded Barrel



**BARREL:** Brass, nickel plated, with tubular insulator.  
**BODY:** Brass, nickel plated.  
**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage.  
**SPRING:** Nickel, silver, special alloy, spring temper.  
**INSUL.:** XXP Bakelite.  
**DESCR.:** For microphone and Hi-Fi extension cords. Mates with standard phone plugs.

No.	Type	NET Per C
273	Solder Connection	\$83.00
289	Screw Connection	90.00

### MINIATURE MICROPHONE CONNECTORS

**DESCR.:** Ideal for lapel microphone, musical instruments, etc., wherever small cable is used. Accepts cable up to 3/16" diameter.

No.	Type	Length	NET Per C
484	Single Contact Female	1 1/4"	\$34.00
485	Single Contact Male	1 1/2"	26.00

### CHASSIS CONNECTOR

Mounts in 3/16" hole grounded; 1/4" hole insulated with shoulder washer.

486	Single Contact Male	1/2"	26.00
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### CAP AND CHAIN

**DESCR.:** Brass, nickel plated. Seals chassis connectors against dust. Eliminates noisy connections. Used with any threaded one or two conductor chassis unit.

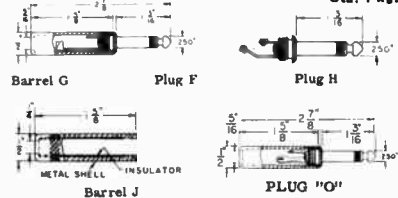
No.	NET Per C
118	\$45.00

**"SPECIALS are STANDARD with SMITH!"**

For VARIATIONS of these standard parts to meet your SPECIAL requirements, or for entirely NEW parts made to your specifications, WE WELCOME YOUR INQUIRY!

### SLIM PHONE PLUGS Cable Clamp Style

**BODY:** Body, tip, and sleeve—Brass, nickel plated.  
**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage.  
**DESCR.:** Fits standard phone jacks. Molded styrene separator insures maximum insulation between elements.  
 Std. Pks. 25



### Bakelite Barrel

**BARREL:** MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black. SPECIFY COLOR

No.	Circuit	Terminals	Plug	Barrel	NET Per C
225	2	Solder	F	G	\$43.00
307	2	Screw	H	G	46.00

### Shielded Barrel

**BARREL:** BRASS, nickel plated with tubular insert.

No.	Circuit	Terminals	Plug	Barrel	NET Per C
226	2	Solder	F	J	\$60.00
316	2	Screw	H	J	65.00

### ECONOMY TYPE

**BODY:** Body, tip, sleeve—Brass, nickel plated.  
**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage.  
**DESCR.:** An inexpensive modified version of our popular #225 and #225 plugs shown above. Features two small solder lugs.

### Bakelite Barrel

**BARREL:** MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black. SPECIFY COLOR

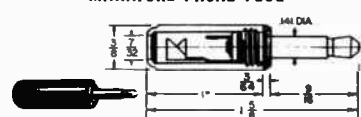
No.	Circuit	Terminals	Plug	Barrel	NET Per C
320	2	Solder	O	G	\$34.00

### Shielded Barrel

**BARREL:** BRASS, nickel plated with tubular insert.

No.	Circuit	Terminals	Plug	Barrel	NET Per C
330	2	Solder	O	J	\$46.00

### MINIATURE PHONE PLUG



**HANDLE:** MOLDED plastic. Black.  
**BODY:** Body, tip, sleeve—Brass, nickel plated.  
**TERM.:** Brass, hot tin dipped.  
**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty. 350 Volts 60 cycle AC continuous working voltage.  
**DESCR.:** Designed for use with hearing aids, small meters, etc. Solder terminals.

No.	NET Per C
480	50.00

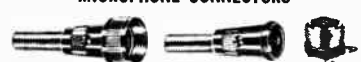
### Shielded Barrel



**BARREL:** BRASS, nickel plated with tubular insulator.  
**BODY:** Body, tip, sleeve—Brass, nickel plated.  
**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty. 350 Volts 60 cycle AC continuous working voltage.  
**DESCR.:** Designed for use with hearing aids, small meters, etc. Solder terminals.

No.	Circuit	NET Per C
481	Two Conductor	\$58.00

### MICROPHONE CONNECTORS



**BODY:** Brass, chrome plated.  
**SPRING:** Steel cadmium plated.  
**INSUL.:** XXXP Bakelite.  
**EYELET:** Brass, hot tinned for easy soldering.  
**Standard Type 3/27 Thread**

**DESCR.:** Designed for use with single conductor cable. Microphone connectors provided with flexible protector spring. Cable clamped firmly to connector by hollow point set screw.

No.	Type	Length	NET Per C
115	Single Contact Male	1 1/4"	\$26.00
116	Single Contact Female	2"	34.00

### CHASSIS CONNECTORS

Mount in .385 hole grounded; .500 hole insulated with shoulder washer.

117	Single Contact Male	1/2"	26.00
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# specify SMITH

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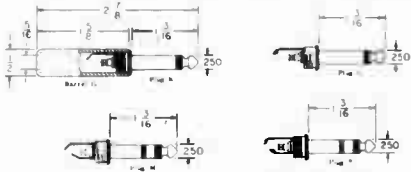
ELECTRONIC COMPONENTS



### IMPROVED "TURRET-CENTER" STYLE

**BODY:** Body, Tip, Ring, and sleeve — Brass, nickel plated.  
**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty. 1.5 KV 60 cycle AC continuous working voltage.

**DESCR.:** New, improved construction has co-axial "turret-terminal" tip lug and widely separated contacts for maximum voltage ratings. Styrene separator, Mylar sleeves, and Nylon bushings used for increased performance. Fits standard phone jacks. Std. Pkg. 25



#### Bakelite Barrel



**BARREL:** MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black. SPECIFY COLOR

No.	Circuit	Terminals	Plug	Barrel	NET Per C
171	2	Solder	K	G	\$41.00
172	2	Screw	L	G	44.00
308	3	Solder	M	G	61.00
309	3	Screw	N	G	70.00

#### Shielded Barrel



**BARREL:** BRASS, nickel plated with tubular insert.

No.	Circuit	Terminals	Plug	Barrel	NET Per C
173	2	Solder	K	J	\$58.00
371	2	Screw	L	J	63.00
314	3	Solder	M	J	78.00
312	3	Screw	N	J	85.00

#### MINIATURE TELEPHONE JACKS



**BUSHING:** BRASS, nickel plated.  
**INSUL.:** XXXP bakelite type PBE-P per MIL-P-3115A.  
**SPRING:** Nickel silver alloy, spring temper.  
**TERM.:** Brass, hot tinned.  
**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty. 500 Volts 60 cycle AC continuous working voltage.  
**DESCR.:** Notched insulation washers interlock springs and lugs, eliminate possibility of shifting which result in electrical shorts. Springs firmly hold mating plug. Supplied with hex brass nut and steel mounting washer all nickel plated.

No.	Circuit	NET Per C
482	Two Conductor, Open	\$30.00
483	Two Conductor, Closed	34.00

#### MINIATURE EXTENSION JACK

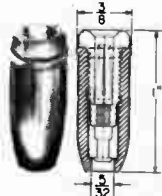


**BARREL:** Brass, nickel plated.  
**BODY:** Brass, nickel plated.  
**SPRING:** Nickel silver alloy, spring temper.  
**INSUL.:** Bakelite.  
**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty. 500 Volts 60 cycle AC continuous working voltage.  
**DESCR.:** Mates with Miniature Phone Plugs. Std. Pkg. 25  
 No. 487 NET Per C \$72.00

#### NYLON IN-LINE TIP JACK

Color Code Suffix  
 Add to Catalog Number as Required

- 101 WHITE
- 102 RED
- 103 BLACK
- 104 GREEN
- 105 BLUE
- 106 ORANGE
- 107 YELLOW
- 108 BROWN
- 112 PURPLE
- 113 GREY



**HANDLE:** MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.

**BODY:** Molded Nylon, per MIL-P-20693A.

**CONTACT:** Heat treated beryllium copper, gold washed.

**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty. 5 KV 60 cycle AC continuous working voltage.

**DESCR.:** Fits all standard phone-tip plugs, with recessed contact for safe connection. Ideally suited for use in patch and extension cords. Can also be used for panel mounting where wrap-around terminal connection must be insulated at rear. Std. Pkg. 50  
 No. 1513 NET Per C \$30.00

#### PHONE TIP PLUG SPLICE

**HANDLE:** MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II, Red, Black, Yellow, Green. SPECIFY COLOR  
**CAP:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, per L-720-1.  
**BODY:** Brass, nickel plated.  
**SPRING:** Phosphor bronze.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Invaluable for quick splicing connections or for test lead extension. Accepts standard phone tip plugs. Std. Pkg. 50  
 No. 246 NET Per C \$27.00

#### BANANA PLUG SPLICE

**HANDLE:** MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II, Red, Black, Yellow, Green. SPECIFY COLOR  
**INSERT:** Brass.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Invaluable for quick splicing connections. Accepts standard banana plugs. Std. Pkg. 50  
 No. 245 NET Per C \$24.00

#### ADAPTER Tip Plug to Banana Plug

**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**CAP:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG.  
**PLUG:** Brass, nickel plated.  
**CONTACT:** Phosphor Bronze.  
**SPRING:** Four-leaved phosphor bronze, nickel plated.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Accepts standard phone tip plugs and adapts to standard banana plugs. Std. Pkg. 50  
 No. 214 NET Per C \$30.00

#### INSULATED SPADE LUG

**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**LUG:** Steel, hot tinned, .030 thick.  
**RATING:** 25 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Banana plug can be inserted into spade lug thru rear of handle. Std. Pkg. 100  
 No. Description NET Per C  
 218 Insulated Spade Lug \$10.80  
 129 Lug Only 1.20

#### ADAPTER Phone Tip to Spade Lug

**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**CAP:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG.  
**JACK:** Brass.  
**SPRING:** Phosphor Bronze.  
**SPADE LUG:** Steel hot tinned .030 thick.  
**RATING:** 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Tip jack accepts standard phone tip plugs and adapts to spade lug. Std. Pkg. 50  
 No. Deser. NET Per C  
 249 Adapter \$35.00

#### COMBINATION SPLICE Phone Tip to Banana Plug

**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**BODY:** Brass.  
**CONTACT:** Beryllium copper, gold washed.  
**DESCR.:** Invaluable for quick splice of test leads. Accepts standard Banana plug one end, .080 phone tip other end. Std. Pkg. 50  
 No. 496 NET Per C \$30.00

### CONVENIENCE OUTLETS

For small unit electrical appliances and Electronic devices. UL Approved RADIOS — CLOCK RADIOS — CLOCKS — T.V. SETS — LAMPS — TOASTERS, ETC.

#### SINGLE SCREW BRACKET TYPE WIRE LEADS

No. 1281 Flat Flange  
 No. 1282 Curved Flange

**Cutout Dimensions**

Can be dropped into opening and held in place by metal bracket and single central screw, supplied. UL Approved.  
**RATING:** 15 Amps, 125 Volts AC or DC.  
**LEADS:** Plastic wire #14 gauge, 6" long. Std. Pkg. 50

No.	Color	NET Per C
1281-103	Black	\$17.00
1281-101	White	19.00
1282-103	Black	17.00
1282-101	White	19.00

#### PUSH-IN SNAP-LOCK BRACKET TYPE

1283-1284-1285 Flat Flange  
 1286-1287-1290 Curved Flange

**Wires Leads** **Solder Term.** **Kliprite Term.** **Cutout Dimensions**

Carbon Steel spring clips lock unit securely in place when pushed into opening. UL Approved.  
**RATING:** 15 Amps, 125 Volts AC or DC.  
**LEADS:** Plastic wire #14 gauge, 6" long. Std. Pkg. 50

No.	Terminals	Color	NET Per C
1283-103	Wire Leads	Black	\$17.00
1283-101	Wire Leads	White	19.00
1284-103	Solder	Black	15.00
1284-101	Solder	White	17.00
1285-103	Kliprite	Black	15.00
1285-101	Kliprite	White	17.00
1286-103	Wire Leads	Black	15.00
1286-101	Wire Leads	White	17.00
1287-103	Solder	Black	15.00
1287-101	Solder	White	17.00
1290-103	Kliprite	Black	15.00
1290-101	Kliprite	White	17.00

#### BRACKET TYPE

1299  
 1291  
 1279

**Bottom Mount**

Flat steel bracket mounts with two #6 screws or equivalent size eyelets from bottom. UL Approved.  
**RATING:** 15 Amps, 125 Volts AC or DC.  
**LEADS:** No. 1279 has two leads, plastic wire #16 gauge, 8" long. UL Approved. Std. Pkg. 50

No.	Terminals	NET Per C
1299	Solder	\$ 9.00
1279	Wire Leads	22.80
Top or Bottom Mount		
1291	Solder	10.00

#### THREE WIRE OUTLET (With grounding lead)

953 SQ

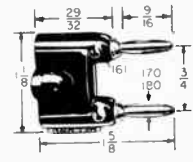
**Cutout Dimensions**

Carbon steel spring clips lock unit securely in place when pushed into opening. UL Approved.  
**RATING:** 15 Amps, 125 Volts AC or DC.  
**LEADS:** Two #14 gauge 6" long plastic wire and one #14 gauge green ground lead 6" long. Std. Pkg. 50

No.	Color	NET Per C
1280-103	Black	\$32.00
1280-101	White	35.00

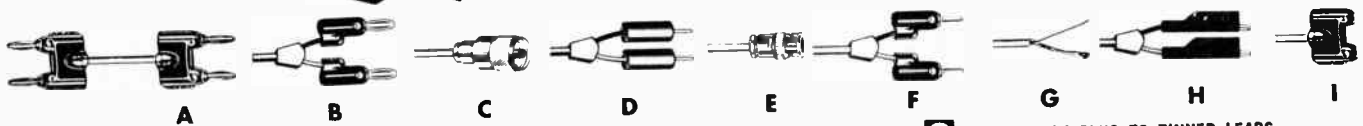
specify **SMITH** HERMAN H. SMITH, INC. ELECTRONIC COMPONENTS

**DOUBLE BANANA PATCH CORDS**



**CABLE TYPES AVAILABLE**

	WIRE "A"	WIRE "B"	WIRE "C"
DESCRIPTION	2-cond. tw. 18 ga. 65/36 str.	Shielded audio cable	Coaxial Cable RG58/U.
INSULATION	Vinyl	Polyethylene	Polyethylene
JACKET	Vinyl, Color Grey	Vinyl, Color Grey	Vinyl, Color Black
NOM. CAP.	30 mmf./ft.	25 mmf./ft.	28.5 mmf./ft.



**A DOUBLE PLUG BOTH ENDS**  
 HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.  
 PLUG: Brass, nickel plated.  
 SPRING: Four-leaved beryllium copper, nickel plated.  
 WIRE: As specified above.  
 DESCR.: Mates with standard dual binding post having 3/4" center. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits top and side. Each end terminates with molded double banana plug.  
 Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1530-12	1540-12	1580-12	12"	\$2.15
1530-24	1540-24	1580-24	24"	2.28
1530-36	1540-36	1580-36	36"	2.40
1530-48	1540-48	1580-48	48"	2.52
1530-60	1540-60	1580-48	60"	2.65

**D DOUBLE PLUG TO PHONE TIP**  
 HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.  
 PLUG: Brass, nickel plated.  
 SPRING: Four-leaved beryllium copper, nickel plated.  
 WIRE: As specified above.  
 DESCR.: Mates with standard dual binding post having 3/4" center. Polarity indicated by the word GROUND molded on side. One end terminates with double banana plug, other end with insulated tip plug, one red and one black.  
 Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1533-12	1543-12	1583-12	12"	\$1.55
1533-24	1543-24	1583-24	24"	1.68
1533-36	1543-36	1583-36	36"	1.80
1533-48	1543-48	1583-48	48"	1.92
1533-60	1543-60	1583-60	60"	2.05

**G DOUBLE PLUG TO TINNED LEADS**  
 HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.  
 PLUG: Brass, nickel plated.  
 SPRING: Four-leaved beryllium copper, nickel plated.  
 WIRE: As specified above.  
 DESCR.: Mates with standard dual binding post having 3/4" center. Polarity indicated by the word GROUND molded on the side. One end terminates with double banana plug, other end stripped and tinned.  
 Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1532-12	1542-12	1582-12	12"	\$1.19
1532-24	1542-24	1582-24	24"	1.32
1532-36	1542-36	1582-36	36"	1.44
1532-48	1542-48	1582-48	48"	1.56
1532-60	1542-60	1582-60	60"	1.69

**B DOUBLE PLUG TO "CROSS-PATCH" BANANA PLUGS**  
 HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.  
 BODY: Brass, nickel plated.  
 SPRING: Four-leaved beryllium copper, nickel plated.  
 WIRE: As specified above.  
 PLUG: Our No. 1510.  
 DESCR.: Mates with standard dual binding post having 3/4" centers. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana plug, other end with "Cross-Patch" banana plugs, color coded Red and Black.  
 Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1523-12	1524-12	1525-12	12"	\$2.15
1523-24	1524-24	1525-24	24"	2.28
1523-36	1524-36	1525-36	36"	2.40
1523-48	1524-48	1525-48	48"	2.52
1523-60	1524-60	1525-60	60"	2.65

**E DOUBLE PLUG TO UG 88C/U**  
 HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.  
 PLUG: Brass, nickel plated.  
 SPRING: Four-leaved beryllium copper, nickel plated.  
 WIRE: As specified above.  
 CONN.: UG 88C/U.  
 DESCR.: Mates with standard dual binding post having 3/4" center. Polarity indicated by the word GROUND molded on side. One end terminates with double banana plug, other end with UG 88 C/U.  
 Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1544-12	1544-12	1584-12	12"	\$2.76
1544-24	1544-24	1584-24	24"	2.88
1544-36	1544-36	1584-36	36"	3.00
1544-48	1544-48	1584-48	48"	3.12
1544-60	1544-60	1584-60	60"	3.24

**H DOUBLE PLUG TO ALLIGATOR CLIPS**  
 HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.  
 PLUG: Brass, nickel plated.  
 SPRING: Four-leaved beryllium copper, nickel plated.  
 CLIP: Steel cadmium plated (No. 300).  
 INSUL.: Molded vinyl plastic (No. 331).  
 WIRE: As specified above.  
 DESCR.: Mates with standard dual binding post having 3/4" center. Polarity indicated by the word GROUND molded on side. One end terminates with double banana plug, other end with insulated alligator clips, one red, one black.  
 Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1531-12	1541-12	1581-12	12"	\$1.55
1531-24	1541-24	1581-24	24"	1.68
1531-36	1541-36	1581-36	36"	1.80
1531-48	1541-48	1581-48	48"	1.92
1531-60	1541-60	1581-60	60"	2.05

**C DOUBLE PLUG TO UHF MALE**  
 HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.  
 PLUG: Brass, nickel plated.  
 SPRING: Four-leaved beryllium copper, nickel plated.  
 WIRE: As specified above.  
 CONN.: PL-259A.  
 DESCR.: Mates with standard dual binding post having 3/4" center. Polarity indicated by the word GROUND molded on side. One end terminates with double banana plug, other end with PL-259A.  
 Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1545-12	1545-12	1585-12	12"	\$2.88
1545-24	1545-24	1585-24	24"	3.00
1545-36	1545-36	1585-36	36"	3.12
1545-48	1545-48	1585-48	48"	3.24
1545-60	1545-60	1585-60	60"	3.36

**F DOUBLE PLUG TO "CROSS-PATCH" PIN PLUGS**  
 HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.  
 BODY: Brass, nickel plated.  
 SPRING: Four-leaved beryllium copper, nickel plated.  
 WIRE: As specified above.  
 PLUG: Our No. 1595.  
 DESCR.: Mates with standard dual binding post having 3/4" centers. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana plug, other end with "Cross-Patch" Pin plugs with standard .080" tip and jack in rear, banana jack in side, color coded Red and Black.  
 Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1592-12	1593-12	1594-12	12"	\$2.15
1592-24	1593-24	1594-24	24"	2.28
1592-36	1593-36	1594-36	36"	2.40
1592-48	1593-48	1594-48	48"	2.52
1592-60	1593-60	1594-60	60"	2.65

**I DOUBLE PLUG TO DOUBLE JACK**  
 HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.  
 PLUG: Brass, nickel plated.  
 SPRING: Four-leaved beryllium copper, nickel plated.  
 WIRE: As specified above.  
 DESCR.: Mates with standard dual binding post having 3/4" center. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits top and side. One end terminates with molded double banana plug, other end in double extension jack.  
 Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1881-12	1882-12	1883-12	12"	\$2.15
1881-24	1882-24	1883-24	24"	2.28
1881-36	1882-36	1883-36	36"	2.40
1881-48	1882-48	1883-48	48"	2.52
1881-60	1882-60	1883-60	60"	2.65

**COMBINATION BINDING POST AND BANANA PLUG**  
 HEAD: CAPTIVE, Molded Butyrate, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black.  
 BODY: Brass, nickel plated.  
 SPRING: Four-leaved phosphor bronze, nickel plated.  
 RATING: 15 AMPS AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Converts any panel-mounted banana jack into a five-way binding post termination. Accepts phone tip, spade lug, banana plug, alligator clip, or solid or stranded wire.  
 Std. Pkg. 25

No.	NET Per C
239	\$30.00

**COMBINATION NYLON BINDING POST AND BANANA PLUG**  
 HEAD: CAPTIVE, Molded Nylon, per MIL-P-20693A. Available in Red, Black, Yellow, Green, Blue, White. Molded in brass nickel plated insert.  
 BODY: Brass, nickel plated.  
 SPRING: Four-leaved phosphor bronze, nickel plated.  
 RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Converts any panel-mounted banana jack into a nylon five-way binding post termination. Accepts phone tips, spade lugs, banana plug, alligator clips, or solid or stranded wires.  
 Std. Pkg. 25

No.	NET Per C
234	\$30.00

**COMBINATION PUSH POST AND BANANA PLUG**  
 HEAD: Captive, brass nickel plated.  
 CAP: Molded Styrene, per Fed. Spec. L-P-416, Type 3, Black.  
 BODY: Brass, nickel plated.  
 SPRING: Four-leaved phosphor bronze, nickel plated.  
 RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.  
 DESCR.: Converts any panel-mounted banana jack into a spring loaded push-post. Accepts standard phone tip, solid or stranded wire, and locks them in place on release of pressure on cap.  
 Std. Pkg. 25

No.	NET Per C
2714	\$75.00

FOR YOUR SPECIAL REQUIREMENTS IN PATCH CORDS • JUMPERS • TEST LEADS consult HERMAN H. SMITH, INC.

# specify SMITH

HERMAN H. SMITH, INC.



ELECTRONIC COMPONENTS

## PATCH CORDS

### CABLE TYPES AVAILABLE

	WIRE "A"	WIRE "B"	WIRE "C"
DESCRIPTION	2-cond. tw. 18 ga. 65/36 str.	Shielded audio cable	Coaxial Cable RG58/U.
INSULATION	Vinyl	Polyethylene	Polyethylene
JACKET	Vinyl, Color Grey	Vinyl, Color Grey	Vinyl, Color Black
NOM. CAP.	30 mmf./ft.	25 mmf./ft.	28.5 mmf./ft.



#### A DOUBLE JACK TO "CROSS-PATCH" PLUGS

**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.  
**BODY:** Brass, nickel plated.  
**SPRING:** Four-leaved beryllium copper, nickel plated.  
**WIRE:** As specified above.  
**PLUG:** Our No. 1510. Red and black.

**DESCR.:** Mates with standard dual banana plugs having 3/4" centers. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana jacks, other end with "Cross-patch" banana plugs, color coded Red and Black. Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1895-12	1896-12	1897-12	12"	\$2.15
1895-24	1896-24	1897-24	24"	2.28
1895-36	1896-36	1897-36	36"	2.40
1895-48	1896-48	1897-48	48"	2.52
1895-60	1896-60	1897-60	60"	2.65

#### B DOUBLE JACK TO "CROSS-PATCH" PIN PLUGS

**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.  
**BODY:** Brass, nickel plated.  
**WIRE:** As specified above.  
**PLUG:** Our No. 1595. Red and black.

**DESCR.:** Mates with standard dual banana plugs having 3/4" centers. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana jacks, other end with "Cross-Patch" Pin plugs with standard .080" tip and jack in rear, banana jack in side, color coded Red and Black. Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1861-12	1898-12	1899-12	12"	\$2.15
1861-24	1898-24	1899-24	24"	2.28
1861-36	1898-36	1899-36	36"	2.40
1861-48	1898-48	1899-48	48"	2.52
1861-60	1898-60	1899-60	60"	2.65

### UHF COAXIAL CABLE CONNECTORS

#### Solder Type

R.F. Connectors for use with RG-8, 9, 10, 11, 12, 63, 65/U coaxial cables. Std. Pkg. 5



STRAIGHT COAXIAL CONNECTOR		
Brass, Silver-plated shell.		
No.	Type	NET Per C
1713	PL-259	\$67.50



CHASSIS TYPE COAXIAL RECEPTACLE		
1715	SO-239	\$67.50



COAXIAL JUNCTION		
For joining separate cable lengths.		
1716	PL-258	\$121.50



CABLE REDUCING ADAPTER			
5/16" I.D. For RG-58/U.			
CABLE: Brass, Silver-plated.			
No.	Type	NET Per C	
1719	UG-175/U	\$25.00	

### RF COAXIAL CABLE CONNECTORS



Small, weatherproof low-voltage connectors with bayonet action for quick-disconnect. Constant impedance, 50 ohms. Brass, silver-plated. For RG-55 and 58/U Cables. Std. Pkg. 5

No.	Type	Description	Each
1717	UG-85C/U	Plug	\$ .81
1718	UG-913/U	90° Plug	2.70
1709	UG-290AA/U	Receptacle	1.08
1710	UG-89B/U	Jack	1.35

#### C DOUBLE JACK TO PHONE TIPS

**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.  
**PLUG:** Brass, nickel plated.  
**WIRE:** As specified above.  
**PLUG:** Our No. 203. Red and black.

**DESCR.:** Mates with standard dual banana plugs by the word GROUND molded on side. One end terminates with double banana jacks, other end with insulated tip plug, one red and one black. Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1892-12	1893-12	1894-12	12"	\$1.55
1892-24	1893-24	1894-24	24"	1.68
1892-36	1893-36	1894-36	36"	1.80
1892-48	1893-48	1894-48	48"	1.92
1892-60	1893-60	1894-60	60"	2.05

#### D DOUBLE JACK TO ALLIGATOR CLIPS

**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.  
**JACKS:** Brass, nickel plated.  
**CLIP:** Steel cadmium plated (No. 300).  
**INSUL.:** Molded vinyl plastic (No. 331).  
**WIRE:** As specified above.

**DESCR.:** Mates with standard dual banana plugs having 3/4" center. Polarity indicated by the word GROUND molded on side. One end terminates with double banana jacks, other end with insulated alligator clips, one red, one black. Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1889-12	1890-12	1891-12	12"	\$1.55
1889-24	1890-24	1891-24	24"	1.68
1889-36	1890-36	1891-36	36"	1.80
1889-48	1890-48	1891-48	48"	1.92
1889-60	1890-60	1891-60	60"	2.05

#### E DOUBLE JACK TO STRIPPED & TINNED LEADS

**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.  
**PLUG:** Brass, nickel plated.  
**WIRE:** As specified above.

**DESCR.:** Mates with standard dual plugs having 3/4" center. Polarity indicated by the word GROUND molded on side. One end terminates in double extension jack, other end in stripped and tinned leads. Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1886-12	1887-12	1888-12	12"	\$1.19
1886-24	1887-24	1888-24	24"	1.32
1886-36	1887-36	1888-36	36"	1.44
1886-48	1887-48	1888-48	48"	1.56
1886-60	1887-60	1888-60	60"	1.69

### SOLDERLESS COAXIAL CABLE CONNECTORS

For RG-8/U, RG-11/U, RG-13/U and RG-59/U Cables. Designed to use the inner conductor of the coaxial cable for the male pin. Can be wrench-tightened for positive contact. Brass, silver plated. Std. Pkg. 25

#### Crimp Type

#### MALE CONNECTORS



1652

Both types mate with female chassis fitting #1660 and Female Coupling #1680. Designed for quick and easy assembly using #1752 Crimping Tool. Withstands 350-lb pull when assembled. Packaged individually, with instruction sheet. Std. Pkg. 25



1656

No.	For Cables	NET Ea.
1652	RG-59/U	\$ .48
1656	RG-8/U	.63

#### FEMALE CHASSIS FITTING

Mates with #1652 connector. Mounts in 3/8" hole. Threaded stem is 3/8"



No.	NET Ea.
1660	Individually Packaged \$ .48



FEMALE COUPLING		
Accepts two #1680, 1652 or 1656 connectors.		
No.	NET Ea.	
1680	Individually Packaged	\$ .60

### SHIELDED DOUBLE PLUG TO SHIELDED DOUBLE PLUG



**SHIELD:** Aluminum, black anodized.  
**BODY:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.  
**PLUG:** Brass, nickel plated.  
**SPRING:** Four-leaved beryllium copper, nickel plated.

**DESCR.:** Mates with standard dual binding post having 3/4" center. Both ends terminate with double shielded banana plugs. Std. Pkg. 10

No. RG-58C/U	No. FC-11/U	Length	NET Ea.
1876-12	1877-12	12 inches	\$7.50
1876-24	1877-24	24 inches	7.62
1876-36	1877-36	36 inches	7.75
1876-48	1877-48	48 inches	7.88
1876-60	1877-60	60 inches	8.00

### DOUBLE JACK TO SHIELDED DOUBLE PLUG



**SHIELD:** Aluminum, black anodized.  
**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.  
**PLUG:** Brass, nickel plated.

**SPRING:** Four-leaved beryllium copper, nickel plated.  
**WIRE:** As specified above.

**DESCR.:** Mates with standard dual binding post having 3/4" center. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuit top and side. One end terminates with molded double shielded banana plug, other end in double extension jack. Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1884-12	1885-12	12"	\$5.15	
1884-24	1885-24	24"	5.28	
1884-36	1885-36	36"	5.40	
1884-48	1885-48	48"	5.52	
1884-60	1885-60	60"	5.65	

### BNC MALE TO SHIELDED DOUBLE PLUG



**BODY:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Assemblies.  
**SHIELD:** Aluminum, black anodized.

**PLUG:** Brass, nickel plated.  
**SPRING:** Four-leaved beryllium copper, nickel plated.  
**WIRE:** RG-58C/U.

**CONN.:** UG 88/U. (BNC Series)  
**DESCR.:** Mates with standard dual binding post having 3/4" center. One end terminates with double shielded banana plug, other end with UG 88 C/U. Std. Pkg. 10

No.	Length	NET Ea.
1873-12	12 inches	\$6.00
1873-24	24 inches	6.12
1873-36	36 inches	6.25
1873-48	48 inches	6.38
1873-60	60 inches	6.50

### UHF MALE TO SHIELDED DOUBLE PLUG



**SHIELD:** Aluminum, black anodized.  
**BODY:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.

**CONN.:** PL-259 (UHF Series).  
**PLUG:** Brass, nickel plated.  
**SPRING:** Four leaved beryllium copper, nickel plated.

**DESCR.:** Mate with standard dual binding post having 3/4" center, one end terminates with double shielded banana plug, other end in UHF Conn. Std. Pkg. 10

No. RG-58C/U	No. Wire	Length	NET Ea.
1874-12	1875-12	12 inches	\$6.00
1874-24	1875-24	24 inches	6.12
1874-36	1875-36	36 inches	6.25
1874-48	1874-48	48 inches	6.38
1874-60	1875-60	60 inches	6.50

### LABORATORY INTERCHANGE KIT

**DESCR.:** All parts interchangeable, converts any standard test lead to an all purpose unit. Packaged in an electronically sealed vinyl kit.

Consists of one Red, one Black of the following: Phone tips No. 215, Spade lugs No. 218, Tip plug adapter No. 214, Alligator clip jack No. 305. Std. Pkg. 1



No. 640 NET Ea. \$2.25

specify **SMITH**

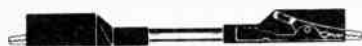
HERMAN H. SMITH, INC.



ELECTRONIC COMPONENTS

# JUMPERS & PATCH CORDS

## STANDARD ALLIGATOR CLIP TO PIN PLUG



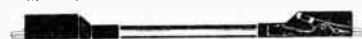
CLIPS: STEEL, Cadmium plated.  
BOOTS: Vinyl plastic. Boot colors match wire.  
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". Available in Red, Black, Yellow, Green, Blue, and White.

SPECIFY COLOR  
Std. Pkg. 10

No.	Length	Net Ea.
1596-12	12 inches	\$.40
1596-24	24 inches	.43
1596-36	36 inches	.48
1596-48	48 inches	.51
1596-60	60 inches	.55

## MINIATURE ALLIGATOR CLIP BOTH ENDS



CLIPS: STEEL, Cadmium plated.  
BOOTS: Vinyl plastic. Boot colors match wire.  
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.

WIRE: General purpose, PVC insulated 1/64" wall, #18 AWG, 16/30 stranded conductor, Available in Red, Black, Yellow, Green, Blue, and White.

SPECIFY COLOR  
Std. Pkg. 10

No.	Length	Net Ea.
1597-12	12 inches	\$.40
1597-18	18 inches	.42
1597-24	24 inches	.43
1597-36	36 inches	.48
1597-48	48 inches	.51
1597-60	60 inches	.55

## STANDARD ALLIGATOR CLIP TO BANANA PLUG



HANDLES: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue White per LC-726-1. SPECIFY COLOR

PLUG: Hex brass, nickel plated.  
SPRING: Four-leaved phosphor bronze, nickel plated.  
CLIPS: STEEL, Cadmium plated.

BOOTS: Vinyl plastic. Boot colors match wire.  
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". Std. Pkg. 10

No.	Length	Net Ea.
1866-12	12 inches	\$.45
1866-24	24 inches	.50
1866-36	36 inches	.55
1866-48	48 inches	.60
1866-60	60 inches	.65

## STANDARD ALLIGATOR CLIP TO SPADE LUG



HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black. SPECIFY COLOR

LUG: Brass, .050 thick, nickel plated.  
CLIPS: STEEL, Cadmium plated.

BOOTS: Vinyl plastic. Boot colors match wire.  
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". Std. Pkg. 10

No.	Length	Net Ea.
1867-12	12 inches	\$.35
1867-24	24 inches	.40
1867-36	36 inches	.45
1867-48	48 inches	.50
1867-60	60 inches	.55

## SPADE LUG BOTH ENDS



HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black. SPECIFY COLOR

LUG: Brass, .050 thick, nickel plated.  
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". Std. Pkg. 10

No.	Length	Net Ea.
1864-12	12 inches	\$.30
1864-24	24 inches	.35
1864-36	36 inches	.40
1864-48	48 inches	.45
1864-60	60 inches	.50

## STANDARD ALLIGATOR CLIP TO PIN PLUG



HANDLES: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR

PLUG: Brass, nickel plated.  
CLIPS: STEEL, Cadmium plated.

BOOTS: Vinyl plastic. Boot colors match wire.  
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". Std. Pkg. 10

No.	Length	Net Ea.
1865-12	12 inches	\$.40
1865-24	24 inches	.45
1865-36	36 inches	.50
1865-48	48 inches	.55
1865-60	60 inches	.60

## PIN PLUG BOTH ENDS



HANDLES: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR

PLUGS: Brass, nickel plated.  
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". Std. Pkg. 10

No.	Length	Net Ea.
1862-12	12 inches	\$.50
1862-24	24 inches	.55
1862-36	36 inches	.60
1862-48	48 inches	.65
1862-60	60 inches	.70

## PIN PLUG TO BANANA PLUG



HANDLES: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR

PLUGS: Brass, nickel plated.  
SPRING: Four-leaved phosphor bronze, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, insulated to an O.D. of .140". Std. Pkg. 10

No.	Length	Net Ea.
1868-12	12 inches	\$.50
1868-24	24 inches	.55
1868-36	36 inches	.60
1868-48	48 inches	.65
1868-60	60 inches	.70

## BANANA PLUG BOTH ENDS



HANDLES: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR

PLUGS: Brass, nickel plated.  
SPRINGS: Four-leaved phosphor bronze, nickel plated.

RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". Std. Pkg. 10

No.	Length	Net Ea.
1863-12	12 inches	\$.60
1863-24	24 inches	.65
1863-36	36 inches	.70
1863-48	48 inches	.75
1863-60	60 inches	.80

## MINIATURE MOLDED PATCH CORDS



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Yellow, Black, Green, assemblies. SPECIFY COLOR

BODY: Brass, nickel plated.  
SPRING: Four-leaved beryllium copper, nickel plated.

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, insulated to an O.D. of .140".

DESCR.: Interconnects banana jacks on closely spaced centers where space is at a premium. Fits standard banana jacks. Std. Pkg. 10

No.	WIRE	NET Per C
1860-8	8 inches	\$30.00
1860-12	12 inches	32.00
1860-24	24 inches	35.00
1860-36	36 inches	38.00

## COLOR CODE SUFFIX

Add to Catalog Number as required  
—101 WHITE —103 BLACK —105 BLUE  
—102 RED —104 GREEN —107 YELLOW

## "CROSS PATCH" BANANA PLUG CORD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR

BODY: Brass, nickel plated.  
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140".

DESC.: Interconnects unlimited number of multiple circuits. Positive, lasting contact for all banana plugs on top and side. Std. Pkg. 10

No.	Length ("A")	NET Per C
1510-8	8 inches	\$100.00
1510-12	12 inches	100.00
1510-25	24 inches	105.00
1510-36	36 inches	110.00

WITH PLUG SPRING 9/16" LONG		
No.	Length ("A")	NET Per C
1515-8	8 inches	\$100.00
1515-12	12 inches	100.00
1515-24	24 inches	105.00
1515-36	36 inches	110.00

## "CROSS PATCH" PIN TIP CORD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR

BODY: Brass, nickel plated.  
CONTACT: Beryllium copper.

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, insulated to an O.D. of .140".

DESC.: Interconnects an unlimited number of multiple circuits. .080" tip plug and female jack in rear of body fits all standard phone tips and jacks. Side holes accept standard banana plugs. Std. Pkg. 10

No.	Length ("A")	NET Per C
1595-8	8 inches	\$90.00
1595-12	12 inches	90.00
1595-24	24 inches	96.00
1595-36	36 inches	102.00

## "CROSS PATCH" CORD



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black assemblies. SPECIFY COLOR

BODY: Brass, nickel plated.  
SPRING: Four-leaved, beryllium copper, nickel plated.

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140".

DESCR.: Provides a never ending banana plug receptacle, and can be used to interconnect an unlimited amount of multiple circuits. Accepts standard banana plug in side. Std. Pkg. 10

No.	Length ("A")	NET Per C
680	8 inches	\$87.00
681	12 inches	93.00
682	24 inches	99.00
683	36 inches	105.00

## FOR YOUR SPECIAL REQUIREMENTS IN

- PATCH CORDS
- JUMPERS
- TEST LEADS

## WHAT DO YOU NEED?

We are equipped to manufacture Patch Cords, Jumpers and Test Leads in every conceivable combination of terminal ends —plugs, jacks, clips and connectors—to be found in our entire line.

What are YOUR special requirements? We welcome your inquiry!

# specify SMITH

HERMAN H. SMITH, INC.



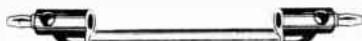
ELECTRONIC COMPONENTS

## JUMPERS & PATCH CORDS

**COLOR CODE SUFFIX**  
Add to Catalog Number as required

— 101 WHITE	— 106 ORANGE
— 102 RED	— 107 YELLOW
— 103 BLACK	— 108 BROWN
— 104 GREEN	— 112 PURPLE
— 105 BLUE	— 113 GREY

### SUB-MINIATURE "CROSS PATCH" CORD



**HANDLE:** MOLDED BUTYRATE, per Fed Spec. L-P-349A, Type 3, Class MS. Available in ten colors listed above.  
**BODY:** Brass, silver plated. **SPECIFY COLOR**  
**SPRING:** Four-leaved beryllium copper, silver plated.  
**WIRE:** General purpose, PVC insulated, 1/64" wall, #18 AWG, 41/34 stranded conductor. Voltage rating up to 1 KV RMS.  
**DESCR.:** Interconnects unlimited number of multiple circuits. Positive, lasting contact for banana plugs on top and side. Special lengths on request. **Std. Pkg. 10**

No.	Length ("A")	NET Per C
1590-6	6 inches	\$60.00
1590-12	12 inches	69.00
1590-18	18 inches	75.00
1590-24	24 inches	84.00

### NYLON HANDLE PATCH CORD



**HANDLE:** MOLDED NYLON, per MIL-P-20693A, Red, Black, Yellow or Green. **SPECIFY COLOR**  
**BODY:** Brass, nickel plated.  
**SPRING:** Four-leaved beryllium copper, nickel plated.  
**WIRE:** 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140".  
**DESCR.:** Uses our standard No. 478 banana plug to interconnect circuits. Fits standard banana jacks. **Std. Pkg. 10**

No.	Length ("A")	NET Per C
1520-8	8 inches	\$54.00
1520-12	12 inches	60.00
1520-24	24 inches	66.00
1520-36	36 inches	72.00

### PATCH CORD



**HANDLE:** MOLDED THERMOSETTING plastic. Red and Black per MIL-M-14 CPG. Yellow, Green per LC-721-1. **SPECIFY COLOR**  
**BODY:** Brass, nickel plated.  
**SPRING:** Four-leaved beryllium copper, nickel plated.  
**WIRE:** 10 KV PVC flexible wire, 65 strands #36 copper, insulated to an O.D. of .140".  
**DESCR.:** Uses our standard No. 271 banana plug to interconnect circuits. Fits standard banana jacks. **Std. Pkg. 10**

No.	Length ("A")	NET Per C
690	8 inches	\$48.00
691	12 inches	54.00
692	24 inches	60.00
693	36 inches	66.00

### HIGH-CURRENT PATCH CORD



**HANDLE:** MACHINED PHENOLIC plastic, per MIL-P-77B, Type 1. Red or Black assemblies. **SPECIFY COLOR**  
**BODY:** Brass, nickel plated.  
**SPRINGS:** Six-leaved phosphor bronze, nickel plated.  
**WIRE:** #10, PVC insulated stranded wire, 105 strands #30 tinned copper wire, insulated to an O.D. of .215".  
**RATING:** 25 Amps AC for 100°C Temp. rise, continuous duty.  
**DESCR.:** Tapered recessed plug so that no metal portions are exposed when plugged into mating jacks. **Std. Pkg. 10**

No.	Length	NET Per C
1591-8	8 inches	\$135.00
1591-12	12 inches	135.00
1591-24	24 inches	140.00
1591-36	36 inches	145.00

### BNC MALE TO ALLIGATOR CLIPS



**CONN.:** UG-88C/U. (BNC Series)  
**CLIPS:** Steel Cad. Plated (#300).  
**INSUL.:** Molded Vinyl (#331).  
**WIRE:** As specified above.  
**DESCR.:** For testing of wave patterns etc. One end termination with UG-88C/U. other end with insulated alligator clips, one red, one black. **Std. Pkg. 10**

No.	Length	NET Per C
1537-12	12 inches	\$3.75
1537-24	24 inches	3.96
1537-36	36 inches	4.08
1537-48	48 inches	4.20
1537-60	60 inches	4.30

### CABLE TYPES AVAILABLE

	WIRE "A"	WIRE "B"	WIRE "C"
<b>DESCRIPTION</b>	2-cond. tw. 18 ga. 65/36 str.	Shielded audio cable	Coaxial Cable RG58/U.
<b>INSULATION</b>	Vinyl	Polyethylene	Polyethylene
<b>JACKET</b>	Vinyl, Color Grey	Vinyl, Color Grey	Vinyl, Color Black
<b>NOM. CAP.</b>	30 mmf./ft.	25 mmf./ft.	28.5 mmf./ft.

### BNC MALE BOTH ENDS



**CONN.:** UG 88 C/U. (BNC Series) **Std. Pkg. 10**

No.	Length	NET Ea.
1539-12	12 inches	\$4.00
1539-24	24 inches	4.20
1539-36	36 inches	4.32
1539-48	48 inches	4.44
1539-60	60 inches	4.55

### BNC FEMALE BOTH ENDS



**CONN.:** UG-89B/U. (BNC Series)  
**WIRE:** RG-58C/U.

No.	Length	NET Ea.
1869-12	12 inches	\$3.75
1869-24	24 inches	3.85
1869-36	36 inches	4.00
1869-48	48 inches	4.15
1869-60	60 inches	4.25

### UHF MALE BOTH ENDS



**CONN.:** PL-259. (UHF Series) **Std. Pkg. 10**

No.	Length	NET Ea.
1871-12	12 inches	\$4.50
1871-24	24 inches	4.62
1871-36	36 inches	4.75
1871-48	48 inches	4.88
1871-60	60 inches	5.00

### BNC FEMALE TO BNC MALE



**CONN.:** UG-89B/U. (BNC Series)  
**WIRE:** UG-89B/U. (BNC Series)  
**WIRE:** RG-58C/U.

No.	Length	NET Ea.
1878-12	12 inches	\$4.00
1878-24	24 inches	4.20
1878-36	36 inches	4.32
1878-48	48 inches	4.44
1878-60	60 inches	4.55

### NYLON LACING CORD



MIL-T-713A, Type 8. Composition P. Classes 3, 2 and 1. Supplied in 1-lb. tubes.

No.	Class	Test	Yardage	NET Ea.
734	1	70 lb.	600	\$9.00
735	2	48 lb.	800	9.30
736	3	32 lb.	1140	9.60

Black Color				
No.	Class	Test	Yardage	NET Ea.
791	1	70 lb.	600	\$10.80
792	2	48 lb.	800	11.10
793	3	32 lb.	1140	11.40

### NYLON LACING TAPE Braided — MGU Finish

#18 size meets MIL-T-13 A, Type P, Class 2. 500-yard spools.

Natural Color					
No.	Size	Width	Thick	Test	NET Each
766	18	.090	.0125	50 lbs.	\$9.50
767	21	.0625	.009	25 lbs.	7.00

Black Color					
No.	Size	Width	Thick	Test	NET Each
769	18	.090	.0125	50 lbs.	\$10.00
770	21	.0625	.009	25 lbs.	7.50

### Commercial Type

Meets all application of above but at a much lower cost. Supplied in 1-lb tubes in natural color.

No.	Width	Yardage	NET Ea.
743	1/8"	620	\$5.10

### DACRON LACING CORD

Conforms to the physical requirements of MIL-T-713A. Greater tensile strength with minimal stretch than nylon. Fungus, acid and abrasion resistance. Supplied in 1 lb. tubes in natural color.

No.	Class	Test	Yardage	NET Ea.
722	1	78 lbs.	750	\$9.60
723	2	57 lbs.	1000	9.90
724	3	37 lbs.	1500	10.20

### RIGHT ANGLE BNC TO RIGHT ANGLE BNC



**CONN.:** UC-913, U. (BNC Series)  
**WIRE:** As specified above.  
**DESCR.:** Used for patching and jumping. Each end terminates with UG-913/U.

No.	Length	NET Ea.
1538-12	12 inches	\$5.88
1538-24	24 inches	6.00
1538-36	36 inches	6.12
1538-48	48 inches	6.24
1538-60	60 inches	6.35

### UHF MALE TO BNC MALE



**CONN.:** UG-88C/U. (BNC Series)  
**WIRE:** PL-259 (UHF Series)  
**WIRE:** RG-58C/U.

No.	Length	NET Ea.
1879-12	12 inches	\$4.00
1879-24	24 inches	4.20
1879-36	36 inches	4.32
1879-48	48 inches	4.44
1879-60	60 inches	4.55

### UHF MALE TO BNC FEMALE



**CONN.:** UG-89B/U. (BNC Series)  
**WIRE:** PL-259. (UHF Series)  
**WIRE:** RG-58C/U.

No.	Length	NET Ea.
1880-12	12 inches	\$4.20
1880-24	24 inches	4.40
1880-36	36 inches	4.52
1880-48	48 inches	4.64
1880-60	60 inches	4.75

### UHF MALE TO ALLIGATOR CLIPS



**CONN.:** PL-259. (UHF Series)  
**CLIPS:** Steel Cad. Plated (#300).  
**INSUL.:** Molded Vinyl (#331).  
**WIRE:** As specified above.  
**DESCR.:** For testing of wave patterns, etc. One end terminates with PL-259, other end with insulated alligator clips one red, one black. **Std. Pkg. 10**

No.	Length	NET Ea.
1872-12	12 inches	\$3.75
1872-24	24 inches	3.96
1872-36	36 inches	4.08
1872-48	48 inches	4.20
1872-60	60 inches	4.30

For VARIATIONS of these standard parts to meet your SPECIAL requirements, or for entirely NEW parts made to your specifications, WE WELCOME YOUR INQUIRY!

### LINEN LACING CORD

Mildev proofed. Spec. MIL-T-713-A. Type N

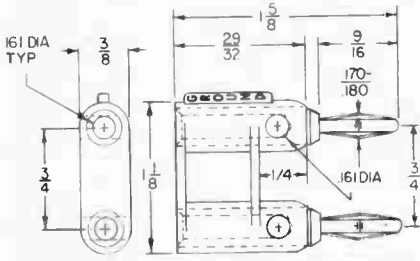
Natural Color					
No.	Tube	Ply	Class	Ydg.	NET Ea.
725	4 oz.	4	—	210	\$1.65
726	8 oz.	4	—	425	3.00
727	1 lb.	4	—	850	5.40
728	4 oz.	6	3	150	1.65
729	8 oz.	6	3	300	3.00
730	1 lb.	6	3	600	5.40
737	4 oz.	8	2	115	1.65
738	8 oz.	8	2	235	3.00
739	1 lb.	8	2	470	5.40
731	4 oz.	9	—	100	1.65
732	8 oz.	9	—	200	3.00
733	1 lb.	9	—	400	5.40
740	1 oz.	12	1	75	1.65
741	2 oz.	12	1	150	3.00
742	4 oz.	12	1	300	5.40

Black Color					
No.	Tube	Ply	Class	Ydg.	NET Ea.
794	1 lb.	4	—	850	\$6.00
795	1 lb.	6	3	600	6.00
796	1 lb.	8	2	470	6.00
797	1 lb.	9	—	400	6.00
798	1 lb.	12	1	300	6.00

specify **SMITH**  
HERMAN H. SMITH, INC.  **ELECTRONIC COMPONENTS**

**DUAL INSTRUMENT TEST ADAPTERS**



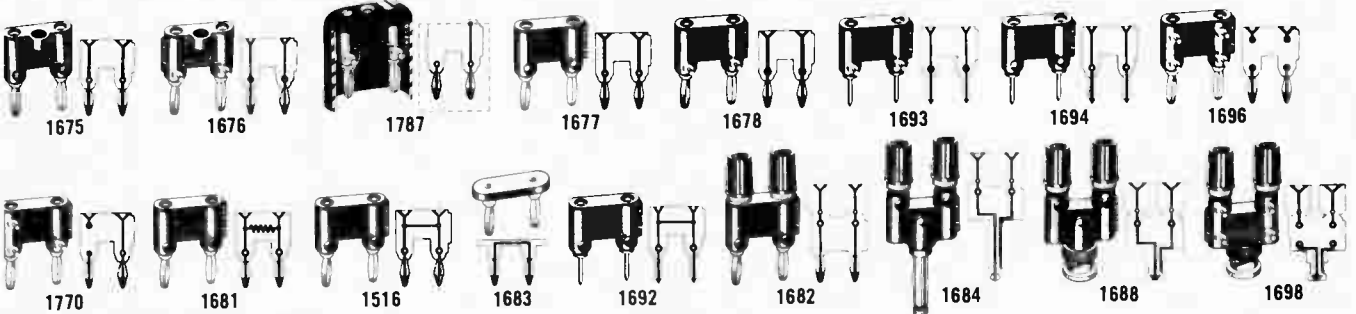
**MATERIALS:**  
**BODY:** Molded Butyrate, per Fed Spec. L-P349A, Type 3, Class MS, Color BLACK unless otherwise specified.  
**CONDUCTOR:** Brass, per QQ-B-626, Comp. 22, 14 hard.  
**SPRING:** Four-leaved beryllium copper, heat treated.  
**HEAD:** Molded Nylon, per MIL-P-20693A.  
**SHIELD:** Drawn Aluminum.  
**SCREWS:** Steel, cadmium plated.

**FINISHES:**  
**CONDUCTOR:** Nickel plate, per QQ-N-290, Class 1, Type VII.  
**SPRING:** Nickel plate, as above.  
**TERMINAL:** Gold washed.  
**CONNECTOR:** Non-tarnish.  
**SHIELD:** Black Anodized.

**COLOR CODE SUFFIX**  
Add to Catalog Number as required

- 101 WHITE
- 102 RED
- 103 BLACK
- 104 GREEN
- 105 BLUE
- 106 ORANGE
- 107 YELLOW
- 108 BROWN
- 109 PURPLE
- 110 GREY

**RATINGS:**  
**CURRENT:** 15 Amps AC for 109°C Temp. Rise, continuous duty, except where limited by co-axial connectors.  
**VOLTAGE:** 5 KV, 60 cycle AC continuous working voltage, except where limited by co-axial connectors.  
**CAPACITY:** 1.0 mufd nominal between 3/8" spaced conductors.  
**RESISTANCE:** 1 milliohm or less per conductor.



**CABLE MOUNTED DUAL BANANA PLUGS SET-SCREW TYPE**

**REAR:** 7/32 Dia. cable guide. Dual banana jacks on 3/4" centers.  
**FRONT:** Dual banana plugs on 3/4" centers. Set-screws secure leads to conductors.  
**COLORS:** Available in 10 std. colors as coded above. (Specify Color)

No.	Std. Pkg. 10	NET Ea.
1675		\$ .72

**TURRET-TERMINAL TYPE**

**REAR:** 7/32 Dia cable guide. Dual banana jacks on 3/4" centers.  
**FRONT:** Dual banana plugs on 3/4" centers. Turret terminals for permanent solder connection of leads.  
**COLORS:** Available in 10 std. colors as coded above. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1676		\$ .81

**SHIELDED TYPE**

**REAR:** Mounting screw and locating boss. In-line cable entry with flush cable guide.  
**FRONT:** Dual banana plugs 3/4" centers. Turret terminals for permanent solder connection of leads.  
**SHIELD:** Aluminum shield electrically connected to GND conductor fully enclosed plug and mating binding posts to reduce noise pickup.

No.	Std. Pkg. 1	NET Ea.
1787		\$ 2.25

**COMPONENT MOUNTING DUAL PLUGS SET-SCREW TYPE**

**REAR:** Dual banana jacks on 3/4" centers for stacking.  
**FRONT:** Dual banana plugs on 3/4" centers. Set-screws secure component leads to conductors.  
**COLORS:** Available in 10 std. colors as coded above. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1677		\$ .72

**TURRET-TERMINAL TYPE**

**REAR:** Dual banana jacks on 3/4" centers for stacking.  
**FRONT:** Dual banana plugs on 3/4" centers. Turret terminals for permanent solder connection of component leads.  
**COLORS:** Available in 10 std. colors as coded above. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1678		\$ .81

**.080" PHONE TIP TYPE**

**REAR:** Dual phone tip jacks on 3/4" centers for stacking.  
**FRONT:** Dual .080" phone tips on 3/4" centers. Turret terminals for permanent solder connections of component leads.  
**COLORS:** Available in Red or Black only. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1693		\$ .81

**COMPONENT MOUNTING DUAL PLUGS SET-SCREW PHONE TIP ADAPTER TYPE**

**REAR:** Dual banana jacks on 3/4" centers for stacking.  
**FRONT:** Dual .080" phone tips on 3/4" centers. Set-screws secure component leads to conductors.  
**COLORS:** Available in Red or Black only. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1694		\$ .72

**FOUR TERMINAL ISOLATION TYPE**

**REAR:** Dual banana jacks on 3/4" centers for stacking.  
**CENTER:** Turret-terminal connections to isolated front and rear conductors in both GND and HOT circuits allow insertion of matching pad or other 4-terminal networks in input circuits of instruments.  
**FRONT:** Dual banana plugs on 3/4" centers.  
**COLORS:** Available in 10 colors as coded above. (Specify color)

No.	Std. Pkg. 1	NET Ea.
1696		\$ 3.25

**THREE TERMINAL ISOLATION TYPE**

**REAR:** Dual banana jacks on 3/4" centers for stacking.  
**CENTER:** Turret-terminal connections to isolated front and rear conductors in HOT circuit, and straight-thru connection of GND circuit, with terminal, allow insertion of "T" and "P" networks in input-output circuits in instruments.  
**FRONT:** Dual banana plugs on 3/4" centers.  
**COLORS:** Available in 10 colors as coded above.

No.	Std. Pkg. 1	NET Ea.
1770		\$ 2.50

**INTERNALLY-MOLDED COMPONENT DUAL PLUGS**

(Note: Items shown below are representative stock units. Plugs can be molded to order with a variety of resistor, capacitor, or molded inductor values. Please write, detailing your requirements, for quotation.)

**MOLDED-IN PRECISION RESISTORS**

**REAR:** Dual banana jacks on 3/4" centers for stacking.  
**INTERNAL:** 1% precision deposited-carbon, 1/2 watt resistors, value as shown below. Resistors are shunted across line.  
**FRONT:** Dual banana plugs on 3/4" centers. Banana jack side holes for stacking.  
**RESISTANCE:** (Value stamped on plug) Following values are stock:

Ohms	Ohms	K ohm	K ohm	Meg ohm
50	200	1	100	1
75	250	5	200	2
120	500	10	250	5
150	600	20	500	10
150	900	50		

(Specify resistance value)

No.	Std. Pkg. 1	NET Ea.
1681		\$ 2.75

**DUAL BANANA PLUG SHORTING TYPE**

**REAR:** Dual banana jacks on 3/4" centers for stacking.  
**INTERNAL:** Busbar shorted across line.  
**FRONT:** Dual banana plugs on 3/4" centers. Banana jack holes for side stacking.  
**COLORS:** Available in Red, Black, Yellow, and Green. (Specify color)

No.	Std. Pkg. 25	NET Ea.
1516		\$ .72

**METAL SHORTING BAR TYPE**

**REAR:** 3/32" thick brass busbar. 15 amps, continuous duty.  
**FRONT:** Dual banana plugs on 3/4" centers. Unit sits flush to panel.

No.	Std. Pkg. 10	NET Ea.
1683		\$ .66

**.080" PHONE TIP SHORTING TYPE**

**REAR:** Dual banana jacks on 3/4" centers for stacking.  
**INTERNAL:** Busbar shorted across line.  
**FRONT:** Dual .080" phone tips on 3/4" centers. Banana jack holes for side stacking.  
**COLORS:** Available in Red, Black, Yellow, and Green. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1692		\$ .72

**DUAL BINDING POST ADAPTERS BINDING POSTS TO DUAL BANANA PLUGS**

**REAR:** Insulated dual 5-way binding posts, Red and Black heads on 3/4" centers. Banana jack holes for side stacking.

No.	Std. Pkg. 1	NET Ea.
1682		\$ 2.25

**BINDING POSTS TO 2-CIRCUIT PHONE PLUG**

**REAR:** Insulated dual 5-way binding posts, Red and Black heads on 3/4" centers. Banana jack holes for side stacking.  
**FRONT:** Standard 1/4" 2-circuit phone plug.

No.	Std. Pkg. 1	NET Ea.
1684		\$ 3.00

**BINDING POSTS TO BNC MALE CONNECTOR**

**REAR:** Insulated dual 5-way binding posts, Red and Black heads on 3/4" centers. Banana jack holes for side stacking.  
**FRONT:** BNC series co-axial plug.

No.	Std. Pkg. 1	NET Ea.
1688		\$ 3.60

**BINDING POSTS TO ISOLATED BNC MALE CONNECTOR**

**REAR:** Insulated dual 5-way binding posts, Red and Black heads on 3/4" centers.  
**CENTER:** Turret-terminal connections to isolated front and rear conductors in both GND and HOT circuits allow insertion of matching pad or other 4-terminal networks in input circuits.  
**FRONT:** BNC series co-axial plug.

No.	Std. Pkg. 1	NET Ea.
1698		\$ 2.20



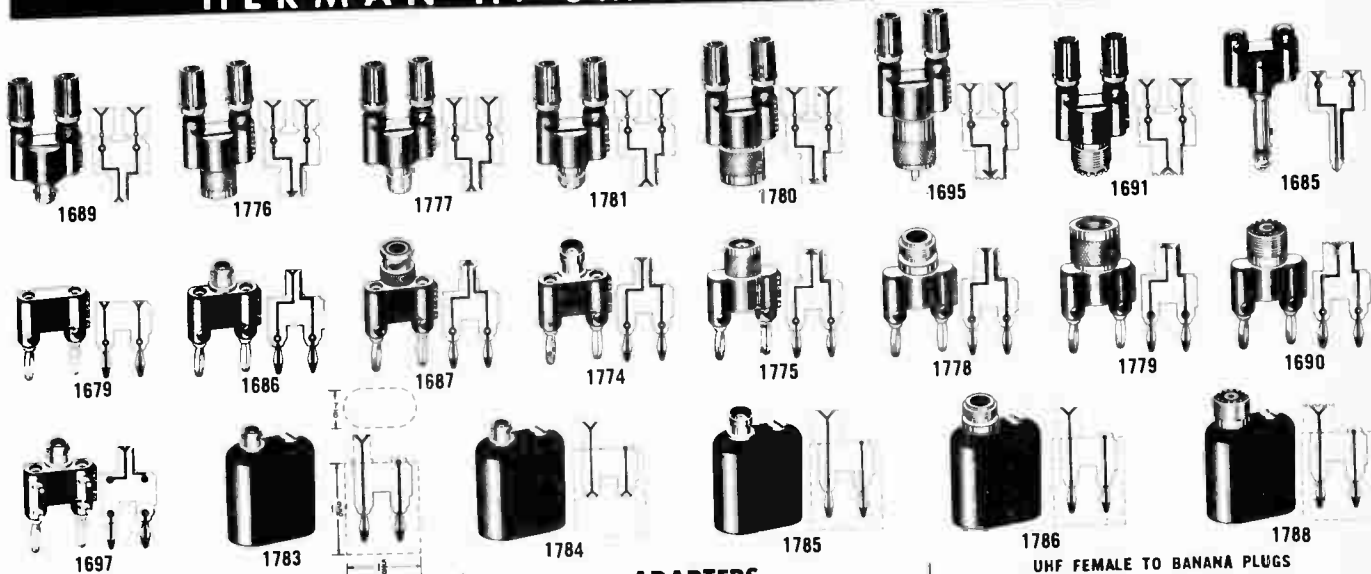
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**DUAL BINDING POST ADAPTERS**  
BINDING POSTS TO BNC FEMALE CONNECTOR

REAR: Insulated dual 5-way binding posts. Red and Black heads on 3/8" centers. Banana jack holes for side stacking.

FRONT: BNC series co-axial jack.  
No. Std. Pkg. 1 NET Ea.  
1689 \$3.60

**BINDING POSTS TO TNC MALE CONNECTOR**

REAR: Insulated dual 5-way binding posts. Red and Black heads on 3/8" centers. Banana jack holes for side stacking.

FRONT: TNC series co-axial plug.  
No. Std. Pkg. 1 NET Ea.  
1776 \$4.50

**BINDING POSTS TO TNC FEMALE CONNECTOR**

REAR: Insulated dual 5-way binding posts. Red and Black heads on 3/8" centers. Banana jack holes for side stacking.

FRONT: TNC series co-axial jack.  
No. Std. Pkg. 1 NET Ea.  
1777 \$4.50

**BINDING POSTS TO TYPE N MALE CONNECTOR**

REAR: Insulated dual 5-way binding posts. Red and Black heads on 3/8" centers. Banana jack holes for side stacking.

FRONT: Type N co-axial plug.  
No. Std. Pkg. 1 NET Ea.  
1780 \$4.50

**BINDING POSTS TO TYPE N FEMALE CONNECTOR**

REAR: Insulated dual 5-way binding posts. Red and Black heads on 3/8" centers. Banana jack holes for side stacking.

FRONT: Type N co-axial jack.  
No. Std. Pkg. 1 NET Ea.  
1781 \$4.50

**BINDING POSTS TO UHF MALE CONNECTOR**

REAR: Insulated dual 5-way binding posts. Red and Black heads on 3/8" centers. Banana jack holes for side stacking.

FRONT: UHF series co-axial plug.  
No. Std. Pkg. 1 NET Ea.  
1695 \$3.60

**BINDING POSTS TO UHF FEMALE CONNECTOR**

REAR: Insulated dual 5-way binding posts. Red and Black heads on 3/8" centers. Banana jack holes for side stacking.

FRONT: UHF series co-axial jack.  
No. Std. Pkg. 1 NET Ea.  
1691 \$3.60

**ADAPTERS**

**DUAL BANANA JACKS TO 2-CIRCUIT PHONE PLUG**

REAR: Dual banana jacks on 3/8" centers, rear and side. For stacking.

FRONT: Standard 3/8" 2-circuit phone plug.  
No. Std. Pkg. 1 NET Ea.  
1685 \$2.40

**DUAL PHONE-TIP ADAPTER**

REAR: Dual .080" phone tip jacks on 3/8" centers.

FRONT: Dual banana plugs on 3/8" centers. Banana jack holes for side stacking.  
No. Std. Pkg. 10 NET Ea.  
1679 \$8.81

**COAXIAL CONNECTOR ADAPTERS**

**BNC FEMALE TO BANANA PLUGS**

REAR: BNC series co-axial jack. Banana jack holes for side stacking.

FRONT: Dual banana plugs on 3/8" centers. Banana jack holes for side stacking.  
No. Std. Pkg. 1 NET Ea.  
1686 \$2.45

**BNC MALE TO BANANA PLUGS**

REAR: BNC series co-axial plug.

FRONT: Dual banana plugs on 3/8" centers. Banana jack holes for side stacking.  
No. Std. Pkg. 1 NET Ea.  
1687 \$2.70

**TNC FEMALE TO BANANA PLUGS**

REAR: TNC series co-axial jack.

FRONT: Dual banana plugs on 3/8" centers. Banana jack holes for side stacking.  
No. Std. Pkg. 1 NET Ea.  
1774 \$4.50

**TNC MALE TO BANANA PLUGS**

REAR: TNC series co-axial plug.

FRONT: Dual banana plugs on 3/8" centers. Banana jack holes for side stacking.  
No. Std. Pkg. 1 NET Ea.  
1775 \$4.50

**TYPE N FEMALE TO BANANA PLUGS**

REAR: Type N co-axial jack.

FRONT: Dual banana plugs on 3/8" centers. Banana jack holes for side stacking.  
No. Std. Pkg. 1 NET Ea.  
1778 \$4.50

**TYPE N MALE TO BANANA PLUGS**

REAR: Type N co-axial plug.

FRONT: Dual banana plugs on 3/8" centers. Banana jack holes for side stacking.  
No. Std. Pkg. 1 NET Ea.  
1779 \$4.50

**UHF FEMALE TO BANANA PLUGS**

REAR: UHF series co-axial jack.

FRONT: Dual banana plugs on 3/8" centers. Banana jack holes for side stacking.  
No. Std. Pkg. 1 NET Ea.  
1690 \$3.60

**BNC FEMALE TO ISOLATED DUAL BANANA PLUGS**

REAR: BNC series co-axial jack.

CENTER: Turret-terminal connections to isolated front and rear conductors in both GND and HOT circuits allow insertion of matching pad or other 4-terminal networks in input circuits.

FRONT: Dual banana plugs on 3/8" centers.  
No. Std. Pkg. 1 NET Ea.  
1697 \$7.20

**SHIELDED CO-AXIAL CONNECTOR ADAPTERS**

**BNC JACK TO DUAL BANANA PLUGS**

REAR: BNC series co-axial jack.

FRONT: Dual banana plugs on 3/8" centers.

SHIELD: Aluminum shield electrically connected to GND conductor fully encloses plug and mating binding posts to reduce noise pickup.  
No. Std. Pkg. 1 NET Ea.  
1783 \$3.25

**BNC JACK TO DUAL BANANA JACKS**

REAR: BNC series co-axial jack.

FRONT: Dual banana plugs on 3/8" centers.

SHIELD: Aluminum shield electrically connected to GND conductor fully encloses jacks and mating plug to reduce noise pickup.  
No. Std. Pkg. 1 NET Ea.  
1784 \$3.25

**TNC JACK TO DUAL BANANA PLUGS**

REAR: TNC series co-axial jack.

FRONT: Dual banana plug 3/8" centers.

SHIELD: Aluminum shield electrically connected to GND conductor fully encloses plug and binding posts to reduce noise pickup.  
No. Std. Pkg. 1 NET Ea.  
1785 \$4.50

**TYPE N JACK TO DUAL BANANA PLUGS**

REAR: Type N co-axial jack.

FRONT: Dual banana plugs on 3/8" centers.

SHIELD: Aluminum shield electrically connected to GND conductor fully enclosed plug and binding posts to reduce noise pickup.  
No. Std. Pkg. 1 NET Ea.  
1786 \$4.50

**UHF JACK TO DUAL BANANA PLUGS**

REAR: UHF series co-axial jack.

FRONT: Dual banana plugs on 3/8" centers.

SHIELD: Aluminum shield electrically connected to GND conductor fully encloses plug and mating binding posts to reduce noise pickup.  
No. Std. Pkg. 1 NET Ea.  
1788 \$4.50

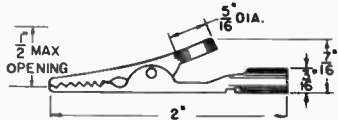
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ELECTRONIC COMPONENTS

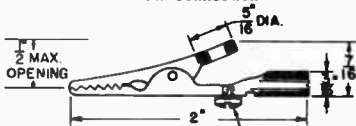
### ALLIGATOR CLIPS Solder Connection



**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** 1/2" jaw opening. Jaws match accurately and grip securely, accepts standard banana plugs in rear. Std. Pkg. 100

No.	Type	NET Per C
300	Steel, Cad. Pl.	\$4.40
380	Solid Copper	6.50
332	Brass N.P.	6.40

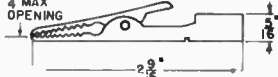
### Screw Connection



**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** 1/2" jaw opening. Supplied with screw for solderless connection when required. Jaws match accurately and grip securely. Accepts standard banana plugs in rear. Std. Pkg. 100

No.	Type	NET Per C
350	Steel, Cad. Pl.	\$4.80
380	Solid Copper	7.20
339	Brass N.P.	9.90

### JUMBO ALLIGATOR CLIP Solder Connection



**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty, #392.  
 15 Amps AC for 10°C Temp. rise, continuous duty, #396.  
**DESCR.:** 3/4" jaw opening. Jaws match accurately. For heavy terminal use. Std. Pkg. 100

No.	Type	NET Per C
392	Steel, Cad. Pl.	\$15.00
396	Solid Copper	18.00

### Screw Connection

**RATING:** STEEL: 10 Amps AC for 10°C Temp. rise, continuous duty.  
 COPPER: 15 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** 3/4" jaw opening. Jaws match accurately. Supplied with screw for solderless connection. For heavy terminal use. Std. Pkg. 100

No.	Type	NET Per C
368	Steel, Cad. Pl.	\$18.00
356	Solid Copper	21.00

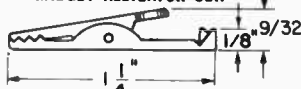
### ALLIGATOR CLIP BOOTS



**MATERIAL:** MOLDED VINYL PLASTIC, Red, Black, Yellow, Green, Blue or White. SPECIFY COLOR  
**RATING:** 1 K Volts 60 cycle AC continuous working voltage.  
**DESCR.:** Fully insulated clip while allowing maximum jaw opening. No. 331 for use on standard size alligator clips such as our No. 300, No. 389 for use on miniature alligator clips, such as our No. 338. Std. Pkg. 100

No.	Description	NET Per C
389	Miniature	\$4.00
331	Standard	4.00

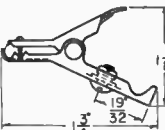
### MIDGET ALLIGATOR CLIP



**DESCR.:** 1/8" jaw opening, jaws match accurately and grip securely. Unique SMITH spring construction. Solder connection and ears for crimping. Std. Pkg. 100

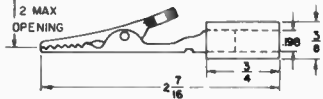
No.	Type	NET Per C
336	Steel, Cad. Pl.	\$4.20
387	Copper	5.00

### TL137 TEST CLIP Signal Corps Approved



**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Steel, nickel plated, made in accordance with government specification. 1/4" jaw opening. Needle for piercing corrosion. Std. Pkg. 25  
 No. 315 NET Per C \$42.00

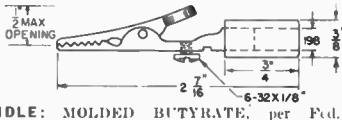
### INSULATED ALLIGATOR CLIPS Solder Connection



**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** 1/2" jaw opening. Jaws match accurately and grip securely, accepts standard banana plugs in rear. Std. Pkg. 100

No.	Type	NET Per C
301	Steel, Cad. Pl.	\$7.50
381	Solid Copper	9.00
354	Brass N.P.	11.40

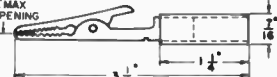
### Screw Connection



**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** 1/2" jaw opening. Supplied with screw for solderless connection when required. Jaws match accurately and grip securely. Accepts standard banana plugs in rear. Std. Pkg. 100

No.	Type	NET Per C
351	Steel, Cad. Pl.	\$8.00
361	Solid Copper	9.60
362	Brass N.P.	12.40

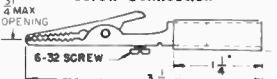
### INSULATED JUMBO ALLIGATOR CLIPS Solder Connection



**HANDLE:** MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II, Red or Black. SPECIFY COLOR  
**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty, #393.  
 15 Amps AC for 10°C Temp. rise, continuous duty, #397.  
**DESCR.:** 3/4" jaw opening. Jaws match accurately. For heavy terminal use. Std. Pkg. 100

No.	Type	NET Per C
393	Steel, Cad. Pl.	\$21.00
397	Solid Copper	24.00

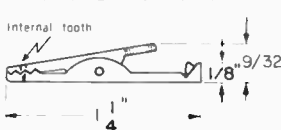
### Screw Connection



**HANDLE:** MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II, Red or Black. SPECIFY COLOR  
**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty, #389.  
 15 Amps AC for 10°C Temp. rise, continuous duty, #357.  
**DESCR.:** 3/4" jaw opening. Jaws match accurately. Supplied with screw for solderless connection. For heavy terminal use. Std. Pkg. 100

No.	Type	NET Per C
389	Steel, Cad. Pl.	\$24.00
357	Solid Copper	27.00

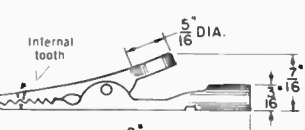
### MINIATURE INSULATION PIERCING ALLIGATOR CLIP



**RATING:** 1 Amp AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** 3/16" jaw opening. Jaws match accurately and grip securely. Internal tooth for piercing wire insulation. Solder connection and ears for crimping. Std. Pkg. 100

No.	NET Per C
326	\$11.00

### INSULATION PIERCING ALLIGATOR CLIP



**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** 1/2" jaw opening. Jaws match accurately and grip securely. Internal tooth for piercing wire insulation. Accepts standard banana plug in rear. Std. Pkg. 100

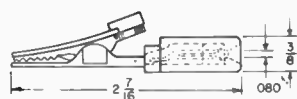
No.	NET Per C
347	\$11.00

### All Insulated Clip



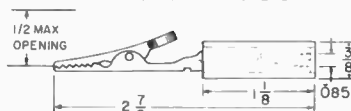
**INSULA.:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**RATING:** 10 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage.  
**DESCR.:** All metal parts fully insulated with molded plastic. Insures against shock or grounding. Solder type connection. Std. Pkg. 25  
 No. 37 NET Per C \$24.00

### ALL INSULATED ADAPTERS



**INSULA.:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**CLIP:** Steel, cadmium plated.  
**BODY:** Brass.  
**CONTACT:** Phosphor bronze.  
**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** All metal parts fully insulated with molded plastic. Insures against shock or grounding. Jack in rear permits adapting standard phone tip plugs to alligator clips. Std. Pkg. 25  
 No. 336 NET Per C \$36.00

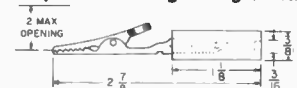
### ALLIGATOR CLIP ADAPTERS



**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**CAP:** MOLDED THERMOSETTING plastic, Red and Black per MIL-M-11 CPG  
**CLIP:** Steel, cadmium plated or solid copper.  
**BODY:** Brass.  
**SPRING:** Phosphor bronze.  
**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Jack in rear permits adapting standard phone tip plugs to alligator clips. Std. Pkg. 25

No.	Description	NET Per C
304	Steel Clip	\$35.00
334	Copper Clip	\$6.00

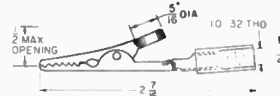
### Phone Tip or Banana Plug to Alligator Clip



**HANDLE:** MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red or Black. SPECIFY COLOR  
**CLIP:** Steel, cadmium plated or solid copper.  
**BODY:** Brass.  
**SPRING:** Phosphor bronze.  
**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Combination jack in rear, permits the adapting standard phone tip plug or banana plugs to alligator clip. Std. Pkg. 25

No.	Description	NET Per C
305	Steel Clip	\$39.00
335	Copper Clip	\$2.00

### ALLIGATOR CLIP ADAPTER



**BUSHING:** Brass, nickel plated.  
**CLIP:** Steel cadmium plated.  
**RATING:** 5 Amps AC for 10°C Temp. rise, continuous duty.  
**DESCR.:** Adapts standard solderless tips to alligator clip. This novel quick-adapter is a must for all types of bench work. Std. Pkg. 50  
 No. 310 NET Per C \$13.20

### BATTERY TEST CLIP



**MATERIAL:** Steel, electro plated. Std. Pkg. 100

No.	Spread	Lgth.	Rating	Spring	NET Per C
365	3/4"	1 1/2"	5 amp	7 lbs	\$8.50
368	3/8"	2"	10 amp	10 lbs	9.50

"SPECIALS are STANDARD with SMITH!"

# specify SMITH

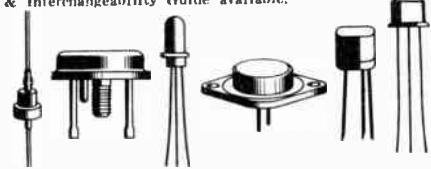
HERMAN H. SMITH, INC.



ELECTRONIC COMPONENTS

## SEMICONDUCTORS

Replace over 2800 Semiconductors with just 25 SMITH Types! The most versatile replacement program of dependable, high quality, low cost semiconductors, covering the most often-used Transistors, Diodes, and Rectifiers used in today's entertainment equipment. SMITH Replacement & Interchangeability Guide available.



### TRANSISTORS

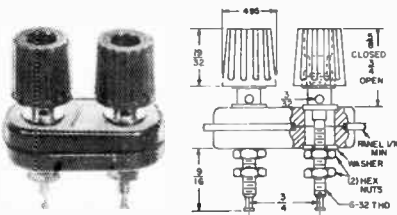
No.	Description	Std. Pkg. 50	NET Per C
3501	Mixer, Osc., Converter PNP		\$1.47
3502	I.F. Amplifier PNP		1.17
3503	A.F. Amplifier 6 V. PNP		0.99
3504	A.F. Amplifier 12 V. PNP		1.20
3505	A.F. Amplifier 9 V. PNP		0.99
3506	A.F. Automobile Power Amp. PNP		1.77
3507	Hi Power Automobile Amp. PNP		3.57
3508	Mixer, Osc., Converter NPN		1.50
3509	I.F. Amplifier NPN		1.50
3510	A.F. Amplifier 9 V. NPN		1.17
3511	A.F. Amplifier 12 V. NPN		1.17
3512	Hi Freq. R.F., I.F., Mixer, Osc., Converter PNP		1.50
3513	Hi Current (15 Amps.) for Ignition and D. C. Converters TO-3 Case		3.00
3514	Hi Current (15 Amps.) for Ignition and D. C. Converters TO-36 Case		3.57

### RECTIFIERS, Silicon

No.	Description	Std. Pkg. 50	NET Per C
3560	400 P.I.V. 750 Ma. Silicon Top Hat Rectifier		0.54
3561	600 P.I.V. 750 Ma. Silicon Top Hat Rectifier		0.75
3562	800 P.I.V. 750 Ma. Silicon Top Hat Rectifier		1.08
3563	1000 P.I.V. 750 Ma. Silicon Top Hat Rectifier		1.35
3564	400 P.I.V. 750 Ma. Silicon Epoxy Rectifier		0.42
3565	600 P.I.V. 750 Ma. Silicon Epoxy Rectifier		0.60
3566	800 P.I.V. 750 Ma. Silicon Epoxy Rectifier		0.90
3567	1000 P.I.V. 750 Ma. Silicon Epoxy Rectifier		1.35

### DIODES, Germanium

No.	Description	Std. Pkg. 50	NET Per C
3586	Gen. Purpose Germanium Diode		0.33
3587	Video Detector Germanium Diode		0.33
3588	50 Mc. Detector Germanium Diode		0.33



### DUAL ASSEMBLY — Nylon

INSUL.: MOLDED black STYRENE, per Fed. Spec. L-1416, Type I, cross slotted (+) to accept standard phone tips in post either forward, or sideways.

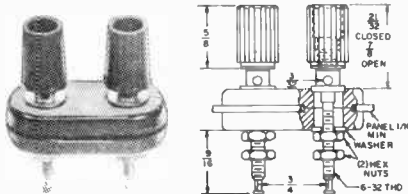
BODY: Brass, nickel plated.

HEAD: Captive: MOLDED NYLON, per MIL-P-20693A, with molded in brass insert.

RATING: 15 Amps AC for 10°C Temp. rise, continuous duty, 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel.

DESCR.: Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.

No.	Description	Std. Pkg. 10	NET Per C
1813BB	Two Black Heads		\$70.00
1813RR	Two Red Heads		70.00
1813RB	One Red, One Black Head		70.00



### DUAL ASSEMBLY — Nylon

INSUL.: MOLDED black STYRENE, per Fed. Spec. L-1416, Type I, cross slotted (+) to accept standard phone tips in post either forward, or sideways.

BODY: Brass, nickel plated.

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No.	Description	Std. Pkg. 10	NET Per C
1814BB	Two Black Heads		\$70.00
1814RR	Two Red Heads		70.00
1814RB	One Red, One Black Head		70.00

## PILOT LIGHT SOCKETS

Clip-On Type



Can be used by clipping on to variable condenser or chassis. All brackets are cadmium plated.

No.	Type	Std. Pkg. 50	NET Per C
1922	Miniature Screw Up Clip		\$13.00
1923	Miniature Screw Down Clip		13.00
1924	Miniature Bayonet Up Clip		13.00
1925	Miniature Bayonet Down Clip		13.00
1926	Candelabra Up Clip		13.00
1927	Candelabra Down Clip		13.00
1938	Clip-In Socket		13.00

## PILOT LIGHT SOCKETS

Bracket Type

No.	Type	NET Per C
1928	Miniature Screw Up Bracket	\$13.00
1929	Miniature Screw Down Bracket	13.00
1930	Miniature Bayonet Up Bracket	13.00
1931	Miniature Bayonet Down Bracket	13.00
1932	Candelabra Up Bracket	13.00
1933	Candelabra Down Bracket	13.00

## UNMOUNTED TYPE SOCKETS

No.	Type	NET Per C
1934	Miniature Screw Base	\$13.00
1935	Miniature Bayonet Base	13.00
1936	Candelabra Base	13.00

## NAVY TYPE LAMP SOCKETS

75W-125V Bayonet Base

Vibration-proof socket for surface mounting. Made to rigid specifications of black phenolic. Has bayonet sleeve of brass and double contacts of heavy spring phosphor bronze. Std. Pkg. 10 No. 1950 NET Per C \$135.00

**SCREW BASE**  
Made of black phenolic to strict requirements. Instead of usual screw shell has phosphor bronze wire coiled spring for perfect contact and elimination of vibration. Designed for soldering wire leads. Std. Pkg. 10 No. 1951 NET Per C \$84.00

**SCREW BASE**  
Easily wired and mounted. A very practical unit made of black phenolic to rigid specifications. Has phosphor bronze spring contact to assure positive contact and elimination of vibration. Std. Pkg. 10 No. 1952 NET Per C \$84.00

## MINIATURE BAYONET BASE LAMPHOLDER

Surface mounted socket for miniature bayonet single contact lamp. Made to rigid specifications and constructed of massive bakelite insulation. Designed with screw terminals to facilitate wiring. Std. Pkg. 10 No. 1960 Net Ea. \$3.00

## MINI-SHIELDS FOR MINI-TUBES

These Mini-Shields fit snugly on all Mini-Tubes. Serrations in base clip prevent shielded tube from jiggling or working loose. Available in two sizes for 1 1/2" & 2" long tubes. Std. Pkg. 50 NET Per C \$7.80  
550 for 2" tube 1 1/2" 6.60  
551 for 1 1/2" tube 1 1/2" 6.60

**MINI-SPRING FOR MINI-TUBES**  
Maintains a direct axial pressure downwards plus a sideways support that keeps the tube upright and perpendicular to the chassis. The spring action is constant and resilient permanently. Std. Pkg. 50  
No. 560 Short \$11.40  
561 Medium 11.40  
562 Long 11.40  
563 9 Prong 11.63

No.	Type	NET Per C
560	Short	\$11.40
561	Medium	11.40
562	Long	11.40
563	9 Prong	11.63

## MINIATURE WAFER SOCKETS

Miniature bakelite sockets with brass cadmium plated contacts. XI" bakelite top plate 1/16" thick, bottom plate 3/64" thick; high grade spring brass cadmium plated contact; .095 dia. mounting holes. Std. Pkg. 50 SEVEN PIN NET Per C \$7.00

No.	Description	Mtg. Con.	NET Per C
880	Eyelet only	7/8"	\$7.00
881	Eyelet and Shield	7/8"	6.90
882	Grd Strap and Shield	7/8"	7.50
887	Eyelet only	1"	7.00
888	Eyelet and Shield	1"	6.90
889	Grd Strap and Shield	1"	8.00

### MOLDED

### MINIATURE SOCKETS

Saddle Type

Molded from either high dielectric black general purpose bakelite or low loss mica-filled bakelite. Both types supplied with center pin. .098 dia. mtg. holes. Std. Pkg. 50

No.	Type	Pin	Mtg. Ctrs.	Mtg. Hole	NET Per C
895	Bottom Mount	7	7/8"	5/8"	\$9.00
896	Top Mount	7	7/8"	5/8"	9.00
897	Bottom Mount	9	1 1/8"	3/4"	10.80
898	Top Mount	9	1 1/8"	3/4"	10.80

**LOW LOSS MICA-FILLED BAKELITE**  
883 Bottom Mount 7 7/8" 7/8" 11.40  
884 Top Mount 7 7/8" 7/8" 11.40  
885 Bottom Mount 9 1 1/8" 3/4" 13.20  
886 Top Mount 9 1 1/8" 3/4" 13.20

**CRYSTAL SOCKET**  
Suitable for Citizen's Band  
Glazed ceramic base. Phosphor bronze silver plated contacts spaced .486". Pin diameter .051. mtg. hole .125. Std. Pkg. 25 NET Per C No. 1945 \$15.00

**COOLING FAN**  
An exceptionally efficient fan for cooling tubes, rectifiers, etc. for industrial equipment, Amateur Transmitters, and other devices requiring assisted convection flow of air. Permits more efficient BF shielding of equipment without depending on convection cooling. Shaded pole induction motor with Nylon Fan Blade runs 3000 RPM on 105-125 Volts, 60 cycle AC. Blade diameter 2 1/2", over-all size 3 1/2" x 2 1/2" x 3". Mounts either horizontally or vertically. Supplied complete with two 6-32 x 1 1/2" screws and nuts, and two 1" fibre standoffs. No. 2427 NET Each \$6.00

**SNAP-IN BULB CONNECTOR**  
Designed for use with the new Twin Pin Baseless Miniature Lamps (G.E. #10-25 volts, #12-6.3 volts, or #15-7.0 volts). Easily assembled to any unit for indicating purposes. Withstands excessive temperatures. Snaps into a .500x.296 rectangular hole in panels .032 to .062 thick. Bezel — brass, cad. plated; contacts — brass, silver plated. Std. Pkg. 25 No. 1504 NET Per C \$17.00

**PILOT LIGHT SHIELD**  
DESCR.: Prevents glare when used in radio receiver meters, etc. Ribbed bottom holds shield securely in place on bulb. Std. Pkg. 100 NET Per C \$3.60  
No. 1963 Brass Cad. Plate \$3.60  
1968 Plain Brass 3.30  
1969 Flared Brass Cad. Plate 4.20

**GRID CAPS**  
Std. Pkg. 100 Tube Type NET Per C \$1.20  
No. 1454 1/4" Mini Tubes \$1.20

specify **SMITH**

HERMAN H. SMITH, INC.



ELECTRONIC COMPONENTS

# SWAGE TURRET TERMINALS

Terminals shown below are "stock" items, available for speedy delivery. All brass, silver-plated, precision made. See next page for Suggested Resale Prices. For quantities over 15,000 request special prices. Inquiries are invited, for special types and sizes to particular requirements.

L indicates Shank Length of Lug.

T indicates thickness of mounting boards.

Minimum Package 100

<p><b>2000</b></p> <p><b>HOLLOW LUG</b></p> <table border="1"> <thead> <tr> <th>No.</th> <th>L</th> <th>T</th> </tr> </thead> <tbody> <tr> <td>2000A</td> <td>.075</td> <td>1/32</td> </tr> <tr> <td>2000B</td> <td>.105</td> <td>1/16</td> </tr> <tr> <td>2000C</td> <td>.135</td> <td>3/32</td> </tr> <tr> <td>2000D</td> <td>.165</td> <td>1/8</td> </tr> <tr> <td>2000E</td> <td>.195</td> <td>3/16</td> </tr> <tr> <td>2000F</td> <td>.230</td> <td>1/4</td> </tr> </tbody> </table> <p>Staking Tool Kit No. 3860</p>	No.	L	T	2000A	.075	1/32	2000B	.105	1/16	2000C	.135	3/32	2000D	.165	1/8	2000E	.195	3/16	2000F	.230	1/4	<p><b>2001</b></p> <p><b>SHORT TERMINAL LUG</b></p> <table border="1"> <thead> <tr> <th>No.</th> <th>L</th> <th>T</th> </tr> </thead> <tbody> <tr> <td>2001A</td> <td>.075</td> <td>1/32</td> </tr> <tr> <td>2001B</td> <td>.105</td> <td>1/16</td> </tr> <tr> <td>2001C</td> <td>.135</td> <td>3/32</td> </tr> <tr> <td>2001D</td> <td>.165</td> <td>1/8</td> </tr> </tbody> </table> <p>Staking Tool Kit No. 3860</p>	No.	L	T	2001A	.075	1/32	2001B	.105	1/16	2001C	.135	3/32	2001D	.165	1/8	<p><b>2002</b></p> <p><b>DOUBLE END TERMINAL LUG</b></p> <table border="1"> <thead> <tr> <th>No.</th> <th>L</th> <th>T</th> </tr> </thead> <tbody> <tr> <td>2002A</td> <td>.105</td> <td>1/16</td> </tr> <tr> <td>2002B</td> <td>.135</td> <td>3/32</td> </tr> <tr> <td>2002C</td> <td>.165</td> <td>1/8</td> </tr> <tr> <td>2002D</td> <td>.195</td> <td>3/16</td> </tr> <tr> <td>2002E</td> <td>.230</td> <td>1/4</td> </tr> </tbody> </table> <p>Staking Tool Kit No. 3861</p>	No.	L	T	2002A	.105	1/16	2002B	.135	3/32	2002C	.165	1/8	2002D	.195	3/16	2002E	.230	1/4	<p><b>2003</b></p> <p><b>DOUBLE END LUG, LONG</b></p> <table border="1"> <thead> <tr> <th>No.</th> <th>L</th> <th>T</th> </tr> </thead> <tbody> <tr> <td>2003A</td> <td>.105</td> <td>1/16</td> </tr> <tr> <td>2003B</td> <td>.135</td> <td>3/32</td> </tr> <tr> <td>2003C</td> <td>.165</td> <td>1/8</td> </tr> <tr> <td>2003D</td> <td>.195</td> <td>3/16</td> </tr> <tr> <td>2003E</td> <td>.230</td> <td>1/4</td> </tr> </tbody> </table> <p>Staking Tool Kit No. 3862</p>	No.	L	T	2003A	.105	1/16	2003B	.135	3/32	2003C	.165	1/8	2003D	.195	3/16	2003E	.230	1/4	<p><b>2004</b></p> <p><b>SLOTTED TERMINAL LUG SHORT</b></p> <table border="1"> <thead> <tr> <th>No.</th> <th>L</th> <th>T</th> </tr> </thead> <tbody> <tr> <td>2004A</td> <td>.075</td> <td>1/32</td> </tr> <tr> <td>2004B</td> <td>.105</td> <td>1/16</td> </tr> <tr> <td>2004C</td> <td>.135</td> <td>3/32</td> </tr> <tr> <td>2004D</td> <td>.165</td> <td>1/8</td> </tr> </tbody> </table> <p>Staking Tool Kit No. 3863</p>	No.	L	T	2004A	.075	1/32	2004B	.105	1/16	2004C	.135	3/32	2004D	.165	1/8	<p><b>2005</b></p> <p><b>HOLLOW KNURLED LUG</b></p> <table border="1"> <thead> <tr> <th>No.</th> <th>L</th> <th>T</th> </tr> </thead> <tbody> <tr> <td>2005A</td> <td>.105</td> <td>1/16</td> </tr> <tr> <td>2005B</td> <td>.135</td> <td>3/32</td> </tr> <tr> <td>2005C</td> <td>.165</td> <td>1/8</td> </tr> </tbody> </table> <p>Staking Tool Kit No. 3860</p>	No.	L	T	2005A	.105	1/16	2005B	.135	3/32	2005C	.165	1/8	<p><b>2006</b></p> <p><b>SHORT TERMINAL LUG</b></p> <table border="1"> <thead> <tr> <th>No.</th> <th>L</th> <th>T</th> </tr> </thead> <tbody> <tr> <td>2006A</td> <td>.075</td> <td>1/32</td> </tr> <tr> <td>2006B</td> <td>.105</td> <td>1/16</td> </tr> <tr> <td>2006C</td> <td>.135</td> <td>3/32</td> </tr> <tr> <td>2006D</td> <td>.165</td> <td>1/8</td> </tr> </tbody> </table> <p>Staking Tool Kit No. 3864</p>	No.	L	T	2006A	.075	1/32	2006B	.105	1/16	2006C	.135	3/32	2006D	.165	1/8
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# SWAGE TURRET TERMINALS

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**ALL STAKING TOOL KITS**  
Each.....\$3.00

**ACCESSORY TOOL HOLDERS**

Anvil Bench Tool Holder, 1/4" anvils. Malleable iron base with bottom felt pad for bench use.  
No. 3877 Net Ea. \$4.20

Anvil tool holder for use with drill press, arbor, kick press, punch press or vise.  
No. 3878 Net Ea. \$1.50

We invite your inquiries on other types of turret terminals not shown here.

# specify SMITH

HERMAN H. SMITH, INC.



ELECTRONIC COMPONENTS

**BDDY:** Pure virgin Teflon, meeting all requirements of MIL-P-19468 and AMS Specification 3651B.

**TERMINALS:** Precision machined of brass, meeting specification QQ-B-626, Composition 22, and gold-plated for maximum solderability and resistance to corrosion and tarnish.

**DESCRIPTION:** Terminals are easily inserted into punched or drilled holes, and are self-locking.

— Miniature and sub-miniature sizes allow for maximum space utilization.

— Excellent resistance to thermal and mechanical shock, vibration, corrosive atmospheres, moisture absorption.

— Exceptionally high dielectric strength for use well up into Kilovolt region, depending on size and design.

**COLOR CODE SUFFIX** (add to catalog number as required).

- 101 WHITE\*
- 102 RED
- 103 BLACK
- 104 GREEN
- 105 BLUE
- 106 ORANGE
- 107 YELLOW
- 108 BROWN
- 109 PURPLE
- 110 GREY

\*White is natural Teflon, and will be supplied if no color is specified. Coloring does not affect electrical, mechanical, thermal or physical characteristics of Teflon.

**REVERSED STYLES:** Most popular types are listed below. We can supply most standard types REVERSED on request. Send us your requirements for ANY style not shown and we will advise at once on availability.

**PLATING FINISHES:** See Smith Page 33, this directory.

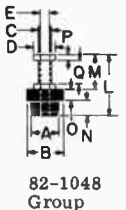
**NOTE:** While this listing contains latest specifications on our Teflon Terminals, industry demands may create changes and revisions. We urge that you contact our Engineering Department before proceeding with prototype design or production.

## FEED THRU, SUBMINIATURE

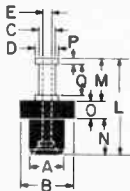
Cat. No.	DIMENSIONS											RESALE PER THOUSAND IN LOTS OF			
	A	B	C	D	E	L	M	N	O	P	Q	R	1-99	100-499	500-999

### FEED THRU, SUBMINIATURE, TUBULAR

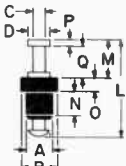
82-1048	.263	.297	.060	.090	.030	.333	.133	.160	.040	.020	.093	—	\$140.00	\$119.00	\$105.00	\$ 93.30
82-1049	.125	.150	.060	.090	.030	.273	.133	.080	.060	.020	—	—	130.00	110.00	97.50	86.60
82-1054	.148	.172	.060	.090	.030	.273	.133	.100	.040	.020	—	—	120.00	102.00	90.00	80.00
82-1092	.148	.172	.060	.090	.030	.303	.133	.130	.040	.020	—	—	120.00	102.00	90.00	80.00
82-1093	.148	.172	.060	.093	.040	.238	.133	.065	.040	.020	.093	—	120.00	102.00	90.00	80.00
82-1096	.148	.172	.060	.093	.030	.293	.133	.110	.050	.020	.093	—	130.00	110.00	97.50	86.60
82-1103	.125	.150	.060	.090	.030	.273	.133	.100	.040	.020	.093	—	130.00	110.00	97.50	86.60
82-1118	.125	.150	.060	.090	.030	.293	.133	.110	.050	.020	—	—	160.00	136.00	120.00	106.60
82-1119	.093	.125	.040	.080	.030	.215	.125	.050	.040	.020	—	—	130.00	110.00	97.50	86.60
82-1120	.125	.150	.060	.090	.030	.293	.133	.060	.040	.020	—	—	120.00	102.00	90.00	80.00
82-1122	.125	.150	.060	.090	.030	.200	.090	.060	.050	.020	.050	—	150.00	112.50	100.00	97.50
82-1150	.218	.250	.060	.090	.030	.273	.133	.075	.065	.020	—	—	130.00	110.00	97.50	86.60



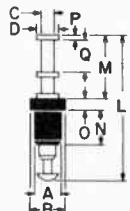
82-1048 Group



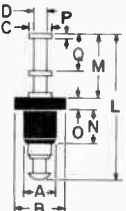
82-1050 Group



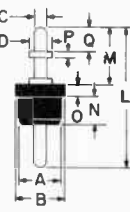
82-1083 Group



82-1500 Group



82-1504 Group



82-1544 Group

### FEED THRU, SUBMINIATURE, TUBULAR

82-1050	.148	.172	.060	.090	.030	.303	.133	.100	.040	.020	.093	—	\$120.00	\$102.00	\$ 90.00	\$ 80.00
82-1051	.148	.172	.060	.090	.030	.333	.133	.110	.050	.020	.093	—	130.00	110.00	97.50	86.60
82-1055	.148	.172	.082	.125	.062	.411	.133	.125	.093	.020	—	—	130.00	110.00	97.50	86.60
82-1104	.125	.150	.060	.090	.030	.303	.133	.080	.060	.020	—	—	130.00	110.00	97.50	86.60

### FEED THRU, SUBMINIATURE, SINGLE TURRET

82-1083	.148	.172	.040	.093	—	.385	.160	.100	.040	.020	.130	—	\$130.00	\$110.00	\$ 97.50	\$ 86.60
82-1513	.148	.172	.040	.080	—	.350	.125	.100	.040	.020	.095	—	80.00	68.00	60.00	53.30
82-1540	.093	.125	.040	.080	—	.350	.125	.100	.040	.020	.085	—	110.00	93.50	82.50	73.30
82-1558	.148	.172	.040	.080	—	.380	.090	.100	.040	.020	.060	—	110.00	93.50	82.50	73.30

### FEED THRU, SUBMINIATURE, TURRET

82-1500	.148	.172	.040	.080	—	.500	.210	.100	.040	.020	.100	—	\$ 75.00	\$ 63.70	\$ 56.20	\$ 50.00
82-1501	.148	.172	.040	.080	—	.500	.210	.165	.040	.020	.100	—	80.00	68.00	60.00	53.30
82-1502	.179	.200	.040	.080	—	.500	.210	.100	.040	.020	.100	—	130.00	110.00	97.50	86.60
82-1509	.148	.172	.040	.080	—	.438	.210	.100	.040	.020	.100	—	100.00	85.00	75.00	66.60
82-1515	.185	.218	.040	.080	—	.438	.210	.100	.040	.020	.100	—	130.00	110.00	97.50	86.60
82-1516	.093	.125	.040	.080	—	.500	.210	.100	.040	.020	.100	—	100.00	85.00	75.00	66.60
82-1527	.148	.172	.040	.080	—	.609	.210	.158	.093	.020	.100	—	130.00	110.00	97.50	86.60
82-1533	.148	.172	.040	.080	—	.609	.210	.165	.040	.020	.100	—	130.00	110.00	97.50	86.60
82-1537	.148	.172	.040	.080	—	.550	.245	.125	.040	.020	.070	—	120.00	102.00	90.00	80.00
82-1538	.148	.172	.040	.080	—	.812	.210	.165	.040	.020	.100	—	130.00	110.00	97.50	86.60
82-1539	.148	.172	.040	.080	—	.438	.210	.083	.040	.020	.100	—	100.00	85.00	75.00	66.60
82-1551	.116	.172	.040	.080	—	.500	.210	.100	.040	.020	.100	—	110.00	93.50	82.50	73.30
83-1501	.234	.250	.040	.080	—	.500	.210	.100	.040	.020	.100	—	120.00	102.00	90.00	80.00

### FEED THRU, SUBMINIATURE, TURRET

82-1504	.148	.172	.040	.080	—	.531	.210	.100	.040	.020	.100	—	\$110.00	\$ 93.50	\$ 82.50	\$ 73.30
82-1505	.148	.172	.040	.080	—	.531	.210	.125	.040	.020	.100	—	110.00	93.50	82.50	73.30
82-1506	.185	.218	.040	.080	—	.531	.210	.100	.040	.020	.100	—	110.00	93.50	82.50	73.30
82-1507	.185	.218	.040	.080	—	.531	.210	.125	.040	.020	.100	—	110.00	93.50	82.50	73.30
82-1512	.148	.172	.040	.080	—	.609	.210	.125	.093	.020	.100	—	110.00	93.50	82.50	73.30
82-1514	.152	.172	.047	.093	—	.500	.156	.150	.040	.020	.047	—	120.00	102.00	90.00	80.00
82-1518	.148	.172	.040	.080	—	.500	.210	.060	.040	.020	.100	—	110.00	93.50	82.50	73.30
82-1519	.112	.172	.040	.080	—	.531	.210	.100	.040	.020	.100	—	110.00	93.50	82.50	73.30
82-1520	.175	.218	.040	.080	—	.531	.210	.100	.040	.020	.100	—	120.00	102.00	90.00	80.00
82-1521	.125	.150	.040	.080	—	.500	.210	.060	.040	.020	.100	—	120.00	102.00	90.00	80.00
82-1523*	.148	.172	.040	.080	—	.531	.210	.100	.040	.020	.100	—	110.00	93.50	82.50	73.30
82-1532	.148	.172	.040	.080	—	.609	.210	.165	.040	.020	.100	—	100.00	85.00	75.00	66.60
82-1534	.185	.218	.040	.080	—	.609	.210	.125	.093	.020	.100	—	140.00	119.00	105.00	93.30
82-1536	.148	.172	.040	.080	—	.685	.395	.065	.040	.020	.070	—	120.00	102.00	90.00	80.00
82-1546	.152	.172	.047	.093	—	.437	.156	.088	.040	.020	.047	—	120.00	102.00	90.00	80.00
82-1547	.152	.172	.047	.093	—	.437	.156	.100	.040	.020	.047	—	120.00	102.00	90.00	80.00
83-1500	.264	.312	.040	.080	—	.531	.210	.100	.040	.020	.100	—	140.00	119.00	105.00	93.30

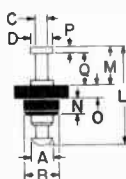
\* No ball on end

### FEED THRU, SUBMINIATURE

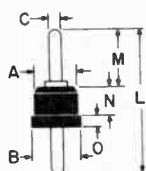
82-1544	.148	.172	.040	.080	—	.500	.210	.100	.040	.020	.120	—	\$110.00	\$ 93.50	\$ 82.50	\$ 73.30
82-1545	.148	.172	.040	.080	—	.500	.210	.100	.040	.020	.120	—	110.00	93.50	82.50	73.30



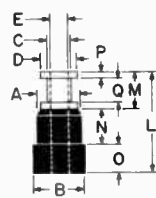
**FEED THRU, SUBMINIATURE**



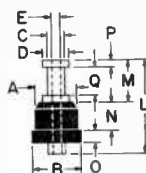
82-1510 Group



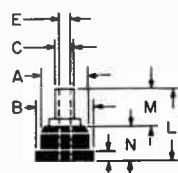
28-1002 Group



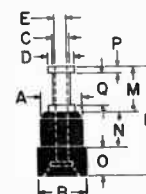
28-1016



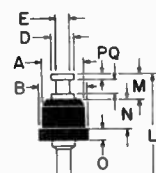
28-1050 Group



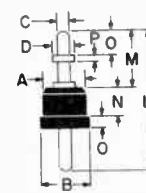
28-1017 Group



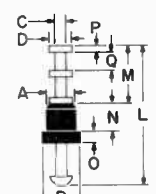
28-1052 Group



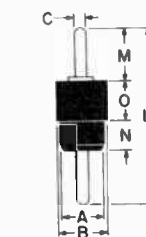
28-1017 Group



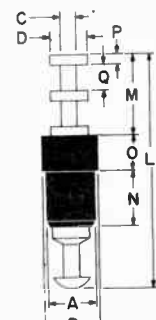
28-1545



28-1085 Group



83-1000 Group



83-1515 Group

Cat. No.

D I M E N S I O N S

RESALE PER THOUSAND IN LOTS OF  
1-99 100-499 500-999 1000-UP

**FEED THRU, SUBMINIATURE**

Cat. No.	A	B	C	D	E	L	M	N	O	P	Q	R	1-99	100-499	500-999	1000-UP
82-1510	.148	.172	.040	.080	—	.443	.093	.100	.040	.020	.062	—	\$120.00	\$102.00	\$ 90.00	\$ 80.00
82-1524	.125	.150	.040	.080	—	.350	.125	.060	.040	.020	.095	—	120.00	102.00	90.00	80.00
82-1525	.172	.200	.048	.090	—	.500	.120	.125	.075	.020	.080	—	140.00	119.00	105.00	93.30
82-1541	.172	.200	.080	.125	—	.500	.120	.125	.075	.020	.080	—	140.00	119.00	105.00	93.30
82-1542	.148	.172	.040	.080	—	.493	.093	.170	.020	.020	.063	—	110.00	93.50	82.50	73.30
82-1557	.148	.172	.040	.080	—	.640	.250	.125	.040	.020	.210	—	110.00	93.50	82.50	73.30

**FEED THRU, SUBMINIATURE, REVERSED**

28-1002	.148	.172	.040	—	—	.515	.210	.050	.050	—	—	—	\$120.00	\$102.00	\$ 90.00	\$ 80.00
28-1003	.148	.172	.040	—	—	.515	.210	.100	.040	—	—	—	80.00	68.00	60.00	53.30
28-1006	.148	.172	.040	—	—	2.500	1.750	.132	.040	—	—	—	150.00	127.50	112.50	100.00

**FEED THRU, SUBMINIATURE, REVERSED TUBULAR**

28-1016	.148	.172	.082	.125	.062	.351	.133	.125	.093	.020	.093	—	\$120.00	\$102.00	\$ 90.00	\$ 80.00
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**FEED THRU, SUBMINIATURE, REVERSED TUBULAR**

28-1050	.148	.172	.060	.093	.030	.333	.133	.100	.040	.020	.093	—	\$130.00	\$110.00	\$ 97.50	\$ 86.60
28-1128	.148	.172	.060	.093	.030	.273	.133	.100	.040	.020	.093	—	130.00	110.00	97.50	86.60
28-1130	.148	.172	.060	.093	.030	.333	.133	.130	.040	.020	—	—	160.00	136.00	120.00	106.60

**FEED THRU, MINIATURE, TUBULAR, REVERSED**

28-1017	.148	.172	.085	—	.063	.367	.207	.110	.050	—	—	—	\$120.00	\$102.00	\$ 90.00	\$ 80.00
28-1034	.148	.172	.040	—	.030	.310	.207	.053	.050	—	—	—	120.00	102.00	90.00	80.00
28-1035	.148	.172	.040	—	.030	.250	.147	.053	.050	—	—	—	130.00	110.00	97.50	86.60
28-1038	.148	.172	.040	—	.030	.296	.136	.100	.060	—	—	—	120.00	102.00	90.00	80.00
28-1041	.171	.218	.085	—	.063	.367	.207	.110	.050	—	—	—	120.00	102.00	90.00	80.00
28-1088	.125	.150	.050	—	.030	.193	.105	.063	.025	—	—	—	140.00	119.00	105.00	93.30
28-1123	.148	.172	.040	—	.030	.245	.147	.053	.045	—	—	—	130.00	110.00	97.50	86.60
28-1124	.125	.150	.040	—	.030	.225	.125	.075	.025	—	—	—	110.00	93.50	82.50	73.30
28-1126	.125	.150	.040	—	.030	.247	.147	.075	.025	—	—	—	130.00	110.00	97.50	86.60
28-1127	.148	.172	.080	—	.052	.193	.105	.063	.025	—	—	—	120.00	102.00	90.00	80.00

**FEED THRU, SUBMINIATURE, REVERSED TUBULAR**

28-1052	.177	.188	.090	.125	.062	.381	.133	.155	.093	.320	.093	—	\$130.00	\$110.00	\$ 97.50	\$ 86.60
28-1060	.148	.172	.060	.093	.042	.392	.162	.130	.100	.820	.130	—	160.00	136.00	120.00	106.60

**FEED THRU, SUBMINIATURE, REVERSED**

28-1510	.148	.172	.040	.080	—	.443	.093	.100	.040	.020	.062	—	\$110.00	\$ 93.50	\$ 82.50	\$ 73.30
28-1511	.148	.172	.040	.080	—	.493	.093	.180	.040	.020	.062	—	130.00	110.00	97.50	86.60
28-1513	.148	.172	.040	.080	—	.350	.125	.100	.040	.020	.094	—	110.00	93.50	82.50	73.30
28-1549	.148	.172	.040	.080	—	.500	.120	.130	.040	.020	.080	—	110.00	93.50	82.50	73.30

**FEED THRU, SUBMINIATURE, REVERSED**

28-1545	.148	.172	.040	.080	—	.500	.210	.100	.040	D20	.120	—	\$120.00	\$102.00	\$ 90.00	\$ 80.00
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**FEED THRU, SUBMINIATURE, REVERSED TURRET**

28-1085	.148	.172	.040	.080	—	.531	.210	.125	.040	.020	.100	—	\$130.00	\$110.00	\$ 97.50	\$ 86.60
28-1500	.148	.172	.040	.080	—	.500	.210	.100	.040	.020	.100	—	110.00	93.50	82.50	73.30
28-1504	.148	.172	.040	.080	—	.531	.210	.100	.040	.020	.100	—	120.00	102.00	90.00	80.00
28-1507	.185	.218	.040	.080	—	.531	.210	.125	.040	.020	.100	—	120.00	102.00	90.00	80.00
28-1512	.148	.172	.040	.080	—	.609	.210	.125	.093	.020	.100	—	120.00	102.00	90.00	80.00
28-1516	.093	.125	.040	.080	—	.500	.210	.100	.040	.020	.100	—	140.00	119.00	105.00	93.30
28-1521	.125	.150	.040	.080	—	.500	.210	.060	.040	.020	.100	—	140.00	119.00	105.00	93.30
28-1533	.148	.172	.040	.080	—	.609	.210	.165	.040	.020	.100	—	140.00	119.00	105.00	93.30
28-1550	.148	.172	.040	.080	—	.531	.210	.165	.040	.020	.100	—	130.00	110.00	97.50	86.60

**FEED THRU, MINIATURE**

Cat. No.

D I M E N S I O N S

RESALE PER THOUSAND IN LOTS OF  
1-99 100-499 500-999 1000-UP

**FEED THRU, MINIATURE**

83-1000	.165	.187	.040	—	—	.675	.200	.150	.125	—	—	—	\$160.00	\$136.00	\$120.00	\$106.60
83-1537	.148	.172	.040	—	—	.619	.187	.105	.140	—	—	—	150.00	127.50	112.50	100.00
83-1538	.171	.187	.046	—	—	.540	.133	.171	.063	—	—	—	140.00	119.00	105.00	93.30
83-1543	.171	.187	.063	—	—	.740	.125	.212	.187	—	—	—	170.00	144.50	127.50	113.30
83-1549	.171	.187	.050	—	—	.865	.125	.275	.250	—	—	—	200.00	170.00	150.00	133.30

**FEED THRU, MINIATURE, TURRET**

83-1515	.185	.218	.062	.125	—	.828	.281	.210	.094	.031	.094	—	\$150.00	\$127.50	\$112.50	\$100.00
83-1516	.171	.187	.062	.125	—	.828	.281	.200	.125	.031	.093	—	140.00	119.00	105.00	93.30
83-1542	.185	.218	.062	.125	—	.828	.281	.212	.187	.031	.093	—	200.00	170.00	150.00	133.30



**FEED THRU, MINIATURE**

Cat. No.	DIMENSIONS											RESALE PER THOUSAND IN LOTS OF			
	A	B	C	D	E	L	M	N	O	P	Q	R	1-99	100-499	500-999

**FEED THRU, MINIATURE, TURRET**

83-1500	.264	.312	.040	.080	—	.531	.210	.100	.040	.020	.100	—	\$140.00	\$119.00	\$105.00	\$ 93.30
83-1501	.234	.250	.040	.080	—	.500	.210	.100	.040	.020	.100	—	120.00	102.00	90.00	80.00
83-1509	.148	.172	.040	.093	—	.836	.250	.165	.187	.020	.095	—	140.00	119.00	105.00	93.30
83-1510	.148	.172	.040	.093	—	.836	.250	.230	.125	.020	.095	—	150.00	127.50	112.50	100.00
83-1511	.171	.187	.040	.093	—	.836	.250	.212	.187	.020	.095	—	150.00	127.50	112.50	100.00
83-1512	.204	.250	.040	.093	—	.836	.250	.212	.187	.020	.095	—	180.00	153.00	135.00	120.00
83-1513	.230	.250	.040	.093	—	.836	.250	.212	.187	.020	.095	—	250.00	212.50	187.50	166.60
83-1524	.171	.187	.050	.093	—	.836	.250	.150	.250	.020	.093	—	180.00	153.00	135.00	120.00
83-1544	.165	.187	.050	.093	—	.836	.250	.212	.187	.020	.093	—	180.00	153.00	135.00	120.00
83-1553	.171	.187	.050	.093	—	1.337	.281	.400	.375	.031	.093	—	250.00	212.50	187.50	166.60

**FEED THRU, MINIATURE, TURRET**

83-1502	.171	.187	.046	.093	—	.540	.133	.171	.063	.020	.093	—	\$110.00	\$ 93.50	\$ 82.50	\$ 73.30
83-1503	.185	.215	.046	.093	—	.640	.133	.210	.093	.020	.093	—	180.00	153.00	135.00	120.00
83-1504	.171	.187	.050	.093	—	.740	.125	.212	.187	.031	.062	—	140.00	119.00	105.00	93.30
83-1505	.171	.187	.050	.093	—	.740	.125	.150	.250	.031	.062	—	160.00	136.00	120.00	106.60
83-1506	.171	.187	.050	.093	—	.865	.125	.275	.250	.031	.062	—	150.00	127.50	112.50	100.00
83-1507	.171	.187	.050	.125	—	1.115	.125	.400	.375	.031	.062	—	240.00	204.00	180.00	160.00
83-1508	.217	.250	.050	.125	—	1.365	.125	.525	.500	.031	.062	—	310.00	263.50	232.50	206.60
83-1514	.217	.250	.050	.125	—	1.965	.125	.825	.800	.031	.062	—	440.00	374.00	330.00	293.30
83-1519	.185	.215	.046	.093	—	.718	.133	.288	.093	.020	.093	—	170.00	144.50	127.50	113.30
83-1520	.171	.250	.050	.093	—	.740	.125	.212	.187	.031	.062	—	180.00	153.00	135.00	120.00
83-1521	.171	.187	.050	.125	—	1.115	.125	.212	.562	.031	.062	—	240.00	204.00	180.00	160.00
83-1522	.171	.250	.050	.125	—	1.365	.125	.525	.500	.031	.062	—	300.00	255.00	225.00	200.00
83-1523	.171	.250	.050	.125	—	1.965	.125	.825	.800	.031	.062	—	440.00	374.00	330.00	293.30
83-1540	.171	.187	.050	.093	—	.740	.125	.125	.187	.031	.062	—	180.00	153.00	135.00	120.00
83-1551	.171	.187	.050	.125	—	1.115	.125	.318	.365	.031	.062	—	200.00	170.00	150.00	133.30
83-1552	.171	.187	.050	.125	—	1.115	.125	.340	.375	.031	.062	—	200.00	170.00	150.00	133.30

**FEED THRU, MINIATURE, DOUBLE TURRET**

83-1525	.218	.250	.062	.125	—	1.187	.281	.375	.250	.031	.093	—	\$200.00	\$170.00	\$150.00	\$133.30
83-1526	.218	.250	.062	.125	—	1.687	.281	.625	.500	.031	.093	—	350.00	297.50	262.50	233.30
83-1527	.218	.250	.062	.125	—	2.287	.281	.925	.800	.031	.093	—	470.00	399.50	352.50	313.30

**FEED THRU, MINIATURE**

83-1531	.171	.312	.125	.188	—	.506	.099	.171	.063	.020	.048	—	\$140.00	\$119.00	\$105.00	\$ 93.30
83-1532	.171	.312	.046	.093	—	.540	.133	.171	.063	.020	.093	—	150.00	127.50	112.50	100.00

**FEED THRU, MINIATURE, SLOTTED LUG**

83-2000	.171	.187	.078	.148	—	.821	.203	.212	.187	.156	.046	—	\$160.00	\$136.00	\$120.00	\$106.60
83-2001	.171	.187	.046	.148	—	.821	.203	.212	.187	.156	.030	—	200.00	170.00	150.00	133.30
83-2002	.171	.187	.078	.148	—	.947	.203	.275	.250	.156	.046	—	190.00	161.50	142.50	126.60
83-2003	.171	.187	.046	.148	—	.947	.203	.275	.250	.156	.030	—	210.00	178.50	157.50	140.00
83-2004	.171	.187	.078	.148	—	1.197	.203	.400	.375	.156	.046	—	260.00	221.00	195.00	173.20
83-2005	.171	.187	.046	.148	—	1.197	.203	.400	.375	.156	.030	—	270.00	229.50	202.50	180.00
83-2006	.171	.187	.078	.148	—	1.197	.203	.550	.225	.150	.046	—	260.00	221.00	195.00	173.20
83-2007	.171	.187	.078	.148	—	1.197	.203	.525	.250	.156	.046	—	260.00	221.00	195.00	173.20

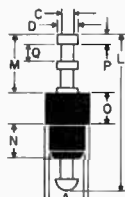
**FEED THRU, MINIATURE, THREADED LUG**

83-2500	.171	.187	.050	4-36 *	—	.899	.281	.212	.187	—	—	—	\$200.00	\$170.00	\$150.00	\$133.30
83-2501	.171	.187	.050	4-40 *	—	.899	.281	.212	.187	—	—	—	210.00	178.50	157.50	140.00
83-2502	.171	.187	.050	4-36 *	—	1.024	.281	.212	.250	—	—	—	240.00	204.00	180.00	160.00
83-2503	.171	.187	.050	4-40 *	—	1.024	.281	.212	.250	—	—	—	240.00	204.00	180.00	160.00
83-2504	.171	.187	.050	4-36 *	—	1.274	.281	.212	.375	—	—	—	300.00	255.00	225.00	200.00
83-2505	.171	.187	.050	4-40 *	—	1.274	.281	.212	.375	—	—	—	300.00	255.00	225.00	200.00

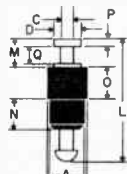
\* Thread Size

**FEED THRU, MINIATURE, REVERSED, SLOTTED LUG**

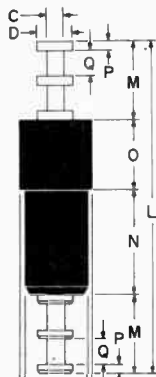
38-2000	.171	.187	.078	.148	—	.821	.203	.212	.187	.156	.046	—	\$220.00	\$187.00	\$165.00	\$146.60
38-2001	.171	.187	.046	.148	—	.821	.203	.212	.187	.156	.030	—	140.00	119.00	105.00	93.30
38-2002	.171	.187	.078	.148	—	.947	.203	.275	.250	.156	.046	—	240.00	204.00	180.00	160.00
38-2003	.171	.187	.046	.148	—	.947	.203	.275	.250	.156	.030	—	150.00	127.50	112.50	100.00
38-2004	.171	.187	.078	.148	—	1.197	.203	.400	.375	.156	.046	—	300.00	255.00	225.00	200.00
38-2005	.171	.187	.046	.148	—	1.197	.203	.400	.375	.156	.030	—	300.00	255.00	225.00	200.00
38-2006	.171	.187	.078	.148	—	1.197	.203	.550	.225	.156	.046	—	270.00	229.50	202.50	180.00
38-2007	.171	.187	.078	.148	—	1.197	.203	.525	.250	.156	.046	—	270.00	229.50	202.50	180.00



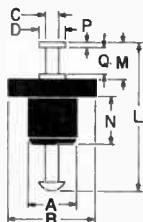
83-1500 Group



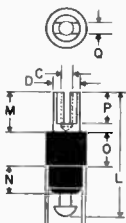
83-1502 Group



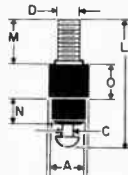
83-1525 Group



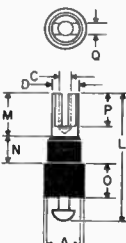
83-1531 Group



83-2000 Group



83-2500 Group

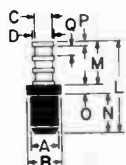


38-2000 Group

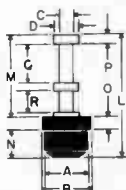




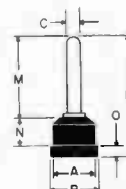
**STANDOFF, MICROMINIATURE**



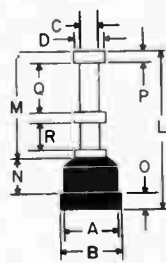
92-1515 Group



91-1500 Group



19-1003 Group



19-1500 Group

Cat. No.	DIMENSIONS												RESALE PER THOUSAND IN LOTS OF			
	A	B	C	D	E	L	M	N	O	P	Q	R	1-99	100-499	500-999	1000-UP

**STANDOFF, MICROMINIATURE, TURRET**

92-1515	.093	.125	.068	.078	-	.344	153	140	.040	.015	.031	-	\$100.00	\$ 85.00	\$ 75.00	\$ 66.60
92-1516	.093	.125	.068	.078	-	.255	150	075	.030	.015	.031	-	110.00	93.50	82.50	73.30

**STANDOFF, MICROMINIATURE, TURRET**

91-1500	.093	.125	.030	.060	-	.310	170	100	.040	.020	.060	-	\$110.00	\$ 93.50	\$ 82.50	\$ 73.30
92-1500	.148	.172	.040	.080	-	.350	210	100	.040	.020	.100	-	70.00	59.50	52.50	46.60
92-1501	.148	.172	.040	.080	-	.375	210	125	.040	.020	.100	-	100.00	85.00	75.00	66.60
92-1502	.179	.200	.040	.080	-	.350	210	100	.040	.020	.100	-	120.00	102.00	90.00	80.00
92-1503	.185	.218	.040	.080	-	.375	210	125	.040	.020	.100	-	110.00	93.50	82.50	73.30
92-1504	.148	.172	.046	.093	-	.334	154	140	.040	.020	.046	-	110.00	93.50	82.50	73.30
92-1505	.148	.172	.040	.080	-	.428	210	125	.093	.020	.100	-	110.00	93.50	82.50	73.30
92-1506	.148	.172	.040	.093	-	.455	250	165	.040	.020	.093	-	110.00	93.50	82.50	73.30
92-1507	.148	.172	.040	.080	-	.500	210	250	.040	.020	.100	-	110.00	93.50	82.50	73.30
92-1508	.185	.218	.040	.080	-	.350	210	100	.040	.020	.100	-	110.00	93.50	82.50	73.30
92-1512	.148	.172	.040	.093	-	.540	250	250	.040	.020	.093	-	110.00	93.50	82.50	73.30
92-1519	.148	.172	.040	.093	-	.254	154	060	.040	.020	.046	-	100.00	85.00	75.00	66.60
92-1524	.148	.172	.040	.080	-	.461	210	158	.093	.020	.100	-	120.00	102.00	90.00	80.00
92-1526	.204	.250	.040	.080	-	.350	210	100	.040	.020	.100	-	120.00	102.00	90.00	80.00
92-1528	.093	.125	.040	.080	-	.350	210	100	.040	.020	.100	-	110.00	93.50	82.50	73.30
92-1531	.152	.172	.047	.093	-	.346	156	150	.040	.020	.047	-	120.00	102.00	90.00	80.00
92-1532	.152	.172	.047	.093	-	.296	156	100	.040	.020	.047	-	100.00	85.00	75.00	66.60
92-1533	.152	.172	.047	.093	-	.361	156	165	.040	.020	.047	-	120.00	102.00	90.00	80.00
92-1534	.152	.172	.047	.093	-	.335	207	088	.040	.020	.100	-	100.00	85.00	75.00	66.60
92-1535	.152	.172	.047	.093	-	.347	207	100	.040	.020	.100	-	100.00	85.00	75.00	66.60
92-1540	.130	.172	.040	.093	-	.480	250	190	.040	.020	.093	-	130.00	110.00	97.50	86.60

**STANDOFF, MICROMINIATURE, REVERSED**

19-1003	.104	.125	.040	-	-	.250	130	.089	.031	-	-	-	\$110.00	\$ 93.50	\$ 82.50	\$ 73.30
29-1000	.148	.172	.040	-	-	.350	210	.100	.040	-	-	-	80.00	68.00	60.00	53.30
29-1001	.148	.172	.040	-	-	.375	210	.110	.050	-	-	-	85.00	72.20	63.70	56.60
29-1003	.172	.195	.040	-	-	.350	210	.100	.040	-	-	-	110.00	93.50	82.50	73.30
29-1004	.179	.200	.040	-	-	.350	210	.100	.040	-	-	-	110.00	93.50	82.50	73.30
29-1005	.218	.250	.040	-	-	.350	210	.100	.040	-	-	-	130.00	110.00	97.50	86.60
29-1006	.148	.172	.040	-	-	.345	210	.075	.060	-	-	-	100.00	85.00	75.00	66.60
29-1007	.148	.172	.040	-	-	.370	210	.120	.040	-	-	-	90.00	76.50	67.50	60.00
29-1008	.148	.172	.040	-	-	.350	210	.062	.078	-	-	-	110.00	93.50	82.50	73.30
29-1009	.148	.172	.040	-	-	.406	210	.156	.040	-	-	-	85.00	72.20	63.70	56.60
29-1010	.148	.172	.040	-	-	.500	210	.250	.040	-	-	-	130.00	110.00	97.50	86.60
29-1016	.148	.172	.040	-	-	.265	125	100	.040	-	-	-	110.00	93.50	82.50	73.30
29-1019	.148	.172	.040	-	-	.750	610	100	.040	-	-	-	140.00	119.00	105.00	93.30
29-1020	.148	.172	.040	-	-	.310	210	.050	.050	-	-	-	110.00	93.50	82.50	73.30
29-1034	.093	.125	.040	-	-	.350	210	.100	.040	-	-	-	120.00	102.00	90.00	80.00
29-1060	.148	.172	.040	-	-	.350	210	.125	.015	-	-	-	110.00	93.50	82.50	73.30
29-1061	.112	.172	.040	-	-	.350	210	.125	.015	-	-	-	120.00	102.00	90.00	80.00
29-1063	.148	.172	.040	-	-	.330	210	.074	.046	-	-	-	110.00	93.50	82.50	73.30
29-1066	.093	.125	.040	-	-	.250	130	.089	.031	-	-	-	110.00	93.50	82.50	73.30
29-1067	.106	.125	.040	-	-	.250	130	.089	.031	-	-	-	120.00	102.00	90.00	80.00
29-1068	.148	.172	.045	-	-	.382	210	.132	.040	-	-	-	120.00	102.00	90.00	80.00
29-1069	.148	.172	.040	-	-	.350	210	.120	.020	-	-	-	110.00	93.50	82.50	73.30
29-1070	.112	.172	.040	-	-	.350	210	.120	.020	-	-	-	130.00	110.00	97.50	86.60
29-1071	.125	.150	.040	-	-	.310	210	.060	.040	-	-	-	110.00	93.50	82.50	73.30
29-1072	.148	.172	.040	-	-	.390	218	.132	.040	-	-	-	110.00	93.50	82.50	73.30

**STANDOFF, MICROMINIATURE, REVERSED TURRET**

19-1500	.093	.125	.030	.060	-	.310	170	100	.040	.020	.060	-	\$110.00	\$ 93.50	\$ 82.50	\$ 73.30
29-1500	.148	.172	.040	.080	-	.350	210	100	.040	.020	.100	-	80.00	68.00	60.00	53.30
29-1501	.148	.172	.040	.080	-	.375	210	125	.040	.020	.100	-	110.00	93.50	82.50	73.30
29-1502	.179	.200	.040	.080	-	.350	210	100	.040	.020	.100	-	120.00	102.00	90.00	80.00
29-1503	.185	.218	.040	.080	-	.375	210	125	.040	.020	.100	-	110.00	93.50	82.50	73.30
29-1504	.148	.172	.046	.093	-	.334	154	140	.040	.020	.046	-	110.00	93.50	82.50	73.30
29-1505	.148	.172	.040	.080	-	.428	210	125	.093	.020	.100	-	110.00	93.50	82.50	73.30
29-1506	.148	.172	.040	.093	-	.455	250	165	.040	.020	.093	-	110.00	93.50	82.50	73.30
29-1507	.148	.172	.040	.080	-	.500	210	250	.040	.020	.100	-	120.00	102.00	90.00	80.00
29-1508	.185	.218	.040	.080	-	.350	210	100	.040	.020	.100	-	110.00	93.50	82.50	73.30
29-1511	.148	.172	.046	.093	-	.295	156	100	.040	.020	.046	-	90.00	76.50	67.50	60.00
29-1513	.171	.188	.040	.080	-	.405	210	155	.040	.020	.100	-	110.00	93.50	82.50	73.30
29-1526	.204	.250	.040	.080	-	.350	210	100	.040	.020	.100	-	120.00	102.00	90.00	80.00

specify

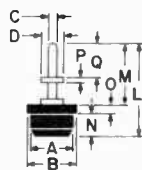
**SMITH**

HERMAN H. SMITH, INC.

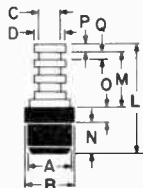


**ELECTRONIC COMPONENTS**

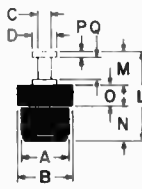
**STANDOFFS, SUBMINIATURE**



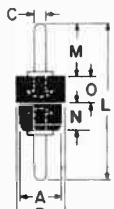
92-1509 Group



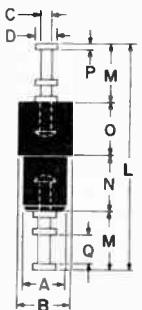
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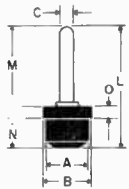
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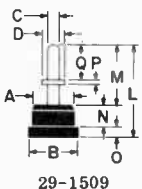
92-3000 Group



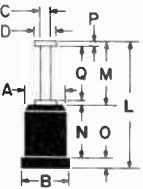
92-3500 Group



92-1000 Group



29-1509 Group



29-1520 Group

Cat. No.	DIMENSIONS											RESALE PER THOUSAND IN LOTS OF			
	A	B	C	D	E	L	M	N	O	P	Q	1-99	100-499	500-999	1000-UP

**STANDOFF, SUBMINIATURE**

92-1509	.148	.172	.040	.080	—	.328	.210	.078	.040	.020	.120	—	\$100.00	\$ 85.00	\$ 75.00	\$ 66.60
92-1545	.148	.172	.040	.080	—	.350	.210	.100	.040	.020	.120	—	100.00	85.00	75.00	66.60
92-1546	.148	.172	.040	.080	—	.415	.210	.165	.040	.020	.120	—	120.00	102.00	90.00	80.00

**STANDOFF, SUBMINIATURE, TURRET**

92-1514	.148	.172	.070	.109	—	.392	.232	.110	.050	.029	.031	—	\$120.00	\$102.00	\$ 90.00	\$ 80.00
92-1517	.148	.172	.070	.109	—	.362	.232	.080	.050	.029	.031	—	120.00	102.00	90.00	80.00

**STANDOFF, SUBMINIATURE**

92-1520	.172	.200	.048	.090	—	.320	.120	.125	.075	.020	.080	—	\$110.00	\$ 93.50	\$ 82.50	\$ 73.30
92-1525	.148	.172	.040	.080	—	.250	.110	.100	.040	.020	.110	—	130.00	110.00	97.50	86.60
92-1527	.148	.172	.040	.080	—	.262	.125	.087	.050	.020	.085	—	100.00	85.00	75.00	66.60

**DOUBLE STANDOFF, SUBMINIATURE**

92-3000	.169	.205	.040	—	—	.640	.210	.050	.170	—	—	—	\$180.00	\$153.00	\$135.00	\$120.00
92-3001	.148	.172	.040	—	—	.560	.180	.040	.160	—	—	—	180.00	153.00	135.00	120.00
92-3002	.148	.172	.040	—	—	.600	.155	.080	.210	—	—	—	160.00	136.00	120.00	106.60
93-3504	.171	.187	.040	—	—	.819	.210	.187	.212	—	—	—	170.00	144.50	127.50	113.30
93-3507	.171	.187	.040	—	—	.572	.110	.140	.212	—	—	—	220.00	187.00	165.00	146.60
93-3508	.171	.187	.040	—	—	.696	.172	.140	.212	—	—	—	220.00	187.00	165.00	146.60
93-3511	.148	.187	.040	—	—	.819	.210	.187	.212	—	—	—	220.00	187.00	165.00	146.60
93-3512	.148	.172	.040	—	—	.819	.210	.187	.212	—	—	—	220.00	187.00	165.00	146.60
93-3513	.171	.187	.040	—	—	.587	.125	.187	.150	—	—	—	220.00	187.00	165.00	146.60

**DOUBLE STANDOFF, SUBMINIATURE**

92-3500	.169	.205	.040	.080	—	.640	.210	.170	.050	.020	.100	—	\$180.00	\$153.00	\$135.00	\$120.00
93-3500	.171	.187	.040	.080	—	.819	.210	.212	.187	.020	.100	—	170.00	144.50	127.50	113.30
93-3501	.218	.250	.046	.125	—	1.187	.281	.375	.250	.031	.093	—	280.00	238.00	210.00	186.60
93-3502	.218	.250	.046	.125	—	1.687	.281	.625	.500	.031	.093	—	350.00	297.50	262.50	233.30
93-3503	.218	.250	.046	.125	—	2.287	.281	.925	.800	.031	.093	—	400.00	340.00	300.00	266.60
93-3505	.187	.218	.040	.080	—	.819	.210	.212	.187	.020	.100	—	190.00	161.50	142.50	126.60
93-3509	.148	.187	.040	.080	—	.819	.210	.212	.187	.020	.100	—	220.00	187.00	165.00	146.60

**STANDOFF, SUBMINIATURE**

92-1000	.148	.172	.040	—	—	.350	.210	.100	.040	—	—	—	\$ 70.00	\$ 59.50	\$ 52.50	\$ 46.60
92-1001	.148	.172	.040	—	—	.370	.210	.110	.050	—	—	—	75.00	63.70	56.20	50.00
92-1003	.172	.195	.040	—	—	.350	.210	.100	.040	—	—	—	110.00	93.50	82.50	73.30
92-1004	.179	.200	.040	—	—	.350	.210	.100	.040	—	—	—	110.00	93.50	82.50	73.30
92-1005	.218	.250	.040	—	—	.350	.210	.100	.040	—	—	—	140.00	119.00	105.00	93.30
92-1006	.148	.172	.040	—	—	.345	.210	.075	.060	—	—	—	90.00	76.50	67.50	60.00
92-1007	.148	.172	.040	—	—	.370	.210	.120	.040	—	—	—	80.00	68.00	60.00	53.30
92-1009	.148	.172	.040	—	—	.406	.210	.156	.040	—	—	—	75.00	63.70	56.20	50.00
92-1010	.148	.172	.040	—	—	.500	.210	.250	.040	—	—	—	120.00	102.00	96.20	80.00
92-1011	.148	.172	.040	—	—	.594	.450	.100	.040	—	—	—	110.00	93.50	90.00	73.30
92-1012	.148	.172	.040	—	—	.335	.210	.075	.050	—	—	—	75.00	63.70	56.20	50.00
92-1015	.148	.172	.040	—	—	.250	.150	.070	.030	—	—	—	120.00	102.00	90.00	80.00
92-1016	.148	.172	.040	—	—	.265	.125	.100	.040	—	—	—	120.00	102.00	90.00	80.00
92-1017	.148	.172	.040	—	—	.250	.110	.100	.040	—	—	—	110.00	93.50	82.50	73.30
92-1018	.148	.172	.040	—	—	.285	.145	.100	.040	—	—	—	100.00	85.00	75.00	66.60
92-1019	.148	.172	.040	—	—	.750	.610	.100	.040	—	—	—	120.00	102.00	90.00	80.00
92-1020	.148	.172	.040	—	—	.310	.210	.050	.050	—	—	—	90.00	76.50	67.50	60.00
92-1021	.148	.172	.040	—	—	.305	.145	.110	.050	—	—	—	90.00	76.50	67.50	60.00
92-1022	.148	.172	.040	—	—	.247	.147	.050	.050	—	—	—	90.00	76.50	67.50	60.00
92-1025	.093	.125	.040	—	—	.262	.147	.075	.040	—	—	—	100.00	85.00	75.00	66.60
92-1034	.093	.125	.040	—	—	.350	.210	.100	.040	—	—	—	100.00	85.00	75.00	66.60
92-1035	.104	.125	.040	—	—	.250	.130	.089	.031	—	—	—	150.00	127.50	112.50	100.00
92-1036	.148	.172	.040	—	—	.365	.193	.132	.040	—	—	—	110.00	93.50	82.50	73.30
92-1037	.148	.172	.040	—	—	.260	.145	.075	.040	—	—	—	110.00	93.50	82.50	73.30
92-1038	.148	.172	.040	—	—	.230	.105	.075	.050	—	—	—	90.00	76.50	67.50	60.00
92-1050	.148	.172	.040	—	—	.460	.320	.100	.040	—	—	—	120.00	102.00	90.00	80.00
92-1051	.148	.172	.040	—	—	.280	.125	.125	.040	—	—	—	120.00	102.00	90.00	80.00
92-1052	.148	.172	.040	—	—	.210	.120	.060	.030	—	—	—	100.00	85.00	75.00	66.60
92-1053	.093	.125	.040	—	—	.213	.093	.089	.031	—	—	—	110.00	93.50	82.50	73.30
92-1054	.148	.172	.040	—	—	.350	.210	.062	.078	—	—	—	110.00	93.50	82.50	73.30
92-1055	.093	.125	.040	—	—	.299	.174	.085	.040	—	—	—	75.00	63.70	56.20	50.00

**STANDOFF, SUBMINIATURE, REVERSED**

29-1509	.148	.172	.040	.080	—	.328	.210	.078	.040	.020	.120	—	\$120.00	\$102.00	\$ 90.00	\$ 80.00
29-1545	.148	.172	.040	.080	—	.350	.210	.100	.040	.020	.120	—	120.00	102.00	90.00	80.00

**STANDOFF, SUBMINIATURE, REVERSED**

29-1520	.172	.200	.048	.090	—	.320	.120	.125	.075	.020	.080	—	\$120.00	\$102.00	\$ 90.00	\$ 80.00
29-1521	.148	.172	.040	.080	—	.455	.227	.187	.040	.020	.187	—	120.00	102.00	90.00	80.00
29-1525	.148	.172	.040	.080	—	.250	.110	.100	.040	.020	.080	—	110.00	93.50	82.50	73.30
29-1562	.148	.172	.040	.080	—	.382	.227	.130	.025	.020	.187	—	120.00	102.00	90.00	80.00
29-1563	.148	.172	.046	.093	—	.296	.156	.100	.040	.020	.116	—	120.00	102.00	90.00	

specify

**SMITH**



HERMAN H. SMITH, INC.

**ELECTRONIC COMPONENTS**

**STANDOFFS, MINIATURE**

D I M E N S I O N S

RESALE PER THOUSAND IN LOTS OF

Cat. No.	A	B	C	D	E	L	M	N	O	P	Q	R	1-99	100-499	500-999	1000-UP	
<b>STANDOFF, SUBMINIATURE,</b>																	
93-1544	.165	.187	.040	-	-	.485	.210	.150	.125	-	-	-	\$120.00	\$102.00	\$ 90.00	\$ 80.00	
93-1545	.165	.187	.040	-	-	.547	.210	.150	.187	-	-	-	130.00	110.00	97.50	86.60	
93-1546	.165	.187	.040	-	-	.718	.312	.218	.187	-	-	-	150.00	127.50	112.50	100.00	
93-1547	.180	.200	.062	-	-	.600	.300	.175	.125	-	-	-	140.00	119.00	105.00	93.30	
<b>STANDOFF, MINIATURE, TURRET</b>																	
93-1554	.171	.187	.046	.093	-	.555	.218	.150	.187	.020	.046	-	\$130.00	\$110.00	\$ 97.50	\$ 86.60	
<b>STANDOFF, MINIATURE, SLOTTED LUG</b>																	
93-2000	.171	.187	.078	.148	-	.478	.203	.150	.125	.156	-	-	\$120.00	\$102.00	\$ 90.00	\$ 80.00	
93-2001	.171	.187	.078	.148	-	.540	.203	.150	.187	.156	-	-	130.00	110.00	97.50	86.60	
93-2002	.171	.187	.078	.148	-	.603	.203	.150	.250	.156	-	-	140.00	119.00	105.00	93.30	
93-2003	.171	.187	.078	.148	-	.753	.203	.150	.400	.156	-	-	160.00	136.00	120.00	106.60	
93-2004	.217	.250	.078	.148	-	.890	.203	.187	.500	.156	-	-	220.00	187.00	165.00	146.60	
93-2005	.217	.250	.078	.148	-	1.190	.203	.187	.800	.156	-	-	300.00	255.00	225.00	200.00	
93-2007	.171	.187	.046	.148	-	.478	.203	.150	.125	.161	-	-	120.00	102.00	90.00	80.00	
93-2008	.171	.187	.046	.148	-	.540	.203	.150	.187	.161	-	-	130.00	110.00	97.50	86.60	
93-2009	.171	.187	.046	.148	-	.603	.203	.150	.250	.156	-	-	140.00	119.00	105.00	93.30	
93-2010	.165	.187	.078	.148	-	.603	.203	.150	.250	.156	-	-	140.00	119.00	105.00	93.30	
93-2011	.171	.187	.046	.148	-	.753	.203	.150	.400	.161	-	-	180.00	153.00	135.00	120.00	
93-2012	.171	.187	.078	.148	-	.703	.203	.100	.400	.156	-	-	180.00	153.00	135.00	120.00	
93-2013	.217	.250	.046	.148	-	.890	.203	.187	.500	.161	-	-	220.00	187.00	165.00	146.60	
93-2014	.171	.250	.078	.148	-	.890	.203	.187	.500	.156	-	-	220.00	187.00	165.00	146.60	
93-2015	.217	.250	.046	.148	-	1.190	.203	.187	.800	.161	-	-	300.00	255.00	225.00	200.00	
93-2016	.171	.250	.078	.148	-	1.190	.203	.187	.800	.156	-	-	300.00	255.00	225.00	200.00	
93-2017	.171	.187	.046	.148	-	.555	.203	.165	.187	.156	-	-	140.00	119.00	105.00	93.30	
93-2018	.171	.187	.078	.148	-	.602	.203	.212	.187	.156	-	-	140.00	119.00	105.00	93.30	
93-2020	.171	.187	.078	.148	-	.620	.203	.230	.187	.156	-	-	140.00	119.00	105.00	93.30	
<b>STANDOFF, MINIATURE, TURRET</b>																	
93-1500	.165	.187	.046	.093	-	.431	.156	.150	.125	.020	.046	-	\$120.00	\$102.00	\$ 90.00	\$ 80.00	
93-1501	.165	.187	.046	.093	-	.493	.156	.150	.187	.020	.046	-	130.00	110.00	97.50	86.60	
93-1502	.165	.187	.040	.093	-	.522	.250	.150	.125	.020	.093	-	120.00	102.00	90.00	80.00	
93-1503	.165	.187	.046	.125	-	.556	.281	.150	.125	.031	.093	-	120.00	102.00	90.00	80.00	
93-1504	.165	.187	.040	.093	-	.584	.250	.150	.187	.020	.093	-	130.00	110.00	97.50	86.60	
93-1505	.165	.187	.046	.093	-	.556	.156	.150	.250	.020	.046	-	140.00	119.00	105.00	93.30	
93-1506	.165	.187	.046	.125	-	.616	.281	.150	.187	.031	.093	-	130.00	110.00	97.50	86.60	
93-1507	.165	.187	.046	.125	-	.831	.281	.150	.400	.031	.093	-	150.00	127.50	112.50	100.00	
93-1508	.215	.250	.046	.125	-	.968	.281	.187	.500	.031	.093	-	220.00	187.00	165.00	146.60	
93-1509	.215	.250	.046	.125	-	1.268	.281	.187	.800	.031	.093	-	300.00	255.00	225.00	200.00	
93-1510	.171	.187	.046	.093	-	.431	.156	.150	.125	.020	.046	-	120.00	102.00	90.00	80.00	
93-1511	.171	.187	.046	.093	-	.493	.156	.150	.187	.020	.046	-	130.00	110.00	97.50	86.60	
93-1512	.171	.187	.046	.093	-	.556	.156	.150	.250	.020	.046	-	140.00	119.00	105.00	93.30	
93-1513	.171	.187	.046	.125	-	.831	.281	.150	.400	.031	.093	-	160.00	136.00	120.00	106.60	
93-1514	.171	.250	.046	.125	-	1.268	.281	.187	.800	.031	.093	-	300.00	255.00	225.00	200.00	
93-1515	.104	.125	.046	.093	-	.346	.156	.087	.103	.020	.046	-	110.00	93.50	82.50	73.30	
93-1516	.171	.187	.040	.093	-	.584	.250	.150	.187	.020	.094	-	130.00	110.00	97.50	86.60	
93-1518	.148	.172	.040	.093	-	.482	.250	.110	.125	.020	.094	-	120.00	102.00	90.00	80.00	
93-1519	.165	.187	.046	.125	-	.556	.281	.150	.125	.031	.093	-	120.00	102.00	90.00	80.00	
93-1520	.171	.187	.046	.125	-	.556	.281	.150	.125	.031	.093	-	120.00	102.00	90.00	80.00	
93-1521	.171	.187	.062	.125	-	.556	.281	.150	.125	.031	.093	-	120.00	102.00	90.00	80.00	
93-1522	.171	.218	.040	.080	-	.485	.210	.150	.125	.020	.100	-	120.00	102.00	90.00	80.00	
93-1524	.165	.187	.046	.093	-	.468	.156	.125	.187	.020	.046	-	130.00	110.00	97.50	86.60	
93-1525	.148	.172	.040	.093	-	.598	.250	.165	.187	.020	.093	-	130.00	110.00	97.50	86.60	
93-1526	.127	.156	.046	.093	-	.531	.156	.156	.219	.020	.046	-	130.00	110.00	97.50	86.60	
93-1527	.135	.187	.040	.093	-	.647	.250	.150	.250	.020	.043	-	140.00	119.00	105.00	93.30	
93-1528	.165	.187	.046	.125	-	.681	.281	.200	.200	.031	.093	-	140.00	119.00	105.00	93.30	
93-1529	.165	.187	.040	.093	-	.647	.250	.150	.250	.020	.093	-	140.00	119.00	105.00	93.30	
93-1530	.165	.187	.046	.125	-	.681	.281	.150	.250	.031	.093	-	140.00	119.00	105.00	93.30	
93-1531	.171	.187	.046	.125	-	.681	.281	.150	.250	.031	.093	-	140.00	119.00	105.00	93.30	
93-1532	.165	.187	.046	.093	-	.706	.156	.300	.250	.020	.046	-	140.00	119.00	105.00	93.30	
93-1533	.165	.187	.040	.093	-	.797	.250	.150	.400	.020	.093	-	180.00	153.00	135.00	120.00	
93-1534	.165	.187	.046	.093	-	.706	.156	.150	.400	.020	.046	-	170.00	144.50	127.50	113.30	
93-1535	.165	.187	.046	.093	-	.656	.156	.100	.400	.020	.046	-	170.00	144.50	127.50	113.30	
93-1536	.171	.250	.046	.125	-	.968	.281	.187	.500	.031	.093	-	220.00	187.00	165.00	146.60	
93-1537	.215	.250	.040	.093	-	.934	.250	.187	.500	.020	.093	-	220.00	187.00	165.00	146.60	
93-1538	.215	.250	.046	.093	-	.843	.156	.187	.500	.020	.046	-	220.00	187.00	165.00	146.60	
93-1539	.215	.250	.040	.093	-	1.234	.250	.187	.800	.020	.093	-	300.00	255.00	225.00	200.00	
93-1540	.215	.250	.046	.093	-	1.143	.156	.187	.800	.020	.046	-	300.00	255.00	225.00	200.00	
93-1542	.104	.125	.046	.093	-	.346	.156	.087	.103	.020	.046	-	110.00	93.50	82.50	73.30	
93-1543	.171	.187	.062	.125	-	.621	.281	.215	.125	.031	.093	-	130.00	110.00	97.50	86.60	
93-1547	.171	.187	.040	.080	-	.610	.210	.150	.250	.020	.100	-	140.00	119.00	105.00	93.30	
93-1549	.104	.125	.046	.093	-	.359	.156	.100	.103	.020	.046	-	120.00	102.00	90.00	80.00	
93-1551	.165	.187	.040	.093	-	.485	.210	.150	.125	.020	.100	-	120.00	102.00	90.00	80.00	
93-1552	.171	.187	.040	.080	-	.485	.210	.150	.125	.020	.100	-	120.00	102.00	90.00	80.00	
93-1553	.185	.218	.046	.125	-	.546	.28										

specify

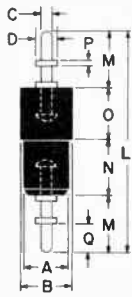
**SMITH**

HERMAN H. SMITH, INC.

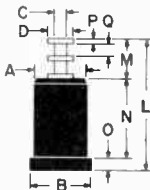


ELECTRONIC COMPONENTS

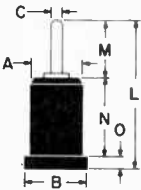
**STANDOFF, MINIATURE**



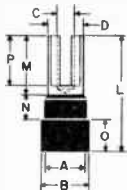
93-3510 Group



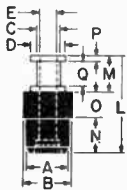
39-1000 Group



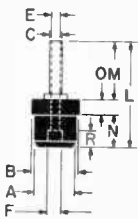
39-1001 Group



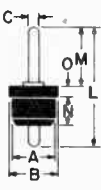
39-2000 Group



82-1016 Group



82-1044 Group



82-1000 Group

Cat. No.	DIMENSIONS											RESALE PER THOUSAND IN LOTS OF			
	A	B	C	D	E	L	M	N	O	P	Q	R	1-99	100-499	500-999

**DOUBLE STANDOFF, MINIATURE**

93-3510	.171	.187	.040	.080	-	.819	.210	.212	.187	.020	.120	-	\$220.00	\$187.00	\$165.00	\$146.60
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**STANDOFF, MINIATURE, REVERSED, TURRET**

39-1000	.185	.218	.046	.093	-	.487	.154	.287	.046	.020	.046	-	\$100.00	\$ 85.00	\$ 75.00	\$ 66.60
39-1005	.185	.218	.046	.093	-	.583	.250	.287	.046	.020	.093	-	100.00	85.00	75.00	66.60

**STANDOFF, MINIATURE, REVERSED**

39-1001	.185	.218	.040	-	-	.543	.210	.287	.046	-	-	-	\$100.00	\$ 85.00	\$ 75.00	\$ 66.60
39-1002	.185	.218	.040	-	-	1.133	.800	.333	.046	-	-	-	150.00	127.50	112.50	100.00

**STANDOFF, MINIATURE, REVERSED, SLOTTED LUG**

39-2000	.171	.187	.078	.148	-	.478	.203	.150	.125	.156	-	-	\$130.00	\$110.00	\$ 97.50	\$ 86.60
39-2001	.171	.187	.078	.148	-	.540	.203	.150	.187	.156	-	-	140.00	119.00	105.00	93.30
39-2002	.171	.187	.078	.148	-	.603	.203	.150	.250	.156	-	-	150.00	127.50	112.50	100.00
39-2003	.171	.187	.078	.148	-	.753	.203	.150	.400	.156	-	-	170.00	144.50	127.50	113.30
39-2004	.217	.250	.078	.148	-	.890	.203	.187	.500	.156	-	-	230.00	195.50	172.50	153.30
39-2005	.217	.250	.078	.148	-	1.190	.203	.187	.800	.156	-	-	310.00	263.50	232.50	206.60

**FEED THRU, SUBMINIATURE**

Cat. No.	DIMENSIONS											RESALE PER THOUSAND IN LOTS OF			
	A	B	C	D	E	L	M	N	O	P	Q	R	1-99	100-499	500-999

**FEED THRU, SUBMINIATURE, TUBULAR**

82-1016	.148	.172	.082	.125	.062	.351	.133	.125	.093	.020	.093	-	\$110.00	\$ 93.50	\$ 82.50	\$ 73.30
82-1052	.171	.188	.082	.125	.062	.381	.133	.155	.093	.020	.093	-	140.00	119.00	105.00	93.30

**FEED THRU, SUBMINIATURE, TUBULAR**

82-1044	.200	.240	.040	.030	.050	.367	.207	.110	.050	-	-	.057	\$140.00	\$119.00	\$105.00	\$ 93.30
82-1045	.218	.250	.060	.030	.050	.287	.147	.100	.040	-	-	.030	140.00	119.00	105.00	93.30
82-1046	.148	.172	.040	.030	.070	.282	.147	.075	.060	-	-	.042	130.00	110.00	97.50	86.60
82-1047	.171	.218	.085	.063	.085	.417	.207	.160	.050	-	-	.050	120.00	102.00	90.00	80.00
82-1085	.148	.172	.040	.030	.050	.387	.207	.110	.050	-	-	.057	130.00	110.00	97.50	86.60
82-1088	.171	.218	.085	.063	.085	.710	.500	.160	.050	-	-	.050	150.00	127.50	112.50	100.00

**FEED THRU, MINIATURE**

82-1000	.148	.172	.040	-	-	.443	.210	.100	.040	-	-	-	\$ 80.00	\$ 60.00	\$ 60.00	\$ 53.30
82-1001	.148	.172	.040	-	-	.410	.147	.110	.050	-	-	-	100.00	85.00	75.00	66.60
82-1003	.148	.172	.040	-	-	.515	.210	.100	.040	-	-	-	75.00	63.70	56.20	50.00
82-1004	.148	.172	.040	-	-	.535	.210	.110	.050	-	-	-	80.00	68.00	60.00	53.30
82-1005	.179	.200	.040	-	-	.515	.210	.100	.040	-	-	-	120.00	102.00	90.00	80.00
82-1006	.218	.250	.040	-	-	.515	.210	.100	.040	-	-	-	130.00	110.00	97.50	86.60
82-1007	.148	.172	.040	-	-	.535	.210	.120	.040	-	-	-	110.00	93.50	82.50	73.30
82-1008	.148	.172	.040	-	-	.535	.210	.132	.040	-	-	-	110.00	93.50	82.50	73.30
82-1009	.148	.172	.040	-	-	.535	.210	.160	.040	-	-	-	130.00	110.00	97.50	86.60
82-1010	.148	.172	.040	-	-	.725	.210	.100	.040	-	-	-	110.00	93.50	82.50	73.30
82-1011	.148	.172	.040	-	-	1.000	.210	.100	.040	-	-	-	130.00	110.00	97.50	86.60
82-1012	.171	.218	.040	-	-	2.000	.680	.110	.050	-	-	-	140.00	119.00	105.00	93.30
82-1013	.169	.219	.040	-	-	2.500	.460	.100	.040	-	-	-	140.00	119.00	105.00	93.30
82-1014	.169	.219	.049	-	-	2.500	.460	.100	.040	-	-	-	160.00	136.00	120.00	106.60
82-1015	.172	.195	.040	-	-	.515	.210	.100	.040	-	-	-	110.00	93.50	82.50	73.30
82-1010	.125	.150	.040	-	-	.515	.210	.060	.040	-	-	-	110.00	93.50	82.50	73.30
82-1021	.148	.172	.040	-	-	.375	.125	.100	.040	-	-	-	100.00	85.00	75.00	66.60
82-1022	.093	.125	.040	-	-	.515	.210	.100	.040	-	-	-	100.00	85.00	75.00	66.60
82-1023	.093	.125	.040	-	-	.375	.147	.075	.040	-	-	-	100.00	85.00	75.00	66.60
82-1026	.157	.172	.040	-	-	.515	.210	.100	.040	-	-	-	100.00	85.00	75.00	66.60
82-1027	.148	.172	.040	-	-	.515	.210	.132	.040	-	-	-	120.00	102.00	90.00	80.00
82-1028	.148	.172	.040	-	-	.407	.125	.132	.040	-	-	-	110.00	93.50	82.50	73.30
82-1030	.148	.172	.040	-	-	.571	.210	.160	.040	-	-	-	120.00	102.00	90.00	80.00
82-1031	.125	.150	.040	-	-	.335	.125	.060	.040	-	-	-	120.00	102.00	90.00	80.00
82-1033	.148	.172	.045	-	-	.890	.625	.100	.040	-	-	-	140.00	119.00	105.00	93.30
82-1064	.148	.172	.040	-	-	.630	.210	.170	.040	-	-	-	110.00	93.50	82.50	73.30
82-1065	.148	.172	.040	-	-	.630	.210	.217	.040	-	-	-	130.00	110.00	97.50	86.60
82-1067	.148	.172	.040	-	-	.710	.210	.250	.040	-	-	-	130.00	110.00	97.50	86.60
82-1068	.148	.172	.040	-	-	.562	.210	.100	.040	-	-	-	110.00	93.50	82.50	73.30
82-1069	.148	.172	.040	-	-	.431	.106	.110	.050	-	-	-	100.00	85.00	75.00	66.60
82-1070	.172	.195	.040	-	-	.560	.210	.100	.040	-	-	-	120.00	102.00	90.00	80.00
82-1071	.169	.218	.049	-	-	1.875	.125	.100	.040	-	-	-	160.00	136.00	120.00	106.60
82-1072	.169	.218	.049	-	-	.937	.125	.100	.040	-	-	-	160.00	136.00	120.00	106.60
82-1073	.169	.218	.049	-	-	1.250	.125	.100	.040	-	-	-	160.00	136.00	120.00	106.60
82-1075	.148	.172	.040	-	-	.325	.075	.100	.040	-	-	-	110.00	93.50	82.50	73.30
82-1076	.093	.125	.040	-	-	.453	.156	.100	.040	-	-	-	110.00	93.50	82.50	73.30
82-1077	.093	.125	.040	-	-	.987	.687	.100	.040	-	-	-	120.00	102.00	90.00	80.00
82-1080	.148	.172	.040	-	-	.443	.093	.100	.040	-	-	-	120.00	102.00	90.00	80.00
82-1081	.148	.172	.040	-	-	.535	.210	.160	.040	-	-	-	110.00	93.50	82.50	73.30
82-1082	.171	.218	.040	-	-	1.090	.680	.110	.050	-	-	-	140.00	119.00	105.00	93.30
82-1084	.148	.172	.045	-	-	.585	.320	.100	.040	-	-	-	140.00	119.00	105.00	93.30

specify

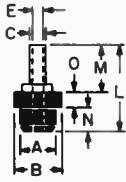
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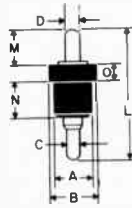
**ELECTRONIC COMPONENTS**

**HERMAN H. SMITH, INC.**

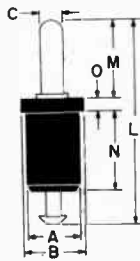
**FEED THRU, SUBMINIATURE**



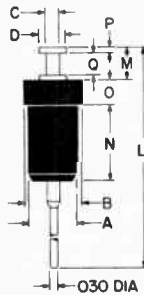
82-1017 Group



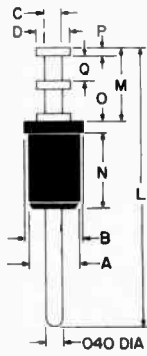
73-1000 Group



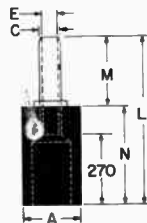
73-1006 Group



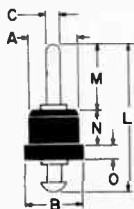
73-1007 Group



73-1010



73-3001 Group



37-1011

Cat. No.	DIMENSIONS											RESALE PER THOUSAND IN LOTS OF			
	A	B	C	D	E	L	M	N	O	P	Q	R	1-99	100-499	500-999

**FEED THRU, MINIATURE, TUBULAR**

82-1017	.148	.172	.085	—	.063	.367	.207	.110	.050	—	—	—	\$110.00	\$ 93.50	\$ 82.50	\$ 73.30
82-1024	.200	.240	.085	—	.063	.367	.207	.110	.050	—	—	—	120.00	102.00	90.00	80.00
82-1035	.148	.172	.040	—	.030	.250	.147	.053	.050	—	—	—	110.00	93.50	82.50	73.30
82-1036	.125	.150	.040	—	.030	.225	.125	.060	.040	—	—	—	110.00	93.50	82.50	73.30
82-1037	.120	.130	.040	—	.030	.310	.207	.053	.050	—	—	—	110.00	93.50	82.50	73.30
82-1038	.148	.172	.040	—	.030	.296	.136	.100	.060	—	—	—	120.00	102.00	90.00	80.00
82-1039	.171	.218	.040	—	.030	.367	.207	.110	.050	—	—	—	130.00	110.00	97.50	86.60
82-1040	.093	.125	.040	—	.030	.225	.125	.060	.040	—	—	—	120.00	102.00	90.00	80.00
82-1041	.171	.218	.085	—	.063	.367	.207	.110	.050	—	—	—	120.00	102.00	90.00	80.00
82-1088	.148	.172	.085	—	.063	.413	.207	.156	.050	—	—	—	140.00	119.00	105.00	93.30
82-1090	.148	.172	.085	—	.063	.332	.207	.075	.050	—	—	—	140.00	119.00	105.00	93.30
82-1091	.148	.172	.085	—	.070	.367	.207	.110	.050	—	—	—	130.00	110.00	97.50	86.60
82-1115	.093	.125	.040	—	.030	.317	.187	.090	.040	—	—	—	130.00	110.00	97.50	86.60
82-1116	.093	.125	.040	—	.030	.405	.275	.090	.040	—	—	—	140.00	119.00	105.00	93.30
82-1134	.093	.125	.040	—	.030	.215	.125	.050	.040	—	—	—	120.00	102.00	90.00	80.00
82-1135	.093	.125	.040	—	.030	.312	.207	.060	.040	—	—	—	140.00	119.00	105.00	93.30

**PROBES & PLUGS**

Cat. No.	DIMENSIONS											RESALE PER THOUSAND IN LOTS OF			
	A	B	C	D	E	L	M	N	O	P	Q	R	1-99	100-499	500-999

**PROBES & PLUGS**

73-1000	.185	.218	.030	.050	—	1.531	.250	.287	.046	—	—	—	\$150.00	\$127.50	\$112.50	\$100.00
73-1001	.185	.218	.030	.050	—	.906	.250	.287	.046	—	—	—	150.00	127.50	112.50	100.00
73-1002	.185	.218	.030	.050	—	2.083	.250	.287	.046	—	—	—	150.00	127.50	112.50	100.00
73-1003	.185	.218	.030	.050	—	1.937	.250	.141	.046	—	—	—	130.00	110.00	97.50	86.60
73-1018	.148	.172	.030	.050	—	1.937	.250	.165	.046	—	—	—	180.00	153.00	135.00	120.00
73-1028	.185	.218	.030	.040	—	1.870	.120	.250	.046	—	—	—	160.00	136.00	120.00	106.60

**PROBE & PLUG**

73-1006	.185	.218	.081	—	—	.739	.281	.287	.046	—	—	—	\$150.00	\$127.50	\$112.50	\$100.00
73-1011	.185	.218	.050	—	—	.562	.250	.135	.052	—	—	—	120.00	102.00	90.00	80.00
73-1015	.185	.218	.081	—	—	.739	.281	.287	.046	—	—	—	130.00	110.00	97.50	86.60
73-1016	.185	.218	.050	—	—	.562	.250	.141	.046	—	—	—	120.00	102.00	90.00	80.00
73-1017	.185	.218	.081	—	—	.562	.250	.141	.046	—	—	—	130.00	110.00	97.50	86.60
73-1022	.171	.187	.040	—	—	.687	.272	.212	.040	—	—	—	180.00	153.00	135.00	120.00
73-1023	.185	.218	.050	—	—	.906	.250	.287	.046	—	—	—	150.00	127.50	112.50	100.00
73-1026	.185	.218	.090	—	—	.648	.190	.287	.046	—	—	—	170.00	144.50	127.50	113.30
73-1027	.185	.218	.062	—	—	.612	.250	.141	.046	—	—	—	150.00	127.50	112.50	100.00

**PROBES & PLUGS**

Cat. No.	DIMENSIONS											RESALE PER THOUSAND IN LOTS OF			
	A	B	C	D	E	L	M	N	O	P	Q	R	1-99	100-499	500-999

**PROBES & PLUGS**

73-1007	.185	.218	.050	.093	—	2.005	.125	.287	.093	.020	.085	—	\$150.00	\$127.50	\$112.50	\$100.00
73-1008	.185	.218	.050	.093	—	1.000	.125	.287	.093	.020	.085	—	150.00	127.50	112.50	100.00
73-1009	.185	.218	.050	.093	—	2.000	.125	.150	.230	.020	.085	—	160.00	136.00	120.00	106.60

**PROBES & PLUGS**

73-1010	.185	.218	.060	.125	—	1.052	.281	.287	.046	.031	.093	—	\$150.00	\$127.50	\$112.50	\$100.00
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**PROBES & PLUGS**

73-3001	.218	—	.080	—	.062	.645	.270	.375	—	—	—	—	\$120.00	\$102.00	\$ 90.00	\$ 80.00
73-3012	.218	—	.090	—	.062	.645	.270	.375	—	—	—	—	150.00	127.50	112.50	100.00

**PROBE & PLUG, REVERSED**

37-1011	.185	.218	.050	—	—	.562	.250	.135	.052	—	—	—	\$150.00	\$127.50	\$112.50	\$100.00
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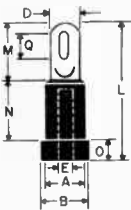
specify **SMITH**

HERMAN H. SMITH, INC.

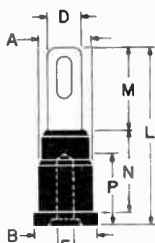


ELECTRONIC COMPONENTS

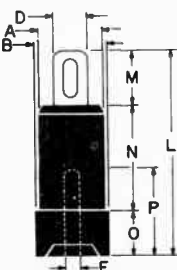
**TEST JACKS**



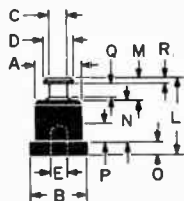
63-1000 Group



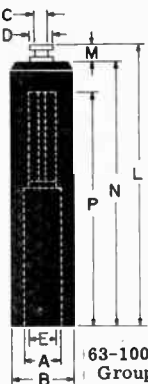
63-1052



63-1035



63-1003 Group



63-1008 Group

Cat. No.	DIMENSIONS												RESALE 1-99	PER THOUSAND 100-499	IN LOTS OF 500-999	1000-UP
	A	B	C	D	E*	L	M	N	O	P**	Q	R				

**TEST JACK, FLAT LUG**

63-1000	.185	.218	-	.105	.050	.687	.354	.287	.046	.250	-	-	\$120.00	\$102.00	\$ 90.00	\$ 80.00
63-1001	.185	.218	-	.105	.041	.687	.354	.287	.046	.250	-	-	160.00	136.00	120.00	106.60
63-1002	.185	.218	-	.110	.080	.687	.354	.287	.046	.250	-	-	160.00	136.00	120.00	106.60
63-1014	.185	.218	-	.115	.050	.687	.354	.281	.052	.250	-	-	160.00	136.00	120.00	106.60
63-1015	.185	.218	-	.103	.080	.687	.330	.146	.187	.187	-	-	160.00	136.00	120.00	106.60
63-1016	.185	.218	-	.115	.050	.625	.355	.224	.046	.200	-	-	160.00	136.00	120.00	106.60
63-1017	.185	.218	-	.104	.060	.718	.316	.356	.046	.315	-	-	180.00	153.00	135.00	120.00
63-1037	.185	.218	-	.110	.050	.687	.330	.146	.187	.250	-	-	160.00	136.00	120.00	106.60

\*Probe Diameter

\*\*Probe Length

**TEST JACK**

Cat. No.	DIMENSIONS												RESALE 1-99	PER THOUSAND 100-499	IN LOTS OF 500-999	1000-UP
	A	B	C	D	E*	L	M	N	O	P**	Q	R				

**TEST JACK, FLAT LUG**

63-1052	.185	.218	-	.115	.050	.620	.287	.287	.046	.250	-	-	\$160.00	\$136.00	\$120.00	\$106.60
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**TEST JACK, FLAT LUG**

63-1035	.220	.250	-	.115	.050	.732	.188	.387	.157	.320	-	-	\$200.00	\$170.00	\$150.00	\$133.30
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**TEST JACK**

63-1003	.185	.218	.054	.074	.090	.437	.120	.271	.046	.195	.053	.037	\$180.00	\$153.00	\$135.00	\$120.00
63-1004	.185	.218	.054	.074	.080	.437	.120	.271	.046	.195	.053	.037	180.00	153.00	135.00	120.00
63-1005	.185	.218	.054	.074	.080	.640	.187	.400	.050	.287	.104	.037	180.00	153.00	135.00	120.00
63-1006	.204	.250	.054	.074	.080	.437	.120	.271	.046	.195	.053	.037	200.00	170.00	150.00	133.30
63-1007	.170	.218	.046	.078	.090	.375	.060	.269	.046	.250	.040	.010	220.00	187.00	165.00	146.60
63-1010	.148	.172	.040	.060	.040	.345	.120	.179	.046	.140	.077	.023	180.00	153.00	135.00	120.00
63-1011	.218	.250	.066	.098	.105	.400	.060	.294	.046	.250	.037	.010	220.00	187.00	165.00	146.60
63-1012	.120	.142	.040	.060	.040	.449	.120	.283	.046	.245	.060	.030	190.00	161.50	142.50	126.60
63-1013	.200	.218	.054	.074	.093	.761	.187	.386	.187	.455	.116	.035	270.00	229.50	202.50	180.00
63-1020	.200	.218	.054	.074	.093	.699	.187	.386	.125	.390	.116	.035	400.00	340.00	300.00	266.60
63-1029	.140	.172	.046	.080	.040	.253	.060	.143	.050	.125	.040	.010	220.00	187.00	165.00	146.60
63-1032	.148	.172	.046	.080	.040	.203	.060	.097	.046	.078	.040	.010	210.00	178.50	157.50	140.00
63-1033	.120	.150	.046	.080	.040	.203	.060	.113	.030	.078	.040	.010	210.00	178.50	157.50	140.00
63-1054	.185	.218	.054	.074	.090	.340	.120	.174	.046	.140	.077	.023	210.00	178.50	157.50	140.00
63-1057	.185	.218	.054	.074	.080	.467	.120	.301	.046	.225	.047	.035	210.00	178.50	157.50	140.00
63-1072	.120	.142	.040	.060	.040	.410	.120	.244	.046	.205	.060	.030	180.00	153.00	135.00	120.00
63-1077	.140	.172	.040	.060	.040	.345	.120	.179	.046	.140	.077	.023	180.00	153.00	135.00	120.00
63-1078	.148	.172	.046	.080	.040	.190	.050	.094	.046	.078	.030	.010	200.00	170.00	150.00	133.30
63-1079	.185	.218	.054	.074	.050	.437	.120	.271	.046	.195	.053	.037	190.00	161.50	142.50	126.60
63-1080	.185	.218	.080	.125	.080	.455	.105	.300	.050	.315	.065	.020	250.00	212.50	187.50	166.60
63-1081	.200	.375	.054	.074	.093	.834	.187	.417	.230	.518	.116	.035	350.00	297.50	262.50	233.30

**TEST JACK**

63-1008	-	.140	.046	.080	.040	.203	.060	.143	-	.075	-	-	\$190.00	\$161.50	\$142.50	\$126.60
63-1009	-	.120	.046	.080	.040	.203	.060	.143	-	.075	-	-	200.00	170.00	150.00	133.30
63-1034	-	.140	.046	.080	.025	.203	.060	.143	-	.075	-	-	200.00	170.00	150.00	133.30
63-1038	.125	.218	.046	.078	.090	1.000	.060	.940	-	.825	-	-	380.00	323.00	285.00	253.30
63-1039	.125	.187	.046	.078	.090	1.000	.060	.940	-	.825	-	-	360.00	306.00	270.00	240.00

\*Probe Diameter

\*\*Probe Length

**TEST JACK**

Cat. No.	DIMENSIONS												RESALE 1-99	PER THOUSAND 100-499	IN LOTS OF 500-999	1000-UP
	A	B	C	D	E*	L	M	N	O	P	Q**	R				

**TEST JACK, PRINTED CIRCUIT**

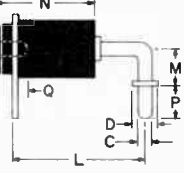
63-3002	.187	.218	.050	.080	.080	.500	.140	.378	-	.125	.250	-	\$350.00	\$297.50	\$262.50	\$233.30
63-3003	.187	.218	.050	.080	.080	.400	.140	.378	-	.125	.250	-	350.00	297.50	262.50	233.30
63-3004	.187	.218	.040	.080	.080	.520	.140	.398	-	.130	.250	-	350.00	297.50	262.50	233.30
63-3005	.187	.218	.035	.080	.080	.400	.140	.378	-	.187	.250	-	360.00	306.00	270.00	240.00
63-3009	.187	.218	.050	.080	.080	.500	.140	.689	-	.125	.500	-	390.00	331.50	292.50	260.00

\*Probe Diameter

\*\*Probe Length



63-3002 Group





**METAL HEX BASE, TEFLON INSULATED TERMINALS**

Cat. No.	DIMENSIONS												1-99	100-499	500-999	1000-UP
	A	B	C	D	E	L	M	N	O	P	Q	R				

**DOUBLE TURRET TERMINAL, THREADED HOLE BASE**

52-1500	.125	.156	.045	.066	4.40	.547	.148	.366	.181	.018	.031	100	\$240.00	\$204.00	\$180.00	\$160.00
52-1502	.245	.250	.069	.140	6.32	.719	.310	.461	.258	.025	.100	156	245.00	208.20	183.70	163.30
52-1505	.245	.250	.069	.140	4.40	.719	.310	.461	.258	.025	.100	156	245.00	208.20	183.70	163.30
52-1507	.245	.250	.069	.140	4.40	1.297	.310	1.039	.258	.025	.100	156	278.00	236.30	208.50	185.30
52-1508	.245	.250	.069	.140	6.32	1.297	.310	1.039	.258	.025	.100	156	278.00	236.30	208.50	185.30

**DOUBLE TURRET TERMINAL, THREADED STUD BASE**

53-1500	.125	.156	.045	.066	4.40	.750	.148	.372	.128	.018	.031	250	\$250.00	\$212.50	\$187.50	\$166.60
53-1502	.245	.250	.069	.140	6.32	.890	.310	.460	.180	.025	.100	250	254.00	215.90	190.50	169.20
53-1505	.245	.250	.069	.140	4.40	.890	.310	.460	.180	.025	.100	250	254.00	215.90	190.50	169.20
53-1506	.125	.156	.045	.066	6.32	.750	.148	.372	.128	.018	.031	250	252.00	214.20	189.00	167.90
53-1507	.245	.250	.069	.140	4.40	1.469	.310	1.039	.180	.025	.100	250	332.00	282.20	249.00	221.30
53-1508	.245	.250	.069	.140	6.32	1.469	.310	1.039	.180	.025	.100	250	332.00	282.20	249.00	221.30

**SINGLE TURRET TERMINAL, THREADED STUD BASE**

53-1501	.245	.250	.069	.140	6.32	.766	.180	.336	.180	.031	.120	250	\$256.00	\$217.60	\$192.00	\$170.60
53-1503	.245	.250	.069	.140	4.40	.766	.180	.336	.180	.031	.120	250	256.00	217.60	192.00	170.60
53-1504	.125	.156	.045	.066	4.40	.672	.079	.294	.128	.018	.049	250	252.00	214.20	189.00	167.90
53-1509	.125	.156	.045	.066	6.32	.672	.079	.294	.128	.018	.049	250	252.00	214.20	189.00	167.90
53-1510	.245	.250	.069	.140	4.40	1.344	.180	.914	.180	.031	.120	250	334.00	283.90	250.50	222.60
53-1511	.245	.250	.069	.140	6.32	1.344	.180	.914	.180	.031	.120	250	334.00	283.90	250.50	222.60

**DOUBLE TURRET TERMINAL, RIVET BASE**

54-1500	.125	.156	.045	.066	1205#	.594	.148	.376	.128	.018	.031	.090	\$296.00	\$251.60	\$222.00	\$197.30
54-1502	.245	.250	.069	.140	1205#	.734	.310	3.04	.180	.025	.100	.090	278.00	236.30	208.50	185.30
54-1508	.245	.250	.069	.140	1205#	1.297	.310	1.027	.180	.025	.100	.090	353.00	300.00	264.70	235.30

**SINGLE TURRET TERMINAL, RIVET BASE**

54-1501	.245	.250	.069	.140	1205#	.609	.180	.339	.180	.031	.120	.090	\$280.00	\$238.00	\$210.00	\$186.60
54-1504	.125	.156	.045	.066	1205#	.516	.079	.298	.128	.018	.049	.090	282.00	239.70	211.50	187.80
54-1510	.245	.250	.069	.140	1205#	1.172	.180	.902	.180	.031	.120	.090	355.00	301.70	266.20	236.60

**SLOTTED TURRET TERMINAL, RIVET BASE**

54-2000	.245	.250	.140	.060	1205#	.609	.174	.339	.180	.101	—	.090	\$301.00	\$255.90	\$225.80	\$200.70
54-2002	.125	.156	.066	.036	1205#	.516	.087	.298	.128	.067	—	.090	330.00	280.50	247.50	220.00
54-2004	.245	.250	.140	.060	1205#	1.172	.174	.902	.180	.101	—	.090	377.00	320.40	282.70	251.30

# Rivet Shank ± .0015 tolerance.

**SLOTTED TURRET TERMINAL, THREADED STUD BASE**

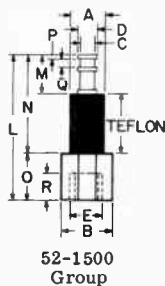
52-2000	.245	.250	.140	.060	6.32	.594	.174	.236	.258	.101	—	.156	\$275.00	\$233.70	\$206.20	\$183.30
52-2001	.245	.250	.140	.060	4.40	.594	.174	.236	.258	.101	—	.156	275.00	233.70	206.20	183.30
52-2002	.125	.156	.066	.036	4.40	.484	.087	.303	.181	.067	—	.100	275.00	233.70	206.20	183.30
52-2003	.245	.250	.140	.060	4.40	1.172	.174	.914	.258	.101	—	.156	353.00	300.00	264.70	235.30
52-2004	.245	.250	.140	.060	6.32	1.172	.174	.914	.258	.101	—	.156	353.00	300.00	264.70	235.30

**SLOTTED TURRET TERMINAL, THREADED STUD BASE**

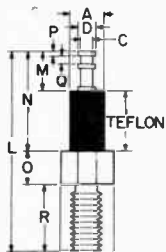
53-2000	.245	.250	.140	.060	6.32	.766	.174	.336	.180	.101	—	.250	\$280.00	\$238.00	\$210.00	\$186.60
53-2001	.245	.250	.140	.060	4.40	.766	.174	.336	.180	.101	—	.250	304.00	258.40	228.00	202.60
53-2002	.125	.156	.066	.036	4.40	.672	.087	.294	.128	.067	—	.250	287.00	243.90	215.20	191.20
53-2003	.245	.250	.140	.060	4.40	1.344	.174	.914	.180	.101	—	.250	355.00	301.70	266.20	236.60
53-2004	.245	.250	.140	.060	6.32	1.344	.174	.914	.180	.101	—	.250	355.00	301.70	266.20	236.60
53-2005	.125	.156	.066	.036	6.32	.672	.087	.294	.128	.067	—	.250	287.00	243.90	215.20	191.20

**SINGLE TURRET TERMINAL, THREADED HOLE BASE**

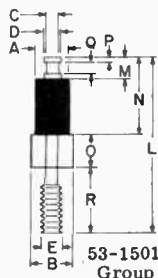
52-1501	.245	.250	.069	.140	6.32	.594	.180	.336	.258	.031	.120	.156	\$250.00	\$212.50	\$187.50	\$166.60
52-1510	.245	.250	.039	.140	4.40	1.172	.180	.914	.258	.031	.120	.156	280.00	238.00	210.00	185.60
52-1503	.245	.250	.039	.140	4.40	.594	.180	.336	.258	.031	.120	.156	252.00	214.20	189.00	167.90
52-1504	.125	.156	.045	.066	4.40	.484	.079	.303	.181	.018	.049	.100	245.00	208.20	183.70	163.30
52-1511	.245	.250	.039	.140	6.32	1.172	.180	.914	.258	.031	1.0	.156	280.00	238.00	210.00	186.60



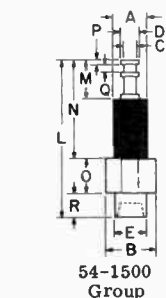
52-1500 Group



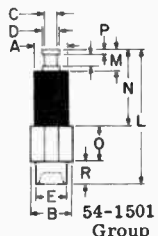
53-1500 Group



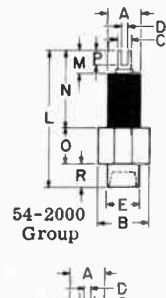
53-1501 Group



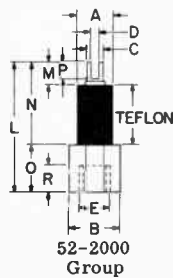
54-1500 Group



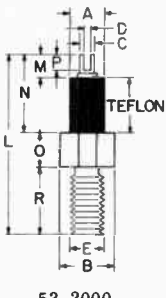
54-1501 Group



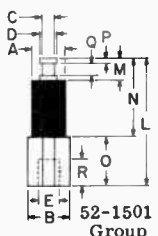
54-2000 Group



52-2000 Group



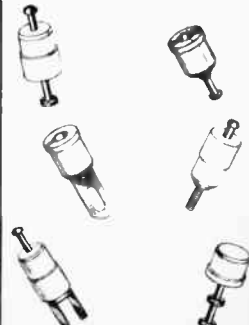
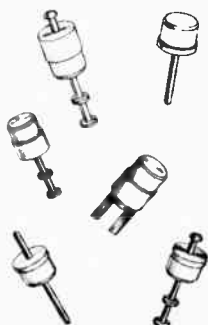
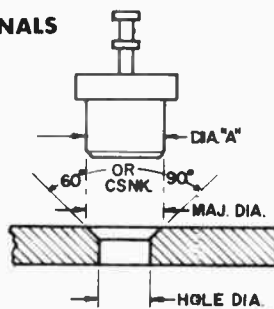
53-2000 Group



52-1501 Group

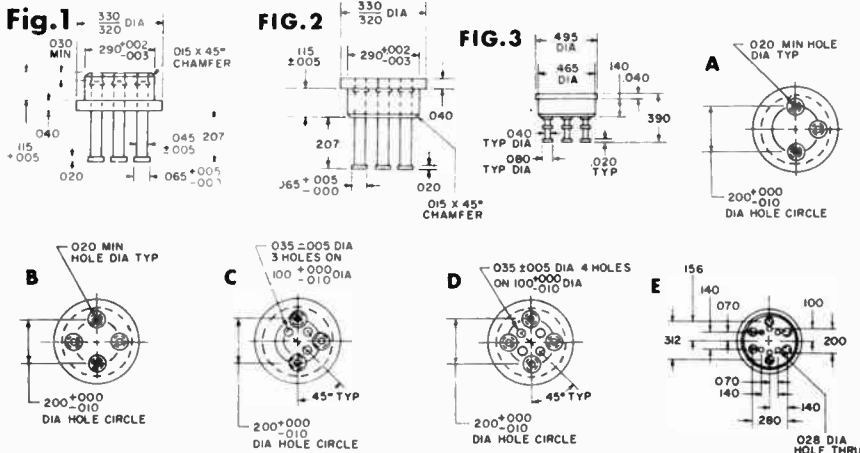
**INSTALLATION PROCEDURE FOR TEFLON TERMINALS**

- For chassis or panels 1/4" (.125") or less in thickness, punch or drill hole .013" ± .002" LESS than the diameter of the bushing (dimension "A" in the tables). Minimum protrusion of assembled terminal should be .040" (dimension "B" less chassis thickness) for greater holding power. Recommendations for panels greater than .125" thick are available on request.
- Countersink the insertion side of the chassis. For chassis thicker than .040" use 60° countersink. For chassis less than .040" thick use 90° countersink. Countersink depth should be such that "Maj. Dia." shown in drawing is equal to bushing diameter (Dimension "A") of the terminal.
- Insert terminal in countersunk side of chassis, and press until shoulder of terminal seats against chassis.



# specify SMITH HERMAN H. SMITH, INC. ELECTRONIC COMPONENTS

## TEFLON\* TRANSISTOR SOCKETS



SMITH Teflon Transistor Sockets cut installation time and afford increased reliability. Sockets shown here represent the basic configurations available for JEDEC Packages TO-5 (.200" Dia. Pitch Circle) and TO-18 (.100" Dia. Pitch Circle). Other styles and variations are being added constantly. Consult our Engineering Dept., for your special requirements.

\*Reg. Trademark E. I. DuPont Co.

Cat. No.	RETAIL PER THOUSAND IN LOTS OF				
	1-99	100-499	500-999	1000-UP	
FIG. 1A	43-1000	\$300.00	\$255.00	\$225.00	\$200.00
FIG. 2A	34-1000	310.00	263.50	232.50	206.60
FIG. 1C	43-1003	380.00	323.00	285.00	253.30
FIG. 2C	34-1003	390.00	331.50	292.50	260.00
FIG. 1B	43-1100	350.00	297.50	262.50	233.30
FIG. 2B	34-1100	360.00	306.00	270.00	240.00
FIG. 1D	43-1104	430.00	365.50	322.50	286.60
FIG. 2D	34-1104	440.00	374.00	330.00	293.30
FIG. 3E	34-1650	840.00	714.00	630.00	560.00

## TEFLON\* SPAGHETTI TUBING



### COLOR CODE CHART

- 101 WHITE
- 102 RED
- 103 BLACK
- 104 GREEN
- 105 BLUE
- 106 ORANGE
- 107 YELLOW
- 108 BROWN
- 112 PURPLE
- 113 GREY
- 115 NATURAL

(If no color is specified, Natural Teflon (-115) will be supplied.)

Meets and exceeds MIL-I-22129B. Ideal for slip-on insulation, and provides greater reliability and resistance to high temperatures. Shrink-back is virtually eliminated. Individually packed in dust-proof bags.

CAT. NO.	AWG WIRE SIZE	NOM I.O.	NOM. WALL THK.	STO. PKG. FT.	NET EA.
<b>STANDARD WALL</b>					
7701-24	24	.022	.012	100	\$11.68
7701-22	22	.027	.012	100	12.95
7701-20	20	.034	.016	100	17.75
7701-19	19	.038	.016	100	19.38
7701-18	18	.042	.016	100	20.88
7701-17	17	.047	.016	100	22.93
7701-16	16	.053	.016	100	24.63
7701-15	15	.059	.016	100	25.30
7701-14	14	.066	.016	100	27.25
7701-13	13	.076	.016	100	30.30
7701-12	12	.085	.016	100	32.75
7701-11	11	.095	.016	100	36.38
7701-10	10	.106	.016	100	40.00
7701-09	9	.118	.020	100	57.10
7701-81	1/8"	.125	.020	100	61.00
7701-08	8	.133	.020	50	31.25
7701-07	7	.148	.020	50	33.69
7701-06	6	.166	.020	50	36.44
7701-05	5	.186	.020	50	40.10
7701-04	4	.208	.020	50	43.56
7701-03	3	.234	.020	50	49.88
7701-41	1/4"	.250	.020	50	52.88
7701-02	2	.263	.020	50	54.82
7701-01	1	.294	.020	50	60.94
7701-51	5/16"	.312	.020	50	67.50
7701-00	0	.330	.020	50	68.57
<b>THINWALL</b>					
7702-30	30	.012	.009	100	\$10.53
7702-28	28	.015	.009	100	9.20
7702-26	26	.018	.009	100	8.88
7702-24	24	.022	.010	100	9.63
7702-22	22	.027	.010	100	10.75
7702-20	20	.034	.012	100	13.63
7702-19	19	.038	.012	100	14.68
7702-18	18	.042	.012	100	15.75
7702-17	17	.047	.012	100	17.38
7702-16	16	.053	.012	100	19.00
7702-15	15	.059	.012	100	19.63
7702-14	14	.066	.012	100	21.00
7702-13	13	.076	.012	100	23.75
7702-12	12	.085	.012	100	25.50
7702-11	11	.095	.012	100	28.38
7702-10	10	.106	.012	100	30.50
7702-09	9	.118	.015	100	44.00
7702-81	1/8"	.125	.015	100	45.00
7702-08	8	.133	.015	50	24.32
7702-07	7	.148	.015	50	26.63
7702-06	6	.166	.015	50	29.75
7702-05	5	.186	.015	50	33.50
7702-04	4	.208	.015	50	36.75
7702-03	3	.234	.015	50	40.75
7702-41	1/4"	.250	.015	50	43.75
7702-02	2	.263	.015	50	45.50
7702-01	1	.294	.015	50	50.69
7702-51	5/16"	.312	.015	50	55.12
7702-00	0	.330	.015	50	56.12
<b>LIGHTWEIGHT</b>					
7703-28	28	.015	.006	100	\$ 7.63
7703-26	26	.018	.006	100	7.75
7703-24	24	.022	.006	100	8.13
7703-22	22	.027	.006	100	9.38
7703-20	20	.034	.006	100	11.13
7703-19	19	.038	.006	100	12.38
7703-18	18	.042	.006	100	13.38
7703-17	17	.047	.006	100	14.88
7703-16	16	.053	.006	100	16.13
7703-15	15	.059	.006	100	16.75
7703-14	14	.066	.008	100	19.50
7703-13	13	.076	.008	100	22.25
7703-12	12	.085	.008	100	24.38
7703-11	11	.095	.008	100	27.38
7703-10	10	.106	.008	100	29.50
7703-09	9	.118	.008	50	16.63
7703-81	1/8"	.125	.008	50	17.88
7703-08	8	.133	.008	50	18.44
7703-07	7	.148	.008	50	20.00
7703-06	6	.166	.010	50	25.88
7703-05	5	.186	.010	50	28.38
7703-04	4	.208	.010	50	31.38
7703-03	3	.234	.010	50	34.50
7703-41	1/4"	.250	.010	50	36.69
7703-02	2	.263	.010	50	37.57
7703-01	1	.294	.010	50	41.19
7703-51	5/16"	.312	.012	50	48.69
7703-00	0	.330	.012	50	49.63

\*Reg. Trademark E. I. DuPont Co.

## GSA SMITH TEFLON\* TERMINALS

GSA is provided to insure "Guaranteed Stock Availability" for IMMEDIATE DELIVERY to our customers from stock on all standard parts.

### PLATING FINISH

- STANDARD—.0002 SILVER PLATE, GOLD FLASH  
 1—.0002 SILVER, 000005 GOLD FLASH  
 2—.000005 GOLD OVER .0002 SILVER  
 3—STANDARD ELECTRO SOLDER PLATE (40° TIN/60° LEAD)  
 4—SPECIAL—FINISH REQUIREMENTS AS PER YOUR SPECIFICATIONS)

### COLOR CODE SUFFIX

Add to Catalog Number as required

- 101 WHITE
- 102 RED
- 103 BLACK
- 104 GREEN
- 105 BLUE
- 106 ORANGE
- 107 YELLOW
- 108 BROWN
- 112 PURPLE
- 113 GREY

\*Reg. Trademark E. I. DuPont Co.

## Norelco Loudspeakers

featuring The World's Most Powerful Magnets

Standard EIA mounting. Tropic-proof cadmium-plated frames. Designed for use in original equipment and as replacements in Radio, TV, Hi-Fidelity, Car Radio, etc.

Smith No.	Size	Shape	Imped. Ohms	Continuous Power Watts*	Height	Width	Depth	Freq. Resp. CPS	Free Air Resonance CPS	Cone Types	Magnet Type†	Magnet Wgt. Oz.	Std. Pkg.	NET Each
4300	2"	Round	3.2	0.3	2 1/4"	2 1/4"	1 1/8"	500-4500	590	Single	Tic.	0.36	3	\$2.16
4301	2 1/2"	Round	8	0.5	2 5/8"	2 5/8"	1 3/8"	400-7000	350	Single	Fer.	0.72	3	2.25
4302	3"	Square	3.2	2.0	3 1/8"	3 1/8"	1 1/2"	200-7000	275	Single	Tic.	0.72	6	2.25
4303	3"	Square	3.2	1.0	3 1/8"	3 1/8"	1 1/2"	265-6000	285	Single	Fer.	1.44	6	2.40
4304	4"	Square	3.2	3.0	4 1/8"	4 1/8"	1 3/8"	140-16500	165	Single	Tic.	0.72	6	2.22
4305	4"	Square	3.2	1.0	4 1/8"	4 1/8"	1 1/8"	200-6000	250	Single	Fer.	1.44	6	2.40
4306	4"	Square	3.2	3.0	4 1/2"	4 1/2"	1 5/8"	170-7000	165	Single	Fer.	5.35	6	3.36
4307	5"	Octag.	3.2	3.0	4 3/4"	4 3/4"	2"	100-14000	130	Single	Tic.	0.27	3	2.34
4308	5"	Octag.	3.2	3.0	4 3/4"	4 3/4"	2 1/4"	95-18000	124	Dual	Fer.	5.00	3	3.27
4309	8"	Octag.	3.2	6.0	7 3/4"	7 3/4"	3 1/4"	60-18000	72	Dual	Tic.	1.50	3	3.27
4310	8"	Octag.	8	0.6	7 3/4"	7 3/4"	2 7/8"	60-18000	72	Dual	Fer.	5.00	3	\$3.84
4311	8"	Octag.	8	6.0	7 3/4"	7 3/4"	4 5/8"	55-18000	60	Dual	Tic.	13.20	1	14.40
4312	10"	Round	8	10.0	10 1/4"	10 1/4"	5 3/4"	45-18000	50	Dual	Tic.	15.10	1	15.75
4313	12"	Round	3.2	10.0	12 3/8"	12 3/8"	4 1 1/8"	40-18000	45	Dual	Tic.	9.30	1	10.65
4314	12"	Round	8	20.0	12 3/8"	12 3/8"	6 1/2"	35-17000	45	Dual	Tic.	15.10	1	16.05
4315	3x8	Oval	3.2	3.0	8 3/4"	3 1/4"	2 1/4"	120-12000	130	Single	Tic.	2.50	1	3.84
4316	4x6	Oval	3.2	3.0	6 1/8"	4 2/8"	2 1/2"	110-11000	130	Single	Tic.	1.50	3	2.70
4317	4x6	Oval	3.2	3.0	6 1/8"	4 2/8"	2 1/8"	105-18000	124	Dual	Fer.	5.00	3	3.36
4318	5x7	Oval	3.2	3.0	7 1/4"	5 1/4"	2 1/4"	50-15000	90	Dual	Tic.	1.50	3	3.24
4319	5x7	Oval	3.2	6.0	7 1/4"	5 1/4"	2 1/2"	50-18000	90	Dual	Fer.	5.00	3	3.75
4320	6x9	Oval	3.2	6.0	9 1/4"	6 3/8"	3 1/4"	65-18000	77	Dual	Tic.	1.50	3	3.99
4321	6x9	Oval	3.2	6.0	9 1/4"	6 3/8"	2 7/8"	65-18000	80	Dual	Fer.	5.00	3	4.50

† Tic. = Ticonal; Fer. = Ferroxdure.

\* DOUBLE these ratings for PEAK power.

World Radio History



# EQUIPMENT HANDLES

## MATERIALS AND FINISH SPECIFICATIONS

The following specifications are met by all panel handles, ferrules, and hardware where applicable:  
**Materials:**  
 Brass: In accordance with Federal Spec. QQ-B-626, Composition 22, 1/4 Hard.  
 Aluminum: In accordance with Federal Spec. QQ-A-365, Composition A, Type 3.  
 Steel: Cold-Rolled, in accordance with QQ-B-633b, Grade FS-1010.

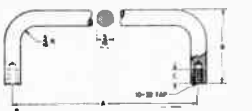
### Finishes:

Nickel Plate: Polished Nickel Plate, in accordance with Federal Spec. QQ-N-290, Class I, Type VI.  
 Black Oxide: In accordance with MIL-P-495A.  
 Satin Etch: Commercial Finish.  
 Black Anodize: In accordance with MIL-A-8625A.  
 Optical Black: Color in accordance with Fed. Std. 595, Type 37038. Paint complies with Fed. Spec. TT-E-527.

### Note:

Aluminum Handles, either round or oval, and matching ferrules, can be supplied anodized in colors per MIL-A-8625A on special order.

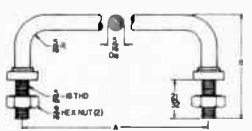
### PANEL HANDLES



Brass Panel Handles, finished as shown, with internal 10-32 thread. Individually packaged. Std. Pkg. 10

No.	Mtg. Ctrs. (A)	Height (B)	Tap Depth (C)	Finish	NET Ea.
2050	3"	1-5/16"	7/16"	Nickel Plate	\$1.00
1801	3"	1-5/16"	7/16"	Black Oxide	1.00
2057	3"	1-1/2"	9/16"	Nickel Plate	1.00
1802	3"	1-1/2"	9/16"	Black Oxide	1.00
2056	4-1/4"	1-1/2"	9/16"	Nickel Plate	1.05
1604	4-1/4"	1-1/2"	9/16"	Black Oxide	1.05
2051	4-9/16"	1-1/2"	9/16"	Nickel Plate	1.10
1605	4-9/16"	1-1/2"	9/16"	Black Oxide	1.10
2052	6-7/16"	1-3/4"	9/16"	Nickel Plate	1.40
1606	6-7/16"	1-3/4"	9/16"	Black Oxide	1.40

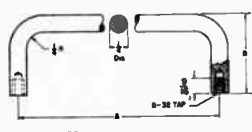
### PANEL HANDLES



Brass Panel Handles, finished as shown with male threaded stud. Supplied complete with matching ferrules, and brass, nickel plated hex nuts. Mount in 1/4" panel holes. Individually packaged. Std. Pkg. 10

No.	Mtg. Ctrs. (A)	Height (B)	Finish	NET Ea.
1607	2"	2 1/2"	Nickel Plate	\$1.35
1608	2"	2 1/2"	Black Oxide	1.35
1609	3"	2 1/2"	Nickel Plate	1.40
1610	3"	2 1/2"	Black Oxide	1.40
1611	4"	2 1/2"	Nickel Plate	1.45
1612	4"	2 1/2"	Black Oxide	1.45
2058	4 1/4"	2 1/2"	Nickel Plate	1.50
1613	4 1/4"	2 1/2"	Black Oxide	1.50
1614	6"	2 1/4"	Nickel Plate	1.55
1615	6"	2 1/4"	Black Oxide	1.55

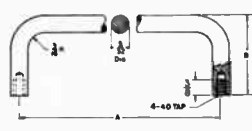
### PANEL HANDLES



1/4" Diameter panel handles. Brass and Aluminum, finished as shown, with internal 8-32 thread. Individually packaged. Std. Pkg. 10

No.	Mtg. Ctrs. (A)	Height (B)	Material	Finish	NET Ea.
1616	2"	1 1/2"	Brass	Nickel Plate	\$.90
1617	2"	1 1/2"	Brass	Black Oxide	.90
1618	2"	1 1/2"	Aluminum	Satin	.85
1619	2"	1 1/2"	Aluminum	Blk. Anodize	.75
1620	3"	1 1/2"	Brass	Nickel Plate	.95
1621	3"	1 1/2"	Brass	Black Oxide	.95
1622	3"	1 1/2"	Aluminum	Satin	.75
1623	3"	1 1/2"	Aluminum	Blk. Anodize	.80
1624	4"	1 1/2"	Brass	Nickel Plate	1.00
1625	4"	1 1/2"	Brass	Black Oxide	1.00
1626	4"	1 1/2"	Aluminum	Satin	.80
1627	4"	1 1/2"	Aluminum	Blk. Anodize	.85
1628	6"	1 1/2"	Brass	Nickel Plate	1.05
1629	6"	1 1/2"	Brass	Black Oxide	1.05
1630	6"	1 1/2"	Aluminum	Satin	.85
1631	6"	1 1/2"	Aluminum	Blk. Anodize	.90

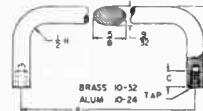
### PANEL HANDLES



5/32" Diameter panel handles. Brass and Aluminum, finished as shown, with internal 4-40 thread. Individually packaged. Std. Pkg. 10

No.	Mtg. Ctrs. (A)	Height (B)	Material	Finish	NET Ea.
1632	1 1/2"	1"	Brass	Nickel Plate	\$.80
1633	1 1/2"	1"	Brass	Black Oxide	.80
1634	1 1/2"	1"	Aluminum	Satin	.75
1635	1 1/2"	1"	Aluminum	Blk. Anodize	.80
1636	2"	1"	Brass	Nickel Plate	.85
1637	2"	1"	Brass	Black Oxide	.85
1638	2"	1"	Aluminum	Satin	.80
1639	2"	1"	Aluminum	Blk. Anodize	.85
1640	3"	1"	Brass	Nickel Plate	.90
1641	3"	1"	Brass	Black Oxide	.90
1642	3"	1"	Aluminum	Satin	.85
1643	3"	1"	Aluminum	Blk. Anodize	.90

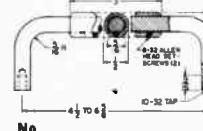
### OVAL PANEL HANDLES



Flat, oval panel handles in Brass and Aluminum, finished as shown. Brass handles have internal 10-32 thread, Aluminum handles have internal 10-24 thread. Individually packaged. Std. Pkg. 10

No.	Mtg. Ctrs. (A)	Height (B)	Tap Depth (C)	Material	Finish	NET Ea.
1644	3"	1 1/2"	3/32"	Brass	Nickel Plate	\$1.80
1645	3"	1 1/2"	3/32"	Brass	Black Oxide	1.80
1646	3"	1 1/2"	3/32"	Aluminum	Blk. Anodize	.65
1647	4 1/4"	1 1/2"	3/32"	Brass	Nickel Plate	2.20
1648	4 1/4"	1 1/2"	3/32"	Brass	Black Oxide	2.20
1649	4 1/4"	1 1/2"	3/32"	Aluminum	Blk. Anodize	1.80
1651	6 1/2"	1 1/2"	3/32"	Brass	Nickel Plate	2.50
1653	6 1/2"	1 1/2"	3/32"	Brass	Black Oxide	2.50
1654	6 1/2"	1 1/2"	3/32"	Aluminum	Blk. Anodize	2.10
1655	9"	1 1/2"	3/32"	Brass	Nickel Plate	2.75
1657	9"	1 1/2"	3/32"	Brass	Black Oxide	2.75
1658	9"	1 1/2"	3/32"	Aluminum	Blk. Anodize	2.20

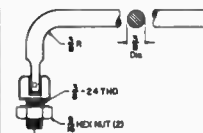
### ADJUSTABLE HANDLES



Adjustable Brass Panel handles, with mounting center range from 1/4" to 6 1/4". Finished as shown. Internal 10-32 thread, supplied with Allen-Head locking screws. Individually packaged. Std. Pkg. 10

No.	Finish	NET Ea.
1659	Nickel Plate	\$3.85
1661	Black Oxide	3.85

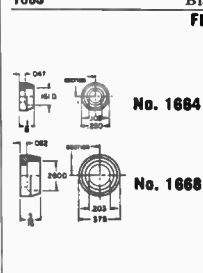
### FOLDING HANDLES



Folding Brass panel handles, with spring-loaded detents which snap into upright or left-or-right folded position. Finished as shown. Supplied with brass, nickel plated hex nuts. Mounts in 1/4" panel holes. Individually packaged. Std. Pkg. 10

No.	Finish	NET Ea.
1662	Nickel Plate	\$4.40
1663	Black Oxide	4.40

### FERRULES



Brass and Aluminum ferrules, finished as shown, to match handles listed above. Std. Pkg. 50

### FOR 5/32" DIA. HANDLES

No.	Material	Finish	NET Per C
1664	Brass	Nickel Plate	\$15.00
1665	Brass	Black Oxide	12.00
1666	Aluminum	Satin	13.00
1667	Aluminum	Black Anodize	13.00

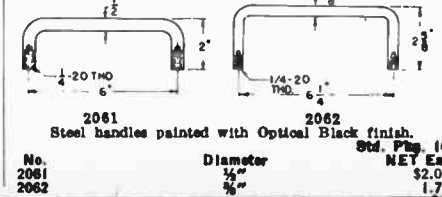
### FOR 1/4" DIA. HANDLES

No.	Material	Finish	NET Per C
1668	Brass	Nickel Plate	\$15.00
1669	Brass	Black Oxide	12.00
1670	Aluminum	Satin	13.00
1671	Aluminum	Black Anodize	13.00

### FOR 5/16" DIA. HANDLES

No.	Material	Finish	NET Per C
2054	Brass	Nickel Plate	\$15.00
1672	Brass	Black Oxide	13.00
2055	Brass	Black Oxide	18.00
1673	Brass	Nickel Plate	12.00

### HANDLES



Steel handles painted with Optical Black finish. Std. Pkg. 10

No.	Diameter	NET Ea.
2061	1/4"	\$2.00
2062	3/8"	1.75

### MOLDED GRIP HANDLES

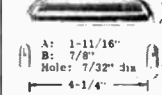


HANDLE: Molded High Impact styrene.  
 HDWRE.: Steel, nickel plated.  
 DESCR.: Designed for economy and rugged use. Std. Pkg. 10

No.	Color	NET Per C
2096	Black	\$80.00
2097	Grey	60.00

No.	Color	NET Per C
2098	Black	95.00
2099	Grey	95.00

### MOLDED GRIP HANDLES

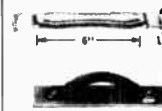


HANDLE: Molded high impact Styrene, Fungus Resistant.  
 HDWRE.: Steel, Nickel plated.  
 DESCR.: Rounded palm fitting design. Attaches to case with machine screws. Std. Pkg. 10

No.	Color	NET Ea.
2085	Black	\$1.32
2086	Grey	1.32

No.	Color	Stud Lth.	NET Ea.
2087	Black	3/8"	\$1.32
2088	Grey	1/4"	1.32

### SPRING GLIDE HANDLE



HANDLE: Genuine leather, contoured BLACK, matching stitching, 6" long.  
 CAPS: Steel, chrome plated.  
 DESCR.: Strong, silent spring glide, frequency of decibel extremes will not induce handle rattle. Handle moves up for comfortable carrying down when not in use. Std. Pkg. 10

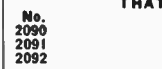
No.	Color	NET Ea.
2069	Black	\$2.50

### RETRACTO-LINK HANDLES



HANDLE: Genuine leather, matching stitching, BLACK.  
 HDWRE.: Steel, nickel plated.  
 DESCR.: Assemblies are shaped with all hardware installed except for decorative cover caps which are packed separately. Supplied in two styles—different lengths. Std. Pkg. 10

### ATTACHES WITH PRONGS THAT BEND INSIDE CASE



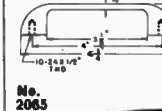
No.	Length	Ea.
2090	4 1/2"	\$2.25
2091	5 1/2"	2.25
2092	6 1/2"	2.25

### ATTACHES WITH RIVETS OR SCREWS



No.	Length	Ea.
2098	5 1/2"	\$2.25
2094	5 1/2"	2.25
2095	6 1/2"	2.25

### OVAL HANDLE



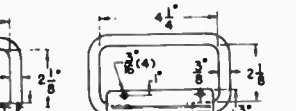
Die Cast Zamac Handle. Brush chrome plated. Std. Pkg. 10  
 NET Per C \$90.00

### BAKELITE HANDLE



No.	Thread	D.D.	Mtg. Ctr.	Color	NET Per C
2281	8-32	4 1/4"	2 1/2"	Black	\$15.50
2282	8-32	4 1/4"	Center	Red	17.50

### MIL. SPEC. HANDLES



MATERIAL: Aluminum.  
 FINISH: Alodine per MIL-C-5541 Spec. Sprayed to MIL-E-15090. Gloss gray color #1640 per MIL SPEC. PTC-595. Std. Pkg. 10

No.	Type	NET Ea.
2065	Half Bracket	\$1.65
2064	Full Bracket	1.65
With Trans/lux Plastic Protector		
2048	Half Bracket	\$1.80
2049	Full Bracket	1.80



**JUMPER CORDS**

Male Phono Plug with finger grip handle on each end.  

No.	Length	Std. Pkg. 6	NET Ea.
631	18 inches		.75
632	24 inches		.78
633	36 inches		.84
634	48 inches		.96
635	72 inches		1.05
636	120 inches		1.50
745	180 inches		1.78

Right Angle Phono Plug to Right Angle Phono Plug  

No.	Length	Std. Pkg. 6	NET Ea.
2720	18 inches		.75
2721	24 inches		.78
2722	36 inches		.84
2723	48 inches		.96
2724	72 inches		1.05
2725	120 inches		1.50
2726	180 inches		1.78

**EXTENSION CORDS**

Male Phono Plug with finger grip handle one end; Female In-line Jack other end.  

No.	Length	Std. Pkg. 6	NET Ea.
641	18 inches		.78
642	24 inches		1.02
643	36 inches		1.08
644	48 inches		1.20
645	72 inches		1.29
646	120 inches		1.62

Right Angle Phono Plug to In-line Jack.  

No.	Length	Std. Pkg. 6	NET Ea.
2728	18 inches		.99
2729	24 inches		1.02
2730	36 inches		1.08
2731	48 inches		1.20
2732	72 inches		1.29
2733	120 inches		1.62

Male Phono Plug one end; In-line Jack other end.  

No.	Length	Std. Pkg. 6	NET Ea.
639	72 inches		ca. \$1.44

Right Angle Phono Plug to In-line Jack.  

No.	Length	Std. Pkg. 6	NET Ea.
2740	72 inches		\$1.44

**INPUT-OUTPUT CORDS**

Male Phono Plug with finger grip handle one end; Male Phono Plug other end.  

No.	Length	Std. Pkg. 6	NET Ea.
662	72 inches		\$1.38

Right Angle Phono Plug to Straight Phono Plug.  

No.	Length	Std. Pkg. 6	NET Ea.
2786	6 feet		\$1.38

Male Phono Plug with Molded Finger grip handle one end; Miniature Phono Plug other end.  

No.	Length	Std. Pkg. 6	NET Ea.
715	72 inches		\$1.38

Right Angle Phono Plug to Phono Plug.  

No.	Length	Std. Pkg. 6	NET Ea.
2739	72 inches		\$1.38

Right Angle Phono Plug to Right Angle Phono Plug.  

No.	Length	Std. Pkg. 6	NET Ea.
2787	6 feet		\$1.38

Right Angle Phono Plug to Miniature Phono Plug.  

No.	Length	Std. Pkg. 6	NET Ea.
2741	72 inches		\$1.38

**STEREO CONNECTOR CABLES**

Twin shielded audio cables, individually color coded with molded connectors, for neat, simultaneous connections of both channels in Stereo HI-FI equipment.



Male Phono Plugs with finger grip handle on each end.  

No.	Length	NET Each
754	36 inches	\$1.80
755	72 inches	2.04
756	144 inches	2.70



Male Phono Plugs with finger grip handle, one end. Other end stripped and tinned with color-coded insulation.  

No.	Length	NET Each
757	36 inches	\$1.59
758	72 inches	1.74
759	144 inches	2.25



Male Phono Plugs with finger grip handle, one end. Female molded in-line jacks other end.  

No.	Length	NET Each
760	36 inches	\$2.25
761	72 inches	2.40
762	144 inches	3.00

**PHONO PLUG CONNECTOR CORDS**



Male Phono Plug with finger grip handle one end; Spade Lugs other end.  

No.	Length	Std. Pkg. 6	NET Ea.
668	72 inches		\$1.72



Male Phono Plug with finger grip handle one end; other end stripped and tinned.  

No.	Length	Std. Pkg. 6	NET Ea.
637	36 inches		\$.66
638	72 inches		.84



Male Phono Plug with finger grip handle one end; Insulated Alligator Clips other end.  

No.	Length	Std. Pkg. 6	NET Ea.
673	36 inches		\$.72
674	72 inches		.90



Right Angle Phono Plug to Spade Lugs.  

No.	Length	Std. Pkg. 6	NET Ea.
2734	72 inches		\$.72



Right Angle Phono Plug to stripped and tinned ends.  

No.	Length	Std. Pkg. 6	NET Ea.
2735	36 inches		\$.66
2736	72 inches		.84



Right Angle Phono Plug to Insulated Alligator Clips.  

No.	Length	Std. Pkg. 6	NET Ea.
2737	36 inches		\$.72
2738	72 inches		.90

**PHONE PLUG JUMPER CORDS**

Male Phono Plugs on each end.  

No.	Length	Std. Pkg. 6	NET Ea.
677	72 inches		\$1.38

Right Angle Phone Plug to Right Angle Phone Plug.  

No.	Length	Std. Pkg. 6	NET Ea.
2784	6 feet		\$1.38
2785	10 feet		1.71

Right Angle Phone Plug to Straight Phone Plug.  

No.	Length	Std. Pkg. 6	NET Ea.
2783	6 feet		\$1.38

**PHONE PLUG EXTENSION CORDS**

Male Phono Plug one end; Female In-line Jack other end.  

No.	Length	Std. Pkg. 6	NET Ea.
663	72 inches		\$1.80

Right Angle Phone Plug to In-line Phone Jack.  

No.	Length	Std. Pkg. 6	NET Ea.
2788	6 feet		\$1.80

Male Phono Plug one end; In-line Jack other end.  

No.	Length	Std. Pkg. 6	NET Ea.
669	72 inches		\$1.98

Right Angle Phone Plug to In-line Phone Jack.  

No.	Length	Std. Pkg. 6	NET Ea.
2789	6 feet		\$1.98

**PHONE PLUG CONNECTOR CORDS**

Male Phono Plug one end; Spade Lugs other end.  

No.	Length	Std. Pkg. 6	NET Ea.
665	72 inches		\$1.08

Male Phono Plug one end; other end stripped and tinned.  

No.	Length	Std. Pkg. 6	NET Ea.
667	72 inches		\$1.20

Male Phono Plug one end; insulated Alligator Clips other end.  

No.	Length	Std. Pkg. 6	NET Ea.
664	72 inches		\$1.29

Right Angle Phone Plug to Insulated Spade Lug.  

No.	Length	Std. Pkg. 6	NET Ea.
2780	6 feet		\$1.08

Right Angle Phone Plug to Stripped and Tinned Ends.  

No.	Length	Std. Pkg. 6	NET Ea.
2781	6 feet		\$1.20

Right Angle Phone Plug to Insulated Alligator Clips.  

No.	Length	Std. Pkg. 6	NET Ea.
2782	6 feet		\$1.29

# specify **SMITH**

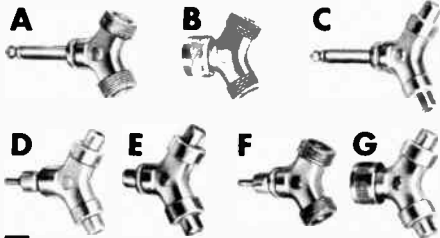
HERMAN H. SMITH, INC.



**ELECTRONIC COMPONENTS**

**"Y" CONNECTOR ADAPTERS**

Three circuit, fully shielded connectors for parallel input, patching, and mixing various styles of audio cable terminations. All connectors are American made, precision die-cast, with bright nickel plated finish. **Std. Pkg. 10**



**A MIKE CONNECTORS TO PHONE PLUG**  
 INPUT: Two Male threaded Microphone connectors parallel.  
 OUTPUT: Single two-circuit phone plug.  
 No. 1250 **NET Each \$1.14**

**B MIKE CONNECTORS TO MIKE CONNECTOR**  
 INPUT: Two Male threaded Microphone connectors, parallel.  
 OUTPUT: Single Female threaded Microphone connector, captive ring.  
 No. 1251 **NET Each \$ .99**

**C PHONO JACKS TO PHONE PLUG**  
 INPUT: Two standard phono jacks, paralleled.  
 OUTPUT: Single two-circuit phone plug.  
 No. 1252 **NET Each \$1.14**

**D PHONO JACKS TO PHONO PLUG**  
 INPUT: Two standard phono jacks, paralleled.  
 OUTPUT: Single standard phono plug.  
 No. 1253 **NET Each \$1.05**

**E PHONO JACKS TO PHONO JACK**  
 INPUT: Two standard phono jacks, paralleled.  
 OUTPUT: Single two-circuit phone plug.  
 No. 1254 **NET Each \$1.05**

**F MIKE CONNECTORS TO PHONO PLUG**  
 INPUT: Two Male threaded Microphone connectors, parallel.  
 OUTPUT: Single standard phono plug.  
 No. 1255 **NET Each \$ .99**

**G PHONO JACKS TO MIKE CONNECTOR**  
 INPUT: Two standard phono jacks, paralleled.  
 OUTPUT: Single Female threaded Microphone connector, captive ring.  
 No. 1256 **NET Each \$1.14**

**MICROPHONE CONNECTOR ADAPTERS**



**A**  
 INPUT: Standard phono jack. **Std. Pkg. 10**  
 OUTPUT: Female microphone connector, with captive ring.  
 No. 1229 **NET Each \$ .75**

**B**  
 INPUT: Standard phono jack.  
 OUTPUT: Male threaded microphone connector.  
 No. 1230 **NET Each \$ .75**

**C**  
 INPUT: Female Microphone connector, with captive ring.  
 OUTPUT: Standard phono plug.  
 No. 1231 **NET Each \$ .60**

**D**  
 INPUT: Male threaded Microphone connector.  
 OUTPUT: Standard phono plug.  
 No. 1232 **NET Each \$ .60**

**MICROPHONE CABLES**

Coaxial Extension Cable		
No.	Length	NET Ea.
687	36 inches	\$1.44
688	72 inches	1.80
689	144 inches	2.58

Coaxial Jumper Cable		
No.	Length	NET Ea.
694	36 inches	\$1.62
696	72 inches	1.98
697	144 inches	2.52

**PHONO PLUGS**

RCA Type Phone Plug. For use with record players, recording and reproducing equipment, etc. Extra large hole in cap (.175") for coaxial cable. **Std. Pkg. 100**  
 No. Type **NET Per C**  
 1201 Long Pin (1" overall) \$3.60  
 1202 Short Pin (13/16" overall) 3.60



**PHONO JACKS**

Female for No. 1201 plug. Single prong positive grip jack mounted on 1/16" bakelite with 11/16" mounting centers. **Std. Pkg. 100**  
 No. **NET Per C**  
 1203 \$4.20  
 1203-1 Insulating Washer 1.80



Small, compact... where space is at a premium. 7/16" Mtg. Ctrs. **Std. Pkg. 100**  
 No. **NET Per C**  
 1223 \$7.20



Space Saver... Rivets and grounds to chassis. Mounts in 19/64" hole. **Std. Pkg. 50**  
 No. **NET Per C**  
 1233 \$6.60



**PANEL MOUNT PHONO JACK**

Mounts in 29/64" hole (.453) with nut and washer. Easy installation for the home Hi-Fi enthusiast. **Std. Pkg. 50**  
 No. **NET Per C**  
 1247 \$30.00



**HANDY GRIP PHONO PLUG**

Quick connect: strip wire, solder inner conductor to pin and either solder braid to lug or crimp to lug. Fits all standard phono jacks. **Std. Pkg. 100**  
 No. **NET Per C**  
 1246 \$9.00



**SHIELDED EXTENSION JACK**

Brass shell, cadmium plated, 1 1/8" long, with black bakelite insert. Provides insulation for solder-coated positive grip contact. Uses No. 1201 phono plug. **Std. Pkg. 50** **NET Per C**  
 No. 1237 \$27.00



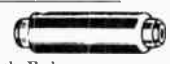
**PHONE ADAPTERS**  
 Phono Plug to Phone Plug

Adapts standard phono plug to phone plug with built in resistor to adapt either crystal or magnetic pickups. **Std. Pkg. 10**  
 No. Description **NET Ea.**  
 707 With Resistor \$1.59  
 708 Without Resistor .90



**FEED THRU**

Accepts Phono Plug on Each End. **Std. Pkg. 10** **NET Ea. \$7.72**  
 No. 661



**STEREO CABLE ASSEMBLY**

For use with dual microphone inputs such as Norelco, Webcor, Revere and Wollensak. 6-ft. dual shielded stereo cable with 3-conductor molded phone plug at one end and two color-coded phono plugs at other two ends. **NET Ea. \$2.64**  
 No. 2712



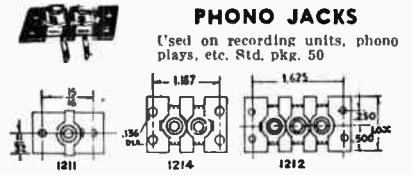
**STEREO HEADPHONE CORD**

Replacement cord for Jensen HS-10, Knight KN-840, Sharpe AA-8, HA-10 and most all stereo headphones. 6-ft. dual shielded stereo cable with 3-conductor molded phone plug at one end and other two ends stripped and tinned. **NET Ea. \$1.95**  
 No. 2719



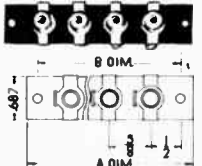
**PHONO JACKS**

Used on recording units, phono plays, etc. **Std. pkg. 50**



No. **NET Per C**  
 1211—Single Jack \$ 7.20  
 1214—Double Jack 9.60  
 1212—Triple Jack 15.00  
 1214-1—Insulating Washer for No. 1214 2.40

**MULTIPLE PHONO JACKS**



Individual phono jacks (no interconnected grounds) mounted on narrow width bakelite strip. **Std. Pkg. 50**

No.	No. of Jacks	Dimensions "A" "B"		Std. Pkg.	NET Per C
1261	1	1 3/8"	1.000	5	\$ 5.50
1262	2	2"	1.625	5	10.00
1263	3	2 5/8"	2.250	5	16.00
1264	4	3 1/4"	2.875	5	19.00
1265	5	3 7/8"	3.500	5	24.00
1266	6	4 1/2"	4.125	5	28.00
1267	7	5 1/4"	4.750	5	33.00
1268	8	5 3/4"	5.375	5	37.00

**"Y" CONNECTORS**



Flexible "Y" connector, male phono plug to twin female phono jacks. 4" shielded wire. **Std. Pkg. 6** **NET Ea. \$1.20**  
 No. 751



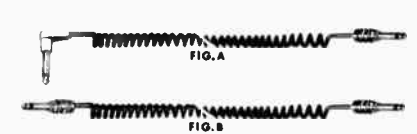
Flexible "Y" connector, male phono plug to twin male phono plugs. 4" shielded wire. **Std. Pkg. 6** **NET Ea. \$1.20**  
 No. 752



Flexible "Y" connector, female phono jack to twin male phono plugs. 4" shielded wire. **Std. Pkg. 6** **NET Ea. \$1.20**  
 No. 753

**ELECTRIC GUITAR CABLES**

Rubber covered spring-back type, designed for professional use with guitars, and other stringed instruments, accordion, electronic organs, etc. **Std. Pkg. 6**



**RUBBER COVERED KOILED KORD — BLACK ONLY**

No.	Fig.	Expanded Length	NET Each
2715	A	15 Ft.	\$4.50
2717	B	15 Ft.	4.50
7505	Cord only, without termination, 15-ft.		\$2.10

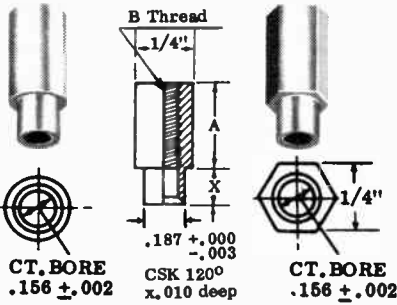
**VINYL PLASTIC KOILED KORD**

Expanded length 15 Ft. Available in Red (—102), Black (—103), Yellow (—107), Green (—104), Blue (—105), White (—101).

No.	Fig.	NET Each
2710	A	\$4.20
7504	Cord only, without termination, 15-ft.	
		\$1.80

## BRASS THREADED SWAGE STANDOFFS

Nickel Plated Std. Pkg. 100



No.	NET Per C	ROUND			HEX		
		A	B	X	No.	NET Per C	
4100	\$10.00	3/4	4/40	.105	4200	\$11.00	
4101	10.00	3/4	4/40	.135	4201	11.00	
4102	10.00	3/4	4/40	.165	4202	11.00	
4103	11.00	3/4	4/40	.105	4203	12.00	
4104	11.00	3/4	4/40	.135	4204	12.00	
4105	11.00	3/4	4/40	.165	4205	12.00	
4106	12.50	1/2	4/40	.105	4206	13.50	
4107	12.50	1/2	4/40	.135	4207	13.50	
4108	12.50	1/2	4/40	.165	4208	13.50	
4109	14.00	5/8	4/40	.105	4209	15.00	
4110	14.00	5/8	4/40	.135	4210	15.00	
4111	14.00	5/8	4/40	.165	4211	15.00	
4112	16.00	3/4	4/40	.105	4212	17.00	
4113	16.00	3/4	4/40	.135	4213	17.00	
4114	16.00	3/4	4/40	.165	4214	17.00	
4115	20.00	1	4/40	.105	4215	21.00	
4116	20.00	1	4/40	.135	4216	21.00	
4117	20.00	1	4/40	.165	4217	21.00	

## BRASS SPACERS Cadmium Plated

These brass bushings are ideal for use in raising sub panels, chassis, condensers, transformers, etc. Hole in bushing to accommodate a #4, #6, or #8 screw. Std. Pkg. 100

Length "L"	1/4" O.D.			NET Per C
	for #4 Screw No.	for #6 Screw No.	for #8 Screw No.	
.125	8700	8701	8702	\$2.50
.187	8703	8704	8705	2.80
.250	2340	2100	2105	3.30
.312	8706	8707	8708	3.70
.375	2341	2101	2106	4.30
.437	8709	8710	8711	4.70
.500	2342	2102	2107	5.28
.562	8712	8713	8714	5.50
.625	8715	8716	8717	5.70
.687	8718	8719	8720	6.00
.750	2343	2103	2108	6.30
.812	8721	8722	8723	6.70
.875	8724	8725	8726	6.90
.937	8727	8728	8729	7.00
1.000	2344	2104	2109	7.20

Length "L"	3/8" O.D.			NET Per C
	for #4 Screw No.	for #6 Screw No.	for #8 Screw No.	
.125	8730	8731	8732	\$4.20
.187	8733	8734	8735	4.50
.250	2345	2110	2115	5.28
.312	8736	8737	8738	5.50
.375	2346	2111	2116	6.30
.437	8739	8740	8741	7.00
.500	2347	2112	2117	8.00
.562	8742	8743	8744	9.20
.625	8745	8746	8747	9.70
.687	8748	8749	8750	10.00
.750	2348	2113	2118	10.50
.812	8751	8752	8753	11.70
.875	8754	8755	8756	12.50
.937	8757	8758	8759	13.40
1.000	2349	2114	2119	14.20

## BRASS THREADED SPACERS Cadmium Plated

Length "L"	1/4" O.D.			NET Per C
	THD 4-40 No.	THD 6-32 No.	THD 8-32 No.	
.125	8760	8761	8762	\$2.80
.187	8763	8764	8765	3.30
.250	2120	2120	2125	3.90
.312	8766	8767	8768	4.30
.375	2371	2121	2126	4.95
.437	8769	8770	8771	5.50
.500	2372	2122	2127	6.00
.562	8772	8773	8774	6.50
.625	8775	8776	8777	7.00
.687	8778	8779	8780	7.80
.750	2373	2123	2128	8.40
.812	8781	8782	8783	9.20
.875	8784	8785	8786	9.50
.937	8787	8788	8789	10.00
1.000	2374	2124	2129	10.40

## BRASS HEX SPACERS Cadmium Plated

Length "L"	1/4" HEX			NET Per C
	for #4 Screw No.	for #6 Screw No.	for #8 Screw No.	
.125	8790	8791	8792	\$3.00
.187	8793	8794	8795	3.20
.250	2380	2380	2385	3.60
.312	8796	8797	8798	4.00
.375	2381	2301	2306	4.65
.437	8799	8800	8801	5.00
.500	2382	2302	2307	5.58
.562	8802	8803	8804	5.80
.625	8805	8806	8807	6.00
.687	8808	8809	8810	6.40
.750	2383	2303	2308	6.75
.812	8811	8812	8813	7.00
.875	8814	8815	8816	7.30
.937	8817	8818	8819	7.50
1.000	2384	2304	2309	7.80

Length "L"	3/8" HEX			NET Per C
	for #4 Screw No.	for #6 Screw No.	for #8 Screw No.	
.125	8850	8851	8852	\$4.40
.187	8853	8854	8855	5.00
.250	2385	2310	2315	6.18
.312	8856	8857	8858	6.30
.375	2386	2311	2316	7.20
.437	8859	8860	8861	7.90
.500	2387	2312	2317	8.25
.562	8862	8863	8864	10.00
.625	8865	8866	8867	10.50
.687	8868	8869	8870	11.70
.750	2388	2313	2318	12.90
.812	8871	8872	8873	13.40
.875	8874	8875	8876	14.20
.937	8877	8878	8879	15.00
1.000	2389	2314	2319	15.90

## BRASS THREADED HEX SPACERS Cadmium Plated

Length "L"	1/4" HEX			NET Per C
	THD 4-40 No.	THD 6-32 No.	THD 8-32 No.	
.125	8820	8821	8822	\$3.30
.187	8823	8824	8825	3.80
.250	2320	2320	2325	4.20
.312	8826	8827	8828	4.70
.375	2321	2321	2326	5.25
.437	8829	8830	8831	5.80
.500	2322	2322	2327	6.30
.562	8832	8833	8834	7.50
.625	8835	8836	8837	8.45
.687	8838	8839	8840	8.90
.750	2323	2323	2328	9.20
.812	8841	8842	8843	10.00
.875	8844	8845	8846	10.40
.937	8847	8848	8849	10.90
1.000	2324	2324	2329	11.20

## ALUMINUM SPACERS

Irridite 14-2 per MIL-C-5541 Std. Pkg. 100

### ROUND-CLEAR HOLE

Length "L"	.250 O.D.				NET Per C
	for #4 screw No.	for #6 screw No.	for #8 screw No.	NET Per C	
.125	8480	8500	8520	\$ 9.75	8540 \$ 8.50
.187	8481	8501	8521	10.50	8541 10.75
.250	8482	8502	8522	11.00	8542 11.25
.312	8483	8503	8523	11.75	8543 12.25
.375	8484	8504	8524	12.50	8544 13.00
.437	8485	8505	8525	14.25	8545 14.50
.500	8486	8506	8526	14.50	8546 14.75
.562	8487	8507	8527	15.00	8547 15.25
.625	8488	8508	8528	20.00	8548 20.00
.687	8489	8509	8529	21.50	8549 22.50
.750	8490	8510	8530	21.75	8550 23.50
.812	8491	8511	8531	22.25	8551 25.50
.875	8492	8512	8532	24.00	8552 28.00
.937	8493	8513	8533	28.00	8553 28.75
1.000	8494	8514	8534	30.00	8554 48.00
1.500	8495	8515	8535	42.00	8555 48.00
2.000	8496	8516	8536	40.00	8556 54.00
2.500	8497	8517	8537	44.00	8557 62.00

### ROUND-TAPPED HOLE

Length "L"	.250 O.D.				NET Per C
	4-40 THD	6-32 THD	8-32 THD	NET Per C	
.125	8320	8340	8360	\$ 8.75	8380 \$ 8.00
.250	8321	8341	8361	12.00	8381 12.75
.375	8322	8342	8362	12.50	8382 13.00
.500	8323	8343	8363	13.00	8383 14.00
.625	8324	8344	8364	14.75	8384 15.25
.750	8325	8345	8365	15.00	8385 17.75
.875	8326	8346	8366	18.00	8386 20.00
1.000	8327	8347	8367	18.50	8387 19.75
1.250	8328	8348	8368	19.50	8388 20.50
1.500	8329	8349	8369	20.25	8389 21.50
1.750	8330	8350	8370	21.50	8390 22.50
2.00	8331	8351	8371	21.75	8391 24.00
2.50	8332	8352	8372	24.00	8392 26.00
3.00	8333	8353	8373	25.50	8393 28.00
3.50	8334	8354	8374	28.00	8394 31.00
4.00	8335	8355	8375	32.00	8395 34.00

### HEX-CLEAR HOLE

Length "L"	.250 O.D.				NET Per C
	for #4 screw No.	for #6 screw No.	for #8 screw No.	NET Per C	
.125	8560	8580	8600	\$ 8.25	8620 \$11.50
.250	8561	8581	8601	11.00	8621 13.50
.375	8562	8582	8602	12.00	8622 14.25
.500	8563	8583	8603	12.25	8623 15.00
.625	8564	8584	8604	13.50	8624 16.00
.750	8565	8585	8605	15.00	8625 16.50
.875	8566	8586	8606	15.50	8626 17.00
1.000	8567	8587	8607	20.00	8627 17.50
1.250	8568	8588	8608	21.00	8628 22.00
1.500	8569	8589	8609	22.00	8629 23.75
1.750	8570	8590	8610	22.50	8630 25.50
2.00	8571	8591	8611	23.00	8631 28.00

### HEX-TAPPED HOLE

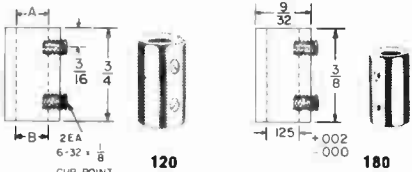
Length "L"	.250 O.D.				NET Per C
	4-40 THD	6-32 THD	8-32 THD	NET Per C	
.125	8400	8420	8440	\$11.00	8460 \$12.25
.250	8401	8421	8441	12.00	8461 15.00
.375	8402	8422	8442	13.50	8462 16.00
.500	8403	8423	8443	14.00	8463 16.75
.625	8404	8424	8444	15.25	8464 17.50
.750	8405	8425	8445	16.00	8465 20.00
.875	8406	8426	8446	18.00	8466 21.50
1.000	8407	8427	8447	18.50	8467 21.00
1.250	8408	8428	8448	20.25	8468 21.75
1.500	8409	8429	8449	22.00	8469 22.50
1.750	8410	8430	8450	21.50	8470 26.00
2.00	8411	8431	8451	22.50	8471 28.00
2.50	8412	8432	8452	25.00	8472 30.00
3.00	8413	8433	8453	28.50	8473 32.

# specify **SMITH** HERMAN H. SMITH, INC.



ELECTRONIC COMPONENTS

### COUPLERS Brass and Insulated



No.	A	B	O.D.	Material	NET Per C
120	1/4"	1/4"	3/8"	Brass N.P.	\$22.00
140	1/4"	1/4"	1/2"	Fibre	20.00
131	3/8"	3/8"	1/2"	Brass N.P.	22.00
141	3/8"	3/8"	3/4"	Fibre	20.00
133	3/8"	3/8"	1/2"	Brass N.P.	22.00
142	3/8"	3/8"	3/4"	Fibre	20.00

Std. Pkg. 25 With Two Set Screws

No.	A	B	O.D.	Material	NET Per C
138	1/4"	1/4"	3/8"	Brass N.P.	28.00

With Four Set Screws

180 1/4" - 1/4" - 3/8" Brass N.P. \$40.00

### EXTENDERS Brass and Insulated

Std. Pkg. 25 Long Shaft Type

No.	A	B	O.D.	Material	NET Per C
150	1/4"	1/4"	1 1/4"	Brass N.P.	\$35.00
151	1/4"	1/4"	1 1/2"	Fibre	30.00
132	3/8"	3/8"	1 1/4"	Brass N.P.	35.00
134	3/8"	3/8"	1 1/2"	Fibre	30.00

Std. Pkg. 25 Short Shaft Type

No.	A	B	O.D.	Material	NET Per C
160	1/4"	1/4"	3/8"	Brass N.P.	\$25.00
161	1/4"	1/4"	1/2"	Fibre	22.00
162	3/8"	3/8"	1/2"	Brass N.P.	25.00
163	3/8"	3/8"	3/4"	Fibre	22.00

189 1/4" - 1/4" - 3/8" Brass N.P. \$35.00

### SHAFT EXTENDERS For Volume Controls

Brass, Nickel Plated, No.	A	B	NET Per C
2356	2"	2.90"	\$30.00
2357	3"	2.90"	31.00
2358	3"	2.50"	33.00
2359	2"	2.19"	34.00

WITH FLAT

No.	A	B	NET Per C
2360	3"	2.19"	35.00
2361	4"	2.19"	45.00
2362	2"	1.56"	34.00
2363	3"	1.56"	35.00
2364	4"	1.56"	50.00

### BUSHING EXTENDERS For Volume Controls

Brass, Nickel Plated, No.	A	B	NET Per C
2350	3/8"	3/8"	\$25.00
2351	3/8"	3/8"	30.00
2352	1/2"	1/2"	33.00
2353	1/2"	1/2"	34.00
2354	1 1/2"	1 1/2"	35.00
2355	1 1/2"	1 1/2"	36.00

### BRASS THREADED RODS

1-Ft. Length		Std. Pkg. 10		2-Ft. Length	
No.	NET Ea.	Threaded	No.	NET Ea.	
1400-1	.50	6-32	1400-2	\$1.00	
1401-1	.50	8-32	1401-2	1.00	
1402-1	.50	10-32	1402-2	1.00	
1403-1	.55	1/4-20	1403-2	1.10	

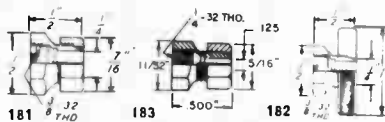
### NYLON THREADED RODS

1-Ft. Length		Std. Pkg. 10		2-Ft. Length	
No.	NET Ea.	Threaded	No.	NET Ea.	
1420-1	\$1.00	6-32	1420-2	\$2.00	
1421-1	1.20	8-32	1421-2	2.40	
1422-1	1.50	10-32	1422-2	3.00	
1423-1	1.80	1/4-20	1423-2	3.60	

### Brass Fibre and Nylon PLAIN RODS

1/4" DIA		Std. Pkg. 10		3/8" DIA	
No.	Net Ea.	Type	Length	No.	NET Ea.
1404	\$.35	Brass N.P.	6"	1431	\$.30
1405	.70	Brass N.P.	12"	1432	.60
1406	.15	Fibre	6"	1433	.15
1407	.30	Fibre	12"	1434	.30
1408	.24	Nylon	6"	1440	.24
1409	.48	Nylon	12"	1441	.48

### SHAFT LOCKS Brass Nickel Plated



No.	Shaft	Std. Pkg.	NET Per C
181	1/4"	100	\$27.00
183	3/8"	25	20.00
182	1/2"	25	45.00

Wrench Type  
Miniature Wrench Type  
Thumb Type

### DIAL LOCK

HEAD: Captive: Brass, nickel plated.  
BODY: Brass nickel plated.  
DESCR.: Prevents detuning of the dial when locked by means of the captive knurled nut. Supplied with hex nut & lockwasher. Std. Pkg. 25

No.	NET Per C
199	\$66.00

### CAPTIVE SCREW & BUSHING Large Head

BODY: BRASS, nickel plated.  
DESCR.: Supplied with panel bushing as shown. Used extensively for quick removal of panels from chassis. Non-removable from panel. Std. Pkg. 50

No.	Panel Bushing Length (L)	NET Per C
2365-A	3/2"	\$60.00
2365-B	3/2"	60.00
2365-C	3/2"	60.00

### CAPTIVE SCREW & BUSHING Small Head

BODY: BRASS, nickel plated.  
DESCR.: Supplied with panel bushing as shown. Used extensively for quick removal of panels from chassis. Non-removable from panel. Std. Pkg. 50

No.	Panel Bushing Length (L)	NET Per C
2375-A	3/2"	\$30.00
2375-B	3/2"	30.00
2375-C	3/2"	30.00

### THUMB SCREW

BODY: BRASS, nickel plated.  
DESCR.: Used extensively for quick removal of panels from chassis. Std. Pkg. 25

No.	Thread	NET Per C
2366	6-32	\$15.00
2367	8-32	15.00
2368	10-32	15.00

### PANEL BEARINGS Brass, Nickel Plated

No.	Type	Std. Pkg.	NET Per C
119	Standard	100	\$15.00
184	Miniature	25	15.00

### PANEL BEARING ASSEMBLY

Uses our standard #119 Panel Bearing. Nickel plated overall. Std. Pkg. 25

No.	A	NET Per C
148	3"	\$35.00
149	6"	50.00

### MINIATURE PANEL BEARING ASSEMBLY

Miniature 1/4" shaft assembly, using our standard #184 Panel Bearing. Brass, nickel plated overall. Std. Pkg. 25

No.	Length "A"	NET Per C
1448	2"	\$33.00
1449	4"	\$39.00

### DIAL DRIVE ASSEMBLY

Brass, Nickel Plated. Std. Pkg. 25

No.	NET Per C
126	\$33.00

### FLEXIBLE SHAFTS

High quality phosphor bronze non-magnetic, non-rusting flexible shafts. Remote control when necessary to mount condensers and potentiometers away from panel at unusual angles. Turns at any angle up to 90°; free from back lash.

No.	Size "A"	Description	Std. Pkg.	NET Per C
151	3"	With 1/4" hub	45.00	
152	6"	With 1/4" hub	65.00	
153	3 1/2"	With 1/2" coupler	90.00	
154	6 1/2"	With 1/2" coupler	110.00	

### BI-DIRECTIONAL FLEXIBLE SHAFT AND PANEL BEARING

Combination of 1/4" Coupler at one end and Panel Bearing Assembly at other. High quality phosphor bronze non-magnetic, non-rusting flexible shaft. Turns at any angle up to 90°. Free from backlash. Length "A"

No.	Length "A"	NET Ea.
165	4 1/4"	\$1.35
166	7 1/4"	1.50

### FLEXIBLE SHAFT ASSEMBLY With Casing

Bi-directional high quality flexible shaft. Cable casing acts as a support and reduces amount of deflection in cable. Metal parts steel cadmium plated.

No.	Length	NET Ea.
169	8"	\$6.30
170	12"	7.50

### NYLON FLEXIBLE SHAFT COUPLING

DESCR.: Molded nylon with molded-in brass bushings. Hi-temp nylon not influenced by moisture. Designed for long reach shaft coupling. Supplied with 2 Allen head set screws. Std. Pkg. 25

No.	NET Ea.
164	\$1.15

### SHAFT WRENCH

Specially designed offset, double-end wrenches for most hex sizes encountered in electronic construction. Made of heavy gauge, cadmium plated steel, clearly marked with size. No. 999 is especially useful for Toggle Switch and Volume Control mounting nuts. Std. Pkg. 25

No.	For Nut Sizes	NET Per C
997	Set of 2	\$42.00
998	5/16" - 3/8"	21.00
999	1/2" - 9/16"	21.00

### NYLON LOCKING CLAMP

Wedge and ratchet design makes for positive holding and locking. Accommodates cables from 1/8" to 1/2". No knot tying. Just slip clamp around cable, insert tongue and pull tight. No. 800

No.	Std. Pkg.	NET Per C
800	100	\$9.00

### NYLON MOUNTING TABS

For use with No. 800 locking clamp when pre-mounted assembly points are desired. Furnished with .203 mounting hole. Std. Pkg. 100

No.	NET Per C
801	\$3.00

### NYLON PERFORATING STRAPPING

For bundling of wire, cable and tubing. Time saver for harnessing. Use No. 803 ratchet buckle for fast assembly. Supplied on 50' rolls. No. 802

No.	NET Per Roll
802	\$16.00

### NYLON RATCHET BUCKLE

For No. 802 strapping. Quick and easier assembly with this ingenious item. Std. Pkg. 100

No.	NET Per C
803	\$10.20

### TIGHTENING TOOL

Used with strapping for fast assembly. No. 804

No.	NET Ea.
804	\$18.00

specify SMITH HERMAN H. SMITH, INC. ELECTRONIC COMPONENTS



RUBBER GROMMETS

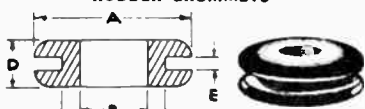


Table with columns: No., A, B, C, D, E, NET Per C, NET Per M. Lists various sizes and prices for rubber grommets.

VINYL GROMMETS

DESCR.: Exceptional aging qualities. High dielectric properties. Oil resistant. Durameret hardness 45 to 85.

Table with columns: No., A, B, C, D, E, NET Per C, NET Per M. Lists various sizes and prices for vinyl grommets.

GROMMETS



Formerly listed by Radio Essentials, Inc., and American Radio Hardware, Inc. (Their catalog numbers as below, minus first digit).

Table with columns: No., A, B, C, D, E, NET Per C, NET Per M. Lists various sizes and prices for grommets.

RECESS RUBBER BUMPERS

Std. Pkg. 100

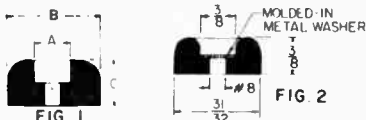


Table with columns: No., Fig., A, B, C, Screw, NET Per C, NET Per M. Lists various sizes and prices for recess rubber bumpers.

With Screw



Table with columns: No., Fig., A, B, C, Screw, NET Per C, NET Per M. Lists various sizes and prices for recess rubber bumpers with screws.

FIBRE WASHERS



All material based on N.E.M.A. Standard and A.S.P.M. Spec. D-710.



Table with columns: No., A, B, C, D, E, NET Per C, NET Per M. Lists various sizes and prices for fibre and shoulder washers.

FLAT WASHERS

All material based on N.E.M.A. Standard and A.S.P.M. Spec. D-710.

Table with columns: No., A, B, C, D, E, NET Per C, NET Per M. Lists various sizes and prices for flat washers.

NYLON WASHERS

MATERIAL: Natural Nylon per MIL-P-20693A.

Table with columns: No., A, B, C, D, E, NET Per C, NET Per M. Lists various sizes and prices for nylon washers.

FLAT WASHERS

Table with columns: No., A, B, C, D, E, NET Per C, NET Per M. Lists various sizes and prices for flat washers.

NYLON SPACER BUSHINGS

Natural Color. MIL-P-20693A. Std. Pkg. 100

Table with columns: No., A, B, C, D, E, NET Per C, NET Per M. Lists various sizes and prices for nylon spacer bushings.

NYLON SCREWS

Table with columns: Size, A, B, C, D, E, F, NET Per C, NET Per M. Lists various sizes and prices for nylon screws.

NYLON HEX NUT

Table with columns: Size, NET Per C, NET Per M. Lists various sizes and prices for nylon hex nuts.

FIBRE WASHER KIT

Each kit contains about 1,000 Flat and Shoulder Washers, packed in an 18-compartment plastic box...

NYLON STRAIN RELIEF BUSHINGS



One piece construction. Eliminates grommets, wire knots and costly labor. Completely insulates wire from chassis...

Table with columns: No., Wire Size, A, B, C, D, NET Per C, NET Per M. Lists various sizes and prices for nylon strain relief bushings.



Table with columns: No., Setting Pliers, NET Each, NET Pkg. Lists various sizes and prices for setting pliers.

INSULATED GROMMET BUSHINGS

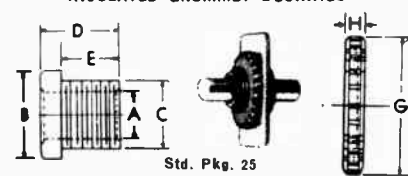


Table with columns: No., A, B, C, D, E, G, H, NET Per C, NET Per M. Lists various sizes and prices for insulated grommet bushings.

BAKELITE INSULATING BUSHINGS

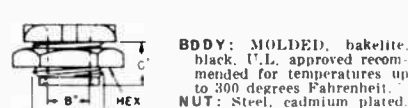
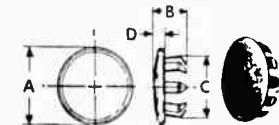


Table with columns: No., A, B, C, D, E, NET Per C, NET Per M. Lists various sizes and prices for bakelite insulating bushings.



Steel Nickel-plated plugs for covering punched or drilled holes in metal, plastic or wood.

Table with columns: No., Hole, A, B, C, D, Prongs, NET Per C, NET Per M. Lists various sizes and prices for snap button hole plugs.

SNAP-LOCK PLASTIC GROMMETS

- Snaps in Place—FAST!
• Stays Put—LOCKED IN!

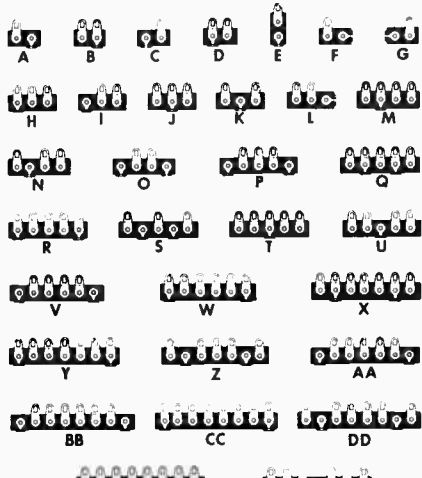


Table with columns: No., A, B, C, D, E, NET Per C, NET Per M. Lists various sizes and prices for snap-lock plastic grommets.



# specify **SMITH** HERMAN H. SMITH, INC. **ELECTRONIC COMPONENTS**

**TIE DOWN TERMINAL STRIPS**

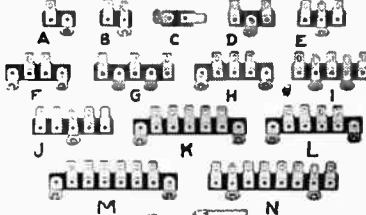


**Standard Type**  
LUG: Steel, Cadmium plated. Spaced 3/8" centers.  
STRIP: X.P. Bakelite. 5/16" wide x .062 thick.  
MOUNT: .140 I.D. for No. 6 Screw.

**Miniature Type**  
LUG: Steel, Cadmium plated. Spaced 1/4" centers.  
STRIP: X.P. Bakelite. 5/16" wide x .062 thick.  
MOUNT: .096 I.D. for No. 3 screw or 3/32" rivet.

Std. Pkg. 100		Std. Pkg. 100	
STANDARD TYPE	NET	MINIATURE TYPE	NET
No. 661	\$2.20	No. 1061	\$2.40
662	2.40	1062	3.00
813	2.50	1003	3.30
620	2.50	1004	3.50
949	3.00	1039	4.00
828	2.40	1005	4.50
821	2.40	1009	4.50
830	3.00	1055	3.50
829	2.80	1043	4.50
864	3.00	1064	3.60
863	3.00	1063	3.90
846	3.50	1059	4.50
850	4.00	1074	5.50
857	4.00	1072	5.50
867	4.50	1067	4.20
653	4.50	1073	5.20
968	5.00	1068	5.80
847	5.50	1071	5.20
865	4.50	1065	5.20
866	4.00	1066	6.50
855	3.50	1084	7.00
869	5.10	1089	6.20
854	5.50	1076	9.00
879	6.50	1158	9.50
859	6.00	1156	9.50
871	5.50	1157	9.50
860	6.00	AA 1060	7.00
848	6.70	BB 1078	7.20
900	6.50	CC 1075	10.50
858	7.00	DD 1072	10.20
870	7.20	EE 1070	8.40
901	6.00	FF	

**"QUICK-CONNECT" TERMINAL STRIPS**



1576		Std. Pkg. 100	
No.	NET	No.	NET
1085	\$2.50	1090	\$4.30
1086	3.10	1091	5.70
1087	2.50	1092	5.70
1088	3.30	1093	6.30
1089	3.50	1094	5.00

Terminal Strip Connectors **NET Per C \$4.50**

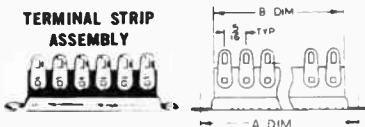
**BRACKET TYPE TERMINAL STRIPS**



LUGS: STEEL, cadmium plated, spaced 3/8" centers.  
BRACKETS: Brass, cadmium plated.  
STRIPS: X.P. Bakelite 3/8" wide x .062 thick.  
MOUNT: .140 I.D. for No. 6 screw.

No.	Fig.	Lugs	NET Per C
1077	A	2	\$3.20
1079	C	3	5.00
1080	B	3	5.00
1081	B	4	5.50
1082	B	5	6.20
1083	B	6	7.20

**TERMINAL STRIP ASSEMBLY**



LUG: STEEL, cadmium plated.  
BASE: STEEL, cadmium plated. Mounting holes for No. 6 screw.  
STRIP: X.P. Bakelite.

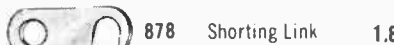
No.	Terminals	"A"	"B"	NET Per C
3002	2	1.000	3/8"	\$6.00
3003	3	1.312	13/16"	6.90
3004	4	1.625	1 1/8"	7.80
3005	5	1.937	1 1/4"	8.70
3006	6	2.250	1 3/8"	9.60
3007	7	2.562	1 1/2"	10.50
3008	8	2.875	1 5/8"	11.40
3009	9	3.187	1 3/4"	12.30
3010	10	3.500	1 7/8"	13.20
3011	11	3.812	2"	14.10
3012	12	4.125	2 1/8"	15.00

**SCREW TYPE TERMINAL BOARD**



LUGS: BRASS, hot tinned, spaced 3/8" centers.  
SCREW: STEEL, cadmium plated 6-32x3/8".  
STRIP: X.P. Bakelite 3/8" wide x .062 thick.

No.	Terminals	Mounting Center	Std. Pkg.	NET Per C
914	1	7/8"	50	\$ 6.50
872	2	1 1/8"	50	7.00
873	3	1 3/8"	50	10.50
874	4	2 1/8"	50	12.50
875	5	2 5/8"	25	16.50
876	6	3 1/8"	25	18.50
877	7	3 1/2"	25	22.50
928	8	3 3/4"	25	24.00
929	9	4 1/8"	25	28.00
930	10	4 1/4"	25	32.00



**HEAVY DUTY TERMINAL BOARDS**

LUG: BRASS, cadmium plated .042 thick spaced 1/2" centers. Terminals numbered.  
STRIP: X.P. Bakelite 3/8" wide x 3/8" thick, numbered.  
SCREW: Brass, nickel plated 8-32 x 3/8".

No.	Terminals	Mtg. Center	NET Per C
902	2	1 1/2"	\$20.00
903	3	2"	22.00
904	4	2 1/4"	27.00
905	5	3"	33.00
906	6	3 1/2"	39.00
907	7	4"	45.00
908	8	4 1/2"	50.00
909	9	5"	60.00
910	10	5 1/2"	62.00
911	11	6"	65.00
912	12	6 1/2"	70.00

**QUICK DISCONNECT TERMINALS**



Terminals of pure electrolytic copper. Resists corrosion and insures shelf life. Reveled entry for easy wire threading and improved V-ridges for wire protection. Male tongue width .24N/.251, female entry .225 Min.

Non-Insulated		Insulated	
Male	Female	Wire-Size	NET Per C
2742	2745	22-16	\$2.10
2743	2746	16-14	2.10
2744	2747	12-10	2.10
2794	2797	22-16	4.50
2795	2798	16-14	4.50
2796	2799	12-10	4.50

No. 2748 Kit.50 each, 16 types in plastic box **Net per kit \$9.80**

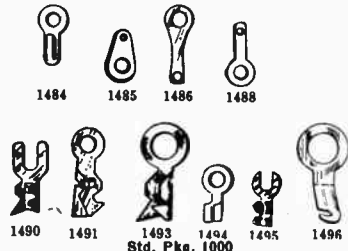
**"T" TYPE TERMINAL STRIPS**



LUGS: STEEL, cadmium plated, spaced 3/8" centers.  
STRIP: X.P. Bakelite 3/8" wide x .062 thick.  
MOUNT: .140 I.D. for No. 6 screw.

No.	Lugs	NET Per C
815	1	\$3.20
816	2	4.40
817	3	6.50
818	4	7.00
819	5	8.00

**SOLDER TYPE LUGS—Hot Tinned**



No.	Material	Length	Thick.	Hole	NET Per M
1484	Ph. Br.	5/8"	.020"	No. 6	\$6.00
1485-4	Ph. Br.	17/32"	.012"	No. 4	8.00
1485-6	Ph. Br.	17/32"	.012"	No. 6	8.00
1485-6	Ph. Br.	17/32"	.012"	No. 8	8.00
1485-10	Ph. Br.	17/32"	.012"	No. 10	8.00
1486-4	Ph. Br.	13/16"	.012"	No. 4	8.00
1486-6	Ph. Br.	13/16"	.012"	No. 6	8.00
1486-8	Ph. Br.	13/16"	.012"	No. 8	8.00
1486-10	Ph. Br.	13/16"	.012"	No. 10	8.00
1488-4	Ph. Br.	9/16"	.012"	No. 4	8.00
1488-6	Ph. Br.	9/16"	.012"	No. 6	8.00
1488-8	Ph. Br.	9/16"	.012"	No. 8	8.00
1490	Brass	3/4"	.020"	No. 10	9.00
1491	Copper	15/16"	.020"	No. 10	14.00
1493	Brass	1-1/8"	.027"	1/2"	19.00
1494-6	Brass	5/8"	.020"	No. 6	6.00
1494-8	Brass	5/8"	.020"	No. 8	6.00
1495	Brass	5/8"	.020"	No. 8	9.00
1498	Brass	3/4"	.020"	3/4"	10.20
1497	Brass	7/8"	.017"	3/4"	24.00

**SOLDER LUG ASSORTMENT**

A complete assortment of the most widely used Solder Lug styles, with hole sizes from #4 thru #10. Packed in a re-usable clear plastic compartmented box.

No.	Approx. Quantity of Terminals	NET
1546	1400	\$9.00

**LOCKING TYPE TERMINAL LUGS**



**BRASS HOT TINNED**

No.	Length	Thick	Hole	NET Per M
1410-4	5/8"	.018"	No. 4	\$9.00
1410-6	5/8"	.018"	No. 6	9.00
1410-8	5/8"	.018"	No. 8	9.00
1410-10	5/8"	.018"	No. 10	9.00
1410-14	13/16"	.018"	1/2"	10.20
1411-4	5/8"	.020"	No. 4	9.00
1411-6	5/8"	.020"	No. 6	9.00
1411-8	5/8"	.020"	No. 8	9.00
1412-6	5/8"	.018"	No. 4	8.40
1412-8	5/8"	.018"	No. 6	8.40
1413-4	5/8"	.018"	No. 4	9.00
1413-6	5/8"	.018"	No. 6	9.00
1413-8	5/8"	.018"	No. 8	9.00
1413-10	5/8"	.018"	No. 10	9.00
1414-6	5/8"	.018"	No. 4	9.00
1414-8	5/8"	.018"	No. 6	9.00
1414-10	5/8"	.018"	No. 8	9.00
1414-10	5/8"	.018"	No. 10	9.00
1415-4	5/8"	.018"	No. 4	9.00
1415-6	5/8"	.018"	No. 6	9.00
1415-8	5/8"	.018"	No. 8	9.00
1415-10	5/8"	.018"	No. 10	9.00
1416-4	5/8"	.020"	No. 4	9.00
1416-6	5/8"	.020"	No. 6	9.00
1416-8	5/8"	.020"	No. 8	9.00

**LOCKING TYPE TERMINAL LUGS**

Brass Electro Plated

No.	Hole Size	Thick	Length	NET Per M
1465	No. 4	.020"	5/8"	\$10.20
1466	No. 6	.020"	5/8"	10.20
1467	No. 8	.020"	5/8"	10.20
1468	3/4"	.020"	1 1/8"	12.00

**LOCKING TERMINAL LUG ASSORTMENT**

A complete assortment of the most widely used Locking Terminal Lug styles, with hole sizes from #4 thru #10. Packed in a re-usable clear plastic compartmented box.

No.	Approx. Quantity of Terminals	NET
1547	900	\$9.00

**LAMINATED TERMINAL STRIPS WITH WIRE WRAP TERMINALS**



LUG: Brass, electro-tinned.  
STRIP: Cotton Fabric Base Phenolic, Type LE.  
SCREW: Brass, nickel plated.  
DESCR.: Accommodates lugs for wires, size AWG #18 to #22. Rated 750 volts RMS (1/2 breakdown voltage).

No.	Term.	(A) Mtg Ctrs.	B	NET Per C
941	8	3 3/4"	3"	\$40.00
942	10	4 1/4"	4 1/2"	50.00
943	12	5"	5 1/2"	60.00



# specify SMITH

HERMAN H. SMITH, INC.



ELECTRONIC COMPONENTS

**SOLDERLESS TERMINALS**



"SOLISTRAND"  
Non-Insulated



The only terminal designed for use with solid, stranded or irregularly shaped wires, or combinations of wires. Corrosion resistant, high strength, electro-finished; versatile — widely adaptable.

Std. Pkg. 100

**RING TONGUE (A)**

Wire Size	No.	AMP No.	Stud Size	Tong. W.	O'all Stud Clear.	NET Per C	
22	2850	32989	4	3/32	1/32	3/32	\$4.50
to	2851	34194	6	3/32	1/32	3/32	4.50
22	2852	32990	8	3/32	1/16	1/16	5.50
to	2853	33214	10	3/32	1/16	1/16	5.50
16	2854	33215	1/4	1/32	1/16	1/16	7.50
to	2855	33452	3/8	1/32	1/16	1/16	7.50
16	2856	33453	3/8	1/32	1/16	1/32	7.50
16	2857	32991	4	1/4	3/16	1/16	\$5.50
to	2858	34197	6	1/4	3/16	1/16	5.50
16	2859	32992	8	3/16	1/32	1/4	5.50
to	2860	320093	10	3/16	1/32	1/4	5.50
14	2861	33218	1/4	1/32	1/16	3/16	7.50
to	2862	33454	3/8	1/32	1/16	3/16	7.50
14	2863	33455	3/8	1/32	1/16	1/32	7.50

**SPACE TONGUE (B)**

Wire Size	No.	AMP No.	Stud Size	Tong. W.	O'all Stud Clear.	NET Per C	
22	2864	32897	6	1/32	5/8	1/16	\$4.50
to	2865	32898	8	1/32	5/8	1/16	4.50
16	2866	32899	10	1/32	5/8	1/16	4.50
16	2867	32903	6	1/32	5/8	1/16	\$4.50
to	2868	32904	8	1/32	5/8	1/16	4.50
14	2869	32905	10	1/32	5/8	1/16	4.50

**BUTT CONNECTOR (C)**

Wire Size	No.	AMP No.	Stud Size	I.D.	NET Per C	
22-16	2870	31818	.140	I.D.	3/4	\$5.50
16-14	2871	31819	.170	I.D.	3/4	5.50



**SOLDERLESS TERMINAL ASSORTMENTS**

A basic assortment of the most commonly used Ring Tongue and Space Terminals for wire sizes 22 thru 14. Packed in a re-usable clear plastic compartmented box.

No.	Approx. Quantity of Terminals	Style	NET
1526	200	"PLASTI-GRIP"	\$18.00
1527	300	"PLASTI-GRIP"	26.00
1528	200	"SOLISTRAND"	13.00
1529	300	"SOLISTRAND"	19.00
1577	200	"P.I.D.G."	24.00
1578	300	"P.I.D.G."	35.00



Pre-Insulated  
Diamond Grip



Color-coded for wire size. Std. Pkg. 100

**RING TONGUE (A)**

Wire Size	No.	AMP No.	Stud Size	Tong. Width	Overall Length	Stud Clear.	Per C
22	1550	320882	4	3/4	3/32	3/32	\$10.50
to	1551	31881	6	3/4	3/32	3/32	10.50
16	1552	31886	8	3/4	25/32	1/4	10.50
to	1553	31887	10	3/4	25/32	1/4	10.50
16	1554	31894	1/4	1/32	1/16	3/64	11.50
14	1555	32441	4	1/4	1/16	1/64	10.50
to	1556	32442	6	1/4	1/16	1/64	10.50
16	1557	31902	8	1/32	27/32	3/32	10.50
to	1558	322238	10	3/16	3/16	1/4	10.50
16	1559	31906	1/4	1/32	1/16	1/16	11.50

**FLANGED SPADE (B)**

Wire Size	No.	AMP No.	Stud Size	Tong. Width	Overall Length	Stud Clear.	Per C
22-16	1560	32562	6	1/4	25/32	1/4	\$10.50
to	1561	32498	8	1/4	25/32	1/4	11.50
14-16	1562	320861	6	1/4	25/32	1/4	10.50
to	1563	320862	8	1/4	25/32	1/4	10.50
16	1564	320863	10	1/4	25/32	1/4	10.50

**SPACE TONGUE (C)**

Wire Size	No.	AMP No.	Stud Size	Tong. Width	Overall Length	Stud Clear.	Per C
22-16	1565	34541	6	1/4	5/8	1/4	\$11.50
to	1566	32053	8	3/8	5/8	1/4	10.50
16	1567	32054	10	3/8	5/8	1/4	10.50
14-16	1568	35559	6	1/4	47/64	1/64	10.50
to	1569	321233	8	1/4	47/64	1/64	11.50
16	1570	32060	10	3/8	5/8	3/16	10.50

**HOOK TONGUE (D)**

Wire Size	No.	AMP No.	Stud Size	Tong. Width	Overall Length	Stud Clear.	Per C
22-16	1571	34813	6	1/32	47/64	1/64	\$10.50
to	1572	32456	8	1/32	53/64	3/32	10.50
14-16	1573	320381	6	1/32	27/32	3/32	\$10.50
to	1574	320306	8	1/32	27/32	3/32	12.50
16	1575	35481	10	1/32	27/32	3/32	12.50

**BUTT CONNECTOR (E)**

Wire Size	No.	AMP No.	Stud Size	I.D.	NET Per C
18-14	1576	42781-2	.250	Faston Receptacle (E) w/Insulation support	\$4.50

**BUTT CONNECTOR (F)**

Wire Size	No.	AMP No.	Stud Size	I.D.	NET Per C
22-16	1548	320559	.125	I.D.	\$9.00
16-14	1549	320562	.150	I.D.	9.00



"PLASTI-GRIP" (P.G.)



Insulated, strong, special plastic has high dielectric strength. Applied with single operation of press dies or hand tools. High tensile strength. High conductivity copper, electro-tinned. Color coded for wire size.

Std. Pkg. 100

**RING TONGUE (A)**

Wire Size	No.	AMP No.	Stud Size	Tong. W.	O'all Stud Clear.	NET Per C	
22	2750	34141	4	3/32	27/32	3/32	\$7.50
to	2751	34142	6	3/32	27/32	3/32	7.50
22	2752	34145	8	3/32	27/32	1/4	7.50
to	2753	34146	10	3/32	27/32	1/4	7.50
16	2754	34150	1/4	1/32	1/16	27/64	8.50
to	2755	34151	3/8	1/32	1/16	27/64	8.50
16	2756	34152	3/8	1/32	1/16	17/32	8.50
16	2757	34157	4	1/4	1/16	3/32	\$7.50
to	2758	34158	6	1/4	1/16	3/32	7.50
16	2759	34160	8	1/32	27/32	17/64	7.50
to	2760	34161	10	1/32	27/32	17/64	7.50
14	2761	34162	1/4	1/32	1/16	27/64	8.50
to	2762	34163	3/8	1/32	1/16	27/64	8.50
14	2763	34164	3/8	1/32	1/16	33/64	8.50

**SPACE TONGUE (B)**

Wire Size	No.	AMP No.	Stud Size	Tong. W.	O'all Stud Clear.	NET Per C	
22	2764	34153	6	1/32	49/64	13/64	\$7.50
to	2765	34155	8	3/8	5/8	13/64	7.50
16	2766	34156	10	3/8	5/8	13/64	7.50
16	2767	34165	6	3/8	5/8	13/64	\$7.50
to	2768	34166	8	3/8	5/8	13/64	7.50
14	2769	34167	10	3/8	5/8	13/64	7.50

**HOOK TONGUE (C)**

Wire Size	No.	AMP No.	Stud Size	Tong. W.	O'all Stud Clear.	NET Per C	
20-18	2770	34501	6	3/32	47/64	3/16	\$7.50
to	2771	321699	8	1/32	53/64	3/32	7.50
16-14	2772	520263	8	1/32	53/64	17/64	\$10.50

**BUTT CONNECTOR (D)**

Wire Size	No.	AMP No.	Stud Size	I.D.	NET Per C	
22-16	2773	34070	.140	I.D.	1	\$9.00
16-14	2774	34071	.170	I.D.	13/64	9.00

**HAND CRIMPING TOOL**



Makes strong, solderless connections; cuts and strips wire, and has thread-cutting.

No.	Type	NET Ea.
1579	For P.I.D.G. & P.G.	\$ 8.00
2872	For Solistrand Type	10.50

## Norelco Electronic Educational kits



**FUN TO BUILD!  
FUN TO USE!  
FOR AGES 9 AND OVER**

**Model EE20 "Master Kit"**  
With New Concept in Assembly

Complete, foolproof individual template provided for each circuit

- NO SOLDERING — NO TOOLS REQUIRED
- ABSOLUTELY SAFE • PEGBOARD ASSEMBLY

UP TO 23 DIFFERENT USEFUL OPERATING PROJECTS  
Std. Pkg. 6

Model EE20 SUGGESTED RETAIL  
SMITH No. 2419 (less battery) \$27.95

**ALL THESE WORKING UNITS CAN BE MADE**

- |                                                                                                                                                                       |                                                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ELECTRO ACOUSTICS</b><br>EE20 Electronic Organ<br>EE 8 Phono Amplifier<br>EE20 Sound Amplifier<br>EE20 Push-Pull Sound Amplifier<br>EE20 Bi-Amplifier Amplifier    | <b>EE 8 1-Transistor Radio Receiver</b>                                                                                                                                                |
| <b>TELECOMMUNICATION</b><br>EE20 Intercom<br>EE20 Morse Code Trainer, with loudspeaker<br>EE 8 Morse Code Training Set<br>EE20 Public Address and Telephone Amplifier | <b>ELECTRONIC SIGNALING</b><br>EE70 Burglar Alarm<br>EE20 Acoustic Relay<br>EE20 Piffering Alarm<br>EE20 Piffering Alarm with power-economizing circuit                                |
| <b>RADIO</b><br>EE20 3-Transistor Radio Receiver<br>EE 8 2-Transistor Sensitive Radio Receiver                                                                        | <b>ELECTRONIC MEASURING AND CONTROL</b><br>EE 8 Rain or Moisture Indicator<br>EE20 Time Switch<br>EE20 Automatic Night Light<br>EE20 Universal Measuring Equipment<br>EE20 Light Meter |

When a project loses its appeal, it can be stripped and the same parts used to rebuild other projects, over and over!

**ADDITIONAL "EE" KITS**

Smith No.	Kit	Description	Resale
2417	EE8	Starter Kit, makes up to 8 different circuits (Less Battery)	\$17.95
2418	EE8/20	"Add-On" for EE8 Kit, to make up to 15 additional different circuits (Less Battery)	\$10.95



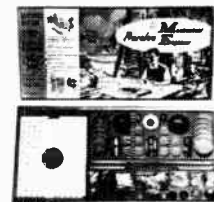
NORELCO

ALL TRANSISTOR

**Radio Kit Model RE-2**

For ages 9 and over. Easy to assemble, using two-color pictorial charts and step-by-step assembly. No soldering. Can be set up, taken apart and re-assembled. Powered by standard 9-volt battery. Build any of these units:  
• 2-transistor radio with earphones and cabinet.  
• 3-transistor radio with speaker and cabinet.  
• Record Player Amplifier. • Code Practice Oscillator.  
• Public Address System. • Radio Direction Finder.  
Complete with 21-page instruction manual.  
Norelco Model RE-2

SMITH No. 2416 (less battery) SUGGESTED RETAIL \$24.95



NORELCO

**Mechanical Kit Model ME-1200**

Promotes knowledge and understanding of fundamental sources of energy. Makes over 40 projects. Over 400 parts.  
SMITH No. 2415 (less battery) SUGGESTED RETAIL \$39.95

# specify SMITH

## HERMAN H. SMITH, INC.



**ELECTRONIC COMPONENTS**

### INSTRUMENT KNOBS



Molded black bakelite instrument knobs with molded brass insert for 1/4" shafts. Style B pointer knobs are white vinyl pointer. Style C skirt type have white indicator line. Style D same as style A except fit protruding brass insert for mounting specialials and pointers.

No.	Style	O.D.	Pointer Size	Height	Per C
200	A	1 1/4"		3/8"	\$30.00
201	A	1 3/8"		3/8"	31.00
202	A	1 1/2"		3/8"	36.00
203	A	2 3/8"		3/8"	53.00
204	B	1 1/4"	3/16" pointer	3/8"	47.00
205	B	1 3/8"	1/16" pointer	3/8"	48.00
206	B	1 1/2"	1/8" pointer	3/8"	52.00
207	B	2 3/8"	1/4" pointer	3/8"	70.00
208	C	1 1/4"	1 1/2" Skirt	3/8"	58.00
209	C	1 3/8"	1 3/4" Skirt	3/8"	60.00
210	C	1 1/2"	2 1/4" Skirt	3/8"	71.00
211	C	2 3/8"	3" Skirt	3/8"	92.00
212	D	1 1/4"		1 1/2"	38.00
213	D	1 3/8"		1 1/2"	39.00
214	D	1 1/2"		1 1/2"	43.00
215	D	1 3/4"		1 1/2"	43.00
216	D	2 3/8"		1 1/2"	60.00

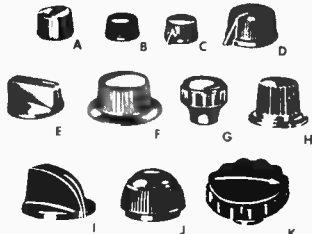
**SKIRT ONLY**

No.	Style	O.D.	Pointer size	Height	Per C
216	1 1/4"	Skirt only			8.00
217	1 3/8"	Skirt only			14.00
218	2 3/8"	Skirt only			16.00
219	3"	Skirt only			19.00

**Matte Finish — Made to Meet MS-91531**  
Molded black. Matte finish bakelite instrument knobs, with molded-in brass insert for 1/4" shafts. All knobs supplied with two (2) Allen-head set screws. Style B pointer knobs have white vinyl pointer. Style C skirt knobs have white indicator line on skirt.

No.	Style	O.O.	Pointer size	Height	Per C
460	A	1 1/4"		3/8"	\$ 87.00
461	A	1 3/8"		3/8"	106.00
462	A	1 1/2"		3/8"	129.00
463	B	1 1/4"	3/16" pointer	3/8"	99.00
464	B	1 3/8"	1/8" pointer	3/8"	113.00
465	B	1 1/2"	1/4" pointer	3/8"	143.00
466	C	1 1/4"	1 1/2" skirt	3/8"	139.00
467	C	1 3/8"	2 1/4" skirt	3/8"	172.00
468	C	2 3/8"	3" skirt	3/8"	210.00

### CONTROL KNOBS



Molded bakelite control knobs. Supplied with 1/4" molded hole; complete with set screw. \*Recessed for locknut.

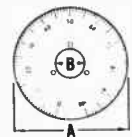
No.	Style	O.D.	Height	Color	NET Per C
2240	A	3/4"	1/2"	Black	\$15.00
2241	A	3/4"	1/2"	Walnut	15.50
2242	B	1 1/8"	1 1/2"	Black	10.00
2243	B	1 1/8"	1 1/2"	Walnut	10.50
2244	B	1"	1 1/2"	Black	14.00
2245	B	1"	1 1/2"	Walnut	15.00
2275†	B	1 1/4"	1 1/2"	Black	23.00
2276†	B	1 1/4"	1 1/2"	Red	25.00
2246	C	1 1/8"	1 1/2"	Black	10.00
2247	C	1 1/8"	1 1/2"	Walnut	11.00
2273†	C	1 1/4"	1 1/2"	Black	23.00
2274†	C	1 1/4"	1 1/2"	Red	25.00
2248†	D	1"	1 1/2"	Black	18.00
2249†	D	1"	1 1/2"	Walnut	19.00
2250†	E	1 1/8"	1 1/2"	Black	15.00
2251†	E	1 1/8"	1 1/2"	Walnut	15.50
2252†	F	1 1/8"	1 1/2"	Black	19.50
2253†	F	1 1/8"	1 1/2"	Walnut	20.50
2254†	G	1 1/8"	1 1/2"	Ivory	21.50
2258	H	7/8"	3/4"	Black	16.00
2259	G	7/8"	3/4"	Walnut	17.00
2265	H	2 1/4"	1 1/2"	Black	18.00
2266	H	2 1/4"	1 1/2"	Red	19.00
2267	J	1 3/8"	5/8"	Black	14.00
2268	J	1 3/8"	5/8"	Red	15.00
2269	K	7/8"	5/8"	Black	22.00
2270	K	7/8"	5/8"	Red	23.00
2283	L	7/8"	1 1/2"	Black	25.00
2284	L	7/8"	1 1/2"	Red	27.00

† Supplied with brass insert.



**CONTROL PLATES**  
MATERIAL: Brass Black Satin Finish. Etched silver numerals.  
DIMENSION: 13/32" I.D. x O.D. as specified, x .020" thick.  
Std. Pkg. 5

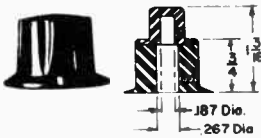
Clockwise Calib. 0-100 No.	Counter-clockwise Calib. 100-0 No.	Degrees	Total Graduations	O.D.	NET Per C
2900	2906	180	20	2"	\$105.00
2901	2907	270	20	2"	105.00
2902	2908	325	20	2"	105.00
2903	2909	180	100	3 1/2"	150.00
2904	2910	270	100	3 1/2"	150.00
2905	2911	325	100	3 1/2"	150.00



**DIAL PLATES**  
MATERIAL: Brass Chrome Silver Finish. .020" thick.  
DESCR.: Mounting Holes 9/64"  
Std. Pkg. 5

Clockwise Calib. 0-100 No.	Counter-clockwise Calib. 100-0 No.	Degrees	A	B	NET Per C
2912	2928	180	1 1/8"	3/8"	\$80.00
2913	2929	270	1 1/8"	3/8"	80.00
2914	2930	325	1 1/8"	3/8"	80.00
2915	2931	360	1 1/8"	3/8"	80.00
2916	2932	180	1 3/4"	3/4"	100.00
2917	2933	270	1 3/4"	3/4"	100.00
2918	2934	325	1 3/4"	3/4"	100.00
2919	2935	360	1 3/4"	3/4"	100.00
2920	2936	180	2 3/4"	3/4"	135.00
2921	2937	270	2 3/4"	3/4"	135.00
2922	2938	325	2 3/4"	3/4"	135.00
2923	2939	360	2 3/4"	3/4"	135.00
2924	2940	180	4"	1 1/4"	170.00
2925	2941	270	4"	1 1/4"	170.00
2926	2942	325	4"	1 1/4"	170.00
2927	2943	360	4"	1 1/4"	170.00

### FLUTED INSTRUMENT KNOBS



Molded black bakelite fluted instrument knobs, supplied with white-filled line on crown and skirt. Opposite set-screw. Supplied with 1/4" plain hole in set-screw.

No.	Skirt Dia.	Height	Per C
1391	1 1/4"	1 3/8"	\$27.00
1392	1 3/8"	1 3/8"	31.00
1393	1 1/2"	1 3/8"	34.00
1394	1 3/4"	1 3/8"	35.00
1395	1 3/8"	1 3/8"	48.00

With 1/4" plain hole with set-screw  
NET 28.00

### LEVER KNOBS



Molded bakelite lever knobs with 1/4" brass insert. Complete with set screw.

No.	Style	Length	Height	Color	NET Per C
2232	A	1 5/8"	1 1/2"	Black	\$25.00
2233	A	1 5/8"	1 1/2"	Walnut	26.00
2234	B	1 1/2"	1 1/2"	Black	44.00
2235	B	1 1/2"	1 1/2"	Walnut	45.00
2236	C	2 1/2"	5/8"	Black	26.00
2237	C	2 1/2"	5/8"	Walnut	27.00
2238	D	2 1/4"	5/8"	Black	45.00
2239	D	2 1/4"	5/8"	Walnut	46.00

### KNOB DIAL PLATES



2261, 2262, 2290  
DIAL: BRASS, chrome silver, 1 1/4" O.D.  
KNOB: Molded bakelite black (our 2250).  
DESCR.: For matching dials on instruments, receivers, amplifiers. Dial has clear black etched numbers. Knob fits 1/4" shaft.  
Std. Pkg. 10

No.	Type	NET Each
2261	10 to 0 180 Degrees	\$1.05
2262	10 to 0 270 Degrees	1.05

DIAL PLATES ONLY 1/2" I.D.

No.	Type	NET Each
2263	10 to 0 180 Degrees	.80
2264	10 to 0 270 Degrees	.80

DIAL: Nickel silver, 1 1/2" O.D.  
KNOB: Molded bakelite.  
DESCR.: Engraved numerals, varnish coated, 10 to 0, in 360 degrees. Knob fits 1/4" shaft. Std. Pkg. 10  
No. 2290 NET Each \$1.05



PUSH BUTTON KNOBS

No.	Style	O.D.	Height	Color	NET Per C
2277	A	1 1/2"	3/4"	Black	\$7.50
2278	A	1 1/2"	3/4"	Red	9.00
2279	B	3/4"	3/4"	Black	5.00
2280	B	3/4"	3/4"	Red	6.50



**DIAL AND KNOB ASSEMBLY**  
DIAL: Brass Chrome Silver Finish. .020" thick.  
KNOB: Molded Bakelite with 1/4" Brass insert.  
Std. Pkg. 5

Clockwise Calib. 0-100 No.	Counter-clockwise Calib. 100-0 No.	Degrees	O.D.	NET Each
2980	2976	180	1 1/4"	\$1.35
2981	2977	270	1 1/4"	1.35
2982	2978	325	1 1/4"	1.35
2983	2979	360	1 1/4"	1.35
2984	2980	180	1 3/8"	1.50
2985	2981	270	1 3/8"	1.50
2986	2982	325	1 3/8"	1.50
2987	2983	360	1 3/8"	1.50
2988	2984	180	2"	3.00
2989	2985	270	2"	3.00
2990	2986	325	2"	3.00
2991	2987	360	2"	3.00
2972	2988	180	4"	3.45
2973	2989	270	4"	3.45
2974	2990	325	4"	3.45
2975	2991	360	4"	3.45



**VERNIER DIAL MARKERS**  
MATERIAL: Brass Chrome Silver Finish. Supplied with hardware.  
Std. Pkg. 5

No.	For °Dials	Dial O.D.	NET Per C
2944	180	1 1/4"	\$85.00
2945	270	1 1/4"	85.00
2946	325	1 1/4"	85.00
2947	360	1 1/4"	85.00
2948	180	1 3/8"	85.00
2949	270	1 3/8"	85.00
2950	325	1 3/8"	85.00
2951	360	1 3/8"	85.00
2952	180	2"	85.00
2953	270	2"	85.00
2954	325	2"	85.00
2955	360	2"	85.00
2956	180	4"	85.00
2957	270	4"	85.00
2958	325	4"	85.00
2959	360	4"	85.00

### BINDING POST KNOBS



Std. Pkg. 25

No.	Style	O.D.	Height	Color	NET Per C
2271	A	3/4"	1/2"	Black	\$ 9.00
2272	A	3/4"	1/2"	Red	11.00
2285	B	1/2"	1/2"	Black	9.00
2286	B	1/2"	1/2"	Red	9.00
2289	C	1/2"	1/2"	Black	9.00

**HERMAN H. SMITH, INC.**  
MORE THAN TEN THOUSAND ELECTRONIC COMPONENT PARTS MANUFACTURED UNDER ONE ROOF



# Specify SMITH

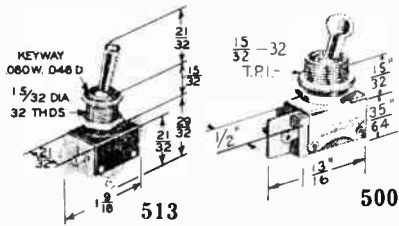
HERMAN H. SMITH, INC.



ELECTRONIC COMPONENTS

## ARROW HART & HEGEMAN SWITCHES

### SMALL CANOPY TYPE SWITCHES



Laminated type 15/32-32 slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. Solder terminals. SPST rated at 3 amps-250 volts AC-DC; all others rated at 1 amp-250 volts, 3 amps-125 volts AC-DC. Std. Pkg. 10

#### BAT LEVER POSITIVE ACTION

15/32" long shaft		1 3/32" long shaft		
No.	NET Each	CIRCUIT	No.	NET Each
510	\$.75	SPST	584	\$.75
511	.95	SPDT	585	.95
542	1.00	2-Circ.	586	1.00
512	1.36	DPST	587	1.36
513	1.56	DPDT	588	1.56

#### BAT LEVER MOMENTARY ACTION

15/32" long shaft		Normally Open (OFF)		
Normally Closed (ON)	NET Each	CIRCUIT	NET Each	
1020	\$1.20	SPST	1024	\$1.20
1021	1.40	SPDT		
1022	1.80	DPST	1025	1.81
1023	2.02	DPDT		

#### BALL LEVER POSITIVE ACTION

1 5/32 long shaft		3/4" long shaft		
No.	NET Each	CIRCUIT	NET Each	
500	\$.75	SPST	501	\$.90
502	.95	SPDT	503	1.20
540	1.00	2-Circ.	541	1.15
504	1.36	DPST	505	1.61
506	1.56	DPDT	507	1.51

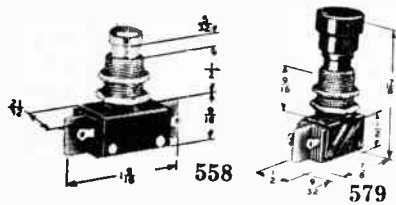
### It's Sound Planning to SPECIFY SMITH FOR SWITCHES

To assist you in planning your prototypes and production, Smith maintains an inventory of all switches listed here —

#### IN STOCK — IN DEPTH

to meet your Immediate Requirements!

### MOMENTARY PUSH SWITCHES



Laminated type 15/32-32 x 9/16" slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. All switches accept snap on button. SPST rated at 3 amps-250 volts AC-DC. All others rated at 1 amp-250 volts, 3 amps-125 volts AC-DC. Std. Pkg. 10

SUPPLIED LESS BUTTON: ORDER BUTTON SEPARATELY.

#### QUICK MAKE AND BREAK

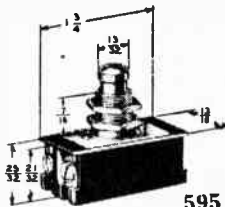
Normally Closed (ON)		Normally Open (OFF)		
No.	NET Each	CIRCUIT	No.	NET Each
552	\$1.46	SPST	555	\$1.46
556	1.68	SPDT		
557	1.72	2-Circ.		
564	2.03	DPST	558	2.03
559	2.38	DPDT		

#### SLOW MAKE AND BREAK

Rated at 1 amp.-125 volts AC

Normally Closed (ON)		Normally Open (OFF)		
No.	NET Each	CIRCUIT	NET Each	
582	\$.82	SPST	579	\$.82
580	1.05	2-Circ.		

### STANDARD DUTY MOMENTARY PUSH SWITCHES



Molded phenolic base. 15/32-32 x 7/16" long slotted sleeve, nickel finish. Screw terminals. Supplied with hex nuts. Two circ. rated at 3 amps-250 volts, 6 amps-125 volts AC-DC. All others rated at 6 amps-250 volts, 12 amps-125 volts AC-DC. DPST also rated at 1 HP at 250 volts AC-DC. Std. Pkg. 10

Normally Closed (ON)		Normally Open (OFF)		
No.	NET Each	CIRCUIT	No.	NET Each
1026	\$2.23	SPST	544	\$2.13
1027	2.23	SPDT		
1028	2.37	2-Circ.		
1029	2.23	DPST	595	2.23

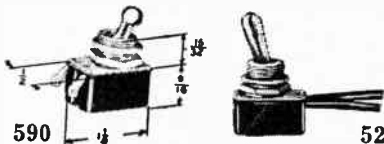
### STANDARD DUTY TOGGLE SWITCHES QUICK MAKE AND BREAK

Std. Pkg. 10



BALL LEVER		CIRCUIT		BAT LEVER	
No.	NET Each	CIRCUIT	No.	NET Each	NET Each
1030	\$1.44	SPST	597	\$1.44	
1031	1.51	SPDT	598	1.44	
1032	1.44	2-Circ.	599	1.51	
1033	1.51	DPST	596	1.56	

### MIDGET SIZE TOGGLE SWITCHES



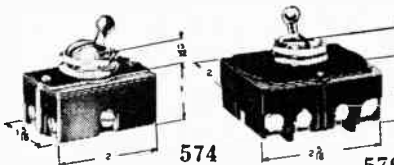
Molded phenolic base, 15/32-32 x 15/32" long slotted sleeve, nickel finish. Side connected silver plated solder contacts. Supplied with hex nut and knurled nut. SPST rated at 3 amps 250 volts; 6 amps.-125 volts; all others rated at 1 amp-250 volts, 6 amps.-125 volts. Std. Pkg. 10

BALL LEVER		CIRCUIT		BAT LEVER	
No.	NET Each	CIRCUIT	No.	NET Each	NET Each
590	\$.86	SPST	591	\$.86	
589	1.06	SPDT	592	1.06	
594	1.03	2-Circ.	593	1.03	

4" WIRE LEADS		BAT LEVER		
No.	NET Each	CIRCUIT	NET Each	
526	\$.91	SPST	527	\$.91
538	1.27	SPDT	528	1.27
543	1.40	2-Circ.	514	1.40

### EXTRA HEAVY DUTY POWER SWITCHES

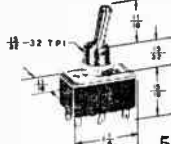
3 POSITION—POSITIVE CENTER OFF



Slotted sleeve 3/4-32, nickel finish. Screw terminals. Supplied with 2 hex nuts. Rated at 5 amps-250 volts, 10 amps-125 volts plus HP rating shown below. Std. Pkg. 5

No.	Circuit	Description	NET Each
574	DPDT	3/4 HP 250 volts AC-DC	\$ 5.30
575	TPDT	1/2 HP 115/230 volts AC, 3 phase	8.20
576	4PDT	1/2 HP 115/230 volts AC, 2 phase	10.90

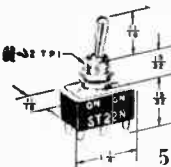
### INTERMEDIATE SIZE TOGGLE SWITCHES



Molded phenolic base. 15/32-32 x 15/32" long slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. Back connected silver plated solder contacts. SPDT, rated at 1 amp-250 volts, 8 amps-125 volts AC-DC; all others rated at 3 amps-250 volts, 6 amps-125 volts AC-DC. Std. Pkg. 10

POSITIVE ACTION		MOMENTARY ACTION		
No.	NET Each	CIRCUIT	No.	NET Each
520	\$.99	SPST	524	OFF \$1.43
521	1.19	SPDT	549	1.56
588	1.23	2-Circ.		
522	1.46	DPST	537	OFF 2.05
523	1.68	DPDT	525	2.25

### ST TYPE TOGGLE SWITCHES



MEETS AN SPEC. JAN-23 Rated at 3 amps-250 volts, 6 amps-125 volts AC-DC. Std. Pkg. 10

No.	AWS No.	CIRCUIT	Position	NET Each
545	ST 12A	SPST	OFF-ON	\$1.35
546	ST 12D	SPDT	ON-ON	1.53
1040	ST 12V	2-Circ.	ON-OFF	1.56
547	ST 22K	DPST	OFF-ON	1.91
548	ST 22N	DPDT	ON-ON	2.09

#### MOMENTARY NORMALLY OPEN (OFF)

1041	ST 12C	SPST	OFF-ON	\$1.76
1042	ST 22M	DPST	OFF-ON	2.31

### 3 POSITION CENTER OFF

Rated at 3 amps-250 volts, 6 amps-125 volts AC-DC. Std. Pkg. 10

No.	CIRCUIT	NET Each
566	SPDT	\$1.82
565	2-Circ.	2.04
567	DPDT	2.25

### CANOPY TYPE ROTARY SWITCHES



Laminated type, 11/32-32 x 15/32" sleeve, nickel finish. Solder lugs. Supplied with hex nut and dress nut. SPST rated at 3 amps-250 volts, 3 amps-125 volts AC-DC. Key removable in OFF position only on SPST and DPST—key removable in both positions on all others. 1 1/2" shaft. Std. Pkg. 10

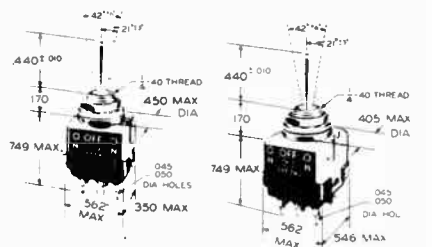
KEY TYPE	CIRCUIT	NET Each	ROTARY TYPE	NET Each
1034	SPST	\$1.77	570	\$1.02
1035	SPDT	1.82	571	1.14
1036	2-Circ.	1.87		
1037	DPST	2.24	572	1.55
1038	DPDT	2.25	573	1.93

### SWITCH ACCESSORIES

No.	Description	Std. Pkg.	NET Per C
508	ON-OFF name plate	50	\$ 5.40
509	HI-LO name plate	50	5.40
581	Snap-On Button (Red or Black)	20	24.00
1146	Narrow Rim Lockwasher	100	1.32
1170	Key—Remove off position	50	21.00
1171	Key—Remove both positions	50	21.00
1172	Locking Ring	100	2.40
1196	Hex Nut—Brass N.P.	100	1.98
1197	Ring Nut—Brass N.P.	100	3.30
1198	Dress Nut—Brass N.P.	100	18.00

specify **SMITH**  
HERMAN H. SMITH, INC. ELECTRONIC COMPONENTS

**CUTLER-HAMMER**  
MINIATURE MILITARY SWITCHES



Extremely compact, highly reliable power or dry circuit switches. Usable as a pre-set switch in aircraft recognition systems; for walkie-talkies; for electronic instruments and communications systems.

RATINGS: Res. Load 4 Amps. @ 28 V.D.C. 1 Amp @ 50 V.D.C. 3 Amps. @ 115 V.A.C.  
MINIMUM RATING: 25 Microamps. @ 5 Millivolts.

**SINGLE POLE**

WEIGHT: 5.0 Grams.  
CUBIC CONTENT: .147 cubic inches "behind panel" volume.  
Std. Pkg. 5

**.440 LEVER APPROVED TO MIL-S-8834**

Table with columns: No., C-H No., "MS" No., Type, Circuit, NET Each. Lists items 1841 to 1847.

**DOUBLE POLE**

WEIGHT: 6.5 grams.  
CUBIC CONTENT: .230 cubic inches "behind panel" volume.  
Std. Pkg. 5

Table with columns: No., C-H No., "MS" No., Type, Circuit, NET Each. Lists items 1851 to 1857.

†Circuit Code: A = On B = Off C = Momentary On  
O = None E = Momentary Off

**C-H MINIATURE MILITARY SWITCHES**



Same as above, but with .687" lever. Total weight: 5.0 - 6.5 grams. Bushing dia. 15/32". Gold plated solder lug terminals.

**SINGLE POLE**

**1/4" LEVER APPROVED TO MIL-S-8834**

Table with columns: No., C-H No., Type, Circuit, NET Each. Lists items 3933 to 3939.

**DOUBLE POLE**

Table with columns: No., C-H No., Type, Circuit, NET Each. Lists items 3940 to 3946.

†Circuit Code: A = On B = Off C = Momentary On  
O = None E = Momentary Off

**PUSH BUTTON SWITCHES**



Push to make—Push to break AC-DC. UL Approved; 11/16" shank; bakelite case. Pushing the button once closes the contacts. Pushing it again opens the contacts. Rated at 6 Amps, 125 Volts; 3 Amps, 250 Volts. Std. Pkg. 10

Table with columns: No., C-H No., Type, Term. NET Each. Lists items 989 to 991.

**QUALIFIED SALES ENGINEERS**

The men and their organizations comprising the nationwide network of SMITH REPRESENTATIVES are technically qualified and eager to consult with you on your requirements for standard or special components manufactured by Herman H. Smith Inc.

**MICRO TOGGLE SWITCHES**

**ROCKER-ACTUATED TOGGLE SWITCHES**

Combines advantages of Toggle Switch circuitry and current capacity with pushbutton control. Snag-proof keys prevent false actuation. Transparent plastic keys feature edge light indication. Lower half of key emits soft glow from light source in panel. Enables easy identification of actuator position. Transparent plastic keys mounted above flush. An insert with signs, symbols, or letters can be placed under the key.

Table with columns: Circuit Code #, Circuit, Circuit Code #, Circuit. Lists various switch configurations.

**RATING: CURRENT CAPACITY (AMPS)**

Table with columns: CON-TINUOUS, RESISTIVE LOAD, LAMP LOAD, INDUCTIVE LOAD. Lists current capacities for various configurations.

**HHS MICRO "MS" No. Circuit Rating NET Each**

**1 POLE**

Table with columns: HHS, MICRO, Circuit, Rating, NET Each. Lists items 3401 to 3413.

**TRANSPARENT KEY**

Table with columns: HHS, MICRO, Circuit, Rating, NET Each. Lists items 3414 to 3426.

**2 POLE**

**TRANSPARENT KEY**

Table with columns: HHS, MICRO, Circuit, Rating, NET Each. Lists items 3427 to 3439.

**TRANSPARENT KEY**

Table with columns: HHS, MICRO, Circuit, Rating, NET Each. Lists items 3440 to 3452.

**4 POLE**

**TRANSPARENT KEY**

Table with columns: HHS, MICRO, Circuit, Rating, NET Each. Lists items 3453 to 3464.

**TRANSPARENT KEY**

Table with columns: HHS, MICRO, Circuit, Rating, NET Each. Lists items 3466 to 3478.

**BUSHING-MOUNTED TOGGLE SWITCHES**

Tested and approved under MIL-S-3950A. Silicone sealed between cover and case, and between bushing and toggle lever. Integral terminals provide stronger wiring connections. Wide temperature range of -85°F to +250°F.

Table with columns: Circuit Code #, Circuit, Circuit Code #, Circuit. Lists various switch configurations.

**RATING: CURRENT CAPACITY (AMPS)**

Table with columns: CON-TINUOUS, RESISTIVE LOAD, LAMP LOAD, INDUCTIVE LOAD. Lists current capacities for various configurations.

**HHS MICRO "MS" No. Circuit Rating NET Each**

**1 POLE (MS 24523)**

Table with columns: HHS, MICRO, Circuit, Rating, NET Each. Lists items 4101 to 4113.

**2 POLE (MS 24524)**

Table with columns: HHS, MICRO, Circuit, Rating, NET Each. Lists items 3114 to 3126.

**4 POLE (MS 24525)**

Table with columns: HHS, MICRO, Circuit, Rating, NET Each. Lists items 3127 to 3139.

**BUSHING-MOUNTED "TS" TOGGLE SWITCHES**

Tested and approved under MIL-S-3950A. Terminals plated to enable conversion to solder use by removing screws. Sealed toggle lever.

**RATING: CURRENT CAPACITY (AMPS)**

Table with columns: CON-TINUOUS, RESISTIVE LOAD, LAMP LOAD, INDUCTIVE LOAD. Lists current capacities for various configurations.

**HHS MICRO "MS" No. Circuit Rating NET Each**

**1 POLE (MS 35058)**

Table with columns: HHS, MICRO, Circuit, Rating, NET Each. Lists items 3141 to 3151.

**2 POLE (MS 35059)**

Table with columns: HHS, MICRO, Circuit, Rating, NET Each. Lists items 3152 to 3162.



MICRO TOGGLE SWITCHES

SEALED "TS" TOGGLE SWITCHES

"TS" TOGGLE SWITCHES "UL" LISTED

"UL" listed "Commercial" type are identical to military type except for bar handle finish. Bright chrome plated to enhance panel appearance. Also certified by the Canadian Standards Association (CSA). Std. Pkg. 10

Table with 4 columns: Circuit Code #, Circuit, Circuit Code #, Circuit. Lists various switch configurations like 1 ON-OFF-ON, 2 ON-NONE-OFF, etc.

Table with 3 columns: RATING "A", RATING "B", RATING "C". Lists ratings for 15 Amps, 10 Amps, and 5 Amps at various voltages.

Table with 5 columns: HHS, MICRO, Circuit Rating, Net Ea. Lists part numbers (3331-3336) and their specifications for 1 POLE switches.



QUICK DISCONNECT TERMINALS

Table with 5 columns: HHS, MICRO, Circuit Rating, Net Ea. Lists part numbers (3337-3346) and their specifications for quick disconnect terminals.



SOLDER TERMINALS

Table with 5 columns: HHS, MICRO, Circuit Rating, Net Ea. Lists part numbers (3347-3351) and their specifications for solder terminals.



SCREW TERMINALS

Table with 5 columns: HHS, MICRO, Circuit Rating, Net Ea. Lists part numbers (3352-3361) and their specifications for screw terminals.



QUICK DISCONNECT

Table with 5 columns: HHS, MICRO, Circuit Rating, Net Ea. Lists part numbers (3362-3370) and their specifications for quick disconnect terminals.



SOLDER TERMINALS

Table with 5 columns: HHS, MICRO, Circuit Rating, Net Ea. Lists part numbers (3372-3381) and their specifications for solder terminals.



3-HOLE MOUNT "TS" TOGGLE SWITCHES

"AN" Type tested and approved under MIL specs. "JAN" Type conform to JAN-S-23. Sealed Lever. Std. Pkg. 10

Table with 4 columns: Circuit Code #, Circuit, Circuit Code #, Circuit. Lists configurations for 3-hole mount switches.

RATING: CURRENT CAPACITY (AMPS)

Table with 4 columns: CON-TINUOUS, RESISTIVE LOAD, LAMP LOAD, INDUCTIVE LOAD. Lists current capacity ratings for different load types.

1 POLE (MIL-S-6745)

Table with 5 columns: HHS, MICRO, "AN" No., "JAN" Cir. Rating, Net Ea. Lists part numbers (3301-3311) and their specifications for 1 Pole switches.

\*Has a jumper across the stationary contact terminals.

2 POLE (MIL-S-3950A)

Table with 5 columns: HHS, MICRO, "MS" No., Cir. Rating, Net Ea. Lists part numbers (3312-3319) and their specifications for 2 Pole switches.

RATING: CURRENT CAPACITY (AMPS)

Table with 4 columns: CON-TINUOUS, RESISTIVE LOAD, LAMP LOAD, INDUCTIVE LOAD. Lists current capacity ratings for different load types.

3 POLE (MIL-S-3950A)

Table with 5 columns: HHS, MICRO, "MS" No., Cir. Rating, Net Ea. Lists part numbers (3320-3322) and their specifications for 3 Pole switches.

4 POLE (MIL-S-6745)

Table with 5 columns: HHS, MICRO, "AN" No., Cir. Rating, Net Ea. Lists part numbers (3323-3329) and their specifications for 4 Pole switches.

RATING: CURRENT CAPACITY (AMPS)

Table with 4 columns: CON-TINUOUS, RESISTIVE LOAD, LAMP LOAD, INDUCTIVE LOAD. Lists current capacity ratings for different load types.

These switches have a panel seal in addition to all other "TS" features. When mounted, the seal provides a dust, liquid and moisture seal at the panel. Std. Pkg. 10

Table with 4 columns: Circuit Code #, Circuit, Circuit Code #, Circuit. Lists configurations for sealed toggle switches.

RATING: CURRENT CAPACITY (AMPS)

Table with 4 columns: CON-TINUOUS, RESISTIVE LOAD, LAMP LOAD, INDUCTIVE LOAD. Lists current capacity ratings for different load types.

1 POLE

Table with 5 columns: HHS, MICRO, Circuit Rating, Net Ea. Lists part numbers (3201-3209) and their specifications for 1 Pole sealed switches.

SCREW TYPE TERMINALS

Table with 5 columns: HHS, MICRO, Circuit Rating, Net Ea. Lists part numbers (3211-3219) and their specifications for screw type terminals.

SOLDER TYPE TERMINALS

Table with 5 columns: HHS, MICRO, Circuit Rating, Net Ea. Lists part numbers (3221-3229) and their specifications for solder type terminals.

2 POLE

Table with 5 columns: HHS, MICRO, Circuit Rating, Net Ea. Lists part numbers (3231-3239) and their specifications for 2 Pole sealed switches.

SCREW TYPE TERMINALS

Table with 5 columns: HHS, MICRO, Circuit Rating, Net Ea. Lists part numbers (3241-3249) and their specifications for screw type terminals.

SOLDER TYPE TERMINALS

Table with 5 columns: HHS, MICRO, Circuit Rating, Net Ea. Lists part numbers (3251-3259) and their specifications for solder type terminals.

ARROW H & H "SNAP-ACTING" Momentary Contact Switches



TERMINAL CODE:

- S = solder lugs, C = screws, cup washers, L = screws, lock washers, Q = quick connect

Std. Pkg. 5

HIGH SENSITIVITY PIN TYPE (A)

RATINGS: LIMIT LOAD to 1 10 Amp, 125 V., A.C. or 10 Watts, 125 V., A.C. or 5 Watts, 25 V., D.C.

Table with 4 columns: WITH TERMINALS, S.P. NORM. OPEN, S.P. NORM. CLOSED, S.P.D.T. Lists specifications for high sensitivity pin type switches.

ADJUSTABLE RIGID LEVER (B)

Heavy Duty 20 Amp

RATINGS: 20 A., 480 V., A.C. or 10 A., 125 V., A.C. "L" Load 1 H.P., 120 V., A.C. or 1/2 A., 125 V., D.C.

Table with 4 columns: WITH TERMINALS, S.P. NORM. OPEN, S.P. NORM. CLOSED, S.P.D.T. Lists specifications for adjustable rigid lever switches.

ROLLER LEAF ACTUATOR (C)

General Purpose 15 Amp

RATINGS: 15 Amp., 480 V., A.C. or 1/2 Amp., 125 V., D.C. or 1/4 Amp., 250 V., D.C.

Table with 4 columns: WITH TERMINALS, S.P. NORM. OPEN, S.P. NORM. CLOSED, S.P.D.T. Lists specifications for roller leaf actuator.

Heavy Duty 20 Amp

RATINGS: 20 A., 480 V., A.C. or 10 A., 125 V., A.C. "L" Load 2 H.P., 240 V., A.C. or 1/2 A., 125 V., D.C.

Table with 4 columns: WITH TERMINALS, S.P. NORM. OPEN, S.P. NORM. CLOSED, S.P.D.T. Lists specifications for heavy duty 20 amp roller leaf actuator.

# specify SMITH



## ELECTRONIC COMPONENTS

### HERMAN H. SMITH, INC.

#### ARROW, HART & HEGEMAN "SNAP ACTING" MOMENTARY CONTACT SWITCHES

**PRECISION SNAP-ACTING SWITCH** A precision snap-acting switch is a mechanically operated electric switch having predetermined and accurately controlled characteristics, and having contacts other than the blade and jaw, or mercury type, where the maximum separation between any butting contacts is 1/8 inch.

**MOMENTARY CONTACT SWITCH** A momentary contact switch is a switch which returns from the operated

condition to its normal circuit condition when the actuating force is removed.

**ACTUATOR** An actuator is the mechanism of the switch or enclosure which, when moved as intended, will operate the contacts.

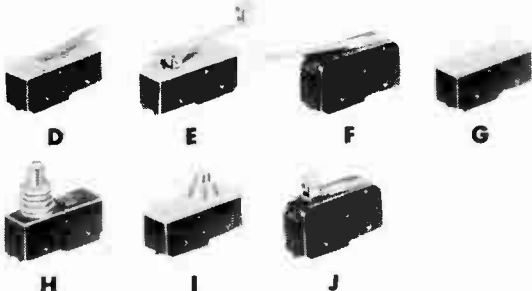
**OPERATING FORCE** Operating force is that straight line force in the designated direction applied to the actuator to cause the switch contacts to snap to the operated contact position.

**PRETRAVEL** Pretravel is the distance or angle through which the actuator moves from the actuator free position to the actuator operating position.

**OVERTRAVEL** Overtravel is the movement of the actuator beyond the operating position.

**MOVEMENT DIFFERENTIAL** Movement differential is the distance or angle from the operating position to the releasing position.

Std. Pkg. 5



**TERMINAL CODE:** L = screws, lock washers C = screws, cup washers  
S = solder lugs Q = quick disconnect

#### FLEXIBLE LEAF ACTUATOR (D)

##### General Purpose 15 amp

RATINGS		Operating Characteristics	
15 Amp., 480 V., A.C.	$\frac{1}{2}$ A., 250 V., D.C.	Operating Force	5 oz. max.
$\frac{1}{2}$ Amp., 125 V., D.C.		Pretravel	5/32" max.
$\frac{1}{4}$ Amp., 250 V., D.C.		Overtravel	not over 1/16 in.
		Diff. Travel	.050" max.

WITH TERMINALS	S.P. NORM. OPEN		S.P. NORM. CLOSED		S.P.D.T.	
	No.	NET Ea.	No.	NET Ea.	No.	NET Ea.
S	4505	\$1.62	4537	\$1.62	4569	\$1.95
C	4506	1.68	4538	1.68	4570	2.07
L	4507	1.68	4539	1.68	4571	2.07
Q	4508	1.62	4540	1.62	4572	1.95

#### Heavy Duty 20 Amp

RATINGS		Operating Characteristics	
20 A., 480 V., A.C.	$\frac{1}{2}$ A., 250 V., D.C.	Operating Force	9 oz. max.
10 A., 125 V., A.C. "L" Load	1 H.P., 120 V., A.C.	Pretravel	11/32" max.
$\frac{1}{2}$ A., 125 V., D.C.	2 H.P., 240 V., A.C.	Overtravel	not over 1/16 in.
		Diff. Travel	.065" max.

WITH TERMINALS	S.P. NORM. OPEN		S.P. NORM. CLOSED		S.P.D.T.	
	No.	NET Ea.	No.	NET Ea.	No.	NET Ea.
S	4605	\$1.68	4637	\$1.68	4669	\$2.07
C	4606	1.74	4638	1.74	4670	2.13
L	4607	1.74	4639	1.74	4671	2.13
Q	4608	1.68	4640	1.68	4672	2.07

#### STANDARD ROLLER (E)

##### General Purpose 15 Amp

RATINGS		Operating Characteristics	
15 Amp., 480 V., A.C.	$\frac{1}{2}$ A., 250 V., D.C.	Operating Force	3 1/2 oz. max.
$\frac{1}{2}$ Amp., 125 V., D.C.		Pretravel	9/32" max.
$\frac{1}{4}$ Amp., 250 V., D.C.		Overtravel	.158" min.
		Diff. Travel	.004 to .040 in.

WITH TERMINALS	S.P. NORM. OPEN		S.P. NORM. CLOSED		S.P.D.T.	
	No.	NET Ea.	No.	NET Ea.	No.	NET Ea.
S	4521	\$2.52	4553	\$2.52	4585	\$2.88
C	4522	2.64	4554	2.64	4586	3.00
L	4523	2.64	4555	2.64	4587	3.00
Q	4524	2.52	4556	2.52	4588	2.88

#### Heavy Duty 20 Amp

RATINGS		Operating Characteristics	
20 A., 480 V., A.C.	$\frac{1}{2}$ A., 250 V., D.C.	Operating Force	2 1/2 oz. max.
10 A., 125 V., A.C. "L" Load	1 H.P., 120 V., A.C.	Pretravel	15/32" max.
$\frac{1}{2}$ A., 125 V., D.C.	2 H.P., 240 V., A.C.	Overtravel	1/16" min.
		Diff. Travel	.085" max.

WITH TERMINALS	S.P. NORM. OPEN		S.P. NORM. CLOSED		S.P.D.T.	
	No.	NET Ea.	No.	NET Ea.	No.	NET Ea.
S	4621	\$2.64	4653	\$2.64	4685	\$3.00
C	4622	2.70	4654	2.70	4686	3.06
L	4623	2.70	4655	2.70	4687	3.06
Q	4624	2.64	4656	2.64	4688	3.00

#### RIGID HINGE (F)

##### General Purpose 15 Amp

RATINGS		Operating Characteristics	
15 Amp., 480 V., A.C.	$\frac{1}{2}$ A., 250 V., D.C.	Operating Force	2 1/2 oz.
$\frac{1}{2}$ Amp., 125 V., D.C.		Pretravel	3/8" max.
$\frac{1}{4}$ Amp., 250 V., D.C.		Overtravel	.219" min.
		Diff. Travel	.007 to .050 in.

WITH TERMINALS	S.P. NORM. OPEN		S.P. NORM. CLOSED		S.P.D.T.	
	No.	NET Ea.	No.	NET Ea.	No.	NET Ea.
S	4525	\$1.95	4557	\$1.95	4589	\$2.31
C	4526	2.01	4558	2.01	4590	2.37
L	4527	2.01	4559	2.01	4591	2.37
Q	4528	1.95	4560	1.95	4592	2.31

#### Heavy Duty 20 Amp

RATINGS		Operating Characteristics	
20 A., 480 V., A.C.	$\frac{1}{2}$ A., 250 V., D.C.	Operating Force	2 1/2 oz. max.
10 A., 125 V., A.C. "L" Load	1 H.P., 120 V., A.C.	Pretravel	5/8" max.
$\frac{1}{2}$ A., 125 V., D.C.	2 H.P., 240 V., A.C.	Overtravel	.078" min.
		Diff. Travel	.109" max.

WITH TERMINALS	S.P. NORM. OPEN		S.P. NORM. CLOSED		S.P.D.T.	
	No.	NET Ea.	No.	NET Ea.	No.	NET Ea.
S	4625	\$2.07	4657	\$2.07	4689	\$2.37
C	4626	2.13	4658	2.13	4690	2.43
L	4627	2.13	4659	2.13	4691	2.43
Q	4628	2.07	4660	2.07	4692	2.37

#### PIN TYPE (G)

##### General Purpose 15 Amp

RATINGS		Operating Characteristics	
15 Amp., 480 V., A.C.	$\frac{1}{2}$ A., 250 V., D.C.	Operating Force	9 to 13 oz.
$\frac{1}{2}$ Amp., 125 V., D.C.		Pretravel	.015" max.
$\frac{1}{4}$ Amp., 250 V., D.C.		Overtravel	.005" min.
		Diff. Travel	.0004 to .002 in.

WITH TERMINALS	S.P. NORM. OPEN		S.P. NORM. CLOSED		S.P.D.T.	
	No.	NET Ea.	No.	NET Ea.	No.	NET Ea.
S	4529	\$1.50	4561	\$1.50	4593	\$1.77
C	4530	1.56	4562	1.56	4594	1.89
L	4531	1.56	4563	1.56	4595	1.89
Q	4532	1.50	4564	1.50	4596	1.77

#### Heavy Duty 20 Amp

RATINGS		Operating Characteristics	
20 A., 480 V., A.C.	$\frac{1}{2}$ A., 250 V., D.C.	Operating Force	14 to 22 oz.
10 A., 125 V., A.C. "L" Load	1 H.P., 120 V., A.C.	Pretravel	.050" max.
$\frac{1}{2}$ A., 125 V., D.C.	2 H.P., 240 V., A.C.	Overtravel	.010" min.
		Diff. Travel	.002 to .0075 in.

WITH TERMINALS	S.P. NORM. OPEN		S.P. NORM. CLOSED		S.P.D.T.	
	No.	NET Ea.	No.	NET Ea.	No.	NET Ea.
S	4629	\$1.56	4661	\$1.56	4693	\$1.86
C	4630	1.62	4662	1.62	4694	1.95
L	4631	1.62	4663	1.62	4695	1.95
Q	4632	1.56	4664	1.56	4696	1.86

#### PANEL MOUNTED TYPE (H)

##### General Purpose 15 Amp

RATINGS		Operating Characteristics	
15 Amp., 480 V., A.C.	$\frac{1}{2}$ A., 250 V., D.C.	Operating Force	9 to 13 oz.
$\frac{1}{2}$ Amp., 125 V., D.C.		Pretravel	1/64" max.
$\frac{1}{4}$ Amp., 250 V., D.C.		Overtravel	7/32" min.
		Diff. Travel	.0004 to .002 in.

WITH TERMINALS	S.P. NORM. OPEN		S.P. NORM. CLOSED		S.P.D.T.	
	No.	NET Ea.	No.	NET Ea.	No.	NET Ea.
S	4509	\$3.54	4541	\$3.54	4573	\$3.96
C	4510	3.57	4542	3.57	4574	4.02
L	4511	3.57	4543	3.57	4575	4.02
Q	4512	3.54	4544	3.54	4576	3.96

#### Heavy Duty 20 Amp

RATINGS		Operating Characteristics	
20 A., 480 V., A.C.	$\frac{1}{2}$ A., 250 V., D.C.	Operating Force	14 to 22 oz.
10 A., 125 V., A.C. "L" Load	1 H.P., 120 V., A.C.	Pretravel	.050" max.
$\frac{1}{2}$ A., 125 V., D.C.	2 H.P., 240 V., A.C.	Overtravel	.219" min.
		Diff. Travel	.002 to .0075 in.

WITH TERMINALS	S.P. NORM. OPEN		S.P. NORM. CLOSED		S.P.D.T.	
	No.	NET Ea.	No.	NET Ea.	No.	NET Ea.
S	4609	\$3.63	4641	\$3.63	4673	\$4.08
C	4610	3.69	4642	3.69	4674	4.14
L	4611	3.69	4643	3.69	4675	4.14
Q	4612	3.63	4644	3.63	4676	4.08

#### SHORT OVERTRAVEL BUTTON (I)

##### General Purpose 15 Amp

RATINGS		Operating Characteristics	
15 Amp., 480 V., A.C.	$\frac{1}{2}$ A., 250 V., D.C.	Operating Force	9 to 13 oz.
$\frac{1}{2}$ Amp., 125 V., D.C.		Pretravel	1/64" max.
$\frac{1}{4}$ Amp., 250 V., D.C.		Overtravel	1/16" min.
		Diff. Travel	.0004 to .002 in.

WITH TERMINALS	S.P. NORM. OPEN		S.P. NORM. CLOSED		S.P.D.T.	
	No.	NET Ea.	No.	NET Ea.	No.	NET Ea.
S	4513	\$1.86	4545	\$1.86	4577	\$2.19
C	4514	1.89	4546	1.89	4578	2.25
L	4515	1.89	4547	1.89	4579	2.25
Q	4516	1.86	4548	1.86	4580	2.19

#### Heavy Duty 20 Amp

RATINGS		Operating Characteristics	
20 A., 480 V., A.C.	$\frac{1}{2}$ A., 250 V., D.C.	Operating Force	14 to 22 oz.
10 A., 125 V., A.C. "L" Load	1 H.P., 120 V., A.C.	Pretravel	.050" max.
$\frac{1}{2}$ A., 125 V., D.C.	2 H.P., 240 V., A.C.	Overtravel	.095" min.
		Diff. Travel	.002 to .0075 in.

WITH TERMINALS	S.P. NORM. OPEN		S.P. NORM. CLOSED		S.P.D.T.	
	No.	NET Ea.	No.	NET Ea.	No.	NET Ea.
S	4613	\$1.89	4645	\$1.89	4677	\$2.25
C	4614	1.95	4646	1.95	4678	2.31
L	4615	1.95	4647	1.95	4679	2.31
Q	4616	1.89	4648	1.89	4680	2.25

#### SHORT ROLLER (J)

##### General Purpose 15 Amp

RATINGS		Operating Characteristics	
15 Amp., 480 V., A.C.	$\frac{1}{2}$ A., 250 V., D.C.	Operating Force	6 oz. max.
$\frac{1}{2}$ Amp., 125 V., D.C.		Pretravel	9/64" max.
$\frac{1}{4}$ Amp., 250 V., D.C.		Overtravel	3/32" min.
		Diff. Travel	.003 to .020 in.

WITH TERMINALS	S.P. NORM. OPEN		S.P. NORM. CLOSED		S.P.D.T.	
	No.	NET Ea.	No.	NET Ea.	No.	NET Ea.
S	4517	\$2.52	4549	\$2.52	4581	\$2.88
C	4518	2.64	4550	2.64	4582	3.00
L	4519	2.64	4551	2.64	4583	3.00
Q	4520	2.52	4552	2.52	4584	2.88

#### Heavy Duty 20 Amp

RATINGS		Operating Characteristics	
20 A., 480 V., A.C.	$\frac{1}{2}$ A., 250 V., D.C.	Operating Force	6 oz. max.
10 A., 125 V., A.C. "L" Load	1 H.P., 120 V., A.C.	Pretravel	5/8" max.
$\frac{1}{2}$ A., 125 V., D.C.	2 H.P., 240 V., A.C.	Overtravel	1/32" min.
		Diff. Travel	3/64" max.

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ELECTRONIC COMPONENTS



**SINGLE RECORD**  
33-1/3 R.P.M.  
TEN LESSONS  
UP TO 15 WORDS  
PER MINUTE  
Complete on Two Sides

This twelve inch long play record contains all ten of the Code Course Lessons listed above, five on each side. 20-Page SMITH Instruction Book is included, and the record is housed in attractive, sturdy jacket with International Morse Code table on reverse side.  
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16 to 25 Words  
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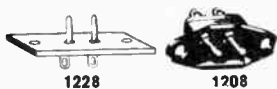


**CODE PRACTICE OSCILLATOR & MONITOR**

Ideal for the beginner as well as the experienced operator, this versatile instrument can be used as a code practice oscillator, as a keying monitor to check ICV signals, or as a monitor for phone signals.

Two tubes are used, in an up to date circuit that provides continuously variable tone and volume. Self-contained PM speaker affords ample volume for group use, with phone jack available for individual headphone listening. The handsome Hammertone finish cabinet has additional provision for wall mounting, an exclusive SMITH feature that eliminates need for valuable desk space. The unit is designed for use on 110 Volts AC or DC, and is supplied complete with two tubes.

No.	Description	NET Each
2425	Kit	\$13.59
2426	Wired	18.00



**INTERLOCK PLUGS**

No.	Std. Pkg. 100 Type	NET Per C
1208	Recessed	\$7.80
1228	Flush	7.00



**AMERICAN-FOREIGN PLUG ADAPTERS**

Streamlined bakelite plug adapters. Adapts from American to Foreign type. Std. Pkg. 25

No.	Female End	Male End	NET Per C
852	American	Continental	\$24.00
856	American	British	24.00
851	Continental Plug		18.00

**"CLEAPS" (Connectors for Joining Severed Wires)**



MATERIAL: Brass, cadmium plated.  
WIRE SIZE: For wires, .010" to .050" (B&S Gauge 16 to 30).  
DESCR.: Used to splice out leads of condensers, resistors, etc., in process of trouble-shooting. Insert wire in each tapered end and solder thru center opening. Std. Pkg. 100  
No. 1270 NET Per C \$1.00

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The latest in deluxe design, with many features of more expensive types. Featherweight construction assures fatigue-free use. Alnico V magnets, dual coil construction provide excellent tonal fidelity. Adjustable vinyl covered headband, molded plastic cases. Cord equipped with phone tips.

No.	Description	Ohms	NET Each
2441	Single	1000	\$1.89
2440	Double	2000	3.45
2446	Single	2-4	1.89
2447	Double	4-8	3.45
2448	Single	2000	2.10
2449	Double	4000	3.75

**FOR STEREO USE**

Same as above, except each phone has leads brought out separately.

2477	Double	2000	\$3.75
2478	Double	4-8	3.75
2479	Double	4000	4.20



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Finest quality soft rubber ear cushions, fit all standard ear-phones. For comfortable listening over long periods of time.  
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Permits operation of American, British or Continental electric shavers, radios, record players and other small appliances, from any electrical outlet, anywhere in the world supplying the required voltage. All plugs are rated at 15 Amps/117 V. — 7.5 Amps/220 V.

No.	Male Plug	Female Socket	NET Per C
1991	Continental	Universal	\$9.00
1992	American	Universal	39.00
1993	Bayonet	Universal	60.00
1994	Screw	Universal	60.00
1995	Kit of 4 Adapters, 1 each of above		210.00

**HEX AND SPLINE KEYS**

Made of special alloy steel, tempered to avoid brittleness and impose maximum resistance to torsional strain. Ends ground for easy insertion.

No.	Screw	O. D.	NET Per C
340	No. 2	.634	\$7.80
341	No. 3, 4	.650	7.80
342	No. 5, 6	.662	7.80
343	No. 8	.678	7.80
344	No. 10	.693	9.00
345	No. 1/4"	.125	9.00
346	No. 3/8"	.156	9.00

**SPLINE KEYS**

No.	Screw	O. D.	NET Per C
370	No. 1	.688	\$7.80
371	No. 5	.698	7.80
372	No. 6	.675	7.80
373	No. 8	.693	7.80
374	No. 10	.109	9.00
375	No. 1/2"	.113	9.00
376	No. 3/8"	.182	9.00

**HEX AND SPLINE KEY KITS**

Attractive tearproof vinyl plastic kit with individual pockets for each of six keys in kit. Std. Pkg. 5

Kit of 6 hex keys for screws from No. 3 to 5/16".  
No. 355 \$60.00 NET Per C  
Kit of 6 spline keys for screws from No. 5 to 5/16".  
No. 385 \$60.00 NET Per C  
(Combination Kit of 3 hex and 3 spline keys for No. 6-8-10 screws.  
No. 390 \$60.00 NET Per C  
Kit of 7 hex keys for screws from No. 2 to 5/16" and 4 spline keys Nos. 4, 6, 8, and 10.  
No. 395 \$120.00 NET Per C



HEX KEYS SPLINE KEYS

**DISPLAY CARDS**

No.	Description	NET Each
355D	Display of 24 Hex Kits No. 355	\$14.40
385D	Display of 24 Spline Kits No. 385	14.40
390D	Display of 24 Comb. Kits No. 390	14.40
395D	Display of 20 Comb. Kits No. 395	24.00

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Modern Panel Title Decals



New size type face on all word titles to match modern instrument panels and sound equipment.

Packaged individually in clear plastic boxes — instant selection — box

itself can be used as water tray for applying the decals. Standard Packages of 6. Please order by catalog number.  
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**TRANSMITTER**

For industrial prototype use. Hams, Citizens' Banders. Also for Microwave and Broadcast stations.  
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**RECEIVER**

Hams, Citizens' Banders, Industrial prototypes, Hi-Fi and Experimenter applications.  
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No. 3704  
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**DIALS**

For all uses in transmitters, Ham and Citizens' Band industrial prototypes, Hi-Fi, electricians, experimenters.

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No. 3707  
No. 3708  
No. 3709

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**ALPHABETS**

Most popular item in the line! For all general uses above.

3710	2-inch	BLACK
3711	2-inch	WHITE
3712	2-inch	RED
3713	2-inch	GOLD
3714	1/2-inch	BLACK
3715	1/2-inch	WHITE
3716	1/2-inch	RED
3717	1/2-inch	GOLD
3718	Assorted	WHITE
3719	Assorted	RED
3720	Assorted	BLACK
3721	Assorted	GOLD

**INSTRUMENTS**

Primarily for Technicians, Hams and industrial use.  
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**HI-FI AND STEREO**

For experimenters, commercial sound distributors, industrial prototypes.

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**SOUND SYSTEMS**

For industrial use by commercial sound distributors, custom installers, electricians and experimenters.

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Used by Hams, experimenters, technicians, and industrial prototype use. Includes complete list of transistor and diode numbers plus symbols of PNP, NPN, 4 and 5 element transistors, diode symbols.

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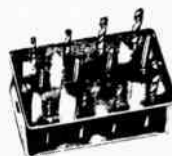
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**DRILL & TAP KIT for**

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Specially designed for electronic bench duty, this kit contains the most popular sizes of taps and corresponding tap and body drills for precise and speedy work. Drill and tap size identifications are engraved on the steel cadmium plated drill stand, to facilitate correct replacement as needed. Contains: 4-40, 6-32, 8-32, 10-32 Taps with eight corresponding tap and body drills.

No.	Kit Stand Only	NET Ea.
750		\$15.00
749		.66



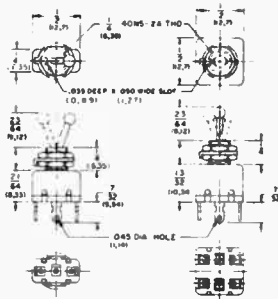
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ELECTRONIC COMPONENTS

## ARROW, H. & H. MIDGET TOGGLE SWITCHES



## SUB-MINIATURE TOGGLE SWITCHES

Offers the greatest switching flexibility and is available in both positive and momentary action. Gold plated silver stationary contacts to insure continuity on low energy circuits and Rhodium plated silver movable contacts to withstand mechanical wear. Molded diallyl phthalate and aluminum housing. Available in Commercial and Military types Rating, Resistive and \*Inductive.

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- \*AC: 75% Power Factor
- DC: An Inductors
- Mechanical Life: 100,000 cycles

### COMMERCIAL

Housing and mounting hardware gold anodized. Available only in stainless steel ball lever.

Smith No.	AH&H No.	Circuit*	Net Each
4740	TC-3	SPDT A-B-A	\$4.50
4741	TE-3	SPDT C-B-A	4.80
4742	TG-3	SPDT C-B-C	4.80
4743	TM-3	SPDT C-D-A	4.80
4744	TS-1	SPST B-D-A	4.20
4745	TS-2	DPST B-D-A	5.10
4746	TS-3	SPDT A-D-A	4.50
4747	TC-6	DPDT A-B-A	5.90
4748	TE-6	DPDT C-B-C	7.50
4749	TG-6	DPDT C-B-C	7.50
4750	TM-6	DPDT C-D-A	7.50
4751	TS-6	DPDT A-D-A	5.90

\*A-ON, B-OFF, C-Momentary ON, D-None

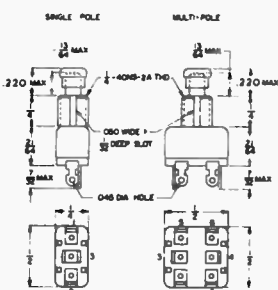
### MILITARY

Meets Mil S-3950B, MS75028 and MS75029. Housing and hardware, clear anodized. Available only with aluminum ball lever.

Smith No.	AH&H No.	MS No.	Circuit*	Net Each
4760	TC-3-M	MS75028-21	SPDT A-B-A	\$4.80
4761	TE-3-M	MS75028-31	SPDT C-B-A	5.10
4762	TG-3-M	MS75028-27	SPDT C-B-C	5.10
4763	TM-3-M	MS75028-26	SPDT C-D-A	5.10
4764	TS-1-M	MS75028-22	SPST B-D-A	4.50
4765	TS-2-M	MS75028-22	DPST B-D-A	5.40
4766	TS-3-M	MS75028-23	SPDT A-D-A	4.80
4767	TC-6-M	MS75029-21	DPDT A-B-A	6.20
4768	TE-6-M	MS75029-31	DPDT C-B-A	7.80
4769	TG-6-M	MS75029-27	DPDT C-B-C	7.80
4770	TM-6-M	MS75029-26	DPDT C-D-A	7.80
4771	TS-6-M	MS75029-23	DPDT A-D-A	6.20

\*A-ON, B-OFF, C-Momentary ON, D-None

## ARROW, H. & H. SUB-MINIATURE MOMENTARY PUSH BUTTON SWITCHES



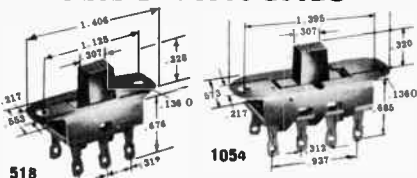
Smallest momentary switch available, combining maximum performance, dependability and durability with minimum weight and envelope. Gold plated leaf contacts, with molded diallyl phthalate body and anodized aluminum housing. Mounts with 3/4" diameter slotted sleeve, supplied with mounting hardware. Nylon push button caps are optional and are available in seven colors.

- Rating: 2A. 29V.DC Resistive
- 1A. 115V.AC
- Minimum Rating: 10 Micro-amps at 50 MV.
- Weight: 2.5 Grams Single Pole
- 4.0 Grams Double Pole
- Mechanical Life: Min. 1,000,000 Cycles.

Smith No.	Circuit	Net Each
4755	DPDT NO/MC	\$4.20
4756	SPDT NO/MC	5.10
4757	3PST 3P/NO	4.80
4758	3PST 3P/NC	6.90
4754	Button Only, Available in Red, Black, Green, Yellow, Blue, Brown, Natural	.15

Std. Pkg. 25

## CONTINENTAL-WIRT SLIDE SWITCHES



### With Detent

#### UL APPROVED

General purpose switches, used on hi-fi equipment, test instruments, etc. Steel cadmium plated housings. Black phenolic buttons. Std. Pkg. 25

No.	Circuit	Rating @ 125 Volts	NET
		AC Amps	Per C
515	SPST	.75	\$11.40
516	DPDT	.75	12.00
517	DPST	.5	15.00
518	DPDT	.5	18.00
1105	SPST	6.0	14.40
1106	DPST	6.0	15.00
1107	DPST	6.0	24.00
1108	DPDT	6.00	27.00

### With Spring Return

No.	Circuit	Rating 125V ACDC	NET
			Per C
568	SPST	.5 Amp	\$35.00
569	SPDT	.5 Amp	28.80

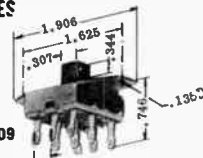
### TRIPLE THROW

#### With Detent

No.	Circuit	Rating 125V ACDC	NET
			Per C
1053	SPST	.5 Amp	\$28.80
1054	DPST	.5 Amp	30.00

## MULTI-POLE SWITCHES

### With Detent



1109

Unique construction, all poles are in the same plane, more compact, easier wiring. Std. Pkg. 25

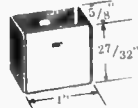
No.	Circuit	Rating @ 125 Volts	NET
		AC Amps	Per C
1109	3PDT	3.0	\$48.00
1110	3PDT	.5	45.00

Same as above but 1.005" wide

1104	4PDT	.5	60.00
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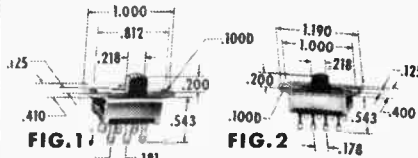
## SLIDE SWITCH SHIELD

For terminal protection or electrostatic shielding. Shield is made of steel, cadmium plated with fibre insulation. Std. Pkg. 25



NET Per C \$15.00

## SUBMINIATURE SLIDE SWITCHES



Extremely small slide-switches for use in circuitry with critical space requirements. Approximately 1/3 the volume of standard slide switch. All switches UL approved, and rated at 0.5 amp, 125 volt, AC-DC. Available with printed-circuit terminals on special order. Std. Pkg. 25

No.	Circuit	With Detent	Fig. No.	Net Per C
1226	SPDT	1	1	\$27.00
1227	DPDT	1	1	33.00
1238	SPST	2	2	40.00
1239	DPST	2	2	40.00
With Spring Return				
1236	SPDT	1	1	40.00

## TV ANTENNA LUG

### Solderless Type

A secure, swift, positive and permanent method of connecting TV wire to antenna. Simply strip wire, coil around groove and fold over. Insure positive contact.



No.	Type	Length	Hole	No. 10	NET Per C
1480	Double Cup	1 1/4"	3/16"		\$2.84
1481	Double Cup	1 1/4"	3/16"		\$3.00

## PLUG-IN MODULE HOUSING

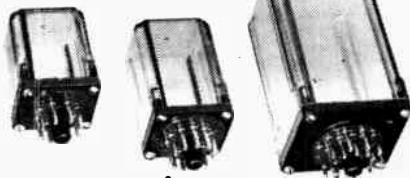


FIG. 1

FIG. 2

FIG. 3

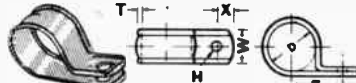
Molded plastic housings and pin headers fit standard tube sockets. For use in packaging relays, networks, miniature interchangeable circuits in plug-in, replaceable modules. Available in three sizes and materials for a wide range of temperature and environmental applications.

- HEADERS: MOLDED THERMOSETTING plastic per MIL-M-14 (CPG, Black).
- HOUSINGS: MOLDED POLYSTYRENE, per Fed. Spec. L-P41, Type 1, Black.
- MOLDED BUTYRATE, per Fed. Spec. L-348A, Type 3, Class MS, Clear.
- MOLDED NYLON, per MIL-P-20693A, Natural.

Housings are supplied complete with header. PINS: Brass, nickel plated. SCREWS: Steel, Cadmium plated.

HOUSING	Cat. No.	STYRENE		BUTYRATE		NYLON	
		NET	Per C	NET	Per C	NET	Per C
Std. Pkg. 5							
Miniature (Fig. 1)							
8-Pin	2437-08	\$6.88	2421-08	.76	2424-08	\$6.88	
9-Pin	2437-09	.76	2421-09	.88	2424-09	.88	
11-Pin	2437-11	.76	2421-11	.88	2424-11	.88	
20-Pin	2437-20	.88	2421-20	1.00	2424-20	1.00	
Standard (Fig. 2)							
8-Pin	2438-08	\$6.64	2422-08	.64	2432-08	\$7.88	
9-Pin	2438-09	.70	2422-09	.76	2432-09	.88	
11-Pin	2438-11	.70	2422-11	.76	2432-11	.88	
20-Pin	2438-20	.88	2422-20	.88	2432-20	1.00	
Large (Fig. 3)							
8-Pin	2439-08	\$8.81	2423-08	\$1.20			
11-Pin	2439-11	.88	2423-11	1.25			
20-Pin	2439-20	1.15	2423-20	1.47			

## PLASTIC CABLE CLIPS — ETHYL CELLULOSE



These clips are well known for ability to withstand age, moisture, corrosion, shock and vibration. This tough, light weight, durable clip withstands temperatures from -60 to +175 degrees F. Made to MIL Std. 242A (Ships) T .060 - W 1/2" X 7/32" - H .204

No.	Hole (D)	E	NET Per C
831	3/16"	.580	\$2.84
832	1/4"	.423	2.40
833	5/16"	.457	2.58
834	3/8"	.498	2.85
835	7/16"	.529	3.00
836	1/2"	.560	3.30
837	5/8"	.592	3.60
838	3/4"	.623	4.20
839	7/8"	.654	4.50
840	1 1/8"	.732	4.80
841	1 1/4"	.783	5.10
842	1 1/2"	.845	5.40
843	1 3/4"	.908	5.70
844	1 7/8"	.970	6.00
845	2"	1.082	6.80

## NYLON CABLE CLIPS

These strong and tough molded nylon clamps hold their shape under severest stress. Do not support combustion. Withstands temperatures from -60 to +250 degrees F. Made to MIL P17091A amend. 2

No.	Hole (D)	E	NET Per C
771	3/16"	.310	\$3.80
772	1/4"	.373	3.90
773	5/16"	.407	4.20
774	3/8"	.448	4.85
775	7/16"	.479	4.80
776	1/2"	.510	5.10
777	5/8"	.542	5.40
778	3/4"	.623	6.80
779	7/8"	.654	7.20
780	1 1/8"	.752	7.50
781	1 1/4"	.783	8.10
782	1 1/2"	.845	8.70
783	1 3/4"	.908	10.20
784	1 7/8"	1.002	12.00
785	2"	1.082	18.80

## SPRING GRID CLIP

Small and large type grid clip used to replace clips that have lost their tension due to heat causing poor contact.



No.	Type	Per C
1288	1X2-6BQ6	\$6.00
1289	1B3-6BQ8	6.00

specify

**SMITH**

HERMAN H. SMITH, INC.



ELECTRONIC COMPONENTS

**AUTO RADIO CONDENSERS**



Eliminates radio interference caused by auto electrical system. Fits all cars — Proven quality — Guaranteed long life. Std. Pkg. 25

No.	Cap. Type	NET Per C
811	.5 MFD General, l'nrv.	\$35.00
812	.25 MFD Universal	\$42.00



**ANTENNA CONNECTOR**

For use as connection of auto radio antenna lead-in to auto radio receiver. Std. Pkg. 50

No.	NET Per C
1300	\$10.20



**FUSE RETAINER**

Recommended for use in auto radio power supply cables. Std. Pkg. 50

No.	NET Per C
1301	\$13.20

**PARTS FOR CONNECTOR & RETAINER**  
Std. Pkg. 100

No.	Type	NET Per C
1305	Male Cap for #1300 & #1301	\$7.00
1306	Female Shell for #1300	2.31
1307	Contact for #1300 & #1301	3.30
1308	Spring for #1300 & #1301	.66
1309	Washer for #1300 & #1301	.33
1310	Insulating Tube for #1301	.60
1311	Female Shell for #1301	5.40

**TV SNAP-ON FUSE HOLDER**



Snap fuse clip over burned out fuse. Insert new fuse without soldering. Std. Pkg. 50

No.	NET Each
529	\$1.16

**FUSE MOUNTING BASES**



Black bakelite. panel mount type. Will accommodate the J. A. G. Auto type cartridge fuse. Std. Pkg. 25

No.	Type	NET Per C
530	Single	\$14.00
531	Double	\$26.00

**Auto Radio IGNITION SUPPRESSORS**



Std. Pkg. 50	Type	NET Per C
805	Snap-On Type Suppressor	\$40.00
806	Univ. Type with Double Thrd.	40.00
807	Angle Type Suppressor	40.00
808	Distributor Screw Type	50.00
809	Distributor Plug-in Type	50.00
810	Double Screw Type	25.00

**MOTOROLA PLUGS & JACKS**



Std. Pkg. 50	Type	NET Per C
1200	Motorola Type Plug	\$10.20
1207	Antenna Connector, Takes 1200 Plug	18.00
1204	Lead-in Adapter, converts Motorola pin plug to Delco	9.00
1235	Female for #1200 plug, without flange	7.20

**BATTERY CONNECTING STRIPS**



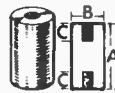
No.	Spacing	Eveready	Burgess	Std. Pkg. 25	NET Per C
1205	1-1/2"	455, 467, 457, 468	XX30, XX45, K45, V451	V8055, V8016, V8082, V8125, V8090, V8217	\$23.00
1206	2-1/2"	490	N60	V8219	24.00
1210	15/16"	437, 495, 477, 237A, 479	XX50, N60X, P45, C8X.	V8316, V8218, V8219	24.00
1217	1-1/4"	707	D5	V8315	21.00
1218	1-3/8"	274, 276	H14, D6	V8306	24.00
1219	15/16"	243	223	V8324	24.00
1234	1/2"	E126, 415, 216, 416, 246	H126, T30, 2N6	V8328, V8086, V8323, V8518, V8303	24.00
<b>CONNECTOR SNAPS</b>					
1296	Female	226, 228	P6, PM8	V8300A, V8329	6.00
1297	Male	2709		V8326	6.00



**CERAMIC STANDOFFS**

MADE TO JAN. SPECS.  
Grade L-5 Ceramic made to JAN 1-8 and JAN 1-10 Specs. Outside of ceramic is glazed. Std. Pkg. 50

No.	Type	A	B	C	Thd	NET Per C
2600	NL633W01-004	1/2"	3/8"	5/2"	6-32	\$16.70
2601	NL633W01-005	5/8"	3/8"	1/4"	6-32	18.20
2602	NL633W01-008	3/4"	3/8"	1/4"	6-32	19.00
2603	NL633W01-008	1"	3/8"	3/8"	6-32	19.70
2604	NL633W01-010	1 1/4"	3/8"	3/8"	6-32	21.80
2605	NL633W01-012	1 1/2"	3/8"	3/8"	6-32	22.70
2606	NL633W01-016	2"	3/8"	3/8"	6-32	23.00
2607	NL633W02-005	5/8"	1/2"	1/2"	8-32	16.70
2608	NL633W02-006	3/4"	1/2"	1/2"	8-32	17.20
2609	NL633W02-008	1"	1/2"	3/8"	8-32	17.40
2610	NL633W02-010	1 1/4"	1/2"	3/8"	8-32	20.00
2611	NL633W02-012	1 1/2"	1/2"	3/8"	8-32	22.00
2612	NL633W02-018	2"	1/2"	3/8"	8-32	25.40
2613	NL633W02-020	2 1/4"	1/2"	3/8"	8-32	30.00
2614	NL633W02-024	3"	1/2"	3/8"	8-32	31.50
2615	NL633W03-008	1"	3/4"	3/8"	10-32	28.00
2616	NL633W03-010	1 1/4"	3/4"	3/8"	10-32	28.00
2617	NL633W03-012	1 1/2"	3/4"	3/8"	10-32	34.40
2618	NL633W03-016	2"	3/4"	3/8"	10-32	39.00
2619	NL633W03-020	2 1/4"	3/4"	3/8"	10-32	40.00
2620	NL633W03-024	3"	3/4"	3/8"	10-32	45.00
2621	NL633W03-032	4"	3/4"	3/8"	10-32	51.00
2622	NL633W04-010	1 1/4"	1"	3/8"	1/4-20	37.50
2623	NL633W04-012	1 1/2"	1"	3/8"	1/4-20	48.00
2624	NL633W04-016	2"	1"	3/8"	1/4-20	54.00
2625	NL633W04-020	2 1/4"	1"	3/8"	1/4-20	55.00
2626	NL633W04-024	3"	1"	3/8"	1/4-20	62.00
2627	NL633W04-032	4"	1"	3/8"	1/4-20	75.00
2628	NL633W04-040	5"	1"	3/8"	1/4-20	92.00
2629	NL633W04-048	6"	1"	3/8"	1/4-20	103.00

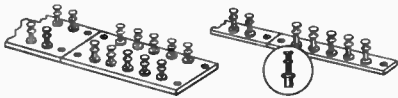


**CERAMIC STANDOFFS**

COMMERCIAL  
Grade L5 Ceramic with outside glazed. Std. Pkg. 50

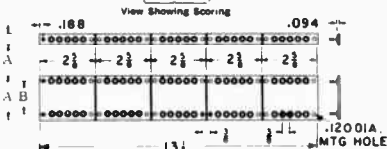
No.	A	B	C	Thd.	NET Per C
2640	1/4"	1/4"	Thru	6-32	\$13.40
2641	1/2"	1/4"	5/2"	6-32	13.70
2642	3/4"	3/8"	3/2"	6-32	14.20
2643	1"	3/8"	1/2"	6-32	16.80
2644	1 1/2"	3/8"	3/2"	6-32	18.50
2645	3/4"	1/2"	1/2"	6-32	19.50
2646	1"	1/2"	3/8"	6-32	21.50
2647	1 1/4"	1/2"	3/8"	6-32	24.50
2648	2 1/2"	1/2"	1/2"	6-32	28.70
2649	2 1/2"	3/4"	3/4"	1/4-20	36.00
2650	4"	3/4"	3/4"	1/4-20	54.00

**SCORED TERMINAL BOARDS**



featuring  
**SNAP-APART SEPARATION**  
ASSEMBLED WITH  
**TERMINAL LUGS & MOUNTING HOLES**

SMITH Scored Boards are fabricated in PBE material per MIL-P-31150, Temp. 250° F. Max., Type XXPP. Terminals are securely staked and are made of Brass per QQ-626 comp. 22, half-hard with hot-finned dip solder finish, per MIL-F-14072 Type 221. Smith type 2008. Std. Pkg. 6



Cat. No.	Dimensions		Terminals	Net Price Each
	A	B		
2810	1/2"	Single Row	25	\$1.30
2811	1 1/2"	1"	50	2.30
2812	2"	1 1/2"	50	2.34
2813	2 1/2"	2"	50	2.50
2814	3"	2 1/2"	50	2.50

**SCRATCH AWL**



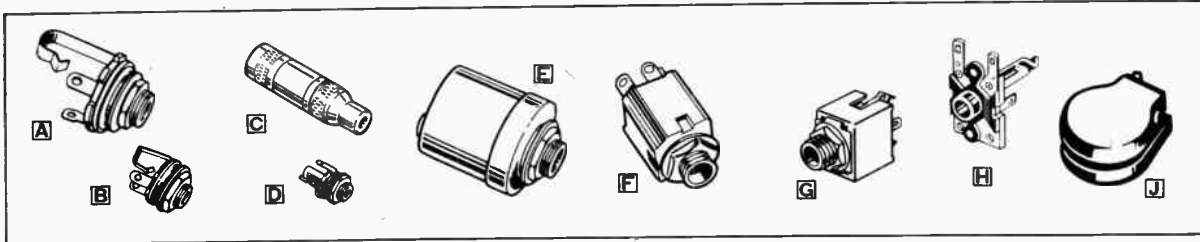
Scratch awl with unbreakable amber handle. Overall length 5". A "must" in a serviceman's tool kit. NET Per C

No.	Std. Pkg.	NET Per C
814		\$45.00

**"IT'S SOUND PLANNING TO SPECIFY SMITH!"**

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**"LITTEL-JAX" PHONE JACKS**

**A** Quality phone jacks that mate with standard 1/4" phone plugs. Notched insulating washers mechanically interlock springs and solder lugs. "V" bend in tip spring firmly "holds" mating plug. Minimum space requirements. Economical. Mount in single 3/8" hole, panels up to 3/32" thick, except L-11 and L-12A in panels up to 1/4" thick.

Nos. C-11 and C-12A mate with No. 440 (PJ-055B) Plug; C-12B, S-12B and S-13B mate with No. 480 (JAN-PJ-068) or No. 484 (W.E. No. 309) Plug. Nos. C-11 and C-12B have locating pins (non-turn devices). No. S-11 similar to No. 11 except .210" I.D. sleeve. C-11, C-12B and C-12A per JAN-J-641. All others mate with standard 1/4" dia. plugs.

No. 14B Stereo Littell-Jax, switches-out speakers when connecting stereo headphones. Dual, N.O. switch contacts, open both stereo circuits independently when a 3-conductor plug is inserted.

**TWO-CONDUCTOR TYPES**

Part No.	Schematic No.	Typical Mating Plug	Mil-Type	U.S.A. List Price
11	I	250	—	<b>\$0.45</b>
C-11	I	440	JJ-034	.65
L-11	I	250	—	.55
S-11	I	S-250	—	.50
12A	III	250	—	.50
C-12A	III	440	JJ-089	.80
L-12A	III	250	—	.60
13	V	250	—	1.00
13A	VI	250	—	.90
13E	IX	250	—	1.00

**THREE-CONDUCTOR TYPES**

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
12B	IV	267	—	.60
C-12B	IV	480	JJ-033	1.05
L-12B	IV	267	—	.75
S-12B	IV	480	—	.75
13B	VIII	267	—	.85
S-13B	VIII	480	—	1.05
14B	X	267	—	1.05

**"TINI-JAX" MINIATURE PHONE JACKS**

**B** Miniature 2-conductor Jacks, approximately 1/2 the size of the "Littell-Jax"; otherwise similar in construction. Mount in 1/4" dia. hole; panel up to 1/8" thick. No. 43A has a unique spring design that requires a pear shaped tip, such as Switchcraft "Tini-Plug" No. 750.

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
41	I	750	2	<b>\$0.45</b>
42A	III	750	2	.50
43A	VI	750	2	.80

**"TINI-EXTENSION JAX"**

**C** An extension or cable jack to mate with "Tini-Plug". Two-conductor. Metal housing for ruggedness and electrical shielding. Solder lug terminals.  
Switchcraft Part No. 125 ..... U.S.A. List Price \$1.35

**"MICRO-JAX" SUB-MINIATURE PHONE JACKS**

**D** Precision manufactured jack for miniaturized applications. Two-conductor, single closed circuit. See Schematic Circuit III. Silver plating on special tempered nickel silver springs. Internally keyed nylon insulation interlocks springs and solder lugs to eliminate shorts. Fits .190" dia. hole in panels to 3/8" thick. Only 1/25th the size of standard phone jacks. Mates with "Micro-Plug", Series 850, 880.  
Switchcraft Part No. TR-2A ..... U.S.A. List Price \$0.50

**"SHIELDED JAX"**

**E** A unique modification of the "Littell-Jax". The shield is assembled into and made part of the jack. Ideal for high impedance circuits.

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
CN-11	I	250	2	<b>\$0.90</b>
CN-12A	III	250	2	.95
CN-12B	IV	267	3	1.05
CN-13B	VIII	267	3	1.30

**"HI-D JAX" PHONE JACKS**

**F** New smaller, more compact phone jacks, mate with std. 1/4" phone-plugs. Molded box body protects integral silver-plated, nickel silver springs. Low contact resistance and electrical leakage with little capacity between the springs. Mount on 3/8" centers in single 3/8" hole in panels up to 3/8" thick, depth behind panel 1 1/8". All part Nos. with "L" prefix mount in panels up to 1/2" thick; part Nos. with "N" prefix feature a threaded nylon bushing to provide complete insulation of jack sleeve from mtg. panel. Stereo "HI-D Jax", Nos. 114B, L-114B, N-114B, switches out speakers when connecting stereo headphones. Dual N.O. switch contacts open both stereo circuits independently when a 3-cond. plug is inserted.

**TWO CONDUCTOR TYPES**

Part No.	Schematic	Typical Mating Plug	U.S.A. List Price
111	I	250	<b>\$0.45</b>
L-111	I	250	.60
N-111	I	250	.60
112A	III	250	.50
L-112A	III	250	.65
N-112A	III	250	.65
113	V	250	1.00
113D	VI	250	1.00
113E	IX	250	1.00

**THREE CONDUCTOR TYPES**

Part No.	Schematic	Typical Mating Plug	U.S.A. List Price
112B	IV	267	.55
L-112B	IV	267	.70
N-112B	IV	267	.70
113B	VIII	267	.75
L-113B	VIII	267	.80
N-113B	VIII	267	.80
113F	VII	267	.75
114B	X	267	.85
L-114B	X	267	.95
N-114B	X	267	.95

**"TINI-D JAX" SUBMINIATURE PHONE JACKS**

**G** New, small completely enclosed, molded phone jack. Mate with Switchcraft "Tini-Plug", No. 750 etc. Phenolic housing protects the bifurcated beryllium copper springs from being bent during mounting. No. 142A has threaded bushing for conventional mtg.; No. PC-142A, with plain bushing. Both have tip spring terminals that "snap-in" P.C. boards. Mount on 3/8" centers, in 1/4" dia. hole in panels up to 3/8" thick. Depth behind panel 1/8".

Part No.	Conductors	Schematic	Typical Mating Plug	U.S.A. List Price
142A	2	III	750	<b>\$0.50</b>
PC-142A	2	III	750	.55

**"R-JAX" ECONOMY PHONE JACKS**

**H** Radically new jack design. Simple mounting needs only two (2) 3/16" dia. rivets to fasten securely to mounting panel. Accept standard 1/4" dia. phone plugs.

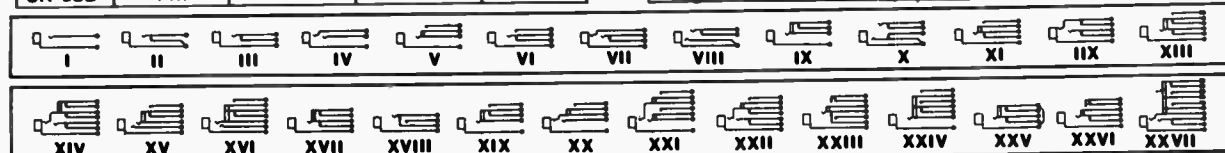
Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
1	I	250	2	<b>\$0.40</b>
2A	II	250	2	.45
2B	IV	267	3	.50
3A	VI	250	2	.70
3B	VIII	267	3	.60
3E	IX	250	2	.80
3F	VII	267	3	.60
4B	X	267	3	.70

**JACK COVERS**

**J** Handy, rugged, spring-load phone jack covers. Covers jack openings when phone plug is removed. Protects against dust and moisture. Series 500—Use with standard 3/8"-32 threaded bushing type phone jacks.

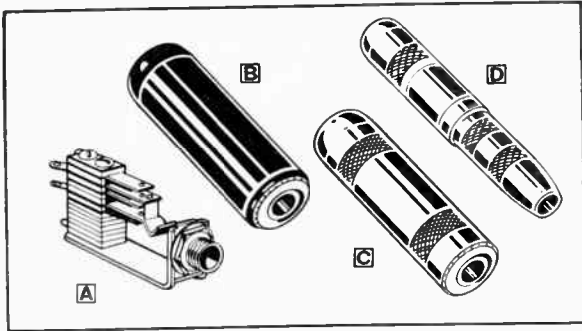
Series 600—Use with certain type tip jacks with 1/4" mounting; height of tip jack head 1/8" to 3/8". Also used as covers for "Tini-Jax".

Part No.	Color	U.S.A. List Price	Part No.	Color	U.S.A. List Price
510	Olive Drab	\$1.15	610	Olive Drab	\$1.00
512	Bright Nickel	1.15	612	Bright Nickel	.85
515	Black	1.15	615	Black	1.00
520	Navy Gray	1.15	620	Navy Gray	1.00



The above are strictly electrical schematics and do not necessarily indicate relative solder lug positions.

# Phone Jacks



## "LF-JAX" LONG FRAME JACKS

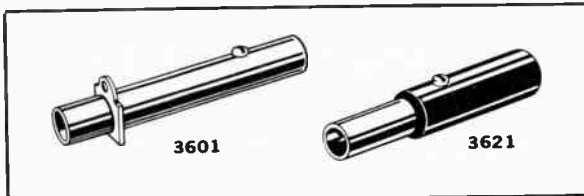
**A** Quality long frame phone jacks with a ground lug that is an integral part of the frame. Fine silver contacts rated at 3 amp., 300 watts, A.C., non-inductive load. Frame also available with a non-turn device, prefix Part No. with letter "R". Standard types mount in single  $\frac{3}{16}$ " dia. hole in panels up to  $\frac{3}{16}$ " thick. Depth behind panel, only  $2\frac{3}{4}$ ".

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
31	I	250	2	\$0.80
32	II	250	2	1.05
32A	III	250	2	1.05
32B	IV	267	3	1.05
33	V	250	2	1.15
33A	VI	250	2	1.15
33B	VII	267	3	1.15
33C	VIII	267	3	1.15
33E	IX	250	2	1.15
34	X	267	3	1.30
34A	XI	250	2	1.30
34B	XII	267	3	1.30
35	XIII	250	2	1.60
36	XIV	267	3	1.85

## "EXTENSION JAX" CABLE EXTENSION JACKS

Standard  $\frac{1}{4}$ ", 2 and 3-conductor extension phone jacks with solder lugs or screw type terminals. Size  $1\frac{1}{16}$ " O.D.,  $2\frac{5}{8}$ " long; 121 and 131  $\frac{1}{2}$ " O.D.,  $2\frac{1}{2}$ " long. Black handles are durable plastic. Shielded handles are brass, bright nickel plated.

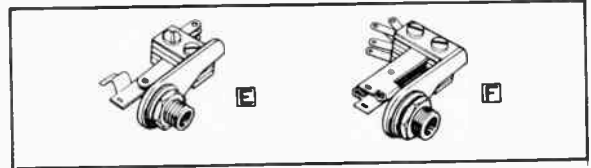
Part No.	Fig.	Cond.	Typical Mating Plug	Term.	Handle	U.S.A. List Price
80	B	2	250	Screw	Black	\$1.25
88	B	2	250	Solder	Black	1.10
120	C	2	270	Screw	Shielded	1.70
121	D	2	270	Solder	Shielded	1.80
126	C	2	R-280	Solder	Shielded	1.90
128	C	2	270	Solder	Shielded	1.55
S-128	C	2	S-250	Solder	Shielded	1.65
131	D	3	290	Solder	Shielded	2.25
830	B	3	267	Screw	Black	1.70
S-830	B	3	480	Screw	Black	2.25
838	B	3	267	Solder	Black	1.55
1230	C	3	290	Screw	Shielded	2.20
S-1230	C	3	480	Screw	Shielded	2.75
1238	C	3	290	Solder	Shielded	2.00



## CV JAX AND PLUGS

High quality coaxial-video jacks and plugs designed for use in patching high frequency signals, microwave, telemetry and data transmitting applications. Jacks are made for 50 and 70 ohm circuits and use standard RG cables. No. 3601 accepts RG59/U; No. 3602, accepts RG62/U. Mate with Switchcraft CV Plugs. Mount in single  $\frac{1}{16}$ " hole. Depth behind panel is  $2\frac{3}{4}$ ". No. 3621, terminating plug with 75 ohm + 1%  $\frac{1}{2}$  watt resistor; No. 3622, feed through plug; No. 3623 same as 3621 but with tip jack for incircuit testing.

JACKS		PLUGS	
Part No.	U.S.A. List Price	Part No.	U.S.A. List Price
3601	\$10.00	3621	\$ 4.75
3602	10.00	3622	4.25
		3623	5.75



## "SF-JAX" SHORT FRAME PHONE JACKS

**E** Series 20—High quality commercial jacks, solder lugs parallel to mounting surface. Mount in  $\frac{3}{16}$ " dia. holes, panels up to  $\frac{3}{16}$ " thick.

**F** Series 50—Similar to Series 20, except solder lug location necessitates more depth but requires less panel space. Mount in panels up to  $\frac{1}{4}$ " thick.

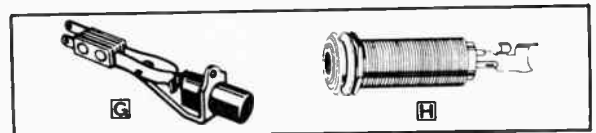
Series C-20 and C-50—MIL Types with Military insulation and finishes, otherwise similar to commercial Series 20 and 50; both will mount in panels up to  $\frac{1}{4}$ " thick.

### SERIES 20 and C-20

Part No.	Schematic No.	Typical Mating Plug	Mil-Type	U.S.A. List Price
21	I	250	—	\$0.70
22	II	250	—	.90
22A	III	250	—	.90
22B	IV	267	—	.90
23	V	250	—	1.05
C-23	V	440	JJ-099	1.50
23A	VI	250	—	1.05
C-23A	VI	440	JJ-098	1.50
23B	VII	267	—	1.05
23C	VIII	267	—	1.05
23E	IX	250	—	1.05
C-23E	IX	440	JJ-102	1.50
24	X	267	—	1.20
24A	XI	250	—	1.20
24B	XII	267	—	1.20
25	XIII	250	—	1.45
26	XIV	267	—	1.55

### SERIES 50 and C-50

51	I	250	—	\$0.70
C-51	I	440	JJ-096	1.30
52	II	250	—	.90
52A	III	250	—	.90
C-52A	III	440	JJ-097	1.45
52B	IV	267	—	.90
C-52B	IV	482	JJ-103	1.45
53	V	250	—	1.05
53A	VI	250	—	1.05
C-53A	VI	440	JJ-092	1.70
53B	VII	267	—	1.05
53C	VIII	267	—	1.05
53E	IX	250	—	1.05
54	X	267	—	1.20
54A	XI	250	—	1.20
C-54A	XI	440	JJ-093	1.75
54B	XII	267	—	1.20
C-54B	XII	482	JJ-101	1.75
55	XIII	250	—	1.45
C-55B	XV	482	JJ-095	2.05
56	XIV	267	—	1.55



## "LAMP JAX" SWITCHBOARD PANEL TYPES

**G** Quality long frame panel type lamp jacks. No. LT-47, black nylon lamp housing completely insulates lamp from frame. Interchangeable with W.E. Nos. 47A, 47B. Accepts std. lamps and lamp caps, W.E. Nos. 2, 72, etc. No. LT-48, new Ballast Lamp-Jax for use in circuits subjected to increasing temperature and wattage. Steel frame and bushing, Teflon sleeve. Accepts std. telephone lamps or ballast lamp No. 60XA. Both lamp jacks mount in std. Switchcraft jack panels.

Switchcraft Part No. LT-47 U.S.A. List Price \$1.40  
Switchcraft Part No. LT-48 U.S.A. List Price \$2.00

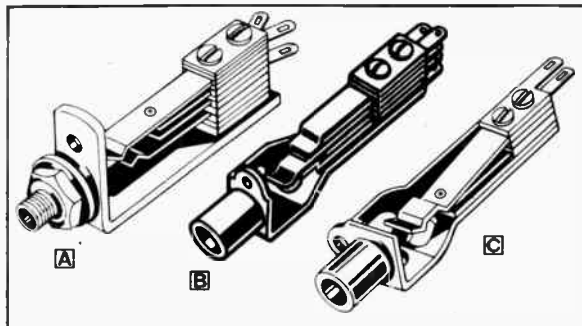
## "THICK PANEL JAX"

**H** Phone jacks with long bushing. Mount in single  $1\frac{1}{8}$ " dia. hole in panels up to  $1\frac{1}{4}$ " thick. Solder lug terminals. Ideal for use with microphones; extra shielding virtually eliminates audio hum. No. 151, 2-conductor mates with 240, 245, 250, 255, 270 and 280 Plugs. No. 152B, 3-conductor mates with 260, 267, 269 and 297 Plugs.

Part No.	Description	U.S.A. List Price
151	2-cond. Brass Nickel Plated	\$1.50
152B	3-cond. Brass Nickel Plated	1.65

# SWITCHCRAFT

# Phone Jacks and Plugs

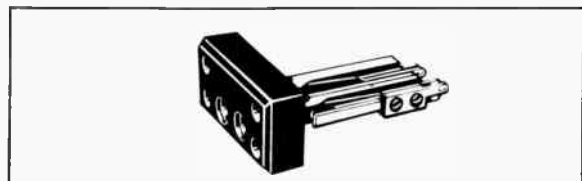


**"T-JAX" TELEPHONE TYPE PHONE JACKS**

☐ Long frame, switchboard type, phone jacks. For high quality communication equipment. Springs of nickel silver alloy for maximum life and corrosion resistance. Fine silver contacts are standard. Available in two frame designs. Part numbers in chart cover "A" frame design as shown in Fig. C. For frame design "C" as shown in Fig. B, add prefix letter "C" to part numbers. All jacks listed mate with standard 1/4" dia. phone plugs.

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
T-331	I	250	2	\$1.05
T-332A	III	250	2	1.20
T-332B	IV	267	3	1.20
T-332C	XVIII	250	2	1.45
T-333	V	250	2	1.35
T-334A	XI	250	2	1.50
T-334B	XII	267	3	1.60
T-334C	XVII	250	2	1.50
T-334F	XIX	250	2	1.50
T-335	XIII	250	2	1.60
T-336	XXVI	250	2	1.75

**"DUAL-JACK BLOCKS"**



Molded black phenolic jack blocks for mounting "MT-JAX" and "T-JAX" long frame phone jacks, on 3/8" centers. Can be rack panel mounted individually or in multiples. Blocks are 2 3/4" W. x 1 1/4" H. x 5/8" D. Mount with four No. 8-32 flat head screws.

Part No.	Description	U.S.A. List Price
2300	Jack Block, less jacks	\$1.50
2331	Two MT-331 jacks	4.00
2332A	Two MT-332A jacks	4.40
2332B	Two MT-332B jacks	4.40
2333	Two MT-333 jacks	4.90

**"LOCK PLUG AND EXTENSION JAX"**



Standard size 1/4", 2 and 3 conductor phone plugs and mating extension jacks with built-in device. Plug has coupling ring that can be threaded to the bushing of a "Littel-Jax" or to the mating end of the "Lock Extension Jax". Lock Plug handle, 1 1/4" long; 1/2" dia. Lock Extension Jax, 1/2" O.D.; 2 1/4" long. All have solder lug terminals.

Part No.	Description	U.S.A. List Price
282	2-Conductor Lock Plug	\$1.50
298	3-Conductor Lock Plug	2.00
123	2-Conductor Extension Jax	2.00
133	3-Conductor Extension Jax	2.50

**"M-JAX" MILITARY TYPE PHONE JACKS**

☐ Very heavy long frame jacks often referred to as the Navy Jack. Ideal for industrial and Military equipment. Long heavy duty springs with fine silver contacts. Mounts on single 3/8" hole, in panels up to 1/2" thick.

Part No.	Schematic No.	Adjusted for Plug	Mil-Type No.	U.S.A. List Price
M-441	I	250	—	\$1.50
M-442A	III	440	JJ-107	1.70
M-443A	VI	440	JJ-105	1.95
M-443B	VII	482	JJ-106	2.10
M-444*	XII	484 & 480	JJ-083	2.30
M-444B	XII	482	JJ-082	2.20
M-445	XIII	440	JJ-104	2.75
M-446	XIV	482	JJ-079	3.50
M-446A	XVI	482	JJ-081	3.90

\*Bushing, .2085".

**"MT-JAX" MILITARY TELEPHONE JACKS**

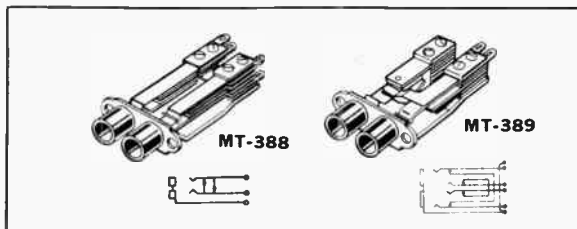
☐ Long frame, telephone switchboard jacks designed for high quality communication and military equipment. Springs are of a special nickel silver alloy with welded cross bar palladium contacts. MT-Jax are available in two frame designs, namely "A" & "C". Part numbers in chart cover "A" frame design as shown in Fig. C. For frame design "C" as shown in Fig. B, add prefix letter "C" to part numbers.

Part No.	Schematic No.	Adjusted for Plug	Mil-Type No.	U.S.A. List Price
MT-331	I	440*	JJ-086	\$1.25
MT-332	II	440	—	1.45
MT-332A	III	440	JJ-024	1.45
MT-332B	IV	482†	JJ-022	1.45
MT-332C	XVIII	440	JJ-016	1.70
MT-333	V	440	JJ-084	1.70
MT-333B	VII	482	—	1.70
MT-333E	IX	440	—	1.70
MT-334A	XI	440	—	1.75
MT-334B	XII	482	JJ-042	1.75
MT-334C	XVII	440	JJ-072	1.75
MT-334E	XXV	440	JJ-085	1.75
MT-334F	XIX	440	JJ-035	1.75
MT-335	XIII	440	—	2.00
MT-335A	XXVI	440	JJ-017	2.00
MT-336	XX	482	JJ-074	2.00
MT-336A	XIV	482	JJ-075	2.50
MT-336B	XXI	482	JJ-077	2.50
MT-336C	XXII	482	JJ-073	2.50
MT-336E	XXIII	440	—	2.50
CMT-336E	XXIII	440	JJ-019	2.50
MT-337	XXIV	440	JJ-087	2.50
CMT-337	XXIV	440	JJ-015	2.50
MT-339	XXVII	482	JJ-078	3.75
MT-342B§	IV	480‡	—	1.70
MT-444B§	XII	480	—	2.00

\*MIL Type PJ-055.  
†MIL Type PJ-051B.

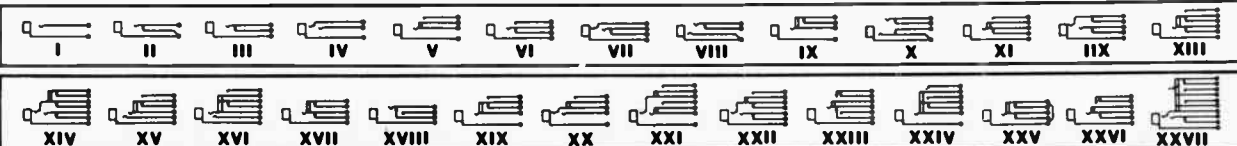
‡MIL Type PJ-068.  
§Bushing, .2085".

**"TWIN JAX" DUAL MILITARY JACKS**



Similar in design to "MT-Jax" except frame is double width, with two mounting ears on 1 1/4" centers; bushings are on 3/8" centers. MT-388, MIL-Type No. JJ-088, mates with Nos. 411, 412, 413, 420 and 425 plugs. MT-389 has two 3-conductor jacks interconnected; mates with No. 482 Plug.

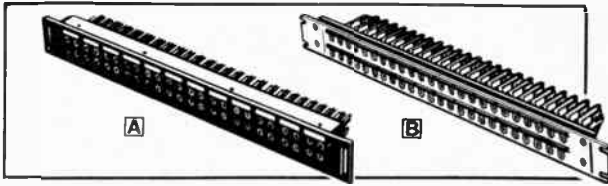
Switchcraft Part No. MT-388 ..... U.S.A. List Price \$4.50  
Switchcraft Part No. MT-389 ..... U.S.A. List Price 5.00



The above are strictly electrical schematics and do not necessarily indicate relative solder lug positions.

# Jack Panels, Plugs, Patch Cords

## "JACK PANELS"



Rugged, heavy-duty jack panels for switching, distribution and control of audio signals in broadcasting stations, theaters, P. A. systems installations, etc. Series 1200, Fig. A, black phenolic panels reinforced with steel for the utmost rigidity. Mounting brackets slotted to fit all standard 19" relay racks. Panel includes plastic covered designation strips. Series 2800, Fig. B, clear anodized aluminum panel. Extremely rugged, yet light weight. Includes new narrow designation strip for each row. Add Prefix "X" to part numbers to indicate offset ground lugs on jacks. Aluminum panels available only with offset lugs.

Part No.	Fig.	Rows	Number of Jacks	Size, In. W x D x H	U.S.A. List Price
1200	A	Single	24 *	19x1 1/4x1 3/4	\$ 14.50
1232A	A	Single	24 T-332A	19x1 1/4x1 3/4	40.00
1332A	A	Single	24 MT-332A	19x1 1/4x1 3/4	45.00
1400	A	Single	26 *	19x 5/8x1 3/4	15.00
1432A	A	Single	26 T-332A	19x 5/8x1 3/4	43.00
1532A	A	Single	26 MT-332A	19x 5/8x1 3/4	49.00
2400	A	Double	48 *	19x1 1/4x2 1/2	15.00
2432A	A	Double	48 T-332A	19x1 1/4x2 1/2	70.00
2532A	A	Double	48 MT-332A	19x1 1/4x2 1/2	83.00
2600	A	Double	52 *	19x 5/8x1 3/4	18.00
2632A	A	Double	52 T-332A	19x 5/8x1 3/4	79.00
2732A	A	Double	52 MT-332A	19x 5/8x1 3/4	92.00
2800	B	Double	48 *	19x 5/8x1 3/4	40.00
X2832A	B	Double	48 T-332A	19x 5/8x1 3/4	95.00
X2932A	B	Double	48 MT-332A	19x 5/8x1 3/4	108.00

\*Supplied less jacks.

## MILITARY TYPE "TWIN-PLUGS"



412

Meet exact industrial and military requirements. No. 411, both design and materials, is manufactured in accordance with MIL-P-642(A) specs. Nos. 412 and 413, use identical materials. "Twin-Plug" sleeves spaced 3/8" center to center with self-aligning feature.

**Part No. 411**—Two electrically independent 2-conductor plugs in black plastic handle. Has provision for Cord Clamp No. S-2674. Military Type PJ-327 (Old Navy No. 491242). Interchangeable with W.E. 327. U.S.A. List Price \$5.25

**Part No. 412**—Two electrically independent 2-conductor plugs in black plastic handle. Has external cord clamp. Old Military Type PJ-289. Similar to W.E. 289B. U.S.A. List Price \$4.90

**Part No. 413**—Three circuit plug with two electrically independent tip circuits in heavy duty die cast frame. Molded black phenolic handle notched to indicate polarity. Interchangeable with MIL-Type PJ-421 and W.E. 241. U.S.A. List Price \$4.90

**Part No. 414**—Six circuit plug. Two electrically independent 3 conductor 1/4" dia. fingers. Black polarized handle. Interchangeable with W.E. 338A. U.S.A. List Price \$9.25

**Part No. 415**—Six circuit plug. Two electrically independent 3 conductor fingers. One 1/4" dia. finger, one .206" dia. For automatic polarization. Black handle. U.S.A. List Price \$10.25

**Part No. S-2674**—Strain relief clamp, natural brass. For use with Nos. 411, 414, 415 "Twin-Plug". Pkg. of 10. U.S.A. List Price \$0.50

## "DUMMY PLUGS"



C

D

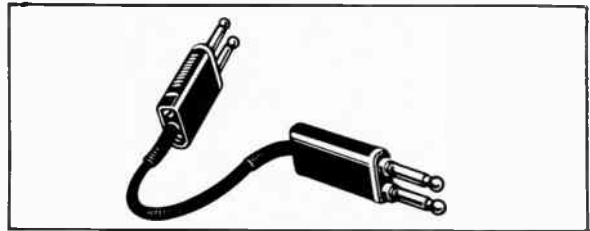
E

Low cost, 2- and 3-conductor molded plastic, dummy plugs for use in switchboards, jack panels. Inserts in jack as does a phone plug to switch circuits, but can not couple incoming signals. Can also be used to plug up unused phone jacks to prevent accidental insertion of a phone plug. Series 491, 3-conductor, .207" dia. finger. Series 492, 3-conductor, .250" dia. finger. Series 493, 2-conductor, .250" dia.

Part No.	Fig.	Handle	Typical Mating Jack	U.S.A. List Price
491-01	C	Red	MT-342B	\$0.50
491-02	C	Black	MT-342B	.50
491-05	C	White	MT-342B	.50
492-01	D	Red	MT-332B	.50
492-02	D	Black	MT-332B	.50
492-05	D	White	MT-332B	.50
493-01	E	Red	MT-331	.50
493-02	E	Black	MT-331	.50
493-05	E	White	MT-331	.50

# SWITCHCRAFT

## PATCH CORD SETS



All patch cords are constructed of bronze tinsel conductors, insulated and shielded, with a heavy black nylon braid overall.

**Series 17Q**—2-conductor patch cords have No. 413 "Twin-Plug" at each end with shields grounded both ends.

**Series 17P**—Same as 17Q, except shield grounded one plug only.

**Series 18Q**—2-conductor patch cords use Military Plug PJ-051 (Switchcraft Part No. 482) at each end with shields grounded both ends.

**Series 19Q**—Single conductor patch cords utilize Military Plug PJ-047B (Switchcraft Part No. 420) connected to each end with shield grounded both ends.

Part No.	Length	Plugs Used	U.S.A. List Price
17QA17	6 inch	413	\$11.00
17QB17	1 foot	413	11.25
17QD17	2 feet	413	11.50
17QF17	3 feet	413	11.75
17QH17	4 feet	413	12.15
17QK17	6 feet	413	13.00
17QN17	10 feet	413	13.75
17PA17	6 inch	413	11.00
17PB17	1 foot	413	11.25
17PD17	2 feet	413	11.50
17PF17	3 feet	413	11.75
17PH17	4 feet	413	12.15
17PK17	6 feet	413	13.00
17PN17	10 feet	413	13.75
18QA18	6 inch	482	11.50
18QB18	1 foot	482	12.00
18QD18	2 feet	482	12.50
18QF18	3 feet	482	13.00
18QH18	4 feet	482	13.50
18QK18	6 feet	482	14.50
18QN18	10 feet	482	16.50
19QA19	6 inch	420	6.00
19QB19	1 foot	420	6.25
19QD19	2 feet	420	6.75
19QF19	3 feet	420	7.25
19QH19	4 feet	420	7.75
19QK19	6 feet	420	9.10
19QN19	10 feet	420	10.50

## REPLACEMENT PATCH CORDS

Patch cords are made of bronze tinsel conductors, insulated and shielded, with a heavy black nylon braid overall. Cords designed for use with Switchcraft plugs 413, 420 and 482 or equivalents. When used with No. 420, clip off unnecessary lead.

**Series 89Q**—2-conductor shielded cord with shield termination at both ends.

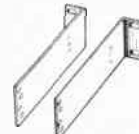
**Series 89P**—2-conductor shielded cord with shield termination at one end only.

Part No. Both Ends Shielded	Part No. One End Shielded	Length	U.S.A. List Price
89QA89	89PA89	6 inch	\$2.25
89QB89	89PB89	1 foot	2.75
89QD89	89PD89	2 feet	3.00
89QF89	89PF89	3 feet	3.25
89QH89	89PH89	4 feet	3.50
89QK89	89PK89	6 feet	4.50
89QN89	89PN89	10 feet	6.50

## JACK PANEL ACCESSORIES



HOLE PLUG



BRACKET KIT

Hole Plug, P-1801, molded nylon, fits all Switchcraft jack panels. Series 1200, 1400, 2400, 2600, 2800. Designed to plug unused holes in jack panels. Bracket Kit, K-107, consists of 2 long L-shaped steel, stand-off brackets and eight No. 6-32 self-tapping screws. To hold jack panels, Series 1400, 2600, 7" in front of mounting rack.

Part No.	Description	U.S.A. List Price
P-1801	Hole Plug	\$0.30
K-107	Bracket Kit	4.50

## Phone Plugs

### "LITTEL PLUG" PHONE PLUGS

Small size phone plugs fit standard 1/4" phone jacks except \*Nos. S-250, S-260, S-280 and S-290 which have a .206" dia. sleeve. \*\*Nos. C-240, C-245 and C-270 feature an integral cable clamp with screw terminals. †No. R-280 has short sleeve for Revere Recorders. †No. 288 has a wide insulator between tip and sleeve for use in a 3-conductor jack to perform a 2-conductor function without shorting. Plugs with solder terminals have built-in cable clamp. Shielded metal handles are nickel plated brass; others are molded of durable plastic; 3/8" long x 1/2" dia.

#### TWO-CONDUCTOR TYPE

Part No.	Fig.	Typical Mating "Littel-Jax"	Handle	Terminals	U.S.A. List Price
240	A	11	Black	Screw	\$0.85
C-240**	A	11	Black	Screw	1.00
245	A	11	Red	Screw	.85
C-245**	A	11	Red	Screw	1.00
250	A	11	Black	Solder	.80
255	A	11	Red	Solder	.80
270	B	11	Shielded	Screw	1.20
C-270**	B	11	Shielded	Screw	1.35
280	B	11	Shielded	Solder	1.15
288†	B	11	Shielded	Solder	1.20
S-250	A	S-11	Black	Solder	.85
S-280	B	S-11	Shielded	Solder	1.15
R-280†	B	—	Shielded	Solder	1.50

#### THREE-CONDUCTOR TYPE

Part No.	Fig.	Typical Mating Jack	Handle	Terminals	U.S.A. List Price
260	A	12B	Black	Screw	\$1.35
S-260*	A	S-12B	Black	Screw	1.90
267	A	12B	Black	Solder	1.20
269	A	12B	Red	Solder	1.20
290	B	12B	Shielded	Screw	1.60
S-290*	B	S-12B	Shielded	Screw	2.15
297	B	12B	Shielded	Solder	1.50

### STANDARD 1/4" PHONE PLUGS

Available with phenolic or shielded, nickel plated over brass handle.

#### TWO-CONDUCTOR TYPE—SCREW TERMINALS

Typical mating jack "Littel-Jax" No. 11. Nos. 49 and 169 feature circuit closing device. Nos. 170 and 475 (MIL PJ-636) have two-piece handle with built-in clamp for 1/4" cable. No. 180 has wide insulator between tip and sleeve for use in a 3-conductor jack to perform a 2-conductor function without shorting.

Part No.	Fig.	Handle	Length & Dia.	U.S.A. List Price
40	A	Black	2 1/16 x 3/4	\$0.85
45	A	Red	2 1/16 x 3/4	.85
49	A	Black	2 1/16 x 3/4	1.75
70	B	Shielded	2 1/16 x 1 1/16	1.40
160	C	Shielded	1 x 1 1/16	1.10
169	C	Shielded	1 x 3/4	2.00
170	D	Shielded	2 1/16 x 1 1/16	1.85
180	—	Shielded	1 x 3/4	1.25
475	D	Shielded	1 3/4 x 3/4	2.20

#### THREE-CONDUCTOR TYPE—SOLDER TERMINALS

Typical mating jack "Littel-Jax" No. 12B. No. 190A has two-piece handle with built-in cable clamp for 1/4" cable.

Part No.	Fig.	Handle	Length & Dia.	U.S.A. List Price
60	A	Black	2 1/16 x 1 1/16	\$1.15
90	C	Shielded	1 x 1 1/16	1.50
190	B	Shielded	2 1/16 x 1 1/16	1.75
190A	D	Shielded	2 1/16 x 1 1/16	2.20

### "LUG-PLUG" PHONE PLUGS

Low cost, two-conductor phone plugs. Fit all 1/4" phone jacks.

No. 385 Plug has a .206" dia. sleeve and mates with S-11 "Littel-Jax". All have solder lug terminals. Handle: Shielded metal or phenolic.

Part No.	Fig.	Typical Mating "Littel-Jax"	Handle	Length & Dia.	U.S.A. List Price
350	A	11	Black	1 5/8 x 1/2	\$0.65
355	A	11	Red	1 5/8 x 1/2	.65
380	—	11	Shielded	1 x 1/2	.85
385	—	S-11	Shielded	1 x 1/2	1.10

### "TINI-PLUG" MINIATURE PHONE PLUGS

Miniature 2-conductor phone plugs for use with "TINI-JAX" only 1/3 the size of standard phone plugs. Handle 1 1/8" overall length, are plastic or brass, nickel plated.

Part No.	Fig.	Terminal	Handle	U.S.A. List Price
740	E	Screw	Black	\$0.85
745	E	Screw	Red	.85
750	E	Solder	Black	.80
755	E	Solder	Red	.80
770	E	Screw	Shielded	1.15
780	E	Solder	Shielded	1.15

### "MICRO-PLUG" SUB-MINIATURE PHONE PLUGS

Sub-miniature 2-conductor phone plugs, only 1 1/8" long; 1/8" O.D., .097" dia. sleeve. Mate with No. TR-2A. Have screw-on handles in black, red or natural anodized aluminum; accommodates cables up to 3/8" dia. All plugs have integral cable clamps.

Part No.	Fig.	Description	U.S.A. List Price
850	F	Black Handle	\$0.75
855	F	Red Handle	.75
880	F	Natural Handle	.75



### MILITARY TYPE "LITTEL-PLUG" AND EXTENSION JAX

Designed to meet exact industrial and military requirements. Plugs are made in accordance with MIL-P-642(A) specifications. One-piece tip rod and one-piece sleeve and plug body provide internal interlock to prevent parts shifting in position. Type 820 Extension Jack meets MIL-J-641A specifications and mates with "Littel-Plug" No. 430. No. 470 has shielded handle: all others plastic; †Red; ‡Black. All plugs have screw terminals.

Part No.	Fig.	Mil-Type No.	Typical Mating Jack	Cond.	U.S.A. List Price
420†	G	PJ-047B	MT-388	2	\$1.75
425†	G	PJ-047R	MT-388	2	1.75
430†	H	PJ-054B	820	2	1.50
435†	H	PJ-054R	820	2	1.50
440†	—	PJ-055B	MT-331	2	1.50
445†	—	PJ-055R	MT-331	2	1.50
450†	H	PJ-540B	820	2	1.50
455†	H	PJ-540R	820	2	1.50
470	—	PJ-055M	MT-331	2	2.10
480†	I	PJ-068	MT-342B	3	3.60
482†	J	PJ-051R	MT-332B	3	4.00
483†	J	PJ-051B	MT-332B	3	4.00
484†	J	PJ-309	M-444	3	3.60
820†	—	JJ-026	430 Plug	2	2.00

Switchcraft Part No. P-1074-1—Strain Relief Clamp. Nickel Plate Brass. Package of 25..... U.S.A. List Price \$0.85

### TYPE 410 PLUG AND TYPE 810 JACK

Miniature 2-conductor extension jack and mating plug; often referred to as "Throat Microphone Plug and Jack". Plug is Military Type PJ-291; jack is Type JJ-048. Each is of two-piece molded construction. Plug has solder-cup terminals; jack has solder lugs. After wiring, shells must be cemented and clamped till dry. Overall size (engaged), 2 5/8" x 1 1/8" x 3/8".

Switchcraft Part No. 410 Plug..... U.S.A. List Price \$1.00  
Switchcraft Part No. 810 Jack..... U.S.A. List Price 1.20

### "FLAT PLUG" PHONE PLUGS



1/4" phone plugs featuring flat, space-saving handles. Ideal for applications where conventional plugs would protrude too far. Nos. 220, 225 have adapter clips which make them convenient to clamp standard phone tips to terminals. Shielded flat plugs, Nos. 228 and 238 have nickel plated steel handles; all others have red or black plastic handles. Nos. S-230 and S-235 have .206" dia. sleeve.

#### TWO-CONDUCTOR TYPE

Part No.	Fig.	Typical Mating Jack	Handle	Terminals	U.S.A. List Price
220	K	11	Black	Screw	\$1.25
225	K	11	Red	Screw	1.25
227	K	11	Black	Solder	1.00
228	L	11	Shielded	Solder	1.10
229	K	11	Red	Solder	1.00

#### THREE-CONDUCTOR TYPE

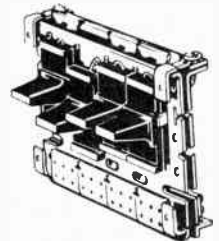
Part No.	Fig.	Typical Mating Jack	Handle	Terminals	U.S.A. List Price
230	K	12B	Black	Screw	\$1.55
S-230	K	S-12B	Black	Screw	2.00
235	K	12B	Red	Screw	1.55
S-235	K	S-12B	Red	Screw	2.00
237	K	12B	Black	Solder	1.50
238	L	12B	Shielded	Solder	1.65
239	K	12B	Red	Solder	1.50



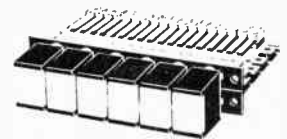
Switchcraft switches give you unlimited latitude in the selection of switching functions and actuations for customizing your equipment designs. Whether you choose pushbutton, slide or lever actuated switches, OUR specialized sales personnel can aid you in the selection and specification of the proper switch to fill your particular requirements. Call on us. We can supply any lever switch, or any size "Multi-Slide" and/or "Multi-Switch", with virtually unlimited functions, from stock, immediately, at factory prices.

Only Switchcraft offers 3 complete lines of slide, multiple station pushbutton, and lever switches . . . 3 proven solutions to man-machine interface problems.

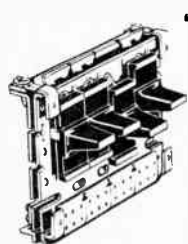
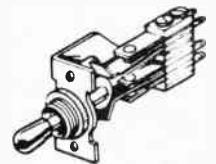
**SLIDE ACTION . . .** Series 39000 "Multi-Slide" switches provide design engineers with an entirely new switching method to solve man-machine system problems. "Multi-Slide" switches help eliminate operating confusion inherent in constant manipulation of pushbutton matrixes by providing slide-switch variety. **Series 39000 Switches** offer 3 types of actuation: interlock, all-lock, non-lock.



**PUSHBUTTON ACTION . . .** Whatever your requirements for switching, you will find Switchcraft "Multi-Switch" switches enable you to design a cybernetically correct, error-reducing panel. Both illuminated and non-illuminated types are available with non-lock, all-lock, interlock, push-to-lock, push-to-release functions. Illuminated types offer single or multiple lighting effects. **Series 7000 and 21000** frames are available from 1 to 37 stations in a row. Little "Multi-Switch" **Series 35000, 36000, 37000**, are compact switching units offering 1 to 18 stations in a row.



**LEVER ACTION . . .** Switchcraft offers the largest selection of illuminated and non-illuminated lever-type switches in the industry. They come in a wide choice of sizes, 2 or 3 position, locking and non-locking types. They range in size and style from miniaturized "Feather Lever", featuring changeable push-on color knobs to "Lever-Lite", a 3-color illuminated type lever switch; to the industry standard "Telever", a telephone type switch featuring field changeable functions.



**"MULTI-SLIDE" SWITCHES**

**SERIES 39000**

Revolutionary compact switching method provides versatile multiple station slide switching. Allows 1 to 18 stations per row standard on all but all-lock function which is limited to 12 stations. Requires only 3/4" depth behind panel. Narrow frame design permits mounting on compact electronic equipment without sacrificing versatility or function. Three standard functions available: **Interlock:** actuating slidebutton automatically restores previously actuated station to normal. Only one slidebutton can be actuated

at a time with standard interlock function. **Nonlock:** each station has momentary action with no interaction between stations. **All-lock:** all stations, except release, lock when depressed—restore to normal when release button is actuated. Special slide-to-release cancelling feature in interlock and all-lock frames permits immediate correction of switching error without cancelling actuated switches. Slidebuttons are on 3/8" centers. Up to 3 miniature switch stacks, rated at 3 amps; 300 watts max., AC non-inductive load, can be mounted at each station for a minimum of 1-A (SPDT) to a max. of 3-C (3PDT) per station. To order, refer to "SWITCH STACKS", Series 80P, 800P. For power switching, snap switch

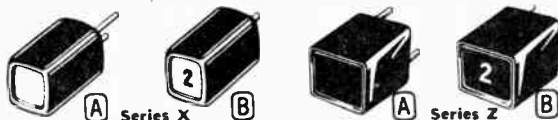
modules can be mounted to each station. Refer to "PIGGY BACK" SNAP-SWITCH MODULES, Series SA, SC and SD under little "Multi-Switch" listing. Switch frames mount on panels up to 1/8" thick. End brackets have four 6-32 tapped mtg. holes. A black slidebutton is furnished for each station and a red slidebutton is supplied when switch requires a release. A kit of chromatic legend tabs, **Part No. K-120**, is available for positive color coding of an actuated station. Kit consists of 10 tabs each of 6 colors: Red, black, green, blue, white and yellow. Pressure sensitive tabs mount easily in recess of slidebutton; can be hot-stamped for identification. The following part numbers cover basic frame only. To complete assembly, order switch stacks for each station and/or snap-switch modules, as required. Only the most commonly used frames are listed here. For complete engineering information on Series 39000 switches, request Switchcraft Bulletin 158.

Part No. For Functions			No. of Stations	Part No. For Functions			No. of Stations
Inter-Lock*	Non-Lock	All-Lock		Inter-Lock*	Non-Lock	All-Lock	
39021	39022	39023	2	39081	39082	39083	8
39041	39042	39043	4	39101	39102	39103	10
39061	39062	39063	6	39121	39122	39123	12

\*With lock-out feature.

**"GLO-BUTTONS"**

**SERIES X, Y, Z**



Economy of non-illuminated buttons with the vivid color-legend display of illuminated buttons. "Glo-Buttons" look and function like an illuminated button, but require no lamp or power. Mount on all pushbutton switches with std. .050" x .187" plungers, as Switchcraft Series 7000, 8000, and 35000 "Multi-Switch", and other switches having maintained plunger action with a max. of 1/16" fallback. "Glo-Buttons" have a translucent front screen on which a legend is marked in an opaque color. The opaque color provides a background for the legend while the legend itself remains clear (Figs. A). An internal fluorescent illuminator is carried on a pusher which has two legs extending from the rear. When the

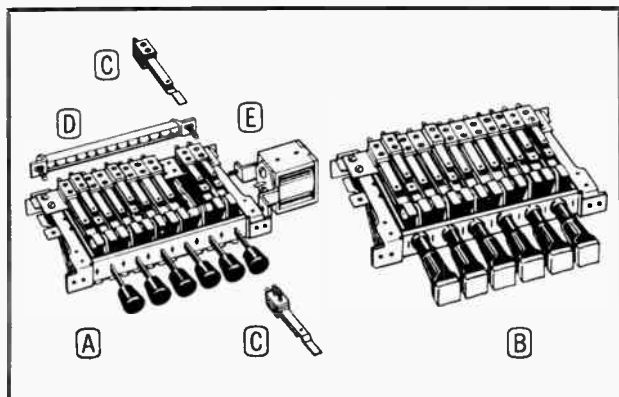
button is depressed, the rear legs of the pusher bring the fluorescent illuminator flush with the screen which then lights up due to reflected ambient light, and projects a clearly visible legend, see Figs. B. All "Glo-Buttons" have black button housings and are available with std. legends: "A" thru "Z", "0" thru "50", and "ON", "OFF". Eight basic types of buttons are offered: To order, specify part number and add suffix letter or numeral to part number which describes desired legend. Example: To order 1/2" sq. "Glo-Button" with black screen, orange-red illuminator and numeral "7", part number would read X21248-7.

Series No.	Size	Screen Color	Illuminator Color
X21248	1/2" square	Black	Orange-Red
X51248	1/2" square	White	Orange-Red
Y21248	3/8" h. x 3/8" w.	Black	Orange-Red
Y28248	3/8" h. x 3/8" w.	Black	Chartrouse
Y51248	3/8" h. x 3/8" w.	White	Orange-Red
Z21248	3/8" h. x 3/8" w.	Black	Orange-Red
Z28248	3/8" h. x 3/8" w.	Black	Chartrouse
Z51248	3/8" h. x 3/8" w.	White	Orange-Red



# SWITCHCRAFT

## "MULTI-SWITCH" SWITCHES



Basic design simplicity provides a unique multiple station push-button switch that's rugged, compact, versatile and completely flexible in switching functions. Hundreds of circuit and function combinations are possible as **all switching components**—frame, switch stacks, lamps and other accessories are **changeable**. Order the "Multi-Switch" you now require, from stock, and later change circuits and/or functions in the field by simple positioning adjustments of stop plate, latch bar spring, and/or interchanging or adding-on switch stacks. For a complete multiple station assembly, you must order the proper frame and the necessary switch stacks, for each station on the frame. Optional accessories include: **Lock-out bar** which prevents operation of more than one station at a time, and a **solenoid release** to provide automatic remote release of activated stations. Standard "Multi-Switch" frames are available with these functions: **Interlock**, restores to normal any previously actuated station when another station is actuated. **Non-Lock**, momentary action of each station. **All-Lock**, accumulative locking of all stations with restoration of all stations to normal when release station is depressed. **Specify switching function when ordering frames listed below.**

### SERIES 7000 NON-ILLUMINATED FRAMES

**A** Heavy gauge steel switch frames mount on panels up to 3/8" thick, with 3 3/4" depth behind the panel. Rugged, welded end-mounting brackets have four 8-32 tapped holes for ease of panel mounting. Attractive, round brown push-on-buttons supplied for each station, plus extra red button for use when switch requires a release station. Center-to-center distance between buttons is 3/4". Steel plunger .050" x .187" accepts standard push-on-buttons and "Glo-Buttons". Standard plunger is 1 1/8" long, but can be supplied up to 5/8" long on special order. Switch frames with buttons on 3/4" centers are available in Series 8000 which has all the same features as Series 7000. **Series 7000 "Multi-Switch"** frames are available with from 1 to 37 stations; **Series 8000** from 1 to 31 stations. When ordering Series 8000 add 10% to prices. Only the most commonly used frames are listed below. For more detailed information, request Switchcraft catalog S-306.

Part No.	No. of Stations	Part No.	No. of Stations	Part No.	No. of Stations
7100	1	7500	5	7900	9
7200	2	7600	6	71000	10
7300	3	7700	7	71100	11
7400	4	7800	8	71200	12

### SERIES 21000 ILLUMINATED FRAMES

**B** Similar in switching functions and characteristics to non-illuminated "Multi-Switch", but, with these outstanding features: modern square button design with bright uniform front and side illumination provided by lamp diffusers; knurled retaining collar for quick easy front-of-panel lamp replacement. Two lamp voltages: 6 V and 28 V. Buttons with white jewels and white diffusers are furnished for switching and release stations. Standard frames listed below provide "L" type lighting (pushbuttons light in "IN" position). To have pushbutton light in "OUT" position, prefix part No. with M (e.g., M21100). To have them light in both the "IN" and "OUT" positions, prefix with N. To avoid ordering "specials", order lighting stacks listed in next column to provide "M" and "N" lighting. Center-to-center distance between buttons is 3/4" on Series 21000, available with up to 37 stations in a row; **Series 22000**, buttons on 3/4" centers, available up to 31 stations only. Add 10% to price of Series 21000 when ordering Series 22000. Only the most commonly used frames are listed below. For more detailed information request Switchcraft catalog S-306. All frames are supplied less lamps and stack switches.

Part No.	No. of Stations	Part No.	No. of Stations	Part No.	No. of Stations
21100	1	21500	5	21900	9
21200	2	21600	6	211000	10
21300	3	21700	7	211100	11
21400	4	21800	8	211200	12

### LAMPS FOR "MULTI-SWITCH" SWITCHES

Lamps are not furnished with Series 21000 switches. For initial order or replacement specify Part No. P-1593-1, 28 V flange base lamp, Ind. No. 327; or, Part No. P-1593-2, 6 V flange base lamp, Ind. No. 328.

### SWITCH STACKS

**C** Interchangeable switch stacks for mounting to "Multi-Switch" frames. Two types listed: **Series 70** stacks, fine silver contacts; **Series 70P**, welded cross-bar palladium contacts. Use where the switching circuits of a released station will return to normal before contacts of a newly operated station are actuated. Both series are rated at 3 amps, 300 watts, max., AC non-inductive load. Should more than one circuit be required, specify two (or more) stacks in order to balance the load on the plunger. With each switch, two mounting screws and one pressure plate is furnished. In addition to Series 70 and Series 70P Switch Stacks, four other Series are available, from stock.

#### SERIES 70—SILVER CONTACTS

Part No.	Circuits	Part No.	Circuits	Part No.	Circuits
71	1-A	73D	1-D	76	2-C
72	1-B	74	2-A	76D	2-D
73	1-C	75	2-B		

#### SERIES 70P—PALLADIUM CONTACTS

Part No.	Circuits	Part No.	Circuits	Part No.	Circuits
71P	1-A	73PD	1-D	76P	2-C
72P	1-B	74P	2-A	76PD	2-D
73P	1-C	75P	2-B		

### LOCK-OUT BAR "K" SERIES

**D** Prevents operation of more than one switching station at a time. Mounts on back of standard "Multi-Switch" Series 7000, 8000, 21000 and 22000 frames with two screws (furnished). Available from 2 to 37 stations for a single frame. Lock-Out Bars listed are for 3/8" center plunger only; for 1/2" centers, order special.

Part No.	Stations	Part No.	Stations	Part No.	Stations
K-02	2	K-06	6	K-10	10
K-03	3	K-07	7	K-11	11
K-04	4	K-08	8	K-12	12
K-05	5	K-09	9		

### SOLENOID RELEASE—"J" SERIES

**E** Two, simple solenoid assemblies are available that can be easily added on the end of a standard frame assembly by two screws. Part No. J-1 is for use on Interlocked switches; Part No. J-3, for use on all-lock switches with up to 12 stations. Both are for use in 115 volt, 60 cycle AC circuits. Complete with mounting bracket and screws.

### LIGHTING STACKS

Prepackaged lighting stacks convert standard stock Series 21000 frames from "L" type lighting to "M" or "N" lighting in the field. Use "NB" type stack to complete lighting circuit with all three types of lighting "L", "M", "N". All mount easily to frame. Two mounting screws and one pressure plate furnished with each switch. Order one stack for each station.

Part No.	Type of Lighting
LL	"L"—light on in "IN" position
MM	"M"—light on in "OUT" position
NN	"N"—light on in "IN" and "OUT" positions
NB	Completes lighting circuit

### COMBINATION SWITCH STACKS

Consists of a lighting stack with a switching stack in a single pre-assembled pile-up. Designed to provide additional switching circuitry on Series 21000 frames. Replaces original lighting stacks as furnished with frames. Available in all three lighting arrangements with fine silver contacts, Series 70; or, with welded cross-bar palladium contacts, Series 70P. Both rated at 3 amps, 300 watts, max., AC non-inductive load. Supplied with mounting screws and pressure plate.

Part No.	Circuits	Lighting	Part No.	Circuits	Lighting
LL71	1-A	L	LL71P	1-A	L
MM71	1-A	M	MM71P	1-A	M
NN71	1-A	N	NN71P	1-A	N
NB71	1-A	.....	NB71P	1-A	.....
LL73	1-C	L	LL73P	1-C	L
MM73	1-C	M	MM73P	1-C	M
NN73	1-C	N	NN73P	1-C	N
NB73	1-C	.....	NB73P	1-C	.....

### "PIGGY-BACK" SNAP SWITCH MODULES

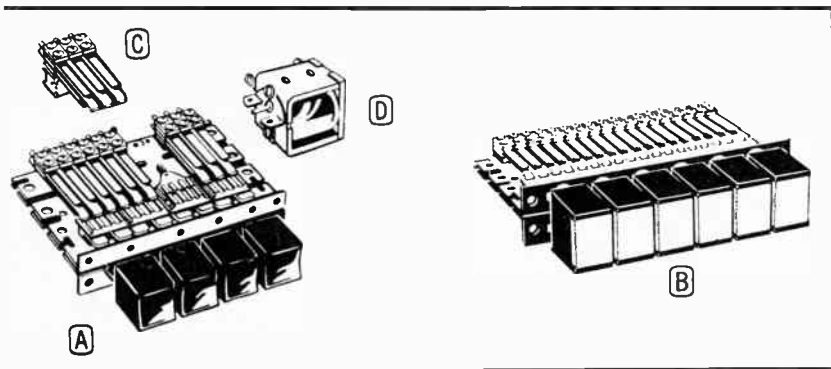
Two snap switch modules Part Nos. 735A and 735B provide power switching for "Multi-Switch" and "Push-Push" switches. Module consists of snap-action switch, actuator, mounting bracket and screws. No. 735A mounts on Series 7000, 8000, 21000, 22000 frames and Series 5000 "Push-Push" Switch. No. 735B mounts on Series 15000 "Push-Push" Switch. Both rated at 15 amps, 1/2 HP, 125/250 VAC. Each module provides a 1-C circuit. Supplied with mounting hardware and instruction sheet.

### ESCUTCHEON PLATES

Attractive escutcheon plates for Series 7000 non-illuminated "Multi-Switch". Black satin finish over a 1/8" thick aluminum plate; back side has paper backing, which when removed exposes a pressure sensitive adhesive which "sticks" plate to panel. Listed below are standard lengths.

Part No.	Stations	Part No.	Stations
ES-04	4	ES-12	12
ES-06	6	ES-18	18
ES-08	8		

**littel "MULTI-SWITCH" SWITCHES**



Compact, versatile, low-cost multiple station pushbutton switches. Four standard functions available: **Interlock**—actuating a button automatically restores to normal the button previously actuated. **Lock-Out**—prevents operation of more than one button at a time. This feature is included on all interlock frames. **Non-Lock**—each button has momentary action. **All-Lock**—all buttons, except release, lock when depressed. All buttons restored to normal by actuating release button. **Push-to-Lock, Push-to-Release**—button locks when depressed and is released when again depressed. Buttons on  $\frac{3}{8}$ " centers. **Frames available from 1 to 18 stations.**

**SERIES 35000 NON-ILLUMINATED FRAMES**

Switch frames mount on panels up to  $\frac{1}{8}$ " thick. Permits 6 PDT switching in .6 sq. in. Narrow rectangular silhouette permitsacking in parallel rows on  $\frac{3}{4}$ " centers. Only  $2\frac{3}{4}$ " depth behind panel. End brackets have four 6-32 tapped mounting holes. A square black pushbutton is furnished for each station and an extra red button is supplied for use when switch requires a release. The following part numbers cover basic frames only. To complete assembly, order switch stacks for each station, solenoid releases, and snap-switch modules if required. Only the most commonly used frames are listed here:

Part Numbers For Functions				
Interlock	Non-Lock	All-Lock	Push-to-Lock, Push-to-Release	No. of Stations
35021	35022	35023	35027	2
35041	35042	35043	35047	4
35061	35062	35063	35067	6
35081	35082	35083	35087	8
35101	35102	35103	35107	10
35121	35122	35123	35127	12

**SERIES 37000 SINGLE LAMP ILLUMINATED FRAMES**

Identical in switching functions and characteristics as non-illuminated Series 35000, but feature large rectangular tapered pushbuttons which serve as a color or legend coded panel indicator light which actuates up to 6 PDT switching. Switch frames mount in parallel rows from 1" centers and up. Depth behind panel  $2\frac{3}{4}$ ". Pushbuttons with large transparent clear display screen and white legend insert, which can be hot stamped or engraved, are furnished for switching and release stations. A single 6 V or 28 V lamp can be used at each station. Lighting, such as "L"—pushbuttons light in "IN" position; "M"—pushbuttons light in "OUT" position; and "N"—pushbuttons light in both "IN" and "OUT" positions, can be effected by direct wiring to the lamp terminals or through the use of Series H Lighting Stacks. The following part numbers cover basic frames only. To complete assembly, order switch stacks, lighting stacks, and lamps for each station. Only the most commonly used frames are listed here:

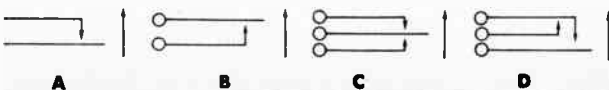
Part Numbers For Functions				
Interlock	Non-Lock	All-Lock	Push-to-Lock, Push-to-Release	No. of Stations
37021	37022	37023	37027	2
37041	37042	37043	37047	4
37061	37062	37063	37067	6
37081	37082	37083	37087	8
37101	37102	37103	37107	10
37121	37122	37123	37127	12

**SERIES 38000 TWIN LAMP ILLUMINATED FRAMES**

Same compact assembly and versatility as Series 37000, except features twin lamp illumination at each station for redundant or two color, split-face lighting. Uses Series H lighting stacks and two long life Part No. P-1890, 6 V lamps for choice of "L", "M", or "N" lighting. Each button serves as a color legend coded indicator light which actuates up to 3 PDT switching where Series H lighting stacks are used. Switches can be stacked in parallel rows on 1" centers with only  $2\frac{3}{4}$ " depth behind panel. The following part numbers cover basic frames only. For complete assembly, order switch stacks, lighting stacks, lamps for each station, plus solenoid release, if needed. Only the most commonly used frames are listed here:

Part Numbers For Functions				
Interlock	Non-Lock	All-Lock	Push-to-Lock, Push-to-Release	No. of Stations
38021	38022	38023	38027	2
38041	38042	38043	38047	4
38061	38062	38063	38067	6
38081	38082	38083	38087	8
38101	38102	38103	38107	10
38121	38122	38123	38127	12

**BASIC CONTACT FORMS**



**SWITCH STACKS**

Interchangeable switch stacks for littel "Multi-Switch" switches, Series 35000, 37000, 38000. Series 80P, constructed with cross-bar welded palladium contacts. For use where switch contacts of a released station will return to normal before contacts of a newly operated station are actuated. Series 800P, same as 80P, except designed to be used on push-to-lock, push-to-release function. Both Series rated 3 amps, 300 watts max., AC non-inductive load. Switch stacks fasten direct to removable switch mounting brackets. Supplied with two mounting screws and one pressure plate.

Series 80P Part No.	Series 800P Part No.	Circuits	Series 80P Part No.	Series 800P Part No.	Circuits
81P	801P	1-A	83P	803P	1-C
82P	802P	1-B	83PD	803PD	1-D

**LIGHTING SWITCH STACKS**

Two lighting switch stacks, Part Nos. H-83P and H-803P are available for convenient rear-of-frame lamp circuit wiring on Series 37000 and 38000 frames. Stacks consist of standard Series 80P and 800P switch stacks with an extra long contact leaf spring on top. Use No. H-83P for all functions except push-to-lock, push-to-release; No. H-803P for push-to-lock, push-to-release. Each provide 1-C circuitry. Furnished with two screws and pressure plate.

**"PIGGY-BACK" SNAP-SWITCH MODULES**

Increases the switching load capacity of littel "Multi-Switch" switches from 3 amps to 15 amps. Module consists of snap-action switch, actuator and mounting bracket. Two types available: Miniature types No. 83SA, for all switching functions except push-to-lock, push-to-release; No. 803SA, for push-to-lock, push-to-release function. Both rated at 15 amps,  $\frac{1}{4}$  HP, 125/250 VAC. Subminiature types Nos. 83SC and 83SD, are similar to No. 83SA in function, and Nos. 803SC, 803SD are similar to No. 803SA in function. Subminiature types are rated at 10 amps,  $\frac{1}{4}$  HP, 125 VAC. All supplied with mounting hardware. Solder terminals.

Part No.	SPDT Circuits	Part No.	SPDT Circuits	Part No.	SPDT Circuits
83SA	1	83SC	1	803SC	1
803SA	1	83SD	2	803SD	2

**SERIES NJ SOLENOID RELEASE**

A simple solenoid assembly which can be added to the end of a standard Series 35000, 37000, or 38000, littel "Multi-Switch" frame to provide electrical release of activated stations. No. NJ-1 designed for use with up to 18 interlock stations; No. NJ-3 will handle up to 12 all-lock stations. Both are for use in 115 V, 60 cycle AC circuits. Mounting instructions and hardware furnished with each solenoid.

**LAMP ADAPTER**



Lamp Adapter, Part No. T-1, converts Series 21000 and 37000 lamp sockets that accommodate P-1593-2, -1 lamps, to accept the P-1890 subminiature lamps. Order a Part No. T-1 lamp adapter for each station of a Series 21000 and 37000 if long-life P-1890 lamp is specified.

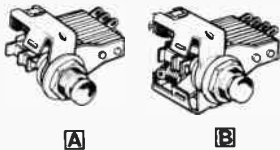
**LAMPS FOR littel "MULTI-SWITCH" SWITCHES**

Lamps are not furnished with Series 37000, or 38000 switches. Series 37000 will accept lamps P-1593-2 (6 V) and P-1593-1 (28 V). Series 37000 uses long life P-1890 (6 V) lamp when used with T-1 lamp adapter. Series 38000 accepts only the P-1890 lamp. For initial order or replacement, specify: Part No. P-1593-2, 6 V flange base lamp—Ind. No. 328; Part No. P-1890, subminiature 6 V flange base lamp—Ind. No. 718; Part No. P-1593-1, 28 V flange base lamp—Ind. No. 327.



# Pushbutton Switches

## NEW ILLUMINATED "NF-LITE" SWITCHES



Series 4100 and 4200 "NF-LITE" illuminated switches indicate switching and circuit functions at a glance. Flat frame construction provides multiple pole momentary action switching. Lighting circuit is independent of switching circuit. Ideal for control panel or press-to-test applications. Contacts are fine silver rated at 3 amps, 300 watts max., A.C., non-inductive load.

Series 4100, Fig. A, uses single miniature lamp, 6V or 28V. Light from lamp is filtered through color chip to clear plastic push-button. Various colored chips can be inserted at any time. Series 4200, Fig. B, same as Series 4100, except utilizes two lamps for greater illumination or color coding of two circuit conditions. Both series require 1/16" min., 1/8" max. depth behind panel depending on size of stack; mounts in 3/8" hole in panels up to 1/4" thick. Series 4100 furnished with one kit of 4 color chips (red, amber, green, and yellow). Series 4200 furnished with two kits. Lamps must be purchased separately. See lamp listing below.

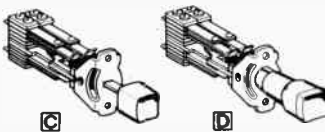
### SERIES 4100

Part Number	Action	Schematic Circuit	U.S.A. List Price
4101	S.P.S.T.n.o.	1-A	\$ 1.95
4103	S.P.D.T.	1-C	2.10
4104	D.P.S.T.n.o.	2-A	2.20
4106	D.P.D.T.	2-C	2.45
4109	3 P.D.T.	3-C	3.00

### SERIES 4200

Part Number	Action	Schematic Circuit	U.S.A. List Price
4201	S.P.S.T.n.o.	1-A	\$2.85
4203	S.P.D.T.	1-C	3.00
4204	D.P.S.T.n.o.	2-A	3.10
4206	D.P.D.T.	2-C	3.35
4209	3 P.D.T.	3-C	3.90

## "PUSH-PUSH" SWITCHES



Push-to-lock, push-to-release or momentary action push-button switches. Welded cross-bar palladium contacts rated at 3 amps, 300 watts, max., non-inductive load. Mount with two 3-48 screws (not supplied) on 3/8" centers.

Depth behind panel, 2 3/8". Series 5000, Fig. C, non-illuminated, supplied with square brown button. Series 15000, Fig. D, illuminated; available in three lighting arrangements, "L" button lights in "IN" position; "M" button lights in "OUT" position; "N" button lights in "IN" and "OUT" positions. Series 15000 part numbers listed below provide "L" type lighting. For "M" type prefix part no. with "M"; for "N" type prefix part no. with "N". Series 15000 supplied less lamp. 6V or 28V lamps can be used.

\*Add suffix letter "L" to part number to indicate locking type.

### NON-ILLUMINATED SERIES 5000

Part Number Non-locking*	Action	Schematic Circuit	U.S.A. List Price
5003	S.P.D.T.	1-C	\$ 6.00
5004	D.P.S.T.n.o.	2-A	6.50
5006	D.P.D.T.	2-C	6.75
5008	4 P.S.T.n.o.	4-A	7.60
5009	3 P.D.T.	3-C	7.75
5012	4 P.D.T.	4-C	9.00

### ILLUMINATED SERIES 15000

Part Number	Action	Schematic Circuit	U.S.A. List Price
15003	S.P.D.T.	1-C	\$ 8.50
15004	D.P.S.T.n.o.	2-A	9.00
15006	D.P.D.T.	2-C	9.25
15008	4 P.S.T.n.o.	4-A	10.00
15009	3 P.D.T.	3-C	10.25
15012	4 P.D.T.	4-C	11.50

## LAMPS FOR ILLUMINATED SWITCHES

The "NF-Lite", "Littel-Lite" and "Push-Push" Switches are not supplied with lamps. When ordering these switches, be sure to specify:

Part No.	Used with Switch	Voltage	Lamp Base	Ind. No.	U.S.A. List Price
P-1217	NF-Lite	6	Screw	1768	\$1.20
P-1218	Littel-Lite	28	Screw	335	2.00
P-1593-1	NF-Lite	28	Screw	335	2.00
P-1593-2	Littel-Lite	28	Screw	335	2.00
P-1593-1	Push-Push	28	Flange	327	1.50
P-1593-2	Push-Push	6	Flange	328	1.20

## "TINY SWITCH" PUSH-BUTTON SWITCHES



Series 950, red button, and Series 960, black button, miniature push-button switches for limited space applications. Integral contacts suitable for low level circuits where contact resistance is not important. Mounts in 1/4" hole in panels up to 1/8" thick; depth behind panel 3/8".

Part Number Red Button	Part Number Black Button	Action	Schematic Circuit	U.S.A. List Price
951	961	S.P.S.T.n.o.	1-A	\$0.95
952	962	S.P.S.T.n.c.	1-B	.95
953	963	S.P.D.T.	1-C	1.10

## NEW ILLUMINATED "LITTEL-LITE" SWITCHES

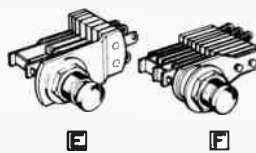


Series 210 "Littel-Lite" Switches are unusually small, momentary contact, illuminated push-button types. Requires minimum panel space; ideal for limited space applications and press-to-test circuits. One-piece, clear plastic button and shaft is illuminated by a single miniature lamp, 6V or 28V. Lamps are not furnished, see lamp listing below. Includes kit of 4 color chips (red, amber, green, and yellow), can be inserted in switch at any time. Nickel silver spring contacts are recommended for low level circuits where contact resistance is not important. Also available, fine silver contacts (Part No. suffix "S") rated at 3 amps, 300 watts, max., A.C. non-inductive load. Lighting circuit is independent of switching circuit. Mounts in single 3/8" hole in panels up to 1/4" thick; depth behind panel 1 3/8".

contacts are recommended for low level circuits where contact resistance is not important. Also available, fine silver contacts (Part No. suffix "S") rated at 3 amps, 300 watts, max., A.C. non-inductive load. Lighting circuit is independent of switching circuit. Mounts in single 3/8" hole in panels up to 1/4" thick; depth behind panel 1 3/8".

Part Number	Action	Schematic Circuit	U.S.A. List Price
211	S.P.S.T.n.o.	1-A	\$1.70
212	S.P.S.T.n.c.	1-B	1.70
213	S.P.D.T.	1-C	2.00
211S	S.P.S.T.n.o.	1-A	1.95
212S	S.P.S.T.n.c.	1-B	1.95
213S	S.P.D.T.	1-C	2.25

## NON-LOCKING FLAT FRAME SWITCHES



FF Switches. Fig. E, Series 1000. Flat frame construction provides multiple pole switching with minimum depth behind panel. Fine silver contacts rated at 3 amps, 300 Watts Max., A.C., non-inductive load. One piece black button and shaft. 3/8" diameter threaded shank; mounts in panels up to 1/4" thick.

NF Switches. Fig. F, Series 4000, same as FF Switches, except smaller spring design, ideal for mounting in ultra-compact equipment. Only 1/2" W.; 1 1/8" L.; mounts in 3/8" hole in panels up to 1/2" thick.

Part Numbers Series 1000	Part Numbers Series 4000	Action	Schematic Circuit	U.S.A. List Price
1001	4001	S.P.S.T.n.o.	1-A	\$1.15
1002	4002	S.P.S.T.n.c.	1-B	1.15
1003	4003	S.P.D.T.	1-C	1.30
1004	4004	D.P.S.T.n.o.	2-A	1.45
1005	4005	D.P.S.T.n.c.	2-B	1.45
1006	4006	D.P.D.T.	2-C	1.70
1009	4009	3 P.D.T.	3-C	2.30

## "BUTTON SWITCH" SWITCHES



Series 903, 923. Unusually small, momentary action push button switches. Enclosed in metal housing; black or red plastic button. Series 903, Fig. G, back panel mounting; 15/32" hole, mounts in panels up to 1/4" thick. Series 923, Fig. H, front panel mounting; 1/4" hole, mounts in panels up to 3/8" thick. Both rated at 250 mills, A.C., non-inductive load, 30 watts max.

Part Nos. Red Button	Part Nos. Black Button	Action	Schematic Circuit	U.S.A. List Price
903	913	S.P.D.T.	1-C	\$1.40
903D	913D	"Break-Make" S.P.D.T.	1-D	1.40
923	933	"Make-Break" S.P.D.T.	1-C	1.50
923D	933D	"Break-Make" S.P.D.T.	1-D	1.50

## "LITTEL-SWITCH" SWITCHES



Series 100, 200, tiny momentary contact push button switches. Rugged, dependable action. All contacts insulated from panel bushing with interlocking phenolic washers. Series 100 and 200, springs are of nickel silver, recommended only for low level circuits where contact resistance is unimportant. Series 100S and 200S have fine silver contacts rated at 3 amps or 300 watts max., A.C., non-inductive load. One-piece plastic button and shaft in red or black. Mounts in 3/8" hole in panels up to 1/4".

Part Nos. Red Button	Part Nos. Black Button	Action	Schematic Circuit	U.S.A. List Price
101	201	S.P.S.T. n.o.	1-A	\$0.95
101S	201S	S.P.S.T. n.o.	1-A	1.15
102	202	S.P.S.T. n.c.	1-B	.95
102S	202S	S.P.S.T. n.c.	1-B	1.15
103	203	S.P.D.T.	1-C	1.10
103S	203S	S.P.D.T.	1-C	1.35

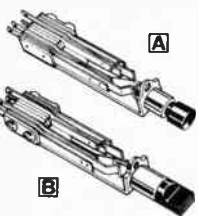
## BASIC SCHEMATIC CIRCUITS

Switch circuitry can be described as combinations of basic schematic circuits as shown below. N.O. means normally open; N.C. means normally closed.





# Pushbutton Switches



## "T-SWITCH" SWITCHES

Rugged, long frame switches for quality communication equipment. Welded cross bar palladium contacts rated at 3 amps, 300 watts max., A.C., non-inductive load. Requires minimum of panel space, only  $\frac{9}{16}$ " x  $\frac{13}{16}$ ";  $2\frac{3}{8}$ " depth behind panel. Series 11000, Fig. A, push button T-Switch. Available in momentary action and push-to-lock, pull-to-release action. Series 11200, Fig. B, two position turn button T-Switch. Available in non-locking and locking action. Black button with white arrow to indicate switching position.

\*Add Suffix "L" to Part Numbers to Indicate Locking Type.

### A PUSH BUTTON—SERIES 11000

Part No. Non-Locking*	Action	Schematic Circuit	U.S.A. List Price
11001	S.P.S.T. n.o.	1-A	\$3.50
11002	S.P.S.T. n.c.	1-B	3.50
11003	S.P.D.T.	1-C	4.00
11003D	S.P.D.T.	1-D	4.00
11004	D.P.S.T. n.o.	2-A	4.50
11005	D.P.S.T. n.c.	2-B	4.50
11006	D.P.D.T.	2-C	5.00
11006D	D.P.D.T.	2-D	5.00
11008	4 P.S.T. n.o.	4-A	5.60
11009	3 P.D.T.	3-C	6.00
11012	4 P.D.T.	4-C	6.80

### B TURN BUTTON—SERIES 11200

Part No. Non-Locking*	Action	Schematic Circuit	U.S.A. List Price
11201	S.P.S.T. n.o.	1-A	\$3.50
11202	S.P.S.T. n.c.	1-B	3.50
11203	S.P.D.T.	1-C	4.00
11203D	S.P.D.T.	1-D	4.00
11204	D.P.S.T. n.o.	2-A	4.50
11205	D.P.S.T. n.c.	2-B	4.50
11206	D.P.D.T.	2-C	5.00
11206D	D.P.D.T.	2-D	5.00
11208	4 P.S.T. n.o.	4-A	5.60
11209	3 P.D.T.	3-C	6.00
11212	4 P.D.T.	4-C	6.80

## MINIATURE "TF" BUTTON SWITCHES

"Tiny Frame" switches. Small, sturdily constructed, provides simple, direct acting push button switching for use where space is at a premium. Available in Series 970L, push-to-lock, pull-to-release; or Series 970, momentary action. Nickel silver springs, integral contacts, recommended for low level circuits where contact resistance is unimportant. Requires only  $1\frac{1}{4}$ " depth behind panel; mounts in single  $\frac{3}{8}$ " hole in panels up to  $\frac{1}{2}$ " thick.

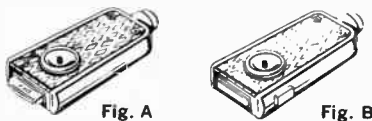
### SERIES 970—NON-LOCKING

Part No.	Action	Schematic Circuit	U.S.A. List Price
974	D.P.S.T. n.o.	2-A	\$1.30
975	D.P.S.T. n.c.	2-B	1.30
976	D.P.D.T.	2-C	1.30

### SERIES 970L—LOCKING

Part No.	Action	Schematic Circuit	U.S.A. List Price
974L	D.P.S.T. n.o.	2-A	\$1.55
975L	D.P.S.T. n.c.	2-B	1.55
976L	D.P.D.T.	2-C	1.55

## "CordMASTER" PENDANT SWITCH



Extremely versatile pendant (cord) switch with top or edge operated pushbutton operation, illuminated and non-illuminated. Attractively patterned stainless steel sheath fits over white shock resistant thermoplastic housing to provide greater strength. Series 42000, Fig. A, has top operated pushbutton action. Three standard functions are available: non-lock—momentary action; locking—button locks when depressed, releases when side button is depressed; push-to-lock, push-to-release—button locks when depressed and is released when depressed again. Series 42000E, Fig. B, has edge operation; supplied with "L" type illumination (top jewel lights when button is depressed). Illumination supplied by Ind. No. 377, 6 V miniature, T-1  $\frac{3}{4}$  flange base lamp (not supplied with switch). Part No. listed has locking function with front button release. Both Series have spring tempered nickel silver contact springs with cross-bar welded palladium contacts rated at 2 amps, 200 watts, max. A.C., non-inductive load. This switch is not recommended for 120 V A.C. line switching. Switches accept cables up to .270" dia. Overall dimensions:  $1\frac{3}{4}$ "W. x  $3\frac{1}{4}$ "L. x  $\frac{3}{8}$ "H.

Part No.	Function	Action	Schematic	U.S.A. List Price
42206	Non-Lock	DPDT	2-C	\$ 9.00
42306	Locking	DPDT	2-C	9.50
42706	Push-to-Lock, Push-to-Release	DPDT	2-C	10.00
42306E	Locking	DPDT	2-C	10.50



## "CORD SWITCHES"

An attractive bright nickel plated housing supports Series 903 and 913 button switches. Ideal for cord mounted or pendant switch on remote control applications. Sleeve  $1\frac{1}{16}$ " diameter,  $2\frac{1}{16}$ " long.

Part Nos. Red Button	Black Button	Action	Schematic Circuit	U.S.A. List Price
E-903	E-913	S.P.D.T.	1-C	\$2.25
E-903D	E-913D	"Break-Make" S.P.D.T.	1-D	2.25
		"Make-Break"		



## "CORDETTE" PENDANT SWITCHES



Small lightweight pendant, momentary action (cord) switches provide remote switching of industrial and commercial instrumentation and control devices. Attractive one-piece grey molded body protects switching controls from dirt and dust. Switch has 1-A (S.P.S.T.) max., A.C. non-inductive load. Not recommended for use in high voltage circuits. Part No. 921 has phono jack termination molded to body. Mates with Switchcraft molded cable assemblies with phono plug terminations such as 3501, 3501MC, etc. or industry standard phono plugs. Part No. 921K same as 921 except 6' of 2-cond. unshielded cable molded to switch body. Stripped and tinned cable termination. Overall dimensions  $1\frac{1}{8}$ " wide by  $2\frac{1}{8}$ " long (not including cable).

Switchcraft Part No. 921..... U.S.A. List Price \$4.25  
Switchcraft Part No. 921K..... U.S.A. List Price \$5.00

## "HI-D SWITCH" SWITCHES



Series H-100, H-200—compact momentary action switches. Molded box body protects contact springs. Low electrical leakage, low capacity. Integral fine-silver plated contacts for use in circuits where contact resistance is not critical. One piece plastic button and shaft in Red—Series H-100, and Black

—Series H-200. Mounts on  $\frac{3}{8}$ " centers in either of two planes; in a single  $\frac{3}{8}$ " hole in panels up to  $\frac{1}{2}$ " thick. Depth behind panel  $1\frac{1}{2}$ ".

Part Nos. Red Button	Black Button	Action	Schematic Circuit	U.S.A. List Price
H-101	H-201	S.P.S.T.n.o.	1-A	\$1.00
H-102	H-202	S.P.S.T.n.c.	1-B	1.09
H-103	H-203	S.P.D.T.	1-C	1.15
H-103D	H-203D	S.P.D.T.	1-D	1.15

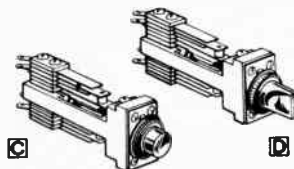
## SERIES DA SWITCH



Series DA. Completely enclosed, momentary action push-button switch. Anodized aluminum body protects switch contacts from dirt, dust and from being bent. A-B contact arrangement provides a 1-A, 1-B or 1-C circuit when externally wired. Integral hard gold plated contacts rated at 500 MA., 50 watts max., A.C., non-inductive load. Terminals accept AMP Series 53 taper pins. Mount in  $\frac{1}{2}$ " hole on  $1\frac{1}{2}$ " centers. Depth behind panel  $1\frac{1}{4}$ ".

Part No.	Button Color	Part No.	Button Color	U.S.A. List Price
DA-01-3	Red	DA-04-3	Blue	\$2.25
DA-02-3	Black	DA-05-3	White	2.25
DA-03-3	Green	DA-08-3	Yellow	2.25

## "T-LITE" SWITCHES



Series 32000, 32000TL. High-quality illuminated switches, ideal for instrumentation, communication equipment and telephone apparatus. Lightweight, extremely rugged aluminum "T-Beam" frame construction. Frame includes a non-turn device. "Frosted" plastic push-buttons give quick visual indication of switching function or circuit condition. Series 32000, Fig. C, momentary action, pushbutton can be engraved. Series 32000TL, Fig. D, momentary push with turn-to-lock feature. Button has black indicator line to indicate switching position. Utilize T-2 telephone slide base lamp. Relamp from front of panel. Lamps not supplied with switch. Long leaf nickel silver springs with cross-bar palladium contacts rated at 3 amps, 300 watts, max., A.C. non-inductive load. Mount in single  $\frac{3}{8}$ " hole on  $1\frac{1}{8}$ " centers in panels  $\frac{1}{2}$ " thick. Depth behind panel  $3\frac{1}{8}$ ".

### SERIES 32000 PUSHBUTTON

Part No.	Action	Schematic Circuit	U.S.A. List Price
32004	D.P.S.T.n.o.	2-A	\$10.00
32006	D.P.D.T.	2-C	10.75
32008	4P.S.T.n.o.	4-A	11.50
32012	4P.D.T.	4-C	13.00

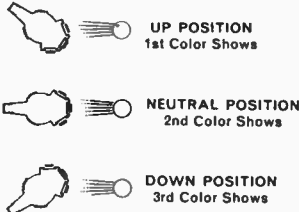
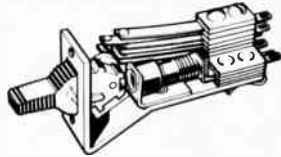
### SERIES 32000TL TURN BUTTON

Part No.	Action	Schematic Circuit	U.S.A. List Price
32004TL	D.P.S.T.n.o.	2-A	10.50
32006TL	D.P.D.T.	2-C	11.25
32008TL	4P.S.T.n.o.	4-A	12.00
32012TL	4P.D.T.	4-C	13.50

# SWITCHCRAFT

## 3-COLOR ILLUMINATED LEVER SWITCHES

### "LEVER-LITE" SWITCHES SERIES 25000



"Lever-Lite," Series 25000. Illuminated switches indicate positions at a glance. Individual color chips can be inserted in each switch position. Available in 2 or 3 positions, locking and non-locking types. Reduces panel space; minimizes costly wiring. Supplied with 6V miniature screw base lamp and six color chips, Red, Green, Amber, Yellow, Blue and White; 28V lamp also available. See lamp listing below. Nickel-silver springs, silver contacts rated 3 amps, 300 watts max., A.C., non-inductive load. Requires only 2 1/4" depth behind panel, can be mounted on 3/8" centers in panels up to 3/8" thick.

Size: 2 1/4" L. x 39/64" W. x 1 1/16" H. \*Add suffix letter "L" to Part No. to indicate locking type.

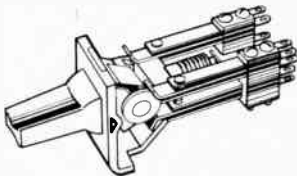
#### TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1 Pos. 2	U.S.A. List Price
25201	S.P.S.T. n.o.	1-A	\$4.00
25203	S.P.D.T.	1-C	4.25
25206	D.P.D.T.	2-C	5.00
25209	3 P.D.T.	3-C	5.75

#### THREE POSITION TYPES

25304	S.P.S.T. n.o. Ea. Sec.	1-A 1-A	\$4.50
25306	S.P.D.T. Ea. Sec.	1-C 1-C	5.00
25308	D.P.S.T. n.o. Ea. Sec.	2-A 2-A	5.50
25312	D.P.D.T. Ea. Sec.	2-C 2-C	6.00

### "LEVER-LITE" SWITCHES SERIES 27000



"Lever-Lite," Series 27000 illuminated lever switch, three color lighting identical to Series 25000, but utilizes a larger, contoured lever and larger, factory installed color filters. Available in 2 or 3 position, locking and non-locking types. Mounts on 3/8"

centers, in panels up to 3/8" thick. Depth behind panel 2 1/4". Nickel silver springs with fine silver contacts rated at 3 amps, 300 watts, max., A.C., non-inductive load. On standard 2 position type AMBER lights in the "NEUTRAL" position; GREEN lights in the "DOWN" position. On 3 position types, RED lights in the "UP" position, AMBER in "NEUTRAL" position and GREEN in the "DOWN" position. Supplied with a 6 V lamp. † n.o. center position off. \*Add suffix "L" to part number to indicate locking type.

#### TWO POSITION TYPES

Part No. Non-locking*	Action	Schematic Circuit Pos. 1 Pos. 2	U.S.A. List Price
27206	D.P.D.T.	2-C	\$6.50
27212	4 P.D.T.	4-C	8.00

#### THREE POSITION TYPES

27306	S.P.D.T. ea. sec.	1-C 1-C	6.50
27307	S.P.D.T. n.o. ea. sec.	1-C† 1-C†	6.65
27312	D.P.D.T. ea. sec.	2-C 2-C	8.00

### LAMPS FOR "LEVER-LITE" SWITCHES

Lamps are mounted in a "snap-out" frame assembly. A 6V lamp is furnished with each of the above listed switches. Specify the following part numbers when ordering replacement lamps:

Part No.	Voltage	Base	Ind. No.	U.S.A. List Price
P-1217	6V	Screw	1768	\$1.20
P-1218	28V	Screw	Hudson 369	2.00

### ESCUTCHEON PLATES FOR "LEVER-LITE" SWITCHES

For easy and convenient mounting of Series 25000 and 27000 Switches. Satin black finish. Eliminates punching rectangular hole in mounting panel. Part No. 531 for Series 25000, complete with two No. 3-48 black machine screws. Part No. 532 for Series 27000, complete with two No. 2-56 machine screws.

Switchcraft Part No. 531 U.S.A. List Price \$0.15  
Switchcraft Part No. 532 U.S.A. List Price 0.25

### AMBIENT LIGHT SHIELD

For use where "LEVER-LITE" Series 27000 switches are mounted on minimum centers. Shield gives positive separation of lighting between switches. Shield is placed between panel and switch, held in place by mounting screws. Two shields can be used per switch if desired.  
Switchcraft Part No. P-1864 U.S.A. List. Price \$0.10

# Lever Switches

## "LEV-R" SWITCHES

3000



13000



Small lever action switches in two and three position types, locking and non-locking action. Requires half the space usually needed for a lever switch; frame bushing and shaft nickel plated brass. Supplied with locknut and screw-on black knob. Fine silver contacts rated at 3 amps, 300 watts, max. A.C. non-inductive load. Non-locking types have spring return. Series 3000 mounts in panels up to 3/8" thick; Series 13000 mounts in panels up to 1/2" thick. Both Series are 3/8" wide; requires 2 1/4" behind panel; mounts in single 1/2" dia. hole. †n.o. center position off. †Inter-communications "Talk-Listen" switches, lever locks on one side of neutral and operates non-locking on the other side. \*Add suffix letter "L" to Part No. to indicate locking type.

#### SERIES 3000 TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1 Pos. 2	U.S.A. List Price
3001	S.P.S.T. n.o.	1-A	\$2.00
3002	S.P.S.T. n.c.	1-B	2.00
3003	S.P.D.T.	1-C	2.35
3003D	S.P.D.T.	1-D	2.50
3004	D.P.S.T. n.o.	2-A	2.60
3005	D.P.S.T. n.c.	2-B	2.60
3006	D.P.D.T.	2-C	2.85
3006D	D.P.D.T.	2-D	3.00
3009	3 P.D.T.	3-C	3.65

#### THREE POSITION TYPES

3033	S.P.D.T. n.o.	1-C†	\$2.60
3034	S.P.S.T. n.o. Ea. Sec.	1-A 1-A	2.70
3035	S.P.S.T. n.c. Ea. Sec.	1-B 1-B	2.70
3036	S.P.D.T. Ea. Sec.	1-C 1-C	3.00
3036D	S.P.D.T. Ea. Sec.	1-D 1-D	3.35
3037	S.P.D.T. n.o. Ea. Sec.	1-C† 1-C†	3.05
30312	D.P.D.T. Ea. Sec.	2-C 2-C	4.00
30313	D.P.D.T. n.o. Ea. Sec.	2-C† 2-C†	4.00

#### SERIES 13000 TWO POSITION TYPES

13001	S.P.S.T. n.o.	1-A	\$2.20
13002	S.P.S.T. n.c.	1-B	2.20
13003	S.P.D.T.	1-C	2.50
13003D	S.P.D.T.	1-D	2.60
13004	D.P.S.T. n.o.	2-A	2.75
13005	D.P.S.T. n.c.	2-B	2.75
13006	D.P.D.T.	2-C	2.85
13006D	D.P.D.T.	2-D	3.00
13009	3 P.D.T.	3-C	4.00

#### THREE POSITION TYPES

13033	S.P.D.T. n.o.	1-C†	\$2.75
13034	S.P.S.T. n.o. Ea. Sec.	1-A 1-A	2.85
13035	S.P.S.T. n.c. Ea. Sec.	1-B 1-B	2.85
13036	S.P.D.T. Ea. Sec.	1-C 1-C	3.35
13036D	S.P.D.T. Ea. Sec.	1-D 1-D	3.50
13037	S.P.D.T. n.o. Ea. Sec.	1-C† 1-C†	3.35
130312	D.P.D.T. Ea. Sec.	2-C 2-C	4.25
130313	D.P.D.T. n.o. Ea. Sec.	2-C† 2-C†	4.25

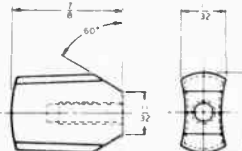
#### INTER-COM SWITCHES† SERIES 3000

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1 Pos. 2	U.S.A. List Price
3033T	S.P.D.T. n.o.	1-C†	\$2.60
3037T	S.P.D.T. n.o. Ea. Sec.	1-C† 1-C†	3.05

#### SERIES 13000

13033T	S.P.D.T. n.o.	1-C†	\$2.75
13037T	S.P.D.T. n.o. Ea. Sec.	1-C† 1-C†	3.35

### CONTOUR KNOBS FOR LEVER SWITCHES



Attractive contour knobs designed for today's modern equipment. Series M-1177 knobs, 8-32" tapped hole for use with "LEV-R" switches Series 3000, 12000 and 13000. Series M-1178 knobs, 6-32" tapped hole for use with "TEL-EVER" switches Series 6000 and 16000.

Part No. Series 1177	Part No. Series 1178	Color	U.S.A. List Price Per Pkg. of 10
M-1177-1	M-1178-1	Red	\$3.50
M-1177-2	M-1178-2	Black	3.50
M-1177-15	M-1178-15	White	3.50

### SPECIAL WRENCHES



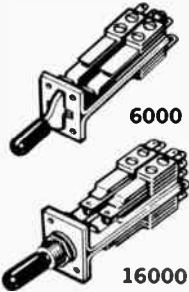
Special Switchcraft wrenches designed to assemble knurled locknuts normally furnished with lever and button switches and jacks. A-1070 wrench fits 15/32"-32 locknuts; A-1071 for use with 1/4"-32 knurled locknuts.

Part No. A-1070 U.S.A. List Price \$7.50  
Part No. A-1071 U.S.A. List Price 7.50



# Lever Switches

## "TELEVER" SWITCHES



Series 6000 and 16000. Rugged telephone type lever switches featuring "T-Beam" frame construction which results in a relatively light construction with sturdiness of a structural "T-Beam". Available in two and three positions, locking and non-locking types. Nylon rollers on the lever actuate the special nickel silver springs, providing smooth action; assures long dependable spring life. Welded cross bar palladium contacts are standard, rated at 3 amps, 300 watts max., A.C., non-inductive load. Series 6000 mounts with four No. 3-48 machine screws. Mounting centers  $1\frac{1}{2}'' \times 1\frac{1}{2}''$ , mounts in panels up to  $\frac{1}{4}''$  thick. Series 16000 features single hole mounting;  $1\frac{1}{2}'' \times 3\frac{1}{2}''$  threaded bushing. Mounts in  $\frac{1}{2}''$  dia. hole in panels up to  $\frac{1}{4}''$  thick. Part No. 545, "Stop Plate" provides positive "stops" for two position action. Part No. 540,

"Stop Plate" provides non-locking or momentary action. The "Stop Plates" can be changed in the field. Both Series switches supplied with black insulated knob. All have tinned solder lug terminals. \*Add suffix letter "L" to Part No. to indicate locking type. Series 16000 non-locking type can be converted to locking type by removing "Stop Plate".

### SERIES 6000 TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit		U.S.A. List Price
		Pos. 1	Pos. 2	
6006	D.P.D.T.	2-C		\$5.00
6006D	D.P.D.T.	2-D		5.60
6008	4 P.S.T. n.o.	4-A		5.60
6009	3 P.D.T.	3-C		6.00
60012	4 P.D.T.	4-C		6.80
60012D	4 P.D.T.	4-D		7.50
60024	8 P.D.T.	8-C		10.00

### THREE POSITION TYPES

Part No.	Action	Schematic Circuit		U.S.A. List Price
		Pos. 1	Pos. 2	
6036	S.P.D.T. Ea. Sec.	1-C	1-C	\$5.00
6036D	S.P.D.T. Ea. Sec.	1-D	1-D	5.60
6038	D.P.S.T. n.o. Ea. Sec.	2-A	2-A	5.60
60312	D.P.D.T. Ea. Sec.	2-C	2-C	6.80
60312D	D.P.D.T. Ea. Sec.	2-D	2-D	7.50
60316	4 P.S.T. n.o. Ea. Sec.	4-A	4-A	8.80
60324	4 P.D.T. Ea. Sec.	4-C	4-C	10.00

### SERIES 16000 TWO POSITION TYPES

Part No.	Action	Schematic Circuit		U.S.A. List Price
		Pos. 1	Pos. 2	
16006	D.P.D.T.	2-C		\$5.00
16006D	D.P.D.T.	2-D		5.60
16008	4 P.S.T. n.o.	4-A		5.60
16009	3 P.D.T.	3-C		6.00
160012	4 P.D.T.	4-C		6.80
160012D	4 P.D.T.	4-D		7.50
160024	8 P.D.T.	8-C		10.00

### THREE POSITION TYPES

Part No.	Action	Schematic Circuit		U.S.A. List Price
		Pos. 1	Pos. 2	
16036	S.P.D.T. Ea. Sec.	1-C	1-C	\$5.00
16036D	S.P.D.T. Ea. Sec.	1-D	1-D	5.60
16038	D.P.S.T. n.o. Ea. Sec.	2-A	2-A	5.60
160312	D.P.D.T. Ea. Sec.	2-C	2-C	6.80
160312D	D.P.D.T. Ea. Sec.	2-D	2-D	7.50
160316	4 P.S.T. n.o. Ea. Sec.	4-A	4-A	8.80
160324	4 P.D.T. Ea. Sec.	4-C	4-C	10.00

Part No. 530 Escutcheon Plate. For Series 6000 Telever switches with 4 mounting screws. U.S.A. List Price \$0.60

Part No. 540 Stop Plate. For Series 16000 Telever switches. To convert from locking to non-locking action. Includes two mounting screws. U.S.A. List Price \$0.25

Part No. 545 Stop Plate. For Series 16000 Telever switches. To convert from 3-position to 2-position. Includes two mounting screws. U.S.A. List Price \$0.25

## "LEV-R" SWITCHES



"LEV-R Switches." Series 28000. Compact, lever action switch in two and three position, locking and non-locking types. Smooth, easier lever action assured with special nylon roller. Supplied with locknut, non-turning ring (slips over slotted bushing

to prevent switch from turning in mounting hole), and a black knob which is molded directly to the lever. Eliminates loose or lost knobs. Fine silver contacts rated at 3 amps, 300 watts, max., A.C., non-inductive load. Mounts on  $\frac{3}{8}''$  centers in panels up to  $\frac{3}{8}''$  thick. Requires only one  $1\frac{1}{4}''$  dia. mounting hole for bushing and one  $\frac{1}{4}''$  dia. hole for non-turn device; depth behind panel,  $2\frac{1}{2}''$ . \*Add suffix letter "L" to Part No. to indicate locking type. †Center position open (OFF).

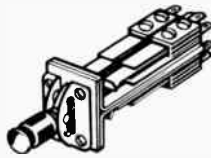
### TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit		U.S.A. List Price
		Pos. 1	Pos. 2	
28201	S.P.S.T. n.o.	1-A		\$2.80
28203	S.P.D.T.	1-C		3.25
28204	D.P.S.T. n.o.	2-A		3.50
28206	D.P.D.T.	2-C		2.75

### THREE POSITION TYPES

Part No.	Action	Schematic Circuit		U.S.A. List Price
		Pos. 1	Pos. 2	
28304	S.P.S.T. n.o. ea. sec.	1-A	1-A	\$3.60
28306	S.P.D.T. ea. sec.	1-C	1-C	3.90
28307	S.P.D.T. n.o. ea. sec.	1-C†	1-C†	3.95
28312	D.P.D.T. ea. sec.	2-C	2-C	4.75

## SERIES 26000 "LEVER-LOCK" SWITCHES



Rugged telephone-type lever switches. "Lever-Lock" feature guards against accidental switching due to shock, vibrations, operator fatigue, or unintended operation. Ideal for mobile communication equipment. Index bracket and release plunger "locks" lever in any position. Turning actuator knob to extreme left actuator will be permanently locked. To unlock, turn knob to the right. Pressing release plunger frees actuator from index bracket and allows actuator to be moved to another switching position. Welded cross bar palladium contacts rated at 3 amps, 300 watts max., A.C., non-inductive load. Mounts with four No. 3-48 screws in panels up to  $\frac{3}{8}''$  thick. Requires  $3\frac{1}{2}''$  depth behind panel.

### TWO POSITION TYPES

Part No. Locking Type Only	Action	Schematic Circuits		U.S.A. List Price
		Pos. 1	Pos. 2	
26206L	D.P.D.T.	2-C		\$8.50
26208L	4 P.S.T. n.o.	4-A		9.10
26212L	4 P.D.T.	4-C		10.30
26212DL	4 P.D.T.	4-D		11.00

### THREE POSITION TYPES

Part No.	Action	Schematic Circuit		U.S.A. List Price
		Pos. 1	Pos. 2	
26306L	S.P.D.T. Ea. Sec.	1-C	1-C	\$8.50
26308L	D.P.S.T. n.o. Ea. Sec.	2-A	2-A	9.10
26312L	D.P.D.T. Ea. Sec.	2-C	2-C	10.30
26312DL	D.P.D.T. Ea. Sec.	2-D	2-D	11.00
26316L	4 P.S.T. n.o. Ea. Sec.	4-A	4-A	12.30
26324L	4 P.D.T. Ea. Sec.	4-C	4-C	13.50



## "LEV-R" SWITCHES, SERIES 12000

Small right-angle action switches requiring minimum of depth behind panel. Available in two and three position, locking and non-locking types. Long leaf-type springs insure long switch life. Fine silver contacts rated at 3 amps, 300 watts max., A.C., non-inductive load. Requires only  $\frac{1}{2}''$  depth behind panel; single  $\frac{1}{2}''$  dia. mounting hole; mounts in panels up to  $\frac{3}{8}''$  thick. Supplied with nickel plated locknut and removable black plastic knob. In o. center position off. \*Add suffix letter "L" to Part No. to indicate locking type.

### TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit		U.S.A. List Price
		Pos. 1	Pos. 2	
12001	S.P.S.T. n.o.	1-A		\$1.80
12002	S.P.S.T. n.c.	1-B		1.80
12003	S.P.D.T.	1-C		2.10
12003D	S.P.D.T.	1-D		2.35
12004	D.P.S.T. n.o.	2-A		2.35
12005	D.P.S.T. n.c.	2-B		2.35
12006	D.P.D.T.	2-C		2.60
12006D	D.P.D.T.	2-D		2.85

### THREE POSITION TYPES

Part No.	Action	Schematic Circuit		U.S.A. List Price
		Pos. 1	Pos. 2	
12033	S.P.D.T. n.o.	1-C†		\$2.35
12034	S.P.S.T. n.o. Ea. Sec.	1-A	1-A	2.45
12035	S.P.S.T. n.c. Ea. Sec.	1-B	1-B	2.45
12036	S.P.D.T. Ea. Sec.	1-C	1-C	2.75
12036D	S.P.D.T. Ea. Sec.	1-D	1-D	2.95
12037	S.P.D.T. Ea. Sec.	1-C†	1-C†	2.85

### THREE POSITION TYPES

#### LOCKING ONE SIDE—NON-LOCKING OTHER SIDE

Part No.	Action	Schematic Circuit	U.S.A. List Price
12033T	S.P.D.T. n.o.	1-C†	\$2.35
12037T	S.P.D.T. Ea. Sec.	1-C† 1-C†	2.85



## "BOX SWITCH"

Series BX. Miniature, momentary action, push-button switch offers broad switching capabilities in minimum panel space.  $1\frac{1}{16}''$  square switch requires  $\frac{1}{4}''$  min. to  $1\frac{3}{4}''$  max. depth behind panel. Molded plastic body protects against damaging dust and dirt and prevents bending or disfiguring of contacts caused by excessive handling. Attractive bezel frames pushbutton and acts as built-in escutcheon plate. Unique "Adjusto-Clips" provide snap-in, front of panel, mounting in panels from  $\frac{1}{4}''$  to  $1\frac{1}{4}''$  thick in .615" sq. holes. Red, black, green, or white pushbuttons.  $\frac{1}{4}''$  button stroke. Integral slide contacts of special spring tempered phosphor bronze, silver plated, rated at: 250 ma., 30 watts max., A.C. non-inductive load. Evenly spaced solder lug terminals are clearly identified for ease of wiring.

Part Nos.				Action	Schematic Circuit	U.S.A. List Price
Red Button	Black Button	Green Button	White Button			
BX-01-1	BX-02-1	BX-03-1	BX-05-1	S.P.S.T. n.o.	1-A	\$3.25
BX-01-3	BX-02-3	BX-03-3	BX-05-3	S.P.D.T.	1-C	\$3.40
BX-01-6	BX-02-6	BX-03-6	BX-05-6	D.P.D.T.	2-C	\$3.75
BX-01-10	BX-02-10	BX-03-10	BX-05-10	D.P.D.T.-D.P.S.T. n.o.	2-C & 2-A	\$4.25

## BASIC SCHEMATIC CIRCUITS

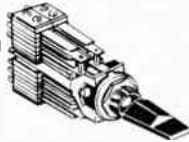
Switch circuitry can be described as combinations of basic schematic circuits as shown below. N.O. means normally open; N.C. means normally closed.





# Lever Switches

## "LT SWITCH"



Series 41000. Smallest, high-quality, telephone type lever switch available. Two or three position types with positive locking and/or non-locking action. Special damping block guards against transient leaf bounce. "Can't-Cheat" detent

guide prevents accidental actuator by-pass of switching positions. Switch has rigid "U"-shaped, twin girder frame. Its parallel steel members terminate in an interlocked box where spring combinations are mounted. The special long life, nickel-silver springs can be individually fastened to any one of the frame's four switch stacks mounting positions. Welded cross bar palladium contacts rated at 3 amps, 200 watts max., AC, non-inductive load are standard. Series 41000 mounts on  $\frac{21}{64}$ " centers in a  $\frac{13}{32}$ " dia. hole in panels up to  $\frac{1}{4}$ " thick. Requires only  $2\frac{1}{2}$ " depth behind panel. The bushing includes a keyway to accept the non-turn ring which prevents switch turning or twisting in panel. \*Add suffix "L" to Part No. to indicate locking type.

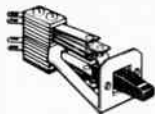
### SERIES 41000

#### TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuits		U.S.A. List Price
		Pos. 1	Pos. 2	
41203	S.P.D.T.	1-C		\$4.00
41206	D.P.D.T.	2-C		5.00
41208	4 P.S.T. n.o.	4-A		5.50
41212	4 P.S.T.	4-C		6.75

#### THREE POSITION TYPES

41306	S.P.D.T. Ea. Sec.	1-C	1-C	\$5.00
41308	D.P.S.T. n.o. Ea. Sec.	2-A	2-A	5.50
41312	D.P.D.T. Ea. Sec.	2-C	2-C	6.75
41324	4 P.D.T. Ea. Sec.	4-C	4-C	10.00



## "LK" LITTEL-KEY SWITCHES

Series 23000. Short frame lever-type switches available in 2 or 3 positions, locking or non-locking types. Ideal for applications where panel mounting space and depth behind panel is at a premium.

Fine silver contacts, rated at 3 amps, 300 watts max., A.C., non-inductive load. Frame has 2 tapped No. 3-48 holes for easy mounting. Mounts in panels up to  $\frac{1}{4}$ " thick. Depth behind panel only  $2\frac{3}{16}$ ". \*Add suffix letter "L" to Part No. to indicate locking type.

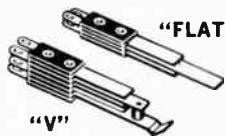
#### TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit		U.S.A. List Price
		Pos. 1	Pos. 2	
23201	S.P.S.T. n.o.	1-A		\$1.75
23203	S.P.D.T.	1-C		2.10
23206	D.P.D.T.	2-C		2.40

#### THREE POSITION TYPE

23304	S.P.S.T. n.o. Ea. Sec.	1-A	1-A	\$2.25
23306	S.P.D.T. Ea. Sec.	1-C	1-C	2.40
23308	D.P.S.T. n.o. Ea. Sec.	2-A	2-A	2.60

## STACK SWITCHES



### "FLAT"

General purpose stack switch assemblies made from a pile-up of various actuator springs, contact springs and lifters. These stack switch assemblies can be used on manually operated devices where switching is operated by cams, levers, push buttons, and other mechanical devices. General purpose stack switches are available with a "Flat" or "V" actuator spring.

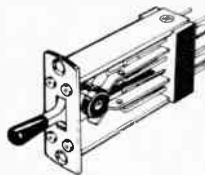
Fine silver or palladium cross bar welded contacts are standard, rated at 3 amps., 300 watts max., A.C., non-inductive load. Supplied with pressure plate and two No. 5-40 screws; mount on  $\frac{3}{8}$ " centers. Height of stack depends on switching circuit: 1-B circuit  $\frac{21}{64}$ " H., min.; 2-C circuit  $\frac{45}{64}$ " H., max.

#### FLAT ACTUATOR SPRING

Part No.	Contact Material	Action	Schematic Circuit	U.S.A. List Price
AA01AA	Silver	S.P.S.T. n.o.	1-A	\$0.80
AA01AB	Palladium	S.P.S.T. n.o.	1-A	.90
AA02AA	Silver	S.P.S.T. n.c.	1-B	.80
AA02AB	Palladium	S.P.S.T. n.c.	1-B	.90
AA03AA	Silver	S.P.D.T.	1-C	1.00
AA03AB	Palladium	S.P.D.T.	1-C	1.20
AA06AA	Silver	D.P.D.T.	2-C	1.45
AA06AB	Palladium	D.P.D.T.	2-C	1.75

#### "V" FORMED ACTUATOR SPRING

AA01BA	Silver	S.P.S.T. n.o.	1-A	\$0.90
AA01BB	Palladium	S.P.S.T. n.o.	1-A	1.00
AA02BA	Silver	S.P.S.T. n.c.	1-B	.90
AA02BB	Palladium	S.P.S.T. n.c.	1-B	1.00
AA03BA	Silver	S.P.D.T.	1-C	1.10
AA03BB	Palladium	S.P.D.T.	1-C	1.30
AA06BA	Silver	D.P.D.T.	2-C	1.65
AA06BB	Palladium	D.P.D.T.	2-C	1.85



## "LO-CAP" SWITCHES

Series 10000. Low capacity lever actuated switches, previously referred to as Federal Anti-Capacity switches. Specially designed flat actuator springs and round contact springs are wide spaced in a large molded insulating block.

This construction eliminates the build-up of induced alternating current between springs. Rugged "U" shaped aluminum frame. Roller actuation for easy lever operation. Available in 2 and 3 position models, locking and non-locking types. Actuator springs have fine silver contacts rated at 1 amp, 100 watts, max., A.C., non-inductive load. Supplied with polished chrome escutcheon plate. Mounts with two No. 6-32 flat head screws (not supplied). Mounting centers  $1\frac{13}{16}$ ". Depth behind panel  $3\frac{7}{16}$ ". n.o. center position off.

\*Add suffix letter "L" to Part No. to indicate locking type.

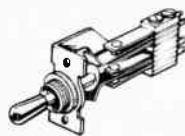
#### TWO POSITION TYPES

Part No. Non-Locking*	Old Federal No.**	Action	Schematic Circuit		U.S.A. List Price
			Pos. 1	Pos. 2	
10204	1427	D.P.S.T.n.o.	2-A		\$ 6.80
10205	1426	D.P.S.T.n.o.	2-B		6.80
10206	—	D.P.D.T.	2-C		7.00

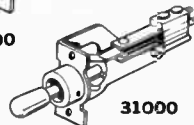
#### THREE POSITION TYPES

10306	—	S.P.D.T.Ea.Sec.	1-C	1-C	7.00
10307	1425	S.P.D.T.n.o.Ea.Sec.	1-C†	1-C†	7.00
10312	—	D.P.D.T.Ea.Sec.	2-C	2-C	7.50
10313	1424	D.P.D.T.n.o.Ea.Sec.	2-C†	2-C†	7.50
10324	—	4P.D.T.Ea.Sec.	4-C	4-C	16.50
10325	12494	4P.D.T.n.o.Ea.Sec.	4-C†	4-C†	16.50

\*\*Old Federal Part No. refer to locking type switches only.



29000



31000

## "FEATHER LEVER" SWITCHES

Miniature lever switches, light weight, compact, mount on  $\frac{7}{16}$ " centers. Available in 2 and 3 position, locking and non-locking types. Actuator designed with nylon roller for smoother, easy lever operation over entire life of switch. Rugged steel frame withstands rough usage, shock and vibration. Nickel

silver springs with fine silver contacts, rated at 2 amperes, 200 watts, max., A.C., non-inductive load. Supplied with black plastic push-on knob. Other push-on knobs, available in 10 colors. See listing below. Series 29000, with bushing, mounts in  $\frac{1}{4}$ " O.D. panel hole. Supplied with locknut. Series 31000, mounts with 2 No. 2-56 machine screws. Both Series supplied with black push-on knob. Require only  $1\frac{1}{8}$ " depth behind panel, mount in panels up to  $\frac{1}{4}$ " thick. n.o. center position off. †Inter-communications "Talk-Listen" switches, lever locks on one side of neutral and operates non-locking on the other side. \*Add suffix letter "L" to Part No. to indicate locking type.

### SERIES 29000, 31000 TWO POSITION TYPES

Part No. Non-Locking*	31000	Action	Schematic Circuit		U.S.A. List Price
			Pos. 1	Pos. 2	
29201	31201	S.P.S.T. n.o.	1-A		\$1.95
29203	31203	S.P.D.T.	1-C		2.25
29204	31204	D.P.S.T. n.o.	2-A		2.50
29206	31206	D.P.D.T.	2-C		2.75

#### THREE POSITION TYPES

29303	31303	S.P.D.T. n.o.	1-C†		\$2.50
29304	31304	S.P.S.T. n.o. ea. sec.	1-A	1-A	2.60
29306	31306	S.P.D.T. ea. sec.	1-C	1-C	2.90
29307	31307	S.P.D.T. n.o. ea. sec.	1-C†	1-C†	2.95
29312	31312	D.P.D.T. ea. sec.	2-C	2-C	3.75

#### INTER-COMM SWITCHES

29303T	31303T	S.P.D.T. n.o.	1-C†		\$2.50
29307T	31307T	S.P.D.T. n.o. ea. sec.	1-C	1-C	2.95

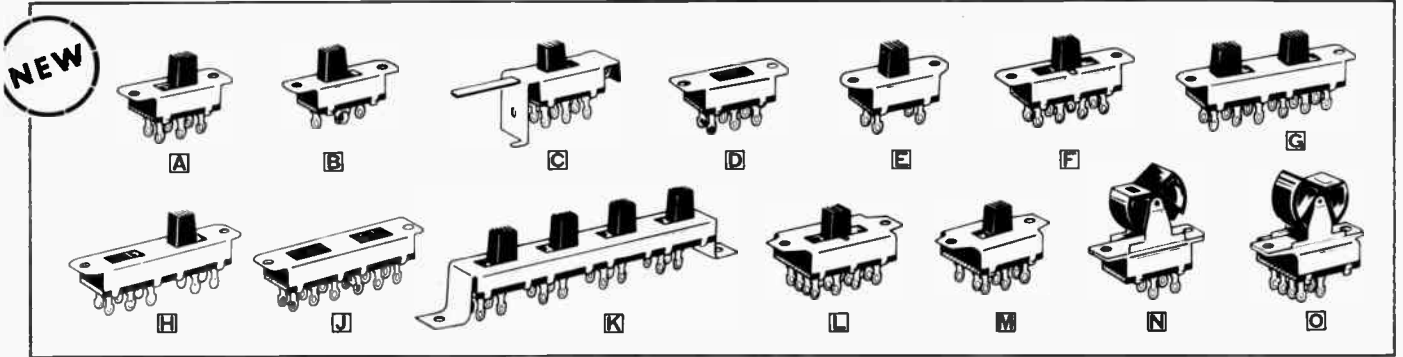
## PUSH-ON COLOR KNOBS



Kit of molded plastic knobs. Available in 10 colors. For "Feather-Lever" Switches. Series 29000, 31000. Knobs can be changed quickly—simply pull off present knob and push-on new one. For permanence, use plastic cement.

Part No.	Color	Part No.	Color	U.S.A. List Price Per Pkg. of 10
K-108	One of ea. color	K-114	Brown	\$0.80
K-109	Red	K-115	Orange	0.80
K-110	Black	K-116	Yellow	0.80
K-111	Green	K-117	Ivory	0.80
K-112	Blue	K-118	Gray	0.80
K-113	White	—	—	0.80

# "double-wipe" Slide Switches



New low-cost, precision "double-wipe" slide switches. Switches use special U-shaped, bifurcated sliders to assure continuous wiping action. Contacts rated at 0.5 amp. D.C., 3 amps. A.C., 125 volts non-inductive load. Standard solder lug terminals have a  $\frac{3}{16}$ " dia. center hole and wrap-around notch for wiring ease. Most switches furnished with black  $\frac{11}{32}$ " knob and  $.140$ " ( $\frac{9}{64}$ " dia.) mounting holes. Nos. 46206LF, 46256LF and 47227LF flush screwdriver actuated knob. All slide and rocker switches are U.L. approved unless otherwise noted. See next page for slide switch contact arrangement.

### SERIES 46000 2 AND 3 POSITION GENERAL PURPOSE TYPE

Rated 0.5 amp. D.C., 3 amps. A.C., 125 volts non-inductive load; except shorting types 46203LS and 46206LS, rated 0.5 amp., 125 volts, D.C. only. No. 46206MP 2 position momentary switch with  $\frac{1}{8}$ " plunger and extruded and tapped 6-32 mounting holes. Nos. 46206LF, 46256LF flush, screwdriver slotted knob. No. 46204MB pushbutton actuated switch with  $\frac{1}{8}$ " knob.

Part No.	Action	Schematic	Fig.	U.S.A. List Price
46202L	SPST Locking	II	A	\$ .35
46202M	SPST Momentary	I	B	.50
46203L	SPDT Locking	III	A	.40
46203LS	SPDT Locking	III	A	.45
46203M	SPDT Momentary	III	B	.55
46204L	DPST Locking	2-II	A	.45
46206L	DPDT Locking	2-III	A	.50
46206LS	DPDT Locking	2-III	A	.55
46206M	DPDT Momentary	2-III	B	.65
46206MP	DPDT Momentary	2-III	C	.75
46206LF	DPDT Locking	2-III	D	.55
46256LF	DPDT Locking	V	D	.75
46204MB*	DPST Momentary	IV	E	.70

Three position slide switches with positive center detent action. Locking in all positions. Nos. 46311LD and 46313LD have shutter type dust cover.

46311L	SPTT Locking	VI	F	.55
46311LD*	SPTT Locking	VI	F	.60
46313L	DPTT Locking	2-VI	F	.60
46313LD*	DPTT Locking	2-VI	F	.65

### SERIES 47000 TANDEM SLIDE SWITCHES

Compact, two-gang, slide switches. Series 47000L two independent knobs; Series 47000LC, single knob construction with coupling link between knobs. One knob  $\frac{11}{32}$ " other flush screwdriver operated. No. 47227LF two knobs flush with switch housing, one knob screwdriver actuated. Knobs are coupled. Shorting bar each section. Rated at 0.5 amp. D.C., 3 amps. A.C., 125 volts non-inductive load.

47202L	SPST-SPST Locking	II II	G	.65
47202LC	SPST-SPST Locking		H	.65
47203L	SPDT-SPDT Locking	III III	G	.75
47203LC	SPDT-SPDT Locking		H	.75
47204L	DPST-DPST Locking	2-II 2-II	G	.85
47204LC	DPST-DPST Locking		H	.85
47206L	DPDT-DPDT Locking	2-III 2-III	G	.90
47206LC	DPDT-DPDT Locking		H	.90
47215L	SPST-SPDT Locking	II III	G	.70
47215LC	SPST-SPDT Locking		H	.70
47217L	SPST-DPST Locking	II 2-II	G	.75
47217LC	SPST-DPST Locking		H	.75
47219L	SPST-DPDT Locking	II 2-III	G	.80
47219LC	SPST-DPDT Locking		H	.80
47221L	SPDT-DPST Locking	III 2-II	G	.80
47221LC	SPDT-DPST Locking		H	.80
47223L	SPDT-DPDT Locking	III 2-III	G	.85
47223LC	SPDT-DPDT Locking		H	.85
47225L	DPST-DPDT Locking	2-II 2-III	G	.90
47225LC	DPST-DPDT Locking		H	.90
47227LF	DPDT-DPDT Locking	V V	J	1.40

\*Not submitted for U.L. approval.

### SERIES 48000 QUADRUM SLIDE SWITCHES

Four-gang slide switches with independent knob operation.  $\frac{11}{32}$ " knob height and .153 mounting holes.

Part No.	Action	Schematic	Fig.	U.S.A. List Price
48208L*	4-SPST Locking	4-II	K	\$1.20
48212L*	4-SPDT Locking	4-III	K	1.40
48214L	4-DPST	8-II	K	1.60
48224L*	4-DPDT Locking	8-III	K	1.80

### SERIES 49000 3 POSITION GENERAL PURPOSE TYPE

Large, heavy duty 3 and 4 pole slide switches. Knob height  $\frac{1}{2}$ ". Mounting holes  $\frac{9}{64}$ ". Series 49000L, non-shortening; Series 49000LS, with shorting contacts.

49309L	3PDT Locking	3-III	L	.85
49309LS	3PDT Locking		L	.90
49329L	3PTT Locking	3-VI	L	.90
49329LS	3PTT Locking		L	.95
49312L	4PDT Locking	4-III	L	.90
49312LS	4PDT Locking		L	.95
49331L	4PTT Locking	4-VI	L	.95
49331LS	4PTT Locking		L	1.00

### SERIES 50000 2 POSITION GENERAL PURPOSE TYPE

Series 50000L and M, non-shortening; Series 50000LS and MS: with shorting contacts.

50207L	3PST Locking	3-II	M	.60
50207M	3PST Momentary	3-II	M	.75
50208L	4PST Locking	4-II	M	.65
50209L	3PDT Locking	3-III	M	.70
50209LS	3PDT Locking		M	.75
50209M	3PDT Momentary	3-III	M	.85
50209MS	3PDT Momentary		M	.90
50212L	4PDT Locking	4-III	M	.75
50212LS	4PDT Locking		M	.80

### SERIES 51000 2 POSITION ROCKER SWITCHES

Compact rocker switches offer same quality and dependability as standard slide switches. Rugged rocker bracket is precision welded to standard slide switch housing. Rocket pivots between bracket members to allow free actuation of switch mechanism. Black rocker.

51202L	SPST Locking	II	N	.75
51203L	SPDT Locking	III	N	.80
51204L	DPST Locking	2-II	N	.85
51206L	DPDT Locking	2-III	N	.90

### SERIES 52000 2 POSITION ROCKER SWITCHES

Larger than Series 51000, offering 3 and 4 poles of switching. Series 52000L, non-shortening; Series 52000LS with shorting contacts.

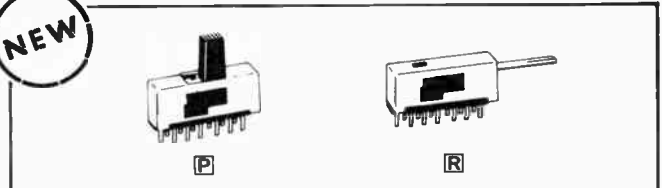
52207L	3PST Locking	3-II	O	.90
52208L	4PST Locking	4-II	O	.95
52209L	3PDT Locking	3-III	O	1.00
52209LS	3PDT Locking		O	1.05
52212L	4PDT Locking	4-III	O	1.05
52212LS	4PDT Locking		O	1.10



# SWITCHCRAFT

# Switches

**NEW**



**SERIES 53000 2 POSITION MINIATURE SLIDE SWITCHES**  
 Printed circuit terminals snap easily in P.C. boards. Nos. 53206L, 53212L have 1/2" knobs, plunger. No. 53212MP is constructed with a momentary plunger.

Part No.	Action	Schematic	Fig.	U.S.A. List Price
53206L*	DPDT Locking	2-III	P	\$ .90.
53212L*	4PDT Locking	4-III	P	1.20
53212MP*	4PDT Momentary	4-III	R	1.40

\*Not submitted for U.L. approval.

**"DW" SLIDE SWITCH CONTACT ARRANGEMENT**  
 Standard "break" before "make" (non-shorting). "Make" before "break" (shorting) switches are available in some models, refer to Series 46000, 49000, 50000 and 52000.

**BASIC SCHEMATIC CHART**

**NEW**

## CRADLE SWITCH

High quality Handset Cradle Switch holds W.E. and other standard telephone industry handsets. Sturdy housing is flexible enough to withstand shocks and vibrations. Housing includes Switchcraft's dependable "Hook Switch" (See Hook Switch listing below), with a 4C (4P.D.T.) contact arrangement. Switch has long nickel silver springs with gold alloy contacts rated at 1 amp, 100 watts max., A.C. non-inductive load. Ideal for use in critical low level audio circuits such as in communication and instrumentation applications.



Part No.	Description	U.S.A. List Price
14412G	Handset Cradle Switch. Black housing. 4-C (4P.D.T.) circuit.	\$8.00
14512G	As above, except beige.	8.00
14612G	As above, except white.	8.00

## "HOOK SWITCH" SWITCHES



Quality constructed leaf-type switch actuated by a hook (or trigger). Ideal for equipment where it is necessary to actuate a circuit by hanging an accessory on a "hook", as a headset, telephone or microphone. Fine silver contacts, rated at 3 amps, 300 watts, max., A.C. non-inductive load. Requires only 1/8" depth behind panel.

Part No.	Action	Schematic Circuit	U.S.A. List Price
14004	D.P.S.T. n.o	2-A	\$2.75
14005	D.P.S.T. n.c	2-B	2.75
14006	D.P.D.T.	2-C	3.00
14012	4 P.D.T.	4-C	3.85

## "RS-SWITCH" SWITCHES



Rugged rotary switches, available in various multiple circuits, two and three position types, locking or non-locking action. Ideal for communication, musical and test equipment applications. **Freeze cam** actuates long, leaf-type springs resulting in easy action; good wiping action of contacts.

Fine silver contacts rated at 3 amps, 300 watts max., A.C. non-inductive load. Requires only 1/8" depth behind panel, mounts in single 3/8" hole in panels up to 1/4" thick.  
 \*Add suffix letter "L" to part number to indicate locking type.

### TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit		U.S.A. List Price
		Pos. 1	Pos. 2	
2001	S.P.S.T. n.o.	1-A		\$1.40
2002	S.P.S.T. n.c.	1-B		1.40
2003	S.P.D.T.	1-C		1.65
2004	D.P.S.T. n.o.	2-A		1.65
2005	D.P.S.T. n.c.	2-B		1.65
2006	D.P.D.T.	2-C		2.15

### THREE POSITION TYPES

2034	S.P.S.T. n.g. Ea. Sec.	1-A	1-A	\$1.65
2035	S.P.S.T. n.c. Ea. Sec.	1-B	1-B	1.65
2036	S.P.D.T. Ea. Sec.	1-C	1-C	2.15

**NEW**

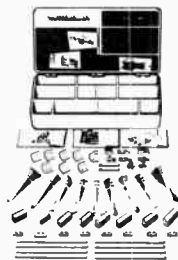
## "BOX SWITCH"



Series BX. Miniature, momentary action, pushbutton switch offers broad switching capabilities in minimum panel space. 1 1/8" square switch requires 3/16" min. to 1 3/8" max. depth behind panel. Molded plastic body protects against damaging dust and dirt and prevents bending or disfiguring of contacts caused by excessive handling. Attractive bezel frames pushbutton and acts as built-in escutcheon plate. Unique "Adjusto-Clips" provide snap-in, front of panel, mounting in panels from 3/16" to 1/2" thick in .615" sq. holes. Red, black, green, or white pushbuttons. 1/4" button stroke. Integral slide contacts of special spring tempered phosphor bronze, silver plated, rated at: 250 ma., 30 watts max., A.C. non-inductive load. Evenly spaced solder lug terminals are clearly identified for ease of wiring.

Part Nos.				Action	Schematic Circuit	U.S.A. List Price
Red Button	Black Button	Green Button	White Button			
BX-01-1	BX-02-1	BX-03-1	BX-05-1	S.P.S.T. n.o.	1-A	\$3.25
BX-01-3	BX-02-3	BX-03-3	BX-05-3	S.P.D.T.	1-C	\$3.40
BX-01-6	BX-02-6	BX-03-6	BX-05-6	D.P.D.T.	2-C	\$3.75
BX-01-10	BX-02-10	BX-03-10	BX-05-10	D.P.D.T. - D.P.S.T. n.o.	2-C & 2-A	\$4.25

## STACK SWITCH KITS



Experimental kits of component parts for assembling switch stacks. Designed to speed the assembly of engineering samples in the lab, aid maintenance men in the field and save time in general replacement. Ideal for mechanical engineers and coin machine servicing; used in relays, electronic organs, etc. Each kit consists of 136 springs in different thicknesses, over 152 phenolic spacers and insulators in various sizes, hard-rubber insulating tubing, two sets of stack assembling pins, two roller assemblies, assorted contacts, etc. **Kit No. K-119**, consisting of "Tini-Stack" components, are miniature variations of standard switch stack springs, spacers, etc. All in compartmented plastic box.

**Kit No. K-101.** Assorted 1/4" and 3/8" mtg. center contact springs and associated parts. NET \$11.10  
**Kit No. K-102.** Assorted 1/4" mtg. center contact springs and associated parts. NET 11.10  
**Kit No. K-103.** Assorted 3/8" mtg. center contact springs and associated parts. NET 11.10  
**Kit No. K-119.** "Tini-Stack". Assorted 3/16" mtg. center contact springs and associated parts. NET 11.10

# Audio Connectors



Patent No. 3,219,961

## AUDIO CONNECTORS WITH COMPLETE GROUNDING PROVISIONS!

Switchcraft's\* "Quick-Ground" connectors feature a separate "Ground-Terminal" electrically integral with the connector shell. Ground continuity between mating plugs automatically accomplished through the exclusive "Ground Contactors." Possible loss of insert screw is eliminated by new "Captive Design" Insert Screw. Socket and pin assemblies utilize "wedge-action" to insure firm, reliable positioning in connector shell. Q-G\* Series 3 and 4-contact audio connectors, offer 4 and 5-contact versatility when "Ground Terminal" is utilized. Can be used interchangeably with Cannon type XLR-3, XLR-4 and Amphenol type 91-850 Series. \*Number of insert contacts or pins must be specified to complete Part Number.

### A(\*)F CORD PLUGS



Fresh, streamlined design includes rugged, diecast zinc body, satin nickel finish, high-impact resistant thermo-setting plastic socket insert, molded latchlock, dual pressure plates, keyed neoprene relief bushing. Features "Ground Terminal" and "Ground Contactors" offers 4 and 5-contact versatility. Mates with Switchcraft A(\*)M

and other connectors with similar contact arrangements. Takes 1/4" O.D. cable. Overall length 3 3/4"; dia. 3/8".

Part No.	Insert Contacts	U.S.A. List Price
A3F	3	\$2.30
A4F	4	2.85

### A(\*)M CORD PLUGS



Has "Captive Design" insert screw, one-piece pin insert assembly easily removable for fast soldering. Polarizing groove. Die-cast zinc shell, satin nickel finish. Mates with Switchcraft A(\*)F and other connectors with similar contact arrangements. Brass, silver plated chromate dipped pins to resist tarnishing. Overall length 2 3/4"; dia. 3/8".

Part No.	Insert Pins	U.S.A. List Price
A3M	3	\$2.00
A4M	4	2.10

### B(\*)M RECEPTACLES



For panel or chassis mounting; locknut accommodates panels up to 1/4" thick. Single hole mounting, can be keyed by using "D" shaped panel hole or S-3519 mounting adapter. Pin insert features "Captive Design" insert screw and "Ground Terminal." Mates with Switchcraft A(\*)F and other connectors with similar contact arrangements. Diecast zinc shell, satin nickel finish. Dimensions: Flange 1 3/4" dia.; Barrel 1 3/8" overall; pin extensions 3/4".

Part No.	Insert Pins	U.S.A. List Price
B3M	3	\$2.90
B4M	4	3.00

### C(\*)M RECEPTACLES



Mounts on wall, panel or chassis with three .136" dia. mounting holes. High impact thermosetting plastic pin insert. "Captive Design" insert screw, "Ground Terminal." Pins, brass, silver plated, chromate dipped; resists tarnishing. Mates with Switchcraft A(\*)F and other connectors with similar contact arrangements. Dimensions: Flange 1 1/8" dia.; Barrel 1 3/8" overall; pin extensions 3/4".

Part No.	Insert Pins	U.S.A. List Price
C3M	3	\$1.40
C4M	4	1.50

### C(\*)F RECEPTACLES



For panel or chassis mounting; has socket insert, push-type latch locking device. Flange has three .136" holes for mounting screws. Mates with Switchcraft A(\*)M and other connectors with similar contact arrangements. Dimensions: Flange 1 1/8" dia.; Barrel 1 3/8" overall; pin extension 1/4".

Part No.	Insert Pins	U.S.A. List Price
C3F	3	\$3.10
C4F	4	3.20

### D(\*)F RECEPTACLES



Rectangular flange design receptacle permits close mounting on crowded panel or chassis. Features "Captive Design" loss-proof insert screw, positive latch locking device and high impact thermosetting socket insert. Mates with Switchcraft A(\*)M and other connectors with similar contact arrangements. Dimensions: Flange 1 1/8" x 1 1/8"; Barrel 1 3/4" overall; pin extension 1/4".

Part No.	Insert Contacts	U.S.A. List Price
D3F	3	\$3.20
D4F	4	3.30

### D(\*)M RECEPTACLES



Narrow, rectangular flange design receptacle for mounting on compact panel or chassis. Mates with Switchcraft A(\*)F and other connectors with similar contact arrangements. Dimensions: Flange 3/8" x 1 1/8"; Barrel 1 3/8" overall; pin extension 3/8".

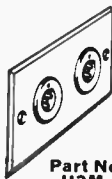
Part No.	Insert Pins	U.S.A. List Price
D3M	3	\$1.90
D4M	4	2.00



### G(\*)M TYPE WALL PLATES

Single gang wall plates with a B(\*)M male receptacle. Fits standard electrical outlet box. Wall plates available in brushed brass or brushed stainless steel. Dimensions: Wall Plate 4 1/2"H x 2 3/4"W.

Part No.	Finish	Insert Pins	U.S.A. List Price
G3M	Brass	3	\$5.00
G4M	Brass	4	4.75
G3MS	Stainless Steel	3	5.00
G4MS	Stainless Steel	4	5.25



### H(\*)M TYPE WALL PLATES

Two gang wall plates with two B(\*)M male receptacles. Mounts in standard electrical switch box (single). Wall plates available in brushed brass or brushed stainless steel. Dimensions: Wall Plate 4 1/2"H x 2 3/4"W. Six contacts.

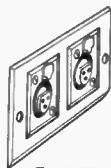
Part No.	Finish	Insert Pins	U.S.A. List Price
H3M	Brass	3 ea.	\$6.50
H4M	Brass	4 ea.	7.00
H3MS	Stainless Steel	3 ea.	7.00
H4MS	Stainless Steel	4 ea.	7.50



### J(\*)F TYPE WALL PLATES

Single gang wall plates with a D(\*)F female receptacle. Fits standard electrical outlet box. Wall plates available in brushed brass or brushed stainless steel. Dimensions: 4 1/2"H x 2 3/4"W.

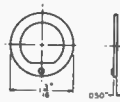
Part No.	Finish	Insert Contacts	U.S.A. List Price
J3F	Brass	3	\$4.70
J3FS	Stainless Steel	3	5.20
J4F	Brass	4	4.95
J4FS	Stainless Steel	4	5.45



### K(\*)F TYPE WALL PLATES

Two gang wall plates with two D(\*)F female receptacles. Mounts in standard electrical outlet junction box. Wall plates available in brushed brass or stainless steel. Dimensions: 4 1/2"H x 2 3/4"W.

Part No.	Finish	Insert Contacts	U.S.A. List Price
K3F	Brass	3 ea.	\$6.90
K3FS	Stainless Steel	4 ea.	7.40
K4F	Brass	3 ea.	7.40
K4FS	Stainless Steel	4 ea.	7.90



### MOUNTING ADAPTER

For use with B3M panel and chassis receptacle. Eliminates necessity of providing a flattened "D" shaped hole in panel to prevent turning of receptacle.

Switchcraft Part No. S-3519 ..... U.S.A. List Price \$0.40

### "SLIM-LINE" CONNECTORS



New, small 4-contact connectors for audio and communication equipment. Barrel insert assembly of high-impact, thermo-plastic. No. 2504M, Fig. 2504FP, Fig. B, 4-contact female receptacle, only 3/8" dia., 3/4" depth behind panel. For front panel mount. No. 2504FR, same as 2504FP, except rear panel mount. All "Slim-Line" connectors bright nickel plated.

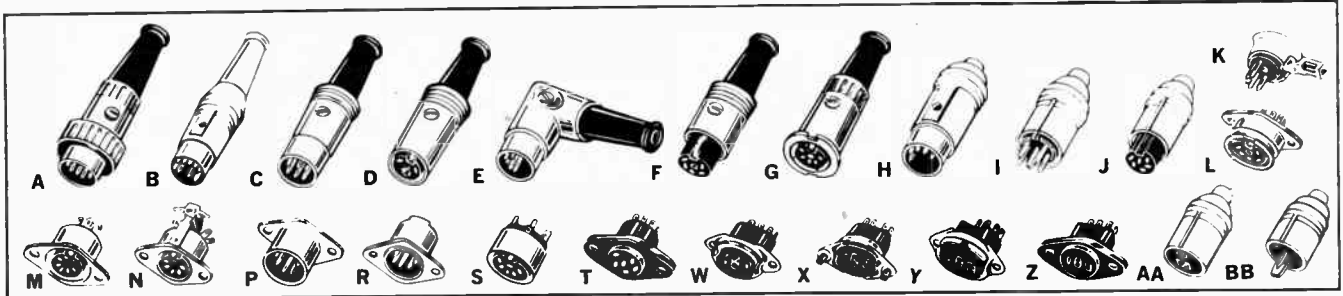
Switchcraft Part No. 2504M ..... U.S.A. List Price \$2.50  
 Switchcraft Part No. 2504FP ..... U.S.A. List Price \$2.50  
 Switchcraft Part No. 2504FR ..... U.S.A. List Price \$2.50

### AC RECEPTACLES



Highly dependable 3-pin receptacles for use in all electrical/electronic equipment. "Chassis hugging" recessed type mounting. Brass contact pins are silver plated, chromate dipped. No. AC3, ungrounded; No. AC3G, grounded, includes self-aligning feature. Pins #1 and #3 move, #2 is stationary. Receptacles mate with Belden cord No. 17258. Rating: 115V, 7 amps.

Switchcraft Part No. AC3 ..... U.S.A. List Price \$0.80  
 Switchcraft Part No. AC3G ..... U.S.A. List Price .75



Here is the most complete low-cost family of miniature audio connectors available today. Exact replacements for plugs and receptacles used on most foreign built tape recorders, radios and dictation equipment. Switchcraft/Preh 2 to 7 contact connectors include male and female plugs and receptacles with bright nickel-plated shells and plastic snap-on shells. Check these outstanding features... lock-ring coupling, silver plated contact pins for low contact resistance, contact friction coupling for low mechanical interference noise, exclusive "automatic" grounding and polarization provisions. Thirteen receptacles offer some form of internal switching. Positioning "Ground Key-Rib" or "Ground Contact"—electrically integral with the connector shell—is provided in each plug and receptacle (except those with plastic housings or shells) to ground or shield the connector shell. Designed for low level circuitry, they have unlimited use in commercial, industrial, consumer and military applications.

### PLUGS

#### STRAIGHT CORD PLUGS with 30° Lock Ring

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
03CL2M	A	2 pins, ins. sw. actuator.	1	\$1.75
05CL3M	A	3 pins at 180°	2	1.75
05CL5M	A	5 pins at 180°	5	1.95
09CL4M	A	4 pins at 210°	3	1.85
12CL5M	A	5 pins at 240°	4	1.95

#### STRAIGHT CORD PLUG with Shielded Barrel

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
05GM3M	B	3 pins at 180°. Gray	2	1.10
05GM5M	B	5 pins at 180°. Gray	5	1.30
09GM4M	B	4 pins at 210°. Gray	3	1.20
12GM5M	B	5 pins at 240°. Gray	4	1.30
12GM6M	B	6 pins at 240°.	6	1.40
12HN5M	B	5 pins at 240°. Gray	4	1.30
15GM7M	B	7 pins at 270°. Gray	7	1.50

#### STRAIGHT CORD PLUG with Extended Barrel

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
03BL2M	C	2 pins, ins. sw. actuator	1	1.65
05BL3M	C	3 pins at 180°	2	1.65
05BL5M	C	5 pins at 180°	5	1.85
09BL4M	C	4 pins at 210°	3	1.75
12BL5M	C	5 pins at 240°	4	1.85
12BL6M	C	6 pins at 240°	6	1.95

#### STRAIGHT CORD PLUG with Flush Socket Insert

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
04AL2F	D	2 cont., cl. ckt. sw. Ckt. #4	A	1.65
06AL3F	D	3 contacts at 180°	B	1.65
06AL5F	D	5 contacts at 180°	F	1.85
10AL4F	D	4 contacts at 210°	D	1.75
13AL5F	D	5 contacts at 240°	E	1.85
13AL6F	D	6 contacts at 240°	G	1.95

#### RIGHT ANGLE CORD PLUG with 8 Position Barrel

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
03DL2M	E	2 pins, ins. sw. actuator	1	2.00
05DL3M	E	3 pins at 180°	2	2.00
05DL5M	E	5 pins at 180°	5	2.20
09DL4M	E	4 pins at 210°	3	2.10
12DL5M	E	5 pins at 240°	4	2.20

#### STRAIGHT CORD PLUG with Extended Socket

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
07FL3F	F	3 contacts at 180°	B	1.60
11FL4F	F	4 contacts at 210°	D	1.70
14FL5F	F	5 contacts at 240°	E	1.80

#### STRAIGHT CORD PLUG with Lock Flange

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
06EL3F	G	3 contacts at 180°	B	1.65
06EL5F	G	5 contacts at 180°	F	1.85
10EL4F	G	4 contacts at 210°	D	1.75
13EL5F	G	5 contacts at 210°	E	1.85

#### STRAIGHT CORD PLUG with Snap-Lock Plastic Shell

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
05LK3M	H	3 pins at 180°	2	.90
05LK5M	H	5 pins at 180°	5	1.10
09LK4M	H	4 pins at 210°	3	1.00
12LK5M	H	5 pins at 240°	4	1.10

#### STRAIGHT CORD PLUG with Short Plastic Shell

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
05QK3M	I	3 pins at 180°	2	\$.60
05QK5M	I	5 pins at 180°	5	.80
09QK4M	I	4 pins at 210°	3	.70
12QK5M	I	5 pins at 240°	4	.80
12QK6M	I	6 pins at 240°	6	.90

#### STRAIGHT CORD PLUG with Ext. Socket and Shell

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
07QK3F	J	3 contacts at 180°	B	.60
07QK5F	J	5 contacts at 180°	F	.80
08QK3F	J	3 cont.—180° 2 blanks	C	.60
11QK4F	J	4 contacts at 210°	D	.70
14QK5F	J	5 contacts at 240°	E	.80
14QK6F	J	6 contacts at 240°	G	.90

#### RIGHT ANGLE CORD PLUG with Ins. Plastic Shell

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
05UK3M	K	3 pins at 180°	2	.60
05UK5M	K	5 pins at 180°	5	.80

### RECEPTACLES

#### RECEPTACLE for Locking Plugs

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
55HA2F	L	2 cont., clsd. ckt. sw. Ckt. #4	A	1.00
57HA3F	L	3 contacts at 180°	B	1.00
60HA4F	L	4 contacts at 210°	D	1.10
61HA4F	L	5 contacts at 240°	E	1.20

#### RECEPTACLE for Shielded and Extended Barrel Plugs

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
55GA2F	M	2 cont. plus clsd. ckt. sw. Ckt. #4	A	.70
57GA3F	M	3 contacts at 180°	B	.70
57B5F	M	5 contacts at 180°	F	.90
57NC5F	N	5 cont.—180°, P.C. term.	F	.80
58GB5F	M	3 cont.—180°, 2 blanks	B	.75
58NC3F	N	3 cont.—180°, 2 blanks. P.C. term.	C	.60
59GB3F	P	3 cont.—180°, clsd. ckt. sw. Ckt. #5	B	1.30
59GB5F	P	5 cont.—180°, clsd. ckt. sw. Ckt. #5	F	1.50
60GA4F	M	4 contacts at 210°	D	.80
61GA5F	M	5 contacts at 240°	E	.90
61GA6F	M	6 contacts at 240°	G	1.00
62GB7F	M	7 contacts at 270°	H	1.00

#### RECEPTACLE for Flush and Extended Socket Plugs

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
56KD2M	R	2 pins, ins. sw. actuator.	1	1.00
57KD3M	R	3 pins at 180°	2	1.00
57KD5M	R	5 pins at 180°	5	1.20
60KD4M	R	4 pins at 210°	3	1.10
61KD5M	R	5 pins at 240°	4	1.20

#### RECEPTACLE with Recessed Mounting for Extended Socket Plugs

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
57JD3M	S	3 pins at 180°	2	1.00
60JD4M	S	4 pins at 210°	3	1.10
61JD5M	S	5 pins at 240°	4	1.20

#### RECEPTACLE for Short and Right Angle Plastic Shell Plugs

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
57LA3F	T	3 contacts at 180°	C	\$.40
60LA4F	T	4 contacts at 210°	D	.50
61LA5F	T	5 contacts at 240°	E	.60
61LA6F	T	6 contacts at 240°	G	.70

### CONTROL AND SWITCHING RECEPTACLES FOR 01QK2M PLUG

Each receptacle includes an elongated center contact for positive polarization. When inserting mating plug, contact is made to terminals 1 and 2. Receptacle's built-in closed-circuit switch is not actuated. Plug may then be turned 180°, without a polarity change, and re-inserted to open switch and make contact to terminal 2. Convertible feature available in Nos. 51DA2F, 52BA2F, 52CA2F and 52DA2F.

#### RECEPTACLE with Metal Mounting Flange

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
52DA2F	W	2 cont. clsd. ckt. sw. Ckt. #2. Conv't.	J	.65
53DA2F	W	2 contacts	K	.55
54DA2F	W	2 cont. clsd. ckt. sw. Ckt. #3. Not Conv't.	L	.60

#### RECEPTACLE with Metal Rivet Mounting Flange

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
52BA2F	X	2 cont. clsd. ckt. sw. Ckt. #2. Conv't.	J	.70
53BA2F	X	2 contacts	K	.60
54BA2F	X	2 cont. clsd. ckt. sw. Ckt. #3. Not Conv't.	L	.65

#### RECEPTACLE with 1-C Circuit

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
51DA2F	Y	2 cont. Make-break. Ckt. #2. Conv't.	M	.80

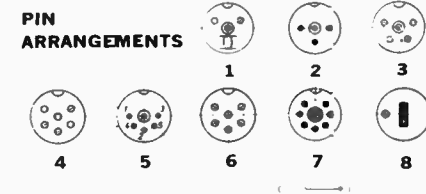
#### RECEPTACLE with Insulated Plastic Body

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
52CA2F	Z	2 cont. clsd. ckt. sw. Ckt. #2. Conv't.	J	.60
53CA2F	Z	2 contacts	K	.50
54CA2F	Z	2 cont. clsd. ckt. sw. Ckt. #3. Not Conv't.	L	.55

### CONTROL AND SWITCHING PLUGS

#### PLUGS with Snap-On Plastic Shells

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
01QK2M	AA	Male plug. 2 cont.	B	.40
02QK2F	BB	Female plug. 2 cont.	K	.50



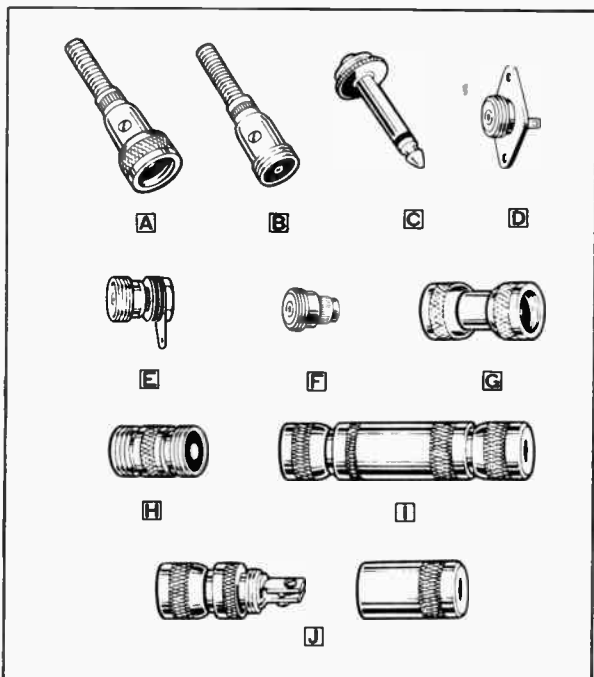
### SCHEMATIC CIRCUITS



# Connectors



## MICROPHONE CONNECTORS



Standard connectors with  $\frac{5}{8}$ "-27 threads. Designed for use with single conductor microphone cable with  $\frac{9}{32}$ " max. O.D. Coupling ring on 2501F removable for fast change of female to male type. Spring assembled into body, cable braid and spring clamped by hollow set screw. No. 44 adapts 2501F to fit standard 2-cond. phone jack. No. 2501MP mounts in  $\frac{3}{8}$ " dia. hole. \*No. 2501MPC same as 2501MP except closed circuit type. No. 2501FT, coupler, two female connectors at each end. No. 2501MT, coupler, two male connectors at each end. Nos. 2501FL, 2501FS, for attaching cable to female connector without soldering; screw terminals. No. 2501MBL, insulated male panel receptacle. No. 2501MPF, male panel receptacle for PRESS-FIT mounting. \*\*Cable clamp.

Part No.	Fig.	Description	U.S.A. List Price
2501F	A	Female Connector	\$.65
2501M	B	Male Connector	.50
44	C	Phone Plug Adapter	.55
2501MBL	D	Panel Receptacle	.60
2501MP	E	Panel Receptacle	.50
*2501MPC	E	Panel Receptacle	.60
2501MPF	F	Panel Receptacle	.50
2501FT	G	Double Female Connector	1.25
2501MT	H	Double Male Connector	1.25
**2501FL	I	Screw Term. Female Connector	2.50
2501FS	J	Screw Term. Female Connector	1.80

## "MINI-CON" MINIATURE CONNECTORS

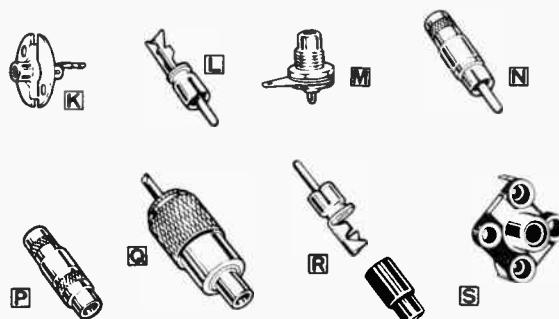
Popular "Mini-Con" microphone-type connectors used with miniaturized audio equipment, lapel microphones, musical instruments, etc. About  $\frac{1}{2}$  the size of standard microphone connectors. Accepts single conductor shielded cables up to  $\frac{3}{16}$ " O.D. Nickel plated brass bodies.



Coupling ring on 5501F removable for quick change of female to male type. Cable-braid spring clamped to body by hollow point set screw. 5501MF mounts by lock-nut front side of panel, in  $\frac{3}{16}$ " dia. hole. 5501MP mounts back side of panel in  $\frac{3}{16}$ " dia. hole. 5501MPC same as 5501MP except shorting type

Part Number	Fig.	Description	U.S.A. List Price
5501F	A	Female Cord Connector	\$0.65
5501M	B	Male Cord Connector	.50
5501MF	C	Panel Connector, Male	.50
5501MP	D	Panel Connector, Male	.40
5501MPC	D	Panel Connector, Male	.80

## PHONO JACKS AND PLUGS



Low cost 2-cond. jacks and plugs for record players, FM-AM tuners, tape recorders, test equipment, etc. 3501MC has  $\frac{3}{8}$ " O.D. shell and cable clamp. 3501FP for front panel mount in  $\frac{1}{8}$ " hole, in panels up to  $\frac{1}{8}$ " thick. 3501FR for rear panel mount in  $\frac{3}{8}$ " hole, in panels up to  $\frac{1}{8}$ " thick. 3502 has unique cable clamp with  $\frac{13}{32}$ " O.D. shielded removable handle. 3503 ext. jack has shielded removable handle,  $\frac{13}{32}$ " O.D. with cable clamp. 3508 Series, new color coded phono plugs with cable clamp and "snap-on" plastic handles in Red, Black, and White. Series 3511 "4-Leaf Clover" Jax. Molded phono Jack with dual contact surfaces for minimum shunt resistance, greater reliability. Open and closed circuit types. Mate with all Switchcraft phono plugs.

Part No.	Fig.	Description	U.S.A. List Price
3501F	K	Chassis jack	\$0.15
3501M	—	Plug, less cable clamp	.10
3501MC	L	Plug with cable clamp	.15
3501FP	M	Chassis jack	.35
3501FR	—	As above, chassis jack	.40
3502	N	Plug	.50
3503	P	Extension jack	.65
3508-1	R	Plug, Red handle	.25
3508-2	R	Plug, Black handle	.25
3508-5	R	Plug, White handle	.25
3511	S	Chassis jack, open circuit	.30
3511A	S	Chassis jack, open circuit, grounded	.30
3512	S	Chassis jack, closed circuit	.35
3512A	S	Chassis jack, closed circuit, grounded	.35

## RF-JACKS and RF-PLUGS

Standard phono jacks and plugs with nylon insulation. For use in radio frequency applications—low cost, max. insulation resistance. No. 3504M,  $\frac{3}{8}$ " O.D. No. 3505F mounts front of panel in  $\frac{3}{8}$ " hole—fits panel up to  $\frac{11}{64}$ " thick. No. 3506 adapter has coaxial connector (Amphenol 83-1SP) one end; 3505F at other end. No. 3507 has  $\frac{13}{32}$ " O.D. shielded, screw-on handle with cable clamp.

Part No.	Fig.	Description	U.S.A. List Price
3504M	L	Plug	\$0.20
3505F	M	Chassis jack	.60
3506	O	Adapter	2.25
3507	N	Plug	.80

## "SLIM-LINE" CONNECTORS



New, small 4-contact connectors for audio and communication equipment. Barrel insert assembly of high-impact, thermo-plastic. No. 2504M, Fig. A, 4-pin male plug with coupling ring. "D-Shaped" barrel assembly polarized for proper mating. Large, husky cable clamp. No. 2504FP, Fig. B, 4-contact female receptacle, only  $\frac{9}{64}$ " dia.,  $\frac{1}{4}$ " depth behind panel. For front panel mount. No. 2504FP, same as 2504FP, except rear panel mount. All "Slim-Line" connectors bright nickel plated.

Switchcraft Part No. 2504M	U.S.A. List Price	\$2.50
Switchcraft Part No. 2504FP	U.S.A. List Price	\$2.50
Switchcraft Part No. 2504FR	U.S.A. List Price	\$2.50

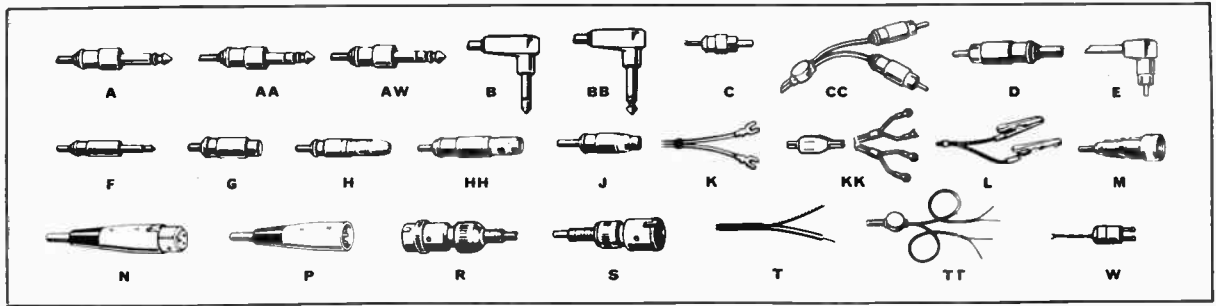


## AC RECEPTACLES

Highly dependable 3-pin receptacles for use in all electrical/electronic equipment. "Chassis hugging" recessed type mounting. Brass contact pins are silver plated, chromate dipped. No. AC3, ungrounded; No. AC3G, grounded, includes self-aligning feature. Pins #1 and #3 move, #2 is stationary. Receptacles mate with Belden cord No. 17258. Rating: 115V, 7 amps.

Switchcraft Part No. AC3	U.S.A. List Price	\$0.80
Switchcraft Part No. AC3G	U.S.A. List Price	.75

# HI-FI MOLDED CABLES



Only Switchcraft quality molded cable assemblies offer built-in cable clamps to support cable and eliminate strain—functionally designed handles to provide an easy grip. Cable is chrome grey (unless otherwise specified) with matching plastic handles. Fig. AW Phone Plug with Resistor, 3-Conductor. Fig. M Microphone Connector—Female. Fig. N Switchcraft Q-G 3-Pin Audio Connector—Female. Fig. P Switchcraft Q-G 3-Pin Audio Connector—Male. Fig. R Amphenol 3-Pin Connector—Female. Fig. S Amphenol 3-Pin Connector—Male. Fig. W Ear-Receiver Plug.

Part Number	Terminations		Length	U.S.A. List Price
	End No. 1 Fig.	End No. 2 Fig.		
<b>STRAIGHT 2-CONDUCTOR PHONE PLUG TO VARIOUS CONNECTIONS</b>				
05AC05	A	A	18"	\$1.75
05AD05	A	A	24"	1.95
05AK05	A	A	6'	2.86
05AN05	A	A	10'	3.85
05AU05	A	A	25'	5.10
05AR05	A	A	15'	4.35
05AK15	A	BB	6'	2.85
05AN15	A	BB	10'	3.85
05AR15	A	BB	15'	4.35
05AK25	A	C	6'	2.20
05AN25	A	C	10'	3.00
05AR25	A	C	15'	3.30
05AK30	A	E	6'	2.20
05AN30	A	E	10'	3.00
05AR30	A	E	15'	3.30
05AK80	A	H	6'	2.85
05AN80	A	H	10'	3.85
05AR80	A	H	15'	4.40
05AU80	A	H	25'	5.10
05AK82	A	G	6'	2.40
05AN82	A	G	10'	3.30
05AR82	A	G	15'	3.60
05AK87	A	M	6'	2.85
05AN87	A	M	10'	3.85
05AR87	A	M	15'	4.35
05AU87	A	M	25'	5.10
05AK84	A	T	6'	1.95
05AN84	A	T	10'	2.50
05AR84	A	T	15'	3.00
05CK84*	A	T	6'	1.55
05CN84*	A	T	10'	2.10
05CK85*	A	K	6'	1.65
05CN85*	A	K	10'	2.20
05CT85*	A	K	20'	2.60
05CU85*	A	K	25'	3.40
05CK86*	A	L	6'	2.10
05CN86*	A	L	10'	2.65
05CR86*	A	L	15'	2.90
05CT86*	A	L	20'	3.30

Part Number	Terminations		Length	U.S.A. List Price
	End No. 1 Fig.	End No. 2 Fig.		
<b>STRAIGHT 3-CONDUCTOR PHONE PLUG TO VARIOUS CONNECTIONS</b>				
10BD10	AA	AA	24"	\$3.60
10BF10	AA	AA	36"	4.00
10BK10	AA	AA	6'	5.30
10BN10	AA	AA	10'	6.60
10BU10	AA	AA	25'	9.65
10BK81	AA	H	6'	5.30
10BN81	AA	H	10'	6.60
10BU81	AA	H	25'	9.65

Stereo Cable Assembly for use with stereo tape recorders using 3-conductor dual microphone inputs—Norelco, Webcor, Revere, Wollensak.

10FK25	AA	CC	6'	\$4.40
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Webcor cable assemblies, 3-Cond. phone plug with internal resistor to various connections.

11AK26	AW	D	6'	\$3.60
11AN26	AW	D	10'	4.40
11CN86	AW	L	10'	3.60

2-Conductor Revere and Wollensak cables with R.A. Phone Plug to various connections.

12HK25	B	B	6'	\$2.75
12HB79	B	HH	12'	3.60
12HR79	B	HH	15'	5.50
12HU79	B	HH	25'	6.55
12HD80	B	H	24'	4.35

<b>RIGHT ANGLE 2-CONDUCTOR PHONE PLUG TO VARIOUS CONNECTIONS</b>				
15AK15	BB	BB	6'	\$2.85
15AN15	BB	BB	10'	3.85

\*Parallel unshielded cable.

‡Hearing Aid Tinsel Cord. All other cables shielded.

Part Number	Terminations		Length	U.S.A. List Price
	End No. 1 Fig.	End No. 2 Fig.		
15AU15	BB	BB	25'	\$5.10
15AK25	BB	C	6'	2.20
15AN25	BB	C	10'	3.00
15AR25	BB	C	15'	3.30
15AK30	BB	E	6'	2.20
15AN30	BB	E	10'	3.00
15AK80	BB	H	6'	2.85
15AN80	BB	H	10'	3.85
15AU80	BB	H	25'	5.10
15AK82	BB	G	6'	2.40
15AN82	BB	G	10'	3.30
15AK87	BB	R	6'	2.85
15AN87	BB	R	10'	3.85
15AN84	BB	T	10'	2.50
15AR84	BB	T	15'	3.00
15CN84*	BB	T	10'	2.10
15CK85*	BB	K	6'	1.65
15CN85*	BB	K	10'	2.20
15CK86*	BB	L	6'	2.10
15CN86*	BB	L	10'	2.65

<b>STRAIGHT PHONO PLUG TO VARIOUS CONNECTIONS</b>				
25AC25	C	C	18"	\$1.15
25AF25	C	C	36"	1.30
25AH25	C	C	4'	1.50
25AK25	C	C	6'	1.65
25AN25	C	C	10'	2.20
25AR25	C	C	15'	2.75
25AT25	C	C	20'	3.30
25AU25	C	C	25'	3.85
25AC30	C	E	18"	1.15
25AF30	C	E	36"	1.30
25AK30	C	E	6'	1.65
25AN30	C	E	10'	2.20
25AU30	C	E	25'	3.85
25AK80	C	H	6'	2.20
25AN80	C	H	10'	3.00
25AR80	C	H	15'	3.60
25AC82	C	G	18"	1.30
25AF82	C	G	36"	1.50
25AH82	C	G	4'	1.75
25AK82	C	G	6'	1.95
25AN82	C	G	10'	2.20
25AR82	C	G	15'	2.75
25AT82	C	G	20'	3.30
25AU82	C	G	25'	3.85
25AC84	C	T	18"	.90
25AF84	C	T	36"	1.05
25AH84	C	T	4'	1.10
25AK84	C	T	6'	1.25
25AN84	C	T	10'	1.80
25AR84	C	T	15'	2.50
25AT84	C	T	20'	3.00
25AU84	C	T	25'	3.60
25CF84*	C	T	36"	.85
25CK84*	C	T	6'	1.00
25CN84*	C	T	10'	1.55
25CK85*	C	K	6'	1.10
25CN85*	C	K	10'	1.65
25CT85*	C	K	20'	2.40
25CK86*	C	L	6'	1.95
25CN86*	C	L	10'	2.50
25CR86*	C	L	15'	2.60
25CT86*	C	L	25'	2.85
25AK87	C	M	6'	2.70
25AN87	C	M	10'	3.70
25AU87	C	M	25'	5.00

Special Stereo Cables. Two shielded insulated cables inside a common grey plastic jacket. Provides two isolated channels for all stereo applications. Phono plugs color coded.

25FF25	CC	CC	36"	\$3.60
25FK25	CC	CC	6'	4.15
25FN25	CC	CC	10'	4.95
25FF84	CC	TT	36"	3.20
25FK84	CC	TT	6'	3.60
25FN84	CC	TT	10'	4.15

<b>STRAIGHT PHONO PLUG (LONG HANDLE) TO VARIOUS CONNECTIONS</b>				
26AF26	D	D	36"	\$1.45
26AK26	D	D	6'	1.75

Part Number	Terminations		Length	U.S.A. List Price
	End No. 1 Fig.	End No. 2 Fig.		
26AN26	D	D	10'	\$2.30
26AR26	D	D	15'	2.85
26AK05	D	A	6'	2.40
26AN05	D	A	10'	3.00
26AF82	D	G	36"	1.65
26AK82	D	G	6'	2.15
26AN82	D	G	10'	2.50
26AR82	D	G	15'	3.00
26AF84	D	T	36"	1.20
26AK84	D	T	6'	1.45
26AN84	D	T	10'	2.00

<b>RIGHT ANGLE PHONO PLUG TO VARIOUS CONNECTIONS</b>				
30AC30	E	E	18"	\$1.15
30AF30	E	E	36"	1.30
30AH30	E	E	4'	1.50
30AK30	E	E	6'	1.65
30AN30	E	E	10'	2.20
30AR30	E	E	15'	2.75
30AT30	E	E	20'	3.30
30AU30	E	E	25'	3.85
30AK80	E	H	6'	2.20
30AN80	E	H	10'	3.00
30AC82	E	G	18"	1.40
30AF82	E	G	36"	1.50
30AK82	E	G	6'	1.95
30AN82	E	G	10'	2.20
30AR82	E	G	15'	2.75
30AT82	E	G	20'	3.30
30AU82	E	G	25'	3.85
30AF84	E	T	36"	1.05
30AK84	E	T	6'	1.25
30AN84	E	T	10'	1.80
30CF84*	E	T	36"	.85
30CK84*	E	K	6'	1.00
30CN85*	E	K	10'	1.65
30CK86*	E	L	6'	1.95
30CN86*	E	L	10'	2.50

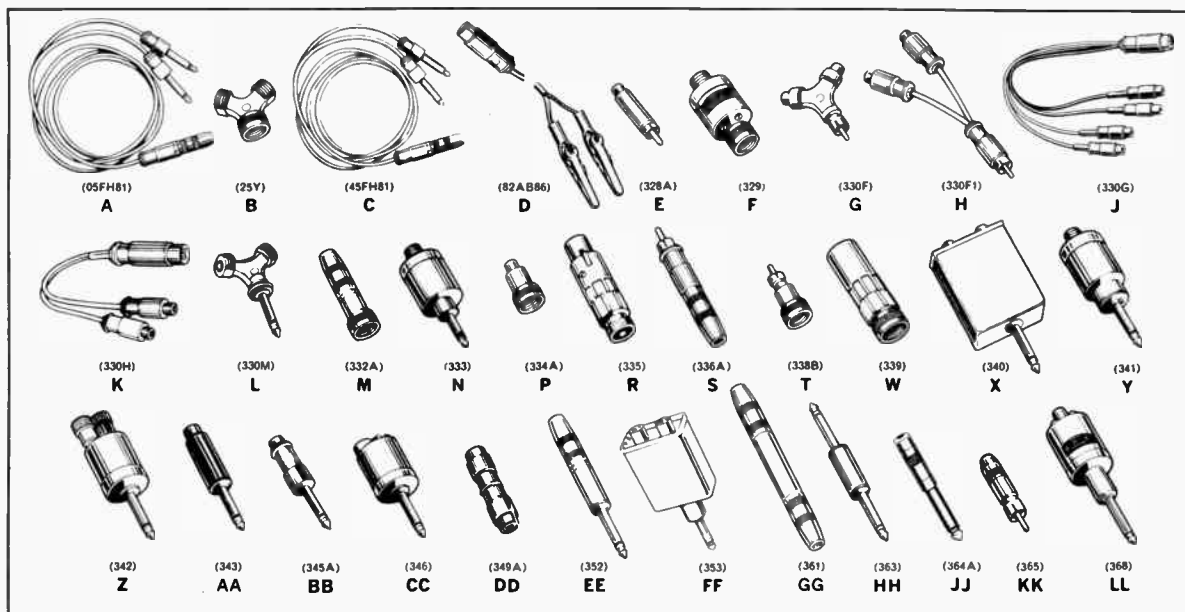
<b>STRAIGHT TINI-PLUG TO VARIOUS CON.</b>				
40DK05	F	A	6'	\$3.00
40DF25	F	C	36"	2.30
40DK25	F	C	6'	2.75
40DK40	F	F	6'	2.10
40DK80	F	H	6'	3.00
40DF82	F	G	6'	1.90
40DK82	F	G	6'	2.75
40DN82	F	G	10'	2.75
40DK83	F	J	6'	3.00
40DN83	F	J	10'	3.60
40DF84	F	T	36"	1.95
40DK84	F	T	6'	2.20
40DN84	F	T	10'	2.75
40DN86	F	W	10'	2.75
41EF75‡	F	W	36"	2.20
41EH75‡	F	W	4'	2.50
45AN25	F	C	10'	3.00
45AR25	F	C	15'	3.60
45AU25	F	C	25'	4.70

<b>EXTENSION JACK CORDS</b>				
82AC82	G	G	18"	\$1.65
82AF82	G	G	36"	1.80
82AK82	G	G	6'	2.15
83DK05	J	A	6'	3.00

<b>CORDS w/ SPADE LUGS, ALLIGATORCLIPS</b>				
85CN85*	K	K	10'	\$1.00
85CT85*	K	K	20'	1.65
85CU85*	K	K	25'	2.00
86CN86*	L	L	10'	1.95
86CU86*	L	L	25'	2.80

<b>MICROPHONE CONNECTOR TO VARIOUS CONNECTIONS</b>				
87AF84	M	T	36"	\$1.65
87AK84	M	T	6'	2.00
87AN84	M	T	10'	2.50
87AU84	M	T	25'	4.70
87AF87	M	M	36"	2.20
87AK87	M	M	6'	2.75
87AP87	M	M	12'	3.85
87AU87	M	M	25'	5.50
91BU92	N	P	25'	13.75
93BU94	R	S	25'	10.75

# Adapters

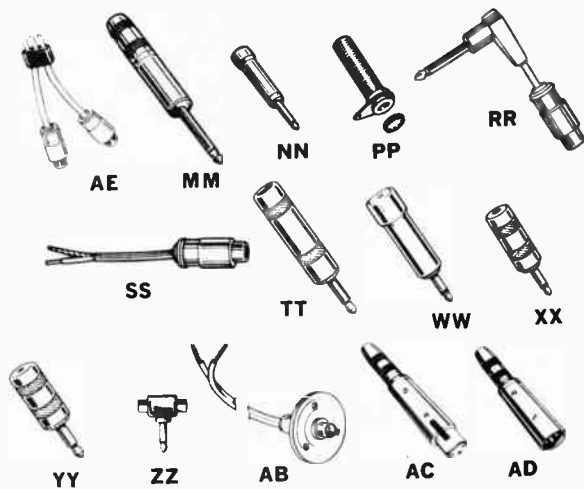


A versatile and complete line of adapters for interconnecting components that do not have mating jacks and/or plugs. For hi-fi stereo, phonographs, tuners, tape recorders, amplifiers, P.A. systems, etc. Positive mating contacts of high quality material prevent resistive line-losses. Nickel plated finish for long life. No. 328A, audio equalizer, converts ceramic phono cartridge to magnetic input. No. 329 Volume Control Adapter for use in high impedance circuits. No. 330G adapts European-type 5-contact sockets to standard Switchcraft phono plugs, color coded. Fits Norelco, Korting, Grundig, Sony, Elber tape recorders; Grundig radios. No. 330H, adapts 3-pin European type plug to standard Switchcraft phono plugs. No. 335 has unsoldered internal wire at one end to permit user to convert terminal needed. No. 341, silent plug adapter, includes a circuit closing device to eliminate amplifier "squeals" when disconnecting. No. 352, converts stereo headphones and/or microphones to a monaural input. No. 353 adapts stereo recorder for two headphones. Nos. 332A, 334A, 338B can be used as male or female connector; coupling ring screws back, converting to male mike connector.

Part No.	Fig.	Description	U.S.A. List Price
05FH81	A	Stereo Headphone Adapter Cable. Two std. 2-cond. phono plugs wired to a 3-cond. phone jack. Shielded, 4 ft. stereo cable.	\$4.80
25Y	B	Y-Adapter, two male mike connectors in parallel to one female mike connector.	2.10
45FH81	C	Stereo Headphone Adapter Cable. Similar to 05FH81, except two 2-cond. "Tini-Plugs" wired to a 3-cond. std. 1/4" phone jack. Shielded.	4.30
82AB86	D	Speaker Adapter Cable. Two alligator clips to a molded phono extension jack. 12" cable. Shielded.	1.20
328A	E	Audio Equalizer. Phone jack input to phone plug output.	3.30
329	F	Volume Control, female mike connector to male mike connector.	6.95
330F	G	Y-Adapter. Two phono jacks in parallel to a phono plug. Shielded.	1.95
330F1	H	Flexible Y-Adapter, phono plug in parallel to 2 phono jacks. Shielded 4" cable.	2.25
330F2	—	Same as above, but phono plug and phono jack to a phono plug.	2.25
330F3	—	Same as above, but 2 phono plugs to 1 phono plug.	2.25
330G	J	Stereo Adapter Cable. 5-pin European-type plug to four phono jacks. Shielded stereo cables, each 1 ft.	6.00
330H	K	Flexible Y-Adapter. 3-pin European-type plug to 2 phono jacks. Shielded 5" cable.	3.75
330M	L	Y-Adapter, two male mike connectors in parallel to a 2-cond. phone plug.	2.25
330PJ	—	Y-Adapter, as above, except two phono jacks in parallel to a 2-cond. phone plug. Shielded.	2.25
332A	M	Phone jack input to female mike connector output.	1.95
333	N	Phone jack input to special 2-cond. plug for American Gelooso recorders.	2.60
334A	P	Phono jack input to female mike connector output. Shielded.	1.60
334B	—	Same as above, but phono jack input to male mike connector output. Shielded.	1.45
335	R	2-cond. Input has Switchcraft 2501MP to output connector Cannon XL-3-11.	3.50

Part No.	Fig.	Description	U.S.A. List Price
336A	S	2-cond. phone jack input to phono plug output. Shielded.	\$1.95
336B	—	Same as above, but 2-cond. phone jack input to phono jack output.	1.95
338A	—	Phono plug input to male mike connector output. Shielded. Similar to 338B.	1.25
338B	T	Phono plug input to female mike connector output. Shielded.	1.40
339	W	Same as 335, but output connector Switchcraft 2501F to input connector Cannon XL-3-12.	3.50
340	X	Two 2-cond. phone jack inputs in parallel to a 2-cond. phone plug output. Shielded.	4.00
341	Y	Silent-Plug Adapter. 2-cond. phone jack input to 2-cond. phone plug output.	3.30
342	Z	Dual purpose binding post/banana jack input to 2-cond. phone plug output.	2.95
343	AA	Phono jack input to phone plug output. Built-in limiting resistor for Webcor tape recorders.	1.95
345A	BB	Phone plug output to phono jack input.	1.45
346	CC	Tip jack input to 2-cond. phone plug output.	2.50
349A	DD	Phono plug coupler, mates with phono plug at each end. Shielded.	1.25
352	EE	Stereo to monaural adapter. 3-cond. phone jack to 2-cond. phone plug output. Shielded.	2.25
353	FF	Stereo headphone adapter. 3-circuit plug wired to two 3-circuit jacks. Housed in shielded, metal case, tan finish.	4.75
361	GG	Coupler. 2-cond. phone jack at each end. Shielded.	2.50
362	—	Same as above, but 3-cond. phone jack at each end.	3.00
363	HH	Coupler. 2-cond. phone plug at each end. Shielded.	2.25
364A	JJ	2-cond. "Tini-Jax" 9/64" dia. sleeve, to 2-cond. 1/4" O.D. phone plug. Shielded.	1.75
365	KK	2-cond. "Tini-Jax" (as above) input to phono jack output. Shielded.	1.75
368	LL	Input volume control. Phono jack input to a 2-cond. phone plug output. Shielded.	4.95

# Adapters and Cable Assemblies

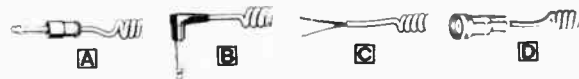


Versatile adapters for interconnecting components and cables that do not have mating jacks and/or plugs. Positive mating contacts prevent resistive line-losses. Nos. 369, 374, 375, 376, 377, have shielded, nickel plated brass handles. No. 378, "Tini-Tee", provides dual output jacks for two separate earphones. Allows two to listen at once from a single transistorized radio, tape recorder, etc. Part No. 330B, Special Stereo Adapter, adapts Lear Jet Model HSA-900 tape recorder to RCA, or other stereo units with a three contact in-line socket assembly. Two single conductor color coded phono jack outputs to one 3 pin in-line input. Completely shielded. 4" long.

Part No.	Fig.	Description	U.S.A. List Price
330B	AE	Two single conductor, color coded phono jack outputs to one 3 pin in-line input. Completely shielded. 4" long.	\$2.50
369	MM	2-cond. Revere/Wollensak phone jack input to a standard 2-cond. phone plug output. Shielded.	\$2.25
370	NN	Phono jack input to a 2-cond. "Tini-Plug" (9/64" dia. finger) output. Shielded.	1.40
371	PP	Thick panel adapter for 3501FP phono jack. Permits mounting of jack in panels up to 1/4" thick.	1.25
372	RR	2-cond. molded right angle phone plug to a molded phono jack. 2" shielded cable.	1.95
373	SS	2-cond. molded phono jack to 3" shielded cable, stripped and tinned leads.	.90
374	TT	Phone jack input to a 2-cond. "Tini-Plug" (9/64" dia. finger) output.	1.95
375	WW	Phono jack input to a 2-cond. "Micro-Plug" (.097 dia. finger) output.	1.75
376	XX	"Tini-Jax" input to a 2-cond. "Micro-Plug" (.097" dia. finger) output.	1.75
377	YY	"Micro-Jax" input to a 2-cond. "Tini-Plug" (9/64" dia. finger) output.	1.75
378	ZZ	"Tini-Tee" Adapter. 2-cond. "Tini-Plug" input to two 2-cond. "Tini-Jax" outputs.	2.40
379	AB	Speaker enclosure phono jack. Molded flanged phono jack to stripped and tinned leads. 24" cable.	1.50
381	—	Adapter Cable. 11' 2-cond. shielded cable from 3-cond. right angle phone plug to "Y" junction. Two single cond. shielded 1' cables from "Y" junction to two 2-cond. phone plugs.	7.00
383	AC	3 Contact Switchcraft A3F female microphone input to 2-cond. extension phone jack output.	4.75
384	AD	Three Pin A3M male microphone input to 2-cond. extension phone jack output.	4.25

**NEW**

## MOLDED COILED CORD ASSEMBLIES



Shielded, coiled cord assemblies with molded terminations and/or stripped and tinned ends. Various extended lengths from 1 ft. to 20 ft. extended lengths. Single conductor shielded cable with black neoprene jacket. Coiled cord flexes to maximum length and retracts positively each time it is used.

Part No.	Terminations		Extended Length	U.S.A. List Price
	End No. 1	End No. 2		
05LH84	A	C	4 ft.	\$ 3.60
15LH84	B	C	4 ft.	3.60
87LH84	D	C	4 ft.	3.70
05LP05	A	A	12 ft.	8.25
05LP15	A	B	12 ft.	8.25
05LP87	A	D	12 ft.	8.40
05LT05	A	A	20 ft.	11.50
05LT15	A	B	20 ft.	11.55
05LT87	A	D	20 ft.	11.70

## MOLDED HEADPHONE CABLES



Replace worn-out headphone cords with new molded cords from Switchcraft. Part Nos. 05NJ88, 05NN88, 05KF88, 05KJ88, 13NJ88 and 13NN88 are direct replacements for cords used on Brush BA-200, BA-205, BA-206 headphones; RCA MI-38107B headphone. Standard Switchcraft straight or right angle 2-cond. phone plugs to color coded eyelet lugs. Part No. 50MJ74 ideal for earphones used on dictation and office equipment. Part No. 10FJ84 is a direct replacement for cords used on JENSEN HS-10, KNIGHT KN-840, SHARPE HA-8 and HA-10 Stereo Headphones.

Part No.	Fig.	Description	U.S.A. List Price
05KF88	A	Molded Headphone Cord. 2', 2-cond. cable from phone plug to "Y" junction. 1' cable from "Y" junction to eyelet lugs. Parallel wired.	\$3.30
05KJ88	A	Same as above, except 4 ft. cable from phone plug to "Y" junction.	3.50
05NJ88	B	Straight 2-cond. phone plug to eyelet lugs. 5' (extended) coiled cord.	4.10
05NN88	B	Same as above except 10' (extended).	5.10
10FJ84	C	Molded Stereo Headphone Cord. 4' cable from phone plug to "molded band". 1' cable from band to stripped, tinned leads.	3.25
13NJ88	E	Right angle 2-cond. phone plug to eyelet lugs. 5' (extended) coiled cord.	4.10
13NN88	E	As above, but 10' (extended).	5.10
50MJ74	F	Right angle "Tini-Plug" 2-cond. output, (9/64" dia. finger) to 2-cond. polarized ear receiver plug. Tinsel coiled cord extends to 5'.	3.60
3843	D	Personal Earphone Kit. Consists of dynamic type earphone, earpiece and 5' (extended) coiled cord. Cord has 2-cond. "Tini-Plug" one end to 2-cond. polarized ear receiver other end.	9.35

## STEREO EXTENSION CABLES



Two shielded insulated cables (tandem) inside a common grey plastic jacket; provides 2 isolated channels. Molded phono plugs, jacks are color coded for easy channel identification. Ideal in all stereo applications such as tape recorders, record players, etc.

Part No.	Description	U.S.A. List Price
25FF82	2 straight molded phono plugs wired to 2 molded phono jacks. 3' grey stereo cable.	\$3.25
25FK82	Same as 25FF82 except 6' cable.	\$3.75
25FN82	Same as 25FF82 except 10' cable.	\$4.50

## STEREO ADAPTER CABLE



Two standard, color coded, molded phono plugs wired to a 3-cond. molded extension phone jack. Ideal for adapting 3 circuit stereo phone plugs, as used on microphones and headsets, to 2 separate phono jack inputs. Completely shielded 4' grey stereo cable.

Switchcraft Part No. 25FH31 ..... U.S.A. List Price \$3.90

# TRIMM / INC.

A SELECTED LISTING FROM OVER 2500 TRIMM-MANUFACTURED COMPONENTS.

## PLUGS AND JACKS: General Purpose Audio, Miniature, Adapters

### "511" and "513" STANDARD PHONE PLUGS

General purpose. To fit standard 0.250" I.D. jacks. "511" two-conductor plugs have screw terminals and ribbed bakelite or knurled metal shell. The "513" three-conductor plugs use an identical shell, but the terminals are solder lug type only. All metal parts are bright plated brass. Stay cord anchorage is provided.

**Two-Circuit Type**

- 511 Black plastic shell **\$.77**
- 511-1 Red plastic shell **.77**
- 511-2 Metal one piece shell **1.32**
- 511-3 Metal two piece shell (With cable clamp) **1.82**
- 511-4 Metal stubby shell **.99**
- 511-5 Metal stubby. Has long tip to sleeve insulator which leaves "ring" spring open when inserted in 3-ckt. jack.

**Three-Circuit Type**

- 513 Black plastic shell **\$1.16**
- 513-1 Red plastic shell **1.16**
- 513-2 Metal, one piece shell **1.65**
- 513-3 Metal, two piece shell (With cable clamp) **2.15**
- 513-4 Metal stubby shell **.43**
- 515 Adapter. Couples Amphenol mike plug to standard jacks. **.55**



### "512" FLAT PLUG

Compact, non protruding. Adapts phone pin tips, or any two conductors, to a two-circuit plug. One piece molded phenolic plastic. Fits standard jacks 0.250" I.D.

- 512 Black **\$.99**
- 512 Red **.99**
- 512-2 With headset hanger **\$1.49**

### "514" MIN-A-PLUG

Small size for use with shielded microphone cable. Two conductor types, plastic or metal shell. Shield connection clamp.

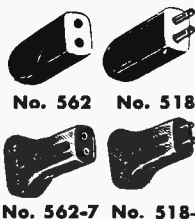
**TWO CONDUCTOR TYPES (0.250" dia.) SOLDER TERMINALS**

- |                   |              |                        |               |
|-------------------|--------------|------------------------|---------------|
|                   | List         |                        | List          |
| 514 Black plastic | <b>\$.77</b> | 514-2 Shielded         | <b>\$1.10</b> |
| 514-1 Red plastic | <b>.77</b>   | 514-4 Shielded, stubby | <b>.99</b>    |

### "518" PLUG — "562" JACK

Two circuit miniature disconnect plug and jack. Unshielded. Parallel pin plug locks into jack springs. No. 518 and 562 acetate shells are cemented together. No. 518-7 and 562-7 bakelite shells are held together with screws. No. 518-8 plug set is polarized (one male and one female terminal per plug).

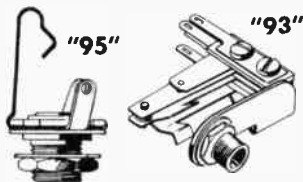
- 518 Plug **\$.66**
- 562 Jack **.88**
- 518-7 Plug **\$.88**
- 562-7 Jack **1.10**
- 518-8 **\$1.10**



### "525" CONNECTOR

Adapts headset cords, or any two wires, to single contact microphone plugs—such as Amphenol 75MC series. Same shell as No. 511.

- 525 Black Plastic **\$1.43**
- 525-1 Red Plastic **1.43**
- 525-2 Shielded one piece shell **1.87**
- 525-3 Shielded, two piece shell (With cable clamp) **2.48**
- 525-4 Shielded stubby shell **1.82**



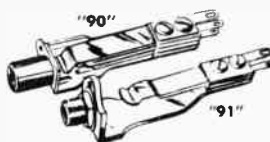
### "93" and "95" JACKS

Threaded bushing 3/8" in diameter mounts jack to panel or chassis. Ideal for limited space and depth. The "95" is only 1/8" deep behind panel. The "93" is offset to one side. Nickel silver springs, tinned terminals. Jack circuits described below.

- |                                                      |              |       |              |
|------------------------------------------------------|--------------|-------|--------------|
| 95-01 Open ckt., two conductor                       | <b>\$.40</b> | 93-01 | <b>\$.65</b> |
| 95-02 Closed ckt., two conductor                     | <b>.48</b>   | 93-02 | <b>.80</b>   |
| 95-25 Open ckt., three conductor (0.250" dia. plugs) | <b>.55</b>   | 93-06 | <b>1.00</b>  |
| 95-50 Open ckt., three conductor (0.206" dia. plugs) | <b>.65</b>   | 93-07 | <b>1.10</b>  |
|                                                      |              | 93-25 | <b>.85</b>   |
|                                                      |              | 93-26 | <b>1.10</b>  |
|                                                      |              | 93-27 | <b>1.40</b>  |

### "90" and "91" JACKS

Commonly known as the telephone jack. The "90" series nickel plated bushing fits a 3/4" dia. mounting hole and the jack is held to the panel with a mounting screw. The "91" series has a 3/8" threaded bushing for mounting and has the standard mounting screw hole in addition. Screws or nuts and washers furnished. Cadmium plated frame, nickel silver springs and tinned terminals.



- |          |               |          |               |        |              |        |               |
|----------|---------------|----------|---------------|--------|--------------|--------|---------------|
| 90SN-01  | <b>\$1.05</b> | 90SN-09B | <b>\$1.50</b> | 91-01  | <b>\$.75</b> | 91-09B | <b>\$1.20</b> |
| 90SN-02B | <b>1.20</b>   | 90SN-14B | <b>2.75</b>   | 91-02B | <b>.95</b>   | 91-25  | <b>1.00</b>   |
| 90SN-06B | <b>1.35</b>   | 90SN-25  | <b>1.20</b>   | 91-05B | <b>1.05</b>  | 91-26B | <b>1.20</b>   |
| 90SN-07B | <b>1.50</b>   | 90SN-26B | <b>1.60</b>   | 91-06B | <b>1.10</b>  | 91-50  | <b>1.20</b>   |
| 90SN-08B | <b>1.45</b>   | 90SN-27B | <b>1.90</b>   | 91-07B | <b>1.20</b>  | 91-51B | <b>1.40</b>   |

### "92" JACKS

Twin jacks on a single frame used in toll and carrier frequency systems. 92-1009B provides unbalanced normal through circuitry while 92-1030B provides balanced normal through circuitry between jacks. A single plug inserted into either side of the jack opens circuit up to jack for testing up to that point. Brass bushing as in 92-1009B, or nickel plated as in 92N-1009B. G indicates gold contacts.



- |           |  |            |               |
|-----------|--|------------|---------------|
| 92-1009B  |  | 92N-1009B  | <b>Net</b>    |
| 92-1009BG |  | 92N-1009BG | <b>\$2.00</b> |
| 92-1030B  |  | 92N-1030B  | <b>2.20</b>   |
| 92-1030BG |  | 92N-1030BG | <b>2.80</b>   |
| 92-25     |  |            | <b>3.20</b>   |
|           |  |            | <b>2.00</b>   |

### "94" MINIATURE JACKS

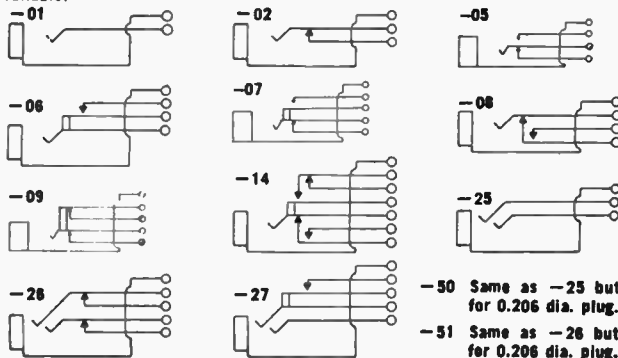
Uses one half the space of conventional jacks. Fits new 96-700 miniature jack mounting strips. Same high reliability. Cadmium plated steel frame. Welded gold crossbar contacts on nickel silver springs.



- |         |               |         |               |         |               |
|---------|---------------|---------|---------------|---------|---------------|
| 94S-01  | <b>\$1.05</b> | 94S-08B | <b>\$1.45</b> | 94S-26B | <b>\$1.60</b> |
| 94S-02B | <b>1.20</b>   | 94S-25  | <b>1.20</b>   |         |               |

### JACK CIRCUIT DIAGRAMS

Standardized coding: The jack series number PLUS a DASH NUMBER to indicate the spring arrangement. This is a limited listing of the many circuits available.





# TRIMM INC.

A SELECTED LISTING FROM OVER 2500 TRIMM-MANUFACTURED COMPONENTS.

## PATCH CORDS, JACK PANELS AND TELEPHONE PLUGS: Audio, Broadcast, Miniature

TRIMM patch cords feature telephone type plugs on cords built to withstand hard use. Two or more conductors of bronze tinsel are covered with numerous layers of insulation and waterproofing. The cords are color coded, shielded (if desired) then covered with a final braid of nylon to assure long service. The nylon is standard black unless a color is specified. Available at a slight extra charge are: Blue (BL), Brown (BR), Green (GR), Red (RD), Slate Gray (GY) and White (WH).



### "840" PATCH CORDS

Broadcast type "506" twin plugs at both ends. Conductors are wired to tip and the shield (when used) is connected to the grounded shaft. Commonly supplied with shield attached at one end only. Available without shield (W in code number), or with shield attached at both ends (X in code number). PP indicates the cord has a plug at both ends.

Standard Shielding		"X" Shielding	
840-05-PP \$10.90	840-4-PP \$11.80	840-05X-PP \$10.90	840-4X-PP \$11.80
840-1-PP 11.00	840-5-PP 12.10	840-1X-PP 11.00	840-5X-PP 12.10
840-2-PP 11.25	840-6-PP 12.40	840-2X-PP 11.25	840-6X-PP 12.40
840-3-PP 11.50	840-10-PP 13.80	840-3X-PP 11.50	840-10X-PP 13.80
Without Shield			
840-2W-PP \$11.25		840-3W-PP \$11.50	

### "841" and "851" SPACESAVERS

841 patch cords use two No. 517 triple circuit plugs of special broadcast design. The unique plug tip contour reduces "clicks" in service. Conductors are wired to tip and ring. Shield (if used) is wired to plug shaft. 851 patch cords use two No. 516 triple circuit plugs with standard ball tip construction. Both types commonly have shield connected at one end only.



841-1-PP \$9.80	841-6-PP \$12.00	851-4-PP \$10.70
841-2-PP 10.20	841-10-PP 13.60	851-5-PP 11.20
841-3-PP 10.60	851-01-PP 9.50	851-6-PP 11.70
841-4-PP 11.00	851-2-PP 9.90	851-10-PP 13.30
841-5-PP 11.50	851-3-PP 10.30	

"X" Shielding	
841-1X-PP \$9.50	851-1X-PP \$9.80
841-2X-PP 9.80	851-2X-PP 10.20
Without Shield	
851-2W-PP \$9.90	
851-3W-PP 10.30	

### "866" - "867" MINIATURE PATCH CORDS

Two conductor (866) and three conductor (867) patch cords using new miniature "536" and "537" plugs. Have same high quality construction details and optional features as standard patch cords. Same coding. Contact your distributor for miniature line prices.

866-1-PP	867-1-PP	866-5-PP	867-5-PP
866-2-PP	867-2-PP	866-10-PP	867-10-PP

## TELEPHONE TYPE PLUGS

### "516" and "517" PLUGS



#### Net Prices

516 Red \$1.50	517 Red \$1.70	516-10 Red, marked PJ-051 \$1.60
516-1 Black 1.50	517 Black 1.70	516-11 Black, marked PJ-051B 1.60

### "506" TWIN 3-CKT. PLUG

A broadcast standard now widely used in instrumentation and missile control. Supplied on 840 patch cords. Electrically common plug shafts spaced 5/8" C to C. Self aligning. Bakelite shell notched on one edge to indicate polarization. Interchangeable with WE 241 and MIL PJ-241.



506 Black	\$2.60	Net
506-1 Red	\$2.60	Net

### "96" JACK PANELS

5/8" thick bakelite panel with end brackets, side reinforcing strips and designation strips. Complete with jacks mounted and choice of jack circuits. All jacks insulated from each other. Ordinarily supplied with jack ground lug offset (to reduce wiring time). Straight ground lugs are available to duplicate W.E. jacks. Types 96-71 through 96-77 are three circuit types for No. 516 or 517 plugs. Types 96-01 through 96-07 usually used with No. 506 twin plugs although other standard two-circuit plugs will fit.



Code No.	Rows	No. of Jacks	Jack Type	Jack Mounting Strip Type	Width	List
96-01	1	24	90LN-02B	96-21	1 3/4"	\$45.50
96-02	2	48	90LN-02B	96-22	2 1/4"	76.00
96-03	2	48	90LN-02B	96-23	3 1/2"	80.00
96-04	2	48	90LN-02B	96-24	3 1/2"	82.00
96-06	1	26	90LN-02B	96-26	1 3/4"	50.00
96-07	2	52	90LN-02B	96-27	1 3/4"	86.00
96-71	1	24	90LN-26B	96-21	1 3/4"	56.50
96-72	2	48	90LN-26B	96-22	2 1/4"	96.00
96-74	2	48	90LN-26B	96-24	3 1/2"	104.00
96-76	1	26	90LN-26B	96-26	1 3/4"	61.00
96-77	2	52	90LN-26B	96-27	1 3/4"	108.00

### "96-700" MINIATURE JACK MOUNTING STRIPS

Bakelite panels 3/8" thick, 1 3/4" wide. Fits standard 19" panel mountings. One or two rows of mounting holes for the installation of one or two rows of miniature jacks, 48 or 52 jacks per row. Standard designation strip is JP-35. Contact your distributor for miniature line prices.

Code No.	Rows	Total Jacks	No. Desig. Strips	Rows	Total Jacks	No. Desig. Strips
96-721-1	1	48	1	96-726	1	52
96-721-2	2	96	2	96-727	2	104

### "96" JACK MOUNTING STRIPS—WITHOUT JACKS

Used as a mounting base where non-standard arrangements of jacks, lamp sockets, turn or push keys and coaxial jacks are combined on one panel. Supplied with end brackets, designation strips and side reinforcing strips mounted. Available in numerous other types than those listed.

Code No.	Rows	Jack Holes per Row	Width	Desig. Qty.	Strip Type	List
96-21	1	24	1 3/4"	1	JP-30	\$15.50
96-22	2	24	2 1/4"	1	JP-30	16.40
96-23	2	24	3 1/2"	1	JP-30	22.00
96-24	2	24	3 1/2"	2	JP-30	24.00
96-26	1	26	1 3/4"	1	JP-34	17.00
96-27	2	26	1 3/4"	2	JP-34	18.00

### DESIGNATION STRIPS

Manufactured in varying lengths and widths to meet all panel requirements. Choice of black (JP-30, 33, 34 & 35) or bright nickel plated (JP-31, 32 & 37).

### "536" - "537" MINIATURE PLUGS

Used with "94" series jacks and "866" - "867" patch cords. Both two-circuit 536 and three-circuit 537 have molded in place insulation and screw terminals. Contact your distributor for miniature line prices.



536 Black	
536-1 Red	

537 Black	
537-1 Red	

### "500" and "501" (PJ-055) TWO-CIRCUIT PLUGS

The 500 telephone plug—long the two-circuit switchboard standard has been replaced, for the most part, by the slightly shorter 501. The 501 has been widely used on high quality military communication equipment. Commonly referred to as PJ-055. Black or Red plastic shell or nickel plated brass for shielded types.



Code No.	Color	Price	Code No.	Color	Price
501	Black	\$0.72	501-10	Black, marked PJ-055B	\$0.76
501-1	Red	.72	501-11	Red, marked PJ-055R	.76
501-2	Metal shell	1.00	501-12	Metal, marked PJ-055M	1.00
500	Red	.90	500-10	Red, marked PJ-047R	.95
500-1	Black	.90	500-11	Black, marked PJ-047B	.95

# TRIMM/INC.

A SELECTED LISTING FROM OVER 2500 TRIMM-MANUFACTURED COMPONENTS.

## COAXIAL JACKS, PLUGS AND PANELS: Video Patch Cords, Hybrid Audio/Visual



### COAXIAL JACKS: "89" SERIES

Developed for a wide range of RF applications including video frequencies, carrier and UHF frequencies. Triple layer plating of silver, palladium and hard gold on female contact assures extremely low contact resistance and long wear.

SINGLE JACKS	Net	89-32	Female BNC fitting	7.00	
89-01	RG 58 Cable	\$ 6.00	89-33	Female C fitting	16.00
89-02	RG 59 Cable	6.00	89-715	(*)	5.25
89-04	RG 62 Cable	6.00	89-731	(*) Fem. UHF fitting	20.00
89-05	RG 11 Cable	6.25	89-732	(*) Fem. BNC fitting	7.00
89-06	RG 8, 9 Cable	6.25	89-733	(*) Fem. C fitting	16.00
89-07	RG 54 (Also fits WE 724, Belden 8281. Jack similar to WE 477B.	6.25	(*) RCA Compatible, otherwise WE		
<b>TWIN TYPES, Non-Switching</b>					
89-08	RG 54 Cable Jack similar to WE 477C	15.00	89-51	RG 58 Cable	13.00
89-09	RG 2-59. Paralleling 2-RG-59	6.25	89-52	RG 59 Cable	13.00
89-11	RG 187	\$ 6.00	89-57	RG 54, WE 724, Belden 8281. Equiv. WE 465C	13.50
89-12	RG 11, 13	6.25	89-825	Single BNC at rear for paralleling	15.50
89-14	Amphenol 2-597	6.00	<b>TWIN TYPES, Switching</b>		
89-15	Equiv. to WE 470B	5.00	89-132	Double BNC rear	17.50
89-31	Female UHF fitting	20.00	89-1010	Single BNC plus turret terminal	17.00
			89-1011	Double turret terminal at rear	16.50

### COAXIAL PLUGS: "530" SERIES



For use with "89" series jacks. Assembled on cords to form "849" series patch cords. Silver and hard gold plated contact pin assures minimum resistance and long wear.

Part No.	Cable	Notes	Net
530-1	RG-58		\$4.60
530-2	RG-59		4.60
530-4	RG-62		4.60
530-5	RG-11		5.00
*530-6	RG-54 Belden 8281 W.E. 724	Equiv. to W.E. 358A	3.60
530-7	RG-8 & 9		5.00
*530-9	RG-59	Similar to W.E. 337C	16.00
530-10	RG-55		5.00
*530-15	RG-58 & 59		4.20
*530-32	N/A	{ Mates with male BNC connection at rear end	5.00
†530-701	RG-58		4.60
†530-702	RG-59		4.60
†530-705	RG-11 & 13		5.00

†Compatible with RCA; other types W.E.

### COAXIAL BRIDGING PLUG: "531"

A twin coaxial plug (sometimes called a looping plug). Internally wired to connect two adjacent coaxial jacks spaced 5/8" C to C. Two plugs essentially similar to "530" series mounted in a plastic handle-like shell.



Part No.	Imp.	Notes	Net	Part No.	Imp.	Net
531-1	52 ohm	Compatible	\$7.30	531-702	75 ohm	\$7.30
531-2	75 ohm	with and	7.30	531-7	75 ohm	29.00
531-3	90 ohm	Equiv. to	7.60	531-707	75 ohm	29.00
531-701	50 ohm	W.E. 477B	7.30			



### COAXIAL PATCH CORDS: "849"

The following cords use two, 530-2 (for WE), or two 530-702 (for RCA), plugs and RG59B/U cable (75 ohm).

W.E.	Net	RCA	Net
849-05X-PPG	\$ 9.60	849-1X-700PPG	\$ 9.60
849-1X-PPG	9.60	849-105X-700PPG	9.60
849-105X-PPG	9.60	849-2X-700PPG	10.00
849-2X-PPG	10.00	849-3X-700PPG	10.00
849-3X-PPG	10.00		
849-4X-PPG	10.00		

The following cords, as above, but with RG-58C/U cable (50 ohm).

W.E.	Net	RCA	Net
84-1X58-PPG	\$ 9.60	849-1X58-700PPG	\$ 9.60
849-105X8-PPG	9.60	849-105X58-700PPG	9.60
849-2X58-PPG	10.00	849-2X58-700PPG	10.00
849-3X58-PPG	10.00	849-3X58-700PPG	10.00

### HYBRID PATCH CORDS: "869" SERIES

Audio and Video patch cord. Twin plug contains a coax and a three-circuit telephone plug. On 5/8" centers. Will fit combination panels with "89" series coaxial jacks and "90" series telephone jacks. 75 ohm cable on section (RG-187) and audio is carried by two additional conductors with shield overall (but not common to coax shield).

W.E.	Net
869-1X-PPG	\$30.00
869-105X-PPG	30.00
869-2X-PPG	30.00



### COAXIAL JACK PANEL ASSEMBLIES

The "89" series coaxial jacks can be mounted on the "96" or "99" series strips in almost any specified configuration. Listed below are some of the more standard types already produced. Consult factory for information regarding price or your special requirements.

W.E.	RCA	Qty/Row	Rows	Jack Type	Jack Mtg. Strip
99-80		12	1	89-32	99-20
	99-780	12	1	89-732	99-20
98-84		24	2	89-02	96-24
	96-784	24	2	89-702	96-24
*96-94-2		24	2	89-02	96-524-2
	*96-794-2	24	2	89-702	96-524-2
96-85		12	2	89-02	96-25
	96-785	12	2	89-702	96-25
*96-95-2		12	2	89-02	96-525-2
	*96-795-2	12	2	89-702	96-525-2
*96-98-2		Top 24	2	89-02	96-528-2
		Bottom 12			
	*96-798-2	Top 24	2	89-702	96-528-2
		Bottom 12			

\*Denotes sub-chassis with 24 UHF connectors.

### COAXIAL JACK MOUNTING STRIPS—LESS JACKS

The "96" Series Panels, described and listed on a previous page are readily adaptable for coaxial use. In addition to the panels previously listed, the following ones are also available in this series.

Code No.	No. of Rows	Holes/Row	Jack Hole Spacing c. to c. Left to right	Width	Designation Strip Qty.	Type	List
96-20	1	12	1 3/8"	1 3/4"	1	JP-30	\$27.00
96-20-1	1	12	5/8 - 2 1/4 - 5/8	1 3/4"	1	JP-35	27.00
96-28	2	upper 24	5/8 - 3/4 - 5/8	3 1/2"	2	JP-35	33.00
		lower 24					
96-32	2	24	5/8 - 3/4 - 5/8	2 1/8"	2	JP-33	18.40
*96-38	1	32	5/8	1 3/4"	1	JP-34-3	48.00
*96-39	2	32	5/8	1 3/4"	2	JP-34-3	54.00

\*Fits 23" racks having 22 1/4" spacing between mounting screw holes.

### ALUMINUM JACK MTG. STRIPS— LESS JACKS

The "99" series features a front aluminum panel 3/8" thick separated from a rear sub-panel 1/8" thick to which the jacks are mounted. Overall thickness of 1/2". Sub-panel forms common ground for jacks. Fits 19" rack. The "99-200" series backs the aluminum front panel with a 3/8" bakelite strip to isolate jacks from each other. Total thickness of 5/8".

Code No.	Rows	Jacks/Row	Jack Hole Spacing c. to c.	Width	Designation Strip Qty.	Type	Notes	List
99-20	1	12	1 3/8"	1 3/4"	1	JP-37		\$26.00
99-20-1	1	12	5/8 - 2 1/4 - 5/8	1 3/4"	1	JP-37		26.00
99-21	1	24	5/8 - 3/4 - 5/8	1 3/4"	1	JP-37		27.00
99-22	2	24	5/8 - 3/4 - 5/8	2 1/8"	1	JP-30		34.00
99-22-1	2	24	5/8 - 3/4 - 5/8	2 1/8"	2	JP-33	1	35.50
99-22-2	2	23	5/8 - 3/4 - 5/8	2 1/8"	2	JP-33	2	36.00
99-24	2	24	5/8 - 3/4 - 5/8	3 1/2"	2	JP-37	1	40.00
99-26	1	26	5/8"	1 3/4"	1	JP-34		27.00
99-27	2	26	5/8"	1 3/4"	2	JP-34	1	36.00

NOTES 1. Designation strip above top, and below bottom row.  
2. Designation strip above each row.

# TRIMM INC.

A SELECTED LISTING FROM OVER 2500 TRIMM-MANUFACTURED COMPONENTS.

## TERMINAL BLOCKS, TURN AND PUSH KEYS, LAMP SOCKETS: Related Panel Equipment

### TERMINAL BLOCKS



Originally developed for telephone and telegraph exchange use, now are quite generally found in broadcast and microwave relay stations, large instrument systems—wherever very large numbers of circuits need convenient places of termination.

#### "421 SERIES"

Molded of black phenolic plastic material, including base. Provides 20 terminals per row, in two banks of ten, with up to ten rows. Base  $6\frac{1}{4}$ " long x 3" wide. Has steel mounting strip inset in groove in base, with standard mounting dimensions and accommodating #10-32 screws.

Terminals are of 0.040" tintillate brass, and are removable without disassembly of block. Have "butterfly" notched design assuring better retention of wire. Lengths of terminals in three graduated lengths for ease of wiring, and are identified by numbering along top row. Interchangeable with W.E. "L" series, as indicated by ( ) following TRIMM No.

Code No.	No. Rows	No. Term	Base
421C-1	1	20	\$ 4.00
421C-2	2	40	5.00
421C-3 (L34)	3	60	6.00
421C-4 (L4A)	4	80	7.00
421C-5 (L5A)	5	100	8.00
421C-6 (L6A)	6	120	9.00
421C-7	7	140	10.00
421C-8 (L8A)	8	160	11.00
421C-9	9	180	13.00
421C-10	10	200	14.00

#### OTHER SERIES

Summarized below are terminal arrangements and base dimensions for other series available. All bases  $\frac{3}{8}$ " phenolic. Available in 1 to 14 rows. Write for additional information.

Series	Term per Row	Base Dim.	Notes
421A	20	$6\frac{1}{4}$ " x $2\frac{5}{8}$ "	Eq. to W.E. "M" Type
427B	26	8" x $2\frac{5}{8}$ "	Fits Cook Elec. Frame
427D	26	8" x $3\frac{1}{4}$ "	

### TURN KEYS: "205" - "207"



Long frame rotating cam type keys or switches. Intended to be assembled on to standard  $\frac{3}{8}$ " thick jack mounting strips having  $\frac{3}{16}$ " dia. jack bushing holes. Hole for #6-32 screw  $\frac{3}{8}$ " off center provided. Entirely interchangeable with telephone type jacks, and essentially similar to W.E. "552" series. See table below for cross reference.

Knob of molded black nylon, has two flat areas on each side to provide convenience in turning. White filled line on front of knob readily identifies in which of two positions key has been turned. Requires  $2\frac{3}{32}$ " depth behind panel.

#### LOCKING TYPE, "205"

Part No.	Base	Part No.	Base	Part No.	Base	Part No.	Base
205-1A	\$2.10	205-2A	\$2.50	205-3A	\$3.00	205-2A2B	\$3.10
205-1B	2.10	205-2B	2.50	205-3C	3.50	205-1A2C	3.30
205-1C	2.30	205-2C	3.00	205-4A	3.50	205-1000	3.50
205-1D	2.30	205-2D	3.10	205-4C	4.10	205-1001	3.80

#### NON-LOCKING TYPE, "207"

Part No.	Base	Part No.	Base	Part No.	Base
207-1A	\$2.10	207-1B	\$2.10	207-2C	\$3.00

#### CROSS REFERENCE W.E. to TRIMM

TRIMM Code	W.E. Type	TRIMM Code	W.E. Type
205-2C	552A	205-1000	552E
205-3A	552B	205-1D	552G
205-1001	552C	205-2C1A	552H
205-2B 2C	552D		

### PUSH KEYS: "204" - "206"



Long frame push button type key very similar to turn keys. The usual applications for push button type keys are as an impulse switch for relays, or motor starters; buzzer signals, test circuits requiring momentary contact, etc. Mounting, dimensional and contact data, similar to turn keys. Available in non-locking and locking forms. Knob of black plastic material with depressed dimple for finger.

#### LOCKING TYPE, "204"

Part No.	Base	Part No.	Base
204-1A	\$2.10	204-2A	\$2.50

#### NON-LOCKING TYPE, "206"

Part No.	Base	Part No.	Base
206-1A	\$2.10	206-2A	\$2.50
206-1B	2.10	206-2B	2.50
206-1C	2.30	206-2C	3.00
206-1D	2.30	206-3C	3.50
		206-4A	3.50

### LAMP SOCKET: "247"



Switchboard type lamp socket; intended for use with standard No. 2 switchboard lamps, and to be assembled on to standard  $\frac{3}{8}$ " thick jack mounting strips with  $\frac{3}{16}$ " dia. jack bushing holes. Has lug for #6-32 mounting screw  $\frac{3}{8}$ " off center line. May be mounted  $\frac{3}{8}$ " c. to c. horizontally.

Frame, one piece steel construction. Springs nickel silver insulated from frame and each other with XXXP phenolic laminated spacers. Lamp mounts close to lens of lamp cap, giving maximum illumination.

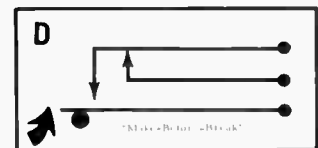
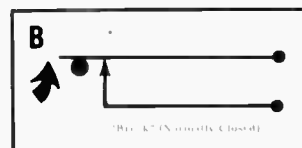
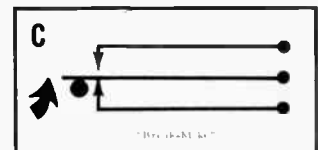
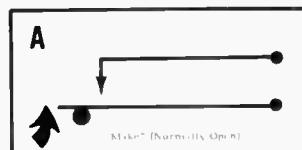
247	Lamp Socket	47B	.80
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#### "240" GLASS LAMP CAP

		W.E. EQ.	Base
240-AY	Lamp Cap White Opalescent	2-AY	.22
240-H	Lamp Cap Red Opalescent	2-H	.22
240-L	Lamp Cap Green Opalescent	2-L	.22
240-U	Lamp Cap Amber	2-U	.22
240-W	Lamp Cap Blue	2-W	.22

### SWITCH DIAGRAMS

Basic switching for Turn Keys and Push Keys is described by these diagrams. Other combinations are available. Coding: The series number of the switch followed by a dash number. 205-4C is then a locking type Turn Key with a stacking of four 'C' switches.





# STANDARDIZED ELECTRONIC HARDWARE LITTON INDUSTRIES/USECO DIVISION

## INSULATED TERMINALS • Hi-Alumina

**Part No. 1460**

ALUMINA INSULATOR  
TND RELIEF  
1280 TERMINAL  
31/2 36 60

PART NO	"A"	"T"	PART NO	"S"	"T"
1460 A	3/8	6-32	1460 E	3/8	4-40
1460 B	1/4	6-32	1460 F	1/4	4-40
1460 C	5/8	6-32	1460 G	5/8	4-40
1460 D	3/8	8-32	1460 H	3/8	4-40

VOLTAGE BREAKDOWN: 3000 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1461**

ALUMINA INSULATOR  
1280 TERMINAL  
31/2 39 63

PART NO "T"  
1461 A 6-32  
1461 B 4-40

THREAD DEPTH, 3 THREADS MIN.  
VOLTAGE BREAKDOWN: 3000 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1440**

ALUMINA INSULATOR  
TND RELIEF  
1280 TERMINAL  
250 31 53

PART NO	"E"	"T"	PART NO	"S"	"T"
1440 A	1/8	6-32	1440 E	1/8	4-40
1440 B	2/50	6-32	1440 F	2/50	4-40
1440 C	3/2	6-32	1440 G	3/2	4-40

VOLTAGE BREAKDOWN: 1500 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1441**

ALUMINA INSULATOR  
1280 TERMINAL  
250 34 57

PART NO "T"  
1441 A 2-56  
1441 B 4-40

THREAD DEPTH, 3 THREADS MIN.  
VOLTAGE BREAKDOWN: 1500 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1480**

ALUMINA INSULATOR  
TND RELIEF  
2030 TERMINAL  
188 20 36

PART NO	"A"	"T"	PART NO	"S"	"T"
1480 A	1/8	2-56	1480 C	1/8	4-40
1480 B	7/32	2-56	1480 D	7/32	4-40

VOLTAGE BREAKDOWN: 1000 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1481**

ALUMINA INSULATOR  
TND RELIEF  
2030 TERMINAL  
188 27 42

PART NO "T"  
1481 A 4-40  
1481 B 2-56

THREAD DEPTH, 3 THREADS MIN.  
VOLTAGE BREAKDOWN: 1000 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1482**

ALUMINA INSULATOR  
TND RELIEF  
2030 TERMINAL  
188 20 36

PART NO	"E"	"T"	PART NO	"S"	"T"
1482 A	054	031	1482 C	125	094
1482 B	084	082			

VOLTAGE BREAKDOWN: 1000 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1483**

ALUMINA INSULATOR  
TND RELIEF  
2030 TERMINAL  
188 20 36

PART NO "T"  
1483 A 28

FOR USE WITH 188 (MAX) THICK MTG BOARD  
MOUNTING HARDWARE FURNISHED WITH UNIT  
VOLTAGE BREAKDOWN: 2500 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

## INSULATED TERMINALS • Teflon

**Part No. 1431**

TEFLON INSULATOR  
TND RELIEF  
2030 TERMINAL  
107 DIA 27 42

PART NO "T"  
1431 A 10-32  
1431 B 8-32

VOLTAGE BREAKDOWN: 2500 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS  
FOR USE WITH 094 (MAX) THICK MTG BOARD

**Part No. 1432**

TEFLON INSULATOR  
TND RELIEF  
2030 TERMINAL  
102 DIA 19 MAX 20 36

PART NO "T"  
1432 A 9-40  
1432 B 7-32

VOLTAGE BREAKDOWN: 1500 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1434**

TEFLON INSULATOR  
TND RELIEF  
2030 TERMINAL  
158 DIA 17 36 53

PART NO "T"  
1434 A 1/4-28

FOR USE WITH .88 (MAX) THICK MTG BOARD  
VOLTAGE BREAKDOWN: 4000 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1436**

TEFLON INSULATOR  
TND RELIEF  
2030 TERMINAL  
252 DIA 28 34 48 54 80

PART NO "T"  
1436 A 3/8-32

FOR USE WITH 250 (MAX) THICK MTG BOARD  
VOLTAGE BREAKDOWN: 6000 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1450**

TEFLON INSULATOR  
TND RELIEF  
230 DIA 31/2 36 60

PART NO	"A"	"T"	PART NO	"S"	"T"
1450 A	3/8	6-32	1450 E	3/8	4-40
1450 B	1/4	6-32	1450 F	1/4	4-40
1450 C	5/8	6-32	1450 G	5/8	4-40
1450 D	3/8	8-32	1450 H	3/8	4-40

VOLTAGE BREAKDOWN: 5000 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1451**

TEFLON INSULATOR  
TND RELIEF  
230 DIA 31/2 39 63

PART NO "T"  
1451 A 6-32  
1451 B 4-40

THREAD DEPTH, 3 THREADS MIN.  
VOLTAGE BREAKDOWN: 5000 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1470**

TEFLON INSULATOR  
TND RELIEF  
203 DIA 250 27 31 53

PART NO	"E"	"T"	PART NO	"S"	"T"
1470 A	1/8	6-32	1470 E	1/8	4-40
1470 B	2/50	6-32	1470 F	2/50	4-40
1470 C	3/2	6-32	1470 G	3/2	4-40
1470 D	3/8	6-32	1470 H	3/8	4-40

VOLTAGE BREAKDOWN: 2500 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1471**

TEFLON INSULATOR  
TND RELIEF  
203 DIA 250 31 55

PART NO "T"  
1471 A 2-56  
1471 B 4-40

THREAD DEPTH, 3 THREADS MIN.  
VOLTAGE BREAKDOWN: 2500 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1472**

TEFLON INSULATOR  
TND RELIEF  
203 DIA 115 DIA 27 31

PART NO	"A"	"T"	PART NO	"S"	"T"
1472 A	075	031	1472 C	135	094
1472 B	105	082			

VOLTAGE BREAKDOWN: 2500 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1490**

TEFLON INSULATOR  
TND RELIEF  
2030 TERMINAL  
121 DIA 115 DIA 21 34

PART NO	"A"	"T"	PART NO	"S"	"T"
1490 A	1/8	2-56	1490 C	1/8	4-40
1490 B	7/32	2-56	1490 D	7/32	4-40

VOLTAGE BREAKDOWN: 2000 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1491**

TEFLON INSULATOR  
TND RELIEF  
2030 TERMINAL  
156 DIA 24 39

PART NO	"A"	"T"	PART NO	"S"	"T"
1491 A	1/8	2-56	1491 C	125	094
1491 B	094	082	1491 D	156	125

VOLTAGE BREAKDOWN: 2000 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

**Part No. 1492**

TEFLON INSULATOR  
TND RELIEF  
2030 TERMINAL  
156 DIA 21 36

PART NO "A"  
1492 A 054  
1492 B 094  
1492 C 125  
1492 D 156

VOLTAGE BREAKDOWN: 2000 VOLTS A.C.  
RESISTANCE (TERMINAL TO BASE) (10)<sup>11</sup> OHMS

Plating: Terminal, 0.000010/0.000020 gold over 0.00030/0.00050 silver; Base, 0.00030/0.00050 cadmium  
Tolerance: .XXX ± .010; .XX ± .016 before plating



# STANDARDIZED ELECTRONIC HARDWARE LITTON INDUSTRIES/USECO DIVISION

## INSULATED TERMINALS • Alkyd

<p>Part No. 1417</p> <p>VOLTAGE BREAKDOWN: 6000 VOLTS A.C. THREAD DEPTH, 3 THREADS MIN</p>	<p>Part No. 1418</p> <p>VOLTAGE BREAKDOWN: 6000 VOLTS A.C. RESISTANCE (TERMINAL TO BASE) (10)<sup>12</sup> OHMS</p>	<p>Part No. 1421</p> <p>VOLTAGE BREAKDOWN: 10000 VOLTS A.C. RESISTANCE (TERMINAL TO BASE) (10)<sup>12</sup> OHMS</p>
<p>Part No. 1422</p> <p>VOLTAGE BREAKDOWN: 11,000 VOLTS A.C. THREAD DEPTH, 3 THREADS MIN</p>	<p>Part No. 1423</p> <p>VOLTAGE BREAKDOWN: 9000 VOLTS A.C. RESISTANCE (TERMINAL TO BASE) (10)<sup>12</sup> OHMS</p>	<p>Part No. 1409</p> <p>VOLTAGE BREAKDOWN: 6000 VOLTS A.C. RESISTANCE (TERMINAL TO BASE) (10)<sup>12</sup> OHMS</p>
<p>Part No. 1411</p> <p>VOLTAGE BREAKDOWN: 6000 VOLTS A.C. RESISTANCE (TERMINAL TO BASE) (10)<sup>12</sup> OHMS</p>	<p>Part No. 1413</p> <p>VOLTAGE BREAKDOWN: 5000 VOLTS A.C. RESISTANCE (TERMINAL TO BASE) (10)<sup>12</sup> OHMS</p>	<p>Part No. 1425</p> <p>VOLTAGE BREAKDOWN: 6000 VOLTS A.C. RESISTANCE (TERMINAL TO BASE) (10)<sup>12</sup> OHMS</p>
<p>Part No. 1426</p> <p>VOLTAGE BREAKDOWN: 6000 VOLTS A.C. RESISTANCE (TERMINAL TO BASE) (10)<sup>12</sup> OHMS</p>	<p>Part No. 1427</p> <p>VOLTAGE BREAKDOWN: 6000 VOLTS A.C. RESISTANCE (TERMINAL TO BASE) (10)<sup>12</sup> OHMS</p>	<p>Part No. 1428</p> <p>VOLTAGE BREAKDOWN: 6000 VOLTS A.C. RESISTANCE (TERMINAL TO BASE) (10)<sup>12</sup> OHMS THREAD DEPTH, 3 THREADS MIN.</p>
<p>Part No. 1429</p> <p>VOLTAGE BREAKDOWN: 6000 VOLTS A.C. RESISTANCE (TERMINAL TO BASE) (10)<sup>12</sup> OHMS</p>	<p>Part No. 1401</p> <p>VOLTAGE BREAKDOWN: 6000 VOLTS A.C. RESISTANCE (TERMINAL TO BASE) (10)<sup>12</sup> OHMS THREAD DEPTH, 3 THREADS MIN.</p>	<p>Part No. 1410</p> <p>VOLTAGE BREAKDOWN: 6000 VOLTS A.C. RESISTANCE (TERMINAL TO BASE) (10)<sup>12</sup> OHMS</p>

## INSULATED TERMINALS • Diallyl Phthalate

<p>Part No. 1430</p> <p>VOLTAGE BREAKDOWN: 2500 VOLTS A.C. RESISTANCE (TERMINAL TO BASE) (10)<sup>12</sup> OHMS FOR USE WITH .054 (MAX) THICK MTC. BOARD</p>	<p>Part No. 1433</p> <p>VOLTAGE BREAKDOWN: 4000 VOLTS A.C. RESISTANCE (TERMINAL TO BASE), 10<sup>12</sup> OHMS</p>	<p>Part No. 1435</p> <p>VOLTAGE BREAKDOWN: 6000 VOLTS A.C. FOR USE WITH .250 (MAX) THICK MTC. BOARD RESISTANCE (TERMINAL TO BASE), 10<sup>12</sup> OHMS</p>
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Plating: Terminal, 0.00010/0.00020 gold over 0.00030/0.00050 silver; Base, 0.00030/0.00050 cadmium  
Tolerance: .XXX ± .010; .XX ± .016 before plating



# SECTION 2100 STANDARDIZED ELECTRONIC HARDWARE LITTON INDUSTRIES/USECO DIVISION

## INSULATED TERMINALS • MIL-T-55155

<p><b>MIL-T-55155</b> Configurations, materials, platings and specifications conform to requirements of MIL-T-55155.</p> <p><b>TERMINALS</b> Material: Brass 1/2 hard, composition 22, per QQ-B-625 Finish: Standard -4 (0.0005 Solder Plate) Optional at additional cost -10 (0.00003 gold)</p> <p><b>BASES</b> Material: Brass 1/2 hard, composition 22, per QQ-B-626 Finish: Standard -11.2 (0.0003 Cadmium with iridescent yellow coating)</p> <p><b>INSULATING MATERIALS</b> TEFLON per MIL-M-14077 HI-ALUMINA per MIL-I-10 DIALLYL PHTHALATE per MIL-M-14F Type SDG-F</p>	<p style="text-align: center;">PART NO "1" "2"      PART NO "1" "2" 4550 A 218 375      4550 B 375 552</p> <p style="text-align: center;">MIL-T-55155/18-1 &amp; -2      USECO Part No. 4550</p>	<p style="text-align: center;">PART NO "1" "2" 4551 A 375 440</p> <p style="text-align: center;">MIL-T-55155/19-1      USECO Part No. 4551</p>	<p style="text-align: center;">PART NO "1" "2"      PART NO "1" "2" 4552 A 375 718      4552 B 594 937</p> <p style="text-align: center;">MIL-T-55155/20-1 &amp; -2      USECO Part No. 4552</p>																																																								
<p style="text-align: center;">PART NO "1" "2"      PART NO "1" "2" 4553 A 250 410      4553 B 375 410</p> <p style="text-align: center;">MIL-T-55155/21-1 &amp; -2      USECO Part No. 4553</p>	<p style="text-align: center;">PART NO "1" "2"      PART NO "1" "2" 4554 A 250 6-32      4554 B 375 6-32</p> <p style="text-align: center;">MIL-T-55155/21-3 &amp; -4      USECO Part No. 4554</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>LTR</th> <th>A</th> <th>B</th> <th>D</th> <th>F</th> <th>G</th> <th>K</th> <th>L</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>500</td> <td>040</td> <td>080</td> <td>100</td> <td>210</td> <td>100</td> <td>015 X45</td> </tr> <tr> <td>B</td> <td>836</td> <td>125</td> <td>093</td> <td>230</td> <td>250</td> <td>093</td> <td>1/32 X45</td> </tr> </tbody> </table> <p style="text-align: center;">MIL-T-55155/4-1 &amp; -2      USECO Part No. 4500</p>	LTR	A	B	D	F	G	K	L	A	500	040	080	100	210	100	015 X45	B	836	125	093	230	250	093	1/32 X45	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>LTR</th> <th>A</th> <th>B</th> <th>C</th> <th>E</th> <th>F</th> <th>G</th> <th>H</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>375</td> <td>040</td> <td>148</td> <td>172</td> <td>100</td> <td>125</td> <td>015 X45</td> </tr> <tr> <td>B</td> <td>315</td> <td>040</td> <td>148</td> <td>172</td> <td>100</td> <td>210</td> <td>015 X45</td> </tr> <tr> <td>C</td> <td>875</td> <td>125</td> <td>165</td> <td>187</td> <td>150</td> <td>200</td> <td>1/32 X45</td> </tr> </tbody> </table> <p style="text-align: center;">MIL-T-55155/3-1-2 &amp; -3      USECO Part No. 4501</p>	LTR	A	B	C	E	F	G	H	A	375	040	148	172	100	125	015 X45	B	315	040	148	172	100	210	015 X45	C	875	125	165	187	150	200	1/32 X45
LTR	A	B	D	F	G	K	L																																																				
A	500	040	080	100	210	100	015 X45																																																				
B	836	125	093	230	250	093	1/32 X45																																																				
LTR	A	B	C	E	F	G	H																																																				
A	375	040	148	172	100	125	015 X45																																																				
B	315	040	148	172	100	210	015 X45																																																				
C	875	125	165	187	150	200	1/32 X45																																																				
<p style="text-align: center;">PART NO "1" "2"      PART NO "1" "2" 4553 A 250 410      4553 B 375 410</p> <p style="text-align: center;">MIL-T-55155/21-1 &amp; -2      USECO Part No. 4502</p>	<p style="text-align: center;">PART NO "1" "2"      PART NO "1" "2" 4554 A 250 6-32      4554 B 375 6-32</p> <p style="text-align: center;">MIL-T-55155/6-1 &amp; -2      USECO Part No. 4503</p>	<p style="text-align: center;">PART NO "1" "2"      PART NO "1" "2" 4555 A 375 100      4555 B 421 125</p> <p style="text-align: center;">MIL-T-55155/7-1 &amp; -2      USECO Part No. 4504</p>	<p style="text-align: center;">PART NO "1" "2"      PART NO "1" "2" 4556 A 375 100      4556 B 421 125</p> <p style="text-align: center;">MIL-T-55155/8-1      USECO Part No. 4505</p>																																																								

## LOC-FIT® TERMINALS

<p style="text-align: center;">ORDER BY PART NO      D      L      NOM      RECOMMENDATIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>PLATING</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>REMARKS</th> </tr> </thead> <tbody> <tr> <td>001</td> <td>001</td> <td>001</td> <td>4430</td> </tr> </tbody> </table> <p style="text-align: center;">Part No. 4430</p>	PLATING	FINISH	TEMPERATURE	REMARKS	001	001	001	4430	<p style="text-align: center;">ORDER BY PART NO      D      L      NOM      RECOMMENDATIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>PLATING</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>REMARKS</th> </tr> </thead> <tbody> <tr> <td>001</td> <td>001</td> <td>001</td> <td>4437</td> </tr> </tbody> </table> <p style="text-align: center;">Part No. 4437</p>	PLATING	FINISH	TEMPERATURE	REMARKS	001	001	001	4437	<p style="text-align: center;">ORDER BY PART NO      D      L      NOM      RECOMMENDATIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>PLATING</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>REMARKS</th> </tr> </thead> <tbody> <tr> <td>001</td> <td>001</td> <td>001</td> <td>4440</td> </tr> </tbody> </table> <p style="text-align: center;">Part No. 4440</p>	PLATING	FINISH	TEMPERATURE	REMARKS	001	001	001	4440	<p style="text-align: center;">ORDER BY PART NO      D      L      NOM      RECOMMENDATIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>PLATING</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>REMARKS</th> </tr> </thead> <tbody> <tr> <td>001</td> <td>001</td> <td>001</td> <td>4444</td> </tr> </tbody> </table> <p style="text-align: center;">Part No. 4444</p>	PLATING	FINISH	TEMPERATURE	REMARKS	001	001	001	4444
PLATING	FINISH	TEMPERATURE	REMARKS																																
001	001	001	4430																																
PLATING	FINISH	TEMPERATURE	REMARKS																																
001	001	001	4437																																
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001	001	001	4440																																
PLATING	FINISH	TEMPERATURE	REMARKS																																
001	001	001	4444																																
<p style="text-align: center;">ORDER BY PART NO      D      L      NOM      RECOMMENDATIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>PLATING</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>REMARKS</th> </tr> </thead> <tbody> <tr> <td>001</td> <td>001</td> <td>001</td> <td>4442</td> </tr> </tbody> </table> <p style="text-align: center;">Part No. 4442</p>	PLATING	FINISH	TEMPERATURE	REMARKS	001	001	001	4442	<p style="text-align: center;">ORDER BY PART NO      D      L      NOM      RECOMMENDATIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>PLATING</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>REMARKS</th> </tr> </thead> <tbody> <tr> <td>001</td> <td>001</td> <td>001</td> <td>4445</td> </tr> </tbody> </table> <p style="text-align: center;">Part No. 4445</p>	PLATING	FINISH	TEMPERATURE	REMARKS	001	001	001	4445	<p style="text-align: center;">ORDER BY PART NO      D      L      NOM      RECOMMENDATIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>PLATING</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>REMARKS</th> </tr> </thead> <tbody> <tr> <td>001</td> <td>001</td> <td>001</td> <td>4447</td> </tr> </tbody> </table> <p style="text-align: center;">Part No. 4447</p>	PLATING	FINISH	TEMPERATURE	REMARKS	001	001	001	4447	<p style="text-align: center;">ORDER BY PART NO      D      L      NOM      RECOMMENDATIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>PLATING</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>REMARKS</th> </tr> </thead> <tbody> <tr> <td>001</td> <td>001</td> <td>001</td> <td>4451</td> </tr> </tbody> </table> <p style="text-align: center;">Part No. 4451</p>	PLATING	FINISH	TEMPERATURE	REMARKS	001	001	001	4451
PLATING	FINISH	TEMPERATURE	REMARKS																																
001	001	001	4442																																
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PLATING	FINISH	TEMPERATURE	REMARKS																																
001	001	001	4482																																
PLATING	FINISH	TEMPERATURE	REMARKS																																
001	001	001	4487																																
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001	001	001	4484																																
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001	001	001	4489																																

Loc Fit Specifications — Plating: 0.00010/0.00020 gold over 0.00030/0.00050 silver  
Tolerance: .XXX ± .010 .XX ± .016 before plating



# STANDARDIZED ELECTRONIC HARDWARE LITTON INDUSTRIES/USECO DIVISION

## SELF-PUNCHING COMPONENTS

<p><b>Miniature</b></p> <table border="1"> <tr> <th>PART NO.</th> <th>RES.</th> <th>WATT.</th> <th>TEMP. COEFF.</th> <th>APPROX. W.T.</th> </tr> <tr> <td>2000 S 1</td> <td>0.05</td> <td>0.125</td> <td>200</td> <td>0.005</td> </tr> </table> <p>Part No. 9056</p>	PART NO.	RES.	WATT.	TEMP. COEFF.	APPROX. W.T.	2000 S 1	0.05	0.125	200	0.005	<p><b>Miniature</b></p> <table border="1"> <tr> <th>PART NO.</th> <th>RES.</th> <th>WATT.</th> <th>TEMP. COEFF.</th> <th>APPROX. W.T.</th> </tr> <tr> <td>2000 S 1</td> <td>0.05</td> <td>0.125</td> <td>200</td> <td>0.005</td> </tr> </table> <p>Part No. 9061</p>	PART NO.	RES.	WATT.	TEMP. COEFF.	APPROX. W.T.	2000 S 1	0.05	0.125	200	0.005	<p><b>Bushing Threaded</b></p> <p>STANDARD PLATING -- 1) CADMIUM PLATE 0003 / 0000 PER QQ-P-414 TYPE "C" CLASS 25 TOLERANCE (STANDARD) <math>\pm 1\%</math> <math>\pm .005</math> BEFORE PLATING</p> <table border="1"> <tr> <th>PART NO.</th> <th>RES.</th> <th>WATT.</th> <th>TEMP. COEFF.</th> <th>APPROX. W.T.</th> </tr> <tr> <td>9000 S 1</td> <td>0.05</td> <td>0.125</td> <td>200</td> <td>0.005</td> </tr> </table> <p>Part No. 9001 Thru 9004</p>	PART NO.	RES.	WATT.	TEMP. COEFF.	APPROX. W.T.	9000 S 1	0.05	0.125	200	0.005	<p><b>Miniature</b></p> <table border="1"> <tr> <th>PART NO.</th> <th>RES.</th> <th>WATT.</th> <th>TEMP. COEFF.</th> <th>APPROX. W.T.</th> </tr> <tr> <td>9050 S 1</td> <td>0.05</td> <td>0.125</td> <td>200</td> <td>0.005</td> </tr> </table> <p>Part No. 9050</p>	PART NO.	RES.	WATT.	TEMP. COEFF.	APPROX. W.T.	9050 S 1	0.05	0.125	200	0.005
PART NO.	RES.	WATT.	TEMP. COEFF.	APPROX. W.T.																																							
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9050 S 1	0.05	0.125	200	0.005																																							
<p><b>Sub-Miniature</b></p> <p>REFERENCE USECO 2000 SERIES</p> <table border="1"> <tr> <th>PART NO.</th> <th>RES.</th> <th>WATT.</th> <th>TEMP. COEFF.</th> <th>APPROX. W.T.</th> </tr> <tr> <td>2000 S 1</td> <td>0.05</td> <td>0.125</td> <td>200</td> <td>0.005</td> </tr> </table> <p>Part No. 9062</p>	PART NO.	RES.	WATT.	TEMP. COEFF.	APPROX. W.T.	2000 S 1	0.05	0.125	200	0.005	<p><b>Sub-Miniature</b></p> <p>REFERENCE USECO 2520 SERIES</p> <table border="1"> <tr> <th>PART NO.</th> <th>RES.</th> <th>WATT.</th> <th>TEMP. COEFF.</th> <th>APPROX. W.T.</th> </tr> <tr> <td>2520 S 1</td> <td>0.05</td> <td>0.125</td> <td>200</td> <td>0.005</td> </tr> </table> <p>Part No. 9063</p>	PART NO.	RES.	WATT.	TEMP. COEFF.	APPROX. W.T.	2520 S 1	0.05	0.125	200	0.005	<p><b>Miniature</b></p> <p>REFERENCE USECO 1280 SERIES</p> <table border="1"> <tr> <th>PART NO.</th> <th>RES.</th> <th>WATT.</th> <th>TEMP. COEFF.</th> <th>APPROX. W.T.</th> </tr> <tr> <td>1280 S 1</td> <td>0.05</td> <td>0.125</td> <td>200</td> <td>0.005</td> </tr> </table> <p>Part No. 9051</p>	PART NO.	RES.	WATT.	TEMP. COEFF.	APPROX. W.T.	1280 S 1	0.05	0.125	200	0.005	<p><b>Standard</b></p> <p>REFERENCE USECO 2010 SERIES</p> <table border="1"> <tr> <th>PART NO.</th> <th>RES.</th> <th>WATT.</th> <th>TEMP. COEFF.</th> <th>APPROX. W.T.</th> </tr> <tr> <td>2010 S 1</td> <td>0.05</td> <td>0.125</td> <td>200</td> <td>0.005</td> </tr> </table> <p>Part No. 9052</p>	PART NO.	RES.	WATT.	TEMP. COEFF.	APPROX. W.T.	2010 S 1	0.05	0.125	200	0.005
PART NO.	RES.	WATT.	TEMP. COEFF.	APPROX. W.T.																																							
2000 S 1	0.05	0.125	200	0.005																																							
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PART NO.	RES.	WATT.	TEMP. COEFF.	APPROX. W.T.																																							
9064 S 1	0.05	0.125	200	0.005																																							
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2010 S 1	0.05	0.125	200	0.005																																							

SPECIFICATIONS COMMON TO PARTS ON THIS PAGE EXCEPT AS NOTED.  
STANDARD PLATING -- 5  
MATERIAL BRASS 1/2 HARD COMP. 22 PER QQ-B-626  
TOLERANCE (STANDARD)  $\pm 1\%$   $\pm .010$  BEFORE PLATING. \*INCLUDED IN #9000 KIT

## TERMINAL BOARDS

<p>TERMINAL .016 DIA. MTG. HOLE (20 PLACES) SCORED (.02 DEEP BOTH SIDES (4 PLACES))</p> <table border="1"> <tr> <th>PART NO.</th> <th>"A"</th> <th>"B"</th> <th>PART NO.</th> <th>"A"</th> <th>"B"</th> </tr> <tr> <td>1100 A</td> <td>1.000</td> <td>1.50</td> <td>1100 B</td> <td>1.500</td> <td>2.00</td> </tr> <tr> <td>1100 C</td> <td>2.000</td> <td>2.50</td> <td>1100 D</td> <td>2.500</td> <td>3.00</td> </tr> </table> <p>MATERIAL: BOARD -- PHENOLIC SHEET, XXX, TY. MIL-P-3115. TERMINAL -- BRASS, 1/2 HARD, COMP. 22, QQ-B-626. TOLERANCE: .XXX <math>\pm .010</math>, .XX <math>\pm .016</math>. TERMINAL (STANDARD): 1300.</p> <p>Part No. 1100</p>	PART NO.	"A"	"B"	PART NO.	"A"	"B"	1100 A	1.000	1.50	1100 B	1.500	2.00	1100 C	2.000	2.50	1100 D	2.500	3.00	<p><b>Melamine</b></p> <p>FOR USE WITH 1/2 WATT RESISTORS Tolerance .XXX <math>\pm .010</math>, .XX <math>\pm .016</math> before plating Part No. 1180</p>
PART NO.	"A"	"B"	PART NO.	"A"	"B"														
1100 A	1.000	1.50	1100 B	1.500	2.00														
1100 C	2.000	2.50	1100 D	2.500	3.00														
<p>TERMINAL (20 PLACES) SCORED (.02 DEEP (EA SIDE) (4 PLACES))</p> <table border="1"> <tr> <th>PART NO.</th> <th>"A"</th> <th>"B"</th> </tr> <tr> <td>2200 B</td> <td>.500</td> <td>.75</td> </tr> <tr> <td>2200 C</td> <td>.750</td> <td>1.00</td> </tr> </table> <p>MATERIAL: BOARD -- PHENOLIC SHEET, XXX, TY. MIL-P-3115. TERMINAL -- BRASS, 1/2 HARD, COMP. 22, QQ-B-626. TOLERANCE: .XXX <math>\pm .010</math>, .XX <math>\pm .016</math>. TERMINAL (Standard): 2010. SEE PART NO. 9003 FOR TABULATED VARIATIONS.</p> <p>Part No. 2200</p>	PART NO.	"A"	"B"	2200 B	.500	.75	2200 C	.750	1.00	<p><b>Melamine</b></p> <p>FOR USE WITH 1 WATT RESISTOR: Tolerance .XXX <math>\pm .010</math>, .XX <math>\pm .016</math> before plating Part No. 1181</p>									
PART NO.	"A"	"B"																	
2200 B	.500	.75																	
2200 C	.750	1.00																	
	<p><b>Melamine</b></p> <p>FOR USE WITH 2 WATT RESISTORS: Tolerance .XXX <math>\pm .010</math>, .XX <math>\pm .016</math> before plating Part No. 1182</p>																		







STANDARDIZED ELECTRONIC HARDWARE  
LITTON INDUSTRIES/USECO DIVISION

TERMINALS

<p>Part No. 2064</p>	<p>Part No. 2063</p>	<p>Part No. 1700</p>	<p>Part No. 1705</p>																																				
<p>Part No. 1715</p>	<p>Standard Size</p> <p>Part No. 1716</p>	<p>Part No. 2740</p>	<p>Part No. 2764</p>																																				
<p>Part No. 2770</p>	<p>Part No. NAS 704</p> <table border="1"> <thead> <tr> <th>DASH NUMBER</th> <th>SHANK LENGTH L &amp; Ø</th> <th>MTG BOARD THICKNESS</th> </tr> </thead> <tbody> <tr> <td>-1</td> <td>Ø9</td> <td>1/8</td> </tr> <tr> <td>-2</td> <td>Ø9</td> <td>3/8</td> </tr> <tr> <td>-3</td> <td>Ø9</td> <td>1/2</td> </tr> </tbody> </table>	DASH NUMBER	SHANK LENGTH L & Ø	MTG BOARD THICKNESS	-1	Ø9	1/8	-2	Ø9	3/8	-3	Ø9	1/2	<p>Part No. NAS 705</p> <table border="1"> <thead> <tr> <th>DASH NUMBER</th> <th>SHANK LENGTH L &amp; Ø</th> <th>MTG BOARD THICKNESS</th> </tr> </thead> <tbody> <tr> <td>-1</td> <td>Ø9</td> <td>1/8</td> </tr> <tr> <td>-2</td> <td>Ø9</td> <td>3/8</td> </tr> <tr> <td>-3</td> <td>Ø9</td> <td>1/2</td> </tr> </tbody> </table>	DASH NUMBER	SHANK LENGTH L & Ø	MTG BOARD THICKNESS	-1	Ø9	1/8	-2	Ø9	3/8	-3	Ø9	1/2	<p>Part No. NAS 706</p> <table border="1"> <thead> <tr> <th>DASH NUMBER</th> <th>SHANK LENGTH L &amp; Ø</th> <th>MTG BOARD THICKNESS</th> </tr> </thead> <tbody> <tr> <td>-1</td> <td>Ø9</td> <td>1/8</td> </tr> <tr> <td>-2</td> <td>Ø9</td> <td>3/8</td> </tr> <tr> <td>-3</td> <td>Ø9</td> <td>1/2</td> </tr> </tbody> </table>	DASH NUMBER	SHANK LENGTH L & Ø	MTG BOARD THICKNESS	-1	Ø9	1/8	-2	Ø9	3/8	-3	Ø9	1/2
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<p>Part No. NAS 707</p>	<p>Part No. NAS 708</p> <table border="1"> <thead> <tr> <th>DASH NUMBER</th> <th>SHANK LENGTH L &amp; Ø</th> <th>MTG BOARD THICKNESS</th> </tr> </thead> <tbody> <tr> <td>-1</td> <td>Ø9</td> <td>1/8</td> </tr> <tr> <td>-2</td> <td>Ø9</td> <td>3/8</td> </tr> <tr> <td>-3</td> <td>Ø9</td> <td>1/2</td> </tr> </tbody> </table>	DASH NUMBER	SHANK LENGTH L & Ø	MTG BOARD THICKNESS	-1	Ø9	1/8	-2	Ø9	3/8	-3	Ø9	1/2	<p>Part No. NAS 709</p> <table border="1"> <thead> <tr> <th>DASH NUMBER</th> <th>SHANK LENGTH L &amp; Ø</th> <th>MTG BOARD THICKNESS</th> </tr> </thead> <tbody> <tr> <td>-1</td> <td>Ø9</td> <td>1/8</td> </tr> <tr> <td>-2</td> <td>Ø9</td> <td>3/8</td> </tr> <tr> <td>-3</td> <td>Ø9</td> <td>1/2</td> </tr> </tbody> </table>	DASH NUMBER	SHANK LENGTH L & Ø	MTG BOARD THICKNESS	-1	Ø9	1/8	-2	Ø9	3/8	-3	Ø9	1/2	<p>MIL-T-55155/124-5, -8 USECO Part No. 4522</p>												
DASH NUMBER	SHANK LENGTH L & Ø	MTG BOARD THICKNESS																																					
-1	Ø9	1/8																																					
-2	Ø9	3/8																																					
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DASH NUMBER	SHANK LENGTH L & Ø	MTG BOARD THICKNESS																																					
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<p>MIL-T-55155/12-7, -8, -9 USECO Part No. 4523</p>	<p>MIL-T-55155/13-1, -2, -3 USECO Part No. 4524</p>	<p>MIL-T-55155/14-1, -2, -3 USECO Part No. 4526</p>	<p>MIL-T-55155/15-1, -2, -3 USECO Part No. 4528</p>																																				
<p>MIL-T-55155/15-4, -5, -8 USECO Part No. 4529</p>	<p>MIL-T-55155/15-7, -8, -9 USECO Part No. 4530</p>	<p>MIL-T-55155/16-1, -2, -3 USECO Part No. 4531</p>	<p>MIL-T-55155/17-1, -2, -3 USECO Part No. 4532</p>																																				

Plating: 0.00030/0.00050 silver. Tolerance: .XXX ± .010 before plating.



# STANDARDIZED ELECTRONIC HARDWARE LITTON INDUSTRIES/USECO DIVISION

## INSTRUMENT PANEL HARDWARE • Handles — Brass

FINISH: (STANDARD) NICKEL; BLACK OXIDE;  
CHROME OPTIONAL AT ADDITIONAL COST

Part No. 1004 thru 1019

FINISH: (STANDARD) NICKEL; BLACK OXIDE;  
CHROME OPTIONAL AT ADDITIONAL COST

Part No. 1070 thru 1072

FINISH: (STANDARD) NICKEL; BLACK OXIDE;  
CHROME OPTIONAL AT ADDITIONAL COST

Part No. 1020

SUPPLIED WITH 3/8-24 HEX NUT

FINISH: (STANDARD) NICKEL; BLACK OXIDE;  
CHROME OPTIONAL AT ADDITIONAL COST

Part No. 1032

MAY BE USED WITH HANDLES 1004 through 1019

FINISH: (STANDARD) NICKEL; BLACK OXIDE;  
CHROME OPTIONAL AT ADDITIONAL COST

Part No. 900

MAY BE USED WITH HANDLES 1070/1072

FINISH: (STANDARD) NICKEL; BLACK OXIDE;  
CHROME OPTIONAL AT ADDITIONAL COST

Part No. 903

SUPPLIED WITH 3/8-24 HEX NUT

FINISH: (STANDARD) NICKEL; BLACK OXIDE;  
CHROME OPTIONAL AT ADDITIONAL COST

Part No. 1031

FINISH: (STANDARD) NICKEL; BLACK OXIDE;  
CHROME OPTIONAL AT ADDITIONAL COST

Part No. 1026 thru 1029

FINISH: (STANDARD) NICKEL; BLACK OXIDE;  
CHROME OPTIONAL AT ADDITIONAL COST

Part No. 1036 thru 1036

### Handles — Aluminum

FINISH: (STANDARD) NICKEL; BLACK OXIDE;  
CHROME OPTIONAL AT ADDITIONAL COST

Part No. 1060 thru 1069

### Handles — Stainless Steel

FINISH: BRIGHT BRIGHT PASSIVATE PER MIL-F-1072 (E 300) STD (17)  
NON-REFLECTIVE BLACK  
BLACK PASSIVATE PER MIL-C-13824 CL. II (17.8)

Part No. 1080

FINISH: BRIGHT BRIGHT PASSIVATE PER MIL-F-1072 (E 300) STD (17)  
NON-REFLECTIVE BLACK  
BLACK PASSIVATE PER MIL-C-13824 CL. II (17.8)

Part No. 1050

STANDARD FINISH BUFFED — ANODIZED FINISH AVAILABLE

Part No. 1021

FINISH: BRIGHT BRIGHT PASSIVATE PER MIL-F-1072 (E 300) STD (17)  
NON-REFLECTIVE BLACK  
BLACK PASSIVATE PER MIL-C-13824 CL. II (17.8)

Part No. 1090

FINISH: BRIGHT BRIGHT PASSIVATE PER MIL-F-1072 (E 300) STD (17)  
NON-REFLECTIVE BLACK  
BLACK PASSIVATE PER MIL-C-13824 CL. II (17.8)

Part No. 1040

STANDARD FINISH BUFFED — ANODIZED FINISH AVAILABLE

Part No. 1055

STANDARD FINISH BUFFED — ANODIZED FINISH AVAILABLE

Part No. 1050

## Shaft Locks — Brass

STANDARD PLATING — 12

Part No. 1510

STANDARD PLATING — 12

Part No. 1512

STANDARD PLATING — 12

Part No. 1513

STANDARD PLATING — 12

Part No. 1520

Tolerance: .XXX ± .010; .XX ± .016 before plating



STANDARDIZED ELECTRONIC HARDWARE  
LITTON INDUSTRIES/USECO DIVISION

INSTRUMENT PANEL HARDWARE • Knobs

Part No. 300

PART NO.	"A"	MAX SH DIA	PART NO.	"A"	MAX SH DIA
310	1/4	230	300	1/4	190
			301	3/8	188
			302	1/2	125

STANDARD FINISH BUFFED — ANODIZED FINISH AVAILABLE

Part No. 500

PART NO.	"A"	MAX SH DIA
500	1/4	230
501	3/8	188
502	1/2	125

STANDARD FINISH BUFFED — ANODIZED FINISH AVAILABLE

Part No. 550

PART NO.	"A"	MAX SH DIA	PART NO.	"A"	MAX SH DIA
560	1/4	230	555	1/4	230

STANDARD FINISH BUFFED — ANODIZED FINISH AVAILABLE

Part No. 625

PART NO.	"A"	MAX SH DIA	PART NO.	"A"	MAX SH DIA
627	1/8	125	628	3/8	188
625	1/4	230	626	1/2	250

STANDARD FINISH BUFFED — ANODIZED FINISH AVAILABLE

Accessory Hardware

Part No. 1560

PART NO.	"A"	SHAFT DIA MAX
1560	3/4	230
1560-1	1	230
1560-2	3/8	230
1560-3	1/2	230

STANDARD PLATING — 12

Part No. 1590

PART NO.	"A"	BD THICK	PART NO.	"A"	BD THICK
1590 C	1/8	004	1590 D	1/8	002
			1590 E	1/8	008

STANDARD PLATING — 11

Part No. 1591

PART NO.	"A"	BD THICK	PART NO.	"A"	BD THICK
1591 A	3/16	004	1591 B	1/8	008
1591 C	1/4	004	1591 D	1/4	008

STANDARD PLATING — 11

Part No. 1130

PART NO.	"A"	"B"	"C"	"D"	REC USE
11-2	1.500	2.12	35		HOD B
11-3	1.500	2.000	2.62	35	HOD B B C
11-4	2.000	2.500	3.5	56	HOD C B B
11-5	1.500	2.000	2.8	56	HOD B B C

STANDARD PLATING — 11 Part No. 1130  
MATL: 1020 COLD ROLLED STEEL PER QQ-9-833

Part No. 3100

PART NO.	"A"	"B"	"C"	"D"	REC USE
3100-6		6-32			
3100-8		8-32			
3100-10		10-32			

STANDARD PLATING — 12 Part No. 3100  
MATL: BRASS, 1/2 HARD, COMP 22, PER QQ-9-626

Part No. 3210

PART NO.	"A"	"B"	"C"	"D"	REC USE
3210-8		8-32			
3210-10		10-32			

STANDARD PLATING — 12 Part No. 3210  
MATL: BRASS, 1/2 HARD, COMP 22, PER QQ-9-626

Part No. 3200

PART NO.	"A"	"B"	"C"	"D"	REC USE
3200-6		6-32			
3200-8		8-32			
3200-10		10-32			

STANDARD PLATING — 12 Part No. 3200  
MATL: BRASS, 1/2 HARD, COMP 22, PER QQ-9-626

Part No. 1530

PART NO.	"A"	"B"	"C"	"D"	REC USE
1530					

ORDER BY: BASIC PART NO., LETTER B LENGTH IN FRACTION.  
EXAMPLE: 1530 B 1/2

STANDARD PLATING — 12 Part No. 1530

Part No. 1531

PART NO.	"A"	"B"	"C"	"D"	REC USE
1531					

ORDER BY: BASIC PART NO., LETTER B LENGTH IN FRACTION.  
EXAMPLE: 1531 B 1/2

STANDARD PLATING — 12 Part No. 1531

Part No. 1550

PART NO.	"A"	"B"	"C"	"D"	REC USE
1550 A	1/8	280	4-40		
1550 C	3/8	250	8-32		
1550 E	3/8	300	8-32		
1550 G	3/8	250	8-32		
1550 I	3/8	375	8-32		
1550 K	3/8	625	8-32		

STANDARD PLATING — 12 Part No. 1550

Part No. 1551

PART NO.	"A"	"B"	"C"	"D"	REC USE
1551 A	1/8	280	4-40		
1551 C	3/8	250	8-32		
1551 E	3/8	300	8-32		
1551 G	3/8	250	8-32		
1551 I	3/8	375	8-32		
1551 K	3/8	625	8-32		

STANDARD PLATING — 12 Part No. 1551

Tolerance: .XXX ± .010; .XX ± .016 before plating

# SOLDERLESS TERMINALS

## Packaged Four Convenient Ways

Vaco offers convenient packaging for every type and size of terminal user.

All Vaco Paks are shown with stock number, actual size illustration of terminal, and wire and stud size for easy shelf identification.



**\$ PAK**  
(5 Paks to Master Carton). Use prefix "D" when ordering.










**"C" PAK**  
(100 per Pak—5 Paks to Master Carton). Use prefix "C" when ordering.



**"MB" PAK**  
(Contains 1000 of a number.) Use prefix "MB" when ordering.



**69¢ PAK**  
For small quantity user.

	Wire Size	Stud Size	Series 10000		Series 30000		Series 40000		Series 50000		Series 60000		Series 90000	
			Stock No.	Qty. per \$ Pack	Stock No.	Qty. per \$ Pack	Stock No.	Qty. per \$ Pack	Stock No.	Qty. per \$ Pack	Stock No.	Qty. per \$ Pack	Stock No.	Qty. per \$ Pack
<b>RING TONGUE</b>   Non-Insulated   Insulated	22-18	4	11204	36	31204	★	41204	★	51204	18	61204	15	91204	★
	22-18	5-6	11205*	36	31205		41205		51205	18	61205	15	91205	
	22-18	5-6	11206	36	31206		41206		51206	18	61206	15	91206	
	22-18	8	11208*	36	31208		41208		51208	18	61208	15	91208	
	22-18	10	11210*	36	31210		41210		51210	18	61210	15	91210	
	22-18	12-1/4	11214	28	31214		41214		51214	15	61214	13	91214	
	22-18	3/8	11238	28	31238		41238		51238	15	61238	13	91238	
	16-14	4	11304	36	31304		41304		51304	18	61304	15	91304	
	16-14	5-6	11305*	36	31305		41305		51305	18	61305	15	91305	
	16-14	5-6	11306	36	31306		41306		51306	18	61306	15	91306	
	16-14	8	11308*	36	31308		41308		51308	18	61308	15	91308	
	16-14	10	11310*	36	31310		41310		51310	18	61310	15	91310	
	16-14	12-1/4	11314	28	31314		41314		51314	15	61314	13	91314	
	16-14	3/8	11338	28	31338		41338		51338	15	61338	13	91338	
	12-10	4-6	11406	28	31406		41406		51406	15	61406	13	91406	
	12-10	8	11408	28	31408		41408		51408	15	61408	13	91408	
12-10	10	11410	28	31410		41410		51410	15	61410	13	91410		
12-10	12-1/4	11414	21	31414		41414		51414	14	61414	11	91414		
12-10	3/8	11438	21	31438		41438		51438	14	61438	11	91438		
<b>SPADE TONGUE</b>   Non-Insulated   Insulated	22-18	4	13204	40	33204		43204		53204	18	63204	15	93204	
	22-18	5-6	13206	40	33206		43206		53206	18	63206	15	93206	
	22-18	8	13208	36	33208		43208		53208	18	63208	15	93208	
	22-18	10	13210	36	33210		43210		53210	18	63210	15	93210	
	16-14	4-6	13306	36	33306		43306		53306	18	63306	15	93306	
	16-14	8	13308	36	33308		43308		53308	18	63308	15	93308	
	16-14	10	13310	36	33310		43310		53310	18	63310	15	93310	
	12-10	4-6	13406	28	33406		43406		53406	15	63406	13	93406	
	12-10	8	13408	28	33408		43408		53408	15	63408	13	93408	
	12-10	10	13410	28	33410		43410		53410	15	63410	13	93410	
	22-18	4-6	14206	40			44206		54206	18	64206	15	94206	
	<b>HOOK TONGUE</b>   Non-Insulated   Insulated	22-18	4-6	15206	36	35206		45206		55206	18	65206	15	95206
22-18		8	15208	36	35208		45208		55208	18	65208	15	95208	
22-18		10	15210	36	35210		45210		55210	18	65210	15	95210	
16-14		4-6	15306	36	35306		45306		55306	18	65306	15	95306	
16-14		8	15308	36	35308		45308		55308	18	65308	15	95308	
16-14		10	15310	36	35310		45310		55310	18	65310	15	95310	
12-10		4-6	15406	28	35406		45406		55406	15	65406	13	95406	
12-10		8	15408	28	35408		45408		55408	15	65408	13	95408	
12-10		10	15410	28	35410		45410		55410	15	65410	13	95410	
<b>FLAG TONGUE</b> Non-Insulated  		22-18	8-10	16210	36									
	16-14	8-10	16310	36										
	12-10	8-10	16410	28										

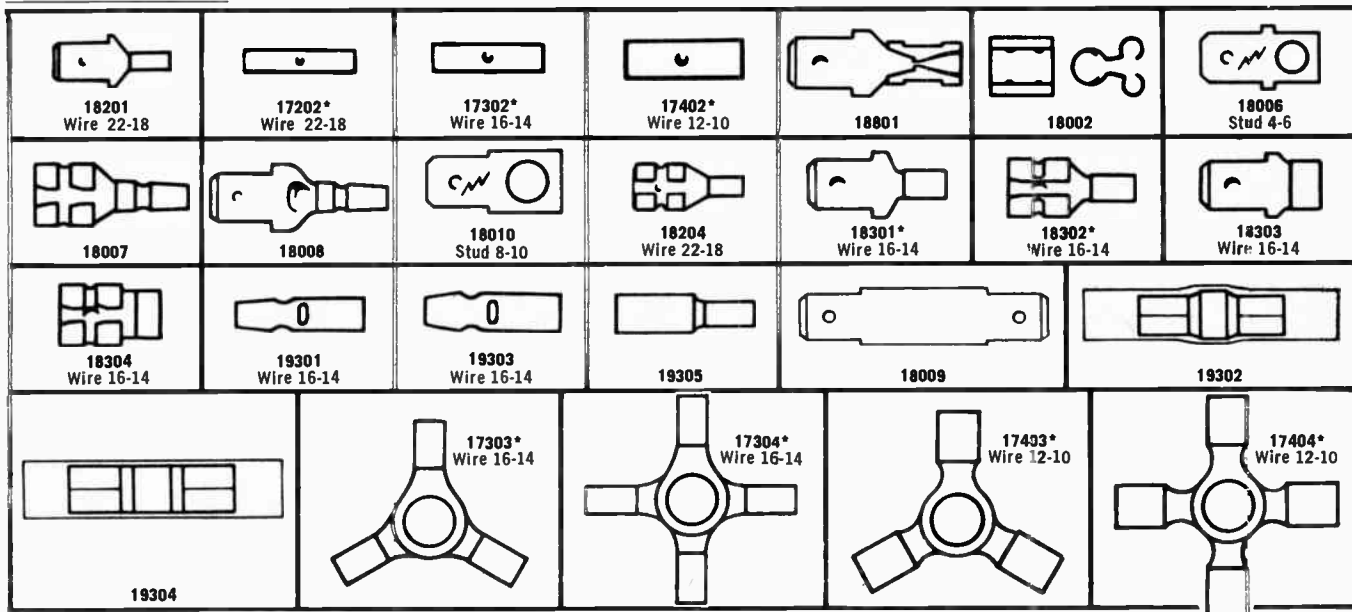
\*Available in High Temperature Material (substitute 2 for 1st digit instead of 1) Example: 21205

\*Note: not available in \$ pack.

# QUICK CONNECTORS

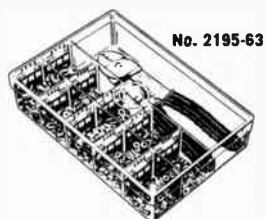
- Use Quick Connect Terminals For Fast Connect and Disconnect Feature
- Insulated and Non-Insulated Styles Available

Illustrations Actual Size



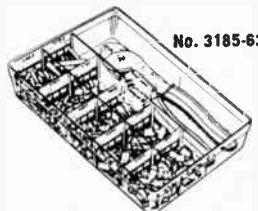
\*Available in Insulated Style Also

## TERMINAL KITS



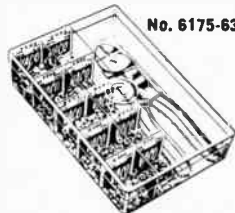
No. 2195-63

**No. 2195-63 Service Kit.** Kit contains 10 different types of popular electrical, radio and TV single-grip terminals and No. 1963 crimping tool. Terminals included are: 11205, 11206, 11210, 11305, 11306, 11310, 14206, 13306, 13310, 15208. Price .....\$9.95



No. 3185-63

**No. 3185-63 Service Kit.** Especially designed for the appliance, automotive and electrical equipment service man. Contains varied assortment of popular quick connect terminals and adapters plus No. 1963 crimping tool. Terminals included are: 18301, 18302, 18303, 18304, 18001, 18002, 18008, 18007, 19301, 19302. Price.....\$9.95



No. 6175-63

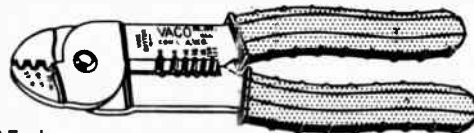
**No. 6175-63 Service Kit.** Kit contains 10 different types of popular insulated single-grip terminals for electrical, radio and TV plus No. 1963 crimping tool. Terminals included are: 51205, 51206, 51210, 51305, 53206, 53306, 53310, 51306, 51310, 54206. Price .....\$9.95



**No. 5000-63 Non-Insulated "Cash Register" Assortment.** Heavy steel box contains 20 compartmented sections each with supply of 50 single-grip, non-insulated terminals (1000 in all). Complete with identification card in cover for easy selection of any terminal. Size: 13 1/4"x9 1/4"x2". Price each \$54.95

**No. 4900-63 Insulated "Cash Register" Assortment.** Same as No. 5000-63 except assortment contains 500 insulated, single-grip terminals in 20 different types and sizes. Plastic insulation is color-coded for size. Size: 13 1/4"x9 1/4"x2". Price each \$49.95

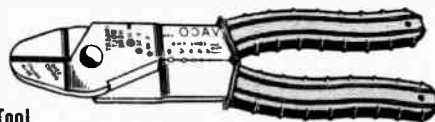
## ATTACHING TOOLS



No. 1900 Tool

Features specially designed crimping dies for use on non-insulated type terminals... forms cold weld between wire and terminal barrel. Cuts wire, strips wire and crimps terminals 22 to 10 gauge AWG. Plastic comfort grip handles.

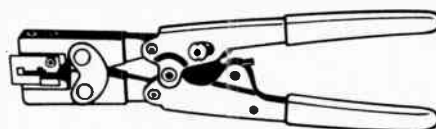
Price ... \$3.95



No. 1963 Tool

Patented, all purpose wiring tool cuts wire, strips wire, crimps insulated and non-insulated terminals and slices 6 sizes of bolts (4-40, 5-40, 6-32, 8-32, 10-32, and 10-24). Special features include end positioned wire cutter for reaching into hard-to-get-at places, and new bolt slicing principle that permits less hand pressure for slicing bolts with no burrs to file. Plastic comfort grip handles.

Price ... \$4.95



No. T1710 Tool

One tool... one die... crimps all styles of insulated and non-insulated terminals in wire range from 22-10 gauge AWG. Built-in ratchet with safety release assures uniform crimps every time, and compound lever action from narrow span handles puts "ease in the squeeze." Terminals are quickly positioned for double crimps by special terminal locator. Plastic comfort grip handles.

Price ... \$35.00

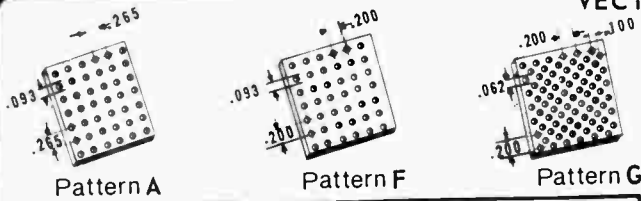


# Vector Electronic Company

INCORPORATED



## VECTORBOARD\*



Pattern A

Pattern F

Pattern G

Pattern	Spacing	Pattern	Spacing	Pattern	Spacing
A	.265 Centers	B	.188 Centers	H	.100 Centers
C	.200 Centers	E	.141 Centers	G	.20 x .10
		F	.200 Centers	L	.250 Centers

Vectorboard\* (Pre-Punched Terminal Board) has precision pre-punched holes at various spacings on Ion XXXP phenolic type PBE-P (Mil-P-3115), ivory EXXXP Epoxy Paper type PEE (Mil-P-22324), G-10 Epoxy Glass type GEE (Mil-P-18177), Copper clad G-10 Epoxy Glass type FL-GE (Mil-P-13949C), copper clad XXXP phenolic type PP (Mil-P-13949) and copper clad Epoxy Paper (Mil-P-13949). Ideal for prototypes and many production uses. Vector Push-In Terminals or standard turned terminals and eyelets fit pre-punched holes. User can make own etched circuits with listed copper clad boards. May be sawed, drilled or punched.

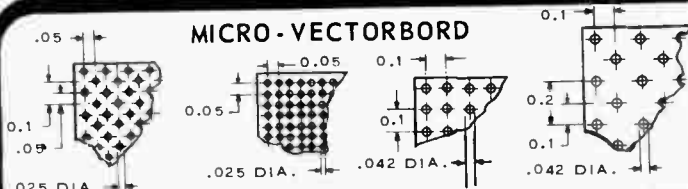
Cat. No.	Pat-tern	Hole Size	Dimensions	No. of Holes	Price 1-19
<b>XXXP Phenolic</b>					
18A18	A	.093	4.80 x 4.80 x 1/16	18 x 18	\$.43
32A9	A	.093	8.51 x 2.41 x 1/16	32 x 9	.45
32AA18	A	.093	8.51 x 4.80 x 3/32	32 x 18	.84
64A18	A	.093	16.99 x 4.8 x 1/16	64 x 18	1.25
64AA18	A	.093	16.99 x 4.8 x 3/32	64 x 18	1.60
64AA32	A	.092	16.99 x 8.51 x 3/32	64 x 32	2.45
45B30	B	.062	8.51 x 5.69 x 1/16	45 x 40	.84
90B30	B	.062	16.97 x 5.69 x 1/16	90 x 30	1.62
85C24	C	.093	16.99 x 4.80 x 1/16	85 x 23	1.25
95G175	G	.062	35.00 x 19.00 x 1/16	(94 x 175) x 2	7.62
26L18	L	.062	6.5 x 4.5 x 1/16	26 x 18	.70
34L19	L	.062	8.5 x 4.8 x 1/16	34 x 19	.75
68L34	L	.062	17.0 x 8.5 x 1/16	68 x 34	1.95
68LL19	LL	.093	17.0 x 4.8 x 3/32	68 x 19	1.60

\* Trademark

Cat. No.	Pat-tern	Hole Size	Dimensions	No. of Holes	Price 1-19
<b>Epoxy Paper</b>					
32AA18EP	A	.093	8.51 x 4.80 x 3/32	32 x 18	1.40
64AA18EP	A	.093	16.99 x 4.80 x 3/32	64 x 18	2.73
64AA32EP	A	.093	16.99 x 8.51 x 3/32	64 x 32	4.39
85F24EP	F	.062	16.99 x 4.80 x 1/16	85 x 23	2.06
85G24EP	G	.062	16.99 x 4.80 x 1/16	(85 x 23) x 2	2.06
85G42EP	G	.062	16.99 x 8.5 x 1/16	(85 x 42) x 2	3.17
120E33EP	E	.062	16.99 x 4.13/16 x 1/16	120 x 33	2.23
<b>Epoxy Glass</b>					
32A18WE	A	.093	8.51 x 4.80 x 1/16	32 x 18	1.89
42G24WE	G	.062	8.5 x 4.80 x 1/16	(42 x 23) x 2	1.89
85G24WE	G	.062	16.99 x 4.80 x 1/16	(85 x 23) x 2	3.81
170H48WE/032	H	.062	17.00 x 4.80 x 1/32"	170 x 47	3.57
120E33WE	E	.062	16.99 x 4.13/16 x 1/16	120 x 33	3.99
<b>Copper Clad XXXP Phenolic</b>					
42F22C1*	F	.062	8.5 x 4.5 x 1/16	42 x 22	1.00
42F22C2**	F	.062	8.5 x 4.5 x 1/16	42 x 22	1.32
3070-1XXXP	F	.062	6.5 x 4.5 x 1/16	28 x 22	.84
3070-2XXXP	F	.062	6.5 x 4.5 x 1/16	28 x 22	1.04
3106-1XXXP	F	.062	4.5 x 3" x 1/16	18 x 14	.45
3106-2XXXP	F	.062	4.5 x 3" x 1/16	18 x 14	.55
<b>Copper Clad Epoxy Paper</b>					
3070-1EP	F	.062	6.5 x 4.5 x 1/16	28 x 22	1.39
3070-2EP	F	.062	6.5 x 4.5 x 1/16	28 x 22	1.67
<b>Copper Clad Epoxy Glass</b>					
42G22WEC1*	G	.062	8.5 x 4.5 x 1/16	(42 x 22) x 2	2.55
42G22WEC2**	G	.062	8.5 x 4.5 x 1/16	(42 x 22) x 2	2.60
85F42WEC1*	F	.062	16.99 x 8.51 x 1/16	85 x 42	9.33
85F42WEC2**	F	.062	16.99 x 8.51 x 1/16	85 x 42	10.25
<b>Copper Clad Unperforated</b>					
4 1/2" x 3"	XXXP Phenolic	CU45/30-1*	.30 CU45/30-2**	.40	
6 1/2" x 4 1/2"	XXXP Phenolic	CU65/45-1*	.60 CU65/45-2**	.77	
8 1/2" x 4 1/2"	XXXP Phenolic	CU85/45-1*	.70 CU85/45-2**	.98	
4 1/2" x 3"	Epoxy Glass	CU45/30WE-1*	.69 CU65/45WE-2**	1.52	
6 1/2" x 4 1/2"	Epoxy Glass	CU65/45WE-1*	1.34 CU85/45WE-2**	1.95	
8 1/2" x 4 1/2"	Epoxy Glass	CU85/45WE-1*	1.71		

\* Indicates 2 oz. Copper Clad 1 Side  
\*\* Indicates 2 oz. Copper Clad 2 Sides

## MICRO-VECTORBOARD

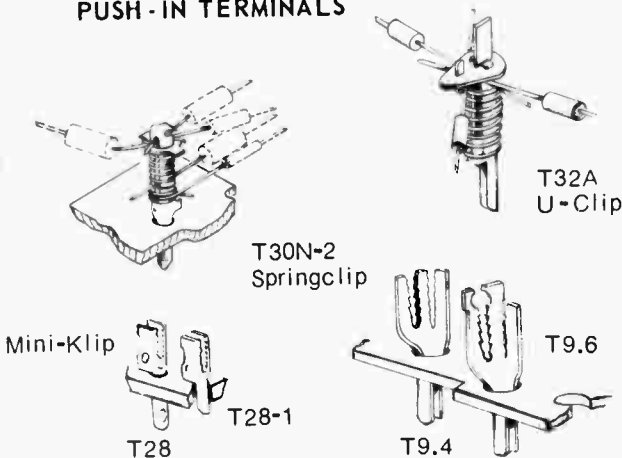


PATTERN "K" PATTERN "M" PATTERN "P" PATTERN "Q"

Micro-Vectorboard has been specially designed for the denser packaging required by cardwood construction and mounting micro-miniature components. All boards listed are 1/32" thick G-10 Epoxy Glass type GEE (Mil-P-18177) or copper clad G-10 Epoxy Glass type FL-GE (Mil-P-13949). Other thicknesses available on order.

Cat. No.	Pat-tern	Hole Size	Dimension	No. of Holes	Price 1-19
59P19/032	P	.042"	6" x 2" x 1/32"	59 x 19	\$1.09
169P59/032	P	.042"	17" x 6" x 1/32"	169 x 59	4.82
29Q9/032	Q	.042"	6" x 1" x 1/32"	(29 x 9) x 2	.90
84Q29/032	Q	.042"	17" x 6" x 1/32"	(84 x 29) x 2	4.39
76M38/032	M	.025"	4" x 2" x 1/32"	76 x 38	1.52
336M76/032	M	.025"	17" x 4" x 1/32"	336 x 76	8.50
38K19/032	K	.025"	4" x 2" x 1/32"	(38 x 19) x 2	1.30
168K38/032	K	.025"	17" x 4" x 1/32"	(168 x 38) x 2	6.42
<b>EPOXY GLASS COPPER CLAD ONE SIDE</b>					
169P59/032C1	P	.042"	17" x 6" x 1/32"	169 x 59	6.61
336M76/032C1	M	.025"	17" x 4" x 1/32"	336 x 76	9.69

## PUSH-IN TERMINALS

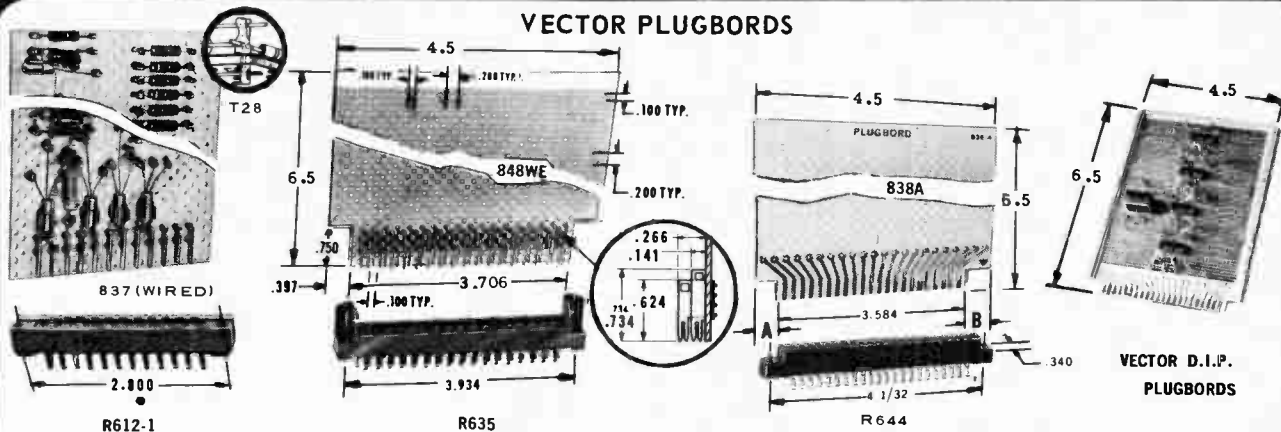


**SOLDERLESS SPRINGCLIP TERMINALS**—Reliable truly solderless terminals for fast setup of experimental circuitry. May be used over and over—permits locating expensive components by eliminating heat damage. Extremely low contact resistance, e.g. less than .002 ohms for T30-2. Suggested board thickness 3/32" for best support of T30 and T32 series.

Cat. No.	Fits Holes	Description	Quan. Per Bag	Net Price 1-19 (1000 Per Bag)	1000-4999 (1000 Per Bag)
T9.4	.093"	Brass, Tin Pltg.	100	\$1.38	\$9.79/M
T9.4A	.093"	Brass, Tin Pltg. without slot serration	100	1.38	9.79/M
T9.6	.093"	Beryllium Copper, Tin Pltg.	100	2.31	15.06/M
P122		Inserting tool for T9.4, T9.4A & T9.6	1	1.00	Any Quan.
T28	.062"	Beryllium Copper, Tin Pltg.	100	1.55	11.00/M
T28S	.062"	Beryllium Copper, Silver Pltg.	100	1.55	11.00/M
T28-1	.062"	Beryllium Copper, Tin Pltg. except .325 O/A height	100	1.55	11.00/M
P91		Inserting tool for T28 series	1	.50	1.49 Pcs.
T30-2	.093"	Brass, Silver Pltg.	10	.99	
T30-2	.093"	Brass, Silver Pltg.	100	7.40	52.86/M
T30N-2	.093"	Brass, Nickel Pltg.	10	.95	
T30N-2	.093"	Brass, Nickel Pltg.	100	6.95	48.50/M
P92A		Inserting tool for T30-2 series	1	.50	1.49 Pcs.
T32A	.093"	Brass, Nickel Pltg.	100 & 1000	9.90	75.00/M
T32A-1	.062"	Brass, Nickel Pltg.	100 & 1000	9.90	75.00/M
P136		Inserting tool for T32 series	1	1.20	Any Quan.

VECTOR ELECTRONIC COMPANY, INCORPORATED

VECTOR PLUGBORDS



**VECTOR PLUGBORDS** speed plug-in circuit construction because the pre-punched holes accept push-in terminals, eyelets or turned terminals and the contacts are already on the board. Epoxy paper boards meet requirements of MIL-P-22323, Type PEE; Epoxy glass is G-10 grade per MIL-P-18177; copper-clad Epoxy paper meets MIL-P-13949 Type PX, and copper-clad Epoxy glass meets MIL-P-13949.

**838 SERIES** same as above, except with 2 oz. copper etched contacts on .156" centers. 838PWE has 10-5 transistor base pad network one side. "GN" types have nickel plated gold flashed contacts.

**812, #37, 848 SERIES** furnished with attached Elco Varicon contacts have .062" holes on alternate 0.1" centers.

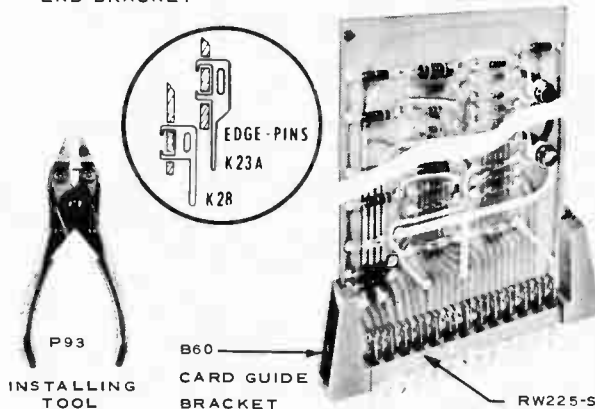
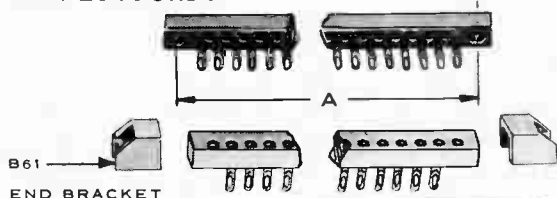
**VECTOR D.I.P. PLUGBORDS** permit quick hookup of integrated circuits. Boards are punched with .041" holes on 0.1" centers and have mounting pad areas for twelve D.I.P.s. Etched lines .070" wide spaced on .1" centers run horizontally on front side and vertically on rear side of board to reduce hand wiring. Listed boards have: (A) 44 etched contacts (total front and back) spaced on 0.156" centers; (B) 35 Elco Varicon contacts on 0.1" centers; (C) 39 Vector Edge-pin contacts on 0.1" centers; (D) 78 etched contacts (total front and back) on 0.1" centers. Patchcords are available.

Receptacles listed are glass filled diallyl phthalate.

Ordering Information

Cat. No.	Description	A		Net Price
		B	1-19	
812	4 1/2" x 6 1/2" Epoxy Paper, 16 Varicon Contacts			2.87
812WE	4 1/2" x 6 1/2" Epoxy Glass, 16 Varicon Contacts			3.39
R612-1	Molded Receptacle for 812, 812WE			2.24
837	3" x 4 1/2" Epoxy Paper, 12 Varicon Contacts			2.24
837WE	3" x 4 1/2" Epoxy Glass, 12 Varicon Contacts			2.48
R612-1	Molded Receptacle for 837, 837WE			1.80
838	4 1/2" x 6 1/2" Epoxy Paper, 43 Etched Contacts, 2 Sides	.408"	.508"	3.74
838-1	4 1/2" x 6 1/2" Epoxy Paper, 43 Etched Contacts, 2 Sides	.453"	.453"	3.74
838A	4 1/2" x 6 1/2" Epoxy Paper, 22 Etched Contacts, 1 Side	.408"	.508"	2.70
838A-1	4 1/2" x 6 1/2" Epoxy Paper, 22 Etched Contacts, 1 Side	.453"	.453"	2.70
838AWE	4 1/2" x 6 1/2" Epoxy Paper, 22 Etched Contacts, 1 Side	.408"	.508"	3.05
838AWE-1GN	4 1/2" x 6 1/2" Epoxy Glass, 22 Etched Contacts, 1 Side	.453"	.453"	4.52
838PWE	4 1/2" x 6 1/2" Epoxy Glass, Etched Pads, 1 side	.408"	.508"	3.51
838WE	4 1/2" x 6 1/2" Epoxy Glass, 43 Etched Contacts, 2 Sides	.408"	.508"	3.71
838WE-1GN	4 1/2" x 6 1/2" Epoxy Glass, 43 Etched Contacts, 2 Sides	.453"	.453"	5.59
R644	Receptacle for above (fits all above etched boards)			2.62
848WE	4 1/2" x 6 1/2" Epoxy Glass, 35 Varicon Contacts			5.86
R635	Receptacle for 848WE			4.91
<b>D.I.P. PLUGBORDS and Accessories</b> —All boards 4 1/2" W. by 6 1/2" L.				
3474	44 Etched Contacts (Mate w/R644 Listed Above)			10.50
3475	39 Vector Edge-pins (Mate w/RW241-S w/B-60 Guides)			10.57
B60	Card Guide Brackets for RW241-S Receptacle Pkg. of 5 pr.	Any Quantity		1.50
RW241-S	Receptacle for D.I.P. Plugboard 3475			2.80
3476	35 Elco Contacts (Mate w/R635 Listed Above)			11.40
3477	78 Etched Contacts (Mate w/Viking VH40/1J5)			6.89
K24C	Terminal Pin for D.I.P. Plugboard, Tin Plated			.83/50 \$10.78/M
P139	Hand Line Cutter Tool—Breaks D.I.P. Plugboard Copper Lines	Any Quantity		1.50

VECTORCONN CONNECTORS WITH EDGE-PIN PLUGBORDS



VERSATILE NEW VECTORCONN CONNECTORS

(For .040" diameter round pins)  
Contact Reliability • Large Variety of Sizes • Top, Bottom, or Side Mounting Styles • Solder Tab or Printed Circuit Tab • Optional Card Guide Ends

**VECTORCONNS** employ wrap around contacts with outstanding time proven reliability in the tube socket industry. Receptacles accept available Vector Edge-pins and Inboard pins or any .040" diameter round pins. Receptacle can also be used as: Multiple test points on printed circuit boards. Front panel test points, in-out jacks, patch points.

**EDGE-PIN PLUGBORDS** are ready-to-wire and plug into VECTORCONN receptacles. Plugboards are provided with an overall pattern of .062" holes on alternate 0.1" centers, Vector Pattern "C".

Castings, end pieces and card guides are Diallyl Phthalate, glass filled per MIL-M-14 type SDG. Contacts are beryllium copper or phosphor bronze, nickel and gold plated.

Vectorconn Ordering Information

Cat. No.	Description	A	
		Net Price	1-49
<b>296" Wide Casting</b>			
R112-S	12 Contact Single Row Solder Tab	2.742	1.50
R225-S	25 Contact Double Row Solder Tab	2.742	1.86
<b>450 Wide Casting</b>			
RW120-S	20 Contact Single Row Solder Tab	4.350	1.81
RW241-S	41 Contact Double Row Solder Tab	4.350	2.80
K-23A	Lower Row Edge Pin—Bags of 50 any Quantity		1.93
K-28	Upper Row Edge Pin—Bags of 50 any Quantity		1.93
<b>Accessories</b>			
P-93	Staking Pliers for K-23A, K-28		26.00
B-61	End Brackets, Small for side mounting— and cut down VECTORCONNS—Pkg. 10 any Quantity		1.30
B-60	Card Guide Brackets, Pkg. of 5 Pr.	any Quantity	1.50

• Additional VECTORCONN Connectors listed in Vector's General Catalog.

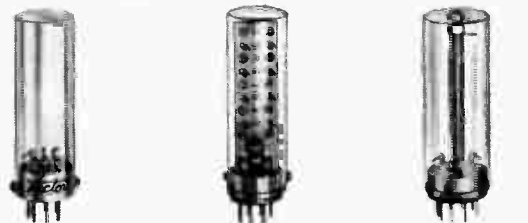
Plugboard Ordering Information

PLUGBOARD CAT. NO.	DESCRIPTION			CONTACTS		NET PRICE 1-19	USE WITH
	MATERIAL	WIDTH	LENGTH (With Pins)	Lower	Upper		
842-120	Epoxy-Paper	4.5"	x 6.5"	20	—	2.90	RW-120-S
842-120WE	Epoxy-Glass	4.5"	x 6.5"	20	—	3.20	RW-120-S
842-241WE	Epoxy-Glass	4.5"	x 6.5"	20	21	4.75	RW-241-S
856-112	Epoxy-Paper	3"	x 4.5"	12	—	1.80	R-112-S
856-112WE	Epoxy-Glass	3"	x 4.5"	12	—	2.00	R-112-S
856-225WE	Epoxy-Glass	3"	x 4.5"	12	13	3.00	R-225-S

VECTOR ELECTRONIC COMPANY, INCORPORATED

SMALL ROUND AND SQUARE PLUG-INS

SMALL ROUND AND SQUARE PLUG-INS are ideal for packaging hand wired, printed, or solid state plug-in modules. Aluminum cases provide shielding and strength. Wide variety of internal structures eases circuit wiring. Plugs are standard tube base style. Plug Key in square Octal based units points toward case corner.



G2.2-8F

G2.2-8-4

G2.1-8



C12-K1.02 (with 514)



G2-10-T-1



C12-K1.02 with 511 (cover removed)

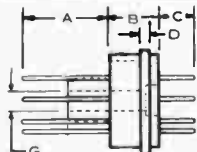
Catalog No.	Bottom Plug	Case		Internal Structure	Net Price 1-49
		Type	Height (Less Prongs)		
B-8	8 P. Oct.	1.42" Sq.	2"	None	\$1.46
B-10	8 P. Oct.	1.42" Sq.	2.5"	None	1.30
B-10-M*	8 P. Oct.	1.42" Sq.	2.5"	Turret	2.46
B-10-T	8 P. Oct.	1.42" Sq.	2.5"	Turret	1.90
B-10-4†	8 P. Oct.	1.42" Sq.	2.5"	Card W/Terms.	2.19
C-10	8 P. Oct.	2" Sq.	2.5"	None	1.50
C-12	8 P. Oct.	2" Sq.	3"	None	1.44
C-12K1.02	8 P. Oct.	2" Sq.	3"	None	1.10
511 (Terminal Card 1.9" x 2.7")†					.69
514 (Terminal Card 1.9" x 2.7")†					.91
C-12-T	8 P. Oct.	2" Sq.	3"	Turret W/12 Lugs.	2.11
C-12-4†	8 P. Oct.	2" Sq.	3"	Card W/Terms.	3.14
G2-10	8 P. Oct.	1.25" Rd.	2.5"	None	1.16
G2-10T-1	8 P. Oct.	1.25" Rd.	2.5"	Term. Turret & Wafer	1.94
G2-10-4†	8 P. Oct.	1.25" Rd.	2.5"	Card W/Terms.	2.24
G2-1-8	9 P. Min.	.75" Rd.	2"	Spacer	1.45
G2-1-8F	9 P. Min.	.75" Rd.	2"	None	1.49
G2-1-8-4†	9 P. Min.	.75" Rd.	2"	Card W/Terms.	2.09
G2-2-8F	7 P. Min.	.625" Rd.	2"	None	1.49
G2-2-8-4†	7 P. Min.	.625" Rd.	2"	Card W/Terms.	2.07

\*Includes 9 Pin Naval Socket mounted in top.

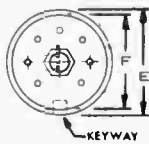
†511 has .093" holes spaced .265"; 514 has .062" holes, spaced alt. 0.1" Ctrs.; B-10-4 has wall 1.37" (W), 1.87" (L), W/.093" holes spaced .265" Ctrs. Trms; C-12-4 has wall 1.88" (W), 2.37" (L), W/.093" holes spaced .200" x .265" Ctrs., Trms; G-2-10-4 has wall 1.08" (W), 1.78" (L), W/.093" holes spaced .250", Trms; G2-1-8-4 has wall .60" (W), 1.62" (L), W/.062" holes spaced .141" Ctrs., Trms; G2-2-8-4 has wall .46" (W), 2" (L), W/.062" holes spaced .141" Ctrs. Trms.

TUBE BASE PLUGS

Ordering Information



P7



KEYWAY



K1.434

VECTOR TUBE BASE PLUGS fit standard 7-pin miniature, 9-pin naval, and 14-pin relay sockets. Round metal cans may be attached with screws to units with KF number which indicates (2) recessed 1/72" inserts in plug sides. Plugs are mica filled phenolic with phosphor bronze .04C" diameter tin-plated pins. All except K1.14 have center screw hole 1/8" and recessed bottom cavity for small pattern nut on underside.

Catalog No.	Type	DIMENSIONS							Net Price 1-49
		A	B	C	D	E	F	G	
P7	7 p. min.	17/32	.300	.265	1/16	.621	.575	.125	.47
P9	9 p. nov.	17/32	.300	.265	1/16	.748	.700	.125	.52
K1.402	(same as P9 except no center post)								.52
K1.334	7 Pin hooked		.300	.265	1/16	.621	.575	.125	.53
K1.434	9 Pin hooked		.300	.265	1/16	.748	.700	.125	.58
KR1.334	(same as K1.334 except with retaining ring)								.62
KR1.434	(same as K1.434 except with retaining ring)								.67
K1.14	14 pin	17/32	.300	.265	1/16	.750	.700		.63
KF1.335	(Similar to K1.334 except has knurl nuts and no keyway.)								.65
KF1.435	(Similar to K1.434 except has knurl nuts and no keyway.)								.70

PATCHBOARDS

All boards are marked front and back with horizontal rows lettered alphabetically and vertical columns numbered. Brackets for mounting are supplied. Holes for plugs are .093" diameter, spaced on .265" centers. Front panels are removable and may be changed if necessary. Larger contact systems can be made by mounting standard panels adjacent. Special sizes, special marking and screening in colors are made to order at minimum cost.

SPECIFICATIONS:

Panels: Block XXXP phenolic, Type PBE-P, Grade B10 per MIL-P 3115, .093" thick with printed white numbers and letters. PB1010-1 has epoxy paper, ivory color, .093" thick with black numbers and letters.

Contacts: Beryllium copper, nickel plated gold flashed, 2 holes for soldering on leads. Add letter "A" to Cat. No. if wire wrap tabs are desired.

Dimensions: All boards 1" thick. See Description column for width and length.

Patchcards: Plugs .087"-.091" diameter x .468" long, nickel plated with standard #20 gage wire vinyl insulation. 6" block, 9" yellow, 15" blue.

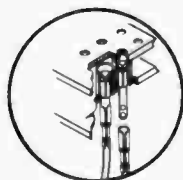
Ordering Information

Cat. No.	No. of Contacts	Hole Layout	Size	Net Price 1-49
PB110-2	10	10 x 1	2.985 x .600	3.25
PB210-2	20	20 x 2	2.985 x .865	4.25
PB510-2	50	10 x 5	2.985 x 1.660	6.45
PB1010-1	100	10 x 10	3.250 x 3.250	10.85
PB1010-2	100	10 x 10	2.985 x 2.985	10.85
PB1020-2	200	20 x 10	5.635 x 2.985	21.60
PB1520-2	300	20 x 15	5.635 x 4.310	32.35
*K2.06	Patchcord, single contact ea.	end 6"	(25 per bdl.)	bd1/2.60
*K2.09	Patchcord, single contact ea.	end 9"	(25 per bdl.)	bd1/2.68
*K2.15	Patchcord, single contact ea.	end 15"	(25 per bdl.)	bd1/3.08
†K9.06	Patchcord, Piggy-back each	end 6"		ea. .93
†K9.09	Patchcord, Piggy-back each	end 9"		ea. .93
†K9.15	Patchcord, Piggy-back each	end 15"		ea. .93
*K2.02-1	Jumper Plug, Jumper type		(25 per bdl.)	bd1/2.95

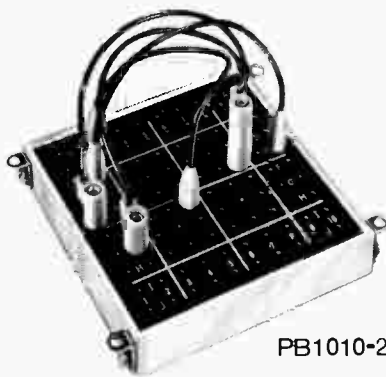
\*Net any quantity

†Net price 1-999

Removable Pre-Programming Patchboard and patchcards also available with 204, 300, 450, 600 and 1200 contacts. Write factory.



DETAIL



PB1010-2



PATCHCORD JUMPER PLUG K2.06



K2.02-1



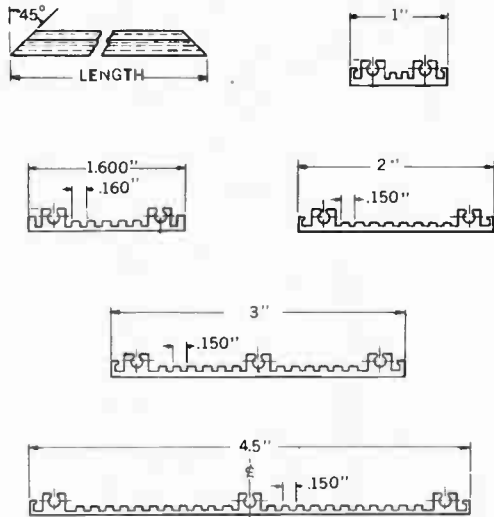
PIGGY-BACK PLUG

Vector Fixed Panel style Patchboards provide simple but reliable low-cost units for multiple connection, single conductor patching for test panels, automation and telemetry equipment, low cost computers, numerical control equipment, paging and speaker systems or other equipment where economy and connection multiplicity are desired.

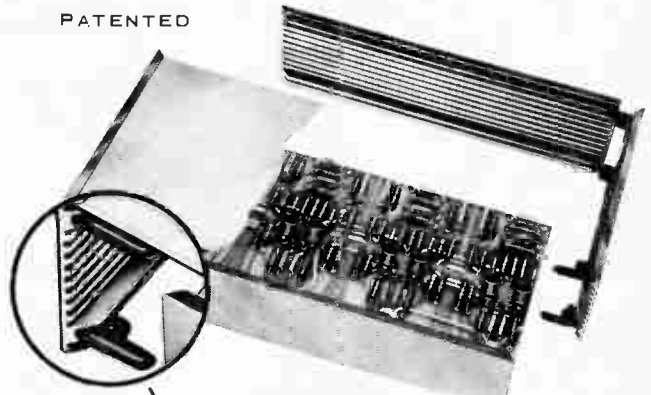
Extremely low contact resistance (less than .001 ohms) and long contact life (over 2000 insertions per contact without resistance change) assures reliability.



FRAME-LOC RAILS



PATENTED



CORNER FASTENER BRACKET DETAIL

Make handsome, sleek aluminum case for circuit boards in seconds with these new extruded aluminum rails. Each rail has extruded grooves running lengthwise so boards may be "stacked" if desired or shielded between with aluminum plates. Unique corner brackets and screws furnished with all mitered rails fasten corners together for chassis or complete boxes, or furnish your own covers. 24" unmitred pieces supplied for making required lengths.

FRAME-LOC CASE AND CHASSIS RAILS FOR 1/16" AND 3/32" BOARDS PRICES ARE PER PAIR

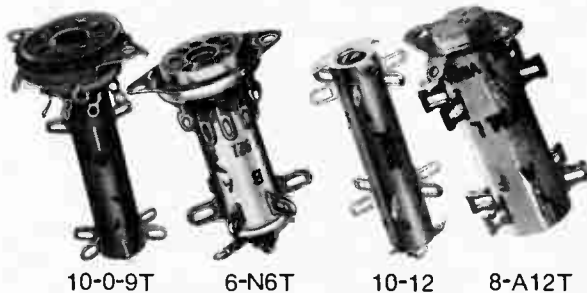
Overall length Except as Noted	1" Wide For 1/16" Boards	1.6" Wide For 1/16" Boards	2" Wide For 1/16" Boards	2" Wide For 3/32" Boards	3" Wide For 1/15" Boards	4.5" Wide For 1/16" Boards
24" * Square Cut	SR1-24/062 \$ 2.10	SR1.6-24/062 \$ 2.34	SR2-24/062 \$ 2.52	SR2-24/093 \$ 2.52	SR3-24/062 \$ 4.08	SR4.5-24/062 \$ 5.10
3.1" Mitred	SR1-3.1/062 \$ .90	SR1.6-3.1/062 \$ .96	SR2-3.1/062 \$ 1.02	SR2-3 /093 \$ 1.02	SR3 3.1/062 \$ 1.20	SR4.5-3.1/062 \$ 1.32
4.6" Mitred	SR1-4.6/062 \$ 1.02	SR1.6-4.6/062 \$ 1.08	SR2-4.6/062 \$ 1.14	SR2-4.8/093(4.8") \$ 1.14	SR3-4.6/062 \$ 1.38	SR4.5-4.6/062 \$ 1.62
6.6" Mitred	SR1-6.6/062 \$ 1.14	SR1.6-6.6/062 \$ 1.20	SR2-6.6/062 \$ 1.26	SR2-6.6/093(6.5") \$ 1.26	SR3 6.6/062 \$ 1.68	SR4.5-6.6/062 \$ 1.98
8.5" Mitred				SR2-8.5/093 \$ 1.38		
10.0" Mitred	SR1-10/062 \$ 1.38	SR1.6-10/062 \$ 1.44	SR2-10/062 \$ 1.50	SR2-10/093 \$ 1.50	SR3 10/062 \$ 2.16	SR4.5-10/062 \$ 2.64
14.0" Mitred	SR1-14/062 \$ 1.50	SR1.6-14/062 \$ 1.68	SR2-14/062 \$ 1.80	SR2-14/093(13.9") \$ 1.80	SR3-14/062 \$ 2.64	SR4.5-14/062 \$ 3.74
17.0" Mitred				SR2-17/093 \$ 2.10		

\*24" Lengths supplied square cut and no fasteners—all other 45° mitred with corner brackets and screws. (Supplied in pairs.) Other square cut lengths available—See Vector General Catalog.

COVER PLATES (.064" Thick Aluminum)

Catalog No.	Length	Width	Price Each	Catalog No.	Length	Width	Price Each
PL2746	4.5	2.750	\$ .96	PL4597	9.7	4.500	2.32
PL4546	4.5	4.500	1.22	PL8097	9.7	8.000	3.28
PL8046	4.5	8.000	1.97	PL27140	14.0	2.750	1.76
PL2766	6.5	2.750	1.13	PL45140	14.0	4.500	2.81
PL4566	6.5	4.500	1.51	PL80140	14.0	8.000	4.37
PL8066	6.5	8.000	2.48	PL4.8/17	17.0	4.800	1.28
PL4.8/8.5	8.5	4.8	.76	PL8.5/17	17.0	8.500	1.96
PL2797	9.7	2.750	1.39				

POST SOCKET TURRETS



10-0-9T      6-N6T      10-12      8-A12T

Vector Socket, Terminal and Transistor Turrets simplify electronic construction. Faster wiring, greater component density and higher reliability are assured by their use. Transistor sockets accommodate 3-in-line or "top-hat" transistors. Commercial types have mica filled sockets, hot tin dipped steel saddles and XXXP phenolic turret posts with brass tinned terminals. Military types (premium grade) have MIL sockets with beryllium copper silver plated socket contacts, brass nickel plated hot tin dipped saddles and glass silicone turret posts with tinned brass terminals.

Catalog Numbers	Turret Details	Space Between Rings	Net Price	
Comm. Types	Military Types	Height	Comm. Type 1-49	
		No. of Term.	No. of Rings	
OCTAL SOCKET TURRETS				
*8-0-9T	681	2"	9 2 1"	\$ .65
*10-0-9T	683	2 1/2"	9 2 1 3/8"	.69
7-PIN SOCKET TURRETS				
*6-M-6T	687	1 1/2"	6 1 —	.69
*8-M-9T	688	2"	9 2 1"	.76
9-PIN SOCKET TURRETS				
*6-N-6T	693	1 1/2"	6 1 —	.69
*8-N-9T	694	2"	9 2 1"	.76
TERMINAL TURRETS				
8-12	677	1-27/32"	12 2 1"	.58
10-12		2"	12 2 1 3/8"	.62
TRANSISTOR TURRETS				
8-A-12T	678	2-11/32"	12 2 1 3/8"	1.19

Note: Tolerance on dimensions 1/16"  
\*Indicates preferred types.  
Longer or shorter types and other terminal configuration to order.

VECTOR ELECTRONIC COMPANY, INCORPORATED

TUBE SOCKET TEST ADAPTERS



T-789



T9N

TUBE SOCKET TEST ADAPTERS are ideal for making voltage resistance and wave form measurements from the tube side of electronic equipment. To use, insert adapter between tube and socket, and replace tube in adapter socket. Special test tabs are recessed on the adapter skirt and have a hole to grip test probe and protect operator's fingers during insertion and withdrawal. Regular alligator test-clipped probes also hold on tab and socket. Castings are low loss phenolic and fit all shield bases for miniature and noval type or into standard tube clamps. Reduced body diameter permits insertion into new telescoping shields. Adapter socket contacts are beryllium copper, silver plated for long life and low resistance. Electrostatic capacity between adjacent leads of the adapter is approximately 1 micro-micro-farad. Flash over voltage between adjacent terminals is in excess of 1500 volts DC.

Kit T789 consists of the three popular "must have" sizes, 7-pin miniature, 8-pin octal, 9-pin noval and a P1 probe in a handy clear plastic carrying case.

Ordering Information

Cat. No.	Tube Type	Body Dia.	Skirt Dia.	Length Less Prongs	Price 1-19
T-4	4 Pin	1.26	1.56	1.50	3.04
T-5	5 Pin	1.26	1.56	1.50	3.10
T-6	6 Pin	1.26	1.56	1.50	3.18
T-7-0	7 Pin Small	1.26	1.56	1.50	3.25
T-7-L	7 Pin Large	1.45	1.75	1.50	3.25
T-7-M	7 Pin Min.	0.75	1.03	1.50	1.65
T-8-0	8 Pin Octal	1.25	1.56	1.50	1.75
T-9-N	9 Pin Noval	0.87	1.16	1.50	1.85
T789	Set of types T-7-M, T-8-0, T-9-N, P1, in case.				5.90
P1	Plug-in Probe with 30" lead.				.52

Special Adapters Designed to Customer Specifications—Write Factory.

EXPERIMENTER'S TEST ADAPTERS SOCKET EXTENDERS

EXPERIMENTER'S TEST ADAPTERS. These are similar to the Socket Test Adapter but are less the shells and tabs so that connections can be cross-connected in any desired way. User must solder connections.

SOCKET EXTENDERS provide a replaceable unit for use in tube testers and expensive meters. Wear is shifted from the socket in the tester to the one in the extender. Sockets have beryllium copper silver plated contacts for long life. An all maled outside shell is used with socket leads soldered to plug pins.

Experimenter's Test Adapters

Cat. No.	Socket Type	Net Price 1-19
TX-8-0	Octal	1.43
TX-7-M	Miniature	.88
TX-9-N	Noval	.94
TX-789	Set of above three in kit	3.58

Socket Extenders

Cat. No.	Socket Type	Net Price 1-19
1262	Octal 8	1.75
1263	9 P. Noval	1.75
1264	7 P. Miniature	1.75

TX-8-0 OCTAL



1 264

7 P. MINIATURE

EXTENDED TUBE SOCKET TEST ADAPTERS

For most work the short, unshielded adapters are adequate. For hard to reach locations or where surrounding equipment restricts use of regular test adapters, the 3 to 4 inch extended adapter may be used. In these the leads between plug and socket are individually shielded to minimize coupling. The shield is brought out to a lug on the wall of the adapter and should be connected to the chassis being tested. Capacity to shield is approx. 8 mmf. per lead.



T7MS

Ordering Information

Cat. No.	Tube Type	Body Dia.	Skirt Dia.	Length Less Prongs	Price 1-19
T-7-M-S	7 Pin Min.	0.75	1.03	3.25	5.91
T-8-0-S	8 Pin Octal	1.25	1.56	4.00	5.56
T-9-N-S	9 Pin Noval	0.87	1.16	3.25	6.60
P1	Plug-in Probe with 30" lead				.52
T-789-S	Set of above in case				19.00

CURRENT TEST ADAPTERS

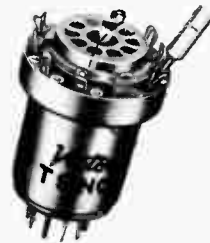


T9R-C

WITH P-2 PROBE

Versatile VECTOR CURRENT TEST ADAPTERS make possible tube circuit current or voltage measurements without cutting leads or making computations. All measurements may be made from the tube side of the electronic equipment without disturbing the chassis.

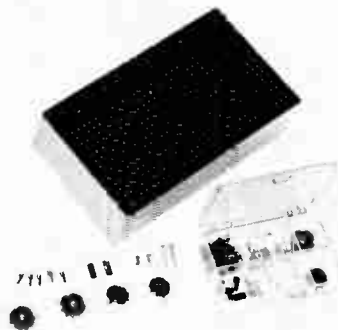
VECTOR CURRENT TEST ADAPTERS have two spring test tab elements for each pin. These test tab elements break the circuit when a dual-sided probe is inserted in test position. Probes are gripped by the test tabs and need not be held in position. Current is read at the meter where the two test leads are connected. The same test adapters and probe also permit voltage and wave form readings on any pin position, merely by connecting the leads jointly to the meter. The adapters have mica-filled shell and keyways, and may be used in a horizontal or vertical position.



Ordering Information

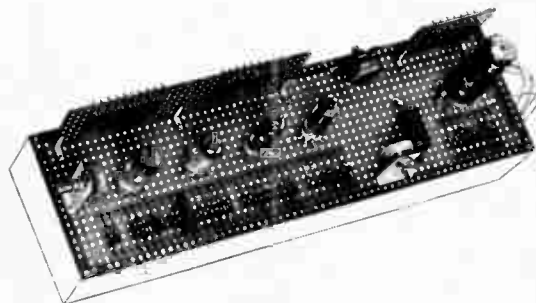
Cat. No.	Type	Net Price 1-19
T-7-M-C	7 Pin Min.	2.53
T-8-0-C	8-Pin Octal	3.19
T-9-N-C	9 Pin Noval	2.70
T-9-R-C	9 Pin Noval	3.65
T-12-C	12 Pin Compactron	3.85
P-2	Dual Sided Plug-in Probe, Required for above. Any Quantity	.79
T-789-C	Set of First 3 Adapters With P-2 Probe in Case	9.74
T-912-C	Set of Noval and Compactron Adapters With P-2 Probe in Case	8.29

## 20X STARTER ASSORTMENT



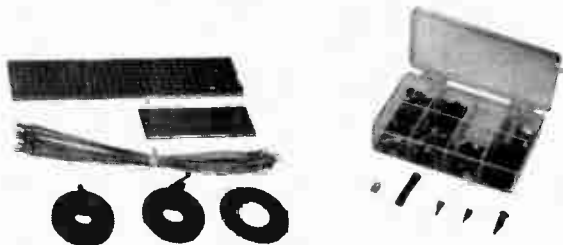
**20X STARTER ASSORTMENT**—4.8 x 8½ x 2" extruded aluminum Frame-Loc Chassis with 3/32" thick Vectorbard deck plus many other parts including: 3 each 7 and 9 pin tube sockets and 2 actual sockets with mounting hardware; 75 patented T9.4 Zip Push-In Terminals; 20 new T30N-2 Solderless Springclip with hand insertion tool; 3 sheets layout paper; 54 assorted screws, nuts, spacers. Ideal for beginners or simple circuits. \$ 6.75

## 21X BASIC MODEL KIT

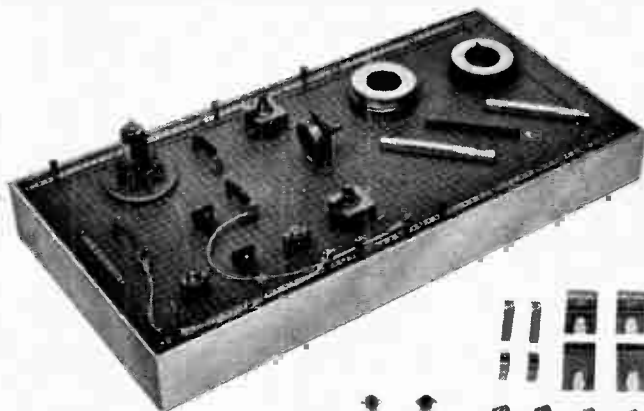


**21X KIT BASIC MODEL FOR LABS**—Large 4.8" x 17" x 2" new extruded aluminum Frame-Loc Rail chassis with 3/32" Vectorbard deck. Besides main deck, includes 2 extra Vectorbard pieces, more terminals and sockets. Detailed contents follow: 6 Transistor sockets include 2 power and 4 universal type; 3 each 7 and 9 pin skt. and 2 actual, 100 "Zip" Push-In Terminals, 50 solderless Springclips, 8 hookup patchcards, bus strip, terminal installing tools, grid layout paper, 4 pot and switch brackets, bare and insulated hookup wires, assorted screws, nuts, brackets, spacers. \$16.75

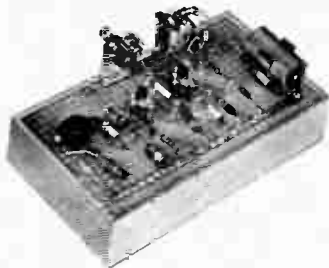
## 25X SOLDERLESS TUBE AND TRANSISTOR EXPERIMENTER'S CHASSIS KIT



**25X SOLDERLESS TUBE AND TRANSISTOR EXPERIMENTER'S CHASSIS KIT**—\$21.45 Dual type solderless kit with full complement of tube and transistor sockets. Belongs in every electronics lab. Differs from other Vector kits because it includes large number of Solderless U-Clip terminals and special solderless connectors for pots and switches, plus more of all other components. Detail of contents: 8½" x 17" x 2" Extruded Aluminum chassis frame with 3/32" Vectorbard deck, 2 power and 6 universal transistor sockets with pigtails, 3 each 7 and 9 pin tube sockets, 2 8 pin actual; 104 Zip Push-In Terminals, 90 Solderless Springclip terminals, 10 Solderless U-Clips, 10 hookup patchcards, bus strip, 8 wafers to make solderless sockets, terminal installing tools, bare and insulated wire, grid layout paper, 4 pot and switch brackets, 204 assorted screws, nuts, brackets.



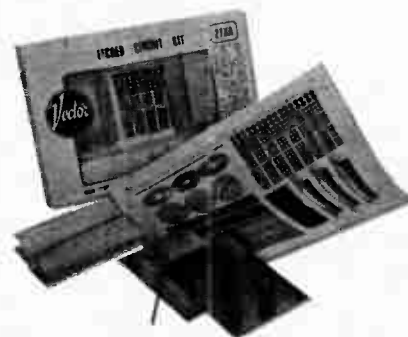
## 22X, 22XA TRANSISTOR CIRCUITRY KIT



**22X KIT FOR TRANSISTOR CIRCUITRY**—Special parts assortment for transistor circuitry. 4.8" x 8½" x 2" extruded aluminum Frame-Loc Chassis rail with 3/32" Vectorbard deck. Transistor sockets include 2 power type, 6 universal type, 75 Zip Push In Terminals, 20 Solderless Springclip terminals, 6 hookup patchcards, bus strip, terminal installing tools, bare and insulated hookup wire, 4 pot and switch brackets, 134 assorted screws, nuts, spacers. \$11.50

**22XA**—\$28.00 (Not illustrated)—Larger professional sized version of 22X above. Chassis extruded Aluminum Frame-Loc type 17" x 8½" x 2" with Vectorbard deck. Includes 2 power transistor sockets, 6 universal type transistor sockets with pig tail leads, 124 Zip Push-In Terminals, 100 Solderless Springclips, 18 Solderless U-Clips, 14 hookup patchcards, bus strip, terminal installing tools, bare and insulated wire, layout paper, 4 pot and switch brackets, 160 assorted brackets, screws, nuts.

## 27XA ETCHED CIRCUIT KIT



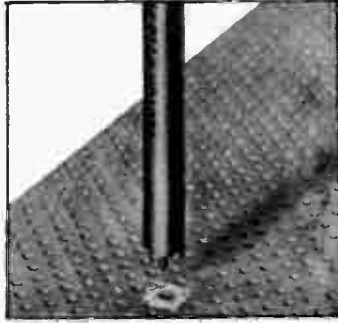
**27XA ETCHED CIRCUIT KIT**—\$6.50

**LOW COST—FAST—HAS EVERYTHING EXCEPT HOT WATER.** Specially designed for lab use in making uncomplicated etched circuits. Kit built around Vectoresist, Vector's rub-on resist transfer sheet. Resist lines, dots, or connector pattern transfer by rubbing to furnished 2 oz. copper clad prepunched boards in minutes. Then etch in etchant furnished in heavy plastic bag with special activator in as little as 30 minutes. Kit includes 2 copper clad boards, 4½" x 6½", .2 centers, 2 bags of etchant, 8½" x 11" sheet rub-on Vectoresist, layout paper, complete instructions. See Kit Accessories page for Vectoresist details.

VECTOR "NUMLETR"	CAT. NO. R393A-1
AAAAAA	12 34 56 ..... 32
BBBBB	12 ..... 32
EE	33 34 35 ..... 64
FF	33 ..... 64
YY	97 ..... 128
ZZZZZ	97 ..... 128

**COMBINATION RESIST AND DISPLAY TYPE**  
Semi transparent 10" x 15" sheets of 3/32" high letters and numbers spaced .265" intervals A through Z, AA to FF, 1-128 with duplicate lines of lower numbers and beginning letters. May be used on copper clad boards for resist in etching or for display use on prepunched Vectorboard with .265" spaced holes. Figures are "sharp" and transfer readily when sheet rubbed with ball pen or soft pencil. New white ink sheets can be used to specially label Vector Fixed Panel Patchboards with black surface.

Cat. No.	Description	Price per Sheet
R393A-1	Letters and numbers, black ink, Display and etch use	\$2.00
R393A-2	Letters and numbers, white ink, Display and etch use	2.00



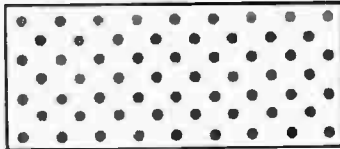
Use for isolating terminals from rest of copper cladding. Pilot pin fits .062 holes. Tool cuts ring of 3/16" or 1/4" diameter and leaves center copper "donut" around hole to provide solder tie for terminal. Tool shank fits any hand or machine drill chuck accepting 3/16" or 1/4" drill.

Cat. No.	Description	Price
P 116	Pad cutter tool cuts 1/4" ring	\$1.85
P 116A	Pad cutter tool cuts 3/16" ring	1.98



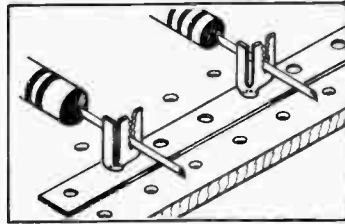
**RUB-ON RESIST** for making prototype etched circuits. Eliminates messy tape and eliminates undercutting of circuit junctions. Resist ink is printed on semitransparent film sheets 10" x 15" and transfers onto copper clad board when back is rubbed with ball point pen. Available in multipurpose printed sheets with assortment of various width lines, pads, circles and 43 contact connector with .156" spaced contacts or specialized sheets shown below. Works in ferric chloride or ammonium persulfate etchant.

Cat. No.	Description	Price per Sheet
R322	All purpose sheet with connect. pattern	\$2.00/sheet
R405	Sheet of assorted straight lines 1/64" to 1/2" wide	2.00/sheet
R406	Transistor Pad patterns, 3/32" and 1/8" pads	2.00/sheet



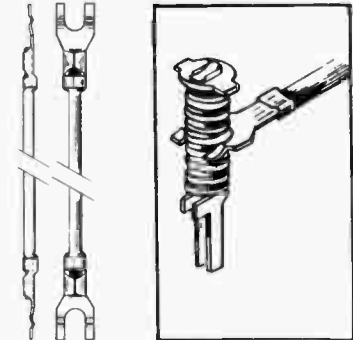
Light weight tracing paper overprinted with dots corresponding to hole layout of prepunched Vectorboard. Dots "wash out" in copying machine leaving circuit in relief. Saves time in circuit and component layout on pre-punched Vectorboard.

Cat. No.	Description	Price per Pad
R173G	Pad 50 sheets 8 1/2" x 11" "G" pattern	\$1.45
R173F	Pad 50 sheets 8 1/2" x 11" "F" pattern	2.00
R173A	Pad 50 sheets 8 1/2" x 11" "A" pattern	1.45
R173A-1	Pad 50 sheets 8 1/2" x 17" "A" pattern	2.50
R173H	Pad 50 sheets 8 1/2" x 11" "H" pattern	2.67



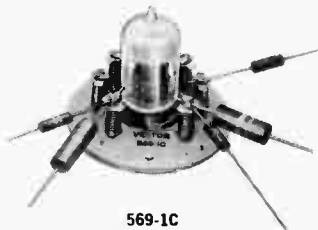
Prepunched narrow brass tinned strip mounts to prepunched boards with Zip Push-In terminals or screws. Make connections wherever required quickly. New T104 type has .2" spaced holes for convenient mounting on "E", "F", "G", or "H" pattern prepunched Vectorboard.

Cat. No.	Description	Price
T57	16" long. .093" holes spaced .265"	\$1.10/Pkg. 10
T58	8" long. .093" holes spaced .265"	.70/Pkg. 10
T104	17" long. .062" holes spaced .2"	1.10/Pkg. 10



**INTERCONNECTION BETWEEN SPRINGCLIP TERMINALS QUICK, EASY.** Corrugated spode lug slips between spring coils of T30N Springclip or T32 U-Clip for fast interconnections. Vinyl insulated 20 gage wire, plated brass lugs.

Cat. No.	Description	Price
K6.06	6" Overall Lug ea. end	\$3.00/25
K6.09	9" Overall Lug ea. end	3.00/25
K6.15	15" Overall Lug ea. end	3.00/25



569-1C

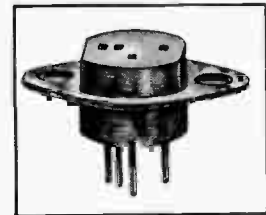
**SOLDERLESS SOCKETS** save experimental time. Multiple connections can be made to any pin by connecting wires to corresponding **SOLDERLESS SPRINGCLIP TERMINAL** which is permanently connected to socket contact. Tube socket types mount on Vectorboard with furnished hardware; 570B press fits.

Cat. No.	Description	Price
567-1C	Solderless Octal Socket	\$1.50
568-1C	Solderless Noval (9 pin) Socket	1.65
569-1C	Solderless Miniature (7 pin) Socket	1.35
570B	Solderless Universal Transistor Socket	1.20



Handy brackets punched to accept 3/8" or 1/2" diameter shafts provide easy convenient mounts for "pots" or switches in vertical or horizontal position on prepunched chassis. Attach with screws through two 1/8" diameter holes spaced .265" in base.

Cat. No.	Description	Price
B-20	Vertical Mount	\$.58/Pkg. 4
B-20A	Horizontal Mount	.46/Pkg. 4



RA4.5

Mica-filled phenolic castings with beryllium copper silver plated contacts. Extra long socket tabs provide easy connection. Contact arrangement accepts 3 in-line or JEDEC based configuration with leads on .2 circle. Model RA4.51 has 4" pigtail leads attached to each contact for direct connection to terminals.

Cat. No.	Description	Price
RA4	Like RA4.5 except no saddle	\$.27
RA4.5	Dual type transistor socket with saddle	.25
RA4.51	Same as RA4.5 with 4" contact leads	.39

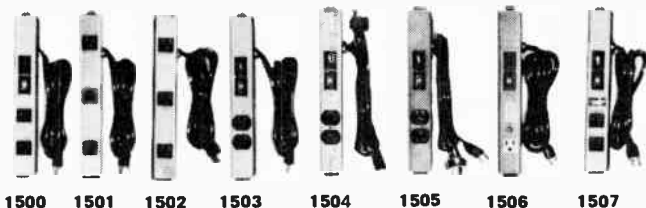
# waber

ELECTRONICS INC

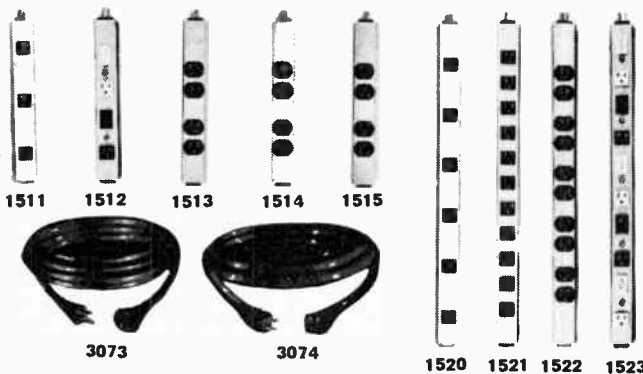
## WABER Pick-a-Strip OUTLET BOXES

**NEW!** WABER "PICK-A-STRIP" LETS YOU MIX 'EM OR MATCH 'EM FOR ANY COMBINATION — ANY LENGTH

TAKE  
ANY ONE  
OF THESE  
MASTERS



AND  
ADD ANY  
COMBINATION  
OF THESE  
SLAVES



Now you can combine any variety of slaves to any master to give you outlets ... as you want them ... controlled by the master best suited for your requirements. You can intermix slaves, add to make any desired length, and space out with Waber high quality extension cords, permitting placement of Pick-A-Strip units where you want them. These outlet boxes provide a high degree of flexibility never before available, and they are completely wired, ready to plug in. Make your choice from the wide variety shown here, and have exactly what you need.

All units are of sturdy seamless steel construction, finished in silver gray hamertone. Rating is 15 amperes, 130 volts continuous duty. The master and slave units are 12 3/4" L x 1 1/8" W x 1 1/2" H with 12 3/8" mounting centers. The 24" models are 24 3/4" L x 1 1/8" W x 1 1/2" H with 24 3/8" mounting centers.

The timer models are slightly larger in size, but mate perfectly with all other "Pick-A-Strip" units. Their size is 12 3/4" L x 1 1/2" H with 12 3/8" mounting centers.

### WABER MASTER UNITS

**WABER MODEL 1500 SERIES**  
This popular model has 2 "U" ground outlets in addition to the female through connector, on-off switch, pilot light, and your choice of fuse or circuit-breaker protection and 6 or 15 foot neoprene cord-set. Component parts are UL approved.

	Net
Model 1500 (fuse, 6' cord-set) .....	\$6.95
Model 1500-15 (fuse, 15' cord-set) .....	7.95
Model 1500CB (circuit breaker, 6' cord-set) .....	7.95
Model 1500CB-15 (circuit breaker, 15' cord-set) ....	8.95

**WABER MODEL 1501 SERIES**  
Provided with this model are 3 "U" ground outlets in addition to the female through connector. These units have fuse or circuit breaker protection, and 6- or 15-foot neoprene cord-set.

	Net
Model 1501 (fuse, 6' cord-set) .....	\$6.50
Model 1501-15 (fuse, 15' cord-set) .....	7.50
Model 1501CB (circuit breaker, 6' cord-set) .....	7.50
Model 1501CB-15 (circuit breaker, 15' cord-set) .....	8.50

**WABER MODEL 1502 SERIES**  
This unit has 3 "U" ground outlets in addition to the female through connector. This unit has outlets only and your choice of 6- or 15-foot cord-set. UL approved components.

	Net
Model 1502 (6' cord-set) .....	\$5.25
Model 1502-15 (15' cord-set) .....	6.25

**WABER MODEL 1503 SERIES**  
This series features a duplex "U" ground outlet in addition to the female through connector, on-off switch, bright pilot light, your choice of fuse or circuit breaker protection, and 6 or 15-foot neoprene cord-set. Components are UL approved.

	Net
Model 1503 (fuse, 6' cord-set) .....	\$6.95
Model 1503-15 (fuse, 15' cord-set) .....	7.95
Model 1503CB (circuit breaker, 6' cord-set) .....	7.95
Model 1503CB-15 (circuit breaker, 15' cord-set) .....	8.95

**WABER MODEL 1504 SERIES**  
This is the same as 1503 series above except that the duplex outlet is of the locking type.

	Net
Model 1504 (fuse, 6' cord-set) .....	\$15.50
Model 1504-15 (fuse, 15' cord-set) .....	16.50
Model 1504CB (circuit breaker, 6' cord-set) .....	16.50
Model 1504CB-15 (circuit breaker, 15' cord-set) .....	17.50

**WABER MODEL 1505 SERIES**  
This is the same as Model 1503 series except that the duplex outlet is a crow's foot type.

	Net
Model 1505 (fuse, 6' cord-set) .....	\$15.50
Model 1505-15 (fuse, 15' cord-set) .....	16.50
Model 1505CB (circuit breaker, 6' cord-set) .....	16.50
Model 1505CB-15 (circuit breaker, 15' cord-set) .....	17.50

**WABER MODEL 1506 SERIES**  
This unit has a master on-off switch, pilot light, "U" ground outlet controlled by its own switch and pilot light and female through connector. Your choice of fuse or circuit breaker protection, 6 or 15-foot neoprene cord-set.

	Net
Model 1506 (fuse, 6' cord-set) .....	\$7.50
Model 1506-15 (fuse, 15' cord-set) .....	8.50
Model 1506CB (circuit breaker, 6' cord-set) .....	8.50
Model 1506CB-15 (circuit breaker, 15' cord-set) .....	9.50

**WABER MODEL 1507 SERIES**  
This versatile unit has 2 "U" ground outlets, on-off switch, pilot light, and a 0 to 150 volt edgewise reading AC voltmeter. Choice of fuse or circuit breaker protection, 6 or 15-foot neoprene cord-set. In addition, unit has a female through connector.

	Net
Model 1507 (fuse, 6' cord-set) .....	\$8.95
Model 1507-15 (fuse, 15' cord-set) .....	9.95
Model 1507CB (circuit breaker, 6' cord-set) .....	9.95
Model 1507CB-15 (circuit breaker, 15' cord-set) .....	10.95

### WABER SLAVE MODELS

All of the slave models listed below are designed with a male connector on one end and a standard "U" ground female connector on the other. This enables these units to be plugged one into the other. These connectors are in addition to the components listed below.

		Net
Model 1511	73 "U" ground receptacles.....	\$3.75
Model 1512	2 "U" ground outlets each controlled by its own color coded switch and pilot light) .....	5.00
Model 1513	Four "U" ground outlets) .....	3.75
Model 1514	4 locking outlets, duplex type).....	10.75
Model 1515	4 crow's foot outlets, duplex type).....	10.75

### WABER 24 INCH SLAVE MODELS

		Net
Model 1520	6 "U" ground outlets).....	\$6.95
Model 1521	11 "U" ground outlets) .....	8.50
Model 1522	10 "U" ground outlets, duplex type) .....	6.95
Model 1523	5 "U" ground outlets, each controlled by its own on-off switch and pilot light, color coded).....	9.50

### WABER TIMER SLAVE MODEL

		Net
Model 1516	12-hour timer and 2 "U" ground outlets. Timer turns off at end of cycle) .....	\$12.60
Model 1517	12-hour timer and 2 "U" ground outlets. Timer turns on at end of cycle) .....	12.60

### WABER NEOPRENE EXTENSION CORDS

These quality extension cords are ideal as spacers between slave units or can be used instead of a master unit. Insulation on both conductors and outer jacket is finest heat and oil resistant duPont neoprene. All plugs and receptacles are molded on. These UL approved cord-sets are rated at 15 amperes, 130 volts.

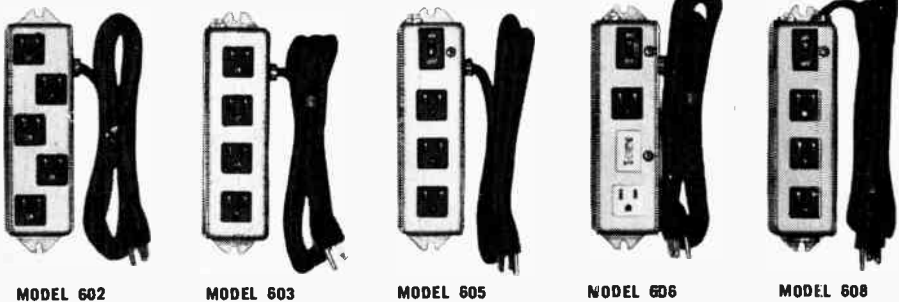
		Net
Model 3073 (7' extension cord) .....		\$2.61
Model 3074 (16' extension cord) .....		4.43

# WABER Compact OUTLET BOXES

SECTION 2100

# waber

E L E C T R O N I C S I N C



**MODEL 602**      **MODEL 603**      **MODEL 605**      **MODEL 606**      **MODEL 608**

**CHOOSE THE WABER "COMPACT" TAILOR MADE FOR YOUR APPLICATION FROM THESE POPULAR HEAVY-DUTY MODELS**

Compact in size, these sturdy Waber units provide quality "U" ground type outlets in a variety of configurations for schools,

labs, or industry. They are particularly useful for OEM applications. Custom variations can be made to meet your specific needs.

**MODEL 602 SERIES, 5 "U" Ground Outlets Only**

	Net
Model 602 (6' cord-set) .....	\$4.80
Model 602-15 (15' cord-set) .....	5.80

**MODEL 603 SERIES, 4 "U" Ground Outlets, Fuse or Push-To-Reset Circuit Breaker**

Model 603 (fuse, 6' cord-set) .....	\$5.25
Model 603-15 (fuse, 15' cord-set) .....	6.25
Model 603CB (circuit breaker, 6' cord-set) .....	6.25
Model 603CB-15 (circuit breaker, 15' cord-set) .....	7.25

**MODEL 605 SERIES, 3 "U" Ground Outlets, Pilot Light, On-Off Switch, Fuse or Push-To-Reset Circuit Breaker**

Model 605 (fuse, 6' cord-set) .....	\$5.95
Model 605-15 (fuse, 15' cord-set) .....	6.95
Model 605CB (circuit breaker, 6' cord-set) .....	6.95
Model 605CB-15 (circuit breaker, 15' cord-set) .....	7.95

**MODEL 606 SERIES, 2 Color-Coded Sets (Switch, Pilot Light, Outlet) Fuse or Push-To-Reset Circuit Breaker**

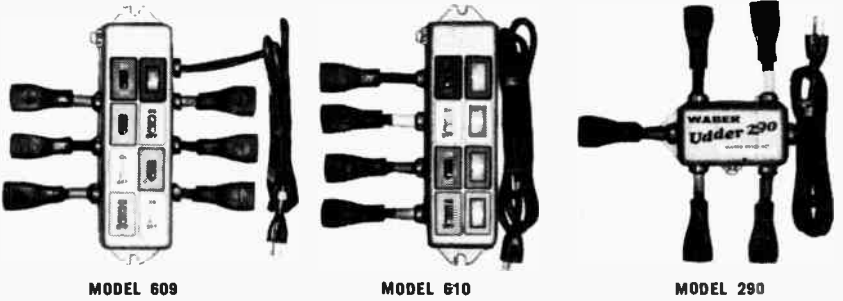
Model 606 (fuse, 6' cord-set) .....	\$5.95
Model 606-15 (fuse, 15' cord-set) .....	6.95
Model 606CB (circuit breaker, 6' cord-set) .....	6.95
Model 606CB-15 (circuit breaker, 15' cord-set) .....	7.95

**MODEL 608 SERIES, Pilot Light, On-Off Switch, Fuse or Push-To-Reset Circuit Breaker, and 4 "U" Ground Outlets. Outlet On One End and Cord-Set Out Other End For Series-String Wiring.**

Model 608 (fuse, 6' cord-set) .....	\$6.50
Model 608-15 (fuse, 15' cord-set) .....	7.50
Model 608CB (circuit breaker, 6' cord-set) .....	7.50
Model 608CB-15 (circuit breaker, 15' cord-set) .....	8.50

**SPECIFICATIONS** Tough Neoprene UL approved cord-set ■ Rated at 15 amperes, 130 volts continuous duty ■ Steel case finished in silver gray textured hammertone ■ Your choice of UL approved fuse or push-to-reset circuit breaker ■ All 600 series models have 8¾" mounting centers, Size 8¾" x 2¼" x 1½".

## NEW! WABER "UDDER" TYPE OUTLET BOXES



## PLENTY OF QUALITY FEATURES ARE PACKED INTO THESE NEW WABER HEAVY-DUTY UDDER MODELS

Flexible "U" ground outlets are the big feature in the new Waber "Udder" Line. Model 609 has 6 color-coded switch-outlet sets with master switch and pilot light, and choice of 6 or 15-foot cord-set, fuse or push-to-reset circuit breaker.

Waber Model 610 gives you 4 color-coded switch-outlet sets with individual pilot lights. Your choice of 6 or 15-foot cord-set, fuse or push-to-reset circuit breaker.

Waber Model 290 provides 5 "Udder" "U" ground outlets in a small case, size 4¾" x 2½" with 4¾" mounting centers.

	Net		Net
Model 609 (fuse, 6' cord-set) .....	\$13.50	Model 610CB-15 (circuit breaker, 15' cord-set) ..	14.50
Model 609-15 (fuse, 15' cord-set) .....	14.50	Model 290 (6' cord set) .....	5.25
Model 609CB (circuit breaker, 6' cord-set) ..	14.50	Model 290-15 (15' cord-set) .....	6.25
Model 609CB-15 (circuit breaker, 15' cord-set) ..	15.50	Model 290F (fuse, 6' cord-set)....	5.90
Model 610 (fuse, 6' cord-set) .....	12.50	Model 290F-15 (fuse, 15' cord-set).....	6.90
Model 610-15 (fuse, 15' cord-set) .....	\$13.50	Model 290CB (circuit breaker, 6' cord-set)....	6.90
Model 610CB (circuit breaker, 6' cord-set) ..	13.50	Model 290CB-15 (circuit breaker, 15' cord-set)....	7.90

**NEW!**

### U-GROUND PLUG-IN WALL OUTLET

**MODEL 611**

Get four "U" ground outlets from one wall outlet with this new Waber Model 611 outlet box. Mounting ears enable you to faster unit to wall securely. Fuse or push-to-reset circuit breaker.

Model 611 (fuse) .....	\$4.75
Model 611CB (circuit breaker) .....	5.75
Model 611B (no fuse or crct. brkr.) ..	4.25

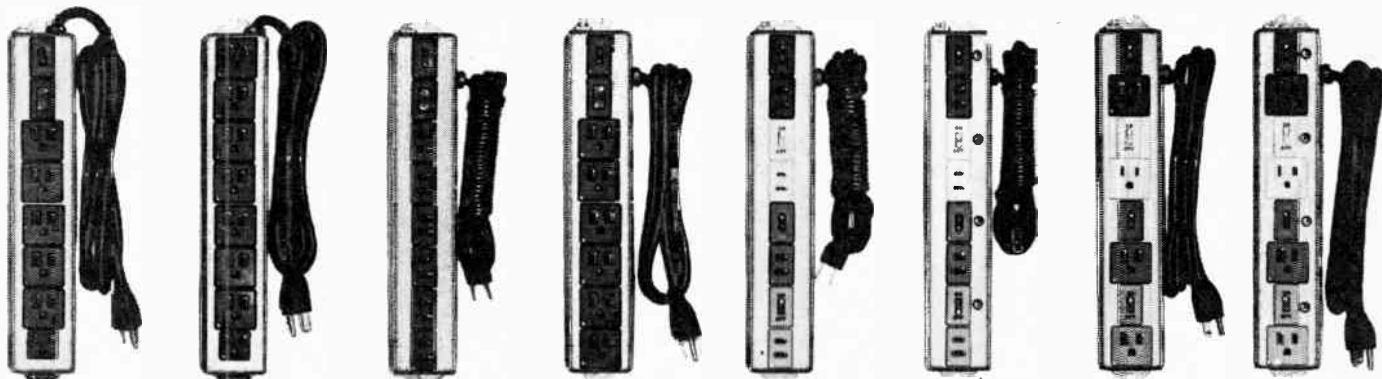


**ALL WABER MODELS COMPLETELY WIRED Ready To Plug In!**

# w a b e r

E L E C T R O N I C S I N C

## WABER HEAVY DUTY OUTLET BOXES

Model  
15 SeriesModel  
17 SeriesModel  
20 SeriesModel  
24 SeriesModel  
30 SeriesModel  
30P SeriesModel  
32 SeriesModel  
32P Series

## THESE POPULAR WABER HEAVY-DUTY ELECTRICAL OUTLET BOXES COMPLETELY WIRED FOR INSTANT USE...IDEAL FOR LAB, SCHOOL OR INDUSTRY

Here are eight series of Waber Models of proven utility. Models 15 and 17 are in-line units designed for series stringing with an outlet on one end and the cord-set coming out of the other. Model 15 is the control unit, with "on-off" switch, pilot light, fuse or circuit breaker, and seven "U" ground outlets. Model 17 is the slave unit, with 9 "U" ground outlets only.

Waber Models 20 and 24 have 6 outlets controlled by an "on-off" switch, pilot light, and panel-mounted fuse or circuit breaker. Model 20 is of the 2-wire type and Model 24 is the 3-wire "U" ground type.

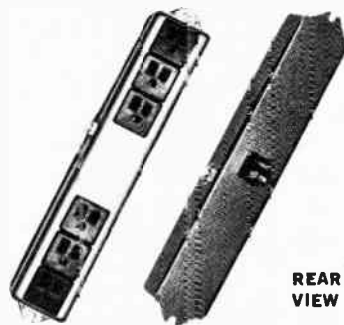
NET

Model 15 (fuse, 6' cord-set) .....	\$ 8.75
Model 15-15 (fuse, 15' cord-set) .....	9.75
Model 15CB (circuit breaker, 6' cord-set) .....	9.75
Model 15CB-15 (circuit breaker, 15' cord-set) .....	10.75
Model 17 (6' cord-set) .....	6.75
Model 17-15 (15' cord-set) .....	7.75
Model 20 (fuse, 10' cord-set) .....	5.95
Model 20CB (circuit breaker, 10' cord-set) .....	6.95
Model 24 (fuse, 6' cord-set) .....	8.50
Model 24-15 (fuse, 15' cord-set) .....	9.50
Model 24CB (circuit breaker, 6' cord-set) .....	9.50
Model 24CB-15 (circuit breaker, 15' cord-set) .....	10.50
Model 30 (fuse, 10' cord-set) .....	5.95
Model 30CB (circuit breaker, 10' cord-set) .....	6.95
Model 30P (fuse, 10' cord-set) .....	7.50
Model 30PCB (circuit breaker, 10' cord-set) .....	8.50
Model 32 (fuse, 6' cord-set) .....	8.50
Model 32-15 (fuse, 15' cord-set) .....	9.50
Model 32CB (crct. brkr., 6' cord-set) .....	9.50
Model 32CB-15 (crct. brkr., 15' cord-set) .....	10.50
Model 32P (fuse, 6' cord-set) .....	10.50
Model 32P-15 (fuse, 15' cord-set) .....	11.50
Model 32PCB (crct. brkr., 6' cord-set) .....	11.50
Model 32PCB-15 (crct. brkr., 15' cord-set) .....	12.50

Waber Models 30 and 32 feature 4 color-coded switch-outlet sets, protected by either a fuse or circuit breaker. Model 30 is the 2-wire type and Model 32 is the 3-wire "U" ground type. These same units are available with a pilot light for each switch outlet group in the Models 30P and 32P series.

**SPECIFICATIONS** Panel-mounted fuse or circuit breaker ■ Tough Neoprene cord set ■ All snap-in components, fuse posts, circuit breakers, cord-sets UL approved ■ Rated 15 amperes 130 volts continuous duty ■ 12 $\frac{3}{4}$ " mounting centers ■ Size: 13 $\frac{1}{8}$ "x2 $\frac{3}{8}$ "x1 $\frac{1}{8}$ " ■ Steel case finished in silver gray textured hammertone ■ Convenient mounting ears.

### MAKE 6 OUTLETS FROM 1 WALL OUTLET WITH THIS NEW WABER MODEL 19

REAR  
VIEW

Male plug-in base enables you to multiply your outlets. Plug-in male outlet and secure mounting ears. You get 6 heavy duty "U" ground outlets, protected by a panel mounted fuse or circuit breaker.

Model 19 (fuse) .....	\$6.75
Model 19CB (circuit breaker) .....	7.75
Model 19B (no fuse or crct. brkr.) .....	6.25

WABER  
ELECTRONICS  
INC.

# WABER DELUXE OUTLET BOXES

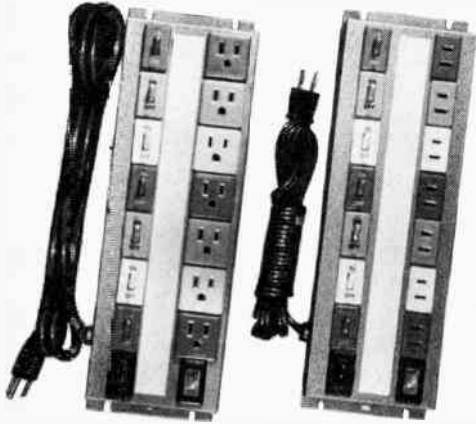
# waber

ELECTRONICS INC

## WABER HEAVY-DUTY DELUXE OUTLET BOXES FEATURE INDIVIDUAL CONTROL, MASTER CONTROL AND CENTER WRITE-ON STRIP

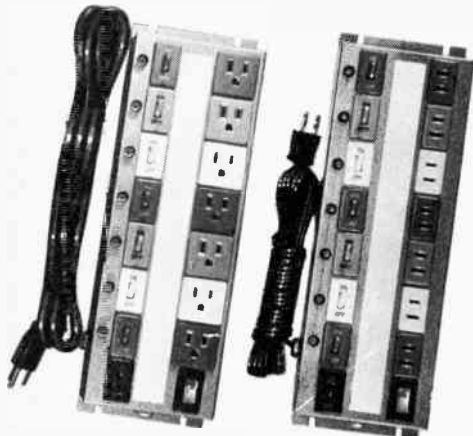
Waber Deluxe Models 25 and 35 provide 7 color-keyed switch-outlet groups, a panel mounted fuse or circuit breaker, pilot light, and a master "on-off" switch. These models feature a center "write-on" strip for immediate identification. The 25 series is the "U" ground type with your choice of a 6 or 15-foot Waber neoprene cord-set. Model 35 is the 2-wire type with 10-foot neoprene cord-set.

Waber Deluxe Models 25P and 35P series have the same configuration as the 25 and 35, with the addition of a bright pilot light for each switch-outlet set. All Waber outlet boxes are pre-wired, ready for use.



MODEL 25 SERIES

MODEL 35 SERIES



MODEL 25P SERIES

MODEL 35P SERIES

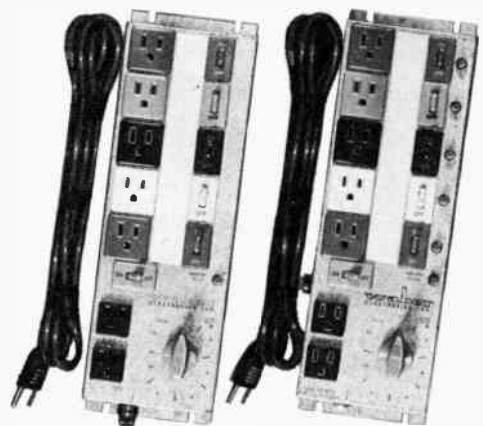
	NET
Model 25 (fuse, 6' cord-set)	\$15.50
Model 25-15 (fuse, 15' cord-set)	16.50
Model 25CB (circuit breaker, 6' cord-set)	16.50
Model 25CB-15 (circuit breaker, 15' cord-set)	17.50
Model 35 (fuse, 10' cord-set)	13.50
Model 35CB (circuit breaker, 10' cord-set)	14.50
Model 25P (fuse, 6' cord-set)	19.50
Model 25P-15 (fuse, 15' cord-set)	20.50
Model 25PCB (circuit breaker, 6' cord-set)	20.50
Model 25PCB-15 (circuit breaker, 15' cord-set)	21.50
Model 35P (fuse, 10' cord-set)	17.50
Model 35PCB (circuit breaker, 10' cord-set)	18.50

**SPECIFICATIONS** Models 25 and 35 Series ■ Panel-Mounted Fuse or Circuit Breaker ■ Bright Neon Pilot Light ■ Master "On-off" Switch ■ 7 Color-Keyed Switch Outlet Groups ■ Tough Waber Neoprene Cord-set ■ UL-approved Components ■ 12 $\frac{3}{4}$ " Mounting Centers ■ Size 13 $\frac{1}{8}$ "x4 $\frac{3}{4}$ "x1 $\frac{5}{8}$ " ■ Rated at 15 Amperes, 130 Volts Continuous Duty ■ Steel Case Finished in Silver Gray Textured Hammertone.

## NEW! These Waber Deluxe Units Now Equipped With Timers

Now you can have the popular Waber Deluxe Models with timers. You can set the timer for up to 12 hours. Two types are available. The timer in Model 26 Series turns power to the unit "on" at the end of the preset time and Model 27 is designed to turn power off at the end of the pre-set time.

	NET
Model 26 (fuse, 6' cord-set)	\$24.00
Model 26-15 (fuse, 15' cord-set)	25.00
Model 26CB (circuit breaker, 6' cord-set)	25.00
Model 26CB-15 (circuit breaker, 15' cord-set)	26.00
Model 26P (fuse, 6' cord-set)	28.00
Model 26P-15 (fuse, 15' cord-set)	29.00
Model 26PCB (circuit breaker, 6' cord-set)	29.00
Model 26PCB-15 (circuit breaker, 15' cord-set)	30.00
Model 27 (fuse, 6' cord-set)	24.00
Model 27-15 (fuse, 15' cord-set)	25.00
Model 27CB (circuit breaker, 6' cord-set)	25.00
Model 27CB-15 (circuit breaker, 15' cord-s ')	26.00
Model 27P (fuse, 6' cord-set)	28.00
Model 27P-15 (fuse, 15' cord-set)	29.00
Model 27PCB (circuit breaker, 6' cord-set)	29.00
Model 27PCB-15 (circuit breaker, 15' cord-set)	30.00

26 SERIES  
27 SERIES26P SERIES  
27P SERIES

WABER  
ELECTRONICS INC.

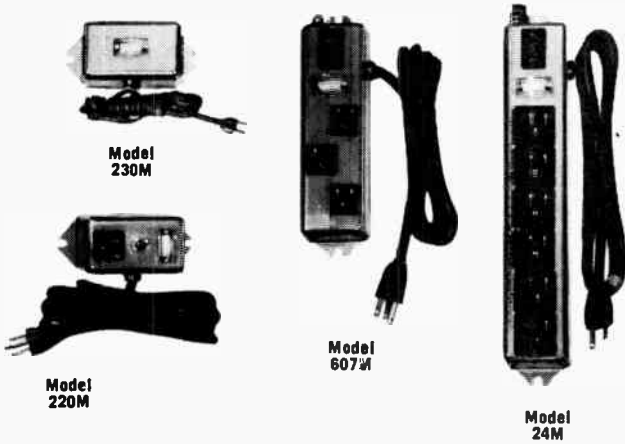


# w a b e r

E L E C T R O N I C S I N C

## WABER METER AND TIMER OUTLET BOXES

### NEW! WABER 15-AMP MODELS NOW EQUIPPED WITH TIMERS!



Model 42  
Model 43

Model 13  
Model 14

Model 613  
Model 614

### WABER LINE VOLTAGE MONITORING METER MODELS FOR CONTINUOUS CHECKING

#### WABER MODEL 220M LINE VOLTAGE CHECKER

Crystal clear, easy to read, wide angle edgewise reading illuminated AC Voltmeter in a handsome drawn steel case. Reads from 0 to 150 volts. 6-foot cord-set. Size: 4 $\frac{3}{4}$ " x 2 $\frac{1}{4}$ " with 4 $\frac{3}{8}$ " mounting centers. Model 220M .....Net \$4.95

#### WABER MODEL 230M OUTLET BOX FEATURES ILLUMINATED AC VOLTMETER

Continuous monitoring of AC line voltage is feature of this new model with the illuminated edgewise reading of from 0 to 150 volts. Unit includes "on-off" switch, "U" ground outlet, and your choice of 6 or 15-foot neoprene cord-set, fuse or push-to-reset circuit breaker. Case is sturdy steel gray hammertone. Size: 4 $\frac{3}{4}$ " x 2 $\frac{1}{4}$ " x 4 $\frac{3}{8}$ " mounting centers.

	Net
Model 230M (fuse, 6' cord-set) .....	\$7.50
Model 230M-15 (fuse, 15' cord-set) .....	8.50
Model 230MCB (circuit breaker, 6' cord-set) .....	8.50
Model 230MCB-15 (circuit breaker, 15' cord-set) .....	9.50

#### WABER MODEL 607M OUTLET BOX WITH ILLUMINATED AC VOLTMETER

This highly useful outlet box features an "on-off" switch with three "U" ground outlets, with an illuminated edgewise reading 0 to 150 volts AC Voltmeter for continuous line voltage checks. Your choice of a 6 or 15-foot neoprene cord-set, fuse or push-to-reset circuit breaker protection. Size: 8 $\frac{1}{8}$ "x2 $\frac{1}{4}$ "x1 $\frac{1}{2}$ " with 8 $\frac{1}{4}$ " mounting centers.

	Net
Model 607M (fuse, 6' cord-set) .....	\$ 8.95
Model 607M-15 (fuse, 15' cord-set) .....	9.95
Model 607MCB (circuit breaker, 6' cord-set) .....	9.95
Model 607MCB-15 (circuit breaker, 15' cord-set) .....	10.95

#### WABER MODEL 24M OUTLET BOX FEATURES ILLUMINATED AC VOLTMETER

Our popular Model 24 series, now available with an illuminated voltmeter, provides continuous check of AC line voltage. The illuminated wide angle, edgewise reading meter monitors from 0 to 150 AC Volts. Included also are an "on-off" switch, 6 "U" ground outlets, and your choice of a 6 or 15-foot neoprene cord-set, fuse or circuit breaker.

	Net
Model 24M (fuse, 6' cord-set) .....	\$11.95
Model 24M-15 (fuse, 15' cord-set) .....	12.95
Model 24MCB (circuit breaker, 6' cord-set) .....	12.95
Model 24MCB-15 (circuit breaker, 15' cord-set) .....	13.95

#### WABER MODEL 42 AND 43 SERIES WITH UP TO 12-HOUR TIMER

5 "U" ground outlets, neon pilot light, your choice of 6 or 15-foot neoprene line cord, fuse or push-to-reset circuit breaker, and a reliable timer with settings of up to 12 hours. Model 42 is designed to turn power off at the conclusion of the timed interval, and Model 43 is designed to turn power on. Size: 13 $\frac{1}{8}$ " x 2 $\frac{3}{8}$ " x 1 $\frac{1}{8}$ " with 12 $\frac{3}{4}$ " mounting centers.

	Net
Model 42 (fuse, 6' cord-set) .....	\$17.00
Model 42-15 (fuse, 15' cord-set) .....	18.00
Model 42CB (circuit breaker, 6' cord-set) .....	18.00
Model 42CB-15 (circuit breaker, 15' cord-set) .....	19.00
Model 43 (fuse, 6' cord-set) .....	17.00
Model 43-15 (fuse, 15' cord-set) .....	18.00
Model 43CB (circuit breaker, 6' cord-set) .....	18.00
Model 43CB-15 (circuit breaker, 15' cord-set) .....	19.00

#### WABER MODEL 13 AND 14 SERIES TIMER MODELS

These popular units provide up to 12 hours of timing, and have a neoprene cord-set. The 6 outlets are timer-controlled. Model 18 turns power off at the end of the timed interval, and Model 19 turns power on. Size: 13 $\frac{1}{8}$ " x 2 $\frac{3}{8}$ " x 1 $\frac{1}{8}$ " with 12 $\frac{3}{4}$ " mounting centers.

	Net
Model 13 (6' cord-set) .....	\$15.00
Model 13-15 (15' cord-set) .....	16.00
Model 14 (6' cord-set) .....	16.00
Model 14-15 (15' cord-set) .....	17.00

#### WABER MODEL 613 AND 614 COMPACT SERIES TIMER MODELS

2 timed outlets, fuse or push-to-reset circuit breaker, and your choice of 6 or 15-foot neoprene cord-set are featured in this compact unit with up to 12-hour timer control. Model 613 turns power off at the end of the preset interval. Model 614 turns power on. Size: 8 $\frac{5}{8}$ "x2 $\frac{1}{4}$ "x1 $\frac{1}{2}$ " with 8 $\frac{1}{4}$ " mounting centers.

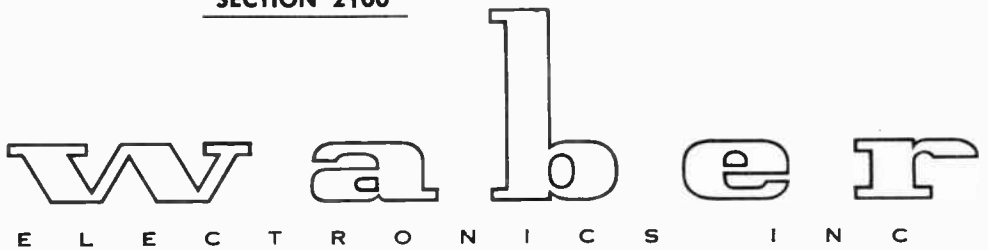
	Net
Model 613 (fuse, 6' cord-set) .....	\$13.00
Model 613-15 (fuse, 15' cord-set) .....	14.00
Model 613CB (circuit breaker, 6' cord-set) .....	14.00
Model 613CB-15 (circuit breaker, 15' cord-set) .....	15.00
Model 614 (fuse, 6' cord-set) .....	13.00
Model 614-15 (fuse, 15' cord-set) .....	14.00
Model 614CB (circuit breaker, 6' cord-set) .....	14.00
Model 614CB-15 (circuit breaker, 15' cord-set) .....	15.00

**Need Outlets In A Hurry?**

**ALL WABER MODELS ARE PRE-WIRED . . .  
JUST PLUG IN!**



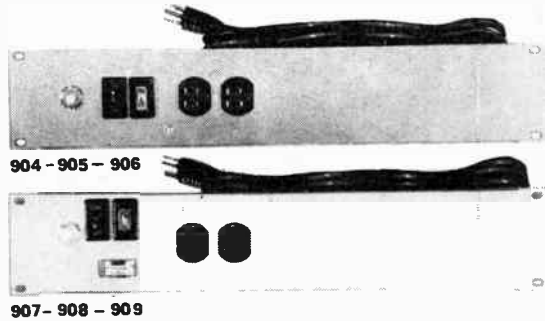
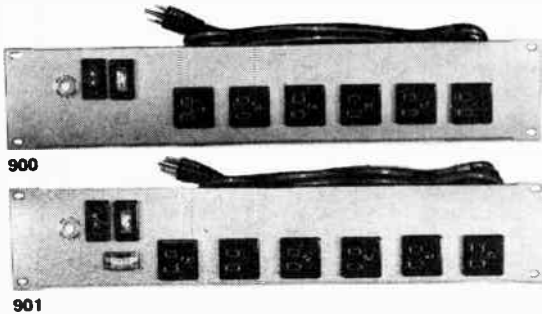
**WABER  
RACK MOUNT  
OUTLET BOXES**



**POWER UP YOUR RACKS WITH THESE PRE-WIRED WABER OUTLET PANELS**

Waber pre-wired, ready-to-use, master power controls provide a quick and easy power source for standard relay racks. You have your choice from this great variety of configurations with outlets on the outside, inside, or combinations of both. Choose the Waber pre-wired panel you need from the many standard

units shown here. UL Cord-set has neoprene-insulated conductors with an overall neoprene jacket. All rack panels are 3½" x 19" in size except series 903, 911, 912, 913 which are 1¾" x 19". All Waber outlet boxes are rated at 15 amperes, 130 volts continuous duty.



**WABER MODEL 900 SERIES RACK PANEL OUTLET BOXES**

These units feature an "on-off" switch, pilot light, fuse or push-to-reset circuit breaker, 6 "U" ground outlets, and your choice of a 6 or 15-foot neoprene cord-set. All component parts UL approved.

	Net
Model 900 (fuse, 6' cord-set) .....	\$10.95
Model 900-15 (fuse, 15' cord-set) .....	11.95
Model 900CB (circuit breaker, 6' cord-set) .....	11.95
Model 900CB-15 (circuit breaker, 15' cord-set) .....	12.95

**WABER 901 RACK MOUNT FEATURES AC VOLTMETER**

This unit has all of the features of the 900 series, plus a handsome, edgewise reading AC Voltmeter for monitoring voltages of from 0 to 150 volts AC.

Model 901 (fuse, 6' cord-set) .....	\$14.50
Model 901-15 (fuse, 15' cord-set) .....	15.50
Model 901CB (circuit breaker, 6' cord-set) .....	15.50
Model 901CB-15 (circuit breaker, 15' cord-set) .....	16.50

**WABER MODEL 904 SERIES IN "U" GROUND, CROW'S FOOT, OR LOCKING TYPE**

This popular series features an "on-off" switch pilot light, fuse or push-to-reset circuit breaker, 6 or 15-foot neoprene cord-set, and 6 outlets (2 in front and 4 in back). Size: 3½" x 19". All component parts UL approved.

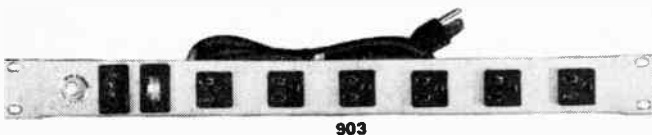
"U" GROUND TYPE	Net
Model 904 (fuse, 6' cord-set) .....	\$12.95
Model 904-15 (fuse, 15' cord-set) .....	13.95
Model 904CB (circuit breaker, 6' cord-set) .....	13.95
Model 904CB-15 (circuit breaker, 15' cord-set) .....	14.95
<b>LOCKING TYPE</b>	
Model 905 (fuse, 6' cord-set) .....	23.95
Model 905-15 (fuse, 15' cord-set) .....	24.95
Model 905CB (circuit breaker, 6' cord-set) .....	24.95
Model 905CB-15 (circuit breaker, 15' cord-set) .....	25.95
<b>CROW'S FOOT TYPE</b>	
Model 906 (fuse, 6' cord-set) .....	24.95
Model 906-15 (fuse, 15' cord-set) .....	25.95
Model 906CB (circuit breaker, 6' cord-set) .....	25.95
Model 906CB-15 (circuit breaker, 15' cord-set) .....	26.95

**WABER MODELS 907-908-909 EQUIPPED WITH AC VOLTMETER**

These Waber Models have all of the features of the 904-905-906 series with the addition of an edgewise reading 0-150 volt AC voltmeter.

"U" GROUND TYPE	Net
Model 907 (fuse, 6' cord-set) .....	\$16.50
Model 907-15 (fuse, 15' cord-set) .....	17.50
Model 907CB (circuit breaker, 6' cord-set) .....	17.50
Model 907CB-15 (circuit breaker, 15' cord-set) .....	18.50
<b>LOCKING TYPE</b>	
Model 908 (fuse, 6" cord-set) .....	27.50
Model 908-15 (fuse, 15" cord-set) .....	28.50
Model 908CB (circuit breaker, 6' cord-set) .....	28.50
Model 908CB-15 (circuit breaker, 15' cord-set) .....	29.50
<b>CROW'S FOOT TYPE</b>	
Model 909 (fuse, 6' cord-set) .....	28.50
Model 909-15 (fuse, 15' cord-set) .....	29.50
Model 909CB (circuit breaker, 6' cord-set) .....	29.50
Model 909CB-15 (circuit breaker, 15' cord-set) .....	30.50

**WABER SPACE-SAVER MODELS ONLY 1¾" WIDE**



Waber Model 903 series features 6 "U" ground outlets (in the front) "on-off" switch, pilot light, fuse or circuit breaker, 6 or 15-foot neoprene cord-set. Models 911, 912, 913 have the same features except that the outlets are in the back and are available in "U" ground, locking, or crow's foot types. Component parts UL approved. Size: 1¾" x 19".

**WANT SOMETHING SPECIAL?  
WE'LL MANUFACTURE TO YOUR SPECS.**

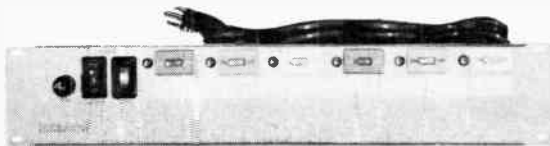
	Net
Model 903 (fuse, 6' cord-set) .....	\$10.95
Model 903 (fuse, 15' cord-set) .....	11.95
Model 903CB (circuit breaker 6' cord-set) .....	11.95
Model 903CB-15 (circuit breaker, 15' cord-set) .....	12.95
<b>"U" GROUND TYPE</b>	
Model 911 (fuse, 6' cord-set) .....	12.95
Model 911-15 (fuse, 15' cord-set) .....	13.95
Model 911CB (circuit breaker, 6' cord-set) .....	13.95
Model 911CB-15 (circuit breaker, 15' cord-set) .....	14.95

<b>LOCKING TYPE</b>	Net
Model 912 (fuse, 6' cord-set) .....	\$23.95
Model 912-15 (fuse, 15' cord-set) .....	24.95
Model 912CB (circuit breaker, 6' cord-set) .....	24.95
Model 912CB-15 (circuit breaker, 15' cord-set) .....	25.95
<b>CROW'S FOOT TYPE</b>	
Model 913 (fuse, 6' cord-set) .....	24.95
Model 913-15 (fuse, 15' cord-set) .....	25.95
Model 913CB (circuit breaker, 6' cord-set) .....	25.95
Model 913CB-15 (circuit breaker, 15' cord-set) .....	26.95

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E L E C T R O N I C S I N C

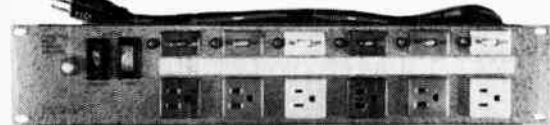
## WABER RACK MOUNTS DELUXE



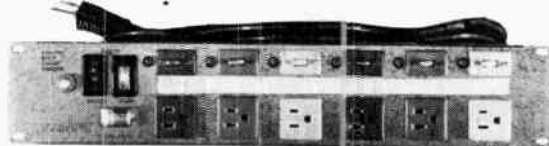
914-915-916



917-918-919



920



921



922



924-925

**WABER MODEL 914 SERIES DELUXE RACK PANEL**

6 color-coded switches provide individual control for outlets on the inside, with individual bright pilot lights and write-on strip. Master switch and pilot light control the entire unit. Choice of 6 or 15-foot neoprene cord-set, and fuse or push-to-reset circuit breaker. Sturdy steel panel finished in silver gray textured hammertone. Rated at 15 amperes, 130 volts continuous duty.

"U" GROUND TYPE	Net
Model 914 (fuse, 6' cord-set) .....	\$22.00
Model 914-15 (fuse, 15' cord-set) .....	23.00
Model 914CB	
(circuit breaker, 6' cord-set) .....	23.00
Model 914CB-15	
(circuit breaker, 15' cord-set) .....	24.00

LOCKING TYPE	Net
Model 915 (fuse, 6' cord-set) .....	32.00
Model 915-15 (fuse, 15' cord-set) .....	33.00
Model 915CB	
(circuit breaker, 6' cord-set) .....	33.00
Model 915CB-15	
(circuit breaker, 15' cord-set) .....	34.00

CROW'S FOOT TYPE	Net
Model 916 (fuse, 6' cord-set) .....	33.00
Model 916-15 (fuse, 15' cord-set) .....	34.00
Model 916CB	
(circuit breaker, 6' cord-set) .....	34.00
Model 916CB-15	
(circuit breaker, 15' cord-set) .....	35.00

**WABER MODELS 917, 918 & 919 WITH METER**

These models have all of the features of the 914 with the addition of a 0 to 150 volts AC Voltmeter.

"U" GROUND TYPE	Net
Model 917 (fuse, 6' cord-set) .....	\$25.45
Model 917-15 (fuse, 15' cord-set) .....	26.45
Model 917CB	
(circuit breaker, 6' cord-set) .....	26.45
Model 917CB-15	
(circuit breaker, 15' cord-set) .....	27.45

LOCKING TYPE	Net
Model 918 (fuse, 6' cord-set) .....	\$40.00
Model 918-15 (fuse, 15' cord-set) .....	41.00
Model 918CB	
(circuit breaker, 6' cord-set) .....	41.00
Model 918CB-15	
(circuit breaker, 15' cord-set) .....	42.00

CROW'S FOOT TYPE	Net
Model 919 (fuse, 6' cord-set) .....	41.00
Model 919-15 (fuse, 15' cord-set) .....	42.00
Model 919CB	
(circuit breaker, 6' cord-set) .....	42.00
Model 919CB-15	
(circuit breaker, 15' cord-set) .....	43.00

**WABER MODEL 920 HAS DELUXE FEATURES**

6 color-coded switch and "U" ground outlet sets with individual pilot lights are featured in this deluxe model. The entire unit is controlled by a master switch and pilot light. You have a choice of fuse or push-to-reset circuit breaker, and 6 or 15-foot neoprene cord-set. Unit is rated at 15 amperes, 130 volts continuous duty.

	Net
Model 920 (fuse, 6' cord-set) .....	\$18.50
Model 920-15 (fuse, 15' cord-set) .....	19.50
Model 920CB	
(circuit breaker, 6' cord-set) .....	19.50
Model 920CB-15	
(circuit breaker, 15' cord-set) .....	20.50

**WABER MODEL 921 HAS AC VOLTMETER**

This unit has all of the features of the Model 920, with the addition of a 0 to 150 volt AC Voltmeter.

	Net
Model 921 (fuse, 6' cord-set) .....	\$21.95
Model 921-15 (fuse, 15' cord-set) .....	22.95
Model 921CB	
(circuit breaker, 6' cord-set) .....	22.95
Model 921CB-15	
(circuit breaker, 15' cord-set) .....	23.95

**WABER MODELS 922 AND 923 ARE TIMER CONTROLLED**

Put a timer model (up to 12 hours) to work for you in many different ways. These models have 6 "U" ground outlets and a master pilot light, plus 2 extra "always-on" outlets. You have your choice of fuse or push-to-reset circuit breaker protection, 6 or 15-foot neoprene

cord-set. Model 922 is designed to turn power off after the timed interval, while Model 923 turns power on. Rated at 15 amperes, 130 volts continuous duty.

	Net
Model 922 (fuse, 6' cord-set) .....	\$20.55
Model 922-15 (fuse, 15' cord-set) .....	21.55
Model 922CB	
(circuit breaker, 6' cord-set) .....	21.55
Model 922CB-15	
(circuit breaker, 15' cord-set) .....	22.55
Model 923 (fuse, 6' cord-set) .....	20.55
Model 923-15 (fuse, 15' cord-set) .....	21.55
Model 923CB	
(circuit breaker, 6' cord-set) .....	21.55
Model 923CB-15	
(circuit breaker, 15' cord-set) .....	22.55

**WABER MODELS 924 AND 925 FEATURE 12-HOUR TIMER**

These Models feature 6 heavy-duty "U" ground outlets, 2 "always-on" in the front and 4 timed outlets in the back. A bright neon pilot light shows when power is on. You have a choice of fuse or push-to-reset circuit breaker protection, and 6 or 15-foot neoprene cord-set. Model 924 utilizes the up-to-12-hour timer to turn power off after the timed interval, and Model 925 is designed to turn power on. Rating is 15 amperes, 130 volts continuous duty. Size is 3½"x19".

	Net
Model 924 (fuse, 6' cord-set) .....	\$22.55
Model 924-15 (fuse, 15' cord-set) .....	23.55
Model 924CB	
(circuit breaker, 6' cord-set) .....	23.55
Model 924CB-15	
(circuit breaker, 15' cord-set) .....	24.55
Model 925 (fuse, 6' cord-set) .....	22.55
Model 925-15 (fuse, 15' cord-set) .....	23.55
Model 925CB	
(circuit breaker, 6' cord-set) .....	23.55
Model 925CB-15	
(circuit breaker, 15' cord-set) .....	24.55

**DUST AND SAFETY COVERS 4.00**

DC-5 FOR MODELS 900, 901, 920, 921  
DC-1 FOR 904, 907, 922, 923, 924, 925

Other 3½" models have dust covers attached

**STEEL PANELS FINISHED IN TEXTURED HAMMERTONE GRAY**

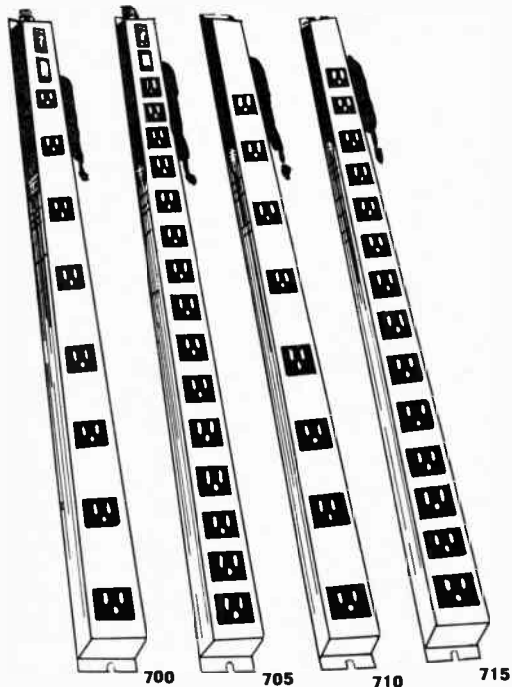
# WABER "LONG JOHN" OUTLET BOXES

# w a b e r

E L E C T R O N I C S I N C

## STURDY WABER "READY-TO-PLUG-IN" 4-FOOT HEAVY DUTY OUTLET BOXES

### INDIVIDUAL TYPE "U" GROUND OUTLETS



### "U" GROUND MODELS

#### WABER MODEL 700 SERIES

This popular model has 8 "U" ground outlets, on-off switch, pilot light and your choice of fuse or circuit-breaker protection, and 6- or 15-foot neoprene cord-set. Component parts are UL approved.

	Net
Model 700 (fuse, 6' cord-set)	\$14.95
Model 700-15 (fuse, 15' cord-set)	15.95
Model 700CB	
(circuit breaker, 6' cord-set)	15.95
Model 700CB-15	
(circuit breaker, 15' cord-set)	16.95

#### WABER MODEL 705 SERIES

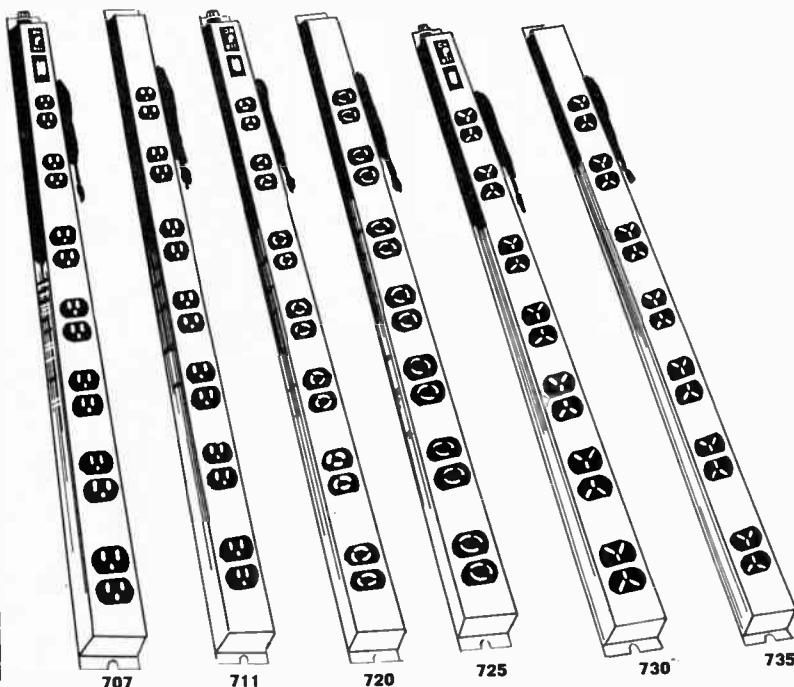
This unit has 15 "U" ground outlets, on-off switch, bright pilot light, your choice of fuse or push-to-reset circuit breaker protection, and 6 or 15-foot neoprene cord-set. Component parts are UL approved.

	Net
Model 705 (fuse, 6' cord-set)	\$18.95
Model 705-15 (fuse, 15' cord-set)	19.95
Model 705CB	
(circuit breaker, 6' cord-set)	19.95
Model 705CB-15	
(circuit breaker, 15' cord-set)	20.95

**SPECIFICATIONS** Tough neoprene cord-set ■ Steel case finished in textured silver gray hammertone ■ Convenient mounting ears ■ Rated at 15 amperes 130 volts ■ Mounting centers 48¾" ■ Size: 49"x2"x1½" ■ All units pre-wired for instant use.



### DUPLIX TYPE "U" GROUND • CROW'S FOOT • LOCKING STYLE OUTLETS



#### WABER MODEL 710 SERIES

This unit has 8 "U" ground outlets only.  
Model 710 (6' cord-set) .....\$12.95  
Model 710-15 (15' cord-set) ..... 13.95

#### WABER MODEL 715 SERIES

This unit features 15 "U" ground outlets only.  
Model 715 (6' cord-set) .....\$16.95  
Model 715-15 (15' cord-set) ..... 17.95

### DUPLIX MODELS

#### WABER MODEL 707 SERIES

This series features 14 "U" ground outlets, on-off switch, bright pilot light, your choice of fuse or circuit breaker protection, and 6 or 15-foot neoprene cord-set. Components are UL approved.

Model 707 (fuse, 6' cord-set)	\$15.75
Model 707-15 (fuse, 15' cord-set)	16.75
Model 707CB	
(circuit breaker, 6' cord-set)	16.75
Model 707CB-15	
(circuit breaker, 15' cord-set)	17.75

#### WABER MODEL 711 SERIES

This series features 14 "U" ground outlets of the duplex type.

	Net
Model 711 (6' cord-set)	\$13.95
Model 711-15 (15' cord-set)	14.95

#### WABER MODEL 720 SERIES

This unit provides 14 locking-type outlets, an "on-off" switch, neon pilot light, fuse or push-to-reset circuit breaker, and 6 or 15-foot neoprene cord-set. Components are UL approved.

	Net
Model 720 (fuse, 6' cord-set)	\$32.95
Model 720-15 (fuse, 15' cord-set)	33.95
Model 720CB	
(circuit breaker, 6' cord-set)	33.95
Model 720CB-15	
(circuit breaker, 15' cord-set)	34.95

#### WABER MODEL 725 SERIES

This model contains 14 duplex outlets of the locking type only.

	Net
Model 725 (6' cord-set)	\$31.95
Model 725-15 (15' cord-set)	32.95

#### WABER MODEL 730 SERIES

14 crow's foot outlets are featured in this unit with on-off switch, pilot light, fuse or push-to-reset circuit breaker, and 6 or 15-foot cord-set. Component parts are UL approved.

Model 730 (fuse, 6' cord-set)	\$32.95
Model 730-15 (fuse, 15' cord-set)	33.95
Model 730CB	
(circuit breaker, 6' cord-set)	33.95
Model 730CB-15	
(circuit breaker, 15' cord-set)	34.95

#### WABER MODEL 735 SERIES

This model has 14 crow's foot outlets only.  
Model 735 (6' cord-set) .....\$31.95  
Model 735-15 (15' cord-set) ..... 32.95

# waber

E L E C T R O N I C S I N C

## POPULAR WABER "STRING-BEAN" OUTLET BOXES STREAMLINED FOR SPACE SAVING APPLICATIONS

### WABER "STRING BEAN" FOUR— FOOTERS, 1 1/8" DEEP, 1 1/2" WIDE

#### WABER MODEL 1000 SERIES

This unit provides 12 "U" ground outlets, "on-off" switch, neon pilot light, fuse or push-to-reset circuit breaker, and 6 or 15-foot neoprene cord-set.

	Net
Model 1000 (fuse, 6' cord-set)	\$15.95
Model 1000-15 (fuse, 15' cord-set)	16.95
Model 1000CB	
(circuit breaker, 6' cord-set)	16.95
Model 1000CB-15	
(circuit breaker, 15' cord-set)	17.95

#### WABER MODEL 1001 SERIES

Provided with this model are 12 "U" ground outlets, with fuse or circuit breaker protection, and 6 or 15-foot neoprene cord-set.

Model 1001 (fuse, 6' cord-set)	\$14.95
Model 1001-15 (fuse, 15' cord-set)	15.95
Model 1001CB	
(circuit breaker, 6' cord-set)	15.95
Model 1001CB-15	
(circuit breaker, 15' cord-set)	16.95

#### WABER MODEL 1002 SERIES

This unit has 12 "U" ground outlets only. UL approved components.

Model 1002 (6' cord-set)	\$13.95
Model 1002-15 (15' cord-set)	14.95

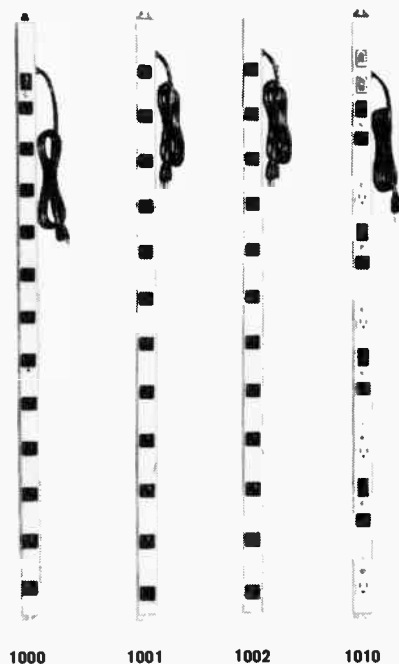
#### WABER DELUXE MODEL 1010 SERIES

This handsome model has 8 outlets, each individually controlled by its own switch and pilot light, with a master "on-off" switch and pilot light. Fuse or push-to-reset circuit breaker, and choice of 6 or 15-foot neoprene cord-set.

Model 1010 (fuse, 6' cord-set)	\$19.95
Model 1010-15 (fuse, 15' cord-set)	20.95
Model 1010CB	
(circuit breaker, 6' cord-set)	20.95
Model 1010CB-15	
(circuit breaker, 15' cord-set)	21.95

#### SPECIFICATIONS

Sturdy steel case finished in silver gray textured hammertone ■ Size: 49 x 1 1/2 x 1 1/8"  
■ 48 3/4" mounting centers. Rated at 15 amperes, 130 volts continuous duty.



## WABER OUTLET BOXES — NOW IN THESE TWO CONVENIENT SIZES — PROVIDE "INSTANT" OUTLETS

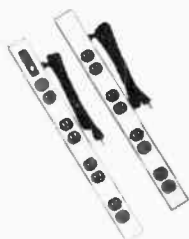


### NEW! WABER COMPLETELY WIRED — READY TO USE — 68 INCHER!

Here is a completely new unit with the extra length that makes it so practical, so useful, for long work benches and full length racks. The 1040 series has an on-off switch, bright pilot light, 15 "U" ground outlets; your choice of a 6 or 15 foot cord-set, fuse or push-to-reset circuit breaker. You get all of this in the same slim design as the 1000 series. Mounting centers are 67" and overall size is 68 x 1 1/2 x 1 1/8". All component parts are UL approved and the sturdy steel case is finished in silver gray textured hammertone. Rating is 15 amperes, 130 volts.

	Net
Model 1040 (fuse, 6' cord-set)	\$19.95
Model 1040-15 (fuse, 15' cord-set)	20.95
Model 1040CB (circuit breaker, 6' cord-set)	20.95
Model 1040CB-15 (circuit breaker, 15' cord-set)	21.95

### WABER "SHORT JOHN" MODELS PACK GIANT FEATURES IN A STURDY TWO FOOT LENGTH



The new Waber 764 and 770 "Short John" series are similar to Waber series 707 and 711. This convenient two foot length provides a desirable in-between length to supplement our one foot and four foot series. These new units are ideal for racks, benches, and test set-ups where its 24x2x1 1/2" size is advantageous. Mounting centers are 23 3/4".

	Net
Model 764 (fuse, 6' cord-set)	\$13.35
Model 764-15 (fuse, 15' cord-set)	14.35
Model 764CB (circuit breaker, 6' cord-set)	14.35
Model 764CB-15 (circuit breaker, 15' cord-set)	15.35
Model 770 (6' cord-set)	11.90
Model 770-15 (15' cord-set)	12.90

## PHOTOGRAPHER'S CORNER



### TWO WABER MODELINE SWITCHES NEWEST PHOTO STUDIO ACCESSORIES

Photofloods last longer... lots, lots longer! And it licks the heat problem, too. Flick the switch to "low" and you have the shadows you need to properly position and focus your subject. When you're ready to shoot, flick the switch to "high" and the lights come on at maximum brilliance.

	Net
Model 210 (for two bulbs of the same type. Up to 1650 watts, total)	\$5.97
Model 211 (for up to four bulbs of any type. Max. 1650 watts, total)	10.89

WABER  
ELECTRONICS INC.

**OUTLET BOXES**

**MOTOR SPEED CONTROLLERS**

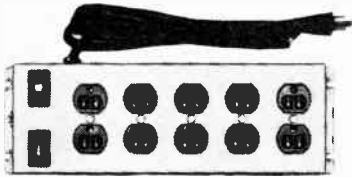
# waber

ELECTRONICS INC

## NEW! WABER VARI-FINE® SOLID STATE AC-DC MOTOR SPEED CONTROLLERS

NOW AVAILABLE IN HIGH CURRENT RATINGS AND NEW TWINS FOR TEST AND PRODUCTION WHERE TWIN UNITS IN A MODERN PACKAGE CAN PROVIDE SPACE SAVING CONVENIENCE

WABER 800 SERIES IN "U" GROUND, LOCKING, OR CROW'S FOOT TYPES



Ten duplex outlets, available in "U" ground, locking, or crow's foot types (with matching plug), are provided with "on-off" switch, neon pilot light, panel mounted fuse or circuit breaker, and your choice of a 6' or 15' Waber neoprene cord-set.

- On-off Switch • Bright Pilot Light • Tough Neoprene Cord Set • UL Approved Components • Rated at 15 Amperes, 130 Volts Continuous Duty
- Steel Case Finished in Silver Gray Textured Hammertone • Your Choice of Fuse or Push to Reset Circuit Breaker • 12 $\frac{7}{8}$  x 2 $\frac{7}{8}$ " Mounting Centers • Size: 13 $\frac{1}{4}$  x 4 $\frac{1}{4}$  x 1 $\frac{1}{2}$ ".

**MODEL 800 SERIES, "U" GROUND OUTLETS**

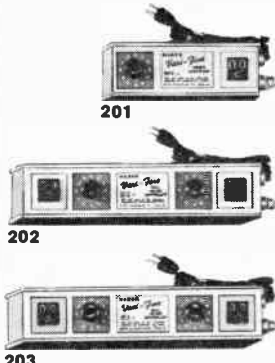
	Net
Model 800 (fuse, 6' cord-set) .....	\$13.50
Model 800-15 (fuse, 15' cord-set) .....	14.50
Model 800CB (crct. brkr., 6' cord-set) ....	14.50
Model 800CB-15 (crct. brkr., 15' cord-set) ..	15.50

**MODEL 801 SERIES, LOCKING TYPE OUTLETS**

Model 801 (fuse, 6' cord-set) .....	29.95
Model 801-15 (fuse, 15' cord-set) .....	30.95
Model 801CB (crct. brkr., 6' cord-set) ....	30.95
Model 801CB-15 (crct. brkr., 15' cord-set) ..	31.95

**MODEL 802 SERIES, CROW'S FOOT TYPE OUTLETS**

Model 802 (fuse, 6' cord-set) .....	34.95
Model 802-15 (fuse, 15' cord-set) .....	35.95
Model 802CB (crct. brkr., 6' cord-set) ....	35.95
Model 802CB-15 (crct. brkr., 15' cord-set) ..	36.95



Waber Vari-Fine Controllers are solid state devices for speed and light control, featuring stepless change from zero to maximum. They provide infinite control of motor speed and light intensity, and can be used to vary the speed of AC/DC motors of the universal type. They handle load currents up to the maximum rating at 117 volts 60 cps. These self contained units may be plugged into any wall outlet and are fused for circuit

protection. They are compact and portable. Waber Vari-Fine Controllers have many applications in the home, laboratory, school, or factory where the regulation of motor or light is desirable.

	Net		Net
Model 200 (Rated at 7 amperes, 117 volts) .....	\$14.95	Model 202 (Twin, rated 7 amperes each half) .....	\$26.95
Model 201 (Rated at 12 amperes, 117 volts) .....	19.95	Model 203 (Twin, rated 12 amperes each half) .....	34.95

## NEW! WABER CONSOLE DESK TOP — LAB TOP MODELS



MODEL 95 (7 $\frac{1}{2}$ " x 2 $\frac{3}{4}$ " x 2 $\frac{3}{4}$ ")



MODEL 96 (9 $\frac{1}{4}$ " x 2 $\frac{3}{4}$ " x 2 $\frac{3}{4}$ ")



MODEL 97 (11" x 2 $\frac{3}{4}$ " x 2 $\frac{3}{4}$ ")

Nothing is more elegant for the desk or lab and nothing will give you such complete control over instruments and equipment as will these well designed units. Available in 3 different sizes, these models have 4, 6 or 8 "U" ground outlets, each

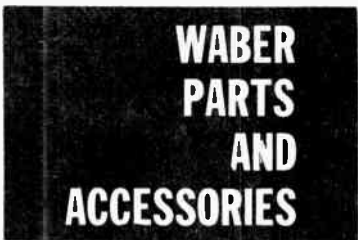
controlled by its own switch and pilot light. The outlets are in the rear of the units. All 3 models are available with circuit breaker or fuse, 6-foot or 15-foot, all neoprene cord-set. Rated at 15 amperes, 130 volts.

	Net		Net		Net
Model 95 (fuse, 6' cord-set).....	\$12.95	Model 96 (fuse, 6' cord-set).....	\$15.50	Model 97 (fuse, 6' cord-set).....	\$19.50
Model 95-15 (fuse, 15' cord-set).....	13.95	Model 96-15 (fuse, 15' cord-set).....	16.50	Model 97-15 (fuse, 15' cord-set).....	20.50
Model 95CB (circuit breaker, 6' cord-set).....	13.95	Model 96CB (circuit breaker, 6' cord-set).....	16.50	Model 97CB (circuit breaker, 6' cord-set).....	20.50
Model 95CB-15 (circuit breaker, 15' cord-set).....	14.95	Model 96CB-15 (circuit breaker, 15' cord-set).....	17.50	Model 97CB-15 (circuit breaker, 15' cord-set).....	21.50



# w a b e r

E L E C T R O N I C S I N C



## WABER EXTRA FINE QUALITY CORD SETS AND EXTENSION CORDS



Not only are the outer jackets of these unusually fine quality cord sets and extension cords made of durable duPont neoprene, but the inner conductors are similarly insulated. Rated at 15 amperes 130 volts continuous duty. UL approved.

- 3071 (6' 16-3 "U" Ground Cord-set) .....\$2.25 Net
- 3072 (15', 16-3 "U" Ground Cord-set) ..... 4.20 Net
- 3073 (7', 16-3 "U" Ground Extension Cord) ..... 2.61 Net
- 3074 (16', 16-3 "U" Ground Extension Cord) ..... 4.43 Net
- 3075 (10', 16-2 Cord-set) ..... 1.56 Net



## WABER RADIO AND TELEVISION ACCESSORIES

**BALUN TYPE COUPLERS** — Two, three and four-set FM-TV multi-couplers operate with high efficiency and low loss. Transformer coupling provides the isolation needed to prevent interaction between sets. Low loss design assures full strength signals to the receiver. Dependable, sure contact screw terminals. Convenient mounting ears. For 300 Ohm Standard Twinlead.

- 3062 (Two Set Coupler) .....\$1.17 Net
- 3063 (Three Set Coupler) ..... 1.95 Net
- 3064 (Four Set Coupler) ..... 2.97 Net

**INDOOR FM-TV ANTENNA** — This easy to install antenna is very effective for moderate

signal areas. Folded dipole type especially suited for FM. Place behind cabinet, under rug, or any other suitable place where antenna can be concealed. Made of high quality twin lead with spade lugs attached to six foot lead-in. Attaches easily to tuner.

- 3030 .....\$1.20 Net

**OEM CUSTOM REQUIREMENTS**  
 Need a special? Send us your specs  
 — Tell us what you need — We can do a good job for you.

## WABER REPLACEMENT PARTS AND ELECTRICAL ACCESSORIES



- 3001 (Black) .....\$32 Net
- 3001-W (White) ..... .36 Net
- 3001-G (Gray) ..... .36 Net
- 3001-R (Red) ..... .36 Net

- SNAP-IN "U" GROUND CONVENIENCE OUTLET** — UL. Quick connect terminals. Rated 15 A, 125 V. Mounting size: 1 1/2 x 1 1/2".
- 3011 (Black) .....\$42 Net
  - 3011-W (White) ..... .48 Net
  - 3011-G (Gray) ..... .48 Net
  - 3011-R (Red) ..... .48 Net

- SNAP-IN "U" GROUND CONVENIENCE OUTLET** — UL. Wire leads or male quick connect terminals with ground lead. Rated 15 A, 125 V. Mounting hole 3/32 x 3/32".
- 3015 (Black with wire leads) .....\$34 Net
  - 3015-W (White with wire leads) ..... .38 Net
  - 3017 (Black with quick connect terminals)..... .34 Net
  - 3017-W (White with quick connect terminals) ..... .38 Net

- SNAP-IN ON-OFF SWITCH** — With male quick connect terminals. UL rated 20 A, 125 V. Mounting hole 1 1/2 x 3/32".
- 3020 (Black) .....\$56 Net
  - 3030-W (White) ..... .74 Net
  - 3020-R (Red) ..... .62 Net
  - 3020-G (Gray) ..... .62 Net

- SNAP-IN PILOT-LIGHT** — Brilliant red nylon lens. Male, quick connect terminals. UL. Strong spring steel mounting clip. Mounting hole 1 1/2 x 3/32". 125 VAC.
- 3025 (Black) .....\$68 Net
  - 3025-W (White) ..... .75 Net
  - 3025-R (Red) ..... .74 Net
  - 3025-G (Gray) ..... .74 Net

- MALE LOAD PLUGS** — UL. With male quick connect terminals. Rated 15 A, 125 V. Mounting hole 3/32 x 3/32". Black body.
- 3019 ..... .74 Net

- MERCURY TILT SWITCHES** — Contacts in rugged all steel body. Unequaled durability for all fields including switching of heavy loads and highly inductive circuits. Low contact resistance. All steel body acts as one side of the circuit. Provides practically limitless life where a tilt action is required. Part No. 3040 is rated at 1 A, 115 VAC, and Part No. 3040-10 is rated at 10 A, 115 VAC.
- 3040 (package of 3) .....\$1.25 Net
  - 3040-10 (package of 2) ..... 2.10 Net

- EDGEWISE FEADING AC VOLTMETER KIT** — Modern space-saving edgewise reading meter, spring clamp, diode and series resistor. Scale reads from 0 to 150 volts AC. Mounting hole 3/4 x 1 1/4".
- 3045 .....\$3.75 Net

- PUSH TO RESET CIRCUIT BREAKER** — Protect from overloads with this thermal type circuit breaker. Mounts easily in 3/8" hole. Plunger pops out on overloads. Push in to reset.
- 3050 (15 Amperes, 125 Volts) .....\$1.35 Net
  - 3051 (20 Amperes, 125 Volts) ..... 1.35 Net

- 2 WIRE TO 3 WIRE ADAPTER** — Polarized with "U" ground slot and green grounding lead equipped with convenient spade lug. UL rated 15 A, 125 V. Molded body. Automatically converts any standard 2 wire parallel outlet to a 3 wire "U" ground outlet.
- 3055 .....\$3.30 Net

- BRIGHT NEON PILOT LIGHTS** — These handsome pilot lights, in a compact space saving size, mount easily in a 3/8" diameter hole. Included is a spring clip to lock pilot firmly in place.
- 3077 (Package of three) .....\$1.35 Net

- FUSE POST** — UL approved. Mounting hole 5/8" dia.
- 3078 .....\$3.36 Net

- FUSE** — UL approved. Heavy duty. 15 Amp rating.
- 3079 .....\$3.14 Net

## GET STEREO SOUND FROM YOUR CAR RADIO



### WABER AUTO RADIO STEREO KIT

With this Waber Stereo Kit you can convert your conventional monaural automobile radio, with front and rear speakers, to exciting 3-D stereo-phon sound. This kit contains everything you need, and the easy-to-follow instructions make installation quick and easy. You'll be amazed at the tremendous difference this unit will make in your listening pleasure. The music comes alive with rich, full bodied high fidelity sound. The five position switch will enable you to compare what you had before, and what you have after installation. You'll be thrilled and proud to drive with this latest in high fidelity sound. Get yours now.

- 3049 .....\$5.37 Net



**WABER TIPOVER SWITCH** — This unit installs easily in automobiles, trucks, buses, and tractors. The mercury operated switches automatically shut off the motor when the vehicle is tipped past a forty-five degree angle. In addition to minimizing the danger of fire or explosion, this unit is especially valuable in stalling moving blades, wheels and parts found on many farm vehicles. This unit will operate with either 6 or 12 volt ignition systems. Installation is permanent. Component parts are imbedded in epoxy. Nothing to burn out or replace.

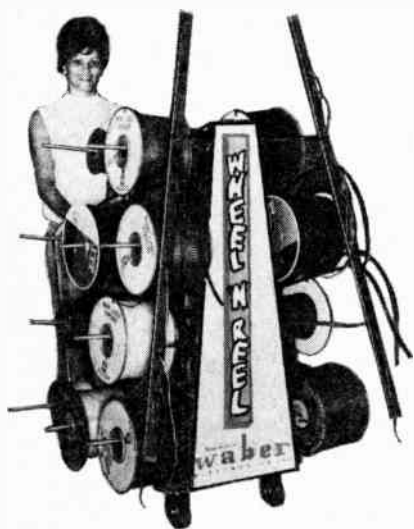
- 3067 .....\$5.47 Net



**WABER  
WHEEL 'N' REEL®  
WIRE RACK  
OUTLET BOXES**

**w a b e r**  
E L E C T R O N I C S I N C

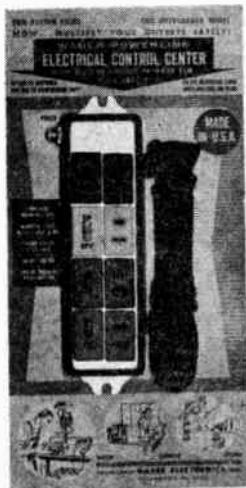
**NEW! WABER "WHEEL 'N' REEL"® MOBILE WIRE RACK MOVES READILY — GOES WHERE THE ACTION IS!**



Here's the answer to your wire handling problems. This new Waber "Wheel 'N' Reel"® Mobile Wire Rack holds up to 20 generous size reels of wire, each one in position to be dispensed easily and effortlessly. Move it into position for cable assembly; store it out of the way when not in use. Unlike fixed position wire racks, you can take a large assortment of wire to the area where needed. The "Wheel 'N' Reel" will pay for itself in time saved. Constructed of sturdy 1-inch square tubing, handsomely finished in silver grey hammertone. Equipped with brakes for stability.

Model LOW-10 .....\$140.00 Net

**THREE POPULAR WABER OUTLET BOXES SKIN-PACKED & CHROME PLATED**



**WABER  
POWERLINE®  
ELECTRICAL  
CONTROL  
CENTER**

**CIRCUIT  
BREAKER  
PROTECTED**

Control a piece of equipment or appliance by a flip of a switch! Each of the four individual, heavy duty outlets is controlled by its own on-off switch with contrasting colors for swift, positive identification. You get a handsome control center for power tools, appliances, or equipment with positive circuit breaker protection against burnout or overload.



Features 10-foot neoprene cord-set, nylon strain relief. Rated at 15 amperes, 130 volts continuous duty.  
Model 12 .....\$6.95 Net

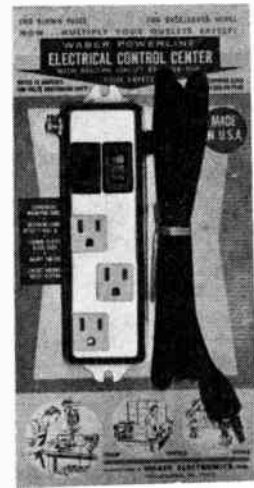


**WABER  
POWERLINE®  
ELECTRICAL  
CONTROL  
CENTER**

**CIRCUIT  
BREAKER  
PROTECTED**

Never before anything so useful, so handy for the home, workshop, or office. This sturdy chrome case features six individual, heavy duty outlets with an on-off master switch and bright pilot light. You get a handy control center for power tools, appliances, or equipment with positive circuit breaker protection against burnout or overload.

Features 10-foot neoprene cord-set and nylon strain relief. Rated at 15 amperes, 130 volts continuous duty.  
Model 11 .....\$6.95 Net



**WABER  
POWERLINE®  
"U" GROUND  
ELECTRICAL  
CONTROL  
CENTER**

**CIRCUIT  
BREAKER  
PROTECTED**

Now you can have this chrome beauty with "U" ground type outlets. It features a sturdy steel case, 3 individual grounded outlets, with an on-off master switch and bright pilot light. This handy control center can be used in any number of applications with positive "push-to-reset" circuit protection against burnout or overload.

Features a 6-foot neoprene cord-set for a real quality box. Rating is 15 amperes, 130 volts continuous duty.  
Model 601 "U" .....\$8.50 Net



# waber

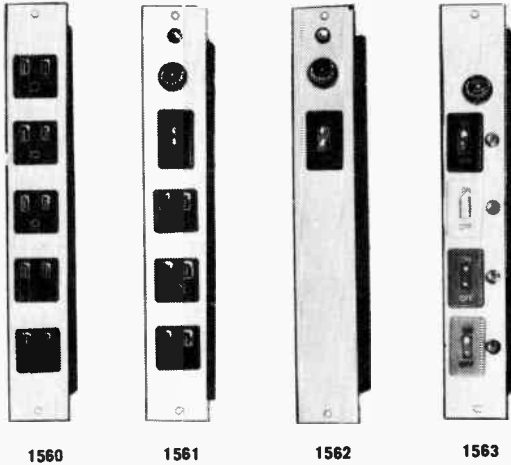
ELECTRONICS INC.

**WABER "ICEBERG"®  
OUTLET BOXES**

**LIGHTS ON WHEELS**

**SCOPE CARTS**

## NEW BEAUTIFULLY CHROME FINISHED "ICEBERG"® OUTLET STRIPS MADE TO RECESS INTO DESKS, CABINETS AND HI-FI INSTALLATIONS



The new Waber "Iceberg"® line is a handsome addition to our growing family of outlet boxes. These units are made to be recessed into desks, counters, cabinets, and hi-fi installations of all types. Just like the iceberg, which has most of its bulk submerged and out of sight, only the handsome chrome plated face plate shows in the new Waber "Iceberg"® Outlet Box line.

Four units are available in this new line. Two of the units have outlets available on the surface plate, and the other two have the outlets on the back with control from the face plate. Size of the unit is 1½" wide x 10" long x 1½" deep. Mounting hole size is 9½" x 1½". These units are available with fuse or circuit breaker protection and six or fifteen foot neoprene cord-sets. Rating is 15 amps, 130 volts continuous duty.

Model 1560 consists of five "U" ground outlets only, surface mounted with your choice of a 6 or 15-foot neoprene cord-set. Model 1561 has three surface mounted "U" ground outlets controlled by a switch and pilot light. You have a choice between a fuse post or circuit breaker, 6 or 15-foot neoprene cord-set. Model 1562 has the switch, protective device, and pilot light surface mounted with access to the three "U" ground outlets from the back. You have a choice between a fuse post or circuit breaker, 6 or 15 foot neoprene cord-set. Model 1563 is the deluxe unit with four color coded switches, pilot lights and protective device surface mounted, and with access to the four "U" ground outlets from the back. Each outlet is individually controlled by its own switch.

	Net		Net
Model 1560 (6' cord-set) .....	\$5.75	Model 1562CB (6' cord-set, circuit breaker) .....	\$7.95
Model 1560-15 (15' cord-set) .....	6.75	Model 1562CB-15 (15' cord-set, circuit breaker) .....	8.95
Model 1561 (fuse, 6' cord-set) .....	6.95	Model 1563 (6' cord-set, fuse) .....	8.50
Model 1561-15 (fuse, 15' cord-set) .....	7.95	Model 1563-15 (15' cord-set, fuse) .....	9.50
Model 1561CB (6' cord-set, circuit breaker) .....	7.95	Model 1563CB (6' cord-set, circuit breaker) .....	9.50
Model 1561CB-15 (circuit breaker, 15' cord-set) .....	8.95	Model 1563CB-15 (15' cord-set, circuit breaker) .....	10.50
Model 1562 (6' cord-set, fuse) .....	6.95		
Model 1562-15 (15' cord-set, fuse) .....	7.95		



## NEW! LOW COST WABER PORTABLE SCOPE DOLLY

Here's a well made scope dolly with proven utility for the lab. Adjustable to take various sizes of instruments, this handy dolly rolls easily in any direction. Unit is equipped with a Waber Outlet Box featuring a fuse post, switch, pilot light, three "U" ground outlets, and a fifteen foot neoprene cord-set. Unit is rated at 15 amperes, 130 volts continuous duty.

Size of the scope is 28" x 32" x 19". Top shelf is at a 20° angle. Casters are 3" rubber swiveling.

Model LOW-25 .....\$42.50 Net

## NEW! WABER LIGHTS ON WHEELS

Now you can have light where you want it — when you want it. Maneuver a Waber Lights-On-Wheels exactly where you want it, plug the cord into a AC source and your area is bathed in light. Made to fit under tables, counters, etc., this unit is great for those temporary set-ups where more hands are needed. Height is adjustable. Unit is complete with a Waber outlet box fitted with fuse post, switch, pilot light, three "U" ground outlets, and a fifteen foot neoprene cord-set. The three outlets are very handy for plugging in soldering irons and other production accessories.

This handsome unit is available in two sizes; two 20-watt and two 40-watt. Fluorescent bulbs are not included with unit.

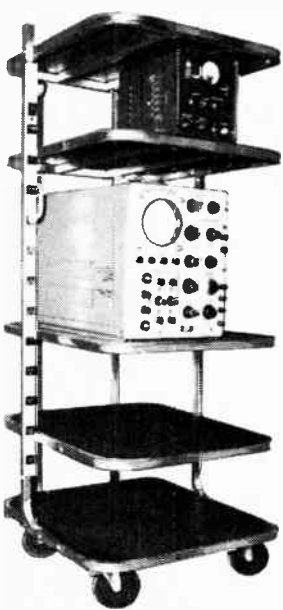
	Net
Model LOW-60 (Two—20 Watt).....	\$79.50
Model LOW-61 (Two—40 Watt).....	89.50



**WABER  
LAB-ON-WHEELS  
AND  
SCOPE CARTS**

w a b e r  
E L E C T R O N I C S I N C

**SINGLE CANTILEVER**  
**Lab on Wheels**  
**DOUBLE CANTILEVER**



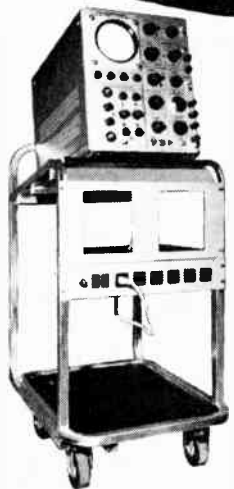
LOW-3

**WHEEL IT IN  
WHEEL IT OUT...  
AT YOUR CONVENIENCE**

The WABER "Lab On Wheels" will greatly expand your present work area, rolls effortlessly, and will provide ample space for your instruments, supplies, assemblies, breadboards, prototypes, etc. Provisions are available for mounting a WABER Outlet Box (1,000 series) to supply power to the unit.

Shelves are adjustable to make every inch count. Each shelf is covered with tempered hardboard. Size: 28"Lx26"Wx66"H. This unit could prove a real workhorse for the school, lab, or industrial plant. WABER Model LOW-3

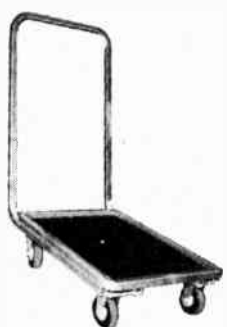
Net  
(less outlet box) .....\$149.00



**NEW! STURDY WABER  
"SCOPE" DOLLY EASILY  
TAKES ALL SIZES**

This versatile scope dolly is designed to handle the big scopes and oversized test equipment with ease. The spacious non-skid deck, inclined at 22°, accommodates all instruments. The welded square tubing combines rigidity with functional design to permit the user free access to controls and an uncluttered view. It also allows 900 Series rack panels to be mounted as required. Size: 19¼"Wx29½"Lx36½"H.

LOW-6 ..... Net  
\$89.00  
Accessory shelf and outlet box not included.



LOW-5

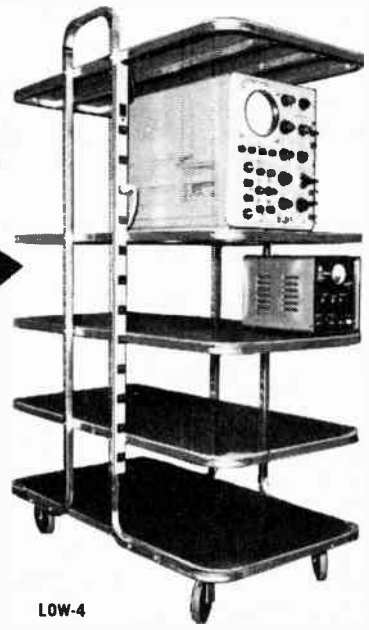
**THIS WABER DOLLY HAS  
THE UTILITY YOU NEED**

Transport stocks, instruments, assemblies with ease with this low cost WABER Basic Dolly. You can make your own adaptations to serve many purposes in your projects, where mobility would be desirable. Size: 32"Lx18½"Wx37½"H. Here is one of the most versatile and rugged units available to serve the needs of the lab, school or industry.

Net  
WABER Model LOW-5 ..... \$48.00

**FEATURES:**

1 INCH SQUARE STEEL TUBING FOR RIGIDITY, STRENGTH AND DURABILITY • ZINC PLATED WITH A CLEAR, IRRIDITE POST PLATE TREATMENT • HEAVY DUTY 5" WHEELS WITH HEAVY PLATE CASTERS. QUIET, FAST, EASY SWIVELING • PROVISIONS FOR MOUNTING WABER OUTLET BOXES.



LOW-4

**PAYS FOR ITSELF IN TIME  
SAVED... IN CONVENIENCE**

This double cantilevered carrier is built to hold greater load capacities with sway-free rigidity, strength and durability. The tremendous area available will accommodate your projects with ease, and provisions for a WABER 1000 series Outlet Box will "power-up" the carrier. When your projects are held-up you can wheel it out of the way and your lab tables are cleared for action. When you're ready to go again, wheel it back in,

Size of the WABER Double Cantilevered Carrier is 48"Lx26"Wx71"H. Tempered hardboard is provided with each of the five shelves, and the shelves are adjustable.

WABER MODEL LOW-4  
(less outlet box) .....\$188.00

**TWO NEW WABER SCOPE DOLLIES FOR SCHOOL OR LAB**



This versatile Scope Cart has the ample size to handle a wide range of scope sizes. It moves out easily on its heavy 3-inch rubber wheels and handles beautifully for positioning. Frame is of 1-inch square steel tubing finished in silver gray hammertone. Size is 34" H x 19" W x 31" L.

This unit is supplied complete with a quality steel outlet box consisting of 3 "U" ground outlets, pilot light, on-off switch and panel mounted fuse. Rated at 15 amperes, 130 volts continuous duty.

Model LOW-7 .....\$59.50 Net



Here is an unusually good buy in a scope dolly. It is unusually versatile, just roll it out and put it to work. Also included is an outlet box with three convenient outlets, an on-off switch, pilot light, and panel mounted fuse. The outlet box is rated at 15 amperes, 130 volts continuous duty.

The top shelf will take a large variety of instruments and can be adjusted for convenient viewing angle. The sturdy bottom shelf gives you additional capacity. Size is 34" H x 19" W x 31" L and the rubber tired casters are 3 inches in diameter.

Model LOW 8 .....\$79.50 Net

# waber

ELECTRONICS INC

**WABER  
LAB-ON-WHEELS  
CARRIERS  
AUDIO-VISUAL**

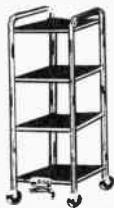
**WABER MODEL LOW-11 CARRIER**

This sturdy, versatile instrument cart provides ample area for instruments on a free moving carrier. The 4 sturdy shelves are fabricated of durable half-inch plywood laminated with black ribbed non-slip facing.

Construction of the carrier is of 1-inch square steel tubing beautifully finished in gleaming chrome plate. Also included is an outlet box providing 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an all neoprene cord-set. Rating is 15 amperes, 130 volts continuous duty.

Casters are 5-inch heavy duty rubber, all swiveling. Shelf size: 21" x 21". 40" H. Cap.: 600 pounds.

Model LOW-11 .....\$125.00 Net

**WABER MODEL LOW-12 CARRIER**

Here is a highly useful instrument carrier built for years of service. The 4 sturdy shelves are made of half-inch plywood with a thick ribbed non-slip laminated top.

This carrier is well constructed of 1-inch square steel tubing handsomely finished in bright chrome plate. Included with this unit is an outlet box with 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an all neoprene cord-set. Rating is 15 amperes, 130 volts continuous duty.

Casters are 5-inch rubber, all swiveling. Shelf size: 21" x 29". 60" H. Cap.: 600 pounds.

Model LOW-12 .....\$130.00 Net

**WABER MODEL LOW-13 CARRIER**

As useful as it is handsome. Same specifications as LOW-12 above except guard rail on top shelf is the longer dimension.

Construction is of 1-inch square steel tubing finished in bright chrome plate. Included is an outlet box with 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an all neoprene cord-set. Rating is 15 amperes, 130 volts continuous duty.

Casters are 5 inches, all swiveling. Shelf size: 21" x 29". 60" H. Capacity: 600 pounds.

Model LOW-13 .....\$125.00 Net

**WABER MODEL LOW-14 CARRIER**

This popular 3-shelf model provides easy mobility for your instruments. Shelves are made of half-inch plywood faced with a thick ribbed non-slip laminated top.

Framework is made of 1-inch square steel tubing finished in bright chrome plate. Included is an outlet box with 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an all neoprene cord-set. Rating is 15 amperes, 130 volts continuous duty.

Casters are 5 inches, all swiveling. Shelf size: 21" x 29". 58" H. Capacity: 600 pounds.

Model LOW-14 .....\$120.00 Net

**WABER MODEL LOW-15 CARRIER**

Just picture this handy cart in your lab giving your instruments and equipment mobility. The 2 decks are made of half-inch plywood laminated with a heavy ribbed facing.

This cart is constructed of 1-inch square steel tubing finished in bright chrome plate. Included is an outlet box with 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an all neoprene cord-set. Rating is 15 amperes, 130 volts continuous duty.

Casters are 5 inches, all swiveling. Shelf size: 22" x 36". 36" H. Capacity: 600 pounds.

Model LOW-15 .....\$110.00 Net

**WABER MODEL LOW-16 CARRIER**

Audio Visual users will appreciate this versatile carrier. Both decks are constructed of durable half-inch plywood with a thick ribbed surface.

Framework is of decorator 1-inch square steel tubing finished in bright chrome plate. Included is an outlet box with 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an all neoprene cord-set. Rating is 15 amperes, 130 volts continuous duty.

4-inch casters are of the swiveling type. Shelf size: 18" x 24". 21" H. Capacity: 400 pounds.

Model LOW-16 .....\$80.00 Net

**WABER MODEL LOW-17 CARRIER**

Schools, Labs, and Audio-Visual users will find this a work-horse of carriers. Each of the 2 shelves is made of sturdy half-inch plywood laminated with a heavy duty ribbed non-slip top.

Popular 1-inch square steel construction provides support for this carrier and finish is in bright chrome plate. Also included is an outlet box providing 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an all neoprene cord-set. Rating is 15 amperes, 130 volts continuous duty.

All of the 4-inch casters are of the swiveling type. Shelf size: 21" x 29". 32" H. Capacity: 400 pounds.

Model LOW-17 .....\$90.00 Net

**WABER MODEL LOW-18 CARRIER**

Featuring 3 decks, each of half-inch plywood faced with a ribbed non-slip top, these easy rolling carriers provide many advantages for the school, shop or lab.

Here again the construction is of eye appealing 1-inch square steel tubing finished with a bright chrome plate. In addition the carrier is supplied with an attractive electrical outlet box featuring 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an all neoprene cord-set. Rating is 15 amperes, 130 volts continuous duty.

The 5-inch casters are of the swiveling type. Shelf size: 21" x 29". 42" H. Capacity: 600 pounds.

Model LOW-18 .....\$125.00 Net



## NEW! WABER LOW-20 MOBILE BENCH DOUBLES AS TABLE OR CARRIER

Use the versatile unit either as a table or as a carrier to transport equipment. It will prove a real asset in many ways.

The framing is of attractive and durable 1-inch square steel tubing finished in bright chrome plate. The table top is constructed of hard board with a formica surface. Size of the top is 24 x 48".

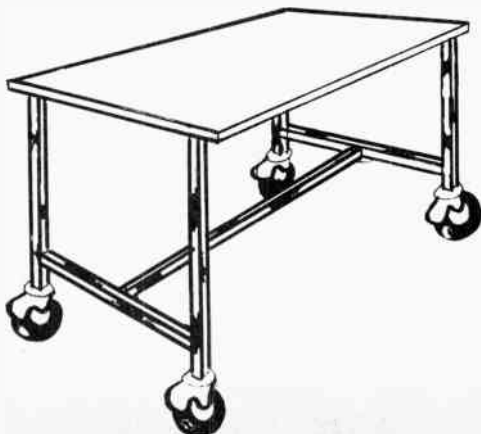
In addition, this unit includes an electrical outlet box with 3 "U" ground outlets, on-off switch, pilot light, fuse protection, and a 15-foot all neoprene cord-set. Rating is 15 amperes, 130 volts, continuous duty.

Casters are 5-inch heavy duty rubber, all swiveling

Size: 25" W x 48" L x 37" H.

Capacity: 600 pounds

Model LOW-20 .....\$120.00



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# DELIVERY

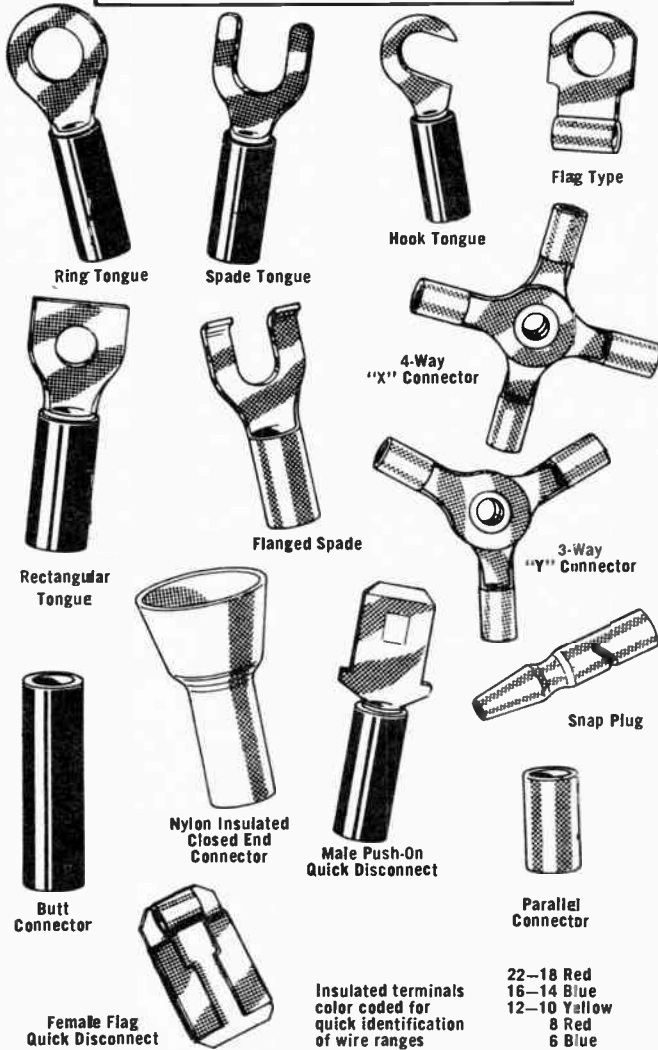
Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.

# YOUR GUIDE TO THE COMPLETE LINE OF **waldom** "positive action" SOLDERLESS TERMINALS & CONNECTORS



**Insulated and Non-Insulated types for every wiring application**

**Available in Five Construction Styles**



**KRIMP TITE®**  
 KRIMP TITE® terminals and connectors are the most modern labor saving answer to your wiring problems. Functionally designed to make positive connections with a minimum of experience and time needed for application. Uniformly reliable connections can be made in a fraction of the time formerly required by less reliable and more costly methods. Available in a wide range of types and sizes to meet your every wiring need. Minimum barrel lengths 1/4 inch, are available in all terminals listed.

**INSULKRIMP®**  
 INSULKRIMP® terminals and connectors incorporate all the advanced features of KRIMP TITE construction, plus the advantages of the permanently attached rigid vinyl plastic insulating sleeve. Up to No. 10 wire range basic barrel is KrimpTite; size No. 8 and up uses Versakrimp (brazed seam) barrel. Replacing slower methods of individually insulating connection with tubing or tape, INSULKRIMP Terminals and Connectors are rapidly applied in a single application. The tough insulating sleeve is permanently attached and will not slip off, fracture, or unravel. In addition, INSULKRIMP construction affords increased vibration resistance due to its insulat on supporting plastic sleeve. Operating Temperature Range: continuous duty from -40° to 220°F; intermittent duty to 300°F.

**VERSAKRIMP®**  
 VERSAKRIMP® terminals and connectors have all the advantageous features of the KRIMP TITE construction plus the universality and higher tensile strength afforded by BRAZED BARREL construction. The seam is bonded with a special silver brazing alloy, and cannot possibly pull open under any conditions of stress or wire pull. Capable of being crimped by a wide variety of crimp styles, a new freedom of selection is available for your needs. Crimping location is not critical, as the specially brazed seams are guaranteed not to split and may be crimped from any direction. Recommended for both stranded and solid wires.

**VIBRAKRIMP®**  
 VIBRAKRIMP® terminals are particularly suitable where high vibration is a factor and firm insulation support is required. The seamless annealed electro-tin plated brass sleeve adds over-all strength to the terminal construction while the "skirt" portion which extends beyond the barrel is crimped in the same operation as the barrel and the wire is permanently held, preventing creep. Insulation is anchored and any wire flexing takes place beyond the terminal.

**AVIKRIMP®**  
 AVIKRIMP® terminals are truly the ultimate in construction and performance. To all the VIBRAKRIMP features has been added the permanently attached and overlapping NYLON insulating sleeve — no extra insulation necessary. It provides extra barrel strength and insulation grip to resist high vibration plus heat-resistant pre-insulation. Color coded for rapid identification, these terminals are complete in themselves, needing only the proper wire and crimping tool. WALDOM offers many sizes and types with the maximum in reliability for your most critical applications. Operation Temperature Range: continuous duty from -40° to 250°F; intermittent duty to 350°F.

- Insulated terminals color coded for quick identification of wire ranges
- 22-18 Red
  - 16-14 Blue
  - 12-10 Yellow
  - 8 Red
  - 6 Blue

## BASIC TERMINAL CONSTRUCTION DETAILS

Made of pure electrolytic copper for highest conductivity (MIL QQ576). Annealed to flow freely under crimping pressure for best connection. Electroplated with pure tin for greatest corrosion-resistance, in accordance with the highest standards of the electrical industry and MIL-T-10727 (Ord.).

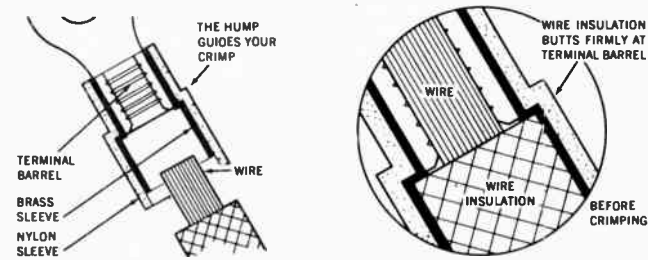
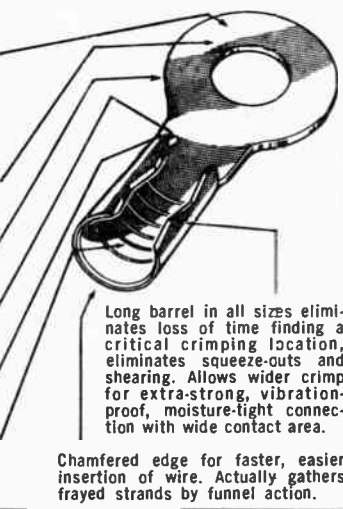
Modern construction from a single piece of metal gives greater strength, lower cost, uniform current flow for maximum conductivity.

All terminals and connectors have wire range clearly stamped on back.

The open-end design allows quick visual inspection of wire location before and after crimping.

Strength gussets reinforce terminal where flat tongue has been formed into round barrel.

Multiple deep V-notches securely grip wire, provide best contact and maximum holding power over wide contact area.



**"STEP" CONSTRUCTION GIVES EXTRA PROTECTION**  
 Cutaway views of an AVIKRIMP barrel show how the "step" design for the brass sleeve acts to socket the wire insulation solidly in both the AVIKRIMP and VIBRAKRIMP styles for the ultimate in anti-vibration protection. In addition, the external "hump" marks the exact location of the barrel end — a quick guide to the target.

*the "positive action" line... available through your electronic parts distributor*  
**WALDOM ELECTRONICS, INC.**



waldom

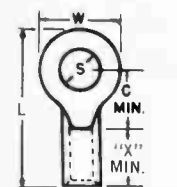
SOLDERLESS TERMINALS AND CONNECTORS

22-18 WIRE RANGE MILITARY 22-18; COMMERCIAL 22-16; BUREAU OF SHIPS 1-2 CIRCULAR MIL AREA 509—2,600

.032" STOCK • INSULATION COLOR RED

PRICING FOLLOWS THIS WIRE RANGE LISTING

RING TONGUE TERMINALS—FULL (1/4") BARREL LENGTH



Full Barrel X=1/4"  
Short Barrel X=5/32"

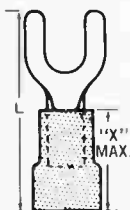
KRIMPTITE\*

BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VERSAKRIMP*		VIBRAKRIMP*		AVIKRIMP*		Price Code See Page 784
Stud Size S	Width W	Clearance C	Part Number	Length L	.125 Max. Ins. Dia. Pt. No.	.145 Max. Ins. Dia. Pt. No.	Length L	Part Number	Length L	.145 Max. Ins. Dia. Pt. No.	Length L	.145 Max. Ins. Dia. Pt. No.	Length L	
1-2	7/32	5/32	S-1099	33/64	T-2099	T-2099X	45/64	B-3099	33/64	D-4099	43/64	N-5099	45/64	A
3-4	7/32	5/32	S-1047	33/64	T-2047	T-2047X	45/64	B-3047	33/64	D-4047	43/64	N-5047	45/64	A
	9/32	1/4	S-1096	41/64	T-2096	T-2096X	53/64	B-3096	41/64	D-4096	51/64	N-5096	53/64	A
5-6	7/32	5/32	S-1001	33/64	T-2001	T-2001X	45/64	B-3001	33/64	D-4001	43/64	N-5001	45/64	A
	9/32	1/4	S-1002	41/64	T-2002	T-2002X	53/64	B-3002	41/64	D-4002	51/64	N-5002	53/64	A
	5/16	5/16	S-1103	23/32	T-2103	T-2103X	29/32	B-3103	23/32	D-4103	7/8	N-5103	29/32	A
8	9/32	1/4	S-1097	41/64	T-2097	T-2097X	53/64	B-3097	41/64	D-4097	51/64	N-5097	53/64	A
	5/16	5/16	S-1021	23/32	T-2021	T-2021X	29/32	B-3021	23/32	D-4021	7/8	N-5021	29/32	A
10	9/32	1/4	S-1098	41/64	T-2098	T-2098X	53/64	B-3098	41/64	D-4098	51/64	N-5098	53/64	A
	5/16	5/16	S-1003	23/32	T-2003	T-2003X	29/32	B-3003	23/32	D-4003	7/8	N-5003	29/32	A
	15/32	.400	S-1111	57/64	T-2111	T-2111X	1- 5/64	B-3111	57/64	D-4111	1- 3/64	N-5111	1- 5/64	B
	9/16	9/16	S-1800	1- 7/64	T-2800	T-2800X	1-19/64	B-3800	1- 7/64	D-4800	1-17/64	N-5800	1-19/64	C
1/4	15/32	.400	S-1004	57/64	T-2004	T-2004X	1- 5/64	B-3004	57/64	D-4004	1- 3/64	N-5004	1- 5/64	B
	9/16	9/16	S-1801	1- 7/64	T-2801	T-2801X	1-19/64	B-3801	1- 7/64	D-4801	1-17/64	N-5801	1-19/64	C
5/16	15/32	.400	S-1005	57/64	T-2005	T-2005X	1- 5/64	B-3005	57/64	D-4005	1- 3/64	N-5005	1- 5/64	B
	9/16	9/16	S-1802	1- 7/64	T-2802	T-2802X	1-19/64	B-3802	1- 7/64	D-4802	1-17/64	N-5802	1-19/64	C
3/8	9/16	9/16	S-1143	1- 7/64	T-2143	T-2143X	1-19/64	B-3143	1- 7/64	D-4143	1-17/64	N-5143	1-19/64	C

RING TONGUE TERMINALS—SHORT (5/32") BARREL LENGTH

1-2	7/32	5/32	SS-1099	27/64	ST-2099	ST-2099X	5/8	SB-3099	27/64	SD-4099	37/64	SN-5099	5/8	A
3-4	7/32	5/32	SS-1047	27/64	ST-2047	ST-2047X	5/8	SB-3047	27/64	SD-4047	37/64	SN-5047	5/8	A
	9/32	1/4	SS-1096	35/64	ST-2096	ST-2096X	3/4	SB-3096	35/64	SD-4096	45/64	SN-5096	3/4	A
5-6	7/32	5/32	SS-1001	27/64	ST-2001	ST-2001X	5/8	SB-3001	27/64	SD-4001	37/64	SN-5001	5/8	A
	9/32	1/4	SS-1002	35/64	ST-2002	ST-2002X	3/4	SB-3002	35/64	SD-4002	45/64	SN-5002	3/4	A
	5/16	5/16	SS-1103	5/8	ST-2103	ST-2103X	53/64	SB-3103	5/8	SD-4103	25/32	SN-5103	53/64	A
8	9/32	1/4	SS-1097	35/64	ST-2097	ST-2097X	3/4	SB-3097	35/64	SD-4097	45/64	SN-5097	3/4	A
	5/16	5/16	SS-1021	5/8	ST-2021	ST-2021X	53/64	SB-3021	5/8	SD-4021	25/32	SN-5021	53/64	A
10	9/32	1/4	SS-1098	35/64	ST-2098	ST-2098X	3/4	SB-3098	35/64	SD-4098	45/64	SN-5098	3/4	A
	5/16	5/16	SS-1003	5/8	ST-2003	ST-2003X	53/64	SB-3003	5/8	SD-4003	25/32	SN-5003	53/64	A
	15/32	.400	SS-1111	51/64	ST-2111	ST-2111X	1	SB-3111	51/64	SD-4111	61/64	SN-5111	1	B
	9/16	9/16	SS-1800	1- 1/64	ST-2800	ST-2800X	1- 7/32	SB-3800	1- 1/64	SD-4800	1-11/64	SN-5800	1- 7/32	C
5/16	15/32	.400	SS-1005	51/64	ST-2005	ST-2005X	1	SB-3005	51/64	SD-4005	61/64	SN-5005	1	B
	9/16	9/16	SS-1802	1- 1/64	ST-2802	ST-2802X	1- 7/32	SB-3802	1- 1/64	SD-4802	1-11/64	SN-5802	1- 7/32	C
3/8	9/16	9/16	SS-1143	1- 1/64	ST-2143	ST-2143X	1- 7/32	SB-3143	1- 1/64	SD-4143	1-11/64	SN-5143	1- 7/32	C

SPADE TONGUE TERMINALS—FULL (1/4") BARREL LENGTH



Full Barrel X=7/16"  
Short Barrel X=23/64"

INSULKRIMP\*

3-4	1/4	7/32	S-1116	5/8	T-2116	T-2116X	13/16	B-3116	5/8	D-4116	25/32	N-5116	13/16	A
	19/64	7/32	S-1803	5/8	T-2803	T-2803X	13/16	B-3803	5/8	D-4803	25/32	N-5803	13/16	A
	21/64	1/4	S-1804	23/32	T-2804	T-2804X	29/32	B-3804	23/32	D-4804	7/8	N-5804	29/32	A
5-6	1/4	7/32	S-1118	5/8	T-2118	T-2118X	13/16	B-3118	5/8	D-4118	25/32	N-5118	13/16	A
	19/64	7/32	S-1014	5/8	T-2014	T-2014X	13/16	B-3014	5/8	D-4014	25/32	N-5014	13/16	A
	5/16	5/16	S-1029	3/4	T-2029	T-2029X	15/16	B-3029	3/4	D-4029	29/32	N-5029	15/16	A
	21/64	1/4	S-1501	23/32	T-2501	T-2501X	29/32	B-3501	23/32	D-4501	7/8	N-5501	29/32	A
	3/8	1/4	S-1503	23/32	T-2503	T-2503X	29/32	B-3503	23/32	D-4503	7/8	N-5503	29/32	A
	27/64	1/4	S-1805	23/32	T-2805	T-2805X	29/32	B-3805	23/32	D-4805	7/8	N-5805	29/32	A
8	19/64	7/32	S-1030	5/8	T-2030	T-2030X	13/16	B-3030	5/8	D-4030	25/32	N-5030	13/16	A
	5/16	5/16	S-1031	3/4	T-2031	T-2031X	15/16	B-3031	3/4	D-4031	29/32	N-5031	15/16	A
	21/64	1/4	S-1806	23/32	T-2806	T-2806X	29/32	B-3806	23/32	D-4806	7/8	N-5806	29/32	A
	3/8	1/4	S-1504	23/32	T-2504	T-2504X	29/32	B-3504	23/32	D-4504	7/8	N-5504	29/32	A
	27/64	1/4	S-1507	23/32	T-2507	T-2507X	29/32	B-3507	23/32	D-4507	7/8	N-5507	29/32	A
10	5/16	5/16	S-1032	3/4	T-2032	T-2032X	15/16	B-3032	3/4	D-4032	29/32	N-5032	15/16	A
	3/8	1/4	S-1505	23/32	T-2505	T-2505X	29/32	B-3505	23/32	D-4505	7/8	N-5505	29/32	A
	27/64	1/4	S-1807	23/32	T-2807	T-2807X	29/32	B-3807	23/32	D-4807	7/8	N-5807	29/32	A

\*TRADEMARK

# SOLDERLESS TERMINALS AND CONNECTORS

# waldom



## 22-18 WIRE RANGE (Continued)

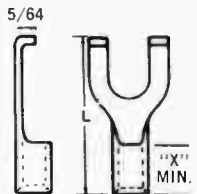
### SPADE TYPE TERMINALS—SHORT (5/32") BARREL LENGTH

PRICING FOLLOWS THIS  
WIRE RANGE LISTING

BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*		VERSAKRIMP*			V BRAKRIMP*		AVIKRIMP*		Price Code See Page 784
Stud Size S	Width W	Clearance C	Part Number	Length L	.125 Max. Ins. Dia. Pt. No.	.145 Max. Ins. Dia. Pt. No.	Length L	Part Number	Length L	.145 Max. Ins. Dia. Pt. No.	Length L	.145 Max. Ins. Dia. Pt. No.	Length L	
3-4	1/4	7/32	SS-1116	17/32	ST-2116	ST-2116X	47/64	SB-3116	17/32	SD-4116	11/16	SN-5116	47/64	A
	19/64	7/32	SS-1803	17/32	ST-2803	ST-2803X	47/64	SB-3803	17/32	SD-4803	11/16	SN-5803	47/64	A
	21/64	1/4	SS-1804	5/8	ST-2804	ST-2804X	53/64	SB-3804	5/8	SD-4804	25/32	SN-5804	53/64	A
5-6	1/4	7/32	SS-1118	17/32	ST-2118	ST-2118X	47/64	SB-3118	17/32	SD-4118	11/16	SN-5118	47/64	A
	19/64	7/32	SS-1014	17/32	ST-2014	ST-2014X	47/64	SB-3014	17/32	SD-4014	11/16	SN-5014	47/64	A
	5/16	5/16	SS-1029	21/32	ST-2029	ST-2029X	55/64	SB-3029	21/32	SD-4029	13/16	SN-5029	55/64	A
	21/64	1/4	SS-1501	5/8	ST-2501	ST-2501X	53/64	SB-3501	5/8	SD-4501	25/32	SN-5501	53/64	A
	3/8	1/4	SS-1503	5/8	ST-2503	ST-2503X	53/64	SB-3503	5/8	SD-4503	25/32	SN-5503	53/64	A
	27/64	1/4	SS-1805	5/8	ST-2805	ST-2805X	53/64	SB-3805	5/8	SD-4805	25/32	SN-5805	53/64	A
8	19/64	7/32	SS-1030	17/32	ST-2030	ST-2030X	47/64	SB-3030	17/32	SD-4030	11/16	SN-5030	47/64	A
	5/16	5/16	SS-1031	21/32	ST-2031	ST-2031X	55/64	SB-3031	21/32	SD-4031	13/16	SN-5031	55/64	A
	21/64	1/4	SS-1806	5/8	ST-2806	ST-2806X	53/64	SB-3806	5/8	SD-4806	25/32	SN-5806	53/64	A
	3/8	1/4	SS-1504	5/8	ST-2504	ST-2504X	53/64	SB-3504	5/8	SD-4504	25/32	SN-5504	53/64	A
	27/64	1/4	SS-1507	5/8	ST-2507	ST-2507X	53/64	SB-3507	5/8	SD-4507	25/32	SN-5507	53/64	A
	10	5/16	5/16	SS-1032	21/32	ST-2032	ST-2032X	55/64	SB-3032	21/32	SD-4032	13/16	SN-5032	55/64
3/8		1/4	SS-1505	5/8	ST-2505	ST-2505X	53/64	SB-3505	5/8	SD-4505	25/32	SN-5505	53/64	A
27/64		1/4	SS-1807	5/8	ST-2807	ST-2807X	53/64	SB-3807	5/8	SD-4807	25/32	SN-5807	53/64	A

### FLANGED SPADE TERMINALS—FULL (1/4") BARREL LENGTH

3-4	19/64	7/32	S-1125	5/8	T-2125	T-2125X	13/16	B-3125	5/8	D-4125	25/32	N-5125	13/16	A
	21/64	1/4	S-1808	23/32	T-2808	T-2808X	29/32	B-3808	23/32	D-4808	7/8	N-5808	29/32	A
5-6	19/64	7/32	S-1080	5/8	T-2080	T-2080X	13/16	B-3080	5/8	D-4080	25/32	N-5080	13/16	A
	21/64	1/4	S-1510	23/32	T-2510	T-2510X	29/32	B-3510	23/32	D-4510	7/8	N-5510	29/32	A
	3/8	1/4	S-1809	23/32	T-2809	T-2809X	29/32	B-3809	23/32	D-4809	7/8	N-5809	29/32	A
	27/64	1/4	S-1810	23/32	T-2810	T-2810X	29/32	B-3810	23/32	D-4810	7/8	N-5810	29/32	A
8	19/64	7/32	S-1081	5/8	T-2081	T-2081X	13/16	B-3081	5/8	D-4081	25/32	N-5081	13/16	A
	21/64	1/4	S-1811	23/32	T-2811	T-2811X	29/32	B-3811	23/32	D-4811	7/8	N-5811	29/32	A
	3/8	1/4	S-1812	23/32	T-2812	T-2812X	29/32	B-3812	23/32	D-4812	7/8	N-5812	29/32	A
	27/64	1/4	S-1516	23/32	T-2516	T-2516X	29/32	B-3516	23/32	D-4516	7/8	N-5516	29/32	A
10	3/8	1/4	S-1582	23/32	T-2582	T-2582X	29/32	B-3582	23/32	D-4582	7/8	N-5582	29/32	A
	27/64	1/4	S-1813	23/32	T-2813	T-2813X	29/32	B-3813	23/32	D-4813	7/8	N-5813	29/32	A



Full Barrel X=1/4"  
Short Barrel X=5/32"

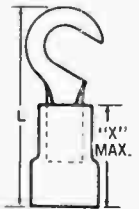
### FLANGED SPADE TERMINALS—SHORT (5/32") BARREL LENGTH

3-4	19/64	7/32	SS-1125	17/32	ST-2125	ST-2125X	47/64	SB-3125	17/32	SD-4125	11/16	SN-5125	47/64	A
	21/64	1/4	SS-1808	5/8	ST-2808	ST-2808X	53/64	SB-3808	5/8	SD-4808	25/32	SN-5808	53/64	A
5-6	19/64	7/32	SS-1080	17/32	ST-2080	ST-2080X	47/64	SB-3080	17/32	SD-4080	11/16	SN-5080	47/64	A
	21/64	1/4	SS-1510	5/8	ST-2510	ST-2510X	53/64	SB-3510	5/8	SD-4510	25/32	SN-5510	53/64	A
	3/8	1/4	SS-1809	5/8	ST-2809	ST-2809X	53/64	SB-3809	5/8	SD-4809	25/32	SN-5809	53/64	A
	27/64	1/4	SS-1810	5/8	ST-2810	ST-2810X	53/64	SB-3810	5/8	SD-4810	25/32	SN-5810	53/64	A
8	19/64	7/32	SS-1081	17/32	ST-2081	ST-2081X	47/64	SB-3081	17/32	SD-4081	11/16	SN-5081	47/64	A
	21/64	1/4	SS-1811	5/8	ST-2811	ST-2811X	53/64	SB-3811	5/8	SD-4811	25/32	SN-5811	53/64	A
	3/8	1/4	SS-1812	5/8	ST-2812	ST-2812X	53/64	SB-3812	5/8	SD-4812	25/32	SN-5812	53/64	A
	27/64	1/4	SS-1516	5/8	ST-2516	ST-2516X	53/64	SB-3516	5/8	SD-4516	25/32	SN-5516	53/64	A
10	3/8	1/4	SS-1582	5/8	ST-2582	ST-2582X	53/64	SB-3582	5/8	SD-4582	25/32	SN-5582	53/64	A
	27/64	1/4	SS-1813	5/8	ST-2813	ST-2813X	53/64	SB-3813	5/8	SD-4813	25/32	SN-5813	53/64	A

VERSAKRIMP\*

### HOOK TONGUE TERMINALS—FULL (1/4") BARREL LENGTH

5-6	5/16	5/16	S-1018	23/32	T-2018	T-2018X	29/32	B-3018	23/32	D-4018	7/8	N-5018	29/32	A
8	5/16	5/16	S-1036	23/32	T-2036	T-2036X	29/32	B-3036	23/32	D-4036	7/8	N-5036	29/32	A
10	5/16	5/16	S-1037	23/32	T-2037	T-2037X	29/32	B-3037	23/32	D-4037	7/8	N-5037	29/32	A



Full Barrel X=13/32"  
Short Barrel X=5/16"

### HOOK TONGUE TERMINALS—SHORT (5/32") BARREL LENGTH

5-6	5/16	5/16	SS-1018	5/8	ST-2018	ST-2018X	53/64	SB-3018	5/8	SD-4018	25/32	SN-5018	53/64	A
8	5/16	5/16	SS-1036	5/8	ST-2036	ST-2036X	53/64	SB-3036	5/8	SD-4036	25/32	SN-5036	53/64	A
10	5/16	5/16	SS-1037	5/8	ST-2037	ST-2037X	53/64	SB-3037	5/8	SD-4037	25/32	SN-5037	53/64	A

VIBRAKRIMP\*

\*TRADEMARK



waldom

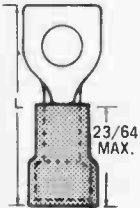
SOLDERLESS TERMINALS AND CONNECTORS

**22-18 WIRE RANGE (Continued)**

**RECTANGULAR TONGUE TERMINALS—FULL (1/4") BARREL LENGTH**

PRICING FOLLOWS THIS WIRE RANGE LISTING

BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VERSAKRIMP*		VIBRAKRIMP*		AVIKRIMP*		Price Code (See Pricing Below)
Stud Size S	Width W	Clearance C	Part Number	Length L	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L	Part Number	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	
3-4	1/4	7/32	S-1814	5/8	T-2814	T-2814X	13/16	B-3814	5/8	D-4814	25/32	N-5814	13/16	A
	19/64	7/32	S-1128	5/8	T-2128	T-2128X	13/16	B-3128	5/8	D-4128	25/32	N-5128	13/16	A
	21/64	1/4	S-1815	23/32	T-2815	T-2815X	29/32	B-3815	23/32	D-4815	7/8	N-5815	29/32	A
5-6	1/4	7/32	S-1816	5/8	T-2816	T-2816X	13/16	B-3816	5/8	D-4816	25/32	N-5816	13/16	A
	19/64	7/32	S-1071	5/8	T-2071	T-2071X	13/16	B-3071	5/8	D-4071	25/32	N-5071	13/16	A
	5/16	5/16	S-1130	3/4	T-2130	T-2130X	15/16	B-3130	3/4	D-4130	29/32	N-5130	15/16	A
	21/64	1/4	S-1519	23/32	T-2519	T-2519X	29/32	B-3519	23/32	D-4519	7/8	N-5519	29/32	A
	3/8	1/4	S-1817	23/32	T-2817	T-2817X	29/32	B-3817	23/32	D-4817	7/8	N-5817	29/32	A
27/64	1/4	S-1818	23/32	T-2818	T-2818X	29/32	B-3818	23/32	D-4818	7/8	N-5818	29/32	A	
8	19/64	7/32	S-1072	5/8	T-2072	T-2072X	13/16	B-3072	5/8	D-4072	25/32	N-5072	13/16	A
	5/16	5/16	S-1132	3/4	T-2132	T-2132X	15/16	B-3132	3/4	D-4132	29/32	N-5132	15/16	A
	21/64	1/4	S-1819	23/32	T-2819	T-2819X	29/32	B-3819	23/32	D-4819	7/8	N-5819	29/32	A
	3/8	1/4	S-1820	23/32	T-2820	T-2820X	29/32	B-3820	23/32	D-4820	7/8	N-5820	29/32	A
	27/64	1/4	S-1526	23/32	T-2526	T-2526X	29/32	B-3526	23/32	D-4526	7/8	N-5526	29/32	A
10	5/16	5/16	S-1133	3/4	T-2133	T-2133X	15/16	B-3133	3/4	D-4133	29/32	N-5133	15/16	A
	21/64	1/4	S-1821	23/32	T-2821	T-2821X	29/32	B-3821	23/32	D-4821	7/8	N-5821	29/32	A
	3/8	1/4	S-1524	23/32	T-2524	T-2524X	29/32	B-3524	23/32	D-4524	7/8	N-5524	29/32	A
	27/64	1/4	S-1822	23/32	T-2822	T-2822X	29/32	B-3822	23/32	D-4822	7/8	N-5822	29/32	A



AVIKRIMP\*

**RECTANGULAR TONGUE TERMINALS—SHORT (5/32") BARREL LENGTH**

3-4	19/64	7/32	SS-1128	9/16	ST-2128	ST-2128X	49/64	SB-3128	9/16	SD-4128	23/32	SN-5128	49/64	A
	21/64	1/4	SS-1815	5/8	ST-2815	ST-2815X	53/64	SB-3815	5/8	SD-4815	25/32	SN-5815	53/64	A
5-6	19/64	7/32	SS-1071	9/16	ST-2071	ST-2071X	49/64	SB-3071	9/16	SD-4071	23/32	SN-5071	49/64	A
	21/64	1/4	SS-1519	5/8	ST-2519	ST-2519X	53/64	SB-3519	5/8	SD-4519	25/32	SN-5519	53/64	A
	3/8	1/4	SS-1817	5/8	ST-2817	ST-2817X	53/64	SB-3817	5/8	SD-4817	25/32	SN-5817	53/64	A
27/64	1/4	SS-1818	5/8	ST-2818	ST-2818X	53/64	SB-3818	5/8	SD-4818	25/32	SN-5818	53/64	A	
8	19/64	7/32	SS-1072	9/16	ST-2072	ST-2072X	49/64	SB-3072	9/16	SD-4072	23/32	SN-5072	49/64	A
	27/64	1/4	SS-1526	5/8	ST-2526	ST-2526X	53/64	SB-3526	5/8	SD-4526	25/32	SN-5526	53/64	A
	21/64	1/4	SS-1819	5/8	ST-2819	ST-2819X	53/64	SB-3819	5/8	SD-4819	25/32	SN-5819	53/64	A
	3/8	1/4	SS-1820	5/8	ST-2820	ST-2820X	53/64	SB-3820	5/8	SD-4820	25/32	SN-5820	53/64	A
10	21/64	1/4	SS-1821	5/8	ST-2821	ST-2821X	53/64	SB-3821	5/8	SD-4821	25/32	SN-5821	53/64	A
	3/8	1/4	SS-1524	5/8	ST-2524	ST-2524X	53/64	SB-3524	5/8	SD-4524	25/32	SN-5524	53/64	A
	27/64	1/4	SS-1822	5/8	ST-2822	ST-2822X	53/64	SB-3822	5/8	SD-4822	25/32	SN-5822	53/64	A

**NET PRICES—22-18 WIRE RANGE TERMINALS**

Price Code Letter	KRIMPTITE*			INSULKRIMP* No Suffix			INSULKRIMP* Suffix X			VERSAKRIMP*			VIBRAKRIMP*			AVIKRIMP*		
	Pkg. of 100	BULK		Pkg. of 100	BULK		Pkg. of 100	BULK		Pkg. of 100	BULK		Pkg. of 100	BULK		Pkg. of 100	BULK	
		1000-4999, pr more, per M	5000 or more, per M		1000-4999, pr more, per M	5000 or more, per M		1000-4999, pr more, per M	5000 or more, per M		1000-4999, pr more, per M	5000 or more, per M		1000-4999, pr more, per M	5000 or more, per M		1000-4999, pr more, per M	5000 or more, per M
A	2.16	15.55	12.15	4.47	33.05	25.85	5.02	37.10	29.00	3.50	28.00	21.00	5.05	40.40	30.30	7.21	58.50	43.90
B	2.96	21.30	16.65	5.79	42.80	33.45	6.13	45.35	35.40	4.87	39.15	29.35	5.05	40.40	30.30	9.02	72.15	54.15
C	3.89	28.05	21.90	5.79	42.80	33.45	6.13	45.35	35.40	4.87	39.15	29.35	6.44	51.50	38.60	9.02	72.15	54.15

**16-14 WIRE RANGE**

BUREAU OF SHIPS 2 1/2-4

CIRCULAR MIL AREA 2,050-5,180 (HEAVY DUTY 2,050-9,000)

.032" STOCK (HEAVY DUTY .050") • INSULATION COLOR CODED BLUE (HEAVY DUTY YELLOW) • UL & CSA LISTED

**RING TONGUE TERMINALS—FULL (1/4") BARREL LENGTH**

PRICING FOLLOWS THIS WIRE RANGE LISTING

BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VERSAKRIMP*		VIBRAKRIMP*		AVIKRIMP*		Price Code See Page 787
Stud Size S	Width W	Clearance C	Part Number	Length L	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L	Part Number	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	
1-2	1/4	7/32	T-2102	19/32	T-2102	T-2102X	25/32	B-3102	19/32	D-4102	3/4	N-5102	25/32	D
3-4	1/4	7/32	S-1048	19/32	T-2048	T-2048X	25/32	B-3048	19/32	D-4048	3/4	N-5048	25/32	D
	5/16	9/32	S-1823	45/64	T-2823	T-2823X	57/64	B-3823	45/64	D-4823	55/64	N-5823	57/64	D
	11/32	5/16	S-1095	47/64	T-2095	T-2095X	59/64	B-3095	47/64	D-4095	57/64	N-5095	59/64	D
5-6	1/4	7/32	S-1006	19/32	T-2006	T-2006X	25/32	B-3006	19/32	D-4006	3/4	N-5006	25/32	D
	5/16	9/32	S-1007	45/64	T-2007	T-2007X	57/64	B-3007	45/64	D-4007	55/64	N-5007	57/64	D
	11/32	5/16	S-1092	47/64	T-2092	T-2092X	59/64	B-3092	47/64	D-4092	57/64	N-5092	59/64	D
8	1/4	7/32	S-1824	19/32	T-2824	T-2824X	25/32	B-3824	19/32	D-4824	3/4	N-5824	25/32	D
	5/16	9/32	S-1024	45/64	T-2024	T-2024X	57/64	B-3024	45/64	D-4024	55/64	N-5024	57/64	D
	11/32	5/16	S-1093	47/64	T-2093	T-2093X	59/64	B-3093	47/64	D-4093	57/64	N-5093	59/64	D
10	5/16	9/32	S-1008	45/64	T-2008	T-2008X	57/64	B-3008	45/64	D-4008	55/64	N-5008	57/64	D
	11/32	5/16	S-1094	47/64	T-2094	T-2094X	59/64	B-3094	47/64	D-4094	57/64	N-5094	59/64	D
	15/32	.400	S-1106	57/64	T-2106	T-2106X	1- 5/64	B-3106	57/64	D-4106	1- 3/64	N-5106	1- 5/64	B
	9/16	9/16	S-1825	1- 7/64	T-2825	T-2825X	1-19/64	B-3825	1- 7/64	D-4825	1-17/64	N-5825	1-19/64	C
1/4	15/32	.400	S-1009	57/64	T-2009	T-2009X	1- 5/64	B-3009	57/64	D-4009	1- 3/64	N-5009	1- 5/64	B
	9/16	9/16	S-1826	1- 7/64	T-2826	T-2826X	1-19/64	B-3826	1- 7/64	D-4826	1-17/64	N-5826	1-19/64	C
5/16	15/32	.400	S-1041	57/64	T-2041	T-2041X	1- 5/64	B-3041	57/64	D-4041	1- 3/64	N-5041	1- 5/64	B
	9/16	9/16	S-1827	1- 7/64	T-2827	T-2827X	1-19/64	B-3827	1- 7/64	D-4827	1-17/64	N-5827	1-19/64	C
3/8	9/16	9/16	S-1147	1- 7/64	T-2147	T-2147X	1-19/64	B-3147	1- 7/64	D-4147	1-17/64	N-5147	1-19/64	C



KRIMPTITE\*

\*TRADEMARK



**SOLDERLESS TERMINALS AND CONNECTORS**

waldom

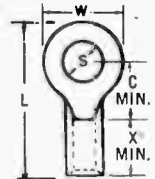


**16-14 WIRE RANGE (Continued)**

**RING TONGUE TERMINALS—SHORT (5/32") BARREL LENGTH**

PRICING FOLLOWS THIS WIRE RANGE LISTING

BASIC DIMENSIONS			KRIMPTITE*			INSULKRIMP*			VERSAKRIMP*		VIBRAKRIMP*		AVIKRIMP*		Price Code See Page 787
Stud Size S	Width W	Clearance C	Part Number	Length L	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L	Part Number	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	.175 Max. Ins. Dia. Pt. No.	Length L		
1-2	1/4	7/32	SS-1102	1/2	ST-2102	ST-2102X	45/64	SB-3102	1/2	SD-4102	21/32	SN-5102	45/64	D	
3-4	1/4	7/32	SS-1048	1/2	ST-2048	ST-2048X	45/64	SB-3048	1/2	SD-4048	21/32	SN-5048	45/64	D	
	5/16	9/32	SS-1823	39/64	ST-2823	ST-2823X	13/16	SB-3823	39/64	SD-4823	49/64	SN-5823	13/16	D	
5-6	1/4	7/32	SS-1006	1/2	ST-2006	ST-2006X	45/64	SB-3006	1/2	SD-4006	21/32	SN-5006	45/64	D	
	5/16	9/32	SS-1007	39/64	ST-2007	ST-2007X	13/16	SB-3007	39/64	SD-4007	49/64	SN-5007	13/16	D	
	11/32	5/16	SS-1092	41/64	ST-2092	ST-2092X	27/32	SB-3092	41/64	SD-4092	51/64	SN-5092	27/32	D	
8	1/4	7/32	SS-1824	1/2	ST-2824	ST-2824X	45/64	SB-3824	1/2	SD-4824	21/32	SN-5824	45/64	D	
	5/16	9/32	SS-1024	39/64	ST-2024	ST-2024X	13/16	SB-3024	39/64	SD-4024	49/64	SN-5024	13/16	D	
	11/32	5/16	SS-1093	41/64	ST-2093	ST-2093X	27/32	SB-3093	41/64	SD-4093	51/64	SN-5093	27/32	D	
10	5/16	9/32	SS-1008	39/64	ST-2008	ST-2008X	13/16	SB-3008	39/64	SD-4008	49/64	SN-5008	13/16	D	
	11/32	5/16	SS-1094	41/64	ST-2094	ST-2094X	27/32	SB-3094	41/64	SD-4094	51/64	SN-5094	27/32	D	
	15/32	.400	SS-1106	51/64	ST-2106	ST-2106X	1	SB-3106	51/64	SD-4106	61/64	SN-5106	1	B	
1/4	15/32	.400	SS-1009	51/64	ST-2009	ST-2009X	1	SB-3009	51/64	SD-4009	61/64	SN-5009	1	B	
	9/16	9/16	SS-1826	1- 1/64	ST-2826	ST-2826X	1- 7/32	SB-3826	1- 1/64	SD-4826	1-11/64	SN-5826	1- 7/32	C	
5/16	15/32	.400	SS-1041	51/64	ST-2041	ST-2041X	1	SB-3041	51/64	SD-4041	61/64	SN-5041	1	B	
	9/16	9/16	SS-1827	1- 1/64	ST-2827	ST-2827X	1- 7/32	SB-3827	1- 1/64	SD-4827	1-11/64	SN-5827	1- 7/32	C	
3/8	9/16	9/16	SS-1147	1- 1/64	ST-2147	ST-2147X	1- 7/32	SB-3147	1- 1/64	SD-4147	1-11/64	SN-5147	1- 7/32	C	



Full Barrel X=1/4"  
Short Barrel X=5/32"

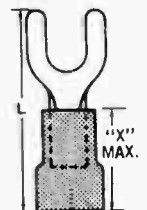
KRIMPTITE\*

**SPADE TONGUE TERMINALS—FULL (1/4") BARREL LENGTH**

3-4	1/4	7/32	S-1121	5/8	T-2121	T-2121X	13/16	B-3121	5/8	D-4121	25/32	N-5121	13/16	D
	19/64	7/32	S-1828	5/8	T-2828	T-2828X	13/16	B-3828	5/8	D-4828	25/32	N-5828	13/16	D
	21/64	1/4	S-1829	23/32	T-2829	T-2829X	29/32	B-3829	23/32	D-4829	7/8	N-5829	29/32	D
5-6	1/4	7/32	S-1123	5/8	T-2123	T-2123X	13/16	B-3123	5/8	D-4123	25/32	N-5123	13/16	D
	19/64	7/32	S-1015	5/8	T-2015	T-2015X	13/16	B-3015	5/8	D-4015	25/32	N-5015	13/16	D
	21/64	1/4	S-1529	23/32	T-2529	T-2529X	29/32	B-3529	23/32	D-4529	7/8	N-5529	29/32	D
	23/64	9/32	S-1051	3/4	T-2051	T-2051X	15/16	B-3051	3/4	D-4051	29/32	N-5051	15/16	D
	3/8	1/4	S-1531	23/32	T-2531	T-2531X	29/32	B-3531	23/32	D-4531	7/8	N-5531	29/32	D
	27/64	1/4	S-1830	23/32	T-2830	T-2830X	29/32	B-3830	23/32	D-4830	7/8	N-5830	29/32	D
8	19/64	7/32	S-1033	5/8	T-2033	T-2033X	13/16	B-3033	5/8	D-4033	25/32	N-5033	13/16	D
	21/64	1/4	S-1831	23/32	T-2831	T-2831X	29/32	B-3831	23/32	D-4831	7/8	N-5831	29/32	D
	23/64	9/32	S-1052	3/4	T-2052	T-2052X	15/16	B-3052	3/4	D-4052	29/32	N-5052	15/16	D
	3/8	1/4	S-1532	23/32	T-2532	T-2532X	29/32	B-3532	23/32	D-4532	7/8	N-5532	29/32	D
	27/64	1/4	S-1535	23/32	T-2535	T-2535X	29/32	B-3535	23/32	D-4535	7/8	N-5535	29/32	D
10	23/64	9/32	S-1016	3/4	T-2016	T-2016X	15/16	B-3016	3/4	D-4016	29/32	N-5016	15/16	D
	3/8	1/4	S-1533	23/32	T-2533	T-2533X	29/32	B-3533	23/32	D-4533	7/8	N-5533	29/32	D
	27/64	1/4	S-1832	23/32	T-2832	T-2832X	29/32	B-3832	23/32	D-4832	7/8	N-5832	29/32	D

**SPADE TONGUE TERMINALS—SHORT (5/32") BARREL LENGTH**

3-4	1/4	7/32	SS-1121	17/32	ST-2121	ST-2121X	47/64	SB-3121	17/32	SD-4121	11/16	SN-5121	47/64	D
	19/64	7/32	SS-1828	17/32	ST-2828	ST-2828X	47/64	SB-3838	17/32	SD-4828	11/16	SN-5828	47/64	D
	21/64	1/4	SS-1829	5/8	ST-2829	ST-2829X	53/64	SB-3829	5/8	SD-4829	25/32	SN-5829	53/64	D
5-6	1/4	7/32	SS-1123	17/32	ST-2123	ST-2123X	47/64	SB-3123	17/32	SD-4123	11/16	SN-5123	47/64	D
	19/64	7/32	SS-1015	17/32	ST-2015	ST-2015X	47/64	SB-3015	17/32	SD-4015	11/16	SN-5015	47/64	D
	21/64	1/4	SS-1529	5/8	ST-2529	ST-2529X	53/64	SB-3529	5/8	SD-4529	25/32	SN-5529	53/64	D
	23/64	9/32	SS-1051	21/32	ST-2051	ST-2051X	55/64	SB-3051	21/32	SD-4051	13/16	SN-5051	55/64	D
	3/8	1/4	SS-1531	5/8	ST-2531	ST-2531X	53/64	SB-3531	5/8	SD-4531	25/32	SN-5531	53/64	D
	27/64	1/4	SS-1830	5/8	ST-2830	ST-2830X	53/64	SB-3830	5/8	SD-4830	25/32	SN-5830	53/64	D
8	19/64	7/32	SS-1033	17/32	ST-2033	ST-2033X	47/64	SB-3033	17/32	SD-4033	11/16	SN-5033	47/64	D
	21/64	1/4	SS-1831	5/8	ST-2831	ST-2831X	53/64	SB-3831	5/8	SD-4831	25/32	SN-5831	53/64	D
	23/64	9/32	SS-1052	21/32	ST-2052	ST-2052X	55/64	SB-3052	21/32	SD-4052	13/16	SN-5052	55/64	D
	3/8	1/4	SS-1532	5/8	ST-2532	ST-2532X	53/64	SB-3532	5/8	SD-4532	25/32	SN-5532	53/64	D
	27/64	1/4	SS-1535	5/8	ST-2535	ST-2535X	53/64	SB-3535	5/8	SD-4535	25/32	SN-5535	53/64	D
10	23/64	9/32	SS-1016	21/32	ST-2016	ST-2016X	55/64	SB-3016	21/32	SD-4016	13/16	SN-5016	55/64	D
	3/8	1/4	SS-1533	5/8	ST-2533	ST-2533X	53/64	SB-3533	5/8	SD-4533	25/32	SN-5533	53/64	D
	27/64	1/4	SS-1832	5/8	ST-2832	ST-2832X	53/64	SB-3832	5/8	SD-4832	25/32	SN-5832	53/64	D



Full Barrel X=7/16"  
Short Barrel X=23/64"

INSULKRIMP\*

\*TRADEMARK



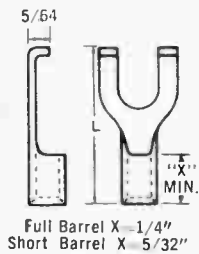
waldom

SOLDERLESS TERMINALS AND CONNECTORS

**16-14 WIRE RANGE (Continued)**

**FLANGED SPADE TERMINALS—FULL (1/4") BARREL LENGTH**

PRICING FOLLOWS THIS WIRE RANGE LISTING



VERSAKRIMP\*

BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VERSAKRIMP*		VIBRAKRIMP*		AVIKRIMP*		Price Code See Page 787
Stud Size S	Width W	Clearance C	Part Number	Length L	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L	Part Number	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	
3-4	19/64	7/32	S-1126	5/8	T-2126	T-2126X	13/16	B-3126	5/8	D-4126	25/32	N-5126	13/16	D
	21/64	1/4	S-1833	23/32	T-2833	T-2833X	29/32	B-3833	23/32	D-4833	7/8	N-5833	29/32	D
5-6	19/64	7/32	S-1083	5/8	T-2083	T-2083X	13/16	B-3083	5/8	D-4083	25/32	N-5083	13/16	D
	21/64	1/4	S-1538	23/32	T-2538	T-2538X	29/32	B-3538	23/32	D-4538	7/8	N-5538	29/32	D
	3/8	1/4	S-1834	23/32	T-2834	T-2834X	29/32	B-3834	23/32	D-4834	7/8	N-5834	29/32	D
	27/64	1/4	S-1835	23/32	T-2835	T-2835X	29/32	B-3835	23/32	D-4835	7/8	N-5835	29/32	D
8	19/64	7/32	S-1084	5/8	T-2084	T-2084X	13/16	B-3084	5/8	D-4084	25/32	N-5084	13/16	D
	21/64	1/4	S-1836	23/32	T-2836	T-2836X	29/32	B-3836	23/32	D-4836	7/8	N-5836	29/32	D
	3/8	1/4	S-1837	23/32	T-2837	T-2837X	29/32	B-3837	23/32	D-4837	7/8	N-5837	29/32	D
	27/64	1/4	S-1543	23/32	T-2543	T-2543X	29/32	B-3543	23/32	D-4543	7/8	N-5543	29/32	D
10	3/8	1/4	S-1585	23/32	T-2585	T-2585X	29/32	B-3585	23/32	D-4585	7/8	N-5585	29/32	D
	27/64	1/4	S-1838	23/32	T-2838	T-2838X	29/32	B-3838	23/32	D-4838	7/8	N-5838	29/32	D

**FLANGED SPADE TERMINALS—SHORT (5/32") BARREL LENGTH**



VIBRAKRIMP\*

3-4	19/64	7/32	SS-1126	17/32	ST-2126	ST-2126X	47/64	SB-3126	17/32	SD-4126	11/16	SN-5126	47/64	D
	21/64	1/4	SS-1833	5/8	ST-2833	ST-2833X	53/64	SB-3833	5/8	SD-4833	25/32	SN-5833	53/64	D
5-6	19/64	7/32	SS-1083	17/32	ST-2083	ST-2083X	47/64	SB-3083	17/32	SD-4083	11/16	SN-5083	47/64	D
	21/64	1/4	SS-1538	5/8	ST-2538	ST-2538X	53/64	SB-3538	5/8	SD-4538	25/32	SN-5538	53/64	D
	3/8	1/4	SS-1834	5/8	ST-2834	ST-2834X	53/64	SB-3834	5/8	SD-4834	25/32	SN-5834	53/64	D
	27/64	1/4	SS-1835	5/8	ST-2835	ST-2835X	53/64	SB-3835	5/8	SD-4835	25/32	SN-5835	53/64	D
8	19/64	7/32	SS-1084	17/32	ST-2084	ST-2084X	47/64	SB-3084	17/32	SD-4084	11/16	SN-5084	47/64	D
	21/64	1/4	SS-1836	5/8	ST-2836	ST-2836X	53/64	SB-3836	5/8	SD-4836	25/32	SN-5836	53/64	D
	3/8	1/4	SS-1837	5/8	ST-2837	ST-2837X	53/64	SB-3837	5/8	SD-4837	25/32	SN-5837	53/64	D
	27/64	1/4	SS-1543	5/8	ST-2543	ST-2543X	53/64	SB-3543	5/8	SD-4543	25/32	SN-5543	53/64	D
10	3/8	1/4	SS-1585	5/8	ST-2585	ST-2585X	53/64	SB-3585	5/8	SD-4585	25/32	SN-5585	53/64	D
10	27/64	1/4	SS-1838	5/8	ST-2838	ST-2838X	53/64	SB-3838	5/8	SD-4838	25/32	SN-5838	53/64	D

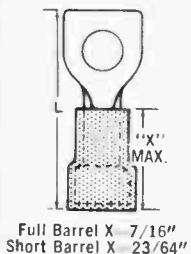
**HOOK TONGUE TERMINALS—FULL (1/4") BARREL LENGTH**

5-6	23/64	9/32	S-1038	23/32	T-2038	T-2038X	29/32	B-3038	23/32	D-4038	7/8	N-5038	29/32	D
8	23/64	9/32	S-1039	23/32	T-2039	T-2039X	29/32	B-3039	23/32	D-4039	7/8	N-5039	29/32	D
10	23/64	9/32	S-1040	23/32	T-2040	T-2040X	29/32	B-3040	23/32	D-4040	7/8	N-5040	29/32	D

**HOOK TONGUE TERMINALS—SHORT (5/32") BARREL LENGTH**

5-6	23/64	9/32	SS-1038	5/8	ST-2038	ST-2038X	53/64	SB-3038	5/8	SD-4038	25/32	SN-5038	53/64	D
8	23/64	9/32	SS-1039	5/8	ST-2039	ST-2039X	53/64	SB-3039	5/8	SD-4039	25/32	SN-5039	53/64	D
10	23/64	9/32	SS-1040	5/8	ST-2040	ST-2040X	53/64	SB-3040	5/8	SD-4040	25/32	SN-5040	53/64	D

**RECTANGULAR TONGUE TERMINALS—FULL (1/4") BARREL LENGTH**



AVIKRIMP\*

3-4	1/4	7/32	S-1134	5/8	T-2134	T-2134X	13/16	B-3134	5/8	D-4134	25/32	N-5134	13/16	D
	19/64	7/32	S-1838	5/8	T-2839	T-2839X	13/16	B-3839	5/8	D-4839	25/32	N-5839	13/16	D
	21/64	1/4	S-1840	23/32	T-2840	T-2840X	29/32	B-3840	23/32	D-4840	7/8	N-5840	29/32	D
5-6	1/4	7/32	S-1136	5/8	T-2136	T-2136X	13/16	B-3136	5/8	D-4136	25/32	N-5136	13/16	D
	19/64	7/32	S-1074	5/8	T-2074	T-2074X	13/16	B-3074	5/8	D-4074	25/32	N-5074	13/16	D
	21/64	1/4	S-1546	23/32	T-2546	T-2546X	29/32	B-3546	23/32	D-4546	7/8	N-5546	29/32	D
	23/64	9/32	S-1137	3/4	T-2137	T-2137X	15/16	B-3137	3/4	D-4137	29/32	N-5137	15/16	D
	3/8	1/4	S-1841	23/32	T-2841	T-2841X	29/32	B-3841	23/32	D-4841	7/8	N-5841	29/32	D
	27/64	1/4	S-1842	23/32	T-2842	T-2842X	29/32	B-3842	23/32	D-4842	7/8	N-5842	29/32	D
8	19/64	7/32	S-1075	5/8	T-2075	T-2075X	13/16	B-3075	5/8	D-4075	25/32	N-5075	13/16	D
	21/64	1/4	S-1843	23/32	T-2843	T-2843X	29/32	B-3843	23/32	D-4843	7/8	N-5843	29/32	D
	23/64	9/32	S-1139	3/4	T-2139	T-2139X	15/16	B-3139	3/4	D-4139	29/32	N-5139	15/16	D
	3/8	1/4	S-1550	23/32	T-2550	T-2550X	29/32	B-3550	23/32	D-4550	7/8	N-5550	29/32	D
	27/64	1/4	S-1553	23/32	T-2553	T-2553X	29/32	B-3553	23/32	D-4553	7/8	N-5553	29/32	D
	10	21/64	1/4	S-1844	23/32	T-2844	T-2844X	29/32	B-3844	23/32	D-4844	7/8	N-5844	29/32
10	23/64	9/32	S-1140	3/4	T-2140	T-2140X	15/16	B-3140	3/4	D-4140	29/32	N-5140	15/16	D
	3/8	1/4	S-1551	23/32	T-2551	T-2551X	29/32	B-3551	23/32	D-4551	7/8	N-5551	29/32	D
	27/64	1/4	S-1845	23/32	T-2845	T-2845X	29/32	B-3845	23/32	D-4845	7/8	N-5845	29/32	D

\*TRADEMARK

**SOLDERLESS TERMINALS AND CONNECTORS**

waldom



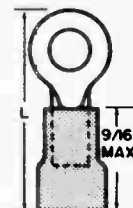
**16-14 WIRE RANGE (Continued)**

**RECTANGULAR TONGUE TERMINALS—SHORT (5/32") BARREL LENGTH PRICING FOLLOWS THIS WIRE RANGE LISTING**

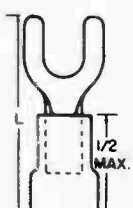
BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VERSAKRIMP*		VIBRAKRIMP*		AVIKRIMP*		Price Code (See Pricing Below)
Stud Size S	Width W	Clearance C	Part Number	Length L	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L	Part Number	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	
3-4	19/64	7/32	SS-1839	49/64	ST-2839	ST-2839X	31/32	SB-3839	49/64	SD-4839	59/64	SN-5839	31/32	D
	21/64	1/4	SS-1840	5/8	ST-2840	ST-2840X	53/64	SB-3840	5/8	SD-4840	25/32	SN-5840	53/64	D
5-6	19/64	7/32	SS-1074	49/64	ST-2074	ST-2074X	31/32	SB-3074	49/64	SD-4074	59/64	SN-5074	31/32	D
	21/64	1/4	SS-1546	5/8	ST-2546	ST-2546X	53/64	SB-3546	5/8	SD-4546	25/32	SN-5546	53/64	D
	3/8	1/4	SS-1841	5/8	ST-2841	ST-2841X	53/64	SB-3841	5/8	SD-4841	25/32	SN-5841	53/64	D
	27/64	1/4	SS-1842	5/8	ST-2842	ST-2842X	53/64	SB-3842	5/8	SD-4842	25/32	SN-5842	53/64	D
8	19/64	7/32	SS-1075	49/64	ST-2075	ST-2075X	31/32	SB-3075	49/64	SD-4075	59/64	SN-5075	31/32	D
	21/64	1/4	SS-1843	5/8	ST-2843	ST-2843X	53/64	SB-3843	5/8	SD-4843	25/32	SN-5843	53/64	D
	3/8	1/4	SS-1550	5/8	ST-2550	ST-2550X	53/64	SB-3550	5/8	SD-4550	25/32	SN-5550	53/64	D
	27/64	1/4	SS-1553	5/8	ST-2553	ST-2553X	53/64	SB-3553	5/8	SD-4553	25/32	SN-5553	53/64	D
10	21/64	1/4	SS-1844	5/8	ST-2844	ST-2844X	53/64	SB-3844	5/8	SD-4844	25/32	SN-5844	53/64	D
	3/8	1/4	SS-1551	5/8	ST-2551	ST-2551X	53/64	SB-3551	5/8	SD-4551	25/32	SN-5551	53/64	D
	27/64	1/4	SS-1845	5/8	ST-2845	ST-2845X	53/64	SB-3845	5/8	SD-4845	25/32	SN-5845	53/64	D

**HEAVY DUTY RING TONGUE TERMINALS—FULL (1/4") BARREL LENGTH—.050" STOCK USE 12-10 TOOLING**

BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VIBRAKRIMP*		AVIKRIMP*		Price Code (See Pricing Below)		
Stud Size S	Width W	Clearance C	Part Number	Length L	.215 Max. Ins. Dia. Pt. No.	.255 Max. Ins. Dia. Pt. No.	Length L	.235 Max. Ins. Dia. Pt. No.	.255 Max. Ins. Dia. Pt. No.	Length L	.235 Max. Ins. Dia. Pt. No.		.255 Max. Ins. Dia. Pt. No.	Length L
3-4	9/32	5/16	S-1401H	45/64	T-2401H	T-2401HX	1- 1/64	D-4401H	D-4401HX	61/64	N-5401H	N-5401HX	1	L
	3/8	5/16	S-1402H	3/4	T-2402H	T-2402HX	1- 1/16	D-4402H	D-4402HX	1	N-5402H	N-5402HX	1- 3/64	L
5-6	9/32	5/16	S-1403H	45/64	T-2403H	T-2403HX	1- 1/64	D-4403H	D-4403HX	61/64	N-5403H	N-5403HX	1	L
	3/8	5/16	S-1404H	3/4	T-2404H	T-2404HX	1- 1/16	D-4404H	D-4404HX	1	N-5404H	N-5404HX	1- 3/64	L
8	9/32	5/16	S-1432H	45/64	T-2432H	T-2432HX	1- 1/64	D-4432H	D-4432HX	61/64	N-5432H	N-5432HX	1	L
	3/8	5/16	S-1406H	3/4	T-2406H	T-2406HX	1- 1/16	D-4406H	D-4406HX	1	N-5406H	N-5406HX	1- 3/64	L
10	3/8	5/16	S-1407H	3/4	T-2407H	T-2407HX	1- 1/16	D-4407H	D-4407HX	1	N-5407H	N-5407HX	1- 3/64	L
	17/32	13/32	S-1408H	59/64	T-2408H	T-2408HX	1-15/64	D-4408H	D-4408HX	1-11/64	N-5408H	N-5408HX	1- 7/32	M
	19/32	31/64	S-1409H	1- 1/32	T-2409H	T-2409HX	1-11/32	D-4409H	D-4409HX	1- 9/32	N-5409H	N-5409HX	1-21/64	L
1/4	17/32	13/32	S-1410H	59/64	T-2410H	T-2410HX	1-15/64	D-4410H	D-4410HX	1-11/64	N-5410H	N-5410HX	1- 7/32	M
	19/32	31/64	S-1411H	1- 1/32	T-2411H	T-2411HX	1-11/32	D-4411H	D-4411HX	1- 9/32	N-5411H	N-5411HX	1-21/64	N
5/16	17/32	13/32	S-1413H	59/64	T-2413H	T-2413HX	1-15/64	D-4413H	D-4413HX	1-11/64	N-5413H	N-5413HX	1- 7/32	M
	19/32	31/64	S-1414H	1- 1/32	T-2414H	T-2414HX	1-11/32	D-4414H	D-4414HX	1- 9/32	N-5414H	N-5414HX	1-21/64	N
3/8	17/32	13/32	S-1434H	1-17/64	T-2434H	T-2434HX	1-37/64	D-4434H	D-4434HX	1-33/64	N-5434H	N-5434HX	1- 9/16	O
	3/4	5/8	S-1416H	1- 1/32	T-2416H	T-2416HX	1-11/32	D-4416H	D-4416HX	1- 9/32	N-5416H	N-5416HX	1-21/64	N
7/16	3/4	5/8	S-1417H	1-17/64	T-2417H	T-2417HX	1-37/64	D-4417H	D-4417HX	1-33/64	N-5417H	N-5417HX	1- 9/16	O
	3/4	5/8	S-1435H	1-17/64	T-2435H	T-2435HX	1-37/64	D-4435H	D-4435HX	1-33/64	N-5435H	N-5435HX	1- 9/16	O
1/2	3/4	5/8	S-1419H	1-17/64	T-2519H	T-2419HX	1-37/64	D-4419H	D-4419HX	1-33/64	N-5419H	N-5419HX	1- 9/16	O



INSULKRIMP\*



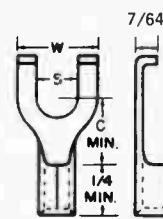
VIBRAKRIMP\*

**HEAVY DUTY SPADE TONGUE TERMINALS—FULL (1/4") BARREL LENGTH—.050" STOCK**

5-6	3/8	5/16	S-1420H	25/32	T-2420H	T-2420HX	1- 3/32	D-4420H	D-4420HX	1- 1/32	N-5420H	N-5420HX	1- 5/64	L
8	3/8	5/16	S-1421H	25/32	T-2421H	T-2421HX	1- 3/32	D-4421H	D-4421HX	1- 1/32	N-5421H	N-5421HX	1- 5/64	L
10	3/8	5/16	S-1422H	25/32	T-2422H	T-2422HX	1- 3/32	D-4422H	D-4422HX	1- 1/32	N-5422H	N-5422HX	1- 5/64	L
	17/32	13/32	S-1426H	59/64	T-2426H	T-2426HX	1-15/64	D-4426H	D-4426HX	1-11/64	N-5426H	N-5426HX	1- 7/32	M
1/4	17/32	13/32	S-1427H	59/64	T-2427H	T-2427HX	1-15/64	D-4427H	D-4427HX	1-11/64	N-5427H	N-5427HX	1- 7/32	M
5/16	17/32	13/32	S-1428H	59/64	T-2428H	T-2428HX	1-15/64	D-4428H	D-4428HX	1-11/64	N-5428H	N-5428HX	1- 7/32	M

**HEAVY DUTY FLANGED SPADE TERMINALS—FULL (1/4") BARREL LENGTH—.050" STOCK**

5-6	3/8	5/16	S-1423H	3/4	T-2423H	T-2423HX	1- 1/16	D-4423H	D-4423HX	1	N-5423H	N-5423HX	1- 3/64	L
8	3/8	5/16	S-1424H	3/4	T-2424H	T-2424HX	1- 1/16	D-4424H	D-4424HX	1	N-5424H	N-5424HX	1- 3/64	L
10	3/8	5/16	S-1425H	3/4	T-2425H	T-2425HX	1- 1/16	D-4425H	D-4425HX	1	N-5425H	N-5425HX	1- 3/64	L



.050 Stock  
KRIMPTITE\*

**NET PRICES 16-14 WIRE RANGE TERMINALS**

Price Code Letter	KRIMPTITE*		INSULKRIMP* No Suffix		INSULKRIMP* Suffix (X)		VERSAKRIMP*		VIBRAKRIMP*		AVIKRIMP*				
	BULK		BULK		BULK		BULK		BULK		BULK				
	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M			
B	2.96	21.30	16.65	5.79	42.80	33.45	6.13	45.35	35.40	4.87	39.15	29.35			
C	3.89	28.05	21.90	5.79	42.80	33.45	6.13	45.35	35.40	4.87	39.15	29.35			
D	2.26	16.25	12.70	4.47	33.05	25.85	5.02	37.10	29.00	3.50	28.00	21.00			
L	3.36	26.85	20.15	6.64	53.15	39.85	6.64	53.15	39.85	8.47	67.70	50.80			
M	4.33	34.65	26.00	7.33	58.60	43.95	7.33	58.60	43.95	8.91	71.35	53.50			
N	4.77	38.20	28.65	7.95	63.65	47.65	7.95	63.65	47.65	9.80	78.30	58.75			
O	7.59	60.70	45.55	11.44	91.45	68.65	11.44	91.45	68.65	11.98	95.80	71.85			
												9.02	72.15	54.15	
													7.21	58.50	43.90
													11.43	91.40	68.55
													12.46	99.70	74.75
													13.20	105.55	79.20
													14.18	113.50	85.10

\*TRADEMARK



**waldom**

**SECTION 2100**

**SOLDERLESS TERMINALS AND CONNECTORS**

**12-10 WIRE RANGE**

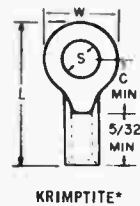
**BUREAU OF SHIPS 6-9  
CIRCULAR MIL AREA 5,180-13,100**

**.040" STOCK • INSULATION COLOR CODED YELLOW**

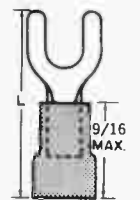
**PRICING FOLLOWS THIS  
WIRE RANGE LISTING**

**RING TONGUE TERMINALS—FULL (1/4") BARREL LENGTH**

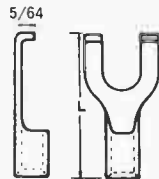
BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VERSAKRIMP*		VIBRAKRIMP*			AVIKRIMP*			Price Code (See Pricing Below)
Stud Size S	Width W	Clearance C	Part Number	Length L	.215 Max. Ins. Dia. Pt. No.	.255 Max. Ins. Dia. Pt. No.	Length L	Part Number	Length L	.235 Max. Ins. Dia. Pt. No.	.255 Max. Ins. Dia. Pt. No.	Length L	.235 Max. Ins. Dia. Pt. No.	.255 Max. Ins. Dia. Pt. No.	Length L	
3-4	9/32	5/16	S-1148	45/64	T-2148	T-2148X	1- 1/64	B-3148	45/64	D-4148	D-4148X	61/64	N-5148	N-5148X	1-22/33	E
	3/8	5/16	S-1846	3/4	T-2846	T-2846X	1- 1/16	B-3846	3/4	D-4846	D-4846X	1	N-5846	N-5846X	1- 3/64	E
5-6	9/32	5/16	S-1149	45/64	T-2149	T-2149X	1- 1/64	B-3149	45/64	D-4149	D-4149X	61/64	N-5149	N-5149X	1	E
	3/8	5/16	S-1049	3/4	T-2049	T-2049X	1- 1/16	B-3049	3/4	D-4049	D-4049X	1	N-5049	N-5049X	1- 3/64	E
8	9/32	5/16	S-1150	45/64	T-2150	T-2150X	1- 1/64	B-3150	45/64	D-4150	D-4150X	61/64	N-5150	N-5150X	1	E
	3/8	5/16	S-1050	3/4	T-2050	T-2050X	1- 1/16	B-3050	3/4	D-4050	D-4050X	1	N-5050	N-5050X	1- 3/63	E
10	3/8	5/16	S-1011	3/4	T-2011	T-2011X	1- 1/16	B-3011	3/4	D-4011	D-4011X	1	N-5011	N-5011X	1- 3/64	E
	17/32	13/32	S-1115	59/64	T-2115	T-2115X	1-15/64	B-3115	59/64	D-4115	D-4115X	1- 7/64	N-5115	N-5115X	1- 7/32	F
	19/32	31/64	S-1107	1- 1/32	T-2107	T-2107X	1-11/32	B-3107	1- 1/32	D-4107	D-4107X	1- 9/32	N-5107	N-5107X	1-21/64	G
1/4	17/32	13/32	S-1100	59/64	T-2100	T-2100X	1-15/64	B-3100	59/64	D-4100	D-4100X	1- 7/64	N-5100	N-5100X	1- 7/32	F
	19/32	31/64	S-1012	1- 1/32	T-2012	T-2012X	1-11/32	B-3012	1- 1/32	D-4012	D-4012X	1- 9/32	N-5012	N-5012X	1-21/64	G
	3/4	5/8	S-1847	1-17/64	T-2847	T-2847X	1-37/64	B-3847	1-17/64	D-4847	D-4847X	1-33/64	N-5847	N-5847X	1- 9/16	H
5/16	17/32	13/32	S-1101	59/64	T-2101	T-2101X	1-15/64	B-3101	59/64	D-4101	D-4101X	1- 7/64	N-5101	N-5101X	1- 7/32	F
	19/32	31/64	S-1042	1- 1/32	T-2042	T-2042X	1-11/32	B-3042	1- 1/32	D-4042	D-4042X	1- 9/32	N-5042	N-5042X	1-21/64	G
	3/4	5/8	S-1848	1-17/64	T-2848	T-2848X	1-37/64	B-3848	1-17/64	D-4848	D-4848X	1-33/64	N-5848	N-5848X	1- 9/16	H
3/8	19/32	31/64	S-1013	1- 1/32	T-2013	T-2013X	1-11/32	B-3013	1- 1/32	D-4013	D-4013X	1- 9/32	N-5013	N-5013X	1-21/64	G
	3/4	5/8	S-1153	1-17/64	T-2153	T-2153X	1-37/64	B-3153	1-17/64	D-4153	D-4153X	1-33/64	N-5153	N-5153X	1- 9/16	H
7/16	3/4	5/8	S-1154	1-17/64	T-2154	T-2154X	1-37/64	B-3154	1-17/64	D-4154	D-4154X	1-33/64	N-5154	N-5154X	1- 9/16	H
1/2	3/4	5/8	S-1155	1-17/64	T-2155	T-2155X	1-37/64	B-3155	1-17/64	D-4155	D-4155X	1-33/64	N-5155	N-5155X	1- 9/16	H



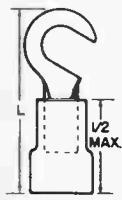
KRIMPTITE\*



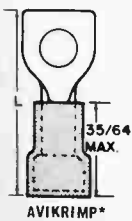
INSULKRIMP\*



VERSAKRIMP\*



VIBRAKRIMP\*



AVIKRIMP\*

**SPADE TONGUE TERMINALS—FULL (1/4") BARREL LENGTH**

5-6	3/8	5/16	S-1053	25/32	T-2053	T-2053X	1- 3/32	B-3053	25/32	D-4053	D-4053X	1- 1/32	N-5053	N-5053X	1- 5/64	E
8	3/8	5/16	S-1054	25/32	T-2054	T-2054X	1- 3/32	B-3054	25/32	D-4054	D-4054X	1- 1/32	N-5054	N-5054X	1- 5/64	E
10	3/8	5/16	S-1017	25/32	T-2017	T-2017X	1- 3/32	B-3017	25/32	D-4017	D-4017X	1- 1/32	N-5017	N-5017X	1- 5/64	E
1/4	17/32	13/32	S-1184	59/64	T-2184	T-2184X	1-15/64	B-3184	59/64	D-4184	D-4184X	1-11/64	N-5184	N-5184X	1- 7/32	F
	17/32	13/32	S-1849	59/64	T-2849	T-2849X	1-15/64	B-3849	59/64	D-4849	D-4849X	1-11/64	N-5849	N-5849X	1- 7/32	F
5/16	17/32	13/32	S-1850	59/64	T-2850	T-2850X	1-15/64	B-3850	59/64	D-4850	D-4850X	1-11/64	N-5850	N-5850X	1- 7/32	F

**FLANGED SPADE TERMINALS—FULL (1/4") BARREL LENGTH**

5-6	3/8	5/16	S-1086	3/4	T-2086	T-2086X	1- 1/16	B-3086	3/4	D-4086	D-4086X	1	N-5086	N-5086X	1- 3/64	E
8	3/8	5/16	S-1087	3/4	T-2087	T-2087X	1- 1/16	B-3087	3/4	D-4087	D-4087X	1	N-5087	N-5087X	1- 3/64	E
10	3/8	5/16	S-1088	3/4	T-2088	T-2088X	1- 1/16	B-3088	3/4	D-4088	D-4088X	1	N-5088	N-5088X	1- 3/64	E

**HOOK TONGUE TERMINALS—FULL (1/4") BARREL LENGTH**

5-6	3/8	5/16	S-1057	3/4	T-2057	T-2057X	1- 1/16	B-3057	3/4	D-4057	D-4057X	1	N-5057	N-5057X	1- 3/64	E
8	3/8	5/16	S-1058	3/4	T-2058	T-2058X	1- 1/16	B-3058	3/4	D-4058	D-4058X	1	N-5058	N-5058X	1- 3/64	E
10	3/8	5/16	S-1045	3/4	T-2045	T-2045X	1- 1/16	B-3045	3/4	D-4045	D-4045X	1	N-5045	N-5045X	1- 3/64	E

**RECTANGULAR TONGUE TERMINALS—FULL (1/4") BARREL LENGTH**

5-6	3/8	5/16	S-1077	25/32	T-2077	T-2077X	1- 3/32	B-3077	25/32	D-4077	D-4077X	1- 1/32	N-5077	N-5077X	1- 5/64	E
8	3/8	5/16	S-1078	25/32	T-2078	T-2078X	1- 3/32	B-3078	25/32	D-4078	D-4078X	1- 1/32	N-5078	N-5078X	1- 5/64	E
10	3/8	5/16	S-1079	25/32	T-2079	T-2079X	1- 3/32	B-3079	25/32	D-4079	D-4079X	1- 1/32	N-5079	N-5079X	1- 5/64	E

**NET PRICES—12-10 WIRE RANGE TERMINALS**

Price Code Letter	KRIMPTITE*			INSULKRIMP* No Suffix			VERSAKRIMP*			INSULKRIMP* Suffix (X)			VIBRAKRIMP*			AVIKRIMP*		
	Pkg. of 100	BULK		Pkg. of 100	BULK		Pkg. of 100	BULK		Pkg. of 100	BULK		Pkg. of 100	BULK		Pkg. of 100	BULK	
		1000-4999, per M	5000 or more, per M		1000-4999, per M	5000 or more, per M		1000-4999, per M	5000 or more, per M		1000-4999, per M	5000 or more, per M		1000-4999, per M	5000 or more, per M		1000-4999, per M	5000 or more, per M
E	3.14	22.55	17.65	5.79	42.80	33.45	4.87	39.15	29.35	6.13	45.35	35.40	6.44	51.50	38.60	9.02	72.15	54.15
F	4.14	29.80	23.25	6.13	45.35	35.40	5.63	45.05	33.80	6.81	50.40	39.45	7.14	57.10	42.85	9.22	73.70	55.30
G	4.55	32.80	25.60	6.81	50.40	39.35	5.91	47.25	35.45	7.51	55.60	43.45	7.60	60.80	45.60	10.11	79.95	59.95
H	7.03	50.65	39.55	9.09	67.20	52.50	8.51	68.10	51.10	9.78	72.40	56.55	9.85	78.80	59.15	11.88	95.00	71.30

\*TRADEMARK

**SOLDERLESS TERMINALS AND CONNECTORS**

waldom



**8 WIRE RANGE**

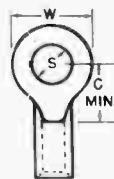
BUREAU OF SHIPS 14  
CIRCULAR MIL AREA 13,100-20,800

.050" STOCK • INSULATION COLOR CODED RED

PRICING FOLLOWS THIS  
WIRE RANGE LISTING

**RING TONGUE TERMINALS**

BASIC DIMENSIONS			VERSAKRIMP*		INSULKRIMP*			NYLAKRIMP*		Price Code See Page 791
Stud Size S	Width W	Clearance C	Part Number	Length L	.300 Max. Ins. Dia. Pt. No.	.385 Max. Ins. Dia. Pt. No.	Length L	.300 Max. Ins. Dia. Pt. No.	Length L	
6	15/32	11/32	B-3851	61/64	T-2851	T-2851X	1-17/64	N-5851	1-17/64	P
	3/8	11/32	B-3852	29/32	T-2852	T-2852X	1- 7/32	N-5852	1- 7/32	
8	15/32	11/32	B-3201	61/64	T-2201	T-2201X	1-17/64	N-5201	1-17/64	P
	3/8	11/32	B-3225	29/32	T-2225	T-2225X	1-17/32	N-5225	1- 7/32	
10	15/32	11/32	B-3202	61/64	T-2202	T-2202X	1-17/64	N-5202	1-17/64	P
	19/32	13/32	B-3205	1- 5/64	T-2205	T-2205X	1-25/64	N-5205	1-25/64	
	13/16	19/32	B-3853	1- 3/8	T-2853	T-2853X	1-11/16	N-5853	1-11/16	
	3/8	11/32	B-3226	29/32	T-2226	T-2226X	1- 7/32	N-5226	1- 7/32	
1/4	15/32	11/32	B-3203	61/64	T-2203	T-2203X	1-17/64	N-5203	1-17/64	P
	19/32	13/32	B-3206	1- 5/64	T-2206	T-2206X	1-25/64	N-5206	1-25/64	
	13/16	19/32	B-3854	1- 3/8	T-2854	T-2854X	1-11/16	N-5854	1-11/16	
	1- 1/8	31/32	B-3855	1-29/32	T-2855	T-2855X	2- 7/32	N-5855	2- 7/32	
		3/8	11/32	B-3856	29/32	T-2856	T-2856X	1- 7/32	N-5856	
	5/16	15/32	11/32	B-3204	61/64	T-2204	T-2204X	1-17/64	N-5204	
19/32		13/32	B-3207	1- 5/64	T-2207	T-2207X	1-25/64	N-5207	1-25/64	
13/16		19/32	B-3857	1- 3/8	T-2857	T-2857X	1-11/16	N-5857	1-11/16	
1- 1/8		31/32	B-3218	1-29/32	T-2218	T-2218X	2- 7/32	N-5218	2- 7/32	
3/8	19/32	13/32	B-3208	1- 5/64	T-2208	T-2208X	1-25/64	N-5208	1-25/64	Q
	13/16	19/32	B-3858	1- 3/8	T-2858	T-2858X	1-11/16	N-5858	1-11/16	
	1- 1/8	31/32	B-3219	1-29/32	T-2219	T-2219X	2- 7/32	N-5219	2- 7/32	
7/16	19/32	13/32	B-3859	1- 5/64	T-2859	T-2859X	1-25/64	N-5859	1-25/64	Q
	13/16	19/32	B-3860	1- 3/8	T-2860	T-2860X	1-11/16	N-5860	1-11/16	
	1- 1/8	31/32	B-3861	1-29/32	T-2861	T-2861X	2- 7/32	N-5861	2- 7/32	
1/2	13/16	19/32	B-3862	1- 3/8	T-2862	T-2862X	1-11/16	N-5862	1-11/16	R
	1- 1/8	31/32	B-3221	1-29/32	T-2221	T-2221X	2- 7/32	N-5221	2- 7/32	
5/8	13/16	19/32	B-3863	1- 3/8	T-2863	T-2863X	1-11/16	N-5863	1-11/16	R
	1- 1/8	31/32	B-3222	1-29/32	T-2222	T-2222X	2- 7/32	N-5222	2- 7/32	
3/4	1- 1/8	31/32	B-3223	1-29/32	T-2223	T-2223X	2- 7/32	N-5223	2- 7/32	R



VERSAKRIMP\*



INSULKRIMP\*

**6 WIRE RANGE**

BUREAU OF SHIPS 23-30  
CIRCULAR MIL AREA 20,800-33,100

.057" STOCK • INSULATION COLOR CODED BLUE

**RING TONGUE TERMINALS**

BASIC DIMENSIONS			VERSAKRIMP*		INSULKRIMP*			NYLAKRIMP*		Price Code See Page 791
Stud Size S	Width W	Clearance C	Part Number	Length L	.380 Max. Ins. Dia. Pt. No.	.440 Max. Ins. Dia. Pt. No.	Length L	.380 Max. Ins. Dia. Pt. No.	Length L	
8	5/8	1/2	B-3864	1- 1/4	T-2864	T-2864X	1- 5/8	N-5864	1- 5/8	S
	15/32	1/2	B-3865	1-11/64	T-2865	T-2865X	1-35/64	N-5865	1-35/64	
10	5/8	1/2	B-3228	1- 1/4	T-2228	T-2228X	1- 5/8	N-5228	1- 5/8	S
	13/16	19/32	B-3866	1- 7/16	T-2866	T-2866X	1-13/16	N-5866	1-13/16	
	15/32	1/2	B-3248	1-11/64	T-2248	T-2248X	1-35/64	N-5248	1-35/64	
1/4	5/8	1/2	B-3229	1- 1/4	T-2229	T-2229X	1- 5/8	N-5229	1- 5/8	S
	13/16	19/32	B-3867	1- 7/16	T-2867	T-2867X	1-13/16	N-5867	1-13/16	
	1- 1/8	31/32	B-3868	1-31/32	T-2868	T-2868X	2-11/32	N-5868	2-11/32	
		15/32	1/2	B-3249	1-11/64	T-2249	T-2249X	1-35/64	N-5249	
5/16	5/8	1/2	B-3230	1- 1/4	T-2230	T-2230X	1- 5/8	N-5230	1- 5/8	S
	13/16	19/32	B-3869	1- 7/16	T-2869	T-2869X	1-13/16	N-5869	1-13/16	
	1- 1/8	31/32	B-3241	1-31/32	T-2241	T-2241X	2-11/32	N-5241	2-11/32	
		15/32	1/2	B-3870	1-11/64	T-2870	T-2870X	1-35/64	N-5870	
3/8	5/8	1/2	B-3231	1- 1/4	T-2231	T-2231X	1- 5/8	N-5231	1- 5/8	S
	13/16	19/32	B-3871	1- 7/16	T-2871	T-2871X	1-13/16	N-5871	1-13/16	
	1- 1/8	31/32	B-3242	1-31/32	T-2242	T-2242X	2-11/32	N-5242	2-11/32	
7/16	5/8	1/2	B-3232	1- 1/4	T-2232	T-2232X	1- 5/8	N-5232	1- 5/8	S
	13/16	19/32	B-3872	1- 7/16	T-2872	T-2872X	1-13/16	N-5872	1-13/16	
	1- 1/8	31/32	B-3873	1-31/32	T-2873	T-2873X	2-11/32	N-5873	2-11/32	
1/2	13/16	19/32	B-3238	1- 7/16	T-2238	T-2238X	1-13/16	N-5238	1-13/16	U
	1- 1/8	31/32	B-3244	1-31/32	T-2244	T-2244X	2-11/32	N-5244	2-11/32	
5/8	13/16	19/32	B-3874	1- 7/16	T-2874	T-2874X	1-13/16	N-5874	1-13/16	U
	1- 1/8	31/32	B-3245	1-31/32	T-2245	T-2245X	2-11/32	N-5245	2-11/32	
3/4	1- 1/8	31/32	B-3246	1-31/32	T-2246	T-2246X	2-11/32	N-5246	2-11/32	T



(Nylon Insulated)  
NYLAKRIMP\*

\*TRADEMARK

Note: Large size INSULKRIMP\* and NYLAKRIMP\* parts have brazed barrels of VERSAKRIMP style.



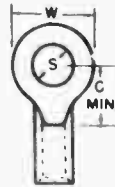
waldom

SOLDERLESS TERMINALS AND CONNECTORS

**4 WIRE RANGE** BUREAU OF SHIPS 40-50  
CIRCULAR MIL AREA 33,100-52,600

.075" STOCK • INSULATION COLOR CODED YELLOW

PRICING FOLLOWS THIS WIRE RANGE LISTING



VERSAKRIMP\*

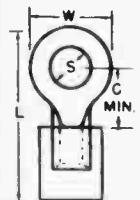
Basic Dimensions			VERSAKRIMP*		INSULKRIMP*			NYLAKRIMP*		Price Code See Page 791
Stud Size S	Width W	Clearance C	Part Number	Length L	.300 Max. Ins. Dia. Pt. No.	.385 Max. Ins. Dia. Pt. No.	Length L	.448 Max. Ins. Dia. Pt. No.	Length L	
10	21/32	1/2	B-3251	1- 5/16	T-2251	T-2251X	1- 3/4	N-5251	1- 3/4	V
	15/32	1/2	B-3875	1- 7/32	T-2875	T-2875X	1-21/32	N-5875	1-21/32	V
1/4	21/32	1/2	B-3252	1- 5/16	T-2252	T-2252X	1- 3/4	N-5252	1- 3/4	V
	15/32	1/2	B-3876	1- 7/32	T-2876	T-2876X	1-21/32	N-5876	1-21/32	V
	7/8	31/32	B-3877	1-29/32	T-2877	T-2877X	2-11/32	N-5877	2-11/32	W
	1- 1/4	31/32	B-3878	2- 3/32	T-2878	T-2878X	2-17/32	N-5878	2-17/32	X
5/16	21/32	1/2	B-3253	1- 5/16	T-2253	T-2253X	1- 3/4	N-5253	1- 3/4	V
	15/32	1/2	B-3879	1- 7/32	T-2879	T-2879X	1-21/32	N-5879	1-21/32	V
	7/8	31/32	B-3880	1-29/32	T-2880	T-2880X	2-11/32	N-5880	2-11/32	W
	1- 1/4	31/32	B-3273	2- 3/32	T-2273	T-2273X	2-17/32	N-5273	2-17/32	X
3/8	21/32	1/2	B-3254	1- 5/16	T-2254	T-2254X	1- 3/4	N-5254	1- 3/4	V
	7/8	31/32	B-3268	1-29/32	T-2268	T-2268X	2-11/32	N-5268	2-11/32	W
	1- 1/4	31/32	B-3274	2- 3/32	T-2274	T-2274X	2-17/32	N-5274	2-17/32	X
7/16	21/32	1/2	B-3255	1- 5/16	T-2255	T-2255X	1- 3/4	N-5255	1- 3/4	V
	7/8	31/32	B-3881	1-29/32	T-2881	T-2881X	2-11/32	N-5881	2-11/32	W
	1- 1/4	31/32	B-3882	2- 3/32	T-2882	T-2882X	2-17/32	N-5882	2-17/32	X
1/2	21/32	1/2	B-3276	1- 5/16	T-2276	T-2276X	1- 3/4	N-5276	1- 3/4	V
	7/8	31/32	B-3883	1-29/32	T-2883	T-2883X	2-11/32	N-5883	2-11/32	W
	1- 1/4	31/32	B-3884	2- 3/32	T-2884	T-2884X	2-17/32	N-5884	2-17/32	X
5/8	7/8	31/32	B-3885	1-29/32	T-2885	T-2885X	2-11/32	N-5885	2-11/32	W
	1- 1/4	31/32	B-3277	2- 3/32	T-2277	T-2277X	2-17/32	N-5277	2-17/32	X
3/4	1- 1/4	31/32	B-3278	2- 3/32	T-2278	T-2278X	2-17/32	N-5278	2-17/32	X



INSULKRIMP\*

**2 WIRE RANGE** BUREAU OF SHIPS 60-75  
CIRCULAR MIL AREA 52,600-83,700

.075" STOCK • INSULATION COLOR CODED RED



(Nylon Insulated)  
NYLAKRIMP\*

Basic Dimensions			VERSAKRIMP*		INSULKRIMP*			NYLAKRIMP*		Price Code See Page 791
Stud Size S	Width W	Clearance C	Part Number	Length L	.380 Max. Ins. Dia. Pt. No.	.440 Max. Ins. Dia. Pt. No.	Length L	.526 Max. Ins. Dia. Pt. No.	Length L	
10	5/8	43/64	B-3886	1-17/32	T-2886	T-2886X	2- 1/32	N-5886	2- 1/32	Y
1/4	7/8	43/64	B-3284	1-21/32	T-2284	T-2284X	2- 5/32	N-5284	2- 5/32	Y
	5/8	43/64	B-3281	1-17/32	T-2281	T-2281X	2- 1/32	N-5281	2- 1/32	Y
	7/8	31/32	B-3887	1-31/32	T-2887	T-2887X	2-15/32	N-5887	2-15/32	Z
	1- 1/4	31/32	B-3888	2- 5/32	T-2888	T-2888X	2-21/32	N-5888	2-21/32	AA
5/16	7/8	43/64	B-3285	1-21/32	T-2285	T-2285X	2- 5/32	N-5285	2- 5/32	Y
	5/8	43/64	B-3282	1-17/32	T-2282	T-2282X	2- 1/32	N-5282	2- 1/32	Y
	7/8	31/32	B-3889	1-31/32	T-2889	T-2889X	2-15/32	N-5889	2-15/32	Z
	1- 1/4	31/32	B-3890	2- 5/32	T-2890	T-2890X	2-21/32	N-5890	2-21/32	AA
3/8	7/8	43/64	B-3286	1-21/32	T-2286	T-2286X	2- 5/32	N-5286	2- 5/32	Y
	5/8	43/64	B-3283	1-17/32	T-2283	T-2283X	2- 1/32	N-5283	2- 1/32	Y
	7/8	31/32	B-3891	1-31/32	T-2891	T-2891X	2-15/32	N-5891	2-15/32	Z
	1- 1/4	31/32	B-3892	2- 5/32	T-2892	T-2892X	2-21/32	N-5892	2-21/32	AA
7/16	7/8	43/64	B-3287	1-21/32	T-2287	T-2287X	2- 5/32	N-5287	2- 5/32	Y
	7/8	31/32	B-3893	1-31/32	T-2893	T-2893X	2-15/32	N-5893	2-15/32	Z
	1- 1/4	31/32	B-3894	2- 5/32	T-2894	T-2894X	2-21/32	N-5894	2-21/32	AA
1/2	7/8	43/64	B-3288	1-21/32	T-2288	T-2288X	2- 5/32	N-5288	2- 5/32	Y
	7/8	31/32	B-3895	1-31/32	T-2895	T-2895X	2-15/32	N-5895	2-15/32	Z
	1- 1/4	31/32	B-3300	2- 5/32	T-2300	T-2300X	2-21/32	N-5300	2-21/32	AA
5/8	7/8	43/64	B-3896	1-21/32	T-2896	T-2896X	2- 5/32	N-5896	2- 5/32	Y
	7/8	31/32	B-3301	1-31/32	T-2301	T-2301X	2-15/32	6-5301	2-15/32	Z
	1- 1/4	31/32	B-3897	2- 5/32	T-2897	T-2897X	2-21/32	N-5897	2-21/32	AA
3/4	1- 1/4	31/32	B-3302	2- 5/32	T-2302	T-2302X	2-21/32	N-5302	2-21/32	AA

\*TRADEMARK

Note: Large size INSULKRIMP\* and NYLAKRIMP\* parts have brazed barrels of VERSAKRIMP style.

**SOLDERLESS TERMINALS AND CONNECTORS**

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**1/0 WIRE RANGE**  
BUREAU OF SHIPS 100  
CIRCULAR MIL AREA 83,700-119,500

.075" STOCK • INSULATION COLOR CODED BLUE •

BASIC DIMENSIONS			VERSAKRIMP*		NYLAKRIMP*		Price Code (See Pricing Below)
Stud Size S	Width W	Clearance C	Part Number	Length L	.595 Max. Ins. Dia. Pt. No.	Length L	
1/4	13/16 7/8	5/8	B-3307 B-3310	1-59/64 1-61/64	N-5307	2-35/64	AB AC
5/16	13/16 7/8	5/8	B-3308 B-3311	1-59/64 1-61/64	N-5308	2-35/64	AB AC
3/8	13/16 7/8 1-1/4	5/8 5/8	B-3309 B-3312 B-3315	1-59/64 1-61/64 1-11/16	N-5309 N-5312 N-5315	2-35/64 2-37/64 3-5/16	AB AC AD
7/16	7/8	5/8	B-3313	1-61/64	N-5313	2-37/64	AC
1/2	7/8 1-1/4	5/8 1-1/8	B-3314 B-3316	1-61/64 2-11/16	N-5314 N-5316	2-37/64 3-5/16	AC AD
5/8	1-1/4	1-1/8	B-3317	2-11/16	N-5317	3-5/16	AD
3/4	1-1/4	1-1/8	B-3318	2-11/16	N-5318	3-5/16	AD
7/8	1-1/4	1-1/8	B-3319	2-11/16	N-5319	3-5/16	AD

**3/0 WIRE RANGE**  
BUREAU OF SHIPS 150  
CIRCULAR MIL AREA 150,500-190,000

.095" STOCK • INSULATION COLOR CODED RED •

BASIC DIMENSIONS			VERSAKRIMP*		NYLAKRIMP*		Price Code (See Pricing Below)
Stud Size S	Width W	Clearance C	Part Number	Length L	.735 Max. Ins. Dia. Pt. No.	Length L	
5/16	1-3/64	3/4	B-3898	2-7/64	N-5898	2-57/64	BO
3/8	1-3/64	3/4	B-3899	2-7/64	N-5899	2-57/64	BO
7/16	1-3/64	3/4	B-3900	2-7/64	N-5900	2-57/64	BO
1/2	1-3/64	3/4	B-3901	2-7/64	N-5901	2-57/64	BO
5/8	1-3/64 1-1/4	3/4 1-1/8	B-3902 B-3903	2-7/64 2-11/16	N-5902 N-5903	2-57/64 3-15/32	BO BP
3/4	1-3/64 1-1/4	3/4 1-1/8	B-3904 B-3905	2-7/64 2-11/16	N-5904 N-5905	2-57/64 3-15/32	BP BP
7/8	1-1/4	1-1/8	B-3906	2-11/16	N-5906	3-15/32	BP

NET PRICES—LARGE WIRE RANGE TERMINALS (8, 6, 4 & 2 Wire Ranges)

Code Letter	VERSAKRIMP*				INSULKRIMP* Straight Insulation				INSULKRIMP* Flared Insulation				NYLAKRIMP*			
	Pkg. of (A)25 (B)20	100-999, per C	1000-4999, per M	5000 or more, per M	Pkg. of (A)25 (B)20	100-999, per C	1000-4999, per M	5000 or more, per M	Pkg. of (A)25 (B)20	100-999, per C	1000-4999, per M	5000 or more, per M	Pkg. of (A)25 (B)20	100-999, per C	1000-4999, per M	5000 or more, per M
P	(A)2.40	7.70	67.55	57.90	(A)3.43	11.00	96.15	82.40	(A)3.67	11.75	102.80	88.10	(A)4.40	14.55	129.00	104.30
Q	(A)3.21	10.25	89.80	76.95	(A)4.22	13.55	118.35	101.50	(A)4.47	14.30	125.05	107.15	(A)5.18	17.17	152.30	123.10
R	(A)4.70	15.05	131.50	112.70	(A)5.72	18.30	160.10	137.25	(A)5.95	19.05	166.65	142.85	(A)6.72	22.26	197.40	159.60
S	(A)3.72	11.90	104.05	89.20	(A)4.92	15.70	137.50	117.90	(A)5.26	16.80	147.00	126.00	(A)6.12	20.27	179.80	153.00
T	(A)5.09	16.30	142.65	122.30	(A)6.29	20.15	176.15	151.05	(A)6.59	21.10	184.90	158.05	(A)7.50	24.84	220.20	187.40
U	(A)4.38	14.00	122.05	125.15	(A)5.58	17.85	156.10	133.80	(A)5.87	18.80	164.40	140.80	(A)6.83	22.45	199.25	169.55
V	(B)4.27	17.05	149.20	127.90	(B)6.82	21.80	190.65	163.40	(B)7.12	22.70	198.80	170.40	(B)6.00	24.85	220.40	187.55
W	(B)5.27	21.10	184.45	158.10	(B)8.09	25.80	225.90	193.60	(B)8.37	26.75	234.05	200.60	(B)7.00	29.00	257.35	219.00
X	(B)5.59	22.35	195.45	167.50	(B)8.47	27.05	236.90	203.05	(B)8.77	28.00	245.00	210.00	(B)7.32	30.30	268.80	228.75
Y	(B)5.84	23.35	204.35	175.20	(B)9.15	29.25	255.90	219.35	(B)9.49	30.30	265.20	227.35	(B)9.00	37.27	330.55	281.30
Z	(B)7.86	32.50	288.60	245.60	(B)9.27	38.65	342.65	291.60	(B)9.70	39.80	348.70	297.45	(B)11.03	45.68	405.10	344.80
AA	(B)8.57	34.30	299.90	257.05	(B)12.57	40.15	351.45	301.25	(B)12.90	41.25	360.80	309.20	(B)11.73	48.56	430.65	366.50

NET PRICES 1/0, 2/0, 3/0 & 4/0 Wire Ranges

Code Letter	VERSAKRIMP*				NYLAKRIMP*				Code Letter	VERSAKRIMP*				NYLAKRIMP*			
	Pkg. of 20	100-999, per C	1000-4999, per M	5000 or more, per M	Pkg. of 20	100-999, per C	1000-4999, per M	5000 or more, per M		Pkg. of 20	100-999, per C	1000-4999, per M	5000 or more, per M	Pkg. of 20	100-999, per C	1000-4999, per M	5000 or more, per M
AB	7.10	23.40	249.45	213.80	12.90	49.95	443.80	359.60	AG	12.29	49.10	404.60	346.80	18.50	71.55	635.20	514.65
AC	6.80	27.15	287.75	203.80	12.90	49.95	443.80	359.60	BO	11.55	44.70	397.00	321.70	17.25	67.10	595.70	482.65
AD	8.99	35.95	315.50	270.45	16.35	63.18	561.35	454.85	BP	13.90	54.00	479.00	388.60	20.85	81.00	719.60	583.05
AE	9.05	35.20	318.15	272.70					BQ	13.55	52.85	469.20	380.10	21.60	83.85	744.65	603.30
AF	9.06	35.25	318.30	272.80	14.50	56.25	499.50	404.70	BR	17.60	68.30	606.75	491.55	31.45	120.10	1,066.15	863.85

**SOLID SILVER-BRAZED BARRELS**

The barrel seam of the parts in Wire Ranges 8 thru 4/0 is coated with a 35% Silver Brazing Alloy to insure a solid one-piece barrel which will not open when crimped or under any stress or wire pull.

**EXTRA WIRE-GRIPPING POWER**

Specially designed indentations in the form of inverted truncated pyramids provide the interior of the barrels of all parts in Wire Ranges 8 thru 4/0 with extra wire-gripping power & greater contact area.

**BENT TONGUES AVAILABLE**

Terminal tongues can be bent to any angle for special applications. Although 90° and 45° angle bends are the most popular, we will form terminal tongues to your particular specifications.

Note: Large size INSULKRIMP\* and NYLAKRIMP\* parts have brazed barrels of VERSAKRIMP style.

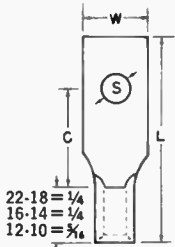


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**SOLDERLESS TERMINALS AND CONNECTORS**

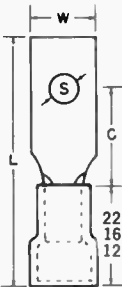
**RECTANGULAR TONGUE TERMINALS FOR TERMINAL BLOCKS**

MIL-E-16366D (SHIPS) covers non-insulated brazed barrel rectangular tongue terminals. Insulated versions of these terminals are covered by MS-17143 (SHIPS). Since the Navy and AWG Wire Sizes, Tongue Width, Clearance, and Stud Size are identical for both Specifications, these common basic dimensions are in the center section of the chart below. The left and right sections of the chart list the individual Specification, the Waldom Part Number, Length, and the Maximum Wire Insulation Diameter (for MS-17143).



**MIL-E-16366D (SHIPS)**

TYPE WT (NON-INSULATED)



**MIL-T-7928 (ASG) MS-17143 (SHIPS)**

TYPE II (INSULATED)

AWG Wire Size	Navy Wire Size	BASIC DIMENSIONS			VERSAKRIMP*		AVIKRIMP*				Price Code (See Pricing Below)
		Stud Size S	Width W	Clearance C	TYPE WT (Non-Insulated)		TYPE II (Insulated)				
					Part Number	Length L	Part Number	Maximum Insulation Diameter	Length L	MS-17143 Dash No.	
22-18	1-2	8	25/64	5/8	B-3555	1-13/64	SN-5555	.145	1-21/64	.1	BS
22-18	1-2	6	5/16	15/32	B-3556	61/64	SN-5556	.145	1- 5/64	.4	BS
22-18	1-2	8	5/16	15/32	B-3557	61/64	SN-5557	.145	1- 5/64	.7	BS
22-18	1-2	5	9/32	9/32	B-3558	45/64	SN-5558	.145	53/64	.10	BT
22-18	1-2	6	15/64	13/32	B-3559	55/64	SN-5559	.145	63/64	.13	BT
22-18	1-2	4	15/64	13/32	B-3560	55/64	SN-5560	.145	63/64	.16	BT
22-18	1-2	4	15/64	1/4	B-3561	41/64	SN-5561	.145	49/64	.19	BT
16-14	2 1/2-4	8	25/64	5/8	B-3562	1-13/64	SN-5562	.175	1-21/64	.2	BS
16-14	2 1/2-4	6	19/64	15/32	B-3563	61/64	SN-5563	.175	1- 5/64	.5	BS
16-14	2 1/2-4	8	19/64	15/32	B-3564	61/64	SN-5564	.175	1- 5/64	.8	BS
16-14	2 1/2-4	5	9/32	9/32	B-3565	45/64	SN-5565	.175	53/64	.11	BT
16-14	2 1/2-4	6	15/64	13/32	B-3566	55/64	SN-5566	.175	63/64	.14	BT
16-14	2 1/2-4	4	15/64	13/32	B-3567	55/64	SN-5567	.175	63/64	.17	BT
16-14	2 1/2-4	4	15/64	1/4	B-3568	41/64	SN-5568	.175	49/64	.20	BT
12-10	6-9	8	25/64	5/8	B-3569	1-17/64	SN-5569	.235	1-17/32	.3	BU
12-10	6-9	6	19/64	15/32	B-3570	1- 1/64	SN-5570	.235	1- 9/32	.6	BV
12-10	6-9	8	19/64	15/32	B-3571	1- 1/64	SN-5571	.235	1- 9/32	.9	BV
12-10	6-9	5	9/32	9/32	B-3572	49/64	SN-5572	.235	1- 3/64	.12	BW
12-10	6-9	6	15/64	13/32	B-3573	59/64	SN-5573	.235	1-13/64	.15	BW
12-10	6-9	4	15/64	13/32	B-3574	59/64	SN-5574	.235	1- 3/16	.18	BW
12-10	6-9	4	15/64	61/64	B-3575	57/64	SN-5575	.235	63/64	.21	BW

**NET PRICES**

Code Letter	VERSAKRIMP*			AVIKRIMP*		
	Pkg. of 100	BULK		Pkg. of 100	BULK	
		1000-4999, per M	5000 or more, per M		1000-4999, per M	5000 or more, per M
BS	4.04	35.85	30.52	7.75	68.75	58.50
BT	2.81	24.95	21.22	6.04	53.60	45.60
BU	7.04	62.40	53.10	9.32	87.10	74.10

**NET PRICES**

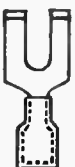
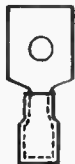
Code Letter	VERSAKRIMP*			AVIKRIMP*		
	Pkg. of 100	BULK		Pkg. of 100	BULK	
		1000-4999, per M	5000 or more, per M		1000-4999, per M	5000 or more, per M
BV	5.63	49.95	42.50	8.26	73.25	62.30
BW	4.04	35.85	30.50	7.45	66.10	56.25

\*TRADEMARK

**TERMINALS FOR USE WITH COMMERCIAL TYPE TERMINAL BLOCKS**

To eliminate circuit failure in terminal blocks, WALDOM has produced exactly the right shape and width terminals to fit

commonly used commercial terminal blocks. They cannot turn sideways, loosen, arc, or fail.



TERMINAL BLOCKS				For Wire Range	RECTANGULAR TONGUE For greatest reliability	SPADE TONGUE Least effort in installing & removing	FLANGED SPADE Greater reliability than Spade Tongue
JONES Series	KULKA Series	GENPRO Series	MARATHON Series				
140, 164 540	600, 600A 599	440, 464 740	100, 6A100	22-18 16-14	S-1071, T-2071, B-3071, D-4071, N-5071 S-1074, T-2074, B-3074, D-4074, N-5074	S-1014, T-2014, B-3014, D-4014, N-5014 S-1015, T-2015, B-3015, D-4015, N-5015	S-1080, T-2080, B-3080, D-4080, N-5080 S-1083, T-2083, B-3083, D-4083, N-5083
141, 151	601, 699	441, 741	200	22-18 16-14	S-1519, T-2519, B-3519, D-4519, N-5519 S-1546, T-2546, B-3546, D-4546, N-5546	S-1501, T-2501, B-3501, D-4501, N-5501 S-1529, T-2529, B-3529, D-4529, N-5529	S-1510, T-2510, B-3510, D-4510, N-5510 S-1538, T-2538, B-3538, D-4538, N-5538
142, 542	602	442, 742	300	22-18 16-14	S-1526, T-2526, B-3526, D-4526, N-5526 S-1553, T-2553, B-3553, D-4553, N-5553	S-1507, T-2507, B-3507, D-4507, N-5507 S-1535, T-2535, B-3535, D-4535, N-5535	S-1516, T-2516, B-3516, D-4516, N-5516 S-1543, T-2543, B-3543, D-4543, N-5543

For short barrel equivalents, add S in front of part number shown.



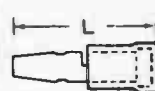
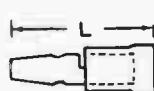
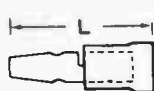
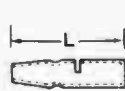
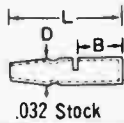
**SOLDERLESS TERMINALS AND CONNECTORS**

waldom



**DISCONNECT DEVICES**

**SNAP PLUGS**



Cat. No. PR-1426

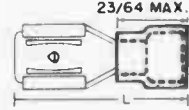
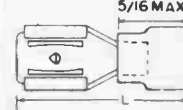
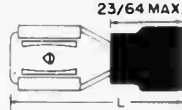
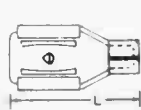
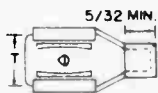
**INSULATED SNAP PLUG RECEPTACLE**  
An insulated connector for use with S-1055, T-2055, T-2055X, or D-4055 only. One snap plug is inserted in either end of the receptacle. Tubular Shell is high impact transparent Styrene.

BASIC DIMENSIONS				KRIMPTITE*		INSULKRIMP*			VIBRAKRIMP*		AVIKRIMP*		Price Code (See Pricing Below)
Wire Range	Length L	Barrel Length B	Diameter D	Part Number	Length L	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	
16-14	35/64	3/16	.176	S-1056	35/64	T-2056	T-2056X	51/64	D-4056	49/64	N-5056	51/64	AW
16-14	19/32	3/16	.157	S-1055	19/32	T-2055	T-2055X	21/32	D-4055	13/16	N-5055	27/32	AV

Part No.	Pkg. of 100	BULK	
		1000-4999, per M	5000 or more, per M
PR-1426	8.55	61.50	47.95

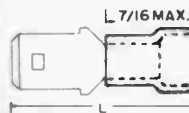
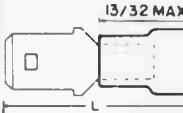
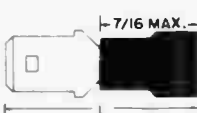
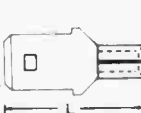
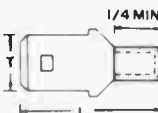
**QUICK-DISCONNECT PUSH-ON TYPE TERMINALS**

**18-14 WIRE RANGE (USE 22-18 SHORT BARREL TOOLING) FEMALE IN LINE**



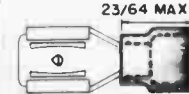
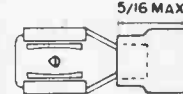
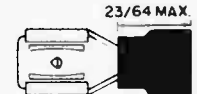
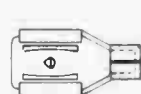
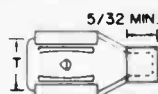
BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VIBRAKRIMP*		AVIKRIMP*		Price Code Letter (See Pricing Below)
Fits Male Tab T	Stock		Part Number	Length L Max.	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	
.110	.125 x .020	.016	SS-1186	29/64	ST-2186	ST-2186X	21/32	SD-4186	39/64	SN-5186	27/32	AX
	.187 x .020	.020	SS-1187	17/32	ST-2187	ST-2187X	47/64	SD-4187	11/16	SN-5187	47/64	AX
	.250 x .032	.020	SS-1090	41/64	ST-2090	ST-2090X	27/32	SD-4090	51/64	SN-5090	27/32	AX

**18-14 WIRE RANGE (USE 16-14 REGULAR TOOLING) MALE**



BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VIBRAKRIMP*		AVIKRIMP*		Price Code Letter (See Pricing Below)
Tab Width T	Stock		Part Number	Length L Max.	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	
.250	.032		S-1089	21/32	T-2089	T-2089X	27/32	D-4019	13/16	N-5089	27/32	AX

**16-12 WIRE RANGE (USE 16-14 SHORT BARREL TOOLING) FEMALE IN LINE**



BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VIBRAKRIMP*		AVIKRIMP*		Price Code Letter (See Pricing Below)
Fits Male Tab T	Stock		Part Number	Length L Max.	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	
.250 x .032	.020		SS-1188	41/64	ST-2188	ST-2188X	27/32	Pt. No.	51/64 L Max.	SN-5188	27/32	AX

†Crimp these parts with tool indenter on side of barrel opposite seam.

**NET PRICES—SNAP PLUGS AND PUSH ON TYPE TERMINALS**

Price Code Letter	KRIMPTITE*			INSULKRIMP* No Suffix			INSULKRIMP* Suffix (X)			VIBRAKRIMP*			AVIKRIMP*		
	Pkg. of 100	BULK		Pkg. of 100	BULK		Pkg. of 100	BULK		Pkg. of 100	BULK		Pkg. of 100	BULK	
		1000-4999, per M	5000 or more, per M		1000-4999, per M	5000 or more, per M		1000-4999, per M	5000 or more, per M		1000-4999, per M	5000 or more, per M		1000-4999, per M	5000 or more, per M
AW	2.04	14.65	11.45	4.47	33.05	25.85	5.02	37.10	29.00	5.05	40.40	30.30	7.21	58.50	43.90
AX	2.12	15.30	11.95	4.47	33.05	25.85	5.02	37.10	29.00	5.05	40.40	30.30	7.21	58.50	43.90
AX	2.48	17.85	13.95	4.80	35.50	27.75	5.41	40.05	31.30	5.05	40.40	30.30	7.21	58.50	43.90

\*TRADEMARK

WRITE FOR QUOTATIONS ON LARGER QUANTITIES.



# SOLDERLESS TERMINALS AND CONNECTORS

## DISCOUNT DEVICES (Continued)

### EMALE FLAGS

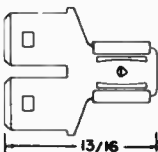
#### B-14 WIRE RANGE—KRIMPTITE\*

BASIC DIMENSIONS				Part No.	Pkg. of 100	BULK	
Tab T	Barrel Length B	Length L	1000-4999, per M			5000 or more, per M	
.187x.020	15/64	29/64	S-1189	2.64	19.00	14.95	
.250x.032	15/64	29/64	S-1091-A	2.51	18.05	14.10	

#### B-12 WIRE RANGE—KRIMPTITE\*

.250x.020	5/16	19/32	S-1091-B	2.92	21.00	16.40
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### DOUBLE MALE TAB ADAPTER



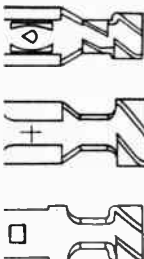
For converting one .250 x .032 Male Tab to two Male Tabs. .032 Stock.

Part No. A-1428

Pkg. of 100	NET PRICES	
	BULK	
	1000-4999, per M	5000 or more, per M
4.48	32.25	25.10

### ECONOMICAL INSULATION-GRIP QUICK DISCONNECTS

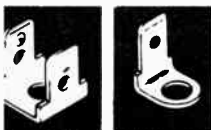
MATERIAL: BRASS, ELECTRO-TIN PLATED



Part No.	Wire Range	Description	Pkg. of 100	NET PRICES	
				BULK	
				1000-4999, per M	5000 or more, per M
CP-801	20-16	1/4" Female	2.73	20.75	15.60
CP-802	16-12	1/4" Female	4.35	33.10	24.80
CP-803	20-16	1/4" Male	3.55	27.10	20.38

### 1/4" MALE TABS

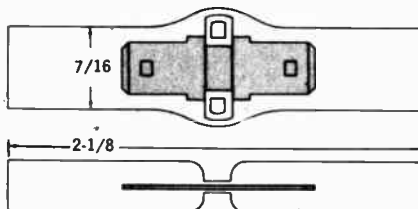
MATERIAL: .031 BRASS, CADMIUM PLATED



Part No.	Height	Mtg. Hole	Pkg. of 100	NET PRICES	
				BULK	
				1000-4999, per M	5000 or more, per M
S-1431T	7/16"	.156	1.22	9.75	7.35
S-1432T	29/64"	.144	2.27	18.15	13.60

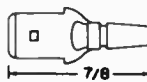
### INSULATED TAB RECEPTACLE

For connecting two .250 Female Disconnects. Part No. TR-1427.



NET PRICES		
Pkg. of 100	1000-4999, per M	5000 or more, per M
9.19	66.20	51.50

### SNAP PLUG TO TAB ADAPTERS



DOUBLE MALE

For adapting .157 Plug Receptacle to .250 Female Disconnect. .032 Stock.

Part No. A-1429

Part No.	NET PRICES		
	Pkg. of 100	1000-4999, per M	5000 or more, per M
A-1429	5.59	40.25	31.35
A-1430	6.11	44.00	34.25



DOUBLE FEMALE

For adapting .157 Plug to .250 x .032 Tab.

Part No. A-1430

### PIGGY BACK TERMINAL

MATERIAL: BRASS (UNPLATED)



Part No.	Wire Range	NET PRICES		
		Pkg. of 100	Pkg. of 1000 1-4	5 or more
PB-1431	20-12	6.18	47.10	35.10

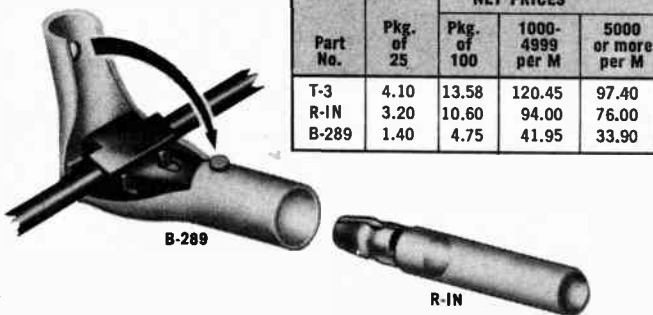
### T-TAB TERMINALS

For attaching Trailer Lights to Towing Vehicle's Lighting System without cutting wires. B-289-N Snap Plug allows easy, quick disconnecting of Trailer.

PART NO. (Male) R-1N

PART NO. (Female) B-289

PART NO. (Complete Set) T-3



Part No.	Pkg. of 25	NET PRICES		
		Pkg. of 100	1000-4999, per M	5000 or more, per M
T-3	4.10	13.58	120.45	97.40
R-1N	3.20	10.60	94.00	76.00
B-289	1.40	4.75	41.95	33.90

WRITE FOR QUOTATIONS ON LARGER QUANTITIES.

**SOLDERLESS TERMINALS AND CONNECTORS**

waldom



**PERMANENT CONNECTORS**

To find Wire Range needed for Parallel Connectors, compute the total Circular Mil Area of wires involved and consult Conversion and Wire Combination Charts at back of Solderless Terminal Listing.

PARALLEL CONNECTORS										
Wire Range	KRIMPTITE*			INSULKRIMP*			VERSAKRIMP*		NYLAKRIMP*	
	Part Number	Length L	Straight Ins. Dia. Pt. No.	Flared Ins. Dia. Pt. No.	Length L	Part Number	Length L	Part Number	Length L	
22-18	S-1105	5/16	T-2105	T-2105X	11/16	†B-3105S	5/16	N-5105S	5/8	
16-14	S-1063	5/16	T-2063	T-2063X	11/16	†B-3063S	5/16	N-5063S	5/8	
12-10	S-1064	5/16	T-2064	T-2064X	25/32	†B-3064S	5/16	N-5064S	5/8	
8			T-2260	T-2260X	1	B-3260	3/8	N-5260S	1	
6			T-2261	T-2261X	1- 3/16	B-3261	7/16	N-5261S	1-13/16	
4			T-2262	T-2262X	1-13/32	B-3262	17/32	N-5262S	1-13/32	
2			T-2303	T-2303X	1- 5/8	B-3303	41/64	N-5303S	1- 5/8	
1/0			The INSULKRIMP and NYLAKRIMP Parts in Wire Ranges 8 thru 2 have Brazed Barrels.			†B-3321	47/64	†N-5321S	1-61/64	
2/0						†B-3336	47/64	†N-5336S	1-61/64	
3/0						†B-3385	3/4	†N-5385S	2-19/64	
4/0						†B3340S	3/4	†N-5340S	2-19/64	

\*Formed from solid copper tubing.

BUTT CONNECTORS											
Part Number	Length L	INSULKRIMP*			VERSAKRIMP*		NYLAKRIMP*		Price Code Letter		
		Straight Ins. Dia. Pt. No.	Flared Ins. Dia. Pt. No.	Length L	Part Number	Length L	Part Number	Length L			
S-1019	9/16	T-2019	T-2019X	15/16	†B-3019S	21/32	N-5019S	1- 3/64	AH		
S-1020	9/16	T-2020	T-2020X	15/16	†B-3020S	21/32	N-5020S	1- 3/64	AH		
S-1046	9/16	T-2046	T-2046X	1- 1/16	†B-3046S	13/16	N-5046S	1- 3/64	AI		
		T-2263	T-2263X	1- 7/16	B-3263	53/64	N-5263S	1- 7/16	AJ		
		T-2264	T-2264X	1- 3/4	B-3264	1- 1/64	N-5264S	1- 3/4	AK		
		T-2265	T-2265X	2	B-3265	1- 1/8	N-5265S	2	AL		
		T-2304	T-2304X	2- 1/4	B-3304	1- 1/4	N-5304S	2- 1/4	AM		
		The INSULKRIMP and NYLAKRIMP Parts in Wire Ranges 8 thru 2 have Brazed Barrels.			†B-3320	1-27/64	†N-5320S	2-41/64	AN		
					†B-3337	1- 7/16	†N-5337S	2-41/64	AO		
					†B-3395	1-31/64	†N-5395S	3	AP		
					†B-3415	1-31/64	†N-5341S	3	AQ		

**NET PRICES—PERMANENT CONNECTORS**

Wire Ranges 22-10

Type	Price Code Letter	KRIMPTITE*			INSULKRIMP* No Suffix			INSULKRIMP* Suffix (X)			VERSAKRIMP**			NYLAKRIMP*		
		Pkg. of 100	BULK		Pkg. of 100	BULK		Pkg. of 100	BULK		Pkg. of 100	BULK*		Pkg. of 100	BULK	
			1000-4999, per M	5000 or more, per M		1000-4999, per M	5000 or more, per M		1000-4999, per M	5000 or more, per M		1000-4999, per M	5000 or more, per M		1000-4999, per M	5000 or more, per M
Parallel Connectors	AH AI	2.06 2.73	14.80 19.65	11.52 15.35	3.98 5.31	29.45 39.30	23.00 30.70	3.98 5.31	29.45 39.30	23.00 30.70	3.00 3.73	24.10 29.75	18.10 22.35	4.04 5.43	33.85 48.15	30.50 40.95
Butt Connectors	AH AI	2.38 4.22	17.10 30.40	13.35 23.75	5.28 7.21	39.05 53.35	30.55 41.65	5.28 7.21	39.05 53.35	30.55 41.65	3.96 5.62	31.70 44.90	23.75 33.90	6.42 8.34	52.15 67.70	39.10 50.80

Wire Ranges 8 thru 2

Type	Price Code No.	VERSAKRIMP* Prefix (B)				INSULKRIMP* Straight Insulation Prefix (T) No Suffix				INSULKRIMP* Flared Insulation Prefix (T) Suffix (X)				NYLAKRIMP* Prefix (N)			
		Pkg. of (A)25 (B)20	100-999, per C	1000-4999, per M	5000 or more, per M	Pkg. of (A)25 (B)20	100-999, per C	1000-4999, per M	5000 or more, per M	Pkg. of (A)25 (B)20	100-999, per C	1000-4999, per M	5000 or more, per M	Pkg. of (A)25 (B)20	100-999, per C	1000-4999, per M	5000 or more, per M
Parallel Connectors	AJ AK AL AM	(A)1.56 (A)2.65 (B)2.77 (B)3.39	8.45 11.10 13.55	74.10 97.15 118.40	63.55 83.25 101.50	(A)2.67 (A)3.94 (B)4.06 (B)4.98	8.55 12.60 16.25 19.90	74.90 94.50 142.00 149.35	64.20 94.50 121.75 149.35	(A)2.92 (A)4.20 (B)4.29 (B)5.25	9.30 13.45 17.15 21.00	81.60 117.65 150.00 183.55	69.95 100.85 128.60 157.35	(A) 3.60 (A) 5.30 (B) 5.47 (B) 6.71	11.95 17.50 22.65 27.80	105.95 155.20 200.85 296.50	90.15 132.70 170.90 209.80
Butt Connectors	AJ AK AL AM	(A)3.09 (A)4.72 (B)4.92 (B)6.18	9.90 15.10 19.65 24.70	86.60 132.20 172.05 216.35	74.25 113.30 147.45 185.40	(A)4.37 (A)6.04 (B)6.28 (B)7.91	14.00 19.35 25.10 31.65	122.30 169.20 219.70 276.80	104.80 145.05 188.30 237.25	(A)4.60 (A)6.30 (B)6.51 (B)8.17	14.75 20.15 26.45 32.70	128.90 176.50 227.80 286.10	110.50 151.30 195.30 245.25	(A) 5.89 (A) 8.14 (B) 8.46 (B)10.66	19.50 27.00 35.03 44.14	172.90 239.25 310.65 391.45	147.15 203.65 264.40 333.15

Wire Ranges 1/0 thru 4/0

Type	Price Code No.	VERSAKRIMP* Prefix (B)					NYLAKRIMP* Prefix (N)				
		Pkg. of 20	100-999, per C	1000-4999, per M	5000 or more, per M	Pkg. of 20	100-999, per C	1000-4999, per M	5000 or more, per M		
										6.53	27.05
Parallel Connectors	AN AO AP AQ	3.51 3.86 5.30 6.69	14.00 15.45 21.20 26.70	122.65 135.20 185.50 233.85	105.15 119.90 159.00 200.45	6.53 6.33 8.23 10.82	27.05 26.20 34.10 44.85	239.80 232.55 302.30 397.60	204.10 197.90 257.25 338.40		
Butt Connectors	AN AO AP AQ	8.10 9.65 12.09 14.43	32.40 38.55 48.35 57.70	285.40 338.50 424.40 506.55	244.65 290.15 363.80 434.25	15.83 15.54 17.63 22.73	65.56 570.45 647.20 94.10	581.35 570.45 647.20 834.45	494.80 485.50 550.80 710.20		

**WIRE COMBINATIONS FOR ALL PARALLEL CONNECTORS**

The tables below show the most common combinations of wires for which the various Parallel Connectors are used. For example, one B-3260 Connector can handle five #16 and one #14 wires, or any of 19 other possible combinations.

The tables are intended as a guide only. Circular Mil Area of conductors may vary. The tables are based on solid wire, but are also good for most stranded wires.

Wire Range - Part Number	Wire Size					Wire Range - Part Number	Wire Size					Wire Range - Part Number	Wire Size								
	22	20	18	16	14		12	16	14	12	10		8	6	4	2					
22-18	4					8	6					6				2	7				
S-1105	3	1					5	1				6	1				5	2			
T-2105	2	1				T-2260	4	2				5	2				5				
T-2105X	1	2				T-2260X	4	1				5		1			4	3			
B-3105S	1					B-3260	3	2				4	3				4				

\*TRADEMARK

WRITE FOR QUOTATIONS ON LARGER QUANTITIES.

Continued



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SOLDERLESS TERMINALS AND CONNECTORS

PERMANENT CONNECTORS (Continued)

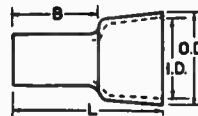
WIRE COMBINATIONS FOR ALL PARALLEL CONNECTORS *Continued*

Wire Range Part Number	Wire Size					Wire Range Part Number	Wire Size					Wire Range Part Number	Wire Size					Wire Range Part Number	Wire Size													
	22	20	18	16	14		12	16	14	12	10		14	12	10	8	6		12	10	8	6	4	10	8	6	4	2				
16-14 S-1063 T-2063 T-2063X B-3063S	5						3	1				4	2				4		1				4			1		4			1	
	4	1					3		1			4		1			3	3					3	3				3	3			
	3		1				3			1		3	3				3		2				3		2			3		2		
	2	2					2	3				3	2				3			1			3			1		3			1	
	2		1				2	2				3		1			2	3					2	4				2	4			
	2						2		2			2	4				2		2				2		2			2		2		
	1	2					2			1		2		2			2			1			2			1		2			1	
	1		1				1	4				2			1		2				1		2				1	2				1
	1	1					1		2			2			1		1	4					1	4				1	5			
12-10 S-1064 T-2064 T-2064X B-3064S	6						1			1		1	4				1		3				1		3			1		3		
	5	1					3	1				1		3			1			1			1			1		1			1	
	4		1				2	1				1			1		1				1		1				1	1				1
	3			1			2		1			1				1	1						1					1				
	3		1				1	2		1		5					3	1					3	1				4	1			
	2	2					1		1			3	1				2		2				2		2			4		1		
	2		1							1		3		1			3			1			2			1		2			1	
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	2				1							2		1			2		1				1				1	1	3			
	1	3										1	3				1	3					1					1				2
	1	2										1		1			1		1				1					1				
	1		2									1			1		1						1					1				
	1			1								1				1	1						1					1				
	1				1							1					1						1					1				

Connectors are annealed, tin-plated seamless brass for 22-14 wire range, and annealed tin-plated copper for 16-10 wire range. Insulation is natural-color translucent DuPont Nylon. Underwriters' Laboratories approved. UL temperature rating of 105°C maximum. 600 Volts maximum in building wire and 1,000 Volts inside a sign or fixture.

NYLON INSULATED CLOSED END CONNECTORS

Wire Range	Part Number	Outside Diameter O.D.	Overall Length L	Barrel Length B	Inside Diameter I.D.	Circular Mil Area	Pkg. of 100	BULK		
								1000-4999, per M	5000 or more, per M	
22-14	CE-2214	5/16	39/64	11/32	1/4	600- 5,180	3.70	26.60	20.80	
16-10	CE-1610	7/16	23/32	3/8	3/8	2,400-13,000	5.41	38.95	30.45	



COMMON WIRE COMBINATIONS

These tables show the most common combinations of wires used in both Nylon-Insulated Closed-End Connectors. The tables are applicable for either solid or stranded conductors or both. The tables are intended as a guide only—Circular Mil Area of conductors may vary.

Part Number	Wire Range	Combinations																					
		22	20	18	16	14	12	10	8	6	5	4	3	2	1	1	1	1	1	1	1	1	1
Part CE-2214	22	8	7	6	5	5	4	4	4	3	3	3	2	2	2	1	1	1					
	20			1	2		2					2			3			4			5	4	3
	18					1		1				2			2			2			1	2	2
	16									1			1			1					1	1	2
Part CE-1610	18	5	4	4	4	3	3	3	2	2	2	2	1	1	1	1							
	16	1	2			3			4				4			5	4	3	3	2	2	1	
	14			1			2		2				3			1	2	3	3	2	1		
	12				1			1		1				1		1	1	1	1	1	1		
	10										1					1						1	

WIRE CONNECTORS

Wire Nuts are made of reinforced phenolic, compact in design, with non-slip knurls for sure grip. WN-18 and WN-16A are all plastic; all others include a metal insert. A few turns of the hand will thread, twist and lock the wires securely into the connector. UL Approved. Rated 105°C.

Part Number	Trade Equivalent	WIRE COMBINATIONS		Rating	Pkg. of 25 (ea.)	100-999 per C	1000-4999, per M	5000 or more, per M
		Minimum	Maximum					
WN-18*	A0	2 #24	2 #18	300V	.27	.85	7.30	6.65
WN-16A	A1	2 #18	1 #16 & 2 #18	300V	.27	.85	7.30	6.65
WN-16	72B	2 #18	3 #16	300-600(a)	.50	1.65	13.85	12.75
WN-14	73B	1 #18 & 1 #16	5 #16	300-600(a)	.51	1.65	14.40	13.15
WN-12	74B	1 #14 & 1 #18	2 #12 & 1 #18	300V	.55	1.75	15.25	13.95
WN-10	76B	1 #14 & 1 #16	3 #10	300V	.96	3.20	27.70	25.35



\* U.L. does not give approval for devices to join wires smaller than #18. (a)1000 volts when enclosed in fixtures.

KIT OF 169 WIRE CONNECTORS in individually compartmented, reusable plastic box. Includes 50 WN-18, 50 WN-16A, 25 WN-16, 20 WN-14, 15 WN-12, 9 WN-10.

Part No. K-210 .....Net Ea. \$2.74

WIRE GAGE CONVERSION

Move decimal point three places to right to read mils

AWG	Diameter Inches	CMA	AWG	Diameter Inches	CMA	AWG	Diameter Inches	CMA	AWG	Diameter Inches	CMA
4/0	.460	212,000	8	.128	16,500	19	.036	1,290	30	.0100	101
3/0	.410	168,000	9	.114	13,100	20	.032	1,020	31	.0089	79.7
2/0	.365	133,000	10	.102	10,400	21	.0285	810	32	.0080	63.2
1/0	.325	106,000	11	.091	8,230	22	.0253	642	33	.0071	50.1
1	.289	83,700	12	.081	6,530	23	.0226	509	34	.0063	39.8
2	.258	66,400	13	.072	5,180	24	.0201	404	35	.0056	31.5
3	.229	52,600	14	.064	4,110	25	.0179	320	36	.0050	25.0
4	.204	41,700	15	.057	3,260	26	.0159	254	37	.0045	19.8
5	.182	33,100	16	.051	2,580	27	.0142	202	38	.0040	15.7
6	.162	26,300	17	.045	2,050	28	.0126	160	39	.0035	12.5
7	.144	20,800	18	.040	1,620	29	.0113	127	40	.0031	9.9

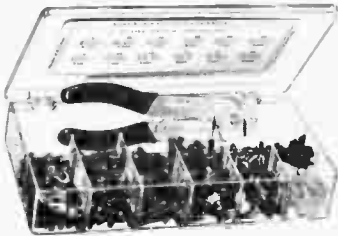
WRITE FOR QUOTATIONS ON LARGER QUANTITIES.

# SOLDERLESS TERMINALS AND CONNECTORS

# waldom



## SOLDERLESS TERMINAL ASSORTMENTS



Contains 12 different terminals and connectors, the most popular types for maintenance and repair work, plus one universal crimping tool. Packed in a 13 compartment reusable plastic box.

### ELECTRONIC ASSORTMENTS

#### 215 NON-INSULATED TERMINALS

S-1080, S-1002, S-1003, S-1006, S-1008, S-1011,  
S-1015, S-1016, S-1018, S-1089, S-1090, S-1019,  
CT-4050.

Part No. K-170 .....Net 9.85

#### 138 INSULATED TERMINALS

T-2080, T-2002, T-2003, T-2006, T-2008, T-2011,  
T-2015, T-2016, T-2089, T-2090, T-2019, CE-2214,  
CT-4050.

Part No. K-180 .....Net 12.05

### ELECTRICAL ASSORTMENTS

#### 214 NON-INSULATED TERMINALS

S-1080, S-1003, S-1006, S-1008, S-1009,  
S-1011, S-1015, S-1016, S-1038, S-1089,  
S-1090, S-1020, CT-4050.

Part No. K-150 .....Net 9.85

#### 132 INSULATED TERMINALS

T-2003, T-2006, T-2008, T-2009, T-2011,  
T-2015, T-2016, T-2080, T-2089, T-2090,  
T-2020, CE-1610, CT-4050.

Part No. K-160 .....Net 12.05

### DE LUXE ASSORTMENTS

#### 620 NON-INSULATED TERMINALS

S-1002, S-1003, S-1006, S-1008, S-1080,  
S-1015, S-1016, S-1019, S-1020, S-1089,  
S-1090, CE-1610, CT-4050.

Part No. K-120 .....Net 16.45

#### 640 INSULATED TERMINALS

T-2002, T-2003, T-2006, T-2008, T-2080,  
T-2015, T-2016, T-2019, T-2020, T-2089,  
T-2090, CE-1610, CT-4050.

Part No. K-140 .....Net 29.65

#### 630 INSULATED AND NON-INSULATED TERMINALS

S-1002, T-2002, S-1003, T-2003, S-1006,  
T-2006, S-1008, T-2008, S-1080, T-2080,  
S-1015, T-2015, S-1016, T-2016, S-1019,  
T-2019, S-1020, T-2020, S-1089, T-2089,  
S-1090, T-2090, CE-1610, CT-4050.

Part No. K-130 .....Net 23.05

The following assortments contain 8 different items in individual compartments in a reusable plastic box. No tool is included.

#### 200 NON-INSULATED TERMINALS

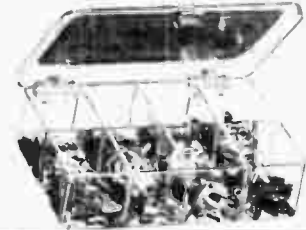
S-1001, S-1003, S-1006, S-1008,  
S-1014, S-1015, S-1016, S-1018.

Part No. HD-4007 .....Net 3.98

#### 96 INSULATED TERMINALS

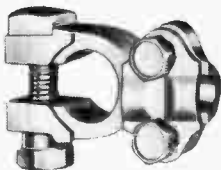
T-2001, T-2003, T-2006, T-2008,  
T-2014, T-2015, T-2016, T-2018.

Part No. HD-4021 .....Net 3.98



## SOLDERLESS BATTERY TERMINALS AND LUGS

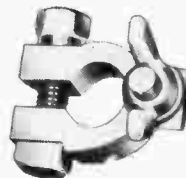
### MARINE BATTERY TERMINALS



Both positive and negative, each featuring different size stud and wing nut. Dimensional difference prevents cross polarity when attaching cable to battery post.

Part No. BL-809 (Positive)  
BL-810 (Negative)

### UNIVERSAL BATTERY TERMINALS



Simple to install...you need only a wrench to bolt down clamp. Designed for both positive and negative posts, and covers cable range 8 thru 2/0.

Part No. BL-805

### SOLDERLESS BATTERY LUGS



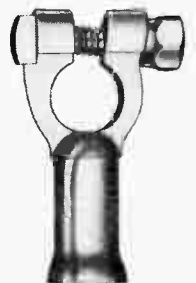
Four lugs, designed especially for starter motor applications on diesel equipment, but can be used anywhere a 3/8" or 1/2" stud hole is required.

Wire Size	Stud Size	Part Number
4-6	3/8"	SBTL-46
1-2	3/8"	SBTL-12
1/0-2/0	3/8"	SBTL-20
1/0-2/0	1/2"	SBTL-201

### CHOOSE FROM EIGHT TERMINALS

for the following wire sizes and battery posts

Wire Size	Post Type	Part Number
6	Universal	SBTL-6
4	Universal	SBTL-4
1	Positive	*SBTL-1P
1	Negative	*SBTL-1N
1/0	Positive	SBTL-10P
1/0	Negative	SBTL-10N
2/0	Positive	SBTL-20P
2/0	Negative	SBTL-20N



\*designed to also take #2 AWG

WRITE FOR QUOTATIONS ON LARGER QUANTITIES.

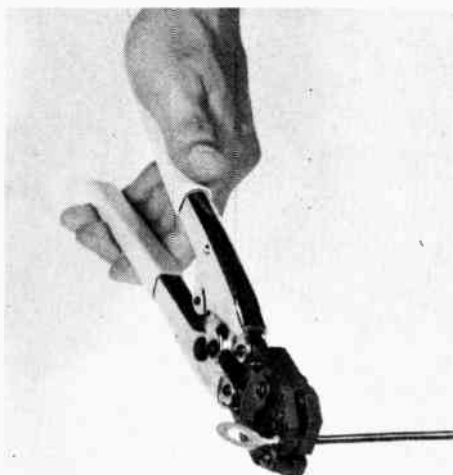
waldom



## HAND RATCHET AND MAINTENANCE TOOLS

### RATCHET TOOL

A precision production tool. Lighter in weight and easier to use than any similar tool. Unique pin-action gives greater mechanical advantage. The tool crimps even the heavier wires and terminals (up through #10 AWG) with a light squeeze. Tamper-proof ratchet mechanism is safe for fingers. The ratchet mechanism will not release until the crimping cycle is complete, but no extra effort is required for release and handles then open automatically. Precision-calibrated and crimp-tested at the factory to give perfect electrical connections every time.



### MAINTENANCE TOOL

An ideal inexpensive multi-purpose maintenance tool. Handles wire sizes #22 through #10 AWG. Cuts and strips wires, crimps insulated and non-insulated terminals and connectors. Proper leverage is provided to assure uniformly reliable results. Edges stay sharp. Quality hardened steel. Insulated handles.

### FOR KRIMPTITE\* & VERSAKRIMP\* Terminals • Parallel Connectors • Butt Connectors

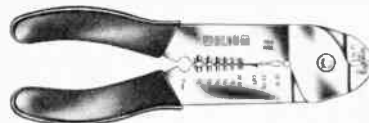
Crimp Section	Wire Size	Ratchet Tool No.		Maintenance Tool No.
		Full Barrel Terminals	Short Barrel Terminals	
	22-18	RHT-1000	RHT-1050	CT-4050
	16-14			
	12-10			
Price ea. Net		24.75	24.75	4.35

### FOR INSULKRIMP\* & AVIKRIMP\* Terminals • Parallel Connectors • Butt Connectors

Crimp Section	Wire Size	Ratchet Tool No.		Maintenance Tool No.
		Regular Terminals	Short Barrel Terminals	
	22-18	RHT-2000	RHT-2050	CT-4050
	16-14	RHT-2100	RHT-2150	
	16-14	RHT-2100	RHT-2150	
	12-10	RHT-2200		
Price ea. Net		32.73	32.73	4.35

### FOR NYLON CLOSED-END CONNECTORS

Crimp Section	Wire Size	Ratchet Tool No.	Maintenance Tool No.
	22-14	RHT-8000	CT-4050
	16-10	RHT-9000	
Price ea. Net		26.95	4.35



Model CT-4050—Crimps both insulated and non-insulated parts, and both Full and Short Barrel Terminals.

Price \$4.35 ea. Net

### SELECTAKRIMP®



**A New Tool for Crimping Both Small and Large Wire Range Terminals\* in Maintenance and Production Work**

#### OUTSTANDING FEATURES

- Completely portable—easy to use
- Eliminates need for soldering large wires to terminals
- Replaces costly, permanently mounted crimping equipment
- "In-line" action assures uniform crimping
- Impossible to over- or under-crimp
- Low cost—yet lasts indefinitely

\*Crimps #16 thru 4/0 wire range terminals

Here's the long-awaited answer to the problem of crimping large wire range terminals in maintenance and production work—without costly, permanently mounted equipment. The new Waldom "Selectakrimp" is a completely portable, easy-to-use tool. To operate, all you need is any conventional 2-lb. hammer to produce the closing pressure by striking the ram. An easy-to-read crimping scale prevents under-crimping. Over-crimping is prevented by unique design of the nest and indenter. Terminal being crimped is held securely in the nest by a strong, completely enclosed spring. Uniform, positive connection crimping is assured by the "in-line" ram action.

A single Selectakrimp tool can serve various departments, because its light weight (1-3/4 pounds) makes it easy to bring the tool to the work. Where production requirements call for simultaneous use in several locations, the low cost of Selectakrimp makes it economically feasible to have more than one in plant or shop.

Built to last indefinitely, the ram is made of specially heat-treated tool steel, and the base, of cast malleable iron. Base design prevents rocking of tool under closing pressures.

Stock No. SKT-840 — each \$14.80



## SOLDERLESS TERMINALS AND CONNECTORS

### AIR-POWERED CRIMPING TOOL

#### MODEL AT-200 CRIMPING TOOL

WALDOM'S new crimping tool—the 29 ounce light AT-200 is value engineered to give continuous high rate production without operator fatigue. Air-powered and hand-operated, the AT-200 measures an easy-to-handle 10½" long. Designed for a wide variety of applications involving 22 thru 10 wire sizes, solid or stranded. When teamed up with WALDOM'S match-designed terminals and connectors—quick, reliable, low cost connections result. Convert AT-200 into a foot-controlled, bench-mounted tool with WALDOM'S Bench Adapter accessory. Your investment is 40% less than comparable air crimping tools, and only slightly more than manual bench tools. Crimps insulated and uninsulated terminals, splices and closed-end connectors. Accurately positions terminal between die heads for a perfect crimp. Utilizes 14 individual die heads — calibrated at factory to assure perfect crimps. Trigger safety feature safeguards operator and eliminates need to disconnect air supply when changing heads. Connects to any standard shop airline (85-95 PSI).

#### CRIMPING DIES FOR AT-200

KRIMPTITE*		VERSAKRIMP*	
Wire Range	Regular Barrel	Short Barrel	Net Ea.
22-10	AT-10000	AT-1050	30.25

INSULKRIMP*		AVIKRIMP*	
Wire Range	Regular Barrel	Short Barrel	Net Ea.
22-18	AT-2000	AT-2050	32.45
16-14	AT-2100	AT-2150	32.45
12-10	AT-2200		32.45

#### VIBRAKRIMP\*

Wire Range	Regular Barrel	Short Barrel	Net Ea.
22-18	AT-4000	AT-4050	32.45
16-14	AT-4100	AT-4150	32.45
12-10	AT-4200		32.45

#### NYLON CLOSED-END CONNECTORS

Wire Range	Regular Barrel	Net Ea.
22-14	AT-8000	30.25
16-10	AT-9000	30.25



### PORTABLE HYDRAULIC CRIMPING TOOLS

#### PUTT-PUMP\*

Putt-Pump\* is the unique "peanut-sized" power pack, whose hydraulic-pneumatic system creates giant-sized forces. Its "Putt Putt" sound is caused by the piston building up pressure to crimping force strength. Foot treadle actuated, the pump can be stopped during the crimping cycle in order to lock terminals in crimping dies before inserting wires—useful as a third hand! Designed for greater efficiency in the wiring of products too large to be brought to a stationary bench crimping press, this light weight crimping tool is quickly and easily moved from one production job to the next. Uses standard shop air pressure (80 p.s.i. minimum).

#### RAPID-PUMP\*

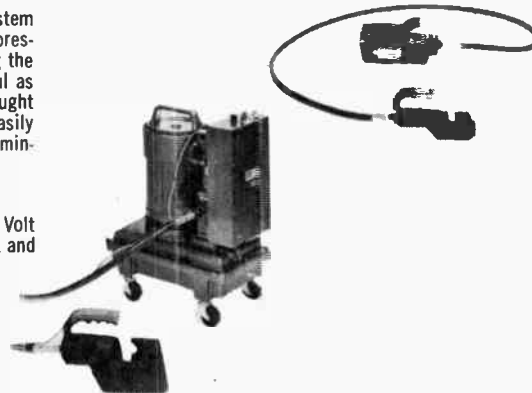
Rapid-Pump\* is a versatile caster-mounted portable whose power source is any 110 Volt AC outlet. Faster, more powerful than the PUTT-PUMP\*, it features an On-Off Switch Box and Power Indicator Light.

#### SPECIFICATIONS

	PUTT-PUMP*	RAPID-PUMP*
Wire Range	8-4/0	8-4/0
Pump Weight	8-1/2 lbs.	97 lbs.
HHS Weight	5-3/4 lbs.	
HHL Weight	10 lbs.	

#### CRIMPING HEADS FOR PUTT-PUMP & RAPID-PUMP

Crimping Heads For Putt-Pump & Rapid-Pump—Two Hydraulic Crimping Heads are available and each can be used on either the PUTT-PUMP\* or RAPID-PUMP\*. The small crimping head, HHS, crimps 8 through 4/0 wire sizes. The larger crimping head, HHL, crimps 1/0 through 4/0 wire sizes. HYDRAULIC HEAD—SMALL, Catalog No. HHS, is used with either pump. Forged from special high strength alloy steels, it is super-tough and extremely light weight. Crimps #8 through 1/0 wire sizes. See Die Chart below. Optional Accessories are Bench Mount Adaptor, Catalog No. HHS-BMA; and Balancer for hanging head from ceiling, Catalog No. HHS-B. HYDRAULIC HEAD—LARGE, Catalog No. HHL, is used with either pump. Sturdy, yet light weight, it crimps sizes 1/0 through 4/0. See Die Chart below. Optional Accessories are Bench Mount Adaptor, Catalog No. HHL-BMA, and Balancer, Catalog No. HHL-B.



#### TO CRIMP THESE BARREL STYLES

#### USE THESE DIES

	Crimp Section	Wire Size	HHS Head Die No.	HHL Head Die No.	Net ea.
VERSAKRIMP*		8	HHS-D110		45.00
		6	HHS-E120		45.00
		4	HHS-F130		55.00
		2	HHS-G140		55.00
		1/0	HHS-H150	HHL-H150	75.00
		2/0		HHL-I160	75.00
		3/0		HHL-K170	75.00
4/0		HHL-L180	75.00		
INSULKRIMP*		8	HHS-D610		65.00
		6	HHS-E620		65.00
		4	HHS-F630		65.00
		2	HHS-G640		65.00

# SOLDERLESS TERMINALS AND CONNECTORS

# waldom



## MILITARY SPECIFICATION TERMINALS (MIL-T-7928E)

These terminals are produced to military specification. MIL-T-7928E (ASG) of the U. S. Army, Air Force, Army Ordnance, Coast Guard, Marine Corps and Navy.

Class 1 and Class 2 are designations for the two classes of Military Approvals. Class 1 Terminals and Splices are those which meet all performance requirements of their Military Standard specification when crimped with Military Specification crimping tools.

Class 2 Terminals and Splices are those which meet all performance characteristics of their Military Standard specification when crimped with the manufacturer's recommended crimping tools.

Type I and Type II designate insulated and non-insulated Terminals and Splices. Type I is un-insulated. Type II is insulated.

## RING TONGUE TERMINALS

MS PART NO.	WALDOM PART NO.	
	1/4" Barrel	5/32" Barrel
MS-20659-1	D-4001	SD-4001
-2	D-4003	SD-4003
-3	D-4006	SD-4006
-4	D-4008	SD-4008
-5	B-3001	
-6	B-3101	
-7	B-3226	
-8	B-3207	
-9	B-3249	
-10	B-3231	
-11	B-3258	
-12	B-3254	
-13	B-3281	
-14	B-3283	
-17	B-3007	
-18	B-3309	
-19	B-3323	
-20	B-3324	
-25	D-4143	SD-4143
-26	D-4007	SD-4007
-27	D-4147	SD-4147
-28	B-3013	
-29	B-3208	
-30	B-3248	
-31	B-3230	
-32	B-3253	
-33	B-3288	
-35	B-3314	
-36	B-3331	
-38	D-4047	SD-4047
-39	D-4048	SD-4048
-40	B-3225	
-41	B-3203	
-42	B-3215	
-43	B-3238	
-44	B-3257	
-46	B-3280	
-47	B-3282	
-48	B-3287	
-51	B-3308	
-52	B-3313	
-53	B-3322	
-54	B-3330	

### CLASS 1 SPLICE TERMINALS

MS PART NO.	WIRE RANGE	PART NO.
MS-25181-1	22-18	A81-1
-2	16-14	B81-2
-3	12-10	C81-3
-4	26-24	M81-4

MS PART NO.	WALDOM PART NO.	
	1/4" Barrel	5/32" Barrel
MS25036-1	N-5001	SN-5001
-2	N-5002	SN-5002
-3	N-5003	SN-5003
-4	N-5005	SN-5005
-5	N-5143	SN-5143
-6	N-5006	SN-5006
-7	N-5007	SN-5007
-8	N-5094	SN-5094
-9	N-5041	SN-5041
-10	N-5147	SN-5147
-11	N-5049	
-12	N-5011	
-13	N-5101	
-14	N-5013	
-15	T-2202	
-16	T-2203	
-17	T-2207	
-18	T-2208	
-19	T-2248	
-20	T-2249	
-21	T-2230	
-22	T-2231	
-48	N-5047	SN-5047
-49	N-5021	SN-5021
-50	N-5004	SN-5004
-52	N-5048	SN-5048
-53	N-5024	SN-5024
-54	N-5009	SN-5009
-56	N-5050	
-57	N-51000	
MS-17143-1	N/A	SN-5555
-2	N/A	SN-5562
-3	N/A	SN-5569
-4	N/A	SN-5556
-5	N/A	SN-5563
-6	N/A	SN-5570
-7	N/A	SN-5557
-8	N/A	SN-5564
-9	N/A	SN-5577
-10	N/A	SN-5558
-11	N/A	SN-5565
-12	N/A	SN-5572
-13	N/A	SN-5559
-14	N/A	SN-5566
-15	N/A	SN-5573
-16	N/A	SN-5560
-17	N/A	SN-5567
-18	N/A	SN-5574
-19	N/A	SN-5561
-20	N/A	SN-5568
-21	N/A	SN-5573

N/A (Not Available)





waldom

SOLDERLESS TERMINALS AND CONNECTORS

TERMINALS IN SMALLER PACKAGES



GREEN LINE

ALL PACKAGES ARE 39¢ NET. QUANTITY VARIES WITH ITEM. (See listings.)

39¢ NET



PRE-VUE PAK

ALL PACKAGES ARE \$1.09 NET. QUANTITY VARIES WITH ITEM. (See listings.)

\$1.09 NET

SPADE TONGUE TERMINALS



Wire Range	Stud Size	KRIMPITITE* (Non-Insulated)				INSULKRIMP* (Insulated)			
		Green Line Part No.	Quantity Per Pkg.	Prevue-Pak Part No.	Quantity Per Pkg.	Green Line Part No.	Quantity Per Pkg.	Prevue-Pak Part No.	Quantity Per Pkg.
22-18	3-4	GS-1014	12	DS-1116	45	GT-2014	6	DT-2116	20
	5-6			DS-1014	45			DT-2014	20
	8			DS-1029	45			DT-2029	20
	8	GS-1030	12	DS-1030	45	GT-2030	6	DT-2030	20
	10			DS-1031	45			DT-2031	20
10	GS-1032	12	DS-2032	45	GT-2032	6	DT-2032	20	
16-14	5-6	GS-1015	12	DS-1015	45	GT-2015	6	DT-2015	20
	8	GS-1033	12	DS-1033	45	GT-2033	6	DT-2033	20
	10	GS-1016	12	DS-1016	45	GT-2016	6	DT-2016	20
12-10	10	GS-1017	8	DS-1017	32	GT-2017	4	DT-2017	17

FLANGED SPADE TERMINALS



22-18	5-6	GS-1080	12	DS-1080	45	GT-2080	6	DT-2080	20
	8	GS-1081	12	DS-1081	45			DT-2081	20
	10	GS-1082	12	DS-1082	45			DT-2082	20
16-14	5-6	GS-1083	12	DS-1083	45	GT-2083	6	DT-2083	20
	8	GS-1084	12	DS-1084	45			DT-2084	20
	10	GS-1085	12	DS-1085	45			DT-2085	20
12-10	10			DS-1088	32			DT-2088	17

HOOK TONGUE TERMINALS



22-18	5-6			DS-1018	45			DT-2018	20
16-14	5-6			DS-1038	45			DT-2030	20

RING TONGUE TERMINALS



22-18	1-2	GS-1002	12	DS-1099	45	GT-2002	6	DT-2099	20
	3-4			DS-1047	45			DT-2047	20
	5-6			DS-1001	45			DT-2001	20
	5-6			DS-1002	45			DT-2002	20
	8			DS-1021	45			DT-2021	20
	10			DS-1003	45			DT-2003	20
	1/4			DS-1004	32			DT-2004	17
	5/16			DS-1005	32			DT-2005	17
3/8	DS-1143	32	DT-2143	17					
16-14	3-4	GS-1006	12	DS-1095	45	GT-2006	6	DT-2095	20
	5-6			DS-1006	45			DT-2006	20
	5-6			DS-1007	45			DT-2007	20
	8			DS-1024	45			DT-2024	20
	10			DS-1008	45			DT-2008	20
	1/4			DS-1009	32			DT-2009	17
	5/16			DS-1041	32			DT-2041	17
	3/8			DS-1147	32			DT-2147	17
12-10	5-6	GS-1011	8	DS-1049	32	GT-2011	6	DT-2049	17
	8			DS-1050	32			DT-2050	17
	10			DS-1011	32			DT-2011	17
	1/4			DS-1100	24			DT-2100	15
	15/16			DS-1101	24			DT-2101	15
	3/8			DS-1013	24			DT-2013	15

QUICK DISCONNECT PUSH-ON TYPE



18-14	Male 1/4"	GS-1089	12	DS-1089	45	GT-2089	6	DT-2089	10
	Female 1/4"	GS-1090	12	DS-1090	45	GT-2090	6	DT-2090	19
16-12	Female Flag 1/4"			DS-1091	41				

SNAP PLUG AND RECEPTACLE



16-14	Snap Plug Plug Receptacle			DS-1055	52			DT-2055	20
								DPR-1426	9

BUTT CONNECTORS



22-18		GS-1019	12	DS-1019	45	GT-2019	6	DT-2019	18
16-14		GS-1020	12	DS-1020	45	GT-2020	6	DT-2020	18
12-10		GS-1046	8	DS-1046	30	GT-2046	4	DT-2046	12

NYLON-INSULATED CLOSED END CONNECTORS



22-14		GCE-2214	9	DCE-2214	27				
16-10				*DCE-1610	15				

\*TRADEMARK

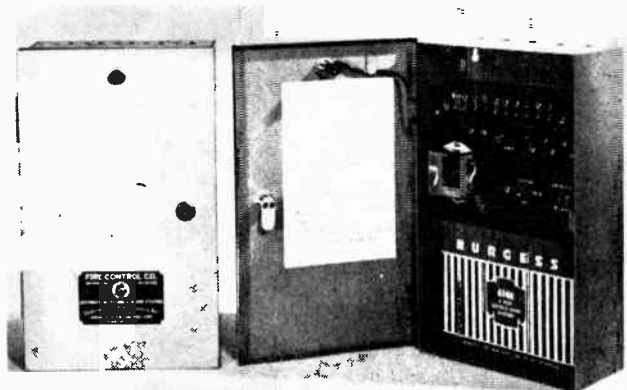
# AUTOMATIC FIRE DETECTION & ALARM SYSTEMS

## #SC-600R CONTROL UNIT

UNDERWRITERS' LABORATORIES APPROVED

MEETS & EXCEEDS NATIONAL FIRE CODES

FOR: Homes, Schools, Churches, Recreation Centers, Public Buildings, Nursing Homes, Restaurants, Stores, Motels, Clubs, Factories, Warehouses, Military, etc.



#SC-600R CONTROL UNIT

\$192.00

### MAIN POWER SUPPLY

Input 115 V/AC, 60 cy. 0.25 amp. Transformed/rectified to 6 V/DC, maximum load 2.0 amp. The Supply is Electrically Supervised, so that a failure immediately sounds trouble alarms, and the System automatically transfers to Emergency Power, thus assuring continuity of fire protection. The Main Supply automatically returns when power is restored. Use #14 approved wire.

### EMERGENCY POWER SUPPLY

6 Volt Battery: Burgess #4F4H; Eveready #706; or equivalent. Maximum load under alarm condition 2.0 amp. Obtain from local electrical or radio wholesale house.

### CABINET

14" x 9" x 4". Gray Hammertone. Surface mount. Cylinder lock, 2 keys.

### DETECTOR CIRCUIT

6 V/DC, 0.15 amp. Safety-Loop Circuit is Electrically Supervised, so that a wire break immediately sounds trouble alarms. Emergency circuits compensate for such fault (See N/E Switch), thus assuring continuity of fire protection. Maximum wire run 5000 ft. #FA-18/2 Approved Fire Detector Cable.

### NORMAL/EMERGENCY SWITCH

Provides Emergency Operation:

- Compensates for wire break in Detector Loop, permitting full response from all detectors until repairs are made.
- Silences Trouble Buzzer, but maintains Red Lamp to show the emergency condition.

### ALARM CIRCUITS

6 V/DC, maximum load 1.5 amp. If only one bell is used, it is Electrically Supervised, so that a failure immediately sounds trouble alarms. If two or more bells and/or #A-604 Annunciator are used, they are alternately connected to the two alarm circuits provided and the last operable alarm device is Electrically Supervised. Use #14 approved wire.

### TEST/RESET/SILENCE SWITCH

Provides Simple Test Procedure:

- Test The System (once monthly)
- Silence all Firegongs.
- Reset to normal operation.

## APPROVED FIRE ALARM SYSTEM

National Fire Codes Pamphlet 72A details the 'Local Automatic Fire Protective Signalling System' and its installation, acceptable to the Board of Fire Underwriters, and to Federal, State and Municipal authorities. This Standard is applicable to all industrial, commercial and military installations. Best practice throughout the country uses it in homes as well. Consult your Fire Chief.

Equipment bearing the UL Label has passed rigid inspection requirements and is of high professional quality.

Proper and correct tally of Automatic Fire Detectors is basic. The Code requires detectors in each room, hall, closet, stairwell, storage area, furnace room, basement, attic, loft, shaft, chute, etc. Do not exceed the space ratings given for each type of detector.

All wiring should be done in conduit as the best insurance for longevity and trouble-free service.

### PRICING: FOB FACTORY

Pricing shown is Net. Standard Trade Discount to Electrical Contractors and Dealer-Installers. Subject to change without notice.

## HOW TO ORDER

- Order #SC-600R Control Unit.
- Order #T111N Disconnect Switch Unit.
- Order #A-(6"; 8"; 10" gong size) Inside Underdome Firegongs. Specify #AP for Weatherproof.
- Order correct tally of Automatic Fire Detectors. Use Spot Fire Locators for industrial, commercial, and military installations. Use FyrGuard Detectors for homes.
- Order #FA-18/2 Fire Detector Cable. A 250 ft. reel will cover the average three bedroom ranch home.
- Optional equipment: #A-604 Annunciator; #529 Manual Pull Stations; #SFA-1 Smoke/Fire Alarms; #AR-2 Adapter Plates; etc.

## TERMS

Net 30 days to accredited accounts. Check with order to others.

Our sole warranty is to repair or replace any equipment found defective in workmanship or materials within one year of invoice date. Tampering voids this obligation.

No merchandise may be returned without prior authorization from the Factory.

# FIRE CONTROL CO.

**SECTION 2200**

**SPOT FIRE LOCATORS**



**UL APPROVED**

Famous dual-action Rate-of-Rise & Fixed-Temperature Automatic Fire Detector. Standard in the industry. Specified in industrial, commercial, and military installations.

Rated coverage: 2500 sq. ft. (Room 50 ft. x 50 ft.).

USE # 501 (136°) in offices, showrooms, closets, halls.  
USE # 502 (190°) in furnace room, kitchen, attic.

**SPOT FIRE LOCATORS ..... \$5.20**

**UNDERDOME FIREGONG**

**UL APPROVED**

Finest quality Underdome Firegongs made today. Clear pitch, firm tone. Low current draw. Flush easy-mount on all standard outlet boxes.

Specify 6 V/DC; 115 V/AC; other.

Add \$4.00 for #AP Weather-proof.



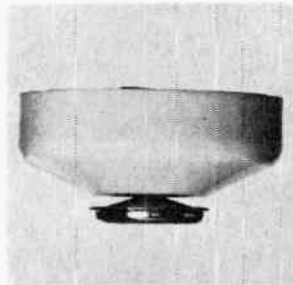
**#A-6" INSIDE UNDERDOME FIREGONG ..... \$28.00**  
**#A-8" ..... \$32.00**  
**#A-10" ..... \$36.00**

**FYRGUARD DETECTORS**

**UL APPROVED**

Fixed-Temperature Automatic Fire Detector. A small, unobtrusive and economical unit widely used in home installations. Self-resetting.

Rated coverage: 900 sq. ft. (Room 30 ft. x 30 ft.).

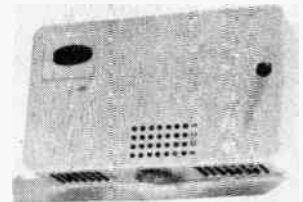


USE #2S (135°) in living rooms, bedrooms closets, halls.  
USE #2H (175°) in furnace room, kitchen, attic.

**FYRGUARD DETECTORS ..... \$3.20**

**SMOKE/FIRE ALARM  
SOLID-STATE CIRCUITRY**

New dual unit detects Smoke and Fire before they reach danger levels! Sounds early warning alarm to save life! Simply hang on wall and plug into a 115 V/AC outlet. Has own alarm and can be used by itself, or easily tied into the detector circuit of a standard fire alarm system.



USE one unit in each bedroom, and one in the center hall on each floor (best near the stair landing).

**#SFA-1 SMOKE/FIRE ALARM ..... \$59.95**

**MANUAL PULL STATION**

**UL APPROVED**

Non-coded fire stations. Modern design. Mounts on standard switch-box. Wire into the detector circuit exactly as an automatic fire detector. With 2 spare discs and key. Specify #BB Back Box for surface mount.

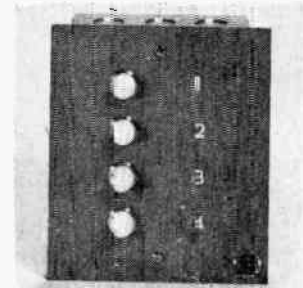


**#529 MANUAL PULL STATION ..... \$12.00**

**4-ZONE ANNUNCIATOR**

**UL APPROVED**

For use in large installations which require quick identification of the fire area. All detector circuits are Electrically Supervised. Easy tie connections to #SC-600R Control Unit.



**#A-604 4-ZONE ANNUNCIATOR ..... \$80.00**

**#FA-18/2 FIRE DETECTOR CABLE ..... \$16.00**

UL Approved Low-Energy Cable specified for Detector Circuits. Ivory plastic parallel cord. One tinned and one copper conductor for quick polarity identification. 250 ft. reel.

**#T111N DISCONNECT SWITCH UNIT ..... \$10.00**

Required by Code. Includes Box, Padlock, Disconnect Switch, Adapter with non-interchangeable Fuse, Spare. Mount adjacent to and take 115 V/AC from Line Side of Load Center, through Fuse to Terminals 1 & 2 in #SC-600R Control Unit. Use #14 approved wire.

**#AR-2 ADAPTER PLATES ..... 80c**

To easy-mount Spot Fire Locators on 3" or 4" octagon boxes. For conduit installations.

**#1 IVORY INSULATED STAPLES ..... 80c**

Decorator type. To secure Detector Cable to baseboards, moldings, rafters, etc. Box of 200.

**#SFS HOME ALARM SYSTEM PACKAGE ... \$465.00**

Class 'A' Supervised (Fail-Safe) Home Alarm System. Incomparably the best protection for your family against death by smoke and poison gas inhalation, or by fire. Features both smoke and heat detection to give early warning against both slow-smoldering and fast fires.

The Package contains all equipment needed for a three bedroom ranch home except the emergency battery and #14 wire. Both are obtained at the local radio or electrical wholesale house. Simplified installation instructions.

Equipment List as follows: 1 #SC-600R Control Unit; 1 #T111N Disconnect Switch Unit; 1 #A-6" Inside Firegong; 4 #SFA-1 Smoke/Fire Alarms; 6 FyrGuard Detectors; 1 reel #FA-18/2 Fire Detector Cable; 1 box #1 Insulated Staples.

For other types of homes: Order 1 Smoke/Fire Alarm for each additional bedroom and floor center hall; 1 reel Fire Detector Cable; 1 box of Insulated Staples.

**FIRE CONTROL CO.**

# INDUSTRIAL TIMER CORPORATION



TDAF



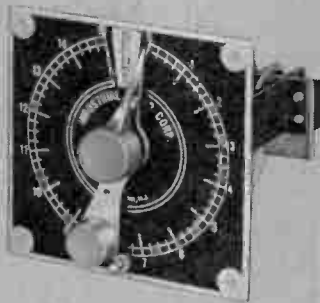
TDAB



TD



SF



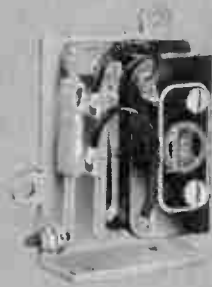
"H"



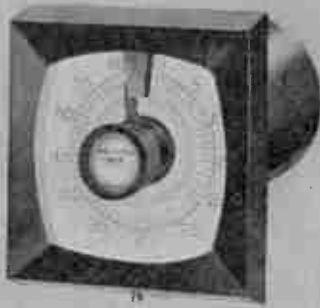
MTD



90



TH



GTD

## DELAY TIMERS

This type of timer introduces a pre-determined time delay between the closing of a switch and the opening or closing of a load switch. The sequence is: The timer is started by a switch closure, the load switch remains in normal condition until commencement of time delay, at which time it is operated.

**TDAF** (BULLETIN #300) Time cycles from 1/60 second to 3 hours, instant reset, 10 amp contact rating, panel mounting, extremely accurate. **\$43.00**

**TDAB** (BULLETIN #300) Time cycles from 1/60 second to 3 hours, instant reset, 10 amp contact rating, back mounted or available in housing, extremely accurate. **\$43.00**

**TD** (BULLETIN #305) Time cycles from 1/10 second to 5 minutes, 10 amp contact rating, auto-reset, mounts through a round hole. **\$30.50**

**SF** (BULLETIN #305) Time cycles from 1/10 second to 5 minutes, 10 amp contact rating, panel mounted, auto-reset. **\$23.00**

**"H"** (BULLETIN #305) Time cycles from 1/10 second to 5 minutes, 10 amp contact rating, panel mounted, auto-reset. **\$26.50**

**MTD** (BULLETIN #304) Time cycles from 6 seconds to 3 hours. Automatic reset. 10 amp contact rating. Matches modern panel instruments. Plastic face. **\$30.50**

**90** (BULLETIN #305) Time cycles from 1/2 second to 90 seconds. 10 amp contact rating, auto-reset. **\$17.00**

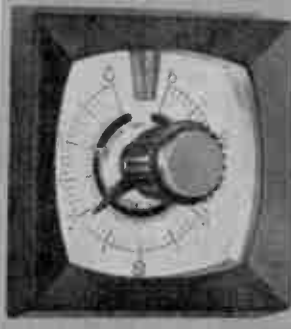
**TH** (BULLETIN #305) Thermal Time delay switch, snap action contact rated at 10 amps. Time cycles from 15 seconds to 2 minutes, temperature compensated, adjustable. **\$8.50**

**GTD** (BULLETIN #302) Automatic reset, available in 11 models ranging in time cycles from 3 seconds to 3 hours. 10 amp isolated load contacts. Unit mounts through 3 inch hole in panel and features built-in self locking feature that eliminates mounting screws. A.C. voltages of 115 or 220. **\$39.50**

PAB



PBM



P &amp; M



## INTERVAL TIMERS

An Interval Timer closes (or opens) a load switch at the beginning of a time cycle; at the end of the time interval the load circuit is returned to its original condition.

**PAB** (BULLETIN #400) Time Intervals from 1/60 second to 3 hours. 15 amp non-inductive. Instant automatic reset. Available with housing. Momentary starting. **\$55.00**

**PBM** (BULLETIN #404) Time cycles from 1/10 seconds to 3 hours. 25 amp non-inductive. Auto-reset. Combination set-start pushbutton knob with interval progress dial indicator. **\$19.75**

**P & M** (BULLETIN #400) "P" Series—1/10 second to 5 minutes, remote momentary start, auto-reset, 15 amp load rating. **\$33.00**

"M" Series—1 second to 1 minute, push button start, auto-reset, 10 amp contact rating. **\$26.50**

# INDUSTRIAL TIMER CORPORATION

## PROGRAMMING CAM TIMERS

A Recycling Timer opens and closes an electrical circuit in a continuous pre-set sequence.

**TANDEM** (BULLETIN #500) Interchangeable timing elements provide individual time cycles from 1/10 seconds to 3 hours. Elements operate in sequence. 15 amp load rating. **\$142.50 complete**

**CM** (BULLETIN #200) Single switch rated at 10 amps. Adjustable cam provides 2% to 98% "ON"—"OFF" of any of 600 available time cycles. Each model has 50 available time cycles through use of interchangeable gear racks, cycles continuously. **\$20.50**

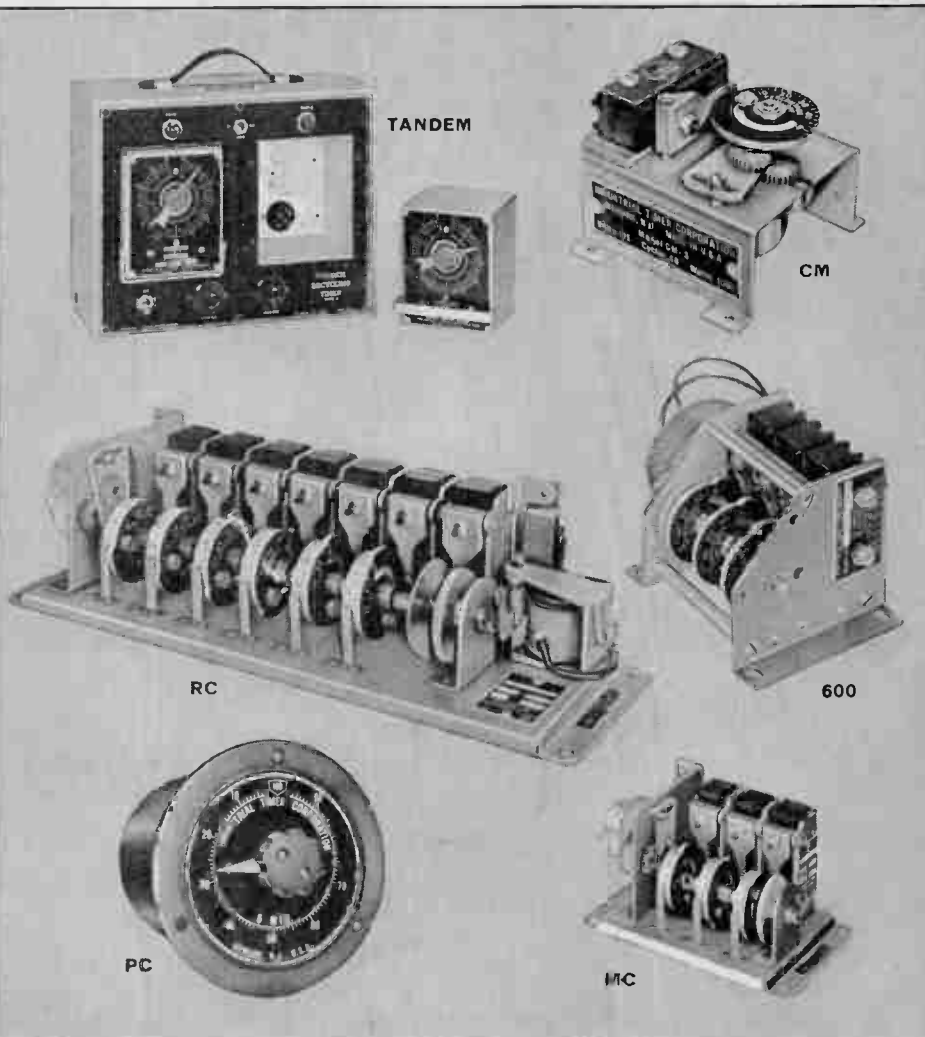
**RC** (BULLETIN #200) Similar to Series MC, but starts from momentary pulse, makes 1 revolution of cam shaft and stops. The timer recycles from a sustained start. Time cycles from 2/3 second to 72 hours are available, switch rating is 10 amps. **\$30.50 to \$198.50**

**600** (BULLETIN #203) Simplified Recycling Cam Timer available with up to 7 switches from 15 seconds to 60 hours. **\$17.00 to \$53.00**

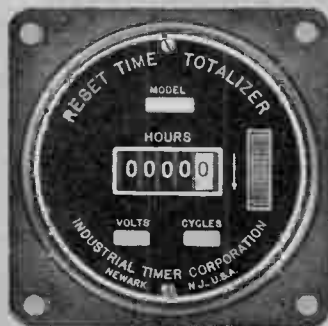
**PC** (BULLETIN #500) Opens and closes a 15 amp load switch continuously. Adjustable from 3% to 97% of time cycles from 15 seconds to 24 hours. Available in housing. **\$31.00**

**MC** (BULLETIN #200, 201, 202) Available with up to 20 individual load circuits. Time cycles from 2/3 second to 72 hours. 10 amp load rating, available in Kit for prototype assembly, or with shaft extension for external drive.

**\$35.50 for 2 sw. unit  
up to \$191.50 for  
20 load switches**



C-2



C-5



C-8 D.C.

## TIME MEASUREMENT DEVICES

The running Time Meters and Reset Time Totalizers are used to record the operating time of equipment requiring periodic maintenance.

**C-2** (BULLETIN #700) The Series C-2 Running Time Meter is available in counts from 1/10 second to 1 hour. Total accumulation ranges are 10,000 seconds to 100,000 hours. **\$20.50**

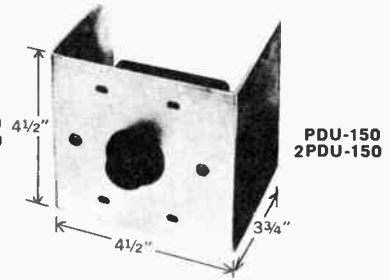
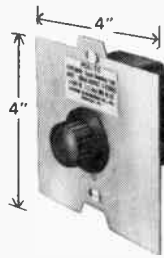
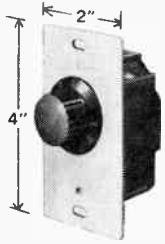
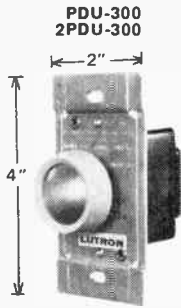
**C-5** (BULLETIN #700) This is a cased type instrument, mounted in a black, baked-finish housing. With heavy steel mounting flange. Screw terminals on back. Model C-5 incorporates a special type of counter that permits resetting to zero at any time. Offered for 115 and 220 volts, 60, 50, and 25 cycles. **\$42.50**

**C-8 D.C.** (BULLETIN #701) The C-8 is a compact Running Time Meter for use on equipment using D.C. voltages. Available for 6, 12, 24, 28 or 32 VDC. Mounts through round 2 3/16" hole in panel, secures with 4 screws. The C-8 accumulates up to 9999.9 hours with a minimum count of 1/10 hour. **\$19.25**

# LUTRON

# POWERDIAL® SCR\* POWER CONTROLS

\*Silicon Controlled Rectifier



## PDU SERIES

PDU Series is suitable for panel mounting. — May be wired for AC or DC output. Two wire connection.

MODEL	MAX. AC WATTS	RMS. AMPS. AC	RMS. AMPS. DC	AC INPUT VOLTS	AC OUTPUT VOLTS	RMS-DC OUTPUT VOLTS	WEIGHT LBS.	TRADE NET
PDU-50	600	0-5	0-5	120	0-120	0-85	.25	\$ 15.75
PDU-75	900	0-7.5	0-7.5	120	0-120	0-85	.34	18.75
PDU-100	1200	0-10	0-7.5	120	0-120	0-85	.53	30.00
PDU-150	1800	0-15	0-10	120	C-120	0-85	1.0	60.00
PDU-300	3600	0-30	0-20	120	0-120	0-85	12.0	127.50
2PDU-50	1200	0-5	0-5	240	0-240	0-170	.25	30.00
2PDU-75	1800	0-7.5	0-7.5	240	0-240	0-170	.34	33.00
2PDU-100	2400	0-15	0-7.5	240	0-240	0-170	.53	39.00
2PDU-150	3600	0-15	0-10	240	0-240	0-170	1.0	78.00
2PDU-300	7200	0-30	0-20	240	0-240	0-170	12.0	162.00

NOTE: Above units are 60 cycle service. Please send 400 cycle or other special unit inquiries to our Engineering Dept.

## POWERDIAL FEATURES

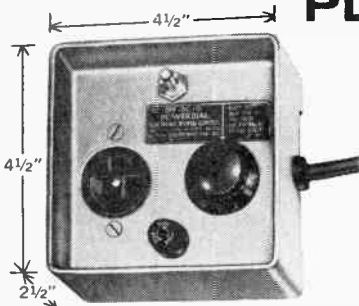
- Output is continuously adjustable AC or DC
- No brushes to burn out or wear
- Rugged, reliable, solid state circuitry
- Lower installed cost
- 1/10 the weight, 1/2 the size of conventional variable auto-transformer controls

## POWERDIAL WILL CONTROL:

- Universal and Series DC Motors
- Shaded Pole Motors\*
- Permanent Split Capacitor Motors\*
- Lamps
- Voltage
- Current
- Resistive Heaters & Infra-Red Lamps
- Soldering Irons
- Electric Solenoids & Brakes, D.C. Clutches
- Electroplaters
- Electric Punches & Actuators
- Vibratory Feeders
- Centrifuges

\* Used only on fan and light loads, or where torque is proportional to speed.

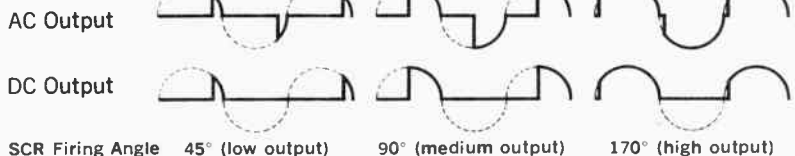
## PD SERIES BENCH MODELS



MODEL	MAX. AC WATTS	RMS. AMPS. AC OUT	RMS. AMPS. DC OUT	AC INPUT VOLTS	AC OUTPUT VOLTS	RMS-DC OUTPUT VOLTS	WEIGHT LBS.	TRADE NET
PD-50	600	0-5	0-5	120	0-120	0-85	2.0	\$24.00
PD-75	900	0-7.5	0-7.5	120	0-120	0-85	2.0	27.00
PD-100	1200	0-10	0-7.5	120	0-120	0-85	2.3	30.00
PD-150	1800	0-15	0-10	120	0-120	0-85	2.6	60.00
2PD-50	1200	0-5	0-5	240	0-240	0-170	2.0	33.00
2PD-75	1800	0-7.5	0-7.5	240	0-240	0-170	2.0	36.00
2PD-100	2400	0-10	0-7.5	240	0-240	0-170	2.3	39.00
2PD-150	3600	0-15	0-10	240	0-240	0-170	2.6	81.00

PD Series — Simply Switch to AC, DC or off. All units have fuse, 3 wire cord and receptacle.

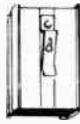
## Typical Waveforms



# LUTRON ELECTRONICS CO., INC.

**LUTRON****SPEEDIAL® MOTOR SPEED CONTROLS**

MK-II/III

Clip-on Back  
For Use on  
Belt or Wall

**SPEEDIAL MOTOR SPEED CONTROLS** electronically vary the speed of any Universal (AC-DC) motor driven tool from zero to full speed without loss of power. Electronic feedback increases power as load increases. Solid state construction throughout. Speed control saves drill bits, makes cleaner cuts, holes and sanded surfaces possible with inexpensive tools.

**FOR HANDYMAN AND HOBEYIST**

MODELS	MAXIMUM MOTOR NAMEPLATE RATING	50-60 CPS INPUT VOLTS	APPROXIMATE MAX. H.P.	APPROX. MAX. DRILL SIZE	TRADE NET
MK-II	5 Amps	120	.4 H.P.	¼", ⅜"	\$11.96
MK-III	10 Amps	120	.8 H.P.	½"	19.46

**INDUSTRIAL — PROFESSIONAL — SCIENTIFIC MODELS**

(Housed in 4½" x 2⅝" DEEP CAST ALUMINUM CASES)

MODELS	MAXIMUM MOTOR NAMEPLATE RATING	50-60 CPS INPUT VOLTS	APPROXIMATE MAX. H.P.	APPROX. MAX. DRILL SIZE	TRADE NET
MK-5	5 Amps	120	.4 H.P.	¼", ⅜"	\$19.46
MK-10	10 Amps	120	.8 H.P.	½"	29.96
MK-15	15 Amps	120	1.2 H.P.	⅝"	42.90
MK-250-5	5 Amps	208-250	.8 H.P.	½"	24.00
MK-250-10	10 Amps	208-250	1.6 H.P.	⅝"	36.00
MK-250-15	15 Amps	208-250	2.5 H.P.		51.75

**ONE INEXPENSIVE SPEED CONTROL FOR DOZENS OF DIFFERENT TOOLS**

Electric Drills



Electric Saws



Electric Sanders



Motors in the Factory and Laboratory

**OPERATION:** To be used on Universal (AC-DC) and on Series DC motors ONLY. Do not use on AC motors. Electric hand tools have Universal motors. May also be used on electric clutches and brakes requiring DC voltage.

**TYPICAL APPLICATIONS:** Mixing Liquids (Paints, Chemicals, etc.) Feeders, Flame Cutting Machines, Winding Machines, Controls, Electric Clutches and Brakes, Screwdrivers, Paper Cutters, Paper Pulp Mixing, Conveyor Belts. Also Mixers, Stirrers, Blenders.

**NEW SPEEDIAL SOLID STATE MODULES**

provide complete electronic motor speed control in module form for easy mounting to wall, panel, rack, or plate.

Specifications — Speedial Modules for 5 and 10 amp service

Volts: 120 vac, 60 Hz.

Amps: Model DJ-5 — 5 max; Model DJ-10 — 10 max.

Switch: Rotary with full power ON setting.

Service: Universal ac-dc or series dc motors.

DIMENSIONS — MODEL DJ-5 (Faceplate not supplied.)

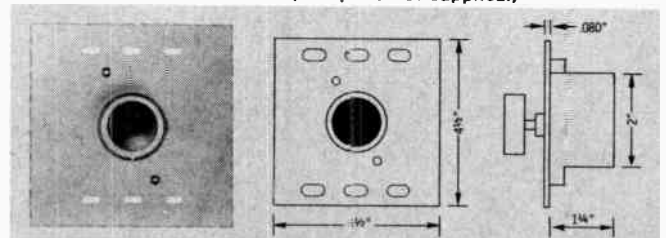
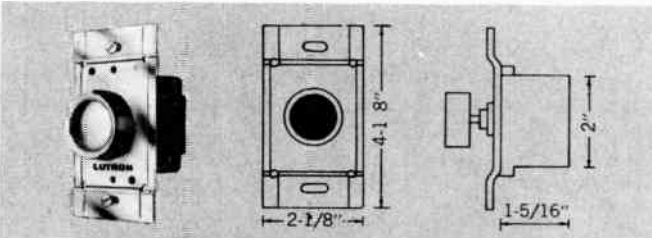
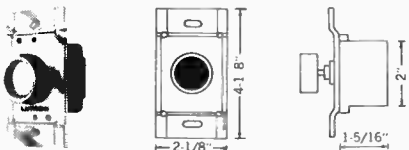
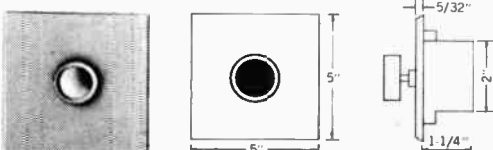
Installation: Single gang box, or any panel, rack or plate mounting.

Operating Temperature: +50°C max. ambient.

Weight: Model DJ-5 — 3¼ oz; Model DJ-10 — 4¼ oz.

Trade Net Price: Model DJ-5 — \$8.65; Model DJ-10 — \$24.00.

DIMENSIONS — MODEL DJ-10 (Faceplate not supplied.)

**LUTRON****FANDIAL™****FAN SPEED CONTROLS****DIMENSIONS — MODEL FS-5****DIMENSIONS — MODEL FS-10**

FANDIAL continuously varies fan and blower speeds from maximum to any lower speed. Permits exact comfort level adjustment, fan noise reduction and elimination of smoke and odors without excess cooling. **OUTSTANDING FEATURES:** Turns on at top speed and adjusts to lower speeds. Built-in trimmer can be set to prevent stalling, or at any higher minimum speed. Control knob has positive ON-OFF action. Easy installation and mounting. Internal radio interference suppression filter. **TYPICAL APPLICATIONS:** Controls a wide variety of fans in home and industry, including kitchen and bathroom exhaust, range hood, window, attic and pedestal fans, furnace blowers, environmental chambers, clean rooms, cooling electronic equipment, industrial exhaust and ventilating equipment.

**SPECIFICATIONS — FANDIAL Modules for 5 and 10 amp service.**

Volts: 120 vac, 60 cps.

Amps: Model FS-5 — 5 max;

Model FS-10 — 10 max; (see motor nameplate rating).

Switch: Rotary with positive ON/OFF action. Service: Shaded pole or permanent split capacitor motors only.

Installation: Single gang electrical wall box. Faceplate: Use any standard faceplate (supplied with FS-10). Power Component: Solid state Triac.

Leads: 6 inches — 1 black, 1 yellow, 1 red. Minimum Speed: Low end adjustment provided by knurled collar trim control.

Weight: FS-5 — 4.0 oz.; FS-10 — 7.0 oz. Trade Net Price: FS-5 — \$7.97; FS-10 — \$16.67.

# LUTRON LIGHT DIMMERS

## GAPRI ELECTRONIC LIGHT CONTROLS

Continuous dimming controls for residential, commercial and industrial use. A popular accessory for hi-fi and TV rooms, dining rooms, kitchen, nursery, bedroom and office. Excellent for use in equipment and visual displays. Quickly and easily installed in the same manner as an ordinary switch, they fit standard depth wall boxes. For single or multi-ganged installation.

### INCANDESCENT DIMMERS

These solid state thyristor controls feature double-sized mounting brackets for longer life and to eliminate overheating. All switches have silver contacts. High-quality phenolic case is 1/4" shallower than conventional types, fits any GEM box. Manual and motor driven high-power dimmers are available for the 2,500 to 100,000 watt range. They utilize the exclusive new Lutron expandable modular building block system. For complete information, request our free High Power Dimmer Bulletin.

\*3-way dimmer permits control of same light from two locations.

MODEL NO.	DESCRIPTION	INSTALLATION	TRADE NET
D-6P	600 Watts Push-On-Off	Single Gang Box, 2 Wires	\$ 5.97
D-63P	600 Watts 3-Way* Push-On-Off	Single Gang Box, 3 Wires	\$ 9.46
D-600P	600 Watts (UL), Push-On-Off	Single Gang Box, 2 Wires	\$ 7.30
D-603P	600 Watts (UL), 3-Way* Push-On-Off	Single Gang Box, 3 Wires	\$10.63
D-10P	1000 Watts Push-On-Off	Single Gang Box, 2 Wires	\$ 26.63
D-103P	1000 Watts 3-Way* Push-On-Off	Single Gang Box, 3 Wires	\$ 29.30

MODEL NO.	DESCRIPTION	INSTALLATION	TRADE NET
D-1000	1000 Watts (UL)	Single Gang Box 2 wires	\$ 26.63
D-1800P	1800 Watts Push-On-Off	Double Gang Box, 2 Wires	\$ 56.67
D-1803P	1800 Watts 3-Way* Push-On-Off	Double Gang Box, 2 Wires	\$ 59.98
D-2000	2000 Watts	Double Gang Box, 2 Wires	\$ 59.98
D-2500A	2500 Watts	Remote Control Single Gang Box	\$ 86.67
D-3600A	3600 Watts	Remote Control Single Gang Box	\$128.00

### NEW! \*Tu-Wire™ FLUORESCENT DIMMING SYSTEM

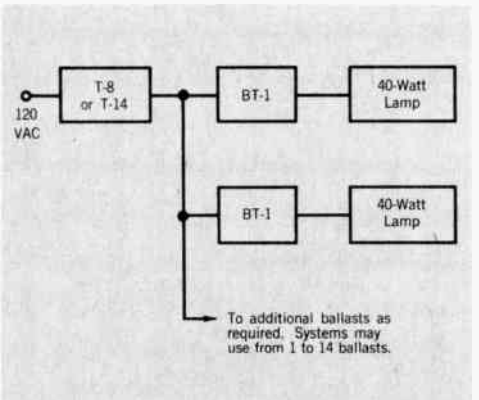
\*Patent Pending

Exclusive! Features 500:1 Dimming Ratio!

Lutron introduces two-wire fluorescent dimming control using solid state thyristors with these outstanding advantages: **NEW INSTALLATIONS:** Quick and easy two-wire connection to dimmer. No third wire needed. No auxiliary ballast required. **CONVERSIONS:** Eliminates costly rewiring. Simple two-step installation — (1) Install Lutron BT-1 dimming ballast in place of existing ballast; (2)

Install Lutron Tu-Wire fluorescent dimmer in place of existing switch. **SPECIAL FEATURES:** All Tu-Wire systems have built-in minimum illumination level control which can be adjusted easily by the user, even after installation. Tu-Wire systems are easily installed in any standard single gang wall box. They are now available in two models, as specified below.

MODEL	DESCRIPTION	BALLAST	INSTALLATION	TRADE NET
T-8	1 to 8 Forty Watt lamps (rapid start only); 120 vac, 60 cps; rotary positive on/off action switch.	One approved BT-1 ballast per lamp (\$6.13 Trade Net)	Fits any single gang wall box — use any standard faceplate. Two-wire connection to dimmer.	\$11.99
T-14	4 to 14 Forty Watt lamps (rapid start only); 120 vac, 60 cps; rotary positive on/off action switch.	One approved BT-1 ballast per lamp (\$6.13 Trade Net)	Fits any single gang wall box—faceplate is supplied. Two-wire connection to dimmer.	\$26.65



### FLUORESCENT DIMMERS

All Lutron solid state fluorescent dimmers (except Tu-Wire) control fluorescent and incandescent lamps separately or together on the same circuit. Outstanding dimming performance is achieved with low-cost dimming ballasts of four different manufacturers; no auxiliary ballasts are required. Lutron dimmers and controls are all reliability tested through 40,000 full load cycles, equivalent to ten years of the severest residential use.

MODEL NO.	DESCRIPTION	INSTALLATION	TRADE NET
FD-600	3 to 12 Forty Watt lamps or 600 Watt incandescent	Single Gang Box 3 wires	\$ 22.00
FD-900	10 to 18 Forty Watt lamps or 900 Watt incandescent	Single Gang Box 3 wires	\$ 33.30

MODEL NO.	DESCRIPTION	INSTALLATION	TRADE NET
FD-1800	10 to 36 Forty Watt lamps or 1800 Watt incandescent	Remote Control Single Gang Box	\$ 96.67
FD-3600	10 to 72 Forty Watt lamps or 3600 Watt incandescent	Remote Control Single Gang Box	\$132.00

For proper fluorescent dimming with Lutron "FD" series dimmers, one of the following dimming ballasts must be used: Universal Nos. 661, 535, 550A, 502A; GE Nos. 6G5001, 6G3670, 89G718, 6G5007; Advance Nos. DIM-140L or RSD-140; Jefferson No. 254-1171.

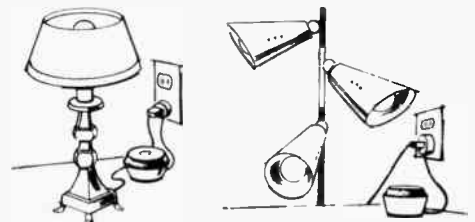


## dim-liter

### SOLID STATE LAMP DIMMER

For home and office. Controls one or more incandescent lamps up to 600 w total. Features decorator styling, push-on, push-off, genuine walnut dial for fingertip remote control. Has concealed glow-light, visible only in the dark, to end groping for switches. Makes any lamp a night light. Cork bottom protects furniture. **Trade Net \$9.97**

World Radio History



Dim-liter can be used with table lamps, desk lamps, pole lamps, swag lights, or any incandescent lamp.



**HARREL**

# PRECISION SOLID STATE TEMPERATURE CONTROLLERS

**GENERAL**

Harrel temperature controllers are intended for the precision temperature control of ovens, test fixtures, and all kinds of industrial machinery. They are arranged for easy mounting on any panel and are designed to require minimum panel space.

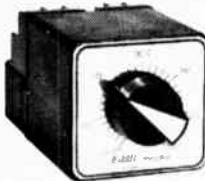
Temperature sensing is by means of a wire-type resistance sensor. This gives long-term stability and sensitivity which cannot be equalled by any other method of temperature sensing. The temperature sensor may be located as much as several hundred feet from the controller if desired. No special lead wires or shielding are required between controller and sensor.

**ON-OFF RELAY CONTROLLERS**

Utilize a rugged, solid state amplifier controlling a 10-ampere relay. Relay is easily replaceable in the field.

**TIME PROPORTIONING RELAY TYPES**

Similar to regular on-off controller, but controller operates on a regular cycle of on to off and back again, and it is the proportion of on-to-off time which is varied to control the temperature. Gives a characteristic which approximates true proportional control and in general gives greatly improved performance over regular on-off controllers.

**TRUE PROPORTIONAL TYPES**

Completely solid state. No relays, contacts, or moving parts whatsoever in the power control circuits. Output does not cycle on and off but remains steady at exactly the amount necessary to hold the temperature at precisely the desired value. True stepless control gives closest temperature control of any type of controller. Elimination of contacts and moving parts means life measured in years.



**STANDARD MODELS**  
115 volt, 60 cycle operation

Form		Type	Temperature Range	Switching or Proportional Band*	Power Output	Price	
Non-indicating	Indicating					Non-indicating	Indicating
TC-115Q	TC-115S	on-off	100-300°F	1°C	0 amps	75.00	92.00
TC-115R	TC-115T	on-off	100-500°F	1°C	10 amps	75.00	92.00
TC-116L	TC-116AF	Time Proportioning, Relay	100-300°F	1.5°C	10 amps	80.00	97.00
TC-116M	TC-116AB	Time Proportioning, Relay	100-500°F	1.5°C	10 amps	80.00	97.00
TC-396D	TC-496D	True Proportional	100-300°F	1.5°C	1000 watts**	149.00	166.00
TC-396E	TC-496E	True Proportional	100-500°F	1.5°C	1000 watts**	149.00	166.00

\* For on-off, temperature change at sensor to go from on to off and vice versa. For time proportioning, temperature change for 30% to 75% power output. For true proportional, temperature change from 10% to 80% full power output. Note that temperature performance for proportional types will in general be much better than figure shown; full proportional band is seldom required to compensate for changes in external conditions.

\*\* At 25°C ambient temperature. Derate linearly to zero at 100°C ambient temperature. For indicating types, heater must be arranged so that steady state power output (that is the power other than during warm-up and cool-down) is between 5% and 75% of full power output.



Indicating Controller

**INDICATING FORMS**

The system of display employed on indicating forms of the controller is designed especially for automated systems. The temperature is both set and read out on the large easy-to-read dial. The indicator is separate, and is of the go/no-go type which gives a visual alarm whenever the actual temperature is not at the set point. No skill or knowledge is required of the operator. All he has to do is be sure that the indicator stays out of the two red zones. Indicating forms are mounted on an attractive escutcheon arranged for easy panel mounting or indicator may be located remotely if desired.

**SENSORS**

A number of different forms of sensors are available for the above

- Patch Sensor:** For measuring the temperature of surfaces. Thin and flexible; may be attached by means of an adhesive or with tape (supplied).
- Oval:** Sensors wound on oval hollow ceramic core. Bracket mount for sensing air temperature.
- Tubular:** Cylindrical sensors in aluminum or stainless steel protecting jackets. May be mounted in solids, liquids, or gases.

**SENSORS**

Form	Type	Max. Temperature	Dimensions	Price
TS-100B	Patch	300°F	3/4" x 3/4" x 1/16"	\$19.80
TS-100F	Patch	500°F	1" x 1" x 1/16"	23.75
TS-103G	Oval	500°F	2" x 1 1/2" x 3/16"	4.50
TS-103J	Tubular, Aluminum Jacket	500°F	3/16" dia. x 1 1/2" long	9.35
TS-103K	Tubular, Stainless Jacket	500°F	3/16" dia. x 1 1/2" long	11.75

**CR207A Temperature Indicator/Recorder.** Compact, high accuracy nulling type instrument provides precise measurement of temperature. Expanded scale recording spreads temperature span of interest over entire track of recorder. Total recording time 1, 7, or 30 hours. May be used with any wire type resistance sensor. An ideal instrument for general purpose laboratory work.  
Price \$5B5.00



Other products manufactured by Harrel, Inc. — High Precision Proportional Temperature Controllers (ten-turn potentiometer forms), Controllers for Thermoelectric Coolers, Programmable Controllers, Temperature-Controlled Enclosures, Temperature Indicators, Temperature Sensors, Heaters. Write for further information.

**HARREL, incorporated** / **PRECISION TEMPERATURE CONTROLS**

• Recorders • Indicators • Sensors • Heaters  
• Programmers • Alarms • Thermoelectric Controllers • Enclosures

# MALLORY Industrial Sequence Timers

Mallory Industrial Sequence Timers are heavy duty types designed for industrial process control, laboratory testing, prototype timers, experimental work, etc. Time period is controlled by synchronous motors rated at 117 VAC and available in 16 values ranging from one minute to 24 hours.

Time cycles are easily changed in increments of 2° for the 5T, 10T and 15T and 4° for the 1T and 2T. The actual time change may be accomplished without tools, however, a tool is provided which makes changes more precise. Once set, the time cycle repeats precisely and indefinitely.

The basic cycle mode is a repeating type. It is quite simple however, to wire the timers to allow single cycle operation. In this case, the start of the cycle is controllable either electrically or mechanically by means of the knob.

Time cycles are controlled by precision molded glass-nylon cams which actuate the SPDT switches. The switches are rated at 15 amps at 125 VAC and are both UL and CSA approved. Switches snap into precision holes in the timer frames and are easily replaced although normally rated at more than 1 million cycles.

Drive motors attach to basic frames by means of a locating hole and two screws. The motors may be interchanged in seconds to provide a variety of sequence times.

Five basic frames are available and each is supplied with switches in position and pre-tested for accuracy. Mounting for the 5T, 10T and 15T types may be by the front panel or integral feet. The 1T and 2T are designed for thru-the-panel mounting.

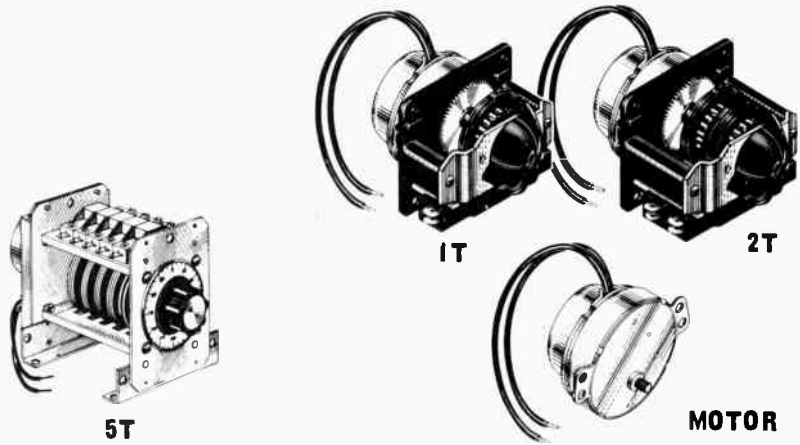
All models are available as complete assemblies or as separate units (basic frames and motors). In either case, a complete set of instructions and timing charts are supplied. The timing charts convert rotational degrees into the time of the drive motor. Thus, a change of 2° in the cam of a timer equipped with a one minute motor is equal to a time change of 1/2 second. In the 24 hour model this 2° change equals a mere eight minutes. A printed dial divided into 2° increments is also supplied. This dial is pressure-sensitive so that it may be to any clean dry surface. A knob with a hairline marker is supplied with the 5T, 10T and 15T. The 1T and 2T are supplied with a 366-1 knob.

Switches on all types are equipped with guarded quick-disconnect terminals. Brass female quick-disconnect terminals are also supplied for ease in wiring.

All timers are furnished with environmental protective plating for maximum life. No lubrication is required between cam and switch. As a result, operating life is exceptionally trouble free.

Drive motors are supplied with 7" insulated wires with wire ends pre-stripped. When motors are ordered as individual units, each is supplied with the appropriate timing chart.

All models shown are equipped with a non-reversing clutch and rotation is restricted to a clock-wise motion when viewed from the front (knob) face. This clutch prevents accidentally reversing the sequence when timers are used in single cycle applications.



### COMPLETE ASSEMBLIES

Timers are available either as complete assemblies or separate units. When ordered as complete assemblies, motors are attached to the frames and units packed in a carton with knob, dial, terminals, instructions,

timing chart, and adjusting tool. Other motors (listed below) may be ordered to change time cycle. Motors are attached to frames by two screws.

Cycle Time hrs: min	Mallory No. 1 Circuit	Mallory No. 2 Circuit	Mallory No. 5 Circuit	Mallory No. 10 Circuit	Mallory No. 15 Circuit
:01	1TM1M	2TM1M	5TM1M	10TM1M	15TM1M
:02	1TM2M	2TM2M	5TM2M	10TM2M	15TM2M
:03	1TM3M	2TM3M	5TM3M	10TM3M	15TM3M
:04	1TM4M	2TM4M	5TM4M	10TM4M	15TM4M
:06	1TM6M	2TM6M	5TM6M	10TM6M	15TM6M
:12	1TM12M	2TM12M	5TM12M	10TM12M	15TM12M
:24	1TM24M	2TM24M	5TM24M	10TM24M	15TM24M
:45	1TM45M	2TM45M	5TM45M	10TM45M	15TM45M
1:00	1TM60M	2TM60M	5TM60M	10TM60M	15TM60M
2:00	1TM120M	2TM120M	5TM120M	10TM120M	15TM120M
3:00	1TM180M	2TM180M	5TM180M	10TM180M	15TM180M
4:00	1TM240M	2TM240M	5TM240M	10TM240M	15TM240M
6:00	1TM360M	2TM360M	5TM360M	10TM360M	15TM360M
8:00	1TM480M	2TM480M	5TM480M	10TM480M	15TM480M
12:00	1TM720M	2TM720M	5TM720M	10TM720M	15TM720M
24:00	1TM1440M	2TM1440M	5TM1440M	10TM1440M	15TM1440M
Net Each	\$12.85	\$13.55	\$41.80	\$57.20	\$73.20

### DRIVE MOTORS

Synchronous drive motors rated for 117 VAC operation. Furnished with 7" insulated pre-stripped leads. Packaged one per carton with timing chart and mounting screws. Net each \$ 7.70

Mallory No.	Time hrs: min	Mallory No.	Time hrs: min
M1M	:01	M60M	1:00
M2M	:02	M120M	2:00
M3M	:03	M180M	3:00
M4M	:04	M240M	4:00
M6M	:06	M360M	6:00
M12M	:12	M480M	8:00
M24M	:24	M720M	12:00
M45M	:45	M1440M	24:00

### BASIC FRAMES

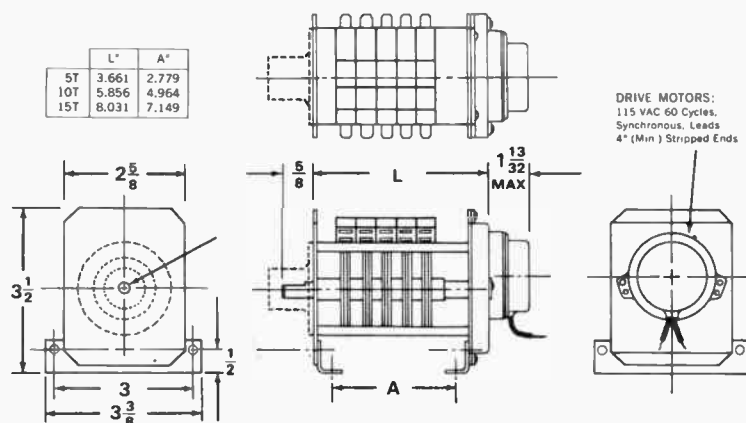
Packaged one per carton with instructions, knob, dial, adjusting tool and quick-disconnect terminals. Ready to use.

Mallory No.	Description	Net Each
1T	1 Circuit (SPDT)	\$ 5.15
2T	2 Circuits (SPDT)	5.85
5T	5 Circuits (SPDT)	33.10
10T	10 Circuits (SPDT)	49.00
15T	15 Circuits (SPDT)	65.00

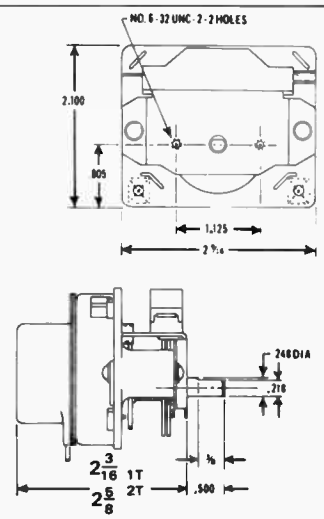
### ACCESSORIES

MTS1	Snap Switch (SPDT)	.86
MTT1	Adjusting Tool	1.25
MTB1	1T & 2T Mtg. Bkt.	1.00
T257	Brass Term. (15/bag)	.25

### 5T, 10T, 15T



### 1T, 2T



**MALLORY****SONALERT® Electronic Signals**

The Sonalert electronic audible signal is a major advance in the signal warning field. The signal produces a penetrating sound of either 2800 Hz or 4500 Hz by purely electronic means. All circuitry is completely "solid-state" for maximum efficiency, lowest current requirement and extreme reliability.

Operating principles are quite simple. A transistorized oscillator drives a piezoelectric transducer to produce the desired tone. The characteristics of the transducer determine the output frequency and this cannot be changed by external means. Output volume is directly proportional to input voltage and ranges from 68 db at 6 VDC up to 80 db at 28 volts DC.

Because the circuitry is all solid-state, there are no points to arc and require maintenance. In addition, the signal produces no RF field. As a result, it may be used in computers where even the slightest amount of RF generation would upset delicate amplifiers.

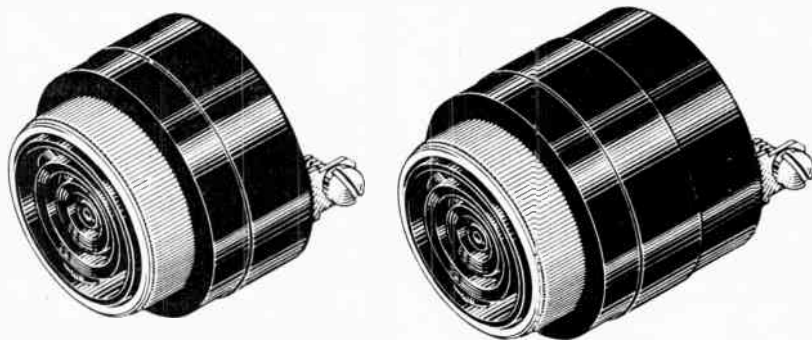
The outstanding advantage of the Sonalert signal is that it operates on such low currents. In fact, the signal uses less current than a high-intensity neon indicator light. Because of this the signal is widely used to augment visual warning signals in computers and industrial process controls.

In the vast majority of cases no amplifier is needed to operate the Sonalert. Thus, it may be used with only simple probes to indicate water level when operated at 28 VDC. Indeed, it can even be used to give an indication of water hardness on a direct basis. Soft water does not have sufficient conductivity to "fire" the signal. As water becomes hard conductivity increases and the signal sounds.

The listing to the left shows all standard Sonalert signal models. The basic type is the SC628 which produces a 2800 Hz tone and operates on 6-28 VDC. The SC628H produces 4500 Hz. Types for 110 VAC operation are also shown. Several models are available which produce pulsating signals. The pulse rate is dependent on input voltage and varies from 3 cycles per second at 6 VDC up to 5 cycles at 28 volts. A special "warbler" model is also available (SC628W). This model is used in conjunction with a normal SC628H and produces a signal which warbles between the low 2800 Hz tone and the higher 4500 Hz tone.

There are no MIL specifications to cover the Sonalert per se. However, the signals are widely used in military and aerospace applications. A complete list of applicable MIL specs is presented in Bulletin 9-398 which is available from your Mallory distributor. Preferred types for military applications are the SC628S, SC628SH and SC110S. These are equipped with silicon transistors for improved operation under adverse environmental conditions.

A 48 page booklet of Sonalert uses is available upon request. The booklet covers a host of uses ranging from auto through boat and home as well as industrial and laboratory. This booklet is available at your local Mallory Distributor or by writing to Mallory. Ask for Form 9-406.

**STANDARD SONALERT SIGNALS**

Catalog Number	Sound Freq. Hz*	Oper. Voltage		Oper. Curr. (ma)	Sound Intensity (db)	Vol. (in.)	Wt. (oz.)	Oper. Temp. (°F)	L (in.)	Net (ea.)
		VDC	VAC							

**STOCKED BY FRANCHISED MALLORY DISTRIBUTORS**

SC628	2800	6-28	—	3-14	68-80	2.9	1.25	-40+120	.781	<b>\$5.50</b>
SC628H	4500	6-28	—	3-14	68-80	2.9	1.25	-40+120	.871	<b>6.35</b>
SC628P	2800†	6-28	—	3-14	68-80†	4	2	-40+120	1.38	<b>9.95</b>
SC628A	2800	6-28	6-28	3-14	68-80	4	2	-40+120	1.38	<b>8.75</b>
SC628S†	2800	6-28	—	3-14	68-80	2.9	1.25	-40+185	.781	<b>6.75</b>
SC110	2800	86	110	14	80	4	2	-40+120	1.38	<b>8.75</b>

**AVAILABLE ON SPECIAL ORDER FROM MALLORY DISTRIBUTORS**

SC628HP	4500†	6-28	—	3-14	68-80†	4	2	-40+120	1.38	<b>\$10.80</b>
SC628AH	4500	6-28	6-28	3-14	68-80	4	2	-40+120	1.38	<b>9.65</b>
SC628AP	2800†	6-28	6-28	3-14	68-80	5.1	2.75	-40+120	1.94	<b>13.20</b>
SC628AHP	4500†	6-28	6-28	3-14	68-80†	5.1	2.75	-40+120	1.94	<b>14.10</b>
SC110H	4500	86	110	14	80	4	2	-40+120	1.38	<b>9.65</b>
SC110P	2800†	86	110	14	80†	5.1	2.75	-40+120	1.94	<b>13.20</b>
SC110HP	4500†	86	110	14	80†	5.1	2.75	-40+120	1.94	<b>14.10</b>
SC110S†	2800	86	110	14	80	4	2	-40+185	1.38	<b>10.10</b>
SC628SH†	4500	6-28	—	3-14	68-80	2.9	1.25	-40+185	.781	<b>7.65</b>
SC628SP†	2800†	6-28	—	3-14	68-80†	4	2	-40+185	1.38	<b>11.20</b>
SC628SHP†	4500†	6-28	—	3-14	68-80†	4	2	-40+185	1.38	<b>12.10</b>
SC628W*	2800*	12-28	—	3-14	68-80*	4	2	-40+120	1.38	<b>10.85</b>

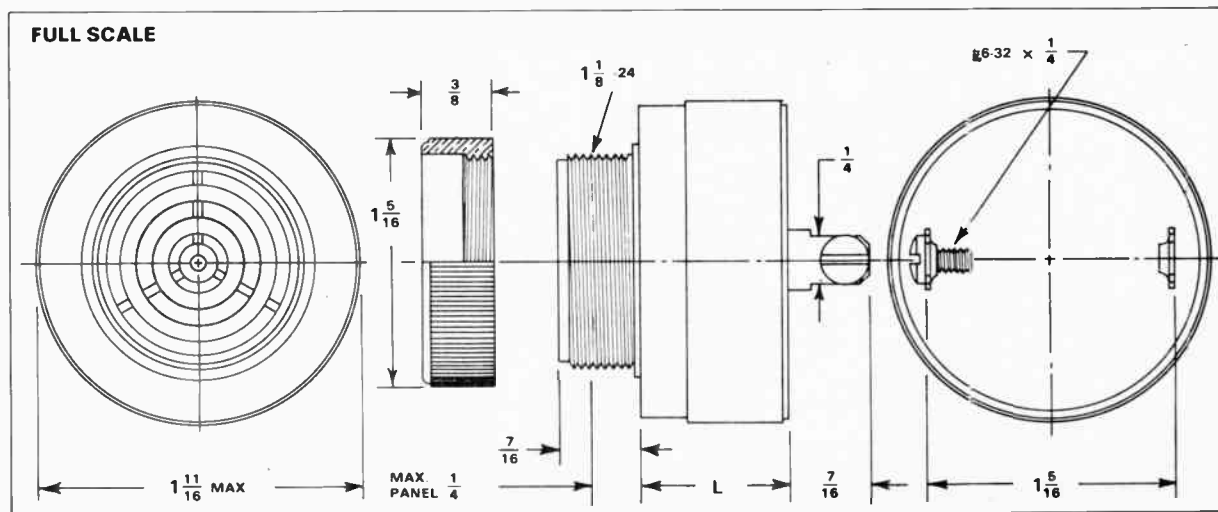
\*Tolerance: 2800 ± 300 Hz, 4500 ± 500 Hz

†Pulsating; 3 to 5 Hz

‡Furnished with special silicon transistors

\*Warbler unit, use with SC628 or SC628H

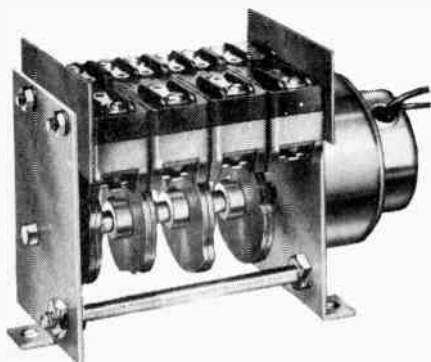
Suffix: None = 2800 Hz; H = 4500 Hz; A = AC current model; S = Silicon Transistor; P = Pulsating model; W = Warbling model



**BRISTOL MOTORS****DIVISION OF  
VOCALINE****SYNCHRONOUS MOTORS AND TIMERS**

Versatility is the characteristic which design engineers need — and find — in Bristol Synchronous Motors and Timing Devices. Bristol's unusually broad experience and range of design and manufacturing skills are particularly valuable where special requirements must be met.

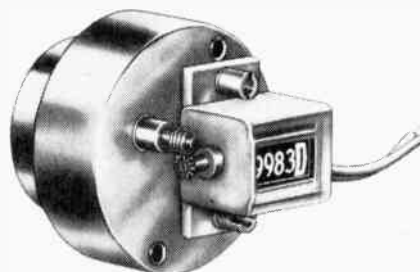
The devices shown are among the most widely used. All can be mounted in any position, and take a minimum of space. Materials are selected on the basis of their suitability to provide long service, and perform well under a variety of conditions. Bristol engineering service is available for applications that require custom design and manufacture.



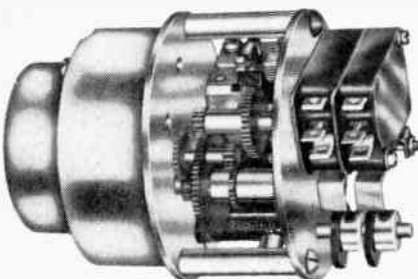
**SERIES 31 REPEAT CYCLE TIMER.** Low-cost multi-contact timer with high repeat accuracy. For vending machines, home appliances, industrial program controls. Speed Ranges: 1 Revolution Per Second to 1 Revolution Per Month. Motors standard, or high torque reversible. Switch Rating: 20 amp. at 115-230 V AC (also in 1/2 hp. at 125 V AC). Switches: enclosed snap action SPDT type. Cams: dual cams with set screws for field adjustment. Cut cams available on special order. Bulletin B-22.  
**One Switch Model \$8.00**  
**Four Switch Model \$16.50**



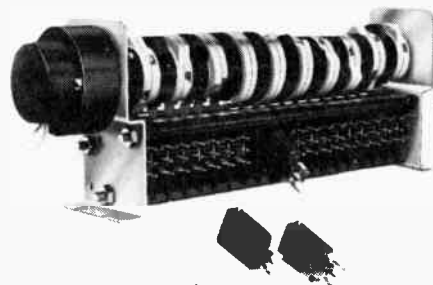
**SERIES 21 TIME DELAY RELAY.** General timer for instantaneous reset-type action, such as timers for photography, electronic safety, alarms, signals, etc. (Life expectancy over 1 million cycles.) Compact. Quick reset time (well under 1/5 second). Repeat accuracy better than 1% full scale. Time setting: 15 seconds to 3 months full scale. Rating: 10 amp (non-inductive load), Voltage: 115 V AC, 60 cycles standard. Optional adjustment feature available. Bulletin B-21.  
**One Switch Model \$18.50 approx.**  
**Two Switch Model \$22.00 approx.**



**SERIES 41 ELAPSED TIME INDICATOR.** Adaptable for panel or unit mounting, this low-cost series features simple installation, and a choice of four models with non-reset or reset counters. Maximum readings on both units from 9,999.9 minutes to 99,999 hours. 115 V AC, 60 Cycle standard. 50 Cycle and other voltages available. For further information on the three models above request Bulletin B-23.  
**Non-reset \$14.00**  
**Reset \$20.00**



**MODEL 42 DUAL SPEED UNIT.** Consists of two motors assembled to a common output shaft through a differential. Output speed is the sum of the two motor input speeds. Therefore, two different speed unidirectional motors provide a choice of 3 output speeds (either motor speed or the sum of the two motor speeds). Available with reversible motors for further variations in output speed. Standard units also available incorporating 3 and 4 motors providing up to 40 output speeds by electrical switching. Dimensions depend on the design of the unit in question. For further information request Bulletin B-24.  
**Basic Unit \$18.00**



**SERIES 47 REPLACEABLE SWITCH REPEAT CYCLE TIMER** is a multi-contact program timer which permits easy switch replacement without the necessity of disassembling. In addition one turn of the calibrated adjusting screw provides a 2% variation of cam time sequence. Switches are rated at 6 amps-115 volts. Available in a wide range of switches and speed combinations. Request Bulletin B-20  
**Two Switch Model \$14.00**  
**Six Switch Model \$24.00**

For Complete Bristol Line Write for Catalog

**VOCALINE COMPANY OF AMERICA, INC., BRISTOL MOTOR/TIMER DIVISION**

Timers and Motors to meet special applications are available from distributors. See Vocaline Bristol Motors Catalog for complete line of motors and timers.

**IMMEDIATE DELIVERY FROM FRANCHISED  
VOCALINE/BRISTOL MOTORS DISTRIBUTORS**



# BRISTOL MOTORS /

# DIVISION OF VOCALINE

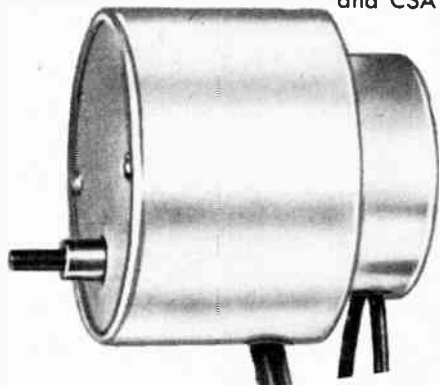


## MOTOR FEATURES:

STANDARDS AVAILABLE  
"OFF THE SHELF" AT  
FRANCHISED DISTRIBUTORS

## SYNCHRONOUS MOTORS AND TIMERS

Speeds from 1800 RPM to as low as 1 Revolution Per Month for 60-cycle operation • High starting torque with running torque considerably higher • Exceptionally compact size—the motor is 2 inches in diameter • May be operated in any position • Impregnated bronze-graphite rotor bearings • Most gears hobbled for efficient operation and long life • Moisture and dust-proof type construction throughout • All standard motors are approved by UL and CSA except Models 647 and 830.

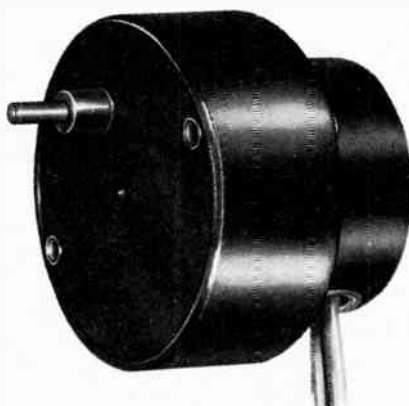


**REVERSIBLE SYNCHRONOUS MOTOR.** A versatile, low-cost motor for remote control and high torque applications. This motor operates by means of a condenser phase shift network, and offers positive reversibility in the following ratings:\*

Model	Watts	Rated Starting Torque at 1 RPM
530	5	45 in. oz.
830	8	100 in. oz.

These are 2 inches in diameter, and 2 inches long.

\*Torque ratings are developed motor torque. All standard gear trains are rated for 20 in. oz. maximum continuous running, 5 in. lbs., static torque rating. \$7.00 approx.



**MODEL 350 INTERNAL SHIFT MOTOR.** The rotor is disengaged from the gear train when de-energized permitting resting. A built-in solenoid assures positive engaged and disengagement of the clutch in all positions. Output torque rated at 16 in. oz. Available in speeds of 1/24 RPM to 240 RPM. Dimensions 2" dia. x 1-25/64" long. (Similar shift type action available on Type M30 reversible motor.) \$7.00 approx.

For further information on the models above request Bulletin B-10.



**BASIC TIMING MOTOR.** The standard Bristol motor for light and medium duty in uni-directional use, 2 in. diameter x 1 1/4" long, with through hole mounting. Available in a wide variety of output shafts and the following torque rating:\*

Model	Watts	Rated Starting Torque at 1 RPM
247	2.5	16 in. oz.
425	4	16 in. oz.
444	4	25 in. oz.
447	4	40 in. oz.
647	6	50 in. oz.

\$5.00 approx.



**BRISTOL SERIES 55 DELAY TIMER,** the low cost timer with the adjustable dial. For use when short time-delays are called for. This Delay Timer has a progress pointer which indicates the progress of a cycle, automatically resets when power to the duty-matched synchronous motor is interrupted and is manually adjusted by a selective dial which can be reset at will. The standard motor is for 115v/60 cycle, other voltages are available at small extra cost. Switch is SPDT rated 20 Amps resistive load at 115-230 VAC. Delay Timers are available in 15, 30, 60 and 120 second time delays. Bulletin B-32. \$13.50 approx.



**MODEL 317 AND 318 TRANSISTORIZED DC MOTOR.** This DC motor consists of a synchronous hysteresis motor with a transistorized inverter circuit. Ideal for long, reliable use in high humidity or saline atmosphere, with no objectionable radio noise. Speed ranges from 1 Rev per Month to 1500 RPM. Speed accuracy  $\pm 10\%$ ; 16 in. oz. starting torque at 1 RPM. Suitable for ambient temperatures ranging from  $-10$  degrees C to  $+65$  degrees C. Model 317 dimensions 3 1/4" wide x 3" high x 1 1/2" deep. Model 318: 2" in diameter x 2 3/8" long. For further information request Bulletin B-26. \$30.00 approx.



**SERIES 63 PERCENTAGE TIMER** has a progress indicator which always shows the present position of the timer. This is an easily adjustable repeat cycle timer which makes or breaks an electrical circuit for an adjustable percentage of the full time cycle. Available in 7.5 second to 31 day time ranges, they are ideal for control of blowers, ovens, dryers, heaters, pumps, etc. Have repeat accuracy within 1/4%. Panel mount. Automatic re-cycle. For complete information, request Bulletin B-30. \$27.00 approx.

SEND FOR COMPLETE MOTOR AND TIMER CATALOG

VOCALINE COMPANY OF AMERICA, INC., BRISTOL MOTOR/TIMER DIVISION

Timers and Motors to meet special applications are available from distributors. See Vocaline Bristol Motors Catalog for complete line of motors and timers.

IMMEDIATE DELIVERY FROM FRANCHISED VOCALINE\BRISTOL MOTORS DISTRIBUTORS

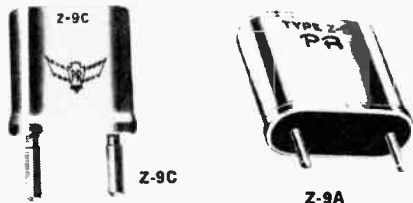




# Crystals

- AMATEUR • AIRCRAFT
- CITIZENS BAND • INDUSTRIAL
- RADIO CONTROL • DIATHERMY
- FREQUENCY STANDARD

## FOR AMATEUR SERVICE



Z-9C and Z-9A Crystals are supplied ONLY in the following bands and calibrated INTEGRAL KILOCYCLES only, NO FRACTIONS. All Z-9C crystals are calibrated with a load of 32 mmfd.

Type	Frequency Range	For	Price
Z-9C Fundamental	1750 to 2000 Kc.	160M.	\$2.95
	±250 Cycles		
	3500 to 4000 Kc.	80M.	
	7000 to 7425 Kc.	40M.	
	8000 to 8222 Kc.	2M.	
	8334 to 9000 Kc.	6M.	
±500 Cycles			

Type	Frequency Range	Price
Z-9A 3rd Overtone	24000 to 24666 Kc. ±3 Kc. 25000 to 27000 Kc. ±5 Kc. 28000 to 29700 Kc. ±5 Kc. 30000 to 50000 Kc. ±10 Kc.	3.95
Z-9A 5th Overtone	50000 to 54000 Kc. ±10 Kc.	4.95

## CITIZENS BAND

Supplied in all 23 assigned frequencies. Be sure to specify channel desired, with name of manufacturer and model of equipment. Type Z-9R Crystals have .486" pin spacing; .050" pin diameter; .758" height above pins; width .720" and depth .309". Z-13 Crystals have .192" pin spacing; .040" pin diameter; .530" height above pins; width .402" and thickness .150". Z-13P Crystals are same as Z-13 except for having .017" wire leads instead of pins.

Calibrated	.005%	.002%
All Types	\$2.95	\$3.95

## Type Z-9R, RADIO CONTROL

Supplied in all FCC assigned frequencies. Calibrated .005%. In ordering, be sure to specify frequency desired, with manufacturer and model number of equipment.

Type Z-9R—Radio Control	.005%	\$2.95
Type Z-9R—Radio Control	.002%	3.95

## MARINE TYPES

(Pix Z-9 HC-6/U)

Available for all makes of Marine equipment. Frequency range 1600 Kc. to 7000 Kc. Specify make of equipment and frequency desired.



	Transmitter	Receiver
Z-9	2000-3000 Kc	6.00
Z-30	2000-3000 Kc	6.00

## Type Z-1, TV MARKER

Channels 2 through 13	\$6.45
4.5 Mc. Inter-carrier, .01%	2.95
5.0 Mc. Signal Generator, .01%	2.95
10.7 Mc. FM, IF, .01%	2.95

## VHF Types, AIRCRAFT

For Lear, Narco and similar equipment operating in the 121 Mc. region, requiring crystals in 30 Mc. range. Z-9R Crystals have .486" pin spacing; .050" pin diameter; .758" height above pins; width .720" and depth .309". Z-13 Crystals have .192" pin spacing; .040" pin diameter; .530" height above pins; width .402" and thickness .150". Z-13P Crystals are same as Z-13, except for having .017" wire leads instead of pins.

Type Z-9R—Aircraft	\$4.95
Type Z-13—Aircraft	4.95
Type Z-13P—Aircraft	4.95

## Type Z-6A, FREQUENCY STANDARD

Correlated in oscillator having load capacity of 32 mmfd. .486" pin spacing; .050" pins.

Type Z-6A—100 Kc. (.050" Pins) \$6.95

## Z-1, MARS and CAP

Calibrated to .005% with 32 mmfd. crystal load capacity. Official assigned transmitter frequencies in the range.

1600 to 10000 Kc. .... \$3.45

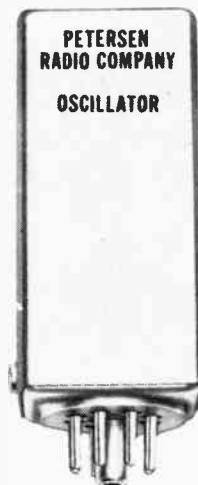
## 2XP, EXPERIMENTAL

Suitable for converters, experimental, etc.

1600 to 12000 Kc. ±5 Kc. (Fund.)	\$3.45
12001 to 25000 Kc. ±10 Kc. (3rd Overtone)	4.45

## PACKAGE CRYSTAL OSCILLATORS and FREQUENCY STANDARDS

1. Output frequency
2. Load impedance
3. Output voltage
4. Output wave form
5. Supply voltage
6. Frequency stability
7. Temperature range
8. Base connections
9. Maximum dimensions
10. Marking
11. Mil-specifications
12. Special requirements  
Size of case, 1 1/2 x 1 1/2 x 3/4 inches



L-1000 Transistorized Oscillator .. Prices on Request

## COMMERCIAL TYPES



## SPECIFICATIONS

Type	Pin Spacing	Pin Diameter	Height Above Pins
Z-1	.486"	.093"	1 3/16"
Z-1A	3/4"	.125"	1 3/8"
Z-1B	3/4"	.125"	1 3/8"
Z-1D	1/2"	.125"	1 3/16"
Z-1H	3-Pin W.E.	.157"	2 1/16"
Z-1M	7/8"	Std. Banana	2 3/32"
Z-1R	1/2"	.093"	1 1/4"
Z-9	.486"	.050"	.758"
Z-9R	.486"	.050"	.758"
Z-13	.192"	.040"	.530"
Z-13P	.192"	.017 Wire	.530"
E-1	Interchange with FT164 and AC-95		
Z-21	3-Pin W.E.	.157"	2"
Z-22	3/4"	.125"	1 1/4"
Z-24	1/2"	.125"	1 1/4"
Z-30	3/4"	.125"	1 1/4"

Note: Z-1A can be supplied with Standard Banana Pins. Specify when ordering. Z-9 and Z-9R can be supplied with .093 Pins. All Fundamental Crystals are correlated in oscillator having load capacity of 32 mmfd. unless otherwise specified.

Commercial Type Crystals are available from 800 Kc. to 150 Mc. Prices depend upon specifications and quantities. Ask for quotations.

## TRANSISTOR OSCILLATORS



Temp. range -0°C./+35°C. Power req. 9V DC +10% @ 4 Ma. Min. R.F. voltage no load, 2V. 1-1.5V. with max. load of 1.5 K ohms. Width 2", depth 2", height 1 15/16". Matching crystal required for frequency desired. Specify tolerance. Fully wired.

PR-455—Frequency range 455 Kc. to 1 Mc., Less Crystal	\$8.50
PR-1-5—Frequency range 1 Mc. to 5 Mc., Less Crystal	\$8.50

(Available to 17 Mc.)

## PR-100 TRANSISTORIZED OSCILLATOR



Fully wired, ready to install. Includes a Z-6A 100 Kc. Crystal. With it you can check harmonics from 100 Kc. through 54 Mc. Base 1 7/8 x 2 13/16".

PR-100—With Crystal ..... \$12.95

## OVEN PRO-26



Precision built for long life. Heating element anchored in epoxy. Teflon coated interior inhibits formation of moisture. Internal cavity temperature: 65°C. to 100°C. Input voltage: 6.3 to 110V. AC or DC.

PRICE \$19.95



# Components

Precision  
Built for  
Long Life

## CB CRYSTAL ACTIVITY CHECKER



Model CB-101 checks activity of 13 Mc. fundamental and 27 Mc. overtone; Model MR-100; 1,500 to

8,000 Kc. Single function switch for fundamental or overtone mode. Meter is calibrated to read according to crystal performance under normal operating conditions.

Silicon transistor oscillator circuit for high stability, performance and wider temperature range. Simple scale readings—"BAD" and "NORMAL". Has two sockets, for crystals with .486" or .192" pin spacing. Black phenolic case with anodized aluminum top panel. Clear cover over meter scale. Length 6 1/4", width 3 3/4", height 2 1/2". Weight 19 ounces. Uses 9 volt battery.

## MODEL A200 R.F.—TONE MODULATED GENERATOR

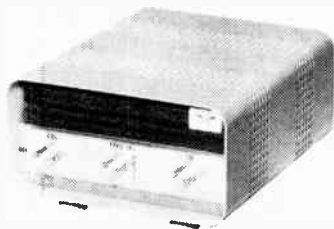


Portable Alignment—Marker Signal Generator

F. F. Range .250 MHz-15 MHz (X 10=150 MHz). Built in 455 KHz and 10.7 MHz. 2-External Crystal positions (HC 6/U). Audio Freq. 1000 Hz. Output: RF or RF Modulated, 1000 Hz Audio for external use. Size L-6 1/4" X 3 3/4" X 2 1/2". Power 9 V @ 8 ma. List \$24.95.

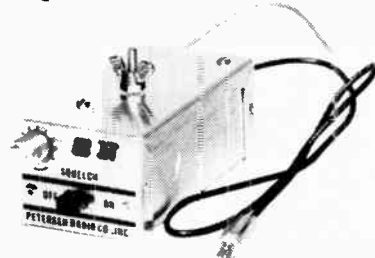
## MODEL RM 2 MONITOR RECEIVER

AC — MOBILE — PORTABLE. Frequency 2-200 MHz, AM or FM. Features Crystal Controlled: Interchangeable plug in cords contain RF Stage Oscillator and mixer stages. Built in antenna with provision for external antenna. Built in speaker. Sensitive Squelch.



One Watt Audio. Power: AC 117 V @ .2 Amp. Mobile 12.6 V DC @ 35—200 Ma. Portable 12 V DC @ 40—200 Ma. RM 2-1 Single Frequency Units with one plug in card—Price \$59.95. RM 2-4 Four Frequency Unit with one plug in card—Price \$69.95. Additional plug in cards—\$14.95. Size 3 3/8" X 5 3/4" X 7 1/4". Accessories: Portable battery pack. Mounting Bracket.

## MODEL S N SQUELCH NOISE ELIMINATOR



Designed to operate with MC-1 Mobile Converter. For removal of objectionable noises normally found in VHF Mobile Converters. One adjustable control on front panel. Control is set to a position in same manner for comfortable listening as with a commercial receiver with built in squelch. Features four silicon transistors. One Zener Diode. Power 12 V @ 20 Ma. Size 2 1/8" X 1 1/5" X 4". Price \$16.95.

## MC-1 MOBILE CONVERTER

12 volt VHF Mobile Converter crystal controlled to any one frequency from 148 MHz to 175 MHz. Compact, rugged, solid state converter. When ordering, specify exact frequency in MHz and KHz. Price \$29.95.



## PRM COMPACT CONVERTERS

With it you can monitor VHF such as aircraft, business, marine, police, railroad, taxicab, radio-telephone and others, with your transistor broadcast radio. Crystal controlled.

Place the PRM Converter next to a good 6-10 transistor broadcast radio, tuned to a frequency determined by the crystal. No internal connection needed. Performance of 20 miles or more under good conditions.

Powered by 9-volt transistor battery. Case 2 7/8 x 1 7/8 x 4 inches. Antenna extends to 36 inches. Weight 8 1/2 ounces complete. Specify VHF frequency to be received, also broadcast frequency desired on transistor radio. Dual \$24.95.

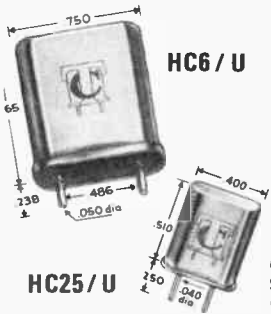
PRM ONE—148-175 mc.; FM; PRM THREE—108-136 mc. LESS BATTERY \$19.95.



PETERSEN RADIO CO., INC. • MAKERS OF FINE CRYSTALS SINCE 1934

**PRICE LIST** • Subject to Change without Notice • **MINIMUM ORDER \$10.00**

# CRYSTEK CRYSTALS... FOR EVERY PURPOSE



**2<sup>95</sup>**  
EACH

## CLASS "D" CITIZEN BAND CRYSTALS

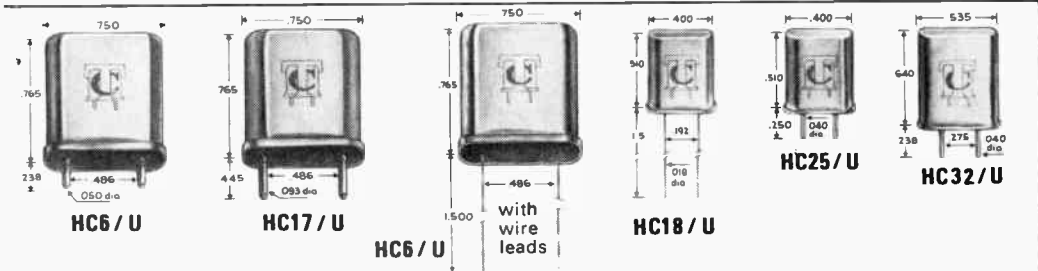
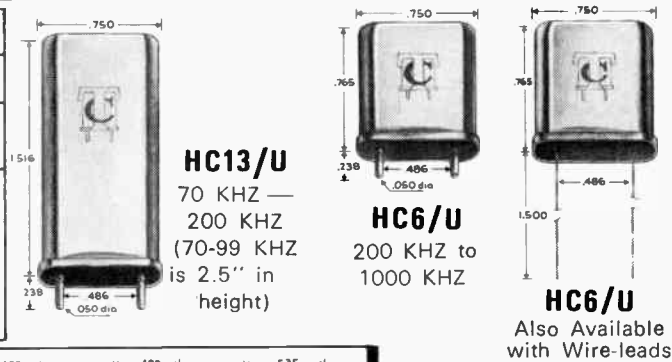
23 Frequencies — 3rd Overtone — .005% Tol.

All "Citizen Band" crystals supplied in Hermetically sealed holders for all 23 channels and C.A.P. When ordering, specify make and Model of UNIT and CHANNEL NUMBERS desired.

We supply crystals for every popular make of Citizen Band Transceivers.

### LOW FREQUENCY CRYSTALS 80 KHZ - 999 KHZ

FREQUENCY	TYPE	
	GENERAL PURPOSE	INDUSTRIAL STANDARD
	CALIBRATION TOLERANCE ±.005%	CALIBRATION TOLERANCE ±.0025%
80- 99 KHZ	\$10.00	\$12.00
100-199 KHZ	8.00	10.00
200-799 KHZ	7.00	9.00
800-999 KHZ	12.00	13.00



#### AMATEUR CRYSTALS Hermetically Sealed HC6/U Holder

Following Freq.	±.005% Tolerance
3501 to 3999KC.....	\$2.95 ea.
4667 to 4780KC.....	2.95 ea.
7000 to 7425KC.....	2.95 ea.
8001 to 8221KC.....	2.95 ea.
8334 to 8900KC.....	2.95 ea.

### FUNDAMENTAL TYPE — 1000 KHZ - 22000 KHZ

FREQUENCY	TYPE			
	GENERAL PURPOSE	INDUSTRIAL STANDARD		SPECIAL APPLICATION
	CALIBRATION TOLERANCE ±.005%	CALIBRATION TOLERANCE ±.0025%	CALIBRATION TOLERANCE ±.001% Special	TEMP TOLERANCE -10° to +80° ±.002% ±.0005%
1000- 1499 KHZ	\$8.50	\$9.50	\$10.50	PRICES ON REQUEST
1500- 1999 KHZ	7.50	9.00	10.00	
2000- 2999 KHZ	6.00	8.00	9.00	
3000-10999 KHZ	4.50	6.00	7.00	
11000-19999 KHZ	6.00	7.00	8.00	
20000-22000 KHZ	8.00	9.00	10.00	

### OVERTONE TYPE — 10 MHZ - 125 MHZ

FREQUENCY	MODE	GENERAL PURPOSE	INDUSTRIAL STANDARD		SPECIAL APPLICATION
		CALIBRATION TOLERANCE ±.005%	CALIBRATION TOLERANCE ±.0025%	CALIBRATION TOLERANCE ±.001%/Special	CALIBRATION TOLERANCE ±.0025% ±.001%/Special
10- 60 MHZ	(3rd)	\$6.00	\$ 7.00	\$ 8.00	PRICES ON REQUEST
61- 75 MHZ	(5th)	7.50	10.00	11.00	
76-125 MHZ	(5th)	9.00	11.00	13.00	

#### MARINE CRYSTALS

2000 — 5000 KHZ  
For most marine units, including Apelco, Bendix, Konisberg, Pearce-Simpson, Raytheon, Sonar and Kaar.

Type HC6/U Marine  
2000 KHZ thru 5000 KHZ  
**\$5.50**  
Type HC17/U Marine  
2000 KHZ thru 5000 KHZ  
**\$5.50**



# CONTROL KNOBS, INC.

## MIL SPEC MS 91528C

METAL BUSHING & TWO SOCKET HEAD SET-SCREWS 90° APART PROVIDED IN ALL KNOBS UNLESS OTHERWISE SPECIFIED. ALL KNOBS AVAILABLE IN 1/2" THROUGH 1 3/4" DIAMETERS

- These Military Specification Control Knobs are designed for use with electronic, communications and allied equipment, in full compliance with Mil-K-3926A and Military Standard MS 91528C.
- All knobs are of one piece construction, including Dial Knobs.
- All knobs are available in Mirror or Matte finish (Mil-K-3926A knobs must have Matte finish).
- Made of self-extinguishing thermoplastic (Method 111 of Mil Standard 202).
- Aluminum metal inserts are plated to withstand salt spray (Method 101, test condition B of Mil Standard 202).
- Each knob has two socket head set screws (Type 111, Style 4 of Specifications FF-S-103).
- Half-Inch Diameter Knobs ("O" Series) can accommodate 1/8" or 1/4" standard round shaft and are also available in the Aluminum Cap Decorator Series.

### WHEN SPECIFYING INDICATE:

- 1st — Body sizes (0 = .505 o.d., 1 = .700 o.d., 2 = .900 o.d., etc. . .)
- 2nd — Knob style (N = round, P = pointer, S = spinner, etc. . .)
- 3rd — Shaft hole dia. (1 = .127 round, 2 = .252 round, etc. . .)
- 4th — Color (B = Matte black, S = Mirror black, etc. . .)

★ For a concentric knob base requirement use the suffix "C" after the color designation

### 1st BODY SIZES

- 0 — (dia. .500)
- 1 — (dia. .700)
- 2 — (dia. .900)
- 3 — (dia. 1.250)
- 4 — (dia. 1.750)

### 2nd STYLES

- ROUND KNOBS
- N — Plain Round
- C — Round w/white dot
- ROUND RING SKIRT KNOBS
- D — Skirted round
- E — Skirted round w/white dot
- ROUND DIAL SKIRT KNOBS
- F — Round dial skirt w/white arrow
- G — Round dial skirt, no arrow
- SPINNER KNOBS
- S — Spinner
- POINTER KNOBS
- P — Plain pointer
- POINTER RING SKIRT KNOBS
- K — Skirted pointer

### 3rd SHAFT HOLE DIA.

- 1 — 1/8" round
- 2 — 1/4" round
- 3 — 1/4" "D" flat
- 4 — 1/4" "D" flat
- 5 — .190 round
- 6 — .267 round

### 4th COLOR

- B — Matte black
- S — Mirror black
- G — Matte gray
- J — Mirror gray
- R — Matte red
- T — Mirror red

ENTIRE  
MS 91528C  
LINE  
AVAILABLE

- BAR
- A — Bar alone
- B — Bar with dial
- CONCENTRIC KNOBS
- Add the letter "C" to the regular item number

## COMMERCIAL ALUMINUM CAP DECORATOR SERIES

For aluminum cap knobs (Decorator Series) use regular number with the prefix "PC" for plain caps and "DC" for a cap with a black dot.



ROUND  
N



SKIRTED  
ROUND  
D



DIAL  
F-G



POINTER  
P



SKIRTED  
POINTER  
K



SPINNER  
S



CONCENTRIC  
BASE  
ROUND  
— N — C



CONCENTRIC  
BASE  
SKIRTED  
ROUND  
— D — C



CONCENTRIC  
BASE  
DIAL SKIRT  
— F — C



ROUND  
N-C



SKIRTED  
ROUND  
D-E



DIAL  
F-G



POINTER  
P



SKIRTED  
POINTER  
K



SPINNER  
S



CONCENTRIC  
BASE  
ROUND  
— N — C



CONCENTRIC  
BASE  
SKIRTED  
ROUND  
— D — C



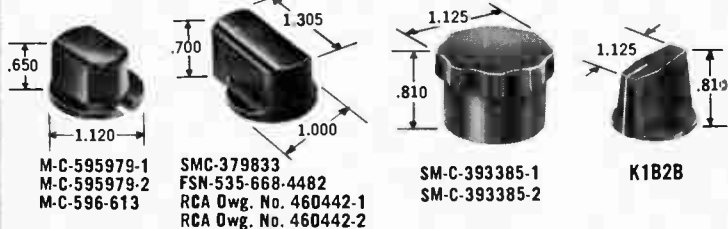
CONCENTRIC  
BASE  
DIAL SKIRT  
— F — C



BAR ALONE  
A



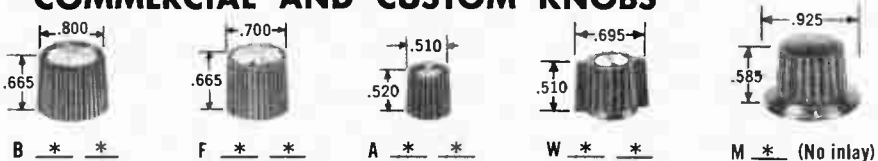
BAR WITH  
DIAL  
B



## COMMERCIAL AND CUSTOM KNOBS

- \* SHAFT HOLE
- 1 = 1/8"
- 2 = 1/4"

- \* INLAY TYPE
- A — PLAIN
- B — WITH ARROW
- C — WITH DOT
- D — WITH LINE



\* Please add shaft hole and inlay type.

Commercial knobs are provided with (1) set screw unless otherwise specified by customer.

# HARRY DAVIES MOLDING CO.

## MOLDERS OF PLASTICS

### POINTER AND BAR KNOBS



No. 2350



No. 2300



No. 2150



No. 1550



No. 1500, 1510 & 1520



No. 2100-P & 2110-P



No. 2100 & 2110

**No. 2350**  
Length 2", hgt.  $\frac{5}{8}$ ",  $\frac{1}{4}$ " molded hole or metal insert, set screw mounting, locknut recess.

**No. 2300**  
Length  $1\frac{1}{4}$ ", hgt.  $\frac{5}{8}$ ",  $\frac{1}{4}$ " molded hole, also  $\frac{1}{4}$ " metal insert, set screw or knurled hole mounting, locknut recess.

**No. 2150**  
Length  $1\frac{1}{4}$ ", hgt.  $\frac{5}{8}$ ",  $\frac{1}{4}$ " molded hole, set screw mounting, locknut recess.

**No. 1550**  
Dia.  $1\frac{1}{8}$ ", hgt.  $\frac{5}{8}$ ",  $\frac{1}{4}$ " molded hole or metal insert, set screw, spring or knurled hole mounting, locknut recess.

**No. 1500**  
Dia.  $1\frac{1}{8}$ ", hgt.  $\frac{5}{8}$ ",  $\frac{1}{4}$ " molded hole. Set screw mounting. Locknut recess. Indicator line filled or unfilled.

**No. 1510**  
Dia.  $\frac{3}{4}$ ", Hgt.  $\frac{5}{8}$ ",  $\frac{1}{8}$ ",  $\frac{3}{16}$ " or  $\frac{1}{4}$ " Molded Hole and Set Screw,  $\frac{1}{4}$ " Knurled Hole Mounting.

**No. 1520**  
Dia.  $1\frac{1}{2}$ ", Hgt.  $\frac{3}{4}$ ",  $\frac{1}{4}$ " Molded Hole or Brass Insert with Set Screw.

**No. 2100-P**  
Length  $2\frac{1}{2}$ ", hgt.  $\frac{5}{8}$ ", width  $\frac{3}{4}$ ",  $\frac{1}{4}$ " metal insert and  $\frac{5}{16}$ " pointer, set screw mounting.

**No. 2110-P**  
Length  $1\frac{5}{8}$ ", hgt.  $\frac{1}{2}$ ", width  $\frac{3}{4}$ ",  $\frac{1}{4}$ " metal insert and  $\frac{5}{16}$ " pointer, set screw mounting.

**No. 2100**  
Length  $2\frac{1}{2}$ ", hgt.  $\frac{5}{8}$ ", width  $\frac{3}{4}$ ",  $\frac{1}{4}$ " molded hole or metal insert, set screw mounting, locknut recess.

**No. 2110**  
Length,  $1\frac{5}{8}$ ", hgt.  $\frac{1}{2}$ ", width  $\frac{3}{4}$ ",  $\frac{1}{4}$ " molded hole or metal insert, set screw or knurled hole mounting, locknut recess.

### CONTROL KNOBS



No. 1400



No. 1450



No. 1470



No. 1475



No. 1600



No. 1610

**No. 1400**  
Dia.  $1\frac{1}{8}$ ", hgt.  $1\frac{1}{2}$ ",  $\frac{1}{8}$ " or  $\frac{1}{4}$ " molded hole or brass insert, set screw, spring or knurled hole mounting.

**No. 1450**  
Dia.  $1\frac{1}{8}$ ", hgt.  $1\frac{3}{32}$ ",  $\frac{1}{8}$ " or  $\frac{1}{4}$ " molded hole or brass insert, set screw, spring or knurled hole mounting.

**No. 1470**  
Dia. 1", hgt.  $\frac{1}{2}$ ",  $\frac{1}{4}$ " molded hole or brass insert, set screw, spring or knurled hole mounting, indicator line filled or unfilled, locknut recess.

**No. 1475**  
Dia. 1", hgt.  $\frac{1}{2}$ ",  $\frac{1}{4}$ " molded hole or brass insert, set screw, spring or knurled hole mounting, locknut recess.

**No. 1600**  
Dia.  $1\frac{1}{2}$ ", hgt.  $1\frac{1}{4}$ ",  $\frac{1}{4}$ " molded hole or metal insert, set screw mounting, locknut recess, indicator line filled or unfilled.

**No. 1610**  
Dia.  $1\frac{5}{8}$ ", hgt.  $\frac{5}{8}$ ",  $\frac{1}{8}$ " or  $\frac{1}{4}$ " molded hole or metal insert, set screw mounting, locknut recess, indicator line filled or unfilled.

**No. 1700**  
Dia.  $\frac{3}{4}$ ", hgt.  $1\frac{1}{2}$ ",  $\frac{1}{4}$ " molded hole or brass insert, set screw, spring or knurled hole mounting.

**No. 2500**  
Dia.  $\frac{3}{4}$ ", hgt.  $\frac{3}{4}$ ",  $\frac{1}{4}$ " molded hole, set screw, spring or knurled hole mounting.

**No. 2600**  
Dia.  $\frac{7}{8}$ ", hgt.  $\frac{7}{8}$ ",  $\frac{1}{4}$ " molded hole, set screw, spring or knurled hole mounting.



No. 1700



No. 2500 & 2600

### PUSH BUTTONS



No. 5149-A



No. 1800



No. 1250 & 1770



No. 2960



No. 2710, 2720, & 2730

**No. 5149-A**  
Hgt.  $\frac{3}{16}$ ", oval touch tuning. Push-on to fit flattened shaft. .050" x .187".

**No. 1800**  
Dia.  $\frac{3}{8}$ ", hgt.  $1\frac{1}{2}$ " to  $1\frac{3}{8}$ ", touch tuning, plain or recessed top, push-on, to fit

flattened shaft .050" x .187 patented friction fit. Also with studs of various lengths.

**No. 1750**  
Dia.  $\frac{3}{16}$ ", hgt.  $\frac{3}{8}$ " to  $\frac{1}{2}$ ", touch tuning, push on, to fit flattened shaft .050" x .187".

**No. 1770**  
Dia.  $\frac{3}{16}$ ", hgt.  $\frac{1}{2}$ " to  $\frac{7}{8}$ ", 6-32 or 8-32 female metal insert. 8-32 male stud.

**No. 2960**  
Dia.  $\frac{7}{8}$ ", hgt.  $\frac{3}{4}$ ", 8-32 or 10-32 female metal insert, 10-24 or 10-32 male stud.

**No. 2710**  
Dia.  $\frac{3}{4}$ ", hgt.  $\frac{1}{2}$ ", 8-32, 10-32, 10-24 metal insert.

**No. 2720**  
Dia.  $\frac{3}{8}$ ", Hgt.  $\frac{5}{8}$ ", 10-24, 10-32 Female Metal Insert.

**No. 2730**  
Dia.  $1\frac{1}{8}$ ", Hgt.  $\frac{3}{4}$ ", 10-24, 10-32 Female Metal Insert, 10-32 Male Stud.

### METER CASE AND COVERS



**No. 240 Case**  
2" hgt. x  $3\frac{3}{4}$ " wide x  $6\frac{1}{4}$ " long. (Outside Dimensions)  $\frac{1}{8}$ " (Wall Thickness).



**No. 241**  
Mating cover with interlocking lip for No. 240 series cases.

**No. 220 Case**  
 $1\frac{1}{8}$ " hgt. x  $2\frac{7}{8}$ " x 4" long (outside dimensions) .109" (wall thickness).

**No. 260 Case**  
 $2\frac{3}{8}$ " hgt. x  $5\frac{1}{2}$ " w x  $6\frac{1}{8}$ " l. (Outside Dimensions)— $\frac{3}{32}$ " (Wall Thickness).

**No. 261**  
Mating cover with interlocking lip for No. 260 case.

**No. 221**  
Mating cover for 220 case. Laminated phenolic nests inside case.

# HARRY DAVIES MOLDING CO.

## MOLDERS OF PLASTICS

### INSTRUMENT KNOBS



Part No.	Knob Dia.	Knob Hgt.
4100	1 1/8"	5/8"
4101	1 3/8"	1 1/4"
4102	1 5/8"	3/4"
4103	2 3/8"	7/8"



Part No.	Knob Dia.	Knob Hgt.
4100 W/PTR	1 1/8"	5/8"
4101 W/PTR	1 3/8"	1 1/4"
4102 W/PTR	1 5/8"	3/4"
4103 W/PTR	2 3/8"	7/8"



Part No.	Knob Dia.	Skirt Dia.
4104	1 1/8"	1 1/2"
4107	1 3/8"	1 3/4"
4108	1 5/8"	2 1/4"
4109	2 3/8"	3"

Entire series available with 1/4" molded hole or metal insert. Set screw mounting.

White vinylite pointer available. Pointer lengths 5/8", 3/4", 7/8", 1 1/8", 1 3/4".

Skirt available with or without indicator line filled. Branding straps constructed to your specifications.

This series can be furnished in compliance with MS 91531.

## NEW FLUTED INSTRUMENT KNOBS



No. 1915 & 1935



No. 1916



No. 1917



No. 1925-55



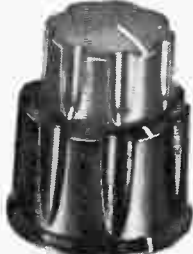
No. 1913



No. 1914



No. 1905



No. 1906



No. 1907



No. 1922-55



No. 1919



No. 1910

**No. 1935**  
Dual control, dia. 1 1/2", hgt. 1 3/4". See 1930 and 1910 for mountings.

**No. 1915**  
Dual control, dia. 1 1/4", hgt. 1 3/4". See 1925 and 1910 for mountings.

**No. 1905**  
Dual control, dia. 1 3/8", hgt. 1 3/4". See 1922 and 1910 for mountings.

**No. 1916**  
Dual Control, Dia. 1 1/4", hgt. 1 3/4". See 1925 and 1914 for Mountings.

**No. 1906**  
Dual Control, Dia. 1 3/8", hgt. 1 3/4". See 1922 and 1914 for Mountings.

**No. 1917**  
Dual Control, Dia. 1 1/4", hgt. 1 3/4". See 1925 and 1510 for Mountings.

**No. 1907**  
Dual Control, Dia. 1 3/8", hgt. 1 3/4". See 1922 and 1510 for Mountings.

**No. 1913**  
Dia. 1 1/8", hgt. 3/8". 1/4" molded hole or brass insert. Set screw mounting. 1/2" CRL knurl.

**No. 1919**  
Length 1 1/2", hgt. 3/8". 1/4" molded hole or brass insert. Set screw mounting.

**No. 1914**  
Dia. 3/4", hgt. 1/2". 1/8", 3/16", 1/4" molded hole or insert.

**No. 1910**  
Dia. 3/4", hgt. 1/2". 1/8", 3/16" or 1/4", molded hole or brass insert, set screw, spring or knurled hole mounting.

**No. 1930**  
Dia. 1 1/2", hgt. 7/8". 1/4" molded hole or brass insert, set screw.

**No. 1940**  
Dia. 2", hgt. 1 3/8". 1/4" molded hole or brass insert. Set screw mounting.

**No. 1920**  
Dia. 1 1/4", hgt. 3/4". 1/4" molded hole or brass insert, set screw, spring or knurled hole mounting.



No. 1940



No. 1930



No. 1920

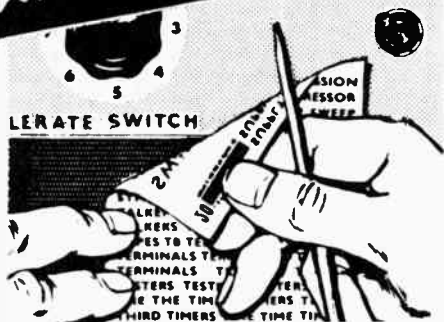
Please specify if paint filled indicator line is desired on top of knob and/or on skirt of knob.

Knobs shown are only part of our stock on hand. Our stock molds are interchangeable and meet most requirements with only minor tooling variations. Let us quote on your specifications.

Write for Free Catalog  
**HARRY DAVIES MOLDING CO.**

LETRASSET

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# THE REVOLUTIONARY METHOD FOR MARKING ELECTRONIC EQUIPMENT

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**TITLES for ELECTRONIC EQUIPMENT**  
NEW, REVISED; Now 20% more titles in a new easy-to-read typeface. Researched to give up to 95% of all electronic marking. For labeling, marking, titling all electronic control panels, drawings, prototypes, etc.  
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No. 9621—Numerals (black) ..... \$2.50  
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All the necessary letters, letter combinations and numerals for marking chassis, printed circuit and terminal boards, rotating components, etc.  
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No. 967—White ..... \$4.95



**DATAMARK KITS**  
Low cost dry transfer marking kits designed to provide useful preset words, symbols and alphabets for specific uses.  
K58B—Audio, TV & Hi-Fi (black) ..... \$1.25  
K58W—Audio, TV & Hi-Fi (white) ..... \$1.25  
K59B—Amateur Radio & CB (black) ..... \$1.25  
K59W—Amateur Radio & CB (white) ..... \$1.25  
K60B—Experimenter, Home & Intercom (black) ..... \$1.25  
K60W—Experimenter, Home & Intercom (white) ..... \$1.25  
K61B—Test & Industrial Equipment (black) ..... \$1.25  
K61W—Test & Industrial Equipment (white) ..... \$1.25  
K62—Marks & Switch Patterns ..... \$1.25  
K63—Alphabets & Numerals (1/8") ..... \$1.25  
K64—Alphabets & Numerals (1/4") ..... \$1.25  
K65—Alphabets & Numerals (1/2") ..... \$1.25



**METER & DIAL MARKING KIT**  
Arcs, dial patterns, lines, wedges, graduation lines, switch symbols alphabets and numerals in black, white and red for marking standard and special rotary tap switches, potentiometers and prototype and specially calibrated meter dials. Colors provide contrast on scales and switches, simplifying usage of complex instruments.  
No. 968—Complete Set ..... \$4.95  
REFILL SHEETS—set of four identical sheets  
No. 968R—(specify sheet number) ..... \$2.00



**ELECTRONIC SYMBOL DRAFTING SET**  
The quick way to more readable schematics. Contains 40 sheets of electronic symbols plus letters and numerals. Symbols designed to conform with MIL-STD-15-1A. Sheets have heat resistant adhesive for perfect reproduction in any blue- or white-printer. Also included is a complete guide to drawing with dry transfer symbols.  
No. 970—Complete Set ..... \$15.95  
REFILL SHEETS—set of four identical sheets  
No. 970R—(specify sheet number) ..... \$2.00



**LOGIC DIAGRAM SYMBOL SET**  
NEW! The most modern and effective aid to drawing logic diagrams. Symbols transfer to your drawing in seconds. All you need do is add the connecting leads. Heat resistant adhesive allows perfect reproduction even in diazo and other high speed printers. Symbols conform fully to MIL-STD-806B and ASA-Y32.14.  
No. 971—Complete Set ..... \$3.50  
REFILL SHEETS—set of four identical sheets  
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### STANDARD SHEETS

Full 10" x 15" sheets of alphabets and numerals available in over 50 different typefaces in sizes ranging from 8 pt. to 3 in. display letters and in 6 colors. Also available are arrows, math symbols, chart symbols, line and dot rules, etc. Free sample and complete type chart available upon request.

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### HEAT RESISTANT SHEETS

Heat resistant letters allow your drawings to be reproduced with perfect results every time. Letters will not flake, peel or fray in any blue- or white-printer. Razor sharp letters are printed with a highly opaque ink so you get perfect results every time. Write for complete details.

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### SPECIAL SHEETS

Sheets made to your own specifications can include logos, drawings, symbols, preset words — anything that you use repeatedly. Hundreds of lettering and marking problems that were impossible or too expensive become practical with "Instant Lettering". Tell us your problem and let us suggest a "dry transfer" solution.

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Specially designed to protect "Instant Lettering" transfers from abrasion and weathering. Datakoat is water-clear and dries quickly.

Protective Coating Kit contains a 1 oz. bottle of Datakoat with applicator brush in cap and a 1 oz. bottle of thinner.

No. 04176 ..... \$1.00

Spray Coatings are the handy aerosol can form of Datakoat (16 oz. cans).

No. 04177 (Glossy) ..... \$2.95  
No. 04178 (Matte) ..... \$2.95

# THE DATAK CORPORATION



# GEE-LAR KURZ-KASCH INSTRUMENT & POINTER KNOBS

**POINTER KNOB BRASS INSERT**  
1-1/4" Length, 5/8" Height MIL Spec AN3219-1  
Cat. No. 25-088 Black Net \$ .32

**POINTER KNOB BRASS INSERT**  
1-1/2" Length, 7/8" Height  
Cat. No. 25-092 Black Net \$ .42

**BAR KNOB BRASS INSERT**  
1-1/4" Length, 21/32" Height  
Cat. No. 25-098 Black Net \$ .83

**BRASS INSERT NO ARROW**  
3/4" Diameter, 9/16" Height  
Cat. No. 25-102 Black Net \$ .45

**BRASS INSERT WITH ARROW**  
1-1/8" Diameter, 9/16" Height  
Cat. No. 25-104 Net \$ .42  
1-1/2" Diameter, 3/4" Height  
Cat. No. 25-106 Black Net \$ .47

**POINTER KNOB BRASS INSERT**  
1-1/4" Length, 5/8" Height  
Cat. No. 25-108 Black Net \$ .43

**POINTER KNOB 1/8" BRASS INSERT**  
3/4" Diameter, 7/16" Height  
Cat. No. 25-116 Black Net \$ .50

**BAKELITE POINTER KNOB**  
11/16" Diameter, 13/32" Height. Fine serrations. Fits 1/4" shaft.

**SET SCREW**  
Cat. No. 24-430 Walnut Net \$ .17  
24-432 Black Net \$ .17  
24-434 Black Net \$ .18  
24-436 Ivory Net \$ .18

**BAKELITE POINTER KNOB**  
11/16" Diameter, 13/32" Height. Fits 1/4" shaft.

**No Insert-Set Screw**  
Cat. No. 24-440 Walnut Net \$ .15  
24-444 Red Net \$ .15  
24-446 Ivory Net \$ .15

**Brass Insert**  
Cat. No. 24-448 Walnut Net \$ .23  
24-452 Red Net \$ .23  
24-454 Ivory Net \$ .28

**POINTER BAR KNOB BRASS BUSHING**  
2-3/4" Length. Fits 1/4" shaft. Metal pointer can be removed.  
Cat. No. 24-456 Black Net \$ .55  
24-458 Walnut Net \$ .58

**POINTER BAR KNOB BRASS BUSHING**  
1-5/8" Length. Fits 1/4" shaft. Metal pointer can be removed.

**Set Screw**  
Cat. No. 24-460 Black Net \$ .55

**BAKELITE POINTER KNOB**  
1-3/4" Diameter, 7/8" Height, with 1-3/4" Diameter, 7/8" Height, with molded white arrow brass bushing. Black only.  
Cat. No. 25-000 Net \$ .47

**Set Screw Type**

**BAKELITE SKIRT KNOBS**  
1-1/2" Skirt Diameter, 11/16" Height  
Cat. No. 25-004 Net \$ .27

**Set Screw Type**

**SKIRT KNOBS**  
1-1/8" Diameter, 13/16" Height, 1-1/2" Skirt.  
Cat. No. 25-014 Net \$ .78

1-1/8" Diameter, 13/16" Height, 1-3/4" Skirt  
Cat. No. 25-018 Net \$ .80  
1-3/8" Diameter, 7/8" Height, 1-3/4" Skirt  
Cat. No. 25-020 Net \$ .80  
1-5/8" Diameter, 29/32" Height, 2-1/16" Skirt

**BAKELITE KNOB**  
1-1/8" Diameter, 5/8" Height.  
Cat. No. 25-026 Net \$ .40  
1-3/8" Diameter, 11/16" Height  
Cat. No. 25-028 Net \$ .45  
2-3/8" Diameter, 7/8" Height  
Cat. No. 25-032 Net \$ .72

**POINTER KNOBS-INDICATOR LINE**  
3/4" Diameter, 7/16" Height  
Cat. No. 25-034 Net \$ .48  
1" Diameter, 19/32" Height  
Cat. No. 25-036 Net \$ .58  
1-1/4" Diameter, 21/32" Height  
Cat. No. 25-038 Net \$ .58  
1-1/2" Diameter, 3/4" Height  
Cat. No. 24-040 Net \$ .58  
2" Diameter, 7/8" Height  
Cat. No. 25-042 Net \$1.03

**No Indicator Line**  
1-1/2" Diameter, 3/4" Height  
Cat. No. 25-044 Net \$ .52

**POINTER KNOBS**  
1" Diameter, 5/8" Height, 3/4" Pointer  
Cat. No. 25-048 Net \$ .70  
1-1/8" Diameter, 5/8" Height, 3/4" Pointer  
Cat. No. 25-050 Net \$ .70  
1-3/8" Diameter, 11/16" Height, 1-1/16" Pointer  
Cat. No. 25-056 Net \$1.20

**NO POINTER**  
1-1/8" Diameter, 5/8" Height  
Cat. No. 25-060 Net \$ .78  
1-3/8" Diameter, 11/16" Height  
Cat. No. 25-062 Net \$ .97  
1-5/8" Diameter, 3/4" Height  
Cat. No. 25-064 Net \$ .80

**SKIRT KNOBS**  
1-1/8" Diameter, 13/16" Height, 1-1/2" Skirt  
Cat. No. 25-068 Net \$1.42  
1-3/8" Diameter, 27/32" Height, 1-3/4" Skirt  
Cat. No. 25-070 Net \$1.37  
1-5/8" Diameter, 7/8" Height, 2-1/16" Skirt  
Cat. No. 25-072 Net \$1.53  
2-3/8" Diameter, 15/16" Height, 3" Skirt

**POINTER KNOB BRASS INSERT**  
1-1/8" Diameter, 5/8" Height  
Cat. No. 25-076 Net \$ .63

**POINTER KNOB NO BRASS INSERT**  
1-1/8" Diameter, 11/16" Height, 1 Set Screw  
Cat. No. 25-078 Net \$ .18

**BAR KNOB NO BRASS INSERT**  
1-1/2" Length, 5/8" Height, 1 Set Screw  
Cat. No. 25-080 Net \$ .33

**TENITE POINTER KNOB**  
1" Diameter, 1/2" Height, Fits 1/4" shafts.

**Knur**  
24-466 Ivory Net \$ .12

**Set Screw**  
Cat. No. 24-468 Walnut Net \$ .20  
24-470 Ivory Net \$ .20

**TENITE POINTER KNOB**  
23/32" Diameter, 3/8" Height, Fits 1/4" shafts.

**Knur**  
Cat. No. 24-472 Walnut Net \$ .80

**Set Screw**  
Cat. No. 24-476 Walnut Net \$ .17  
24-478 Ivory Net \$ .17

**TENITE POINTER KNOB**  
15/16" Diameter, 7/16" Height, Fits 1/4" shafts.

**Knur**  
Cat. No. 24-482 Ivory Net \$ .80

**BAKELITE POINTER KNOB**  
1" Diameter, 1/2" Height, Fits 1/4" shafts.

**No Insert-Set Screw**  
Cat. No. 24-484 Walnut Net \$ .17

**BAKELITE POINTER KNOB**  
1-1/4" Diameter, 5/8" Height, Fits 1/4" shafts.

**No Insert-Set Screw**  
Cat. No. 24-492 Walnut Net \$ .37  
24-494 Black Net \$ .37

**Brass Insert-Set Screw**  
Cat. No. 24-498 Walnut Net \$ .37  
24-502 Ivory Net \$ .37

**BAKELITE POINTER KNOB**  
Line filled, 1-1/8" Diameter, 9/16" Height, Fits 1/4" shafts.

**Set Screw**  
Cat. No. 24-504 Walnut Net \$ .26  
24-506 Black Net \$ .26

**BAKELITE POINTER KNOB**  
13/16" Length, 3/4" Height, Fits 1/4" shafts.

**Set Screw**  
Cat. No. 24-512 Walnut Net \$ .18  
24-514 Black Net \$ .18

**TENITE POINTER KNOB**  
1-1/4" Diameter, 9/16" Height, Fits 1/4" shafts.

**Set Screw**  
Cat. No. 24-516 Walnut Net \$ .27  
24-518 Black Net \$ .27  
24-522 White Net \$ .27

**BAKELITE POINTER KNOB**  
1-1/4" Length, 11/16" Height, Fits 1/4" shafts.

**Set Screw**  
Cat. No. 24-524 Black Net \$ .26  
24-528 Ivory Net \$ .26

**BAKELITE POINTER KNOB**  
1-1/4" Length, 9/16" Height, Fits 1/4" shafts.

**Set Screw**  
Cat. No. 24-530 Black Net \$ .22

**BAKELITE POINTER KNOB**  
1-1/4" Length, 5/8" Height, Fits 1/4" shafts.

**Set Screw**  
Cat. No. 24-538 Black Net \$ .20  
24-540 Walnut Net \$ .20  
24-542 Red Net \$ .20  
24-544 Ivory Net \$ .20

**BAKELITE BRASS INSERT**  
2" Length, 5/8" Height, Fits 1/4" shafts  
**No Insert-Set Screw**  
Cat. No. 24-546 Black Net \$ .33  
24-548 Walnut Net \$ .33  
24-550 Red Net \$ .33  
24-552 Ivory Net \$ .33

**Brass Insert-Set Screw**  
Cat. No. 24-554 Black Net \$ .42  
24-556 Walnut Net \$ .42  
24-560 Ivory Net \$ .42

**BAKELITE BRASS INSERT**  
1-1/4" Length, 5/8" Height, Fits 1/4" shafts.

**Set Screw**  
Cat. No. 24-562 Black Net \$ .27  
24-566 Red Net \$ .27

**BAKELITE POINTER KNOB**  
1-1/4" Length, 5/8" Height, Fits 1/4" shafts.

**No Insert-Set Screw**  
Cat. No. 24-570 Walnut Net \$ .18  
24-572 Black Net \$ .18  
24-576 Ivory Net \$ .18

**PLASTIC POINTER KNOB**  
15/16" Diameter, 1/2" Shank Extension for 1/4" knurled shaft.

**Knur**  
Cat. No. 24-586 Walnut Net \$ .12  
24-588 Ivory Net \$ .12

**TENITE KNOB**  
1" Diameter, 11/16" Height, Fits 1/4" shaft.

**Knur**  
Cat. No. 24-780 Walnut Net \$ .13

**Spring Type**  
Cat. No. 24-786 Ivory Net \$ .13

**BAKELITE KNOB**  
7/8" Diameter, 5/8" Height, Fits 1/4" shaft.

**Set Screw**  
Cat. No. 24-788 Walnut Net \$ .30  
24-790 Ivory Net \$ .30

**Brass Insert-Set Screw**  
Cat. No. 24-800 Walnut Net \$ .32  
24-802 Black Net \$ .32

**BAKELITE KNOB**  
1" Diameter, 1/2" Height, Fits 1/4" shaft.

**Set Screw-No Insert**  
Cat. No. 24-806 Red Net \$ .26

**BAKELITE KNOB**  
5/8" Diameter, 13/32" Height, Fits 1/4" shaft.

**Set Screw-No Insert**  
Cat. No. 24-814 Black Net \$ .15  
24-816 Red Net \$ .17  
24-818 Ivory Net \$ .17

**Set Screw-Brass Insert**  
Cat. No. 24-820 Walnut Net \$ .22  
24-824 Red Net \$ .22

## GENERAL PURPOSE KNOBS

**BAKELITE KNOB**  
2-1/2" Length, 5/8" Height, Fits 1/4" shafts.

**No Insert-Set Screw**  
Cat. No. 24-590 Black Net \$ .30

**BAKELITE KNOB**  
1-5/8" Length, 19/32" Height, Fits 1/4" shaft.

**Set Screw**  
Cat. No. 24-598 Black Net \$ .26  
24-600 Walnut Net \$ .28

**BAKELITE BRASS INSERT**  
1-5/8" Length, 19/32" Height, Fits 1/4" shafts.

**Set Screw**  
Cat. No. 24-602 Black Net \$ .37  
24-604 Walnut Net \$ .37

**TENITE KNOB**  
15/16" Diameter, 7/16" Height, 1/2" Shank Extension, Fits 1/4" shafts.

**Knur**  
Cat. No. 24-610 Walnut Net \$ .13  
24-612 Ivory Net \$ .13

**PLASTIC KNOB**  
15/16" Diameter, 1/2" Shank Extension for 1/4" knurled shaft.

**Knur**  
Cat. No. 24-628 Ivory Net \$ .12

**PLASTIC KNOB MIDGET TYPE**  
3/4" Diameter, 3/8" Shank Extension, Fits 1/4" shafts.

**Knur**  
Cat. No. 24-634 Walnut Net \$ .12  
24-636 Ivory Net \$ .12

**TENITE KNOB**  
1-1/8" Diameter, 1/2" Height, Fits 1/4" shafts.

**Knur**  
Cat. No. 24-642 Walnut Net \$ .12  
24-644 Ivory Net \$ .12

**Spring Type**  
Cat. No. 24-646 Walnut Net \$ .18  
24-648 Ivory Net \$ .18

**Set Screw**  
Cat. No. 24-650 Walnut Net \$ .18  
24-652 Ivory Net \$ .18

**TENITE KNOB**  
1" Diameter, 7/16" Height, Fits 1/4" shafts.

**Knur**  
Cat. No. 24-654 Walnut Net \$ .12  
24-656 Ivory Net \$ .12

**Spring Type**  
Cat. No. 24-658 Walnut Net \$ .18

**TENITE KNOB**  
23/32" Diameter, 13/32" Height, Fits 1/4" shaft.

**Knur**  
Cat. No. 24-666 Walnut Net \$ .12  
24-668 Ivory Net \$ .12

**Set Screw**  
Cat. No. 24-670 Walnut Net \$ .18  
24-672 Ivory Net \$ .18

**TENITE KNOB**  
15/16" Diameter, 7/16" Height, Fits 1/4" shaft.

**Knur**  
Cat. No. 24-674 Walnut Net \$ .12  
24-676 Ivory Net \$ .12

**Spring Type**  
Cat. No. 24-680 Ivory Net \$ .12

**TENITE KNOB**  
3/4" Diameter, 1/2" Height, Fits 1/4" shaft.

**Knur**  
Cat. No. 24-682 Walnut Net \$ .12  
24-684 Ivory Net \$ .12

**Set Screw**  
Cat. No. 24-688 Ivory Net \$ .18

**TENITE KNOB**  
15/16" Diameter, 7/16" Height, Fits 1/4" shaft.

**Knur**  
Cat. No. 24-692 Ivory Net \$ .12

**Spring Type**  
Cat. No. 24-694 Walnut Net \$ .12

**TENITE KNOB**  
1-1/8" Diameter, 9/16" Height, Fits 1/4" shafts.

**Knur**  
Cat. No. 24-700 Walnut Net \$ .12

**Spring Type**  
Cat. No. 24-704 Walnut Net \$ .12  
24-706 Ivory Net \$ .12

**Set Screw**  
Cat. No. 24-708 Walnut Net \$ .18  
24-710 Ivory Net \$ .18

**BAKELITE KNOB**  
11/16" Diameter, 13/32" Height, Fits 1/4" shafts.

**Set Screw**  
Cat. No. 24-712 Walnut Net \$ .17  
24-714 Black Net \$ .17  
24-716 Red Net \$ .17  
24-718 Ivory Net \$ .17

**BAKELITE KNOB**  
1" Diameter, 1/2" Height, Fits 1/4" shafts.

**Set Screw**  
Cat. No. 24-732 Ivory Net \$ .26

**BAKELITE KNOB**  
3/4" Diameter, 19/32" Height, Fits 1/4" shaft.

**Set Screw**  
Cat. No. 24-736 Black Net \$ .22  
24-738 Ivory Net \$ .22

**TENITE KNOB**  
1-3/16" Diameter, 1/2" Height, Fits 1/4" shaft.

**Knur**  
Cat. No. 24-740 Walnut Net \$ .13

**TENITE KNOB**  
1-1/16" Diameter, 1/2" Height, Fits 1/4" shaft.

**Knur**  
Cat. No. 24-746 Ivory Net \$ .13

**Set Screw with Arrow**  
Cat. No. 24-748 Walnut Net \$ .15  
24-750 Ivory Net \$ .15

**BAKELITE KNOB**  
7/8" Diameter, 1/2" Height, Fits 1/4" shaft.

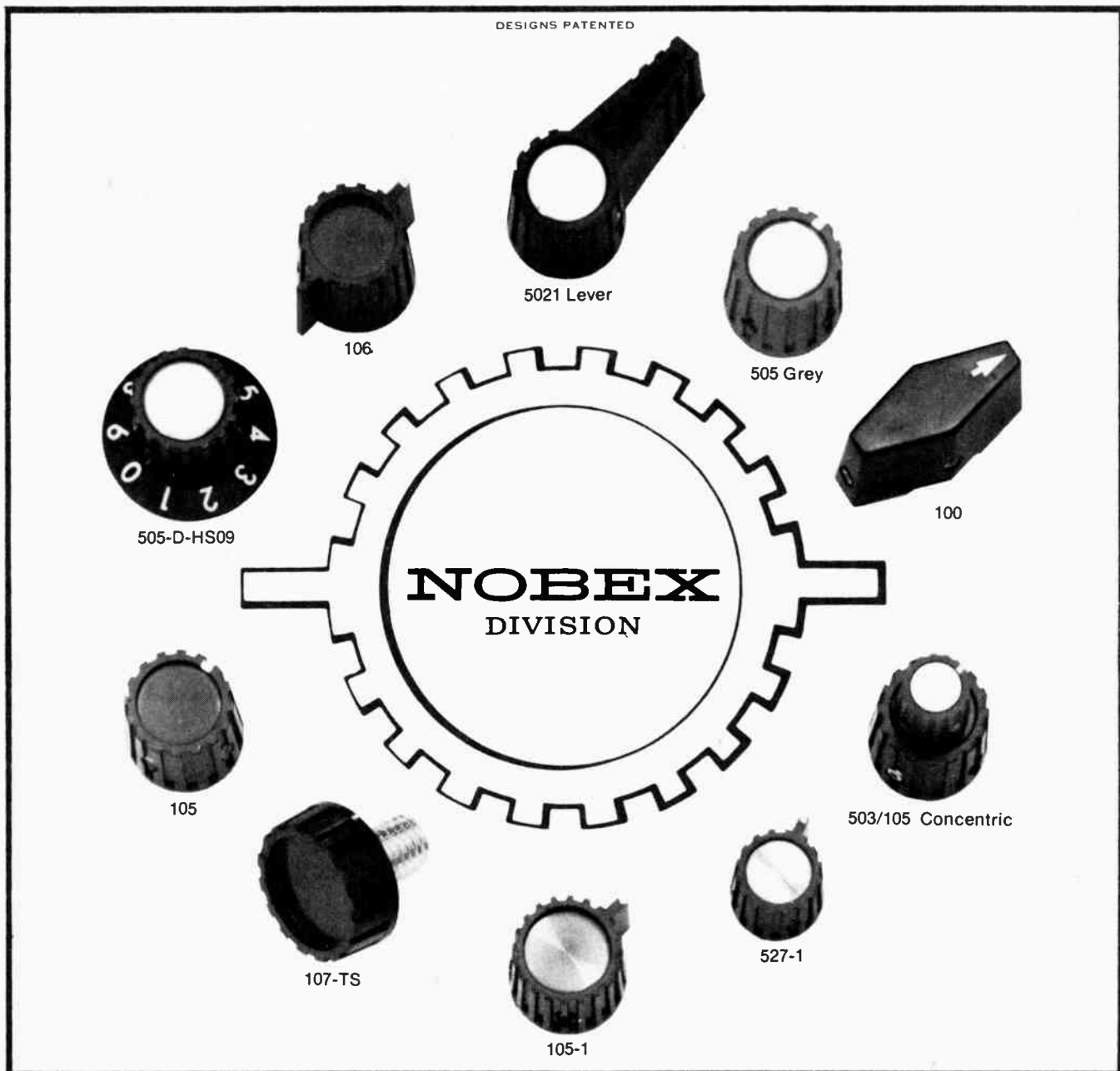
**Set Screw**  
Cat. No. 24-754 Black Net \$ .23  
24-756 Ivory Net \$ .26

**Set Screw with Arrow**  
Cat. No. 24-758 Walnut Net \$ .30  
24-760 Black Net \$ .30  
24-762 Ivory Net \$ .30

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NOBEX knobs won't chip, crack, or work loose. Don't you think your customers will appreciate this? After all, it's the knobs they look at every day — not the circuitry inside. Call your NOBEX distributor, or write us for a fully illustrated catalog.



GRIFFITH PLASTIC PRODUCTS CO.

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EACH MARKIT® CONTAINS 27 3" X 6" PAGES IN LOOSE LEAF FORM BOUND WITH PLASTIC SPIRAL RING.

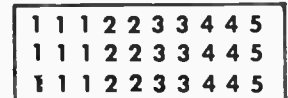
### MARKIT® PRICES

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ALPHABET		NUMERALS		SIZE
BLACK	WHITE	BLACK	WHITE	
AM-1	AM-1W	NM-1	NM-1W	1/8"
AM-2	AM-2W	NM-2	NM-2W	1/4"
AM-3	AM-3W	NM-3	NM-3W	3/8"
AM-4	AM-4W	NM-4	NM-4W	1/2"
AM-5	AM-5W	NM-5	NM-5W	3/4"
AM-6	AM-6W	NM-6	NM-6W	5/8"



NUMERALS MARKIT®

### Electronic Words MarKit®

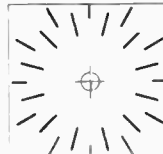
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EM-1 (black)

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ELECTRONIC WORDS MARKIT®



DIAL MARKING MARKIT®

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Contains dial patterns, arcs, wedges, line-, dots, switch symbols, graduation lines, lines for rotary tap switches, potentiometers and calibrated meter dials.

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### Terminal and Chassis MarKit®

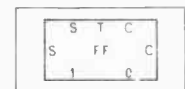
Contains numbers (through 200, 1 through 0 and 01 through 09) plus complete alphabets. All numbers 1/8" high. For application in prototypes and production.

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Contains flip flops, arrows, arrow heads, time delays, and, nand, or, nor, registers, shift registers, connection dots, Schmidt triggers, single shots.

LD-1 (black)

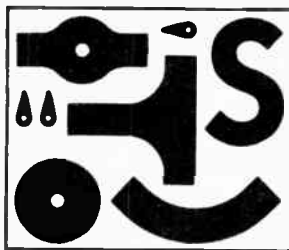


LOGIC DIAGRAM SYMBOLS MARKIT®

### Printed Circuit Pads MarKit®

Thousands of printed circuit pads: circles (with center hole), teardrops, teardrops (with vanishing point), double end teardrops, double end teardrops (with vanishing points), elbows, elbow (terminal), T-connectors, fillets, ovals.

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PRINTED CIRCUIT PADS MARKIT®

### MARKETCH® ETCHING SOLUTION

Adhere any desired Markit® symbol to copper surface of printed circuit board. Burnish thoroughly. Then deposit entire board into etching solution until all exposed copper is completely etched from board. Symbol will remain as it is, unaffected by etching solution. Wash board under running water. Wipe board dry. Then use thinner or fine sandpaper until bright copper is exposed.

PCE-1 — PRICE \$3.00

One pint liquid in unbreakable plastic container. Weight approx. 28 oz.

DRI TRANSFER®	FUTURA MEDIUM	FM 50C 80 PT.	(EXAMPLE)
A A A B B C C D D E E E E F F G G H H I			SHEET SIZE —
A A A B B C C D D E E E E F F G G H H I			8 1/2" x 13 1/2"
I I I J J K L L L M M N N N O O O P P P Q R			BLACK ONLY
I I I J J K L L L M M N N N O O O P P P Q R			

### NATURAL BOLD

ABCDEFGHIJklmno

Cat. No. NOB16-CL/16 Pt. Capitals and Lower Case  
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Cat. No. NOB48-L/48 Pt. Lower Case Letters Only  
Cat. No. NOB48-C/48 Pt. Capital Letters Only

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Cat. No. FDB48-C/48 Pt. Capital Letters Only  
Cat. No. FDB60-L/60 Pt. Lower Case Letters Only

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Cat. No. FM60-C/60 Pt. Capital Letters Only  
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Cat. No. FGC60-L/60 Pt. Lower Case Letters Only

Cat. No. FGC60-C/60 Pt. Capital Letters Only  
Cat. No. FGC72-L/72 Pt. Lower Case Letters Only  
Cat. No. FGC72-C/72 Pt. Capital Letters Only

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RCT-1 Capacitors, Tubes, Resistors, Potentiometers, Varistors.  
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LAB-1 Antennas, Amplifiers, Speakers, Mikes, Boxes.

# russell industries, inc.





# STANDARD RACK HANDLES

HIGHEST QUALITY — AVAILABLE FROM STOCK — MODERN RUGGED DESIGN

	Brass Polished Nickelplate	Brass Polished Chrome	Brass Black Oxide	Aluminum Black Alumilite	Aluminum Clear Satin Anodize	Alum. Black Satin Anodize	Alum. Black Vinyl Coated	Alum. Gray Vinyl Coated	Alum. Yellow Vinyl Coated	Stainless Steel	A	B	C	D	E	R	
<b>ROUND</b> 	NP00	CP00	B000	ABA00						SS00	8	1½	¾	¾	10-32	¾	
	NP 0	CP 0	B0 0	ABA 0						SS 0	9	1¾	¾	¾	10-32	¾	
	NP 1	CP 1	B0 1	ABA 1						SS 1	6½	1¾	¾	¾	10-32	¾	
	NP 2	CP 2	B0 2	ABA 2						SS 2	6¾	1¾	¾	¾	10-32	¾	
	NP 3	CP 3	B0 3	ABA 3						SS 3	6	1½	¾	¾	10-32	¾	
	NP 4	CP 4	B0 4	ABA 4						SS 4	5½	1½	¾	¾	10-32	¾	
	NP 5	CP 5	B0 5	ABA 5						SS 5	4¾	1½	¾	¾	10-32	¾	
	NP 6	CP 6	B0 6	ABA 6						SS 6	4½	1½	¾	¾	10-32	¾	
	NP 7	CP 7	B0 7	ABA 7						SS 7	4¼	1½	¾	¾	10-32	¾	
	NP 8	CP 8	B0 8	ABA 8						SS 8	4	1½	¾	¾	10-32	¾	
	NP 9	CP 9	B0 9	ABA 9						SS 9	3	1½	¾	¾	10-32	¾	
	NP 10	CP 10	B0 10	ABA 10						SS 10	2	1½	¾	¾	8-32	¾	
	NP 11	CP 11	B0 11	ABA 11						SS 11	2	¾	¾	¾	6-32	¾	
				ABA 12								4	1¾	¾	¾	10-32	¾
			ABA 13								6½	1¾	¾	¾	10-32	¾	
SPECIFY WITH FERRULES ON ORDER IF REQUIRED																	
AVAILABLE IN SAME SIZES AND MATERIALS AS THE STRAIGHT ROUND ABOVE. SUFFIX ROUND PART NO. WITH "-30".																	
<b>ROUND 30° SET OFF</b> 	14-1										4¼	4¾	¾	¾	¾-18	¾	
	14-2										6	6¾	¾	¾	¾-18	¾	
	14-3										9	9¾	¾	¾	¾-18	¾	
				14-4								4¼	4¾	¾	¾	¾-18	¾
				14-5								6	6¾	¾	¾	¾-18	¾
			14-6								9	9¾	¾	¾	¾-18	¾	
<b>HEAVY DUTY</b> 																	
<b>OVAL</b> 	NP 12	CP 12	B0 12	OBA 12	OCA 12						3	1½	¾	¾	10-32	½	
	NP 13	CP 13	B0 13	OBA 13	OCA 13						4	1¾	¾	¾	10-32	½	
	NP 14	CP 14	B0 14	OBA 14	OCA 14						4¾	1½	¾	¾	10-32	½	
	NP 15	CP 15	B0 15	OBA 15	OCA 15						6¾	1¾	¾	¾	10-32	½	
	NP 16	CP 16	B0 16	OBA 16	OCA 16						9	1¾	¾	¾	10-32	½	
<b>FLAT</b> 					FCA 0	FBA 0	BV0	GV0	YV0		9	1¾	¾	¾	8-32	¾	
					FCA 1	FBA 1	BV1	GV1	YV1		6½	1¾	¾	¾	8-32	¾	
					FCA 2	FBA 2	BV2	GV2	YV2		6¾	1¾	¾	¾	8-32	¾	
					FCA 3	FBA 3	BV3	GV3	YV3		6	1½	¾	¾	8-32	¾	
					FCA 4	FBA 4	BV4	GV4	YV4		4¾	1½	¾	¾	8-32	¾	
					FCA 5	FBA 5	BV5	GV5	YV5		4½	1½	¾	¾	8-32	¾	
					FCA 6	FBA 6	BV6	GV6	YV6		4¼	1½	¾	¾	8-32	¾	
					FCA 7	FBA 7	BV7	GV7	YV7		4	1½	¾	¾	8-32	¾	
					FCA 8	FBA 8	BV8	GV8	YV8		3	1½	¾	¾	8-32	¾	
					FCA 9	FBA 9	BV9	GV9	YV9		2	1¾	¾	¾	8-32	¾	
<b>ROUND FOLDING</b> 	76-1	—FOLDS TO ONE SIDE (90°)									4	1¾	¾	¾	¾-24	¾	
				76-2	—FOLDS TO ONE SIDE (90°)						4	1¾	¾	¾	¾-24	¾	
	77-1	—FOLDS TO BOTH SIDES (180°)									4	1¾	¾	¾	¾-24	¾	
				77-2	—FOLDS TO BOTH SIDES (180°)							4	1¾	¾	¾	¾-24	¾
ALSO AVAILABLE IN ALUMINUM																	
<b>OVAL FOLDING</b> 	78-1	—FOLDS TO ONE SIDE (90°)									4	1¾	¾	¾	¾-24	½	
				78-2	—FOLDS TO ONE SIDE (90°)						4	1¾	¾	¾	¾-24	½	
	79-1	—FOLDS TO BOTH SIDES (180°)									4	1¾	¾	¾	¾-24	½	
				79-2	—FOLDS TO BOTH SIDES (180°)							4	1¾	¾	¾	¾-24	½
<b>FOLDING ALUM</b> 																	

\*1 MIL TYPE MS 39087

\*2 Clear Anodized Mounting Plate

SIZES OTHER THAN LISTED ABOVE AVAILABLE ON SHORT NOTICE

**MATERIALS** BRASS—HALF HARD PER QQ-B-626A COMP 22

ALUMINUM—PER QQ-A-325 TEMP T6 (6061-T6)

STAINLESS STEEL PER QQ-S-763A CLASS 7 TYPE A

**FINISHES** POLISHED NICKLEPLATE—PER QQ-N-290 CLASS 1  
BLACK OXIDE—PER MIL-F-495a  
POLISHED CHROMIUM PLATE

BLACK ANODIZE (ALUMILITE) MIL-A-8625a

CLEAR ANODIZE PER MIL-A-8625a

PASSIVATE PER MIL-F-14072

# VEMALINE PRODUCTS COMPANY



# CONTROL KNOBS

## STANDARD SERIES



FOR MILITARY OR COMMERCIAL EQUIPMENT — ONE PIECE ALL METAL

PLAIN				DIAL							CONCENTRIC		
SERIES	A	B	C	D	SERIES	A DIAL	B KNURL	C HEIGHT	D	E	F	TOP KNOB	RECOMMENDED BOTTOM KNOB (State "Through Hole" When Ordering)
1073	1 1/4	3/4	3/8	1/4	1016	3/8	1/2	3/8	3/8	3/8	1/8	1017	1018, 1019, 1020, 1001, 1002, 1003
1027	1 1/8	3/4	3/8	1/4	1015	7/8	1/2	1 1/8	3/8	3/8	3/16	1016	1018, 1019, 1020, 1073, 1027
1020	3/4	3/8	3/8	3/32	1002	1	3/8	1 3/8	3/8	3/8	3/32	1003	1018, 1019, 1020, 1073, 1027,
1003	3/8	3/8	3/8	3/32	1019	1 1/4	3/4	1 3/8	3/8	1/2	3/16	1020	1027, 1073,
1017	1/2	1/2	3/8	3/32	1001	1 3/8	3/8	7/8	3/8	3/8	1/8	Additional shaft hole dimensions available.	
1021	1/2	1 1/16	3/8	3/32	1018	1 3/8	3/4	7/8	3/8	1/2	1/8		

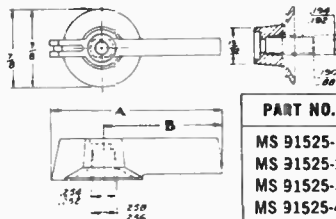
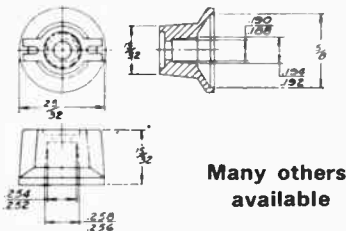
**DIAL (SKIRTED)**

NO. 6-32 TAP THRU (1) WALL 2 HOLES 90° APART FOR PWS 3018, 3001, 3019, 3002

NO. 4-40 TAP THRU (1) WALL 2 HOLES 120° APART FOR PWS 3015, 3016

SERIES	A Dia.	B Dia.	C	D Dia.	E Dia.	F	G	H	K
3016	5/8	1/2	5/8	7/16	3/8	3/8	1/8	3/64	3/64
3015	7/8	1/2	11/16	7/16	3/8	3/8	3/16	3/64	3/64
3002	1"	5/8	13/16	1/2	3/8	7/16	5/32	3/64	3/64
3019	1-1/8	3/4	13/16	5/8	37/64	1/2	3/16	1/16	1/16
3001	1-3/8	5/8	7/8	1/2	3/8	7/16	3/16	3/64	1/16
3018	1-3/8	3/4	7/8	5/8	37/64	1/2	3/16	1/16	1/16

### MIL. STANDARD



PART NO.	A	B	VEMALINE
MS 91525-1	1 1/2	1 3/4	NO: V25-1
MS 91525-2	7/8	1 1/8	NO: V25-2
MS 91525-3	1 1/2	1 3/8	NO: V25-3
MS 91525-4	1 3/4	2 1/8	NO: V25-4

### Other MIL KNOBS Available From Stock



MS 91522 MS 25167  
 MS 91523 MS 25168  
 MS 91524 MS 25169  
 MS 91525 MS 25170  
 MIL KNOBS in Aluminum  
 5355 Series and Signal Corps Knobs.

MS Specification sheets for further data are available on request.

**HOW TO ORDER:** Show basic series number desired, color is denoted by a suffix "1" for Clear, "2" for Black, "A" for 1/8" shaft, "B" for 1/4" shaft, "C" for 3/8" shaft.

**Example:** Order #1001-1-B, Series 1001 knob — clear — 1/4" shaft.  
 (If index line is required, this must be stated on order. Cost is 10¢ more, any quantity.)



ENGRAVED KNOBS TO YOUR SPECIFICATIONS AVAILABLE ON SHORT NOTICE.

# VEMALINE PRODUCTS COMPANY

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and Page Numbers.**
- 2. The Year and Edition of This  
MASTER.**

This will avoid confusion and expedite delivery.

**Thank you!**

**The**   
**RADIO-ELECTRONIC**  
**MASTER**  
A United Technical Publication

KNOB

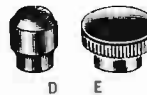
waldom



**INSTRUMENT KNOBS**

**INSTRUMENT KNOBS**

<b>MODERN KNOBS</b> Black Styrene, 1/4" Brass Insert, Slotted Set Screw					
Part No.	Diam.	Height	Skirt or Pointer Size	Net Ea.	100-Up, Ea.
6126	5/8"	7/16"		.30	.25
6126 Red	5/8"	7/16"		.35	.30
6129	7/8"	19/32"		.48	.40
<b>BAR KNOB</b>					
BK-1B	11/16"	1/2"		.37	.30
<b>INSTRUMENT KNOBS—Full-Fluted Type</b> Black Bakelite, 1/4" Brass Insert, Slotted Set Screw					
WA-4100	1-1/8"	5/8"		.42	.35
WA-4101	1-3/8"	11/16"		.43	.35
WA-4102	1-5/8"	3/4"		.49	.40
WA-4103	2-3/8"	7/8"		.71	.55
The above knobs supplied drilled and tapped for mounting skirts, pointers, or dials. Add Suffix (D)—Net—\$.08 Ea.					
<b>W/SKIRT</b>					
WA-4104	1-1/8"	51/64"	1-1/2"	.67	.55
WA-4107	1-3/8"	55/64"	1-3/4"	.76	.60
WA-4108	1-5/8"	7/8"	2-1/16"	.88	.70
WA-4109	2-3/8"	1"	3"	1.14	.90
<b>W/WHITE OPAQUE PLASTIC POINTER</b>					
WA-4100Q	1-1/8"	11/16"	3/4"	.62	.50
WA-4101J	1-3/8"	3/4"	7/8"	.62	.50
WA-4102Q	1-5/8"	13/16"	1-1/4"	.64	.50
WA-4103W	2-3/8"	15/16"	1-9/16"	.85	.70
<b>W/TRANSPARENT, LINED PLASTECELE POINTER</b>					
6566-P	1-1/8"	5/8"	25/32"	.76	.60
6571-P	1-3/8"	11/16"	1-1/32"	.82	.65
6570-P	1-5/8"	3/4"	1-9/32"	.88	.70
6559-P	2-3/8"	7/8"	1-11/16"	1.18	.95
<b>LATEST SERIES INSTRUMENT KNOBS</b> Black Bakelite, slotted set screw, white marker line on skirt.					
Part No.	Diam.	Height	Figure	Net Ea.	100-Up, Ea.
WA-101	3/4"	1/2"	A	.26	.20
WA-101B*	3/4"	1/2"	A	.35	.30
WA-101C†	3/4"	1/2"	A	.28	.20
WA-102	1-1/8"	5/8"	A	.28	.20
WA-102B*	1-1/8"	5/8"	A	.38	.30
WA-103	1-1/4"	3/4"	A	.30	.25
WA-103B*	1-1/4"	3/4"	A	.40	.30
WA-104	1-1/2"	7/8"	A	.32	.25
WA-104B*	1-1/2"	7/8"	A	.43	.35
WA-105	2"	15/16"	A	.56	.45
WA-105B*	2"	15/16"	A	.70	.55
WA-106S	1-1/4"	3/4"	A	.48	.40
WA-106G	1-1/4"	3/4"	A	.48	.40
WA-109	1-1/4"	5/8"	B	.37	.30
WA-109B*	1-1/4"	5/8"	B	.47	.35
* 1/4" Brass Insert; † 1/8" Molded Hole; All others have 1/4" Molded Hole. S, w/Silver Inlay. G, w/Gold Inlay.					
<b>DUO CONCENTRIC KNOB</b> Small Knob WA-101-C—Large Knob for 1/4" Shaft.					
WA-107	1-1/4"	1-3/16"	C	.59	.45
INSTRUMENT KNOBS WITH DECORATIVE SILVER INLAY. All Instrument Knobs above are available with a spun aluminum inlay for decorative purposes. Write for quotation.					
<b>BAR KNOBS</b> Black Bakelite, 1/4" Molded Hole, Slotted Set Screw, White Indicator Knob.					
WA-1510	3/4"	9/16"		.30	.25
WA-1500	1-1/8"	9/16"		.23	.20
WA-1520	1-1/2"	3/4"		.52	.40



<b>STANDARD KNOBS—Pointer Knobs</b> Molded Black Bakelite, Slotted Set Screw 11/16" Diam., 13/32" High					
Part No.	Description	Net Ea.	100-Up, Ea.		
WA-1400	1/4" Molded Hole	.13	.10		
WA-1400W	1/4" Brass Insert	.34	.25		
WA-1400R	1/8" Molded Hole	.20	.15		
1" Diam., 1/2" High					
WA-1470	1/4" Molded Hole	.26	.20		
WA-1470C	1/4" Brass Insert	.36	.30		
<b>ROUND KNOBS</b> 11/16" Diam., 13/32" High					
WA-1450	1/4" Molded Hole	.13	.10		
WA-1450W	1/4" Brass Insert	.34	.25		
WA-1450G	1/8" Molded Hole	.20	.15		
1" Diam., 1/2" High					
WA-1475	1/4" Molded Hole	.20	.15		
WA-1475C	1/4" Brass Insert	.30	.25		
<b>SKIRTED KNOBS</b> Molded Black Bakelite, Slotted Set Screw 1-1/2" O.D. x 3/4" High					
WA-1600	1/4" Molded Hole	.26	.20		
WA-1600A	1/4" Brass Insert	.31	.25		
7/8" Diam. x 9/16" High					
WA-1610	1/4" Molded Hole	.24	.20		
WA-1610A	1/4" Brass Insert	.31	.25		
<b>POINTER KNOBS</b> Black Bakelite, White Filled Pointer, for 1/4" Shaft, Set Screw					
Part No.	Diam.	Height	Net Ea.	100-Up, Ea.	
WA-2300	1-1/4"	5/8"	.16	.10	
WA-2300A*	1-1/4"	5/8"	.24	.20	
WA-2350	2"	5/8"	.31	.25	
WA-2350A*	2"	5/8"	.40	.30	
*Brass Insert					
WA-2150	1-1/4"	9/16"	.20	.15	
<b>LEVER KNOBS</b> Black Bakelite. For use on Intercoms, appliances, electronic equipment. 1/4" Brass Insert, Slotted Set Screw					
WA-2110A	1 5/8"	19/32"	.32	.25	
WA-2100A	2-1/2"	5/8"	.35	.30	
<b>PUSH BUTTON KNOBS</b> Self-locating Friction fit for use on Flat Wire Shaft, .050 x .187. Black Bakelite					
Part No.	Diam.	Height	Figure	Net Ea.	100-Up, Ea.
WA-201	1 1/2"	51/64"	A	.13	.10
WA-202	31/64"	9/16"	B	.08	.05
WA-203	7/16"	1"	C	.13	.10
<b>UTILITY KNOBS</b> Black Bakelite w/8-32 Threaded Female Insert					
WA-204	31/64"	1/2"	D	.11	.10
WA-205	3/4"	1/2"	E	.14	.10
<b>BALL KNOBS</b> Black Bakelite. WA-301 has 1/4-20 Threaded hole. WA-302 and WA-303 have 1/8-24 Threaded Female Insert.					
WA-301	1-1/4"	1"	F	.25	.20
WA-302	1-15/16"	1-27/32"	F	.44	.35
WA-303	2"	1-9/16"	G	.47	.35
<b>MATCHING POINTER KNOB</b>					
WA-1550	1-1/8"	9/16"		.18	.15

Knobs above are available in other colors than black, with more than one set screw, with socket type set screws, and with special hot-stamped markings. Write for quotation.

WRITE FOR QUOTATIONS ON LARGER QUANTITIES

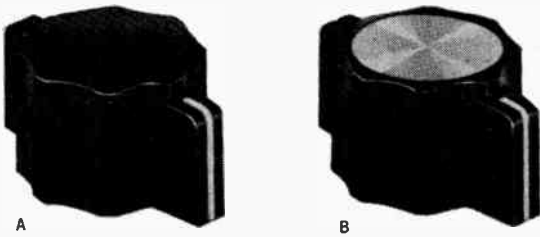


**INSTRUMENT KNOBS & DECORATIVE ALUMINUM KNOBS**

**MILITARY KNOBS PER MIL SPEC MS91531 SERIES**

Dash No.	Part No.	Net Ea.	Dash No.	Part No.	Net Ea.
-2N2B	WA-2NB	1.14	-3F2M	WA-3FM	1.38
-2N2M	WA-2NM	.80	-4F2B	WA-4FB	2.71
-3N2B	WA-3NB	1.39	-4F2M	WA-4FM	1.72
-3N2M	WA-3NM	.98	-2P2B	WA-2PB	1.30

Dash No.	Part No.	Net Ea.	Dash No.	Part No.	Net Ea.
-4N2B	WA-4NB	1.72	-2P2M	WA-2PM	.94
-4N2M	WA-4NM	1.20	-3P2B	WA-3PB	1.51
-2F2B	WA-2FB	1.80	-3P2M	WA-3PM	1.08
-2F2M	WA-2FM	1.10	-4P2B	WA-4PB	1.87
-3F2B	WA-3FB	2.22	-4P2M	WA-4PM	1.36



**WING TYPE KNOBS**

Part No.	Dia.	Height	Figure	Net Ea.	100-Up, Ea.
WA-401	1-1/4"	19/32"	A	.99	.82
WA-402	1-1/4"	19/32"	B	1.33	1.10

Supplied with 1/4" brass insert and two #8-32 slotted head set screws, 135° apart.



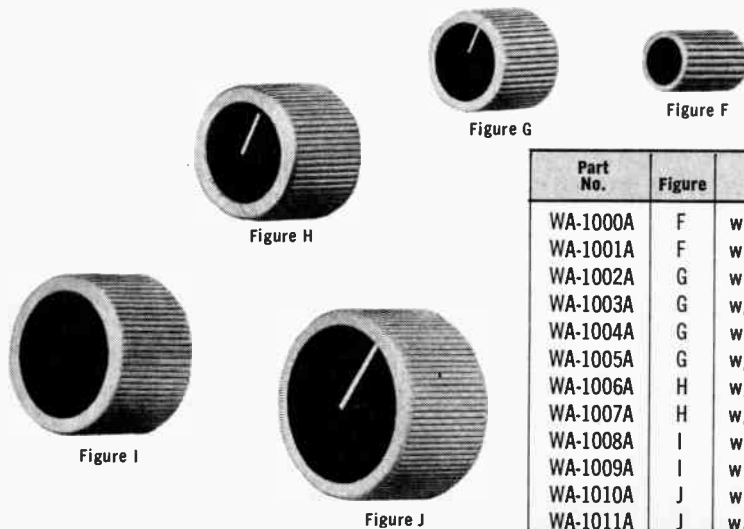
**BAR TYPE KNOBS**

Part No.	Dia.	Height	Figure	Net Ea.	100-Up, Ea.
WA-1560	1-1/8"	5/8"	C	.35	.29
WA-1570A*	1-1/8"	5/8"	C	.45	.37
WA-1580	1-1/2"	5/8"	D	.29	.24
WA-1590	1-1/8"	11/16"	E	.17	.14

\*Supplied with 1/4" brass insert, others have 1/4" hole.

**DECORATIVE ALUMINUM KNOBS**

Stocked standard with clear anodized finish, one slotted-head setscrew and black inlays, with or without indicator lines. Can be supplied with various anodized colors and inlays on special order.



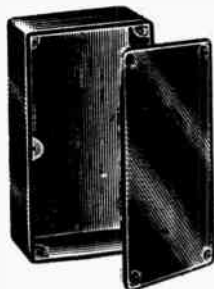
Part No.	Figure	Inlay	Dia.	Height	Shaft Hole	Net Ea.	100-Up, Ea.
WA-1000A	F	w/o Indicator	7/16"	5/8"	1/8"	.75	.62
WA-1001A	F	w/Indicator	7/16"	5/8"	1/8"	.94	.77
WA-1002A	G	w/o Indicator	3/4"	9/16"	1/8"	.94	.77
WA-1003A	G	w/Indicator	3/4"	9/16"	1/8"	1.12	.92
WA-1004A	G	w/o Indicator	3/4"	9/16"	1/4"	.94	.77
WA-1005A	G	w/Indicator	3/4"	9/16"	1/4"	1.13	.93
WA-1006A	H	w/o Indicator	1"	11/16"	1/4"	1.12	.92
WA-1007A	H	w/Indicator	1"	11/16"	1/4"	1.31	1.08
WA-1008A	I	w/o Indicator	1-1/4"	3/4"	1/4"	1.42	1.17
WA-1009A	I	w/Indicator	1-1/4"	3/4"	1/4"	1.61	1.32
WA-1010A	J	w/o Indicator	1-1/2"	13/16"	1/4"	1.87	1.54
WA-1011A	J	w/Indicator	1-1/2"	13/16"	1/4"	2.06	1.69

WRITE FOR QUOTATIONS ON LARGER QUANTITIES.



## INSTRUMENT CASES & COVERS, PLANETARY DRIVES & JACK COVERS

### INSTRUMENT CASES—PANELS—COVERS



Molded Plastic 1/8" Thick w/Highly Polished Finish. Will withstand rugged usage. Cases suffixed BI have 6-32 brass inserts. Others have molded hole.

Part No.	DESCRIPTION	Net Ea.	100-up Ea.
BC-136	3-25/32"L x 2-21/32"W x 1-15/32" Deep	.51	.35
BP-135	Flat Panel for above	.34	.25
BC-136	6"L x 3-1/2"W x 1-7/8"D	1.01	.70
BC-138BI	W/Brass Inserts in 6 corners	1.13	.80
BP-137	Flat Panel for above	.62	.45
BP-137A	Molded Cover for above	.67	.45
BC-140	6-1/2"L x 4-31/32"W x 2-5/32" Deep	1.34	.95
BC-140BI	W/Brass Inserts in 4 corners	1.49	1.05
BP-139	Flat Panel for above	.83	.60
BP-139A	Molded Cover for above	.90	.65
BC-142	5-7/8"L x 3-1/16"W x 2-1/4" Deep	.95	.65
BC-141BI	8-3/8"L x 7-3/8"H x 3" Deep	3.08	2.15

### PLANETARY DRIVES

Two ball-type planetary drive units are useful whenever a compact device is needed for reduced-speed operation of light mechanisms. These units depend on the action of steel balls that rotate between the knob shaft and a concentric sleeve that is attached to the driven instrument. The units are adjustable so that the pressure on the balls can be varied to match the operating load, this assures maximum smoothness while maintaining adequate torque. Maximum torque is 14 inch ounces; minimum torque is 10 inch ounces. The ratio is approximately 5 to 1, and two units may be used in tandem to produce a 25 to 1 ratio. These are precision devices for both military and commercial applications.

#### TWO-SPEED PLANETARY DRIVE

Permits slow speed operation at approximately 5 to 1; high speed at 1 to 1. The 6665 Dual Concentric Knob below fits this unit. Complete with mounting accessories.

Part No. 599 Net Ea. 10.56 25 to 99, Ea. 9.90 100 or more, Ea. 8.30

#### SINGLE SPEED PLANETARY DRIVE

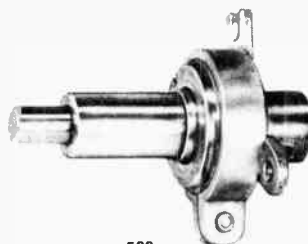
Same as above unit, except that the sleeve for the high-speed knob has been omitted. In its place is a threaded sleeve with shoulder, so an indicating dial or pointer may be installed. Clamping nut, clamping washers and planetary anchor stud are included.

Part No. 27067 Net Ea. 10.01 25 to 99, Ea. 9.45 100 or more, Ea. 7.70

#### ACCESSORY DUAL CONCENTRIC KNOB

Fits 599 Planetary Drive. Larger knob is aluminum. 1-3/16" diameter drilled 7/16" to fit high-speed sleeve on planetary. Smaller knob is molded black styrene with 1/4" brass insert to fit low-speed planetary shaft. Both with set screws.

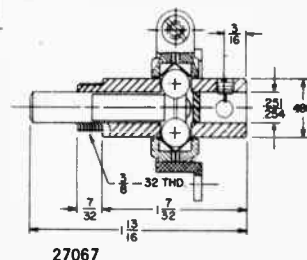
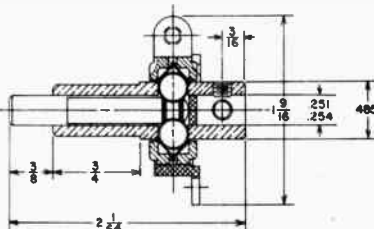
Part No. 6665 Net Ea. 1.20 100 or more, Ea. .85



599



6665



27067

### JACK COVERS

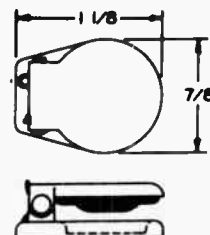
Have high-torque springs for positive self-closing action. Used for protecting jacks against entrance of dust and moisture.

Part No. A-23559—Steel with black wrinkle finish for long wear. Will accept plugs with body diameter up to 5/8". Jack mounting nut fastens cover to panel. Corprene pad inside the cap provides waterproof seal for jack opening. Cover opens full 90°. Net Ea., 1.82

Part No. J-106—Steel with smooth black finish. Use with standard 3/8"-32 threaded bushing type phone jack. Net Ea., .66



J-106





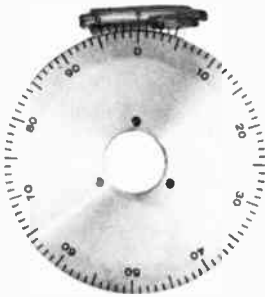
waldom

DIALS & ASSEMBLIES

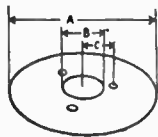
DIALS, INDICATORS & DIAL ASSEMBLIES

Material: Heavy aluminum with hand spun finish. Calibration lines etched and filled with black enamel.

DIALS



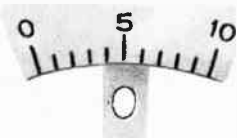
DO-8



CALIBRATION (Clockwise)		DEGREES	DIMENSIONS			NET EA.	100 OR MORE EA.
0-100 No.	100-0 No.		A	B	C		
DO-15	DO-15R	180°	1-1/8"	3/8"	7/32"	.50	.40
DO-16	DO-16R	270°	1-1/8"	3/8"	7/32"	.50	.40
DO-17	DO-17R	325°	1-1/8"	3/8"	7/32"	.50	.40
DO-18	DO-18R	360°	1-1/8"	3/8"	7/32"	.50	.40
DO-1	DO-1R	180°	1-3/4"	31/64"	9/32"	.66	.55
DO-2	DO-2R	270°	1-3/4"	31/64"	9/32"	.66	.55
DO-19	DO-19R	325°	1-3/4"	31/64"	9/32"	.66	.55
DO-20	DO-20R	360°	1-3/4"	31/64"	9/32"	.66	.55
DO-3	DO-3R	180°	2-3/4"	3/4"	13/32"	.83	.65
DO-4	DO-4R	270°	2-3/4"	3/4"	13/32"	.83	.65
DO-21	DO-21R	325°	2-3/4"	3/4"	13/32"	.83	.65
DO-5	DO-5R	360°	2-3/4"	3/4"	13/32"	.83	.65
DO-6	DO-6R	180°	4"	15/16"	5/8"	1.32	1.05
DO-7	DO-7R	270°	4"	15/16"	5/8"	1.32	1.05
DO-22	DO-22R	325°	4"	15/16"	5/8"	1.32	1.05
DO-8	DO-8R	360°	4"	15/16"	5/8"	1.32	1.05
0-360	360-0	360°	4"	15/16"	5/8"	1.32	1.05
DO-8A	DO-8AR	360°	4"	15/16"	5/8"	1.32	1.05

DIAL INDICATORS

1-1/8" and 1-3/4" Dials use the single line indicator SL-1. The numbers on the verniers (VI-3 etc.) are the same as the numbers of the dials they are to be used with (DO-3 etc.). Verniers are heavy, etched aluminum with a single mounting bracket complete with mounting hardware.

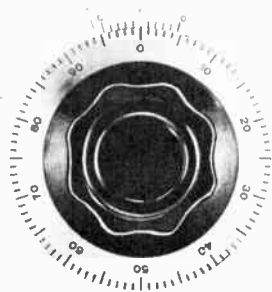


SL-1

PART NO.	USED WITH DIAL NO.	NET EA.	100 OR MORE EA.	PART NO.	USED WITH DIAL NO.	NET EA.	100 OR MORE EA.
SL-1	All 1-1/8" & 1-3/4" dials	.11	.10	VI-6	DO-6	.33	.25
VI-3	DO-3	.33	.25	VI-6R	DO-6R	.33	.25
VI-3R	DO-3R	.33	.25	VI-7	DO-7	.33	.25
VI-4	DO-4	.33	.25	VI-7R	DO-7R	.33	.25
VI-4R	DO-4R	.33	.25	VI-22	DO-22	.33	.25
VI-21	DO-21	.33	.25	VI-22R	DO-22R	.33	.25
VI-21R	DO-21R	.33	.25	VI-8	DO-8	.33	.25
VI-5	DO-5	.33	.25	VI-8R	DO-8R	.33	.25
VI-5R	DO-5R	.33	.25	VI-8A	DO-8A	.33	.25
				VI-8AR	DO-8AR	.33	.25

DIRECT DRIVE DIAL AND KNOB ASSEMBLIES

Direct Drive Dial assemblies in 1-1/8" and 1-3/4" sizes have knobs only—all others have knob and skirt. All knobs have brass inserts for 1/4" shafts. Complete with appropriate indicator or vernier.



302

CALIBRATION (Clockwise)		DEGREES	O.D.	KNOB USED (See Pg. 34)	NET EA.	100 OR MORE EA.
0-100 No.	100-0 No.					
27084	27084-R	180°	1-1/8"	WA-1450-W	1.56	1.25
27085	27085-R	270°	1-1/8"	WA-1450-W	1.56	1.25
27086	27086-R	325°	1-1/8"	WA-1450-W	1.56	1.25
27087	27087-R	360°	1-1/8"	WA-1450-W	1.56	1.25
27068	27068-R	180°	1-3/4"	WA-4100	1.68	1.35
27069	27069-R	270°	1-3/4"	WA-4100	1.68	1.35
27080	27080-R	325°	1-3/4"	WA-4100	1.68	1.35
27081	27081-R	360°	1-3/4"	WA-4100	1.68	1.35
294	294-R	180°	2-3/4"	WA-4108	2.76	2.20
295	295-R	270°	2-3/4"	WA-4108	2.76	2.20
27082	27082-R	325°	2-3/4"	WA-4108	2.76	2.20
303	303-R	360°	2-3/4"	WA-4108	2.76	2.20
292	292-R	180°	4"	WA-4109	3.60	2.90
293	293-R	270°	4"	WA-4109	3.60	2.90
27083	27083-R	325°	4"	WA-4109	3.60	2.90
302	302-R	360°	4"	WA-4109	3.60	2.90
0-360	360-0	360°	4"	WA-4109	3.60	2.90
302-A	302-AR	360°	4"	WA-4109	3.60	2.90

WRITE FOR QUOTATIONS ON LARGER QUANTITIES.

World Radio History



DIALS (Continued) & DIAL PLATES

**AZIMUTH DIALS**

Precision Test Dial. For laboratory use on instruments requiring a dial of extreme accuracy in calibration. Calibrated through full 360°. Outer numerals read 0 to 360° in a counter-clockwise direction. Inner numerals read 0 to 360 in a clockwise direction. Etched on heavy aluminum with black graduations and figures on hand-spun background.

KD-12



6" diameter dial with bakelite knob and skirt and single line indicator.			
PART NO.	FITS SHAFT DIAM.	NET EA.	100 OR MORE EA.
27010	3/8"	5.40	4.30
27011	1/4"	5.40	4.30
4" diameter dial with bakelite knob and single line indicator.			
KD-12	1/4"	3.62	2.80

**ROUND CONTROL PLATES**

1-3/4" Diam. Black Anodized Aluminum with natural razed letters. Center hole is 13/32" diam.



25

550

**ROUND DIALS**

Made of black anodized aluminum and have embossed beaded edges for greater stiffness and better appearance. Highly polished backgrounds and silvery white figures and borders. Diameter of center hole is 13/32".



260

PART NO.	TITLE OF CALIBRATION	NET EA.	100 OR MORE EA.
25	Volume	.34	.25
26	Off-tone Control	.34	.25
569	0-100 in 180°	.34	.25
905	0-100 in 270°	.34	.25

Dials below are made of Aluminum with a dull black-background. Have three mounting holes. Center hole is 1/2".

PART NO.	DIAMETER	CALIBRATION	NET EA.	100 OR MORE EA.
550	1-7/8"	0-100 in 180°	.54	.45
551	1-7/8"	0-100 in 270°	.54	.45
651	1-7/8"	0-100 in 325°	.54	.45
552	2-7/8"	0-100 in 180°	1.02	.80
553	2-7/8"	0-100 in 270°	1.02	.80
654	2-7/8"	0-100 in 325°	1.02	.80

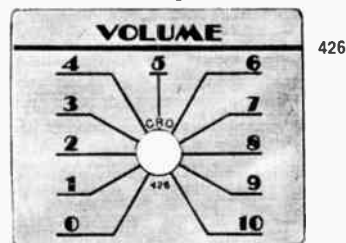
PART NO.	DIAMETER	CALIBRATION	NET EA.	100 OR MORE EA.
262	1-7/8"	0-100 in 180°	.52	.40
263	1-7/8"	0-100 in 270°	.52	.40
663	1-7/8"	0-100 in 325°	.52	.40
250	3"	0-100 in 180°	1.02	.80
261	3"	0-100 in 270°	1.02	.80
562	3"	0-100 in 325°	1.02	.80
264	2-1/4"	0-100 in 300°	1.02	.80

\*Titled "Gain"

**ANODIZED ALUMINUM DIAL PLATES**

These are high quality anodized aluminum plates particularly designed for amplifiers and public address equipment. The black figures and letters are deeply dyed into the extremely hard aluminum oxide surface to assure long-lasting service.

Horizontal 2-3/16" high x 2-5/8" wide.



426

PART NO.	TITLE AND CALIBRATION	PART NO.	TITLE AND CALIBRATION	NET EA.	100 OR MORE EA.
410	Without Title 0-10	426	Volume 0-10	.41	.30

**CIRCULAR PLATES FOR TOGGLE SWITCHES**

1-1/8" in diameter with 15/32" hole. Polished aluminum with black-background. Locking lug fits groove in switch.



272

PART NO.	TITLE	NET EA.	100 OR MORE EA.
272	Off-On	.20	.15
589	Off-On (Vert.)	.20	.15
573	Micro-Phono	.20	.15
581	Lo-Hi	.20	.15
582	Monitor	.20	.15



278

1" x 1-1/4" Polished Aluminum with black background. 15/32" hole. Two mounting holes.

PART NO.	TITLE	NET EA.	100 OR MORE EA.
584	Off-On	.28	.20
274	1-2	.28	.20
564	1-2-3	.28	.20

**HORIZONTAL SWITCH PLATES**

Two styles "Off-On" Switch Plates made of etched aluminum with black background and polished aluminum letters and border with two mounting holes.



275

PART NO.	SIZE	NET EA.	100 OR MORE EA.
278	11/16" x 1-11/16"	.20	.15
275	5/8" x 1-1/2"	.22	.20

WRITE FOR QUOTATIONS ON LARGER QUANTITIES

# PAMOTOR

## MINIATURE AXIAL FANS



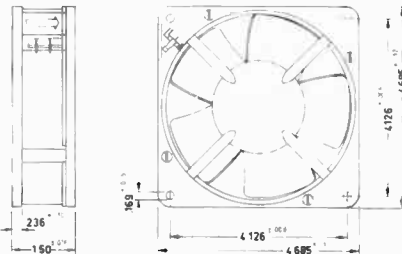
### New! MODEL 4500 (Shaded-pole Type) 4 11/16" x 4 11/16" x 1 1/2" • ALL-METAL • LOW-NOISE LEVEL

**Provides 115 cfm with less than 37.5 dB SIL\***

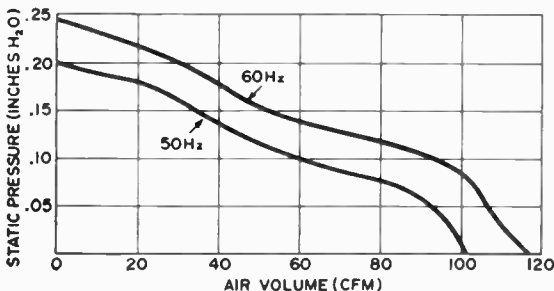
- All-metal precision hubs, impellers, and die-cast housings eliminate warping often found in plastic fans.
- Designed for applications in wide variety of electronic apparatus, such as computers, laboratory and office machines, industrial and military communications equipment, industrial control equipment, sound systems, power supplies, telephone equipment, etc.
- Designed to operate continuously at room temperature (25° C) for over 100,000 hours—even at uppermost limit of 55° C, 20,000 operational hours, continuous duty may be expected.
- Delivers more air at a lower noise level, yet priced under similar conventional plastic fans.
- Powerful shaded-pole motor operates with low internal heat rise—efficient inside-out design.
- Hand-fitted proven broached dual-sleeve bearing system assures longer, more reliable operation.
- Weighs just 1 1/4 lbs. and is interchangeable with similar, less reliable 4 11/16" fans.
- Operates over range of 105 to 125 VAC at dual frequency of 50/60 Hz.
- Has Underwriters' Laboratories Inc. Yellow Card Component Recognition Number E41168.
- Accessories available for use with this model include mounting brackets, filter, metal screen assembly, finger guard, plug and cord assembly.



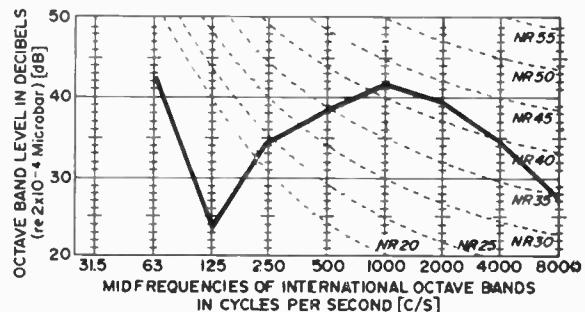
\*Speech  
Interference Level



Characteristic	MODEL 4500
Voltage	117 volts
Frequency	50/60 Hz
Air Flow	115 cfm
Speed	2600 rpm/2950 rpm
Input Power	19 watts
Weight	1 lb. 4 ounces



TYPICAL PERFORMANCE CURVE



NOISE LEVEL CURVE

PAMOTOR FANS ARE STOCKED FOR IMMEDIATE DELIVERY FROM LEADING ELECTRONICS DISTRIBUTORS THROUGHOUT THE UNITED STATES AND CANADA. CONTACT YOUR LOCAL DISTRIBUTOR FOR COMPLETE ENGINEERING DATA AND PRICES.

# PAMOTOR INC.



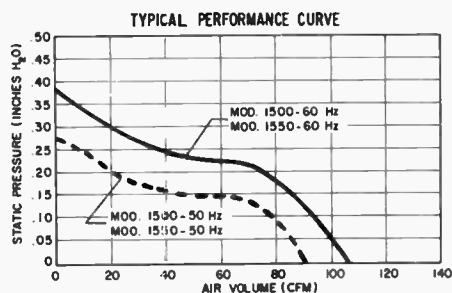
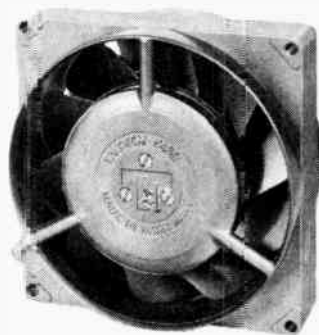
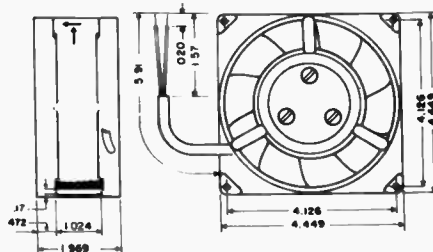
# PAMOTOR

## MINIATURE AXIAL FANS

### MODELS 1500 and 1550 (Shaded-pole Type) 4 7/16" x 4 7/16" x 1 31/32" • ALL-METAL • 105 CFM

Universal 4 1/8" mounting  
for interchangeability

- All-metal component parts are natural heat sinks, ensuring cooler operation.
- Special moisture resistant finish prevents corrosion or deterioration under humid atmospheric conditions or in extreme temperature variations.
- Basic design features same as Model 4500 fans.
- Over 20,000 operational hours, continuous duty at 45° C without maintenance.
- Standard accessories available are same as those listed for Model 4500.

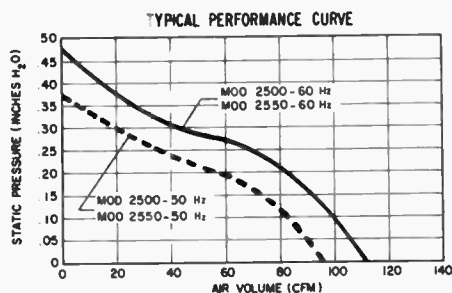
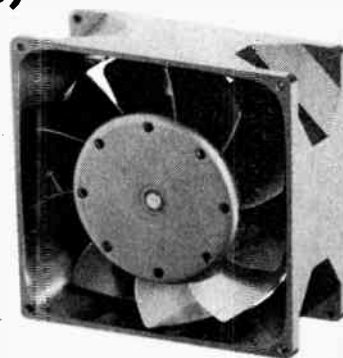
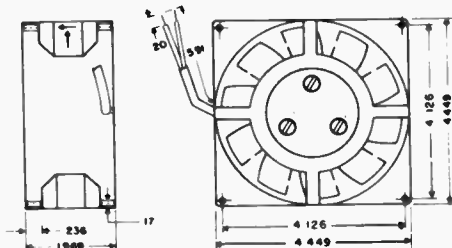


Characteristic	MODEL 1500		MODEL 1550	
	Voltage	115 volts	115 volts	220 volts
Frequency	60 Hz	50 Hz	60 Hz	50 Hz
Air Flow	105 cfm	90 cfm	105 cfm	90 cfm
Speed	3400 rpm	2850 rpm	3400 rpm	2850 rpm
Input Power	25 watts	27 watts	25 watts	27 watts
Weight	2 lbs. 10 oz.	2 lbs. 10 oz.	2 lbs. 10 oz.	2 lbs. 10 oz.

### MODELS 2500 and 2550 (Shaded-pole Type) 4 7/16" x 4 7/16" x 1 31/32" • ALL-METAL • 115 CFM

20,000+ Operational Hours  
at 45° C without maintenance

- Low-cost design in a rugged, reliable all-metal fan.
- Over 20,000 operational hours, continuous duty at 45° C without maintenance.
- Basic design features same as Model 4500 fans.
- Universal 4 1/8" mounting.
- Standard accessories available are same as those listed for Model 4500.



Characteristic	MODEL 2500		MODEL 2550	
	Voltage	115 volts	115 volts	220 volts
Frequency	60 Hz	50 Hz	60 Hz	50 Hz
Air Flow	115 cfm	95 cfm	115 cfm	95 cfm
Speed	3400 rpm	2850 rpm	3400 rpm	2850 rpm
Input Power	25 watts	27 watts	25 watts	27 watts
Weight	2 lbs. 1 oz.	2 lbs. 1 oz.	2 lbs. 1 oz.	2 lbs. 1 oz.

PAMOTOR FANS ARE STOCKED FOR IMMEDIATE DELIVERY FROM LEADING ELECTRONICS DISTRIBUTORS THROUGHOUT THE UNITED STATES AND CANADA. CONTACT YOUR LOCAL DISTRIBUTOR FOR COMPLETE ENGINEERING DATA AND PRICES.

# PAMOTOR INC.

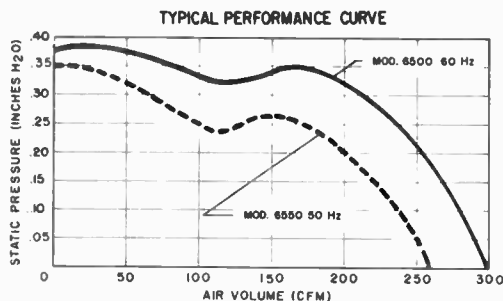
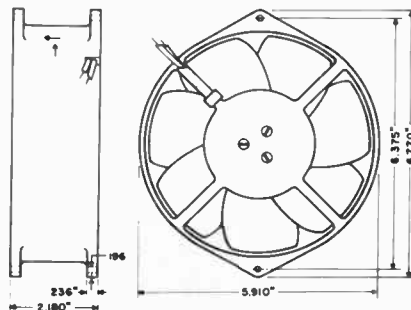
# PAMOTOR

## MINIATURE AXIAL FANS

### MODELS 6500 and 6550 (Shaded-pole Type) 5 <sup>29</sup>/<sub>32</sub>" x 5 <sup>25</sup>/<sub>32</sub>" x 2 <sup>3</sup>/<sub>16</sub>" • ALL-METAL • 300 CFM

#### Outstanding performance at moderate cost

- Designed for high air flow applications in wide variety of electronic equipment.
- Corrosion resistant—warp free.
- Basic design features same as Model 4500 fans.
- Over 20,000 operational hours at 45° C (115° F) without maintenance.
- Special finger guard available for use with this model.

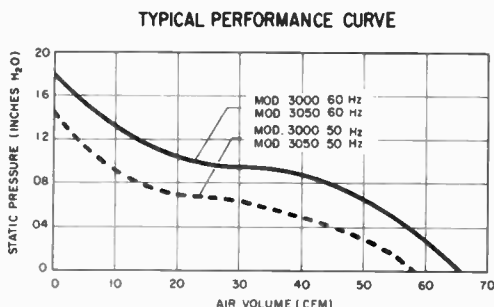
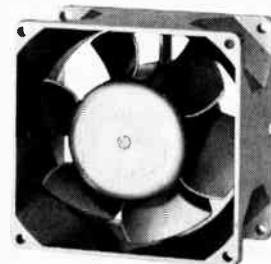
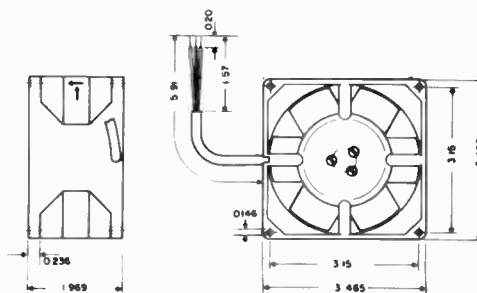


Characteristic	MODEL 6500	MODEL 6550
Voltage	115 volts	220 volts
Frequency	60 Hz	50 Hz
Air Flow	300 cfm	260 cfm
Speed	3000 rpm	2700 rpm
Input Power	54 watts	45 watts
Weight	2 lbs. 7 oz.	2 lbs. 7 oz.

### MODELS 3000 and 3050 (Induction Type) 3 <sup>15</sup>/<sub>32</sub>" x 3 <sup>15</sup>/<sub>32</sub>" x 1 <sup>31</sup>/<sub>32</sub>" • ALL-METAL • 65 CFM

#### Continuous reliable operation in a compact package

- Extremely low-noise level.
- Precision hubs, impellers, and die-cast housings.
- Basic design features same as Model 4500 fans.
- Over 20,000 operational hours at 45° C without maintenance.
- Efficient inside-out motor design.



Characteristic	MODEL 3000		MODEL 3050	
	115 volts	115 volts	220 volts	220 volts
Voltage	115 volts	115 volts	220 volts	220 volts
Frequency	60 Hz	50 Hz	60 Hz	50 Hz
Air Flow	65 cfm	58 cfm	65 cfm	58 cfm
Speed	3200 rpm	2800 rpm	3200 rpm	2800 rpm
Input Power	15 watts	15 watts	14 watts	14 watts
Capacitor	Cat.No.1005 4 mf	Cat.No.1005 4 mf	Cat.No.1009 1 mf	Cat.No.1009 1 mf
Weight	1 lb. 2 oz.	1 lb. 2 oz.	1 lb. 2 oz.	1 lb. 2 oz.

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# PAMOTOR INC.

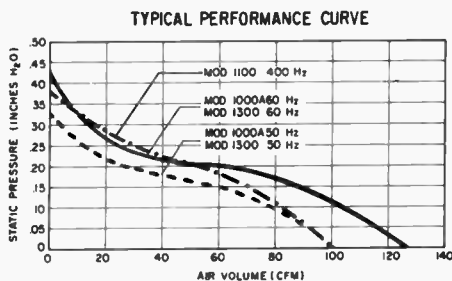
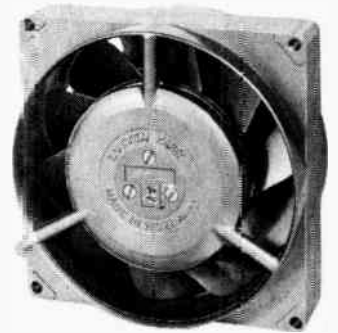
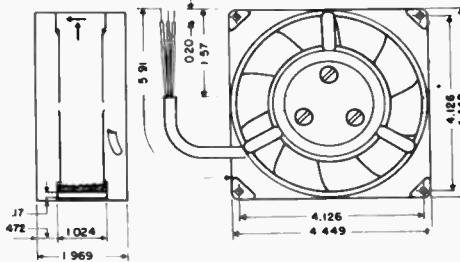
# PAMOTOR

## MINIATURE AXIAL FANS

### MODELS 1000A, 1100, and 1300 (Induction Type) 4<sup>7</sup>/<sub>16</sub>" x 4<sup>7</sup>/<sub>16</sub>" x 1<sup>31</sup>/<sub>32</sub>" • ALL-METAL • 125 CFM

**Impedance protected for more efficient operation**

- Universal 4<sup>1</sup>/<sub>8</sub>" mounting makes these models interchangeable with similar, less reliable 4<sup>11</sup>/<sub>16</sub>" fans.
- Operate over 20,000 hours, continuous duty at 45° C without maintenance.
- Basic design features same as Model 4500 fans.
- Powerful inside-out motor is impedance protected.
- Standard accessories same as those listed for Model 4500.

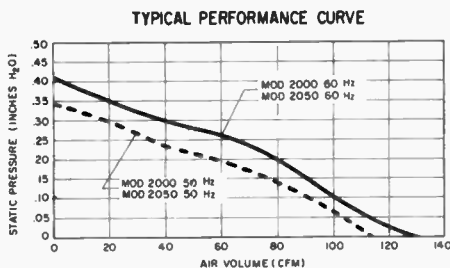
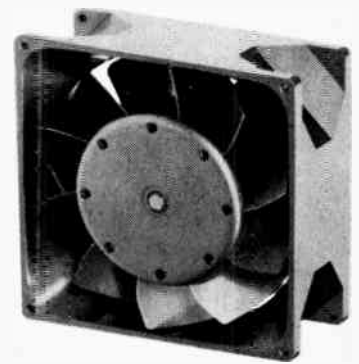
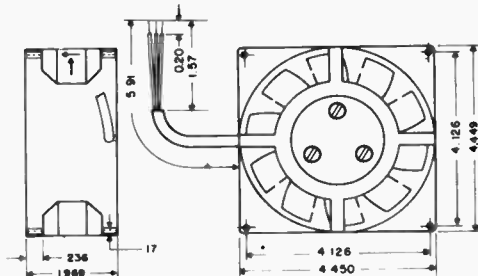


Characteristic	MODEL 1000A		MODEL 1100	MODEL 1300	
Voltage	115 volts	115 volts	115 volts	220 volts	220 volts
Frequency	60 Hz	50 Hz	400 Hz	60 Hz	50 Hz
Air Flow	125 cfm	100 cfm	100 cfm	125 cfm	110 cfm
Speed	3400 rpm	2900 rpm	3200 rpm	3400 rpm	2900 rpm
Input Power	25 watts	25 watts	33 watts	25 watts	25 watts
Capacitor	Cat. No. 1004 6 mf	Cat. No. 1004 6 mf	Cat. No. 1008 .75 rrf	Cat. No. 1006 2 mf	Cat. No. 1006 2 mf
Weight	2 lbs. 10 oz.	2 lbs. 10 oz.	2 lbs. 10 oz.	2 lbs. 10 oz.	2 lbs. 10 oz.

### MODELS 2000 and 2050 (Induction Type) 4<sup>7</sup>/<sub>16</sub>" x 4<sup>7</sup>/<sub>16</sub>" x 1<sup>31</sup>/<sub>32</sub>" • ALL-METAL • 130 CFM

**Hand-fitted sleeve bearings ensure longer life**

- Extremely low internal heat rise extends life beyond that of conventional fans.
- Stator windings for motor are uniform, allowing for minimum magnetic field density within the air gap.
- Basic design features same as Model 4500 fans.
- Universal 4<sup>1</sup>/<sub>8</sub>" mounting.
- Over 20,000 operational hours, continuous duty at 45° C without maintenance.
- Same accessories as those available for Model 4500.



Characteristic	MODEL 2000		MODEL 2050	
Voltage	115 volts	115 volts	220 volts	220 volts
Frequency	60 Hz	50 Hz	60 Hz	50 Hz
Air Flow	130 cfm	116 cfm	130 cfm	116 cfm
Speed	3500 rpm	2900 rpm	3500 rpm	2900 rpm
Input Power	25 watts	25 watts	26 watts	26 watts
Capacitor	Cat. No. 1005 4 mf	Cat. No. 1005 4 mf	Cat. No. 1006 2 mf	Cat. No. 1006 2 mf
Weight	2 lbs. 1 oz.	2 lbs. 1 oz.	2 lbs. 1 oz.	2 lbs. 1 oz.

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# PAMOTOR INC.



**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**FASTENINGS, NYLON-FIBRE WASHERS, SPACERS, SCREWS, NUTS, SPAGHETTI PACKS, ALL-WAVE KITS, FIBERGLASS GUY WIRE**

**DABURN NYLON FASTENINGS**  
ZYTEL 101 PER MIL-P-17019B



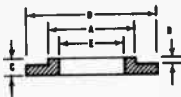
Has outstanding insulation specs, hi-resistance to heat, shock, vibration, chemical. Is light in weight, superior torque strength. Corrosion resistant, non magnetic. Continuous service temperature to 300°F. All parts made to American thread standards to Class 2A or 2B fit. B18.2 (hex nuts), B18.6 (machine screws), B1.1 (thread specs.).

DABURN No.	Size	Type	DABURN No.	Size	Type
14-40	2-56 x 1/4"	Rd. Hd.	14-48B	6-32 x 1/2"	Fill. Hd.
14-40A	2-56 x 1/4"	Fill. Hd.	14-48C	6-32 x 1/2"	Flat. Hd.
14-40B	2-56 x 1/4"	Bind. Hd.	14-49	6-32 x 3/4"	Rd. Hd.
14-41	2-56 x 3/8"	Rd. Hd.	14-49A	6-32 x 3/4"	Fill. Hd.
14-41A	2-56 x 3/8"	Fill. Hd.	14-49B	6-32 x 3/4"	Bind. Hd.
14-41B	2-56 x 3/8"	Bind. Hd.	14-50	6-32 x 1"	Rd. Hd.
14-42	2-56 x 1/2"	Rd. Hd.	14-50C	6-32 x 1"	Flat. Hd.
14-42A	2-56 x 1/2"	Fill. Hd.	14-51	8-32 x 1/4"	Rd. Hd.
14-42B	2-56 x 1/2"	Bind. Hd.	14-51A	8-32 x 1/4"	Fill. Hd.
14-43	4-40 x 1/4"	Rd. Hd.	14-51B	8-32 x 1/4"	Bind. Hd.
14-43A	4-40 x 1/4"	Fill. Hd.	14-52	8-32 x 1/2"	Rd. Hd.
14-43B	4-40 x 1/4"	Bind. Hd.	14-52A	8-32 x 1/2"	Fill. Hd.
14-44	4-40 x 3/8"	Rd. Hd.	14-52B	8-32 x 1/2"	Bd. Hd.
14-44A	4-40 x 3/8"	Fill. Hd.	14-52C	8-32 x 1/2"	Flat Hd.
14-44B	4-40 x 3/8"	Bind. Hd.	14-54	8-32 x 5/8"	Rd. Hd.
14-45	4-40 x 1/2"	Rd. Hd.	14-54A	8-32 x 5/8"	Fill. Hd.
14-45A	4-40 x 1/2"	Fill. Hd.	14-55	8-32 x 3/4"	Rd. Hd.
14-45B	4-40 x 1/2"	Bind. Hd.	14-55A	8-32 x 3/4"	Fill. Hd.
14-46	6-32 x 1/4"	Rd. Hd.	14-55B	8-32 x 3/4"	Bd. Hd.
14-46A	6-32 x 1/4"	Fill. Hd.	14-56A	8-32 x 1"	Fill. Hd.
14-46B	6-32 x 1/4"	Bind. Hd.	14-56C	8-32 x 1"	Flat. Hd.
14-47	6-32 x 3/8"	Rd. Hd.	14-57	10-32 x 3/8"	Rd. Hd.
14-47A	6-32 x 3/8"	Bind. Hd.	14-58	10-32 x 1/2"	Rd. Hd.
14-47B	6-32 x 3/8"	Fill. Hd.	14-58C	10-32 x 1/2"	Flat. Hd.
14-47C	6-32 x 3/8"	Flat. Hd.	14-59	10-32 x 3/8"	Rd. Hd.
14-48	6-32 x 1/2"	Rd. Hd.	14-60	10-32 x 1"	Rd. Hd.
14-48A	6-32 x 1/2"	Bind. Hd.	14-60C	10-32 x 1"	Flat Hd.

STOCK COLOR: Natural Std. Pkg.: 100, 1000  
Additional sizes available to order.

**DABURN NYLON SHOULDER WASHERS**

Natural Nylon Per MIL-P-20693A  
Standard Package 1000

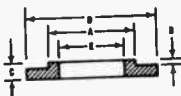


Catalog No.	E	Hole Size	D	C	B	A
14-540	.140	6	.375	.093	.031	.237
14-541	.110	4	.250	.062	.031	.187
14-542	.136	6	.250	.093	.031	.187
14-543	.136	6	.312	.093	.031	.187
14-544	.250	1/4"	.500	.068	.028	.312
14-545	.172	8	.375	.093	.031	.246
14-546	.196	10	.375	.093	.031	.308
14-547	.265	1/4"	.500	.097	.031	.365
14-548	.375	3/8"	.750	.093	.031	.500
14-549	.385	3/8"	.625	.093	.031	.500



**FIBRE SHOULDER WASHERS**

Fibre Material Per NEMA Standard and ASTM  
Spec. D-710



Catalog No.	E	Hole Size	D	C	B	A
14-530	.140	6	.375	.093	.031	.237
14-531	.110	4	.250	.062	.031	.187
14-532	.136	6	.250	.093	.031	.187
14-533	.136	6	.312	.093	.031	.187
14-534	.250	1/4"	.500	.068	.028	.312
14-535	.172	8	.375	.093	.031	.308
14-538	.196	10	.375	.093	.031	.308
14-537	.265	1/4"	.500	.097	.031	.365
14-538	.375	3/8"	.750	.093	.031	.500
14-539	.385	3/8"	.625	.093	.031	.500

Standard Package 1000

**FLAT FIBRE WASHERS**

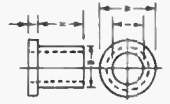


Cat. No.	Hole Size	I.D.	O.D.	Thickness
14-510	6	.136	.250	1/16"
14-511	4	.110	.250	1/16"
14-512	6	.140	.375	1/16"
14-513	8	.172	.375	1/16"
14-514	10	.196	.345	1/16"
14-515	1/4"	.250	.500	1/16"
14-516	1/4"	.250	.500	3/32"
14-517	3/8"	.312	.500	1/16"
14-518	3/8"	.385	.625	1/16"
14-519	3/8"	.375	.750	1/16"

Standard Package 1000



**DABURN NYLON SPACER/BUSHINGS**



Wide flanges isolate screw from mounting surface. Has hi-tensile and torque strength. COLOR: Natural. Std. Pkg.: 100, 1000.

Daburn No.	Screw Size I.O.	A	B	C	D
14-79	# 4 (.115")	.235"	3/16"	1/4"	.144"
14-79A	# 6 (.140")	.290"	3/16"	1/4"	.170"
14-79B	# 8 (.173")	.344"	1/4"	3/8"	.205"
14-79C	# 10 (.200")	.399"	1/4"	3/8"	.264"
14-79D	1/4" (.260")	.513"	1/4"	3/8"	.312"

**DABURN NYLON HEX NUTS**

Daburn No.	Size	Daburn No.	Size
14-85	2-56	14-88	8-32
14-86	4-40	14-89	10-32
14-87	6-32	14-90	1/4"-20



COLOR: Natural Std. Pkg.: 100, 1000

**DABURN NYLON FLAT WASHERS**



Daburn No.	For Screw Size	I.D.	O.D.	Thickness
14-92	2	3/16"	1/4"	.016"
14-93	4	1/8"	1/4"	.016"
14-94	6	3/16"	3/8"	.031"
14-95	8	.170"	3/8"	.031"
14-96	10	.195"	3/8"	.031"
14-97	1/4"	3/8"	5/8"	.063"

COLOR: Natural Std. Pkg.: 100, 1000

JACK MATERIAL: Beryllium copper with .000030 min. gold flash over .0003 min. silver plate.

PLATING: Solder finish electro solder plate. Available in all other platings.

COLOR: Natural (White). Std. Pkg.: 100, 1000

**DABURN ASSORTED SPAGHETTI PACKS**

25-9" lengths per pack consists of varnished sleeving of assorted sizes and colors.



DABURN Cat. No.	Standard Package
9-07	Pack 25
9-08	25 Packs in Display Carton 1

**DABURN ALL-WAVE ASSEMBLED ANTENNA KIT**

Designed for reception of overseas radio signals & programs. Utilizes the Hertz principle — balanced line consists of:

- 2—30' coils 7/24 copper wire
- 1—40' coil transmission cable
- 1—Center insulator
- 2—Porcelain insulators
- 2—Lead-in strips
- 1—Ground clamp
- 2—Nail-on knobs



DABURN Cat. No.	Standard Package
9-09	All Wave Kit 12

**DABURN FIBERGLASS GUY WIRE**



Gives complete isolation for any antenna system. Non-radiating, non-absorbing, no rot, no shrink, no sag. This non metallic guy wire has an overall (PVC) polyvinylchloride jacket.

DABURN No.	Put-Up	Tensile Strength	Color	Nom. O.D.
10-01	100', 500', 1000'	100 lbs.	Green	.125"
10-02	100', 500', 1000'	1000 lbs.	Gray	.218"
10-03	100', 500', 1000'	2000 lbs.	White	.313"

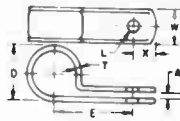
Doubling the cable will double the strength.



# Cable and Tubing Clamps - Wire Ties

## ETHYL CELLULOSE PLASTIC CABLE & TUBING CLAMPS

Recommended for general use. They withstand age, shock and vibration. Moisture and corrosion. This tough, lightweight and durable clamp withstands temperatures from -60 to +175°F. Approved 7-21-44 Army-Navy aeronautical AN-742. Approved for inside-outside, hi-tension, primary and secondary. Standard pkge. 100, 1000.

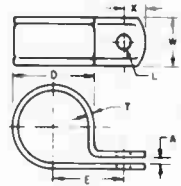


Cat. No.	To Fit Size	D	E	W	T	L	X
715	1/8"	.125	.325	3/8"	.060	.204	3/32"
715A	3/16"	.188	.390	1/2"	.060	.204	3/32"
715B	1/4"	.250	.421	1/2"	.060	.204	3/32"
715C	5/16"	.313	.457	1/2"	.060	.204	3/32"
715D	3/8"	.375	.483	1/2"	.060	.204	3/32"
715E	7/16"	.438	.531	1/2"	.060	.204	3/32"
716	1/2"	.500	.562	1/2"	.060	.204	3/32"
716A	5/8"	.625	.654	1/2"	.060	.204	3/32"
716B	3/4"	.750	.766	1/2"	.060	.204	3/32"
716C	7/8"	.875	.813	1/2"	.060	.204	3/32"
717	1"	1.000	.906	1/2"	.060	.204	3/32"
717A	1 1/8"	1.125	.969	1/2"	.060	.204	3/32"
717B	1 1/4"	1.250	1.156	1/2"	.060	.204	3/32"
717C	1 1/2"	1.5	1.0625	5/8"	.070	.204	3/32"
717D	2"	2.0	1.313	5/8"	.070	.204	3/32"
717E	2 1/2"	2.5	1.563	5/8"	.070	.204	3/32"

## NYLON CABLE AND TUBING CLAMPS MEETS MIL-P-20693A

MEETS MIL-P-20693A

Made of DuPont Nylon Formula FM 10001 (Zytel 101). Used as a clamp, strain relief, clip fastener, strap. These nylon cable clamps are light and tough. Have smooth, non-abrasive surfaces, rounded edges will not chafe conductors or cause shorts or grounds in cable. Insoluble in solvents, oils, gasoline, alcohol, hydraulic fluids, alkalis, acids. Temperature resistant from -60°F to +300°F. Do not support combustion. Moisture and heat resistant. Inside matte finish surfaces prevent slippage under vibration and are self-aligning when tightened by screw. Snaps onto cable. Meets MIL-P-20693A specs. Fungus resistant.



Cat. No.	Put-Up	To Fit Size	D	E	W	T	L	X
725	100	1/8"	.125	.316	3/8"	.050	.177	.227
726	100	3/16"	.187	.378	3/8"	.050	.177	.227
727	100	1/4"	.250	.409	3/8"	.050	.177	.227
728	100	5/16"	.312	.441	3/8"	.050	.177	.227
729	100	3/8"	.375	.471	3/8"	.050	.177	.227
730	100	1/2"	.500	.519	3/8"	.050	.177	.227
731	100	5/8"	.625	.634	1/2"	.060	.177	.227
731A	100	3/4"	.750	.752	1/2"	.060	.177	.227
732	100	3/4"	.750	.718	1/2"	.060	.177	.227
732A	100	1 1/8"	.875	.760	1/2"	.060	.177	.227
733	100	1"	1.000	.802	1/2"	.060	.177	.227
734	100	1 1/8"	1.125	.968	1/2"	.060	.204	.250
735	100	1 1/4"	1.250	1.156	1/2"	.060	.204	.250
736	100	1 1/2"	1.500	1.188	5/8"	.070	.204	.250
737	100	1 1/2"	1.500	1.188	5/8"	.070	.204	.250
738	100	1 1/2"	1.500	1.188	5/8"	.070	.204	.250

## BUTYRATE CABLE & TUBING CLAMPS

Recommended for outdoor use. Ultra-violet stabilized for extreme weather resistance. Tough & lightweight, provide excellent service for both outdoor & indoor applications. Meets Mil Spec L-P-349A, Type III. Class MH. Color—clear.

Cat. No.	To Fit Size	D	E	W	T	L	X
900	1/8"	.125	.345	3/8"	.050	3/16"	3/16"
901	3/16"	.188	.376	3/8"	.050	3/16"	3/16"
902	1/4"	.250	.407	3/8"	.050	3/16"	3/16"
903	5/16"	.313	.498	1/2"	.060	13/64"	7/32"
904	3/8"	.375	.529	1/2"	.060	13/64"	7/32"
905	7/16"	.438	.560	1/2"	.060	13/64"	7/32"
906	1/2"	.500	.592	1/2"	.060	13/64"	7/32"
907	5/8"	.625	.623	1/2"	.060	13/64"	7/32"
908	3/4"	.750	.783	1/2"	.060	13/64"	7/32"
909	7/8"	.875	.845	1/2"	.060	13/64"	7/32"
910	1"	1.000	.908	1/2"	.060	13/64"	7/32"
911	1 1/8"	1.125	.970	1/2"	.060	13/64"	7/32"
912	1 1/4"	1.250	1.062	1/2"	.060	13/64"	7/32"
913	1 1/2"	1.5	1.287	1/2"	.060	13/64"	7/32"
914	2"	2.0	1.977	5/8"	.070	13/64"	5/16"
915	2 1/2"	2.5	2.477	5/8"	.070	13/64"	5/16"

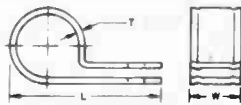
## POLYPRDPLYLENE CABLE & TUBING CLAMPS

Used as a cable clamp, tubing clamp, strain relief, clip fastener, strap. Light and tough. Temperature resistant from -20° F to 215° F.

Cat. No.	To Fit Size	D	E	W	T	L	X
953	1/8"	.125	.316	3/8"	.050	.177	.227
953A	3/16"	.187	.378	3/8"	.050	.177	.227
954	1/4"	.250	.409	3/8"	.050	.177	.227
954A	5/16"	.312	.441	3/8"	.050	.177	.227
955	3/8"	.375	.471	3/8"	.050	.177	.227
955A	7/16"	.437	.519	3/8"	.050	.177	.227
956	1/2"	.500	.550	3/8"	.050	.177	.227
956A	5/8"	.625	.625	1/2"	.060	.177	.227
957	3/4"	.750	.752	1/2"	.060	.177	.227
957A	7/8"	.875	.760	1/2"	.060	.177	.227
958	1"	1.000	.802	1/2"	.060	.177	.227
958A	1 1/8"	1.125	.968	1/2"	.060	.204	.250
959	1 1/4"	1.250	1.156	1/2"	.060	.204	.250
959A	1 1/2"	1.500	1.188	1/2"	.060	.204	.250
960	1 1/2"	1.500	1.188	1/2"	.060	.204	.250
960A	1 1/2"	1.500	1.188	1/2"	.060	.204	.250

## BIRNBACH ALUMINUM CABLE AND TUBING CLAMPS

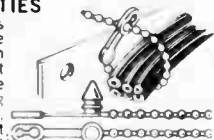
These Tube Clamps are made of hard drawn aluminum and are found to be extremely desirable when mounting resonant lines, or elements of directive beam antennas. The 1/8" thru 3/8" clamps have a clearance for No. 10 Screw. The 1/2" to 1 1/4" clamps have a clearance for 1/2" bolts.



Cat. No.	To Fit Tube	Width "W"	Length "L"	Thickness "T"	Std. Pkg.
51A	1/8"	1/2"	1 1/4"	.050"	100
51	3/16"	1/2"	1 1/4"	.050"	100
52	1/4"	1/2"	1 1/4"	.050"	100
53	5/16"	1/2"	1 1/4"	.050"	100
54	3/8"	1/2"	1 1/4"	.050"	100
54A	7/16"	1/2"	1 1/4"	.050"	50
55	1/2"	1/2"	1 1/4"	.090"	50
57	5/8"	1/2"	1 1/4"	.090"	50
56	3/4"	1/2"	1 1/4"	.090"	50
56A	7/8"	1/2"	1 1/4"	.090"	50
56B	1"	1/2"	2"	.090"	50

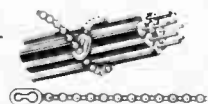
## PUSH BUTTON-E-Z WIRE TIES

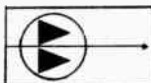
Push Button Wire Ties useful for harnessing wires fast; saves labor; eliminates screws and usual time required for string tying. Measures 4 1/2" in length and is adjustable to 30 different diameters. Insert the tie in the hole for anchoring. Wires can be replaced or added by loosening the tie and pulling tight again. Constructed of tough Polyethylene, chemically inert, heat resistant; breaking point, 45 to 95 lbs. Push button ties are designed to fit a 250"-.265" hole in a .031 to .140 thick panel.



Cat. No.	Color (Specify)	Std. Pkg.
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PBT-4 Push Button Red, Blue, Yellow 100, 1000  
 MATERIAL CONFORMS TO SPEC. LP 590  
 PBT-5 E-Z Red, Blue, Yellow 100, 1000





# ELECTRONIC LACING CORD/TAPE

To Meet MIL-T-43435 — COMP-P - Type S — MIL-T-713A - Type P\*

## FLAT BRAIDED LACING TAPE — NYLON

Flat braided Hi-Tenacity Nylon Fiber impregnated with (MW) microcrystalline fungicidal wax. Engineered to stay flat. Distributes stress evenly over a wide area. Resistant to fungus, flame, abrasion, acids. Will not cut or damage insulation. Has strength, toughness and stability.

PUT UP ON 500 YARDS PER TUBE

Cat. No.	Class	Width	Thick.	Test lbs.	Yd./Lb.
1035	Natural White	—	.200"	.014"	150 250
1035B	Black	—	.200"	.014"	150 250
1036	Natural White	1	.120"	.014"	80 550
1036B	Black	1	.120"	.014"	80 550
1037	Natural White	2*	.090"	.014"	50 750
1037B	Black	2*	.090"	.014"	50 750
1038	Natural White	3	.062"	.010"	30 1500
1038B	Black	3	.062"	.010"	30 1500
1039	Natural White	4	.046"	.010"	15 2400
1039B	Black	4	.046"	.010"	15 2400

## DACRON

Flat Braided Hi-Tenacity Dacron Fiber impregnated with special non-slip fungicidal finish. Will not cut or damage insulation. Engineered to stay flat— for strength, toughness, stability. Will not cut insulation.

PUT UP ON 500 YARDS PER TUBE

Cat. No.	Class	Width	Thick.	Test lbs.	Yd./Lb.
1041	Natural White	.120"	.014"	80	450
1041B	Black	.120"	.014"	80	450
1042	Natural White	.090"	.014"	48	600
1042B	Black	.090"	.014"	48	600
1043	Natural White	.060"	.010"	35	850
1043B	Black	.060"	.010"	35	850
1044	Natural White	.046"	.010"	25	1100
1044B	Black	.046"	.010"	25	1100

## ROUND NYLON LACING CORDS

This nylon lacing cord manufactured to meet Spec. MIL-T-713A Type P, Composition P, Classes 3, 2, 1. Wax finished — compounded with a fungicide to resist mildew.

PUT UP ON 1 LB. TUBES

Class	Cat. No. Natural	Cat. No. Black	Yds.	Diam.	Breaking Strength Lbs.
Class 1	1070	1070B	600	.039"	70
Class 2	1071	1071B	800	.029"	48
Class 3	1072	1072B	1140	.025"	32
Class 4	1072/1	1072/1B	2400	.020"	20



## TEFLON-FIBERGLASS

Flat Braided Fiberglass, teflon coated and bonded for hi-temperature applications (550°F). Engineered to stay flat — for strength, toughness and stability. Teflon finish increases tensile strength and abrasion resistant surface. Will not cut or damage insulation. Color: White.

PUT UP ON 500 YARDS PER SPOOL

Cat. No.	Width	Thickness	Test Lbs.	Yd./Lb.
1045	.170"	.025"	150	200
1046	.120"	.020"	90	200
1047	.080"	.020"	70	280

## TEFLON\*

Flat Braided Teflon for hi-temperature applications (550°F). Engineered to stay flat. Will not cut or damage insulation. Color: Brown.

PUT UP ON 500 YARDS PER SPOOL

Cat. No.	Width	Thickness	Test Lbs.	Yd./Lb.
1048	.100"	.016"	35	325
1049	.075"	.010"	15	700

## ROUND LINEN LACING CORDS

This linen lacing cord is made from pure flax treated with microcrystalline wax compounded with fungicide to resist mildew. The twelve, eight and six ply cord meet Spec. MIL-T-713A Type N, Classes 1, 2 and 3 respectively. Color: Natural. Also available in Black in 1 lb. Tubes.

4 OZ. TUBES					
Cat. No.	Yds.	Class	Ply	Diam.	Lb. Test
1073	210	—	4	.036"	22
1076	150	3	6	.044"	33
1082	115	2	8	.051"	50
1079	100	—	9	.054"	56
1085	75	1	12	.063"	72

6 OZ. TUBES					
Cat. No.	Yds.	Class	Ply	Diam.	Lb. Test
1074	425	—	4	.036"	22
1077	300	3	6	.044"	33
1083	235	2	8	.051"	50
1080	200	—	9	.054"	56
1086	150	1	12	.063"	72

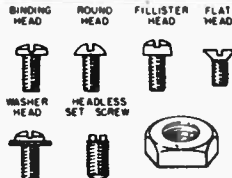
  

1 LB. TUBES						
Cat. No.	Cat. No.	Yds.	Class	Ply	Diam.	Lb. Test
1075 Natural	1075B Black	850	—	4	.036"	22
1078 Natural	1078B Black	600	3	6	.044"	33
1084 Natural	1084B Black	470	2	8	.051"	50
1081 Natural	1081B Black	400	—	9	.054"	56
1087 Natural	1087B Black	300	1	12	.063"	72



## ALL-NYLON FASTENINGS — Screws and Nuts - Washers - Standoffs

Zytel 101 per MIL P 20893 Spec., MIL S 7742 Spec. Birnbach All-Nylon Fastenings are made of Zytel 101, a Polyamide plastic of the Nylon 6.6 Type. They offer outstanding insulating properties plus resistance to heat, shock, vibration and chemical solvents plus lightweight elasticity and superior torque strength. In most cases, because of their high dielectric strength, they eliminate the need of bushings, washers or other insulation. They are corrosion resistant, non-magnetic and good torque strength thru a wide temperature range. Continuous service temperature to 300°F (150°C). Stock color: Natural. Additional colors & types available to order. Zytel 101 per MIL-D-7019B. — All parts are manufactured to American Thread Standards to a class 2A or 2B fit. B 18.2 (hex nuts), B 18.6 (machine screws), B 1.1 (thread specs.) \*Reg. T.M. of DuPont



### ALL NYLON MACHINE SCREWS STANDARD PKG.: 100, 1000

Cat. No.	Size	Type
6640	2-56x1/4"	Round Head
6640A	2-56x1/4"	Fillister Head
6640B	2-56x1/4"	Binding Head
6641	2-56x3/8"	Round Head
6641A	2-56x3/8"	Fillister Head
6641B	2-56x3/8"	Binding Head
6550	2-56x1/2"	Round Head
6551	2-56x1/2"	Fillister Head
6551A	2-56x1/2"	Binding Head
6643	4-40x1/4"	Round Head
6643A	4-40x1/4"	Fillister Head
6643B	4-40x1/4"	Binding Head
6644	4-40x3/8"	Round Head
6644A	4-40x3/8"	Fillister Head
6644B	4-40x3/8"	Binding Head
6552	4-40x1/2"	Round Head
6552A	4-40x1/2"	Fillister Head
6552B	4-40x1/2"	Binding Head
6646	6-32x1/4"	Round Head
6646A	6-32x1/4"	Fillister Head
6646B	6-32x1/4"	Binding Head
6553	6-32x3/8"	Round Head
6554	6-32x3/8"	Binding Head
6555	6-32x3/8"	Fillister Head
6556	6-32x1/2"	Flat Head
6557	6-32x1/2"	Round Head
6558	6-32x1/2"	Binding Head

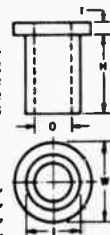
### ALL NYLON MACHINE SCREWS STANDARD PKG.: 100, 1000

Cat. No.	Size	Type
6559	6-32x1/4"	Fillister Head
6560	6-32x1/4"	Flat Head
6561	6-32x1/4"	Round Head
6648A	6-32x3/8"	Fillister Head
6648B	6-32x3/8"	Binding Head
6561	6-32x1"	Round Head
6561C	6-32x1"	Flat Head
6650	8-32x1/4"	Round Head
6650A	8-32x1/4"	Fillister Head
6650B	8-32x1/4"	Binding Head
6562	8-32x3/8"	Round Head
6563	8-32x3/8"	Binding Head
6564	8-32x3/8"	Flat Head
6565	8-32x3/8"	Fillister Head
6566	8-32x3/8"	Round Head
6567	8-32x1/2"	Binding Head
6568	8-32x1/2"	Flat Head
6569	8-32x1/2"	Fillister Head
6570	8-32x1"	Round Head
6571	8-32x1"	Fillister Head
6572	8-32x1"	Round Head
6572A	8-32x1"	Fillister Head
6572B	8-32x1"	Binding Head
6573	8-32x1"	Flat Head
6573A	8-32x1"	Fillister Head
6574	10-32x3/8"	Round Head
6575	10-32x1/2"	Round Head
6576	10-32x1/2"	Flat Head
6577	10-32x1/2"	Round Head
6578	10-32x1"	Round Head
6579	10-32x1"	Flat Head

### BIRNBACH NYLON BUSHINGS AND SPACERS

Designed with wide flanges to completely isolate screw from mounting surface, useful where hi tensile and torque requirements require high strength non-insulating screws. Natural color.

Cat. No.	Size	Dimensions
		I W T H D
6549A	#6 .140"	.290" 3/8" 1/4" .170"
6549B	#8 .173"	.344" 1/2" 3/8" .205"
6549C	#10 .200"	.399" 5/8" 1/2" .260"
6549D	1/4" .260"	.513" 3/4" 3/4" .312"
6549	#4 .115"	.235" 1/4" 1/4" .148"



### Birnbach All-Nylon Hex Nuts STANDARD PKG.: 100, 1000

Cat. No.	Size	Cat. No.	Size
6565	2-56	6568	8-32
6566	4-40	6569	10-32
6567	6-32	6590	1/4"-20



### Birnbach All-Nylon Washers STANDARD PKG.: 100, 1000

Cat. No.	Size	Fits Screw	C.D.	I.D.	Thickness
6592	2	1/4"	1/2"	3/8"	.016"
6593	4	3/8"	1/2"	1/2"	.016"
6594	6	1/2"	3/4"	1/2"	.031"
6595	8	3/4"	1"	3/4"	.031"
6596	10	7/8"	1 1/8"	7/8"	.031"
6597	1/4"	1/4"	1/2"	1/4"	.063"



# BIRNBACH

COMPANY INC. FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

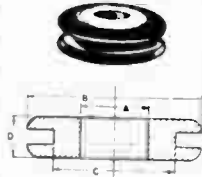
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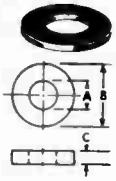
# GROMMETS/BUMPERS/BUSHINGS/WASHERS

## RUBBER GROMMETS

No.	A	B	C	D	E
5501	5/8"	1"	8"	1/2"	1/16"
5502	6"	3/16"	5/16"	3/16"	1/8"
5503	5/8"	5/16"	1/6"	1/4"	1/16"
5504	1 1/2"	3/8"	1/2"	1/4"	1/16"
5505	1/2"	1/6"	9/16"	1/4"	1/16"
5506	5/16"	7/8"	3/16"	5/16"	1/16"
5507	1 1/16"	1/2"	3/4"	5/16"	3/16"
5508	1 1/8"	5/8"	8"	5/16"	1/16"
5509	1 1/16"	9/16"	3/16"	5/16"	1/16"
5510	1"	3/4"	1/8"	5/32"	1/32"
5530	3/16"	3/8"	1/2"	1/32"	5/64"
5531	1 9/16"	7/8"	1 1/4"	5/8"	3/16"
5532	5/8"	9/12"	1/32"	3/8"	5/32"
5533	9/16"	3/6"	5/12"	3/8"	1/8"
5534	1/8"	1/4"	5/8"	5/32"	3/16"
5536	5/8"	5/16"	1/2"	1/2"	3/16"
5537	5/8"	3/8"	1/16"	5/16"	3/32"
5538	5/8"	1/4"	7/16"	1/32"	5/32"
5539	1 1/16"	3/8"	7/8"	3/8"	1/4"
5540	1 1/2"	1 3/64"	9/32"	1/32"	3/32"
5541	1"	3/8"	1/6"	1/32"	9/64"
5542	1 5/8"	4 9/64"	13/32"	5/16"	5/16"
5544	1 1/32"	1/8"	1/4"	3/16"	1/16"
5545	9/16"	1/4"	3/8"	1/2"	1/32"
5546	3/4"	5/16"	1/2"	3/8"	1/8"
5547	9/32"	5/16"	7/16"	3/8"	1/8"
5549	9/16"	1 3/64"	13/32"	1/4"	1/16"
5550	5/8"	1 9/64"	7/16"	1/4"	1/16"
5551	2 1/32"	3/8"	1/2"	1/4"	1/16"
5552	1 1/2"	1/4"	1 1/32"	5/32"	1/32"
5553	1 1/16"	9/32"	1/2"	7/16"	1/4"

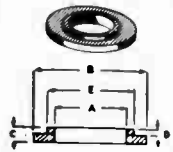


## FIBRE WASHERS FLAT WASHERS



No.	Hole Size	ID A	OD B	THK C
6701	4	.116	1/4"	1/16"
6702	4	.120	1/4"	1/32"
6703	6	.136	1/4"	1/16"
6704	6	.140	1/4"	1/32"
6705	6	.140	3/8"	1/16"
6706	8	.172	3/8"	1/16"
6707	8	.172	3/8"	1/32"
6708	10	.196	3/8"	1/16"
6709	10	.196	3/8"	1/32"
6710	1/4"	.250	1/2"	1/16"
6711	1/4"	.250	1/2"	3/64"
6712	1/4"	.250	1/2"	3/32"
6713	5/16"	.315	1/2"	1/16"
6714	3/8"	.385	5/8"	1/16"
6715	3/8"	.390	5/8"	3/64"
6716	3/8"	.390	3/4"	1/16"
6717	7/16"	.440	3/4"	1/32"
6718	1 5/32"	.469	3/4"	1/32"

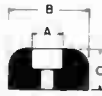
## SHOULDER WASHERS



No.	Hole	A	B	C	D	E
6730	4	.116	1/4"	1/16"	1/32"	.187
6731	6	.140	5/16"	.070	1/32"	.187
6732	6	.136	1/4"	3/32"	1/32"	.187
6733	6	.136	5/16"	3/32"	1/32"	.187
6734	6	.140	3/8"	3/32"	1/32"	.237
6735	8	.169	3/8"	.070	1/32"	.250
6736	8	.172	3/8"	3/32"	1/32"	.246
6737	10	.196	7/16"	.070	1/32"	.250
6738	10	.196	3/8"	3/32"	1/32"	.308
6739	1/4"	.254	1/2"	3/32"	1/32"	.310
6740	1/4"	.250	1/2"	.070	1/32"	.375
6741	1/4"	.265	1/2"	3/32"	1/32"	.365
6742	3/8"	.380	5/8"	.070	1/32"	.437
6743	3/8"	.385	5/8"	3/32"	1/32"	.500
6744	3/8"	.375	3/4"	3/32"	1/12"	.500

## RECESS RUBBER BUMPERS

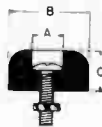
No.	Fig.	A	B	C
5522	1	7/32"	1 1/32"	1/4"
5523	1	1/4"	5/8"	5/16"
5524	1	9/32"	3/4"	3/8"
5521	1	1/4"	5/8"	9/32"



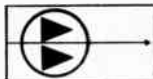
### With Screw

Supplied complete with 1/2" mounting screw and hex nut. For panels up to 1/4" thick. Specify longer screw for thicker panels.

No.	A	B	C	Screw
5526	1/32"	1 1/32"	1/4"	6-32
5527	1/4"	5/8"	5/16"	6-32
5528	9/32"	3/4"	3/8"	6-32
5529	1/4"	5/8"	9/32"	6-32







**BUSHINGS, SPACERS AND STANDOFFS**



**BIRNBACH BRASS CADMIUM PLATED BUSHINGS & SPACERS**

An ideal brass cadmium plated bushing for raising sub panels, chassis, condensers, transformers, etc. Hole will accommodate a No. 4, or No. 6 or No. 8 screw.

Length	For #4 Screw Cat. No.	For No. 6 Screw Cat. No.	For No. 8 Screw Cat. No.
1/4"	1185	1125	1130
3/8"	1186	1126	1131
1/2"	1187	1127	1132
3/4"	1188	1128	1133
1"	1189	1129	1134

Length	For #4 Screw Cat. No.	For No. 6 Screw Cat. No.	For No. 8 Screw Cat. No.
1/4"	1102	1135	1140
3/8"	1103	1136	1141
1/2"	1104	1137	1142
3/4"	1105	1138	1143
1"	1106	1139	1144

Length	THD 4-40 Cat. No.	THD 6-32 Cat. No.	THD 8-32 Cat. No.
1/4"	1185T	1125T	1130T
3/8"	1186T	1126T	1131T
1/2"	1187T	1127T	1132T
3/4"	1188T	1128T	1133T
1"	1189T	1129T	1134T



**BIRNBACH INSULATED FIBRE BUSHINGS & SPACER 1/4" O.D.**

Length	For #4 Screw Cat. No.	For #6 Screw Cat. No.	For #8 Screw Cat. No.
1/4"	1115	1145	1149
3/8"	1116	1146	1150
1/2"	1117	1147	1151
3/4"	1118	1148	1152
1"	1119	1148A	1152A



**HEX SPACERS BRASS CADMIUM PLATED 1/4" HEX**

Length	For #4 Screw Cat. No.	For #6 Screw Cat. No.	For #8 Screw Cat. No.
1/4"	1001	1006	1011
3/8"	1002	1007	1012
1/2"	1003	1008	1013
3/4"	1004	1009	1014
1"	1005	1010	1015

Length	For #4 Screw Cat. No.	For #6 Screw Cat. No.	For #8 Screw Cat. No.
1/4"	1018	1023	1029
3/8"	1019	1024	1030
1/2"	1020	1026	1031
3/4"	1021	1027	1032
1"	1022	1028	1033



**THREADED HEX SPACERS BRASS CADMIUM PLATED 1/4" HEX**

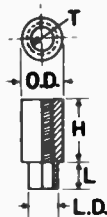
Length	THD 4-40 Cat. No.	THD 6-32 Cat. No.	THD 8-32 Cat. No.
1/4"	1001T	1006T	1011T
3/8"	1002T	1007T	1012T
1/2"	1003T	1008T	1013T
3/4"	1004T	1009T	1014T
1"	1005T	1010T	1015T

**THREADED SWAGE STANDOFFS**

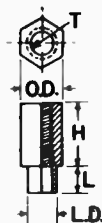
Brass Nickel Plated

ROUND Nickel Plated Cat. No.	H Height Above Panel	L	For Panel Thickness	LD	OD	T Thread	HEX Cadmium Plated Cat. No.
1205	1/4"	.109	1/16"	.187	1/4"	1/40"	1305
1206	1/4"	.140	3/32"	.187	1/4"	1/40"	1306
1207	3/8"	.109	1/16"	.187	1/4"	1/40"	1307
1208	3/8"	.140	3/32"	.187	1/4"	1/40"	1308
1209	1/2"	.109	1/16"	.187	1/4"	1/40"	1309
1210	1/2"	.140	3/32"	.187	1/4"	1/40"	1310
1211	5/8"	.109	1/16"	.187	1/4"	1/40"	1311
1212	5/8"	.140	3/32"	.187	1/4"	1/40"	1312
1213	3/4"	.109	1/16"	.187	1/4"	1/40"	1313
1214	3/4"	.140	3/32"	.187	1/4"	1/40"	1314
1215	1"	.109	1/16"	.187	1/4"	1/40"	1315
1216	1"	.140	3/32"	.187	1/4"	1/40"	1316
1217	1/4"	.109	1/16"	.187	1/4"	5/32"	1317
1218	1/4"	.140	3/32"	.187	1/4"	5/32"	1318
1219	1/4"	.171	1/8"	.187	1/4"	5/32"	1319
1221	3/8"	.109	1/16"	.187	1/4"	5/32"	1321
1222	3/8"	.140	3/32"	.187	1/4"	5/32"	1322
1223	3/8"	.171	1/8"	.187	1/4"	5/32"	1323
1224	1/2"	.109	1/16"	.187	1/4"	5/32"	1324
1225	1/2"	.140	3/32"	.187	1/4"	5/32"	1325
1226	1/2"	.171	1/8"	.187	1/4"	5/32"	1326
1227	5/8"	.109	1/16"	.187	1/4"	5/32"	1327
1228	5/8"	.140	3/32"	.187	1/4"	5/32"	1328
1229	5/8"	.171	1/8"	.187	1/4"	5/32"	1329
1230	3/4"	.109	1/16"	.187	1/4"	5/32"	1330
1231	3/4"	.140	3/32"	.187	1/4"	5/32"	1331
1232	3/4"	.171	1/8"	.187	1/4"	5/32"	1332
1233	1"	.109	1/16"	.187	1/4"	5/32"	1333
1234	1"	.140	3/32"	.187	1/4"	5/32"	1334
1235	1"	.171	3/32"	.187	1/4"	5/32"	1335

**ROUND**



**HEX**





# NYLON HARDWARE

MEETS OR EXCEEDS MIL. SPEC. NO. P20693

**CHEMICAL RESISTANT  
NON-CORROSIVE  
NON-CONDUCTIVE**

**NON-MAGNETIC  
LIGHT WEIGHT**

**ABRASION RESISTANT  
HIGH DIELECTRIC STRENGTH**

Description and Specifications	Thread	Description	O.E.M. NET			
			C pack		M pack	
			Part No.	Net	Part No.	Net
<p><b>ROUND HEAD MACHINE SCREWS</b></p>						
	2-56 UNC-2A	A .156 H .064 J .027 T .043 L 1/4"	9900-C	3.69	9900-M	33.30
	2-56 UNC-2A	.156 .064 .027 .043 1/2"	9901-C	3.69	9901-M	33.30
	4-40 UNC-2A	.203 .081 .035 .050 1/4"	9902-C	3.69	9902-M	33.30
	4-40 UNC-2A	.203 .081 .035 .050 1/2"	9903-C	3.69	9903-M	33.30
	4-40 UNC-2A	.203 .081 .035 .050 3/4"	9904-C	3.79	9904-M	34.50
	6-32 UNC-2A	.250 .097 .044 .060 1/4"	9905-C	3.69	9905-M	33.30
	6-32 UNC-2A	.250 .097 .044 .060 3/8"	9906-C	3.79	9906-M	34.50
	6-32 UNC-2A	.250 .097 .044 .060 1/2"	9907-C	3.79	9907-M	34.50
	6-32 UNC-2A	.250 .097 .044 .060 5/8"	9908-C	3.79	9908-M	34.50
	6-32 UNC-2A	.250 .097 .044 .060 3/4"	9909-C	3.79	9909-M	34.50
	8-32 UNC-2A	.297 .113 .050 .068 3/8"	9910-C	3.86	9910-M	35.30
	8-32 UNC-2A	.297 .113 .050 .068 1/2"	9911-C	3.86	9911-M	35.30
	8-32 UNC-2A	.297 .113 .050 .068 3/4"	9912-C	3.86	9912-M	35.30
10-32 UNF-2A	.344 .130 .055 .070 1/2"	9913-C	3.86	9913-M	35.30	
10-32 UNF-2A	.344 .130 .055 .070 1"	9914-C	4.02	9914-M	37.30	
<p><b>BINDING HEAD MACHINE SCREWS</b></p>						
	2-56 UNC-2A	A .176 H .028 F .013 J .027 T .027 L 1/4"	9915-C	3.69	9915-M	33.30
	2-56 UNC-2A	.176 .028 .013 .027 .027 1/2"	9916-C	3.69	9916-M	33.30
	4-40 UNC-2A	.229 .039 .021 .035 .038 1/4"	9917-C	3.69	9917-M	33.30
	4-40 UNC-2A	.229 .039 .021 .035 .038 1/2"	9918-C	3.69	9918-M	33.30
	4-40 UNC-2A	.229 .039 .021 .035 .038 3/4"	9919-C	3.79	9919-M	34.50
	6-32 UNC-2A	.280 .047 .028 .044 .049 1/4"	9920-C	3.69	9920-M	33.30
	6-32 UNC-2A	.280 .047 .028 .044 .049 3/8"	9921-C	3.79	9921-M	34.50
	6-32 UNC-2A	.280 .047 .028 .044 .049 1/2"	9922-C	3.79	9922-M	34.50
	6-32 UNC-2A	.280 .047 .028 .044 .049 5/8"	9923-C	3.79	9923-M	34.50
	6-32 UNC-2A	.280 .047 .028 .044 .049 3/4"	9924-C	3.79	9924-M	34.50
	8-32 UNC-2A	.337 .058 .034 .050 .060 3/8"	9925-C	3.86	9925-M	35.30
	8-32 UNC-2A	.337 .058 .034 .050 .060 1/2"	9926-C	3.86	9926-M	35.30
	8-32 UNC-2A	.337 .058 .034 .050 .060 3/4"	9927-C	3.86	9927-M	35.30
10-32 UNF-2A	.383 .068 .040 .055 .070 1/2"	9928-C	3.86	9928-M	35.30	
10-32 UNF-2A	.383 .068 .040 .055 .070 1"	9929-C	4.02	9929-M	37.30	
<p><b>FILLISTER HEAD MACHINE SCREWS</b></p>						
	2-56 UNC-2A	A .132 H .058 F .016 J .027 T .031 L 1/4"	9930-C	3.69	9930-M	33.30
	2-56 UNC-2A	.132 .058 .016 .027 .031 1/2"	9931-C	3.69	9931-M	33.30
	4-40 UNC-2A	.176 .074 .024 .035 .040 1/4"	9932-C	3.69	9932-M	33.30
	4-40 UNC-2A	.176 .074 .024 .035 .040 1/2"	9933-C	3.69	9933-M	33.30
	4-40 UNC-2A	.176 .074 .024 .035 .040 3/4"	9934-C	3.79	9934-M	34.50
	6-32 UNC-2A	.218 .091 .030 .044 .055 1/4"	9935-C	3.69	9935-M	33.30
	6-32 UNC-2A	.218 .091 .030 .044 .055 3/8"	9936-C	3.79	9936-M	34.50
	6-32 UNC-2A	.218 .091 .030 .044 .055 1/2"	9937-C	3.79	9937-M	34.50
	6-32 UNC-2A	.218 .091 .030 .044 .055 5/8"	9938-C	3.79	9938-M	34.50
	6-32 UNC-2A	.218 .091 .030 .044 .055 3/4"	9939-C	3.79	9939-M	34.50
	8-32 UNC-2A	.260 .108 .035 .050 .060 3/8"	9940-C	3.86	9940-M	35.30
	8-32 UNC-2A	.260 .108 .035 .050 .060 1/2"	9941-C	3.86	9941-M	35.30
	8-32 UNC-2A	.260 .108 .035 .050 .060 3/4"	9942-C	3.86	9942-M	35.30
10-32 UNF-2A	.302 .124 .042 .055 .070 1/2"	9943-C	3.86	9943-M	35.30	
10-32 UNF-2A	.302 .124 .042 .055 .070 1"	9944-C	4.02	9944-M	37.30	
<p><b>FLAT HEAD NYLON SCREWS</b></p>						
	4-40 UNC-2A	A .217 H .062 J .035 T .025 D 81° L 1/2"	9945-C	3.69	9945-M	33.30
	6-32 UNC-2A	.267 .078 .044 .030 81° 100° 3/8"	9946-C	3.79	9946-M	34.50
	6-32 UNC-2A	.267 .078 .044 .030 81° 100° 1/2"	9947-C	3.79	9947-M	34.50
	6-32 UNC-2A	.267 .078 .044 .030 81° 100° 5/8"	9948-C	3.79	9948-M	34.50
	8-32 UNC-2A	.318 .094 .050 .037 81° 100° 1/2"	9949-C	3.86	9949-M	35.30
	8-32 UNC-2A	.318 .067 .032 100° 81° 3/4"	9950-C	3.86	9950-M	35.30
	10-32 UNF-2A	.369 .077 .037 100° 81° 1/2"	9951-C	4.02	9951-M	37.30
	10-32 UNF-2A	.369 .108 .055 .045 81° 100° 1"	9952-C	4.31	9952-M	40.00
	10-32 UNF-2A	.369 .077 .037 100° 81° 100° 1"	9952-C	4.31	9952-M	40.00
<p><b>NYLON HEX NUTS</b></p>						
	2-56	A 3/16" B 1/16"	9953-C	5.84	9953-M	54.40
	4-40	1/4" 3/32"	9954-C	5.96	9954-M	55.30
	6-32	5/16" 7/64"	9955-C	6.07	9955-M	56.50
	8-32	14/32" 1/8"	9956-C	6.18	9956-M	57.50
10-32	3/8" 1/8"	9957-C	6.26	9957-M	58.40	
<p><b>NYLON WASHERS</b></p>						
	No. 4	A .120 B 8/32" C .050	9958-C	.67	9958-M	6.20
	No. 6	.150 5/16" .050	9959-C	.74	9959-M	5.84
	No. 8	.170 3/8" .050	9960-C	.99	9960-M	9.00
	No. 10	.195 7/16" .060	9961-C	1.14	9961-M	10.50

\*National Bureau of Standards - Screw thread specification standards.



# ELECTRONIC HARDWARE

AVAILABLE IN...



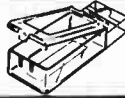
50 LINE



100 PER BOX

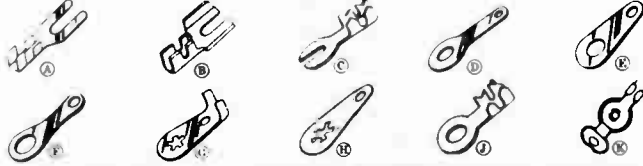


1000 PER BOX



## 50 LINE

HINGED COVER  
PLASTIC BOXES  
— 50 LINE —  
Dir. Net Price. 39¢  
Per Box



No. 1020, 109 Ass't. Dir. Net \$ .67 **GC SOLDERING LUGS TINNED**

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
No. 6, 5/8" Length (A)	H100-F	30	8466-C	1.90	8466-M	15.19
No. 6, 23/32" Length (B)			8467-C	3.42	8467-M	27.32
No. 6, 23/32" Length (B)			8468-C	3.22	8468-M	25.72
No. 6, 23/32" Length (C)	H104-F	25	1021-BC	1.29	1021-BM	10.26
No. 8, 23/32" Length (C)	H106-F	25	7445-C	1.46	7445-M	11.60
No. 10, 23/32" Length (C)			8473-C	1.42	8473-M	11.33
No. 6, 1/2" Length (D)			5708-C	2.09	5708-M	16.26
No. 8, 13/16" Length (D)			5704-C	2.04	5704-M	16.26
No. 10, 13/16" Length (D)			5705-C	2.04	5705-M	16.26
No. 6, 11/16" Length (D)	H108-F	30	1021-CC	1.12	1021-CM	8.93
No. 6, 8/16" Length (E)	H112-F	30	1021-FC	1.12	1021-FM	8.93
No. 8, 9/16" Length (E)	H113-F	30	7451-C	1.07	7451-M	8.53
No. 6, Assorted			7166-C	1.20	7166-M	9.60
No. 6, 1" Length (F)	H114-F	25	7454-C	.80	7454-M	6.40
No. 8, 1" Length (F)	H117-F	25	7455-C	1.05	7455-M	8.40
No. 10, 1" Length (F)	H118-F	25	7456-C	1.05	7455-M	8.40
No. 4, 13/16" Length (G)			7458-C	2.23	7458-M	17.85
No. 8, 13/16" Length (G)			7460-C	2.27	7460-M	18.13
No. 10, 13/16" Length (G)			7461-C	2.27	7461-M	18.13
No. 6, 5/8" Length (H)	H122-F	20	7462-C	1.30	7462-M	10.40
No. 8, 5/8" Length (H)			7463-C	1.30	7463-M	10.40
No. 4, 7/8" Length (E)			5706-C	2.03	5706-M	16.26
No. 8, 7/8" Length (E)			5707-C	2.03	5707-M	16.26
No. 6, 7/8" Length (E)			5708-C	2.03	5708-M	16.26
Assorted	7120-F	20	7126-C	1.17	7126-M	9.33
No. 6,			7128-C	1.53	7128-M	12.26
No. 8,			7441-C	1.43	7441-M	11.46
No. 6, 11/16" Length (J)	H124-F	25	7442-C	1.35	7442-M	10.80
No. 8, 11/16" Length (J)	H134-F	25	1021-AC	1.35	1021-AM	10.80
No. 10, 11/16" Length (J)	H102-F	25	8633-C	2.00	8633-M	15.99
Solderless TV Line Lug (K)	H225-F	10				
Assorted Types	7100-F	30				
Assorted	7110-F	20				
No. 6,			7116-C	1.48	7116-M	11.86
No. 8,			7118-CW	1.57	7118-M	12.53
No. 6,			7156-C	1.30	7156-M	10.40
No. 8,			7158-CW	1.30	7158-MW	10.40
No. 6,			7166-C	1.20	7166-M	9.60
No. 8,			7169-C	1.02	7169-M	8.13
No. 10,	7170-F	25	7179-C	1.28	7179-M	10.26
No. 10,	7180-F	15	7189-C	2.05	7189-M	16.39
No. 1, 4" Extruded			7864-C	1.20	7864-M	9.60



## GC CABLE HOLDER CLAMPS NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H500-F	20				
To Fit Cable						
1/8" to 3/16" No. 6	H502-F	25	6251-C	1.25	6251-M	10.00
3/16" to 1/4" No. 6	H503-F	20	6252-C	1.43	6252-M	11.46
1/4" to 5/16" No. 6			7503-C	1.60	7503-M	12.79
5/16" to 1/2" No. 6	H506-F	15	6253-C	1.54	6253-M	12.26
Baseboard Clips Blk.	H509-F	20	8345-C	2.52	7345-M	20.13
3/16" to 1/4" No. 8	7503-F	20	7503-CW	1.35	7503-MW	10.80
1/4" to 5/16" No. 8	7505-F	16	7505-C	2.52	7505-M	20.13



## GC ROUND HEAD MACHINE SCREWS & NUTS STEEL-NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted Screws	H1000-F	35				
Assorted Screws & Nuts	H1001-F	40				
Assorted No. 2 & 4 Screws & Nuts	H1002-F	35				
Assorted 4-36 Screw	H1010-F	40				
Assorted 6-32 Screws	H1012-F	40				
Assorted 6-32 Screws	H1016-F	40				
Assorted 10-32 Screws	H1018-F	25				

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
2-56 x 1/4"	H1022-F	40	7130-C	.57	7130-M	4.53
2-56 x 3/16"			8021-CW	.52	8021-MW	4.13
2-56 x 3/8"	8023-F	40	8023-C	.57	8023-M	4.53
2-56 x 1/2"	H1024-F	40	7131-C	.60	7131-M	4.80
2-56 x 3/4"	H1026-F	40	7132-C	.72	7132-M	5.73
3-48 x 1/4"	H1028-F	40	7124-C	.72	7124-M	5.73
4-36 x 1/4"	H1032-F	40	6005-IC	.60	6005-M	4.80
4-36 x 3/8"			7138-C	.65	7138-M	5.20
4-36 x 1/2"	H1033-F	35	6006-C	.67	6006-M	5.33
4-36 x 5/8"	H1034-F	35	5651-C	.70	5651-M	5.60
4-36 x 1"			6007-C	.85	6007-M	6.80
4-40 x 3/8"	H1036-F	35	6005-AC	.60	6005-AM	4.80
4-40 x 1/2"	H1042-F	40	8043-C	.60	8043-M	4.80
4-40 x 3/4"			6005-BC	.67	6005-BM	5.33
4-40 x 5/8"	H1044-F	35	5652-C	.70	5652-M	5.60
4-40 x 1"			6005-CC	.79	6005-CM	6.26
6-32 x 1/4"			6008-C	.65	6008-M	5.30
6-32 x 3/8"	H1062-F	40	8063-C	.65	8063-M	5.20
6-32 x 1/2"			6009-C	.75	6009-M	6.00
6-32 x 5/8"	H1066-F	30	5653-C	.83	5653-M	6.66
6-32 x 1"	H1068-F	30	6011-C	.88	6011-M	7.06
6-32 x 1 1/4"	H1070-F	30	7141-C	1.02	7141-M	8.13
6-32 x 1 1/2"	H1072-F	30	7141-C	1.24	7141-M	9.86
6-32 x 2"	H1076-F	20	7148-C	1.84	7148-M	14.66
8-32 x 1/4"	H1082-F	30	6013-C	.87	6013-M	6.93
8-32 x 3/8"	H1083-F	25	6014-C	.95	6014-M	7.60
8-32 x 1/2"	H1084-F	25	6015-C	1.02	6015-M	8.13
8-32 x 5/8"			5654-C	1.07	5654-M	8.53
8-32 x 1"	H1086-F	25	6016-C	1.13	6016-M	9.06
8-32 x 1 1/4"	H1088-F	20	6017-C	1.30	6017-M	10.40
8-32 x 1 1/2"	H1090-F	20	7142-C	1.50	7142-M	12.00
10-32 x 1/4"	H1104-F	20	6020-C	1.15	6020-M	9.20
10-32 x 5/8"			5655-C	1.27	5655-M	10.13
10-32 x 1"	H1106-F	20	6021-C	1.39	6021-M	11.06
10-32 x 1 1/4"	H1108-F	17	6022-C	1.52	6022-M	12.13
10-32 x 1 1/2"	H1112-F	15	7143-C	2.02	7143-M	16.13



## GC ROUND HEAD MACHINE SCREWS BRASS-NOT PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H1210-F	30	5657-C	.87	5657-M	6.93
2-56 x 1/4"			5658-C	.97	5658-M	7.73
2-56 x 5/8"			5660-C	1.13	5660-M	9.06
3-48 x 1/4"			5661-C	1.28	5661-M	10.26
4-36 x 1/4"			5662-C	.97	5662-M	7.73
4-36 x 1/2"			5663-C	1.39	5663-M	11.06
4-36 x 5/8"			5664-C	1.47	5664-M	11.73
4-36 x 1"			5665-C	1.57	5665-M	12.53
4-40 x 1/4"			5666-C	.97	5666-M	7.73
4-40 x 1/2"			5667-C	1.25	5667-M	10.00
4-40 x 5/8"			5668-C	1.47	5668-M	11.73
4-40 x 1"			5669-C	1.57	5669-M	12.53
6-32 x 1/4"			8501-C	1.32	8501-M	10.53
6-32 x 3/8"			5670-C	1.47	5670-M	11.73
6-32 x 1/2"			8502-C	1.60	8502-M	12.79
6-32 x 5/8"			5671-C	1.85	5671-M	14.79
6-32 x 1"			8503-C	1.93	8503-M	15.46
6-32 x 1 1/4"			8504-C	2.30	8504-M	18.39
6-32 x 1 1/2"			5672-C	2.67	5672-M	21.32
6-32 x 2"			5673-C	4.50	5673-M	35.99
8-32 x 1/4"			8505-C	2.07	8505-M	16.53
8-32 x 3/8"			5674-C	2.05	5674-M	16.39
8-32 x 1/2"			8506-C	2.35	8506-M	18.79
8-32 x 5/8"			5675-C	2.74	5675-M	21.86
8-32 x 1"			8507-C	2.89	8507-M	23.06
8-32 x 1 1/4"			8508-C	3.43	8508-M	27.46
8-32 x 1 1/2"			5676-C	4.02	5676-M	32.12
10-32 x 1/4"			5677-C	2.97	5677-M	23.72
10-32 x 5/8"			5678-C	3.30	5678-M	26.39
10-32 x 1"			5679-C	3.62	5679-M	28.92
10-32 x 1 1/4"			5680-C	4.32	5680-M	34.52
10-32 x 1 1/2"			5681-C	6.08	5681-M	48.65



## GC PHILLIPS TYPE ROUND HEAD MACHINE SCREWS STEEL-NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H1180-F	25				
6-32 x 1/4"			8511-C	1.45	8511-M	11.60
6-32 x 1/2"			8512-C	1.30	8512-M	10.40
6-32 x 5/8"			8513-C	1.48	8513-M	11.86
6-32 x 1"			8514-C	1.67	8514-M	13.33
6-32 x 1 1/4"			8515-C	1.25	8515-M	10.00
8-32 x 1/2"			8516-C	1.48	8516-M	11.86
8-32 x 5/8"			5690-C	1.48	5690-M	11.86
8-32 x 1"			8517-C	1.63	8517-M	13.06
8-32 x 1 1/4"			8518-C	1.82	8518-M	14.53



# ELECTRONIC HARDWARE

AVAILABLE IN...



50 LINE



"C" AND  
100 PER BOX



"M" PACK  
1000 PER BOX

## GC BINDING HEAD MACHINE SCREWS STEEL-NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H1170-F	35	7154-C	.65	7154-M	\$5.20
5-36 x 1/4"	H1170-F	35	7151-C	.68	7151-M	5.46
6-32 x 3/8"	H1172-F	35	7152-C	.65	7152-M	5.20
6-32 x 1/4"	H1172-F	35	7153-C	.70	7153-M	5.60
6-32 x 3/8"	H1174-F	30	7155-C	1.90	7155-M	15.19
7-32 x 3/8"	H1174-F	30	7158-C	.95	7158-M	7.60
8-32 x 3/8"	H1174-F	30	7158-C	.95	7158-M	7.60

## GC BINDING HEAD MACHINE SCREWS BRASS-NICKEL PLATED

Description and Spec.	Part No.	Net Per 100	No.	Net Per M
2-56x1/4"	7160-1-C	\$1.07	7160-1-M	\$8.53
2-56x1/2"	7161-1-C	1.24	7161-1-M	9.86
2-56x3/4"	7162-1-C	1.42	7162-1-M	11.33
4-36x1/4"	7163-1-C	1.24	7163-1-M	9.86
4-36x1/2"	7164-1-C	1.52	7164-1-M	12.13
4-36x3/4"	7165-1-C	1.78	7165-1-M	14.26
4-40x1/4"	7170-1-C	1.24	7170-1-M	9.86
4-40x1/2"	7171-1-C	1.38	7171-1-M	11.06
4-40x3/4"	7172-1-C	1.62	7172-1-M	12.93
5-36x3/4"	7154-1-C	1.78	7154-1-M	14.26
6-32x1/4"	7151-1-C	1.70	7151-1-M	13.59
6-32x1/2"	7152-1-C	1.32	7152-1-M	10.53
6-32x3/8"	7153-1-C	1.42	7153-1-M	11.33
6-32x1/2"	7118-1-C	1.60	7118-1-M	12.79
6-32x3/4"	7173-1-C	1.93	7173-1-M	15.46
8-32x1/4"	7174-1-C	1.97	7174-1-M	15.73
8-32x3/8"	7119-1-C	2.05	7119-1-M	16.39
8-32x1/2"	7120-1-C	2.35	7120-1-M	18.79
8-32x3/8"	7158-1-C	2.38	7158-1-M	19.06
8-32x3/4"	7175-1-C	2.89	7175-1-M	23.06
10-32x1/2"	7176-1-C	3.23	7176-1-M	25.86
10-32x3/4"	7177-1-C	4.37	7177-1-M	34.92

## GC DUAL HEAD RACK AND CABINET SCREWS STEEL-NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted Screws and Washers	H1005-F	15	6540-C	.75	6540-M	\$6.00
6-32 x 1/2"	H1005-F	15	5691-C	1.07	5691-M	8.53
6-32 x 3/8"	H1005-F	15	6541-C	.88	6541-M	7.06
6-32 x 1/4"	H1005-F	15	5692-C	1.15	5692-M	9.20
8-32 x 3/8"	H1005-F	15	6542-C	1.13	6542-M	9.23
8-32 x 1/2"	H1005-F	15	8848-C	1.15	8848-M	9.20
10-32 x 1/2"	H1005-F	15	5693-C	1.25	5693-M	10.00
10-32 x 3/4"	H1005-F	15	6543-C	1.35	6543-M	10.80

## GC ORNAMENTAL HEAD SCREWS STEEL-BRONZE PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H1250-F	20	1097-C	1.57	1097-M	\$12.53
6-32 x 3/4"	H1252-F	25	1098-C	1.70	1098-M	13.59
6-32 x 1"	H1253-F	20	1099-C	2.35	1099-M	18.79
8-32 x 1 1/4"	H1255-F	12	1099-C	2.35	1099-M	18.79

## GC ROUND HEAD WOOD SCREWS STEEL-NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H1502-F	25	6114-C	.95	6114-M	\$7.60
No. 4 x 1/2"	H1502-F	25	5694-C	1.08	5694-M	8.66
No. 4 x 3/8"	H1502-F	25	6115-C	1.10	6115-M	8.80
No. 6 x 3/4"	H1502-F	25	6116-C	1.17	6116-M	9.33
No. 6 x 1/2"	H1502-F	25	6117-C	1.47	6117-M	11.73
No. 8 x 3/4"	H1502-F	25	6118-C	1.42	6118-M	11.33
No. 8 x 1 1/4"	H1502-F	25	8071-C	2.42	8071-M	40.23
No. 10 x 1 1/2"	H1502-F	25	8073-C	2.59	8073-M	20.66
No. 12 x 1 1/2"	H1502-F	25	8075-C	3.27	8075-M	26.12
No. 14 x 1 3/4"	H1502-F	25	8076-C	4.63	8076-M	37.39

## GC SPADE BOLTS OR MOUNTING SCREWS STEEL-NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H1570-F	15	6081-C	3.45	6081-M	\$27.59
A B C D E	H1570-F	15	6082-C	3.45	6082-M	27.59
6-32 6 3/2" 1 1/4" 3/8"	H1570-F	15	6084-C	7.99	6084-M	63.84
6-32 6 1 1/2" 7/8" 1 1/4"	H1570-F	15	6084-C	7.99	6084-M	63.84
8-32 8 3/4" 1 3/2" 1 3/8"	H1570-F	15	6084-C	7.99	6084-M	63.84

## GC SHEET METAL SCREWS POINTED TYPE "A" HEX HEAD-SLOTTED-SELF-TAPPING NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd	H1300-F	25	6090-C	\$1.02	6090-M	\$ 8.13
No. 4 x 1/2"	H1350-F	35	6091-C	1.07	6091-M	8.53
No. 6 x 1/4"	H1362-F	30	6092-C	1.09	6092-M	8.66
No. 6 x 3/8"	H1363-F	25	6093-C	1.15	6093-M	9.20
No. 6 x 1/2"	H1364-F	25	6094-C	1.24	6094-M	9.86
No. 6 x 3/4"	H1366-F	20	8368-C	1.67	8368-M	13.33
No. 6 x 1"	8368-F	20	8102-C	1.24	8102-M	9.86
No. 8 x 1/2"	H1382-F	20	6095-C	1.28	6095-M	10.26
No. 8 x 3/8"	H1383-F	20	6096-C	1.32	6096-M	10.53
No. 8 x 1/2"	H1384-F	20	5696-C	1.33	5696-M	13.46
No. 8 x 3/8"	8368-F	15	8386-C	1.60	8386-M	12.79
No. 8 x 1"	H1388-F	15	6097-C	1.69	6097-M	13.46
No. 10 x 3/8"	H1403-F	15	6098-C	1.43	6098-M	11.46
No. 10 x 1/2"	H1404-F	15	6099-C	1.57	6099-M	12.53
No. 10 x 3/4"	H1406-F	12	6100-C	1.70	6100-M	13.59

## GC ROUND HEAD-SLOTTED ESCUTCHEON PLATE SCREWS BRONZE PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H1500-F	25	1091-C	\$1.07	1091-M	\$8.53
No. 2 x 1/4"	H1500-F	25	1093-C	.97	1093-M	7.73
No. 2 x 3/8"	H1500-F	25	1093-C	.97	1093-M	7.73

## GC RADIO KNOB SET SCREWS SLOTTED-HEADLESS-CUP POINT STANDARD

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asst. 6-32, 8-32, 10-32	H1605-F	15	6072-C	\$2.18	6072-M	\$17.46
6-32 x 3/4"	H1623-F	15	6075-C	2.18	6075-M	17.46
8-32 x 3/8"	H1633-F	15	6076-C	2.18	6076-M	17.46
8-32 x 1/4"	H1634-F	15	6079-C	2.18	6079-M	17.46
10-32 x 1/4"	H1634-F	15	6079-C	2.18	6079-M	17.46



# ELECTRONIC HARDWARE

AVAILABLE IN...



50 LINE

"C" AND

"M" PACK  
100 PER BOX

## GC ALLEN HEX SET SCREWS

STEEL - HEADLESS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd. Lengths, 4-36	H1674-F	5				
Asstd. Lengths, 6-32	H1676-F	5				
Asstd. Lengths, 8-32	H1678-F	5				
8-32 x 1/8"			7201-C	\$5.97	7201-M	\$47.71
8-32 x 3/16"			7202-C	5.97	7202-M	47.71

## GC PHONO CARTRIDGE MOUNTING SCREWS

STEEL - NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H1560-F	60				
4-36 x 1/4"	H1562-F	40	6005-1C	.60	6005-M	\$4.80
4-40 x 1/4"	H1564-F	40	6005-AC	.60	6005-AM	4.80

## GC PHONOGRAPH NEEDLE & STYLUS SET SCREWS

STEEL - BRONZE PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H1550-F	12				
2-56 x 3/16"	H1551-F	12				
2-64 x 3/16"	H1553-F	12				
1-72 x 3/32"	H1555-F	5				

## GC HEXAGON NUTS

STEEL - NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H1800-F	30				
Thread Width Thickness						
2-56 3/16 3/16	H1802-F	30	7225-C	\$.83	7225-M	\$ 6.66
3-48 3/16 3/16	H1803-F	30	7226-C	.83	7226-M	6.66
4-36 1/8 3/16	H1805-F	30	6041-C	.83	6041-M	6.66
4-40 1/8 3/16	H1804-F	30	6041-AC	.83	6041-AM	6.66
5-40 3/8 3/16			6045-BC	.88	6045-BM	7.06
6-32 1/8 3/16	H1806-F	30	6042-C	.83	6042-M	6.66
6-32 3/8 3/16	H1807-F	30	7230-C	.90	7230-M	7.20
8-32 1/8 3/16	H1803-F	30	6043-C	.83	6043-M	6.66
8-32 1/4 3/16	H1809-F	30	7233-C	.88	7233-M	7.06
10-32 3/8 3/16	H1810-F	30	6044-C	1.17	6044-M	9.33
10-32 3/8 3/8			6049-C	1.07	6049-M	8.53
1/4-20 3/16 3/16	H1820-F	25	7235-C	1.48	7235-M	11.86
1/2-32 3/16 3/16			7236-C	2.37	7236-M	18.95
3/8-32 3/16 3/16	H1923-F	15	6050-AC	1.78	6050-AM	31.99
1/2-27 3/16 3/16	H1924-F	10	7238-C	4.00	7238-M	31.99
1/2-32 3/16 3/16			6050-BC	2.18	6050-BM	17.46

## GC BRASS HEXAGON NUTS

NOT PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Thread Width Thickness						
2-56 3/16 3/16			7241-C	\$1.20	7241-M	\$ 9.60
3-48 3/16 3/16			7242-C	1.09	7242-M	8.66
4-36 1/8 3/16	H1842-F	35	7243-C	1.45	7243-M	11.66
4-40 1/8 3/16	H1844-F	25	7244-C	1.43	7244-M	11.46
6-32 1/8 3/16	H1846-F	25	7245-C	1.42	7245-M	11.33
6-32 3/8 3/16			5697-C	1.70	5697-M	13.59
8-32 1/4 3/16			5693-C	1.42	5693-M	11.33
8-32 3/8 3/16	H1848-F	15	7248-C	1.70	7248-M	13.54
10-32 3/8 3/16	H1850-F	15	7249-C	1.87	7249-M	14.95
1/4-20 3/16 3/16			5699-C	3.98	5699-M	31.84

## GC MOUNTING NUTS

STEEL - NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H1920-F	12				
Thread Width Thickness						
1/2-32 3/16 3/16 (Rotary Switch Size)			7236-C	\$ 2.37	7236-M	\$18.93
.473 19/32" .070" Ring Nut (Toggle Switch Size)	8926-F	8	8926-C	5.70	8926-M	45.58
3/8-32 3/16 3/16 (Volume Control Size)	H1923-F	15	5050-AC	1.78	6050-AM	14.26
1/2-27 3/16 3/16 (Pilot Light Size)			7238-C	4.00	7238-M	31.99
1/2-32 3/16 3/16 (Toggle Switch Size)	H1924-F	10	6050-BC	2.18	6050-BM	17.46
1/2-32 Round Ring Nut (Toggle Switch Size)	H1926-F	8	6050-CC	4.20	6050-CM	33.59
3/8-32 3/16 3/32 (Volume Control Size)	8923-F	12	8923-C	2.67	8923-M	21.32

## GC TINNEMAN SPEED NUTS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H1960-F	30				
No. 4			6051-C	\$.88	6051-M	\$ 7.06
No. 6			6052-C	.95	6052-M	7.60
No. 8			6053-C	.95	6053-M	7.60
No. 10-24					8965-M	8.61
No. 14-20					8966-M	11.61

## GC ACORN NUTS

SOLID BRASS - NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H1950-F	10				
6-32			6031-C	\$3.35	6031-M	\$26.79
8-32			6032-C	3.55	6032-M	28.39
10-32			6033-C	4.32	6033-M	34.52

## GC KNURLED THUMB NUTS

BRASS - NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H1941-F	10				
6-32	H1943-F	8	6655-C	\$ 2.75	6655-M	\$21.99
8-32	H1944-F	8	6656-C	2.75	6656-M	21.99
10-32	H1945-F	5	6657-C	6.03	6657-M	48.25

## GC WING NUTS NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted	H1931-F	10				
6-32	H1933-F	10	5658-C	\$ 3.22	6658-M	\$25.72
8-32	H1934-F	10	5659-C	3.22	6659-M	25.72
10-32	H1935-F	8	5660-C	3.22	6660-M	25.72

## GC METAL WASHERS NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd. Screw Size Hole Size O.D. Thickness						
4 1/8" 3/32" 3/32"	H870-F	80				
4 1/8" 3/32" 3/32"	H874-F	80	6154-C	\$.55	6154-M	\$ 4.40
6 3/16" 3/16" 3/32"	H876-F	80	6155-C	.55	6155-M	4.40
8 1/2" 3/16" 3/32"	H878-F	80	6156-C	.60	6156-M	4.80
10 1/4" 3/8" 3/32"	H880-F	70	7306-C	.57	7306-M	4.53
10 1/4" 3/8" 3/32"			7307-C	.57	7307-M	4.53
10 1/4" 1/2" .049"			6157-C	.60	6157-M	4.80
12 .228 3/16" .021"			7308-C	.57	7308-M	4.53
1/4" 1/2" 5/8" 3/16"	H882-F	50	6158-C	.83	6158-M	6.66
1/4" 1/2" 1/2" 3/16"			7311-C	.75	7311-M	6.00
3/16" 3/16" 1/4" 3/16"			7312-C	.70	7312-M	5.60



# ELECTRONIC HARDWARE

AVAILABLE IN...



50 LINE



100 PER BOX



M PACK  
1000 PER BOX



## GC INTERNAL LOCK WASHERS CADMIUM PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd. All Types Asstd. Internal Screw Size	H918-F H920-F	45 50				
2	H922-F	35	7322-C	\$.87	7322-M	\$ 6.93
3			7323-C	.75	7323-M	6.00
4	H924-F	50	7324-C	.55	7324-M	4.40
6	H926-F	50	7326-C	.53	7326-M	4.26
8	H928-F	50	7328-C	.58	7328-M	4.66
10	H930-F	45	7330-C	.58	7330-M	4.66
1/4"			7332-C	.77	7332-M	6.13
3/8"			7333-C	.98	7333-M	7.86
1/2"			7334-C	1.15	7334-M	9.20
5/8"	H938-F	25	7335-C	1.52	7335-M	12.13
3/4"			7338-C	1.90	7338-M	15.19



## GC HAIR PIN COTTERS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd. A B C	H380-F	50				
3/8"			7375-C	\$.58	7375-M	\$ 4.66
1/2"			7376-C	.52	7376-M	4.13
5/8"			7377-C	.57	7377-M	4.53
3/4"			7378-C	.58	7378-M	4.66
7/8"			7379-C	.60	7379-M	4.80



## GC FLAT FIBRE WASHERS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd. Screw Size	H820-F	35				
6	H824-F	30	6513-C	\$.60	6513-M	\$ 4.80
8	H825-F	30	6514-C	.60	6514-M	4.80
10	H826-F	30	6515-C	.60	6515-M	4.80
1/4"	H827-F	24	6516-C	.65	6516-M	5.20
3/8"	H828-F	20	6517-C	.94	6517-M	7.46
1/2"			6518-C	.94	6518-M	7.46
5/16"			7836-C	.52	7836-M	4.13
3/8"			7842-C	.52	7842-M	4.13
3/8"			7844-C	.93	7844-M	7.46



## GC EXTERNAL LOCK WASHERS CADMIUM PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd.	H950-F	60				
No. 4			7354-C	\$.53	7354-M	\$ 4.26
No. 6			7356-C	.53	7356-M	4.26
No. 8			7358-C	.58	7358-M	4.66
No. 10			7360-C	.58	7360-M	4.66
No. 1/4"			7361-C	.77	7361-M	6.13
No. 3/8"			7363-C	1.15	7363-M	9.20



## GC SPLIT TYPE LOCK WASHERS CADMIUM PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd. Screw Size	H960-F	60				
No. 4			6503-C	\$.70	6503-M	\$ 5.60
No. 6			6504-C	.57	6504-M	4.53
No. 8			6505-C	.57	6505-M	4.53
No. 10			6506-C	.65	6506-M	5.20
No. 1/4"			6507-C	.97	6507-M	7.73



## GC SPRING FRICTION WASHERS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd. A B C Thick.	H750-F	12				
3/8"			7385-C	\$ 2.37	7385-M	\$ 18.93
1/2"			7386-C	2.00	7386-M	15.99
5/8"			7387-C	1.97	7387-M	15.73
3/4"			7389-C	2.27	7389-M	18.13



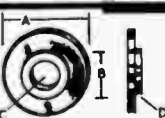
## GC CUP FINISHING WASHERS NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd. Screws & Washers	H1005-F	15				
Asstd. Washers	H805-F	40				
No. 6	H806-F	45	6161-C	\$.57	6161-M	\$ 4.53
No. 8	H808-F	45	6162-C	.60	6162-M	4.80
No. 10	H810-F	35	6163-C	.68	6163-M	5.46



## GC "C" WASHERS AND RETAINING RINGS STEEL-CADMIUM PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd. C-Washers	H770-F	25				
Shaft Diam. A B C D	H772-F	15	6182-C	\$ 1.15	6182-M	\$ 9.20
1/4"	H774-F	15	6183-C	1.30	6183-M	10.40
1/4"			6184-C	1.33	6184-M	10.66
1/4"	H778-F	50	6185-C	.57	6185-M	4.53



## GC EXTRUDED FIBRE WASHERS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd. Extruded & Flat Extruded	H854-F H855-F	30 30				
Screw Size A B C D	H864-F	20				
6			6525-C	\$ 1.07	6525-M	\$ 8.53
8			6526-C	1.07	6526-M	8.53
10			6527-C	1.15	6527-M	9.20
1/4"			6528-C	1.15	6528-M	9.20
3/8"			6529-C	1.20	6529-M	9.60
6			7856-C	1.07	7856-M	8.53
10			7860-C	1.15	7860-M	11.86
10			7862-C	1.15	7862-M	11.86



## GC SNAP BUTTON HOLE PLUGS NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd.	H300-F	8				
No. 1710 Asst. 50 Plugs in Box Dir. Net \$3.05						
1/8"					7302-M	31.02
3/16"					7304-MW	29.50
1/4"	H306-F	8	1711-AC	\$ 2.70	1711-AM	21.59
3/8"			1711-BC	2.90	1711-BM	23.19
1/2"	H308-F	8	1711-C	3.07	1711-M	24.52
3/4"	H310-F	6	1712-C	3.72	1712-M	29.72
5/8"	H312-F	6	1713-C	4.00	1713-M	31.99
3/4"	H314-F	5	1714-C	4.03	1714-M	32.25
7/8"	H316-F	5	1714-AC	5.60	1714-AM	44.78
1"			1715-AC	5.36	1715-AM	42.92
1 1/4"			1715-BC	7.16	1715-BM	57.31
1 1/2"			1715-C	7.81	1715-M	62.51
1 3/4"			5700-C	8.61	5700-M	68.91
1 7/8"			5701-C	8.80	5701-M	70.37
1 3/4"			5702-C	11.35	5702-M	90.76



## GC SNAP-IN VENTILATING PLUGS NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
1" Punched Holes in Screen Vent	H334-F	4	1709-C	\$ 9.81	1709-M	\$ 78.50
			1708-C	25.86	1708-M	206.85



# ELECTRONIC HARDWARE

AVAILABLE IN...



50 LINE



100 PER BOX



1000 PER BOX



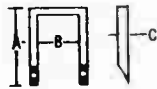
## GC FAHNESTOCK CLIPS NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M	
Assorted	H590-F	12					
L							
W Hole Wire							
(A) 1/2" 3/4"	4 16	H592-F	15	6301-C	1.82	6301-M	\$ 14.53
(B) 3/4" 1"	6 14	H594-F	14	6302-C	2.08	6302-M	16.66
(C) 1 1/4" 1 1/2"	8 10			6303-C	3.60	6303-M	28.79
(D) 1 1/2" 1 3/4"	6 10			6304-C	13.33	6304-M	106.62
(E) 3/4" 1"	6 14			6306-C	6.00	6306-M	48.00



## GC SNAP-IN TRIMOUNTS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M	
No. 1720 Asst. 100 Trimounts Net Price \$ .82							
Assorted	H370-F	20					
To Fit Hole							
A B							
1/8" 3/32" 1/16"		H373-F	25	1722-C	1.45	1722-M	11.60
1/16" 1/32" 1/64"		H375-F	20	1724-C	1.77	1724-M	14.13
1/32" 1/64" 1/128"		H378-F	17	1726-C	2.15	1726-M	17.19
1/64" 1/128" 1/256"		H379-F	15	1727-C	2.15	1727-M	17.19



## GC DIAL CORD CLIPS NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M	
Used on Cord No.							
A B C							
75-75A 1/8" 3/4" 3/8"		H745-F	30	6221-C	.83	6221-M	\$ 6.66
74-74L 1/4" 3/4" 3/8"		H746-F	40	6222-C	.94	6222-M	7.46
73-73X 3/8" 3/4" 3/8"				6223-C	.95	6223-M	7.60



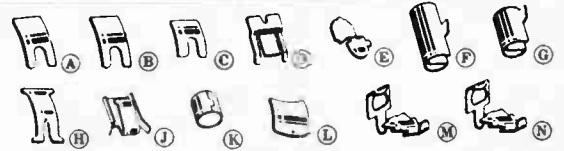
## GC TERMINAL STRIP ASSORTMENT 1/16" INSULATION - 3/8" SPACING

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100
Assorted	H25G-F	4		
1 Lug			1781-C	\$ 3.27
2 Lugs			1782-C	3.27
3 Lugs			1783-C	3.42
4 Lugs			1784-C	4.72
5 Lugs			1785-C	5.45
6 Lugs			1786-C	5.81
7 Lugs			1787-C	10.51
8 Lugs			1788-C	11.61



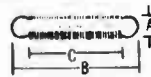
## GC DIAL PULLEYS BRASS

Description and Spec.	50-Line No.	Part No.	Net Per 100	No.	Net Per M
Assorted	H1966-F				
(Groove D Wd.)					
A B C					
3/8" .120 1/8" 3/32"		6057-AC	5.60	6057-AM	44.78
1/2" .067 1/4" 3/64"		6057-BC	8.28	6057-BM	66.24
3/4" 1/8" 3/8" 3/32"		6057-GC	10.26	6057-GM	82.10
.620 .128 .165 1/16"		6057-CC	11.31	6057-CM	90.59
.860 .128 3/32" .050		6057-FC	19.43	6057-FM	155.40



## GC RADIO KNOB SPRINGS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asst. TV Spring Asst. No. 1050 Kit of 35 Springs	H480-F	18				
No. 1051 Kit of 100 Springs	H460-F	12				
Width Length For Knob Shaft Dia.						
(A) 1/2" Light 3/16" 1/4"	H482-F	20	6460-C	1.28	6460-M	\$10.26
(B) 3/2" Heavy 3/16" 1/4"	H484-F	20	6461-C	1.33	6461-M	10.66
(C) 3/2" 3/16" 1/4"	H487-F	20	6462-C	1.07	6462-M	8.53
(D) 3/8" 3/32" 1/4"	H489-F	10	6463-C	1.43	6463-M	11.46
(E) 3/2" 3/32" 1/4"			6464-C	2.24	6464-M	17.86
(F) 3/2" 3/8" 1/4"	H492-F	8	6465-C	2.86	6465-M	22.79
(G) 3/2" 3/8" 1/4"			6466-C	3.40	6466-M	27.19
(H) 3/2" 3/8" 1/4"			6467-C	1.54	6467-M	12.26
(J) 3/2" 3/8" 1/4"	H494-F	10	6468-C	1.82	6468-M	14.53
(K) 1/2" 3/8" 1/4"			6469-C	2.85	6469-M	22.79
(L) 3/8" 3/8" 1/4"	H497-F	10	6470-C	1.82	6470-M	14.53
(M) 3/8" 3/4" 1/4"	H498-F	10	6471-C	3.10	6471-M	24.79
(N) 3/8" 3/4" 1/4"	H499-F	10	6472-C	2.82	6472-M	22.52
TV Knob Spring .202" Shaft	H462-F	10				
TV Knob Spring 3/8" Flat Shaft	H464-F	10	8542-C	1.84	8542-M	14.66



## GC DIAL DRIVE TENSION PHONO SPRINGS STEEL-CADMIUM PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asst. Reg. Dial Drive						
Asst. Small Dial Drive						
No. 1055 Kit of 25 Asst. Net \$1.23	H401-F	8				
No. 1056 Kit of 100 Asst. Net \$3.57	H400-F	10				
Asst. Lge. Tension Spgs.	H421-F	10				
Asst. Sm. Tension Spgs.	H420-F	10				
Wire Size						
A B C						
5/32" 5/8" .018"	7405-F	8	7405-C	\$ 4.03	7405-M	\$ 32.25
3/16" 9/16" .020"	7407-F	8	7407-C	3.53	7407-M	28.26
1/8" 3/4" .016"	7409-F	6	7409-C	4.10	7409-M	32.77
5/32" 3/4" .020"	7411-F	6	7411-C	4.23	7411-M	33.85
13/64" 1" .022"			7413-C	6.15	7413-M	49.18
13/64" 1 1/4" .022"			7415-C	5.65	7415-M	45.18
1/8" 1/2" 1/4" .019	H403-F	10	6450-C	6.08	6450-M	48.65
1/8" 1" 3/4" .019	H406-F	8	6451-C	4.58	6451-M	36.65
3/8" 1" 5/8" .020	H408-F	8	6452-C	5.11	6452-M	40.92
3/8" 1 1/8" 1" .020	H410-F	8	6453-C	5.25	6453-M	41.98
1/4" 1 1/2" 1" .026	H412-F	6	6454-C	6.78	6454-M	54.24
1/4" 2" 1 1/2" .026			6455-C	8.38	6455-M	67.04



## GC COMPRESSION SPRINGS

Description and Spec.	50-Line No.	Qty. In Box
Asst. Small	H440-F	20
Asst. Large	H441-F	15



## GC FUSE CLIPS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
For 1/4" Fuses, No. 6 Mounting Hole TV Fuse Clip, No. 8618 (\$ .25 Net)	H600-F	12	6311-C	\$ 2.54	6311-M	\$ 20.26



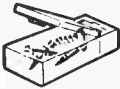
## GC PHONO TURNTABLE MOUNTING SPRINGS

Description and Spec.	Part No.	Net Per 100	No.	Net Per M
O.D. Lgth. Wire No. of Size Coils				
1" x 1/8" 3/16" .079 4	7497-C	\$ 3.83	7497-M	\$ 30.65



# ELECTRONIC HARDWARE

AVAILABLE IN...



50 LINE

100 PER BOX

1000 PER BOX

## GC EYELETS BRASS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asst. Rivets and Eyelets	H526-F	55				
Asst. Eyelets and Clamps	H744-F	60				
Eyelet Ass't.	H510-F	50				
<b>Length</b>						
<b>Shank Dia.</b>	<b>Under Head</b>					
.087 1/8"	1/8"		7251-C	\$.35	7251-M	\$ 2.80
.087 3/16"	3/16"		7252-C	.47	7252-M	3.73
.087 1/4"	1/4"		7253-C	.58	7253-M	4.66
.087 5/16"	5/16"		7254-C	1.35	7254-M	10.80
.123 3/8"	3/8"		7257-C	.65	7257-M	5.20
.123 1/2"	1/2"		7259-C	.52	7259-M	4.13
.123 3/4"	3/4"		7260-C	.68	7260-M	5.46
.123 1"	1"		7261-C	.68	7261-M	5.46
.125 1 1/8"	1 1/8"		7264-C	1.17	7264-M	9.33
.127 1 1/4"	1 1/4"		7265-C	1.43	7265-M	11.46
.182 1 1/2"	1 1/2"		7269-C	.40	7269-M	3.20

## GC RIVETS NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asst. Rivets and Eyelets	H526-F	55				
Rivet Assortment	H525-F	50				
TV Interlock Receptacle Rivets	H527-F	Asst.				
<b>Length</b>						
<b>Shank Dia.</b>	<b>Under Head</b>					
.059 3/16"	3/16"		7276-C	\$1.07	7276-M	\$ 8.53
.059 1/4"	1/4"		7277-C	1.07	7277-M	8.53
.060 5/16"	5/16"		7278-C	.70	7278-M	5.60
.088 3/8"	3/8"		7280-C	1.15	7280-M	9.20
.098 1/2"	1/2"		7283-C	1.20	7283-M	9.60
.121 5/8"	5/8"		7286-C	.93	7286-M	7.46
.121 3/4"	3/4"		7288-C	.73	7288-M	5.86
.121 1"	1"		7290-C	.85	7290-M	6.80
.121 1 1/8"	1 1/8"		7293-C	.78	7293-M	6.26
.146 1 1/4"	1 1/4"		7296-C	.99	7296-M	7.86

## GC GRID CAPS NICKEL PLATED

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd. Glass Metal TV Spring Type, Asstd. 1/4" High-Voltage	H609-F	8				
3/8" High-Voltage	H610-F		8838-1RC	4.60	8838-1RM	36.79
1/4" Insulated High-Voltage	H612-F	1	8834-C	30.39	8834-M	243.10
3/8" Insulated High-Voltage	H614-F	1	8835-C	30.39	8835-M	243.10

## GC RUBBER GROMMETS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd. Soft Grommets No. 1040 Kit of 50	H025-F	15				
Asst. Grommets Net \$.75						
A B C D E						
1/2" 1/8" 3/16" 1/16" 1/4"	H030-F	16	1041-2C	\$ 1.35	1041-2M	10.80
3/8" 3/16" 7/32" 1/16" 5/16"	H032-F	14	1041-C	1.54	1041-M	12.26
3/8" 1/4" 1/4" 1/8" 3/8"	H034-F	12	1042-C	2.02	1042-M	16.13
3/8" 3/8" 1/4" 1/8" 1/2"	H036-F	10	1043-C	2.30	1043-M	18.39
1/2" 3/8" 1/4" 1/8" 3/8"			5710-C	4.60	5710-M	36.78
1/2" 1/4" 3/8" 1/8" 3/8"			7566-C	2.97	7566-M	23.72
7/8" 3/8" 1/4" 1/8" 3/4"			5711-C	4.27	5711-M	34.12
3/4" 3/8" 1/4" 1/8" 3/4"			5712-C	6.23	5712-M	49.85
1 1/4" 1/2" 1/2" 1/8" 5/8"	H038-F	8	1043-1C	3.48	1043-1M	27.86
1 1/4" 3/8" 1/2" 1/8" 1 1/8"			7569-C	6.96	7569-M	55.71
1 1/8" 3/8" 1/2" 1/8" 1 1/8"			5715-C	8.23	5715-M	65.84
1 1/8" 3/8" 1/4" 1/8" 1 1/8"			5716-C	6.93	5716-M	55.45
1 1/8" 1/2" 3/8" 1/8" 1"			5717-C	13.96	5717-M	111.69

## WALSCO VINYL GROMMETS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Assorted D E	7025-F	12				
A B C						
11/32" 1/8" 3/16"	7030-F	14	7030-C	1.10	7030-M	8.94
7/16" 3/16" 7/32"	7032-F	12	7032-C	1.38	7032-M	11.00
9/16" 1/4" 1/4"	7034-F	12	7034-C	1.62	7034-M	11.96
5/8" 3/8" 1/4" 1/16" 1/2"	7036-F	10	7036-C	1.77	7036-M	12.89
13/16" 1/2" 8/32" 1/16" 5/8"	7038-F	8	7038-C	2.77	7038-M	20.39



## GC PURE GUM GROMMETS

Soft rubber grommets for shock dampening. For mounting tuning condensers, sockets, phono motors, etc.

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asst. No. 7581 Kit of 100 Asst. Grommets \$1.62	H040-F	12				
A B C D E						
3/8" 3/8" 3/8" 3/8" 3/8"	H042-F	12	7582-C	1.97	7582-M	15.73
3/8" 1/4" 1/4" 1/4" 3/8"	H043-F	10	7584-C	2.78	7584-M	22.26

## GC RADIO KNOB FELTS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
3/4" O.D. x 1/4" Hole, Brown	H760-F	40	1065-C	.47	1065-M	3.73

## GC RUBBER FEET SCREW TYPE

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
O.D. High	H050-F	8				
3/8" 3/8"	H052-F	8	1075-BC	1.60	1075-BM	12.79
1/2" 1/4"	H054-F	8	1075-CC	2.12	1075-CM	16.93
5/8" 3/8"	H056-F	8	1075-FC	2.98	1075-FM	23.86

## GC RUBBER BUTTON BUMPERS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
A B C Hole Height						
3/8" 3/8" 3/8" 3/8"	H058-F	8	7596-C	1.72	7596-M	13.73
1/2" 3/8" 1/4" 1/4"			7597-C	2.57	7597-M	20.53
5/8" 3/8" 3/8" 3/8"			7598-C	4.13	7598-M	33.05

## GC RUBBER TACK BUMPERS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
3/8" O.D.	H071-F	10	1075-C	2.25	1075-M	17.99

## GC FELT PADS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd. Felt Pads 1/2" O.D. x 1/4" Thick Felt Pads	H074-F	40				
			1071-C	.37	1071-M	2.93

## GC CORD STRAIN RELIEFS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Will Fit P.O.S.J. Cord	H048-F	5	6675-C	6.38	6675-M	51.05

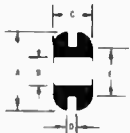
## GC ANGLES AND BRACKETS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Asstd.	H570-F	12				
A B C Hole Size						
1/4" 3/8" 3/8" 6			6261-C	1.35	6261-M	10.80
3/8" 1/4" 3/8" 6			6262-C	1.69	6262-M	13.46
1/2" 3/8" 3/8" 6			6263-C	1.90	6263-M	15.19

## WALSCO ANGLE BRACKETS

Description and Spec.	50-Line No.	Qty. In Box	Part No.	Net Per 100	No.	Net Per M
Plated Steel or Brass						
Material No. A B C Dimensions D E F G H						
7/32" 1/4" 1/4" .120" .144" 25/64" 11/32"	7570-F	12				
Brass cad.-plated 1 1/4" 5/8" 5/16" .144" .144" 23/32" 3/8"			7571-C	2.17	7571-M	17.33
Steel hot-tinned 2 15/64" 7/32" 5/16" .144" .144" 13/32" 1/2" 1/2"			7572-C	1.35	7572-M	10.80
Brass, (1 hole tapped 6-32)			7574-C	2.45	7574-M	19.59
1 15/64" 1/4" 5/16" 6-32" .144" 27/64" 5/8"			7575-C	2.80	7575-M	22.39



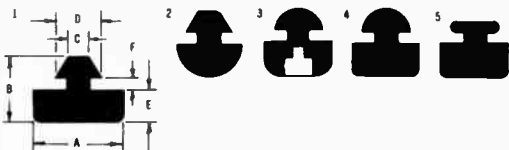


# GROMMETS

All items are molded of natural and synthetic rubber compounds or reclaimed rubber in combination or blends thereof. Items are listed in ascending order of diameter and height.

Part No.	A		B		C		D		E		PRICES	
	Max. Diam.	Hgt.	Insert Head	Base Hgt.	Channel Width	Black	White	Per 100	Per 100	Black	White	
G0B-2101	1/4	1/8	1/8	1/8	1/4	1.95	1.56	1.95	1.56			
G0B-2104	1/4	1/8	1/8	1/8	1/4	1.35	1.08	1.35	1.08			
G0B-2105	1/4	1/8	1/8	1/8	1/4	1.50	1.20	1.50	1.20			
G0B-2110	1/4	1/8	1/8	1/8	1/4	2.70	2.16	2.70	2.16			
G0B-2158	1/4	1/8	1/8	1/8	1/4	1.80	1.44	1.80	1.44			
G0B-2157	1/4	1/8	1/8	1/8	1/4	1.95	1.56	1.95	1.56			
G0B-2156	1/4	1/8	1/8	1/8	1/4	1.95	1.56	1.95	1.56			
G0B-215	1/4	1/8	1/8	1/8	1/4	1.80	1.44	1.80	1.44			
G0B-415	1/4	1/8	1/8	1/8	1/4	1.95	1.56	1.95	1.56			
G0B-2180	1/4	1/8	1/8	1/8	1/4	1.80	1.44	1.80	1.44			
G0B-2161	1/4	1/8	1/8	1/8	1/4	1.85	1.48	1.85	1.48			
G0B-2153	1/4	1/8	1/8	1/8	1/4	2.10	1.68	2.10	1.68			
G0B-2151	1/4	1/8	1/8	1/8	1/4	1.80	1.44	1.80	1.44			
G0B-2154	1/4	1/8	1/8	1/8	1/4	1.80	1.44	1.80	1.44			
G0B-2174	1/4	1/8	1/8	1/8	1/4	2.70	2.16	2.70	2.16			
G0B-2171	1/4	1/8	1/8	1/8	1/4	2.10	1.68	2.10	1.68			
G0B-2173	1/4	1/8	1/8	1/8	1/4	2.25	1.80	2.25	1.80			
G0B-217	1/4	1/8	1/8	1/8	1/4	2.25	1.80	2.25	1.80			
G0B-2172	1/4	1/8	1/8	1/8	1/4	2.25	1.80	2.25	1.80			
G0B-2191	1/4	1/8	1/8	1/8	1/4	2.85	2.28	2.85	2.28			
G0B-219	1/4	1/8	1/8	1/8	1/4	2.85	2.28	2.85	2.28			
G0B-2201	1/4	1/8	1/8	1/8	1/4	2.85	2.28	2.85	2.28			
G0B-220	1/4	1/8	1/8	1/8	1/4	2.40	1.92	2.40	1.92			
G0B-221	1/4	1/8	1/8	1/8	1/4	2.85	2.28	2.85	2.28			
G0B-321	1/4	1/8	1/8	1/8	1/4	2.85	2.28	2.85	2.28			
G0B-523	1/4	1/8	1/8	1/8	1/4	2.85	2.28	2.85	2.28			
G0B-324	1/4	1/8	1/8	1/8	1/4	2.85	2.28	2.85	2.28			
G0B-3241	1/4	1/8	1/8	1/8	1/4	2.85	2.28	2.85	2.28			
G0B-2253	1/4	1/8	1/8	1/8	1/4	4.35	3.48	4.35	3.48			
G0B-2254	1/4	1/8	1/8	1/8	1/4	3.15	2.52	3.15	2.52			
G0B-2280	1/4	1/8	1/8	1/8	1/4	3.75	3.00	3.75	3.00			
G0B-2251	1/4	1/8	1/8	1/8	1/4	4.50	3.60	4.50	3.60			
G0B-3251	1/4	1/8	1/8	1/8	1/4	4.50	3.60	4.50	3.60			
G0B-2257	1/4	1/8	1/8	1/8	1/4	4.50	3.60	4.50	3.60			
G0B-2255	1/4	1/8	1/8	1/8	1/4	3.90	3.12	3.90	3.12			
G0B-2352	1/4	1/8	1/8	1/8	1/4	2.85	2.28	2.85	2.28			
G0B-2252	1/4	1/8	1/8	1/8	1/4	3.60	2.88	3.60	2.88			
G0B-225	1/4	1/8	1/8	1/8	1/4	2.85	2.28	2.85	2.28			
G0B-2258	1/4	1/8	1/8	1/8	1/4	2.85	2.28	2.85	2.28			
G0B-226	1/4	1/8	1/8	1/8	1/4	3.75	3.00	3.75	3.00			
G0B-2261	1/4	1/8	1/8	1/8	1/4	3.90	3.12	3.90	3.12			
G0B-3262	1/4	1/8	1/8	1/8	1/4	8.25	6.60	8.25	6.60			
G0B-3261	1/4	1/8	1/8	1/8	1/4	5.10	4.08	5.10	4.08			
G0B-1101-1	1/4	1/8	1/8	1/8	1/4	4.95	3.96	4.95	3.96			
G0B-1101	1/4	1/8	1/8	1/8	1/4	4.05	3.24	4.05	3.24			
G0B-230	1/4	1/8	1/8	1/8	1/4	4.80	3.84	4.80	3.84			
G0B-2274	1/4	1/8	1/8	1/8	1/4	6.00	4.80	6.00	4.80			
G0B-2272	1/4	1/8	1/8	1/8	1/4	6.00	4.80	6.00	4.80			
G0B-2271	1/4	1/8	1/8	1/8	1/4	6.30	5.05	6.30	5.05			
G0B-1102-5	1/4	1/8	1/8	1/8	1/4	8.70	6.96	8.70	6.96			
G0B-1102	1/4	1/8	1/8	1/8	1/4	7.05	5.64	7.05	5.64			
G0B-1102-2	1/4	1/8	1/8	1/8	1/4	7.05	5.64	7.05	5.64			
G0B-2301	1/4	1/8	1/8	1/8	1/4	10.20	8.16	10.20	8.16			
G0B-1103	1/4	1/8	1/8	1/8	1/4	10.50	8.40	10.50	8.40			
G0B-1105	1/4	1/8	1/8	1/8	1/4	10.50	8.40	10.50	8.40			
G0B-1104	1/4	1/8	1/8	1/8	1/4	21.90	17.52	21.90	17.52			

NOTE: 1. A full range of AN Grommets and MS-35489 Grommets (to specification: Mil G-3036) for military use are available for immediate shipment.  
2. Prices on military and special commercial grommets are available on request.



# BUTTON BUMPERS

All items are molded of natural and synthetic rubber compounds or reclaimed rubber in combination or blends thereof. ITEMS ARE LISTED IN ASCENDING ORDER OF DIAMETER AND HEIGHT FOR EACH FIGURE NUMBER.

Part No.	A		B		C		D		E		F		PRICES	
	Max. Diam.	Hgt.	Insert Head	Base Hgt.	Channel Width	Black	White	Per 100	Per 100	Black	White	Black	White	
BUT-3169	3/8	1/4	1/4	1/4	1/4	1.20	1.35	1.20	1.35	1.20	1.35	1.20	1.35	
BUT-3062	3/8	1/4	1/4	1/4	1/4	1.05	1.35	1.05	1.35	1.05	1.35	1.05	1.35	
BUT-3061	3/8	1/4	1/4	1/4	1/4	1.05	1.35	1.05	1.35	1.05	1.35	1.05	1.35	
BUT-4061	3/8	1/4	1/4	1/4	1/4	1.05	1.35	1.05	1.35	1.05	1.35	1.05	1.35	
BUT-4062	3/8	1/4	1/4	1/4	1/4	1.20	1.50	1.20	1.50	1.20	1.50	1.20	1.50	
BUT-4161	3/8	1/4	1/4	1/4	1/4	1.05	1.35	1.05	1.35	1.05	1.35	1.05	1.35	
BUT-4163	3/8	1/4	1/4	1/4	1/4	1.65	1.95	1.65	1.95	1.65	1.95	1.65	1.95	
BUT-3168	3/8	1/4	1/4	1/4	1/4	1.50	1.65	1.50	1.65	1.50	1.65	1.50	1.65	
BUT-3063	3/8	1/4	1/4	1/4	1/4	1.20	1.50	1.20	1.50	1.20	1.50	1.20	1.50	
BUT-3072	1/2	1/2	1/2	1/2	1/2	1.50	1.95	1.50	1.95	1.50	1.95	1.50	1.95	
BUT-4071	1/2	1/2	1/2	1/2	1/2	1.65	1.95	1.65	1.95	1.65	1.95	1.65	1.95	
BUT-4078	1/2	1/2	1/2	1/2	1/2	1.80	1.95	1.80	1.95	1.80	1.95	1.80	1.95	
BUT-4167	1/2	1/2	1/2	1/2	1/2	1.65	1.95	1.65	1.95	1.65	1.95	1.65	1.95	
BUT-4171	1/2	1/2	1/2	1/2	1/2	1.65	1.95	1.65	1.95	1.65	1.95	1.65	1.95	
BUT-4176	1/2	1/2	1/2	1/2	1/2	1.50	1.80	1.50	1.80	1.50	1.80	1.50	1.80	
BUT-4165	1/2	1/2	1/2	1/2	1/2	1.80	2.10	1.80	2.10	1.80	2.10	1.80	2.10	
BUT-4075	1/2	1/2	1/2	1/2	1/2	1.95	2.40	1.95	2.40	1.95	2.40	1.95	2.40	
BUT-4081	1/2	1/2	1/2	1/2	1/2	1.80	2.25	1.80	2.25	1.80	2.25	1.80	2.25	

Part No.	A		B		C		D		E		F		PRICES	
	Max. Diam.	Hgt.	Insert Head	Base Hgt.	Channel Width	Black	White	Per 100	Per 100	Black	White	Black	White	
BUT-4082	3/8	1/2	1/2	1/2	1/2	2.70	3.60	2.70	3.60	2.70	3.60	2.70	3.60	
BUT-1160	3/4	1/2	1/2	1/2	1/2	2.70	3.75	2.70	3.75	2.70	3.75	2.70	3.75	
BUT-1161	3/4	1/2	1/2	1/2	1/2	2.70	3.75	2.70	3.75	2.70	3.75	2.70	3.75	
BUT-611	7/8	1/2	1/2	1/2	1/2	3.75	4.65	3.75	4.65	3.75	4.65	3.75	4.65	

Part No.	A		B		C		D		E		F		PRICES	
	Max. Diam.	Hgt.	Insert Head	Base Hgt.	Channel Width	Black	White	Per 100	Per 100	Black	White	Black	White	
BUT-4076	1/2	1/2	1/2	1/2	1/2	1.50	1.80	1.50	1.80	1.50	1.80	1.50	1.80	
BUT-3167	3/8	1/2	1/2	1/2	1/2	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	
BUT-3064	3/8	1/2	1/2	1/2	1/2	1.35	1.50	1.35	1.50	1.35	1.50	1.35	1.50	
BUT-3065	3/8	1/2	1/2	1/2	1/2	1.35	1.50	1.35	1.50	1.35	1.50	1.35	1.50	
BUT-6112	3/8	1/2	1/2	1/2	1/2	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	

Part No.	A		B		C		D		E		F		PRICES	
	Max. Diam.	Hgt.	Insert Head	Base Hgt.	Channel Width	Black	White	Per 100	Per 100	Black	White	Black	White	
BUT-306	3/8	3/8	3/8	3/8	3									



**PACKAGED HARDWARE**

**PACKAGED 3 WAYS — TO MEET ALL YOUR REQUIREMENTS**



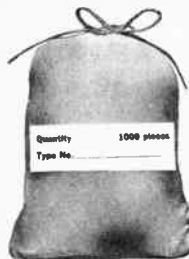
**GREEN-LINE**

All packages are .39 Net. Quantity varies with item. (See listings.)



**BLUE-LINE**

All packages contain 100 pieces each, unless shown otherwise. Price varies with item. (See listings.)



**BULK PACK**

Offers greatest economy. Each bag contains 1000 pieces. Price varies with item. (See listings.)

**HOW TO ORDER:** Simply use correct PART NO. for quantity desired.

ROUND HEAD STEEL MACHINE SCREWS Nickel Plated	GREEN LINE		BLUE LINE		BULK PACK		
	.39 per Pkg.		Pkg. of 100		Bag of 1000		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
2-56 x 1/8"			F-579-C	.70	F-579-M	5.15	3.95
2-56 x 1/4"	GF-461	40	F-461-C	.52	F-461-M	3.90	3.95
2-56 x 1/2"	GF-462	40	F-462-C	.55	F-462-M	4.25	3.25
2-56 x 3/4"	GF-463	40	F-463-C	.64	F-463-M	4.90	3.75
3-48 x 3/4"	GF-464	40	F-464-C	.64	F-464-M	4.90	3.75
4-36 x 1/4"	GF-465	40	F-465-C	.55	F-465-M	4.25	3.25
4-36 x 3/8"	GF-466	35	F-466-C	.57	F-466-M	4.45	3.40
4-36 x 1/2"	GF-467	35	F-467-C	.59	F-467-M	4.60	3.50
4-36 x 5/8"			F-580-C	.63	F-580-M	4.95	3.80
4-36 x 3/4"	GF-468	35	F-468-C	.70	F-468-M	5.50	4.20
4-40 x 1/4"	GF-469	40	F-469-C	.55	F-469-M	4.25	3.25
4-40 x 3/8"			F-581-C	.57	F-581-M	4.45	3.40
4-40 x 1/2"	GF-470	35	F-470-C	.59	F-470-M	4.60	3.50
4-40 x 5/8"			F-582-C	.63	F-582-M	5.00	3.80
4-40 x 3/4"	GF-471	35	F-471-C	.70	F-471-M	5.50	4.20
6-32 x 1/4"	GF-472	30	F-472-C	.58	F-472-M	4.70	3.55
6-32 x 3/8"			F-583-C	.63	F-583-M	4.95	3.75
6-32 x 1/2"	GF-473	30	F-473-C	.68	F-473-M	5.40	4.15
6-32 x 5/8"			F-584-C	.75	F-584-M	5.95	4.55
6-32 x 3/4"	GF-474	30	F-474-C	.79	F-474-M	6.45	4.95
6-32 x 1"	GF-475	30	F-475-C	.91	F-475-M	7.30	5.60
6-32 x 1-1/4"	GF-476	30	F-476-C	1.10	F-476-M	8.85	6.75
6-32 x 2"	GF-477	20	F-477-C	1.65	F-477-M	13.25	10.10
8-32 x 1/4"	GF-478	30	F-478-C	.77	F-478-M	6.15	4.70
8-32 x 3/8"	GF-479	25	F-479-C	.86	F-479-M	6.75	5.15
8-32 x 1/2"	GF-480	25	F-480-C	.90	F-480-M	7.20	5.50
8-32 x 5/8"			F-585-C	.96	F-585-M	7.65	5.85
8-32 x 3/4"	GF-481	25	F-481-C	1.02	F-481-M	8.10	6.20
8-32 x 1"	GF-482	20	F-482-C	1.18	F-482-M	9.35	7.15
8-32 x 1-1/4"	GF-483	20	F-483-C	1.35	F-483-M	10.95	8.35
10-32 x 1/2"	GF-484	20	F-484-C	1.05	F-484-M	8.30	6.35
10-32 x 5/8"			F-586-C	1.13	F-586-M	9.00	6.90
10-32 x 3/4"	GF-485	20	F-485-C	1.23	F-485-M	9.90	7.55
10-32 x 1"	GF-486	17	F-486-C	1.38	F-486-M	10.90	8.35
10-32 x 1-1/2"	GF-487	15	F-487-C	1.82	F-487-M	14.45	11.00
12-24 x 3/4"			F-587-C	1.64	F-587-M	13.45	10.25
12-24 x 1"			F-588-C	1.90	F-588-M	16.05	12.25
12-24 x 1-1/2"			F-589-C	2.53	F-589-M	20.85	15.85
12-24 x 2"			F-590-C	2.98	F-590-M	24.45	18.65
1/4-20 x 1/2"			F-488-C	1.99	F-488-M	16.30	12.45
1/4-20 x 3/4"			F-489-C	2.27	F-489-M	18.60	14.15
1/4-20 x 1"			F-490-C	2.59	F-490-M	21.20	16.15
1/4-20 x 1-1/4"			F-491-C	2.94	F-491-M	24.10	18.35
1/4-20 x 1-3/4"			F-492-C	3.56	F-492-M	29.25	22.30

ROUND HEAD BRASS MACHINE SCREWS Nickel Plated	GREEN LINE		BLUE LINE		BULK PACK		
	.39 per Pkg.		Pkg. of 100		Bag of 1000		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
2-56 x 1/4"			F-461B-C	.77	F-461B-M	6.05	4.60
2-56 x 1/2"			F-462B-C	.88	F-462B-M	7.10	5.40
2-56 x 3/4"			F-463B-C	1.02	F-463B-M	8.40	6.40
3-48 x 3/4"			F-464B-C	1.16	F-464B-M	9.45	7.25
4-36 x 1/4"			F-465B-C	.88	F-465B-M	7.10	5.40
4-36 x 3/8"			F-466B-C	1.12	F-466B-M	8.90	6.80
4-36 x 1/2"			F-467B-C	1.23	F-467B-M	9.20	7.00
4-36 x 5/8"			F-580B-C	1.32	F-580B-M	9.90	2.55
4-36 x 3/4"			F-468B-C	1.40	F-468B-M	10.80	8.25
4-40 x 1/4"			F-469B-C	.88	F-469B-M	7.10	5.40
4-40 x 1/2"			F-470B-C	1.12	F-470B-M	8.90	6.80
4-40 x 5/8"			F-582B-C	1.32	F-582B-M	9.90	7.55
4-40 x 3/4"			F-471B-C	1.40	F-471B-M	10.80	8.25
6-32 x 1/4"			F-472B-C	1.19	F-472B-M	9.50	7.25
6-32 x 3/8"			F-583B-C	1.27	F-583B-M	10.15	7.75
6-32 x 1/2"			F-473B-C	1.43	F-473B-M	11.40	8.70
6-32 x 5/8"			F-584B-C	1.66	F-584B-M	12.60	9.65
6-32 x 3/4"			F-474B-C	1.74	F-474B-M	14.05	10.65
6-32 x 1"			F-475B-C	2.07	F-475B-M	16.50	12.60
6-32 x 1-1/4"			F-476B-C	2.40	F-476B-M	19.60	14.50
6-32 x 2"			F-477B-C	4.05	F-477B-M	33.35	14.65
8-32 x 1/4"			F-478B-C	1.86	F-478B-M	14.45	11.00
8-32 x 3/8"			F-479B-C	1.85	F-479B-M	14.75	11.30
8-32 x 1/2"			F-480B-C	2.11	F-480B-M	16.90	12.90
8-32 x 5/8"			F-585B-C	2.46	F-585B-M	19.10	19.60
8-32 x 3/4"			F-481B-C	2.59	F-481B-M	20.65	15.75
8-32 x 1"			F-482B-C	3.08	F-482B-M	24.60	18.75
8-32 x 1-1/4"			F-483B-C	3.61	F-483B-M	28.90	22.05
10-32 x 1/2"			F-484B-C	2.67	F-484B-M	21.45	16.35
10-32 x 5/8"			F-586B-C	2.97	F-586B-M	23.85	18.20
10-32 x 3/4"			F-485B-C	3.25	F-485B-M	25.90	19.75
10-32 x 1"			F-486B-C	3.87	F-486B-M	30.90	23.55

**OVAL HEAD STEEL MACHINE SCREWS  
Nickel Plated**



6-32 x 1/2"	GF-506	30	F-506-C	.68	F-506-M	5.40	4.15
6-32 x 3/4"	GF-507	30	F-507-C	.79	F-507-M	6.45	4.95
8-32 x 3/4"	GF-508	25	F-508-C	1.02	F-508-M	8.10	6.30
10-32 x 1/2"	GF-509	20	F-509-C	1.05	F-509-M	8.30	6.35
10-32 x 3/4"	GF-510	20	F-510-C	1.23	F-510-M	9.90	7.55

WRITE FOR QUOTATIONS ON LARGER QUANTITIES.



**HARDWARE**

**PACKAGED HARDWARE (Continued)**

BINDER HEAD STEEL MACHINE SCREWS Nickel Plated	GREEN LINE		BLUE LINE		BULK PACK		
	.39 per Pkg.		Pkg. of 100		Bag of 1000		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	Per Bag	
2-56 x 1/8"			F-591-C	.70	F-591-M	5.15	3.95
2-56 x 1/4"			F-592-C	.52	F-592-M	3.90	2.95
2-56 x 1/2"			F-593-C	.55	F-593-M	4.25	3.25
2-56 x 5/8"			F-594-C	.64	F-594-M	4.85	3.70
4-40 x 1/4"	GF-020	40	F-020-C	.55	F-020-M	4.25	3.25
4-40 x 1/2"	GF-021	35	F-021-C	.59	F-021-M	4.60	3.50
4-40 x 3/4"	GF-022	35	F-022-C	.70	F-022-M	5.50	4.20
6-32 x 3/16"	GF-502	40	F-502-C	.61	F-502-M	4.70	3.60
6-32 x 1/4"	GF-503	40	F-503-C	.58	F-503-M	4.70	3.55
6-32 x 3/8"	GF-504	35	F-504-C	.63	F-504-M	4.95	3.75
6-32 x 1/2"	GF-014	30	F-014-C	.68	F-014-M	5.40	4.15
6-32 x 5/8"			F-621-C	.75	F-621-M	5.95	4.55
6-32 x 3/4"	GF-015	30	F-015-C	.79	F-015-M	6.45	4.95
8-32 x 1/4"	GF-023	30	F-023-C	.77	F-023-M	6.10	4.65
8-32 x 5/16"	GF-505	30	F-505-C	.86	F-505-M	6.75	5.15
8-32 x 3/8"	GF-024	25	F-024-C	.86	F-024-M	6.75	5.15
8-32 x 1/2"	GF-025	25	F-025-C	.90	F-025-M	7.20	5.50
8-32 x 3/4"	GF-026	25	F-026-C	1.02	F-026-M	8.10	6.20
10-32 x 1/2"	GF-577	20	F-577-C	1.05	F-577-M	8.30	6.35
10-32 x 3/4"	GF-578	20	F-578-C	1.23	F-578-M	9.90	7.55

BINDER HEAD BRASS MACHINE SCREWS Nickel Plated	GREEN LINE		BLUE LINE		BULK PACK		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	Per Bag	
4-40 x 1/4"			F-020B-C	.88	F-020B-M	7.10	5.40
4-40 x 1/2"			F-021B-C	1.12	F-021B-M	8.90	6.80
4-40 x 3/4"			F-022B-C	1.40	F-022B-M	10.80	8.25
6-32 x 1/4"			F-503B-C	1.19	F-503B-M	9.50	7.25
6-32 x 3/8"			F-504B-C	1.27	F-504B-M	18.15	7.75
6-32 x 1/2"			F-014B-C	1.43	F-014B-M	11.40	8.70
6-32 x 3/4"			F-015B-C	1.74	F-015B-M	13.95	10.65
8-32 x 1/4"			F-023B-C	1.76	F-023B-M	14.45	11.00
8-32 x 3/8"			F-024B-C	1.85	F-024B-M	14.75	11.30
8-32 x 1/2"			F-025B-C	2.11	F-025B-M	16.90	12.90
8-32 x 3/4"			F-026B-C	2.59	F-026B-M	20.65	15.75

FILLISTER HEAD STEEL MACHINE SCREWS Cadmium Plated	GREEN LINE		BLUE LINE		BULK PACK		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	Per Bag	
2-56 x 1/4"			F-606-C	.52	F-606-M	3.90	2.95
2-56 x 1/2"			F-607-C	.55	F-607-M	4.25	3.25
4-40 x 1/4"			F-608-C	.55	F-608-M	4.25	3.25
4-40 x 1/2"			F-609-C	.59	F-609-M	4.60	3.50
4-40 x 3/4"			F-610-C	.70	F-610-M	5.50	4.20
6-32 x 1/4"			F-611-C	.58	F-611-M	4.70	3.55
6-32 x 1/2"			F-612-C	.68	F-612-M	5.40	4.15
6-32 x 3/4"			F-613-C	.79	F-613-M	6.45	4.95
8-32 x 3/8"			F-614-C	.86	F-614-M	6.75	5.15
8-32 x 1/2"			F-615-C	.90	F-615-M	7.20	5.50
8-32 x 3/4"			F-616-C	1.02	F-616-M	8.10	6.20
10-32 x 1/2"			F-617-C	1.25	F-617-M	8.30	6.35

FLAT HEAD STEEL MACHINE SCREWS Nickel Plated	GREEN LINE		BLUE LINE		BULK PACK		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	Per Bag	
4-40 x 1/4"			F-622-C	.55	F-622-M	4.25	3.25
4-40 x 3/8"			F-623-C	.57	F-623-M	4.45	3.40
4-40 x 1/2"			F-624-C	.59	F-624-M	4.60	3.50
6-32 x 1/4"			F-625-C	.58	F-625-M	4.70	3.55
6-32 x 3/8"			F-626-C	.63	F-626-M	4.95	3.75
6-32 x 1/2"			F-627-C	.68	F-627-M	5.40	4.15
6-32 x 3/4"			F-628-C	.79	F-628-M	6.45	4.95
8-32 x 3/8"			F-629-C	.86	F-629-M	6.75	5.15
8-32 x 1/2"			F-630-C	.90	F-630-M	7.20	5.50
8-32 x 3/4"			F-631-C	1.02	F-631-M	8.10	6.20
10-32 x 1/2"			F-632-C	1.05	F-632-M	8.30	6.35

PHILLIPS HEAD ROUND STEEL MACHINE SCREWS Nickel Plated	GREEN LINE		BLUE LINE		BULK PACK		
	.39 per Pkg.		Pkg. of 100		Bag of 1000		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	Per Bag	
6-32 x 1/4"	GF-494	24	F-494-C	1.30	F-494-M	10.30	7.85
6-32 x 5/16"	GF-018	24	F-018-C	1.30	F-018-M	10.45	8.00
6-32 x 1/2"	GF-495	18	F-495-C	1.18	F-495-M	9.45	7.25
6-32 x 3/4"	GF-496	18	F-496-C	1.34	F-496-M	10.65	8.15
6-32 x 1"	GF-497	18	F-497-C	1.51	F-497-M	12.00	9.15
8-32 x 1/4"	GF-019	18	F-019-C	1.43	F-019-M	11.75	8.95
8-32 x 1/2"	GF-499	15	F-499-C	1.34	F-499-M	10.75	8.20
8-32 x 3/4"	GF-500	12	F-500-C	1.46	F-500-M	11.65	8.90
8-32 x 1"	GF-501	12	F-501-C	1.63	F-501-M	13.35	10.20

ORNAMENTAL HEAD STEEL MACHINE SCREWS Statuary Bronze Plated	GREEN LINE		BLUE LINE		BULK PACK		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	Per Bag	
6-32 x 3/4"	GF-511	25	F-511-C	1.44	F-511-M	11.55	8.80
6-32 x 1"	GF-512	20	F-512-C	1.54	F-512-M	12.65	9.65
6-32 x 1-1/4"	GF-513	12	F-513-C	2.11	F-513-M	17.30	13.20

HEX STEEL NUTS Nickel Plated	GREEN LINE		BLUE LINE		BULK PACK				
	Thrd.	Width Thk.	Part No.	Per Pkg.	Part No.	Per Bag			
2-56x3/16x1/16"			GF-554	40	F-554-C	.75	F-554-M	5.95	4.55
3-48x3/16x1/16"			GF-555	40	F-555-C	.75	F-555-M	5.98	
4-36x1/4x3/32"			GF-556	40	F-556-C	.74	F-556-M	2.85	
4-40x1/4x3/32"			GF-557	40	F-557-C	.74	F-557-M	5.85	4.50
6-32x1/4x3/32"			GF-559	40	F-559-C	.74	F-559-M	5.85	4.50
6-32x5/16x7/64"			GF-560	35	F-560-C	.80	F-560-M	6.40	4.80
8-32x1/4x3/32"			GF-561	40	F-561-C	.74	F-561-M	5.85	4.50
8-32x5/16x7/64"			GF-562	35	F-562-C	.80	F-562-M	6.40	4.90
10-32x3/8x1/8"			GF-563	30	F-563-C	.94	F-563-M	7.50	5.70
12-24x7/16x5/32"			GF-564	25	F-564-C	1.24	F-564-M	10.20	7.80
14-20x7/16x3/16"			GF-564	25	F-564-C	1.34	F-564-M	10.75	8.20

HEX BRASS NUTS Nickel Plated	GREEN LINE		BLUE LINE		BULK PACK				
	Thrd.	Width Thk.	Part No.	Per Pkg.	Part No.	Per Bag			
2-56x3/16x1/16"			F-554B-C	1.08	F-554B-M	8.65	6.60		
3-48x3/16x1/16"			F-555B-C	.98	F-555B-M	7.90	6.05		
4-36x1/4x2/32"			F-556B-C	1.30	F-556B-M	10.40	7.95		
4-40x1/4x3/32"			GF-557B	25	F-557B-C	1.29	F-557B-M	10.30	7.85
6-32x1/4x3/32"			GF-559B	25	F-559B-C	1.28	F-559B-M	10.25	7.95
6-32x5/16x7/64"			F-560B-C	1.54	F-560B-M	12.40	9.45		
8-32x1/4x3/32"			F-561B-C	1.28	F-561B-M	10.25	7.85		
8-32x5/16x7/64"			GF-562B	15	F-562B-C	1.54	F-562B-M	12.40	9.45
10-32x3/8x1/8"			GF-563B	15	F-563B-C	1.68	F-563B-M	13.55	10.35

VOLUME CONTROL AND TOGGLE SWITCH MOUNTING NUTS Nickel Plated	GREEN LINE		BLUE LINE		BULK PACK		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	Per Bag	
(For Volume Control)							
3/8-32x1/2x3/32"	GF-565	15	F-565-C	1.62	F-565-M	13.25	10.10
(For Toggle Switch)							
15/32-32x9/16x5/64"	GF-566	10	F-566-C	1.98	F-566-M	16.25	12.40
4/6-32x10/32x1/16"	GF-567	6	F-567-C	3.74	F-567-M	29.95	22.85
Knurled Ring Nut—Brass Nickel							

WING NUTS Nickel Plated	GREEN LINE		BLUE LINE		BULK PACK		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	Per Bag	
6-32	GF-571	10	F-571-C	2.89	F-571-M	24.05	18.35
8-32	GF-572	10	F-572-C	2.89	F-572-M	24.05	18.35
10-32	GF-573	8	F-573-C	2.89	F-573-M	24.05	18.35

WRITE FOR QUOTATIONS ON LARGER QUANTITIES.



PACKAGED HARDWARE (Continued)

SLOTTED HEX HEAD SHEET METAL SCREWS (Type A) Nick. Pl.	GREEN LINE		BLUE LINE		BULK PACK		
	.39 per Pkg.		Pkg. of 100		Bag of 1000		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
4 x 3/8"	GF-016	35	F-016-C	.85	F-016-M	6.90	5.25
4 x 1/2"	GF-523	35	F-523-C	.90	F-523-M	7.40	5.65
6 x 1/4"	GF-524	30	F-524-C	.96	F-524-M	8.00	6.10
6 x 3/8"	GF-525	25	F-525-C	.98	F-525-M	8.05	6.15
6 x 1/2"	GF-526	25	F-526-C	1.03	F-526-M	8.55	6.50
6 x 5/8"			F-595-C	1.05	F-595-M	8.60	6.55
6 x 3/4"	GF-527	20	F-527-C	1.10	F-527-M	8.75	6.65
8 x 1/4"	GF-528	20	F-528-C	1.10	F-528-M	8.75	6.65
8 x 3/8"	GF-529	20	F-529-C	1.16	F-529-M	9.20	7.00
8 x 1/2"	GF-530	20	F-530-C	1.19	F-530-M	9.45	7.25
8 x 5/8"	GF-017	17	F-017-C	1.21	F-017-M	9.65	7.35
8 x 1"	GF-531	15	F-531-C	1.55	F-531-M	12.25	9.35
10 x 3/8"	GF-532	15	F-532-C	1.29	F-532-M	10.30	7.85
10 x 1/2"	GF-533	15	F-533-C	1.40	F-533-M	11.10	8.45
10 x 3/4"	GF-534	12	F-534-C	1.54	F-534-M	12.25	9.35

HEX WASHER HEAD SHEET METAL SCREWS (Type A) Steel-Indented Slotted Head Nickel Plated

6 x 1/4"	GF-056	25	F-056-C	1.00	F-056-M	8.10	6.20
6 x 3/8"	GF-057	22	F-057-C	1.03	F-057-M	8.55	6.50
6 x 1/2"	GF-050	22	F-050-C	1.09	F-050-M	8.70	6.60
6 x 5/8"			F-058-C	1.12	F-058-M	9.20	7.00
6 x 3/4"	GF-054	18	F-054-C	1.18	F-054-M	9.65	7.35
8 x 1/4"	GF-051	18	F-051-C	1.18	F-051-M	9.65	7.35
8 x 3/8"	GF-052	18	F-052-C	1.23	F-052-M	10.10	7.70
8 x 1/2"	GF-053	18	F-053-C	1.28	F-053-M	9.35	7.15
8 x 5/8"	GF-055	15	F-055-C	1.30	F-055-M	10.65	8.15
8 x 3/4"			F-059-C	1.45	F-059-M	11.90	9.10

PAN HEAD SHEET METAL SCREWS (TYPE A) Nickel Plated

4 x 1/2"			F-596-C	.85	F-596-M	6.90	5.25
6 x 1/4"	GF-033	30	F-033-C	.90	F-033-M	7.40	5.65
6 x 3/8"			F-597-C	.92	F-597-M	7.60	5.80
6 x 1/2"	GF-034	25	F-034-C	.98	F-034-M	8.05	6.15
6 x 3/4"	GF-035	20	F-035-C	1.07	F-035-M	8.65	6.60
8 x 1/4"	GF-036	20	F-036-C	1.07	F-036-M	8.65	6.60
8 x 3/8"			F-598-C	1.12	F-598-M	9.10	6.90
8 x 1/2"	GF-037	20	F-037-C	1.16	F-037-M	9.20	7.00
8 x 1"	GF-038	15	F-038-C	1.47	F-038-M	12.10	9.20

ROUND HEAD STEEL WOOD SCREWS Nickel Plated

4 x 1/2"	GF-514	25	F-514-C	.86	F-514-M	6.90	5.25
4 x 3/4"	GF-515	25	F-515-C	.99	F-515-M	7.95	6.05
6 x 3/4"	GF-516	20	F-516-C	1.07	F-516-M	8.55	6.50
6 x 1"	GF-517	20	F-517-C	1.32	F-517-M	10.55	8.05
8 x 3/4"	GF-518	15	F-518-C	1.27	F-518-M	10.10	7.70
8 x 1"	GF-047	15	F-047-C	1.46	F-047-M	12.20	9.30
8 x 1-1/4"	GF-519	10	F-519-C	1.74	F-519-M	14.00	10.65
10 x 1-1/2"	GF-520	10	F-520-C	2.33	F-520-M	18.70	14.25
12 x 1-1/2"	GF-521	6	F-521-C	2.97	F-521-M	23.85	18.20
14 x 1-3/4"	GF-522	6	F-522-C	4.18	F-522-M	33.60	25.60

FLAT HEAD STEEL WOOD SCREWS Nickel Plated

8 x 1/2"	GF-027	25	F-027-C	.86	F-027-M	6.90	5.25
8 x 1"	GF-048	15	F-048-C	1.49	F-048-M	12.20	9.30
8 x 1-1/4"	GF-032	10	F-032-C	1.74	F-032-M	14.00	10.65
10 x 1-1/2"	GF-044	10	F-044-C	2.33	F-044-M	18.70	14.25

STEEL SPADE BOLT #6 Nickel Plated

6-32 x 14" (7/8" L)		F-620-C	1.23	F-620-M	10.05	7.70
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Screw Size	FLAT STEEL WASHERS Nickel Plated			GREEN LINE		BLUE LINE		BULK PACK	
	I. D. In.	O. D. In.	Thk. In.	.39 per Pkg.		Pkg. of 100		Bag of 1000	
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag		
2	.092	7/32	.018						
4	.125	9/32	.025	GMW-401	110	MW-400-C	.47	MW-400-M	3.90 3.00
6	.150	3/8	.032	GMW-402	115	MW-401-C	.36	MW-401-M	3.05 2.30
8	.170	3/8	.032	GMW-403	110	MW-402-C	.36	MW-402-M	3.05 2.30
10	.204	7/16	.032	GMW-404	105	MW-403-C	.41	MW-403-M	3.05 2.30
3/4	.281	5/8	.050	GMW-408	60	MW-404-C	.74	MW-404-M	3.45 2.60
3/8	.392	11/16	.050			MW-408-C	.74	MW-408-M	5.85 4.50
						MW-410-C	.77	MW-410-M	6.20 4.75

Screw Size	FLAT BRASS WASHERS Nickel Plated			GREEN LINE		BLUE LINE		BULK PACK	
	I. D. In.	O. D. In.	Thk. In.	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag
2	.092	7/32	.018			MW-400B-C	.50	MW-400B-M	4.05 3.10
4	.125	9/32	.025			MW-401B-C	.52	MW-401B-M	4.25 3.25
6	.150	3/8	.032			MW-402B-C	.68	MW-402B-M	5.40 4.15
8	.170	3/8	.032			MW-403B-C	.68	MW-403B-M	5.40 4.15
10	.204	7/16	.032			MW-404B-C	.74	MW-404B-M	5.85 4.50

Screw Size	FLAT FIBER WASHERS			GREEN LINE		BLUE LINE		BULK PACK	
	I. D. In.	O. D. In.	Thk. In.	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag
4	.120	1/4	1/32	GFW-374	35	FW-374-C	.48	FW-374-M	3.95 3.05
6	.145	1/4	1/32	GFW-375	30	FW-375-C	.48	FW-375-M	3.95 3.05
8	3/16	3/8	1/32	GFW-376	30	FW-376-C	.52	FW-376-M	4.25 3.25
10	.192	3/8	1/32	GFW-377	30	FW-377-C	.52	FW-377-M	4.25 3.25
1/4	.255	1/2	1/32	GFW-378	24	FW-378-C	.57	FW-378-M	4.45 3.40
3/8	3/8	5/8	1/32	GFW-379	20	FW-379-C	.85	FW-379-M	6.75 5.15
7/16	.440	3/4	1/32	GFW-380	17	FW-380-C	.91	FW-380-M	7.45 5.65

Screw Size	EXTRUDED FIBER WASHERS			GREEN LINE		BLUE LINE		BULK PACK	
	I. D. In.	O. D. In.	Thk. In.	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag
4	1/8	9/32	5/64	GFW-384	25	FW-384-C	.96	FW-384-M	7.60 5.80
6	9/64	5/16	5/64	GFW-385	25	FW-385-C	.96	FW-385-M	7.60 5.80
8	11/64	3/8	3/32	GFW-386	20	FW-386-C	.96	FW-386-M	7.60 5.80
10	13/64	7/16	3/32	GFW-387	20	FW-387-C	1.05	FW-387-M	8.30 6.35
1/4	.256	1/2	3/32	GFW-388	20	FW-388-C	1.05	FW-388-M	8.30 6.35
3/8	.375	5/8	3/32	GFW-389	20	FW-389-C	1.08	FW-389-M	8.55 6.55

Screw Size	STEEL CUP WASHERS Nickel Plated			GREEN LINE		BLUE LINE		BULK PACK	
	I. D. In.	O. D. In.	Thk. In.	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag
6				GCW-6	45	CW-6-C	.51	CW-6-M	4.15 3.15
8				GCW-8	45	CW-8-C	.54	CW-8-M	4.45 3.90
10				GCW-10	35	CW-10-C	.61	CW-10-M	4.80 3.65

Screw Size	STEEL SPLIT LOCK WASHERS Zinc Plated			GREEN LINE		BLUE LINE		BULK PACK	
	I. D. In.	O. D. In.	Thk. In.	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag
#4 Screw				GMW-411	80	MW-411-C	.63	MW-411-M	4.95 3.80
#6 Screw				GMW-412	80	MW-412-C	.52	MW-412-M	4.25 3.25
#8 Screw				GMW-413	80	MW-413-C	.51	MW-413-M	4.15 3.15
#10 Screw				GMW-414	70	MW-414-C	.58	MW-414-M	4.70 3.55
#1/4 Screw				GMW-415	50	MW-415-C	.88	MW-415-M	7.00 5.35

Mtl. In.	METAL CABLE CLAMPS Cadmium Plated			GREEN LINE		BLUE LINE		BULK PACK	
	Ht. In.	W. In.	Wire Hold Area	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag
.020B	7/16	1/4	3/32			C-201-C	.89	C-201-M	7.30 5.60
.032S	5/8	3/8	10/64	GC-202	25	C-202-C	1.12	C-202-M	9.20 7.00
.032S	11/16	3/8	1/4	GC-203	20	C-203-C	1.29	C-203-M	10.55 8.05
.032S	15/16	3/8	10/32	GC-204	15	C-204-C	1.43	C-204-M	11.70 8.95


Thick-ness	SPRING CLIPS Brass, Nickel Plated			GREEN LINE		BLUE LINE		BULK PACK	
	Ht. In.	W. In.	Mtg. Hole In.	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag
.016	45/64	7/32	.130	GC-101	15	C-101-C	1.51	C-101-M	11.95 9.10
.020	25/32	5/16	.144	GC-102	14	C-102-C	2.00	C-102-M	15.80 12.05
.022	1	3/8	.144			C-103-C	2.94	C-103-M	24.45 18.65

WRITE FOR QUOTATIONS ON LARGER QUANTITIES.




**PACKAGED HARDWARE (SHAKEPROOF® PRODUCTS)**

**LIVE-ACTION INTERNAL LOCKWASHERS**

 <p>Spring-steel cadmium-plated</p> <p>Bite on both sides, to lock tight, stay tight, where others fail.</p>	Screw Size	Shakeproof® Part No.	O.D.	Material Thickness	GREEN LINE		BLUE LINE		BULK PACK		
					.39 per Pkg.		Pkg. of 100		Bag of 1000		
					Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
	2	1202	.185-.175	.013	GMW-416	60	MW-428-C	.80	MW-428-M	4.95	3.45
	4	1204	.265-.255	.015	GMW-416	60	MW-416-C	.48	MW-416-M	3.15	2.20
	6	1206	.288-.278	.018	GMW-417	60	MW-417-C	.48	MW-417-M	3.15	2.20
	8	1208	.336-.325	.020	GMW-418	55	MW-418-C	.53	MW-418-M	3.30	2.30
	10	1210	.381-.370	.022	GMW-419	55	MW-419-C	.53	MW-419-M	3.30	2.30
	1/4	1214	.478-.466	.025	GMW-420	35	MW-420-C	.69	MW-420-M	4.45	3.10
	3/8	1220	.692-.678	.035	GMW-421	25	MW-421-C	1.03	MW-421-M	7.80	5.40

**LIVE-ACTION EXTERNAL LOCKWASHERS**

 <p>Spring-steel, cadmium-plated.</p> <p>Bite on both sides, to lock tight, stay tight, where others fail.</p>	Screw Size	Shakeproof® Part No.	O.D.	Material Thickness	Part No.	Quan.	Per Pkg.	Part No.	Per Bag	Per Bag	
	6	1106	.317-.306	.020			MW-423-C	.48	MW-423-M	3.15	2.20
	8	1108	.381-.370	.020			MW-424-C	.53	MW-424-M	3.30	2.30
	10	1110	.406-.395	.022			MW-425-C	.53	MW-425-M	3.30	2.30
	1/4	1114	.506-.494	.025			MW-426-C	.69	MW-426-M	4.45	3.10
	3/8	1120	.695-.680	.035			MW-427-C	1.03	MW-427-M	7.80	5.40


**LOCKING TERMINALS** Bronze hot tin-dipped, .018 thickness

<p>Provide the economy and efficiency of a combination wire terminal and Shakeproof® lockwasher.</p>	Screw Size	Shakeproof® Part No.	Length	1. Form	2.	GREEN LINE		BLUE LINE		BULK PACK		
						.39 per Pkg.		Pkg. of 100		Bag of 1000		
						Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
Style 4	4	2101-04-00	7/8	1	GT-196	20	T-196-C	1.28	T-196-M	8.85	7.15	
	6	2101-06-00	7/8	1	GT-197	20	T-197-C	1.28	T-197-M	8.85	7.15	
	8	2101-08-00	7/8	1	GT-198	20	T-198-C	1.28	T-198-M	8.85	7.15	
	10	2101-10-00	57/64	1	GT-223	20	T-223-C	1.30	T-223-M	8.95	7.25	
Style 10	4	2103-04-00	13/16	2			T-247-C	1.28	T-247-M	8.85	7.15	
	6	2103-06-00	13/16	2			T-248-C	1.28	T-248-M	8.85	7.15	
	8	2103-08-00	13/16	2			T-249-C	1.28	T-249-M	8.85	7.15	
	10	2103-10-00	53/64	2			T-250-C	1.43	T-250-M	9.40	7.60	
Style 9	4	2106-04-00	5/8	1			T-229-C	1.20	T-229-M	8.70	7.05	
	6	2106-06-00	5/8	1	GT-194	20	T-194-C	1.20	T-194-M	8.70	7.05	
	8	2106-08-00	5/8	1	GT-195	20	T-195-C	1.20	T-195-M	8.70	7.05	
Style 11	4	2102-04-00	23/32	1			T-230-C	1.20	T-230-M	8.70	7.05	
	6	2102-06-00	23/32	1			T-231-C	1.20	T-231-M	8.70	7.05	
	8	2102-08-00	23/32	1			T-232-C	1.20	T-232-M	8.70	7.05	
	4	2104-04-00	5/8	2			T-233-C	1.20	T-233-M	8.70	7.05	
	6	2104-06-00	5/8	2			T-234-C	1.20	T-234-M	8.70	7.05	
	8	2104-08-00	5/8	2			T-234-C	1.20	T-235-M	8.70	7.05	
	10	2104-10-00	41/64	2			T-236-C	1.30	T-236-M	8.95	7.25	
	6	2108-06-00	25/32	1			T-237-C	1.41	T-237-M	9.35	7.60	
	10	2108-10-00	51/64	1			T-238-C	1.47	T-238-M	9.55	7.75	

**PLAIN TERMINALS** Brass hot tin-dipped, .018 thickness

<p>Style 1</p> <p>Style 4</p> <p>Style 7</p>	Screw Size	Shakeproof® Part No.	Length	Form	Part No.	Quan.	Per Pkg.	Part No.	Per Bag	Per Bag	
	6	2522-05-00	21/32	1			T-240-C	.76	T-240-M	5.60	4.55
	6	2501-06-00	7/8	1			T-241-C	.81	T-241-M	5.95	4.85
	8	2501-08-00	7/8	1			T-242-C	.81	T-242-M	5.95	4.85
	10	2501-10-00	57/64	1			T-243-C	.81	T-243-M	5.95	4.85
	6	2506-06-00	5/8	1			T-244-C	.81	T-244-M	5.95	4.85
	8	2506-08-00	5/8	1			T-245-C	.81	T-245-M	5.95	4.85
	10	2506-10-00	5/8	1			T-246-C	.81	T-246-M	5.95	4.85

**EXTERNAL LOCKWASHER KEPS®—STANDARD SIZES**

 <p>American Standard Machine Screw Nut Series, Nut, SAE20 steel; Washer, spring steel, cadmium-plated. Lockwasher and nut are pre-assembled. Reusable, free-spinning, they drive easily, cut assembly time, lock securely.</p>	Diameter and Thread	Shakeproof® Part No.	Across Flats	Nut Thickness	GREEN LINE		BLUE LINE		BULK PACK		
					.39 per Pkg.		Pkg. of 100		Bag of 1000		
					Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
	4-40	511-041800-00	1/4	3/32			511-041800-00-C	2.73	511-041800-00-M	20.75	16.35
	6-32	511-061800-00	5/16	7/64			511-061800-00-C	2.12	511-061800-00-M	15.95	12.90
	8-32	511-081800-00	11/32	1/8			511-081800-00-C	2.22	511-081800-00-M	16.35	13.35
	10-32	511-101800-50	3/8	1/8			511-101800-50-C	2.33	511-101800-50-M	17.15	14.00
	1/4-20	511-251800-00	7/16	3/16			511-251800-00-C	2.94	511-251800-00-M	21.60	17.60

WRITE FOR QUOTATIONS ON LARGER QUANTITIES.

\*TRADEMARK

HARDWARE

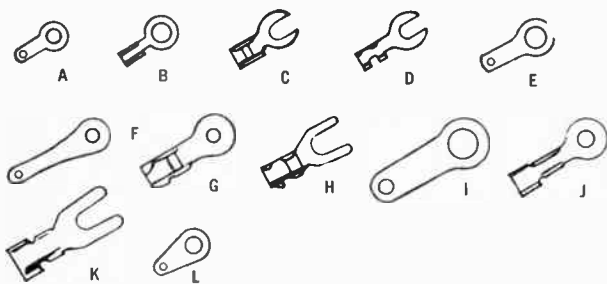
waldom



PACKAGED HARDWARE (Continued)

TERMINAL AND SPADE LUGS

Supplied with hot-tin dipping in brass (B), or copper (C) as specified in Material (Mtl.) column at right.



ACORN NUTS (Nickel Plated Brass)



Size	GREEN LINE		BLUE LINE		BULK PACK		
	.39 per Box		Pkg. of 100		Bag of 1000		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
6-32	GF-574	15	F-574-C	3.01	F-574-M	24.70	18.85
8-32	GF-575	15	F-575-C	3.20	F-575-M	26.35	20.05
10-32	GF-576	10	F-576-C	3.87	F-576-M	31.75	24.20

SNAP BUTTON HOLE PLUGS

Nickel Plated



Hole Size	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
1/4"	GHP-1	8	HP-1-C	2.42	HP-1-M	19.85	15.15
3/8"	GHP-2	8	HP-2-C	2.75	HP-2-M	22.55	17.20
1/2"	GHP-3	6	HP-3-C	2.64	HP-3-M	21.65	16.50
3/4"	GHP-4	5	HP-4-C (50)*	1.90	HP-4-M	29.75	22.70
1"	GHP-5	5	HP-5-C (25)*	1.30	HP-5-M	39.70	30.25

\*Where quantities are shown in brackets ( ) in front of "Pkg. of 100" prices, this quantity, rather than 100 pieces, applies.

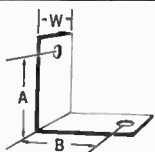
RUBBER HEADED TACK BUMPERS



Dia. Hd.	Ht. Hd.	GREEN LINE		BLUE LINE		BULK PACK		
		.39 per Box		Pkg. of 100		Bag of 1000		
		Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
3/8"	1/4"	GB-350	10	B-350-C	2.02	B-350-M	16.60	12.65
5/8"	5/16"	GB-352	7	B-352-C	3.48	B-352-M	28.50	21.75

ANGLE BRACKETS

.032 Thk. Material: Steel (S), Brass (B). Plating: Cadmium (C), Nickel (N), Hot-tin dipped (HT).

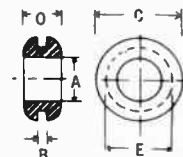


Mtl.	Plg.	Hole Size	W	A	B	BLUE LINE		BULK PACK		
						Pkg. of 100		Bag of 1000		
						Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
B	C	#6	9/32	13/64	9/32	A-100-C	1.34	A-100-M	11.00	8.40
B	N	#6	3/8	15/64	19/64	A-101-C	1.62	A-101-M	13.25	10.10
B	N	#8	5/16	9/32	9/32	A-102-C	1.76	A-102-M	14.45	11.00
S	HT	#6	3/8	15/32	15/32	A-103-C	1.52	A-103-M	12.45	9.50
S	HT	#8	3/8	7/8	3/8	A-104-C	1.68	A-104-M	13.80	10.50

Fig.	Mtl., Thickness	Hole Size	Length In.	GREEN LINE		BLUE LINE		BULK PACK		
				.39 per Box		Pkg. of 100		Bag of 1000		
				Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
A	.015C	#2	21/64	GT-151	40	T-251-C	.75	T-251-M	6.15	4.65
A	.020B	#6	1/2	GT-152	40	T-151-C	.84	T-151-M	6.85	5.25
A	.020B	#8	13/16	GT-153	40	T-152-C	.90	T-152-M	7.40	5.65
A	.020B	#10	13/16	GT-153	40	T-153-C	.90	T-153-M	7.40	5.65
B	.020C	#4	9/16			T-226-C	1.03	T-226-M	8.50	6.45
B	.032C	#6	1/2	GT-156	30	T-156-C	1.03	T-156-M	8.50	6.45
B	.020B	#8	21/32			T-227-C	1.03	T-227-M	8.50	6.45
B	.020B	#10	21/32			T-228-C	1.03	T-228-M	8.50	6.45
C	.020B	#8	41/64	GT-157	35	T-157-C	.88	T-157-M	7.20	5.50
D	.020B	#6	21/32	GT-158	30	T-158-C	.97	T-158-M	7.95	6.05
D	.020B	#8	21/32	GT-159	30	T-159-C	.97	T-159-M	7.95	6.05
D	.020B	#10	47/64			T-225-C	1.24	T-225-M	10.05	7.65
E	.015B	#8	47/64	GT-162	35	T-162-C	.95	T-162-M	7.75	5.90
F	.025B	#6	1	GT-163	30	T-163-C	1.08	T-163-M	8.85	6.75
F	.025B	#8	1	GT-164	30	T-164-C	1.08	T-164-M	8.85	6.75
G	.020C	#6	15/16	GT-166	18	T-166-C	1.78	T-166-M	14.60	11.15
G	.020C	#8	15/16	GT-167	18	T-167-C	1.78	T-167-M	14.60	11.15
G	.020C	#10	15/16	GT-168	18	T-168-C	1.78	T-168-M	14.60	11.15
H	.020B	3/16"	25/32	GT-170	18	T-170-C	1.03	T-170-M	8.50	6.45
I	.020B	#10	1-5/32	GT-173	16	T-173-C	1.72	T-173-M	13.80	10.55
J	.032B	#8	15/16	GT-187	10	T-187-C	3.09	T-187-M	25.35	19.35
J	.032B	#10	15/16	GT-188	9	T-188-C	3.41	T-188-M	27.95	21.35
K	.032B	#8	1	GT-193	5	T-193-C	4.68	T-193-M	38.35	29.25
L	.020B	#6	9/16	GT-154	30	T-154-C	.97	T-154-M	7.95	6.05
L	.015C	#8	17/32			T-224-C	1.07	T-224-M	8.75	6.70

VINYL GROMMETS

- Exceptional Aging Qualities\*
- High Dielectric Properties
- Oil Resistant
- Durometer Hardness 45 1045
- Cost Less Than Rubber
- Will Not Stain Most Surfaces



A	B	C	D	E	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
1/8	1/16	11/32	3/16	1/4	GG-401	25	G-401-C	.99	G-401-M	8.15	6.20
3/16	1/16	7/16	7/32	5/16	GG-402	20	G-402-C	1.09	G-402-M	9.10	6.90
1/4	1/16	9/16	1/4	3/8	GG-403	18	G-403-C	1.45	G-403-M	10.45	8.00
5/16	1/16	5/8	1/4	7/16	GG-404	15	G-404-C	1.58	G-404-M	11.20	8.55
3/8	1/16	5/8	1/4	1/2	GG-405	15	G-405-C	1.58	G-405-M	11.20	8.55
1/2	1/16	13/16	9/32	5/8	GG-406	10	G-406-C*	1.28	G-406-M	19.50	14.85
5/6	1/16	1-1/8	9/32	7/8			G-407-C**	1.29	G-407-M	33.45	25.85

\*These grommets were tested by Underwriters Laboratories in a circulating air oven at 212°F. for seven days with no visible change.

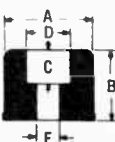
RUBBER GROMMETS

A	B	C	D	E	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
1/8	1/16	11/32	3/16	1/4	GG-300	16	G-300-C	1.45	G-300-M	11.90	9.10
5/16	1/16	9/16	3/16	15/32	GG-301	14	G-301-C	1.94	G-301-M	15.85	12.10
3/8	1/16	11/32	9/32	1/2	GG-302	10	G-302-C	2.49	G-302-M	20.40	15.55
3/16	1/16	7/16	7/32	5/16	GG-305	14	G-305-C	1.65	G-305-M	13.55	10.30
7/16	3/64	3/4	1/4	19/32			G-307-C*	1.46	G-307-M	22.55	17.20
11/32	1/16	5/8	5/16	15/32	GG-309	8	G-309-C	1.91	G-309-M	15.70	11.95
5/8	1/16	1-1/8	5/16	7/8			G-311-C**	1.80	G-311-M	49.95	38.10

RECESS-TYPE RUBBER BUMPERS

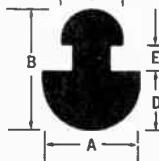
Screw Type

For mounting on all types of Electronic Equipment. Prevents vibration and protects surfaces under equipment from being marred.



A	B	C	D	E	BLUE LINE	BULK PACK
1/2	1/4	5/32	1/4	1/8	B-321-C	2.26 B-321-M 18.50 14.10
3/4	1/4	1/8	1/4	1/8	B-322-C*	1.57 B-322-M 53.55 40.85
5/8	3/8	7/32	1/4	1/8	B-323-C*	1.25 B-323-M 42.65 32.55
3/4	5/8	7/32	1/4	1/8	B-324-C*	1.75 B-324-M 59.55 45.40

RUBBER BUTTON BUMPERS

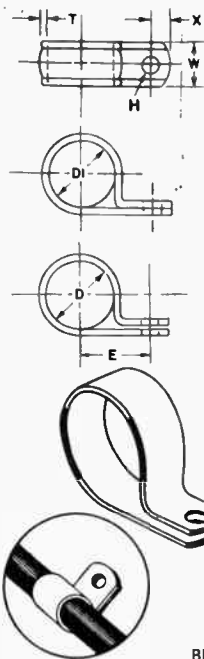


A	B	C	D	E	BLUE LINE	BULK PACK
3/8	3/8	17/64	3/16	.040	B-361-C	1.57 B-361-M 12.65 9.65
1/2	7/16	11/32	1/4	.040	B-362-C	2.31 B-362-M 18.55 14.15
5/8	9/16	15/32	5/16	.040	B-363-C	3.72 B-363-M 29.80 22.75

WRITE FOR QUOTATIONS ON LARGER QUANTITIES.



**NYLON & BUTYRATE CABLE CLAMPS**



**NYLON CABLE CLAMPS**

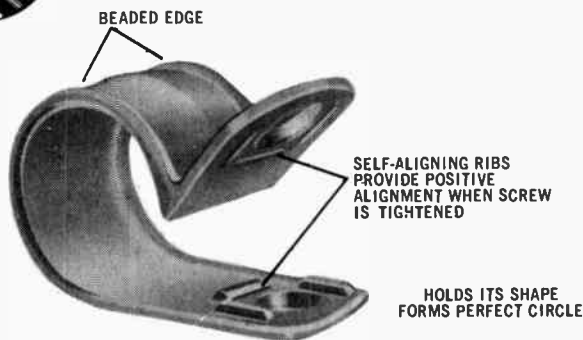
D	D <sub>1</sub>	E	BLUE LINE		BULK PACK		
			Pkg. of 100 or as shown ( )		Pkg. of 1000		
			Part No.	Per Pkg.	Part No.	5 or more Per Bag	
1/8"	.125	.310	CCN-31-C	3.14	CCN-31-M	26.75	21.15
3/16"	.188	.373	CCN-32-C	3.30	CCN-32-M	28.30	22.40
1/4"	.250	.407	CCN-33-C	3.63	CCN-33-M	30.95	24.50
5/16"	.313	.448	CCN-34-C	4.03	CCN-34-M	34.15	27.05
3/8"	.375	.479	CCN-35-C (50)	2.23	CCN-35-M	35.90	28.45
7/16"	.438	.510	CCN-36-C (50)	2.32	CCN-36-M	38.00	30.05
1/2"	.500	.542	CCN-37-C (50)	2.45	CCN-37-M	40.45	32.00
9/16"	.563	.623	CCN-38-C (25)	1.87	CCN-38-M	49.90	39.50
5/8"	.625	.638	CCN-39-C (25)	1.98	CCN-39-M	58.50	46.30
11/16"	.688	.752	CCN-40-C (20)	1.78	CCN-40-M	63.45	50.25
3/4"	.750	.783	CCN-41-C (20)	1.90	CCN-41-M	69.40	54.95
7/8"	.875	.845	CCN-42-C (20)	2.02	CCN-42-M	75.20	59.50
1"	1.000	.908	CCN-43-C (15)	1.79	CCN-43-M	84.70	67.05

Width: Up to CCN-37, 3/8". All others are 1/2". 3/8" width have .167 mounting hole, 1/2" width have 13/64" mounting hole. 3/8" width are .040 thickness, 1/2" width are .060 thickness.

**BUTYRATE CABLE CLAMPS**

D	D <sub>1</sub>	E	BLUE LINE		BULK PACK		
			Pkg. of 100 or as shown ( )		Pkg. of 1000		
			Part No.	Per Pkg.	Part No.	5 or more Per Bag	
1/8"	.115	.310	CCB-1-C	2.06	CCE-1-M	17.65	13.95
3/16"	.172	.373	CCB-2-C	2.08	CCE-2-M	17.75	14.05
1/4"	.234	.407	CCB-3-C	2.29	CCE-3-M	19.55	15.50
5/16"	.297	.448	CCB-4-C (50)	1.33	CCE-4-M	21.60	17.10
3/8"	.359	.479	CCB-5-C (50)	1.39	CCE-5-M	23.85	18.00
7/16"	.422	.510	CCB-6-C (40)	1.20	CCE-6-M	24.80	19.65
1/2"	.484	.542	CCB-7-C (40)	1.36	CCE-7-M	26.40	20.90
9/16"	.547	.623	CCB-8-C (30)	1.35	CCE-8-M	30.90	24.45
5/8"	.609	.654	CCB-9-C (25)	1.29	CCE-9-M	35.00	28.10
11/16"	.672	.752	CCB-10-C (20)	1.25	CCE-10-M	38.05	30.10
3/4"	.734	.783	CCB-11-C (20)	1.29	CCE-11-M	39.90	31.55
7/8"	.859	.845	CCB-12-C (20)	1.36	CCE-12-M	43.30	34.25
1"	.934	.908	CCB-13-C (15)	1.23	CCE-13-M	45.95	36.00
1-1/8"	1.102	.970	CCB-14-C (15)	1.23	CCE-14-M	46.10	38.85
1-1/4"	1.227	1.062	CCB-15-C (10)	1.40	CCE-15-M	51.85	41.05

Thickness .060. Width 1/2". Mounting hole 13/64", 7/32" from end of clamp.



**MOLDED NYLON "SELF-ALIGNING" CABLE CLAMPS**

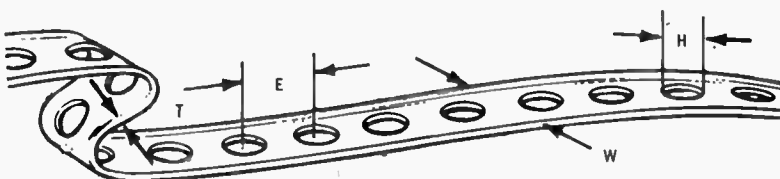
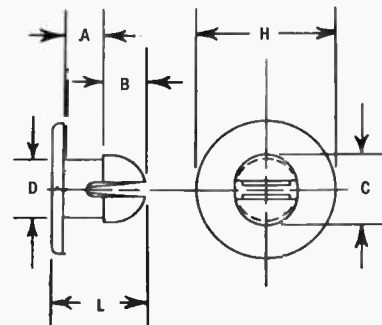
These clamps meet military specifications MIL-P-20693, NAS-1397, MIL-STD-242A and 242B. They have the same general characteristics as CCN Series.

Part No.	D	D <sub>1</sub>	E	Net Prices		
				Pkg. of 100 or as shown	1000 to 4999	5000 or More
CCS-63	5/16	.297	.448	4.13	34.80	27.70
CCS-64	3/8	.359	.479	2.19 (50)	36.90	29.40
CCS-65	1/2	.484	.542	2.40 (50)	40.35	32.15

Width 1/2"; Thickness .060

**PERFORATED NYLON STRAPPING • STUD BUTTONS**

Part No.	W	T	H	E	Average Breaking Load in Pounds	Net		Suggested Fastening and Mounting Methods
						25 ft. Roll	50 ft. Roll	
NS-932-25	9/32	.032	.096	3/16	23	\$5.35		SB-4 Stud Button, #2 Machine Screw or 3/32" Rivet
NS-932-50							\$ 9.60	
NS-38-25	3/8	.040	.167	5/16	51	5.85		#8 Machine Screw or SB-5 Stud Button
NS-38-50							11.70	
NS-12-25	1/2	.060	.203	25/64	107	7.50		#10 Machine Screw or SB-6 Stud Button
NS-12-50							13.35	



Part No.	H	A	B	C	D	L	Users Net	
							100-999 Per C	1 M-Over Per M
*SB-4	9/32	.093	.078	.105	.093	.206	\$1.45	\$11.50
†SB-5	11/32	.125	.137	.202	.165	.297	3.25	25.65
★SB-6	15/32	.156	.153	.238	.200	.359	3.35	26.35

\*SB-4 for use with Strapping NS-932-25 or 50  
 †SB-5 for use with Strapping NS-38-25 or 50  
 ★SB-6 for use with Strapping NS-12-25 or 50

WRITE FOR QUOTATIONS ON LARGER QUANTITIES.



MOLDED NYLON HARDWARE

NYLON SCREWS

Description	Round Head	Binder Head	Fillister Head	Flat Head	NET PRICES	
					Pkg. of 100	Bulk 1000 or More, Per M
2-56 x 1/4"	FN-800	FN-815	FN-830		3.30	25.85
2-56 x 1/2"	FN-801	FN-816	FN-831		3.30	25.85
4-40 x 1/4"	FN-802	FN-817	FN-832		3.30	26.15
4-40 x 1/2"	FN-803	FN-818	FN-833	FN-845	3.30	26.25
4-40 x 3/4"	FN-804	FN-819	FN-834		3.39	26.65
6-32 x 1/4"	FN-805	FN-820	FN-835		3.30	26.30
6-32 x 3/8"	FN-806	FN-821	FN-836	FN-846	3.39	26.55
6-32 x 1/2"	FN-807	FN-822	FN-837	FN-847	3.39	26.80
6-32 x 5/8"	FN-808	FN-823	FN-838	FN-848	3.39	27.05
6-32 x 3/4"	FN-809	FN-824	FN-839		3.47	27.30
8-32 x 3/8"	FN-810	FN-825	FN-840		3.47	27.30
8-32 x 1/2"	FN-811	FN-826	FN-841	FN-849	3.47	27.70
8-32 x 3/4"	FN-812	FN-827	FN-842	FN-850	3.47	28.05
10-32 x 1/2"	FN-813	FN-828	FN-843	FN-851	3.61	28.75
10-32 x 1"	FN-814	FN-829	FN-844	FN-852	3.87	30.75



ROUND HEAD



BINDER HEAD



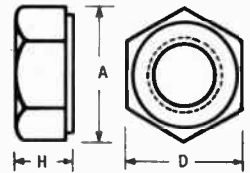
FILLISTER HEAD



FLAT HEAD

NYLON HEX NUTS

Part No.	Thd.	D		A		H		NET PRICES	
		Max.	Min.	Max.	Min.	Max.	Min.	Pkg. of 100	Bulk 1000 or More, Per M
FN-853	2-56	3/16	.180	.214	.208	.090	.086	5.28	42.65
FN-854	4-40	1/4	.240	.279	.272	.124	.120	5.36	43.05
FN-855	6-32	5/16	.300	.350	.343	.146	.138	5.49	44.20
FN-856	8-32	11/32	.331	.386	.379	.170	.162	5.57	44.80
FN-857	10-32	3/8	.360	.420	.412	.196	.188	5.62	45.45



SEPARATE NYLON MOUNTING TABS



For above band clamp. May be pre-mounted at support points, with band clamps inserted later, or slipped on band clamp when bundling wires and mounted later. Never in the way when not needed.

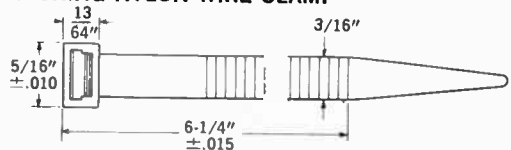
Part No. BCN-12 Pkg. of 100-\$3.30 1000 or more, per M-\$24.75

FORKED TOOL FOR WEDGING BAND CLAMP



Part No. FT-27 Net Ea. \$2.20

WEDGE LOCKING NYLON WIRE CLAMP



Positive holding and locking action ratchet teeth on the band engage with matching teeth inside the clamp loop. A small, floating wedge, which cannot fall out, locks the teeth together. Slip clamp around cable, insert tongue, pull tight, push in wedge, and cut off extra material. It's a permanently locked, neat cable clamp. Accommodates from 1/8" to 1-3/4" diameter wire bundles. Natural color.

Part No. BCN-25 Pkg. of 100-\$9.90 1000 or more, per M-\$76.55

NYLON FLAT WASHERS



Stamped from extruded nylon strip. Use as insulating or cushioning washers, spacers, thrust washers. Natural color from stock, color coding at slight additional cost.

Part No.	I.D.	O.D.	Thick-ness	NET PRICES	
				Pkg. of 100	Bulk 1000 or More, Per M
NW-875	#4(.120)	9/32	.050	.58	4.80
NW-876	#6(.150)	5/16	.050	.64	5.25
NW-877	#8(.170)	3/8	.060	.87	7.15
NW-878	#10(.195)	7/16	.060	.99	8.10

FLAT WASHER



NYLON FINISHING WASHERS



These Molded Nylon Finishing Washers are made to be used with No. 6, No. 8, No. 10 and 1/4" countersunk metal or nylon screws. They prevent cutting and scratching of instrument and control panels, cover misaligned holes, can be used as glides, protective feet, bumpers, insulators, spacers. Smooth glossy finish. Natural nylon; special quotations for color coding.

Part No.	I.D.	O.D.	Thick-ness	NET PRICES	
				Pkg. of 100	Bulk 1000 or More, Per M
NW-879	#6(.143)	.437	.100	4.02	32.10
NW-890	#8(.171)	.515	.115	4.24	33.85
NW-891	#10(.191)	.580	.152	4.53	36.20

FINISHING WASHER

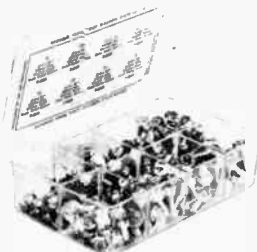


WRITE FOR QUOTATIONS ON LARGER QUANTITIES.





## PACKAGED HARDWARE ASSORTMENTS

HEX HEAD (SLOTTED)  
SHEET METAL SCREW ASSORTMENT

Type A—Maroon Label for Identification

Quantity	Description	Quantity	Description
25	4 x 3/8"	35	8 x 1/4"
25	6 x 1/4"	25	8 x 3/8"
25	6 x 1/2"	10	8 x 1/2"
10	6 x 3/4"	10	8 x 5/8"

Part No. HD-4014

Net \$1.59

HEX WASHER HEAD  
SHEET METAL SCREW ASSORTMENT

Green Label for Identification

Slotted, Type A. The washer head prevents denting of sheet metal, conceals marks made by previous screws, provides better bearing surface for tight hold, and prevents the screw from sinking into nut driver.

15	6 x 1/4"	15	8 x 1/4"
15	6 x 3/8"	15	8 x 3/8"
15	6 x 1/2"	15	8 x 1/2"
15	6 x 3/4"	15	8 x 5/8"

Part No. HD-4011

Net \$1.59

## GENERAL FASTENER ASSORTMENT

Blue Label for Identification

260 pieces. Round Head, Binder Head and Phillips Head Machine Screws; Hex Nuts, Slotted Hex Head and Slotted Hex Washer Head Sheet Metal Screws; Flat and Round Head Wood Screws. Compartmented by category. Only popular diameters and lengths in all types.

Part No. HD-4020

Net \$1.59

## VINYL GROMMET ASSORTMENT



- Exceptional Aging Qualities
- High Dielectric Properties
- Costs less than Rubber
- Oil Resistant
- Will not stain most surfaces

Quantity	Hole Diameter	Groove Diameter
100	1/8"	1/4"
60	3/16"	5/16"
35	1/4"	3/8"
25	5/16"	7/16"
25	3/8"	1/2"
15	1/2"	5/8"

Part No. HD-4209

Net \$3.25

Selections of the fastest moving hardware items to provide handy kits for service and maintenance work. Individually compartmented, for fast selection, in reusable, plastic boxes with hinged cover and positive clasp. All metal hardware is nickel-plated steel.

## JUMBO ROUND HEAD SCREW ASSORTMENT

Black Label for Identification

Quantity	Description	Quantity	Description
100	4-40 x 1/2" Machine Screw	75	6 x 1/2" Sheet Metal Screw
100	6-32 x 1/4" Machine Screw	100	4-40 x 1/4" Nut
50	6-32 x 3/4" Machine Screw	100	6-32 x 1/4" Nut
50	8-32 x 1/2" Machine Screw	100	8-32 x 1/4" Nut

Part No. HD-4003

Net \$2.92

## REGULAR ROUND HEAD SCREW ASSORTMENT

Black Label for Identification

40	4-40 x 1/2" Machine Screw	25	6 x 1/2" Sheet Metal Screw
40	6-32 x 1/4" Machine Screw	40	4-40 x 1/4" Nut
20	6-32 x 3/4" Machine Screw	40	6-32 x 1/4" Nut
20	8-32 x 1/2" Machine Screw	40	8-32 x 1/4" Nut

Part No. HD-4013

Net \$1.59

## BINDER HEAD SCREW ASSORTMENT

Orange Label for Identification

40	4-40 x 1/2" Machine Screw	25	6 x 1/2" Sheet Metal Screw
40	6-32 x 1/4" Machine Screw	40	4-40 x 1/4" Nut
20	6-32 x 3/4" Machine Screw	40	6-32 x 1/4" Nut
20	8-32 x 1/2" Machine Screw	40	8-32 x 1/4" Nut

Part No. HD-4018

Net \$1.59

## WOOD SCREW ASSORTMENT—Round and Flat Types

Turquoise Label for Identification

40	4 x 1/2" Round Head	12	8 x 1" Round Head
25	6 x 3/4" Round Head	10	8 x 1-1/4" Round Head
15	6 x 1" Round Head	12	8 x 1" Flat Head
15	8 x 3/4" Round Head	10	8 x 1-1/4" Flat Head

Part No. HD-4019

Net \$1.59

## GREEN LINE ASSORTED HARDWARE—39¢ Each

Each package contains a selection of the most popular sizes for servicing and general purpose use.

Cat. No.	Description	Quantity
GA-101	Round Head Steel Machine Screws	35
GA-103	No. 2 and No. 4 Steel Machine Screws and Nuts	35
GA-111	Oval Head Rack Screws and Cap Washers	15
GA-110	Binder Head Steel Machine Screws	35
GA-112	Ornamental Head Screws	20
GA-115	Hex Head Sheet Metal Screws	25
GA-149	Hex Washer Head Sheet Metal Screws	15
GA-113	Round Head Steel Wood Screws	25
GA-133	Hex Steel Nuts	30
GA-118	Control and Switch Mounting Nuts	12
GA-119	Acorn Nuts	10
GA-130	Snap Button Hole Plugs	8
GA-127	Flat Fibre Washers	35
GA-129	Extruded Fibre Washers	30
GA-121	Flat Steel Washers	80
GA-123	Internal Tooth Lockwashers	50
GA-136	Solder Lugs	30
GA-135	Metal Cable Clamps	20
GA-116	Slotted Set Screws	15



# SEMICONDUCTOR TESTERS

- featuring
- IN-CIRCUIT MEASURING CAPABILITY
  - SIMPLICITY... AUTOMATIC LEAD SELECTION
  - COMPLETE SAFETY... CANNOT DAMAGE SEMICONDUCTORS

*for quantitative and qualitative testing  
of transistors... diodes... rectifiers*



## MODEL 259 SEMICONDUCTOR TESTER

Measures transistors, diodes and F.E.T.'s, in-circuit, for reverse leakage down to 500 ohms of loading. Also measures F.E.T.'s for transconductance (Gm) to 10,000 micromhos. Both high and low power transistors may be measured for 1000 cycles Beta ( $h_{fe}$ ) within a range of 1 to 1000. Unit is housed in a splash-proof, high impact plastic case and cover. It is lightweight, portable and battery operated (uses type "C" batteries). Also available is Model 259C which includes automatic Beta calibration circuit.\*

Prices: Model 259 . . . . . \$280.  
Model 259C . . . . . \$345.

Optional accessory . . .  
Model 246 In-Circuit Test Probe.

\*Sets collector current of transistor under test at 1 milliampere



## MODEL 240 IN-CIRCUIT TEST SET

This tester features qualitative checks of virtually every type of transistor both in-circuit and out-of-circuit. It indicates presence of gain, shorts and opens. This is a sequential, logic device featuring automatic lead finding in-circuit transistor checking. Lead orientation or device polarity need not be known; test set automatically applies proper voltage and completes test in less than three (3) seconds. Lights show GO—NO—GO indication and fault finding. Makes every operator an expert in finding catastrophic failures quickly.

Price: Model 240 . . . . . \$425.

Optional accessory . . .  
Model 242 In-Circuit Test Probe



## MODEL 245B SEMICONDUCTOR TESTER

Measures high and low-power transistors, diodes and rectifiers both in- or out-of-circuit in wide range of Beta measurements (1 to 1000). Transistors with a Beta between one and one hundred may be measured in-circuit, with as low as 50 ohms of loading between emitter and base electrodes with  $\pm 10\%$  accuracy. Transistor shorts and opens are immediately detected by inability to measure Beta. Only three controls. Easy to read measurements. No critical nulling adjustments required. Completely safe for all semiconductors.

Price: Model 245B . . . . . \$195.

Model 246 In-Circuit Test Probe  
Included

## IN-CIRCUIT TEST PROBES



Developed by AEL, these In-Circuit test probes are designed specifically for tests conducted on printed-circuit boards. Three stainless steel probe tips are controlled by two conveniently located thumb wheels, which can be operated by one hand. Adjustments provide a lateral spread up to  $\frac{5}{8}$ ", and a vertical extension up to  $\frac{3}{4}$ " on the center contact, which is insulated to prevent shorting.

Model 242 Probe (shown here) . . . for use with Model 240 Semiconductor Tester.

Model 246 Probe . . . for use with Models 245B, 259, and 259C Semiconductor Testers.

Price: Models 242 and 246 Probes . . . \$37.50.



## TEST INSTRUMENTS SOLID-STATE THROUGHOUT



**AMPHENOL  
DISTRIBUTOR  
DIVISION**

For Immediate Service Contact Your Local Amphenol Sales Office

### AMPHENOL STEREO COMMANDER — MODEL 880

The Model 880 Stereo Commander incorporates seven instruments in one compact package, providing a complete testing laboratory for audio FM and multiplex at a fraction of the cost of the seven individual instruments it replaces. It is a solid-state portable unit that can be used in the home as well as in the service shop.

Four signal sources and three measuring instruments are contained in the package. Signal sources include:

1. An audio generator that supplies either sine or square wave signals used by other sections of the Stereo Commander.
2. A multiplex simulator that generates or controls all signals necessary for complete and accurate alignment of an FM multiplex receiver.
3. An RF/sweep oscillator that may be used as an FM source modulated by the signal present at the composite jack (monaural sine wave or square wave) or as a sweep generator with 60 Hz sweep rate for FM tuner alignment.
4. An oscillator that generates a crystal-controlled 10.7 MHz signal for use as a marker for aligning FM receivers.

#### Has Impedance Bridge

Measuring instruments include:

1. An intermodulation distortion analyzer which measures distortion to 100% using SMPTE standard signal.
2. An impedance bridge capable of measuring largely resistive unknowns from 1 ohm to 20,000 ohms. Since the audio generator provides the signal used to drive the bridge, unknown impedance can be checked at any frequency within generator range. This section may also be used to determine resonant frequencies.
3. A high impedance AC voltmeter with a sensitivity of 100 millivolts full scale. The unit measures from 0.1 volt full scale to 1000 volts full scale... in nine increments. The VTVM is also used as an indicator for the impedance bridge and intermodulation analyzer sections mentioned in 1 and 2, above.

#### Output Specifications Cited

The Model 880 Stereo Commander has a composite output of 5 v peak to peak stereo, with 35db channel separation up to 10 KHz; 2.5 v peak to peak L-R and 3 v peak to peak monaural. Output at 19, 38 and 67 KHz is identical — 5 v peak to peak, sine wave.

The monaural audio output is 3 v peak to peak, sine wave, and 10 v peak to peak, square wave. Both sine and square wave are variable from 35 Hz to 18 KHz in two ranges with less than one percent distortion.

The Stereo Commander is 11½ in. wide, 9¾ in. high and 6 in. deep and weighs slightly over eight lbs.

Suggested list price of the seven-in-one unit is \$329.95.



### AMPHENOL CRT COMMANDER, CRT TESTER AND REJUVENATOR, MODEL 855

The AMPHENOL Millivolt Commander is a quality built, low budget instrument that meets the requirements of electronic technicians, school and college laboratories, industrial testing laboratories or manufacturers test inspection lines.

It's an all-transistor voltmeter designed with the needed low ranges for servicing transistorized equipment!

The Amphenol Millivolt Commander's extremely high sensitivity presents direct and accurate read-out from 100 millivolts to 1,000 volts DC, full scale — and from 10 millivolts to 300 volts RMS AC, full scale, with accuracy of ±2% on DC range and ±3% on AC range. These features have never before been available in popular priced test equipment.

Has the portability of a VOM with the accuracy and input impedance of a VTVM. At its price, the Amphenol Millivolt Commander offers extreme versatility, accuracy and utility. It uses the field effect transistor to maintain the constant high impedance found in a vacuum-tube voltmeter. It is an indispensable tool to technicians requiring accurate reading of low voltages in transistorized equipment.

#### FEATURES

Measures: 1/10 to 1,000 volts DC, full scale, in 9 overlapping ranges within ±2% accuracy. 1/100 to 300 volts RMS AC, full scale, in 10 overlapping ranges within ±3% accuracy.

—40 to +50 db in 10 steps of 10 db each.

Resistance from 10 ohm center scale to 10 megohms center scale within ±3 degrees of arc in 7 overlapping ranges.

Input impedance of 10.6 megohms.

Battery life is equal to shelf life in normal usage. In excess of 1000 hours continuous drain. Requires no warm-up.

Automatic shut off when lid is closed.

Sturdy, single-unit probe with built-in DC/AC-OHMS switch and shielded cable.

Compact and lightweight — only 9¼" x 5¾" x 6¾", weight approx. 5 pounds with batteries.

MODEL 870, MILLIVOLT COMMANDER, \$99.95 net.



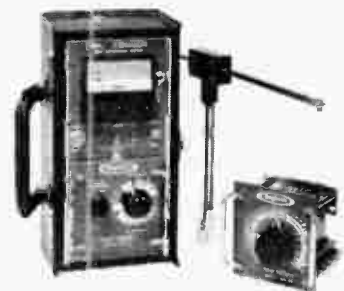
### AMPHENOL SIGNAL COMMANDER SOLID-STATE FIELD STRENGTH METER, Model 840

#### Broadcast Quality At Service Equipment Cost

Another unique solid-state instrument. This battery-operated portable offers broadcast-quality performance at service-equipment cost. Besides relative readings, it makes classical measurements in microvolts per meter and microvolts across 300 or 75 ohm lines — a feature found in expensive lab-type models. Direct, accurate readings to 100,000 microvolts. Plug-in adapters for TV, FM, CB, UHF and other bands, make it obsolescence-proof. Invaluable in antenna work — selecting sites or antenna types, and for orientation. Indispensable in MATV and CATV system work and in RF laboratories. Amplified audio output provides audible signal for positive check. Optional dipole antenna is available for optimum impedance match. Model 840, \$149.95 without modules; Model 840-13, VHF and FM frequency range \$69.95; Model 840-83, UHF \$54.95, Model 840-300, Balun for 300 ohm line \$8.95; Model 840-1000, Dipole Antenna \$12.95.

#### FEATURES & SPECIFICATIONS

- Basic circuit uses all silicon transistors for maximum stability and reliability.
- Two linear meter scale feature 0-100 μv and 0-20 DB ref. 1 microvolt. Three switch-in pads provide 1000x range.
- Frequency to ±5%; signal strength within 1.5 DB—comparable to lab units up to 10 times the cost.
- Amplified audio output section lets you hear signal for positive check.
- Band switching through directly replaceable plug-in heads — no realignment necessary. Plug-in tuning heads for VHF and UHF and UHF TV and for 25-900-mc coverage. Adjustable all-band dipole antenna available.
- Accepts both 50- and 72-ohm unbalanced systems without adapters. Small balun connects to UHF-type coaxial fitting to convert for 300-ohm balanced lines.
- Regulated penlight cell power supply with battery test switch to insure proper performance.
- Compact and lightweight 5½" x 5" x 4¾" and 3½ lbs. in leatherette case.



# AMPROBE INSTRUMENT®

DIVISION OF SOSS MANUFACTURING COMPANY

## ROTARY SCALE MODELS

Offer you these outstanding features. • Only the Ohms scale plus one voltage scale or current scale is visible at any one time, providing greater reading speed and accuracy; on models other than RS-3 or RS-1000 only scale selected appears. • Magnified unbreakable window. • Pointer-lock "freezes" pointer at reading. • Accurate within  $\pm 3\%$  full scale reading. • One hand operation.



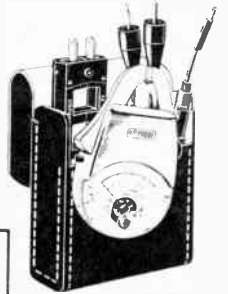
MODEL	RANGES	PRICE
RS-1	0-6/15/40/100 Amps A.C. 0-150/600 Volts A.C.	\$43.85
RS-2	0-6/15/40/100 Amps A.C. 0-150/300 Volts A.C.	\$43.85
RS-3	0-6/15/40/100/300 Amps A.C. 0-150/300/600 Volts A.C. 25 $\Omega$ Mid-Scale	\$57.50
RS-300	0-6/15/40/100/300 Amps A.C. 0-150/300/600 Volts A.C.	\$52.50
RS-1000	0-15/40/100/300/1000 Amps A.C. 0-150/300/600 Volts A.C. 25 $\Omega$ Mid-Scale	\$76.50

Price includes Carrying Case and Test Leads.

## AMPROBE® JUNIOR TEST-MASTER KITS

The AMPROBE Jr. Test-Master Kit consists of a specially designed case that contains one of the all new YO AMPROBE Jr. voltage testers, an AMPROBE Energizer, battery attachment and test leads.

The New YO models are precision instruments that measure voltage, amperage and resistance, instantly and accurately on a calibrated scale. Price: \$37.85



MODEL	3 AMMETER RANGES (full scale) BASIC INST.	2 VOLTAGE RANGES
TM-YO "525"	0-25	0-150/600
TM-YO "550"	0-50	0-150/600
TM-YO "500"	0-100	0-150/600
TM-YO "25"	0-25	0-125/250
TM-YO "50"	0-50	0-125/250
TM-YO "100"	0-100	0-125/250

OHMMETER RANGE: 25 Ohms Mid-Scale  
Frequency—60 cycles A.C. (other frequencies available)

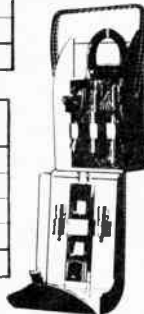
## AMPROBE® TEST-MASTER KITS

Truly the sign of the professional, these good-looking rugged, sturdy cases contain all the equipment you need to do all your electrical testing jobs with precision and accuracy.



CONTAINS:	Model TM-33	Model TM-43	Model TM-53
RS-3	one	one	one
PSA-1	—	one	one
Energizer	one	one	one
Deca-Tran	—	—	—
A50-1	one	one	—
U Case	one	one	—
V Case	—	—	one
Price	\$94.50	\$103.85	\$76.85

CONTAINS:	Model TM-60	Model TM-63
RS-3	—	one
VLK311 Lead Pack	one	one
Energizer A45-L	one	one
A Case	one	one
Price	\$15.85	\$69.85



## AMPROBE® JUNIOR "YO" MODELS

The only precision instruments in their price class that measure voltage, amperage and resistance instantly and accurately on a calibrated scale. Price w/test leads: \$27.50 P-1 and K cases available. Order separately.

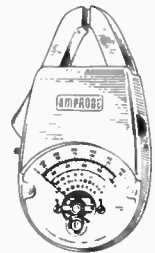
MODEL	AMPS, AC	VOLTS, AC
YO "525"	0-25	0-150/600
YO "550"	0-50	0-150/600
YO "500"	0-100	0-150/600
YO "50"	0-50	0-125/250

OHMMETER RANGE: 25 Ohms Mid-Scale

## AMPROBE® JUNIOR

An advanced snap-around volt-ammeter that everyone can afford. Price w/test leads: \$22.50 P-1 and K cases available. Order separately.

MODEL	AMPS, AC	VOLTS, AC
Y25	0-25	0-125/250
Y50	0-50	0-125/250
Y500	0-100	0-150/600
Y525	0-25	0-150/600
Y550	0-50	0-150/600



## PHASE SEQUENCE ADAPTOR

The Model PSA-1 Phase Sequence Adaptor is used to determine the phase sequence of polyphase circuits. When used in conjunction with any AMPROBE model it permits you to determine phase sequence of motors and other electrical equipment using three phase lines up to 550 volts. Price w/ case:

\$11.85

## AMPROBE® DECA-TRAN

The Model A-50-1 AMPROBE Deca-Tran can be used with any model AMPROBE to extend the amperage ranges 10 times up to 1200 amps, intermittent, 600 amps continuous.

Model A-50-1 w/2' Line Cord Price: \$30.50



## AMPROBE® ENERGIZER

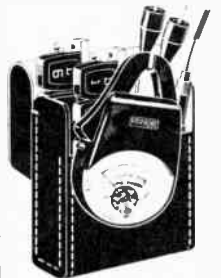
The Model A-45L ENERGIZER permits current readings on permanently wired low-current electrical equipment by simplifying series connection. It increases the sensitivity of your ammeter 5x or 10x for more precise readings directly at outlets by "splitting" double conductor line cords while the appliance is connected to the line. Capacity 10 amps. Price w/weatherproof pouch: \$6.75



## AMPROBE® JUNIOR LINE-PROBE

Unique, versatile four-in-one pocket-sized tester. Not only lets one man trace up to 10 circuits at one time... it measures voltage ( $\pm 3\%$  FS)... gives current readings without interrupting electrical service... and checks for continuity. All models furnished with 10 station markers, two station marker holders, voltage leads, grounding leads, fused battery attachment and case. Price: \$38.50

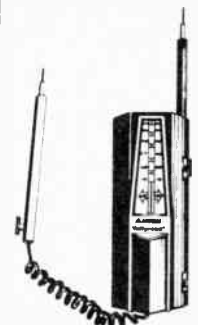
MODEL	VOLTS, AC	AMPS, AC
ALP50	0-125/250	0-50
ALP550	0-150/600	0-50



## AMPROBE VOLTPROBE™ VOLTAGE TESTER

Visual readout by series of lit windows corresponding to each Voltage level; ends guesswork. Retractable coil and probe. Lightweight, fits in shirt pocket. Price: \$8.25

Model VT-100 indicates nominal Voltage Levels
Voltage levels: 115-220-277-440-550 AC
115-220-400-600-750 DC



All prices slightly higher outside the U.S.

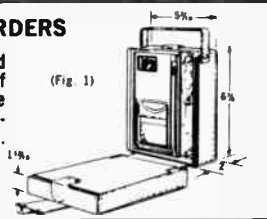
CANADIAN SALES DIVISION: ATLAS RADIO CORP.

# AMPROBE INSTRUMENT SERVICE & INDUSTRIAL RECORDERS

DIVISION OF SOBS MANUFACTURING COMPANY

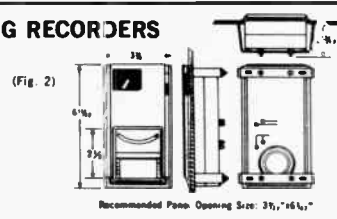
## PORTABLE-CASED RECORDERS

Supplied with permanently attached motor line cord and one roll each of necessary strip charts. Meter line cord, extensions, adaptors, transducers, etc. supplied when indicated.



## FLUSH-MOUNTING RECORDERS

Supplied with one roll each of necessary strip charts and mounting hardware. Transducers, probes, etc. supplied when indicated. Motor leads not furnished.



\*Indicates the availability of this model in flush-mount version. Ranges and Specifications same as Portable cased models. See fig. 2 for configuration. First prefix letter "L" of model number indicates Portable Cased. Prefix letter "F" indicates Flush-Mounting.

AC VOLTMETERS			
Model No.	Description	Range	Price
LAV2X*	Dual Range, Expanded Scale AC Voltmeter.	95-130 Volts AC 190-260 Volts AC	\$103.85
LAV3X*	Three Range, Expanded Scale AC Voltmeter.	95-130 Volts AC 190-260 Volts AC 380-520 Volts AC	124.85
LAV8600*	Three Range, AC Voltmeter. 1380 <sup>2</sup> /V	0-150/300/600 Volts AC	108.85
AC AMMETERS			
LAA81*	AC Ammeter. With A-70FL Transducer	0-10/50/250/500 Amps AC	109.85
LAA82*	AC Ammeter. With A-80FL Transducer	0-5/25/100/250 Amps AC	104.85
LAA1500*	AC Ammeter. With A-50FL Transducer	0-800/1500 Amps AC	138.85
LAA830*	AC Ammeter. For use with external current transformer 2VA (Not supplied).	0-5 Amps AC Scale: 0-150/300/600	107.85
LAA840*		0-5 Amps AC Scale: 0-200/400/800	107.85
LAA850*		0-5 Amps AC Scale: 0-100/250/500	107.85
AC VOLT/AMMETERS			
LAVA81*	AC Volt/Ammeter. With A-70FL Transducer	Volts: 95-130; 190-260 Amps: 0-10/50/250/500	153.85
LAVA82*	AC Volt/Ammeter. With A-60FL Transducer	Volts: 95-130; 190-260 Amps: 0-5/25/100/250	148.85
LAVA83*	AC Volt/Ammeter. With A-70FL Transducer	Volts: 95-130; 190-260; 380-520 Amps: 0-10/50/250/500	169.85
LAVA84*	AC Volt/Ammeter. With A-60FL Transducer	Volts: 95-130; 190-260; 380-520 Amps: 0-5/25/100/250	164.85
TEMPERATURE RECORDERS			
LT8100*	Dual Range with FL-RBT-1 Probe	-50° to +100°F +50° to +250°F	113.85
LT8650	Incremental Recorder	50°F Span Probes Not Included	143.85
RBT-5	Probe for LT8650	-50° to 0°F	20.50
RBT-6	Probe for LT8650	0° to +50°F	20.50
RBT-7	Probe for LT8650	+50° to +100°F	20.50
RBT-8	Probe for LT8650	+100° to +150°F	20.50
RBT-9	Probe for LT8650	+150° to +200°F	20.50
RBT-10	Probe for LT8650	+200° to +250°F	20.50

DC MICROAMMETERS			
Model No.	Description	Range	Price
LDC850*	DC Microammeter (Tautband Movement). Resistance: 900 <sup>Ω</sup>	0-50ua DC	\$101.85
LDC8100*	DC Microammeter. Resistance: 2750 <sup>Ω</sup>	0-100ua DC	95.85
LDC8500*	DC Microammeter. Resistance: 103 <sup>Ω</sup>	0-500ua DC	89.85
DC MILLIAMMETERS			
LDB81*	DC Milliammeter. Resistance: 30 <sup>Ω</sup>	0-1 ma DC	89.85
DC AMMETERS For use with 50 mv shunts. Furnished with calibrated (0.065 <sup>2</sup> ) five-foot leads.			
LDM830*	DC Millivoltmeter. Resistance: 10 <sup>Ω</sup>	0-50 mv DC Scale 0-30 Amps DC	95.85
LDM840*		0-50 mv DC Scale: 0-40 Amps DC	95.85
LDM850*		0-50 mv DC Scale: 0-50 Amps DC	95.85
PYROMETERS Not supplied with Thermocouples.			
LP8400*	Three Range Pyrometer. (External Resistance: 3.50 <sup>Ω</sup> ) Uses Iron-Constantan Type J Thermocouples.	0° to 400°F 0° to 800°F 0° to 1200°F	149.85
LP81000*	Pyrometer. (External Resistance: 6.07 <sup>Ω</sup> ) Uses Iron-Constantan Type J Thermocouples.	0° to 1000°F 0° to 530°C	109.85
LP82000*	Pyrometer. (External Resistance: 10.38 <sup>Ω</sup> ) Uses Chromel Alumel Type K Thermocouples.	0° to 2000°F 0° to 1080°C	109.85
"SELECTRO-PRINT" RECORDERS Designed to print only on a signal from an external source.			
These Recorders are available in most of the above flush-mounting models. Write factory for details on price and specifications.			
EVENTS RECORDERS Designed to monitor and document from one to 10 separate operations.			
LEV10*	Events Recorder, 10 channel operation.		129.85
LDL10	DIRECT-O-LOG® Recorder. Features 10 self-clearing channel selector buttons with lights.		178.85
DC VOLTMETERS			
LDV8600*	Three Range DC Voltmeter 0-150/300/600 Volts DC 20,000 <sup>Ω</sup> /V		108.85

## AMPROBE® RECORDER STRIP CHARTS

Individually packaged 30" chart rolls packed six (6) to a box. Sold in multiples of six (6) only. Price \$1.50 per roll

Type	Cat. No.	Description	For Use with Model No.
Voltage	835X3A	Marked: 95-130/190-260/ 380-520 Volts AC	LAV2X, FAV2X, LAV3X, FAV3X, LAVA81, FAVA81, FAVA82, LAVA82, FAVA83, LVA83, FAVA84, LAVA84
	830AV600	Marked: 0-150/300/600 Volts AC	LAV8600, FAV8600
Current	850A	Marked: 0-5/25/100/250 Amps AC	LAA81, FAA81, LAA82, FAA82, LAVA81, FAVA81, FAVA82, LAVA82, FAVA83, FAVA83, LAVA84, FAVA84, LAVA85, FAVA85, LAVA86, FAVA86
	808AA	0-800 Amps AC	LAA1500, FAA1500
	1508AA	0-1500 Amps AC	LAA1500, FAA1500
	830AA	30 Division for AC Amps. Marked: 0-150/300/600/ 1200	LAA830, FAA830
	840AA	40 Division for AC Amps. Marked: 0-200/400/800	LAA840, FAA840
	850AA	50 Division for AC Amps. Marked: 0-100/250/500	LAA850, FAA850
	850D	50 Division for DC variables, (Millivolts, Milliamperes, Microamps), Marked: 0-1/5/25; 25-0-25	LDM850, FDM850, LDC850, FDC850, LDC8100, FDC8100, LDC8500, FDC8500, LDB81, FDB81

Type	CaL No.	Description	For Use with Model No.
DC Variable	840D	40 Division for DC variables, (Millivolts, Milliamperes, Micro-mps) Marked: 0-20/40/80; 20-0-20	LDM840, FDM840
	830D	30 Division for DC variables, (Millivolts, Milliamperes, Micro-mps). Marked: 0-15/30/60; 15-0-15	LDM830, FDM830 LDV8600, FDV8600
Pyrometer	840F	Marked: 0°F to 400°F; 0°F to 800°F; 0°F to 1200°F	LP8400, FP8400
	850P1&2	Marked: 0°F to 1000°F 0°F to 2000°F	LP81000, FP81000, LP82000, FP82000
	856C1	Marked: 0 to 530°C	LP81000, FP81000
Temperature	857C2	Marked: 0 to 1080°C	LP82000, FP82000
	823T1	Marked: -50°F to +100°F	LT8100, FT8100
	833T2	Marked: +50°F to +250°F	LT8100, FT8100
	850T6	Marked: -50° to +100°F 0° to +50°F +50° to +100°F +100° to +150°F +150° to +200°F +200° to +250°F	LT8650
Events	EV10	Marked from 0 to 16	LEV10, FEV10, LDL10

## SPECIFICATIONS

**ACCURACY**  
 DC Microammeter, Milliammeter and Millivoltmeter: ±2% FS  
 Model LDV or FDV8600 Voltmeter DC: ±3% FS  
 AC Ammeter: ±3% FS  
 except LAA1500 or FAA1500: ±4% FS  
 Expanded Range AC Voltmeter: ±1.25% FS

AC Voltmeters: ±3% FS  
 Pyrometer: ±3% FS  
 Model LT8100 { -50 to +20°F: ±4°F  
 +20 to +100°F: ±3°F  
 +50 to +250°F: ±5°F  
 Model LT8650: ±1.5°F

**Beckman®**

**TEST and MEASURING INSTRUMENTS**

**RESISTANCE DECADES Model DR Series**



High-Precision and Stability • Low Zero-Resistance • Long-Life Switches

DR units provide convenient selection of precise resistance values. Typical applications are found in the areas of circuit design in simulation of various factors, and as standards in bridge-type measurements.

Standard units are available with 3, 5, or 7-dials. Each decade inserts a precise ohmic resistance in series with the terminals. The basic ohmic value of any decade may be multiplied by factors of 0, 1, 2, 3, thru 10, by setting its dial at the appropriate step.

Switches are 12 position, 360-degree type. Actual resistance is the sum of zero-resistance and indicated resistance. Model DR units provide zero-resistance of less than 0.003 ohm per decade.

Model No.	Maximum Resistance	Decade Steps
DR-1D	1,110,000	10 x (1K+10K+100K)
DR-2D	111,000	10 x (100+1K+10K)
DR-3D	11,100	10 x (10+100+1K)
DR-4D	1,110	10 x (1+10+100)
DR-50D	11,111	10 x (0.1+1+10+100+1K)
DR-51D	111,110	10 x (1+10+100+1K+10K)
DR-52D	1,111,100	10 x (10+100+1K+10K+100K)
DR-70D	1,111,111	10 x (0.1+1+10+100+1K+10K+100K)
DR-71D	11,111,110	10 x (1+10+100+1K+10K+100K+1M)

Model No.	Accuracy	Overall Dimensions	Weight Lbs.		Price
			Net	Ship	
DR-1D	±0.1%	8 x 5½ x 4½	4	6	\$85.00
DR-2D	±0.1%	8 x 5½ x 4½	4	6	78.00
DR-3D	±0.1%	8 x 5½ x 4½	4	6	78.00
DR-4D	±0.25 & ±0.1%	8 x 5½ x 4½	4	6	78.00
DR-50D	±0.25 & ±0.01%	9 x 6 x 4½	5	7	100.00
DR-51D	±0.25 & ±0.1%	9 x 6 x 4½	5	7	105.00
DR-52D	±0.1%	9 x 6 x 4½	5	7	115.00
DR-70D	±0.25 & ±0.1%	17¼ x 5 x 4½	6	8	165.50
DR-71D	±0.25 & ±0.1%	17¼ x 5 x 4½	6	8	215.25



**WHEATSTONE BRIDGES TYPE RN**

Universally used for the measurement of all types of resistance devices and circuits where high accuracy is required. Models available for performing Murray-Varley Loop tests.

Model	Total Resistance of Decade	Ratio Dial Settings	Circuits	Dimensions	Price
RN-1	9x(1+10+100+1000)	.001, .01, .1, 1, 10, 100, 1000	.....	9"x8"x6½"	\$195.00
RN-2	9x(1+10+100+1000)	.001, .01, .1, 1, 10, 100, 1000, M10, M100, M1000	Murray & Varley	9"x8"x6½"	210.00
RN-3	10x(1+10+100+1000)	1/1000, 1/100, 1/10, 1/9, 1/4, 1/1, 10/1, 100/1, 1000/1, M10, M100, M1000	Murray & Varley	9½"x8"x6½"	250.00

**CAPACITANCE DECADES Model DK Series**



Model DK units provide convenient selection of precise capacitance values with direct reading on the dials. Typical applications are found in bridge measurements and in experimental work such as circuit design. Standard units are 3-dial types. Paralleling switches provide steps of 0 to 10 by combining four capacity values. All capacitance is connected across the terminals.

Capacitors are adjusted to the accuracies listed so that increments are correctly indicated on the dials. Zero-capacitance is less than 35 pf. Silver-mica and mylar dielectrics are used to obtain low-loss, high-stability characteristics.

Model	Maximum Capacity $\mu$ f	Decade Steps $\mu$ f	Accuracy	Power Factor	Peak Volts	Dielectric
DK-2A	1.11	0.001 10x 0.01 0.1	All ±1%	All 0.2%	700 700 500	All Silver Mica
DK-4	1.11	0.001 10x 0.01 0.1	±1% ±1% ±3%	0.2% 0.2% 1%	700 700 400	Silver Mica Silver Mica Mylar
DK-5A	11.1	0.01 10x 0.1 1.0	±1% ±3% ±3%	0.2% 1% 1%	700 400 400	Silver Mica Mylar Mylar
DK-11A	11.1	0.01 10x 0.1 1.0	±0.5% ±0.5% ±2%	0.2% 0.2% 1%	700 500 400	Silver Mica Silver Mica Mylar
DK-10	0.111	0.0001 10x 0.001 0.01	±10 $\mu$ f ±0.5% ±0.5%	2% 0.2% 0.2%	700 700 700	All Silver Mica

Model	Overall Dimensions	Weight Lbs.		Price
		Net	Ship	
DK-2A	8 x 5½ x 7½	8	10	\$195.00
DK-4	8 x 5½ x 7½	8	10	90.00
DK-5A	10¾ x 7¾ x 7½	10	12	105.00
DK-11A	10¾ x 7¾ x 7½	10	12	210.00
DK-10	8 x 5½ x 7½	8	10	100.00



**TYPE L MEGOHMMETERS**

Type L Megohmmeters are used for both laboratory and high speed production testing of motor and transformer winding insulation, cable insulation, high value resistors, capacitor insulation, and for the measurement of surface and volume leakage of insulating materials. These instruments meet the requirements for testing insulation resistance in accordance with ASTM D-257, and Federal Specification LP-406B, Method 4041.

**ELECTRICAL SPECIFICATIONS AND PRICES**

Model	TEST Voltage	RANGE		POWER Consumption	WEIGHT Net Ship.	Size	Price
		Low in meg.	High in meg.				
L-4B	200 and 500 fixed	1	100,000	50 Watts	14 17	15"x8"x10"	\$225.
L-6C	100 to 600*	1	100,000	80 Watts	15 18	15"x8"x10"	325.
L-7	100 to 600*	1	5x10 <sup>19</sup>	75 Watts	20 24	8"x10½"x11½"	400.

\*Continuously variable, built-in voltmeter for accurate setting.

**Beckman®** INSTRUMENTS, INC.

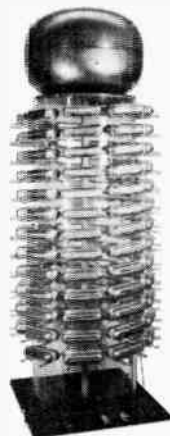
CEDAR GROVE OPERATIONS



# TEST and MEASURING INSTRUMENTS

## KILOVOLTMETERS

MEASURE 100,000 VOLTS AC OR DC



MODEL DV-100KV DIVIDER

KILOVOLTMETER

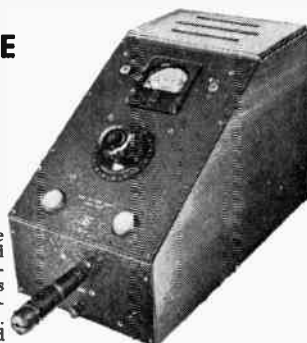
Large rugged 6 inch precision mirror scale meter, ideal for use in lab or field testing. Completely transistorized with stabilized anti-drift circuitry resulting in sensitivity in the order of a few microamperes. Battery operated unit using long life, self-contained mercury batteries. Panel mounted trimmers provide for recalibration when required. Uses fast spike bypass circuitry and a novel automatic voltage coefficient compensator for the multipliers. Special high voltage probes supplied with instrument. The low voltage probe is used on the 5 and 10 KV range, with the larger high voltage probe used in the higher ranges. The accuracy of the basic instrument is  $\pm 1\%$  of full scale on DC,  $\pm 2\%$  of full scale on 60 cycles. The probe accuracy is  $\pm 2\%$  on the 5 and 10 KV range and  $\pm 4\%$  on the 50 and 100 KV range.

Where greater than the usual accuracy is required a Model DV-100KV Standard Divider is available as an accessory for use with the Model 50 and 60 KV meter. The Model DV-100KV Divider is used in place of the probe normally supplied with the instrument. This unit consists of a series of wire-wound standard resistors arranged in a spiral with a special corona guard ring. Accuracy  $\pm 0.05\%$ .

RANGES: 0 to 5,000/10,000/50,000/100,000 volts DC or 60 cycles AC.

Model 60 - DC only      Model 50 - AC and DC      Model DV-100KV  
**\$350.00                      \$400.00                      \$2850.00**

## TYPE P—VOLTAGE BREAKDOWN TESTERS



The Type P Series Voltage Breakdown Testers are designed for safe, accurate and fast testing of materials, components and circuits both in the laboratory and on the production line. All types have self-contained metered high-voltage power supply with safety features including interlock switches and pilot warning lights. Load current is limited to values shown in table below. Output voltage continuously variable over range listed for each model.

### ELECTRICAL SPECIFICATIONS AND PRICES

Model	VOLTAGE RANGE		CURRENT RANGE		Price
	AC volts RMS	DC volts	AC	DC	
P1		0-4000		5 ma (max)*	\$235.00
P2	0-3000	0-4000	7 ma (max)	5 ma (max)*	285.00
P3B	0-8000	0-10,000	60 ma (max)	50 ma (max)*	498.00

\*Models P1, P2 and P3B incorporate a variable series resistance which limits short circuit current independently of voltage.

Other power supplies up to 100 KV can be supplied to your specifications. Send complete details for quotation.

## INSULATION TEST SETS

AC  
or  
DC  
up  
to

100,000 VOLTS



Used in testing insulation where AC voltages are desired. Dual instruments are also available which provide choice of AC or DC output. Includes kilovoltmeter, current meter and automatic overload limiter circuits. Metering accuracies are  $\pm 3\%$ .

The basic model number covers A.C. types. Add the prefix AC/DC to the basic model number for the dual output type.

MODEL	VOLTAGE	VA	AC	AC and DC
3000	0 to 3,000	75	\$170.00	\$ 250.00
3010	0 to 3,000	300	250.00	400.00
3050	0 to 3,000	1,500	500.00	650.00
3100	0 to 6,000	3,000	700.00	1,100.00
5000	0 to 5,000	75	175.00	300.00
1000	0 to 10,000	75	250.00	375.00
1500-AC	0 to 15,000	75	285.00	AC only
2500-AC	0 to 25,000	75	400.00	AC only
2500-DC	0 to 25,000	2.5	DC only	420.00
4000-DC	0 to 40,000	2.5	DC only	600.00
F-6100-T	0 to 100,000	10.0	DC only	1500.00

## TYPE LRO-1 LOW RESISTANCE OHMMETER



The Type LRO-1 Low Resistance Ohmmeter is useful for the measurement of resistance of sensitive relay contacts, fuses, bus-bars and connections, rail joints, pipe or conduit, switch contacts, transformer windings, motor windings, bonding, grounding and similar applications. The current through the unknown resistance never exceeds 110 ma.

Price \$168.00

FEATURES: Extreme accuracy for the most critical measurements. • Entirely self-contained, including 1½ volt flashlight battery • Ranges: .1 ohm, 1 ohm and 10 ohms. 100 meter scale divisions. • Accuracy of plus/minus 1½% on LRO-1 based on full scale values. • Full Scale Readings. • Maximum current through piece under test = 0.11 amp.

• Other electrical test equipment manufactured by Beckman Instruments, Inc., Cedar Grove Operations can be found in current editions of the MASTER. For complete technical details and specifications on test equipment listed here and others request a copy of Catalog RM-67.



CEGAR GROVE OPERATIONS

# PRICES

Prices in this MASTER should not be considered as final. **INQUIRE ABOUT LATEST PRICES AND DELIVERY.**

# DISCOUNTS

Trade discounts apply in most cases where **LIST PRICES** are shown.

# ORDERING

Since previous editions of the **MASTER** are frequently referred to, it is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

# INVENTORY

While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this **MASTER** catalog.



for **FRAHM**

# RESONANT REED FREQUENCY METERS

**NEW...** 1½", 5, 7, or 9 reeds, 60 and 400 cycle Frahm Miniature Frequency Meter with metal case, hermetically sealed.



Catalog No. 2997—2½", 11 reeds, 400 cycle Frahm Miniature Frequency Meter with metal case.



Catalog No. 4997-2—3½", 11 reeds, 400 cycle, Frahm Frequency Meter with square plastic case.



Catalog No. 4967—3½", 11 reeds, 60 cycle, Frahm Frequency Meter with plastic case.

3½" meters available in round plastic, or metal (sealed or unsealed), or round plastic with square bezel. Portable instruments available in all ranges shown with 3½" cases.

**15 to 1500 cps (Special up to 1700 cps) 2 to 63 reeds.  
Molded Plastic or Metal Cases. Sealed if Required.  
1½" to 8½" • Panel Mounting or Portable.**

The first resonant reed instrument in the U.S.A. was introduced 50 years ago by James G. Biddle Co. We have maintained this leadership ever since, to place at your service the greatest knowledge of materials, processes, and controls—the finest facilities to produce quality instruments for unflinching accuracy and long life.

Basic specifications are shown in the table at right.

Specially designed instruments will be made to your requirements.

Write or phone if you have applications which require special modifications of range, methods of actuating, scale graduations or other design characteristics.

Cat. Number	Range Cycles	Number of Reeds	Interval Between Reeds Cycles	Type of Case	Sealed	Accuracy %	Net Price
2864	58-62	9	0.5	1½" metal	Yes	0.3	\$28.00
2896	380-420	9	5.0	1½" metal	Yes	0.3	28.00
2955	45-55	11	1.0	2½" metal	Yes	0.3	40.00
2956	47.5-52.5	11	0.5	" "	Yes	0.3	40.00
2966	57.5-62.5	11	0.5	" "	Yes	0.3	40.00
2967	55-65	11	1.0	" "	Yes	0.3	40.00
2997	380-420	11	4.0	" "	Yes	0.3	44.00
4850	49-51	21	0.1	3½" metal	Yes	0.1	130.00
4860	59-61	21	0.1	" "	Yes	0.1	130.00
4861	58-62	21	0.2	" "	Yes	0.1	130.00
4890	390-410	21	1.0	" "	Yes	0.1	130.00
4956	47.5-52.5	11	0.5	3½" plastic	No	0.3	31.00
4957	48.0-52	11	0.4	" "	No	0.3	31.00
4959	48.0-52.0	10	1.0	" "	No	0.3	29.00
	58.0-62.0		1.0	" "			
4964	58.0-62.0	9	0.5	" "	No	0.3	28.00
4965	56.0-64.0	9	1.0	" "	No	0.3	28.00
4966a	58.0-62.0	11	0.4	" "	No	0.3	31.00
4966	57.5-62.5	11	0.5	" "	No	0.3	31.00
4967	55.0-65.0	11	1.0	" "	No	0.3	31.00
4996	375-425	11	5	" "	No	0.3	38.00
4997	380-420	11	4	" "	No	0.3	38.00

Voltages 100 to 150 v — D.C. resistance 100 ohms per volt. Instruments meet MIL Specifications. Cases meet ASA standard diameter dimensions.

For standard specs and prices  
ask your distributor for **BULLETIN 32 REM**

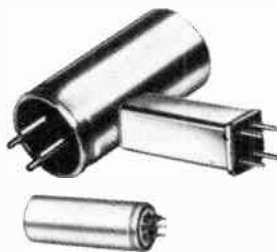


for

## FREQUENCY SENSITIVE RELAYS and OSCILLATORS

### Resonant Reed Relays...

simplify and improve the transmission of information over a single communication circuit of any type. For example, in the range 200-500 cps, up to 16 channels can be operated with no interference between channels. Reed relays can be supplied with any nominal frequency between 200 and 1100 cps. Your inquiries are invited on special requirements.



Ask your distributor for  
**BULLETIN 33 REM**

Relay Type	Input Impedance Range	Frequency Range	Typical Input Millivolt-Amperes
RR1	1 to 10,000 ohms depending on selection of coil and frequency	67 to 640 cps	Varies over wide range depending on selection of coil and frequency
RR10	12.5 ohms d-c	300-1100 cps	Price on Request



Ask your distributor for  
**BULLETIN 34 REM**

### Resonant Reed Oscillator Controls Electro-Mechanical Band Pass Filters

Maintain the output frequency of electric oscillator circuits within close limits. Made with any one nominal control frequency between 20 and 2400 cps—constant within  $\pm 0.15\%$  of the nominal control frequency.

### New Transistorized Oscillators and Band Pass Filters

615

**JAMES G. BIDDLE CO.**  
Electrical Testing and Speed Measuring Instruments



ONLY THE VERSATILE



**Circuitracer**

**GIVES YOU A 3-IN-1 ELECTRICAL TEST LABORATORY**

*Satisfaction Unconditionally Guaranteed*



**LIST PRICE**

**\$5.95**

Model CT1-1

Weights only 2½ ozs.

**DON'T SEND A MAN TO DO A BOY'S JOB!**

Are the technicians in your laboratories and shops using expensive meters and instruments for simple continuity and voltage checks? Speed up production through the use of the tool specifically designed for this application. A meter should be used only when the value of voltage, resistance or current must be known. Under any other conditions a Circuitracer will provide the required information faster and easier than expensive, bulky meters.

**CIRCUIT TESTING WITH A CIRCUITRACER IS FASTER** because the signal light is in the tip at the point of contact. This makes it possible to determine the existence of a circuit or voltage without removing the eyes from the test point to read a meter.

**SAVE METER REPAIR MONEY BY USING DESCO CIRCUITRACERS.** An overvoltage across a meter usually results in extensive damage which takes the meter out of service until repaired or replaced. The worst that can happen to your Circuitracer is a burned out lamp that can be replaced by the operator in less than a minute. Total cost, ten or fifteen cents for the lamp!

\*T.M. Reg.

The **CIRCUITRACER** is the only electrical tester (other than expensive meters) that can test dead circuits, low voltage live circuits **AND** high voltage live circuits. It is made of the finest materials available and is designed for long life.

**WS-12**  
Socket to fit 12 ga. connector pin

**WP-12**  
Pin to fit 12 ga. connector socket

**WS-16**  
Socket to fit 16 ga. connector pin

**WP-16**  
Pin to fit 16 ga. connector socket

**WS-20**  
Socket to fit 20 ga. connector pin

**WP-20**  
Pin to fit 20 ga. connector socket

**ORDER DESCO CIRCUITRACER MODEL CT2-2 FOR USE WITH THESE FITTINGS**

**DESCO TEST PROBE ADAPTERS**

**INSURE CONNECTOR RELIABILITY**

Manual probing of harness connectors while circuit testing can damage connectors and impair reliability. Desco Test Probe Adapters were developed to provide a test fitting identical to the pins and sockets in the connectors being tested. They make the same electrical and mechanical contact as the mating connector, and insure against scratching, bending and warping.

The adapters are made in three sizes to fit connectors using #12, #16 and #20 wire gauges. The sockets are gold plated copper with a brass sheath which retains a beryllium copper spring. The pins are stainless steel to insure long life. All are made to rigid MIL-SPECS. The adapters will fit Desco Jumper Wires and the Desco Circuitracer® Tester interchangeably.



Several aircraft and missile manufacturers specify Desco Test Probe Adapters for most manual test connections. (names on request)

**DESCO MFG. CO.**

World Radio History

New from DESCO...

THE LOW CURRENT

DESCO\* *Trantracer\**

**A SAFE, FAST, INEXPENSIVE "GO - NO GO" TESTER OF:**

**\*TRANSISTORS \*DIODES \*S.C. RECTIFIERS**

*Save Production Time!*

*Satisfaction Unconditionally Guaranteed*

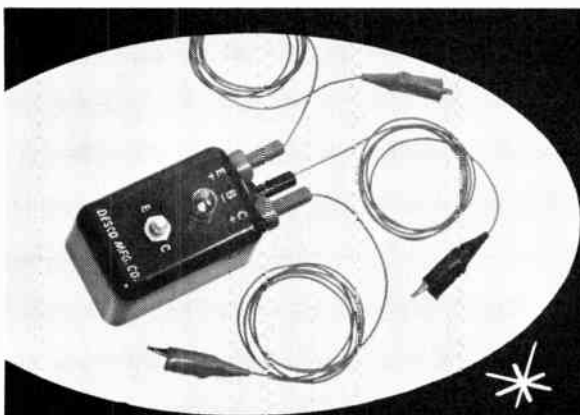
#### TRANSISTORS

Verify that the junction between the base and emitter, and between the base and collector are intact before installation. Recheck immediately after soldering or welding to verify that the junction has not been destroyed from over heat or mechanical damage.

#### DIODES AND S.C. RECTIFIERS

Verify polarity before installation, and retest after installation to establish that the junction has not been destroyed from over heat.

\* T.M. Reg.



#### DESCO TRANTRACER MODEL TR200 FOR TROUBLE SHOOTING

1. Quickly locate "open" transistors and diodes in circuitboards and assemblies. The Desco Trantracer will establish the existence of a junction in any NPN or PNP transistor where the leads are accessible without damage from overcurrent to the transistor under test or damage to any of the other circuit components.
2. Use the Desco Trantracer TR200 as a continuity tester for circuits up to 2000 ohms resistance.

#### SPECIFICATIONS

#### MODEL TR100 AND MODEL TR200

Steady State Current Short Circuit . . . < 0.75 ma  
Peak Current — Make and Break . . . < 1.20 ma

#### DESCO TRANTRACER MODEL TR100 FOR PRODUCTION ASSEMBLY

1. Clip the proper leads to the base, collector and emitter wires.
2. Verify collector and emitter junctions by throwing the selector switch to the proper position.
3. Leave the test clips on the semiconductor leads to serve as heat sinks, and perform the soldering operations.
4. After soldering, verify that the junctions haven't been destroyed from over heat.



**DESCO MFG. CO.**

# EMICO

PRECISION-PLUS

# PRECISION

*the Recognized Leader . . .*

## PRICE LIST

PRICES—Prices listed are net and include all hardware and individual boxing. Resistance approximate. If important request factory engineering confirmation.

### DC AMMETERS

Range	Approximate Resist. Ohms	MODEL NF-2C		MODEL RF-2C		MODEL RF-2½C		MODEL 13		
		Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	Approximate Resist. Ohms	Catalog Number	Dealers' Net Price
0-1	.15	2101	\$2.15	2201	\$2.25	2301	\$2.60			
0-3	.032	2101-A	2.15	2201-A	2.25	2301-A	2.60			
0-5	.016	2102	2.15	2202	2.25	2302	2.60	.0025	2403	\$2.60
0-10	.00115	2103	2.15	2203	2.25	2303	2.60	.0025	2403-A	2.60
0-15	.00115	2103-A	2.15	2203-A	2.25	2303-A	2.60			
0-20	.00115	2104	2.15	2204	2.25	2304	2.60			
0-25	.00115	2104-A	2.15	2204-A	2.25	2304-A	2.60			
0-30	.00115	2105	2.15	2205	2.25	2305	2.60	.0006	2405	2.60
0-60	.000116	2106-A	2.85	2206-A	2.95	2306-A	3.30			
1-0-1	.08	2109	2.15	2209	2.25	2309	2.60			
3-0-3	.00115	2110	2.15	2210	2.25	2310	2.60			
6-0-6	.00115	2111	2.15	2211	2.25	2311	2.60			
10-0-10	.00115	2112	2.15	2212	2.25	2312	2.60			
15-0-15	.00115	2113	2.15	2213	2.25	2313	2.60	.0006	2414	2.60
20-0-20	.00115	2114	2.15	2214	2.25	2314	2.60	.0006	2415	2.60
30-0-30	.00115	2115	2.15	2215	2.25	2315	2.60			
75-0-75	.000116	2116-A	3.25	2216-A	3.35	2316-A	3.75			

### DC MILLIAMMETERS

0-1	850	2120	\$3.70	2220	\$3.80	2320	\$4.05	950	2420	\$4.05
0-3	425	2121	2.90	2221	3.00	2321	3.25			
0-5	925	2125	2.65	2225	2.75	2325	3.00	130	2425	3.00
0-5	1300									
0-10	300	2126	2.50	2226	2.60	2326	2.85	75	2426	2.85
0-10	350									
0-20	95	2127	2.15	2227	2.25	2327	2.60	23	2427	2.60
0-20	105									
0-25	65	2127-A	2.15	2227-A	2.25	2327-A	2.60			
0-30	37	2128	2.15	2228	2.25	2328	2.60	12	2428	2.60
0-30	45									
0-50	14.5	2129	2.15	2229	2.25	2329	2.60	5.5	2429	2.60
0-50	18.0									
0-100	7.0	2130	2.15	2230	2.25	2330	2.60	1.8	2430	2.60
0-100	8.3									
0-150	1.8	2130-A	2.15	2230-A	2.25	2330-A	2.60	1.0	2430-A	2.60
0-150	2.15									
0-200	1.5	2130-B	2.15	2230-B	2.25	2330-B	2.60	.5	2430-B	2.60
0-200	1.7									
0-300	.61	2131	2.15	2231	2.25	2331	2.60	.35	2431	2.60
0-300	.8									
0-500	.21	2132	2.15	2232	2.25	2332	2.60	.12	2432	2.60
0-500	.27									

### DC VOLTMETERS (HIGH RESISTANCE)

(100 ohms/volt except 150 and 300 volt ranges are 200 ohms per volt)

0-10	1050	2140	\$3.00	2240	\$3.10	2340	\$3.40			
0-30	2800	2141	3.00	2241	3.10	2341	3.40			
0-50	4000	2142	3.25	2242	3.35	2342	3.75			
0-150	28000	2143	3.35	2243	3.45	2343	3.85			
0-300	55000	2144	3.45	2244	3.55	2344	4.00			

### DC VOLTMETERS (LOW RESISTANCE)

0-1	33	2134	\$2.15	2234	\$2.25	2334	\$2.60	150	2435	\$2.60
0-3	100	2135	2.15	2235	2.25	2335	2.60			
0-5	140	2136	2.15	2236	2.25	2336	2.60			
3-0-3	30	2136-A	2.15	2236-A	2.25	2336-A	2.60			
0-8	225	2136-B	2.15	2236-B	2.25	2336-B	2.60			
0-10	280	2137	2.15	2237	2.25	2337	2.60	500	2437	2.60
0-15	450	2137-A	2.15	2237-A	2.25	2337-A	2.60	750	2437-A	2.60
0-20	600	2137-B	2.15	2237-B	2.25	2337-B	2.60	1000	2437-B	2.60
0-30	1000	2137-C	2.15	2237-C	2.25	2337-C	2.60	1500	2437-C	2.60
0-50	1400	2138	2.15	2238	2.25	2338	2.60	2500	2438	2.60

### AC AMMETERS

0-1	.365	6101	\$3.35	6201	\$3.45	6301	\$3.75			
0-3	.078	6102	3.35	6202	3.45	6302	3.75	.023	6403	\$3.75
0-5	.023	6103	3.35	6203	3.45	6303	3.75			
0-10	.013	6104	3.35	6204	3.45	6304	3.75			

### AC MILLIAMMETERS

0-25	750	6125	\$3.35	6225	\$3.45	6325	\$3.75			
0-50	175	6126	3.35	6226	3.45	6326	3.75			
0-100	58	6127	3.35	6227	3.45	6327	3.75			
0-250	12	6128	3.35	6228	3.45	6328	3.75	1.15	6429	\$3.75
0-500	1.75	6129	3.35	6229	3.45	6329	3.75			

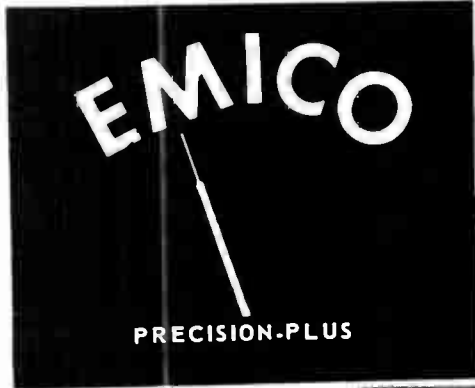
### AC VOLTMETERS

0-5	50	6135	\$3.35	6235	\$3.45	6335	\$3.75			
0-10	175	6136	3.35	6236	3.45	6336	3.75			
0-15	300	6137	3.35	6237	3.45	6337	3.75	300	6437	\$3.75
0-25	920	6137-A	3.35	6237-A	3.45	6337-A	3.75			
0-50	1800	6138	3.35	6238	3.45	6338	3.75			
0-150	9530	6139	3.90	6239	4.00	6339	4.45	15000	6439	4.45
0-300	32000	6140	4.50	6240	4.55	6340	4.95	32000	6440	4.95

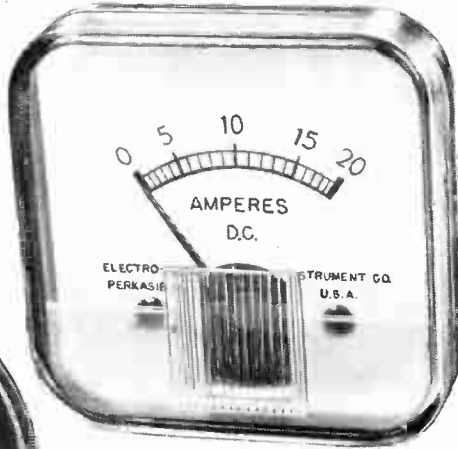
ELECTRO-MECHANICAL INSTRUMENT CO., INC.

# METERS

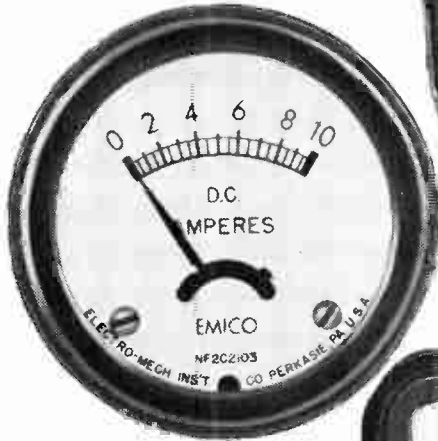
*in Precision Products*



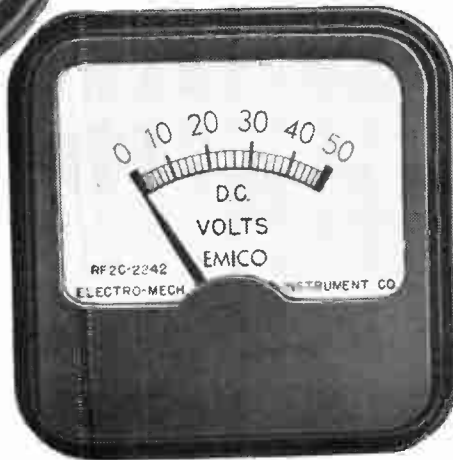
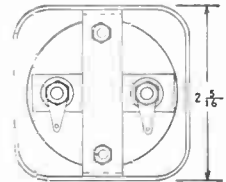
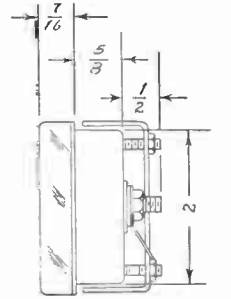
**MODEL 13**  
Edge Reading Type



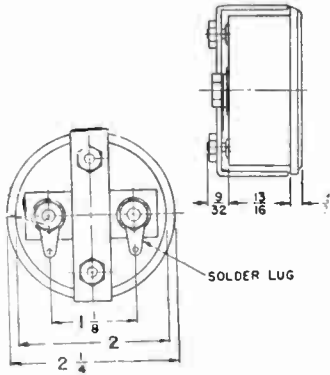
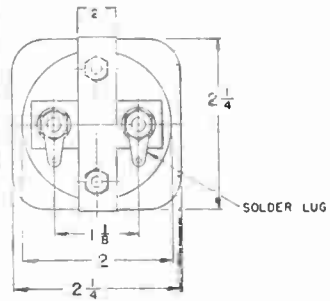
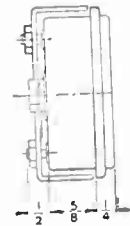
**MODEL RF2 1/4 C**



**MODEL NF2C**



**MODEL RF2C**



**Precision instruments engineered for**

- accuracy
- long life
- economy

**EMICO Miniature Circuit Indicator MODEL 801**

Gives snap-action response at .001 (milliwatt) to monitor all circuit malfunctions or on-off conditions. Dependable through millions of on-off cycles. Simplified panel installation.

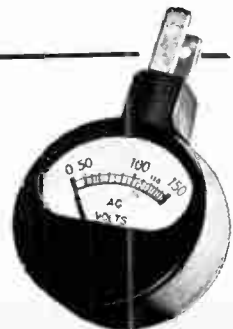
Dealer's Net \$5.00



**EMICO A.C. Voltage Tester**

Accurate, precision mechanism plug-in type with damped meter movement. Convenient 90° swivel prongs for ease of reading from any position.

Dealer's Net \$3.45



**ELECTRO-MECHANICAL INSTRUMENT CO., INC.**

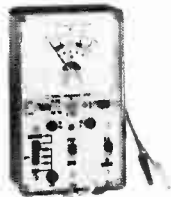
**whatever electronic products  
you require...**



**...you'll find it  
faster in  
this catalog...  
...the world's largest catalog  
of electronic  
products  
sold through  
distributors**



# Transistor—Tube Testers

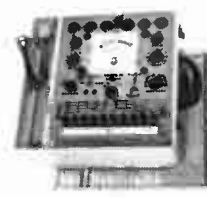


**MODEL 212 — TRANSISTOR ANALYZER** Checks DC current gain (BETA) in 3 ranges to 200; leakage on 3 colored scale; all transistors — high or low power for gain and leakage; all transistors as AC current amplifiers (OSCILLATOR CHECK); and all transistors in circuit without removing them. Can be used to signal trace AF, IF or RF circuits; measure battery voltage on 0-12 volt scale; measure DC current drain on 0-80 milliampere scale. Checks condition of diodes. Supplied with 3 external leads and socket for checking transistors. Comes complete with instruction manual and transistor listing. Size: 3 3/4" x 6 1/4" x 2". Weight: 1 1/2 lbs. Wired \$19.50 Kit form \$13.50



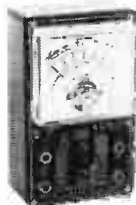
**MODEL 213 — TUBE TESTER** Checks all the new 12 prong (compactron), nuvistor, novar and 10 prong tubes, in addition to octal, loctal, miniature, and 9 prong tubes. Tests each tube for shorts, leakages intermittents, and quality. Tube quality is indicated directly on a three color metal dial. Each section of a multi-purpose tube is checked separately. Magic eye, voltage regulator and hi-fi tubes are also tested. Unique switching arrangement makes the checker obsolescent proof. Panel is etched for long wear. Comes complete with instructions and tube charts in ring-bound manual. Size: 8 1/2" x 7 1/2" x 4". Weight: 4 1/2 lbs.

**MODEL 213** (in high impact bakelite case with strap). Wired \$31.40, Kit \$20.90. **MODEL 213P** (illustrated in wood carrying case). Wired \$34.75, Kit \$23.90. **MODEL CRT** picture tube adapter \$4.50.



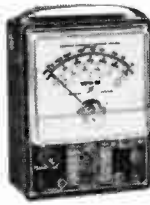
**MODEL 206AP — DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER** This completely flexible model, using lever-type switches, offers extremely accurate results with ease of operation. Checks all compactrons, novar, nuvistor, 10 pin octal and loctal tubes; mutual conductance on a calibrated micromho and "reject-good" scale; checks tubes for gas content; detects both shorted and open elements. Complete switching flexibility allows all present and future tubes to be tested. Tests tubes for radio frequency and other noise. Size: 6" x 14 1/2" x 15". Weight: 13 1/2 lbs.

**MODEL 206AP** (With hand-rubbed oak carrying case) \$93.90. **MODEL CTA** (Cathode ray tube adapter for **MODEL 206AP**) \$4.50.



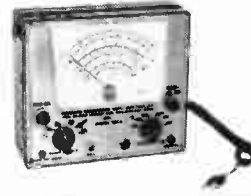
**MODEL 102A — VOLMETER** Features a 3 1/2" 2% accurate — 800 microamperes D'Arsonval type plastic front meter with 3 AC current ranges, and the same zero adjustment for both resistance ranges. A sturdy, durable pocket instrument from EMC's economy line is housed in a molded bakelite case. AC VOLTAGE — 5 RANGES: 0 to 12-120-600-1200-3000 volts. DC VOLTAGE — 5 RANGES: 0 to 6-60-300-600-3000 volts. AC CURRENT — 3 RANGES: 0 to 30-150-600 ma. DC CURRENT — 4 RANGES: 0 to 6-30-130 ma: 0 to 1.2 amps. TWO RESISTANCE RANGES: 0 to 1000 ohms, 0 to 1 megohms. Weight: 1 lb. 5 oz. Size: 3 3/4" x 6 1/4" x 2".

**MODEL 102A** — With Diode Protected Meter. Wired \$16.95. Kit form \$14.40



**MODEL 109A — VOLMETER** Features 20,000 OHMS volts DC sensitivity and 10,000 OHMS per volt AC sensitivity. Uses a 4 1/2", 40 micro-ampere meter, with 3 AC current ranges; and 3 resistance ranges to 20 megohms. DC VOLTAGE: 5 ranges (20,000 ohms per volt); 0 to 6-60-300-600-3000 volts. AC VOLTAGE: 5 ranges (10,000 ohms per volt); 0 to 12-120-600-1200-3000 volts. DC CURRENT: 3 ranges — 0 to 6-60-600 ma. AC CURRENT: 3 ranges — 0 to 30-300 ma: 0 to 3 amps. 3 RESISTANCE RANGES: 0 to 20K, 0 to 200K, 0 to 20 megs. 5 DB RANGES: —4 to +67 db. Weight: 2 lbs. 5 oz. Size: 5 1/4" x 6 3/4" x 2 7/8".

**MODEL 109A** — 30,000 Volt Probe for **MODEL 109A** \$7.95. **MODEL 109A** — With Diode Protected Meter \$28.95. **MODEL 109AK** \$21.15.



**MODEL 107A — PEAK TO PEAK VACUUM TUBE VOLT-OHM CAPACITY METER** Direct p-p measurements of complex wave forms; capacity and resistance measurements; 6" meter cannot burn out. P-P AC VOLTS — 6 Ranges: 0 to 4, 28, 84, 280, 840, 2800 V. Input res. 1.5 megohms. AC RMS VOLTS — 6 Ranges: 0 to 1.5, 10, 30, 100, 300, 1000 V. Input Res. 1.5 megohms. CAPACITY — 6 Ranges: .00005 to .005 mfd.; .0005 to .05, .005 to .05, .05 to .5, .5 to 500, 50 to 5000 mfd. RESISTANCE — 6 Ranges: 0-1000, 10,000, 1 meg, 10 meg, 1000 megs, 10 megs center on 1000 megs range. DC VOLTS — 6 Ranges: 0 to 1.5, 10, 30, 100, 300, 1000 V. (up to 30,000 V with accessory probe). Input res. 16.5 megs or 1 2/3 megohms per volt. 1 meg isolating resistor in probe. Size: 8 1/4" x 7 1/4" x 3 1/2" deep. Weight: 4 1/2 lbs.

**107A** Wired \$51.40. Kit \$36.50. **RFP HIGH FREQUENCY PROBE** (useful to 200mc) \$6.95. **PROBE HVP** — 30,000 Volt Probe \$8.75.



**MODEL 502 — RF SIGNAL GENERATOR** Has 6 bands from 115 kc to 110 mc on fundamentals and up to 220 mc on second harmonic. Individual slug tuned coils for each band. Colpitts RF oscillator for high stability. Planetary drive tuning condenser for fine adjustment of frequencies. 400 cycle internal modulation available. RF accuracy within 1 1/2%. 2-color etched panel for long durability. Provision made for external modulation. Compact: 6 5/8" x 6 5/8" x 4" deep. Supplied with RF output lead. Cathode follower output and RF attenuator. Weight: 4 lbs.

**MODEL 502** wired is priced at \$26.95 and in kit form \$18.95.



**MODEL 601 — WIDE BAND OSCILLOSCOPE** For Color TV and Monochrome. Full 5 mc bandwidth for color TV servicing. Push-pull vertical amplifier with sensitivity of .02 volts per inch. Retrace blanking amplifier eliminates confusion and gives clearer pictures. Multivibrator sweep from 15 cycles to over 75 kilocycles. SUP1 cathode ray. SWEEP GENERATOR — Multivibrator type: frequency range 15 to over 75,000 cycles. VERTICAL AMPLIFIER — Maximum sensitivity: .02 volts RMS per inch; frequency response: flat within 1.5 db from 15 cycles to 5 megacycles; input impedance: 2 megohms — 30 mmfd. SYNCHRONIZATION — Positive or negative from vertical amplifier or from external source; 105-130 volts 50/60 cycles 50 watts. Size: 8 3/4" wide x 14" high x 15 1/2" deep. Weight: 29 lbs.

**MODEL D** — Direct Probe \$3.95. **MODEL DEM** — Demodulator Probe \$5.75. **MODEL LC** — Low Capacity Probe \$5.75. **MODEL 601** — Wired \$117.90.



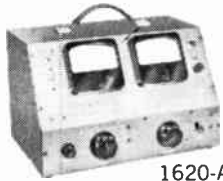
**MODEL 801 — COMPARATOR BRIDGE & IN-CIRCUIT CAPACITY CHECKER** Comprehensive resistance and capacity checker. Measures condensers for actual value, leakage, and power factor. As an in-circuit checker: detects open condensers above 50 mmfd not shunted by an excessively low resistance value; detects shorted condensers up to 20 mfd that are not shunted by less than 10 ohms; detects condensers that are intermittent in operation. Checks: capacity values in 4 ranges from 10 mmfd to 5000 mfd; resistance in 4 ranges from .5 ohm to 500 megs; ratio between any two capacitors, inductors or resistors or transformer windings having a ratio of 20 to 1 or less; power factor from 0 to 60% on condensers between .1 mfd and 5000 mfd; leakage of all types of condensers at rated voltages between 0 and 500 VDC. Uses a 2-color deep-etched, satin finish, aluminum panel. Size: 10" x 7" x 5" deep. Weight: 7 lbs.

Wired \$43.95 Kit \$27.45

# EMC

ELECTRONIC MEASUREMENTS CORPORATION

# FREED TRANSFORMER CO., INC.



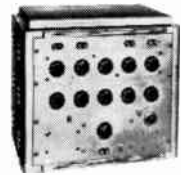
1620-A-B-C-E



1020-C



2030



1110-C

## MEGOHMMETERS

Freed manufactures a complete range of insulation resistance measuring equipment with fixed and variable d.c. test voltages from 5 to 2500 volts. Insulation and leakage measurements can

be made on transformers, motors, cables, electronic assemblies and components, dielectric materials, electrical appliances and tools, capacitors and resistors.

Type	Resistance Range	Test Voltage	Accuracy	Power Requirements	Size and Weight	Price
1620	0.1 to 4,000,000 megohms 1 to 2,000,000 megohms @ 500 volts	Variable 50 to 1000 volts d.c.	±5% at full scale	105-125 volts 50-60 cycles	15" x 9" x 7½" 24 lbs.	350.00
1620-A	0.01 to 4,000,000 megohms 0.1 to 200,000 megohms @ 50 volts 1 to 2,000,000 megohms @ 500 volts	Variable 5-100 volts d.c. 100-1000 volts d.c.	±5% at full scale	105-125 volts 50-60 cycles	15" x 9" x 7½" 24 lbs.	365.00
1620-B	1 to 2,000,000 megohms 10 to 2,000,000 megohms @ 2500 volts	Variable 250-2500 volts d.c.	±5% at full scale	105-125 volts 50-60 cycles	15" x 9" x 7½" 24 lbs.	395.00
1620-C	All features same as Type 1620 with additional circuitry for capacitor measurements	Variable 50 to 1000 volts d.c.	±5% at full scale	105-125 volts 50-60 cycles	15" x 9" x 7½" 24 lbs.	375.00
1620-D	10K ohms to 0.4 teraohms 100K ohms to 0.02 teraohms @ 50 volts 1 megohm to 0.2 teraohms @ 500 volts	Variable 5-100 volts d.c. 100-1000 volts d.c.	±5% at full scale except highest range ±10%	105-125 volts 50-60 cycles	15" x 9" x 7½" 25 lbs.	415.00
1020-C	0.1 to 2,000,000 megohms 0.1 to 200,000 megohms @ 50 or 100 volts d.c. 1 to 2,000,000 megohms @ 500 volts d.c.	Fixed 50, 100, 500 volts Regulated	±3% all ranges except highest range ±5%	105-125 volts 50-60 cycles	9½" x 10½" x 8" 18 lbs.	280.00
1020-D	0.1 to 2,000,000 megohms 0.1 to 200,000 megohms @ 100 or 200 volts d.c. 1 to 2,000,000 megohms @ 500 volts d.c.	Fixed 100, 200, 500 volts Regulated	±3% all ranges except highest range ±5%	105-125 volts 50-60 cycles	9½" x 10½" x 8" 18 lbs.	290.00
2030-A	10 to 2,000,000 megohms	Fixed 500 volts d.c.	±5% full scale	battery operated transistor supply	6" x 8" x 4" 8 lbs.	205.00
2030-B	1 to 20,000,000 megohms	Fixed 500 volts d.c.	±5% full scale	battery operated transistor supply	6" x 8" x 4" 8 lbs.	250.00
2030-C	0.1 to 2,000,000 megohms	Fixed 50 volts d.c.	±5% full scale	battery operated transistor supply	6" x 8" x 4" 8 lbs.	225.00
2030-D	1 to 2,000,000 megohms	Fixed 100 volts d.c.	±5% full scale	battery operated transistor supply	6" x 8" x 4" 8 lbs.	225.00
2030-E	1 to 2,000,000 megohms	Fixed 200 volts d.c.	±5% full scale	battery operated transistor supply	6" x 8" x 4" 8 lbs.	225.00

\*Rack models available, 19" x 10½" x 9½". Weight 25 lbs.

Freed invites requests for quotations on special insulation testing instruments, either deviations of above listed standard units or new designs for system applications.

## INCREMENTAL INDUCTANCE BRIDGES

Direct in-line readings of inductance and conductance of iron core component at audio frequencies with or without superimposed direct current. The bridge uses the Owens circuit with provisions for measuring the series or parallel inductance and conductance of the unknown inductor; five precision resistance

and capacitance decades are provided to indicate these values. "Q" or storage factor can be measured as the product of the inductive reactance and the conductance.

Type	Inductance Range	Conductance Range	Frequency Range	D.C. Current	Accuracy	Dimensions and Weight	Price
1110-C	1111.1 h to 1 mh 5 decades 1.1 h to 1 μh 2 decades	0.015 μmho—100 mho "Q" = 600 max @ 100 cycles	20 cycles to 10KC	up to 2 amperes	±0.5% to 5 KC ±2% to 10 KC	21¾" x 17½" x 15¼" 50 lbs.	525.00
1115	111.1 h to 100 μh 5 decades 0.11 h to 0.1 μh 2 decades	0.15 μmho—1000 mho "Q" = 600 max @ 100 cycles	20 cycles to 10 KC	up to 15 amperes	±1% to 5 KC ±3% to 10 KC	21¾" x 28" x 15¼" 80 lbs.	825.00
1185	111.1 h to 100 μh 5 decades 0.11 h to 0.1 μh 2 decades	0.15 μmho—1000 mho "Q" = 600 max @ 100 cycles	20 cycles to 10 KC	up to 30 amperes	±1% to 5 KC ±3% to 10 KC	21¾" x 33¼" x 15¼" 100 lbs.	1250.00

## UNIVERSAL BRIDGE

The Freed Type 1150-A Universal Bridge offers the laboratory a combination of eight bridges in one instrument. This bridge will measure the reactive and resistive component of impedances, capacitance, resistance and phase angle.

In the Hay and/or Owen bridge configuration the incremental permeability of an inductance can be measured.

Type	Inductance Range	Capacitance Range	Resistance Range	"D" Hay Bridge	Price
1150-A	5 μh 1110 h	5 pf-10 mf	0.05 Ω-1 MΩ	0.001-10 Q = 0.1-1000	825.00
	"Q" Maxwell 0.01-50	"Q" Series Owen 0.01-600 @ 100 cycles	"Q" Parallel Owen 80 @ 100 cycles	"Q" Parallel Resistor-Condenser Bridge 0.01-11.1	
	Accuracy Inductance ±0.5% up to 1 KC. ±2% to 10 KC. Capacitance ±1% @ 1 KC. "D", "Q", ±5% @ 1 KC. Resistance (ac.) ±1% @ 1 KC.			Dimensions and Weight 21¾" x 24½" x 17" 65 lbs.	

Prices quoted are subject to change without notice



# FREED TRANSFORMER CO., INC.

## LOW FREQUENCY "Q" INDICATORS

Direct indication of "Q" at low frequencies, inductance, distributed capacity, impedance and dielectric loss can also be measured. Instrument may be used to study the magnetic properties of iron core material for stability as a function of applied voltage and losses as a function of the frequency.

Two units are available, the 1030-A indicates "Q" as  $x$  product of meter readings multiplied by dial settings, the 1030-B displays "Q" directly in digital readout.

Type	Test Frequency	Q Range	Accuracy	Test Voltage	Power Requirements	Dimensions and Weight	Price
1030-A	20 cycles to 200 X.C.	1-1000	±5% 20 cycles to 50 KC— to 200 KC at reduced accuracy	Voltage to series circuit, 0.01 to 10 volts voltage across coil variable to 100 volts	106-125 volts 50-60 cycles	21" x 23" x 15" 120 lbs.	1250.00

## IMPEDANCE & ADMITTANCE BRIDGE

An audio frequency bridge for measuring the complex impedances of inductors, transformers, filter networks and capacitors.

Type	Frequency Range	Impedance and Admittance	Accuracy	Maximum Applied Voltage	Dimensions and Weight	Price
1120	20 to 20,000 cycles	XL, XC and R up to 1000 ohms, BL, BC and G up to 1000 microhms	R: ±1% G: ±2% X: ±1% up to 5 KC B: ±1% up to 5 KC	125 Volts	10½" x 12" x 12" 25 lbs.	455.00

## DISTORTION METERS

The type 1410 Distortion Meter measures distortion in the ultra-sonic or carrier frequency range and features high input impedance with high sensitivity. Having

a wide input voltage range it can be used for distortion measurements in low output oscillators, carrier frequency amplifiers and transmitters.

Type	Frequency Range	Input Impedance	Input Voltage	Sensitivity	Power Requirements	Dimensions and Weight	Price
1410	20 KC to 1 MC	50 KΩ shunted by 70 Pf	0.2 to 1000 volts	Distortion level of 0.1% for 0.2 volts input	105-125 volts 50-60 cycles	21" x 16¼" x 15" 60 lbs.	875.00

The type 1970 Distortion Meter is a wide range low input impedance instrument, designed with passive circuitry resulting in high stability, low residual distortion and hum levels.

Type	Frequency Range	Input Impedance	Input Voltage	Sensitivity	Dimensions and Weight	Price
1970	20 cycles to 1 megacycle	75-150 300-600	1 to 200 volts	Distortion level of 0.02% for 1 volt input	19" x 10½" x 12" 30 lbs.	525.00

## NULL DETECTORS

Sensitive null detectors for bridge measurements, with self contained selective filters to limit the amplifier characteristics at various bridge measuring frequencies.

Type	Sensitivity	Frequency Range	Filter	Power Requirements	Dimensions and Weight	Price
1140-B	10μ volts @ 1 KC for 15% meter deflection filter in	20 to 20,000 cycles	Fixed 60, 400, 1000 cycles Adjustable ±5% of center Other frequencies available	105-125 volts 50-60 cycles	Cabinet 12" x 8½" x 10" 18 lbs. Rack—19" x 6" x 10"	250.00
2076	1μ volts @ 1 KC for 15% meter deflection filter in	20 to 20,000 cycles	Fixed 60, 400, 1000 cycles Adjustable ±5% of center Other frequencies available	Transistorized Battery operated	Cabinet—8" x 6" x 8" Rack—19" x 5¼" x 8"	295.00

## DECADE CAPACITORS

The Freed series of Decade Capacitors cover a wide range of values and can be supplied as individual decades from 0.0001 PF. per step to 1 mf. per step or in

various combinations of assembled decade boxes. All capacitors are non-inductively wound and heat treated for stability.

Type	Total Capacity	Dielectric	Dissipation Factor	Accuracy	Dimensions and Weight	Price
1415	10 μf in steps of 1 μf	Mylar	<0.005	±1%	3" x 3" x 7" 2 lbs.	40.00
1416	1 μf in steps of 0.1 μf	Polystyrene	<0.0002	±1%	3" x 3" x 7" 2 lbs.	55.00
1417	0.1 μf in steps of 0.01 μf	Polystyrene	<0.0002	±1%	3" x 3" x 7" 2 lbs.	40.00
1418	0.01 μf in steps of 0.001 μf	Polystyrene	<0.0002	±1%	3" x 3" x 7" 2 lbs.	40.00
1419	0.001 μf in steps of 0.0001 μf	Polystyrene	<0.0002	±1%	3" x 3" x 7" 2 lbs.	45.00
1250	1.110 μf in steps of 0.001 μf	Polystyrene	<0.0002	±1%	13¾" x 6" x 4½" 8 lbs.	180.00
1351	11.111 μf in steps of 0.0001 μf plus 100 pf variable air capacitor	Mylar Polystyrene Air	<0.005	±1%	19" x 10¾" x 8" 25 lbs.	305.00
1352	1.111 μf in steps of 0.0001 μf	Polystyrene	<0.0002	±1%	19" x 5¼" x 10" 13 lbs.	220.00
1353	11.111 μf in steps of 0.0001 μf	Mylar Polystyrene	<0.005	±1%	19" x 5¼" x 10" 14 lbs.	275.00

Maximum operating voltage, 500 VDC or peak. Capacitors can be supplied to better than ±1%, write for complete information. In addition to listed equipment, Freed manufactures a complete series of decade inductors, AC and DC regulated power supplies, comparison and limit bridges. Write for complete catalog.

## DECADE INDUCTORS

Each unit is an assembly of four toroids wound on a stabilized Molybdenum permalloy dust core. The coils have a nominal inductance of 1-2-3-4 and are connected in series and switched to vary the inductance from 0-10.

Type	Frequency Range, Cycles	Maximum*	Inductance per Step	Total Inductance	Accuracy	Dimensions and Weight	Price
1220	500-20,000	230 @ 4 KC	0.001 h	0.01 h	±2%	3" x 3" x 9" 4½ lbs.	\$100.00
1230	500-20,000	280 @ 3 KC	0.01 h	0.1 h	±1%	3" x 3" x 9" 4½ lbs.	95.00
1240	500-20,000	260 @ 3 KC	0.1 h	1 h	±0.5%	3" x 3" x 9" 4½ lbs.	100.00
1270	500-20,000	190 @ 2 KC	1 h	10 h	±0.25%	3" x 3" x 9" 4½ lbs.	110.00
1341	100-2,000	100 @ 1 KC	10 h	100 h	±0.25%	3" x 3" x 9" 4½ lbs.	120.00
1280	500-20,000	280 @ 3 KC	0.001 h	1.11 h	See note	13¾" x 6½" x 5½" 16 lbs.	325.00
1290	500-20,000	280 @ 3 KC	0.001 h	11.11 h	See note	15" x 7" x 5½" 20 lbs.	425.00
1310	500-20,000	280 @ 3 KC	0.01 h	11.1 h	See note	13¾" x 6½" x 5½" 16 lbs.	325.00
1164†	30-2,000	60 @ 300	0.1 h	111 h	±1%	15" x 7" x 5½" 28 lbs.	285.00

† Type 1164 inductors are wound on special nickel alloy laminated cores.

Inductance per step:	1 mh	10 mh	100 mh	1 h	10h
Nominal Accuracy:	±2%	±1%	±0.5%	±0.25%	±0.25%

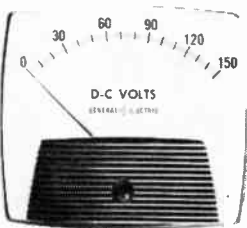
\*Maximum Q depending on inductance value and a.c. voltage across coil.

Prices quoted are subject to change without notice

# FREED TRANSFORMER COMPANY, INC.



# PANEL METERS

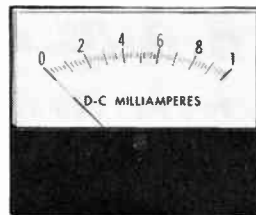


**BIG LOOK**†

Handsome, easy-to-read meters in two styles for all panel and control applications. All DC meters have self-shielded movement with pivot and jewel or taut-band suspension. Taut-band designs give great resistance to shock and increased sensitivity. Zener-diode, expanded-scale voltmeters available for improved narrow-range accuracy on 3½" and 4½" sizes. Snap-on, snap-off covers on meters. All types meet ASA Specification C-39.1.

**Accuracy:** ±2% FS, all DC and AC iron vane; ±3% FS, AC rectifier type (with 60-cycle sine wave at 25° C); ±0.5% of midspan, expanded-scale types. **Overload:** 20% momentary and sustained, voltmeters; 10 times rated current for 10 consecutive intervals of ½-sec. with 1-min. interval between successive applications, momentary; 20% for 8 hours, sustained, ammeters. **Scale:** Pivot and jewel, 90° rotation; taut-band, 100°.

**Insulation:** 2600 V rms hi-pot for all but 1½" models (1600 V rms). **Response Time:** Meet or exceed ASA requirements: 3 sec. max. for microammeters; 2 sec. max. all other DC ratings; 2.5 sec. max. AC ratings. **Damping:** 40% max. overshoot; 2.5 min. damping factor. **Burden:** 5 amps, 0.5 VA, 0.5 power factor for AC ammeter; unity power factor, AC voltmeter.



**HORIZON LINE**‡

## BIG LOOK PANEL METERS

Accurate, quick reading with wide, border-to-border scales; free from shadows. Most popular meter design with low-profile, easy-to-read sense. Aluminum frame holds reflections to a minimum. Big, bold numerals over cleanly marked divisions for fast reading. Tapered pointers assure high accuracy. Taut-band suspension provided on all models except 1½" size. Standard 2½" and 3½" models come with sealed cases to protect against hair, dust, chemicals or other foreign particles. Shelf-shielded DC mechanisms; snap-on, snap-off covers.

Meter Size and Type	Scale Length		Max. Meter Dimensions, Inches			
	Pivot Jewel	Taut-band	Face Size H. x W.	Cutout O.D.	Back* Depth	Front* Depth
1½" DW-90	1.400"	.....	1.750 x 1.750	1.530	1.230	0.375
2½" DW-91§	2.100"	2.300"	2.702 x 2.702	2.195	2.002	0.478
3½" DO-91†	2.900"	3.200"	3.512 x 3.512	2.786	2.002	0.478
4½" DO-92‡	3.930"	4.360"	4.408 x 4.846	2.786	1.965	0.573

§Or AW-91. †Or A0-91. ‡Or A0-92. \*Back-of-panel and front-of-panel, respectively.

## HORIZON LINE PANEL METERS

Distinctive, low profile design for sophisticated styling. Best readability with swept-back windows to deflect light from line of sight. Both 3½" and 4½" meters may be mounted semi-flush or back-of-panel, recessed with face silhouetted by half-bezel frame to conserve space and improve readability. DC types have core-magnet d'Arsonval movement with pivot and jewel, or taut-band suspensions; self-shielded for use on any panel. Zener-diode, expanded-scale voltmeters available. Snap-on, snap-off covers supplied on 4½" size.

G.E. No. 1012K11702 Bezel — For flush mtg. 2½" size. List.....\$1.25  
 G.E. No. 1012K11700 Bezel — For flush mtg. 3½" size. List..... 1.50  
 G.E. No. 1012K11701 Bezel — For flush mtg. 4½" size. List..... 1.50

Meter Size and Type	Scale Length		Max. Meter Dimensions, Inches			
	Pivot Jewel	Taut-band	Face Size H. x W.	Cutout O.D.	Back* Depth	Front* Depth
2½" NO. 157	2.013"	2.284"	2.256 x 2.892	2.031	2.048	0.545
3½" NO. 167	2.725"	3.060"	3.006 x 3.756	2.781	1.963	0.740
4½" NO. 178	3.502"	3.800"	3.756 x 4.632	2.781	1.963	0.831

\*Back-of-panel and front-of-panel, respectively.

## DC VOLTMETERS ZERO-LEFT, SELF CONTAINED

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Prefix: 50-188 011§	2½" DW-91 Prefix: 50-152 011§	3½" DO-91 Prefix: 50-162 011§	4½" DO-92 Prefix: 50-171 011§	2½" No. 157 Prefix: 50-157 011§	3½" No. 167 Prefix: 50-167 011§	4½" No. 178 Prefix: 50-178 011§
0-1	50		LALA	\$18.00	\$18.00	\$19.00	\$21.00	\$18.00	\$19.00	\$21.00
0-1.5	75†		LCLC	18.00	18.00	19.00	21.00	18.00	19.00	21.00
0-3	60		LJLJ	18.00	18.00	19.00	21.00	18.00	19.00	21.00
0-5	50		LSLS	18.00	18.00	19.00	21.00	18.00	19.00	21.00
0-8	40		MJMJ	18.00	18.00	19.00	21.00	18.00	19.00	21.00
0-10	50		MTMT	18.00	18.00	19.00	21.00	18.00	19.00	21.00
0-15	75†	1000	NDND	18.00	18.00	19.00	21.00	18.00	19.00	21.00
0-30	60	ohms	NLNL	18.00	18.00	19.00	21.00	18.00	19.00	21.00
0-50	50	per	NTNT	18.00	18.00	19.00	21.00	18.00	19.00	21.00
0-80	40	volt	PDPD	18.00	18.00	19.00	21.00	18.00	19.00	21.00
0-100	50		PKPK	18.00	18.00	19.00	22.00	18.00	19.00	22.00
0-150	75†		PZPZ	18.00	18.00	19.00	22.00	18.00	19.00	22.00
0-200	40		RLRL	18.00	18.00	19.00	22.00	18.00	19.00	22.00
0-250	50		RSRS	18.00	18.00	19.00	22.00	18.00	19.00	22.00
0-300	60		RXR X	19.00	19.00	20.00	23.00	19.00	20.00	23.00
0-500	50		SFSF	.....	.....	21.00	24.00	.....	21.00	24.00
0-600	60		SJSJ	.....	.....	21.00	24.00	.....	21.00	24.00
0-500*	50	125	FASF	17.00	17.00	.....	.....	17.00	.....	.....
0-600*	60	125	FASJ	17.00	17.00	.....	.....	17.00	.....	.....
0-750*	75†	125	FASM	17.00	17.00	18.00	20.00	17.00	18.00	20.00

## ZERO-CENTER, SELF CONTAINED

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Prefix: 50-188 012§	2½" DW-91 Prefix: 50-152 012§	3½" DO-91 Prefix: 50-162 012§	4½" DO-92 Prefix: 50-171 012§	2½" No. 157 Prefix: 50-157 012§	3½" No. 167 Prefix: 50-167 012§	4½" No. 178 Prefix: 50-178 012§
5-0-5	50		LSLS	\$18.00	\$18.00	\$19.00	\$21.00	\$18.00	\$19.00	\$21.00
10-0-10	40		MTMT	18.00	18.00	19.00	21.00	18.00	19.00	21.00
30-0-30	60	1000	NLNL	18.00	18.00	19.00	21.00	18.00	19.00	21.00
50-0-50	50	ohms	NTNT	18.00	18.00	19.00	21.00	18.00	19.00	21.00
80-0-80	40	per	PDPD	18.00	18.00	19.00	21.00	18.00	19.00	21.00
150-0-150	60	volt	PZPZ	18.00	18.00	19.00	22.00	18.00	19.00	22.00
300-0-300	60		RXR X	19.00	19.00	20.00	23.00	19.00	20.00	23.00
500-0-500	50		SFSF	.....	.....	21.00	24.00	.....	21.00	24.00
600-0-600	60		SJSJ	.....	.....	21.00	24.00	.....	21.00	24.00
500-0-500*	50	64	FASF	17.00	17.00	.....	.....	17.00	.....	.....
600-0-600*	60	64	FASJ	17.00	17.00	.....	.....	17.00	.....	.....
750-0-750*	60	64	FASM	17.00	17.00	18.00	20.00	17.00	18.00	20.00

## EXPANDED-SCALE, SELF CONTAINED

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Not Available	2½" DW-91 Not Available	3½" DO-91 Prefix: 50-162 091§	4½" DO-92 Prefix: 50-171 091§	2½" No. 157 Not Available	3½" No. 167 Prefix: 50-167 091§	4½" No. 178 Prefix: 50-178 091§
24-30	60	100	NNNN	.....	.....	\$52.00	\$55.00	.....	\$52.00	\$55.00
110-130	40	ohms/	PNNP	.....	.....	\$2.00	\$5.00	.....	\$2.00	\$5.00
220-260	40	volt	RTRT	.....	.....	\$2.00	\$5.00	.....	\$2.00	\$5.00

\*Not self contained, for use with external resistor, not supplied; rated 0-1 mA DC (or 1-0-1 mA DC, center scale types); when ordering, change last prefix indicator to 111 or 112 (i.e., 50-152 111 FASF; 50-162 112 FASM; etc.).

†75 divisions on all 3½" and 4½" meters; 30 divisions on 2½" and 1½".

§When ordering show complete number, prefix plus suffix; example: 50-157 012 LSLS for 5-0-5 self contained 2½" HORIZON LINE DC voltmeter.

‡Trade-mark of General Electric Co.

# PANEL METERS



## DC MICROAMMETERS ZERO-LEFT, PIVOT AND JEWEL TYPE

Scale μA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Prefix: 50-188 111§	2½" DW-91 Prefix: 50-152 111§	3½" D0-91 Prefix: 50-162 111§	4½" D0-92 Prefix: 50-171 111§	2½" No. 157 Prefix: 50-157 111§	3½" No. 167 Prefix: 50-167 111§	4½" No. 178 Prefix: 50-178 111§
0-20	40	3400	CFCF	\$30.00	\$30.00	\$31.00	.....	\$30.00	\$31.00	.....
0-50	50	1600	CYCY	24.00	24.00	25.00	\$28.00	24.00	25.00	\$28.00
0-100	50	1525	DRDR	20.00	20.00	21.00	24.00	20.00	21.00	24.00
0-200	40	690	EAEA	18.00	18.00	19.00	22.00	18.00	19.00	22.00
0-500	50	220	EMEM	17.00	17.00	18.00	20.00	17.00	18.00	20.00

## ZERO-LEFT, TAUT-BAND TYPE

Taut-band suspension is also available in other DC ratings; prices on request.

Scale μA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Not Available	2½" DW-91 Prefix: 50-156 111§	3½" D0-91 Prefix: 50-166 111§	4½" D0-92 Prefix: 50-173 111§	2½" No. 157 Prefix: 50-192 111§	3½" No. 167 Prefix: 50-193 111§	4½" No. 178 Prefix: 50-194 111§
0-20	40	3400	CFCF	.....	\$33.00	\$34.00	\$37.00	\$33.00	\$34.00	\$37.00
0-50	50	2600	CYCY	.....	27.00	28.00	31.00	27.00	29.00	31.00
0-100	50	1170	DRDR	.....	23.00	24.00	27.00	23.00	24.00	27.00

## ZERO-CENTER, PIVOT AND JEWEL TYPE

Scale μA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Prefix: 50-188 112§	2½" DW-91 Prefix: 50-152 112§	3½" D0-91 Prefix: 50-162 112§	4½" D0-92 Prefix: 50-171 112§	2½" No. 157 Prefix: 50-157 112§	3½" No. 167 Prefix: 50-167 112§	4½" No. 178 Prefix: 50-178 112§
20-0-20	40	3330	CFCF	27.00	\$27.00	\$28.00	.....	\$27.00	\$28.00	.....
50-0-50	50	1525	CYCY	20.00	20.00	21.00	\$24.00	20.00	21.00	\$24.00
100-0-100	40	690	DRDR	18.00	18.00	19.00	22.00	18.00	18.00	22.00
200-0-200	40	221	EAEA	17.00	17.00	18.00	21.00	17.00	18.00	21.00
500-0-500	50	64	EMEM	17.00	17.00	18.00	20.00	17.00	18.00	20.00

## DC MILLIAMMETERS ZERO-LEFT, PIVOT AND JEWEL TYPE

Scale mA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Prefix: 50-188 111§	2½" DW-91 Prefix: 50-152 111§	3½" D0-91 Prefix: 50-162 111§	4½" D0-92 Prefix: 50-171 111§	2½" No. 157 Prefix: 50-157 111§	3½" No. 167 Prefix: 50-167 111§	4½" No. 178 Prefix: 50-178 111§
0-1	50	64	Fafa	\$17.00	\$17.00	\$18.00	\$20.00	\$17.00	\$18.00	\$20.00
0-1.5	75†	64	FDFD	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-3	60	2.5	FNFN	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-5	50	2.5	FXFX	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-10	50	1.8	GZGZ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-20	40	1.5	HFHf	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-25	50	2.0	HJHJ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-30	60	1.67	HMHM	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-50	50	1.00	HYHY	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-80	40	0.62	JJJJ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-100	50	0.50	JRJR	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-150	75†	0.33	JXJX	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-200	40	0.25	KAKA	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-250	50	0.20	KDKD	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-300	60	0.167	KGKG	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-500	50	0.100	KMKM	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-800	40	0.062	KWKW	17.00	17.00	18.00	20.00	17.00	18.00	20.00

## ZERO-CENTER, PIVOT AND JEWEL TYPE

Scale mA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Prefix: 50-188 112§	2½" DW-91 Prefix: 50-152 112§	3½" D0-91 Prefix: 50-162 112§	4½" D0-92 Prefix: 50-171 112§	2½" No. 157 Prefix: 50-157 112§	3½" No. 167 Prefix: 50-167 112§	4½" No. 178 Prefix: 50-178 112§
1-0-1	40	64	Fafa	\$17.00	\$17.00	\$18.00	\$20.00	\$17.00	\$18.00	\$20.00
3-0-3	60	2.6	FNFN	17.00	17.00	18.00	20.00	17.00	18.00	20.00
5-0-5	50	1.8	FXFX	17.00	17.00	18.00	20.00	17.00	18.00	20.00
10-0-10	40	1.5	GZGZ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
20-0-20	40	1.25	HFHf	17.00	17.00	18.00	20.00	17.00	18.00	20.00
25-0-25	50	1.0	HJHJ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
30-0-30	60	0.83	HMHM	17.00	17.00	18.00	20.00	17.00	18.00	20.00
50-0-50	50	0.50	HYHY	17.00	17.00	18.00	20.00	17.00	18.00	20.00
100-0-100	40	0.25	JRJR	17.00	17.00	18.00	20.00	17.00	18.00	20.00
150-0-150	60	0.167	JXJX	17.00	17.00	18.00	20.00	17.00	18.00	20.00
200-0-200	40	0.125	KAKA	17.00	17.00	18.00	20.00	17.00	18.00	20.00
250-0-250	50	0.100	KDKD	17.00	17.00	18.00	20.00	17.00	18.00	20.00
300-0-300	60	0.083	KGKG	17.00	17.00	18.00	20.00	17.00	18.00	20.00
500-0-500	50	0.050	KMKM	17.00	17.00	18.00	20.00	17.00	18.00	20.00

## DC AMMETERS ZERO-LEFT, SELF-CONTAINED

Scale Amps	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Prefix: 50-188 111§	2½" DW-91 Prefix: 50-152 111§	3½" D0-91 Prefix: 50-162 111§	4½" D0-92 Prefix: 50-171 111§	2½" No. 157 Prefix: 50-157 111§	3½" No. 167 Prefix: 50-167 111§	4½" No. 178 Prefix: 50-178 111§
0-1	50	.0500	LALA	\$17.00	\$17.00	\$18.00	\$20.00	\$17.00	\$18.00	\$20.00
0-1.5	75†	.0333	LCLC	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-2	40	.0250	LELE	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-3	60	.0167	LJLJ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-5	50	.0100	LSLS	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-10	50	.0050	MTMT	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-15	75†	.0033	NDND	.....	17.00	18.00	20.00	17.00	18.00	20.00
0-20	40	.0025	NGNG	.....	17.00	18.00	20.00	17.00	18.00	20.00
0-30	60	.00167	NLNL	.....	17.00	18.00	20.00	17.00	18.00	20.00
0-50	50	.00100	NTNT	.....	.....	18.00	20.00	.....	18.00	20.00

† 75 divisions on 3½" and 4½" sizes; 30 divisions on 1½" and 2½" sizes.  
 § When ordering show complete number, prefix plus suffix; example: 50-188 111 LALA  
 for BIG LOOK 1½" DW-90 zero-left, self-contained DC ammeter with 0-1 scale.  
 ¶ Trade-mark of General Electric Co.





# PANEL METERS



## DC AMMETERS (CONT'D) ZERO-LEFT, SHUNT-RATED

For use with 2-way shunt-lead resistance .065 ohm. Does not include shunt or shunt leads.

Scale Amps	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Prefix: 50-188 121§	2½" DW-91 Prefix: 50-152 121§	3½" 00-91 Prefix: 50-162 121§	4½" 00-92 Prefix: 50-171 121§	2½" No. 157 Prefix: 50-157 121§	3½" No. 167 Prefix: 50-167 121§	4½" No. 178 Prefix: 50-178 121§
0-20	40		ECNG	\$17.00	\$17.00	\$18.00	.....	\$17.00	\$18.00	\$20.00
0-30	60		ECNL	17.00	17.00	18.00	.....	17.00	18.00	20.00
0-50	50		ECNT	17.00	17.00	18.00	\$20.00	17.00	18.00	20.00
0-75	75†		ECPB	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-100	50		ECPK	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-150	75†	50 mV	ECPZ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-200	40	shunt-	ECRL	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-250	50	rated	ECRS	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-300	60	12.5	ECRX	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-400	40	ohms	ECSC	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-500	50		ECSF	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-600	60		ECSJ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-800	40		ECSN	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-1000	50		ECVA	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-1500	75†		ECVC	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-2000	40		ECVE	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-20	40		GBNG	17.00	17.00	18.00	.....	17.00	18.00	20.00
0-40	40		GBNP	17.00	17.00	18.00	.....	17.00	18.00	20.00
0-50	50		GBNT	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-75	75†		GBPB	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-100	50		GBPK	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-150	75†	100 mV	GBPZ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-200	40	shunt-	GBRL	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-250	50	rated	GBRS	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-300	60	25	GBRX	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-400	40	ohms	GBSC	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-500	50		GBSF	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-600	60		GBSJ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-800	40		GBSN	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-1000	50		GBVA	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-2000	40		GBVE	17.00	17.00	18.00	20.00	17.00	18.00	20.00

## ZERO-CENTER, SELF CONTAINED

Scale Amps	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Prefix: 50-188 112§	2½" DW-91 Prefix: 50-152 112§	3½" 00-91 Prefix: 50-162 112§	4½" 00-92 Prefix: 50-171 112§	2½" No. 157 Prefix: 50-157 112§	3½" No. 167 Prefix: 50-167 112§	4½" No. 178 Prefix: 50-178 112§
1-0-1	40	.0500	LALA	\$17.00	\$17.00	\$18.00	\$20.00	\$17.00	\$18.00	\$20.00
2-0-2	40	.0250	LELE	17.00	17.00	18.00	20.00	17.00	18.00	20.00
5-0-5	50	.010	LSLS	17.00	17.00	18.00	20.00	17.00	18.00	20.00
10-0-10	40	.0050	MTMT	17.00	17.00	18.00	20.00	17.00	18.00	20.00
15-0-15	60	.0033	NDND	.....	17.00	18.00	20.00	17.00	18.00	20.00
20-0-20	40	.0025	NGNG	.....	17.00	18.00	20.00	17.00	18.00	20.00
30-0-30	60	.00167	NLNL	.....	17.00	18.00	20.00	17.00	18.00	20.00
50-0-50	50	.00100	NTNT	.....	.....	18.00	20.00	17.00	18.00	20.00

## ZERO-CENTER, 50 mV SHUNT-RATED

For use with 2-way shunt-lead resistance of .065 ohm. Does not include shunt or shunt leads.

Scale Amps	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Prefix: 50-188 122§	2½" DW-91 Prefix: 50-152 122§	3½" 00-91 Prefix: 50-162 122§	4½" 00-92 Prefix: 50-171 122§	2½" No. 157 Prefix: 50-157 122§	3½" No. 167 Prefix: 50-167 122§	4½" No. 178 Prefix: 50-178 122§
20-0-20	40		ECNG	\$17.00	.....	.....	.....	.....	.....	.....
50-0-50	50	25	ECNT	17.00	\$17.00	\$18.00	\$20.00	\$17.00	\$18.00	\$20.00
75-0-75	60	ohms	ECPB	17.00	17.00	18.00	20.00	17.00	18.00	20.00
100-0-100	40		ECPK	17.00	17.00	18.00	20.00	17.00	18.00	20.00
150-0-150	60		ECPZ	17.00	17.00	18.00	20.00	17.00	18.00	20.00

## AC VOLTMETERS SELF CONTAINED, IRON VANE

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Not Available	2½" AW-91 Prefix: 50-152 031§	3½" AD-91 Prefix: 50-162 031§	4½" AD-92 Prefix: 50-171 031§	2½" No. 157 Prefix: 50-157 031§	3½" No. 167 Prefix: 50-167 031§	4½" No. 178 Prefix: 50-178 031§
0-3	60	11.1	LJLJ	.....	\$16.00	\$17.00	\$20.00	\$16.00	\$17.00	\$20.00
0-5	50‡	29	LSLS	.....	16.00	17.00	20.00	16.00	17.00	20.00
0-10	50	110	MTMT	.....	16.00	17.00	20.00	16.00	17.00	20.00
0-15	75†	251	NDND	.....	16.00	17.00	20.00	16.00	17.00	20.00
0-30	60	779	NLNL	.....	16.00	17.00	20.00	16.00	17.00	20.00
0-50	50	2,500	NTNT	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-150	75†	15,000	PZPZ	.....	18.00	19.00	22.00	18.00	19.00	22.00
0-300	60	70,260	RXRX	.....	20.00	21.00	24.00	20.00	21.00	24.00
0-500	50	117,260	SFSF	.....	.....	26.00	29.00	.....	26.00	29.00
0-600	60	140,000	SJSJ	.....	.....	26.00	29.00	.....	26.00	29.00

## SELF CONTAINED, 400 CYCLES

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Not Available	2½" AW-91 Prefix: 50-152 061§	3½" AD-91 Prefix: 50-162 061§	4½" AD-92 Prefix: 50-171 061§	2½" No. 157 Prefix: 50-157 061§	3½" No. 167 Prefix: 50-167 061§	4½" No. 178 Prefix: 50-178 061§
0-150	75†	15,000	PZPZ	.....	\$18.00	\$19.00	\$22.00	\$18.00	\$19.00	\$22.00
0-300	60	70,260	RXRX	.....	20.00	21.00	24.00	20.00	21.00	24.00

†75 divisions, 3½" and 4½" sizes; 30 divisions, 1½" and 2½" sizes.

‡50 divisions, 3½" and 4½" sizes; 25 divisions, 2½" size.

§When ordering show complete number, prefix plus suffix; example: 50-171 031 LJLJ for 4½" BIG LOOK 0-3 voltmeter.

¶Trade-mark of General Electric Co.



# PANEL METERS

## AC VOLTMETERS (CONT'D)

### TRANSFORMER-RATED, 0-150 VOLTS



Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Not Available	2½" AW-91 Prefix: 50-152 031\$	3½" AO-91 Prefix: 50-162 031\$	4½" AO-92 Prefix: 50-171 031\$	2½" No. 157 Prefix: 50-157 051\$	3½" No. 167 Prefix: 50-167 031\$	4½" No. 178 Prefix: 50-178 031\$
0-600	60	15,000	PZSJ	.....	\$18.00	\$19.00	\$22.00	\$18.00	\$19.00	\$22.00
0-750	75†	15,000	PZSM	.....	18.00	19.00	22.00	18.00	19.00	22.00
0-3000	60	15,000	PZVJ	.....	18.00	19.00	22.00	18.00	19.00	22.00

### SELF CONTAINED, RECTIFIER TYPE

Accuracy ±3% (60-cycle sine wave, 25°C).

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Prefix: 50-188 051\$	2½" AW-91 Prefix: 50-152 051\$	3½" AO-91 Prefix: 50-162 051\$	4½" AO-92 Prefix: 50-171 051\$	2½" No. 157 Prefix: 50-157 051\$	3½" No. 167 Prefix: 50-167 051\$	4½" No. 178 Prefix: 50-178 051\$
0-10	50	1000 ohms per volt	MTMT	\$23.00	\$23.00	\$24.00	\$27.00	\$23.00	\$24.00	\$27.00
0-15	75†		NDND	23.00	23.00	24.00	27.00	23.00	24.00	27.00
0-20	40		NGNG	23.00	23.00	24.00	27.00	23.00	24.00	27.00
0-25	50		NJNJ	23.00	23.00	24.00	27.00	23.00	24.00	27.00
0-30	60		NLNL	23.00	23.00	24.00	27.00	23.00	24.00	27.00
0-50	50		NTNT	23.00	23.00	24.00	27.00	23.00	24.00	27.00
0-80	40		PDPD	23.00	23.00	24.00	27.00	23.00	24.00	27.00
0-100	50		PKPK	24.00	24.00	25.00	28.00	24.00	25.00	28.00
0-150	75†		PZPZ	24.00	24.00	25.00	28.00	24.00	25.00	28.00
0-200	40		RLRL	.....	.....	25.00	28.00	.....	25.00	28.00
0-250	50	RSRS	.....	.....	25.00	28.00	.....	25.00	28.00	
0-300	60	RXR X	.....	.....	26.00	29.00	.....	26.00	29.00	

Accuracy ±0.5% of mid-span.

### EXPANDED SCALE

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	Not Available	Not Available	Prefix: 50-162 071\$	Prefix: 50-171 071\$	Not Available	Prefix: 50-167 071\$	Prefix: 50-178 071\$
110-130	40	100	PNPN	.....	.....	\$52.00	\$55.00	.....	\$52.00	\$55.00
105-125	40	ohms/V	PTPT	.....	.....	52.00	55.00	.....	52.00	55.00

### AC AMMETERS (SELF CONTAINED, 25-400 CYCLES)

Scale Amps	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Not Available	2½" AW-91 Prefix: 50-152 141\$	3½" AO-91 Prefix: 50-162 141\$	4½" AO-92 Prefix: 50-171 141\$	2½" No. 157 Prefix: 50-157 141\$	3½" No. 167 Prefix: 50-167 141\$	4½" No. 178 Prefix: 50-178 141\$
0-1	50	0.16	LALA	.....	\$17.00	\$18.00	\$21.00	\$17.00	\$18.00	\$21.00
0-3	60	0.015	LJLJ	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-5	50†	0.007	LSLS	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-8	40	0.003	MJMJ	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-10	50	0.0024	MTMT	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-15	75†	0.0016	NDND	.....	17.00	19.00	22.00	17.00	18.00	21.00
0-20	40	0.001	NGNG	.....	18.00	19.00	22.00	18.00	19.00	22.00
0-30	60	0.0006	NLNL	.....	18.00	21.00	24.00	18.00	19.00	22.00
0-50*	50	0.0004	NTNT	.....	.....	21.00	24.00	.....	21.00	24.00
0-80*	.....	0.0004	PDPD	.....	.....	24.00	27.00	.....	24.00	27.00

### TRANSFORMER-RATED, 0-5 AMPERES, 25-400 CYCLES

0-10	50	0.007	LSM1	.....	\$17.00	\$18.00	\$21.00	\$17.00	\$18.00	\$21.00
0-15	75†		LSND	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-20	40		LSNG	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-30	60		LSNL	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-40	40		LSNP	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-50	50		LSNT	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-75	75†		LSPB	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-80	40		LSPD	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-100	50		LSPK	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-150	75†		LSPZ	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-200	40	LSRL	.....	17.00	18.00	21.00	17.00	18.00	21.00	
0-300	60	LSRX	.....	17.00	18.00	21.00	17.00	18.00	21.00	
0-400	40	LSSC	.....	17.00	18.00	21.00	17.00	18.00	21.00	
0-500	50	LSSF	.....	17.00	18.00	21.00	17.00	18.00	21.00	
0-600	60	LSSJ	.....	17.00	18.00	21.00	17.00	18.00	21.00	
0-800	40	LSSN	.....	17.00	18.00	21.00	17.00	18.00	21.00	
0-1000	50	LSVA	.....	17.00	18.00	21.00	17.00	18.00	21.00	
0-1200	60	LSVB	.....	17.00	18.00	21.00	17.00	18.00	21.00	
0-1500	75†	LSVC	.....	17.00	18.00	21.00	17.00	18.00	21.00	
0-2000	40	LSVE	.....	17.00	18.00	21.00	17.00	18.00	21.00	
0-3000	60	LSVJ	.....	17.00	18.00	21.00	17.00	18.00	21.00	

### AC MILLIAMMETERS (SELF CONTAINED, 25-400 CYCLES)

0-10 mA	50	21.58	GZGZ	.....	\$17.00	\$18.00	\$21.00	\$17.00	\$18.00	\$21.00
0-25 mA	50	341	HJHJ	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-50 mA	50	84	HYHY	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-100 mA	50	21	JRJR	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-200 mA	40	4.1	KAKA	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-500 mA	50	0.7	KMKM	.....	17.00	18.00	21.00	17.00	18.00	21.00

### AC MILLIAMMETERS AND MICROAMMETERS (RECTIFIER TYPE)

Accuracy ±3% (60-cycle sine wave, 25°C).

Scale mA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price				HORIZON LINE List Price		
				1½" DW-90 Not Available	2½" AW-91 Prefix: 50-152 151\$	3½" AO-91 Prefix: 50-162 151\$	4½" AO-92 Prefix: 50-171 151\$	2½" No. 157 Prefix: 50-157 151\$	3½" No. 167 Prefix: 50-167 151\$	4½" No. 178 Prefix: 50-178 151\$
0-1 mA	50	570	FAFA	.....	\$22.00	\$23.00	\$26.00	\$22.00	\$23.00	\$26.00
0-1.5 mA	75†	375	FDFO	.....	22.00	23.00	26.00	22.00	23.00	26.00
0-2 mA	40	325	FGFG	.....	22.00	23.00	26.00	22.00	23.00	26.00
0-3 mA	60	197	FNFN	.....	22.00	23.00	26.00	22.00	23.00	26.00
0-5 mA	50	139	FXFX	.....	22.00	23.00	26.00	22.00	23.00	26.00
0-10 mA	50	90	GZGZ	.....	22.00	23.00	26.00	22.00	23.00	26.00
0-20 mA	40	62	HFHF	.....	22.00	23.00	26.00	22.00	23.00	26.00
0-500 μA	50	985	EMEM	.....	22.00	23.00	26.00	22.00	23.00	26.00
0-800 μA	40	655	EW EW	.....	22.00	23.00	26.00	22.00	23.00	26.00

† 75 divisions, except 30 on 1½" and 2½" sizes.

‡ 50 divisions, except 25 on 2½" size.

§ When ordering show complete number, prefix plus suffix; example: 50-171 151 EMEM

¶ for μA 4" BIG LOOK AC ammeter.

¶ Trade-mark of General Electric Co.

• Do not have sealed terminal studs.

• With external magnetic shield assembled to meter base.



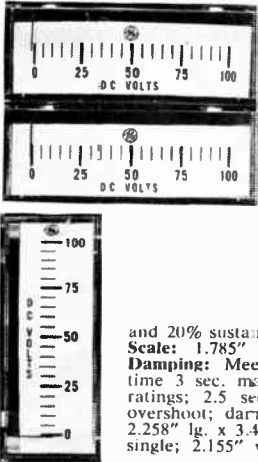


# PANEL METERS



## NEW 185 SERIES EDGEWISE METERS

Slim, miniature design can be mounted individually or in space-saving clusters. Choice of horizontal or vertical placement. Flush sides assure tight, case-to-case stacking without mechanism bulge. Magnetically shielded to prevent interaction between meters; no need for special calibration. Optional bezel and mounting brackets available for one, two or three-unit stacking. Meet applicable portions of ASA C-39.1. Accuracy:  $\pm 2\%$  of full scale, DC meters;  $\pm 3\%$  with 60-cycle sine wave at 25°C, AC rectifier-type meters. **Overload:** 20% momentary and sustained, voltmeter; 1000% momentary and sustained, ammeter. **Insulation:** 1800 V rms hi-pot. **Scale:** 1.785" long, 53° rotation. **Response Time and Damping:** Meet or exceed ASA requirements. Response time 3 sec. max.,  $\mu A$  meters; 2 sec. max., all other DC ratings; 2.5 sec. max., AC ratings. Damping 40% max. overshoot; damping factor, 2.5 minimum. **Size:** 0.92" w. x 2.258" lg. x 3.44" D., overall. Bezel 1.255" w. x 3.005" lg., single; 2.155" w., double; 3.055" w., triple-unit mounting.



### DC VOLTMETERS (SELF CONTAINED)

Scale Range	Term. Resis., Ohms	Horizontal Zero-Left* Number	Vertical Zero-Bottom* Number	List Price
0-10		50-185 011 MTMT	50-185 013 MTMT	\$19.00
0-15		50-185 011 NDND	50-185 013 NDND	19.00
0-30		50-185 011 NLNL	50-185 013 NLNL	19.00
0-50		50-185 011 NTNT	50-185 013 NTNT	19.00
0-100	1000	50-185 011 PKPK	50-185 013 PKPK	19.00
0-150		50-185 011 PZPZ	50-185 013 PZPZ	19.00
0-300		50-185 011 RXXR	50-185 013 RXXR	20.00
15.0-15	2000	50-185 012 NDND	50-185 014 NDND	19.00
50.0-50	ohms/volt	50-185 012 NTNT	50-185 014 NTNT	19.00
150.0-150	volt	50-185 012 PZPZ	50-185 014 PZPZ	20.00

### DC VOLTMETERS (FOR EXTERNAL RESISTORS)

Rated 0-1 mA for use with external resistor, not supplied.

0-500	40	50-185 111 FASF	50-185 113 FASF	\$18.00
0-600	40	50-185 111 FASJ	50-185 113 FASJ	18.00
0-750	40	50-185 111 FASM	50-185 113 FASM	18.00

### DC MICROAMMETERS (SELF CONTAINED)

0-20	2030	50-185 111 CFCF	50-185 113 CFCF	\$31.00
0-50	1625	50-185 111 CYCY	50-185 113 CYCY	25.00
0-100	1350	50-185 111 DRDR	50-185 113 DRDR	21.00
0-500	200	50-185 111 EMEM	50-185 113 EMEM	18.00
500-0-500	1350	50-185 112 CYCY	50-185 114 CYCY	21.00
	40	50-185 112 EMEM	50-185 114 EMEM	18.00

### DC MILLIAMMETERS (SELF CONTAINED)

0-1	40	50-185 111 FAFA	50-185 113 FAFA	\$18.00
0-5	2.0	50-185 111 FXFX	50-185 113 FXFX	18.00
0-10	1.0	50-185 111 GZGZ	50-185 113 GZGZ	18.00
0-20	0.5	50-185 111 HFHF	50-185 113 HFHF	18.00
0-50	1.0	50-185 111 HYHY	50-185 113 HYHY	18.00
0-100	0.5	50-185 111 JRJR	50-185 113 JRJR	18.00
0-300	0.167	50-185 111 KGKG	50-185 113 KGKG	18.00
0-500	0.099	50-185 111 KMKM	50-185 113 KMKM	18.00
5-0-5	1.0	50-185 112 FXFX	50-185 114 FXFX	18.00
10-0-10	0.5	50-185 112 GZGZ	50-185 114 GZGZ	18.00
50-0-50	0.5	50-185 112 HYHY	50-185 114 HYHY	18.00
500-0-500	0.049	50-185 112 KMKM	50-185 113 KMKM	18.00

### DC AMMETERS (SELF CONTAINED)

0-1	0.049	50-185 111 LALA	50-185 113 LALA	\$18.00
0-5	0.0099	50-185 111 L5L5	50-185 113 L5L5	18.00
0-10	0.0049	50-185 111 MTMT	50-185 113 MTMT	18.00
0-5-5	0.0049	50-185 112 L5L5	50-185 114 L5L5	18.00

### DC AMMETERS (50 mV SHUNT-RATED)

Shunt not supplied. Calibrated for use with 2-way shunt-lead resistance of 0.065 ohm.

0-20	12.5	50-185 121 ECNG	50-185 123 ECNG	\$18.00
0-50	12.5	50-185 121 ECNT	50-185 123 ECNT	18.00
0-300	12.5	50-185 121 ECXRX	50-185 123 ECXRX	18.00
0-500	12.5	50-185 121 EC5F	50-185 123 EC5F	18.00

### AC RECTIFIER TYPE INSTRUMENTS

Self-contained with linear scale. Accuracy,  $\pm 3\%$ .

0-10 V		50-185 051 MTMT	50-185 053 MTMT	\$24.00
0-15 V		50-185 051 NDND	50-185 053 NDND	24.00
0-30 V		50-185 051 NLNL	50-185 053 NLNL	24.00
0-50 V		50-185 051 NTNT	50-185 053 NTNT	24.00
0-100 V	1000	50-185 051 PKPK	50-185 053 PKPK	25.00
0-150 V		50-185 051 PZPZ	50-185 053 PZPZ	25.00
0-50 $\mu A$	985	50-185 151 EMEM	50-185 153 EMEM	23.00
0-1 mA	570	50-185 151 FAFA	50-185 153 FAFA	23.00
0-5 mA	139	50-185 151 FXFX	50-185 153 FXFX	23.00
0-10 mA	90	50-185 151 GZGZ	50-185 153 GZGZ	23.00
0-20 mA	62	50-185 151 HFHF	50-185 153 HFHF	23.00

Zero-center as listed.

Trade-mark of General Electric Co.

## TYPE 236 BIG LOOK ELAPSED TIME METERS

Offers distinctive appearance and excellent readability; designed to match ammeters and voltmeters with "Big Look" styling. Models are available for every time-measuring application. Both 2 1/2" and 3 1/2" sizes for panel mounting, plus 2 1/2" size for use with conduit type case or portable stand. All panel mounted timers meet requirements of ASA specification C39.1 for four-stud mounting. Available in reset and non-reset types, measuring either minutes or hours. Types listed are 60 cps operation, for 50 cps, add \$1.00 to list price. For 208-volt type specify model desired and add \$1.50 to list price of 240-volt model.



### NONRESET TYPE — COMMERCIAL CASE

G.E. Model Number		Size In.	Voltage VAC	List Price
Minutes	Hours			
50-236401AAAA1	50-236402AAAA1	2 1/2	120	\$23.00
50-236401ABAA1	50-236402ABAA1	2 1/2	240	24.00
50-236401ACAA1	50-236402ACAA1	2 1/2	480	25.00
50-236301AAAA1	50-236302AAAA1	3 1/2	120	23.00
50-236301ABAA1	50-236302ABAA1	3 1/2	240	24.00
50-236301ACAA1	50-236302ACAA1	3 1/2	480	25.00

### SEALED CASE

50-236421AAAA1	50-236422AAAA1	2 1/2	120	\$26.00
50-236421ABAA1	50-236422ABAA1	2 1/2	240	27.00
50-236421ACAA1	50-236422ACAA1	2 1/2	480	28.00
50-236321AAAA1	50-236322AAAA1	3 1/2	120	26.00
50-236321ABAA1	50-236322ABAA1	3 1/2	240	27.00
50-236321ACAA1	50-236322ACAA1	3 1/2	480	28.00

### RESET KNOB TYPE — COMMERCIAL CASE

50-236411AAAA1	50-236412AAAA1	2 1/2	120	\$31.00
50-236411ABAA1	50-236412ABAA1	2 1/2	240	32.00
50-236411ACAA1	50-236412ACAA1	2 1/2	480	33.00
50-236311AAAA1	50-236312AAAA1	3 1/2	120	31.00
50-236311ABAA1	50-236312ABAA1	3 1/2	240	32.00
50-236311ACAA1	50-236312ACAA1	3 1/2	480	33.00

## TYPE KT-11 TIME METERS



Ideal indicator for proper servicing and preventive maintenance in industry or for indicating component life. Available in 2 1/2" and 3 1/2" sizes, round or square cases, for flush mounting on panel board or in equipment case. Diecast zinc bezel with aluminum dial face. Wide temperature operating range with 6-digit register. Extra large counter numbers, white on black background for excellent readability. Last digit in contrasting color to indicate tenths. Bezel and plastic case provide dust-resistant enclosure for mechanism. Available with or without reset knob. Meet ASA panel mounting specifications. For 60 cps operation. For 50 cps operation, add \$1.00 to list price. For 208-volt type specify model desired and add \$1.50 to list price of 240-volt model.

### NON-RESET TYPE — ROUND CASE

G.E. Model Number		Size In.	Voltage VAC	List Price
Minutes	Hours			
50-235011AAAA1	50-235012AAAA1	2 1/2	120	\$26.00
50-235011ABAA1	50-235012ABAA1	2 1/2	240	27.00
50-235011ACAA1	50-235012ACAA1	2 1/2	480	28.00
50-235091AAAA1	50-235092AAAA1	3 1/2	120	26.00
50-235091ABAA1	50-235092ABAA1	3 1/2	240	27.00
50-235091ACAA1	50-235092ACAA1	3 1/2	480	28.00

### SQUARE CASE

50-235051AAAA1	50-235052AAAA1	2 1/2	120	\$26.00
50-235051ABAA1	50-235052ABAA1	2 1/2	240	27.00
50-235051ACAA1	50-235052ACAA1	2 1/2	480	28.00
50-235131AAAA1	50-235132AAAA1	3 1/2	120	26.00
50-235131ABAA1	50-235132ABAA1	3 1/2	240	27.00
50-235131ACAA1	50-235132ACAA1	3 1/2	480	28.00

### RESET KNOB TYPE — ROUND CASE

50-235021AAAA1	50-235012AAAA1	2 1/2	120	\$34.00
50-235021ABAA1	50-125012ABAA1	2 1/2	240	35.00
50-235021ACAA1	50-235012ACAA1	2 1/2	480	36.00
50-235101AAAA1	50-235102AAAA1	3 1/2	120	34.00
50-235101ABAA1	50-235102ABAA1	3 1/2	240	35.00
50-235101ACAA1	50-235102ACAA1	3 1/2	480	36.00

### SQUARE CASE

50-235061AAAA1	50-235062AAAA1	2 1/2	120	\$34.00
50-235061ABAA1	50-235062ABAA1	2 1/2	240	35.00
50-235061ACAA1	50-235062ACAA1	2 1/2	480	36.00
50-235141AAAA1	50-235142AAAA1	3 1/2	120	34.00
50-235141ABAA1	50-235142ABAA1	3 1/2	240	35.00
50-235141ACAA1	50-235142ACAA1	3 1/2	480	36.00



# METER RELAYS

## TYPE 195 AND 196 METER RELAYS



TYPE 195

New General Electric Meter Relays feature a solid-state, light-sensitive switch for optimum control simplicity and reliability. This switch controls the load relay directly; no amplifiers, no pointer contacts...no mechanical interference with meter movement. Pointer travel is unrestricted across the entire scale...you get continuous indication above and below the setpoints! Control action is dependable and repeatable over entire range!

Unique piggy-back control modules on 3 1/2-inch and 4 1/2-inch models, eliminate mounting and wiring of separate components...speed up and simplify installation. Control mounts directly on rear of indicator; no soldering, no complicated connections...just plug-in and they're mated! Control module may be removed without interrupting measurement circuit.

Other features include ON-OFF (automatic reset) or Alarm (manual reset) Control... 120-volt A-C Operation! No special power supply needed... Long Lamp Life! Conservatively estimated at 5 years... Fail-safe Operation.



TYPE 196

Rating and Scale	Meter Size		
	2 1/2-inch*	3 1/2-inch	4 1/2-inch
	List Price (With Single Set-point)†		

Rating and Scale	Meter Size		
	2 1/2-inch*	3 1/2-inch	4 1/2-inch
	List Price (With Single Set-point)†		

Rating and Scale	Meter Size		
	2 1/2-inch*	3 1/2-inch	4 1/2-inch
	List Price (With Single Set-point)†		

**D-C VOLTMETERS, ZERO-CENTER**

For use with external resistors. (Resistors not included.)

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
500-0-500 Volts	\$112	.....	.....
600-0-600 Volts	112	.....	.....
750-0-750 Volts	112	\$108	\$110

**D-C MICROAMMETERS, ZERO-LEFT**

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
20 ua	\$123	.....	.....
50 ua	119	\$115	.....
100 ua	115	111	\$114
200 ua	113	109	112
500 ua	112	108	110

**D-C MICROAMMETERS, ZERO-CENTER**

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
50-0-50 ua	\$115	\$111	\$114
100-0-100 ua	113	109	112
200-0-200 ua	112	108	110
500-0-500 ua	112	108	110

**D-C MILLIAMMETERS, ZERO-LEFT**

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
1 Ma	\$112	\$108	110
1.5 Ma	112	108	110
3 Ma	112	108	110
5 Ma	112	108	110
10 Ma	112	108	110
20 Ma	112	108	110
25 Ma	112	108	110
30 Ma	112	108	110
50 Ma	112	108	110
80 Ma	112	108	110
100 Ma	112	108	110
150 Ma	112	108	110
200 Ma	112	108	110
250 Ma	112	108	110
300 Ma	112	108	110
500 Ma	112	108	110
800 Ma	112	108	110

**D-C VOLTMETERS, ZERO-LEFT**

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
1.0 Volts	\$113	\$109	\$111
1.5 Volts	113	109	111
3 Volts	113	109	111
5 Volts	113	109	111
8 Volts	113	109	111
10 Volts	113	109	111
15 Volts	113	109	111
30 Volts	113	109	111
50 Volts	113	109	111
80 Volts	113	109	111
100 Volts	113	109	112
150 Volts	113	109	112
200 Volts	113	109	112
250 Volts	113	109	112
300 Volts	114	110	113
500 Volts	.....	111	114
600 Volts	.....	111	114

**D-C VOLTMETERS, ZERO-LEFT**

For use with external resistors. (Resistors not included.)

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
500 Volts	\$112	.....	.....
600 Volts	112	.....	.....
750 Volts	112	\$108	\$110

**D-C VOLTMETERS, ZERO-CENTER**

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
5-0-5 Volts	\$113	\$109	\$111
10-0-10 Volts	113	109	111
30-0-30 Volts	113	109	111
50-0-50 Volts	113	109	111
80-0-80 Volts	113	109	111
150-0-150 Volts	113	109	112
300-0-300 Volts	114	110	113
500-0-500 Volts	.....	111	114
600-0-600 Volts	.....	111	114

**D-C MILLIAMMETERS, ZERO-CENTER**

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
1-0-1 Ma	\$112	\$108	\$110
3-0-3 Ma	.....	.....	110
5-0-5 Ma	112	108	110
10-0-10 Ma	112	108	110
20-0-20 Ma	112	108	110
25-0-25 Ma	112	108	110
30-0-30 Ma	112	108	110
50-0-50 Ma	112	108	110
100-0-100 Ma	112	108	110
150-0-150 Ma	112	108	110
200-0-200 Ma	112	108	110
250-0-250 Ma	112	108	110
300-0-300 Ma	112	108	110
500-0-500 Ma	112	108	110

**D-C AMMETERS, ZERO-LEFT**

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
1 Amp	\$112	\$108	\$110
1.5 Amp	112	108	110
2 Amp	112	108	110
3 Amp	112	108	110
5 Amp	112	108	110
10 Amp	112	108	110
15 Amp	112	108	110
20 Amp	112	108	110
30 Amp	112	108	110
50 Amp	.....	108	110

**D-C AMMETERS, 50-MV SHUNT-RATED, ZERO-LEFT (Shunt and leads not included)**

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
20 Amp	\$112	\$108	.....
30 Amp	112	108	.....
50 Amp	112	108	\$110
75 Amp	112	108	110
100 Amp	112	108	110
150 Amp	112	108	110
200 Amp	112	108	110
250 Amp	112	108	110
300 Amp	112	108	110
400 Amp	112	108	110
500 Amp	112	108	110
600 Amp	112	108	110
800 Amp	112	108	110
1 KA	112	108	110
1.5 KA	112	108	110
2.0 Ka	112	108	110

**D-C AMMETERS, 100-MV SHUNT-RATED, ZERO-LEFT (Shunt and leads not included)**

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
20 Amp	\$112	\$108	\$110
40 Amp	112	108	110
50 Amp	112	108	110
75 Amp	112	108	110
100 Amp	112	108	110
150 Amp	112	108	110
200 Amp	112	108	110
250 Amp	112	108	110
300 Amp	112	108	110
400 Amp	112	108	110
500 Amp	112	108	110
600 Amp	112	108	110
800 Amp	112	108	110
1 Ka	112	108	110
2 Ka	112	108	110

**D-C AMMETERS, ZERO-CENTER**

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
1-0-1 Amp	\$112	\$108	\$110
2-0-2 Amp	112	108	110
5-0-5 Amp	112	108	110
10-0-10 Amp	112	108	110
15-0-15 Amp	112	108	110
20-0-20 Amp	112	108	110
30-0-30 Amp	112	108	110
50-0-50 Amp	.....	108	110

**D-C AMMETERS, 50-MV SHUNT-RATED, ZERO-CENTER (Shunt & leads not included)**

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
50-0-50 Amp	\$112	\$108	\$110
75-0-75 Amp	112	108	110
100-0-100 Amp	112	108	110
150-0-150 Amp	112	108	110

**A-C VOLTMETERS, RECTIFIER-TYPE**

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
10 Volts	\$118	\$114	\$117
15 Volts	118	114	117
20 Volts	118	114	117
25 Volts	118	114	117
30 Volts	118	114	117
50 Volts	118	114	117
80 Volts	118	114	117
100 Volts	119	115	118
150 Volts	119	115	118
200 Volts	.....	115	118
250 Volts	.....	116	119
300 Volts	.....	116	119

**A-C MICROAMMETERS, RECTIFIER-TYPE**

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
500 ua	\$117	\$113	\$116
800 ua	117	113	116

**A-C MILLIAMMETERS, RECTIFIER-TYPE**

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
1 Ma	\$117	\$113	\$116
1.5 Ma	117	113	116
2 Ma	117	113	116
3 Ma	117	113	116
5 Ma	117	113	116
10 Ma	117	113	116
20 Ma	117	113	116

**A-C AMMETERS, RECTIFIER-TYPE**

(Rectifier-type milliammeter with external 5A/20 ma transformer included)

Combined Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
5 Amp	\$129	\$125	\$128

**TRANSFORMER-RATED AMMETERS (Same as above except scales marked as follows):**

Rating	2 1/2-inch*	3 1/2-inch	4 1/2-inch
10 Amp	\$129	\$125	\$128
15 Amp	129	125	128
20 Amp	129	125	128
30 Amp	129	125	128
40 Amp	129	125	128
50 Amp	129	125	128
75 Amp	129	125	128
80 Amp	129	125	128
100 Amp	129	125	128
150 Amp	129	125	128
200 Amp	129	125	128
300 Amp	129	125	128
400 Amp	129	125	128
500 Amp	129	125	128
600 Amp	129	125	128
800 Amp	129	125	128
1 Ka	129	125	128
1.2 Ka	129	125	128
1.5 Ka	129	125	128
2.0 Ka	129	125	128
3.0 Ka	129	125	128

\* Two and one-half-inch meter relays are available in Type 195 styling only, and include mounting bracket and six-foot plug-in lead — accessory kit 1012K10G701.

† Prices listed are for meter relays with single set-point. For double set-point, add \$25.

# HICKOK

## TEST EQUIPMENT



### MODEL 580A

#### Laboratory and Industrial Portable Tube Tester

An entirely new instrument which can be set up directly to any tube test condition without having to rely upon the built-in roll chart. All tube potentials individually variable. Accommodates 4, 5, 6, 7-pin, octal, 7, 9 and 10-pin miniature, 7 and 8-pin sub-miniature, 5 and 7-pin Nuvisitors, Compactrons and Novars. Leakage test sensitivity to 50 megohms. Gas test circuit detects grid current to 0.05 microamperes. Gm ranges to 60,000 umhos. Cathode reserve test. Push button feature speeds check on dual section tubes. In black leatherette portable case, 19" x 15½" x 7". 105-125v, 60 cycles. 60 watts. Shipping weight, 35 lbs.

Model 580A Laboratory and Industrial Portable Tube Tester—Net Each ..... \$585.00

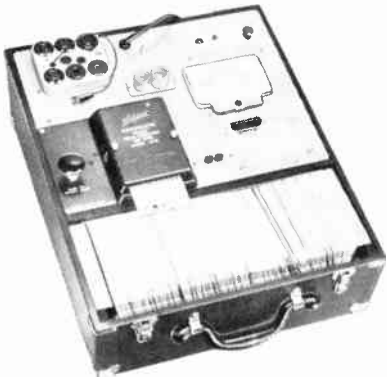


### MODEL 539C

#### New Industrial and Laboratory Portable Tube Tester

Tests VR tubes, low power thyratrons, "4 digit" types. VR test evaluates voltage regulator tubes under actual operating conditions. Tests Nuvisitors, Novars, Compactrons, 10-pin types. Provision for separate monitoring of plate current. Panel terminals provide access to grid, plate, cathode and heater circuits, permitting direct measurement of voltages and current for "non-standard" or "tailored" tests. Covers 600 to 60,000 umhos in six ranges. Dual leakage readings: directly on meter or by neon short indicators (Sensitivity to 50 megohms). Complete with socket savers. In black leatherette portable case. 16¾" x 18¾" x 7½". 105-125v, 50-400 cycles, 40 watts. Shipping weight, 35 lbs.

Model 539C Industrial and Laboratory Tube Tester—Net Each ..... \$545.00



### MODEL 123R

#### Cardmatic® Automatic Tube Tester

Ideal for Industrial and laboratory application. A genuinely complete tube tester, card-programs complete "fringe" tests, saturation and cut-off tests, in addition to basic Gm measurement. Gm ranges: 500-26,000 umhos; Current ranges: 100 ua to 510MA. Complete with pin straighteners, socket savers and 500 selected cards. In black leatherette portable case, 19½" x 16½" x 9¼". 105-125v, 50-60 cycles, 55 watts. Shipping weight, 57 lbs.

Model 123R—Cardmatic® Automatic Tube Tester—Net Each ..... \$655.00

Model 121 Cardmatic® Automatic Tube Tester. Low-priced version of the Model 123R. Measures Gm plus saturation, cut-off and important "fringe" tests. Also Tests transistors and diodes. Supplied with 342 selected cards covering popular entertainment tube types. In red leatherette portable case, 19¾" x 13¼" x 8". Shipping weight, 39 lbs.

Net Each ..... \$390.00



### NEW MODEL 752A

#### New Industrial Communications Portable Tube Tester

Designed for use in maintaining communications equipment and industrial electronic apparatus. New voltage regulator test circuit tests VR tubes to handbook specifications, including firing point, regulating voltage and current range. Tests Nuvisitors, Compactrons, Novars, 10-pin types. Push button test for dual-section tubes speeds selection of tubes for balanced or matched characteristics. Covers 1500 to 30,000 umhos in five ranges. Interelement leakage read directly on the meter (Sensitivity to 10 megohms). Illuminated meter and roll chart. Complete with socket savers and pin-straighteners. In black leatherette portable case, 18¾" x 16¾" x 7½". 105-125v, 50-60 cycles, 40-70 watts. Shipping weight, 27 lbs.

Model 752A Industrial and Communication Portable Tube Tester—Net Each ..... \$385.00

## THE HICKOK ELECTRICAL INSTRUMENT CO.



# HICKOK

## TEST EQUIPMENT

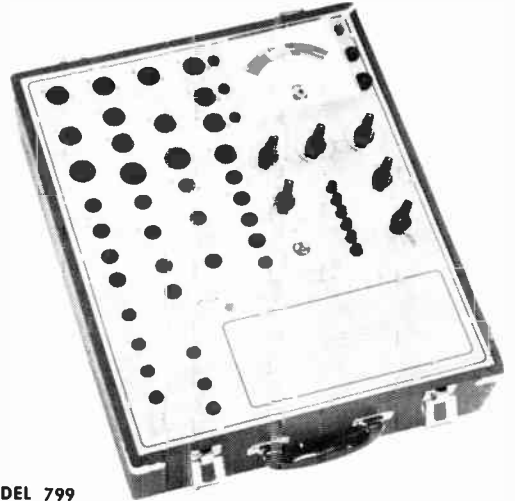


### MODEL 6000A

#### Service Technician's Deluxe Portable Tube and Transistor Tester

Has replaceable socket plate for obsolescence protection. Sensitive, instantaneous inter-element leakage and shorts test (Sensitivity — in excess of 3 megohms) filament continuity test. Covers 3,000 to 15,000 umhos in 3 ranges. Tests Compactrons, Nuvistors, Novars and 10-pin types. 14-position selector switches, no paralleled elements. Also tests transistors and diodes. In red leatherette portable case, 16 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ " x 7 $\frac{1}{2}$ ". 105-125v, 50-70 cycles, 40 watts. Shipping weight, 21 lbs.

Model 6000A Deluxe Portable Tube and Transistor Tester—Net Each ..... \$259.50

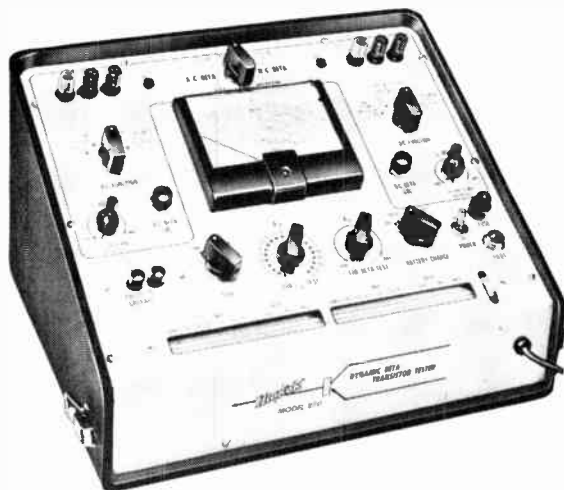


### MODEL 799

#### "Mustang" Multi-Socket Tube Tester

Mutual Conductance tests in a unique solid-state design. Transistorized sensing circuit provides 50 megohm leakage tests, 0.1 ua gas and emission tests. 39 sockets including new decal 10-pin socket. Color-coded "permutator" switch triples effective socket coverage. Two continuously variable Gm ranges to 20,000 umhos. Replaceable panel plate accommodates socket assembly for future tube additions. 15 $\frac{5}{8}$ " x 18 $\frac{1}{2}$ " x 6 $\frac{1}{8}$ ". Shipping weight, 21 lbs.

Model 799 Multi-Socket Tube Tester—Net Each ..... \$199.95



### MODEL 870

#### Dynamic Beta Transistor Tester

Measures AC and DC Beta. Collector test current variable up to 2 amperes, permitting Beta measurement on power transistors rated 5 amperes or more. Variable collector voltage and current permits tests according to manufacturers' specifications—Tests switching transistors, measures large signal DC Beta on power transistors—small signal AC Beta on low and medium power transistors. I<sub>co</sub> Ranges: 100 ua, 1 ma, 10ma; Beta Ranges: 0-100, 0-300. Complete with replaceable roll chart and test leads in black leatherette portable case 14 $\frac{9}{16}$ " x 11 $\frac{3}{4}$ " x 7 $\frac{7}{8}$ ". 115v-60 cycles, 40 watts. Shipping weight, 22 lbs.

Model 870 DYNAMIC BETA Transistor Tester—Net Each \$375.00

### MODEL CA-4

#### Universal Adapter

For testing Compactrons, Novars, 5- and 7-pin Nuvistors, 10-pin types. Suitable for Cardmatic models and most other models except Models 532, 533, 534, 536, 538, 539A, 546, 600 and 605. Shipping weight, 6 lbs.

Model CA-4 Universal Adapter—Net Each ..... \$59.50



### MODEL 890A

#### Dynamic Beta In-Circuit Transistor Test

Utilizes unique new test circuit to measure AC Beta in OR OUT of circuit with 5% accuracy. Measures these in-circuit parameters: AC Beta, I<sub>c</sub>, R<sub>in</sub> (transistor input impedance), Z Ohms (base-emitter circuit impedance). Measures AC Beta, I<sub>c</sub>, R<sub>in</sub> and I<sub>co</sub> out of circuit. Portable, completely self-contained, fully-transistorized — battery operated. 10 $\frac{3}{4}$ " x 9" x 6 $\frac{1}{2}$ ". Shipping weight 8 lbs.

Model 890A Dynamic Beta In-Circuit Transistor Tester—Net Each ..... \$215.00

## THE HICKOK ELECTRICAL INSTRUMENT CO.

# HICKOK

## TEST EQUIPMENT



**MODEL 455A**

**Burn-Out Proof Volt—Ohm—Milliammeter**

Has Hickok's exclusive overload cut-out and protection system providing complete safety against burn-outs for the meter and all multipliers, shunts and other components. 20,000 ohms/volt AC and DC. AC/DC Volts: 3, 15, 60, 150, 600, 1200v; Resistance, 0-100 megohms in 4 ranges: Center Scale Ranges: 5, 500, 5000, 500,000 ohms. Current Ranges: 50ua, 1, 10, 100, 100 MA, 10 amperes. Attractive, streamlined case, large easy to read meter. Battery operated. 8 1/2" L x 5 7/8" W x 3" H tapering to 1 3/4" H. Complete with leads. Shipping weight (two per carton), 12 lbs.

Model 455A Burn-Out Proof Volt-Ohm-Milliammeter—  
Net Each .....

**\$89.50**



**MODEL 209C**

**True Vacuum Tube Volt-Ohm-Milliamperemeter and Capacitance Meter**

New 500 millivolt range plus 8 additional ranges to 1,500 volts DC. Seven AC ranges from 1.5 to 1,500 volts with response within 3 db from 10 cycles to 200 mc. Seven resistance ranges, 10 ohms to 10 megohms center scale. Seven capacitance ranges cover approximately 50 pf to 2000 ufd. Ohmmeter applies no more than 1/2 volt, safe for all semiconductor usage. Input impedance, 11 megohms DC, 11 megohms at 5 pf AC. 18" x 13 1/2" x 8". Shipping weight, 26 lbs.

Model 209C True Vacuum Tube Volt-Ohm-Milliamperemeter and Capacitance Meter—Net Each .....

**\$184.50**



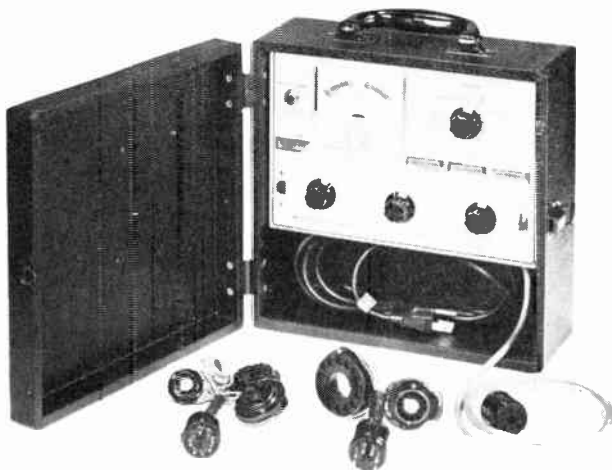
**MODEL 470A**

**Electronic Volt-Ohmmeter**

A major advance in VTVM design, the 470A provides increased ranges in all functions—using just two basic scales to cover eight ranges. AC and DC values are read from the same scales—AC errors due to crowding are eliminated. Ranges: DC, AC rms and AC peak-to-peak, 0.5-1500v. New AC-DC—Ohms single unit probe eliminates the need for multiple leads. Ohmmeter: Center Scale, 10 Ohms, Ohms X1, X10, X100, X1000, X10,000, X100,000, X1M, X10M. Readability 0.2 ohms to 100 megohms. Input impedance DC volts 15 megohms, AC volts 15 megohms. DC resistance paralleled with approximately 150 ufd. 105-125v, 50-400 cycles, 15 watts, 6 3/8" x 7 1/2" x 4 1/2". Complete with single unit probe and test leads. Shipping weight, 8 lbs.

Model 470A Electronic Volt-Ohmmeter—Net Each .....

**\$89.50**



**MODEL CR-35**

**CRT Analyzer/Rejuvenator**

A complete picture tube tester, analyzer, rejuvenator and repair instrument covering both black-and-white and color picture tubes, including the new GE color tube. Checks gas, emission, shorts, opens, grid cut-off and cathode life. Also rejuvenates, repairs shorts and determines booster effectiveness. Continuously variable, meter-monitored, test voltages assure protection against absolescence. This includes heater voltage which is supplied through an SCR circuit, assuring correct heater temperature so critical in color tubes. All solid-state. 10 3/4" x 10 1/2" x 5 1/4". Shipping weight, 9 lbs.

Model CR-35 CRT Analyzer/Rejuvenator—Net Each .....

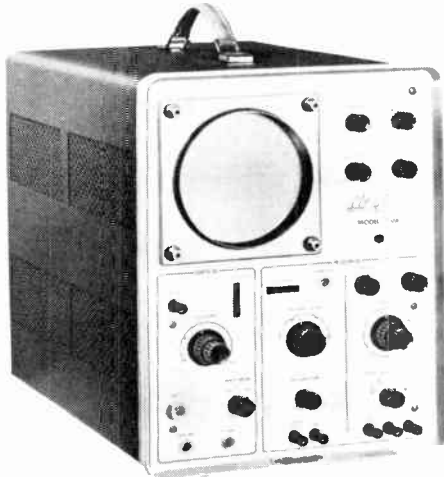
**\$99.95**

**THE HICKOK ELECTRICAL INSTRUMENT CO.**

World Radio History

# HICKOK

## TEST EQUIPMENT

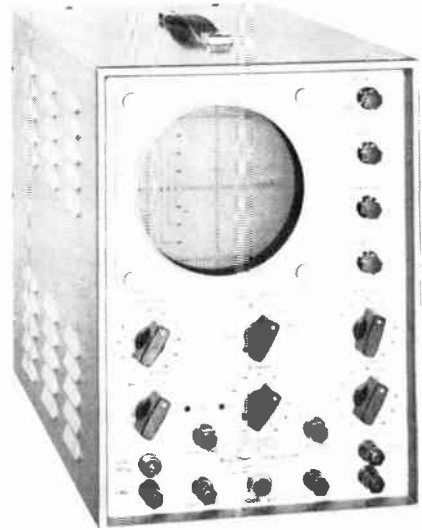


### MODEL 770A

5", Wide-band Industrial and General Purpose Oscilloscope.

Calibrated 4MC DC vertical amplifier has Gaussian roll-off for optimum pulse response. Eight-step attenuator with ranges from 0.01V to 50V/div accurate to within 5%. Built-in square calibrator accurate to  $\pm 3\%$ . Time base with 5X magnifier, provides 18 calibrated writing speeds from 0.2 usec/div to 1.5 sec/div at  $\pm 3\%$  accuracy. Choice of free-running, driven, or automatic sweep modes is also provided. Has flat-face, post-accelerated CRT, illuminated graticule. 13 $\frac{3}{4}$ " x 11" x 17 $\frac{1}{2}$ ". Shipping weight, 57 lbs.

Model 770A 5". Wide-band Industrial and General Purpose Oscilloscope—Net Each ..... \$635.00

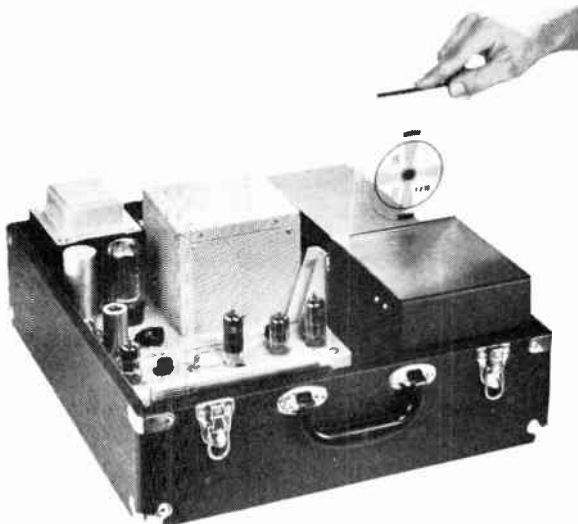


### MODEL 677

Wide-Band Service Technician's 5" AC Oscilloscope

5 cps to 4.5MC within 3db. New 1-2-3 circuit approach simplifies peak-to-peak measurements. Pre-set horizontal and vertical sweep positions. Sharp, bright trace with astigmatic correction, facilitates detailed observations of TV sync wave forms, including 3.58MC color burst. Furnished complete with detailed application and instruction book and test leads. 14" x 9 $\frac{1}{2}$ " x 18 $\frac{1}{2}$ ". Shipping weight, 36 lbs.

Model 677 Wide-Band Service Technicians 5" Oscilloscope—Net Each ..... \$219.95

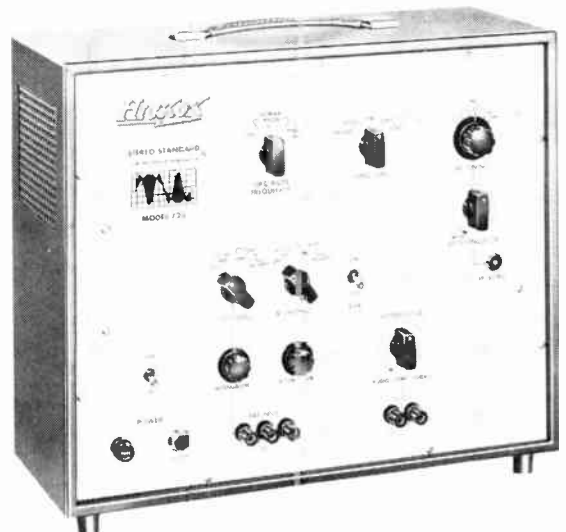


### MODEL 760

Video Scanner

Generates and scans at the 525 line, 60 field 30 frame system. Produces slide pictures for closed circuit television systems. Uses high definition, flying spot scanning method, providing 450 line resolution (5MC band width). Choice of video or RF output. Crystal-controlled Sync Generator. Complete with output cable, pattern slides. 17" x 18 $\frac{3}{4}$ " x 8 $\frac{1}{2}$ ". Shipping weight, 51 lbs.

Model 760 Video Scanner—Net Each ..... \$495.00



### MODEL 725

Stereo Standard FM Multiplex Generator

Generates complete composite FM Multiplex signal to FCC specifications. Can be externally modulated with a stereo mike, tape player or record player to demonstrate FM Stereo. 16 $\frac{1}{4}$ " x 13 $\frac{1}{4}$ " x 7". Shipping weight, 27 lbs.

Model 725 Stereo Standard FM Multiplex Generator—Net Each ..... \$495.00

## THE HICKOK ELECTRICAL INSTRUMENT CO.

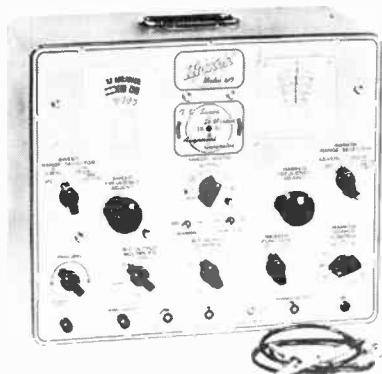
# HICKOK

## TEST EQUIPMENT

### MODEL 615 Sweep and Marker Alignment Generator

For complete TV, IF and RF alignment, including color TV alignment. Also provides harmonic output on UHF. All electronic Sweep with no moving parts. Amplitude modulation less than 0.1db/MC. 110-120v, 60 cycles, 40 watts. Furnished in steel carrying case, 16 1/4" x 8" x 13 1/2" complete with leads. Shipping weight 39 lbs.

Model 615 Sweep and Marker Alignment Generator—Net Each . . . \$389.50



### MODEL 661 Chrom-Aligner NTSC Color Bar-White Dot Generator

Generates individual 100% saturated color bars to NTSC standards. Provides the following demodulator alignment signals: R-Y, B-Y, G-Y, G-Y at 90°, RF output on channels 3 or 4. Crystal-controlled chroma and sync. Separate video output. 110v, 60 cycles, 20 watts. Complete with leads and 3.58MC crystal. Shipping weight, 20 lbs.

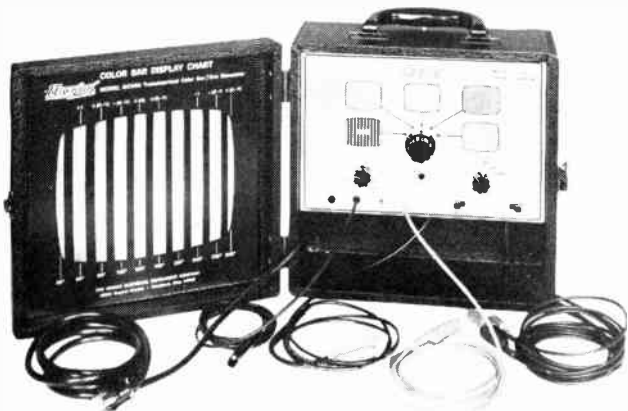
Model 661 Chrom-Aligner Generator—Net Each . . . . . \$359.50



### MODEL GC660 Color Bar Dot/Crosshatch Generator

A completely new design that sets a new standard of stability through liberal use of high-speed silicon switching devices and unijunction transistors. Uses 300-dot, shortstep timer system to assure complete screen coverage, especially important on rectangular tubes. "No flicker" crosshatch pattern because of 60-cycle time base. Dot size based on 0.1 usec pulse is only one line thick and one line wide for maximum convergence accuracy. Standard 10-bar pattern with controllable chroma level for color sync and killer threshold checks. Gun killer permits fast purity checks and actually allows use of picture tube as a 'scope for chroma demodulator alignment. Tunable RF output at 300 ohms, ±video output, special sync output for Zenith receivers, 10 3/4" x 10 3/8" x 5". Shipping weight, 6 1/4 lbs.

Model GC660 Color Bar Dot/Crosshatch Generator—Net Each . . . . . \$159.50



### MODEL 288AX Crystal Controlled AM- FM Sweep and Marker Generator

A complete alignment instrument with built-in decibel meter and crystal frequency standard (100KC and 1000KC). Covers 35KC to 110MC in 8 bands frequency modulated and 35KC to 160MC in 8 bands amplitude modulated. Includes new ultrasonic range from 35KC to 125KC. Supplied with 100KC/1000KC crystal, cable assembly and meter leads. Case size 16" x 7" x 13". Shipping weight, 33 lbs.

Model 288AX Crystal Controlled AM-FM Sweep and Marker Generator — Net Each . . . . . \$355.00



### MODEL 860 "Injecto-Tracer" Signal Tracer

An all solid-state instrument for complete trouble shooting of all types of AM and FM radios, including auto radios, and TV sound circuits. Unlike other signal tracers that only inject the test signal, the 860 also picks up, amplifies and detects signals through a tuneable amplifier and allows a complete job of signal tracing. Covers range from 200KC to 1700KC, plus 10.7 MC IF. Regulated, high-current power supply is variable to permit checking distortion, oscillator drop-out, etc. 11" x 8 1/2" x 5 1/2". Shipping weight, 9 1/2 lbs.

Model 860 "Injecto-Tracer" Signal Tracer—Net Each . . . . . \$149.50



## THE HICKOK ELECTRICAL INSTRUMENT CO.

# PRICES

All prices listed in The MASTER are subject to change without notice — they should not be considered final.

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# DELIVERY

Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.

# HIPOTRONICS AC/DC HIPOT TESTERS & MEGOHMMETERS

MODEL 306B



300 SERIES

The 300 series of Hipot Testers and Megohmmeters are voltage test sets which perform three different functions. They may be used for AC Hipot, DC Hipot and DC megohm tests. The "A" units perform IR tests to 1000 megohms and the "B" units to 100,000 megohms at 500 volts. Megohms at any other voltage may be determined from the volt and current meter readings.

- The sensitive thyratron operated overload relay adjustable from 20 microamperes to 5 milliamperes, will in many applications, permit non-destructive hipot tests to be performed.
- When the overload is set to 20 ua, the high voltage will generally trip on the build-up of leakage current before actual arc-over occurs.
- The "B" series has a quadruple range current meter which permits leakage currents as low as 0.01 ua to be read.
- The "A" series permits the reading of currents down to 1.0 ua.
- The KV meter has two ranges and is connected directly at the output for maximum accuracy.
- Other features include an AC input switch, fuse and pilot light, front panel output jacks, continuously adjustable output control, guard circuit on "B" series, and a failure light with reset button.
- Housed in a totally enclosed dust-proof cabinet.

Size: 17" W x 9½" H x 11" D

Input: 115 volts, 60 cps, 1 ampere — all models

Weight: 20 pounds

- Voltage to 6 KV, megohms to 100,000
- Overload adjustable from 20 microamperes to 5 ma.
- Performs non-destructive quantitative tests.
- continuously adjustable output from 0 to maximum
- Overload light with reset button, 2% meter accuracies

## SPECIFICATIONS & MODELS

Model No.	Voltage		DC Current Meter ua.	AC Current Meter	Megohms at 500V	Size		
	DC	RMS				Ranges	W x H x D"	Price
301A	1.5 KV	1.0 KV	0-50/500	5 ma.	1-1000	2	17 x 9½ x 11	\$375
301B	1.5	1.5	0-.5/5/50/500	5 ma.	1-100,000	4	17 x 9½ x 11	510
303A	3	2.5	0-50/500	5 ma.	1-1000	2	17 x 9½ x 11	395
303B	3	2.5	0-.5/5/50/500	5 ma.	1-100,000	4	17 x 9½ x 11	530
306A	6	5	0-50/500	5 ma.	1-1000	2	17 x 9½ x 11	425
306B	6	5	0-.5/5/50/500	5 ma.	1-100,000	4	17 x 9½ x 11	565

# HIPOTRONICS, INC.

# HIPOTRONICS MEGOHMMETERS

Hipotronics megohmmeters are precision instruments for use in production or laboratory testing of cables, capacitors, printed circuits, transformers, electronic assemblies, etc.

- The output voltages are both regulated with a ferro-resonant line and a solid state electronic regulator. Even with large capacitive loads on the 20 million range, there is no bounce.
- The indicating device is a high quality Weston with better than 2% accuracies on all ranges below 1 million and 3% on 10 million. The VTVM circuit driving the meter on the higher range models has no zero shift on any range.
- The short circuit protection is such that the output may be continuously shorted without injury to any component.
- Self contained calibrating resistors in the seven range models permit the operator to periodically verify the calibration.
- A three terminal output network (positive, negative and guard) permits grounded or ungrounded tests to be made.
- Dual color scale on multiple output voltage models improves readability.
- The units also contain a resistor and switch position for discharging both the internal and load capacitance.
- Available in 7 models, all with 115 Volt, 60 cps input and AC input switch, fuse and pilot light.



OUTPUT VOLTAGES	MEGOHMS	RANGES	MODEL	PRICE
500	1-1000	2	M-1	\$150
1000	2-2000	2	M-2	160
500/1000	1-2000	2	M-4	170
50/500	1-100 50V	2	M-1A	160
	1-1000 500V	2		
100/1000	2-200 100V	2	M-2A	175
	2-2000 1000V	2		
50/100/500	1-10 million	7	M-6	235
50/100/500/1000	1-20 million	7	M-3	295

#### OPTIONAL EXTRAS

Lever switches for mandatory two hand hold operation and rapid discharge \$25  
 Wood instrument case ..... \$35

# HIPOTRONICS, INC.

# HIPOTRONICS NON-DESTRUCTIVE HIPOT & INSULATION TESTERS

## NON-DESTRUCTIVE HIPOT TESTERS

Non destructive hipot tests may be made on many materials, components, test specimens etc. if a sensitive overload, coupled with a high speed HV cut-off is incorporated into an insulation tester. Hippotronics 100 series of hipot testers have a thyatron operated overload relay which cuts-out the HV in 5 milliseconds or less with leakage currents as low as 20 microamperes. The overload, when set on 20  $\mu$ a, will generally trip the HV on corona and leakage currents which precede an actual breakdown, puncture or flash-over. The overload is continuously adjustable from 20  $\mu$ a to 5 ma which enables the user to draw 5 milliamperes for capacitor charging, cable testing, power supply etc.



Hippotronics 100 series of hipot testers have a thyatron operated overload relay which cuts-out the HV in 5 milliseconds or less with leakage currents as low as 20 microamperes. The overload, when set on 20  $\mu$ a, will generally trip the HV on corona and leakage currents which precede an actual breakdown, puncture or flash-over. The overload is continuously adjustable from 20  $\mu$ a to 5 ma which enables the user to draw 5 milliamperes for capacitor charging, cable testing, power supply etc.

### FEATURES

- AC input switch, fuse and pilot light
- Continuously adjustable output control from zero to maximum
- Output connected KV meter, 2% accuracy
- Current meter in HV return, 2% accuracy
- Meter re-calibration facilities
- Continuously adjustable overload relay from 20  $\mu$ a. to 5 ma.
- Failure light with reset button
- Re-entrant output jacks with shielded HV output lead and plug
- AC/DC meter switch on AC/DC units
- Surge limiting resistor in DC output
- 115 volt, 60 cps input
- Deluxe 17" W x 9" H x 11" D cabinet

### FEATURES — OPTIONALLY AVAILABLE

Zero start interlock with HV on and off push buttons — compels operator to always raise voltage from zero	\$30
Triple range KV Meter	\$20
Triple range current meter, 50/500/5000 $\mu$ a on DC models	\$20
Output shorting relay with discharge resistor — A "must" when testing capacitive loads with DC	\$30
Audible failure signal	\$15
HV test probe	\$10
Rack Mount on 19" x 8 $\frac{3}{4}$ " panel	\$10

### AC OUTPUT

VOLTAGE	MODEL	PRICE
0-2.5KV @ 5 ma.	102A	\$200
0-5KV @ 5 ma.	105A	225
0-10KV @ 5 ma.	110A	275
0-25KV @ 5 ma.	125A	500
0-15KV @ 500 va.	115A	500

### DC OUTPUT

VOLTAGE	MODEL	PRICE
0-3 @ 5 ma	103D	\$200
0-6 @ 5 ma	106D	220
0-12 @ 5 ma	112D	290
0-20 @ 5 ma	120D	350
0-30 @ 5 ma	130D	400
0-50 @ 5 ma	150D	600

### AC/DC OUTPUT

VOLTAGE	MODEL	PRICE
0-3 DC, 2.5 AC	103	\$230
0-6 DC, 5 AC	106	250
0-15 DC, 10 AC	115	330
0-25 DC, 10 AC	125	425
0-40 DC, 15 AC	140	600

All have 5 ma. capacity. Heavier current models available.

## PRODUCTION HIPOT TESTERS



Model B12

Designed for use by inexperienced production personnel for mass testing of components, transformers, U.L. appliances etc. Simple to operate; arcing and leakage lights readily discernable. The short circuit current is limited to a maximum of 18 ma. on AC units and 5 ma. on DC models.

### FEATURES

- Continuously adjustable output from zero to maximum
- Output connected KV meter for maximum accuracy
- Arc light employing corona pick-up network — much more sensitive than usual method
- Leakage current lamp factory set to fire on 1 ma. (\$5 extra for continuously adjustable light from 500  $\mu$ a. to 5 ma.)
- Three wire grounding cord and plug
- Shielded output lead
- AC input switch, fuse and pilot light

### AC MODELS

KV	MODEL	PRICE
0-1	A1	\$110
0-3	A3	120
0-5	A5	135
0-10	A10	165
0-15	A15	225

### DC MODELS

KV	MODEL	PRICE
0-1.5	B1	\$110
0-4	B4	125
0-6	B6	145
0-12	B12	185
0-20	B20	225
0-30	B30	295

### OPTIONAL EXTRAS

Audible Failure Signal	\$25
Test Probe	\$10
Continuously adjustable leakage light. 500 $\mu$ a to 5 ma	\$ 5

SIZE 6" x 7" x 12"

# HIPOTRONICS, INC.



# HIPOTRONICS

## HIGH VOLTAGE POWER PACKS

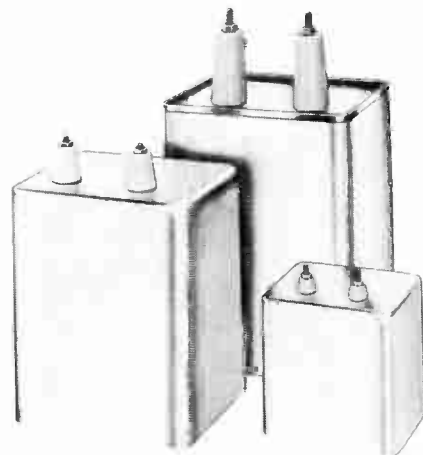
The Hipotronics wide range of compact miniaturized power packs with output voltages from 2 to 100 KV and current ratings of 2, 5 or 10 milliamperes are designed for long life and trouble free operation. Advanced high voltage techniques developed by Hipotronics permit greater size and weight reduction than previously possible.

All units are housed in a hermetic sealed MIL-T-27A can and filled with mineral type transformer oil under high vacuum. The insulating oil insures corona-free operation and provides a cooling medium for running the supply at 3 or 4 times normal current rating for long periods of time. The corona free operation precludes component failure caused by long term corona degradation of insulation and guarantees a pure DC output free of any interfering high frequency signals which might possibly influence or affect the system which it is powering.

Every component in the supply is operated at well below its design rating and pre-assembly hipoted at one and one half times its operating voltage.

The output connections are high voltage ceramic type on models 20 KV and below and through plug in re-entrant receptacles for coaxial cables on greater than 20 KV units. Three foot cable assemblies are supplied with each re-entrant bushing type and longer ones are easily assembled if required.

Output Voltage Kilovolts	Current Milliamperes	Model	Price
2.5 KV	2 ma.	2.5A	\$ 50
2.5 KV	5 ma.	2.5B	60
2.5 KV	10 ma.	2.5C	70
5 KV	2 ma.	5A	65
5 KV	5 ma.	5B	75
5 KV	10 ma.	5C	90
7.5 KV	10 ma.	7.5C	110
10 KV	2 ma.	10A	75
10 KV	5 ma.	10B	95
10 KV	10 ma.	10C	125
15 KV	5 ma.	15B	125
15 KV	10 ma.	15C	150
20 KV	2 ma.	20A	135
20 KV	5 ma.	20B	180
25 KV	10 ma.	25C	350
30 KV	2 ma.	30A	190
30 KV	5 ma.	30B	250
40 KV	2 ma.	40A	270
50 KV	5 ma.	50B	390
60 KV	2 ma.	60A	325
100 KV	2 ma.	100A	625



### FEATURES


- Hermetic sealed, oil filled
- Selenium rectifiers
- 10 year life
- Low ripple
- Good regulation
- Compact, highly miniaturized
- Reversible polarity

Inquiries are invited for units with outputs different than our standards, with built in line regulation, short circuit current limited units, lower output ripple, with 220V, 50/60 cycle inputs or with center tapped output etc.


### SPECIFICATIONS FOR ALL MODELS

<b>Input</b>	0-125 volts, output voltages and currents stated for nominal 117 volt input.
<b>Regulation</b>	10 to 15% no load to full load
<b>Ripple</b>	1/4% rms per milliamperere output
<b>Life</b>	10 years at 25°C ambient with rated output voltage and current
<b>Terminations</b>	Ceramic bushings on 20 KV and below models Re-entrant receptacles with 3 foot mating coaxial cables or 25 KV and up models

### HV TERMINATIONS

SPHERES Nickel plated with threaded insert	Diameter		Diameter	
		Price		Price
	1"	\$1.50	6"	\$ 8.00
	2"	2.50	8"	20.00
	3"	3.50	10"	40.00
	4"	4.50	12"	50.00

### TOROIDS

Cross Section Diameter	Outside Diameter	Inside Diameter	Price
 3/16"	1/2"	1/4"	\$ 1.00 Doz
3/8"	7/8"	5/8"	\$ 1.00 Doz.
2"	10"	6"	\$ 30.00
5"	20"	10"	\$200.00

# HIPOTRONICS, INC.



# VIBRATING REED FREQUENCY METERS

J-B-T INSTRUMENTS, INC.

29th Year

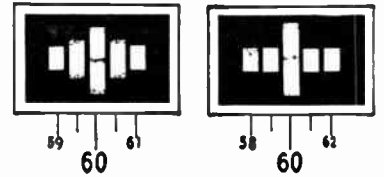


**MODEL 34-FX Ser A,**  
a popular 9 reed meter,  
shown half actual size.

• **USES, Commercial and Military** — J-B-T Vibrating Reed Frequency Meters are used extensively in radio, telephone, television, and radar service, on engine-generator sets and standby equipment, in laboratories, in many types of aviation and electronic equipment, on panel and control boards, in inspection setups, and in high-cycle power sources — wherever constant or known frequency is important to accurate and efficient operation of equipment.

• **OPERATING PRINCIPLE** — The patented, simplified design used in the J-B-T meter operates on AC or interrupted DC. Each reed is adjusted to respond by resonance to the frequency shown on the dial. As the current excites the driving coil, the reed "in tune" with the frequency in the coil will respond by vibrating rapidly because of permanent magnet polarization and induced magnetism from the coil. The instrument is adapted to specified operating voltage by a series resistor. To determine frequency, simply read the reed.

• **RESPONSE PATTERNS** — Breadth of actuation differs with the increments of frequency between reeds. For example, at 60 cycles, half-cycle steps give the broad response shown below at left, whereas full cycle steps bring the sharp response at right. In general, the lower the frequency the greater the amplitude, the higher the frequency the less the amplitude. Thus a 12 cycle reed normally will have substantially greater amplitude than a 400 cycle or a 1000 cycle reed.



• **STABILITY** — All meters are permanently calibrated at the factory and do not require subsequent adjustment. J-B-T reeds have relatively high Q characteristics, an especially desirable factor in electronic circuits. Wave form or external fields do not ordinarily have an adverse effect. Built with no pivoted parts and with lock washers at every critical point, these rugged meters can take rougher treatment than many instruments.

• **TRUST THE METER** — If a meter plugged in on a 60-cycle AC power line does not indicate exactly 60 cycles, trust the meter. Power supply may momentarily be off-frequency due to changing load conditions. All J-B-T Frequency Meters are meticulously calibrated at the factory, entirely independent of frequency of power supply. Production and inspection equipment are checked regularly against National Bureau of Standards frequency signals.

Superior performance for commercial and military applications is assured by more than 26 years of continuous experience and know-how covering the design and complete manufacturing of hundreds of thousands of these instruments in our Connecticut plant. Current production incorporates several innovations covered by recent J-B-T patents.

• **ADVANTAGES** — At reference temperature of 77°F most models have guaranteed accuracy of 0.3% or better of the frequency being measured, but the tables that follow indicate that certain models may be ordered with accuracy of ±0.1%. Accuracy on interrupted DC may be somewhat less. High fatigue strength provides a safety factor for continuous operation. Temperature compensations are not required as frequency change per °F is only .0075%, negative. For example, a 50°F temperature rise causes a 60 cps reed to read only 0.2 cps lower than at reference temperature.



**MODEL 21-FX,**  
5 reeds,  
matches other  
2 1/2" panel  
instruments.



**MODEL 31-FX,**  
5 reeds, standard.  
For appearance  
when operating, see  
"RESPONSE PATTERNS," above.



**MODEL 30-FX,**  
5 reeds in  
each of two  
frequency  
ranges.



**MODEL 33-FX,**  
9 reeds for  
measuring frequency  
of high-cycle  
power sources.



**MODEL 36-FX-21,**  
21 reeds for  
close reading  
over 380-420  
cycle band.

## 3 1/2" and 2 1/2" ROUND MOLDED CASE REED METERS

Model	Range, cps (Hz)	No. of Reeds	CPS Between Reeds	Stand. Voltage	Ohms Per Volt†	Power Consumed Watts‡	Accuracy # ± %	Case	Drawing No.	Table of Dimens.	Price Net, Each
*30-FX	48-52 & 58-62	10	1	100-130	140	0.8	0.3	3 1/2"	SK-154	Line 5	\$27.50
30-FX-1B	46-54 & 56-64	18	1	100-130	180	0.7	0.3	3 1/2"	SK-154	Line 5	47.50
*31-FX	58-62	5	1	100-130	120	0.8	0.3	3 1/2"	SK-50	Line 5	23.65
31-FX	59-63	5	1	100-130	120	0.8	0.3	3 1/2"	SK-50	Line 5	23.65
*31-FX-7	57-63	7	1	100-130	140	0.8	0.3	3 1/2"	SK-154	Line 5	25.85
*33-FX	380-420	9	5	100-130	130	0.7	0.3	3 1/2"	SK-156	Line 5	34.10
33-FX-11	360-440	11	**	100-130	130	0.7	0.3	3 1/2"	SK-156	Line 5	36.30
33-FX-11	350-450	11	***	100-130	130	0.7	0.3	3 1/2"	SK-156	Line 5	36.30
33-FX-11-LL	360-440	11	**	100-130	100	1.5	0.3	3 1/2"	SK-50	Line 5	37.95
*34-FX	56-64	9	1	100-130	140	0.9	0.3	3 1/2"	SK-154	Line 5	27.25
*34-FX-Z	58-62	9	1/2	100-130	140	0.9	0.2	3 1/2"	SK-154	Line 5	28.90
34-FX-11	55-65	11	1	100-130	140	0.9	0.3	3 1/2"	SK-154	Line 5	29.45
34-FX-Z-11	57.5-62.5	11	1/2	100-130	140	0.9	0.3	3 1/2"	SK-154	Line 5	32.10
34-FX-21	45-65	21	1	100-130	180	0.7	0.3	3 1/2"	SK-154	Line 5	40.45
36-FX-21	380-420	21	2	28	40	0.4	0.3†	3 1/2"	SK-156	Line 5	43.75
*36-FX-21-115	380-420	21	2	100-130	130	0.7	0.3†	3 1/2"	SK-156	Line 5	45.00
21-FX	58-62	5	1	100-130	525	0.25	0.3	2 1/2"	MD-20	Line 2	22.55
21-FX	116-124	5	2	100-130	525	0.7	0.3	2 1/2"	MD-20	Line 2	25.30
23-FX	380-420	5	10	100-130	40	0.75	0.3	2 1/2"	MD-20	Line 2	27.50
23-FX-54	390-410	5	5	100-130	110	0.75	0.3	2 1/2"	MD-20	Line 2	27.50

†Accuracy of 0.1% at reference temperature available at necessarily higher cost. Quotation on request. †Reflect minor changes in values, based on most recent designs.  
\*Most popular models — normally stocked. \*\*350-370-380-390-395-400-405-410-420-430-440 #At reference temperature, see paragraph "ADVANTAGES."  
\*\*\*350-370-380-390-395-400-405-410-420-430-450

Prices Net, F.O.B. Factory; Individually Boxed, Domestic Packed, Effective June 1, 1967, subject to change.

## VIBRATING REED FREQUENCY METERS

J-B-T

29th Year

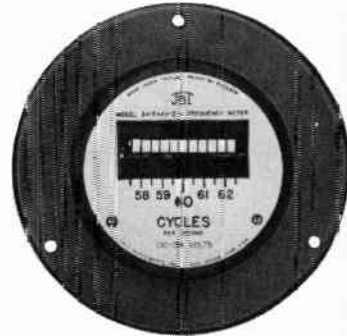
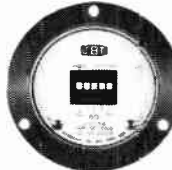
J-B-T INSTRUMENTS, INC.

## SEALED FREQUENCY METERS

**FHXX TYPE** Sealed meters, glass-to-metal construction, with solder terminals and detachable flange, supersede the former FHX sealed meters. While JAN-I-6, MIL-M-6B, and MIL-M-10304B (Type MR36) do not refer specifically to frequency indicators, the FHXX series uses the front mounting dimensions of these specifications, and meets or exceeds the sealing and electrical requirements including 3000 volt breakdown. Electrical characteristics and accuracy are the same as for corresponding F models without the HXX designation. Sampling procedure includes a test in water where the absolute pressure of the air above the water is reduced to 2.5 inches of mercury (approx. 57,000 ft. altitude) and is maintained for one minute. Available in 3½", 2½" and 1½" cases. For dimensions, see Table, Line 8, and Print SK-153 Rev. A. Standard voltage is 100-130.

**MODEL 15-FHAC, 1½";** widely used as frequency standard for cathode follower circuit.

**MODEL 21-FHXX, 2½";** 5 reeds, cased to match other 2½" panel meters.



**MODEL 34-FHXX-Z-11,** shown half size, Accuracy, ±0.2%

## 3½", 2½" AND 1½" SEALED ROUND METAL CASE REED METERS

Model	Range, cps (Hz)	No. of Reeds	CPS Between Reeds	Stand. Voltage	Ohms Per Volt†	Power Consumed, Watts‡	Accuracy ± %	Case	Drawing No.	Table of Dimens.	Price Net, Each
30-FHXX	48-52 & 58-62	10	1	100-130	140	0.8	0.3	3½"	SK-153	Line 8	\$34.30
30-FHXX-14	47-53 & 57-63	14	1	100-130	140	0.8	0.3	3½"	SK-153	Line 8	38.50
*31-FHXX	58-62	5	1	100-130	120	0.8	0.3	3½"	SK-51	Line 8	30.45
*31-FHXX-7	57-63	7	1	100-130	140	0.8	0.3	3½"	SK-153	Line 8	32.65
*33-FHXX	380-420	9	5	100-130	130	0.7	0.3	3½"	SK-155	Line 8	40.90
33-FHXX-11-LL	360-440	11	**	100-130	100	1.5	0.3	3½"	SK-51	Line 8	44.75
*34-FHXX	56-64	9	1	100-130	140	0.8	0.3	3½"	SK-153	Line 8	34.05
34-FHXX-11	55-65	11	1	100-130	140	0.8	0.3	3½"	SK-153	Line 8	36.25
34-FHXX-Z-11	57.5-62.5	11	½	100-130	140	0.8	0.2	3½"	SK-153	Line 8	37.90
36-FHXX-21	380-420	21	2	28	40	0.4	0.3†	3½"	SK-155	Line 8	50.55
*36-FHXX-21-115	380-420	21	2	100-130	130	0.7	0.3†	3½"	SK-155	Line 8	51.80
21-FHXX	58-62	5	1	100-130	525	0.25	0.3	2½"	SK-67	Line 2	34.85
*23-FHXX	380-420	5	10	100-130	120	0.75	0.3	2½"	SK-67	Line 2	39.80
*15-FHAC	60 & 400	2	—	8-10	270	0.04	0.5	1½"	SK-39	Line 1	20.30
15-FH-54	390-410	5	5	100-130	115	1.25	0.3	1½"	SK-55	Line 1	25.85
15-FH-56	58-62	5	1	100-130	540	0.25	0.3	1½"	SK-55	Line 1	21.45
*15-FH-400	380-420	5	10	100-130	115	1.25	0.3	1½"	SK-55	Line 1	25.28

## ¾" ROUND METAL CASE REED METERS (NOT SEALED)

Model	Range, cps (Hz)	No. of Reeds	CPS BETW Reeds	Stand. Voltage	Ohms Per Volt at 120 VAC	Power Consumed, Watts	Accuracy ± %	Case	Dwg. No.	Table of Dimens.	Price Net, Each
*30-F	48-52 & 58-62	10	1	100-130	140	0.9	0.3	¾"	MD-40	Line 4	\$30.50
31-F	58-62	5	1	100-130	115	1.0	0.3	¾"	MD-40	Line 4	26.65
33-F	380-420	9	5	100-130	130	1.0	0.3	¾"	MD-40	Line 4	37.10
*34-F	56-64	9	1	100-130	140	0.9	0.3	¾"	MD-40	Line 4	30.25
34-F.Z	58-62	9	½	100-130	140	0.9	0.2	¾"	MD-40	Line 4	31.90

\*Most popular models — normally stocked.

\*\*360-370-380-390-395-400-405-410-420-430-440

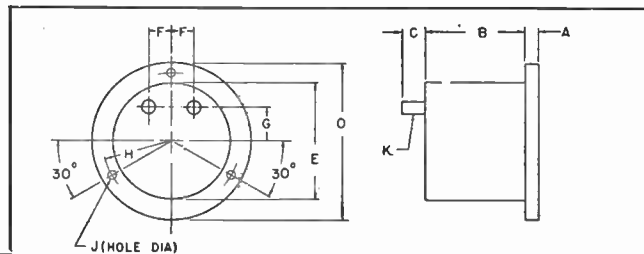
†Accuracy of ±0.1% at reference temperature available at necessarily higher cost. Quotation on request.

‡Reflect minor changes in values, based on most recent designs.

#At reference temperature, see paragraph "ADVANTAGES."

## REVISED DIAL APPEARANCE

Shipments during the life of this catalog may include meters with dials somewhat different from those pictured here. Dials are being rapidly modified to use the revised trademark as adopted during J-B-T's Silver Anniversary Year. Most ¾" frequency meters also will soon carry the designation Series A after the model number (as in the 34-FX Ser. A at the left above). Such instruments have additional ruggedness and sensitivity, and unusually uniform amplitude over the entire span of the meter. However Series A are otherwise interchangeable as to mounting dimensions and circuit characteristics with other meters bearing the same model number.



## FREQUENCY METERS AND FREQUENCY — TIME METERS, TABLE OF DIMENSIONS, INCHES

MODEL	MIL-M-6B* MOUNTING	A	B	C	D	E	F	G	H	I	J	K	TERMINAL DESCRIPTION
Line 1	15-FH Series	—	¾+	1¼	¾	2¾	1½	¾	¾	0.875	0.125	¾	½" dia. hole
Line 2	21-FX and 23-FX Series	MR24, MR25	¾	1¾	¾	2¼	2¾	¾	¾	1.220	0.116	10-32 NF-2A studs	
Line 3	21-FHXX, 23-FHXX Series	MR26**	¾+	1¾	¾	2¼	2¾	¾	¾	1.220	0.125	Solder, ¾" dia. hole	
Line 4	30-F to 34-F Series	—	¾	2¾	¾	3¼	2¾	¾	¾	1.453	0.150	10-32 NF-2A studs	
Line 5	30-FX to 36-FX Series	MR34, MR35	¾	2	¾	3½	2¼	¾	¾	1.580	0.150	10-32 NF-2A studs	
Line 6	31-FE Series	—	¾	3¾	¾	3¼	2¾	¾	¾	1.453	0.150	10-32 NF-2A studs	
Line 7	31-FEX-1 Series	MR34, MR35	¾	3¾	¾	3½	2¾	¾	¾	1.580	0.150	10-32 NF-2A studs	
Line 8	30-FHXX to 36-FHXX Series	MR36**	¾+	2¼	¾	3½	2¼	¾	¾	1.580	0.150	Solder, ¾" dia. hole	

\*Also JAN-I-6 and ASA C39.1-1951 Mounting

\*\*Also MIL-M-10304B Mounting

†Without gasket

Prices Net, F.O.B. Factory; Individually Boxed, Domestic Packed, Effective June 1, 1967, subject to change.



VIBRATING REED FREQUENCY METERS—REED RELAYS

J-B-T INSTRUMENTS, INC.

29th Year

3" SQUARE-CASED FREQUENCY METERS



**FS SERIES.** Matching other 3" x 3" meters on a panel with square black molded cases, these meters are otherwise the same as the FX Series. For instance, 33-FS is the same as 33-FX except for the case. See Table of Dimensions, Line 10.

**33-FS,** 380-420 cps, 9 reeds, 3" square molded case \$35.20

**34-FS,** 56-64 cps, 9 reeds, 3" square molded case 28.35



PORTABLE FREQ. TESTERS

**P SERIES, METAL OR MOLDED CASE.** Accuracy of  $\pm 0.3\%$  meets the exacting test requirements of aviation, signal, and communication equipment. **M-Types** use anodized aluminum case, 6 $\frac{3}{8}$ " long x 4" wide x 3-9/32" deep. Leads permanently attached. See Print SK-63-10. With pertinent name plate, **33-FP-9M** known as **TS-328 A/U.** **L-Types,** sturdy molded case within top grain leather carrying case 6-3/32" x 4 $\frac{1}{4}$ " x  $\frac{1}{2}$ ". 4' leads with 5" test picks and banana plugs.

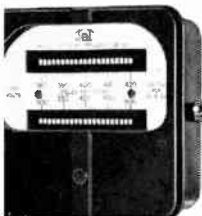
**L-FP-9M,** (illustrated) 380-420 cps, 9 reeds, 100-130 volts, 70 ohms per volt, 1.5 watts power consumption; coml. quality and packing... \$49.25

**L-FP-9M,** 56-64 cy., 9 reeds, 100-130 volts, 130 ohms per volt, 1 watt power consumption, coml. quality and packing ..... \$42.35

**L-FP-9L,** 380-420 cy., 9 reeds, 100-130 volts ..... \$47.60

**L-FP-9L,** 56-64 cy., 9 reeds, 100-130 volts ..... \$40.70

42- AND 50-REED 400 CYCLE INDICATORS



**MODEL 41-FX-42 and 41-FX-50.** Both are widely used in commercial and military testing especially in aviation-electronic trouble-shooting. Model 41-FX-42 (supercedes Model 41-FX) has two banks of 21 reeds: one for 300-500 cps in 10 cycle steps, and for vernier effect, one for 380-420 cps in 2 cycle steps. Model 41-FX-50 has two banks of 25 reeds giving a continuous coverage from 355-600 cps in 5 cycle steps. Black molded case, flush front is 4-3/64" x 3/64" x 2-17/32" deep behind panel over studs. Power consumption 2 watts at 30 volts, 4 watts at 115 volts, and 8 watts at 200 volts. For 41-FX-42, see Print MD-38-11; for 41-FX-50, Print SK-79.

**-FX-42,** 100-130 volts only \$125.00

**-FX-42,** 3 voltages: 200-240; 115; and 30; 4 studs (without switch) 140.00

**-FX-50,** 3 voltages: 200-240; 115; and 30; 4 studs (without switch) 180.00

RUGGEDIZED AND ILLUMINATED METERS

Model with "RUG"—Sealed vibrating reed frequency meters and illuminated elapsed time meters are available, when so ordered, to the extent of MIL-M-10304B, covering ruggedization of other kinds of meters, and usually are specified only for extra-severe shock and vibration.

**Construction**—Requirements for lighted meter dials have led to eliminating the 3 $\frac{1}{2}$ " FHXX Series of sealed meters. Light from a source behind the panel is admitted through a sealed window built into the meter case. Inquiries are invited.

400 CYCLES, IN 1 CYCLE STEPS; 800 CYCLES

Among the variations which J-B-T produces on special order, are 21-reed, 390-410 cycles in 3 $\frac{1}{2}$ " case; and 11-reed; 780-820 cycles with cycle increments. Quotations on request.

NOTE ON METER VOLTAGE

J-B-T Vibrating Reed Frequency Meters of all sizes normally are made with two studs and are designed to be connected across one phase of a multi-phase line. The single phase voltage where the meter will be used thus becomes the voltage to be specified for the meter. Special meters with extra studs are made for the purpose of using at two or more voltages, not additional phases.

RESONANT—REED RELAYS (Decoders) AND OSCILLATOR CONTROLS (Encoders)



Typical Frequency Sensitive Relays RR-A11A-136.5



Typical Sealed Oscillator Control RO-B103-188.0

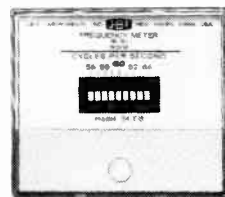


For technical description of J-B-T frequency-sensitive electromechanical control devices, see Bulletins 162R and D664A; for representative models and prices, see Section 5100 of this book.

New

FG SERIES for Modern Design; Picture Window Frame Optional

**FG FREQUENCY METERS.** Thoroughly modern in appearance, the sparkling clear-plastic front and the bright textured metal insert below the dial add zest to any panel. FG meters not only match the 3 $\frac{1}{2}$ " wide x 3" high front of the New EG elapsed time meters on the next page, but are interchangeable as to mounting with other kinds of panel meters. Standard voltage is 100-130 volts; accuracy and electrical characteristics are the same as corresponding FX meters in the table on preceding page. For example, Model 30-FG differs from Model 30-FX only in the case. FG mounting details appear in line 9 of the Table of Dimensions below and in Print SK-160, available on request. Further design flexibility is provided by use of the half-bezel adapter sketched below, in which a black plastic picture window frame outlines a panel area 3.83" wide x 2.27" high. Three typical FG models are catalogued, but others are available on special order.



MODEL 34-FG for standard flush-type mounting



Same model with 13A-234 molded half-bezel

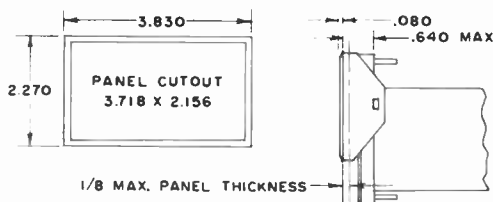
**30-FG,** 48-52 and 58-62 cps, 10 reeds \$32.50

**33-FG,** 380-420 cps, 9 reeds 39.25

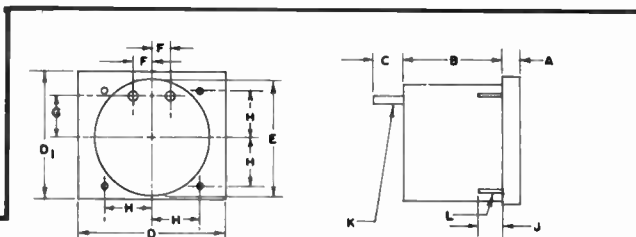
**34-FG,** (illus.) 56-64 cps, 9 reeds 32.25

**13A-234** Half-bezel adapter, separate black molded frame and hardware for picture window appearance on any FG or EG meter \$2.00

**13A-239** Half-bezel adapter, separate black metal frame suitable for other FG or EG Series and particularly recommended for Elapsed Time Meters; with hardware \$2.75



Panel dimensions for picture window mounting of FG and EG meters.



FREQUENCY METERS, TABLE OF DIMENSIONS, INCHES

Model	A	B	C	D	D <sub>1</sub>	E	F	G	H	J	K	L
Line 9 30-FG to 36-FG	1 $\frac{3}{32}$	2 $\frac{1}{32}$	2 $\frac{3}{32}$	3 $\frac{1}{2}$	3	2 $\frac{3}{4}$	$\frac{7}{16}$	1	1 $\frac{1}{8}$	$\frac{3}{16}$	10-32NF-2A	4-40NC-2A
Line 10 30-FS to 36-FS	$\frac{1}{4}$	2 $\frac{3}{64}$	2 $\frac{3}{32}$	3	3	2 $\frac{3}{4}$	$\frac{7}{16}$	$\frac{7}{8}$	1 $\frac{1}{8}$	$\frac{3}{16}$	10-32NF-2A	4-40NC-2A

Prices Net, F.O.B. Factory; Individually Boxed, Domestic Packed, Effective June 1, 1967. subject to change.

## ELAPSED TIME METERS AND REED RELAYS

J-B-T

29th Year

J-B-T INSTRUMENTS, INC.

### • USES AND ADVANTAGES OF ELAPSED (OR RUNNING) TIME METERS

To record operating time of AC electrical and electronic equipment, these self-starting synchronous instruments normally register in 1/10th hour steps to 9,999.9 or 99,999.9 hours, then automatically reset. They are widely used for tube life, TV equipment, punch presses, conveyors, oil burners, ground support equipment, maintenance schedules, etc. J-B-T engineers recommend the AC type of elapsed time meter for superior accuracy, especially where voltage or ambient temperature vary widely.

### New EG SERIES for High Visibility; Modern Picture Window Optional



MODEL 31-EGW-5 for standard flush type mounting.



Same model with 13A-239 metal half-bezel.

**EG ELAPSED TIME METERS.** These are designed to give a bright, jewel-like look to panels when used alone, in multiples, or in conjunction with other instruments such as the matching new FG series of frequency meters. A gleaming textured metal shroud below the dial and a clear-plastic case front 3 1/2" wide x 3" high give high visibility to the numerical read out. Dimensions are same as line 9 for FG meters on opposite page. For optional picture window frame effect, on panel area 3.83" wide x 2.27" high, add 13A-234 or 13A-239 half-bezel adapter. (See panel cutout and mounting detail drawing on preceding page.) The quiet, sturdy motors and extensively field-tested mechanisms of other J-B-T elapsed time meters are used in the EG series. Two models are catalogued. Other voltages, frequencies and numerals will be quoted.

31-EGW-5, (illus.) 5 wide digits, 0-9,999.9 hours, 60 cps, 110-125 volts ..... \$21.50

31-EGW 6 wide digits, 0-99,999.9 hours, 60 cps, 110-125 volts ..... 22.00

### SQUARE-CASED ELAPSED TIME METERS

**MODEL 31-ES.** A square black molded case, matching other 3" x 3" meters, differentiates this model from the round 31-EX. Like 30-FG, Line 10 in Table on opposite page, except depth behind panel (B) is 2 1/4" and terminals are located on horizontal center line, each spaced 1/2" from the center (C). Variations can be made for 99,999 hours (suffix U), 230 volts, minutes, matte finish, or 50 cycles. Now supplied with tenths in red on white and units in white on black.

31-ES, 60 cy., 110-125 volts, 0-9,999.9 hours. .... \$17.50



### CLEAR PLASTIC ELAPSED TIME METERS

**EPL TYPE.** Clear-plastic front attaches to sturdy metal case with solder terminals behind panel. 21-EPL, (illus.) is 2 1/2" wide x 2 3/4" high with 2 1/2" meter barrel; 31 EPL is 3 1/2" x 3 3/4" with 2 1/2" barrel. Both 60 cy., 110-115 volts. See also EG Series, above. 21-EPL, 0-9,999.9 hours ..... \$30.00  
31-EPL, 0-9,999.9 hours ..... 34.00

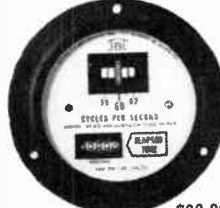


### ELAPSED TIME — FREQUENCY METERS

**31-FE SERIES.** To conserve panel space and centralize information, this instrument combines elapsed time or running time meter with frequency reads. The J-B-T design, proved by years of field experience, uses a separate exciting coil for the reeds to achieve close control of reed amplitude and frequency. Reads 0-9,999.9 hours and 58-62 cy. with 5 reeds, at 100-130 volts; self starting. Tenths shown in red on white, all other numerals in white on black. \*Black metal case with front mounting per Table of Dimensions, line 6. Power consumption is 4.7 watts. For variations having 7, 9, or 11 reeds, not regularly stocked, such as Model 34-FE, see print SK-45. Rev. D.

31-FE, 3/4" metal case 4-19/32" deep ..... \$33.00

31-FEX-1, (per print SK-44 Rev. F—not regularly stocked) like Model 31-FE, except with 3 1/2" metal flange permanently attached for MIL-M-6B front mounting per line 7, Table of Dimensions ..... 34.10



### BASIC 3 1/2" ELAPSED TIME METERS

### New 5-DIGIT WIDE NUMERAL ELAPSED TIME METERS

**MODEL 31-EXW-5.** Newest in the J-B-T line of elapsed time meters is Model 31-EXW-5 with 5 wide, easy to read numerals. This model is particularly recommended for new equipment because, with superior visibility, rugged construction and attractive price, it is expected to supplant the 31-EX. The meter registers to 9,999.9 hours and automatically resets. Tenths are shown in red on white, units in white on black. Model 31-EXW-5 is interchangeable electrically and mechanically with both 31-EX (below) and 31-EXW shown at the left. Mounting, which is the same as type MR-34 or MR-35 to MIL-M-6B, also JAN-I-6, and terminal location are per print SK-125 Rev. C.

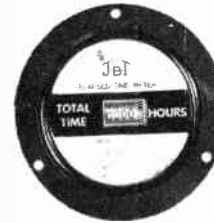
31-EXW-5, 5 digits, 0-9,999.9 hours, 60 cy., 110-125 volts.....\$16.50



**Model 31-EX.** This instrument has been the most widely used of any J-B-T elapsed time meters and continues to be available where parts lists or production runs call for style of numeral and dial appearance, as illustrated. The black molded case, which mounts according to Print SK-80 Rev. E, is interchangeable with the new wide-numeral meters. 5-digit 31-EXW-5 and 6-digit 31-EXW.

31-EX, 5 digits, 0-9,999.9 hours, 60 cy., 110-125 volts ..... \$16.75

31-EX-200, same except 230 volts. (Not regularly stocked) ..... 18.75



### ELAPSED TIME METERS — Tenths of Minutes

**MODEL 31-EXM,** 60 cycles, 110-125 volts, reading 0-9,999.9 minutes; for short-run applications or readings at closer intervals than 31-EX. Tenths of minutes in red on white, minutes in white on black numerals, otherwise identical with 31-EX ..... \$20.00

### 6-DIGIT WIDE-NUMERAL ELAPSED TIME METERS

**MODEL 31-EXW.** One of the most easily-read and most versatile of J-B-T elapsed time meters is Model 31-EXW, illustrated. Easy-to-read, wide numerals register to 99,999.9 hours then automatically reset. Distinctive contemporary dial shows tenths in red on white and units in white on black. This model is interchangeable, electrically and mechanically with Models 31-EXW-5 and 31-EX. The black molded case is also interchangeable with all 3 1/2" FX types of frequency meter. Print SK-125 Rev. C gives mounting information.

31-EXW, 6-digits, 0-99,999.9 hours, 60 cy., 110-125 volts ..... \$16.95



### 3 1/2" SEALED ELAPSED TIME METERS — 60 Cycles

**MODEL 31-EHXX.** Where rugged requirements make a completely sealed elapsed time meter desirable, this glass-to-metal construction with flat glass front and 3 1/2" diameter separable flange, often is specified. Heavy-duty solder terminals are supplied. Every instrument is checked in a vacuum chamber. Overall dimensions and appearances match the FHXX series sealed frequency meters. Maximum voltage between terminals and case, 1,000 volts, R.M.S. The meter registers in 1/10 hour steps to 9,999.9 hours, then automatically resets. Tenths indicator is red on white, all others in white on black. Mount according to SK-85, Rev. C.

31-EHXX, 60 cy., 110-125 volts ..... \$19.75



### 3 1/2" SEALED ELAPSED TIME METERS — 400 Cycles

**MODEL 33-EHXX.** This stable, self-starting 400-cycle elapsed time meter is extensively used for preventive maintenance and for reliability testing and checking in a wide variety of equipment. The instrument is entirely enclosed in a 3 1/2" flanged case, glass-to-metal sealed construction with separable flange; heavy-duty solder terminals; flat glass front. 1/10 hours are shown in red on white, all other numerals white on black. The external appearance matches FHXX frequency meter series. For dimensional details see SK-61, Rev. B.

33-EHXX, 400 cy., 0-9,999.9 hours, 1/10 hour steps, 110-125 volts ..... \$78.00



### 2 1/2" SEALED ELAPSED TIME METERS

**MODEL 21-EHXX.** A full size counter reading 9,999.9 hours in 1/10 hour steps and a rugged self-starting synchronous motor are built into this 2 1/2" sealed meter. Its front mounting dimensions are the same as Type MR26 electrical indicating instruments in MIL-M-6B. Glass-to-metal seal makes the instrument completely tamper-proof. Ask for Print SK-68, Rev. G. (2 1/2" 400-cycle meter, Model 23-EHXX also is made on special order.)

21-EHXX, 60 cy., 110-125 volts ..... \$28.50

Prices Net, F.O.B. Factory; Individually Boxed, Domestic Packed, Effective November 1, 1967, subject to change.



# TEMPERATURE TESTERS AND ACCESSORIES

J-B-T INSTRUMENTS, INC.

29th Year

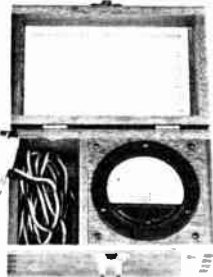
FOR APPLIANCE SERVICING, QUALITY INSPECTION, AND LABORATORY SET-UPS  
(continued on Page 11)



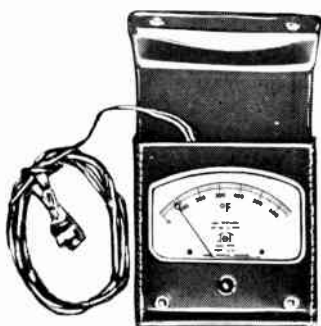
## OVEN OR HEAT CHAMBER TESTERS

**MODEL 23-JP-1.** This popular portable unit using pyrometer saves time and furnishes reliable information in testing and setting thermostats on electric or gas ranges and other appliances by showing oven temperatures as they change. 0-650°F. dial with 2 3/8" scale arc is covered by clear-plastic front (may be shipped as rectangular instead of round as illustrated). Sturdy, pliable, scuff-resistant black case is 4 1/2" x 2 7/8" x 4 1/4". Characteristic of more expensive pyrometers, the 23-JP-1 is automatically compensated for ambient temperature. Thus the tester eliminates calculations, avoids likelihood of serious error, as temperature changes inside the instrument itself, and gives reliable direct readings. Supplied with attached SA-116, 5 1/2" calibrated thermocouple, clip, and convection shield **\$28.00**

**MODEL 32-JP-3.** This time-tested model has an instrument-type carrying case of natural finished mahogany 6" x 3 7/8" x 4 1/2" over hardware. The glass-covered indicator shows 0-650°F. range in 10° divisions readable to 2 1/2° on a 2 3/8" scale arc. Exceptionally fast, continuous response. Automatic compensation for ambient temperature is a valuable feature whether the tester is used for service work, sales demonstrations, or inspection. Attached SA-116, 5 1/2" thermocouple, clip for affixing to grill and convection shield included **\$29.50**



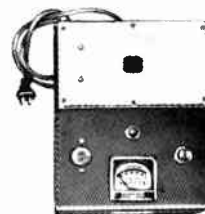
**MODEL 32-JP-7.** This model is recommended as the most versatile and easiest to read of this J-B-T series. The 0-650°F. scale is more than 4" long. Automatic compensation for ambient temperature is included, so that temperatures are read directly and without calculations. The 32-JP-7 also provides color-coded external binding posts. These permit quick attachment or interchanging of various J-B-T thermocouples placed in one or more of the heat zones to be checked. An SA-116 5 1/2" thermocouple with attachment clip and convection shield is supplied and is left attached when the tester is carried. For maximum usefulness in checking irons, washers, toasters, clothes dryers, etc., use appropriate accessory thermocouples. Tester price includes stitched Ever-ready case, 5" wide x 5 1/2" high x 2 3/4" deep, of sturdy scuff resistant black vinyl. **\$32.00**



ness in checking irons, washers, toasters, clothes dryers, etc., use appropriate accessory thermocouples. Tester price includes stitched Ever-ready case, 5" wide x 5 1/2" high x 2 3/4" deep, of sturdy scuff resistant black vinyl. **\$32.00**

## IRON TESTER

**MODEL 32-JIT.** This convenient bench-type tester checks all makes of irons; measures thermostat temperatures; shows open or short circuits. Automatically compensated for room temperature. Also indicates operating temperature of the sole plate (working surface) on non-electric or cordless irons. Black metal base; overall size 10" x 12" x 5 1/2", scale 0-650°F, 15 amp fuse, 6' cord, 110 volt, 50-60 cycles. **\$36.00**



## MULTI-PURPOSE TESTER

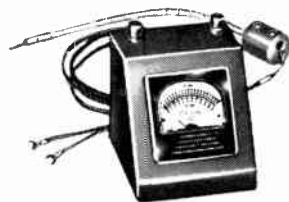
**MODEL 61-JRT.** A 9-in.-1 tester to speed accurate temperature adjustment and electrical analysis of ranges, refrigerators, test apparatus, etc. Rapidly reads four cold zones —100°F, +80°F, up to 14 dist. — two heat zones 0-600°F, up to 5 1/2" diam. — one voltage range 0-300 AC; and, with transformer, two current ranges, 0-30 and 0-60 amps, AC. Sturdy, polished walnut case, 15 1/2" x 10-3/16" x 4 3/4". Two color etched metal panel. Separate switches protect bulb and ammeter circuits. Requires one standard flashlight cell, replaceable in the field. Temperature accuracy ±2% of full scale; rectified AC readings ±5%. Accessories as listed may be added for testing appliances. Includes two SA-162 resistance bulbs, two SA-116 thermocouples, electrical leads, and AS-TR-2 built-in transformer. **\$130.00**  
**MODEL 61-JRT (LESS TRANSFORMER).** Same unit, same scales except no reading in amperes; AS-TR-2 transformer omitted. **\$116.00**  
**AS-TR-2 Transformers** for use with Model 61-JRT to provide readings of two current ranges: 0-30 and 0-60 amp. AC **\$18.00**



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## HEAT INDICATORS

**MODEL 32-J PYROMETER IN SN-7 STAND.** Mounted in slip-on front black metal stand, 4 1/4" high x 4 3/8" deep x 4 1/8" wide. Compensated for ambient temperature. Medium resistance system, damped for quick reading on 2 3/8" scale, assures ruggedness and pointer stability. For ±2% accuracy, use only the type and resistance of thermocouple and lead provided; if extra length—coil it—to maintain calibration. A protection tube usually is not required. For convenience keep an extra thermocouple and lead on hand.  
**MODEL 32-J IN SN-7 STAND (Supersedes SN-3 Stand)** 0° — 650°F. 350°C, includes SA-91 thermocouple, SA-64 lead, and CB-1 connector block **\$35.00**  
0°-1200°F. 650°C, includes SA-87, SA-82, and CB-1 **\$35.00**  
0°-2000°F. 1100°C, includes SA-87, SA-82, and CB-1 **\$5.00**  
**MODEL 32-J IN SN-8 STAND** (not illustrated). With 3 binding posts to accommodate flexible extra lead and thermocouple for hard-to-reach locations. 0°-650°F including SA-91 thermocouple, SA-64 lead, CB-1 connector block, and SA-86 flexible leads and thermocouple. **\$39.00**



## TEMPERATURE TESTER ACCESSORIES

Model No.	Range F°	CONDUCTORS			Use With	Construction	Price
		Length	Wire Gage Size	Positive			
<b>LEAD WIRES†</b>							
SA-82	194°	6'	14 Ga. Stranded	Red-Copper	Yellow-Const.	32-J in SN-7; 60-JP; 60-JPS 32-J in SN-7; 32-J in SN-8 70-J	Compensating Lead for use with chromel-alumel thermocouples; insulated and protected with 2-hole ceramic beads; fits 3/16" hole.
SA-83	194°	26'	14 Ga. Stranded	Red-Copper	Yellow-Const.		
SA-84	392°	6'	14 Ga. Stranded	White-Iron*	Red-Const.		
SA-85	392°	26'	14 Ga. Stranded	White-Iron*	Red-Const.		Flexion lead for use with iron-constantan thermocouples; flexible duplex with moisture and flame-proof outer braid. <b>\$1.70</b>
<b>THERMOCOUPLES†</b>							
AS-TH-1	0-1200	30"	20 Ga. Solid	Iron-Black*	Const.-Yellow	31-JPP; 31-JPP-C	Welded inside seamless steel tube 1/4" O.D. for immersion in molten metal. <b>On Appl.</b>
IT-1	0-650	—	—	—	—	32-JP-7; 61-JRT	Accessory Iron Tester, same as 32-JIT except there is no meter. <b>18.00</b>
SA-86	0-650	7"	20 Solid	Iron-Black*	Const.-Yellow	32-J in SN-8; 60-JP; 60-JPS	General purpose combination thermocouple and lead. <b>2.05</b>
SA-87	0-1200, 0-2000	12"	14 Solid	Chromel	Alumel	32-J in SN-7	For high temperatures, insulated and protected with 2-hole ceramic beads; fits 3/16" hole. <b>3.40</b>
SA-88	0-1200, 0-2000	24"	14 Solid	Chromel	Alumel	60-JP; 60-JPS	For intermediate temperatures, insulated and protected with 2-hole ceramic beads; fits 3/16" hole. <b>4.25</b>
SA-91	0-650, 0-1200	12"	14 Solid	Iron-Black*	Const.-Yellow	32-J in SN-7; 32-J in SN-8	For intermediate temperatures, insulated and protected with 2-hole ceramic beads; fits 3/16" hole. <b>2.90</b>
SA-92	0-650, 0-1200	24"	14 Solid	Iron-Black*	Const.-Yellow	70-J	Disc-type junction for attachment flush to surface. <b>3.75</b>
SA-113	0-650	35'	20 Ga. Solid	Iron-Black*	Const.-Yellow	Former Model 32-J	Needle-type junction for soft material or crevices. <b>5.75</b>
SA-114	0-650	35'	20 Ga. Solid	Iron-Black*	Const.-Yellow	Former Model 32-J	Needle-type junction for soft material or crevices. <b>5.75</b>
SA-115	0-650	35'	20 Ga. Solid	Iron-Black*	Const.-Yellow	Former Model 32-J	Ball-type, all-purpose junction. <b>5.50</b>
SA-116	0-650	5 1/2"	22 Ga. Solid	Iron-Black*	Const.-Yellow	23-JP-1	Connection shield & clip for attachment. <b>2.00</b>
SA-117	0-650	5 1/2"	22 Ga. Solid	Iron-Black*	Const.-Yellow	32-JP-3; 32-JP-7	Ball-type tip, for roasters, waffle irons, etc. <b>1.60</b>
SA-118	0-650	5 1/2"	22 Ga. Solid	Iron-Black*	Const.-Yellow	60-JRT, 61-JRT	Copper tube enclosed tip, for automatic washers, etc. <b>3.00</b>
SA-119	0-650	5 1/2"	22 Ga. Solid	Iron-Black*	Const.-Yellow		Shield and clip, duplex nonfraying glass braid, for frequent use above 400 F. <b>4.50</b>
SA-199	0-650	5 1/2"	22 Ga. Solid	Iron-Black*	Const.-Yellow		Spring type in transit tip with handle, for rapid reading of surfaces. <b>2.65</b>
SA-300	0-650	5'	22 Ga. Solid	Iron-Black*	Const.-Yellow	32-JD in SN-7	Disc-type junction for attachment flush to surface. <b>8.00</b>
SA-304	0-650	25'	20 Ga. Solid	Iron-Black*	Const.-Yellow	32-JD in SN-7	Disc-type junction for attachment flush to surface. <b>5.25</b>
SA-305	0-650	25'	20 Ga. Solid	Iron-Black*	Const.-Yellow	32-JD in SN-7	Needle-type junction for soft material or crevices. <b>5.25</b>
SA-306	0-650	25'	20 Ga. Solid	Iron-Black*	Const.-Yellow	32-JD in SN-7	Ball-type, all-purpose junction. <b>5.00</b>
<b>RESISTANCE BULBS</b>							
SA-142	—100 to +160	14'	Polyethylene Ribbon Lead	No Polarity		60-JRT only 61-JRT Custom Custom Custom	Thin, flat, copper clad bulb 3x 1/2 x 1/8"; with polyethylene ribbon lead. Doors of appliances may be closed without damaging it. <b>6.50</b>
SA-162	—100 to +160	14'					
SA-190**	—100 to +160	8'					
SA-308	—100 to +160	8'					
SA-309	—100 to +160	8'					
<b>CONNECTOR BLOCKS</b>							
CB-1	0-2000	1 1/2" lg. x 1 3/8" Dia.	—	As marked	As marked	All ceramic bead type thermocouples	Lava block, includes heavy brass connectors for low contact resistance. <b>1.85</b>

NOTES: \*Iron constantan is RP1080 calibration. †For best results thermocouples and leads should be as stated on instrument dials.  
\*\*Has plug terminals; all other accessories have spade terminals.

Prices Net, F.O.B. Factory; Individually Boxed, Domestic Packed, Effective November 1, 1967. Subject to change.

# Fast, accurate point <sup>to</sup> point circuit testing

PARAGON PRO-GLO Circuit Testers are simple, inexpensive, easy-to-use instruments for checking non-energized circuits. This little pen-size unit accurately checks for polarity, shorts and opens and continuity in circuits with resistance up to 10 ohms.

The PARAGON PRO-GLO tester consists simply of a plastic case containing two AA penlight batteries and a #222 lamp, a pointed probe and a three-ft. lead wire with alligator. The lead wire holds a new probe protector.

Servicemen and home repairmen appreciate the ease of use of this simple tester. Signal light at point of contact eliminates necessity for shifting eyes to read meter. Speed and accuracy of testing is increased. Low cost of device makes it practical for mass distribution in large service centers. Long operating life is assured — probe and battery contact spring are tin-plated beryllium copper, case is high-impact plastic and wire is heavy-duty, flexible test lead.

DEALER NET PRICE \$1.33

- FOR SERVICE SHOPS • HOME TESTING • GARAGES • HOBBYISTS
- FARM USES

## Probe-Protector Included

New! Vinyl extrusion Probe - Protector glides easily on the cord—can't be mislaid. Slips over Probe when circuit tester is not being used. This prevents accidental contact with metal that could create a circuit thus minimizing unnecessary battery burn-out.



  
**PARAGON**<sup>®</sup>  
 ELECTRIC COMPANY, INC.  
 Subsidiary of American Machine & Foundry Co.

# RCA TEST EQUIPMENT

FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

Application: provides direct reading of peak-to-peak voltages of complex waveforms found in video, sync and deflection circuits. Includes an improved circuit providing  $\pm 3\%$  accuracy full scale on both ac and dc measurements with less than 1% tracking error. Separate color-coded, peak-to-peak and rms-voltage scales in two distinctive colors simplify readings. Features die-cast aluminum case; high input resistance; electronic protection against burnout; rugged 200-microampere meter movement; precision multiplier resistors with accuracy of  $\pm 1\%$  and 0.5-volt full-scale dc range for checking transistor circuits.

## NEW . . . MIRRORED SCALE

- Large 6½" easy-to-read, full vision meter (26 sq. in.).
- Measures complex waveforms directly from 0.2 volt to 4200 volts peak-to-peak in 7 overlapping ranges.
- Measures rms values of sine waves from 0.1 volt to 1500 volts in 7 overlapping ranges.
- Measures from 0.01 volt to 1500 volts dc on two scales in 8 overlapping "3-to-1" ranges.
- INPUT RESISTANCE — 11 megohms on all dc ranges.
- Measures resistance from 0.2 ohm to 1000 megohms on single scale, with 7 overlapping ranges.
- FREQUENCY RESPONSE — 30 cps to 250 Mc with WG-301A Crystal-Diode Accessory Probe.
- Compact design: 7" wide, 3¾" deep, 6½" high.

## WV-77E VoltOhmyst® (Kit or Wired)



**\$38.00\*** WV-77E(K) VoltOhmyst Kit  
**\$52.00\*** WV-77E VoltOhmyst (Factory-Wired)

The WV-77E features flat frequency response  $\pm 5\%$  from 40 Hz to 5 MHz on the 1.5, 5, and 15-volt rms ranges and the 4, 14, and 40-volt peak-to-peak ranges. The WV-77E measures dc from 0.02 volt to 1500 volts, rms ac from 0.1 volt to 1500 volts, peak-to-peak ac from 0.2 volt to 4000 volts, and resistance from 0.2 ohm to 1000 megohms—all in seven overlapping ranges! Full-scale accuracy is  $\pm 3\%$  on dc and  $\pm 5\%$  on ac. Meter is electronically protected against burnout. Separate scales are provided for low ac measurements. Input resistance is standard 11 megohms. Width 5½", Height 7½", Depth 4¾", Weight 5 lbs.

- Fuse in ohms circuit prevents accidental burnout
- Circuit minimizes effect of residual gas in bridge tube
- Color-coded scales for easier, faster readings
- Ultra-slim probes and extra-flexible cables

(Prices for WV-77E(K) and WV-77E include dc probe and cable, ac/ohms probe and cable, ground lead and clip, and instruction booklet. Assembly instruction sheet is provided with the WV-77E(K) VoltOhmyst Kit.)

## WV-76A HIGH-SENSITIVITY AC VACUUM-TUBE VOLTMETER

This RCA high-sensitivity AC Vacuum-Tube Voltmeter is designed for audio application in industry, laboratories and schools. It is also useful in broadcast, design and development, production, and servicing applications. Typical uses include frequency response test of pre-amplifiers, power amplifiers and tone-control circuits; feedback circuit design, signal tracing, audio-level and power-level measurements, gain measurements, amplifier balancing application and general audio voltage measurements.

- Nine overlapping AC voltage ranges — from 10 millivolts to 100 volts full scale. When the WG-300B input probe is set in the "Low-Cap" position, up to 500 volts or +56 dB may be measured.
- Frequency response is flat from 10 Hz to 500 kHz with "Low-Cap" probe, 10 Hz to 1.5 MHz with "Direct" probe.
- May be used as preamplifier: 38 dB maximum gain on 10-millivolt range
- High input impedance—permits measurements in circuits sensitive to loading
- Probe and cable shielded throughout its length—eliminates pick-up from stray fields
- Feedback loop from metering circuit provides additional stability and linearity
- Heavy filtering in power-supply section keeps hum to extremely low level
- Separate decibel scale for measurements of levels from -40 to +40 dB.

### EQUIPMENT SUPPLIED:

The RCA WG-300B shielded direct/low capacitance probe and cable is supplied with the WV-76A. A switch in the probe housing provides for switching from direct to low-capacitance input. In "DIRECT" position, probe measures up to 100 volts; in "LOW-CAP" position, probe can be used to measure up to 500 volts or +56 dB.



**\$79.95\*** factory wired and calibrated.

\*Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.

## WV-98C Senior VoltOhmyst® (Kit or Wired)



**\$57.95\*** WV-98C(K) Senior VoltOhmyst Kit.

**\$84.00\*** WV-98C Senior VoltOhmyst (Factory Wired).

Kit features pre-assembled DC/AC-OHMS Probe WG-361, Current Measuring Adaptor. Permits current measurement with WV-98C from 1 micro-amp to 5 amps. **\$4.95\***



# RCA TEST EQUIPMENT

FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

## WV-38A V-O-M (Kit or Wired)

### NEW FEATURES:

- Meter movement protected against burnout
- New 2-color front panel

Ohms-divider network fuse-protected. Easier-to-read scales on extra-large 5½ inch meter. Polarity reversal switch. Full-wave bridge rectifier. Less circuit loading. Standard dbm ranges.

Extra 1-volt and 0.25-volt (250 mV) ranges.

Handle clips accommodate probes and test leads for extra carrying convenience.

The WV-38A VOM has an input resistance of 20,000 ohms-per-volt on dc and 5,000 ohms-per-volt on ac and an accuracy of ±3% of full scale on dc, ±5% of full scale on ac. Regular scales: 2.5, 10, 50, 250, 1000, 5000 volts, ac and dc; 50 μamp, 1, 10, 100, 500 mA, 10 amps (dc); plus extra scales of 250 mV and 1-volt (dc)! Frequency response (ac), flat from 10 Hz to 50 kHz with usable response at 500 kHz. Ohms—3 ranges—R x 1 (0-2,000 ohms), R x 100 (0-200,000 ohms), R x 10,000 (0-20,000,000 ohms). Dimensions: W 5½" x H 6¾" x D 3¾".

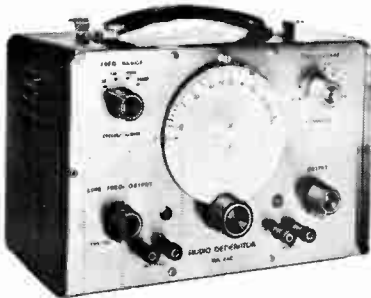
WG-270A Accessory Carrying Case for WV-38A VOM \$4.95\*



\$38.00\* WV-38A(K) VOM Kit  
\$52.00\* WV-38A VOM (factory wired and calibrated)

## WA-44C AUDIO SIGNAL GENERATOR

### SINE/SQUARE WAVE OUTPUT



\$98.50\* Complete with 20 page instruction booklet.

The Compact WA-44C is ac operated from a 50-to-60 cycle, 105-125 volt source, and covers in four bands a range from 20 Hz to 200,000 Hz. Can be used for a wide variety of applications, including the measurement of frequency response characteristics of audio amplifiers, and the testing of loudspeakers and enclosures or finding the impedance of LC combinations. Width 10½", Height 7", Depth 5½".

The circuit of the sine-wave function consists of a "Bridged-T" oscillator with a cathode follower output stage. The square-wave output is developed by using the sine-wave oscillator output to drive a clipping and shaping circuit. Produces a stable signal with an amplitude variation of not more than ±1.5 dB. Total harmonic distortion is limited to 0.5% over the range of 30 Hz to 15 kHz.

- Switch selection for sinewave or squarewave output
- Simple one-scale dial
- Separate 60 Hz output for intermodulation distortion measurements
- Wide frequency range, 20 Hz to 200,000 Hz.
- Less than ½ of 1% distortion over the audio-frequency range

## WR-64B COLOR-BAR/DOT/CROSSHATCH

### GENERATOR



\$189.50\*

Complete with RF output cable, cable-carrying bracket attachment and instruction booklet.

### NEW FEATURES:

- Crystal-controlled RF oscillator for stable picture carrier
- Convenient front-panel gun killing switches.

For checking over-all operation of Color-TV receivers. A "must" for adjusting and trouble-shooting color phasing and matrixing circuits. Generates signals for producing ten bars of different colors simultaneously. Also provides extremely stable fine-line crosshatch and dot patterns free from "jitter" and "crawl". Fixed number of bars and dots facilitate adjustment of over-scan (height and width) and linearity in both color and black-and-white sets.

The Color-Bar and Dot/Crosshatch generating functions require no external sync connections. All three patterns are RF outputs, factory set to channel 3 (can be set to channel 4). A sound carrier is provided to permit accurate adjustment of the fine-tuning control on the receiver.

The WR-64B features a chroma control helpful in checking color sync lock and color AFC alignment. The color sub-carrier frequency, the horizontal sync-pulse frequency, and the "bar" frequency are all crystal controlled. A shielded output cable is provided with the instrument. Width 13¾", Height 10", Depth 8". Weight only 13¾ pounds.

\*Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.

# RCA TEST EQUIPMENT

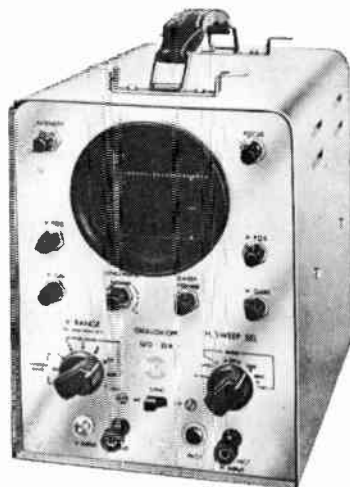
FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

## WO-33A OSCILLOSCOPE (Kit or Wired)

The WO-33A 3-inch Oscilloscope is the "all purpose" scope! All the bandwidth you need for servicing color-TV, video broadcast monitors and cameras; and for square-wave testing of audio and ultrasonic equipment! All the gain you need for low-level audio work — servicing pickups, microphones, preamps; plus signal-tracing radios, amplifiers—trouble shooting communications signaling systems, ham radio and hi-fi equipment, industrial electronics machinery and other applications.

With vertical amplifier in narrow-band position, sensitivity is 3 rms millivolts/inch; bandwidth within -3 dB, 20 Hz to 150 kHz. Wide band position: sensitivity 100 rms millivolts/inch; bandwidth within -3 dB, 5.5 Hz to 5.5 MHz. Sweep circuit: Sawtooth range from 15 Hz to 75 kHz; sync - external,  $\pm$  internal; line sweep - 160° adjustable phase; sync range—to 4.5 MHz.

- for accuracy—voltage-calibrated frequency-compensated, 3-to-1 step attenuator
- for measurements—scaled graph screen and calibrating voltage source allows direct reading of peak-to-peak voltages
- for stability—"plus-minus" internal sync . . . holds sync to 4.5 MHz
- for completeness—shielded input cable with low-capacitance probe included
- for portability—compact size—W 6½" x H 8¾" x D 10¼"—weight only 14 lbs. Plus built-in brackets to hold power cord and cables

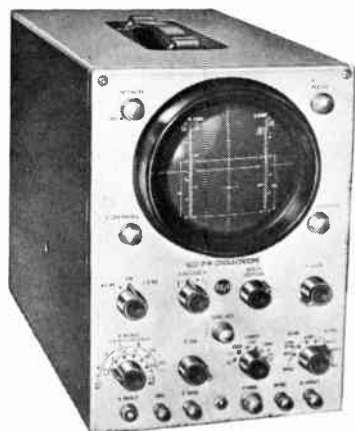


**\$99.00\*** —WO-33A(K) Oscilloscope Kit

**\$139.00\*** —WO-33A Oscilloscope

(Prices for the WO-33A(K) and WO-33A include Direct Low-Cap probe and cable, and instruction booklet.)

## WO-91B 5" OSCILLOSCOPE



**\$269.00\*** complete with WG-300B two-way Direct/Low-Capacitance Probe and Cable, alligator clip and insulator, ground cable; green graph screen. Instruction booklet.

### NEW FEATURE:

- Provision for connecting signals directly to the vertical deflection plates of the CRT

Application: for production and servicing of both black-and-white and color TV receivers. Used to measure color burst signals and for trouble-shooting wide-band color circuits, signal tracing and aligning wide-band video amplifiers, and chrominance circuits. A multi-scale graph screen makes peak-to-peak voltage measurements as simple as with a VTVM. Response: Wide-band within  $\pm 1$  dB from 10 Hz to 4.5 MHz; High sensitivity within -1 db from 10 Hz to 0.5 MHz: within -6 dB to 1.5 MHz. Sensitivity: 0.05 volt peak-to-peak per inch (0.018 rms volts) in high-sensitivity position; 0.15 volt peak-to-peak per inch (0.053 rms volts) in wide-band position.

- Voltage - calibrated, frequency - compensated, 3-to-1 step attenuator for "V" amplifier.
- Shielded vertical-input connector and shielded cable minimize hum, stray field pickup.
- Input Resistance—1 megohm shunted by 40 pF. Low capacitance position—10 megohm shunted by 11 pF.
- Z-Axis input 12 rms volts minimum for blanking.
- Preset "V" and "H" sweep positions.
- "Plus" or "Minus" internal-sync selector.
- Positive-lock internal sync.
- Sweep Frequency: 10 Hz to 100 kHz.
- Maximum ac input: 600 volts peak-to-peak.
- Weight: 30 lbs. Size 13½" x 16½" x 9".

## WR-50B SIGNAL GENERATOR (Kit or Wired)

WITH SWEEP FEATURES

The RCA WR-50B RF Signal Generator is a highly versatile, readily portable test instrument designed for use in the shop or in the field for general television and radio servicing and other applications which require a continuous-wave or modulated RF sine-wave signal from 85 kHz to 40 MHz.

The unit is particularly well suited for such applications as alignment and signal tracing of AM, FM, High-Fidelity and Citizens' Band receivers, alignment of low-frequency IF amplifiers in television receivers, and signal tracing and trouble-shooting in nearly all sections of television receivers.

- Wide frequency range—continuous coverage 85 kHz to 40 MHz in 6 overlapping ranges
- Built-in crystal calibrating oscillator circuit with front panel crystal socket
- Internal 400 Hz audio oscillator
- Sweep output at 10.7 MHz with return trace blanking for sweep alignment of FM receivers
- Sweep output at 455 kHz with return trace blanking for sweep alignment of AM receivers
- Built-in DC blocking capacitors
- Two-step RF attenuator switch plus a continuously variable attenuator control
- Additional switch for further attenuation of the crystal oscillator output

**\$65.00\*** —WR-50B RF Signal Generator

**\$45.00\*** —WR-50B(K) RF Signal Generator Kit



\*Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.

# RCA TEST EQUIPMENT

FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

## WR-52A — STEREO FM SIGNAL SIMULATOR

The RCA WR-52A Stereo FM Signal Simulator is a compact, lightweight instrument designed to generate the signals necessary for complete service and maintenance of stereo multiplex FM receivers and adaptors.

- **COMPOSITE STEREO OUTPUT**—for direct connection to multiplex circuit
  - Choice of left stereo and right stereo signals
- **RF OUTPUT**—for connection to receiver antenna terminals
  - 100 MHz carrier, tuneable
  - Choice of FM signals—left stereo, right stereo, monaural FM, internal test and 60 cycle FM sweep
  - FM stereo deviation adjustable from 0-75 kHz
  - 100 MHz sweep signal adjustable from 0 to more than 750 kHz at a 60 Hz rate
  - RF output attenuator
- **CRYSTAL-CONTROLLED 19 kHz SUBCARRIER** ( $\pm .01\%$ )
- **SINE WAVE FREQUENCIES**
  - Three low distortion frequencies—400 Hz, 1 kHz, 5 kHz
  - Two crystal-controlled frequencies—19 and 38 kHz
  - Additional frequencies—67 and 72 kHz for trap alignment
- **READILY PORTABLE**—weighs only 14 pounds, measures 13½" by 10" by 8"
- **COMPLETE WITH CONNECTING CABLES**

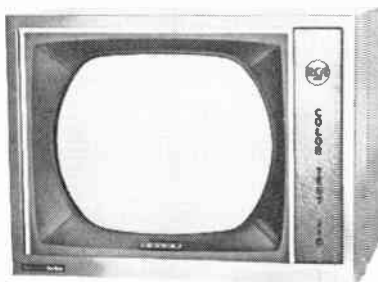


**\$248.00\***

## 11A1015 COLOR TEST JIG

A "must" for any serviceman now servicing or planning to service Color TV receivers, the RCA Color Test Jig makes a one man service call out of costly two man cabinet pulling jobs. Eliminates necessity of removing picture tube from cabinet and of reconverging tube when chassis is returned. Convergence control panel provides dynamic as well as static convergence.

- Versatile—Can be used with CTC-4, 5, 7, 9, 10, 11, 12 and 15 chassis.
- Safe—Supplied with factory-installed safety glass and kirk mask.



**\$135.00\***

Includes kit with all necessary components, hardware and instructions for installation of an RCA Tri-Color Kinescope (Kine not included).

### SERVICE ACCESSORIES AVAILABLE FOR USE WITH RCA COLOR TEST JIG:

- |                                           |                                           |
|-------------------------------------------|-------------------------------------------|
| 13A-100 High Voltage Extension Cable      | 223-X1 High Voltage Extension Cable       |
| 13A-101 High Voltage Extension Cable      | 224-X1 Convergence Magnet Extension Cable |
| 205-W1 Degaussing Coil                    | 225-X1 High Voltage Extension Cable       |
| 220-X1 Kinescope Socket Extension Cable   | 226-X1 Grid Shunt Switch & Cable          |
| 221-X1 Deflection Yoke Extension Cable    | 228-X1 Deflection Yoke Extension Cable    |
| 222-X1 Convergence Magnet Extension Cable | 237-X1 Color Equalizer Magnet Kit         |

\*Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.

# RCA TEST EQUIPMENT

FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

Application: supplies a fundamental frequency rf carrier of crystal accuracy for use in aligning and trouble-shooting TV (color and black-and-white) and FM receivers, and other electronic equipment operating in the range of 19 to 260 MHz. Built-in crystal calibrator, heterodyne detector, amplifier and speaker provides calibrating beats at 1 MHz or 10 MHz intervals throughout entire tuning range which is covered by 8 bands. A built-in 4.5 MHz crystal provides necessary accuracy for alignment of intercarrier-if amplifiers and discriminators.

- At least 0.1 volt output VFO ranges; 0.05 volt crystal frequencies, into 90 ohms terminated.
- Provides signals for adjusting vertical or horizontal linearity.
- Precision matched impedance/resistance pad attenuator, 0-60 dB in 5 dB steps.
- Special modulation input available for re-transmission.
- Provision for use as Heterodyne Frequency Meter.
- Provides dual markers for band-width checks and rf alignment.
- Triple markers for sound-if alignment and band-width checks.
- Adjustable dial pointer for accurate registration with crystal-calibration check points.

## WR-70A RF/IF/VF MARKER ADDER



**\$87.00\*** complete with four coaxial cables and instruction booklet.

Application: for rf, if and video sweep alignment of both color and black-and-white TV receivers. Provides sharp, easy-to-read markers for alignment. A choice of four different marker shapes is available, permitting use of marker type best suited to the response curve. Designed for use with conventional marker and sweep generators, such as the RCA WR-39 and WR-89 series marker generators and the WR-59 and WR-69 series TV sweep generators. With the WR-70A, the marker signal is added to the sweep-response curve after the sweep signal is taken out of the receiver under test.

- Eliminates or reduces distortion of sweep curve by the marker.
- Permits trap alignment without marker "suckout."
- Hi-Q markers — high in amplitude, narrow in width.
- Four marker choices — positive peak, negative peak, positive and negative peaks (wide band), positive and negative peaks (narrow band).
- Voltage stabilized for rock-steady trace display.

## WV-84C ULTRA-SENSITIVE DC MICROAMMETER

Application: a battery-operated vacuum tube microammeter designed for measuring minute direct currents, for making current and voltage measurements in electrolysis and corrosion investigations, and for checking currents in light meters, ultra-violet and infrared detectors, and spectrophotometric devices. Self-contained batteries permit use almost anywhere. Low-drain tubes extend battery life and protect the delicate meter against burnout due to accidental overloads. When used as a voltmeter, it is especially suited to measurements in circuits where loading is a critical factor. Can also be used as an ohmmeter to measure extremely high resistances, such as leakage and insulation resistance.

- Six direct-current ranges for measuring currents from 0.0002 to 1000 microamperes.
- Can be used as ohmmeter to measure resistance in the order of billions of ohms.
- Voltage drop for full-scale deflection only 0.5 volts.
- Input resistance of 100 megohms for measurement of voltages from 0.1 to 1 volt; 1000 megohms input resistance for voltages from 1 to 10 volts, 1005 megohms for voltages from 1 to 100 volts.



## WR-99A CRYSTAL-CALIBRATED MARKER GENERATOR

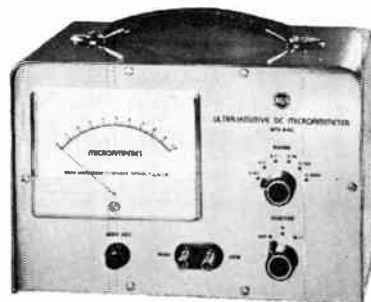
**\$256.50\*** complete with rf output cable, instruction booklet.

### SPECIFICATIONS

IF/VF sweep input—50 kHz to 50 MHz. RF input—50 MHz to 250 MHz.

MINIMUM INPUT VOLTAGES — IF/VF — 0.1 volts rms. RF Sweep sample input—0.005 volts rms. Marker input—0.1 volts rms. Maximum demodulator signal input—8 volts peak-to-peak.

MAXIMUM SIGNAL OUTPUT — Marker signal — 2.5 volts rms. Demodulator signal — 10 volts peak-to-peak. Input and output impedances all 100 ohms except demodulator signal input of 0.5 megohm. Weight: 8 lbs. Size: 7½" x 10½" x 6¼".



**\$110.00\*** includes 50- and 950-megohm multiplier resistors, instruction booklet. (less batteries)

- Over-all microammeter accuracy on .01 range  $\pm 5\%$  or better; accuracy on all other ranges  $\pm 4\%$  or better.
- Size 8¾" x 10¾" x 6½". Weight: 10 lbs. including batteries.

\*Optional distributor resale prices. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.

# RCA TEST EQUIPMENT

FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

## WT-115A COLOR PICTURE TUBE TESTER



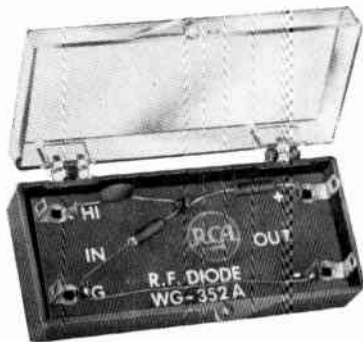
The RCA WT-115A Color Picture Tube Tester is designed specifically for the testing of color picture tubes, including types 21AXP22, 21ANP22A, 21CYP22, 21CYP22A, 21FBP22, 21FKP22, and 21FJP22 includes a socket adaptor which permits testing of the 19EXP22, 19EYP22, 25AP22, A, and 25BP22, A color picture tubes. The RCA WT-115A offers a quick, reliable means of testing each gun of the color picture tube for emission quality (including warm-up performance), interelectrode leakage, and shorted elements. Readily portable, the WT-115A provides distributors and dealers with an accurate instrument for the testing of color picture tubes in the customer's home or in the store.

- Designed specifically for testing TV color picture tubes
- Tests each gun for emission quality, interelectrode leakage, and shorts
- Large, 3-color, sensitive meter with two scales:
  - Red/green "quality" scale, with reference marks from 0 to 10
  - Separate yellow scale to indicate interelectrode leakage
- Sensitive meter and cut-off adjustment control for evaluating the true emission of each gun
- Neon shorts indicator
- AC line-voltage adjustment for accurate measurements
- Test procedure includes 2-minute and 4-minute tests for determining warm-up performance of tube
- Tests color picture tube in-set or out-of-set
- Built-in cable and socket assembly

**\$89.50\*** Complete with sturdy laminated vinyl case with convenient cable storage compartment.

\*User Price (Optional)

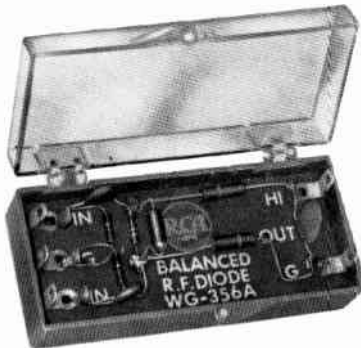
**WG-352A**  
**RF DIODE**



The RCA WG-352A RF Diode is designed for use with the RCA WV-38A or WV-38A(K) Volt-Ohm-Milliammeter in rf applications from approximately 100 kHz to 100 MHz. When the WG-352A is connected in a high frequency circuit, it will provide rectified output which can be read directly from the meter scales of the WV-38A.

**\$2.95\***

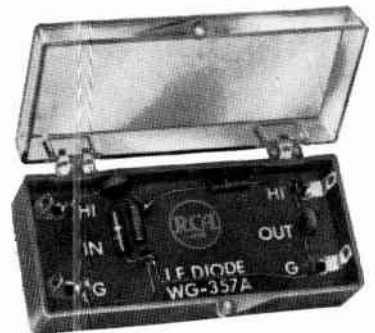
**WG-356A**  
**BALANCED RF DIODE**



The RCA WG-356A Balanced RF Diode is designed for use with an oscilloscope, such as the RCA WO-33A or WO-91 Series, in measuring the voltage output of sweep-frequency generators having balanced, 300-ohm output circuits, and for checking the bandpass and gain characteristics of VHF TV rf preamplifiers and antenna distribution amplifiers. The diode is useful through the video/if/rf frequency range up to approximately 250 MHz.

**\$3.95\***

**WG-357A**  
**IF DIODE**



The RCA WG-357A IF Diode is an unbalanced detector-demodulator designed primarily for use with an oscilloscope, such as the RCA WO-33A or WO-91 Series, in displaying the sweep output from an if/video sweep generator having an unbalanced output circuit. The WG-357A, which is usable up to approximately 100 MHz, can also be used to observe the rf/if response of individual amplifier stages. It has a maximum input signal rating of 20 rms volts, and a maximum dc voltage rating of 250 volts.

**\$3.95\***

\*Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.

# RCA TEST EQUIPMENT

FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

## WR-69A TELEVISION/FM SWEEP GENERATOR

Tools for visual alignment of both TV and FM receivers, the WR-69A has preset switch positions for all VHF TV channels, the FM broadcast band, and TV video, chrominance, and if frequencies. VHF output on fundamental frequencies only; no beat notes or harmonics are used. Exceptionally good linearity is provided by a precision vibrator capacitor. Continuously adjustable sweep width and flat output make for accurate sweep response portrayals. The WR-69A is especially suited to alignment of color receivers. Special sample-voltage terminal on panel permits use with marker-adder units in alignment. Dual-iston attenuator provides smooth even attenuation over 60 dB range on TV and FM channels and 70dB range for if. Width 13", Height 7", Depth 7".

• IF/Video output frequency continuously tunable from 50. kHz to 50 MHz in 6 ranges.

• Sweep-frequency bandwidth continuously adjustable from 50 kHz to 20 MHz on if/video and fm - 12 MHz max. on TV channels.

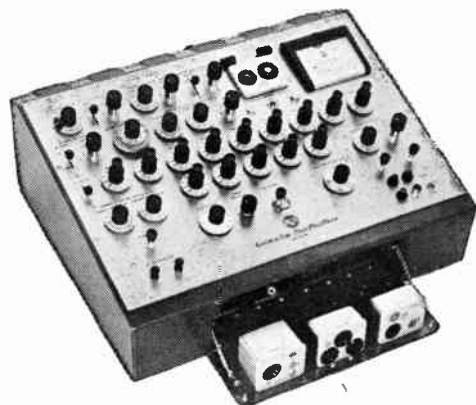
• Return trace blanking.

• Two adjustable bias voltages available on front panel.



**\$295.00\***

(complete with RF Output cable, IF/Video Output cable and instruction booklet.)



**\$989.00\*** Electron-Tube MicroMhoMeter

(complete with 4 multiple-socket plug-in units, instruction booklet.)

## WT-100A Electron-Tube MicroMhoMeter

A precision laboratory measuring instrument which tests tubes under typical operating conditions as specified in the tube manufacturers' technical data manuals. It is particularly useful in production line testing, design and development work, pre-selecting for critical applications, quality control programs, and preventive maintenance. MEASUREMENTS PERFORMED: ac heater current from 0.02 ampere to 10 amperes • dc filament current up to 250 mA • voltage drop across rectifier tubes and semiconductor diodes • transconductance from 10 micromhos to 100,000 micromhos. Within the range of its facilities it will test: vacuum tubes—diodes, triodes, tetrodes, pentodes, heptodes, hexodes, octodes, and multi-unit types; gas tubes—thyatron, voltage envelopes—bases with 4, 5, and 6 pins, octal, lock-in, miniature, sub-miniature, compactron, Novar, both 5 and 7 pin nuvistor, pencil and lighthouse; and semi-conductor diodes—small dry-disc rectifiers, germanium and silicon diode types. Size: W 23½" x H 8" x D 18½". Weight: 50 lbs.

- measures transconductance up to 100,000 micromhos in six ranges
- measures both control-grid-to-plate and suppressor-grid-to-plate transconductance
- built-in calibrating circuit—no null meters or extra devices required
- meter completely burnout-proof
- regulated power supplies for dc plate and screen test voltages

measures transconductance to an accuracy of better than  $\pm 3\%$

accurate measurement of "hybrid" auto receiver tube types under actual operating conditions

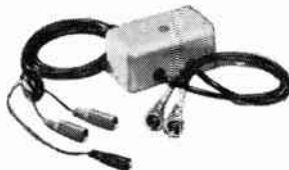
built-in shorts test for any combination of tube elements

## WP-25A TV ISOTAP



Speeds up servicing, prevents damage to test equipment, minimizes shock hazard, cuts down costly returns. The WP-25A may be used as a high-medium-low voltage isolation transformer or as an auto-transformer for testing radio and TV receivers at various settings of line voltage. Supplies outputs of 130, 115, and 105 ac volts at maximum load and is tapped to match line voltages from 105 to 130 volts in six steps ..... **\$27.50\***

## WG-304B RF MODULATOR



An accessory used to check the over-all frequency response of TV receivers from antenna to picture tube grid. The unit permits modulation of an rf marker signal from a marker generator (such as WR-89A or WR-99A) by a signal from a video sweep generator (such as WR-59C or WR-69A).

**\$16.50\***

\*Optional distributor resale prices. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.

# RCA TEST EQUIPMENT ACCESSORIES

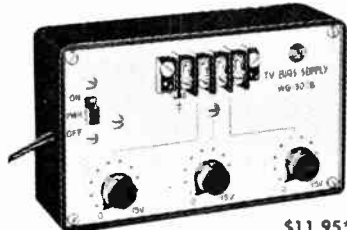
## WG-295C VIDEO MULTIMARKER

Provides seven simultaneous absorption-type markers at accurately pre-set frequencies for marking video response curves in color receivers. Markers are at 0.5 MHz, 1.5 MHz, 2.5 MHz, 3.08 MHz, 3.58 MHz, 4.08 MHz and 4.5 MHz. Each marker is identified simply by touching a corresponding contact on the WG-295C case. This reduces the amplitude of the particular marker. The WG-295C connects between the IF/VF output on the sweep generator and the video output cable. Equipped with shorting switch. With instruction booklet..... **\$32.50\***



## WG-307B(K) TV BIAS SUPPLY KIT

Three separate dc output voltages each adjustable from 0 to -15 V. Panel isolated from all circuits. Measures 6 1/8" x 3 3/4" x 2". Weight: 22 ounces.



**\$11.95\***

## WG-301A CRYSTAL-DIODE PROBE



"Slip-on" type for use with the WG-299A, B or C DC AC Ohms Probe and Cable extending the frequency range of VoltOhmysts® to 250 MHz..... **\$7.75\***

## WG-299D DC/AC OHMS PROBE AND CABLE

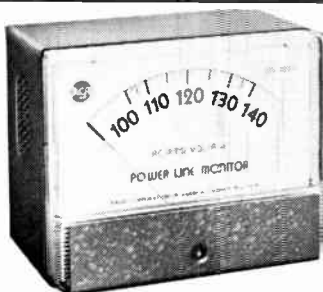


The WG-299D is a single-unit probe for use with Volt Ohmysts® except WV-77E. Switch provides instant selection of dc or ac/ohms operation. The WG-299D replaces the WG-299A, WG-299B and WG-299C..... **\$7.95\***

## WG-300B DIRECT/LOW-CAPACITANCE PROBE AND CABLE



Designed for use with the RCA Scopes. Cable is 48" long, completely shielded from microphone connector to probe tip to minimize hum and stray field pick-up. Built-in switch provides instant selection of direct or low-capacitance operation. Input characteristics: 10 megohms resistance, less than 1.25 pF capacitance in low capacitance position. Includes ground lead and clip ..... **\$9.95\***  
WG-354A, *Capacitance-Type Voltage Divider Probe*. Slip-on accessory for use with WG-300B extends to 5000V signal amplitudes can be seen. .... **\$7.50\***



## WV-120A POWER LINE MONITOR

For constant indication of power line voltage  
Features: • expanded scale 100 to 140 volts indicates true rms values • accuracy ±2% at 120 volts, ±3% at 100 and 140 volts • readable from 10 feet or more • plugs in to power line outlet • wide frequency range, 25 to 400 Hz.  
H 3 1/8", W 5", D 3 1/8";  
Weight: 1 1/2 lbs. **\$16.50\***

WV-503A (240V version of WV-120A) **\$18.50\***



## WG-289, WG-297 HIGH-VOLTAGE PROBES

The WG-289 extends the dc-voltage range of the WV-77A, WV-77B, WV-77C, WV-87A, WV-87B, WV-97A, WV-98A, WV-98B and WV-98C VoltOhmysts to 50,000 volts. The WG-297 extends the range of the WV-77E VoltOhmyst® and WV-38A volt-ohms-milliammeter to 50,000 volts dc.

The WG-289 is provided with a microphone-type connector, and the WG-297 is provided with banana-plugs for use with appropriate VoltOhmysts and other VTVM's, VOM's

A choice of three multiplier resistors is available, enabling these probes to be used with many popular electronic and non-electronic volt-ohm-meters! WG-206-1090-megohm multiplier resistor for VTVM's having 11-megohm input (multiplying factor 100).

WG-210-900-megohm resistor multiplies 5000-volt dc range of 20,000-ohms-per-volt VOM's by a factor of 10.

WG-211-495-megohm resistor multiplies 250-volt dc range of 20,000-ohms-per-volt VOM's by a factor of 100.

WG-289 or WG-297, Probe Only ..... **\$11.95\***

WG-206, WG-210, or WG-211, Multiplier Resistor Only (each) .. **\$ 3.50\***

\*User Price (Optional)

## WG-349A DIRECT/LOW-CAPACITANCE PROBE



A 48-inch, small diameter, extremely flexible shielded cable designed for use with the WO-33A Oscilloscope. The probe consists of three short leads with alligator clips for ground, direct, and low-capacitance connections. For convenient use, the WG-349A eliminates the need for switching. It connects to the oscilloscope by means of a miniature-type microphone connector. Input characteristics: 10 megohms, 12 pF capacitance, when used with the WO-33A and WO-33A(K).

**\$5.95\***

## WG-302A RF/IF/VF SIGNAL TRACING PROBE



"Slip-on" type high-frequency probe designed for use with the WG-300A and B probe and cable to permit visual signal tracing for rapid isolation

of trouble in radio receivers and in television if and video stages..... **\$8.50\***

WG-330B, TV Signal Amplifier and Set Coupler ..... **\$19.95\***



## WG-350A DEMODULATOR PROBE

For use with the WO-33A Super-Portable Oscilloscope for demodulation and signal tracing of radio/TV rf and if signals. .... **\$4.95\***



## WG-351A CRYSTAL DIODE PROBE

For extending the rf measuring capability of the WV-77E VoltOhmyst, and WV-77E(K) VoltOhmyst Kit, to over 100 MHz. .... **\$4.95\***

## WG-360A PHASE CHECKER

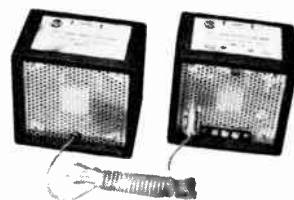
Used for a dynamic check of phasing in any audio system from input to the output of the speakers.

Features:

- sound powered; requires no external voltage source
- any VOM, VTVM, or oscilloscope may be used as the indicator

**\$14.95\***

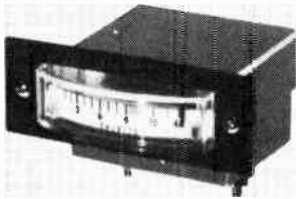
\*Optional distributor resale prices. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.



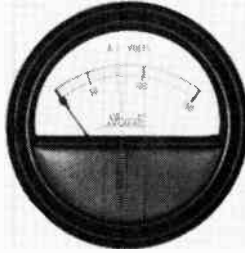
# PANEL METERS



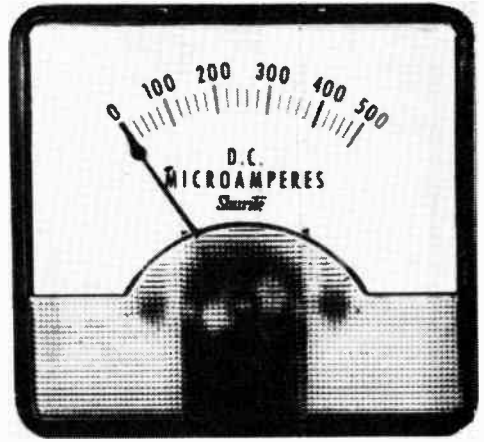
**MODEL 950 SERIES**  
(metal case)  
**ZERO ADJUSTER**  
OPTIONAL ON DC



**MODEL 350 SERIES**  
(crystal clear front)  
**EDGEWISE METER**



**MODEL 550 SERIES**  
(metal case)  
**RIMLESS ROUND TYPE**



**MODEL 850 (actual size) ZERO ADJUSTER OPTIONAL**

manufactured in SHURITE'S new Connecticut plant, Shurite meters are attractive, rugged, dependable instruments with accuracy well within  $\pm 5\%$ , and the ability to duplicate readings. DC meters are polarized-vane solenoid type (moving-magnet or bridge-type construction where indicated); AC meters are double-vane repulsion type with jeweled bearing. The jewel construction costs more to build, but it pays off in continuing accuracy during a longer useful life. Models 550 and 950 fit 2-5/32" hole; Model 850 fits 2-5/32" to -1/32" hole. All are guaranteed.

**\*\*\*NEW PRODUCTS**—More sensitive meters which retain high torque-to-weight ratio without sacrifice of ruggedness, include: \*A) three 0-500 DC Microammeters, 1000 ohms int. res.; \*B) 0-1 DC Milliampmeter, Stock No. 8336, 1000 ohms int. res., with bridge-type design to minimize effects of external magnetic forces; and \*C) 0-2 DC Milliampmeter, Stock No. 8835, 500 ohms int. res. A handy new Cold-Zone Tester priced at less than \$20.00, and a pocket type Lighting Level Indicator, calibrated for 0-300 foot candles, are listed on the opposite page.

## FEATURES

**GUARANTEE:** Meters are guaranteed to users against defective workmanship and material, and will be repaired or replaced if sent to the factory postpaid with 50¢ handling charge within one year after purchase. . . . **ALL METAL DIALS**—age and moisture resistant, lithographed in black on white for high visibility. . . . **STURDY DESIGN**—with husky coil frames designed to prevent breakage, rigidly mounted in cases with anti-turning square head studs. . . . **VISCOSITY DAMPING**—careful application of new silicone compound on bearing surfaces damps pointer overtravel. . . . **WIDE SELECTION**—Shurite offers the broadest line of standard meters in the economy-priced field. Distributor stocks are backed up by an extensive factory inventory.

## CLEAR PLASTIC INSTRUMENTS

. . . The 850 snap-on front of crystal-clear high temperature polystyrene 2-17/32" wide by 2-5/16" high, admits light from all sides and accentuates the appearance of the dial which has the longest scale arc in its field. The case back is black, but of similar high-temperature, high-impact material.

## TYPICAL USES

Amateur radio rigs . . . Citizens Band equipment . . . battery eliminators . . . battery chargers . . . volt-ohm-milliammeters and kits . . . model train equipment . . . tuning circuits for stereo and tape recorders . . . burglar, fire alarm, or emergency lighting systems . . . transistor testers . . . plating equipment . . . voltage regulators . . . detergent strength analyzers . . . demonstrators . . . many other applications.

## DC MICROAMMETERS

RANGE	RESIST. Approx. Ohms	Model 550* Stock No.	Model 950* Net Each	Model 850* Stock No.	Model 850* Net Each
0-500**	1000	5902	\$4.40	8402	\$4.50

\*For zero adjuster, add 35c to price and Z to stock number.  
\*\*Sensitive type, note internal resistance. DC bridge-type construction.

## DC MILLIAMMETERS

RANGE	RESIST. Approx. Ohms	Model 550* Stock No.	Model 950* Stock No.	Model 950* Net Each	Model 850* Stock No.	Model 850* Net Each
0-1†	1000	5336	9336	\$4.15	8336	\$4.25
0-2†	500	—	—	—	8335	4.25
0-3	4800	5301	9301	3.35	8301	3.45
0-5	3475	5302	9302	3.05	8302	3.15
0-10	870	5303	9303	2.80	8303	2.90
0-15	485	5304	9304	2.60	8304	2.70
0-25	172	5305	9305	2.60	8305	2.70
0-50	46	5306	9306	2.60	8306	2.70
0-100	10.4	5307	9307	2.60	8307	2.70
0-150	4.7	5308	9308	2.60	8308	2.70
0-200	2.8	5309	9309	2.60	8309	2.70
0-300	1.5	5310	9310	2.60	8310	2.70
0-400	.46	5311	9311	2.60	8311	2.70
0-500	.30	5312	9312	2.60	8312	2.70

\*For zero adjuster add 35c to price and Z to stock number.  
†Bridge-type construction; internal magnet design minimizes effects of external magnetic forces. Price does not include zero adjuster.

## AC MILLIAMMETERS

RANGE	RESIST. Approx. Ohms	Model 550 Stock No.	Model 950 Stock No.	Model 950 Net Each	Model 850* Stock No.	Model 850* Net Each
0-10	4800	5607	9607	\$4.05	8607	\$4.15
0-25	750	5601	9601	3.90	8601	4.00
0-50	150	5602	9602	3.90	8602	4.00
0-100	37	5603	9603	3.90	8603	4.00
0-250	5.4	5604	9604	3.90	8604	4.00
0-500	1.34	5605	9605	3.90	8605	4.00

NO ZERO ADJUSTER ON AC METERS, EXCEPT ON MODEL 850.  
\*For zero adjuster add 35c to price and Z to stock number.

## DC AMMETERS

RANGE	RESIST. Approx. Ohms	Model 550* Stock No.	Model 950* Stock No.	Model 950* Net Each	Model 850* Stock No.	Model 850* Net Each
0-1	.105	5201	9201	\$2.60	8201	\$2.70
0-3	.02 Max.	5202	9202	2.60	8202	2.70
0-5	.02 Max.	5203	9203	2.60	8203	2.70
0-8	.02 Max.	5204	9204	2.60	8204	2.70
0-10	.02 Max.	5205	9205	2.60	8205	2.70
0-15	.02 Max.	5206	9206	2.60	8206	2.70
0-25	.02 Max.	5207	9207	3.05	8207	3.15
0-50	.02 Max.	5208	9208	3.05	8208	3.15
3-0-3	.02 Max.	5210	9210	2.70	—	—
5-0-5	.022	5211	9211	2.70	—	—
6-0-6	.02 Max.	5212	9212	2.70	—	—
10-0-10	.02 Max.	5213	9213	3.05	8213	3.15
20-0-20	.02 Max.	5214	9214	3.05	8214	3.15
30-0-30	.02 Max.	5215	9215	3.05	8215	3.15
50-0-50	.02 Max.	5216	9216	3.25	8216	3.35

\*For zero adjuster add 35c to price and Z to stock number.

## AC AMMETERS

RANGE	RESIST. Approx. Ohms	Model 550 Stock No.	Model 950 Stock No.	Model 950 Net Each	Model 850* Stock No.	Model 850* Net Each
0-1	.42 Max.	5501	9501	\$3.75	8501	\$3.85
0-3	.072 Max.	5502	9502	3.75	8502	3.85
0-5	.041 Max.	5503	9503	3.75	8503	3.85
0-10	.02 Max.	5504	9504	3.75	8504	3.85
0-15	.02 Max.	5508	9508	3.75	8508	3.85
0-30	.02 Max.	5505	9505	4.15	8505	4.25
0-50	.02 Max.	5506	9506	4.30	8506	4.40
0-80	.02 Max.	—	—	—	8507	4.65

NO ZERO ADJUSTER ON AC METERS, EXCEPT ON MODEL 850.  
\*For zero adjuster, add 35c to price and Z to stock number.

Prices Effective April 15, 1967; F.O.B. Factory; Individually Boxed; (Subject to Change.)



**DC VOLTMETERS**

RANGE	RESIST. Approx. Ohms	Model 550* Stock No.	Model 950* Stock No.	Model 850* Net Each	Stock No.	Net Each
0-1	10	5101	9101	\$2.60	—	—
0-3	93	5102	9102	2.60	8102	\$2.70
3-0-3	250	5103	9103	2.60	—	—
0-5	300	5104	9104	2.60	8104	2.70
0-6	390	5105	9105	2.60	—	—
0-8	600	5106	9106	2.60	8106	2.70
0-10	880	5107	9107	2.60	8107	2.70
0-15	2370	5108	9108	2.60	8108	2.70
0-20	3500	5121	9121	2.60	8121	2.70
0-25	1420	5109	9109	2.90	8109	3.00
0-25H**	5000	5110	9110	3.35	8110	3.45
0-50	2920	5122	9122	2.85	8122	2.95
0-50H**	10000	5111	9111	3.60	8111	3.70
0-75	4280	5112	9112	2.90	—	—
0-100	5740	5113	9113	2.90	—	—
0-100H**	20000	5114	9114	3.50	—	—
0-150	8500	5115	9115	3.05	8115	3.15
0-150H**	30000	5116	9116	3.75	8116	3.85
0-300H**†	60000	5117	9117	3.90	8117	4.00
0-500H**†	100000	5118	9118	4.15	8118	4.25

\*For zero adjuster add 35c to price and Z to stock number.  
 \*\*H denotes high resistance.  
 †Supplied with external resistors.

**AC VOLTMETERS**

RANGE	RESIST. Approx. Ohms/Volt	Model 550 Stock No.	Model 950 Stock No.	Model 850* Net Each	Stock No.	Net Each
0-4	11	5401	9401	\$3.95	—	—
0-6	15.8	5402	9402	3.95	—	—
0-10	27	5403	9403	3.95	8403	\$4.05
0-15	35	5404	9404	3.95	8404	4.05
0-20	44	5413	9413	3.95	8413	4.05
0-25	53	5412	9412	3.95	8412	4.05
0-50	96	5405	9405	4.15	8405	4.25
0-150	100	5406	9406	4.35	8406	4.45
0-300**	100	5407	9407	4.95	8407	5.05
0-500**	100	5414	9414	5.55	—	—

NO ZERO ADJUSTER ON AC METERS; EXCEPT ON MODEL 850.  
 \*For zero adjuster add 35c to price and Z to stock number.  
 \*\*Supplied with external resistors.

**RESISTANCE METERS**

RANGE	Model 550* Stock No.	Model 950* Stock No.	Model 850* Net Each	Stock No.	Net Each
10,000	5701	9701	\$3.25	8701	\$3.35

\*For zero adjuster, add 35c to price and Z to stock number.  
 \*\*Requires 3 flashlight cells for resistance readings but does not require resistor for voltage readings.

**EDGEWISE METERS — MODEL 350 SERIES**

High-temperature crystal polystyrene front adds beauty to panel designs and 1.2" scale length offers easy reading. Uses less than half the panel space of other Shurite meters. Horizontal mounting; weight under 2 ozs.; accuracy well within ±5%; black escutcheon plate supplied. Case back normally black; available in light-transmitting frosted polystyrene on special order.

RANGE	Approx. Typical RESIST. (ohms)	Stock No.	Net Each
<b>DC MILLIAMMETERS</b>			
0-1*	500	3300	\$3.95
0-5*	100	3302	3.60
0-10*	50	3303	3.60
0-25*	20	3305	3.60
0-50*	10	3306	3.60
0-100*	5	3307	3.60
0-200*	2.5	3309	3.60
0-300*	1.7	3310	3.60
0-500*	1	3312	3.60
<b>AC MILLIAMMETERS</b>			
0-100	32	3603	3.75
<b>DC AMMETERS</b>			
0-3*	.02 Max.	3202	3.60
0-10*	.02 Max.	3205	3.60
0-15*	.02 Max.	3206	3.60
10-0-10*	.02 Max.	3213	3.70
<b>AC AMMETERS</b>			
0-5	.04	3503	3.75
<b>DC VOLTMETERS</b>			
0-5*	1000	3104	3.60
0-10*	2000	3107	3.60
0-15*	3000	3108	3.60
<b>AC VOLTMETERS</b>			
0-15*	1200	3404	3.75
0-150*	48000	3406	4.40
VU Meter —20 +3 VU*	1400	3801	5.75
S Meter 0-40 db*	1000	3333	3.70

\*Bridge-type construction; internal magnet design minimizes effects of external magnetic forces.

**POCKET TYPE METERS**

Please ask for General Catalog 47 which describes 13 types of battery testers (pocket meters). Their stock numbers begin with the digit 4. Typical is Stock No. 4151, 0-7 DC volts, approx. res. 670 ohms ... \$3.25

**Shurite®**

**COLD-ZONE TESTER  
PRICED UNDER \$20.00**



**STOCK NO. 8380-RT** — Place the thin, flat resistance bulb inside a refrigerator, deep freezer, air conditioner or other cooling equipment, close the door on the polyethylene ribbon lead, allow the bulb temperature to stabilize, and get a direct reading from -40 to +120°F. Saves time, builds customer confidence. Red pointer; 2 1/8" scale arc, readable to ±2%; accuracy well within commercially accepted standards of ±5% (±3%). For further details, ask for Bulletin CT-1. Tester comes in gray vinyl case 5" x 5" x 4 1/2", complete with 8 ft. Model SA-3C3 thin, fast responding bulb and 7 1/2 volt standard battery **\$19.50**

**AC-DC LINE VOLTAGE TESTER**

**Stock No. 5406-LT** — Plug-in to read line voltage, then demonstrate voltage drop or inadequate wiring by plugging in TV set, iron, toaster, washer, air-conditioner, shop equipment, etc. Features of this handy tester: a) attached plug receptacle permits continuous reading while loads are changed; b) reads to 150 volts AC or DC; c) cord allows convenient angle for reading; d) jewel bearing construction provides continuing accuracy **\$4.55**



**LIGHTING LEVEL INDICATOR**

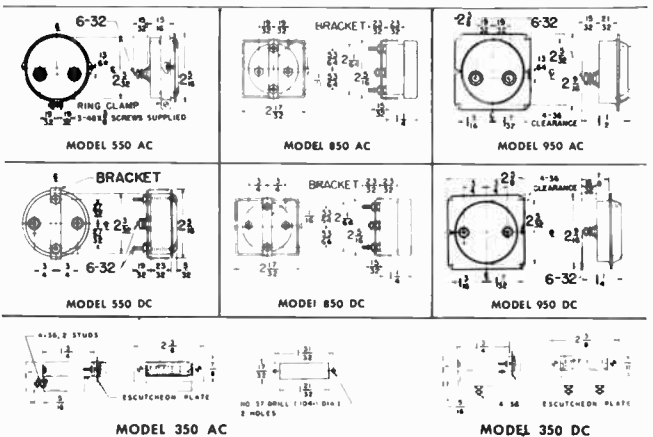
**STOCK NO. 7902-FC** — Simply place this pocket-size meter (3 1/4" x 2 1/8" x 1 1/8") on bench, desk, or other work surfaces and read illumination value in foot candles on c 0-300 fc scale. Individually boxed **\$9.75**

**VU, S, and FIELD STRENGTH METERS**

**VU METERS** — Read volume levels in audio transmission circuits on scale -20 to +3 VU, red and black. AC rectifier type; pointer normally at -20 VU; 1400 ohms ±5% int. res. See Bulletin VUS-67 for application circuitry. High-temperature clear-plastic cases.  
**STOCK NO. 8801Z** — 850 Series, zero adjuster included; as illustrated **\$6.10**  
**STOCK NO. 3801** — Edgewise case zero adjuster not available **\$5.75**  
**S METERS** — To measure relative signal strength; black and red scale; basic movement 0-5 Ma. DC with 1200 ohms int. res. ±5%; for application notes and circuits, see Bulletin VUS-67. High-temperature clear plastic cases.  
**STOCK NO. 3333** — 350 Series, 0-40 db, shown on page 904 pointer normally at 40 **\$3.70**  
**STOCK NO. 8333\*** — 850 Series; 0-60 db, pointer normally at 60 **\$3.60**  
 \*For zero adjuster, add 35c to price and Z to stock number.  
**NEW FIELD STRENGTH METER** — When this meter — a variation of the D.C. Milliammeter — is built into an elementary circuit (supplied on request), antenna systems may be easily checked, tuned, phased, or matched to transmission lines.  
**STOCK NO. 8903Z** — 850 Series case; top scale marked .1, .5, 1, 2, 3, 4, 5, 7, 10; bottom scale marked 2, 4, 6, 8, 10; zero adjuster included; meter only **\$4.20**

**3-HOLE MOUNTING ADAPTER**

**MODEL 5-A** — 2 3/4" black flange attaches from front, converts Model 550 (round) meter to 3-hole flange type **\$0.18**



**IMPORTANT — HOW TO ORDER**

Give (1) Model Number, (2) Range, (3) Stock Number.  
**ZERO ADJUSTER (Z)** 35c extra; see footnotes as to availability.  
**PANEL CALIBRATION (S)** Normally for non-magnetic panels. If steel panel mounting, give thickness and size; add S to stock number.  
**SEE YOUR DISTRIBUTOR** Authorized Shurite distributors carry most models and can obtain your other needs promptly.

**SHURITE METERS**

Prices Effective April 15, 1967; F.O.B. Factory; Individually Boxed; Subject to Change.

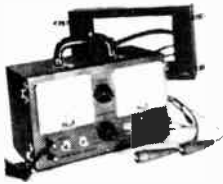
# Insulation Testers

WRITE FOR DATA SHEETS ON THE INSTRUMENTS SHOWN... ALL ARE STANDARD PRODUCTION MODELS, AVAILABLE FOR IMMEDIATE DELIVERY FROM STOCK... LET US QUOTE ON YOUR REQUIREMENTS FOR MODIFIED UNITS OR SPECIAL TEST EQUIPMENT.

**SLAUGHTER**  
*Company*  
TEST WITH CONFIDENCE

## High-voltage Leakage Tester

checks insulation for... leakage  
...grounds  
...arcing



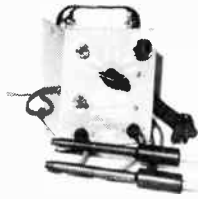
MODEL  
**122**

16 lb. Portable  
for lab and  
field work

VARIABLE VOLTAGE RATINGS TO 5 KV  
AC & DC. DUAL RANGE LEAKAGE METER  
0/100/1000  $\mu$ A... CAPACITY COMPEN-  
SATION... MEASURES INSULATION RES-  
ISTANCE, CAPACITY, POWER FACTOR.

## High-voltage Insulation Tester

with buzzer signal on breakdowns  
...grounds  
... shorts



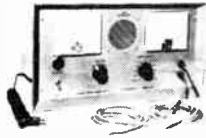
MODEL  
**101**

Watch what you  
are doing...  
not the tester

SIX TEST VOLTAGES... 500 to 2500 V.A.C.  
PRICED SO YOU CAN AFFORD TO SPOT A  
FEW ALONG YOUR ASSEMBLY LINES.

## High-voltage Leakage Tester

audibly signals excess leakage  
...grounds  
...arcing



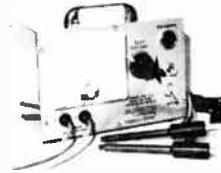
MODEL  
**103**

Measures Leakage  
... not capacity  
current

TEST VOLTAGE CONTINUOUSLY VARIABLE  
ADJUSTABLE LEAKAGE LIMIT... CAPACITY  
COMPENSATION ON AC TESTS... RATINGS  
TO 10,000 VOLTS AC & DC... LIMITED  
ENERGY... NON-DESTRUCTIVE... FOR LAB  
AND PRODUCTION LINE SERVICE.....

## Adjustable High-voltage Tester

with buzzer signal on breakdowns  
...grounds  
... shorts



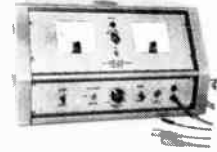
MODEL  
**106**

Voltmeter  
shows actual  
Test Voltage

CONTINUOUSLY VARIABLE TEST VOLTAGE  
RATINGS TO 10,000 VOLTS AC & DC...  
RECOMMENDED FOR BREAKDOWN TESTING  
AT FINAL ASSEMBLY AND INSPECTION

## Automatic H-V Insulation Tester

for precision checking... breakdowns  
... leakage  
... grounds



MODEL  
**103-MP**

Automatic  
Test Cycle

FULLY AUTOMATIC TEST CYCLE... CON-  
TROLLED RATE-OF-RISE... ADJUSTABLE  
TEST VOLTAGE, DWELL TIME, & LEAK-  
AGE LIMIT... CAPACITY COMPENSATION  
ON AC TEST... FOR PRECISION TEST  
OF CRITICAL PARTS & ASSEMBLIES...

## Inspection Stroboscope

...with extra high intensity daylight lamp



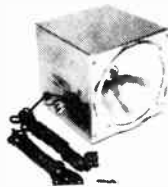
MODEL  
**167**

0/600  
Flashes per  
Minute

SUPER INTENSITY TRIGGERED FLASH  
UNIT... PUSH-TO-SEE SWITCH...  
FOR INSPECTION ON-THE-GO UNDER  
HIGH AMBIENT LIGHT CONDITIONS.

## Inspection Stroboscope

...with high intensity daylight lamp



MODEL  
**161**

0/2,000  
Flashes per  
Minute

LIGHT WEIGHT INEXPENSIVE TRIG-  
GERED FLASH UNIT... PUSH-TO-SEE  
SWITCH... INTENSE WHITE LIGHT  
FOR INSPECTION ON-THE-GO

## Universal Stroboscope

...with high intensity daylight lamp



MODEL  
**163**

50/16,000  
Flashes per  
Minute

UNIVERSAL UNIT FOR MOTION STUDY  
& INSPECTION ON-THE-GO... INSTANT  
STARTING... HIGH INTENSITY WHITE  
LIGHT... TRIGGER EXTERNALLY OR  
OPERATE FROM INTERNAL OSCILLATOR

# Stroboscopes

WRITE FOR DATA SHEETS ON THE INSTRUMENTS SHOWN... ALL ARE STANDARD PRODUCTION MODELS, AVAILABLE FOR IMMEDIATE DELIVERY FROM STOCK... LET US QUOTE ON YOUR REQUIREMENTS FOR MODIFIED UNITS OR SPECIAL TEST EQUIPMENT.

**SLAUGHTER**  
*Company*  
TEST WITH CONFIDENCE

## MIDGET STROBOSCOPE FLASH HEAD



MODEL  
**166**

0/10,000  
Flashes per  
Minute

FOR WORK ON MINIATURIZED EQUIP-  
MENT... FOR PRINTING TRADES...  
FOR BIO-MEDICAL WORK... ADAPTS  
TO ANY SLAUGHTER STROBOSCOPE...

## Metered Precision Stroboscope

...with high intensity daylight lamp



MODEL  
**165**

50/16,000  
Flashes per  
Minute

PRECISION STROBOSCOPE TACHOMETER  
INSTANT STARTING... HIGH INTENSITY  
WHITE LIGHT... OPERATES FROM EXT-  
ERNAL CONTACTS OR INTERNAL OSCIL-  
LATOR... EASILY SYNCHRONIZED... OUT-  
PUT JACKS TO COUPLE SCOPE, ETC....

Simpson

260<sup>®</sup> family of V. O. M. s



AC DC Volt-Ohm-Milliammeter

New Improved 260<sup>®</sup> Volt-Ohm-Milliammeter continues as the World's largest selling VOM. Known for its reliability and ruggedness, the 260 has been continually improved to meet changing market conditions. Built-in features of the 260 are:

- Movement Overload Protection.
- Self-shielded Meter Movement.
- Increased linearity and stability.
- Greater repeatability.
- Input protected with an internal 1 amp fuse.
- Individual 260 instruments with special features and accuracies (Identified as 250, 255, 260-5, 5M, 261 and 270).

Complete with test leads No. 7500 and operator's manual.

260-5.....\$58.00 260-5M (Mirror Scale) .....\$60.00

NEW PROTECTED 260-5P AC/DC VOLT-OHM-MILLIAMMETER

This instrument has built-in Meter and Tester protection approaching 100% which virtually makes this VOM "GOOF PROOF." The 260-5P will be of particular value where the instrument may be used by inexperienced people; students, apprentices, and new employees. Technicians, too, will find the instrument ideal for exploring unfamiliar equipment, especially when lack of a schematic diagram poses the hazard of encountering unexpected high voltages.

Combined protection not found in any other VOM.

1. Reset button pops out to indicate overload.
2. Circuits cannot be reset while overload is present.
3. Massive overloads which can cause hidden damage are not required to activate the protective circuit.
4. All ranges are protected except those not feasible in a portable instrument 1000 and 5000 volts DC and AC; 10 Amps DC.

The 260-5P has the same ranges and takes the same accessories as the Simpson 260-5 VOM. Complete with test leads 7500 and operator's manual.

260-5P Protected .....\$88.00  
260-5PRT Protected Roll Top .....\$94.00



Roll Top VOMs

260-5RT .....\$64.00  
260-5MRT .....\$66.00  
260-5PRT .....\$94.00  
261-RT .....\$74.00  
270-3RT .....\$76.00

CARRYING CASES



Ever-Ready Vinyl Carrying Case Only No. 0805 .....\$12.00



Utility Case Cat. No. 0549 \$18.00



Probe Case Cat. No. 0574 \$5.00

HIGH ACCURACY 261 AND 270-3 AC/DC VOLT-OHM-MILLIAMMETERS

For applications requiring higher accuracies, Simpson has combined the latest in VOM design with strict manufacturing controls to produce the 261 and 270 Series 3. Features include:

1. A new self-shielded annular meter movement.
2. Special calibration circuit that increases accuracy.
3. Diode overload protection. (Prevents movement burnout even on 200,000% overload.
4. Mirror scale with knife edge pointer.
5. Input protected with an internal 1 amp fuse.
6. TAUT BAND movement. (270 only).

Complete with test leads 7500 and operator's manual.

Model 261 .....\$68.00 Model 261-RT .....\$74.00  
270-3 .....\$70.00 270-3RT .....\$76.00

ROLL TOP STYLES

RUGGED TAUT BAND ELECTRICAL & TEMPERATURE TESTER MODEL 225 WITH AC AMMETER CLAMP-ON ADAPTER FACILITY

Designed specifically for servicemen in many fields: gas appliance servicing and installation, electrical utilities, and heating service and installation. By using the AC clamp-on adapter, Cat. No. 0531, AC currents through 250 amperes can be checked without disconnecting the leads or otherwise opening the circuit. Includes the important VOM functions of the 260 as well as providing a temperature range of +100°F to +1050°F. A low millivolt drop is provided on the direct current ranges.

Complete with test leads with prods (Cat. No. 0115), 5 Ft. thermocouple lead (0163), and operator's manual.

Model 255 .....\$90.00  
AC Clamp-on Adapter, Cat. No. 0531 .....\$30.00  
10,000 VAC High Voltage Probe, Cat. No. 0161 .....\$15.00

\* Adapts 255 to measure 0-5, 25, 100, 250 AC amps.



AC Clamp-on Adapter\* Cat. No. 0531 \$30.00

RUGGED TAUT BAND 50 MILLIVOLT DROP VOM... MODEL 250

The answer to transistor circuitry testing requiring a VOM with a low millivolt drop on current ranges. Contains all of the built-in features of the 260, together with modified range coverage designed for solid state testing, plus the provision for using add-a-lester adapters, 260 high voltage probes and other accessories.

Complete with test leads and operator's manual.

Model 250 .....\$63.00

SPECIFICATIONS—20,000 Ω/V DC; 5,000 Ω/V AC

RANGES	250	255	260-5	260-5M	260-5P	261	270-3	
DC VOLTS	0-0.050; 0-0.250-0.25; 0-10; 0-50; 0-250; 0-500; 0-1000	0-0.050; 0-0.250; 0-1; 0-2.5; 0-10; 0-50; 0-250; 0-1000	0-0.25; 0-2.5; 0-10; 0-50; 0-250; 0-1000; 0-5000					
AC VOLTS	0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000	0-2.5; 0-10; 0-50; 0-250; 0-1000	0-2.5; 0-10; 0-50; 0-250; 0-1000; 0-5000					
DC MICROAMPERES	0-50 (Both 50 and 250 MV Drop)		0-50 (250 MV Drop)					
DC MILLIAMPERES	0-1; 0-10; 0-100; 0-500; (50 MV Drop)		0-1; 0-10; 0-100; 0-500					
DC AMPERES	0-10 (50 MV Drop)	NONE	0-10 (250 MV Drop)					
DB SCALE (1MW-600Ω)	-20 to +10; -8 to +22; +6 to +36; +20 to +50	NONE	-20 to +10; -8 to +22; +6 to +36; +20 to +50					
OUTPUT RANGES	NONE	NONE	0.1 mfd capacitor in series with all AC voltage ranges through 250 volts.					
RESISTANCE RANGES	R X 1 0-2000 Ω (12Ω center)	R X 100 0-200K Ω (1200Ω center)	R X 10K	0-20 meg Ω (120K Ω center)				
TEMPERATURE RANGE	NONE	+100° F. to +1050° F.	NONE					
ACCURACIES:								
0-50 MV; 0-250 MV; 0-2.5 to 0-1000 V DC	±2% F.S.	±2% F.S.	±2% F.S.	±3% F.S.	±1.5% F.S.	±2.5% F.S.	±1.25% F.S.	
0-5000 V AC					±1.5% F.S.	±1.0% F.S.	±.75% F.S.	
0-50 MICROAMPERES	±1% F.S.	±1% F.S.	±1.5% F.S.	±2% F.S.	±1.5% F.S.	±1.5% F.S.	±1.25% F.S.	
0-1 MA to 0-10 A DC	±2% F.S.	±2% F.S.	±2% F.S.	±2% F.S.	±1.5% F.S.	±1.5% F.S.	±1.5% of Arc	
R X 1	±2.5° of Arc	±2.5° of Arc	±2.5° of Arc	±2.0° of Arc	±1.5° of Arc	±1.5° of Arc	±1.0° of Arc	
R X 100, R X 10,000	±2.0° of Arc	±2.0° of Arc	±3% F.S.	±4% F.S.	±3% F.S.	±2.0% F.S.	±2.0% F.S.	
0-2.5 to 0-1000 V AC	±3% F.S.	±3% F.S.						
0-5000							±3% F.S.	
MOVEMENT TYPE	Self-Shielding Annular Taut Band		Self-Shielding Annular		Pivot and Jewel			
TEMPERATURE COMPENSATED	NO	NO	NO	NO	NO	NO	YES	
METER MOVEMENT PROTECTION	YES	YES	YES	YES	YES	YES	YES	
RESETABLE TESTER CIRCUIT PROTECTION	NO†	NO†	NO†	NO†	YES	NO†	NO†	
MIRROR SCALE	NO	NO	NO	YES	NO	YES	YES	
SCALE LENGTH	4.2 Inches							
DIMENSIONS	5 1/4" x 7" x 3 1/8"							
NET WEIGHT	3 1/2 lbs.							
PRICE	\$63.00	\$90.00	\$58.00	\$60.00	\$88.00	\$68.00	\$70.00	
ACCESSORIES	10,000v DC High voltage probe 0507 \$15.00 25,000v DC High voltage probe 0508 15.00 50,000v DC High voltage probe 0509 15.00 Clamp-on AC Ammeter adapter (For Model 255 only) 0531 30.00	Cat. No. Price	10,000v AC High voltage probe 0161 \$15.00 Banana plugs and alligator clip 7500 2.50 Banana plugs and test prods 7538 3.00 Leather Carrying Case 1818 10.00 Ever-Ready Carrying Case 0805 12.00	Cat. No. Price	Roll top safety case only 0249 \$18.00 Utility Carrying Case Vinyl 0549 10.00 Probe Case 0574 5.00 Thermocouple lead (5 ft.) (Model 255 only) 0163 5.00	Cat. No. Price		

†1 amp fuse limits maximum current.

MORE ACCESSORIES ON PAGE 912

SIMPSON ELECTRIC CO.

Simpson

# 7" V. O. M. s — microtesters



EASIER TO READ 7" SCALES

### DUAL SENSITIVITY MODEL 263

Dual sensitivity Volt-Ohm-Milliammeter with accuracies of  $\pm 1\frac{1}{2}\%$  DC and  $\pm 3\%$  AC F.S. Overlapping ranges offers greater accuracy expressed as a percentage of reading. Diode overload protection. Uses  $1\frac{1}{2}$  volt alkaline battery to insure greater stability on low ohms scale.

Complete with test leads No. 0115 and operator's manual \$88.00

### 100,000 $\Omega/V$ . MODEL 269-2

Model 269-2 incorporates Simpson's self-shielded meter movement with spring backed jewels. Improved Model 269-2 includes two new ranges, 400 V. AC and 800 V. DC. The ampere range coverage has been changed from a 16 ampere range to an 8 ampere range, and the Ohm Center Scale is changed to a 12 ohm center for better coverage.

Complete with test leads No. 0115, 4000V. DC probe extension and operator's manual \$90.00

### MODELS 267 AND 268

Companions to the World Famous 260, these instruments are ideal for TV and Radio Service work, General laboratory work, and production line testing where accurate repetitive readings are required. One major switch in the instrument selects range position and function at the same time which saves time in operation and also acts as a protection to the tester circuit. Input protected with an internal 1 amp fuse.

Complete with test leads No. 7500 and operator's manual. Model 267 \$65.00 Model 268 \$65.00

### 33-RANGE MODEL 262-3

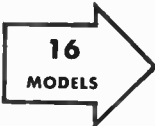
Model 262-3 Volt-Ohm-Milliammeter is very compact with 33 ranges on a large, easy to read 7" scale that makes accurate repetitive readings easy to attain. Self-shielded meter movement incorporates spring backed jewels which eliminates damage to the meter pivots that could result from shock and vibration — dependability and longer life are ensured.

Complete with test leads No. 0115 and operator's manual. Model 262-3 \$75.00

RANGES:	MODEL 262-3	MODEL 263	MODEL 267	MODEL 268	MODEL 269-2
	20,000 $\Omega/V$ DC 5,000 $\Omega/V$ AC	20,000 $\Omega/V$ DC • 10,000 $\Omega/V$ AC • 5,000 $\Omega/V$ AC	20,000 $\Omega/V$ DC 5,000 $\Omega/V$ AC	20,000 $\Omega/V$ DC 5,000 $\Omega/V$ AC	100,000 $\Omega/V$ DC 5,000 $\Omega/V$ AC
DC Volts	0-1.6/0-8/0-40/0-160/0-400/ 0-1600/0-4000	0-0.15/0-.75/0-3/0-7.5/0-30/0-75/0-300/ 0-750/0-3000 @ 20K $\Omega/V$ 0-0.3/0-1.5/0-6/0-15/0-60/0-150/0-600/ 0-1500/0-6000 @ 10K $\Omega/V$	0-25/0-2.5/0-10/0-50/ 0-250/0-500/0-1000	0-3/0-12/0-60/0-300/ 0-600/0-1200	0-1.6/0-8/0-40/0-160/0-400/ 0-800/0-1600/0-4000
AC Volts	0-3/0-8/0-40/0-160/0-400/0-800	0-2.5/0-7.5/0-30/0-150/0-750 @ 10K $\Omega/V$ 0-5/0-15/0-60/0-300/0-1500 @ 5K $\Omega/V$	0-2.5/0-10/0-50/0-250 0-500/0-1000	0-3/0-12/0-60/0-300/ 0-600/0-1200	0-3/0-8/0-40/0-160/0-400/0-800
DC Microamperes	0-80/0-160	0-75 @ 150 MV; 0-150 @ 300 MV	0-50	0-60	0-16/0-160
DC Milliamperes	0-16/0-16/0-160	0-0.75/0-7.5/0-75/0-750 @ 150 MV; 0-1.5/0-15/0-150 @ 300 MV	0-1/0-10/0-100/0-500	0-12/0-12/0-120	0-1.6/0-16/0-160
DC Amperes	0-1.6/0-8	0-7.5 @ 150 MV; 0-1.5/0-15 @ 300 MV	0-10	0-12	0-1.6/0-8
dB Scale (L1MW-600)	-12 to +45.5 db in four ranges	-20 to +75.5 db in 10 ranges	-20 to +10; -8 to +22 +6 to +36; +20 to +50	-12 to +11; -1 to +22 +13 to +36; +27 to +50	-12 to +45.5 db in four ranges
Output Ranges	0.1 mfd capacitor in series with all AC Voltage ranges through 160 Volts	0.1 mfd capacitor in series with all AC Voltage ranges through 300 Volts	0.1 mfd capacitor in series with all AC Voltage ranges through 300 Volts	0.1 mfd capacitor in series with all AC Voltage ranges through 300 Volts	0.1 mfd capacitor in series with all AC Voltage ranges through 160 Volts
Resistance Ranges	R $\times$ 1 0-500 $\Omega$ R $\times$ 10 0-5000 $\Omega$ R $\times$ 100 0-50K $\Omega$ R $\times$ 1K 0-500K $\Omega$ 0-5 meg $\Omega$ 0-50 meg $\Omega$ 4.5 $\Omega$ center	R $\times$ 1 0-500 $\Omega$ R $\times$ 10 0-50K $\Omega$ R $\times$ 100 0-50K $\Omega$ R $\times$ 1K 0-500K $\Omega$ 0-5 meg $\Omega$ 0-50 meg $\Omega$ (4.5 $\Omega$ center)	R $\times$ 1 0-2000 $\Omega$ R $\times$ 100 0-200K $\Omega$ (12 $\Omega$ center) R $\times$ 10K 0-20 meg $\Omega$	R $\times$ 1 0-200 $\Omega$ R $\times$ 10 0-20K $\Omega$ R $\times$ 100 0-200K $\Omega$ (12 $\Omega$ center)	R $\times$ 1 0-200 $\Omega$ R $\times$ 10 0-20K $\Omega$ R $\times$ 100 0-200K $\Omega$ (12 $\Omega$ center)
ACCURACIES:					
DC Volts	$\pm 3\%$	0-0.15 to 1500 $\pm 1\frac{1}{2}\%$ ; 0-3000 to 6000 $\pm 2\frac{1}{2}\%$	$\pm 3\%$	$\pm 3\%$	0-1.6 to 1600 $\pm 2\%$ ; 0-4000 $\pm 3\%$
AC Volts	$\pm 4\%$	$\pm 3\%$	$\pm 5\%$	$\pm 5\%$	0.3 to 800 $\pm 3\%$
DC Current	$\pm 3\%$	$\pm 1\frac{1}{2}\%$	$\pm 3\%$ ; DC MIC $\pm 2\%$	$\pm 3\%$ ; DC MIC $\pm 2\%$	All Ranges $\pm 2\%$
R $\times$ 1	$\pm 3^\circ$ of Arc	$\pm 3^\circ$ of Arc	$\pm 3^\circ$ of Arc	$\pm 3^\circ$ of Arc	$\pm 3^\circ$ of Arc
R $\times$ 10, R $\times$ 100K	$\pm 2\frac{1}{2}^\circ$ of Arc	$\pm 2\frac{1}{2}^\circ$ of Arc	$\pm 2\frac{1}{2}^\circ$ of Arc	$\pm 2\frac{1}{2}^\circ$ of Arc	$\pm 2\frac{1}{2}^\circ$ of Arc
Scale Length		6.2			6.2 inches
Dimensions		6" x 7 $\frac{1}{4}$ " x 3"			6" x 7 $\frac{1}{4}$ " x 3"
Net Weight		4 lbs.			4 lbs.



## microtesters



### "MIDGETESTER" VOLT-OHMMETER

Model 355. VOM, ideal for radio appliance and TV servicemen. Sensitivity 10,000 ohms per volt on both AC/DC. Accuracy 3% on DC, 5% on AC of full scale voltages. Ranges: AC/DC volts 0-3, 12, 60, 300, 1200; Ohms 0-1K, 10K, 1 meg, 10 meg. Compactness and sensitivity made possible by 100 micro-amp self-shielded core meter movement. Sturdy, polished styrene case. Size 2 $\frac{3}{4}$  x 4 $\frac{1}{2}$  x 1". Complete with set of probe leads and instruction manual.



355 ..... \$47.00

### VOMs WATTMETERS BATTERY TESTER OHMMETERS and others

- 24 DZ.
- 3 x 5 $\frac{1}{2}$  x 2 $\frac{1}{2}$ "

MODEL - PRICE	RANGES
230 VOM \$40.00	DC VOLTS: 0-10, 50, 250, 1000 AC VOLTS: 0-10, 250, 1000 DC MA: 0-10, 50, 250 OHMS: R $\times$ 1, R $\times$ 100
240 VOM \$40.00	DC VOLTS: 0-15, 75, 300, 750, 3000 AC VOLTS: 0-15, 150, 750, 3000 DC MA: 0-15, 150, 750 OHMS: R $\times$ 1 (30 $\Omega$ center), R $\times$ 100
362 LOW-OHMS \$35.00	OHMS: 0-5, 25
371 AC VOLTS \$35.00	AC VOLTS: 0-150, 300, 6000
372 OHMS \$35.00	OHMS: 0-500 (5 $\Omega$ center), 5K, 50K, 500K, 5 Meg, 50 Meg
370 AC AMPS \$35.00	AC AMPERES: 0-1, 2.5, 5, 10, 25
378 AC MILLIAMPS \$35.00	AC MILLIAMPERES: 0-5, 25, 100, 250, 1000
375 DC AMPS \$35.00	DC AMPERES: 0-1, 2.5, 5, 10, 25
373 DC MILLIAMPS \$35.00	DC MILLIAMPERES: 0-1, 5, 10, 25, 50, 100, 250, 1000
379 BATTERY TEST \$35.00	BATTERY VOLTAGES: 1.5, 1.5 (hearing aid type), 4.5, 6.0, 7.5, 9.0, 15.0, 22.5, 30.0, 45.0, 67.5, 90.0
374 DC MICROAMPS \$35.00	DC MICROAMPERES: 0-50, 100, 250, 500, 1000
376 AC VOLTS \$35.00	AC VOLTS: 0-5, 10, 25, 50, 100, 250, 500, 1000
377 DC VOLTS \$35.00	DC VOLTS: 0-1, 2.5, 5, 10, 25, 50, 100, 250, 500, 1000
390 AC VOLT-WATTMETERS — \$60.00	AC VOLTS: 0-150, 300 DC VOLTS: 0-150, 300 AC AMPERES: 0-3, 15 AC WATTS: 0-300, 600, 1500, 3000
391 AC/DC VOLT-WATTS — \$60.00 (2 Meters)	AC VOLTS: 0-130, 260 DC VOLTS: 0-130, 260 AC WATTS: 0-1500, 3000 DC WATTS: 0-1500, 3000
392 AC/DC VOLT-WATTS — \$60.00 (2 Meters)	AC VOLTS: 0-130, 260 DC VOLTS: 0-130, 260 AC WATTS: 0-1000, 5000 DC WATTS: 0-1000, 5000

Simpson

# chart recorders—temperature testers

## 22 Ranges Built-In!

### MODEL 604 MULTICORDER®

#### FEATURES:

- 22 Built-in Ranges — AC & DC.
- 3 Built-in Speeds — 1/3/12 in./hr. Plus external drive accommodate.
- A permanent record of both range and measured value.
- Inkless recording via fast sequential impressions on pressure sensitive strip chart paper (no pen and ink maintenance problems).
- A high torque meter movement, with a shock-proof taut band suspension moving coil system.

SIMPSON MULTICORDER Model 604 contains a unique range marking system that indicates the range being used as the value is being recorded. Compact, rugged design, easy-to-operate and accurate, the Multicorder is an indicating instrument with a wide band of ranges and functions for measurements that eliminates the need for a separate recorder for each of the functions and ranges. You get visual readout in addition to the recording action that offers three chart speeds: 1"/3"/12" per hour. This Simpson Multicorder is the only multifunction recorder available for less than \$200.00.

#### BUILT-IN RANGES:

D.C. Volts: 0-1/.5/2.5/10/25/100/250/500 @ 20,000 ohms per volt.

A.C. Volts: 0-10/25/100/250/500 @ 5,000 ohms per volt.

Direct Current: 0-50/250 Mics, 1/5/25 Milliamps, .1/25/1.0 Amps. 350 MV Drop maximum.

Alternating Current: 0-2 Milliamps. 450 MV drop.

Complete with test leads (#7500) and two rolls of Chart Paper Model 604 Multicorder.....	<b>\$200.00</b>
Additional Chart Paper #02612.....	<b>\$ 2.50 ea.</b>
(Box of 10)	<b>\$ 19.50</b>
Special Gear Unit 30/60/90 in./hr. Cat. #0682...	<b>\$ 30.00</b>
Ever-Redy Vinyl Carrying Case Cat. #02611.....	<b>\$ 25.00</b>

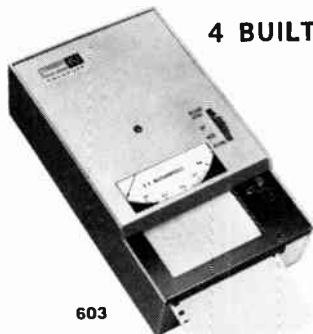
#### Not Available Outside of the United States of America

Complete specifications are in the chart at the bottom of this page.



## Single Range Strip Chart Recorders

### 4 BUILT-IN SPEEDS • BUILT-IN EVENT INDICATOR



603

Simpson 603 recorder gives you the features and accuracy usually found only in high-priced recorders. Special pressure sensitive chart paper does away with messy ink pens, gives you a permanent record. Standard chart speeds are 3, 12, 24, and 36 inches per hour and are speeded up or slowed down by simply pushing a button, even while the recorder is running. Low speed 1/4, 1, 2, 3 inches per hour are available on special order. Taut band movement provides DC recording accuracy of  $\pm 2.5\%$  and AC recording accuracy of  $\pm 4\%$ . Unbreakable polycarbonate case and cover measure 7 1/2" by 4 3/8" x 2 1/2". Weight is 2 1/2 lbs. The leads cannot be plugged into wrong socket. Yes, the Simpson 603 Strip Chart Recorder is your best recorder buy. They're in stock now! Order directly from your electronics distributor.

CATALOG NO.	L. Speed	H. Speed	RANGE	CATALOG PRICE
20101	20001		0-50 DC $\mu$ A	\$107.00
20102	20002		0-100 DC $\mu$ A	102.00
20103	20003		0-250 DC $\mu$ A	98.00
20105	20005		0-1 DC mA	90.00
20107	20007		0-5 DC mA	97.00
20111	20011		0-50 DC mA	97.00
20115	20015		0-500 DC mA	97.00
20118	20018		0-5 DC Amps	98.00
20119	20019		0-50 DC mV	93.00
20125	20025		0-15 DC Volts	97.00
20127	20027		0-50 DC Volts	97.00
20130	20030		0-150 DC Volts	96.00
20150	20050		0-5 AC Amps	120.00
20170	20070		0-5 AC Volts	102.00
20180	20080		0-150 AC Volts	102.00
20185	20085		0-300 AC Volts	104.00
20186	20086		100-130 AC Volts	105.00

Specifications	603 Single Range	604 Multicorder
<b>ACCURACY OF INDICATION</b>	DC models: $\pm 1.5\%$ F.S. AC models: $\pm 3.0\%$ F.S. (sine wave)	DC, $\pm 1.5\%$ F.S. AC, $\pm 1.5\%$ F.S. (sine wave)
<b>ACCURACY OF RECORDING</b>	DC models: $\pm 2.5\%$ F.S. AC models: $\pm 4\%$ F.S. (sine wave)	DC, $\pm 2.5\%$ F.S. AC, $\pm 2.5\%$ F.S. (sine wave)
<b>TEMPERATURE INFLUENCE</b>	DC models: For 10°C (18°F) change, $\pm 1.0\%$ F.S. maximum AC models: For 10°C (18°F) change, $\pm 3.0\%$ F.S. maximum From 15 to 35°C	DC, for 10°C (18°F) change, $\pm 1.0\%$ F.S. maximum AC, for 10°C (18°F) change, $\pm 1.0\%$ F.S. maximum Influence positive from 0-20°C, negative from 20-50°C
<b>FREQUENCY INFLUENCE</b>	50-20,000 Hz: $\pm 2.0\%$	15-10,000 Hz: Flat 10,000-20,000 Hz: $\pm 2.5\%$
<b>MOTOR</b>	120 volts, 60 Hz. Self-starting, synchronous	120 volts, 60 Hz. Self-starting, synchronous
<b>CHART SPEED</b>	4 built-in speeds, 3, 12, 24, 36 inches per hour. (1/4, 1, 2, 3 in./hr. optional)	3 built-in speeds, 1, 3, 12 inches per hour (30, 60, 90 in./hr. optional) Can use external drive
<b>CHART PAPER</b>	Pressure sensitive, 2.5 inch wide recording, approx. 63 ft. long	Pressure sensitive, 2.3 inch wide recording. Approx. 50 ft. long
<b>RANGES</b>	Single range, 34 models available. 110 VAC cycle indicator built-in	22 built-in ranges
<b>SIZE</b>	7 1/2 x 4 3/8 x 2 1/2"	9 3/4 x 4 3/4 x 4"
<b>WEIGHT</b>	2 1/2 lbs.	5 1/2 lbs.

## TEMPERATURE TESTERS



Model 385-3L



Model 388-3L and 389-3L

**MODEL 385-3L — Accuracy:**  $\pm 1^\circ\text{F}$  about center scale;  $\pm 2^\circ\text{F}$  at either end. For measuring temperatures from  $+70^\circ\text{F}$  to as low as  $-50^\circ\text{F}$ . Available in 3 lead model only. Supplied with one No. 0010 15 ft. thermistor probe and operator's manual. **\$38.00\***

**MODEL 388-3L — Therm-O-Meter — Measures Temperatures  $-50^\circ\text{F}$  have combination Fahrenheit and Centigrade scale. Sensing Element: Thermocouple (Iron-Constantan). Supplied with internal battery and one 8" general purpose probe No. 0190, and operator's manual. Order additional probes as required. Model 388-3L: For three probes. **\$70.00\*****

**MODEL 389-3L — This dual range instrument provides a means for temperature measurements between  $-50^\circ\text{F}$  and  $+100^\circ\text{F}$  and between  $+100^\circ\text{F}$  and  $+250^\circ\text{F}$ . Accuracy is  $\pm 2^\circ\text{F}$ . Supplied with internal battery and one 15' thermistor type probe (No. 0010). Order additional probes as required. Model 389-3L (for 3 leads). **\$65.00\*****

\*See accessories for other types of probe leads.

Simpson

## vacuum tube volt-ohmmeters

## MODEL 312 VTVM

OFFERS 40% LESS CIRCUIT LOADING  
THAN MOST CONVENTIONAL VTVMs.Large easy-to-read  
7" Meter ScaleINPUT RESISTANCE IS  
16 MEGOHMS - NOT THE USUAL 11

This Simpson VTVM, Model 312, offers a tracking error of less than 1% and provides accuracies of  $\pm 3\%$  on all AC and DC ranges. The instrument has a specially designed circuit that protects the meter against burnout. Its  $\frac{1}{2}$  volt DC range meets today's solid state testing requirements.

Rugged, phenolic case and large easy-to-read seven inch scale.

Model 312 with AC ohms DC probe No. 0150 and operator's manual

\$90.00

R. F. Probe, Cat. No. 0152

\$10.00

High Voltage Probe (30,000 V. Max.), Cat. No. 0155

\$15.00

Carrying Case, Vinyl with Lead Storage Space, Cat. No. 0577

\$15.00

Sponge Lined Leather Case, Cat. No. 01565

\$15.00

## LINE VOLTAGE

105/125V, 50/60 Hz

Size:  $7\frac{1}{4}'' \times 6\frac{3}{4}'' \times 3\frac{3}{4}''$ . Wt.  $4\frac{3}{4}$  lbs.

## VOLTAGE RANGES

DC: 0-0.5, 1.5, 5, 15, 50, 150, 500, 1500

(16 Megohms input impedance)

AC: (R.M.S.): 0-1.5, 5, 15, 50, 150, 500, 1500

(1 Megohm minimum input impedance)

AC: (Peak to Peak): 0-4, 14, 40, 140, 400, 1400, 4000

## RESISTANCE RANGES

RX1 (10  $\Omega$  center), RX10, RX100, RX1K, RX10K, RX100K, RX1M

## FREQUENCY RESPONSE

 $\pm 3\%$  from 15 Hz to 3 Megahertz on all AC voltage ranges through 150 volts.With R. F. Probe: 10KHz to 250 MHz  $\pm 1$  db. R.F. probe usable up to 40 volts rms.

## ACCURACIES

DC:  $\pm 3\%$  of full scaleAC:  $\pm 3\%$  of full scaleResistance:  $\pm 3^\circ$  of arc

## MODEL 311-2

## AC/DC VTVM

Model 311 is the most advanced vacuum tube volt-ohmmeter in its field which features: High DC input impedance (22.0 megohm). This reduces circuit loading and permits measurements in high impedance circuits. Direct readout of RMS and peak to peak values. Excellent accuracy for low DC voltage measurements in transistorized circuitry.

## LINE VOLTAGE

105/125 v, 50/60 Hz

Size:  $7\frac{1}{2}'' \times 5\frac{1}{2}'' \times 4\frac{1}{2}''$  Net Wt.: 5 lbs.

Model 311-2 with DC/AC ohms probe No. 7594, ground

lead No. 0733 and operator's manual \$85.00

Dual Voltage Model, 220/110 v, 50/60 Hz \$90.00

High Frequency Probe Cat. No. 0174 \$15.00

High Voltage Probe (30,000 V. Max.) Cat. No. 0732 \$15.00

## RANGES

DC: 0-1.5v; 5v; 15v; 50v; 150v; 500v; 1500v.  
(22 meg  $\Omega$  input impedance)

AC: 0-1.5v; 5v; 15v; 50v; 150v; 500v; 1500v.

(RMS) (Min. 2.2 meg  $\Omega$  input impedance)

PP: 0-4v; 14v; 40v; 140v; 400v; 1400v; 4000v.

(Min. 2.2 meg  $\Omega$  input impedance)

AF: 0-1.5v; 5v; 15v; 50v; 150v; 500v; 1500v.

(30 Hz to 110KHz  $\pm 5\%$ )

RF: 1.5v; 5v; 15v; 50v; 150v.

with probe (50 Hz to 100 mc, 0-150 VRMS)

## RESISTANCE RANGES

1K  $\Omega$  (10  $\Omega$  center); 10K  $\Omega$  (100  $\Omega$  center);100K  $\Omega$  (1K  $\Omega$  center); 1 meg  $\Omega$  (10K  $\Omega$  center);10 meg  $\Omega$  (100K  $\Omega$  center); 100 meg  $\Omega$  (1 meg  $\Omega$  center);1000 meg  $\Omega$  (10 meg  $\Omega$  center).

## FREQUENCY RESPONSE

 $\pm 5\%$  to 100 KHz (with RF probe, usable

to 250 MHz)

## ACCURACY

## DC VOLTS:

 $\pm 3\%$  of full scale.

## AC VOLTS:

 $\pm 5\%$  of full scale.

## DC RESISTANCE:

 $\pm 3^\circ$  of linear arc.

## MODEL 303

## AC/DC VTVM

Model 303 is a worthy companion to the World Famous 260 volt-ohm-milliammeter. Model 303, a ruggedly built instrument with high accuracy, features low current consumption, wide voltage and resistance ranges, and a large, easy-to-read  $4\frac{1}{2}$  inch scale.

## LINE VOLTAGE

105/125 v, 50/60 Hz

Size:  $7'' \times 5\frac{1}{4}'' \times 3\frac{3}{4}''$  Net Wt.: 4 lbs.

Model 303 with DCV probe No. 0067, ACV-ohm probe

No. 0068, ground lead No. 0069 and operator's manual \$85.00

Model 303RT (in roll top safety case) \$91.00

Part No. 0073 R.F. Probe \$10.00

High Voltage Probe, 30,000 VDC at No. 0074 \$15.00

Dual Voltage Model 303, 220/110 volts, 50/60 Hz \$90.00

Dual Voltage Model 303RT, 220/110 volts, 50/60 Hz \$95.00

AC-DC: 1.2v; 12v; 60v; 300v; 1200v.

AF: 1.2v; 12v; 60v.

RF: 20 volts maximum. (With RF Probe)

DB: -20 to +63 db in five ranges.

## RESISTANCE RANGES

1K  $\Omega$  (10  $\Omega$  center); 100K  $\Omega$  (1000  $\Omega$  center);1 meg  $\Omega$  (10K  $\Omega$  center); 10 meg  $\Omega$  (100K  $\Omega$  center);1000 meg  $\Omega$  (10 meg  $\Omega$  center).

## INPUT IMPEDANCE

10 megohms (all ranges) on DCV;

275K ohms shunted by 210 uuf on ACV.

## FREQUENCY RESPONSE

AF: Flat to 100 KHz on the three low AC ranges

RF: 20 KHz to 100 MHz (with RF probe)

## DC VOLTS:

 $\pm 3\%$  of full scale.

## AC VOLTS:

 $\pm 5\%$  of full scale.

## DC RESISTANCE:

 $\pm 3^\circ$  of linear arc.

## MODEL 715

## AC VTVM

High input impedance, multi-voltage ranges and wide frequency response offers a greater versatility for general purpose applications. Ideal for hi-fi and general low level audio work such as hum and ripple measurements, IF gain and vibration analyzing. Model 715 features a specially designed meter scale that provides DB markings on both the voltage range positions and the meter scale.

## INPUT POWER REQUIREMENTS:

110 to 125 VRMS, 50/60 Hz @ 10 watts

SIZE:  $7\frac{1}{2}''$  W,  $5\frac{1}{2}''$  H,  $3''$  D

NET WEIGHT: 3 lbs. 12 oz.

Complete with operator's manual and

shielded input cable. \$75.00

Volts: 0-.01/.03/.1/.3/1/3/10/30/100/300 rms

Decibels: Total Range -52 to +52 DB

Zero DB: 1 milliwatt in 600 ohms

Scale Markings: -12 to +2 DB

TESTER SENSITIVITY: 10 millivolts

full scale on lowest range

INPUT IMPEDANCE: Minimum 1 meg  $\Omega$ 

1 KHz shunted by 25 uuf

INTERNAL MULTIPLIERS:

 $\pm 1\%$  precision resistors

FREQUENCY RESPONSE:

10 Hz to 400 KHz  $\pm 1$  DB $\pm 5\%$   
of full scale.

Simpson

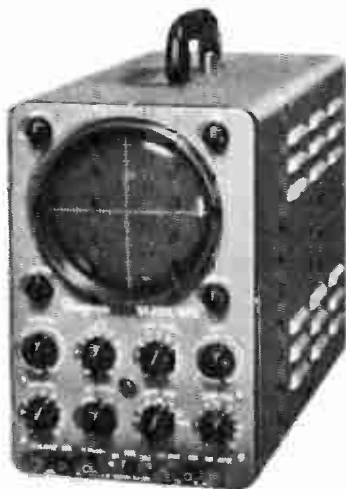
## oscilloscopes — capacitor checker

## MODEL 466

## HANDISCOPE® WITH 5" SCREEN

AC operated portable oscilloscope • Ruggedly constructed

Ideal for general purpose applications in radio and TV servicing and for industrial use. The Handiscope contains horizontal push-pull amplification for the X axis, vertical push-pull amplification for the Y axis, and an intensity modulation input for the Z axis. Horizontal deflection may be obtained from either the internal sweep circuits or from an external signal voltage.

Size: 7 $\frac{7}{8}$ " x 12 $\frac{1}{4}$ " x 16 $\frac{1}{8}$ "

Net Weight: 19 lbs.

For use on 110 volts, 50/60 cps.

Complete with input cable  
No. 0100 and  
operator's manual.....\$180.00

Dual Voltage model  
for 220/110 volts,  
50/60 cycle.....\$200.00

Frequency Response of Vertical Amplifier: From 15 cycles/sec to 100 Kc/sec, flat within  $\pm 1$  db; 6 db down at 250 Kc/sec; usable to 1 Mc/sec.

Maximum Vertical Deflection Sensitivity: 30 Millivolts RMS/inch.

Frequency Response of Horizontal Amplifier: From 15 cycles/sec to 20 Kc, flat within  $\pm 1$  db; 6 db down at 100 Kc/sec.

Maximum Horizontal Deflection Sensitivity: 0.7 volt RMS/inch.

Z-Axis Sensitivity (Voltage Required to Extinguish Beam): 20 volts RMS.

Calibrating Voltage (at 117.5 VAC power source: 1 volt P-P  $\pm 10\%$ .)

Maximum Input Voltage: 400 volts peak.

Input Resistance: 0.1 Meg (at atten. x 1); 0.5 Meg (at atten. x 100).

Input Capacitance: 40 uuf (at atten. x 1); 35 uuf (at atten. x 100).

Sawtooth Sweep Range: 15 cycles/sec to 80 Kc/sec.

Power Consumption (at 117.5 volts AC): 50 watts  $\pm 10\%$ .

## MODEL 458

## 7" COLORSCOPE

Line Voltage: 105/125v,  
50/60 cycle.

Size: 11" x 16 $\frac{1}{2}$ " x 14 $\frac{1}{2}$ "

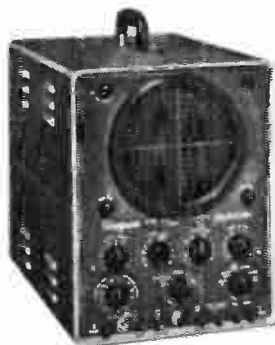
Weight: 29 lbs., Shpg. Wt. 38 lbs.

Complete with  
operator's manual.....\$390.00

Accessory probes: See Model 739  
in accessory section.

Dual Voltage: 220/110 volts,  
50/60 cps.

Complete with  
operator's manual.....\$400.00



## features:

- 7" Cathode Ray Tube.
- Wide band operation, the frequency response is flat within  $\pm 1.0$  db to 4.5 Mc. Faithfully displays COLOR BURST frequency with a sensitivity greater than 40 Mv rms per inch of vertical deflection.
- Narrow band operation, the frequency response is flat within  $\pm 2$  db from 10 cycles to 300 Kc with a sensitivity greater than 15 Mv rms per inch.
- Good square wave response provides accurate representation of sync pulses and composite wave-form pattern for trouble-shooting video, sync, and sweep circuits.
- Horizontal sweep, to 250 Kc, for expansion of high frequency wave-form detail and color burst.
- Vernier and Compensated Decimal Step Attenuator for better signal controls.
- Provision for intensity Modulation of CRT.
- 1 volt peak to peak calibrating voltage.

## MODEL 383A

## CAPACOHMETER®



Line Voltage: 105/125v, 60 cycles only.

Shipping Weight: 12 lbs.

Complete with test leads and  
operator's manual.....\$130.00

Test Lead Assembly.....Cat. No. 7509.....\$3.00

World's First IN-CIRCUIT Capacitor Leakage Tester

"ONE PACKAGE FLEXIBILITY"

- Measures the leakage resistance of defective paper, mica, or ceramic capacitors
- Indicates directly the capacitance of good paper, mica or ceramic capacitors over a range of 10.0 mmf to 10.0 mf

A pulse technique detects many marginal capacitors. All measurements are made under load conditions. No adjusting of a bridge circuit and balancing controls. Borderline capacitors which cause costly "call backs" are detected immediately with the pulse test.

Simpson

accessories — 260<sup>®</sup> adapters



LEADS

For Models	Cat. No.	Price
260 Series 3, 4, 5, 261, 270 Banana plugs and alligator clip	7500	\$2.10
260 Series 3, 267, 268 Banana plugs and test prods.	7538	2.50
355 Test prods.	8600	2.10
255 only, thermocouple lead (5 ft.)	0163	4.00
385-3L, 389-3L Free Air Temperature Probe	0789	7.45
385-3L, 389-3L, 15 ft. Thermistor lead	0010	5.50
385-3L, 389-3L, 30 ft. Thermistor lead	0216	6.45
385-3L, 389-3L, 50 ft. Thermistor lead	0415	7.60
385-3L, 389-3L, 100 ft. Thermistor lead	0416	10.40
385-3L, 389-3L, 150 ft. Thermistor Lead	0417	12.90
388-3L Rugged Service Lead (8 ft.)	0496	7.00
388-3L General purpose thermocouple	0190	5.00
388-3L Surface temperature thermocouple (300°F. Max.)	0187	8.90
385-3L, 389-3L Surface temperature probe	0790	6.00
650 Test Lead	7545	1.20
651 Ground Lead	7547	1.20
466, 715 Input cable	0100	2.85
Test prods and elbow terminals 230/240/260-2/372	8381	2.50
Test prods and spade terminals — all microtesters	8379	2.50
Alligator clips and elbow terminals — 230/240/260-2/372	8375	1.75
Alligator clips and spade terminals — all microtesters	8376	1.75
Combination test prods with removable alligator clips and elbow terminals 262/269	8463	2.30
263, 269-2 Combination test prods with removable alligator clips and elbow terminals	0115	2.30
"SAFE/GUARD" VOM METER OVERLOAD PROTECTOR	12621	1.95

PROBES (High Voltage Types) & MULTIPLIERS

For Models	Cat. No.	Price
221 (30,000v)	0009	\$12.55
260 Series 2 (25,000v)	0007	10.75
260 Series 2 (50,000v)	0179	12.50
260 Series 3, 4, 4M, 5, 5M, 250, 255, 261, 270 (10,000 V DC)	0507	10.20

For Models	Cat. No.	Price
260 Series 3, 4, 4M, 5, 5M, 250, 255, 261, 267, 270 (25,000 V DC)	0508	\$11.50
260 Series 3, 4, 4M, 5, 5M, 250, 255, 261, 267, 270 (50,000 V DC)	0509	12.50
260 Series 3, 4, 4M, 5, 5M, 250, 255, 261, 267, 270 (10,000 V AC)	0161	11.75
262, Series 1 and 2 (16,000v)	0172	12.00
262, Series 1 and 2 (40,000v)	0180	12.50
263, 30 KV at 10K Ω/V and 15 KV at 20 Ω/V	0141	12.00
267 2500 V DC Multiplier	8568	3.60
267 5000 V DC Multiplier	8569	3.60
267 2500 V AC Multiplier	8570	3.60
267 5000 V AC Multiplier	8571	3.60
267 10,000 V DC	0507	10.20
267 25,000 V DC	0508	11.50
267 50,000 V DC	0509	12.50
268 3000 V DC Multiplier	8572	3.60
268 6000 V DC Multiplier	8573	3.60
268 3000 V AC Multiplier	8574	3.60
268 6000 V AC Multiplier	0004	3.60
268 12,000 V DC	0510	13.00
268 30,000 V DC	0511	13.00
269, Series 1 (16,000v)	0173	12.00
269, Series 1 (40,000v)	0181	13.50
269, Series 2 (16,000v)	0119	12.00
269, Series 2 (40,000v)	0120	12.50
270 (10,000v)	0507	10.20
270 (25,000v)	0508	11.50
270 (50,000v)	0509	12.50
303 (30,000v)	0074	12.00

PROBES — Miscellaneous Types

For Models	Cat. No.	Price	For Models	Cat. No.	Price
303 High frequency	0073	\$8.75	312 High Frequency	0152	\$8.75
303 AC Probe	0068	3.55	312 High Voltage	0155	11.75
303 DC Probe	0067	3.55	2610 Low Capacity	0299	17.55
303 Ground lead	0069	1.00	Voltage Doubler	0740	14.65
311 High Frequency	0731	11.50	Low Capacitance	0741	14.00
311 High voltage	0732	11.75	100:1 Voltage Divider	0742	15.20
311 DC-AC/OHMS	7594	8.50	Direct Resistive Dual Purpose	0743	11.55
311 Ground lead	0733	1.50			
312 DC/AC ohms	0150	8.50			

OSCILLOSCOPE PROBE KIT — Model 739

For use with Model 458 Oscilloscope. Includes \*low capacity probe, voltage doubler, detector, 100:1 voltage divider and dual direct — resistive. (isolation)  
Complete with 4 probes, plastic roll, and operator's manual.....\$45.15  
\*For Model 458 only.

CARRYING CASES FOR SIMPSON TEST EQUIPMENT



For	Cat. No.	Price
250, 255, 260s, 261, 270, 303 — Utility Vinyl	0549	\$16.00
0549 Snap-on High Voltage Probe Case	0574	4.00
260, 261, 270 — Leather	1818	9.00
250, 255, 260s, 261, 270, 303 — Ever-Redy Leather	0805	10.00
262, 267, 268, 269, 388-3L, 289-3L — Ever-Redy Vinyl	5262	10.00
312 Vinyl	0577	13.00
385-3L — Ever-Redy Leather	8073	8.75
391, 392 — Leatherette-Covered	3413	8.00
355 — Ever-Redy Leather	6355	4.00
All Microtesters — Ever-Redy Leather	4299	9.00
All Microtesters — Leatherette-Covered	3011	6.00
Roll Top Safety Case For 260-2, 9, 10, 880's	6192	10.00
Roll Top Safety Case for 260-3, 261, 270	0249	10.00
Roll Top Safety Case For 303	6379	10.00

260 ADD-A-TESTER ADAPTERS



Just plug it in

MODEL	RANGE	ACCURACY
TRANSISTOR TESTER MODEL 650 — \$38.00	BETA: 0-5, 50, 250 $I_{co}$ : 0-100 $\mu$ a	BETA: $\pm 5\%$ * $I_{co}$ : $\pm 3\%$ *
DC VTVM MODEL 651 — \$45.00	VOLTS: 0-0.5, 1.0, 2.5, 5, 10, 25, 50, 100, 250, 500 INPUT IMPEDANCE: Greater than 10meg $\Omega$ on all ranges.	$\pm 3\%$ F.S.*
TEMPERATURE TESTER MODEL 652 — \$43.00	-50°F to 100°F, 100°F to 250°F Sensing Element: Thermistor.	-50°F to -30°F: $\pm 4^\circ$ F (nominal) -30°F to +30°F: $\pm 2^\circ$ F (nominal) +30°F to +100°F: $\pm 4^\circ$ F (nominal) +100°F to +220°F: $\pm 2^\circ$ F (nominal) +220°F to +250°F: $\pm 4^\circ$ F (nominal)
AC AMMETER MODEL 653 — \$26.00	0-0.25, 1.0, 2.5, 12.5, 25 Amps. Frequency range: 50-3000 cycles	$\pm 3\%$ F.S.
AUDIO WATTMETER MODEL 654 — \$28.00	LOAD RANGES: 4, 8, 16, 600 ohms. WATTAGE: 25 watts (8, 600 $\Omega$ ), 50 watts (4, 16 $\Omega$ ) continuous. Intermittent duty: 50 and 100 w.	$\pm 10\%$ ( $\pm 7\%$ with 261 and 270)
MICROVOLT ATTEN. MODEL 655 — \$26.00	2.5 to 250,000 microvolts in decade steps. Frequency: DC to 20kc.	$\pm 1$ DB
BATTERY TESTER MODEL 656 — \$26.00	Up to 90 volts	$\pm 3\%$ F.S.*
MILLIOHMMEETER MODEL 657 — \$48.00	0-0.1 (150 Ma. max. output), 0.25 (103 Ma.), 0.5 (90 Ma.), 1.0 (80 Ma.)	$\pm 2\%$ F.S. ( $\pm 1\frac{1}{2}\%$ with 261 and 270)
DC AMMETER MODEL 661 — \$28.00	DC AMPERES: 0-1.0, 2.5, 5, 10, 25	$\pm 2\%$ F.S. ( $\pm 1\frac{1}{2}\%$ with 261 and 270)

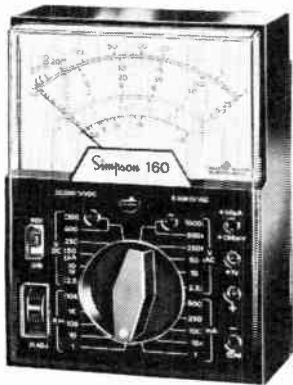
\* 1% better accuracy when used with 261 or 270.



# Simpson miniature V. O. M. — designer series meters

**new!** 160 handi-VOM®

NOW... A FULL-SIZED VOM IN A PALM SIZED "PACKAGE"



160 Volt-Ohm-Milliammeter  
Complete with alligator clip leads and operator's manual  
..... \$50.00



Carrying Case—  
Cat No. 2225..... \$ 9.50

Accessory Leads—Probe Tip Lead—  
Cat. No. 2055..... \$ 2.75

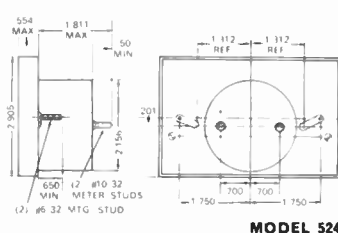
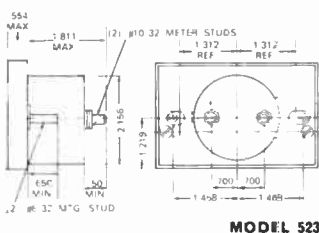
Simpson Handi-VOM gives you the ranges, the time-saving conveniences and the sensitivity of a full-sized volt-ohm-milliammeter — yet it's only 3-5/16" wide, weighs a mere 12 ounces. Recessed range-selector switch never gets in the way... polarity-reversing switch saves fuss and fumble. Self-shielded taut band movement assures high repeatability and freedom from external magnetic fields. Diode overload protection prevents burnout—permits safe operation by inexperienced employees and students. The demand is BIG, so get your order in to your electronic distributor, TODAY!

**RANGES**

<b>ACCURACY:</b>	±3% FS DC, ±4% FS AC
<b>DC VOLTS:</b>	0-0.25, 1.0, 2.5, 10, 50, 250, 500, 1000 @ 20,000Ω/v
<b>AC VOLTS</b>	0-2.5, 10, 50, 250, 500, 1000 @ 5000Ω/v
<b>DC MICROAMPERES:</b>	0-50
<b>DC MILLIAMPERES:</b>	0-1, 10, 100, 500
<b>DB:</b>	-20 to +10, -8 to +22, +6 to +36, +20 to +50
<b>"O" REFERENCE:</b>	1 MW into 600Ω
<b>RESISTANCE:</b>	Rx1 (30 Ω center), Rx10, Rx100, Rx1000, Rx10K

**new!** designer series  
3 1/2" and 4 1/2" panel meters

Clean — Uncluttered  
Maximum Readability  
in Small Panel Height.

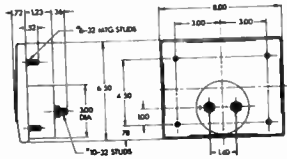
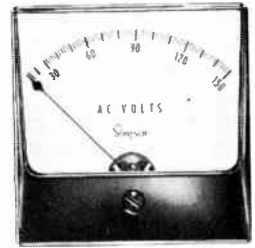


RANGE	3 1/2 inch	4 1/2 inch
<b>DC MICROAMPERES</b>	<b>MODEL 523</b>	<b>MODEL 524</b>
0-25	\$27.75	\$30.15
0-50	22.80	24.30
0-100	21.60	23.10
0-200	18.90	20.40
50-0-50	21.60	22.95
100-0-100	19.05	20.55
<b>DC MILLIAMPERES</b>	<b>MODEL 523</b>	<b>MODEL 524</b>
0-1	\$17.70	\$19.05
0-100	18.00	19.50
<b>DC AMPERES</b>	<b>MODEL 523</b>	<b>MODEL 524</b>
0-10	\$18.15	\$19.65
<b>DC VOLTS</b>	<b>MODEL 523</b>	<b>MODEL 524</b>
0-15	\$18.30	\$19.80
0-30	18.30	19.80
0-50	18.30	19.80
0-150	18.30	19.80
<b>AC AMPERES</b>	<b>MODEL 553</b>	<b>MODEL 554</b>
0-5	\$17.55	\$19.05
0-10	17.55	19.05
0-50	17.55	19.05
<b>AC VOLTS</b>	<b>MODEL 553</b>	<b>MODEL 554</b>
0-150	\$18.90	\$20.25
0-300	18.90	20.25
<b>VU</b>	<b>MODEL 543</b>	<b>MODEL 544</b>
"A" SCALE	\$28.95	\$31.20

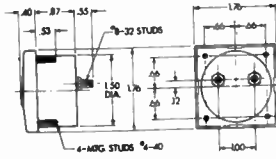
# Simpson

## wide-vue panel meters

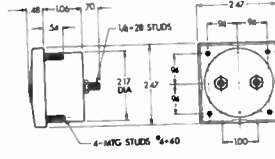
**CALIBRATION AND DIALS** — All DC Wide-Vue meters listed below have the Simpson self-shielded movement (calibration not affected by stray magnetic fields or magnetic mounting). All AC Wide-Vue meters have the Simpson Iron-vane type movement. AC Milliammeters and Ammeters are calibrated for use on 25 through 800 cps. All AC Voltmeters are calibrated for use on 25 through 125 cps. Calibration at frequencies up to 800 cps can be made. Contact your local Distributor for prices.



8" Model 728,T



1 1/2" Models 1212,T, 1214



2 1/2" Models 1227,T, 1247, 1257

1 1/2", 2 1/2", 3 1/2", 4 1/2" & 8" Models

### SELF SHIELDING METER MOVEMENT

Range	APPROX. RESISTANCE (ohms)	1 1/2" Case Style	2 1/2" Case Style	3 1/2" Case Style	4 1/2" Case Style
		MODEL 1212	MODEL 1227	MODEL 1327	MODEL 1329

Range	APPROX. RESISTANCE (ohms)	1 1/2" Case Style	2 1/2" Case Style	3 1/2" Case Style	4 1/2" Case Style	8" Case Style
		MODEL 1212	MODEL 1227	MODEL 1327	MODEL 1329	MODEL 728

### DC VOLTMETERS

Range	Resistance (ohms)	1 1/2" Case Style	2 1/2" Case Style	3 1/2" Case Style	4 1/2" Case Style
0-5		\$15.30	\$16.50	\$17.10	\$18.75
0-8		Note <sup>1</sup>	Note <sup>1</sup>	17.10	18.75
0-10		15.30	16.50	17.10	18.75
0-15		15.30	16.50	17.10	18.75
0-25	1000 ohms per volt	15.30	16.50	17.10	18.75
0-30		15.30	16.50	17.10	18.75
0-50		15.30	16.50	17.10	18.75
0-100		15.30	16.50	17.10	18.75
0-150		15.30	16.50	17.10	18.75
0-200		Note <sup>1</sup>	16.50	17.10	18.75
0-250		Note <sup>1</sup>	16.50	17.10	18.75
0-300		Note <sup>1</sup>	16.50	17.10	18.75
0-300	2000 ohms per volt	15.30	Note <sup>1</sup>	Note <sup>1</sup>	Note <sup>1</sup>
0-500		19.20*	17.10	17.85	19.45
0-750		Note <sup>1</sup>	21.00*	17.85	19.35
0-1000		Note <sup>1</sup>	21.30*	22.20*	23.70*

### DC MILLIAMMETERS

Range	Resistance (ohms)	1 1/2" Case Style	2 1/2" Case Style	3 1/2" Case Style	4 1/2" Case Style	8" Case Style
0-1	43	\$14.85	\$15.45	\$16.05	\$17.10	\$26.10
0-3	2.0	Note <sup>1</sup>	15.45	16.05	17.10	26.10
0-5	2.0	14.85	15.45	16.05	17.10	—
0-10	10.0	14.85	15.45	16.05	17.10	—
0-15	6.6	14.85	15.45	16.05	17.10	—
0-20	5.0	Note <sup>1</sup>	15.45	16.05	17.10	—
0-25	4.0	15.30	15.75	16.50	17.85	—
0-50	2.0	15.30	15.75	16.50	17.85	—
0-100	1.0	15.30	15.75	16.50	17.85	—
0-150	.66	15.30	15.75	16.50	17.85	—
0-200	.5	15.30	15.75	16.50	17.85	—
0-250	.4	15.30	15.75	16.50	17.85	—
0-300	.33	15.30	15.75	16.50	17.85	—
0-500	.2	15.45	15.75	16.50	17.85	—
0-750	.13	Note <sup>1</sup>	Note <sup>1</sup>	16.50	17.85	—
0-1000	.05	Note <sup>1</sup>	15.75	16.50	17.85	—

### DC AMMETER

Range	Resistance (ohms)	1 1/2" Case Style	2 1/2" Case Style	3 1/2" Case Style	4 1/2" Case Style
0-1	.050	\$15.30	\$15.75	\$16.50	\$17.85
0-1.5	.033	Note <sup>1</sup>	15.75	16.50	17.85
0-2	.025	15.30	15.75	16.50	17.85
0-3	.0166	15.30	15.75	16.50	17.85
0-5	.010	15.30	15.75	16.50	17.85
0-10	.005	15.30	15.75	16.50	17.85
0-15	.0033	15.30	15.75	16.50	17.85
0-25	.0020	15.30	15.75	16.50	17.85
0-30	.0017	Note <sup>1</sup>	15.75	16.50	17.85
0-50	.001	15.30†	15.75	16.50†	17.85†
0-100	10.0	Note <sup>1</sup>	15.75†	16.50†	17.85†
0-150	10.0	Note <sup>1</sup>	15.75	16.50†	17.85†
0-200	10.0	Note <sup>1</sup>	15.75†	16.50†	17.85†
0-300	10.0	Note <sup>1</sup>	15.75†	16.50†	17.85†
0-500	10.0	Note <sup>1</sup>	Note <sup>1</sup>	16.50†	17.85†
15-0-15	.0033	Note <sup>1</sup>	Note <sup>1</sup>	17.40	Note <sup>1</sup>
30-0-30	.0017	Note <sup>1</sup>	Note <sup>1</sup>	17.40	Note <sup>1</sup>
50-0-50	.001	Note <sup>1</sup>	Note <sup>1</sup>	17.40	Note <sup>1</sup>

### DC MICROAMMETERS

Range	Resistance (ohms)	1 1/2" Case Style	2 1/2" Case Style	3 1/2" Case Style	4 1/2" Case Style	8" Case Style
0-50µ	1800	\$19.35	\$19.95	\$20.40	\$22.05	—
0-100	1800	17.25	17.85	18.75	20.85	—
0-200	1100	15.60	16.35	17.10	18.75	—
0-500µ	90	15.30	16.05	16.80	18.15	—
25-0-25	1800	19.50	Note <sup>1</sup>	20.55	22.20	—
50-0-50	1800	17.40	18.15	18.75	21.00	—
100-0-100	1100	15.75	16.50	17.25	19.05	—
500-0-500	43	15.00	15.60	16.35	17.25	—

### TAUT BAND DC MICROAMMETERS

Range	Resistance (ohms)	MODEL 1212T	MODEL 1227T	MODEL 1327T	MODEL 1329T	MODEL 728T
0-5	5750	—	—	\$38.10‡	\$40.50‡	—
0-10	4900	—	\$32.10	33.45	36.15	—
0-15	1960	\$29.10•	29.10	30.00	32.70	—
0-25	1960	27.15•	27.60	28.95	31.50	\$39.30
0-50	1100	21.15•	21.75	22.20	23.85	31.95
0-100	500	19.05•	19.65	20.40	22.50	30.90
0-200	234	17.55•	18.45	19.20	21.15	Note <sup>1</sup>

Note<sup>1</sup> Not normally carried in stock. Distributor delivery 2-3 weeks. Prices on request. \* External Multipliers, Model 183, are furnished on 1 1/2" DC meters 500 volts or higher; on 2 1/2" DC meters 750 volts or higher; and on 3 1/2" DC meters 1000 volts or higher. All others are self-contained. † 1 1/2" DC Ammeters are self-contained through 10 amps. 15 amps and higher are supplied as 50 MV meters to be used with external shunts. 2 1/2", 3 1/2" and 4 1/2" DC ammeters are self-contained through 50 amps. Higher range DC ammeters are 50 MV meters to be used with external shunts. Shunts listings are on page 19. ‡ Resistance of 0-50 Mic Meters in Model 1212 is 5500 ohms. Resistance of 0-500 Mic Meter in Model 1212 is 190 ohms. • High flux annular taut band meter movement. • New Panel Meter Addition.

### NEW BEHIND PANEL BEZELS

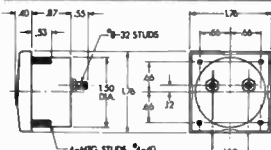
#### FOR 3 1/2" AND 4 1/2" WIDE VUE METERS

Modern streamlined appearances. Designed for behind panel mounting on material thickness of 1/8" to 3/16". Black satin finish.

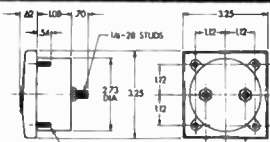
Meter Size	For Models	Price
3 1/2"	1327, 1337, 1347, 1357	\$1.95
4 1/2"	1329, 1339, 1349, 1359, 1379	1.95

# Simpson

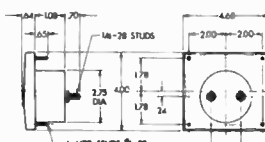
## wide-vue panel meters CONTINUED



1 1/2" Models 1212, T, 1214



3 1/2" Models 1327, T, 1337, 1347, 1357



4 1/2" Models 1329, T, 1339, 1349, 1359



1 1/2", 2 1/2", 3 1/2", 4 1/2", & 8" Models

SIZE	MODEL NO.	ACCURACY	SCALE LENGTH
1 1/2"	1212, T	± 2% of full scale	1.5" (38.1 mm)
	1214	± 3% F.S. @ 25° C. & 60 cy. Sine Wave	
2 1/2"	1227, T, 1237, 1257, 1277	± 2% of full scale	2.5" (63.8 mm)
	1247	± 3% F.S. @ 25° C. & 60 cy. Sine Wave	
3 1/2"	1327, T, 1337, 1357, 1377	± 2% of full scale	3.14" (79.7 mm)
	1347	± 3% F.S. @ 25° C. & 60 cy. Sine Wave	
4 1/2"	1329, T, 1339, 1359, 1379*	± 2% of full scale	3.93" (100 mm)
	1349	± 3% F.S. @ 25° C. & 60 cy. Sine Wave	
8"	728, T	± 2% of full scale	6.9" (174.2 mm)

\*Compensated Wattmeters ± 3%.

### SELF-SHIELDING METER MOVEMENT

RANGE	APPROX. RESISTANCE (ohms)	1 1/2"	2 1/2"	3 1/2"	4 1/2"
		Case Style MODEL 1212	Case Style MODEL 1227	Case Style MODEL 1327	Case Style MODEL 1329

### DC MILLIVOLTMETER

RANGE	APPROX. RESISTANCE (ohms)	MODEL 1212	MODEL 1227	MODEL 1327	MODEL 1329
0-50	10	\$15.30	\$15.60	\$16.35	\$17.85
50-0-50	20	—	—	16.35	17.85

### DC GALVANOMETERS

RANGE	SENSITIVITY MICRO-AMPERES	RESISTANCE (ohms)	MODEL 1212	MODEL 1227	MODEL 1327	MODEL 1329
50-0-50	500-0-500	43	\$15.00	\$15.45	\$16.35	\$17.25
50-0-50	75-0-75	1800	15.75	16.80	18.15	19.95

### RF AMMETERS

RANGE	RESISTANCE (ohms)	MODEL 1337	MODEL 1339
0-1	.343	\$19.05	\$21.75
0-1.5	.200	19.05	21.75
0-2	.120	19.05	21.75
0-2.5	.10	19.05	21.75
0-3	.08	19.05	21.75
0-5	.045	19.05	21.75
0-8	.031	19.05	21.75
0-10	.023	19.05	21.75

### RF MILLIAMMETERS

RANGE	RESISTANCE (ohms)	MODEL 1337	MODEL 1339
0-500	.63	\$22.35	\$25.35

### AC VOLTMETERS RECTIFIER TYPE

RANGE	RESISTANCE (ohms)	MODEL 1214	MODEL 1247	MODEL 1347	MODEL 1349
0-5	2000 OHMS PER VOLT	\$21.15	\$19.65	\$22.50	\$24.90
0-10		21.15	19.65	22.50	24.90
0-15		Note <sup>1</sup>	Note <sup>1</sup>	22.50	24.90
0-50		Note <sup>1</sup>	Note <sup>1</sup>	22.50	24.90
0-150		21.15	19.65	22.50	24.90
0-300		21.15	19.65	22.50	24.90

### DECIBEL METERS

RANGE—Zero Power Level—6 MW. 500 Ohm Line

General-Purpose 5000 ohms	MODEL 1214	MODEL 1247	MODEL 1347	MODEL 1349
	—	\$22.05	\$23.40	\$24.15

### VOLUME LEVEL INDICATORS V. U. METERS†

Reference Level—1 MW. 600 Ohm Line

Scale	MODEL 1214	MODEL 1247	MODEL 1347	MODEL 1349
A—Scale	\$23.70	\$26.10	\$26.85	\$29.10
B—Scale	Note <sup>1</sup>	Note <sup>1</sup>	26.85	29.10

\*External Multipliers, Model 183, (Featured on page 19) are furnished on AC meters having a range of 500 volts or higher. All others are self-contained.

†2 1/2" AC ammeters are self-contained through 50 amps. 3 1/2" and 4 1/2" AC ammeters self-contained through 75 amps. Higher range AC ammeters are 5 amp meters to be used with external current transformers. See page 19 for current transformer listings.

Note<sup>1</sup> Not normally carried in stock. Distributor delivery 2-3 weeks. Prices on request.

†Simpson VU meters meet all the Electrical and Ballistic specifications established by Bell Laboratories and American Standards Association as required by broadcasting, communication and sound engineers. They are available with either type A or B scales. Type A scale stresses the level in VU for monitoring wire lines. Type B scale stresses per cent use of transmitter output and is the standard for broadcast service. Impedance is 390Ω @ "0" VU deflection.

RANGE	APPROX. RESISTANCE (ohms)	2 1/2" Case Style MODEL 1257	3 1/2" Case Style MODEL 1357	4 1/2" Case Style MODEL 1359
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### AC VOLTMETERS Iron Vane Type Movement

RANGE	RESISTANCE (ohms)	MODEL 1257	MODEL 1357	MODEL 1359
0-5	33	—	\$15.60	\$17.55
0-10	133	\$15.00	15.60	17.55
0-15	300	15.00	15.60	17.55
0-25	833	15.00	15.60	17.55
0-50	3,333	15.00	15.60	17.55
0-100	16,666	15.30	16.35	17.55
0-150	25,000	15.60	16.80	17.85
0-250	41,166	15.60	16.80	17.85
0-300	50,000	15.60	16.80	17.85
0-500*	83,333	19.95	21.30	22.80

### AC AMMETERS Iron Vane Type Movement

RANGE	RESISTANCE (ohms)	MODEL 1257	MODEL 1357	MODEL 1359
0-1	.287	14.10	15.00	17.40
0-1.5	.185	14.10	15.00	17.40
0-2	.115	—	15.00	17.40
0-3	.027	14.10	15.00	17.40
0-5	.012	14.10	15.00	17.40
0-10	.0031	14.10	15.00	17.40
0-15	.0022	14.10	15.00	17.40
0-25	.0003	14.85	15.45	17.85
0-30	.0003	14.85	15.45	17.85
0-50	.0006	14.85	15.45	17.85
0-75	.0005	—	16.80	19.20
0-100	.012	14.10‡	15.00‡	17.40‡
0-150	.012	14.10‡	15.00‡	17.40‡
0-200	.012	14.10‡	15.00‡	17.40‡
0-300	.012	14.10‡	15.00‡	17.40‡

### AC MILLIAMMETERS Iron Vane Type Movement

RANGE	RESISTANCE (ohms)	MODEL 1257	MODEL 1357	MODEL 1359
0-10	2,000	\$14.10	\$15.00	\$17.40
0-50	80	14.10	15.00	17.40
0-100	20	14.10	15.00	17.40
0-250	5	14.10	15.00	17.40
0-500	.9	14.10	15.00	17.40

### WATTMETERS DYNAMOMETER TYPE Single Phase

Wattmeters calibrated for either magnetic or non-magnetic panels and for a frequency range of 25-125 cycles.

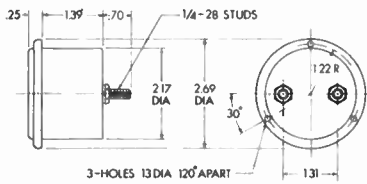
RANGE WATTS	RANGE VOLTS	MAX. AMPS	ACCURACY ±2% F.S.	MODEL 1379
0-75	150	1.0	—	\$41.70
0-150	150	2.0	—	41.70
0-300	150	4.0	—	41.70
0-750	150	10.0	—	41.70
0-600	300	4.0	—	44.55
0-1500	300	10.0	—	44.55
0-3000	300	20.0	—	44.55

### COMPENSATED WATTMETERS — ACCURACY ±3% F.S.

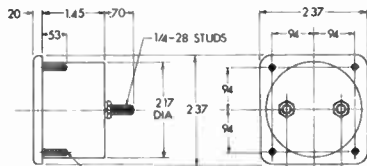
RANGE	RESISTANCE (ohms)	MODEL 1257	MODEL 1357	MODEL 1359
0-10	300	.175	—	55.65
0-20	300	.400	—	55.65
0-30	300	.650	—	55.65

**Simpson**

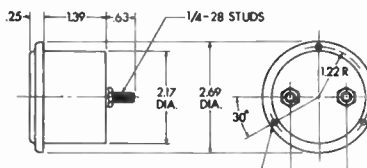
# round and rectangular panel meters



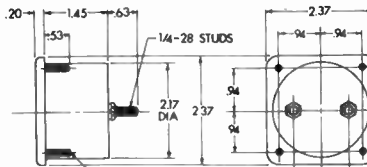
2 1/2" Models 125, 145, 155



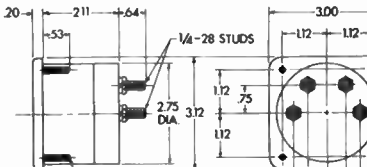
2 1/2" Models 127, 147, 157



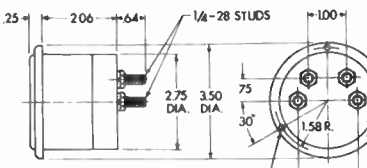
2 1/2" Model 135



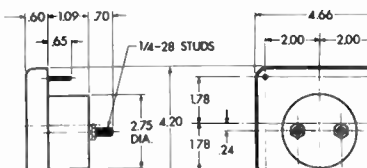
2 1/2" Model 137



3 1/2" Model 77



3 1/2" Model 75



4 1/2" Model 59

2 1/2" Models 125, 135, 155, 175

3 1/2" Models 25, 35, 55, 75

2 1/2" Models 127, 137, 157, 177

3 1/2" Models 27, 37, 57, 77

4 1/2" Models 29, 39, 59, 79



### SELF-SHIELDING METER MOVEMENT

RANGE	APPROX. RESISTANCE Ohms	2 1/2" Case Styles	3 1/2" Case Styles	4 1/2" Case Styles
		MODEL 125 127	MODEL 25 27	MODEL 29

### DC MILLIVOLTMETERS

0-50	10	\$15.60	\$16.35	\$17.85
0-100	20	—	16.35	17.85

### DC MILLIAMMETERS

0-1	43	\$15.45	\$16.05	\$17.10
0-1.5	2.0	15.45	16.05	17.10
0-3	2.0	15.45	16.05	17.10
0-5	2.0	15.45	16.05	17.10
0-10	10.0	15.45	16.05	17.10
0-15	6.6	15.45	16.05	17.10
0-20	5.0	—	16.05	17.10
0-25	4.0	15.75	16.50	17.85
0-50	2.0	15.75	16.50	17.85
0-75	1.3	15.75	16.50	17.85
0-100	1.0	15.75	16.50	17.85
0-150	.66	15.75	16.50	17.85
0-200	.5	15.75	16.50	17.85
0-250	.4	15.75	16.50	17.85
0-300	.33	15.75	16.50	17.85
0-500	.2	15.75	16.50	17.85
0-750	.13	—	16.50	17.85
0-1000	.05	15.75	16.50	17.85

### DC MICROAMMETERS

0-50	1800	\$19.95	\$20.40	\$22.05
0-100	1800	17.85	18.75	20.85
0-200	1100	16.35	17.10	18.75
0-500	90	16.05	16.80	18.15
25-0-25	1800	20.85	20.55	22.20
50-0-50	1800	18.15	18.75	21.00
100-0-100	1100	16.50	17.25	19.05
500-0-500	43	15.60	16.35	17.25

### TAUT BAND DC MICROAMMETERS

RANGE	APPROX. RESISTANCE Ohms	MODEL 125T 127T	MODEL 25T 27T	MODEL 29T
		0-5	5750	—
0-10	4900	\$32.10	\$38.10	\$40.50
0-15	1960	29.10	33.45	36.15
0-25	1960	27.60	28.95	31.50
0-50	1100	21.75	22.20	23.85
0-100	500	19.65	20.40	22.50

**CALIBRATION AND DIALS**—All DC meters listed below have the Simpson self-shielding movement. (Calibration not affected by stray magnetic fields or magnetic mounting). All AC meters have the Simpson Iron Vane type movement. AC Ammeters and Milliammeters are calibrated for use on 25 through 800 cps. AC Voltmeters are calibrated for use on 25-125 cps. Calibration at frequencies up through 800 cps can be made. Contact your local Distributor for prices.

Wattmeters listed below have the Simpson dynamometer movement calibrated for either magnetic or non-magnetic panels and for a frequency range of 25-125 cps. Standard wattmeters  $\pm 2\%$ , compensated wattmeters  $\pm 3\%$ .

### SELF-SHIELDING METER MOVEMENT

RANGE	APPROX. RESISTANCE Ohms	2 1/2" Case Styles	3 1/2" Case Styles	4 1/2" Case Styles
		MODEL 125 127	MODEL 25 27	MODEL 29

### DC VOLTMETERS

0-1.5	1000 ohms per volt	\$16.50	\$17.10	\$18.75	
0-3		16.50	17.10	18.75	
0-5		16.50	17.10	18.75	
0-8		16.50	17.10	18.75	
0-10		16.50	17.10	18.75	
0-15		16.50	17.10	18.75	
0-25		16.50	17.10	18.75	
0-30		16.50	17.10	18.75	
0-50		16.50	17.10	18.75	
0-100		16.50	17.10	18.75	
0-150	2000 ohms per volt	16.50	17.10	18.75	
0-200		16.50	17.10	18.75	
0-250		16.50	17.10	18.75	
0-300		17.10	17.10	18.75	
0-500		17.10	17.85	19.35	
0-750		Note <sup>1</sup>	17.85	19.35	
0-1000		Note <sup>1</sup>	22.20	23.70	
0-1500		Note <sup>1</sup>	22.50	24.00	
0-2000		ohms per volt	21.30	22.95	24.45
0-2500			Note <sup>1</sup>	23.25	24.75
0-3000	Note <sup>1</sup>		23.55	25.05	
0-4000	Note <sup>1</sup>		—	25.35	
0-5000	Note <sup>1</sup>		24.15	25.65	

### DC AMMETERS

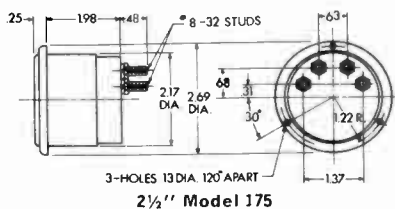
0-1	.050	\$15.75	\$16.50	\$17.85
0-1.5	.033	15.75	16.50	17.85
0-2	.025	15.75	16.50	17.85
0-3	.0166	15.75	16.50	17.85
0-5	.010	15.75	16.50	17.85
0-10	.005	15.75	16.50	17.85
0-15	.0033	15.75	16.50	17.85
0-25	.0020	15.75	16.50	17.85
0-30	.0017	15.75	16.50	17.85
0-50	.001	15.75	16.50	17.85
0-75	10.0	15.30	16.50	17.85
0-100	10.0	15.30	16.50	17.85
0-150	10.0	15.30	16.50	17.85
0-200	10.0	15.30	16.50	17.85
0-250	10.0	Note <sup>1</sup>	16.50	17.85
0-300	10.0	15.30	16.50	17.85
0-500	10.0	15.30	16.50	17.85
0-750	10.0	Note <sup>1</sup>	16.50	17.85
0-1000	10.0	Note <sup>1</sup>	16.50	17.85
15-0-15	.0033	Note <sup>1</sup>	17.40	18.30
30-0-30	.0017	16.05	17.40	18.30
50-0-50	.001	16.05	17.40	18.30

<sup>†</sup> External Multipliers, Model 183, are furnished on 2 1/2" DC meters 750 volts or higher, and on 3 1/2" and 4 1/2" DC meters 1000 volts and higher. All others are self-contained.

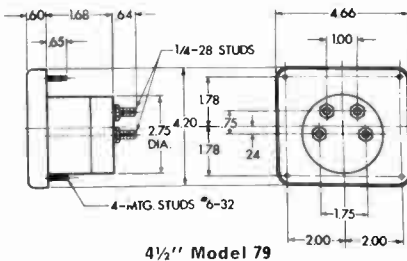
<sup>‡</sup> DC ammeters are self-contained for ranges up to and including 50 amperes. Higher range DC ammeters (50MV) listed above are calibrated for 5 ft. leads and require external shunts. Write for bulletin no. 2077. Note<sup>1</sup> Not normally carried in stock. Distributor delivery 2-3 weeks. Prices on request.

**Simpson**

**round and rectangular panel meters** CONTINUED

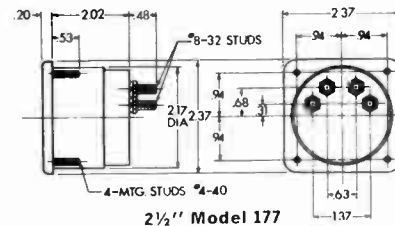


3-HOLES 13/16 DIA 120° APART  
2 1/2" Model 175

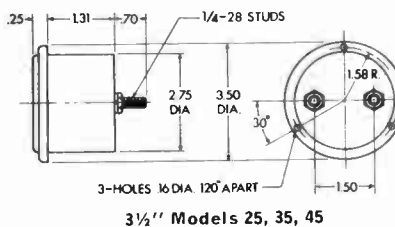


4 1/2" Model 79

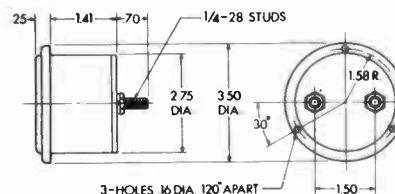
SIZE	MODEL NUMBER	ACCURACY	SCALE LENGTH
2 1/2"	125, T, 127, T, 135, 137	± 2% of full scale Compensated wattmeters	1.8" (45.7 mm)
	175, 177		1.6" (41.1 mm)
	155, 157		2.5" (63.7 mm)
3 1/2"	25, T, 27, T, 35, 37		2.3" (57.4 mm)
	75, 77		3.8" (97 mm)
	55, 57		3.5" (89.0 mm)
4 1/2"	29, T, 39	± 3%	3.8" (97 mm)
	59, 79		3.5" (89.0 mm)



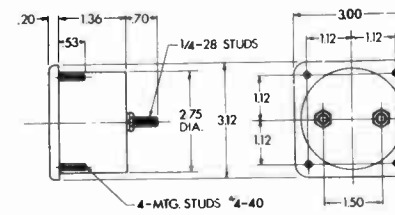
2 1/2" Model 177



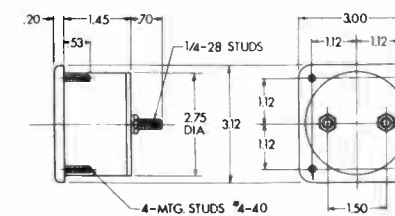
3-HOLES 1/8 DIA 120° APART  
3 1/2" Models 25, 35, 45



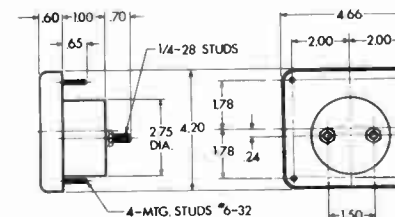
3 1/2" Model 55



3 1/2" Models 27, 37, 47



3 1/2" Model 57



4 1/2" Models 29, 39, 49

RANGE	APPROX. IMPEDANCE (Ohms) @ 60 cps	2 1/2"	3 1/2"	4 1/2"
		Case Styles MODEL 135 137	Case Styles MODEL 35 37	Case Styles MODEL 39

**RF AMMETERS** Self-Shielding Meter Movement Internal Thermocouple Type

Range	Impedance (Ohms) @ 60 cps	Model 135	Model 137	Model 35	Model 37	Model 39
0-1	.343	\$17.25	\$19.05	\$21.75		
0-1.5	.200	17.25	19.05	21.75		
0-2	.120	17.25	19.05	21.75		
0-2.5	.10	17.25	19.05	21.75		
0-3	.08	17.25	19.05	21.75		
0-5	.045	17.25	19.05	21.75		
0-8	.031	17.25	19.05	21.75		
0-10	.023	17.25	19.05	21.75		

**RF MILLIAMMETERS** Self-Shielding Meter Movement Internal Thermocouple Type

Range	Impedance (Ohms) @ 60 cps	Model 135	Model 137	Model 35	Model 37	Model 39
±0-115	4.0	—	\$34.35	\$36.00		
0-150	4.5	—	22.35	25.35		
0-250	3.5	—	22.35	25.35		
0-500	.63	—	22.35	25.35		

**WATTMETERS** Dynamometer Type Single Phase

Range	Volts	Amps	ACCURACY ± 2%		
			MODEL 175 177	MODEL 75 77	MODEL 79
0-75	150	1.0	\$31.80	\$33.45	\$41.70
0-150	150	2.0	31.80	33.45	41.70
0-300	150	4.0	31.80	33.45	41.70
0-750	150	10.0	31.80	33.45	41.70
0-600	300	4.0	34.80	36.30	44.55
0-1500	300	10.0	34.80	36.30	44.55
0-3000	300	20.0	34.80	36.30	44.55

**COMPENSATED WATTMETERS** Single Phase

Range	Volts	Amps	Model 175 177	Model 75 77	Model 79
0-10	300	.175	—	\$53.55	\$55.65
0-20	300	.400	—	53.55	55.65
0-20	500	.175	—	53.55	55.65
0-30	300	.650	—	53.55	55.65
0-30	500	.300	—	53.55	55.65
0-50	500	.500	—	53.55	55.65

**DC GALVANOMETERS**

Scale	Sensitivity Micro-Amps.	Res. Ohms	MODEL 125 127	MODEL 25 27	MODEL 29
50-0-50	500-0-500	43	\$15.45	\$16.35	\$17.25
50-0-50	75-0-75	1800	16.80	18.15	19.95

‡ 0-100 Linear Scale.

Note: Not normally carried in stock. Distributor delivery 2-3 weeks.

• External Multipliers, Model 183, are furnished on AC meters having a range of 500 volts or higher. All others are self-contained

† These meters are 5 amp meters with scales as indicated and require external current transformers. Write for bulletin no. 2077.

**IRON VANE TYPE METER MOVEMENT**

RANGE	APPROX. IMPEDANCE (Ohms) @ 60 cps	2 1/2"	3 1/2"	4 1/2"
		Case Styles MODEL 155 157	Case Styles MODEL 55 57	Case Styles MODEL 59

**AC VOLTMETERS**

Range	Impedance (Ohms) @ 60 cps	Model 155 157	Model 55 57	Model 59
0-1.5	3			\$17.55
0-3	12			17.55
0-5	33	\$15.00	\$15.60	17.55
0-10	133	15.00	15.60	17.55
0-15	300	15.00	15.60	17.55
0-25	833	15.00	15.60	17.55
0-50	3,333	15.00	15.60	17.55
0-100	16,666	15.30	16.35	17.55
0-150	25,000	15.60	16.80	17.85
0-250	41,166	15.60	16.80	17.85
0-300	50,000	15.60	16.80	17.85
0-500	83,333	19.95	21.30	22.80
0-750	125,000	Note†	23.10	24.75
0-1000	166,666	Note†	24.75	25.65

**AC AMMETERS**

Range	Impedance (Ohms) @ 60 cps	Model 155 157	Model 55 57	Model 59
0-1	.287	\$14.10	\$15.00	\$17.40
0-1.5	.185	Note†	15.00	17.40
0-2	.115	14.10	15.00	17.40
0-3	.027	14.10	15.00	17.40
0-5	.012	14.10	15.00	17.40
0-10	.003	14.10	15.00	17.40
0-15	.0022	14.10	15.00	17.40
0-25	.0003	14.85	15.45	17.85
0-30	.0003	14.85	15.45	17.85
0-50	.0006	14.85	15.45	17.85
0-75	.0005	Note†	16.80	19.20
0-75	.012	14.10†	15.00†	17.40†
0-100	.012	14.10†	15.00†	17.40†
0-150	.012	14.10†	15.00†	17.40†
0-200	.012	Note†	15.00†	17.40†
0-250	.012	14.10†	15.00†	17.40†
0-300	.012	14.10†	15.00†	17.40†
0-500	.012	14.10†	15.00†	17.40†

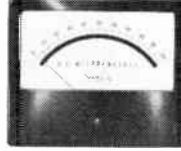
**AC MILLIAMMETERS**

Range	Impedance (Ohms) @ 60 cps	Model 155 157	Model 55 57	Model 59
0-10	2,000	\$14.10	\$15.00	\$17.40
0-15	875	—	15.00	17.40
0-25	390	—	15.00†	17.40
0-50	—	14.10	15.00	17.40
0-100	20	14.10	15.00	17.40
0-250	—	14.10	15.00	17.40
0-500	.9	14.10	15.00	17.40

**Simpson**

**round, rectangular meters — elapsed time meters**

CONTINUED



2 1/2" Model 145  
3 1/2" Model 45

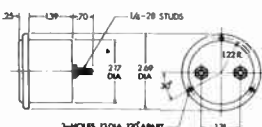
2 1/2" Model 147  
3 1/2" Model 47

4 1/2" Model 49

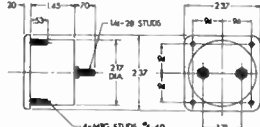
6" Model 1150-1  
1% Meter supplied  
with Mirror Scale

**CALIBRATION AND DIALS**—All meters have the Simpson self-shielding movement and may be used on either magnetic or non-magnetic panels.

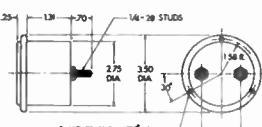
1% and 2% Tolerance



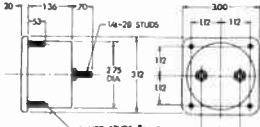
2 1/2" Model 145



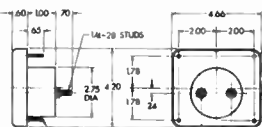
2 1/2" Model 147



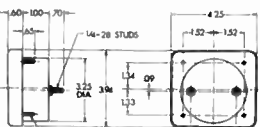
3 1/2" Model 45



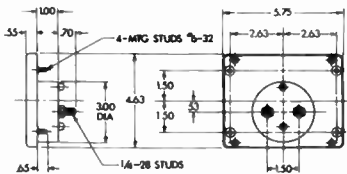
3 1/2" Model 47



4 1/2" Model 49



4 1/2" Model 142



6" Model 1150

SIZE	MODEL	ACCURACY	SCALE LENGTH
2 1/2"	145, 147	DB and Rectifier type meters ± 3% of full scale @ 25°C. and 60 cycle sine wave	1.8" (45.7 mm)
3 1/2"	45, 47	VU meters per ASA specifications	2.5" (63.7 mm)
4 1/2"	49, 142		3.8" (97 mm)
6"	1150, 1150-1	± 2% of full scale ± 1% if full scale, mirrored scale	4.6" (114.8 mm)

**SELF-SHIELDING METER MOVEMENT**

RANGE	APPROX. RESISTANCE (Ohms)	3 1/2" Case Styles MODEL 45 47	4 1/2" Case Styles MODEL 49
0-10	2000 ohms per volt	\$22.50	\$24.90
0-25		22.50	24.90
0-50		22.50	24.90
0-100		22.50	24.90
0-150		22.50	24.90

**AC VOLTMETERS Rectifier Type**

0-1	600	\$21.75	\$23.70
0-2	400	21.75	23.70
0-5	200	21.75	23.70

**AC MILLIAMMETERS Rectifier Type**

0-100	3400	\$24.90	\$26.70
0-200	2400	—	24.15
0-300	1800	21.75	23.70
0-500	1200	21.45	23.40

**AC MICROAMMETERS Rectifier Type**

0-1	600	\$21.75	\$23.70
0-2	400	21.75	23.70
0-5	200	21.75	23.70

**DECIBEL METERS**

Zero Power Level 6 MW 500 Ohm Line

General Purpose Type			
-10 to +6 db	5000 ohms	\$22.50	\$24.30

MODELS 145, 147 2 1/2" Case Styles \$22.35

Volume Level Indicators VU METERS†  
Reference Level 1 MW 600 Ohm Line

	MODEL 45 47	MODEL 142
"A" Scale; Not Illuminated	\$26.85	\$29.10
"B" Scale; Not Illuminated	26.85	29.10
"A" Scale; Illuminated	—	31.80
"B" Scale; Illuminated	—	31.80

Note: Not normally carried in stock. Distributor delivery 2-3 weeks. Prices on request.

†Simpson VU meters meet all the Electrical and Ballistic specifications established by Bell Laboratories and American Standards Association as required by broadcasting, communication and sound engineers. They are available with either type A or B scales. Type A scale stresses the level in VU for monitoring wire lines. Type B scale stresses per cent use of transmitter output and is the standard for broadcast service. Impedance is 3900 Ω at "0" V.U. deflection.

**6" RECTANGULAR CASE STYLE MODELS 1150**

**SELF SHIELDING METER MOVEMENT**

RANGE	APPROX. RESISTANCE Ohms	MODEL 1150
0-10	1000 OHMS PER VOLT	\$22.95
0-25		22.95
0-50		22.95
0-100		22.95
0-150		22.95
0-300	2000 Ω/V	22.95
0-500		23.70

**DC MILLIVOLTMETERS 2%**

0-50	10	\$24.00
------	----	---------

**DC AMMETERS 2%**

0-1	.050	\$24.00
0-5	.010	24.00
0-10	.005	24.00
0-15	.0033	24.00
0-25	.0020	24.00
0-30	.0016	24.00
0-50	.001	24.00

**DC MILLIAMMETERS 2%**

0-1	43	\$22.95
0-10	10	22.95
0-50	2.0	22.95
0-100	1.0	22.95
0-500	.2	22.95

**DC MILLIAMMETERS 1%**

		MODEL 1150-1
0-1	43	\$28.95
0-100	1.0	28.95
0-500	.2	28.95

**DC MICROAMMETERS 2%**

		MODEL 1150
0-15	5500	\$36.30
0-25	5500	32.55
0-50	5200	29.70
0-100	2100	28.50
0-200	1100	24.75
0-500	90	24.15

**DC MICROAMMETERS 1%**

		MODEL 1150-1
0-50	5200	\$35.65
0-100	2100	34.35
0-200	1100	30.75
0-500	90	30.00

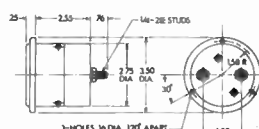
**3 1/2" ELAPSED TIME PANEL METERS**



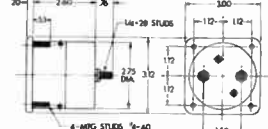
3 1/2" Model 55ET



3 1/2" Model 57ET



3 1/2" Model 55ET



3 1/2" Model 57ET

Widely used by research labs, manufacturing plants, broadcasting stations ... to keep life and performance records based on operating time. These meters use self-starting synchronous clock motors. They indicate up to 99999.9, then recycle and begin again at 00000.0

Molded bakelite case similar to the Simpson 3 1/2" rectangular and round meters. Case depth—2 1/4".

RANGE	MODEL 55ET	MODEL 57ET
120V-60 cps	\$22.95	\$22.95
240V-60 cps	23.25	23.25

Simpson

# segmental panel meters

## AVERAGE SENSING, TRUE RMS & DC SEGMENTAL INSTRUMENTS

Segmental voltmeters and frequency meters make it possible to measure very small changes in input conditions. The significant portion of the overall voltage or frequency range is expanded to occupy the full scale length. Thus, only that segment of the range that is important appears. In addition to the standard expansions and accuracies shown, special segmental voltmeters can be built on order. Write the factory for a quotation.

The A.C. segmental voltmeters are available in either average sensing or true R.M.S. sensing units. When working with sine wave currents or when other measurements will be made with average sensing equipment, the average sensing meters are preferred. When working with distorted waveforms, as would be encountered in constant voltage transformers, S.C.R. circuits, D.C. to A.C. solid state inverters or similar equipment, the true R.M.S. sensing meter would probably be preferred.

### GENERAL SPECIFICATIONS

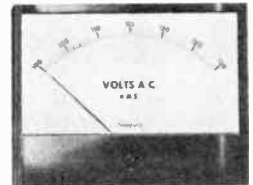
WIDE-VUE and BAKELITE CASE STYLES	RUGGED-SEAL and RUGGEDIZED METAL CASE STYLES						
	AVERAGE SENSING AC SEGMENTAL VOLTMETERS SINGLE RANGE   MULTI-RANGE*		RMS SENSING AC SEGMENTAL VOLTMETERS			DC SEGMENTAL VOLTMETERS	FREQUENCY METERS
RANGE	100-130 AC Volts	100-130 AC Volts 200-260 AC Volts 400-520 AC Volts	100-300 AC Volts	105-125 AC Volts	110-120 AC Volts	—	—
ACCURACY (% of Center Scale Value)	± 0.5%	100-130 ± 0.5% 200-260 ± 0.75% 400-520 ± 0.75%	± 1.0%	± 0.5%	± 0.3%	± 0.5%	± 0.25%
FREQUENCY RANGE	20-2000 CPS	50-1000 CPS	55-550 CPS			—	—
CENTER SCALE VALUE	115 Volts	115/230/460 Volts	115 Volts	115 Volts	115 Volts	27 Volts	60 CPS 400 CPS
SENSITIVITY OR POWER CONSUMPTION	.6 to 1.3 VA (Sensitivity decreases as input voltage increases)		50 OPV	65 OPV	80 OPV	100 OPV	3 VA Max.
MAX. INPUT VOLTAGE (10 Seconds)	150 Volts RMS	150/300/600 Volts RMS	150 Volts RMS			40 Volts	140 Volts RMS
WAVEFORM INFLUENCE	Square Wave 11%		2.5%	2.0%	1.0%	—	0.1%
	Triangular Wave 5%		1.2%	0.6%	0.3%	—	0.1%
VOLTAGE INFLUENCE 105-125 Volts	—	—	—	—	—	—	0.25%
MOVEMENT TYPE	Self-Shielding		Shielded External Magnet				



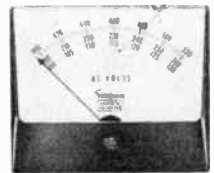
2 1/2", 3 1/2", 4 1/2" Models



3 1/2", 4 1/2" Models



4" x 6" Models

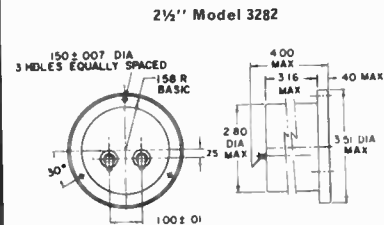
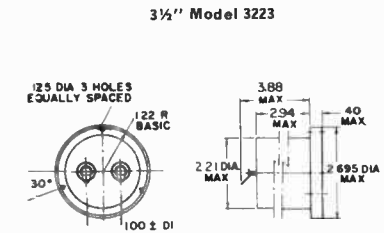
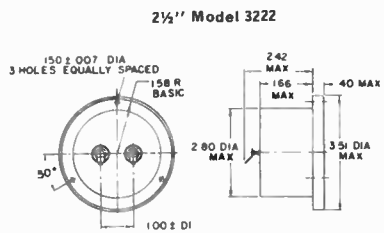
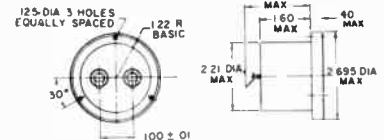
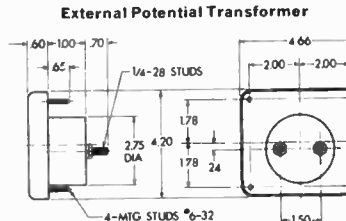
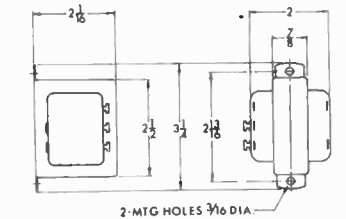
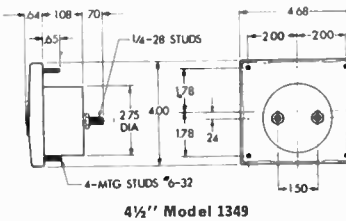
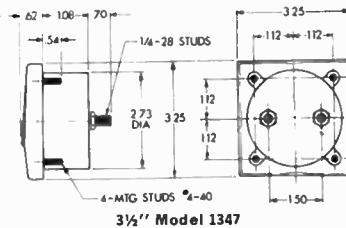


MULTI-RANGE  
4 1/2" Model 1349

### ROUND RUGGEDIZED SEGMENTAL PANEL METERS

ROUND PANEL METERS			2 1/2"	3 1/2"	4 1/2"
Range	Center Scale Value	Accuracy †	Case Style	Case Style	Case Style
<b>AC VOLTMETERS True RMS</b>					
			MODEL 3282	MODEL 3283	MODEL 3284
100-130	115V	1.0%	\$ 84.60	\$ 78.00	\$ 86.70
105-125	115V	0.5%	84.60	78.00	86.70
110-120	115V	0.3%	84.60	78.00	86.70
<b>DC VOLTMETERS</b>					
			MODEL 3222	MODEL 3223	MODEL 3224
24-30	27V	0.5%	\$ 72.60	\$ 66.15	\$ 74.40
<b>FREQUENCY METERS †</b>					
			MODEL 3283	MODEL 3284	
cps	cps				
380-420	400	0.25%	—	\$184.50	\$193.05

### WIDE-VUE and BAKELITE



### SQUARE RUGGED-SEAL SEGMENTAL PANEL METERS

SQUARE PANEL METERS			3 1/2"	4 1/2"	4" x 6"
Range	Center Scale Value	Accuracy †	Case Style	Case Style	Case Style
<b>AC VOLTMETERS True RMS</b>					
			MODEL 3383	MODEL 3384	MODEL 3386
100-300	115V	1.0%	\$ 71.40	\$ 78.75	\$ 84.15
105-125	115V	0.5%	71.40	78.75	84.15
110-120	115V	0.3%	71.40	78.75	84.15
<b>DC VOLTMETERS</b>					
			MODEL 3323	MODEL 3324	MODEL 3326
24-30	27V	0.5%	\$ 59.55	\$ 66.90	\$ 72.00
<b>FREQUENCY METERS †</b>					
			MODEL 3383	MODEL 3384	MODEL 3386
cps	cps				
380-420	400	0.25%	\$180.00	\$185.10	\$190.50

### BAKELITE SEGMENTAL PANEL METERS

Single, Multi-Range

AC VOLTMETERS Average Sensing			3 1/2"	4 1/2"	
Range	Center Scale Value	Accuracy †	Case Style	Case Style	Case Style
			MODEL 1347	MODEL 1349	MODEL 49
100-130	115V	0.5%	\$ 49.50	\$ 49.65	\$ 49.50
100-130	115V	0.5%	—	\$ 61.50	—
200-260	230V	0.75%	—	—	—
400-520	460V	0.75%	—	—	—

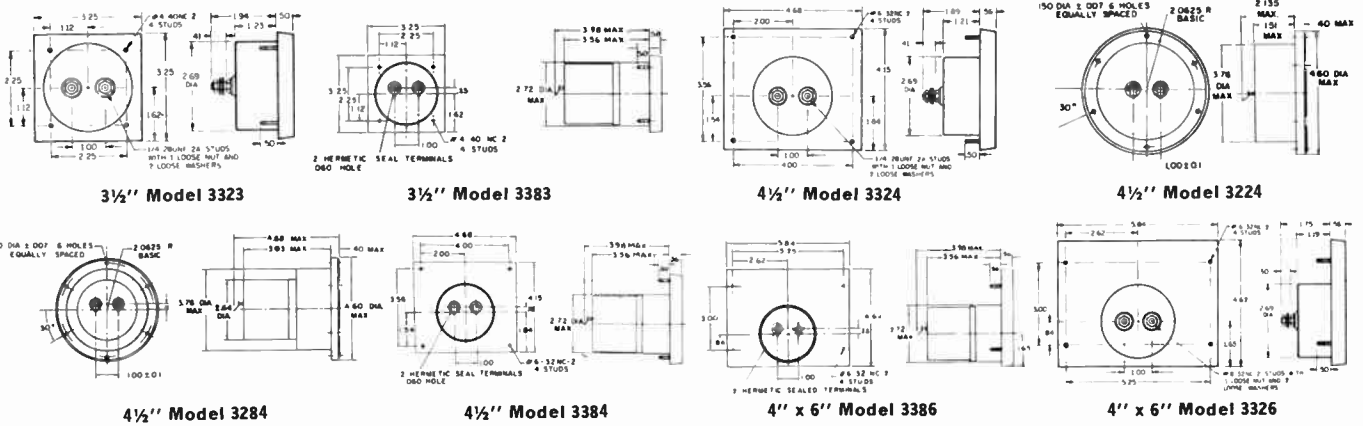
† Accuracy is in percent of center scale value.  
‡ Frequency meters are checked (a) the center scale frequency @ 25°C and 115 volts sine wave after 30 minute warmup. Accuracy after 1.0 minute warmup is 1.0%. At end scale indications, maximum error will be 0.5%.

CONTINUED

**Simpson**

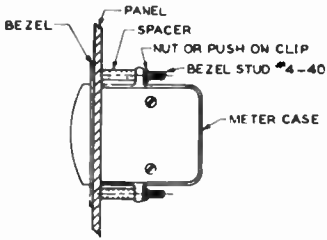
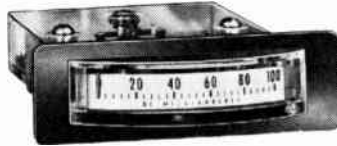
**segmental meters** CONTINUED — **edgewise meters**

**RUGGED SEAL SEGMENTAL (Cont'd.)**



**edgewise panel meters** BARREL TYPE CONSTRUCTION

Where your panel designs call for making every square inch count or where saving weight is important, Simpson edgewise meters solve many design problems. These meters are supplied with complete hardware which includes the bezel and two nuts. Mounting is fast and easy



Models	1 1/2" 1521, 1541	2 1/2" 1522, 1542
Accuracy	DC ± 2% of full scale; AC rectifier type ± 3% of full scale @ 25° and 60 cycle sine wave	
Movement Type	Self-Shielding Meter Movement	
Scale Length	1 3/8"	1 1/2"
Pointer	Lance	
Case Construction	Dustproof, molded acrylic	
Terminals	Solder (ammeters—stud type)	
Net Weight	5 ounces	

**SELF-SHIELDING METER MOVEMENT**

RANGE	APPROX. RESISTANCE (Ohms)	1 1/2" Case Style	2 1/2" Case Style
		MODEL 1521	MODEL 1522

**DC VOLTMETERS**

0-10	1000 Ω/volt	\$16.50	\$18.15
0-15	1000 Ω/volt	16.50	18.15
0-25	1000 Ω/volt	16.50	18.15
0-50	1000 Ω/volt	16.50	18.15
0-150	1000 Ω/volt	16.50	18.15
0-500	2000 Ω/volt	16.65	18.45

**DC MILLIAMMETERS**

0-1	20	\$16.35	\$18.00
0-5	2.5	16.35	18.00
0-10	13.5	16.35	18.00
0-25	5.4	16.95	18.75
0-50	2.7	16.95	18.75
0-100	1.35	16.95	18.75
0-500	.27	16.95	18.75

**DC AMMETERS**

0-5	.010	—	\$19.20
0-25	.002	—	19.20

**DC MILLIVOLTMETERS**

0-50	10 Ω	\$17.40	\$19.20
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**DC MICROAMMETERS**

0-25	3150	\$25.05†	\$27.00
0-50	1800	21.90	23.55
0-100	1100	19.35	21.15
0-200	290	17.40	19.20
0-500	90	16.95	18.60

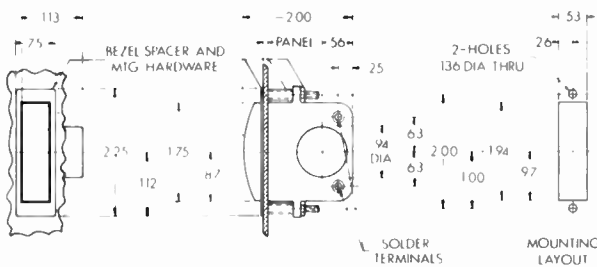
**VOLUME LEVEL INDICATORS**

VU METERS	MODEL	MODEL
Level 1 MW 600 Ω line	1541	1542
"A" SCALE	—	\$30.00
"B" SCALE	—	30.00

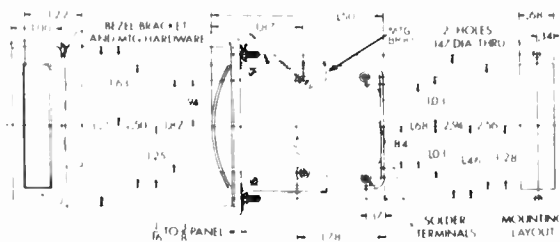
**AC VOLTMETERS**

Rectifier Type			
0-150	1000 Ω/volt	\$21.60	\$23.25
0-300	1000 Ω/volt	—	23.25

† Resistance of Model 1521 0-25 Mics is 5500 Ω.



1 1/2" Models 1521, 1541



2 1/2" Models 1522, 1542





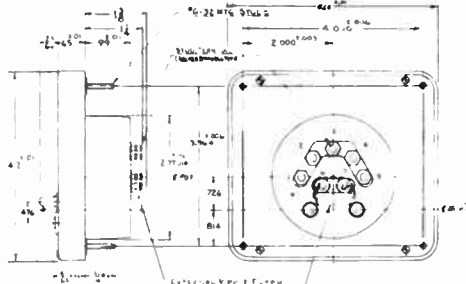
**Simpson**

**meter relays**

**CONTACT TYPE METER RELAYS**

**Model 29XA**  
for alarm control or limit applications  
on equipment designed for unattended applications

Contact making types are well suited to most general purpose applications in which cost and reasonable reliability are primary considerations. The contacts are the non-locking type and may be positioned along the scale arc by an external, front adjusted gear drive. Styling and mounting dimensions are designated as the Model 29XA.



4 1/2" Model 29XA

RANGE	APPROX. RESIST. (Ohms)	PRICE
<b>DC MICROAMMETERS</b>		
0-50	5200	\$53.55
0-100	1800	51.15
0-200	1000	48.00
0-500	280	47.25
<b>DC MILLIAMMETER</b>		
0-1	140	46.20
<b>DC MILLIVOLTMETER</b>		
0-50	10	46.35

**SPECIFICATIONS**

**GENERAL:** Model 29XA Relays are of the D'Arsonval Type. Externally adjusted limit setting contacts are non-locking and intended for circuits with external locking provisions or for light duty non-locking applications.

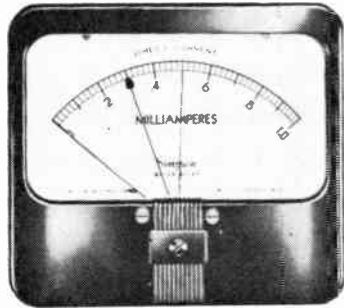
**CALIBRATION:** Accuracies  $\pm 2\%$  of full scale.

**CONTACTS:** Gold Alloy. For use @ 15 volts DC, 10 milliamperes maximum, on resistive or diode protected inductive loads.

**CONTACT ADJUSTMENT:** Contacts are externally adjustable over 95° of 100° scale arc, and within 5° of each other. The pointer will indicate the contact make position within 2° of actual contact intercept.

**CONTACT DIFFERENTIAL:** Normally, contacts will close within 2% of full scale value and break within 10% of full scale value.

**INSULATION:** Breakdown 300 volts AC from Relay contacts to meter circuit. 3 KV AC from Relay terminals to mounting panel. (All Tests at 60 cycles.)



4 1/2" Model 29XA

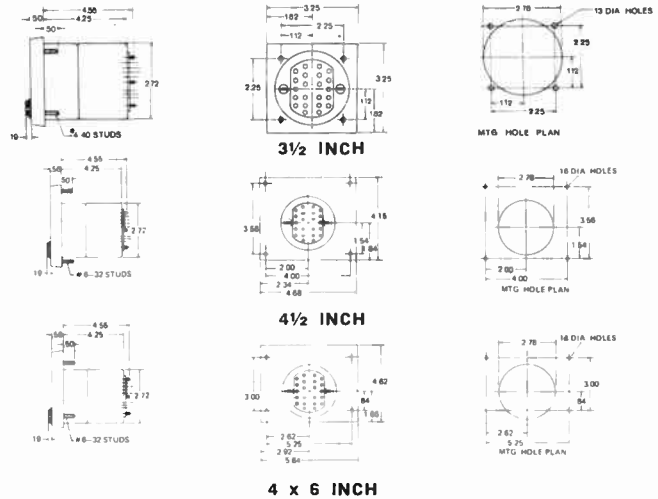


**RUGGED SEAL CONTACTLESS METER RELAYS**

*Maximum reliability design*

Intended for control, alarm, and limit applications — with utmost dependability. Photoconductor sensing eliminates all interference with the indicating meter. High gain transistor switch circuit provides solid state reliability, accurate switching, and extremely small dead band. Control points are adjusted from the front panel thru a gear drive. The solid-state switching circuit triggers internal 10-ampere DPDT relays (one for each control point). Ideal for unattended operation, they can be obtained from stock in a wide selection of ranges, with either dual or single control points, and in three sizes.

**3 1/2" 4 1/2" 4" x 6" SIZES**



Range	Approx. Resistance (Ohms)	3 1/2" MODELS		4 1/2" MODELS		4 x 6" MODELS	
		Single Control	Double* Control	Single Control	Double* Control	Single Control	Double* Control
<b>DC MICROAMPERES</b>							
		MODEL 3323XA		MODEL 3324XA		MODEL 3326XA	
0-50	3000	\$105.90	\$133.35	\$108.90	\$136.35	\$111.90	\$139.35
0-100	1300	102.75	130.20	105.75	133.20	108.75	136.20
0-200	570	—	—	105.75	133.20	—	—
0-500	220	—	—	105.75	133.20	—	—
<b>DC MICROAMPERES</b>							
		MODEL 3323TXA (Taut Band)		MODEL 3324TXA (Taut Band)		MODEL 3326TXA (Taut Band)	
0-10	5500	122.40	149.85	125.40	152.85	128.40	155.85
0-25	3000	113.40	140.85	116.40	143.85	119.40	146.85
0-50	2000	108.90	136.35	111.90	139.35	114.90	142.35
0-100	570	105.90	133.35	108.90	136.35	111.75	139.20
<b>DC MILLIAMPERES</b>							
		MODEL 3323XA		MODEL 3324XA		MODEL 3326XA	
0-1	80	101.70	129.15	104.70	132.15	107.70	135.15
<b>DC MILLIVOLTS</b>							
		MODEL 3323XA		MODEL 3324XA		MODEL 3326XA	
0-50	10	102.00	129.45	105.00	132.45	108.00	135.45
<b>AC AMPERES</b>							
		MODEL 3334XA					
0-5	.5 VA MAX.	—	—	115.50	142.95	—	—
<b>AC VOLTS</b>							
		MODEL 3334XA					
0-10	1000:1/V.	—	—	113.00	140.45	—	—

\* Double control models use external power supply.

**SPECIFICATIONS (Stock Models)**

**CALIBRATION ACCURACY:** DC models,  $\pm 2\%$  of Full Scale. AC models,  $\pm 3\%$  of Full Scale.

**CONTROL POINT ADJUSTMENT:** The single control is adjustable over the complete 100% arc. The double control limit is variable from 0-95% while the high limit can be located from 5% to 100%. The control points on a double control can be adjusted within 5° of each other. Control point indication is within 2% of control switching.

**CONTROL POINT DIFFERENTIAL:** Difference between "on" and "off" is within .5% of Full Scale.

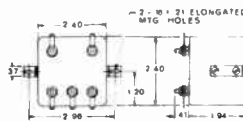
**POWER REQUIREMENTS:** 115 Volts A.C. 50-500 CPS D.C. power required for sensing and switching is provided by the external power module furnished with dual control models. Single control models have self-contained power supply.

**OUTPUT:** D.P.D.T. relay contacts for each control point. Contacts rated @ 10 amperes, 115 A.C. resistive.

**METER INDICATION:** Continuous, unaffected by control point setting.

**CONTROL CIRCUITRY:** Fail safe. Both slave relays "open" in event of power failure.

**MOVEMENT:** Self-shielding pivot and jewel or Taut Band.



**EXTERNAL POWER SUPPLY** — Used with all two-control models (supplied with unit).

# SPRAGUE TEST EQUIPMENT

## TO-6 TEL-OHMIKE® CAPACITOR ANALYZER



The TO-6 TEL-OHMIKE capacitor analyzer is a must for checking all capacitors. It is a moderately priced instrument with laboratory quality and accuracy—the highest accuracy of any instrument of its type available to the service trade!

- **CAPACITANCE BRIDGE** measures up to 2000  $\mu$ F. Five overlapping ranges include exclusive 1 pF to 100 pF range. Special shielded transformer for bridge voltage. Extremely low AC voltage; 1.35 volts for electrolytic capacitors, 2.85 for all others, permits safe testing of all low voltage capacitors.
- **INSULATION RESISTANCE** of papers, ceramics and micas directly read on large meter. No guessing with neon lamps. Dual range—to 10KM $\Omega$  30V for low voltage units . . . to 50KM $\Omega$  150V for higher voltage components. Fast charge feature speeds testing of high capacitance units.

- **LEAKAGE CURRENT** of electrolytics measured directly on meter. Four ranges; .06, .6, 6, and 60mA. Three ranges of DC voltage (continuously variable within each range) permit testing capacitors at exact rated voltage up to 600 volts.
- **POWER FACTOR** of electrolytics, up to 50% measured by Wien Bridge.
- **METER PROTECTOR** of solid-state design allows severe accidental over-loads without burn-outs.
- **MAGIC-EYE TUBE** simplifies bridge balancing for capacitance and power factor measurements. High gain amplifier provides greatly improved sensitivity.
- **PUSH-BUTTONS** color-keyed for instant range selection.
- **MODERN CASE:** Silver-grey hammertone finish, panel is charcoal grey with highly contrasting white designations. Measures 8  $\frac{7}{8}$ " high, 14  $\frac{5}{8}$ " wide, 6  $\frac{1}{8}$ " deep. Weight only 13 pounds.

MODEL TO-6..... 115 VAC/50-60 cy  
MODEL TO-6S..... 115-230V/50 cy

Call Your Sprague  
Distributor for  
Current Prices

## TEL-OHMIKES FOR RACK MOUNTING

Electrically identical to TO-6 and TO-6S. These models have a standard 19" w. x 10  $\frac{1}{2}$ " h. panel so that it can be mounted in standard relay racks.

MODEL TO-6RM.....115 VAC/50-60 cy  
MODEL TO-6SRM.....115-230 V/50 cy

Call Your Sprague  
Distributor for  
Current Prices

## TCA-1 TRANSFARAD®



The Transfarad is specifically designed to safely test all low-voltage, low-leakage aluminum, tantalum, film, paper, and ceramic capacitors used in transistorized circuits. A must for modern industrial laboratories and electronic service shops.

### SAFELY TESTS TRANSISTOR CIRCUIT CAPACITORS INCLUDING TANTALUM TYPES

- The only analyzer which gives the complete story on tantalum and other low leakage current capacitors.
- **CAPACITANCE BRIDGE** measures 1  $\mu$ F to 2000  $\mu$ F in five overlapping ranges. Only 0.5 volt is applied to the bridge from a continuously adjustable power supply. The voltage across the capacitor is less than this applied voltage, the amplitude depending on the capacitance being measured. No possibility of overheating or deforming any low voltage capacitor during measurements.

- **INSULATION RESISTANCE** directly read from 50 megohms to 20,000 megohms. Only 25v d-c is applied, permitting measurements on low voltage ceramic, mica, and film capacitors. IR of ceramics rated below 25v may be calculated from leakage current measurement at exact rated voltage.
- **LEAKAGE CURRENT** measured directly on meter at exact rated d-c voltage of capacitor. Sensitive circuit makes full scale measurements from 0.6  $\mu$ A to 600  $\mu$ A in seven ranges.
- **POWER FACTOR** measured by Wien bridge from 0 to 50 per cent.
- **MAGIC EYE** null detector in high-gain amplifier has sensitivity control permitting accurate measurement of small capacitors.
- **SHORT-TIME STABILITY** is assured by dual regulation of the power supply. Specially processed etched circuits and complete encapsulation of the critical bridge-null amplifier insure long-time stability.
- **BINDING POSTS** are shielded against strays, assuring greater accuracy during low capacitance measurements.
- **FOR SAFETY** the capacitor under test is automatically discharged after testing. Three wire line cord grounds instrument case.
- **OPERATING PROCEDURES** are clearly shown on convenient pull-out slide.

MODEL TCA-1 TRANSFARAD 115 VAC/60cy  
MODEL TCA-1S TRANSFARAD 115/230 VAC, 50cy

Call Your Sprague  
Distributor for  
Current Prices

### TRANSFARADS FOR RACK MOUNTING

Electrically identical to the above instruments, these models have a standard 19" w. x 10  $\frac{1}{2}$ " h. panel so that they can be mounted in the conventional relay rack.

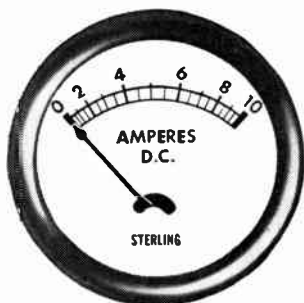
MODEL TCA-1RM .....115VAC/60cy  
MODEL TCA-1SRM .....115/230 VAC, 50cy

Call Your Sprague  
Distributor for  
Current Prices



MODEL 95

1-15/16" clear plexiglas face. Fits mounting hole 1-27/32" x 25/32".



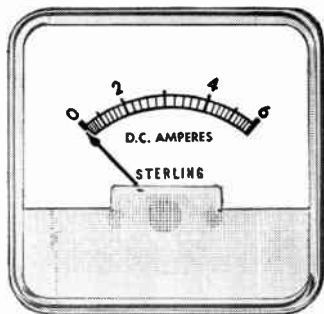
MODEL 80

1-5/32" dia. flange, flush case. Fits mounting hole 2-1/32" dia. Black enamel finish.



MODEL 75

2 1/4" square flange, fits mounting hole 2-1/32" dia. Black enamel finish.



MODEL 55

2-1/4" clear plastic face. Fits mounting hole 2-1/32" dia.

All Sterling meters have rugged, time-proven linear-power movement. Calibration accuracy is within 5%. Back clamp mounting is provided.

D.C. AMMETERS								
Range	Approximate Ohms Resist.	Model 55 Part No.	Model 95 Part No.	NET PRICE	Model 75 Part No.	Model 80 Part No.	NET PRICE	
0-1	.02 Max.	55-855	95-855	\$2.05	75-855	80-855	\$1.80	
0-3	.02 Max.	55-856	95-856	2.05	75-856	80-856	1.80	
0-6	.02 Max.	55-857	95-857	2.05	75-857	80-857	1.80	
0-8	.02 Max.	55-928	95-928	2.05	75-928	80-928	1.80	
0-10	.02 Max.	55-858	95-858	2.05	75-858	80-858	1.80	
0-15	.02 Max.	55-864	95-864	2.05	75-864	80-864	1.80	
0-25	.02 Max.	55-865		2.05	75-865	80-865	1.80	
0-50	.02 Max.	55-866		2.65	75-866	80-866	2.40	
3-0-3	.02 Max.	55-860	95-860	2.05	75-860	80-860	1.80	
10-0-10	.02 Max.	55-862	95-862	2.05	75-862	80-862	1.80	
20-0-20	.02 Max.	55-863		2.05	75-863	80-863	1.80	
30-0-30	.02 Max.	55-867		2.05	75-867	80-867	1.80	
50-0-50	.02 Max.	55-925		2.85	75-925	80-925	2.55	
D.C. VOLTMETERS								
0-1	105	55-801	95-801	\$2.05	75-801	80-801	\$1.80	
0-3	520	55-802	95-802	2.05	75-802	80-802	1.80	
0-5	945	55-804	95-804	2.05	75-804	80-804	1.80	
0-10	1925	55-807	95-807	2.05	75-807	80-807	1.80	
0-15	3425	55-808	95-808	2.05	75-808	80-808	1.80	
0-25	4825	55-809	95-809	2.05	75-809	80-809	1.80	
0-50	10,000	55-811	95-811	2.05	75-811	80-811	1.80	
0-100	20,000	55-813	95-813	2.35	75-813	80-813	2.10	
0-150	30,000	55-815	95-815	2.55	75-815	80-815	2.25	
0-300	100,000	55-817		3.30	75-817	80-817	3.00	
0-500	160,000	55-818		3.85	75-818	80-818	3.60	
D.C. MILLIAMMETERS								
0-1	1000	55-834	95-834	\$3.85	75-834	80-834	\$3.60	
0-2	500	55-835	95-835	2.95	75-835	80-835	2.70	
0-5	125	55-836	95-836	2.55	75-836	80-836	2.25	
0-10	28	55-837	95-837	2.40	75-837	80-837	2.10	
0-15	12	55-838	95-838	2.05	75-838	80-838	1.80	
0-25	4.5	55-839	95-839	2.05	75-839	80-839	1.80	
0-50	1.3	55-840	95-840	2.05	75-840	80-840	1.80	
0-100	.37	55-841	95-841	2.05	75-841	80-841	1.80	
0-150	.14	55-842	95-842	2.05	75-842	80-842	1.80	
0-200	.09	55-843	95-843	2.05	75-843	80-843	1.80	
0-300	.04	55-844	95-844	2.05	75-844	80-844	1.80	
0-400	.03	55-845	95-845	2.05	75-845	80-845	1.80	
0-500	.02	55-848	95-848	2.05	75-848	80-848	1.80	
A.C. VOLTMETERS								
0-5	28	55-871		\$3.15	75-871	80-871	\$2.85	
0-10	104	55-872		3.15	75-872	80-872	2.85	
0-15	210	55-873		3.15	75-873	80-873	2.85	
0-25	1750	55-910		3.15	75-910	80-910	2.85	
0-50	2750	55-879		3.15	75-879	80-879	2.85	
0-150	11,500	55-874		3.90	75-874	80-874	3.60	
0-300	19,400	55-875		4.35	75-875	80-875	4.05	
0-500	34,400	55-913		4.95	75-913	80-913	4.65	
A.C. AMMETERS								
0-1	.7	55-886		\$3.15	75-886	80-886	\$2.85	
0-3	.09	55-887		3.15	75-887	80-887	2.85	
0-5	.04	55-888		3.15	75-888	80-888	2.85	
0-10	.02	55-889		3.15	75-889	80-889	2.85	
0-15	.02	55-917		3.15	75-917	80-917	2.85	
0-30	.02	55-892		3.30	75-892	80-892	3.00	
A.C. MILLIAMMETERS								
0-100	104	55-882		\$3.15	75-882	80-882	\$2.85	
0-250	16	55-883		3.15	75-883	80-883	2.85	
0-500	3	55-884		3.15	75-884	80-884	2.85	

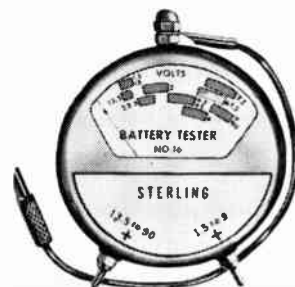
For meters with special scales, ranges or construction, contact the factory or local Sterling representative.

POCKET METER BATTERY TESTERS

No. 10 Dual A and B for Hearing Aids. Has 2-0-2 and 50-0-50 scales.....	Net Price	\$3.30
No. 13 Transistor Hearing Aid tester. Has 0-7 volt scale.....	Net Price	\$3.00
No. 24 Ammeter 0-35 amp. for No. 6 dry cells. Scale has 1 amp. divisions.....	Net Price	\$2.25
No. 34 Voltmeter for "hot-shot" batteries. 0-10 volt scale with 1/5 volt divisions.....	Net Price	\$2.40
No. 16 General voltmeter. Has green color zones for batteries from 1.5 to 90 volts.....	Net Price	\$4.05
No. 44 Voltammeter. 0-35 amp. scale, 1 amp. divisions, 0-10 volt scale, 1/5 volt divisions.....	Net Price	\$2.76

SEND FOR CATALOGS OF OUR COMPLETE LINE OF POCKET METERS AND PORTABLE BATTERY TESTERS.

THE **STERLING** MANUFACTURING COMPANY



NO. 16 GENERAL TESTER

# STICHT INSTRUMENTS

## "STANDCO" VIBRATING REED FREQUENCY METERS



### PANEL MOUNTING

3 1/2" Bakelite Case

- Rugged
- Dependable
- Accuracy  $\pm 0.5\%$
- Reeds aged

### HERMETICALLY SEALED

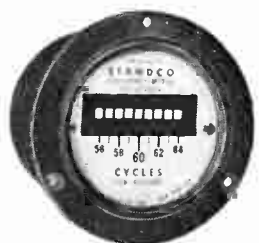
2 1/2" and 3 1/2"

All MIL-Specs. Also Ruggedized Types.

Cat. No.	No. Reeds	Interv. CPS	Range CPS
351	5	1	48-52
352	7	1	47-53
349	9	0.5	48-52
353	11	0.5	47.5-52.5
348	11	1	45-55
356	9	0.5	58-62
357	11	0.5	57.5-62.5
358	21	0.5	55-65
359	5	1	58-62
360	7	1	57-63
361	9	1	56-64
362	11	1	55-65
363	21	1	50-70

Cat. No.	No. Reeds	Interv. CPS	Range CPS
<b>DUAL RANGE</b>			
369	5	1	48-52
	5	1	58-62
<b>400 CYCLES</b>			
374	5	10	380-420
380	5	5	390-410
364	9	5	380-420
366	11	4	380-420
365	11	5	375-425
379	11	8	360-440
376	11	2	390-410
375	17	2.5	380-420
378	17	5	360-440
367	21	2	380-420
368	21	4	360-440

Bulletin 806



## "STANDCO" COMBINATION FREQUENCY AND RUNNING TIME METERS

In 3 1/2" flush mounting, round bakelite cases



Bulletin 811

Cat. No.	Freq. Range	No. of Reeds.	Time Range
TF-362	55-65 CPS	11 Reeds	9999.9 hrs.
TF-356	58-62 CPS	9 Reeds	9999.9 hrs.
TF-360	57-63 CPS	7 Reeds	9999.9 hrs.
TF-359	58-62 CPS	5 Reeds	9999.9 hrs.

## "STANDCO" RUNNING TIME METERS

In 2 1/2" and 3 1/2" round, flush mounting, sealed or unsealed cases

3 1/2"

2 1/2"

Type T-1	9999.9 hrs.
Type T-3	99,999 hrs.
Type T-4	99,999 min.

Type T-25	9999.9 hrs.
Type T-30	99,999 hrs.
Type T-35	99,999 min.

115V, 220V, 440V,  
60 or 50 cycles

115V, 220V, 440V,  
60 or 50 cycles



Bulletin 810

## "STANDCO" TACHOMETERS



### HIGH INTENSITY STROBOSCOPE

MODEL 510-AL

STOPS MOTION

MEASURES RPM

without contact

With brilliant daylight flasher unit for maximum readability.

With 4 ranges - 60-15,000 RPM

"Industry's Seeing Eye"

Bulletin 781

### PORTABLE HAND TACHOMETERS

CENTRIFUGAL AND CHRONOMETRIC TYPES

With one, two, three, five or six ranges in one instrument. All speeds 0-100,000 RPM.

Bulletins 735, 750, 751, 756, 765, 790



## "MEGOHMER" INSULATION TESTERS



### DC GENERATOR (HAND CRANK) TYPES

"DWARF" Megohmer, 500 volts DC

Cat. No. 701, 0.1-100 megohms

Cat. No. 702, 0.1-100 megohms  
0-10,000 ohms

### HIGH RESISTANCE MEGOHMMETER

MODEL 29-U

20,000,000 MEGOHMS

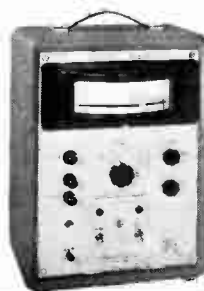
Direct Reading: Unusual stability, fast in operation, high accuracy.

11 Ranges: From 300,000 ohms to 20 million megohms.

Power Supply: 115 volts DC, 60 cycles.

Test Potentials: 100 volts DC and 500 volts DC. Also: 0.5 volts to 1000 volts by external supply.

Bulletin 1029U



# HERMAN H. STICHT CO., INC.

# WORLD'S MOST POPULAR MINIATURE V-O-M

## Volt-Ohm-Milliammeter

MODEL 310

1. One selector switch. 2. 20,000 ohms per volt DC sensitivity. 3. Shirt pocket size VOM with provision for attaching AC clamp-on ammeter. Self-shielded for checking in strong magnetic fields. Rugged, high torque, boring instrument. Unbreakable plastic meter window. Fitting interchangeable test prod into top of tester makes it the common probe, freeing one hand. Standard sensitivity 20,000 ohms per volt DC, and 5,000 ohms per volt AC. Spring-backed instrument jewels for ruggedness. Accuracy 3% DC, 4% AC.

### RANGES

DC Volts: 0-3-12-60-300-1,200 (at 20,000 ohms per volt). AC Volts: 0-3-12-60-300-1,200 (at 5,000 ohms per volt). Ohms: 0-20,000-200,000. Megohms: 0-2-20. DC Microamperes: 0-600 at 250 millivolts. DC Milliampere: 0-6-60-600 at 250 millivolts. Weight—Approx. 14 oz., complete with batteries. Case—Molded, block, 2 3/4" x 4 1/4" x 1 5/8". Complete with leads, battery and instruction manual. Shipping wt. 2 lbs.

\$42.00

CATALOG NUMBER 3018



310



310-C



Model 10



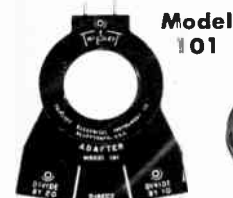
100



310-10



630 Series VOM &amp; Model 10



Model 101



611 Leads

## Volt-Ohm-Milliammeter

MODEL 310-C

New 310-C is the same as Model 310, above, (except 600 volt ranges replace 1200 volt ranges of model 310) plus the following features:

1. Fully enclosed lever range switch.
2. 15,000 Ohms per volt AC (20,000

O/V DC same as 310). 3. Reversing switch for DC measurements. Handsize and lightweight, but with the features of a full size V-O-M.

\$53.00

CATALOG NUMBER 3022

## V-O-M and Clamp-On Ammeter Set

MODEL 100

Handsomely packaged set includes: Model 310 V-O-M, Model 10 Clamp-on Ammeter Adapter; Model 101 Line Separator; Model 379 Leather Case; Model 311 Leads. (\$78.00 Value Separate Unit Purchase Price.)

MODEL 100, as above, you save \$4.00. Shipping wt. 7 lbs.

\$74.00

CATALOG NUMBER 3014

MODEL 100-C Same as above but with Model 310-C. \$84.00

CATALOG NUMBER 3010

## Clamp-On Adapter

MODEL 10

### CHECKS LINE LOADS WITH MODEL 310 OR 310-C

(Also can be used with Models 630, 630-A, 630-NA, 631, 630-PL, 630-APL, 630-M, 630-NS, 630-PLK, 630-L by means of 611 leads.)

Checks all line loads instantly, accurately, safely—without breaking the circuit or interrupting work. Easy range switching. Model 10 Clamp-On Adapter AC Ammeter ranges: 0-6-12-30-60-120-300. Clips around single wire to read A.C.

Amperes direct. Used with Adapter 101 to divide instantly two-conductor cords. A lever securely locks the Model 10 to Model 310 when used in combination. Model 10 can be left attached to Model 310 when the latter tester is used as an AC-DC V-O-M only. The only change is to remove the lead plug from the Model 310 V-O-M jack and insert it in the jack provided in the Model 10 housing. Case black molded plastic with engraved white markings.

\$18.00

CATALOG NUMBER 60211

### No. 611 LEADS

In addition to use with the Model 310, the No. 10 Adapter also can be used as a Clamp-On Ammeter with any Volt-Ohm-Milliammeter having a 3 AC Volt scale at 5,000 Ohms per Volt or above, such as Triplett Models 630, 630-A, 630-

NA, 630-PL, 630-APL, 630-NS, 630-M, 630-PLK, 630-L, 631, etc. (see illustration). This is done by means of a long lead attachment (No. 611) making possible easy readings in difficult locations.

\$3.00

CATALOG NUMBER 79-160

### No. 311 LEADS

The Model 10 can be separated from the Model 310 (in the same way as above) by using No. 311 lead attach-

ment. This permits readings in difficult locations.

\$3.00

CATALOG NUMBER 79-161

## Line Separator

MODEL 101

Plugs into AC outlet to divide instantly two-conductor cords. Increases ammeter sensitivity 10X and 20X. Use up to 30 AC Amperes from 0.3 to 30 in nine steps. Also has provision for Voltmeter

prods for voltage measurements. Case, black molded plastic with engraved markings.

\$7.50

CATALOG NUMBER 60218

All Prices Are Suggested U.S.A. User Net Subject To Change. Specifications Subject To Revision. (Slightly Higher West of Rockies and in Canada)

# THE WORKHORSE OF THE ELECTRONIC INDUSTRY

## Volt-Ohm-Milliammeter

**MODEL 630**

1. One selector switch minimizes chance of incorrect settings and burnouts. 2. 5,000 ohms per volt AC sensitivity; 20,000 DC. 3. Four resistance ranges to 100 megohms.

Popular streamlined tester with long meter scales arranged for easy reading. Outstanding resistance ranges: low reading .1 ohm, high 100 megs. Fuse affords protection to the resistors in the ohmmeter circuit, especially the X1 setting.

Spring-backed instrument jewels for ruggedness. Accuracy  $\pm 2\%$  DC,  $\pm 3\%$  AC.

### RANGES

**DC Volts:** 0-3-12-60-300-1,200-6,000 at 20,000 ohms per volt.

**AC Volts:** 0-3-12-60-300-1,200-6,000 at 5,000 ohms per volt.

**Ohms:** 0-1,000-10,000.

**Megohms:** 0-1-100.

**DC Microamperes:** 0-60 at 250 millivolts.

**DC Milliampers:** 0-1.2-12-120 at 250 millivolts.

**DC Amperes:** 0-12.

**DB:** -20 to +77 (600 ohm line at 1 MW).

**Output Volts:** 0-3-12-60-300-1,200; jock with condenser in series with AC ranges.

**Usable with frequencies through 500 Kc.**  
**CASE—**Molded, black, 3-7/32" x 5 1/2" x 7 1/2".

Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs. **\$58.00**

CATALOG NUMBER 3030


**630**

## LABORATORY TYPE V-O-M Volt-Ohm-Milliammeter

**MODEL 630-A  
TYPE 2**

1. New Rugged 5 1/2" suspension meter with 4 1/2" mirror scale. 2.  $\pm 1 1/2\%$  DC,  $\pm 3\%$  AC accuracy. 3. A laboratory type V-O-M with 1/2% resistors for greater accuracy.

Other features same as described for Model 630 above.

### RANGES

**DC Volts:** 0-3-12-60-300-1,200-6,000 at 20,000 ohms per volt.

**AC Volts:** 0-3-12-60-300-1,200-6,000 at 5,000 ohms per volt.

**Ohms:** 0-1,000-10,000.

**Megohms:** 0-1-100.

**DC Microamperes:** 0-60 at 250 millivolts.

**DC Milliampers:** 0-1.2-12-120 at 250 millivolts.

**DC Amperes:** 0-12.

**DB:** -20 to +77 (600 ohm line at 1 MW).

**Output Volts:** 0-3-12-60-300-1,200; jock with condenser in series with AC ranges.

**Usable with frequencies through 500 Kc.**  
**CASE—**Molded, black, 3-7/32" x 5 1/2" x 7 1/2".

Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs. **\$68.00**

CATALOG NUMBER 3034


**630-A**

## Combination V-O-M and VTVM

**MODEL 631**

1. One selector switch. 2. Complete V-O-M in combination with battery operated VTVM. 3. 11 megohm input to VTVM.

Two fundamental units at the price of a single tester; VTVM stability assured by long life battery operation.

Sensitivity plus — sensitivity of the 1.2 volt (VTVM) range is equal to over nine million ohms per volt. Usable with frequencies through 500 Kc.

A V-O-M for general use and a VTVM when needed; ranges entirely adequate for servicing needs.

Large meter easy to read; unbreakable meter face.

Spring-backed instrument jewels for ruggedness. Accuracy 3% DC, 4% AC, VTVM 4%.

### V-O-M RANGES

**DC Volts:** 0-3-12-60-300-1,200 (20,000 ohms per volt).

**AC Volts:** 0-3-12-60-300-1,200 (5,000 ohms per volt).

**Ohms:** 0-1,500-15,000.

**Megohms:** 0-1.5-150.

**DC Microamperes:** 0-60 at 250 MV.

**DC Milliampers:** 0-1.2-12-120 at 250 MV.

**DC Amperes:** 0-12 at 250 MV.

**DB:** -20 to +63. (600 ohm line at 1 MW).

**Output Volts:** 0-3-12-60-300-1,200; jock with condenser in series with AC ranges.

### VTVM RANGES

**DC Volts:** 0-1.2-6-30-120.

**Case:** Molded, black, 3-11/32" x 5 1/2" x 7 1/2".

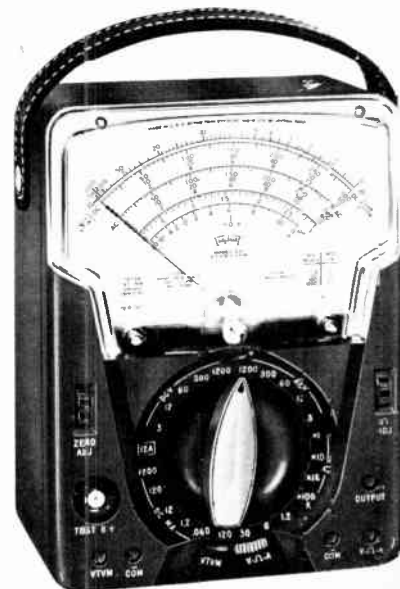
Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs. **\$78.00**

CATALOG NUMBER 3058

### RF PROBE FOR 631

With this probe and Model 631 RF measurements can be made up to 20 volts of 250 MC. Pt. T-79-A-145 **\$9.00**

CATALOG NUMBER 79-145


**631**

All Prices Are Suggested U.S.A. User Net Subject To Change. Specifications Subject To Revision. (Slightly Higher West of Rockies and in Canada)

# TRIPLETT ELECTRICAL INSTRUMENT COMPANY

# ONE MILLION OHMS PER VOLT SENSITIVITY

## Volt-Ohm-Milliammeter MODEL 630-M TYPE 1

1. 1,000,000 Ohms per volt DC for greater accuracy on high resistance circuits 20,000 ohms per volt AC.

2.  $1\mu$ a Suspension Meter Movement. No pivots, bearings, or rolling friction. Extremely rugged. Greater sensitivity and repeatability.

3. 61 Ranges, usable with frequencies through 100 Kc. Temperature compensated.  $1\frac{1}{2}\%$  DC accuracy, 3% AC in horizontal position.

Now the input impedance of a VTVM with the convenience of a V-O-M. Reads as low as 20 nanoamperes. Components mounted on quality glass epoxy etched circuit board. Meter protected by diodes against accidental overload.

### RANGES

**D.C. Volts:** 0-0.6-3-12-60-300 at 500,000 Ohms/Volt.  
0-0.3-1.5-6-30-150 at 1,000,000 Ohms/Volt.  
0-1200 at 125,000 Ohms/Volt.

0-600 at 250,000 Ohms/Volt.

**A.C. Volts:** 0-3-12-60-300-1200 at 10,000 Ohms/Volt.

0-1.5-6-30-150-600 at 20,000 Ohms/Volt.

**DB:** -20 to +63 in 10 ranges

**D.C. Microamperes:** 0-1 at 300 M.V.

0-60-600 at 300 M.V.

0-120 at 600 M.V.

**D.C. Milliamperes:** 0-6-60-600 at 300 M.V.

0-1.2-12-120-1200 at 600 M.V.

**D.C. Amperes:** 0-6 at 300 M.V.

0-12 at 600 M.V.

**Ohms:** 0-1K-10K-100K (4.4-44-440 at center scale)

**Megohms:** 0-1-10-100 (4400-44,000-440,000 Ohms center scale)

**Output:** Condenser in series with AC Volt ranges **\$210.00**

### CATALOG NUMBER 3108

**Case**—Heavy, molded black case, 3-11/32" x 5 1/2" x 7 1/2", with removable black leather strap handle. Shipping wt. 5 lbs.



630-M

# NOT 20,000 BUT 200,000 OHMS PER VOLT

## Volt-Ohm-Milliammeter MODEL 630-NS

1. 200,000 ohms per volt DC for greater accuracy on high resistance circuits. 20,000 ohms per volt AC. 2. Suspension Meter Movement. No pivots, no bearings, no hairsprings; no rolling friction. Extremely rugged. Greater sensitivity and repeatability. 3. 62 ranges. Temperature and frequency compensated.

The unit is precision designed to give maximum coverage, to withstand accidental overloads and to offer greater reading accuracy. Usable with frequencies through 100 Kc. Accuracy  $1\frac{1}{2}\%$  DC, 3% AC.

### RANGES

**DC Volts:** 0-0.6-3-12-60-300-1200 at 100,000 Ohms/Volt.  
0-0.3-1.5-6-30-150-600 at 200,000 Ohms/Volt.

0-0.150 at 60 microamperes.

**AC Volts:** 0-3-12-60-300-1200 at 10,000 Ohms/Volt.

0-1.5-6-30-150-600 at 20,000 Ohms/Volt.

**DB:** -20 to +63 in 10 ranges.

**DC Microamperes:** 0-60-600 at 150 Mv.

0-5-120 at 300 Mv.

**DC Milliamperes:** 0-6-60-600 at 150 Mv.

0-1.2-12-120-1200 at 300 Mv.

**DC Amperes:** 0-6 at 150 Mv. 0-12 at 300 Mv.

**Ohms:** 0-1K-10K-100K (4.4-44-440 at center scale).

**Megohms:** 0-1-10-100 (4400-44,000-440,000 Ohms center scale).

**Output:** Condenser in series with AC Volt ranges. **\$105.00**

### CATALOG NUMBER 3102

**Case**—Molded, black, 3-11/32" x 5 1/2" x 7 1/2". Shipping wt. 5 lbs.



630-NS

## Volt-Ohm-Milliammeter MODEL 630-PL TYPE 2

1. Meter movement diode protected against instantaneous overloads. 2. One selector switch minimizes chance of incorrect settings and burnouts. 3. Four outstanding resistance ranges, from .1 ohm to 100 megs.

Polarity reversing switch. Tester usable with frequencies through 500 Kc. Instant-vision, wider spread scales; streamlined case, handsome modern design. Unbreakable plastic window.

Fuse affords extra protection to the resistors in the ohmmeter circuit, especially the X1 setting. Spring-backed instrument jewels for ruggedness.

High Sensitivity: 5,000 ohms per volt AC; 20,000 ohms per volt DC. Accuracy  $\pm 2\%$  DC,  $\pm 3\%$  AC.

### RANGES

**DC Volts:** 0-2.5-10-50-250-1,000-5,000— at 20,000 ohms/volt.  
0-0.25 at 100 microamperes.

**AC Volts:** 0-3-10-50-250-1,000-5,000 — at 5,000 ohms/volt.

**Decibels:** -20 to +11, +21, +35, +49, +61, +75; "0" DB at 1 MW on 600 ohm line.

**DC Microamperes:** 0-100—at 250 millivolts.

**DC Milliamperes:** 0-10-100-1,000 — at 250 millivolts.

**DC Amperes:** 0-10—at 250 millivolts.

**Ohms:** 0-1,000-10,000—(4.4-44 at center scale).

**Megohms:** 0-1-100—(4,400-440,000 at center scale).

**Output V (AC):** 0-3-10-50-250-1,000— at 5,000 ohms/volt, jack with condenser in series with AC ranges.

**Case:** Molded, black, 3-11/32" x 5 1/2" x 7 1/2".

Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs. **\$58.00**

### CATALOG NUMBER 3050



630-PL

## Laboratory Type V-O-M MODEL 630-APL TYPE 3

1. New rugged 5 1/2" suspension meter with 4 1/2" mirror scale. 2. Meter movement diode protected against instantaneous overloads. 3.  $\pm 1\frac{1}{2}\%$  DC,  $\pm 3\%$  AC accuracy.

A laboratory type V-O-M featuring 1/2% resistors for greater accuracy. Ranges and other features same as Model 630-PL above. **\$68.00**

### CATALOG NUMBER 3038



630-APL



# OVERLOAD PROTECTED V-O-M

## Volt-Ohm-Milliammeter

### MODEL 630-PLK TYPE 2

1. Comprehensive overload protection.
2. One selector switch minimizes chance of incorrect settings.
3. Polarity reversing switch.

Transistorized electronic switching circuit (patent pending) guards against accidental burn-outs. Now you can virtually eliminate bent pointers, burned-out resistors, damaged pivots, overheated springs, burned-out coils, changes in accuracy due to overheating, in fact nearly any need for repairs. Life of transistor circuit battery is nearly that of shelf life. Automatically checked by using X100K ohms range. Overload protection on meter in addition to transistorized circuit that protects tester.

Accuracy  $\pm 2\%$  on DC,  $\pm 3\%$  AC. High sensitivity: 20,000  $\Omega/V$  DC; 5,000  $\Omega/V$  AC. Shipping weight 5 lbs.

#### RANGES

DC Volts: 0-2.5-10-50-250-1,000-5,000 at

20,000 ohms/volt; 0-0.25 at 100 microamperes.

AC Volts: 0-3-10-50-250-1,000-5,000 at 5,000 ohms/volt.

Decibels: -20 to +11, +21, +35, +49, +61, +75; "0" DB at 1 MW on 600 ohm line.

DC Microamperes: 0-100 at 250 Mv.

DC Milliampères: 0-10-100-1000 at 250 Mv.

DC Amperes: 0-10 at 250 Mv.

Ohms: 0-1,000-10,000 (4.4-44 at center scale).

Megohms: 0-1-100 (4,400-440,000 at center scale).

Output Volts (AC): 0-3-10-50-250-1,000 at 5,000 ohms/volt; jack with condenser in series with AC ranges.

Case: Molded, black, 3-11/32" x 5 1/2" x 7 1/2".

Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs. **\$89.00**

CATALOG NUMBER 3055



630-PLK

## LABORATORY TYPE V-O-M

### WITH OVERLOAD PROTECTION

## Volt-Ohm-Milliammeter

### MODEL 630-APLK TYPE 1

1. Comprehensive overload protection.
  2. Polarity reversing switch. Suspension Meter Movement.
  3. One selector switch minimizes chance of incorrect settings.
- 4 1/2" mirror scale. Lab type V-O-M with 1/2" resistors for greater accuracy.

$\pm 1 1/2\%$  DC,  $\pm 3\%$  AC accuracy. Other features same as described for Model 630-PLK above.

Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs. **\$100.00**

CATALOG NUMBER 3120



630-APLK

## Volt-Ohm-Milliammeter

### MODEL 630-L

1. 2 low power ohms ranges (X1 and X10). 140 Mv. ohmmeter circuit voltage.
2. One selector switch minimizes chance of incorrect settings.
3. Exclusive shielded BAR-RING movement. Accuracy  $\pm 2\%$  on DC;  $\pm 3\%$  on AC. Sensitivity: 20,000  $\Omega/V$  DC, 5,000  $\Omega/V$  AC.

#### RANGES

DC Volts: 0-2.5-10-50-250-1,000-5,000 at 20,000 ohms/volt.

AC Volts: 0-3-10-50-250-1,000-5,000 at 5,000 ohms per volt.

Decibels: -20 to +75; "0" Db at 1 Mw on 600 ohm line.

DC Microamperes: 0-100 at 120 millivolts.

DC Milliamperes: 0-10-100-1000 at 120 millivolts.

DC Amperes: 0-10 at 120 millivolts.

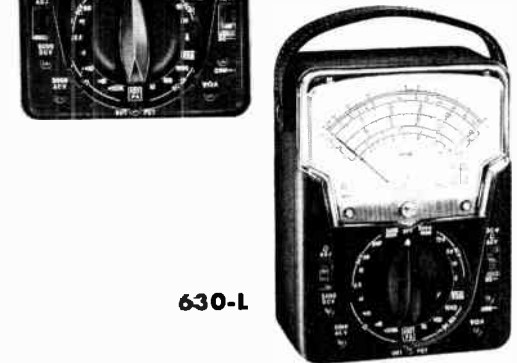
Ohms: 0-1,000-10,000 (13-130 at center scale).

Megohms: 0-1-100 (4,400-440,000 at center scale).

Output V (AC): 0-3-10-50-250-1,000 at 5,000 ohms/volt, jack with condenser in series with AC ranges.

Case: Black molded, 3-11/32" x 5 1/2" x 7 1/2". **\$63.00**

CATALOG NUMBER 3040



630-L

## Volt-Ohm-Milliammeter

### MODEL 630-NA

1. One selector switch.
2. 70 ranges: 1 1/2% DC accuracy on meter; with mirror scale and overload protection.
3. Temperature and frequency compensation.

The super deluxe of V-O-Ms. Usable with frequencies through 500 Kc. Large open front meter easy to read. Unbreakable window. Mirror scale. Meter has special diode protection against the most severe overloads. A fuse affords protection to resistors in the ohmmeter circuit (especially the X1 setting) should too high a voltage be applied. Spring-backed instrument jewels for ruggedness. Accuracy 1 1/2% DC, 3% AC.

#### RANGES

DC Volts: 0-.6-3-12-60-300-1,200-6,000 at 10,000 ohms per volt.

0-.3-1.5-6-30-150-600-3,000 at 20,000 ohms per volt.

0-0.120 at 60 microamperes.

AC Volts: 0-3-12-60-300-1,200-6,000 at 5,000 ohms per volt.

0-1.5-6-30-150-600-3,000 at 10,000 ohms per volt.

Ohms: 0-1K-10K-100K.

Megohms: 0-1-10-100.

DC Microamperes: 0-120 at 240 millivolts.

0-60-600 at 120 millivolts.

DC Milliamperes: 0-1.2-12-120-1,200 at 240 millivolts.

0-6-60-600 at 120 millivolts.

DC Amperes: 0-12 at 240 millivolts.

0-6 at 120 millivolts.

DB: -20 to +77 (600 ohm line at 1 MW).

Output Volts: 0-3-12-60-300-1,200; jack with condenser in series with AC ranges.

Case—Molded, black, 3-11/32" x 5 1/2" x 7 1/2".

Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs. **\$89.00**

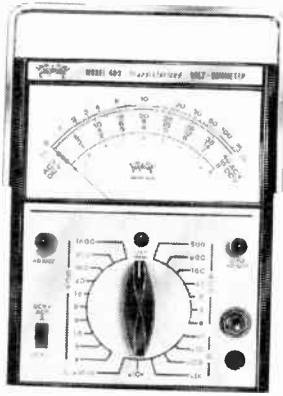
CATALOG NUMBER 3042



630-NA

**SECTION 2900**

**TWO ALL NEW! TRANSISTORIZED VOLT-OHMMETER MODEL 600**



**600**

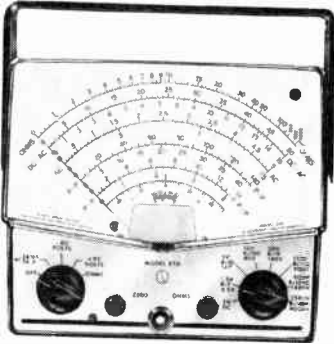
1. F-E-T Circuitry — Battery Operated with 11 Megohm Input Impedance (Field Effect Transistor). 2. 400 DC Mv range at 2.7 Megohm Impedance for Solid State circuit testing. 3. One Selector Switch with 23 ranges plus a Polarity Reversing Switch. Superior voltage Measuring Capabilities plus resistance ranges to 100 Megohms. .4 Volt full scale range on DC. Exceptional for use in low voltage solid state circuits with greater overlapping of ranges providing better reading accuracy. Accuracy is  $\pm 3\%$  on both AC and DC.

Single unit probe with built-in switch for AC/DC/OHMS. 11 Megohm input resistance on all DC Voltage ranges except .4 and .8. AC impedance is minimum of .75 megohms.

**RANGES — DC Volts:** 0-0.4-0.8-1.6-4-8-16-40-160-400-1600. **AC Volts:** 0-4-8-16-40-160-400-800. **Ohms:** 0-1,000-10,000-100,000-1 Meg-10 Meg-100 Meg. Center scale value 10 Ohms at X1. Complete with leads, batteries, and instruction manual. **\$78.00**

**CATALOG NUMBER 3032**

**ELECTRONIC VOLT-OHMMETER MODEL 850**



**850**

1. Long 7" easy-to-read scale. 2. .5 DCV range for transistor circuits. 3. High stability — meter connected in cathode circuit of 12AU7.

This extremely versatile Electronic Volt-Ohmmeter has superior voltage measuring capabilities, plus resistance ranges to 1000 Megohms.

Among its outstanding features:

**ELECTRICAL PROTECTION** of meter against burnout. **FREQUENCY RANGE** — from 15 cps to 3 Megacycles. **SEPARATE SCALE** on easy-view meter for Peak-to-peak readings. **SINGLE UNIT PROBE** — with built-in switch for AC/DC/OHMS. **11 MEGOHM INPUT RESISTANCE** on all DC Voltage ranges. Line voltage: 115 VAC 50-60 cycles. Ground type plug. Spring-backed instrument jewels for ruggedness.

Accurate within  $\pm 3\%$  on AC and DC. Ohms accurate within  $\pm 3\%$  of full scale based on DC scale.

**RANGES**

Eight DC Volts Ranges: 0-.5-1.5-5-15-50-

150-500-1500. **Seven AC RMS Volts Ranges:** 0-1.5-5-15-50-150-500-1500. **Seven Peak-to-Peak Volts Ranges:** 0-4-14-40-140-400-1400-4000. **Seven Resistance Ranges:** 0-1000-10,000-100,000-1 Meg-10 Meg-100 Meg-ohms-1000 Megohms. **Frequency Range:** 15 CPS to 3 MC; (Up to 250 MC with accessory diode probe available extra). **Input Impedance:** DC Volts 11 Megohms; **CASE** — Molded black case, 7 $\frac{5}{8}$ " x 6 $\frac{1}{16}$ " x 3 $\frac{3}{4}$ ". Carrying handle also can be used to place the tester at 25° angle for ease in reading.

**PANEL** — Etched aluminum. Shipping wt. 7 lbs. **\$89.00**

**CATALOG NUMBER 3074**

**MODEL 850** (Foreign — 220V, 50 to 60 N). **CATALOG NUMBER 3075**

**Auxiliary Diode Probe** for voltages to 20 volts with frequencies to 250 MC. **\$8.50**

**CATALOG NUMBER 79-215**

**High Voltage Probe** for DC Voltages to 50 KV. Pt. 79B-196 **\$24.00**

**CATALOG NUMBER 79-196**

**VOLT-OHM-MILLIAMMETER MODEL 800 TYPE 2**



**800**

1. 8" Suspension Meter with 6.95" mirror scale for greater readability plus diode overload protection.

2. 1 $\frac{1}{2}\%$  DC and 3% AC accuracy with temperature and frequency compensation.

3. 67 Ranges with a DC polarity reversing switch and fused ohmmeter circuit. No other V-O-M offers all the Deluxe features of the model 800. 3% AC ACCURACY to 1200 volts; mirror and knife-edge pointer to eliminate parallax; USABLE with frequencies to 100 Kc; WIRED CIRCUIT (not printed); HIGH FLUX BARRING self shielded magnet; DUAL SENSITIVITY provides extra ranges, DC volts at 20,000 and 10,000 ohms per volt, AC at 10,000 and 5,000 ohms per volt. Shatter-proof meter window, molded transparent plastic; fully antistat treated.

10,000 Ohms per Volt. 0-0.3-1.5-6-30-150-600-3000 at 20,000 Ohms per Volt. 0-120 at 60 Microamperes. **AC Volts:** 0-3-12-60-300-1200-6000 at 5,000 Ohms per Volt. 0-1.5-6-30-150-600-3000 at 10,000 Ohms per Volt. **DB:** -20 to +70 in 10 ranges. **DC Microamperes:** 0-60-600 at 120 MV. 0-120 at 240 MV. **DC Milliamperes:** 0-6-60-600 at 120 MV. 0-1.2-12-120-1200 at 240 MV. **DC Amperes:** 0-6 at 120 MV. 0-12 at 240 MV. **Ohms:** 0-1K-10K-100K (4.4-40-440 at center scale). **Megohms:** 0-1-10-100 (4400-44,000-440,000 Ohms center scale). **Output:** Condenser in series with AC volt ranges.

**CASE** — Heavy, molded black case, 7 $\frac{1}{2}$ " x 6 $\frac{1}{4}$ " x 3 $\frac{3}{8}$ ", with an insulated, movable handle, which can also serve as a tester stand. Shipping wt. 7 lbs. **\$105.00**

**CATALOG NUMBER 3070**

**RANGES**

DC Volts: 0-0.6-3-12-60-300-1200-6000 at

**POCKET VOLT-OHM-MILLIAMMETER MODEL 666-R**



**666-R**

1. One selector switch. 2. Three resistance ranges to 3 megohms. 3. Five volt ranges to 5,000 AC & DC volts.

Hand-size — the ideal tester for electrical maintenance. Recessed range knob enables tester to fit in tool kit.

AC rectifier pre-calibrated unit for easy replacement.

Banana jacks at top of the panel lessen possibility of leads falling over the meter dial. Accuracy 3% DC, 4% AC.

**CASE** — Black molded, streamlined, handy pocket size, 3 $\frac{1}{16}$ " x 5 $\frac{7}{8}$ " x 2 $\frac{1}{16}$ ".

Complete with leads, alligator clips, batteries and instruction manual. Shipping wt. 3 lbs. **\$42.00**

**CATALOG NUMBER 3066**

**RANGES**

DC Volts: 0-10-50-250-1,000-5,000 at

All Prices Are Suggested U.S.A. User Not Subject To Change. Specifications Subject To Revision. (Slightly Higher West of Rockies and in Canada)

**TRIPLET ELECTRICAL INSTRUMENT COMPANY**

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Net

World Radio History

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# Leather Cases

For Testers 600, 630, 630-A, 630-PL, 630-APL, 630-NA, 630-M, 630-NS, 631, 630-L, 630-PLK, 630-APLK



639-N

### MODEL 639-N

Model 639-N black cowhide leather carrying case. Center-cover flaps snap back allowing full view of scales and permitting complete access to instrument without removal from case. Tester stand is included at no extra cost. **\$12.90**  
CATALOG NUMBER 101 189



639/639-P

Model 639 black leather case. **\$12.00**  
CATALOG NUMBER 101 823

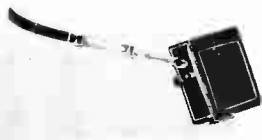
Model 639-P black cowhide leather carrying case lined with 3/8" sponge rubber. **\$17.00**  
CATALOG NUMBER 101 921



639-OS

Model 639-OS — Black leather case, has built-in stand on back. Flaps open to permit use of tester in case. Compartment for accessories. **\$14.00**  
CATALOG NUMBER 101 793

## For Models 310-310-C



369-S

### LEATHER CASE

Model 369-S leather carrying case for use with Models 310 or 310-C. Has removable leather shoulder strap. The case flap folds back to form a handy stand. Contains a retractable hook for hanging from nails, pipes, etc., freeing both hands. Test leads store in case and remain plugged into tester jacks while flap is closed keeping your 310 or 310-C ready for instant use. Soft shock absorbent lining. **\$9.50**

CATALOG NUMBER 101 791



379

Model 379 as above, large enough for 310-10 in combination. Has pocket for 101. **\$7.50**

CATALOG NUMBER 101 456

Model 369-T Neckstrap Carrying Case for Model 310. **\$9.00**

CATALOG NUMBER 101 608



369-T

Model 369 — Handsome black cowhide leather carrying case for Model 310. Trouser belt slips through loop on back of the case for out-of-the-way carrying. **\$4.00**

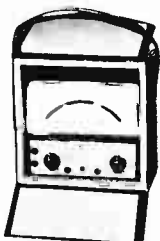
CATALOG NUMBER 101 258

### TESTER STAND



TESTER STAND

## Models 800 and 850



### Model 859-OP

Black Leather Carrying Case, lined with sponge rubber. Flaps open to permit use of tester without removal from case. Built-in stand on back. Model 859-OP. **\$22.00**

859-OP

CATALOG NUMBER 101 669

## For Model 666-R

Model 669 black leather case for 666-R. (Similar to Model 639 above). **\$8.00**

CATALOG NUMBER 101 616

Model 669-OS black leather case for Model 666-R. Tester can be used in the case. Built-in stand on back. **\$8.50**

669-OS

CATALOG NUMBER 101 792



## Catalog ACCESSORIES

Catalog Number	Price
<b>EXTERNAL SHUNTS—For 630, 630-A</b>	
91-247 30 Amperes (Plug-in) .....	<b>\$12.00</b>
91-248 60 Amperes (Portable) .....	<b>\$15.00</b>
91-255 120 Amperes (Portable) .....	<b>\$15.00</b>

<b>EXTERNAL SHUNTS FOR 631</b>	
91-248 60 Amperes (Portable) .....	<b>\$15.00</b>
91-255 120 Amperes (Portable) .....	<b>\$15.00</b>

<b>EXTERNAL SHUNTS FOR 630-NA, 800</b>	
91-429	
0-15-30 Amperes (Plug-in) .....	<b>\$16.00</b>
91-430	
0-30-60 Amperes (Portable) .....	<b>\$21.00</b>
91-431	
0-60-120 Amperes (Portable) .....	<b>\$21.00</b>

<b>EXTERNAL SHUNTS FOR 666-R, 630-PL, 630-APL, 630-PLK</b>	
91-243 25 Amperes (Plug-in) .....	<b>\$12.00</b>
91-244 50 Amperes (Portable) .....	<b>\$15.00</b>
91-191 100 Amperes (Portable) .....	<b>\$15.00</b>

<b>REPLACEMENT LEADS</b>	
<b>LEADS for Models 630, 630-A, 630-PL, 630-APL, 630-PLK, 630-APLK, 631, 666-R, 630-NA, 630-M &amp; 630-NS Rubber (79-127) .....</b>	<b>\$3.00</b>
<b>REPLACEMENT LEADS for Models 310, 310-C, 79A-153. Suggested U. S. A. User Net .....</b>	<b>\$3.00</b>

<b>REPLACEMENT AC-DC — Ohms probe for Model 850 Pt. # 79-192, lead assembly. .....</b>	<b>\$7.00</b>
<b>REPLACEMENT LEADS for Model 631</b>	
79-142 .....	<b>\$6.50</b>

<b>RF PROBE FOR 631</b>	
With this probe and Model 631 RF measurements can be made up to 20 volts at 250 MC. 79-145. .....	<b>\$9.00</b>

**HIGH VOLTAGE PROBES**  
Completely insulated polystyrene test probe with guard-type handle. Probe is 1-1/4" long, with 48" hi-voltage wire lead with banana plug of tester end.

<b>MODELS 630, 630-A, and 631</b>	
79-70...0-30,000 D.C. Volts .....	<b>\$17.00</b>
79-71...0-30,000 A.C. Volts .....	<b>\$17.00</b>
79-152...0-60,000 A.C. Volts .....	<b>\$17.00</b>
<b>Models 630-PL, 630-APL, 630-PLK, 630-L</b>	
79-83...0-10,000 D.C. Volts .....	<b>\$17.00</b>
79-130...0-25,000 D.C. Volts .....	<b>\$17.00</b>
79-166...0-25,000 A.C. Volts .....	<b>\$17.00</b>

<b>Models 630-NA and 800</b>	
79-152...0-30,000 D.C. Volts .....	<b>\$17.00</b>
79-71...0-30,000 A.C. Volts .....	<b>\$17.00</b>
79-152...0-60,000 A.C. Volts .....	<b>\$17.00</b>

<b>For Model 630-NS</b>	
79-229...0- 6,000 D.C. Volts .....	<b>\$17.00</b>
79-230...0- 6,000 A.C. Volts .....	<b>\$17.00</b>
79-152...0-30,000 A.C. Volts .....	<b>\$17.00</b>

<b>For Model 630-M</b>	
79-152...0-30,000 A.C. Volts .....	<b>\$17.00</b>
79-230...0- 6,000 A.C. Volts .....	<b>\$17.00</b>
79-247...0- 6,000 D.C. Volts .....	<b>\$17.00</b>

**TESTER STAND**  
Metal stand holds Model 630, 630-A, 630-PL, 630-APL, 630-NA, 630-NS, 630-PLK, 630-APLK, 631, 630-M or 630-L tester in approximately a 45° angle; will enable you to make easier readings.

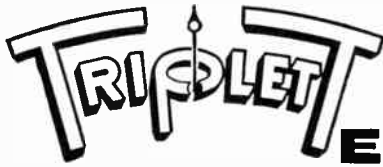
<b>STAND ONLY—</b> 255-A-35	
Shipping wt. 1 lb. .....	<b>\$2.00</b>

<b>PROBES FOR MODELS 310 AND 310-C</b>	
PROBE EXTENSIONS for 310 & 310-C leads, insulated, 3 inches long. CATALOG NUMBER 11968A .....	<b>\$1.60</b>
MINIATURE ALLIGATOR CLIPS for use with 310-310-C Probe extensions. Pt. 2451A-59. .....	<b>\$6.00</b>

<b>PROBES FOR MODEL 850</b>	
<b>Auxiliary Diode Probe for voltages to 20 volts with frequencies to 250 MC. 79-215. .....</b>	<b>\$8.50</b>
<b>High Voltage Probe for DC Voltages to 50 KV. 79-196. .....</b>	<b>\$24.00</b>

All Prices Are Suggested U.S.A. User Net Subject To Change. Specifications Subject To Revision. (Slightly Higher West of Rockies and in Canada)

MODEL 3444



# TEST EQUIPMENT

## TRUE DYNAMIC MUTUAL CONDUCTANCE TUBE ANALYZER MODEL 3444

The only tube tester under \$1,000 that is simple and fast to operate and 1. Will measure tube characteristics of KNOWN readable potentials. 2. Provides readings to: (a) Plot the tube characteristic curves. (b) Measure grid current of known potentials. (c) Compare cutoff characteristics of dual tubes. 3. Reads directly in microamperes with a self checking Gm circuit. CHECKS PLATE current cutoff. CHECKS GAS under actual operating conditions (measures to approximately one UA of gas current). CHECKS RECTIFIERS under load.

CHECKS THYRATRON firing voltage and grid current. (To 50 ma. anode current.) CHECKS DUAL section tubes with only one lever movement. PROVIDES SHORTS and leakage measurements from 0-10 megohms using a filtered DC supply of 85 volts. PROVIDES cut off measurements on voltage amplifiers. RECESSED SOCKET SAVERS (under-the-panel-mounted) are easily removable for replacement. Case: Wood, gray leatherette covered, 15<sup>3</sup>/<sub>8</sub>" x 18<sup>1</sup>/<sub>2</sub>" x 7<sup>3</sup>/<sub>4</sub>". Shipping wt. 30 lbs. **\$368.00**

## FASTER, FLEXIBLE TUBE TESTER MODEL 3414

1. Rapid easy testing-setups can be made while tube is heating. 2. Input filament continuity test. 3. Modified circuit for better correlation on Gm. Rejects burned out tubes instantly without waiting for the filaments to heat. NEON INDICATOR SHORTS TEST, new, fast and accurate. Full range filament voltages—0.65 to 117 in 23 steps. Improved lever switching for complete control of each tube element. Quick-change roll chart. TV

picture tube test by means of adapter (available extra, see below) without removing tube from receiver. Large, clearview meter has three-color GOOD-?-BAD scale. COUNTER-PORTABLE TYPE CASE. Ultra-professional appearance; Wood, dark gray leatherette covered; 15<sup>3</sup>/<sub>8</sub>" x 11<sup>1</sup>/<sub>2</sub>" x 6<sup>1</sup>/<sub>2</sub>". Hinged removable cover. Chrome hardware and feet. Etched panel. Shipping wt. 17 lbs. **\$126.00**

MODEL 3414

## NEW TRANSISTOR ANALYZER FOR COMPLETE TRANSISTOR ANALYSES MODEL 3490-A

1. Reads leakage current down to 100 nanoamperes on a 600 full scale meter. 2. Analyzes both power & signal types at specified voltages and currents. 3. Continuous current—up to 30 amp collector—and voltage control for transistor supply electrodes. Test DC Beta, AC Beta at 1KC, leakages (Ico, Ieo, Iceo), Alpha, Reach Through Voltage, Saturation Voltage, Floating Potential. The 3490-A's flexibility allows plotting of transistor characteristic curves along with setting up nearly any type of transistor test. Input bias reversing switch gives added versatility. THREE INDEPENDENT Power Supplies. Model 3490-A also tests diodes, rectifiers, zener diodes, SCR, etc.

**RANGES**  
Input Current (Emitter or Base): 0-100-300 uo, 0-1-3-10-30 Mo, 0-1-3-1-3 Amp. Collector Current: 0-300 uo, 0-1-3-10-30 Mo, 0-1-3-1-3-10-30 Amp. Iceo, Ico (Icbo): 0-6 Mo, 0-600 ua, 0-60 uo, 0-6 ua. Collector Voltage: 0-120 V, 0-60 V, 0-30 V, 0-12 V, 0-6 V, 0-3 V, 0-1-2 V. Emitter or Base Voltage: 0-12 V, 0-1-2 V. Tetrode: 0-10 V Calibrated Control. Shipping wt.: 30 lbs. Case: Wood, gray leatherette covered, 18<sup>1</sup>/<sub>2</sub>" x 15<sup>3</sup>/<sub>8</sub>" x 8" with removable cover, and sloping etched aluminum panel. **\$420.00**

MODEL 3490-A

## TRANSISTOR TESTER MODEL 2590

1. Tests Beta amplification, ICBO, ICEO for both power and signal type transistors. Tests for shorts and leakage. Checks leakage and forward currents on diodes. 2. Simulated operating test conditions. 3. Simple and straightforward operation. No roll chart or special data needed, always up-to-date. Case: 11<sup>3</sup>/<sub>4</sub>" x 8<sup>3</sup>/<sub>4</sub>" x 5<sup>1</sup>/<sub>4</sub>".

**FIVE SCALES**  
0-1 MA for Signal Transistor ICEO  
0-100 MA for Power Transistor ICEO  
0-500 Microamp for Signal Transistor ICBO  
0-1 MA for Power Transistor ICBO  
5-100 Beta Range; also shows on GOOD-?-BAD scale  
Shipping wt. 9 lbs. Power—115 volts, 50-60 cycle AC. **\$68.00**

MODEL 2590

## SIGNAL GENERATOR MODEL 3432-A

Complete frequency coverage 160 KC to 10 MC fundamental with seven bands (220 MC harmonics). R.F. circuits are double shielded with copper steel shields. Large easily read etched aluminum dial. Cathode follower output provides good stability by acting as a buffer to the oscillator. 400 cycle audio frequency with variable control for 0-100 per cent modulation.

C .....	715-1875 KC
D .....	1825-4950 KC
E .....	4.85-13 MC
F .....	12.5-35 MC
G .....	34-110 MC
G (Harmonics) .....	68-220 MC

<b>Band</b>	
A .....	160-370 KC
B .....	360-735 KC

Case: Metal with black baked enamel suede finish, 15<sup>1</sup>/<sub>2</sub>" x 11<sup>1</sup>/<sub>2</sub>" x 6<sup>1</sup>/<sub>4</sub>". Black leather strap handle, rubber feet. Shipping wt. 30 lbs. **\$137.00**

MODEL 3432-A

All Prices Are Suggested U.S.A. User Net Subject To Change. Specifications Subject To Revision.

# TRIPLET INSTRUMENTS

## NEW! G/P SERIES

### PORTABLE INSTRUMENTS

For School, Lab, or Shop.

1. Wide clear view plastic meter, with Bar-Ring DC movements.
2. Overload protection on all models. (Diodes on DC, Fused AC)
3. Unbreakable molded black plastic cases with aluminum panels.

Now you can make all types of electrical measurements right in your own lab or shop set-up with these new economically priced portable instruments. Rugged case and movement construction safeguards against rough handling. Overload protection of all models guards against electrical damage from misuse.

These instruments are of the highest quality and contain the craftsmanship of 60 years of instrument manufacturing. Use them for... complete shop set-ups... with breadboard wiring devices... to supplement limited training devices... production line checking... professional lab use. All these and many other uses are available with the Triplet G/P SERIES portables.



### SPECIFICATIONS

- 52 Standard ranges available in 23 units.
- $\pm 2\%$  accuracy on DC and AC Iron Vane Type.
- $\pm 3\%$  accuracy on AC Rectifier Type and Ohms.
- Wide clear view plastic 3 1/2" Model 320-G/P panel instrument.
- Bar-Ring construction in DC movements assures self-shielding.
- Five-way binding posts.
- Knife-edge pointers.
- Diodes protect against instantaneous overloads on DC movements.
- AC movements are fuse protected.
- Unbreakable black molded 1/4" x 3 7/8" x 4 1/4" plastic case.

### RANGES AND PRICES

#### DC 320-G/P

0-1-5-25 Volts (1000 ohms/volt).....	\$30.80
0-25-100-500 Volts (1000 ohms/volt).....	31.50
0-6-60-600 Volts (1000 ohms/volt).....	31.50
0-10-50-250 Microamperes (Suspension Type)..	58.90
0-50 Microamperes .....	28.70
500-25-0-25-500 Microamperes .....	32.50
0-25-1-5 Milliampers .....	30.00
0-25-100-500 Milliampers .....	30.40
0-1-10-100 Milliampers .....	30.40
0-1-5-25 Amperes .....	30.80
0-50-100-250 Millivolts (125 ohms/volt).....	30.40

#### AC RECTIFIER TYPE 350-G/P

0-6-60-600 Volts (1000 ohms per volt).....	\$50.00
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#### AC IRON VANE TYPE 330-G/P

0-120-600 Volts (83 ohms/volt) & C-12 Milliampers .....	\$41.60
0-5-25 Volts (4 ohms/volt) & 0-250 Milliampers .....	31.10
0-30-120 Volts (17 ohms/volt) & 0-60 Milliampers .....	32.30
0-150 Volts (125 ohms/volt) .....	24.70
0-1 Ampere .....	23.40
0-5 Amperes .....	23.40
0-25 Amperes .....	23.40

#### OHMS 320-G/P

0-1K-100K (10-1000 at center scale) Includes 1.5 V battery and test leads.....	\$34.10
0-1Meg-100Meg (5K-500K at center scale) Includes 30 V battery and test leads.....	39.40

#### R. F. VOLTS 340-G/P

0-2.5 Volts (240 ohms per volt).....	\$47.40
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#### WATTS 360-G/P

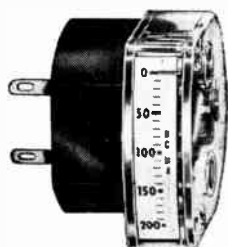
0-150 Watts (Max. 150 volts 2 amperes).....	\$50.10
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Special ranges to customer requirements on request.

Special charges will apply.

Test Leads (pt. no. T-79-127) are available for use with the G/P SERIES portables..... \$3.00

NOTE: The 0-50-100-250 DC millivolt model may be used with any of several standard switchboard shunts to extend range into higher current areas.



### MINIATURE EDGEWISE PANEL INSTRUMENTS

If space on your panel is at a premium here is a miniature meter that will fit into even the most restricted area—yet give you the readability, performance and reliability you expect from the conventional 2 1/4" sizes.

Weighing only four ounces this meter also is of value to the user who has a weight limitation factor on his hands.

Accuracy—DC 2% of full scale; AC Rectifier type 3% of full scale.

Self-Shielded Bar-Ring Magnet—Not affected by magnetic panels. High torque, exceedingly rugged and accurate.

Mounting—Horizontal, zero at left and barrel down is standard.

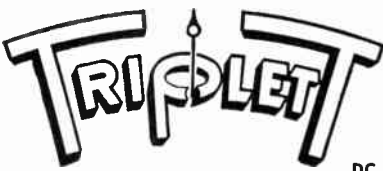
Vertical mounting or other special adaptations in quantity orders.

Panel Hole Required—Only 3/8" x 1 1/8".

DC-MA	Suggested U.S.A. User Net	DC-UA	Suggested U.S.A. User Net
0-1	\$12.60	0-50	\$18.90
0-10	12.60	0-100	16.50
0-25	13.00	0-200	14.10
0-50	13.00		
0-100	13.00	DC-AM	
0-150	13.00	0-10	\$13.7C
0-200	13.00	AC-VM (Rect. Type)	
0-300	13.00	0-150	\$22.80
0-500	13.00	0-300	23.9M
		VU Meters	x
DC-VM		A or B Scales	\$25.30
0-10	\$13.70		
0-50	13.70		
0-150	13.70		

ALL PRICES ARE SUGGESTED U.S.A. USER NET. SUBJECT TO CHANGE. MODELS SUBJECT TO REVISION.

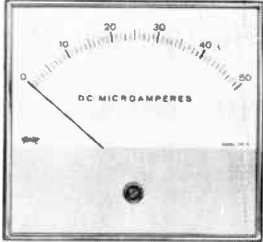
# TRIPLET ELECTRICAL INSTRUMENT COMPANY



# INSTRUMENTS

## DC MILLIVOLTMETERS

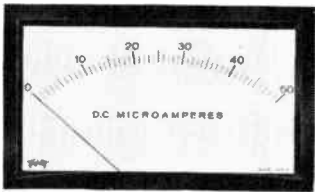
Range	Approx. Res.	Scale Div.	1 1/2" Model 120-G	2 1/2" Models 220-G 221-T 227-T	3 1/2" Models 321-T 327-T	3 1/2" Model 320-G	4 1/2" Models 420-G 420
0-50	6.7	50	\$12.60	\$12.60	\$13.40	\$13.40	\$14.80
0-100	13.5	50	12.60	12.60	13.40	13.40	14.80
0-150	20.2	75(30)**	12.60	12.60	13.40		14.80



DC 220-G, 320-G, 420-G  
AC 230-G, 330-G, 430-G

## DC VOLTMETERS (1000 Ohms per Volt) — FILM TYPE RESISTORS

Range	Scale Div.	1 1/2" Model 120-G	2 1/2" Models 220-G, 221-T, 227-T	3 1/2" Models 320-G, 321-T, 327-T	4 1/2" Models 420-M, 420, 420-G
0-1	50	\$13.70	\$13.70	\$14.20	\$15.60
0-3	60(30)**	13.70	13.70	14.20	15.60
0-5	50	13.70	13.70	14.20	15.60
0-10	50	13.70	13.70	14.20	15.60
0-15	75(30)**	13.70	13.70	14.20	15.60
0-25	50	13.70	13.70	14.20	15.60
0-50	50	13.70	13.70	14.20	15.60
0-100	50	13.70	13.70	14.20	15.60
0-150	75(30)**	13.70	13.70	14.20	15.60
0-200	40	13.70	13.70	14.20	15.60
0-250	50	13.70	13.70	14.20	15.60
0-300	60(30)	13.70	13.70	14.20	15.60
0-500	50	16.30***	16.30***	15.00	16.40
0-750	75(30)**	16.90	16.90	15.00***	16.40
0-1000	50	17.20	17.20	18.00	19.30
0-2000	40	18.00	18.00	18.70	20.10
0-3000	60(30)**	18.70	18.70	19.40	20.80
0-5000	50	21.70	21.70	20.30	21.60



## DC MICROAMMETERS (PIVOT & JEWEL TYPE)

Range	Approx. Reg.	Scale Div.	1 1/2" Model 120-G	2 1/2" Models 220-G 221-T 227-T	3 1/2" Models 320-G 321-T 327-T	4 1/2" Models 420-G 420
0-50	2300	50	\$18.90	\$18.90	\$19.70	\$21.10
0-100	825	50	16.50	16.50	17.30	18.10
0-200	360	40	14.10	14.10	14.90	16.30
0-500	156	50	13.50	13.50	14.30	15.80
50-0-50	825	50	16.50	16.50	17.30	18.70
100-0-100	360	50	14.10	14.10	14.90	16.30
500-0-500	55	50	12.60	12.60	13.40	14.80

## DC MICROAMMETERS (SUSPENSION)

Range	Approx. Res.	Scale Div.	2 1/2" Models 220-G 221-T 227-T	3 1/2" Models 320-G 321-T 327-T	4 1/2" Models 420-G 420
0-5	15000	50	\$41.70	\$42.40	\$43.80
0-10	7500	50	37.10	37.80	39.20
0-20	2500	40	28.90	29.70	31.10
0-50	825	50	26.60	27.40	28.80
0-100	360	50	24.20	25.00	26.40
0-200	156	40	21.70	22.60	23.90
0-500	40	50	21.10	21.90	23.30
50-0-50	360	50	24.20	25.00	26.40
100-0-100	156	50	21.70	22.60	23.90
500-0-500	12.5	50	20.30	21.00	22.40
0-1000†	12.5	50	20.30	21.00	22.40

†SCALE READS 0-1 Ma.

## DC MILLIAMMETERS

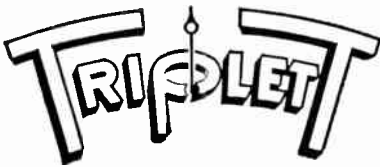
Range	Approx. Res.	Scale Div.	1 1/2" Model 120-G	2 1/2" Models 220-G, 221-T, 227-T	3 1/2" Models 320-G, 321-T, 327-T	4 1/2" Models 420, 420-G
0-1	55	50	\$12.00	\$12.60	\$13.40	\$14.80
0-1.5	30	75(30)**	12.00	12.60	13.40	14.80
0-3	14	60(30)**	12.00	12.60	13.40	14.80
0-5	8.5	50	12.00	12.60	13.40	14.80
0-10	3.1	50	12.00	12.60	13.40	14.80
0-15	3.3	75(30)**	12.00	12.60	13.40	14.80
0-25	2	50	12.40	13.00	13.90	15.20
0-50	1	50	12.40	13.00	13.90	15.20
0-75	0.67	75(30)**	12.40	13.00	13.90	15.20
0-100	0.50	50	12.40	13.00	13.90	15.20
0-150	0.33	75(30)**	12.40	13.00	13.90	15.20
0-200	0.25	40	12.40	13.00	13.90	15.20
0-250	0.20	50	12.40	13.00	13.90	15.20
0-300	0.17	60(30)**	12.40	13.00	13.90	15.20
0-400	0.12	40	12.40	13.00	13.90	15.20
0-500	0.10	50	12.40	13.00	13.90	15.20
0-750	0.07	75(30)**	12.40	13.00	13.90	15.20
0-1000	0.1	50	12.40	13.00	13.90	15.20



DC 227-T, 327-T  
AC 237-S, 337-S

ALL PRICES ARE SUGGESTED U.S.A. USER NET, SUBJECT TO CHANGE, SPECIFICATIONS SUBJECT TO REVISION.

# TRIPLETT ELECTRICAL INSTRUMENT COMPANY



# INSTRUMENTS



D.C. 221-T, 321-T  
A.C. 231-S, 331-S

### DC AMMETERS

Range	Scale Div.	1 1/2" Model 120-G	2 1/2" Models 220-G, 221-T, 227-T	3 1/2" Models 320-G, 321-T, 327-T	4 1/2" Models 420, 420-G
0-1	50	\$13.00	\$13.00	\$13.90	\$15.20
0-3	60(30)**	13.00	13.00	13.90	15.20
0-5	50		13.70	14.20	15.60
0-10	50		13.70	14.20	15.60
0-15	75(30)**		13.70	14.20	15.60
0-25	50		13.70	14.20	15.60
0-30	60(30)**		13.70	14.20	15.60
0-50	50		13.70	14.20	15.60

D.C. Ammeters are self-contained up to and including 50 Amperes. Shunts 75 Amperes (50 M.V.) and higher are switch-board type with 5 ft. leads.

### AC VOLTMETERS

Range	Approx. Ohms/Volt	Scale Div.	2 1/2" Models 231-S, 237-S	2 1/2" Model 230-G	3 1/2" Models 331-S, 337-S	3 1/2" Model 330-G	4 1/2" Model 430	4 1/2" Model 430-G
0-1.5	1.33	75(30)**	\$13.10	\$13.10	\$14.00	\$14.00	\$14.80	\$14.80
0-3	3.33	60(30)**	13.10	13.10	14.00	14.00	14.80	14.80
0-5	4	50	13.10	13.10	14.00	14.00	14.80	14.80
0-10	10	50	13.10	13.10	14.00	14.00	14.80	14.80
0-15	16	75(30)**	13.10	13.10	14.00	14.00	14.80	14.80
0-25	20	50	13.10	13.10	14.00	14.00	14.80	14.80
0-50	50	50	13.10	13.10	14.00	14.00	14.80	14.80
0-100	91	50	13.10	13.10	14.00	14.00	14.80	14.80
0-150	125	75(30)**	14.50	14.50	15.20	15.20	16.10	16.10
0-250	144	50	15.10	15.10	16.00	16.00	16.60	16.60
0-300	144	60(30)**	15.80	15.80	16.50	16.50	17.30	17.30
0-500*	125	50	20.50	20.50	21.20	21.20	22.10	22.10
0-750*	125	75(30)**	23.70	23.70	24.50	24.50	25.30	25.30
0-1000*	125	50	25.50	25.50	26.40	26.40	27.20	27.20

These A.C. Voltmeters are for use on frequencies from 25 to 133 cycles. \*Supplied with external resistor boxes at prices shown above. All other instruments are self-contained.

### AC AMMETERS

Range	Approx. Res.	Scale Div.	2 1/2" Models 231-S, 237-S	2 1/2" Model 230-G	3 1/2" Models 331-S, 337-S	3 1/2" Model 330-G	4 1/2" Model 430	4 1/2" Model 430-G
0-1	.38	50	\$13.10	\$13.10	\$14.00	\$14.00	\$14.80	\$14.80
0-2	.092	40	13.10	13.10	14.00	14.00	14.80	14.80
0-3	.034	60(30)**	13.10	13.10	14.00	14.00	14.80	14.80
0-5	.014	50	13.10	13.10	14.00	14.00	14.80	14.80
0-10	.007	50	13.10	13.10	14.00	14.00	14.80	14.80
0-15	.003	75(30)**	13.10	13.10	14.00	14.00	14.80	14.80
0-25	.002	50	13.10	13.10	14.00	14.00	14.80	14.80
0-30	.001	60(30)**	13.10	13.10	14.00	14.00	14.80	14.80
0-50	.00035	50	13.10	13.10	14.00	14.00	14.80	14.80
0-75	.00020	75			15.30	15.30	16.80	16.80

### AC MILLIAMMETERS

Range	Approx. Res.	Scale Div.	2 1/2" Models 231-S, 237-S	2 1/2" Model 230-G	3 1/2" Models 331-S, 337-S	3 1/2" Model 330-G	4 1/2" Model 430	4 1/2" Model 430-G
0-10	4000	50	\$13.10	\$13.10	\$14.00	\$14.00	\$14.80	\$14.80
0-15	1600	75(30)**	13.10	13.10	14.00	14.00	14.80	14.80
0-25	470	50	13.10	13.10	14.00	14.00	14.80	14.80
0-50	120	50	13.10	13.10	14.00	14.00	14.80	14.80
0-100	40	50	13.10	13.10	14.00	14.00	14.80	14.80
0-200	9.5	40	13.10	13.10	14.00	14.00	14.80	14.80
0-250	5.9	50	13.10	13.10	14.00	14.00	14.80	14.80
0-500	1.55	50	13.10	13.10	14.00	14.00	14.80	14.80

### THERMO AMMETERS (R.F.)

Range	Approx. Res.	Scale Div.	2 1/2" Models 240-G, 241-T, 247-T	3 1/2" Models 341-T, 347-T	3 1/2" Models 340-G	4 1/2" Models 440, 440-G
0-.5 Amps	.93	50	\$14.00	\$14.80	\$14.80	\$16.20
0-1 Amps	.35	50	14.00	14.80	14.80	16.20
0-1.5 Amps	.21	75(30)**	14.00	14.80	14.80	16.20
0-2.5 Amps	.13	50	14.00	14.80	14.80	16.20
0-5 Amps	.06	50	14.00	14.80	14.80	16.20
0-10 Amps	.03	50	14.00	14.80	14.80	16.20

Internal couples are normally furnished at prices shown. If external couples are required, please specify on order, adding \$6.10 net to price of instrument shown above. External couples only less meter, with leads, \$7.30 net each.

\*\*Scale divisions for 2-inch Models in parentheses.

\*\*\*Supplies with external resistors.

ALL PRICES ARE SUGGESTED U.S.A. USER NET, SUBJECT TO CHANGE, SPECIFICATIONS SUBJECT TO REVISION.

## TRIPLETT ELECTRICAL INSTRUMENT COMPANY

# WESTON INSTRUMENTS, INC.

## MODEL 1900 PANEL INSTRUMENT SERIES

**GENERAL** — The 1900 Series is an integrated line of a-c and d-c panel instruments, providing a carefully selected choice of sizes, case styles, accuracies, pointers, scales and ranges. Particular attention has been paid to designing instruments that will present an overall appearance of harmony, even when random sizes are mounted side by side. Mounting bezels provide three types of mounting — recess, flush and conventional.

One of the many features of this new Weston series is the method of construction which provides quick interchangeability of fronts and easy access for adjustment or service, if ever required. From their spring-backed jewels to their unique fastening clips, the 1900 Series incorporate the fine workmanship and quality that has always been associated with Weston.

### SPECIFICATIONS

2 1/2" SIZE	Function & Mechanism	Accuracy (Full scale value)	Scale Length (100° arc)	Pointer	Type Scale	Case Front
Model 1921	D-C CORMAG®	2%	2.3"	Lance	Plain	Plastic/Bakelite
Model 1922	A-C Rect. CORMAG®	3%**	2.3"	Lance	Plain	Plastic/Bakelite
Model 1924	A-C Iron Vane	2%	2.3"	Lance	Plain	Plastic/Bakelite
3 1/2" SIZE						
Model 1931	D-C CORMAG®	2%	2.7"	Lance	Plain	Plastic/Bakelite
Model 1932	A-C Rect. CORMAG®	3%**	2.7"	Lance	Plain	Plastic/Bakelite
Model 1934	A-C Iron Vane	2%	2.7"	Lance	Plain	Plastic/Bakelite
Model 1936	D-C Ext. Mag.	2%	2.7"	Lance	Plain	Plastic/Bakelite
4 1/2" SIZE						
Model 1941	D-C CORMAG®	2%*	3.9"	Lance	Plain	Plastic/Bakelite
Model 1942	A-C Rect. CORMAG®	2%**	3.9"	Lance	Plain	Plastic/Bakelite
Model 1944	A-C Iron Vane	2%	3.9"	Lance	Plain	Plastic/Bakelite
Model 1946	D-C Ext. Mag.	1%	3.9"	Knife-edge	Mirrored	Plastic/Bakelite
5 1/2" SIZE						
Model 1951	D-C CORMAG®	2%*	4.7"	Lance	Plain	Plastic/Bakelite
Model 1954	A-C Iron Vane	2%	4.7"	Lance	Plain	Plastic/Bakelite
Model 1956	D-C Ext. Mag.	1%	4.7"	Knife-edge	Mirrored	Plastic/Bakelite
7 1/2" SIZE						
Model 1971	D-C CORMAG®	1%†	7.2"	Lance	Plain	Plastic
Model 1976	D-C Ext. Mag.	1%†	7.2"	Lance	Plain	Plastic

\*1% when knife-edge pointer and mirrored scale is specified.

\*\*on sine wave 60 cycle source at normal room temperature of 25 C.

†1/2% with knife-edge pointer and mirrored scale on special order ONLY.

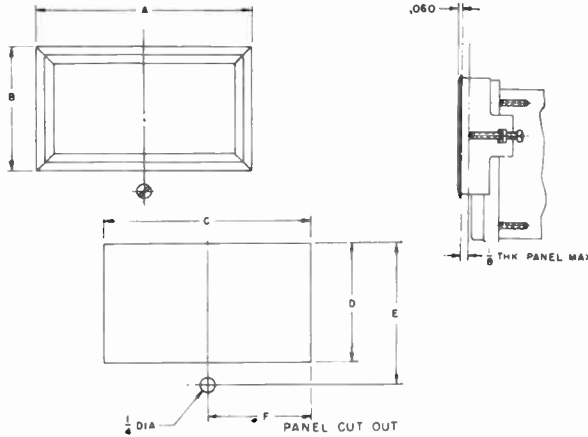
NOTE: If Models 1924, 34, 36, 44, 46, 54, 56 and 76 are used on steel panels, order should specify panel thickness to assure proper adjustment.

### THREE TYPES OF MOUNTINGS



RECESS (Plastic front only)

Only the scale is visible since meter is mounted behind the panel... half bezel fits into window.

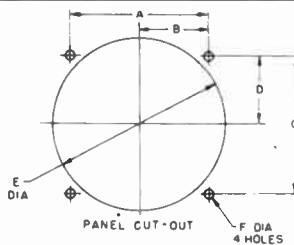


MODEL	A	B	C	D	E	F
1921 1922 1924	3.120	1.720	3.000	1 10/32	2.070	1 1/2
1931 1932 1934 1936	3.860	2.265	3 23/32	2 3/32	2.550	55/64
1941 1942 1944 1946	4.960	2.900	4 13/16	2 3/4	3.290	2 13/32
1951 1952 1954 1956	6.060	3.300	5 7/8	3 3/32	3.950	2 15/16

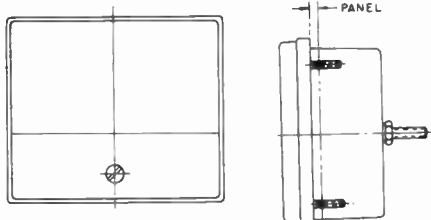


### CONVENTIONAL

Use same dimensions, whether you choose a meter with taut band or pivot and jewel movement.



MODEL	A	B	C	D	E	F
1921 1922 1924	1.880	.940	1.880	.940	2.220 DIA	.125 DIA
1931 1932 1934 1936	2.250	1.125	2.250	1.125	2.820 DIA	.125 DIA
1941 1942 1944 1946	4.000	2.000	3.560	2.020	2.820 DIA	.154 DIA
1951	5.250	2.625	3.000	2.150	2.820 DIA	.154 DIA
1971 1972	6.000	3.000	4.500	3.500	3.560 DIA	.156 DIA



Call your local Weston distributor for current prices and stock information!



# WESTON INSTRUMENTS, INC.

## THIN LINE PANEL METER MODEL 111

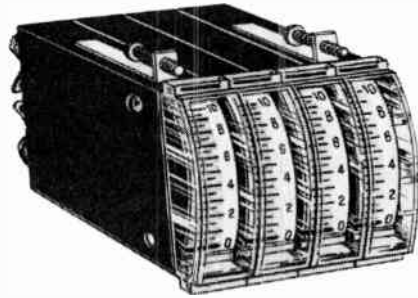
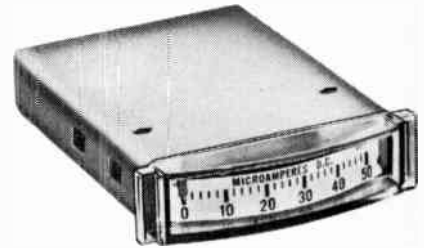
Completely Flat — Can Be Stacked Side-by-Side

New Self-Shielded Mechanism

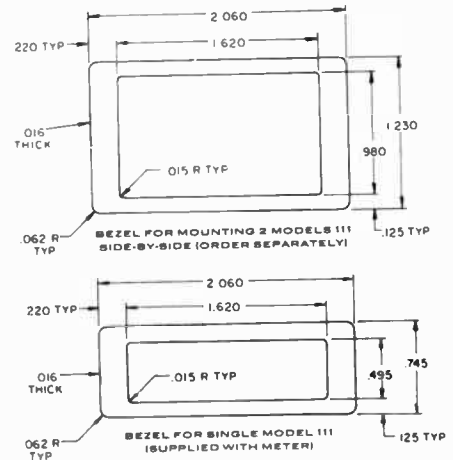
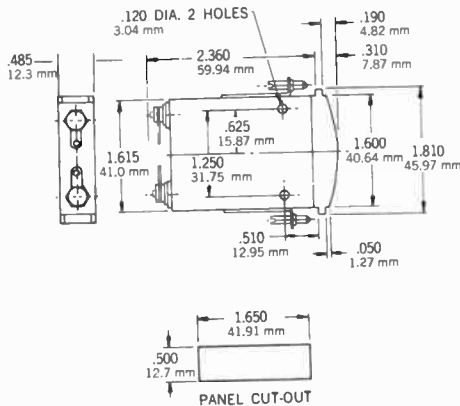
Saves Panel Space

Designed to Meet ASA C39.1 Specifications

The Model 111 utilizes a completely new mechanism design. This is the only edgewise instrument incorporating a flat cormag mechanism design for shielding purposes. The magnet is inside the moving coil as in all Weston CORMAG® designs and the resulting inherent shielding allows mounting on magnetic or non-magnetic panels without need for adjustment, as well as the ability to "stack" meters side-by-side without any interaction. The mechanism also has a shock absorption jewel arrangement to assure long life.



ALL DIMENSIONS ARE APPROXIMATE



### SPECIFICATIONS

Accuracy: 2% of full scale value for DC  
3% of full scale value for AC  
Rectifier Type

Scale Length: 1.25 inches

Pointer: Red Lance Type

Movement: New self shielded thin line Cormag mechanism. Shock mounted jewel arrangement.

Ranges: Voltage: 50 mv minimum  
300 volts maximum  
self-contained

Current: 50 ua minimum  
2 amps maximum  
self-contained

Mounting: Meter can be mounted either horizontally or vertically. Order proper meter from price list for the required type mounting. Most ranges stocked for horizontal mounting.

Mounting clips fasten to meter behind panel —no screws on front of panel. For "stacking", thru-holes are provided so stack can be bolted together.

D-C VOLTMETERS	Ranges	RESISTANCE
0-10	5000 Ω/v	
0-25	5000 Ω/v	
0-50	5000 Ω/v	
0-100	5000 Ω/v	
0-150	5000 Ω/v	
0-300	5000 Ω/v	

D-C MILLIAMMETERS	RANGES	RESISTANCE
0-1	39 Ohms	
0-5	5.2 Ohms	
0-10	2 Ohms	
0-25	2 Ohms	
0-100	5 Ohms	
0-150	33 Ohms	
0-250	20 Ohms	
0-500	10 Ohms	

D-C MICROAMMETERS	Ranges	RESISTANCE
0-5	2300 Ohms	
0-100	900 Ohms	
0-200	600 Ohms	
0-500	134 Ohms	
50-0-50	900 Ohms	

D-C AMMETERS	RESISTANCE
0-1	.05 Ohms

AC VOLTMETERS (Rectifier Type)	RESISTANCE
0-150	2000 Ω/v
0-300	2000 Ω/v

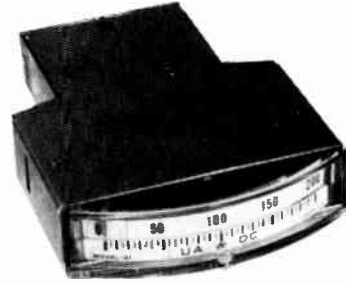
All resistances are approximate

# WESTON INSTRUMENTS, INC.

## THIN LINE PANEL METERS

### MODEL 121 EDGEWISE

- Completely Flat—Can Be Stacked Side-by-Side
- Parallax Eliminated—In-Line Pointer and Scale
- New Self-Shielded Mechanism
- Saves Panel Space
- Illumination Available (Self-Contained)
- Designed to Meet ASA C39.1 Specifications
- Front Mounted Zero Corrector



The Model 121 is basically a 2½ inch flat edgewise meter offering many benefits not generally offered in this type of meter. To eliminate parallax normally associated with edgewise meters an "in-line" scale is standard; a red pointer increases readability. For those requiring lighting, self-contained illumination is available as an optional feature. The bulbs are removable while the meters are mounted in the panel—even when "stacked" side-by-side. • The Model 121 utilizes a completely new mechanism design. This is the only edgewise instrument incorporating a true flat CORMAG® mechanism design for shielding purposes. The magnet is inside the moving coil as in all Weston Cormag designs and the resulting inherent shielding allows mounting on magnetic or non-magnetic panels without need for adjustment, as well as the ability to "stack" meters side-by-side without any interaction. The mechanism also has a shock absorption jewel arrangement to assure long life.

### SPECIFICATIONS

Accuracy: 2% of full scale value for DC  
3% of full scale value for AC rectifier Type

Scale Length: 1.9 inches; Anti-parallax in-line scale

Pointer: Red Lance Type

Movement: New self shielded thin line Cormag mechanism. Shock mounted jewel arrangement.

Ranges: Voltage                      Current:  
50 mv minimum                      50 ua minimum  
500 volts maximum                      20 amps maximum  
self-contained                      self-contained

Mounting: Meter can be mounted either horizontally or vertically. Order proper meter from price list for the required type mounting. Mounting clips fasten to meter behind panel—no screws show on front of panel. For "stacking" thru holes are provided so stack can be bolted together.

Illumination: Two G.E. 328 lamps are used. Recommended operating voltage—5 volts (less than 200 ma per bulb). Expected life greater than 5,000 hours.

Dielectric: 2000 volts RMS

### RANGES

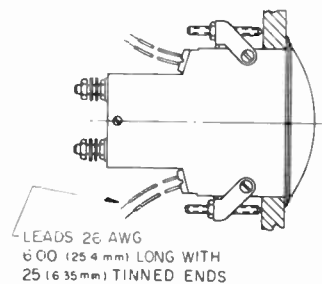
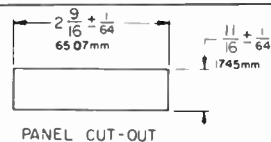
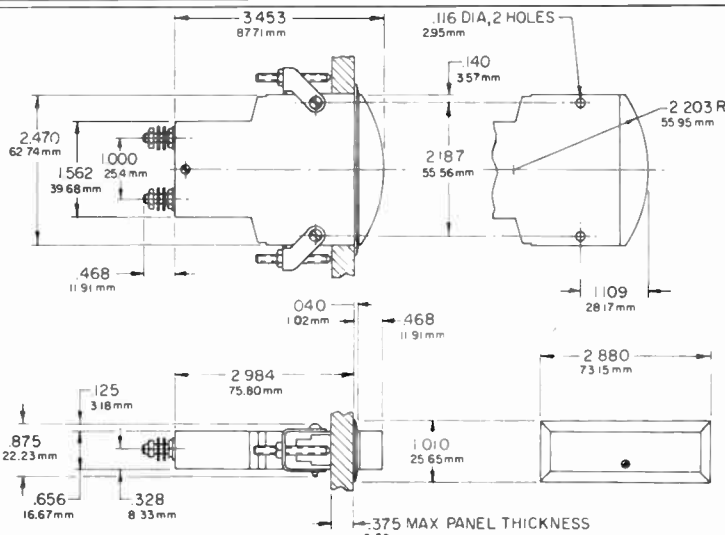
DC VOLTMETERS	RESISTANCE
0-10 .....	5000 Ω/v
0-25 .....	5000 Ω/v
0-50 .....	5000 Ω/v
0-100 .....	5000 Ω/v
0-150 .....	5000 Ω/v
0-300 .....	5000 Ω/v

DC MILLIAMMETERS	RESISTANCE
0-1 .....	39 Ohms
0-5 .....	5.2 Ohms
0-10 .....	.2 Ohms
0-25 .....	.2 Ohms
0-100 .....	.5 Ohms
0-150 .....	.33 Ohms
0-250 .....	.20 Ohms
0-500 .....	.10 Ohms

DC MICROAMMETERS	RESISTANCE
0-50 .....	2300 Ohms
0-100 .....	900 Ohms
0-200 .....	600 Ohms
0-500 .....	134 Ohms
50-0-50 .....	900 Ohms

DC AMMETERS	RESISTANCE
0-1 .....	.05 Ohms

AC VOLTMETERS (Rectifier type)	RESISTANCE
0-150 .....	2000 Ω/v
0-300 .....	2000 Ω/v



View showing illumination feature

All Dimensions Are Approximate.

# WESTON INSTRUMENTS, INC.

## FLAT SCALE EDGEWISE PROJECTED MOVING POINTER

### Model 1201

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**True Flat Scale Presentation**

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**No Parallax**

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**1% Accuracy (Horizontal or Vertical)**

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**Thermosetting Plastic Case with Glass Window**

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**Designed to Meet ASA C39.1**

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**10,000 Hours Bulb Life**

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**Shielded Cormag® Mechanism**

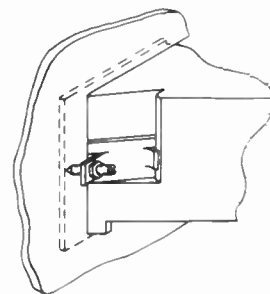
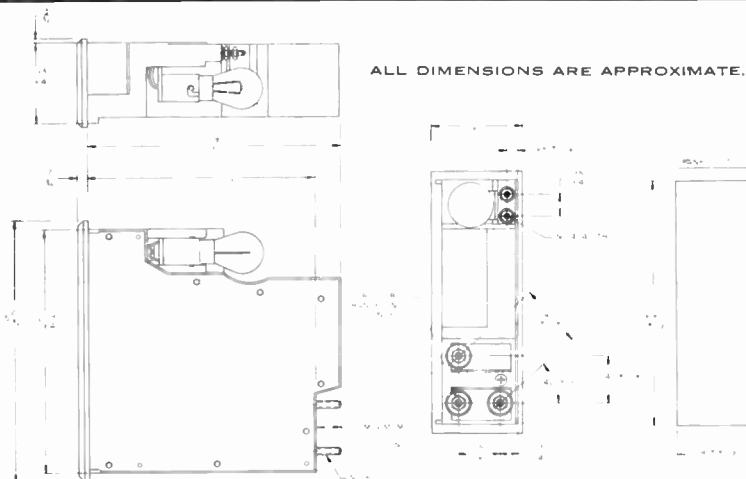
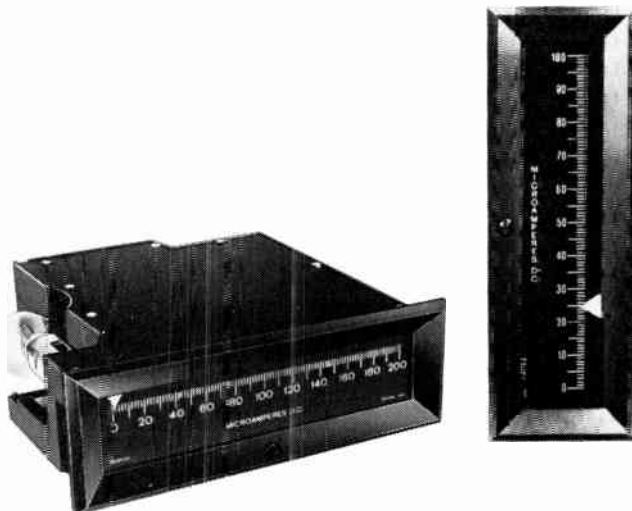
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**All Glass Optical System**

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The basic mechanism is of the standard Weston CORMAG design which offers inherent self-shielding. This means that these units will be unaffected by panel material, normal magnetic fields created by current carrying conductors and can be mounted side-by-side with no loss of accuracy.

**SPECIAL FEATURE:** Filters may be placed behind the scale so that the pointer will change color at a fixed point. Up to two colors (plus a white pointer area) can be provided. Standard colors are red, green or amber.



No mounting screws are visible from front of the panel—two clips behind the panel securely lock the meter in place.

## SPECIFICATIONS

**Accuracy:** 1% of full scale value\*  
2% of full scale value for AC Rectifier

\*1/2% available (horizontal only)

**Scale Length:** 4 1/2 inches

**Scale Color:** White figures and divisions on black background.

**Pointer:** White, triangular shape. Colored pointers available.

**Movement:** Self-shielding CORMAG mechanism.

**Ranges:** 50 Microamperes through 50 Amperes D-C self-contained/50 Millivolts through 500 Volts D-C self-contained/Rectifier and Thermo RF types available.

**Mounting:** Horizontal or Vertical. Specify mounting position when ordering. Most ranges stocked for horizontal mounting.

No mounting screws are visible from front of the panel — two clips behind the panel securely lock the meter in place.

**Lamps:** G.E. No. 6 operated at 5 Volts, 2.86 Amperes, A-C or D-C, 10,000 hours minimum expected life.

### D-C AMPERES

Ranges up to 50 Amperes can be self-contained. For higher ranges meters with approx. 50 mv drop can be supplied for use with standard switchboard shunts.

### D-C MILLIAMPERES

	Ranges RESISTANCE
0-1 .....	18.8
0-10 .....	2.3
0-20 .....	5.0
0-50 .....	2.0
0-500 .....	2

### D-C MICROAMPERES

	RESISTANCE
0-50 .....	2300
0-100 .....	640
0-200 .....	415
0-500 .....	88
50-0-50 .....	640

### D-C VOLTS

	Ranges RESISTANCE
0-1 .....	1000 Ohms/Volt
0-5 .....	1000 Ohms/Volt
0-10 .....	1000 Ohms/Volt
0-20 .....	1000 Ohms/Volt
0-50 .....	1000 Ohms/Volt
0-100 .....	1000 Ohms/Volt
0-500 .....	1000 Ohms/Volt

### A-C VOLTS (rectifier type)

	RESISTANCE
0-150 .....	1000 Ohms/Volt
0-300 .....	1000 Ohms/Volt

# WESTON INSTRUMENTS, INC.

## MODEL 1209 SERIES (Projected Moving Scale Meter)

### ...8" OF SCALE IN A 2½" FRONT

- RETAINS ALL THE ADVANTAGES OF AN 8-INCH METER
- ELIMINATES PARALLAX
- 1% ACCURACY (½% OPTIONAL)
- SELF-ILLUMINATED SCALE
- REQUIRES ONLY 7 SQUARE INCHES PANEL SPACE
- SELF-SHIELDED MECHANISM
- SELF-CONTAINED



Standard meters use black background scales with white figures. White background scales available.

### APPLICATIONS

For the first time, designers can standardize on one meter which fills the complete range of requirements: small size • long scale length • accuracy • self illumination • versatility in styling (proprietary bezels available at a normal cost). With Weston's new PMS instruments, equipment dimensions can now be based on optimum space requirements rather than on meter size.

#### DC VOLTMETERS

MODEL 1209 (1% ACCURACY)	
Range	Resistance
50 MV	5 Ohms
1	↑ 1000 Ohms Per Volt ↓
2	
5	
10	
20	
50	
100	
200	
500	

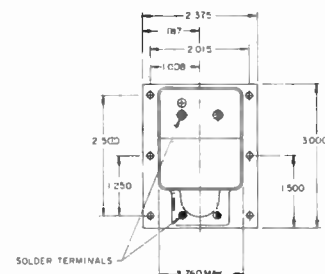
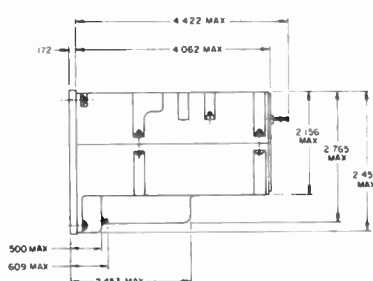
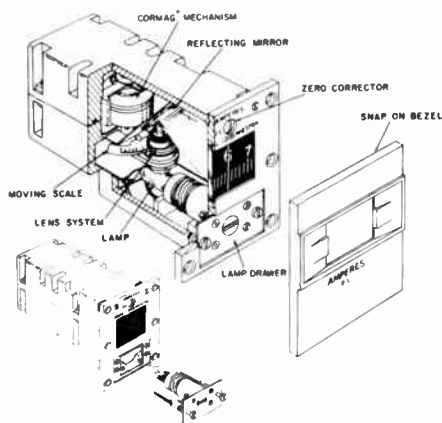
#### DC MILLIAMMETERS

MODEL 1209 (1% ACCURACY)	
Range	Resistance
1	21
2	8.6
5	3.96
10	2.3
20	2.2
50	2.0

#### DC MICROAMMETERS

MODEL 1209 (1% ACCURACY)	
Range	Resistance
50	5700
100	1160
200	231
500	73
50-0-50	1160

Note: All Resistance Values Are Approximate.



### HOW THE PMS MODEL 1209 WORKS

A simple optical system projects a moving scale onto a coated window. The scale is rotated by a self-shielded Weston Cormag mechanism of proved design and reliability. Pivot roll is eliminated in PMS panel meters, because the mechanical axis is vertical.

**Call your local Weston distributor for current prices and stock information!**

# WESTON INSTRUMENTS, INC.

## WESTON® SOLID STATE RELAYS

- Completely Self-contained
- Repeatability  $\pm 0.5\%$
- Accuracy  $\pm 2\%$  On Basic Unit

### DUAL SET POINT SOLID STATE RELAY — MODEL 1066

#### SPECIFICATIONS — MODEL 1066

Input: 117  $\pm 10\%$  50 to 60Hz.

Switching Capabilities: 0.1 amp minimum to 1 amp maximum @ 50-60Hz per set point.

Temperature Effect: .2% per  $^{\circ}\text{C}$  from 25 $^{\circ}\text{C}$ .

Operating Temperature Range: 5 to 45 $^{\circ}\text{C}$ .

Repeatability:  $\pm .5\%$ .

Set Points: Completely adjustable over 320 $^{\circ}$  scale by control knob, lock incorporated.

Dials: 320 $^{\circ}$  100 divisions.

Zero Correction: Screw driver adjustment through front panel.

Breakdown Voltage: 500V AC.

Common Mode Rejection: 250V DC max.

Pilot Lights: Neon, to indicate load condition.

Connections: Stand off screw terminals.

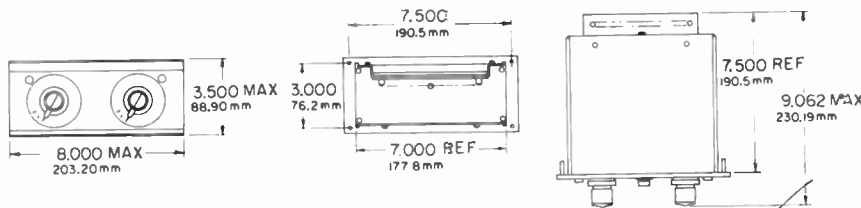
Switching Modes: Set Point #1 closed below set point. Set point #2 closed above set point.

Approx. Weight: 2.25 lb.

Impedance: 100 ohms.



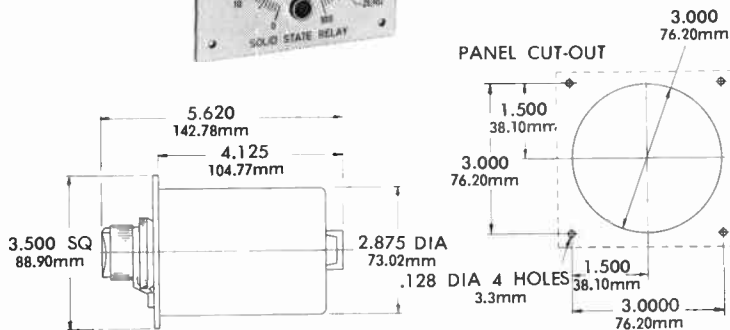
Model 1066



### SOLID STATE RELAY — MODEL 1062



MODEL 1062



#### SPECIFICATIONS — MODEL 1062

Input: 117V  $\pm 10\%$  50 to 60 Hz.

Switching Capabilities: 0.1 amp minimum to 1 amp maximum at 117V 60Hz normally open or normally closed operation available.

Temperature Effect:  $\pm 1\%$  per 10 $^{\circ}\text{C}$  from 25 $^{\circ}\text{C}$ .

Operating Temperature Range: 0-50 $^{\circ}\text{C}$ .

Repeatability (including dead band): 0.5%.

Set Point: Completely adjustable over 320 $^{\circ}$  scale by control knob lock incorporated.

Dial: 320 $^{\circ}$  100 divisions.

Zero Correction: Screwdriver adjustment through front panel.

Breakdown Voltage: 500 V AC.

Common Mode Rejection: 250 V DC max.

Pilot Light: Neon.

Connections: Barrier strip type screw terminals.

Approx. Weight: 1 lb.

### LOW COST SOLID STATE RELAY — MODEL 1067

#### SPECIFICATIONS — MODEL 1067

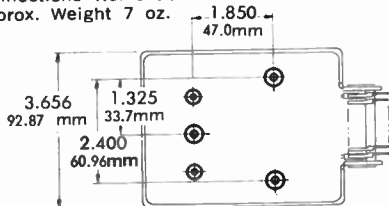
Input 0-100  $\mu\text{a}$  full scale

Temperature influence 3% for 50 $^{\circ}\text{C}$  change

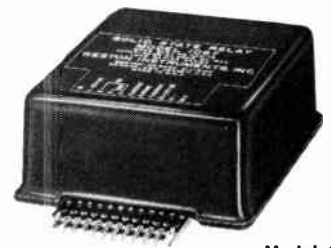
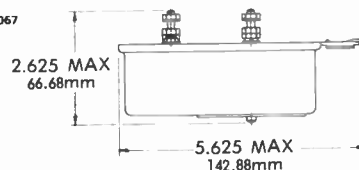
Power Supply Influence  $\pm .2\%$  for 27V  $\pm 10\%$

Connections Removable Connector With Solder Terminals

Approx. Weight 7 oz.



MODEL 1067



Model 1067

Call your local Weston distributor for current prices and stock information!

# WESTON INSTRUMENTS, INC.

## WESTON MULTI-RANGE ANALYZERS

### MODEL 80 SERIES



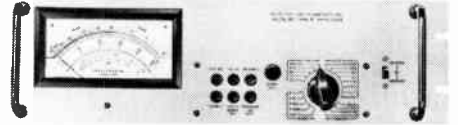
— FEATURE FOR FEATURE —

**ACCURACY** — High accuracy capabilities—see individual specifications.

**READABILITY** — Console type presentation provides optimum readability of scale and control deck, whether sitting or standing; large 5½" meter.

**RELIABILITY** — Sound, basic design, with hi-impact ABS plastic cases, spring backed jewels, precision components.

**PARALLAX CORRECTION** — Unique refractive-type anti-parallax scale for "on the mark" readings.



### SPECIFICATIONS

**MODEL 80 — VOLT-OHM-MILLIAMMETER**  
Accuracy—1% DC, 1.5% AC Ohmmeter—1% of Linear Scale 1 & 5 KV—2% DC and 2.5% AC.  
Scale Length—4.9".  
Ranges—DC Volts—0.25/1/2.5/10/25/50/100/250/1 KV/5 KV @ 20,000Ω/volt.  
AC Volts—2.5/10/50/250/500/1 KV/5 KV/ @ 5,000 Ω/volt.  
DC Current—50μa/1/10/100 ma/1 and 10 amps.  
Ohmmeter—Five Ranges; 2 k to 20 meg, full scale; 20 to 200 k center scale.  
DB Scale—10 to +10 DB.  
Cat. No. 80-9008001 s

**MODEL 80 TYPE R — RACK MOUNTING**  
Model 80 Type R for rack mounting has the same specification as Model 80 except that the 5,000 volt ranges have been eliminated.  
Size—19" wide x 5½" high x 3½" deep.  
Cat. No. 80-9008002s

**MODEL 81 — DC VOLTMETER**  
Accuracy—1% except 2.0% on the 1000 volt range.  
Scale—50 divisions.  
Ranges—0.25/1/2.5/5/10/25/50/100/250/1000.  
Sensitivity—20,000 ohms per volt.  
Cat. No. 81-9008102 s

**MODEL 81 — D-C MILLIAMMETER/AMMETER**  
Accuracy—1%.  
Scale—100 and 60 divisions. NOTE: The 10 ma range has a drop of 50 mv so that the meter can be used with external shunts.  
Ranges—10/30/100/300 milliamperes, 1/3/10 amperes.  
Cat. No. 81-9008101 s

**MODEL 81 — D-C MICROAMMETER/MILLIAMMETER**  
Accuracy—1%.  
Scale—100 and 60 divisions.  
Resistance—2500/1390/475/164/50/16.6/5 ohms.  
Ranges—.1/.3/1/3/10/30/100 milliamperes.  
Cat. No. 81-90081003 s

**MODEL 82 — A-C VOLTMETER**  
Accuracy—1.5% The combination of resistors and selected germanium diodes results in temperature and frequency error usually less than 1% for a change of 10°C and frequencies from 25 to 2000 cycles. Ranges below 250V are useable to 15kc.

**MODEL 82 — A-C VOLTMETER (Cont.)**  
Scale—50 divisions.  
Ranges—2.5/10/50/250/500/1000 volts.  
Sensitivity—5000 ohms per volt.  
Type—Rectifier Type.  
Cat. No. 82-9008201 s

**MODEL 82 — A-C MILLIAMMETER/AMMETER**  
Accuracy—2% from 60 to 400 cps; from 25 to 1000 cps the frequency error is 1.5%. The instrument is useable to 5 kc.  
Loss—From approximately 0.5 va for the low ranges up to 1.5 va for the 5 ampere range at 60 cps.  
Scale—100 divisions.  
Ranges—50/100/200/500 milliamperes, 1/2/5 amperes.  
Type—Transformer—rectifier.  
Cat. No. 82-9008202 s

## MODELS 432 - 433 - 931 PORTABLE INSTRUMENTS

### MATCHED A-C AND D-C PORTABLE INSTRUMENTS

**MODEL 433—A-C INSTRUMENTS**  
Scale Length 4.04"—Accuracy within ¾ of 1% — Movable Iron Type — Shielded Case Size 5¼" x 5¼" x 3¼"—Weight 2½ lbs.—Hand Calibrated Mirror Scales — Bakelite Case with Carrying Strap.  
Note: These instruments are calibrated for use in a horizontal position.

#### A-C VOLTMETERS

Made with single, double and triple ranges. For use on frequencies from 25 to 125 cycles.

Range
30/15
150/75
300/150
600/300/150
750/300/150

#### A-C MILLIAMMETERS

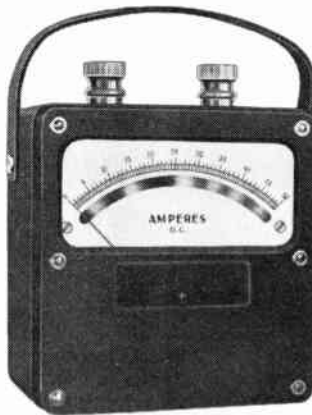
Made in single and double ranges only, for use on frequencies from 25 to 500 cycles.

Range
30, 500
150/75
500/250

#### A-C AMMETERS

Made in single, double and triple ranges for use on frequencies from 25 to 500 cycles. All instruments have two binding posts; double and triple range instruments are provided with a range selector switch.

Range
5
50
10/5
10/5/1
50/20/5



### MODEL 432—D-C AND SINGLE PHASE A-C WATTMETERS

Double voltage and single or double current ranges, self-contained up to 300 volts and 50 amperes, frequencies from 25 to 125 cycles.

Electrodynamometer Type

Accuracy ½ of 1% Scale Length 4.04"  
Case Size 5¼" x 5¼" x 3¼" Wt. 3¼ lbs.

Normal Volts	Normal Amps
150/75	1
Double Current Ranges	
300/150	5/2.5

### MODEL 931—D-C INSTRUMENTS

Scale Length 4.04"—Accuracy within ½ of 1% Core Magnet Moving Coil Type.  
Case Size: 5¼" x 5¼" x 3¼"—Weight 2 lbs.—Hand Calibrated Mirror Scales — Bakelite Case with Carrying Strap.  
Note: These instruments are calibrated for use in a horizontal position.

#### D-C VOLTMETERS 1,000 Ohms 5,000 Ohms

Range
3/15/150
300/150/3
750/300/150

#### D-C AMMETERS

.1/1/10
.05/.5/5
50/20/5

Self-contained up to 50 amperes inclusive, but can be supplied with external 50 mv shunts and 5 ft. leads.

#### O-C MILLIAMMETERS

Range
1.5/15/150
1500/150/15
15/1.5/15

Single range, Milliammeters with ranges above can be supplied with external 50 mv shunts and 30 ma are shunted and have a drop of 50 mv ±5%.

#### D-C MICROAMMETERS

Range	High Resistance	Low Resistance
	Approx. Res. Ohms	Approx. Res. Ohms
30	2300	490
100	2000	60
200	600	15

Call your local Weston distributor for current prices and stock information!

# WESTON INSTRUMENTS, INC.

## MODELS 901/904/905 PORTABLE INSTRUMENTS

1/4 - 1/2% ACCURACY

Size: 7 1/2" x 7 1/4" x 3 5/8"      Scale Length: 5 1/2"  
**D-C 901, 1/4% Accuracy, Self Shielded Permanent Magnet Moving Coil Type**

**A-C 904, 1/2% Accuracy, Movable Iron Type**

These modern style instruments are used for general testing and for checking other meters in daily use in industry where easy reading and high shielding are desired. Long 5 1/2" hand calibrated mirror scales combined with knife-edge pointers eliminate reading errors. Leather carrying cases are available, specify instrument model and range.

**D-C VOLTMETER (7 RANGE)—Model 901**

(5000 ohms per volt)  
 Range (Volts)  
 750/300/150/75/30/15/3

**D-C AMMETER—Model 901**

Range (Amperes)  
 50 mv/20/5/2

**D-C MILLIAMMETERS (7 RANGE)—Model 901**

Range (Ma)	Approx. Res. Ohms
1000/500/200/100/50/20/10	.049/.099/.244/.475/.9/1.88/2.5
100/50/20/10/5/2/1	1.49/2.96/7.28/14.1/26.4/52.5/60



Model 901

**A-C VOLTMETER—Model 904**

Range (Volts)	Approx. Res. Ohms
750/300/150*	3400/13,600/6,800
750/300/150/75/30/15/7.5/3**	117,500/18,400/5180/1145/182/46/11.1/1.76

†Other frequency ranges available. Prices on request.

\*Frequency 25-125 cps.

\*\*Frequency 50-125 cps, accuracy 1/2%; 125-450 cps, accuracy 1%.

**A-C MILLIAMMETERS—Model 904**  
 (Frequency 25 to 500 cycles)

Range (Ma)	Approx. Res. Ohms
150/75	16/64
300/150*	4/16

\*Also stocked for 25-1000 cycles.

**A-C AMMETERS—Model 904**

Range (Amperes)

200/100/50/20/10/5/2\*\*

(Frequency 25 to 1000 cycles)

50/20/10/5/2/1

\*\*Frequency is 50-450 cps.

**D-C AND SINGLE PHASE A-C WATTMETERS—Model 905**

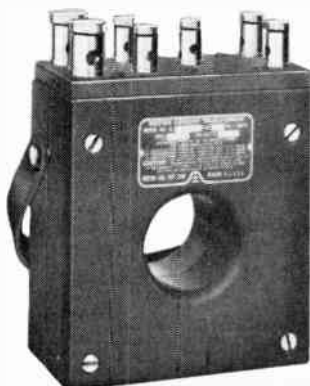
(Frequency 25-60 cycles)

Normal	Volts	Max.	Amperes		High Range	Watts	Low Range
			Normal	Max.			
200/100		300/150	25	50	5 KW	2.5 KW	
			5	10	1 KW	.5 KW	
			10/5	20/10	2/1 KW	1/5 KW	
			5/2.5	10/5	1000/500	500/250	

## MODEL 461 CURRENT TRANSFORMERS

Size: 7.97" x 6.63" x 2.75"      Weight: Type 1—8 lbs.; Type 2—8.4 lbs.      Core Opening: 2.12"

Models 461 are used with A-C instruments as multipliers. Four self-contained primary ranges are brought out to binding posts. A secondary short circuiting switch is provided. Black bakelite case.



Range (Amps)	Type*	Range (Amps)	Type*
800/400/200/ 100/50/20/10 Pri. to 5 Sec.	1	1000/500/250/ 100/50/25/10 Pri. to 5 Sec.	2
800/400/200/ 100/50/20/10 Pri. to 5 Sec.	2	500/250/100/ 50/25/10/5/ 2.5, 1/0.5 Pri. to 5 Sec.	5
1000/500/250/ 100/50/25/10 Pri. to 5 Sec.	1		

\*Type 1—Primarily used for Ammeter applications.

Type 2—Primarily used for Wattmeter applications.

Type 5—Similar to Type 2 except for additional ranges.

**Call your local Weston distributor for current prices and stock information!**

# WESTON INSTRUMENTS, INC.

## Model 749 Miniature Clamp Volt-Ammeter



Light weight and rugged pocket-size instrument for quick easy servicing. Has self-shielded core magnet mechanism with spring backed jewels, and shatter-proof Plexiglas window. Only one scale for all ranges and functions. Jaws take up to 1" round, or 1 3/4" x 3/8" rectangular conductors. Furnished with test leads in scuff proof case.

Plug-In Adapter available for making both current and voltage measurements... has female receptacles on both sides for plugging in load without disturbing circuit being tested... convenient for lead insertion for voltage checks... serves as 10 to 1 divider for low current measurements.

**RATED ACCURACY:** (Model 749)  $\pm 3\%$  full scale deflection.  
**RANGES:** Current 300/150/60/30/15/6 amperes a-c.  
Voltage 600/300/150 volts a-c.

## Model 633 Clamp Volt-Ammeter and Clamp- Ammeter



Model 633 Type VA-1

Model 633 Type VA-1 (Incl. Potential Leads)—1000/250/100/25/10 amperes a-c 700/350/175 volts a-c.

Model 633 Type A-3—2000/1000/500/250/100/50 amperes a-c.

Model 9958, 50 foot Extension Cable, Plug & Receptacle for Model 633 Type A-3.

Leather Carrying Case (Model 633 Types, VA-1, A-3).

Leather Carrying Case (Model 9958—Cable, Plug and Receptacle).

NOTE—Model 633 instruments may be used for continuous duty up to 500 amperes.

### Approximate Dimensions and Weights

Model 633 Types VA-1, A-3 ..... 15 1/2" x 4 3/8" x 2 1/2" 3 3/4 lbs.

Leather Carrying Case (Types VA-1, A-3)

14 1/2" x 5 1/2" x 3 5/8" 2 1/4 lbs.

Model 9958, 50 Foot Extension Cable, Plug & Receptacle

4 1/4 lbs.

Leather Carrying Case (Model 9958—Cable, Plug & Receptacle)

14" x 8 1/2" x 3 3/4" 4 1/4 lbs.

## Model 614 — Foot-Candle Meters

Size: 7 3/8" x 3 3/8" x 2 1/4"      Scale Length: 2.36"  
Weight: 1 lb. 13 ozs.

This unit is ideal for general commercial lighting surveys where wide ranges of light values exist. Completely self-contained, no outside power or batteries being required. Available for checking two different light situations.

†VISCOR filtered, 0-60/120/600 foot-candles, for visual correction for color.

†VISCOR and Cosine correction filtered, 0-100/250/500 foot-candles for visual correction for color and direction correction.



Model 614

## Model 703 — Sightmeters

Size: 4 5/8" x 2 5/8" x 1 3/4"      Scale Length: 1.57"  
 $\pm 75\%$  of full scale accuracy

This pocket sized meter is ideal for checking illumination levels at work stations. It is available for checking three different light situations. Leather case available.

Unfiltered, Type 3A, 0-75 foot-candles.

†VISCOR filtered, Type 6A, 0-75 foot-candles for visual response correction for color.

†VISCOR and Cosine correction filters Type 7, 0-100 foot-candles for visual response correction for color and direction correction.

Model 9924 Multiplier Disc fits Type 3A and Type 6A and multiplies scale readings by 10.

†VISCOR—A registered trademark.



Model 703

**Call your local Weston distributor for current prices and stock information!**



# WESTON INSTRUMENTS, INC.

## WESTON® UNIVERSAL ANGLE THERMOMETERS

**Universal Angle Thermometer\*** — Fully adjustable 3 inch (Model 4302) and 5 inch (Model 4502) universal angle thermometer. This unique, highly dependable thermometer can be mounted at **any angle**. The dial can be twisted or tilted on the stem for ease of installation. ■ This highly engineered thermometer offers a rare combination of features made possible through Weston's dedication to engineering detail, manufacturing care, and stringent quality control.

- All stainless steel construction
- Heavy gauge stainless steel bellows
- A minimum of set screw adjustment
- A simple unique design which virtually eliminates pointer shift
- Pivoted yoke which is stronger and more rigid than eccentric gear linkages
- Available in 3 and 5 inch sizes
- External calibration
- Removable fronts
- Bimetal element designed to assure long term stability and accuracy
- Accuracy within  $\pm 1\%$  of range over entire scale
- All Heliarc welded



MODEL 4302

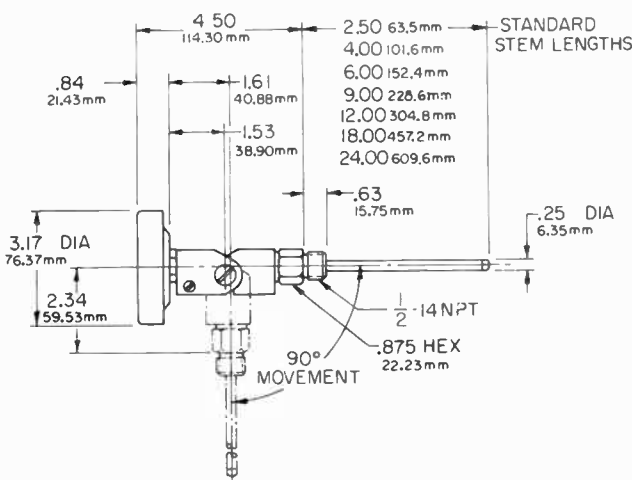
### 3 inch (Model 4302) and 5 inch (Model 4502) Universal Angle Thermometers

Range	°/Div
-100 to 100F	2
- 40 to 120F	1
25 to 125F	1
0 to 200F	2
20 to 240F	2
50 to 300F	2
50 to 400F	5

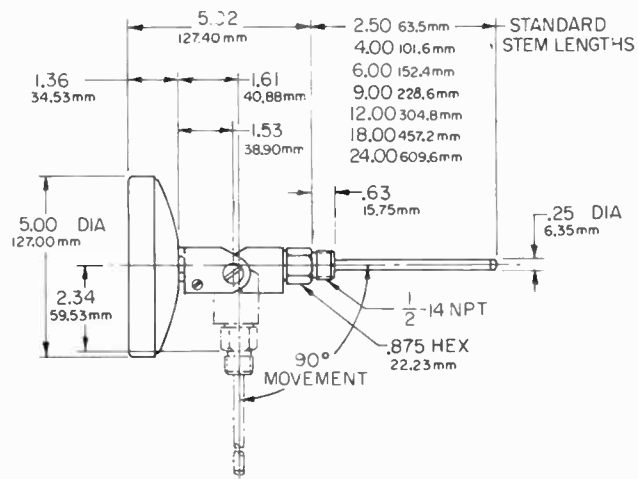
Range	°/Div
50 to 500F	5
150 to 750F	10
200 to 1000F*	10
-100 to 50C	1
0 to 50C	1/2
- 50 to 100C	1

Range	°/Div
0 to 100C	1
- 10 to 110C	1
0 to 150C	1
0 to 200C	2
0 to 300C	5
100 to 400C	5

\*Not recommended for continuous operation above 800°F.



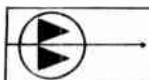
MODEL 4302



MODEL 4502

Model 4302	2 1/2 to 24" Stem	1 lb.	Model 4502	2 1/2 to 24" Stem	1.75 lbs.
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**Call your local Weston distributor for current prices and stock information!**

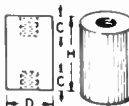


# FEEDTHRU - STEATITE PILLARS - CORRUGATED CERAMIC - STANDOFF INSULATORS

## BIRNBACH STEATITE PILLARS

JAN-1-8 and JAN-1-10 SPECS. (Less Hardware)

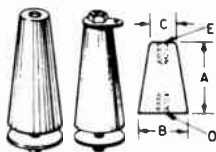
In many constructions, these unmounted threaded Steatite pillars will facilitate assembly because of the one hole mounting and parallel mounting surfaces. They are made of L5 glazed Steatite with threaded holes on both sides.



Cat. No.	Old Jan Type Designation	New Mil Type Designation	H	D	Thread	Length of Thread
441			1/4"	1/4"	All	6-32
441B			3/8"	3/8"	3/8"	6-32
441A			1/2"	1/2"	1/2"	6-32
444A			3/4"	3/4"	3/4"	6-32
445A			1"	1"	1"	6-32
442			1/4"	1/4"	1/4"	6-32
442A	NS5W0104	NL633W01-004	1/2"	1/2"	1/2"	6-32
443A	NS5W0105	NL633W01-005	3/8"	3/8"	3/8"	6-32
444B	NS5W0106	NL633W01-006	3/4"	3/4"	3/4"	6-32
445B	NS5W0108	NL633W01-008	1"	1"	1"	6-32
446B	NS5W0110	NL633W01-010	1 1/4"	1 1/4"	1 1/4"	6-32
446A	NS5W0112	NL633W01-012	1 1/2"	1 1/2"	1 1/2"	6-32
446C	NS5W0116	NL633W01-016	2"	2"	2"	6-32
443			1/2"	1/2"	1/2"	6-32
444			3/4"	3/4"	3/4"	6-32
445			1"	1"	1"	6-32
446			1 1/2"	1 1/2"	1 1/2"	6-32
447			2"	2"	2"	6-32
440	NS5W0205	NL633W02-005	3/8"	3/8"	3/8"	8-32
440A	NS5W0206	NL633W02-006	3/4"	3/4"	3/4"	8-32
440B	NS5W0208	NL633W02-008	1"	1"	1"	8-32
440C	NS5W0210	NL633W02-010	1 1/4"	1 1/4"	1 1/4"	8-32
440D	NS5W0212	NL633W02-012	1 1/2"	1 1/2"	1 1/2"	8-32
440E	NS5W0216	NL633W02-016	2"	2"	2"	8-32
440F	NS5W0220	NL633W02-020	2 1/2"	2 1/2"	2 1/2"	8-32
440G	NS5W0224	NL633W02-024	3"	3"	3"	8-32
444C			3/4"	3/4"	3/4"	10-32
445C	NS5W0308	NL633W03-008	1"	1"	1"	10-32
445D	NS5W0310	NL633W03-010	1 1/4"	1 1/4"	1 1/4"	10-32
445E	NS5W0312	NL633W03-012	1 1/2"	1 1/2"	1 1/2"	10-32
445F	NS5W0316	NL633W03-016	2"	2"	2"	10-32
445G	NS5W0320	NL633W03-020	2 1/2"	2 1/2"	2 1/2"	10-32
445H	NS5W0324	NL633W03-024	3"	3"	3"	10-32
445S	NS5W0332	NL633W03-032	4"	4"	4"	10-32
448			2 1/2"	2 1/2"	2 1/2"	1/2-20
449			4"	4"	4"	1/2-20
447A	NS5W0410	NL633W04-010	1 1/4"	1 1/4"	1 1/4"	1/2-20
447B	NS5W0412	NL633W04-012	1 1/2"	1 1/2"	1 1/2"	1/2-20
447D	NS5W0416	NL633W04-016	2"	2"	2"	1/2-20
447E	NS5W0420	NL633W04-020	2 1/2"	2 1/2"	2 1/2"	1/2-20
447F	NS5W0424	NL633W04-024	3"	3"	3"	1/2-20
447G	NS5W0432	NL633W04-032	4"	4"	4"	1/2-20
447H	NS5W0440	NL633W04-040	5"	5"	5"	1/2-20
447J	NS5W0448	NL633W04-048	6"	6"	6"	1/2-20

## BIRNBACH CONE STANDOFF INSULATORS (Steatite)

Made of low absorption high tensile strength steatite with a smooth glaze. All heights except the No. 430 are available with a Jack or a threaded hole top. Available in a white glaze and are complete with screws, metal & cork washers.



Cat. No.	Height A	Base Dimensions B	C	D	Threaded Holes	E	Mounting Hole
430	3/4"	3/4"	3/4"	6-32	6-32	5/32"	10-32
431	1"	1 1/4"	1 1/4"	8-32	8-32	3/16"	10-32
431J	1"	1 1/4"	1 1/4"	8-32	No. 403 Jack	3/16"	10-32
432	1 1/2"	2"	2"	10-32	10-32	7/32"	10-32
432J	1 1/2"	2"	2"	10-32	No. 403 Jack	7/32"	10-32
433	2 1/4"	1 1/4"	3/4"	1/2-20	1/2-20	9/32"	1/2-20
433J	2 1/4"	1 1/4"	3/4"	1/2-20	No. 395 Jack	9/32"	1/2-20

## BIRNBACH STANDOFF INSULATORS

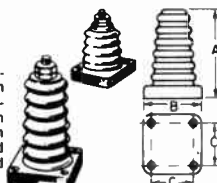
Made of highly vitrified low absorption glazed porcelain. No washers necessary—mounting surface is ground flat; for No. 966 it is advisable to use cork washers which are available. All brass nickel-plated hardware supplied.



Cat. No.	Height A	Base Dimension B	C	D	Mounting Holes	Hardware
405	3/8"	1"	1 1/2"	3/8"	3/8"	6-32
965	1"	1 1/4"	2"	1 1/4"	1 1/4"	8-32
966	1"	1 1/4"	2"	1"	1"	8-32
966J	1"	1 1/4"	2"	1"	1"	No. 403 Jack
866	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	10-32
866J	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	No. 403 Jack
866SJ	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	No. 395 Jack
4275	2 1/2"	2 1/2"	2"	2 1/2"	1/2-20	1/2-20
4275J	2 1/2"	2 1/2"	2"	2 1/2"	1/2-20	No. 399 Jack
4450	4 1/4"	3 1/4"	2 1/2"	2 1/2"	1/2-20	1/2-20
4450J	4 1/4"	3 1/4"	2 1/2"	2 1/2"	1/2-20	No. 399 Jack

## BIRNBACH METAL BASE INSULATORS

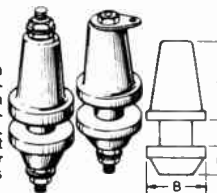
Designed to replace conventional porcelain insulators where base cracks when fastened down. Corrugated surface provides long leakage path. Made of high tensile strength low absorption porcelain fully glazed. Supplied with nickel-plated brass screws and nuts, cadmium plated drawn steel bases.



Cat. No.	Height A	Base Dimension B	C	D	Mounting Screw	Hardware
867	1 1/2"	1 1/2" x 1 1/4"	1 1/2"	2 No. 8	10-32	
867J	1 1/2"	1 1/2" x 1 1/4"	1 1/2"	2 No. 8	No. 403 Jack	
4176	2 1/2"	1 1/2" x 1 1/4"	1 1/2"	4 No. 10	1/2-20	
4176J	2 1/2"	1 1/2" x 1 1/4"	1 1/2"	4 No. 10	No. 395 Jack	
4451	4 1/2"	2 1/4" x 2 1/4"	1 1/2"	4 No. 10	1/2-20	
4451J	4 1/2"	2 1/4" x 2 1/4"	1 1/2"	4 No. 10	No. 395 Jack	

## BIRNBACH FEEDTHRU INSULATORS

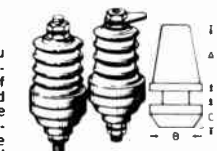
Made of highly vitrified, low absorption porcelain smoothly glazed to prevent accumulation of dust or dirt. Maximum strength is achieved by the proper proportions and flat mounting surfaces. Long insulating sleeves on the lower part of the insulator contribute much to their performance on high voltages. Brass nickel-plated hardware.



Cat. No.	Height A	Dimen. B	C	Mounting Hole	Hardware
458	3/4"	1 1/4"	3/4"	3/8"	6-32
478	1"	1 1/4"	3/4"	3/8"	10-32
478J	1"	1 1/4"	3/4"	3/8"	No. 403 Jack
4125	1 1/2"	1 1/2"	1 1/2"	3/8"	10-32
4125J	1 1/2"	1 1/2"	1 1/2"	3/8"	No. 403 Jack
4234	2 1/2"	2"	1"	1/2-20	1/2-20
4175	2 1/2"	1 1/4"	3/4"	3/8"	1/2-20
4175J	2 1/2"	1 1/4"	3/4"	3/8"	No. 394 Jack

## CORRUGATED FEEDTHRU INSULATORS

The six new corrugated type feedthru insulators have more than twice the leakage path of the straight type because of increased surface of the corrugations and recommends itself where a straight side insulator of equal height is not satisfactory because of its shorter leakage path. Brass nickel-plated hardware and cork mounting washers supplied.



Cat. No.	Height A	Dimen. B	C	Mounting Hole	Hardware
479	1 1/4"	1 1/4"	1 1/4"	3/8"	10-32
479J	1 1/4"	1 1/4"	1 1/4"	3/8"	No. 403 Jack
4276	2 1/2"	1 1/2"	1"	1/2-20	1/2-20
4276J	2 1/2"	1 1/2"	1"	1/2-20	No. 394 Jack
4452	4 1/2"	2 1/4"	1 1/2"	1"	1/2-20
4452J	4 1/2"	2 1/4"	1 1/2"	1"	No. 394 Jack

## HIGH VOLTAGE FEEDTHRU INSULATOR

This insulator has been designed to meet the demand for an insulator having high dielectric and mechanical strength. The extra long leakage path is made possible by the corrugations on the top insulator. The bottom sleeve tapers from a base dia. of 1 1/4" where the electric stress is greatest.



Cat. No.	Height	Base Dia.	Mounting Hole	Hardware
4233	1 1/4"	2"	1 1/4"	1/2-20

## STEATITE PILLARS

Have great tensile strength with extremely low losses at very high frequencies. Tapped on both ends; supplied with nickel plated mounting base and top hardware.

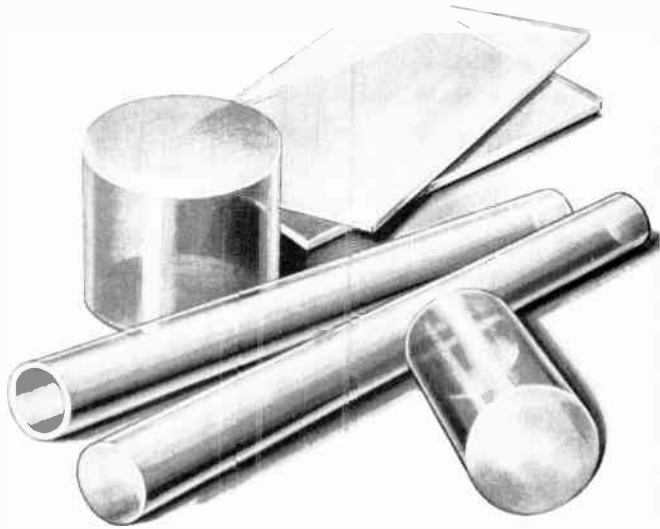


Cat. No.	Height A	Dimen. B	C	Base Dia. D	Hardware
450	1"	1 1/4"	1 1/4"	3/4"	6-32
450J	1"	1 1/4"	1 1/4"	3/4"	No. 403 Jack
451	1 1/2"	1 1/2"	1 1/2"	3/4"	6-32
451J	1 1/2"	1 1/2"	1 1/2"	3/4"	No. 403 Jack
452	2 1/2"	1 1/2"	1 1/2"	3/4"	6-32
452J	2 1/2"	1 1/2"	1 1/2"	3/4"	No. 403 Jack
453	2 1/2"	3/4"	1 1/4"	1 1/4"	1/2-20
453J	2 1/2"	3/4"	1 1/4"	1 1/4"	No. 395 Jack
454	4"	3/4"	1 1/4"	1 1/4"	1/2-20
454J	4"	3/4"	1 1/4"	1 1/4"	No. 395 Jack

# JB<sup>®</sup> Polystyrene

## ROD TUBING SHEET

For radio and electronic applications, because of its very low loss factor at ultra high frequencies, Polystyrene is the ideal material for insulators, coil forms, shields, etc. It has excellent arc resistance, is non-tracking and has splendid insulating properties. Because its water absorption is practically zero it has excellent dimensional stability.



### POLYSTYRENE ROD – Transparent

AVAILABLE IN 12" OR 48" LENGTHS

Catalog Number	Diameter	Net Price	
		12" lgth.	48" lgth.
JB-100	1/8"	\$ .03	\$ .12
JB-101	3/16"	.07	.28
JB-102	1/4"	.12	.48
JB-103	5/16"	.18	.72
JB-104	3/8"	.26	1.04
JB-106	1/2"	.48	1.92
JB-107	5/8"	.72	2.88
JB-108	3/4"	1.00	4.00
JB-109	7/8"	1.42	5.68
JB-110	1"	1.90	7.60
JB-111	1 1/8"	2.50	10.00
JB-112	1 1/4"	3.00	12.00
JB-113	1 3/8"	3.60	14.40
JB-114	1 1/2"	4.30	17.20
JB-116	1 3/4"	6.00	24.00
JB-118	2"	7.50	30.00

### POLYSTYRENE TUBING – Satin Finish

AVAILABLE IN 12" OR 48" LENGTHS

Catalog Number	D.D.	I.D.	Net Price	
			12" lgth.	48" lgth.
JB-201	1/4"	1/8"	\$ .10	\$ .40
JB-202	3/16"	3/16"	.14	.56
JB-203	3/8"	1/4"	.18	.72
JB-205	1/2"	3/8"	.26	1.04
JB-206	5/8"	1/2"	.32	1.28
JB-207	3/4"	5/8"	.40	1.60
JB-208	1"	7/8"	.56	2.24
JB-220	1 1/2"	1 1/4"	1.50	6.00
JB-222	2"	1 3/4"	2.20	8.80

### POLYSTYRENE SHEET\*

Catalog Number	Thickness	Sheet Size	Net Price
JB-125	1/16"	12" x 12"	\$ 4.15
JB-126	3/32"	12" x 12"	4.80
JB-127	1/8"	12" x 12"	5.50
JB-128	3/16"	12" x 12"	7.15
JB-129	1/4"	12" x 12"	8.15
JB-245	1/16"	12" x 24"	7.80
JB-246	3/32"	12" x 24"	9.15
JB-247	1/8"	12" x 24"	10.50
JB-248	3/16"	12" x 24"	13.15
JB-249	1/4"	12" x 24"	15.65
JB-315	1/32"	24" x 24"	9.65
JB-301	1/16"	24" x 24"	11.15
JB-302	3/32"	24" x 24"	13.00
JB-303	1/8"	24" x 24"	14.80
JB-304	5/16"	24" x 24"	18.75
JB-305	3/4"	24" x 24"	23.00
JB-309	3/8"	24" x 24"	31.25
JB-311	1/2"	24" x 24"	38.65
JB-317	3/8"	24" x 24"	50.00
JB-318	3/4"	24" x 24"	69.25
JB-319	1"	24" x 24"	94.15

\*Sheets are all crystal clear with smooth surfaces fully protected against abrasion by masking paper on both sides.

JULIUS BLUM & CO., INC.

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**INSULATORS**

Ceramic • Steatite • Standoffs • Feed-thrus • Antenna • Beads

**DABURN FEED-THRU INSULATORS**



These are quality porcelain insulators smoothly glazed. Heavy nickel plated brass hardware used. Cushion washers supplied.

DABURN No.	Hgt. H	B	H <sub>1</sub>	Mounting Hole	H'dwe	Std. Pkg.
10-58	3/8"	1/4"	1/4"	3/16"	6-32	50
10-78	1"	1/4"	3/8"	3/16"	10-32	25
10-125	1 1/4"	7/8"	3/8"	3/16"	10-32	25
10-234	2 3/4"	2"	1"	1 1/4"	1/4-20	10

**CORRUGATED FEED-THRU INSULATOR**



These numbers have twice the leakage path of the straight type due to the increased surface area. Brass nickel plated hardware and cushion washers supplied.

DABURN No.	Hgt. H	B	H <sub>1</sub>	Mounting Hole	H'dwe	Std. Pkg.
10-79	1 3/8"	1 1/4"	1 1/4"	3/16"	10-32	25
10-76	2 3/4"	1 5/8"	1"	3/16"	1/4-20	10
10-52	4 1/2"	2 1/2"	1 1/2"	1"	1/4-20	5

**DABURN METAL BASE INSULATORS**



Made of hi tensile strength, low absorption ceramic, fully glazed corrugated surface. Provides longer leakage path. Drawn metal bases.

Daburn No.	Hgt. H	B	D	Mtg. Screw	H'dwe	Std. Pkg.
10-67	1 3/8"	1 7/8"	1 3/4"	1 1/2"	2 #8	10-32 25
10-176	2 3/4"	1 3/4"	1 3/4"	1 3/4"	4 #10	1/4-20 10
10-451	4 1/2"	2 1/4"	2 1/4"	1 3/4"	4 #10	1/4-20 5

**DABURN STEATITE CONE INSULATORS**



Steatite cones have smooth glaze white. Come complete with brass nickel plated screws and cushion washers

Daburn No.	Hgt. H	B	B <sub>1</sub>	T	Mtg. Hole	Std. Pkg.
10-38	3/8"	3/8"	3/16"	6-32	3/32"	100
10-31	1"	1 1/4"	1/2"	8-32	3/16"	50
10-32	1 1/2"	1 1/4"	3/8"	10-32	3/16"	50
10-33	2 3/4"	1 1/4"	3/4"	1/4-20	3/32"	25

**DABURN LEADIN INSULATORS**



Sections are each 2 3/4" high hi vitrified porcelain glazed. Comes thru with 2 additional bushings 3/4" and 1/2" long, permitting complete insulation of the threaded rod of any length in multiples of 1/4". Complete with brass nickel plated hardware. Lead and cushion washers permit a water tight seal.

Daburn No.	Description	Std. Pkg.
10-237	10" Rod/Bushings	10
10-238	15" Rod/Bushings	10

**DABURN STANDOFF INSULATORS**

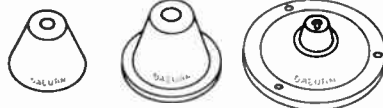


Quality glazed porcelain — mounting surface ground flat. Brass nickel plated hardware supplied.



Daburn No.	A	B	C	D	Hole	H'dwe	Std. Pkg.
10-18	1"	1 3/8"	7/8"	1"	3/16"	8-32	50
10-17	1 1/2"	1 3/4"	1 1/4"	1 1/4"	3/16"	10-32	25

**STEATITE FEED-THRU INSULATORS**



Suitable for hi-dielectric and mechanical strength. Made of L5 glazed Steatite. No hardware included.

Daburn No.	Figure	Hgt. H.	Base Diam.	Screw Size Max.	Std. Pkg.
10-200	I	7/8"	1 1/4"	10-32	25
10-201	II	1 1/8"	1 3/4"	1/4-20	25
10-202	III	1 5/8"	2 1/2"	3/8-16	25
10-203	III	1"	3 1/8"	8-32	12

**DABURN STEATITE FEED-THRU INSULATORS**



Feedthrus come thru with tops and bottoms for chassis, panel, shields, rack mounting. No hardware included. Made of L5 glazed Steatite.

Daburn No.	Hgt. Top	Diam.	Hole Panel	T'kness Panel To	Screw Size Max.	Std. Pkg.
10-204	1/8"	1/2"	3/4"	1/8"	6-32	50
10-205	3/32"	5/8"	3/4"	1/8"	8-32	50
10-206	3/8"	1/2"	1/4"	3/16"	6-32	50
10-207	3/8"	5/8"	3/8"	3/8"	8-32	50
10-208	3/8"	1 1/8"	3/8"	3/8"	10-32	50
10-209	1 5/8"	1 1/4"	1/2"	2"	10-32	50

**DABURN FISH SPINE BEADS**



Made of L5 Steatite. Suitable for buss and heavy lines insulation. Beads follow bends and curves because of ball and socket style interlocks. Four beads cover approximately 1". 100 will cover 25" of wire. Size: 3/4" O.D. x 1/8" I.D. Beads treated with Dow Corning compound to prevent accumulation of surface moisture.

Daburn No.	Description	Std. Pkg.
10-215	Fish Spine Beads	100, 1000

**DABURN AIRPLANE INSULATORS**

Suitable for mobile and aircraft or guy wire application. compression type strain insulators. Nos. 10-73, 10-74 made of white glazed low absorption porcelain. No. 10-72 made of wet process porcelain.



10-73, 10-74



10-72

Daburn No.	Description	Std. Pkg.
10-73	2" White	100
10-74	1 1/2" White	100
10-72	2 1/4" Brown	25

**DABURN STEATITE AIRPLANE INSULATOR**



Compression type Steatite insulator has small wind resistance. Fully glazed.

Daburn No.	Description	Std. Pkg.
10-63	1 1/2" Lgth.; 1 1/2" Diam. 3/4" Line Spacing	25

**DABURN STEATITE STANDOFFS JAN-I-8 AND JAN-I-10 SPECS.**



These threaded Steatite pillars are made of L5 glazed Steatite with threaded holes on both sides have one hole mounting. COLOR: White

Daburn No.	Conforms to NEW Type	Hgt.	Diam.	L'gth of Thr'd	Thr'd
10-41		1/4"	1/4"	All	6-32
10-41B		3/8"	1/4"	3/16"	6-32
10-41A		1/2"	1/4"	3/16"	6-32
10-44A		3/4"	1/4"	1/4"	6-32
10-45A		1"	1/4"	1/4"	6-32
10-42		3/8"	3/8"	3/16"	6-32
10-42A	NL633W01-004	1/2"	3/8"	3/16"	6-32
10-43A	NL633W01-005	3/8"	3/8"	1/4"	6-32
10-44B	NL633W01-006	3/4"	3/8"	1/4"	6-32
10-45B	NL644W01-008	1"	3/8"	3/8"	6-32
10-46B	NL633W01-010	1 1/4"	3/8"	3/8"	6-32
10-46A	NL633W01-012	1 1/2"	3/8"	3/8"	6-32
10-46C	NL633W01-016	2"	3/8"	3/8"	6-32
10-43		3/2"	1/2"	1/4"	6-32
10-44		1/4"	1/2"	1/4"	6-32
10-45		1"	1/2"	3/8"	6-32
10-46		1 1/2"	1/2"	3/8"	6-32
10-47		2 1/2"	1/2"	3/8"	6-32
10-40	NL633W02-005	3/8"	1/2"	3/16"	8-32
10-40A	NL633W02-006	3/4"	1/2"	1/4"	8-32
10-40B	NL633W02-008	1"	1/2"	3/8"	8-32
10-40C	NL633W02-010	1 1/4"	1/2"	3/8"	8-32
10-40D	NL633W02-012	1 1/2"	1/2"	3/8"	8-32
10-40E	NL633W02-016	2"	1/2"	3/8"	8-32
10-40F	NL633W02-020	2 1/2"	1/2"	3/8"	8-32
10-40G	NL633W02-024	3"	1/2"	3/8"	8-32
10-44C		3/4"	3/4"	1/4"	10-32
10-45C	NL633W03-002	1"	3/4"	3/8"	10-32
10-45D	NL633W03-010	1 1/4"	3/4"	3/8"	10-32
10-45E	NL633W03-012	1 1/2"	3/4"	3/8"	10-32
10-45F	NL633W03-016	2"	3/4"	3/8"	10-32
10-45G	NL633W03-020	2 1/2"	3/4"	3/8"	10-32
10-45H	NL633W03-024	3"	3/4"	3/8"	10-32
10-45S	NL633W03-032	4"	3/4"	3/8"	10-32
10-47B	NL633W04-012	1 1/2"	1"	1/2"	1/4-20
10-47D	NL633W04-016	2"	1"	5/8"	1/4-20
10-47E	NL633W04-020	2 1/2"	1"	5/8"	1/4-20

STD. PKG: 100 except 10-47B, D, E, which are 50.

**ANTENNA STRAIN INSULATORS**



10-68



10-69

10-70, 10-71

Porcelain glazed to prevent moisture absorption. All have long leakage path — small cross section strength under continuous tension — white glaze prevents accumulation of dirt and ice.

Daburn No.	Description	Std. Pkg.
10-68	4 1/2" Long Center Ins.	10
10-69	4 1/4" Long	25
10-70	7" Long	10
10-71	12" Long	10

**FEEDE SPREADER INSULATORS**



Made of highly vitrified — low absorption — hi tensile strength porcelain, with white glaze overall.

Daburn No.	Description	Std. Pkg.
10-62	2" Long Spreader	25
10-64	4" Long Spreader	25
10-65	6" Long Spreader	25

**ANTENNA INSULATORS**



10-6



10-9

Daburn No.	Description	Std. Pkg.
10-9	Glass Insulator	100
10-06	Porcelain Insulator — White	100



# PRESSURE-SENSITIVE VINYL PLASTIC ELECTRICAL TAPES

Offer a combination of superior electrical and physical properties

## ALL-WEATHER ELECTRICAL TAPE



General Electric AW-1 ALL WEATHER vinyl plastic electrical tape is the only heavy-duty, all weather electrical tape at standard tape prices.

That means you save — buy one tape instead of two for all conditions — and get a bonus of 20% more tape with superior flexibility, handleability and insulation protection.

It is perfect for any type of electrical repair work during any season of the year — from sub-freezing winter temperatures to the most severe, humid summer conditions. What's more, it resists acids, alkalis, abrasion, sunlight, salt water, many insulating oils and other organic solvents. And it won't flag or creep from its backing.

Available at your local distributor in cases, ten-paks, and individually canned  $\frac{3}{4}$ " x 66' rolls.

Grade	Thickness	Length	Width	Suggested Price Per Roll (1-9 Rolls)
AW-1	8.5 mils (0.0085 in.)	66 ft.	$\frac{3}{4}$ in.	\$1.52

### TYPICAL PHYSICAL PROPERTIES

(Tested per ASTM D-1000 Methods)

Backing .....	Polyvinyl Chloride
Thickness .....	8.5 mils $\pm$ .001
Adhesion (oz./in. width) .....	25
Elongation (%) at break .....	200% minimum
Tensile strength (#/in. width).....	22
Application Temperature.....	14F to 150F (-10C to 66C)
Usable Temperature Range .....	0F to 176F (-18C to 80C)
Conformability .....	Excellent
Roll Unwind (#/in. width).....	3.0
Transfer of Adhesive.....	None
Flame Resistance (Applied Self-Extinguishing to Completed Splice)	
Resistance to:	
Water .....	Excellent
Acid .....	Excellent
Alkali .....	Excellent
Oil .....	Excellent

### TYPICAL ELECTRICAL PROPERTIES

(Tested per ATSM D-1000 Methods)

Dielectric Strength (vpm) .....	Greater than 10,000
Insulation Resistance .....	$1 \times 10^6$ megohms
Electrolytic Corrosion Factor .....	Less than 1.0 micro-micro-mho

## GENERAL-PURPOSE ELECTRICAL TAPE



General Electric GP-1 GENERAL PURPOSE vinyl plastic electrical tape is a new answer to your general purpose, electrical insulation needs.

Unique film and adhesive formulation insure dependable year-around insulation performance. For electrical repair work, both indoors and out, it is an excellent all-around insulating product.

The combination of GP-1's stronger, more flexible vinyl film and special adhesive formulation provide a tough, durable insulating tape that offers

- ease of use
- exceptional conformability to irregular shapes
- high resistance to acids, alkalis, oils, water, and corrosion
- positive bonding — no unraveling, flagging, or creeping.

Available at your local distributor in cases, ten-packs, and individually canned  $\frac{3}{4}$ " x 66' rolls.

Grade	Thickness	Length	Width	Suggested Price Per Roll (1-9 Rolls)
GP-1	7.0 mils (0.007 in.)	66 ft.	$\frac{3}{4}$ in.	\$1.39

### TYPICAL PHYSICAL PROPERTIES

(Tested per ASTM D-1000 Methods)

Backing .....	Polyvinyl Chloride
Thickness .....	7.0 mils $\pm$ .001"
Adhesion to steel (oz./in. width).....	22
Elongation (%) at break.....	200%
Tensile Strength (#/in. width) .....	22
Usable Temperature Range (Max.) .....	(up to 176F)
Flame Resistance (Applied to completed splice).....	Self-extinguishing
Resistance to:	
Water.....	Excellent
Acid.....	Excellent
Alkali.....	Excellent

### TYPICAL ELECTRICAL PROPERTIES

(Tested per ASTM D-1000 Methods)

Dielectric Strength (vpm).....	9000
Insulation Resistance.....	$1 \times 10^6$ megohms
Electrolytic Corrosion Factor.....	1.0 micro-micro-mho

GENERAL  ELECTRIC

# PRICES

All prices listed in The MASTER are subject to change without notice — they should not be considered final.

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## DELIVERY

Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.

## VINYL ELECTRICAL TAPE



IRC, Inc.



- Saves space in confined areas . . . ends "twice-around" wraps with bulky tapes,
- Provides a tight insulated plastic seal . . . resistant to abrasion, water, acids, alkalies, corrosion and aging.
- Gives a neater wrap . . . adheres readily to irregular surfaces and contours.
- Makes an excellent wrap for insulating tools.

**NEW TAPE-AND-TEAR DISPENSER.** For one-hand taping IRC Vinyl Electrical Tape. Comes in a sturdy tape-and-tear dispenser that keeps tape clean and prevents stretching. Cutting blade is shielded. New shape is easy to hold, won't roll. Dispenser is loaded with 66 feet of  $\frac{3}{4}$ " tape. Also available in cellophane wrapped rolls:



STOCK NUMBER	SIZE	PACKAGING
VT 104 "All-Weather"	$\frac{3}{4}$ " x 66'	Dispenser
VT 103	$\frac{3}{4}$ " x 66'	Dispenser
VT 103	$\frac{3}{4}$ " x 20'	Cellophane Wrapped
VT 103	$\frac{3}{8}$ " x 20'	Cellophane Wrapped
VT 103	$\frac{3}{8}$ " x 36 YDS.	Cellophane Wrapped

## PROPERTIES OF IRC VINYL ELECTRICAL TAPE

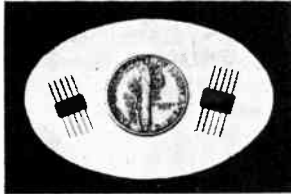
DESCRIPTION	GENERAL PURPOSE TYPE 103	ALL-WEATHER TYPE 104
<b>PHYSICAL PROPERTIES</b>		
Thickness	.007"	.0085"
Tensile Strength	19 lb./in. of width	22 lb./in. of width
Elongation at Break	150%	200%
Adhesion to Steel	32 oz./in. of width	20 oz./in. of width
Low Temperature (4 hrs. @ -20°C)		Unrolling & Application Excellent
<b>ELECTRICAL PROPERTIES</b>		
Dielectric Strength	10,000v/mil (min.)	12,000v/mil (min.)
Power Factor @ 60 Cycles	.07	.07
Power Factor @ 10 <sup>6</sup> Cycles	.03	.03
Dielectric Constant at 60 Cycles	3.2	3.2
Dielectric Constant at 10 <sup>6</sup> Cycles	2.3	2.3
Insulation Resistance	Over 10 <sup>6</sup> Megohms	Over 10 <sup>6</sup> Megohms
Electrolytic Corrosion Factor	1.0	1.0
Resistance to Penetration at Elevated Temperatures	50°C (Avg.)	90°C (Avg.)
<b>CHEMICAL PROPERTIES</b>		
Sunlight	Not Affected	Not Affected
Corrosive Effect on Electrical Conductors	None	None
Resistance to Water	Excellent	Excellent
Resistance to Acids	Excellent	Excellent
Resistance to Alkalies	Excellent	Excellent
Resistance to Oils	Excellent	Excellent
Resistance to Aging at Room Temperature	Excellent	Excellent

Both Types 103 and 104 Meet MIL-I-7798A

SAVES TIME. Quicker than friction and rubber tape combinations. Takes only one operation instead of two. Adheres readily to irregular surfaces and contours. Makes a neater job.

# SPRAGUE SEMICONDUCTORS

## UNICIRCUIT<sup>®</sup> INTEGRATED CIRCUITS



- Semiconductor Integrated Circuits Fabricated Within Monolithic Substrate Using Planar or Planar/Epitaxial Techniques
- Designs Available include DTL Logic, Milliwatt RTL Logic, Compatible Modified DTL Low power Elements, Utilogic Elements Linear Circuits, TTL Elements and Monolithic Sub-systems.
- Unicircuits With Temperature Range of  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  Meet or Exceed Requirements of MIL-S-19500D
- For Complete Technical Data Refer to Applicable Sprague Engineering Bulletins
- Call Your Sprague Industrial Distributor for Current Quantity Prices.

Type Number	Case	Description
<b>UTILOGIC ELEMENTS (+10C to +55C)</b>		
LU300K	TO-100	Dual 3-Input Gate Expander
LU305K	TO-100	6-Input AND Gate
LU306K	TO-100	Dual 3-Input AND Gate
LU314K	TO-100	7-Input NOR Gate
LU315K	TO-100	Dual 3-Input NOR Gate
LU316K	TO-100	Dual 2-Input NOR Gate*
LU320K	TO-100	J-K Binary Element
LU331K	TO-100	Dual 2-Input OR Gate*
LU332K	TO-100	Dual 3-Input OR Gate

<b>COMPATIBLE DTL ELEMENTS (0C to +70C)</b>		
NE106A	DIP	Dual 5-Input Gate Expander
NE112A	DIP	Dual 3-Input High Fan-Out NAND/NOR Gate*
NE116A	DIP	Dual 4-Input NAND/NOR Gate*
NE124A	DIP	RST Binary Element
NE125A	DIP	J-K Binary Element
NE156A	DIP	Dual 4-Input CLOCK/CAPACITIVE Line Driver*
NE161A	DIP	One-Shot Multivibrator
NE170A	DIP	Triple 3-Input NAND/NOR Gate
NE180A	DIP	Quadruple 2-Input NAND/NOR Gate

<b>COMPATIBLE DTL ELEMENTS (0C to +70C)</b>		
NE106J	TO-88	Dual 5-Input Gate Expander
NE112J	TO-88	Dual 3-Input High Fan-Out NAND/NOR Gate*
NE116J	TO-88	Dual 4-Input NAND/NOR Gate*
NE124J	TO-88	RST Binary Element
NE125J	TO-88	J-K Binary Element...
NE156J	TO-88	Dual 4-Input CLOCK/CAPACITIVE Line Driver*
NE161J	TO-88	One-Shot Multivibrator
NE170J	TO-88	Triple 3-Input NAND/NOR Gate
NE180J	TO-88	Quadruple 2-Input NAND/NOR Gate

<b>COMPATIBLE LOW-POWER TTL ELEMENTS (0C to +70C)</b>		
NE416A	DIP	Dual 4-Input NAND/NOR Gate*
NE417A	DIP	Dual 3-Input NAND/NOR Gate*
NE424A	DIP	Dual AC Binary Element
NE440A	DIP	Dual Exclusive-OR Gate
NE455A	DIP	Dual 4-Input BUFFER/DRIVER
NE480A	DIP	Quadruple 2-Input NAND/NOR Gate

<b>COMPATIBLE LOW-POWER TTL ELEMENTS (0C to +70C)</b>		
NE416J	TO-88	Dual 4-Input NAND/NOR Gate*
NE417J	TO-88	Dual 3-Input NAND/NOR Gate*
NE424J	TO-88	Dual AC Binary Element
NE440J	TO-88	Dual Exclusive-OR Gate
NE455J	TO-88	Dual 4-Input BUFFER/DRIVER
NE480J	TO-88	Quadruple 2-Input NAND/NOR Gate

<b>LINEAR CIRCUITS (0C to +70C)</b>		
NE501K	TO-100	Video Amplifier
NE505K	TO-100	General Purpose Differential Amplifier
NE518K	TO-100	Analog Comparator

<b>COMPATIBLE TTL ELEMENTS (0C to +70C)</b>		
NE806A	DIP	Dual 4-Input Gate Expander
NE808A	DIP	Single 8-Input NAND Gate
NE816A	DIP	Dual 4-Input NAND Gate
NE825A	DIP	J-K Binary Element
NE826A	DIP	Dual AC Binary Element
NE828A	DIP	Dual Type D Flip Flop
NE840A	DIP	Dual Exclusive-OR Gate*

\*Element incorporates fan-in expansion provision.

Type Number	Case	Description
NE855A	DIP	Dual 4-Input Power Gate
NE870A	DIP	Triple 3-Input NAND Gate
NE880A	DIP	Quadruple 2-Input NAND Gate

<b>COMPATIBLE TTL ELEMENTS (0C to +70C)</b>		
NE806J	TO-88	Dual 4-Input Gate Expander
NE808J	TO-88	Single 8-Input NAND Gate
NE816J	TO-88	Dual 4-Input NAND Gate
NE825J	TO-88	J-K Binary Element
NE826J	TO-88	Dual AC Binary Element
NE828J	TO-88	Dual Type D Flip Flop
NE840J	TO-88	Dual Exclusive-OR Gate*
NE855J	TO-88	Dual 4-Input Power Gate
NE870J	TO-88	Triple 3-Input NAND Gate
NE880J	TO-88	Quadruple 2-Input NAND Gate

<b>COMPATIBLE MONOLITHIC SUB-SYSTEMS (0C to +70C)</b>		
SE1280A	DIP	Decade Counter Unit
SE1281A	DIP	Binary Counter Unit

<b>COMPATIBLE DTL ELEMENTS (-55C to +125C)</b>		
SE106J	TO-88	Dual 5-Input Gate Expander
SE111J	TO-88	Dual 4-Input High Fan-Out NAND/NOR Gate
SE112J	TO-88	Dual 3-Input High Fan-Out NAND/NOR Gate*
SE116J	TO-88	Dual 4-Input NAND/NOR Gate*
SE124J	TO-88	RST Binary Element
SE125J	TO-88	J-K Binary Element
SE155J	TO-88	Dual 4-Input CLOCK/CAPACITIVE Line Driver
SE156J	TO-88	Dual 4-Input CLOCK/CAPACITIVE Line Driver*
SE161J	TO-88	One-Shot Multivibrator
SE170J	TO-88	Triple 3-Input NAND/NOR Gate
SE180J	TO-88	Quadruple 2-Input NAND/NOR Gate

<b>COMPATIBLE LOW-POWER TTL ELEMENTS (-55C to +125C)</b>		
SE416J	TO-88	Dual 4-Input NAND/NOR Gate*
SE417J	TO-88	Dual 3-Input NAND/NOR Gate*
SE424J	TO-88	Dual AC Binary Element
SE440J	TO-88	Dual Exclusive-OR Gate
SE455J	TO-88	Dual 4-Input BUFFER/DRIVER
SE480J	TO-88	Quadruple 2-Input NAND/NOR Gate

<b>LINEAR CIRCUITS (-55C to +125C)</b>		
SE501G	TO-91	Video Amplifier
SE505G	TO-91	General Purpose Differential Amplifier
SE518G	TO-91	Analog Comparator

<b>LINEAR CIRCUITS (-55C to +125C)</b>		
SE501K	TO-100	Video Amplifier
SE505K	TO-100	General Purpose Differential Amplifier
SE518K	TO-100	Analog Comparator

<b>COMPATIBLE TTL ELEMENTS (-55C to +125C)</b>		
SE806J	TO-88	Dual 4-Input Gate Expander
SE808J	TO-88	Single 8-Input NAND Gate
SE816J	TO-88	Dual 4-Input NAND Gate
SE825J	TO-88	J-K Binary Element
SE826J	TO-88	Dual AC Binary Element
SE828J	TO-88	Dual Type D Flip Flop
SE840J	TO-88	Dual Exclusive-OR Gate*
SE855J	TO-88	Dual 4-Input Power Gate
SE870J	TO-88	Triple 3-Input NAND Gate
SE880J	TO-88	Quadruple 2-Input NAND Gate



# SPRAGUE SEMICONDUCTORS

Type Number	Case	Description
<b>COMPATIBLE TTL HIGH-SPEED LOW-POWER ELEMENTS (-55C to +125C)</b>		
SE8280J	TO-88	Decade Counter
SE8281J	TO-88	Binary Counter
SE8416J	TO-88	Dual 4-Input NAND/NOR Gate*
SE8417J	TO-88	Dual 3-Input NAND/NOR Gate*
SE8424J	TO-88	Dual AC Binary Element
SE8440J	TO-88	Dual Exclusive-OR Gate
SE8455J	TO-88	Dual 4-Input BUFFER/DRIVER
SE8480J	TO-88	Quadruple 2-Input NAND/NOR Gate
SE8806J	TO-88	Dual 4-Input Gate Expander
SE8808J	TO-88	Single 8-Input NAND Gate
SE8816J	TO-88	Dual 4-Input NAND Gate
SE8825J	TO-88	J-K Binary Element
SE8826J	TO-88	Dual AC Binary Element
SE8828J	TO-88	Dual Type D Flip Flap
SE8840J	TO-88	Dual Exclusive-OR Gate*
SE8855J	TO-88	Dual 4-Input Power Gate
SE8870J	TO-88	Triple 3-Input NAND Gate
SE8880J	TO-88	Quadruple 2-Input NAND Gate

<b>COMPATIBLE LOW-POWER TTL ELEMENTS (+15C to +55C)</b>		
SP416A	DIP	Dual 4-Input NAND/NOR Gate*
SP417A	DIP	Dual 3-Input NAND/NOR Gate*
SP424A	DIP	Dual AC Binary Element
SP440A	DIP	Dual Exclusive-OR Gate
SP455A	DIP	Dual 4-Input BUFFER/DRIVER
SP480A	DIP	Quadruple 2-Input NAND/NOR Gate

<b>COMPATIBLE DTL ELEMENTS (+15C to +55C)</b>		
SP616A	DIP	Dual 4-Input NAND/NOR Gate*
SP620A	DIP	J-K Binary Element
SP629A	DIP	RST Binary Element
SP631A	DIP	Quadruple 2-Input Gate Expander
SP659A	DIP	Dual 4-Input CLOCK/CAPACITIVE Driver*
SP670A	DIP	Triple 3-Input NAND/NOR Gate
SP680A	DIP	Quadruple 2-Input NAND/NOR Gate

<b>COMPATIBLE TTL ELEMENTS (+15C to +55C)</b>		
SP806A	DIP	Dual 4-Input Gate Expander
SP808A	DIP	Single 8-Input NAND Gate
SP816A	DIP	Dual 4-Input NAND Gate
SP825A	DIP	J-K Binary Element
SP826A	DIP	Dual AC Binary Element
SP828A	DIP	Dual Type D Flip Flap
SP840A	DIP	Dual Exclusive-OR Gate*
SP855A	DIP	Dual 4-Input Power Gate
SP870A	DIP	Triple 3-Input NAND Gate
SP880A	DIP	Quadruple 2-Input NAND Gate

<b>COMPATIBLE LOW-POWER TTL ELEMENTS (0C to +70C)</b>		
ST416A	DIP	Dual 4-Input NAND/NOR Gate*
ST417A	DIP	Dual 3-Input NAND/NOR Gate*
ST424A	DIP	Dual AC Binary Element
ST440A	DIP	Dual Exclusive-OR Gate
ST455A	DIP	Dual 4-Input BUFFER/DRIVER
ST480A	DIP	Quadruple 2-Input NAND/NOR Gate

<b>COMPATIBLE DTL ELEMENTS (0C to +70C)</b>		
ST616A	DIP	Dual 4-Input NAND/NOR Gate*
ST620A	DIP	J-K Binary Element
ST629A	DIP	RST Binary Element
ST631A	DIP	Quadruple 2-Input Gate Expander
ST659A	DIP	Dual 4-Input CLOCK/CAPACITIVE Driver*
ST670A	DIP	Triple 3-Input NAND/NOR Gate
ST680A	DIP	Quadruple 2-Input NAND/NOR Gate

<b>COMPATIBLE TTL ELEMENTS (0C to +70C)</b>		
ST806A	DIP	Dual 4-Input Gate Expander
ST808A	DIP	Single 8-Input NAND Gate
ST816A	DIP	Dual 4-Input NAND Gate
ST825A	DIP	J-K Binary Element
ST826A	DIP	Dual AC Binary Element
ST828A	DIP	Dual Type D Flip Flap
ST840A	DIP	Dual Exclusive-OR Gate*
ST855A	DIP	Dual 4-Input Power Gate
ST870A	DIP	Triple 3-Input NAND Gate
ST880A	DIP	Quadruple 2-Input NAND Gate

Type Number	Case	Description
<b>UTILOGIC ELEMENTS (-20C to +85C)</b>		
SU300G	TO-91	Dual 3-Input Gate Expander
SU305G	TO-91	6-Input AND Gate
SU306G	TO-91	Dual 3-Input AND Gate
SU314G	TO-91	7-Input NOR Gate
SU315G	TO-91	Dual 3-Input NOR Gate
SU316G	TO-91	Dual 2-Input NOR Gate*
SU320G	TO-91	J-K Binary Element
SU331G	TO-91	Dual 2-Input OR Gate*
SU332G	TO-91	Dual 3-Input OR Gate

<b>UTILOGIC ELEMENTS (-20C to +85C)</b>		
SU300K	TO-100	Dual 3-Input Gate Expander
SU305K	TO-100	6-Input AND Gate
SU306K	TO-100	Dual 3-Input AND Gate
SU314K	TO-100	7-Input NOR Gate
SU315K	TO-100	Dual 3-Input NOR Gate
SU316K	TO-100	Dual 2-Input NOR Gate*
SU320K	TO-100	J-K Binary Element
SU331K	TO-100	Dual 2-Input OR Gate*
SU332K	TO-100	Dual 3-Input OR Gate

<b>COMPATIBLE DTL ELEMENTS (-55C to +125C)</b>		
US720J**	TO-88	Quadruple 2-Input NAND/NOR Gate
US721J**	TO-88	Triple 3-Input NAND/NOR Gate
US727J**	TO-88	Triple 2-Input NAND/NOR Gate*
US729J**	TO-88	RST Binary Element
US730J**	TO-88	Dual 5-Input NAND/NOR Gate
US731J**	TO-88	Quadruple 2-Input Gate Expander
US732J**	TO-88	12-Input Gate Expander

<b>COMPATIBLE LOW-POWER RTL ELEMENTS (0C to +70C)</b>		
USN-0908D	TO-78	Adder (A)
USN-0909D	TO-78	Buffer (B)
USN-0910D	TO-78	Dual 2-Input
USN-0911D	TO-78	4-Input Gate (G)
USN-0912D	TO-78	Half Adder (H)
USN-0913D	TO-78	Register (R)
USN-0921D	TO-78	Expander (E)
USN-0940D	TO-78	J-K Binary Element (JK)
USN-0960D	TO-78	Twin Buffer (T)

<b>COMPATIBLE TTL ELEMENTS (0C to +70C)</b>		
USN-7400A	DIP	Quadruple 2-Input NAND Gate
USN-7410A	DIP	Triple 3-Input NAND Gate
USN-7420A	DIP	Dual 4-Input NAND Gate
USN-7430A	DIP	Single 8-Input NAND Gate
USN-7440A	DIP	Dual 4-Input Power Gate
USN-7450A	DIP	Dual Exclusive-OR Gate
USN-7460A	DIP	Dual 4-Input Gate Expander
USN-7470A	DIP	J-K Binary Element
USN-7474A	DIP	Dual Type D Flip Flap
USN-7479A	DIP	Dual AC Flip Flap

<b>COMPATIBLE LOW-POWER RTL ELEMENTS (-55C to +125C)</b>		
US-0908D	TO-78	Adder (A)
US-0909D	TO-78	Buffer (B)
US-0910D	TO-78	Dual 2-Input Gate (D)
US-0911D	TO-78	4-Input Gate (G)
US-0912D	TO-78	Half Adder (H)
US-0913D	TO-78	Register (R)
US-0921D	TO-78	Expander (E)
US-0940D	TO-78	J-K Binary Element (JK)
US-0960D	TO-78	Twin Buffer (T)

<b>COMPATIBLE TTL ELEMENTS (-55C to +125C)</b>		
USS-5400J	TO-88	Quadruple 2-Input NAND Gate
USS-5410J	TO-88	Triple 3-Input NAND Gate
USS-5420J	TO-88	Dual 4-Input NAND Gate
USS-5430J	TO-88	Single 8-Input NAND Gate
USS-5440J	TO-88	Dual 4-Input Power Gate
USS-5450J	TO-88	Dual Exclusive-OR Gate
USS-5460J	TO-88	Dual 4-Input Gate Expander
USS-5470J	TO-88	J-K Binary Element
USS-5474J	TO-88	Dual Type D Flip Flap
USS-5479J	TO-88	Dual AC Flip Flap

\*\*Completely interchangeable with Signetics parts prefixed by CS, e.g., Sprague US720J and CS720J are identical except for part numbers.

\*Element incorporates fan-in expansion provision.

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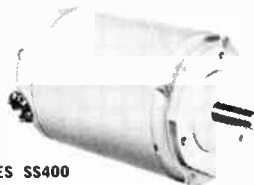
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Sizes subject to change without notice.

# SLO-SYN®



TYPE SS25



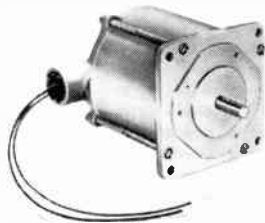
TYPES SS400 & SS402



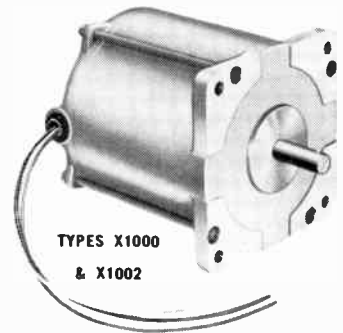
TYPES SS150 & SS152



TYPES HS50 & HS52



TYPES X250 & X252



TYPES X1000 & X1002

**A-C OPERATION** — Standard SLO-SYN Synchronous/Stepping Motors are permanent magnet a-c motors having extremely rapid starting, stopping and reversing characteristics and a slow basic shaft speed of 72 rpm synchronous with a line frequency of 60 cycles. Three-lead types need only a single-pole, three-position switch for complete forward, reverse and "off" control. No excessive inrush current when energized because starting and operating current are nearly identical. Can be completely stalled without overheating and with no harmful effects on components. Starts or stops in less than 5° of shaft rotation; no need for mechanical or electrical braking. When used with an auxiliary high speed motor, the SLO-SYN motor can remain coupled to the load and safely overdriven. Phase shifting resistor and capacitor must be used when operating from a single-phase source but not from two-phase. All standard motors are rated for continuous duty at maximum ambient temperature of 40°C. Types SS150 and SS152 use Class A insulation; all others have Class B.

**D-C STEPPING** — When used for phase-switched d-c stepping, the motors can be connected to provide either 100 or 200 steps per revolution. Accuracy of the steps is ±.09° non-

cumulative. Three-lead types require a center-tapped d-c supply and single-pole, double-throw switching; four-lead types require a single-ended power supply and single pole, double-throw switching. Bifilar motors can also be used with transistorized switching circuits. With a suitable control potentiometer instead of switches, a SLO-SYN motor can be made to rotate steplessly, permitting extremely accurate positioning. All motors have lubricated-for-life bearings.

### PRECISION STEPPING

For phase-switched d-c stepping, types HS25, HS50 and HS50L make 200 steps per shaft revolution. Each 1.8° step is accurate within ±3% (.06°) noncumulative. May be operated at speeds greater than 500 steps per second if accelerating and decelerating circuits are used. With proper circuitry, the motors may be operated at speeds of 1000 steps per second or higher without missing any steps.

### 200 RPM

Types TS50 and TS52 are similar to standard models but operate at synchronous speeds of 200 rpm and take 36 or 72 steps per revolution when used for d-c stepping.

### RATINGS AND SPECIFICATIONS FOR A-C APPLICATIONS

TYPE	MAXIMUM AMPERES	TORQUE (Oz-In)	MAXIMUM MOMENT OF INERTIA OF A RIGIDLY ATTACHED LOAD (Lb-In <sup>2</sup> )	PHASE-SHIFTING COMPONENTS*				APPROXIMATE MOTOR WEIGHT (POUNDS)	
				RESISTOR	RESISTOR PART NUMBER	CAPACITOR	CAPACITOR PART NUMBER	NET	SHIPPING
<b>120 Volts, 50/60 hertz, 1 Phase, 200 RPM at 60 hertz</b>									
TS50	0.3	50	0.25	300 ohm ±5%, 25 watt	R-TS50	3.75 mfd ±6%, 330 VAC	C-SS150/TS50	4¾	5¾
<b>120 Volts, 50/60 hertz, 1 Phase, 72 RPM at 60 hertz.</b>									
SS25‡	0.1	25	0.15	500 ohm ±5%, 5 watt	R-SS25	0.75 mfd ±6%, 330 VAC	C-SS25	1¼	1½
SS50‡	0.3	50	0.5	250 ohm ±5%, 25 watt	R-SS50/150	2.6 mfd ±6%, 330 VAC	C-SS50	3	3½
SS50M†‡	0.3	50	0.5	250 ohm ±5%, 25 watt	R-SS50M/150M	2.6 mfd ±6%, 330 VAC	C-SS50M	3	3½
SS150	0.4	150	1.5	250 ohm ±5%, 25 watt	R-SS50/150	3.75 mfd ±6%, 330 VAC	C-SS150/TS50	6½	8
SS150M†	0.4	150	1.5	250 ohm ±5%, 25 watt	R-SS50M/150M	3.75 mfd ±6%, 330 VAC	C-SS150M	6½	8
SS250	0.6	250	3	150 ohm ±5%, 50 watt	R-SS250/400	6.5 mfd ±6%, 330 VAC	C-SS250/400	6½	8
SS250M†	0.6	250	3	150 ohm ±5%, 50 watt	R-SS250M	6.5 mfd ±6%, 330 VAC	C-SS250M	6½	8
X250‡	0.6	250	3	150 ohm ±5%, 50 watt	R-SS250/400	6.5 mfd ±6%, 330 VAC	C-SS250/400	7¾	9
SS400	0.6	400	4.5	150 ohm ±5%, 50 watt	R-SS250/400	6.5 mfd ±6%, 330 VAC	C-SS250/400	12¼	13¾
X1000‡	3.0	1000	9	65 ohm ±5%, 160 watt	R-X1000	30 mfd ±5%, 330 VAC	C-X1000	31	33
SS1800	4.0	1800	16	40 ohm ±5%, 375 watt	R-SS1800	60 mfd ±6%, 330 VAC	C-SS1800	45	50
<b>240 Volts, 50/60 hertz, 1 Phase, 200 RPM at 60 hertz</b>									
TS52	0.2	50	0.25	1200 ohm ±5%, 25 watt	R-SS152/TS52	1.0 mfd ±6%, 660 VAC	C-SS152/TS52	4¾	5¾
<b>240 Volts, 50/60 hertz, 1 Phase, 72 RPM at 60 hertz</b>									
SS52‡	0.2	50	0.5	1000 ohm ±5%, 10 watt	R-SS52	0.67 mfd ±6%, 660 VAC	C-SS52	3	3½
SS152	0.2	150	1.5	1200 ohm ±5%, 25 watt	R-SS152/TS52	1.0 mfd ±6%, 660 VAC	C-SS152/TS52	6½	8
SS252	0.3	250	3	500 ohm ±5%, 50 watt	R-SS252/402	1.75 mfd ±6%, 660 VAC	C-SS252/402	6½	8
X252‡	0.3	250	3	500 ohm ±5%, 50 watt	R-SS252/402	1.75 mfd ±6%, 660 VAC	C-SS252/402	7¾	9
SS402	0.3	400	4.5	500 ohm ±5%, 50 watt	R-SS252/402	1.75 mfd ±6%, 660 VAC	C-SS252/402	12¼	13¾
X1002‡	1.5	1000	9	250 ohm ±5%, 200 watt	R-X1002	8 mfd ±6%, 660 VAC	C-X1002	31	33
SS1802	2.0	1800	16	130 ohm ±5%, 320 watt	R-SS1802	15 mfd ±6%, 660 VAC	C-SS1802	45	50

\*External resistor and capacitor must be ordered separately †Militarized ‡Explosion-proof. ‡For 60 hertz. Other phase-shifting components required for 50 hertz.



THE SUPERIOR ELECTRIC COMPANY

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# Synchronous / Stepping Motors

FOR A-C CONSTANT SPEED • FOR D-C STEPPING

## THREE-LEAD SLO-SYN SYNCHRONOUS/STEPPING MOTORS — RATINGS FOR STEPPING APPLICATIONS

MOTOR TYPE	TS50	TS52	SS25	SS50 SS50M	SS52	SS150 SS150M	SS152	SS250 SS250M X250	SS252 X252	SS400	SS402	X1000	X1002	SS1800	SS1802
D-C VOLTS	50	100	80	50	100	35	70	32	64	30	60	11.5	23	9.5	19
AMPERES PER WINDING	0.25	0.13	0.07	0.15	0.08	0.35	0.18	0.50	0.25	0.60	0.30	3.2	1.6	4.7	2.4

## FOUR-LEAD SLO-SYN SYNCHRONOUS/STEPPING MOTORS RATINGS FOR STEPPING APPLICATIONS

TYPES	D-C INPUT VOLTS PER WINDING	AMPERES PER WINDING
SS25-1014	16	0.35
SS25-1012	40	0.14
SS25-1013	80	0.07
SS50-1012	2.5	3.1
SS50-1011	10	0.75
SS50-1002	25	0.30
SS50-1014	50	0.15
SS150-1007	2	6.3
SS150-1018	7	1.75
SS150-1015	17.5	0.70
SS150-1025	35	0.35
SS250-1010	3	5.3
SS250-1009	8	2.0
SS250-1008	16	1.0
SS250-1007	32	0.50
SS400-1005	15	1.2
SS400-1007	30	0.6
X1000-1005	11.5	3.2
X1000-1008	23	1.6
SS1800-1004	9.5	4.7
SS1800-1005	19	2.4

## SLO-SYN PRECISION STEPPING MOTORS RATINGS FOR DC STEPPING APPLICATIONS

TYPES	DC VOLTS	AMPERES PER WINDING
HS25	5.4	1.5
HS50	3	4
HS50L	4.5	3.5

## BIFILAR SLO-SYN SYNCHRONOUS/STEPPING MOTORS RATINGS FOR STEPPING APPLICATIONS

TYPE	D-C VOLTS	AMPERES PER WINDING
TS50-1001	3	4.0
SS25-1002	5.9	0.88
SS25-1001	11.8	0.44
SS25-1011	23.6	0.22
SS50-1010	2	3.3
SS50-1009	5.5	1.3
SS50-1008	8	0.85
SS50-1001	14	0.53
SS50-1007	35	0.21
SS150-1023	1.4	8.5
SS150-1009	2.5	4.0
SS150-1010	10	1.25
SS150-1017	25	0.5
SS250-1006	2.5	5.0
SS250-1027	4.6	3.1
SS250-1002	9	1.55
SS250-1004	22.5	0.61
X250-1003	4.6	3.1
X250-1002	9	1.55
SS400-1021	5.3	3.4
SS400-1002	8.3	2.2
SS400-1006	21.2	0.85
X1000-1002	10	3.6
X1000-1007	25.4	1.42
SS1800-1007	11.5	3.9
SS1800-1002	14.4	3.1
SS1800-1006	23	2.0



### BIFILAR

Used for d-c stepping where use of push-pull circuitry and center-tapped power supply is not possible or where increased torque at high stepping speeds is required.



### SPECIAL ENVIRONMENT

High Vacuum types for vacuums to  $10^{-6}$  Torr; High Temperature types for temperatures to  $130^{\circ}\text{C}$ ; High Radiation types withstand dosage of 3,000 megarads. All available from 50 to 1800 oz-in; High Vacuum 25 oz-in also.

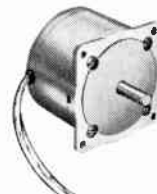


### PLANETARY GEAR

Basic 50 and 150 oz-in types and type X250 available with planetary gear assemblies in speeds of 16.6, 3.32, 0.665, 0.133 or 0.027 rpm; 16.6 rpm available in other 250 and on 400 oz-in types.

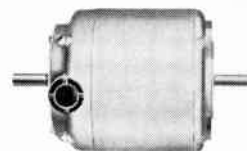
### FOUR-LEAD

Designed for d-c stepping to provide the flexibility needed for use with equipment requiring isolated windings with no common connection.



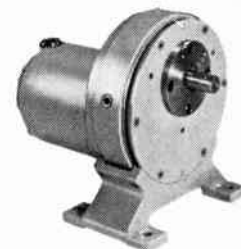
### DOUBLE END

Three-lead, bifilar and four-lead types with output shaft at each end of motor available in all listed torque ratings. 50, 150 and 250 oz-in types available also with planetary gear assemblies in 16.6, 3.32, 0.665, 0.133 or 0.027 rpm speeds.



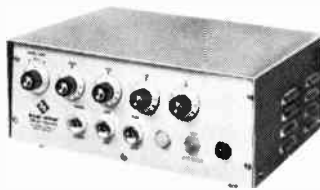
### HIGH TORQUE GEARMOTORS

Speeds from 0.5 to 36 rpm, torque ratings from 25 to 1600 lb-in. Consist of single- or double-reduction, parallel-shaft gearbox driven by a SLO-SYN motor. Face or foot mounting possible.

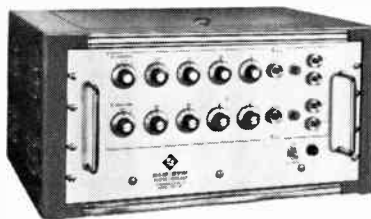


**SLO-SYN**® *Preset Indexers*

Used to control indexing of SLO-SYN bifilar motors. The index angle, or position, can be preset by dial setting on the control panel the number of 1.8° steps to be driven. Have provision for actuating any external equipment needed to perform related operations. Index, jog and free run can be initiated manually from the control panel or from an external switch. Can be made to cycle automatically with proper external switching. Single- and two-axis models are available with counting ranges to 99,999 steps. Two-axis models provide independent control of two SLO-SYN motors. Speed adjustable from 4 steps/second up to maximum possible with motor used. Optional backlash take-up circuit.



SINGLE-AXIS  
TYPE SP1800B-4



TWO-AXIS  
TYPE 2SP1800-4

**SLO-SYN**®  
*Translator*

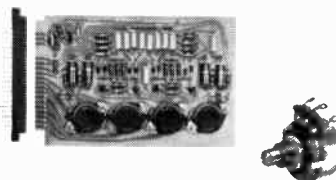
TYPE ST1800B

Pulse-to-step converter designed for use with appropriate bifilar SLO-SYN motors converted for incremental stepping. Convert low level signal pulses or square waves into the correct switching sequence needed to step a SLO-SYN motor at 200 steps/revolution (1.8° per step). Input is 105-125 volts a-c, 1 ampere. Signal input impedance is 500 ohms. Used for programmed positioning, indexing and indicating operations.

**SLO-SYN**®  
*Adjustable Speed Drive*

TYPE ST1800BV

Essentially, SLO-SYN Adjustable Speed Drive type ST1800BV is a translator which includes a built-in oscillator to supply the triggering signals. Oscillator frequency can be adjusted to vary the speed from 4 steps/second up to the maximum permissible with the motor used. Direction of rotation can be controlled either from the front panel or from a remotely located switch.

**SLO-SYN**®  
*Translator Module*

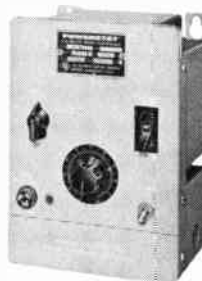
TYPE STM1800V

Plug-in circuit boards with logic capabilities for stepping a SLO-SYN motor in 1.8° increments. Type STM1800 is a basic translator which will provide bi-directional motor operation. Type STM1800V is similar but includes a built-in oscillator which can be adjusted to drive the motor at speeds from 4 steps/second up to maximum at which the motor will drive the load.

**POWERSTAT** *DC Motor Speed Controllers*

Provide continuously adjustable speed control of d-c shunt-wound motors from a-c power lines. Full rated torque available at any speed. Feature instantaneous start, stop and reverse, tubeless transient-protected circuitry. Instantly resettable, fast-opening overload protection is provided in the armature circuit in addition to fuse protection.

Rated for 120 volt, 60 hertz single phase input. Type MSC16 for motors to 1/6 hp, type MSC33 to 1/3 hp and type MSC75 to 3/4 hp. NEMA frame 1725 rpm, dc motors in 1/6, 1/3 and 3/4 hp also available.



TYPE MSC33



**THE SUPERIOR ELECTRIC COMPANY**

SEE OTHER SUPERIOR ELECTRIC PRODUCT PAGES IN SECTIONS 2100, 4000 AND 5600

# HEAVY DUTY SYNCHRONOUS MOTORS

SECTION 3500

# NEW Hurst 600 In. Oz. Model GA HYSTERESIS REVERSIBLE SYNCHRONOUS INSTRUMENT MOTOR

● Heavy Duty Gearing ● Can Be Stalled Without Overheating ● No Lubrication Required

**RATED 600 INCH-OUNCE AT 1 RPM (GA Series)** Dimensions: 2 1/4" diam, x 3".

**OUTPUT SPEEDS:** 1, 2, 3, 4, 5, 6, 10, 18, 30, 60, 100, 120, 150, 180, 225, 300 and 3600 RPM (3600 direct drive, no gear train, 1/8" shaft).

QUANTITY	1 RPM THRU 10 RPM	18 RPM THRU 55 RPM	60 RPM THRU 300 RPM	3600 RPM
1- 9	\$30.50	\$28.65	\$26.45	\$20.40
10- 24	28.98	27.22	25.13	19.38
25- 49	27.46	25.79	23.81	18.36
50- 74	25.94	24.36	22.49	17.34
75- 99	24.42	22.93	21.17	16.32
100-249	21.37	20.07	18.52	14.28

### OTHER MODELS:



EA



CA



DA  
SM



PC-DA  
PC-SM  
AR-DA  
AR-SM

**150 INCH-OUNCE (EA Series — open frame)** shaded pole. Completely accurate clockwise rotation. An extremely cool running timing motor with same gear units specified above. Torque, 150 inch-ounce at 1 RPM. Dimensions, 3/4" long x 2 1/8" wide x 1 1/8" high. Output shaft 3/8" dia. x 1" long flattened. (Exception: 3600 RPM speed has 5/8" output shaft x 1" long flattened. Shipping Wt., 1 lb. 3 oz.

**OUTPUT SPEEDS:** 1, 2, 4, 6, 8, 10, 12, 20, 30, 60 and 120 RPM. 3600 RPM.

EA	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
PRICE	\$ 9.35	8.41	7.99	7.59	7.21
3600 RPM Only	\$ 6.93	6.24	5.93	5.63	5.35

**120 INCH-OUNCE REVERSIBLE (DA Series)** Instantly reversible (with SPDT switching). Completely accurate both clockwise and counter-clockwise. 100g shock resistance. Vibration resistant, accurate synchronization of 10-55 cps at .065" excursion. Good magnetic shielding. Torque, 120 inch-ounce at 1 rpm. Case dimensions, 2 1/2" dia. x 1 3/4". Output shaft 3/8" dia. x 1" long flattened. Shipping Wt., 1 lb. 1 oz.

**OUTPUT SPEEDS:** 1, 2, 4, 6, 8, 10, 12, 20, 30, 60 and 120 RPM.

DA	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
PRICE	\$14.60	13.14	12.48	11.86	11.27

(Price includes capacitor)

**POSITIVE CLUTCH DA SERIES.** Basic DA motor with Positive Clutch and instantaneous Brake. Starts in 20 milliseconds — stops 60 rpm shaft in 12°, 1 rpm, 1/5°. Shipping Wt. 1 lb. 5 oz.

**OUTPUT SPEEDS:** 1, 2, 4, 6, 8, 10, 12, 20, 30, 60 and 120 RPM.

PC-DA	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
PRICE	\$20.18	18.16	17.25	16.39	15.57

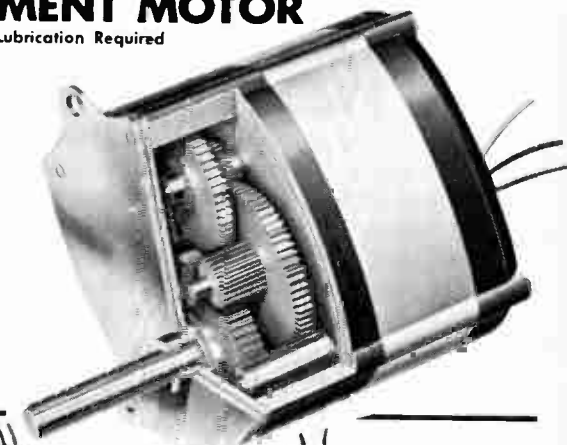
(Price includes capacitor)

**POSITIVE CLUTCH SM SERIES.** Basic SM motor with Positive Clutch and Instantaneous Brake. Starts in 20 milliseconds — stops 60 rpm shaft in 12°, 1 rpm 1/5°.

**OUTPUT SPEEDS:** 1/2, 1, 2, 3, 4, 5, 6, 10, 15, 30 and 60 RPM.

PC-SM	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
PRICE	\$17.86	16.07	15.27	14.50	13.78

PRICES SUBJECT TO CHANGE WITHOUT NOTICE



**100 INCH-OUNCE REVERSIBLE (CA Series)** Instantly reversible (with SPDT switching). Completely accurate both clockwise and counter-clockwise. 1200 rpm rotor speed for quiet performance. Torque, 100 inch-ounce at 1 rpm. Case dimensions, 2 1/2" dia. x 2 1/8". Output shaft 3/8" dia. x 1" long flattened. Shipping Wt., 1 lb. 2 oz. Most versatile and economical motor in its field!

**OUTPUT SPEEDS:** 1/2, 1, 1 1/2, 2, 2 1/2, 3, 4, 5, 6, 8, 10, 12, 15, 16, 20, 24, 25, 30, 32, 33 1/2, 40, 48, 50, 60, 64, 80, 100, 120, 150, 160, 200, 240, 400, 600, 800 and 1000 RPM.

CA	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
PRICE	\$12.51	11.26	10.70	10.17	9.67

(Price includes capacitor)

**40 INCH-OUNCE UNIDIRECTIONAL (SM Series)** Shaded pole. Clockwise rotation. Instant start of full torque at 40 inch-ounce at 1 rpm. 100g shock resistance. Vibration resistant, accurate synchronization at 10-55 cps at .065" excursion. Case dimensions, 2 1/2" dia. x 1 3/4". Output shaft 3/8" dia. x 1" long flattened. Shipping Wt., 1 lb.

**OUTPUT SPEEDS:** 1/2, 1, 2, 3, 4, 5, 6, 10, 15, 30 and 60 RPM.

SM	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
PRICE	\$12.28	11.05	10.50	9.98	9.48

**100 INCH-OUNCE REVERSIBLE (AR-DA Series) or 40 INCH-OUNCE UNIDIRECTIONAL (AR-SM Series)** Each is an Automatic Reset motor when a return spring is attached to the output shaft. When clutch is de-energized the shaft is free for manual or automatic reset. Note: The clutch mechanism is lubricated and completely enclosed. AR Series is designed for heavy applications and will easily handle full torque an model SM or DA (either directional rotation). Physical size and appearance same as PC Series. Accurate within 1/2 second at 1 RPM and more accurate at higher speeds. Max. error in seconds .5625. Case dimensions, 2 1/2" dia. x 2 1/8". Clutch actuator RPM

3/8" height x 3/8" width. Output shaft 3/8" dia. x 1" long flattened. Mounting same as standard motor shown in sketch. Shipping Wt., 1 lb. 6 oz.

**OUTPUT SPEEDS:** 1, 4, 6, 10, 30 and 60 RPM.

AR-DA	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
PRICE	\$23.80	21.42	20.35	19.33	18.36

AR-SM	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
PRICE	\$21.50	19.35	18.38	17.46	16.59

SUPERSEDES PREVIOUS LISTING

**hurst** MANUFACTURING CORP.



# Transistorized A725 ON/OFF Control A750 and A750DA Timing Controls

**AUTOTRON, INC.**

## Features of A725, A750 and A750DA

One connection changes from LIGHT- to DARK-energized operation (or vice versa). 5.8, 4.7, 3.3, 2.5, 2.2 and 1.1 Light Source Voltages makes available minimum suitable voltage for maximum lamp life and maximum speed of sensing cell response.

**Rugged, 5-amp DPDT Plug-in Relay.**  
a. Plug-in mounting permits replacement in seconds without special skill or tools  
b. Transparent enclosure protects against dust, physical injury and tampering.

Rectified output current for positive and QUIET operation of control relay.

Transistors protected from transient voltages.

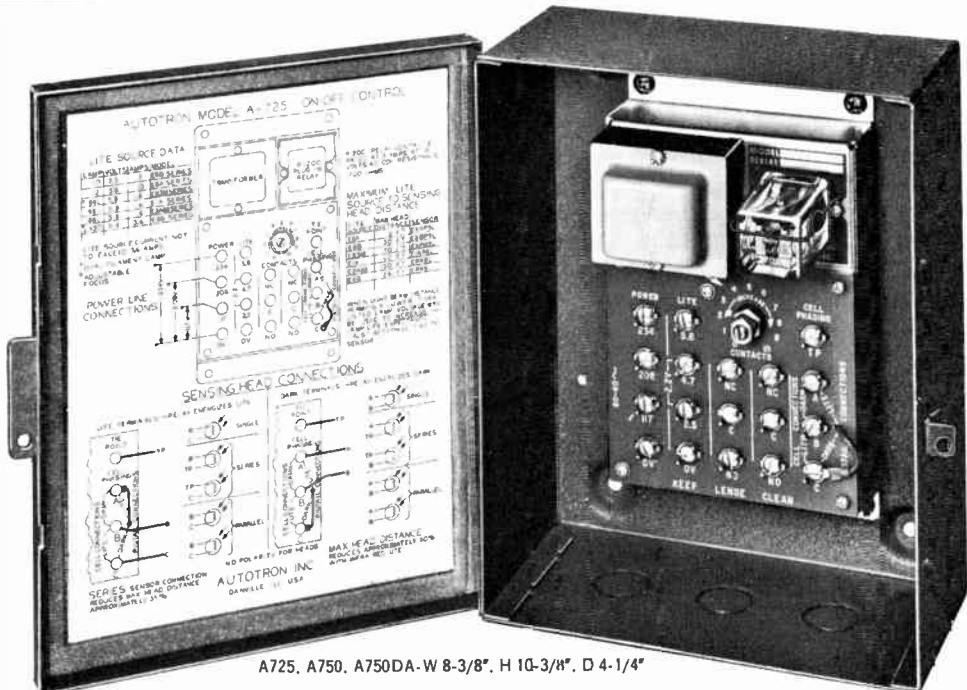
Cad Cells are exceptionally well shielded from extraneous light.

All circuit components are securely mounted on a modern circuit board.

All contacts of the DPDT Relay wired to large, screw type terminals.

Operate at ambient temperatures to 115°F. In JIC enclosures at \$12.50 extra.

Operate from 234, 208 and 117 V, 50-60 c.



A725, A750, A750DA-W 8-3/8", H 10-3/8", D 4-1/4"

### A725 ON/OFF Control

**FAST ACTING** — .025 sec. light time and .025 sec. dark time minimum.

**SENSITIVE** — Adjustment has shaft lock.

**Power Consumption, 15 watts.**

Energizes LIGHT connected to LIGHT terminals.

Energized DARK connected to DARK terminal.

A725 ON/OFF Control less heads.....\$69.50

Control-Pak Numbers Control-Sensor-Light Source	Max. Feet betw. heads	Control-Pak Net Price
A725-EBAAP10LC-E8AC	2	\$102.50 <sup>†</sup>
A725-EBAAP9LC-E8AC	2	102.50 <sup>†</sup>
A725-EBBAP9LC-E8BAC	15	102.50 <sup>†</sup>
A725-EBBP9LC-E8BC	30	102.50 <sup>†</sup>
A725-EXPM9LC-EX3ME	70	109.50
A725-EIAP10LC-E1AE	60	104.50
A725-EPA10LC-E2A8BE	150	109.50
A725-EPA10LC-E4BE	24	127.50
A725-EL10TH	††12	▲98.25

†Distance between Scanner Lens and Reflector

‡When used with No. P380 Retro-Reflector

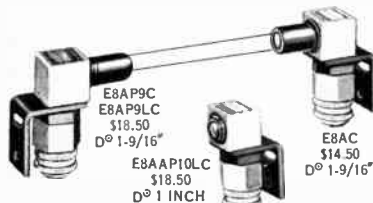
▲No. P380Retro-Reflector, 3" diameter, \$1.50 additional.

□A750P has sensitivity adjustment with shaft lock.

‡Mounting bracket and cord grip are standard. Furnished with cord assembly potted inside housing, without mounting bracket at no extra charge when specified.

Use of infrared filters reduces maximum distance between heads approximately 50%

### E8AP/E8A Remote Heads



### Series E8A and E8B Construction

Housings are machined from aluminum. Lenses are ground and polished. Lens assemblies are easily removed without dismounting to provide accessibility for inspection or replacement of cell or lamp.

Heads can be turned to any position in the mounting brackets. Overall height, including bracket, 2 1/4"; including cord grip, approx. 2 1/2"; overall width, including bracket, 15/16". Dimensional diagrams on request.

### A750 Timing Control

Timing Ranges (specify)

Range No. .7 adjustable 1 to 8 seconds, approx.

Range No. 1.0-2 to 16 seconds, approx.

(other ranges available—tell us what you need)

Timing adjustment has shaft lock.

Energizes LIGHT and times out DARK connected to LIGHT terminal. Recycle time is almost instant (.015 sec. max.) and is independent of light level on the sensing cell. Timing control is voltage regulated and variation in timing between 100 and 130 volts is negligible.

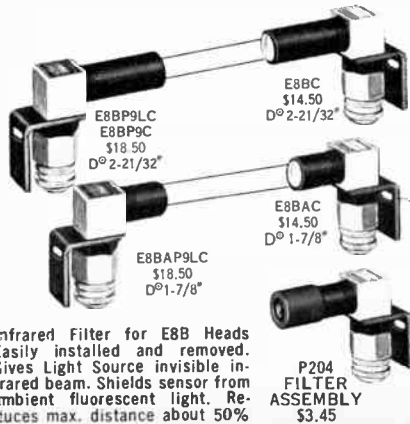
Energizes DARK and times out LIGHT connected to DARK terminal. Recycle time is 50 milliseconds min. depending on light intensity on the sensing cell. For minimum recycle time reduce light intensity to minimum operating value. Power consumption 15 watts

A750 Timing Control less heads.....Net \$88.00

Control-Pak Numbers Control-Sensor-Light Source	Max. Feet betw. heads	Control-Pak Net Price
A750-EBAAP10LC-E8AC	1	\$121.00 <sup>†</sup>
A750-EBAAP9LC-E8AC	1	121.00 <sup>†</sup>
A750-EBBAP9LC-E8BAC	7.5	121.00 <sup>†</sup>
A750-EBBP9LC-E8BC	15	121.00 <sup>†</sup>
A750-EXPM9LC-EX3ME	35	128.00
A750-EIAP10LC-E1AE	30	123.00
A750-EPA10LC-E2A8BE	75	128.00
A750-EPA10LC-E4BE	12	146.00
A750P-EL10TH	††8	▲126.75

□A750P-EL10TH

### E8BP/E8B Remote Heads



Infrared Filter for E8B Heads Easily installed and removed. Gives Light Source invisible infrared beam. Shields sensor from ambient fluorescent light. Reduces max. distance about 50%

### A750DA Impulse Timing Control

Timing Ranges (specify)

Range No. .7 adjustable 1 to 8 seconds, approx.

Range No. 1.0-2 to 16 seconds, approx.

(other ranges available—tell us what you need)

Timing adjustment has shaft lock.

A750DA is an impulse actuated Photoelectric Timing Control. Connected to LIGHT terminal the control relay energizes instantaneously when LIGHT strikes the cell and remains energized through the pre-set timing period even though the cell goes DARK. When LIGHT comes on again before timing period expires the relay remains energized through another complete timing period. When connected to the DARK terminal operation is the same except LIGHT and DARK are reversed.

Power consumption 20 watts.

A750DA Timing Control less heads.....\$124.00

Control-Pak Numbers Control-Sensor-Light Source	Max. Feet betw. heads	Control-Pak Net Price
A750DA-EBAAP10LC-E8AC	2	\$157.00 <sup>†</sup>
A750DA-EBAAP9LC-E8AC	2	157.00 <sup>†</sup>
A750DA-EBBAP9LC-E8BAC	15	157.00 <sup>†</sup>
A750DA-EBBP9LC-E8BC	30	157.00 <sup>†</sup>
A750DA-EXPM9LC-EX3ME	70	164.00
A750DA-EIAP10LC-E1AE	60	159.00
A750DA-EPA10LC-E2A8BE	150	164.00
A750DA-EPA10LC-E4BE	24	182.00
A750DA-EL10TH	††12	▲152.75

Dc Dimension in direction of Light Beam

### EL10SH Retro-Reflective Sensing Head

Lamp and sensing cell are in the same housing. Light projected through the lens strikes a retro-reflective surface, and returns through the same lens to the sensing cell. The retro-reflective surface may be tilted up to 15° from perpendicular to the light path.



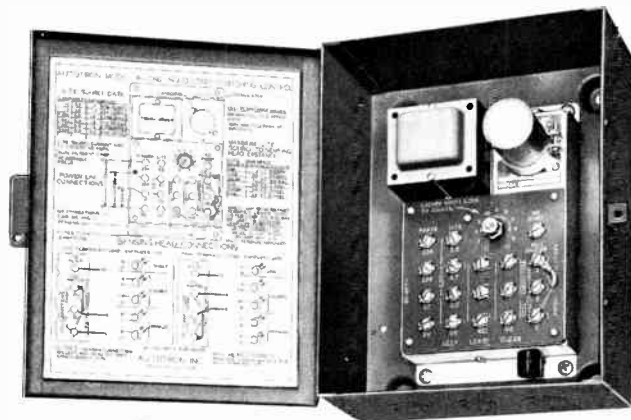
EL10SH \$24.75 D° 2.63"



Distances on the charts are based on use of the No. P380 3" diameter Retro-Reflector. Retro-reflective tape, paint, etc. may be used—the retro-reflective quality of the target affects the operating distance.

Gasket-sealed, cast-aluminum case, with 6-foot multi-conductor factory-connected cable. Flanges at front and bottom have four .201" mounting holes on .62 x 2.87 centers. Width, including flanges, 3.43"; height, 3.59".

# A766 Photo-Control with Solid State Switching A741B High-Speed Counting Eye



A766 - W 8-3/4", H 10-3/8", D 4-1/4"

## A766 Transistorized Photo Control with Solid State Switching

A766 Photoelectric Control uses Solid State Switching instead of conventional relays, thereby avoiding weaknesses inherent with mechanical contactors.

### Features

- 24 VDC Fused Output, 30 watt max.—20-ohm load min.
- LIGHT- or DARK-actuated—a single connection adjust phasing.
- FAST ACTING—.04 second DARK time; .02 second LIGHT time.
- Sensitivity Adjustment with shaft lock.
- Transistors are protected from transient voltage.
- Choice of 5.8, 4.7, 3.3, 2.5, 2.2 and 1.1 Light Source Voltage provides optimum operating voltage for prolonged lamp life and increased speed of sensing cell response.
- All circuit components are securely mounted on printed circuit board.
- Operates at ambient temperatures up to 115°F.
- Furnished in JIC enclosures at \$12.50 extra.
- Power consumption, 45 watts, maximum.
- Operates from 234, 208, and 117 V, 50-60 C.

A766 Control without pick-up.....\$88.50

Control-Pak Numbers Control-Sensor-Light Source	Max. Feet btw. heads	Control-Pak Net Price
A766-E8AP9LC-E8AC	1 ft.	\$121.50
A766-E8BP9LC-E8BC	8 ft.	121.50
A766-EXPM9LC-EX3ME	15 ft.	128.50
A766-E1AP10LC-E1AE	10 ft.	123.50
A766-EPA10LC-E2A88E	30 ft.	128.50
A766-EPA10LC-E4BE	12 ft.	146.50

### Reflective Sensors

A766-EL10TH | †15 ft. | ▲117.25

\*Described on page 3  
†Distance between Scanner Lens and Reflector  
‡When used with No. P380 Retro-Reflector  
▲No. P380 Retro-R-reflector. 3" diameter. \$1.50 additional.  
≡Mounting bracket and cord grip are standard. Furnished with cord assembly potted inside housing, without mounting bracket at no extra charge when specified.  
Use of infrared filters reduces maximum distance between heads approximately 50%  
All sensing, light source and reflector type heads are equipped with factory installed 6-foot cables for connecting to controls.  
D= Dimension in direction of Light Beam



A741B  
W 8-3/4". H 10-3/8".  
D 4-1/4"

## A741B Hi-Speed Transistorized Counting Eye

- Rectified output current for positive DC actuation of F043 Counter—no relay contacts to maintain.
- 25 counts per sec. (.015 sec. min. Light, .025 sec. min. Dark).
- Instant Reset 6-digit Plug-in Counter—counts up to 40 million counts without missing a count. Life expectancy 150 million counts. Easily removed for inspection or replacement.
- Provides 5.8, 4.7, 3.3, 2.5, 2.2, and 1.1 Light Source Voltages.
- Transistors are protected from transient voltages.
- All circuit components are securely mounted on printed circuit board.
- Operate at ambient temperatures up to 115°F.
- Operate from 234, 208 and 117 v, 50-60 c.
- Power Consumption 20 watts.

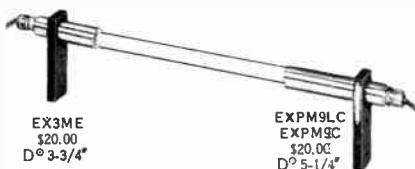
A741B—Includes A741 Control with F043C Counter, Socket and Frame assembly mounted in Control Door Panel and wired as illustrated..\$111.75

Control-Pak Numbers Control-Sensor-Light Source	Max. Feet btw. heads	Control-Pak Net Price
A741B-E8AP9C-E8AC	1 ft.	\$144.75
A741B-E8BP9C-E8BC	8 ft.	144.75
A741B-EXPM9C-EX3ME	15 ft.	151.75
A741B-E1AP10C-E1AE	10 ft.	146.75
A741B-EPA10C-E2A88E	30 ft.	151.75
A741B-EPA10C-E4BE	12 ft.	169.75

### Reflective Sensors

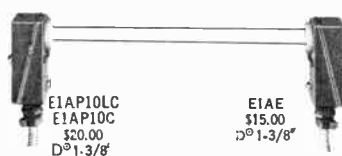
A741B-E8LP12G\* | †3 in. | 140.50  
A741B-E8S12G\* | †3 in. | 150.50  
A741B-E8S12G-6A\* | †3 1/4 in. | 154.00  
A741B-E8S12G-4A\* | † 1/2 in. | 154.00

### EXPM/EX3M Remote Heads



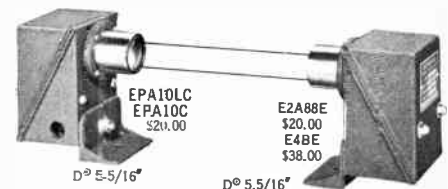
EX3ME Adjustable Focus Light Source: has light beam adjustable from focal size of 1/8" x 1/8" at 2" focal length to 7/16" x 1" focal size at 6" focal length. Also adjustable to straight light beam. No. 88, 1.6 ampere lamp is housed with 3/8" diameter lens in brass tube mounted in aluminum bracket. Height 4 3/4"; width 1 1/2".  
EXPM9C Sensing Head has cad cell housed with 3/8" diameter lens in brass tube mounted in aluminum bracket. Height, 4 3/4"; width, 1 1/2".

### E1AP/E1A Remote Heads



Series E1A heads have 3/8" diameter lenses mounted in flexible silicon rubber. Gasket sealed aluminum cases are tapped for 1/2" conduit. May be adjusted with rigidly positioned on 1/2" pipe or conduit with lock nut. Case easily opened for inspection of lamp or cell with mounting undisturbed. Depth of case in direction of light beam, 1 3/8"; width, 1-7/16"; height 3 3/8".

### EPA/E2A-E4B Remote Heads



EPA10C, E2A88E, and E4BE each has 1 1/2" diameter lens mounted in a gasket-sealed cast aluminum case with adjustable mounting bracket tapped for 1/2" conduit. Width 4"; height 5 1/4".  
E2A88E Light Source has 88L lamp.  
E4BE has No. 2330B pre-focused two-flament lamp and extra low voltage connection. The pre-focused lamp permits replacement with minimum change in light beam. The dual filaments provide protection against shutdowns—when one filament fails, the other lights up instantly, and a signal light in the housing comes on.

## Miniature Photo Reflective Heads and 800B Transistorized Control

### E8LP12G Scanner Head

Dotted line represents path of reflection—not the light beam

reflective surface

E8LP12G Scanner Head for specular reflective control. Responds to ordinary reflective surface and light beam must be directed perpendicular to the reflective surface for light to bounce back and strike the light sensing cell.

### E8S12G Scanner Head

Dotted line represents path of reflection—not the light beam

retro-reflective surface

E8S12G Coaxial Scanner responds to retro-reflective surface (tape, chalk, ink, paint, etc.). Light beam need not be perpendicular to the surface; with an angle of incidence up to 45° and more light bounces straight back to the source.

### E8LP12G Miniature Scanner Head

For high speed scanning service in minimum space. E8LP12G Scanner Head combines the fast acting cadmium selenide cell and the light source lamp in a single miniature housing (approximately 3/8 inch in all three dimensions plus 3/8" male pipe thread connection. See dimensional diagram below.)

The light sensing element is a fast response, cadmium selenide cell. The lamp has a built-in lens. An infrared filter helps protect against ambient light. The lamp rating is 2.5 volts at .5 amperes—life expectancy up to 75,000 hours depending on operating voltage.

### Unique Design—Rugged Construction

- Housing (1) is precision machined from bar aluminum for ruggedness and stability. In production quantities can be furnished in specified colors.
  - Removing a ring nut (2) releases capsule (3) containing cadmium selenide cell and light source lamp.
  - Removing two screws from capsule (not visible in photo) permits replacement of cell and lamp.
  - Polarized design assures correct position on four spring loaded contacts (4) when capsule is inserted in the head.
  - 6-foot cable is factory-connected to terminals in housing.
- F. Cable, terminal connections and contact base are encapsulated in the housing with epoxy resin.

E8LP12G Scanner Head including mounting bracket, also 6-foot factory-connected cable with cable grip and seal for connecting to 800 control. \$28.75



### E8S12G Coaxial Scanner Head

For use with retro-reflective tape or other retro-reflective material. May be used with a retro-reflective mirror when it acts as a sort of limit switch or for detecting or identifying objects with retro-reflective markings, code marks, labels, etc.

The light beam does not need to be perpendicular to the retro-reflective surface; beams at angles up to 15° and more (depending on conditions) bounce straight back to the cell.

E8S12G Scanner Head† with mounting bracket, 6-foot factory connected cable, cable grip and seal for connection to the control. \$28.75

focal length 3-1/4" focal size 1/16 x 5/16

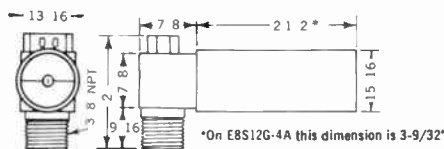
### E8S12G-6A Coaxial Scanner Head†

For use with retro-reflective surfaces. Has a pin-point type beam. Focal length is 3 1/4" (from the end of Neoprene Light Shield). Focal size is 1/16 x 5/16. Complete with mounting bracket, 6-foot factory connected cable, cable grip and seal. \$32.25

focal length 7/8" focal size 1/32 x 1/8

### E8S12G-4A Coaxial Scanner Head†

For use with retro-reflective surfaces. Has a pin-point light beam. Focal length is 7/8" (from the end of the Neoprene Light Shield). Focal size is 1/32 x 1/8. Complete with mounting bracket, 6-foot factory connected cable, cable seal and grip. \$32.25



### 800B Transistorized Control-Paks

Control	Scanner	Distance	Price
800B	E8LP12G	10 in.	96.25
800B	E8S12G	30 in.	96.25
800B	E8S12G-6A	*3 3/4 in.	99.75
800B	E8S12G-4A	*7/8 in.	99.75

or 115/230 volts, 50-60 Cycles

\*focal length

Other controls used with E8LP12G and E8S12G shown on page 2.

### 800B Sensitive Transistor Photo Control

for use with E8LP12G and E8S12G Scanner Heads and other remote cad cell heads where extra sensitivity is needed.

#### FEATURES

Chatter free relay operation—due to square wave signal sent to relay coil.

The latest silicon transistors assure extreme temperature stability not obtainable with ordinary transistors.

FAST ACTING—.025 second light time; .025 second dark time, minimum.

EXTREMELY SENSITIVE—Sensitivity adjustment has shaft lock.

Rugged 5-ampere DPDT Relay, plug-in mounted with "see thru" plastic cover.

A. Cover protects against foreign matter, physical injury and tampering.

B. Plug-in mounting permits replacement in seconds without tools or special skill.

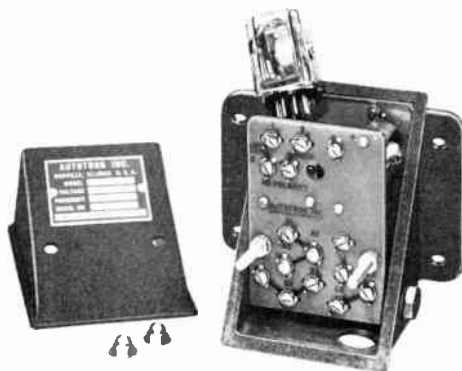
Transistors are protected from transient voltage.

All Circuit components are securely mounted on a modern circuit board.

All contacts of the DPDT relay wired to large, easily accessible, screw type terminals. Splashproof cast aluminum case tapped for 3/8" conduit.

Power consumption, 5 watts. Shipping weight 2 1/2 pounds.

800B ON/OFF Control.....\$67.50



### 800B Transistor Photo Control



# High Sensitivity, Transistorized, Compact Photoelectric Controls



## A579B, A579BA ON/OFF and A579BP Timing Controls

### Features of above controls

Transistorized.  
Powerful Cad Cell is shock-protective mounted in fixed alignment.  
Cad Cell is exceptionally well shielded from extraneous light.  
Fast Acting - .02 second light; .03 second dark time, minimum.  
Sensitive - 5 fc minimum light.  
Rugged, 5-ampere DPDT plug-in relay, in plastic enclosure.

Rectified output for positive and QUIET DC control relay operation.  
Transistors are protected from transient voltage.  
All circuit components are securely mounted on printed circuit board.  
All relay contacts are wired to large, screw type terminals.  
Cast aluminum case is gasket-sealed.  
Maximum ambient temperature is 115°F.

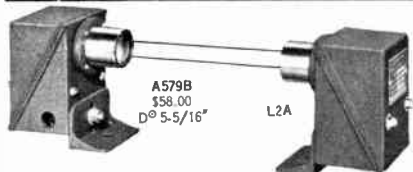


## A579B-and A579BP-E8BC C-Paks



Each Control-Pak includes A579B or A579BP Control and E8BC Light Source Head described on page 1. E8BC connects to the control for installation with one power connection. Power consumption, 5 watts. For 115/230v, 50-60c.  
A579B-E8BC ON/OFF Control-Pak .Net \$72.50  
maximum distance between lenses, 6 feet  
A579BP-E8BC Timing Control-Pak .Net \$81.50  
maximum distance between lenses, 3 feet

### A579B ON/OFF Control

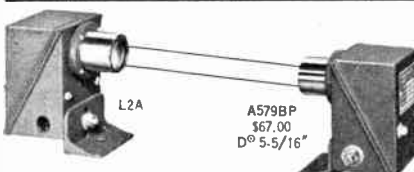


Control relay energizes when light is on the cell; de-energizes when light beam is interrupted. 1 1/2" diameter lens mounted in brass lens tube. Has terminals for 2.5 V Light Source.  
Time Delay is easily added by connecting capacitor to marked terminals. The delay times out DARK (delays de-energizing of control relay when light beam is interrupted). Instructions included with each control.  
Power consumption, 5 watts.  
Gasket-sealed cast aluminum case, tapped for 3/8" conduit, has adjustable mounting bracket. D° 5-5/16". W 4" H (less bracket) 5 1/4". Weight 3 lbs. For 115/230v, 50-60c.

Control-Pak Numbers	max. ft. between lenses	Control-Pak NET	With Y Feature Control-Pak	
			Number	NET
A579B-L1A	15	\$ 76.50	A579B-L1AY	\$81.50
A579B-L2A	30	79.80	A579B-L2AY	84.80
A579B-L4	{ N - L 6 adj.F.	107.50	.....	.....
A579B-L3A		87.30	A579B-L3AY	92.30

Light Sources are described on page 5.

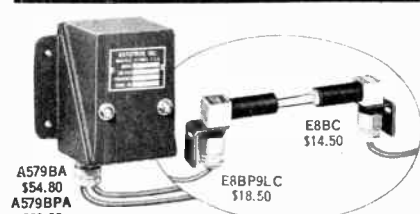
### A579BP Timing Control



Relay energizes LIGHT: times out DARK (when light beam is interrupted timing elapses before relay de-energizes) Time Delay adjustment from outside case; equipped with shaft lock.  
Repeat accuracy 4%.  
Adjustable} No. 0.4: 0.1 to 5 sec.  
Timing Ranges} No. 2.0: 1.0 to 20 sec.  
1 1/2" diameter lens housed in brass lens tube.  
Power consumption, 5 watts.  
Gasket-sealed cast aluminum case, tapped for 1/2" conduit, has adjustable mounting bracket. D° 5-5/16", W 3-15/16", H 5 1/4", weight 3 lbs. For 115/230v, 50-60c.

Control-Pak Numbers	max. ft. between lenses	Control-Pak NET	With Y Feature Control-Pak	
			Number	NET
A579BP-L1A	15	\$ 85.50	A579BP-L1AY	\$90.50
A579BP-L2A	30	88.80	A579BP-L2AY	93.80
A579BP-L4	{ N - L 6 adj.F.	116.50	.....	.....
A579BP-L3A		96.30	A579BP-L3AY	101.30

## A650 and A650A Control-Paks



A579BA and A579BPA Controls have same features as A579B and A579BP except sensing element is omitted; and they have terminals for connecting E8BP9LC and E8BC Heads described on page 1. 115/230v, 50-60c. Power Consumption 5 watts.

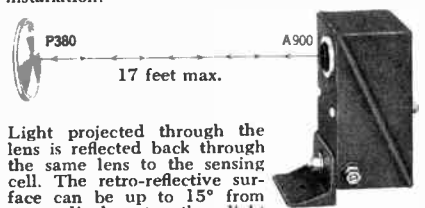
Gasket-sealed cast aluminum case, tapped for 3/8" conduit, has mounting flanges on both sides. D 3 3/4", W, including flanges, 6-3/16". H 5 1/4". Four mounting holes for 1/4" bolts on 3 by 5 1/2" centers. Shipping weight 2 1/2 lbs.

A650 ON/OFF Control-Pak—includes A579BA, E8BP9LC, and E8BC.....Net \$87.80  
max. distance between heads, 12 feet

A650A Timing Control-Pak—includes A579BPA, E8BP9LC and E8BC.....Net \$96.80  
max. distance between heads, 6 feet

## A900 ON/OFF and A900P Timing Retro-reflective Photo Controls

A900 and A900P each is a Control-Pak in one case. Sensing cell, light source, amplifiers, sensitivity adjustment and control relay are all in the same housing. Only one connection to power is required. A retro-reflective surface completes the installation.

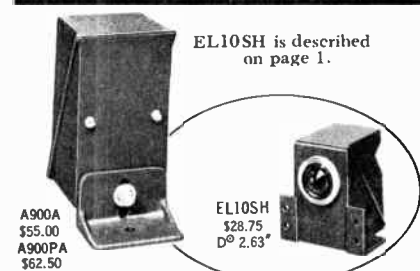


Light projected through the lens is reflected back through the same lens to the sensing cell. The retro-reflective surface can be up to 15° from perpendicular to the light beam. Retro-reflective tape, paint, etc. may be used. Retro-reflective quality of the target affects operating distance.

### A900 and A900P Features

High Sensitivity with Sensitivity Adjustment from outside the case. Provides dependable operation when objects block the light beam; also with limited light change such as may be provided by retro-reflective tape on a moving carton.  
Transistorized.  
Rugged 5-amp DPDT plug-in relay, with dust cover.  
Rectified output for DC operation of Relay.  
Transistors protected from transient voltage.  
All circuit components securely mounted on modern printed circuit board.  
All Relay Contacts wired to screw type terminals.  
Maximum ambient operating temperature, 115°F.  
Gasket-sealed cast aluminum case, tapped for 3/8" conduit, has adjustable mounting bracket; D (direction of light beam) 3 3/8", W 4", H 6 1/4". Shipping weight, 3 1/2 lbs.

## A900A- and A900PA-EL10SH C-Paks



A900A and A900PA have the same features, and the same cases as A900 and A900P respectively, except the sensing element is omitted and terminals are provided for connecting EL10SH Retro-reflective Head. For 115/230v, 50-60c. Power consumption, 10 watts.  
Maximum distance, EL10SH to P380, 20 feet.

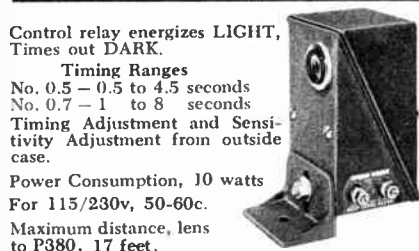
### A900 ON/OFF Control



Control relay energizes LIGHT, de-energizes DARK.  
Fast Acting: .02 second light; .03 second dark, minimum.  
Power Consumption, 10 watts  
For 115/230v, 50-60c.  
Maximum distance, lens to P380 Retro-reflector, 17 feet.  
Sensitivity Adjustment from outside case

A900 Retro-Reflective ON/OFF Control \$65.00\*

### A900P Timing Control



Control relay energizes LIGHT, Times out DARK.  
Timing Ranges  
No. 0.5 - 0.5 to 4.5 seconds  
No. 0.7 - 1 to 8 seconds  
Timing Adjustment and Sensitivity Adjustment from outside case.  
Power Consumption, 10 watts  
For 115/230v, 50-60c.  
Maximum distance, lens to P380, 17 feet.

A900P Retro-Reflective Timing Control. \$72.50\*  
\*P380 Retro-reflector is \$1.50 additional.

### A900A-EL10SH ON/OFF Control-Pak

A900A has sensitivity adjustment with shaft lock. Control Relay energizes LIGHT, de-energizes DARK.  
.02 second light; .03 second dark, minimum.  
A900A-EL10SH On/OFF Control-Pak. \$83.75\*

### A900PA-EL10SH Timing Control-Pak

A900PA has timing and sensitivity adjustments with shaft locks.  
Control Relay energizes LIGHT, times out DARK.  
Timing Range: No. 0.5 - 0.5 to 4.5 seconds.

A900PA-EL10SH Timing Control-Pak. \$91.25\*



# Light Sources for use with Photoelectric Controls Compact Photoelectric Controls

## Series L1 Light Sources

Series L1 Light Sources have 3/4" lens mounted in flexible silicon rubber and housed in gasket-sealed cast aluminum cases. Covers of all cases are easily removed for access to lamps with mounting undisturbed.

### L1A Light Source

D° 3-3/4", W 4", H 5-1/4"

Gasket-sealed cast aluminum case, tapped for 1/2" conduit, has adjustable mounting bracket. Weight 2 1/2 lbs. For 115/230v, 50-60 c.



Model	L1A	L1AY	L1AR	L1ARY
Net each	\$18.50	\$23.50	\$30.50	\$35.50

### L1B and L1C Light Sources

L1B AND L1C: D° 3-3/4", W 4", H 5-1/4"

L1B and L1C Light Sources have 3-way adjustment for aligning lamp with control without moving case. Mounting adjustment permits focusing lamp for straight beam or pin-point beam. Low voltage operation extends lamp life.

High voltage tap is provided for extremely dirty conditions. Gasket-sealed cast aluminum case is tapped for 1/2" conduit. Weight 2 1/2 lbs. For 115/230v, 50-60 c.

L1B Light Source has mounting holes in the bottom of the case and has no mounting bracket.

L1B Light Source Net \$18.50

L1C Light Source has adjustable Mounting Bracket.

L1C Light Source Net \$19.75



L1C with cover removed

### L1D Light Source

L1D: D° 1.93", W 3.28", H 5.62"

Space-saving gasket-sealed cast aluminum case has mounting flanges front and bottom. Front flanges have four mounting slots; bottom flanges have four mounting holes for 1/4" bolts on 7/8" x 2 1/2" centers.

Lamp operates at low voltage for extended life. Case is tapped for 1/2" conduit. For 115/230V 50-60C. Weight 1 3/4 lbs.

L1D Light Source Net \$18.50



### L1DA Light Source

L1DA: D° 2.18", W 1.96", H 5.62"

Another space saver—Gasket-sealed cast aluminum case is tapped in center of bottom for 3/4" pipe. Use of lock nut permits rigid positioning. Adjustable bracket described below. For 115/230V 50-60C. Weight 1 1/4 lbs.

Lamp operates at low voltage for extended life.

L1DA Light Source Net \$18.50



### Adjustable Mounting Bracket

For L1DA Light Source and BC3A Control. Clamp fits 3/4" pipe which screws into tapped opening in bottom of above housings. Pipe may be raised, lowered and rotated. Two socket-head set screws lock pipe in desired position.



P381 Adjustable Mounting Clamp .....Net \$2.95

## L2A Light Source



L2A: D° 5-5/16", W 4", H 5-1/4"

L2A Light Source has 1 1/2" lens mounted in brass lens tube.

Gasket-sealed cast aluminum case, tapped for 1/2" conduit, has adjustable mounting bracket. Operates from 115/230 V, 50-60 cycles. Weight 2 1/2 lbs.

Model No.	L2A	L2AY	L2AR	L2ARY
Net each	\$21.80	\$26.80	\$33.80	\$38.80

## L4 Dual Filament Light Source



L4 D° 6", W 7-1/4", H 5-1/4"

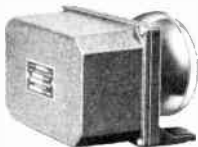
Weight, 7 lbs.

L4 Light Source has 1 1/2" lens mounted in brass lens tube.

Has prefocused, two-filament lamp, extra low voltage connection and 1 1/2" OD straight fixed beam. The prefocused lamps permit replacement with minimum change in the light beam. The dual filaments provide protection against shut-downs—when one filament fails the other lights up and a signal light in the housing comes on indicating that the lamp should be replaced as soon as convenient. Splashproof cast aluminum case with rigid mounting feet, tapped for 1/2" conduit. Operates from 115/230 V, 50-60 C.

L4 Light Source.....Net \$49.50

## L6 Hi Intensity Light Source



L6 D° 6", W 7-1/4", H 5-1/4"

Has high intensity spot beam for extremely adverse conditions such as steam, vapor, fog, heavy rainfall, etc. The #4515 sealed-beam spot lamp is swivel-mounted for directional adjustment of the beam. Lamp life expectancy; 3000 hours at normal voltage, 10000 hours at low voltage. See footcandle rating in table below. Gasket sealed cast aluminum case tapped for 1/2" conduit. 115/230 V, 50-60 C. Weight 7 lbs.

L6 Light Source.....Net \$36.00

## L3A Adjustable Focus Light Source



L3A D° 8", W 4", H 5-1/4"

Has 1 1/2" lens with light beam adjustment from a minimum focal length of 4 3/4" and corresponding focal size of 5/16 x 1/4" to a straight light beam of 1 1/2" O.D. Light output at twice the focal distance exceeds 30 foot-candles.

Increasing the focal length increases the focal size. For example at 6" focal length the focal size is 1/2 x 3/8" and at 12" focal length the focal size is 1 1/2" (straight light beam).

Splashproof cast aluminum case with adjustable bracket; tapped for 1/2" conduit.

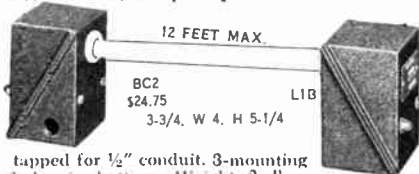
115/230v, 50-60 cycles. Weight 3 lbs.

Model No.	L3A	L3AY	L3AR	L3ARY
Net each	\$29.30	\$34.30	\$41.30	\$46.30

D° Dimension in direction of Light Beam

## BC2, BC3 and BC3A Controls

Light-Energized. Cad Cell sensing element. 3/4" lens mounted in flexible silicone rubber. Min. dark time .06 sec.; min. light time .06 sec. Contacts SPDT, 3-amps at 115 VAC resistive. Relay plastic enclosed. Power Consumption 0.5 w. Gasket-sealed cast aluminum cases. For 115 v. 50-60 cycle operation only.



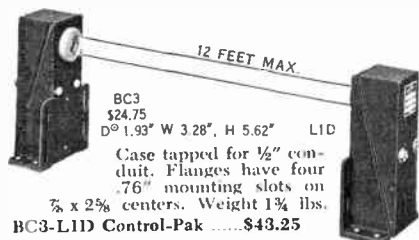
12 FEET MAX.

BC2 \$24.75 3-3/4, W 4, H 5-1/4

L1B

tapped for 1/2" conduit. 3-mounting holes in bottom. Weight 2 lb.

BC2-L1B Control-Pak .....\$43.25



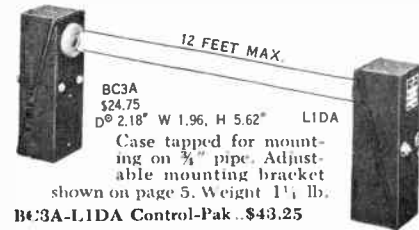
12 FEET MAX.

BC3 \$24.75 D° 1.93" W 3.28", H 5.62"

L1D

Case tapped for 1/2" conduit. Flanges have four .76" mounting slots on 7/8 x 2 1/2" centers. Weight 1 1/4 lbs.

BC3-L1D Control-Pak .....\$43.25



12 FEET MAX.

BC3A \$24.75 D° 2.18" W 1.96, H 5.62"

L1DA

Case tapped for mounting on 3/4" pipe. Adjustable mounting bracket shown on page 5. Weight 1 1/4 lb.

BC3A-L1DA Control-Pak ..\$43.25

## Lamp Life Chart

Lamp No.	Light Source	Life Expectancy in Hours				
		6 V.	5 V.	3.8 V.	2.5 V.	2.2 V.
88L	{ L1A, L2A, L3A, E1A, E2A88, EX3M }	2500	8000	15000	.....	.....
12	E8A	5000	15000	indefinite	.....	.....
10	E8B	.....	.....	.....	5000	10000
2330	L4, E4A	500	4000	8000	.....	.....

## Light Source Features

**Y Feature**—Beam intensity adjustment. Light Source has a sliding resistance inside case for adjusting intensity of light source lamp. Operating with reduced light intensity prolongs lamp life.

**R Feature**—SAFETY RELAY built into the Light Source energizes when the light comes on; de-energizes when the lamp or power fails. Relay Contacts are SPDT, rated 5 amps at 115 VAC, non-inductive. The relay may be used to operate a machine, close a valve, operate a signal, etc.

## Control Features

**R Feature**—SAFETY RELAY built into the control energizes when power comes on; de-energizes if a tube filament burns out or power goes off. Relay contacts, SPDT, rated 5 amp. at 115 VAC, non-inductive.

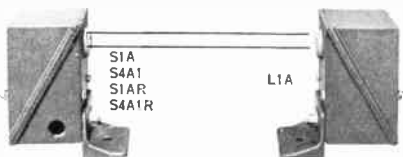
# Photoelectric ON/OFF Controls and Timing Controls



## S Series ON/OFF Photoelectric Controls

Rugged, industrial Photoelectric Controls, moderately sensitive, factory adjusted for use where object interrupts light beam 100%. Minimum dark time, .06 second; minimum light time, .06 seconds.

### S1A and S4A1 ON/OFF Controls



All above controls have 3/4" lens mounted in flexible silicon rubber—require 20 foot-candles minimum light.

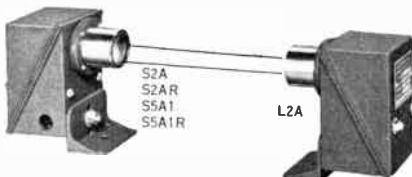
Depth (direction of light beam) 3 1/4"; width, 4"; height, 5 1/4"; weight, 2 lbs.

DARK† energized	LIGHT† energized	50-60 cycles VOLTS	NET each
S1A	S4A1	115/220	\$43.75
S1AR*	S4AR*	115 or 220 (specify)	\$5.75

Plate Relay Contacts, SPDT, rated 8 amperes at 115 VAC non-inductive load.

Splashproof cast aluminum case with adjustable bracket; tapped for 1/2" conduit. Power consumption 10 watts.

### S2A and S5A1 ON/OFF Controls



All above controls have 1 1/2" lens mounted in brass lens tube—require 10 foot-candle minimum light.

Depth (direction of light beam) 5-5/16"; width, 4"; height, 5 1/4". Weight 3 lbs.

DARK† energized	LIGHT† energized	50-60 cycles VOLTS	NET each
S2A	S5A1	115/230	\$49.75
S2AR*	S5A1R*	115 or 230 (specify)	61.75

## S Series Control-Paks

Control-Paks energized		max. ft. between lenses	Min. Dark Time	Min. Light Time	Net per Set
DARK	LIGHT				
S1A-L1A	S4A1-L1A	8	.06	.06	\$62.25
S2A-L1A	S5A1-L1A	12	.06	.06	68.25
S2A-L2A	S5A1-L2A	20	.06	.06	71.50
S2A-L4	S5A1-L4	{ N 12 } { L 4 }	.06	.06	99.25

Light Sources are described on page 5.

### Notes

Also see page 5

\*R suffix designates built-in SAFETY Relay that energizes when power comes on; de-energizes if power fails or tube filament burns out. (See page 5).

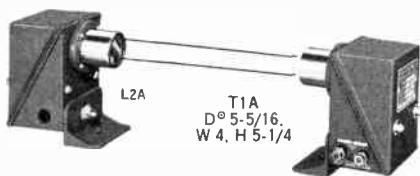
†DARK energized controls energize when the tube is dark. (See page 5).

†LIGHT energized controls energize when light is on the tube. (See page 5).

H Feature—built-in heating element to prevent condensation inside the housing where subjected to humidity and abrupt temperature changes.

## T Series Photoelectric Timing Controls

### T1A Timing Control



Relay energizes DARK—unit times out DARK. Time delay with shaft lock adjustment from 1 to 10 seconds. Repeat accuracy 4%. Minimum light, 40 foot-candles. Plate relay: Contacts SPDT, rated 8 amps at 115 v. AC, non-inductive load. Splashproof aluminum case, tapped for 1/2" conduit. Adjustable mounting bracket. Lens dia. 1 1/2". Power consumption, 10 watts. 115/230 v. 50-60 cycles. Weight 3 lbs.

T1A Timing Control.....NET \$57.50

### T3A and T5A Timing Controls

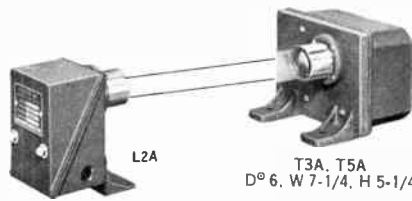


Plate Relay: Contacts DPDT, rated 8 amps at 115 v. AC, non-inductive load. Time delay adjustment has shaft lock. Splashproof cast aluminum case tapped for 1/2" conduit. Lens diameter 1 1/2". 115/230 v., 50-60 cycles. Power consumption 20 watts. Weight 8 lbs.

#### T3A and T5A Timing Ranges (specify)

No. 0.1	.03 to .3 sec.	No. 1.	.6 to 15 sec.
No. 0.2	.06 to 3. sec.	No. 2.	1. to 25 sec.
No. 0.5	.1 to 6. sec.	No. 2.5	1.5 to 50
		No. 3.	30. to 300.

### T3A Timing Control

Relay energizes LIGHT—unit times out with LIGHT. Timing accuracy, 2%. Minimum light 10 foot candles.

T3A Timing Control.....Net \$72.50  
T3AR—Above with Safety Relay.....Net \$84.50

### T5A Timing Control

Relay energizes DARK—unit times out with DARK. Timing accuracy 2%. Minimum light, 10 foot candles.

T5A Timing Control.....Net \$82.50  
T5AR—Above with Safety Relay.....Net \$94.50

### Control-Paks

	max. ft. between lenses	Min. dark time	Min. light time	Price per set
T1A-L1A	5 ft.	---	.5	\$76.00
T1A-L2A	10 ft.	---	.5	79.30
T3A-L1A	12 ft.	.005	---	91.00
T3A-L2A	20 ft.	.005	---	94.30
T5A-L1A	12 ft.	---	.005	101.00
T5A-L2A	20 ft.	---	.005	104.30

## T Series Photoelectric Timing Controls with Remote Sensing and Light Source Heads



T5A1EVA T3A1EVA, D 6, W 7-1/4, H 5-1/4  
T5A1EVA and T3A1EVA have the same specifications as T5A and T3A (above), but instead of built-in sensing elements they have connections for remote Sensing and Light Source Heads. H Feature available with all models—to order add Suffix "H" to Model Number and \$7.50 to price.

The Sensing and Light Source Heads are listed in matched pairs for convenience. Other combinations are practical when required.

For Remote Head general descriptions and dimensions, see pages 1 and 2

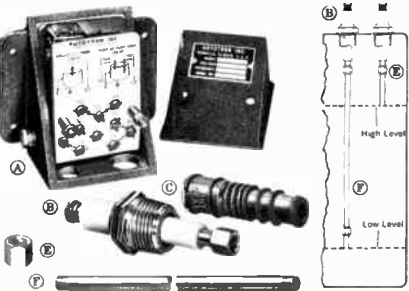
All sensing and light source heads are equipped with factory installed 6-foot cables for connecting to controls.

Model Number	Max. Ft. Between Heads	Min. Dark Time	Min. Light Time	Price	With R Feature			Ship. Wt. Lbs.
					Control	Sensing Head	Light Source	
<b>DARK-ENERGIZED—ENERGIZE DELAY (115/230 V, 50-60 C)</b>								
T5A1EVA-EPAGA-E2A88D	23	delay	.005	\$132.50	T5A1ERVA-EPAGA-E2A88D		\$144.50	11
T5A1EVA-E1APGA-E1AD	5	delay	.005	127.50	T5A1ERVA-E1APGA-E1AD		139.50	9
T5A1EVA-EXPMGA-EX3MD	5	delay	.005	132.50	T5A1ERVA-EXPMGA-EX3MD		144.50	9
T5A4EVE-E8AP9C-E8AC	1.2	delay	.01	125.50	T5A4ERVA-E8AP9C-E8AC		137.50	9
T5A4ERVF-E8BP9C-E8BC	5	delay	.005	125.50	T5A4ERVF-E8BP9C-E8BC		137.50	9
<b>LIGHT-ENERGIZED—ENERGIZE DELAY (115/230 V, 50-60 C)</b>								
T3A1EVA-EPAGA-E2A88D	23	.005	delay	\$132.50	T3A1ERVA-EPAGA-E2A88D		\$144.50	11
T3A1EVA-E1APGA-E1AD	5	.005	delay	127.50	T3A1ERVA-E1APGA-E1AD		139.50	9
T3A1EVA-EXPMGA-EX3MD	5	.005	delay	132.50	T3A1ERVA-EXPMGA-EX3MD		144.50	9
T3A4EVE-E8AP9C-E8AC	1.2	.05	delay	125.50	T3A4ERVA-E8AP9C-E8AC		137.50	9
T3A4ERVF-E8BP9C-E8BC	5	.025	delay	125.50	T3A4ERVF-E8BP9C-E8BC		137.50	9



# Specialized Electronic Controls

## Electronic Liquid Level Control

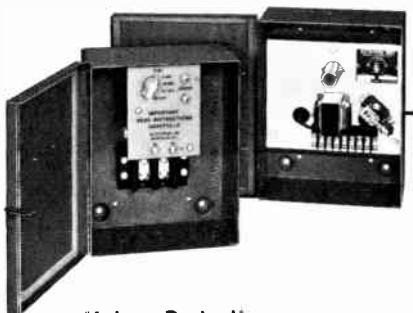


For use with liquids up to 750,000 ohms resistance such as acids, bases, salts, milk, beer, water, alcohols, ammonia, distilled water, anti-biotics.

- Ⓐ A744 Control supplies 20VDC (safe for personnel) maximum probe voltage. Stepless sensitivity adjustment with shaft lock. Plug-in 5 amp. SPDT relay, plastic enclosed. Gasket-sealed cast aluminum case 6-3/16" wide, 5 3/4" high, 3 3/4" deep. 4 mounting holes for 1/4" bolts on 5 1/2" x 3" centers. Power Consumption, 5 W. For 115 or 230v (specify) 50-60c.....Each \$74.50
  - Ⓑ P-304 Electrode has 1/2" pipe threads—may be installed in top or side of tank...Each \$10.60
  - Ⓒ P-305 Elastic Seal for electrode wiring connection ..... Each \$1.00
  - Ⓓ P-310 hex nut, stainless steel, 5/8" long—1/4-20 thread.....Each \$1.00
  - Ⓔ P-309 18-8 stainless steel rod 1/4" x 12"—1/4-20 thread both ends.....Each \$1.50
- | Type of System Components | One Electrode Quan. | Price    | Two Electrode Quan. | Price     |
|---------------------------|---------------------|----------|---------------------|-----------|
| Ⓐ A744 Control            | 1                   | \$74.50  | 1                   | \$74.50   |
| Ⓑ P-304 Electrode         | 1                   | 10.60    | 2                   | 21.20     |
| Ⓒ P-305 Dri-Seal          | 1                   | 1.00     | 2                   | 2.00      |
| Connecting Cable          | 10 ft.              | 3.00     | 20 ft.              | 6.00      |
| Price Totals              |                     | \$89.10* |                     | \$103.70* |

\*P-309 Rod and P-310 Nuts not included

## Current Surge Overload Protection



### Unique Protection for tools, equipment, personnel

The Surj-Switch uses electronic amplification for instant reaction to variations from normal load current. Easily adjusted on the job to operate at the desired value.

The 10-amp. SPDT Control Relay may operate a warning signal, a lubricating circuit, feeding rate control, etc. without interrupting operation or may be used to stop operation.

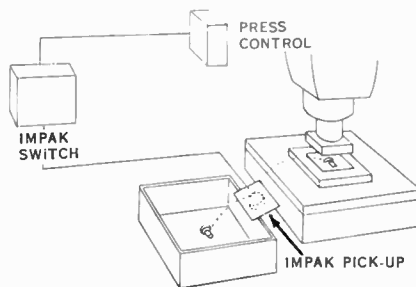
Used on surface grinders to warn when excessive pressures are applied; on machine tools to warn when tools become dull; on automated installations; whenever load change indicates trouble.

Model K1 Surj-Pick-up. Required for operation of Surj-Switch Controls—for 50-60 cycle, 0 to 80 amperes, one or 3-phase, any voltage...\$35.00

Model J Surj-Switch. For overloads.....\$55.00

Model JA Surj-Switch. For under loads...\$65.00

## Impak-Switch Die Protection



In the above diagram each piece properly ejected from the die strikes the impact sensing plate which actuates the Impak Control and the Control re-cycles the press control for another stroke.

The impact of falling parts against the sensing plate of the Impak-Pick-up activates the Impak-Switch. Objects may be of practically any reasonably uniform size, ranging from ball bearings to heavy stampings, etc.

In other die protection applications the Impak Control has time delay set to barely exceed the complete stroke cycle of the press. Each properly ejected piece re-cycles the Impak Control before the timing period expires.

Model V Impak-Pick-up—with 6-ft. shielded plastic-covered cable.....Net \$30.00

Model Z Impak-Switch—for use where impact is not less than one ounce falling 2 inches and each object strikes only once.....Net \$60.00

Model C3 Impak-Switch—for use where impact force is limited, where high speed is required or where objects may strike more than once. Net \$145.00

## A2BX Solar ON/OFF Control



Automatically turns lights "ON" at preset light value—and turns lights "OFF" when light exceeds preset value.

DPDT Control Relay energizes when light exceeds intensity for which control is set; de-energizes when light falls below the preset level.

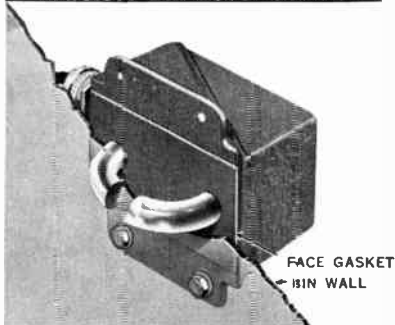
In case of tube failure the relay de-energizes; providing same control action as when light falls below preset level.

Dual Time Delays prevent operation by either momentary light flashes or shadows. Modern, simple circuitry uses one rugged, premium type power tube. Light intensity adjustment from outside of housing. Gasket-sealed cast aluminum housing, tapped for 1/2" conduit. For 115/230 v, 50-60 c. Power consumption, 20 watts

Available with three adjustment ranges:  
No. A2BX-2; 1 to 5 fc for street lighting, parking lots  
No. A2BX-5; 15 to 50 fc for signs, parking lots  
No. A2BX-1; 20 to 150 fc for obstruction or tower lights

**A2BX Solar Control (all models) Net \$76.95**

## Tubeless Bin Level Control

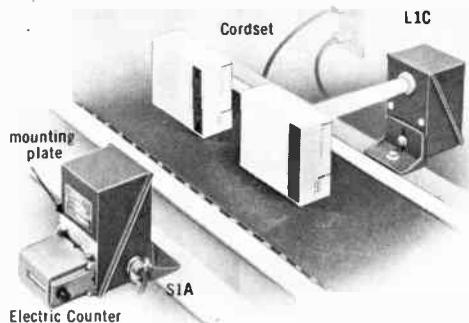


Tubeless Photoelectric actuation—unaffected by pressure of material in the bin. Only rigid, non-moving Lucite probes project into the bin. Cast aluminum, gasket-sealed housing mounts to bin wall as shown. Removal of cover makes all parts accessible. Dust-covered plug-in DPDT 8-ampere relay provides ON/OFF control for either high or low bin level. All wiring connections brought out of case in 3-foot oil-proof cable. For 115/230V, 50-60 C.

A700—Relay operates from cad cell output, light-energized. Power Consumption, 10 watts.....Net \$68.00

A700S—has transistor circuit and sensitivity adjustment—dark-energized. Power Consumption, 5 watts.....Net \$98.75  
Includes 3-ft cable, face gasket and template.

## AUTOTRON Counting Eye



Counts anything—Automatically—without touching the object. Each object must interrupt the light beam .06 second or more. Space between objects must permit restoration of the light beam .06 second or more. Max. distance between lenses, 8 feet.

- Counting Eye Components
- S1A Photoelectric Control (see page 1) \$43.75
  - L1A Light Source (see page 1) 19.75
  - Cordset: two 6-foot rubber covered cords with plugs and attachment clamps 3.00
  - Plate and hardware for mounting counter (4 mounting holes on 3-15/16 x 1-23/64" centers) 1.50
  - CE-600AS602 Electric Counter (6-digit, knob reset) 22.40
- A-138A Counting Eye, 115v, 50-60c. Net \$96.30**  
Includes above items wired ready to plug in.

## Photoelectric Controls with Infrared Light Beams



For burglar alarms, safety applications, etc. Controls and Light Sources are designed for use in pairs as listed.

CONTROL No.	NET Each	LIGHT SOURCE No.	NET Each	Max. ft. between lenses	CONTACTS		Ship. wt. lbs.
					combi- nation	Rating amps.	
A392B	57.25	L-160	\$30.65	15	SPDT	8	5 1/2
A435	83.50	L-148	46.50	50	DPDT	10	14



LARGEST MANUFACTURER OF CdS and CdSe PHOTOCONDUCTIVE CELLS

## 25 CdSe and 32 CdS Selected Photoconductive Cells

Photocell ordering abbreviation	SPECIAL DESCRIPTION	Diam. X Length (inches)	Resistance @ 2 fc ± 33 1/3%	Minimum resistance ratio from 2 fc to Dark within 5 sec.	Maximum voltage	Power <sup>4</sup> Dissipation @ 25°C (mw)
CL5M2	Type 2 CdS (photosensitive material designated by last number in ordering abbreviation, i.e. CL5M2). Peak spectral response 5150 angstroms, bluest response photosensitive material, high stability, lowest temperature error. Can be used in applications requiring sharp differentiation in the blue green spectrum. For use with either fluorescent or incandescent lamps.	.55 X .18	55K	1:100	300	2000-500 <sup>1</sup>
CL602		.25 X .5	1 meg.		300	75
CL702		.36 X .18	1 meg.		300	125
CL902		.21 X .15	1 meg.		250	50
CL503	Type 3 CdSe, peak spectral response 7350 angstroms, fast response, and very high light-to-dark resistance ratio. Can be used for high speed switching or counting. Sensitive to near infra red. For use with incandescent or neon lamps.	.5 X .5	7.2K	1:10,000	250	500-250 <sup>1</sup>
CL5M3		.55 X .18	7.2K		300	2000-500 <sup>1</sup>
CL603		.25 X .5	133K		300	75
CL603A		.25 X .5	75K		300	75
CL603AL		.25 X .5	3.5K		170	75
CL703		.36 X .18	133K		300	125
CL703A		.36 X .18	67K		300	125
CL703L		.36 X .18	2.7K		170	125
CL903		.21 X .15	133K		250	50
CL903A		.21 X .15	67K		250	50
CL903L	.21 X .15	5.9K		170	50	
CL504	Type 4 CdSe, peak spectral response 6900 angstroms, lowest resistance photocells available. Can be used for "an-off" applications when low resistance is desired. For use with incandescent or neon lamps.	.5 X .5	1.5K	1:1000	250	500-250 <sup>1</sup>
CL5M4		.55 X .18	1.5K		300	2000-500 <sup>1</sup>
CL504L		.5 X .5	0.25K		170	500-250 <sup>1</sup>
CL5M4L		.55 X .18	0.25K		170	2000-500 <sup>1</sup>
CL604		.25 X .5	30K		300	75
CL604L		.25 X .5	1.5K		170	75
CL704		.36 X .18	30K		300	125
CL704L		.36 X .18	0.6K		170	125
CL904		.21 X .15	30K		250	50
CL904L		.21 X .15	2K		100	50
CL505	Type 5 CdS, peak spectral response 5500 angstroms (closely matches the human eye), most stable, lowest memory photocell available. Can be used in light measuring applications and precision low speed switching. For use with incandescent, fluorescent or neon lamps.	.5 X .5	9K	1:100	250	500-250 <sup>1</sup>
CL5M5		.55 X .18	9K		300	2000-500 <sup>1</sup>
CL505L		.5 X .5	1.5K		170	500-250 <sup>1</sup>
CL5M5L		.55 X .18	1.5K		170	2000-500 <sup>1</sup>
CL605		.25 X .5	166K		300	75
CL605L		.25 X .5	7.5K		170	75
CL705		.36 X .18	166K		300	125
CL705L		.36 X .18	3.3K		170	125
CL905		.21 X .15	166K		250	50
CL905L		.21 X .15	10K		100	50
CL705HL	Type 5H CdS, peak spectral response 5500 angstroms (closely matches the human eye). Combines high speed, stability, linearity, and uniform color temperature response. Can be used for high speed switching or high stability measuring applications. For use with incandescent, fluorescent or neon lamps.	.36 X .18	28K	1:1000	170	125
CL905HL		.21 X .15	100K		100	50
CL905HN		.21 X .15	700K		100	50
CL507	Type 7 CdS, peak spectral response 6150 angstroms, moderate speed and ratio. Can be used in general beam breaking applications. For use with incandescent, neon or fluorescent lamps.	.5 X .5	7.2K	1:1000	250	500-250 <sup>1</sup>
CL5M7		.55 X .18	7.2K		300	2000-500 <sup>1</sup>
CL607		.25 X .5	133K		300	75
CL707		.36 X .18	133K		300	125
CL707L		.36 X .18	2.7K		170	125
CL907		.21 X .15	133K		250	50
CL907N		.21 X .15	66K		100	50
DUAL ELEMENT <sup>2</sup>						
CL703/2	Type 3 CdSe	.36 X .18	50K	1:10,000	300	125
CL703L/2	Type 3 CdSe	.36 X .18	6.5K	1:10,000	170	125
CL704/2	Type 4 CdSe	.36 X .18	17K	1:1000	300	125
CL704L/2	Type 4 CdSe	.36 X .18	1.5K	1:1000	170	125
CL705/2	Type 5 CdSe	.36 X .18	166K	1:100	300	125
CL705L/2	Type 5 CdSe	.36 X .18	7.5K	1:100	170	125
CL707H	Type 7H CdS Peak Spectral response 6150 Angstroms. Very fast decay time coupled with low resistance and high linearity. Ideal for beam breaking applications.	.36 X .18	500K	1:1000	300	125
CL707HM		.36 X .18	100K		250	125
CL707HL		.36 X .18	10K		170	125
CL907H		.21 X .15	600K		250	50
CL907HN		.21 X .15	300K		100	50
CL907HL	.21 X .15	24K		100	50	

This listing represents less than half of the Clairex standard and special photocells available. A 16-page design manual is available on request.

### BOTH METAL AND GLASS PACKAGES

ALL PHOTOS ACTUAL SIZE



CL500



CL600



CL700



CL5M



CL900

#### FOOTNOTES

<sup>1</sup> with and without heat sink

<sup>2</sup> Additional data on request.



Write for name of your nearest Clairex representative or distributor.



# WORNER ELECTRONIC DEVICES

NET PRICES

## INDUSTRIAL APPLICATIONS

EASY-TO-FOLLOW INSTALLATION INSTRUCTIONS • REQUEST ENGINEERING BULLETINS

### THREE-UNIT CONTROLS

#### For All General Applications

Model 63 Series represents a line of four high speed, precision Amplifiers; each engineered for highly specialized use. Selection enables the user to get the amplification his application requires. Each amplifier is designed for amplification of energy developed by one set of Series 3/23 Folelectric Heads listed below. Each amplifier will also respond to light radiance other than light projected from a Light Source (nit) when reflected to the Photocell. Model 63 Series Amplifiers are heavy duty construction throughout, size 9 1/4" x 11 1/2" x 5". Engineered for 110/120v. 50/60 cy. a.c.



Model 63 Amplifier Door removed to show components.

- Model 63, the Worner Master Unit, serves most industrial uses. It is generally recommended for supervising fast moving objects and will operate normally up to 750 times a minute. Each \$144.12
- Model 63-A, equipped with Time Delay Circuit giving delay from 0 to 5 seconds. Each \$160.77
- Model 63-B, has added amplification to operate on less active change of light. Each \$171.87
- Model 63-C, same as Model 63 but is "dark-energized", and operates when the photocell is dark. Each \$146.73
- Model 64, Economy Unit. Operates up to 450 times a minute. Each \$87.90

### WIDE RANGE OF FOLELECTRIC HEADS

#### Sharp Detection



Series 33 Light Sources Series 23 Photocells

Selection of any of the following seven combinations, with current flow amplified by a choice of any of the above Amplifiers, provides unbeatable control supervision. Both units are alike externally. Mounting brackets supplied.

Model 33 Series Light Sources and Model 23 Series Photocells are heavy duty units. Components are housed in solid metal castings equipped with contact x 4 1/2".

ROSS-OVER BEAM supervises small objects under 2" square at high speed. Distances listed are from lens to (cross-over) point of supervision. Moisture-proof units.

DISTANCE	LIGHT SOURCE	EACH	PHOTOCELL	EACH
up to 3"	Model 33-3	\$28.95	use with Model 23-3	\$36.00
' to 6"	Model 33-6	28.95	use with Model 23-10	28.80
' to 9"	Model 33-9	28.95	use with Model 23-10	28.80
' to 12"	Model 33-12	28.95	use with Model 23-10	28.80

DIRECTIONAL BEAM for objects over 2" square. Distances listed over area of supervision (between units).

DISTANCE	LIGHT SOURCE	EACH	PHOTOCELL	EACH
to 10 ft.	Model 33-10	\$23.40	use with Model 23-10	\$28.80

Made moisture-proof upon order at \$7.50 per unit.

to 25 ft.	Model 33-25w	\$39.78	use with Model 23-25w	\$40.32
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These units are moisture-proof.

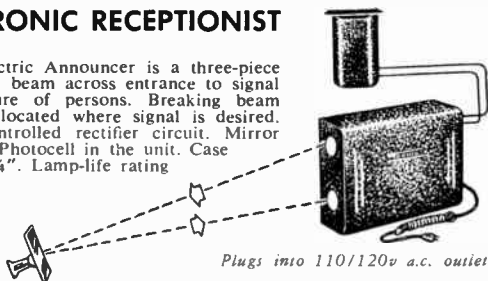
#### FOR SUPERVISING LARGE OBJECTS UP TO 75 FT.

Model 33-C Light Source and Model 23-C Photocell supervise over an door distance over 25 ft. up to 75 ft. from unit to unit. 6 1/4" x 7" 4 1/2". Use with any of the above Amplifiers.

Model 33-C	each \$23.88	use with Model 23-C	each \$32.76
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### THE ELECTRONIC RECEPTIONIST

Model 61 Folelectric Announcer is a three-piece unit. Projects light beam across entrance to signal entry or departure of persons. Breaking beam activates Chime, located where signal is desired. Efficient grid controlled rectifier circuit. Mirror effects beam to Photocell in the unit. Case 4" x 6 1/2" x 3 3/4". Lamp-life rating 1000 hours.



Plugs into 110/120v a.c. outlet

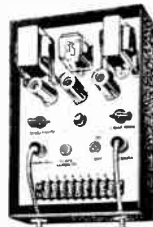
Model 61, Folelectric Announces	Per Set \$56.25
Model 61-T, Fully transistorized. Size 7 3/4" x 5 3/4" x 3 1/8"	Per Set \$64.80

### AMPLIFIERS FOR MINIATURE HEADS

Model 66/67 Series Amplifiers are available in a choice of four units. For positive and accurate performance, the maximum speed rating of each unit can be regulated provided light projected to the Photocell will have an "on-period" equal to the "off-period" with wiring to Photocell having zero (0) capacity. 110/120v. 50/60 cy. a.c.

Model 67 Amplifier for general applications where fine detection at high speeds is not a factor or Relay is not required to operate in excess of 450 times per minute. Each \$97.83

Model 66 Amplifier, operates up to 900 counts a minute. Double-pole, double-throw relay with contact rating 110v. 60 cy. a.c., 10 amp-non-inductive and 5 amp. inductive. Has light beam intensity control. Each \$154.80



Model 66 Amplifier Door removed to show components.

Model 66-A Amplifier, designed for use with ultra high speed electronic decade counters. Accurate counts of light beam interruption or variation of intensity up to 10,000 counts per minute. Output pulses up to 50 volts d.c. regulated by the sensitivity control. Each \$166.95

Model 66-T Amplifier, same operating features as Model 66 with added Time Delay circuit to give regulated time delay from 0 to 45 seconds. Efficient for synchronizing operations. Each \$186.45

### "MINIATURE" FOLELECTRIC HEADS

Designed for use with Models 66/67 Amplifiers



Machined out of solid aluminum blocks. Light weight, unbreakable, one-piece, dependable. Only 1 1/4" x 2 1/2" x 3/8". Unsurpassed for pin-point detection. Distance to cross-over point 3" to 12". Distance of directional beam up to 8 feet. For desired speed, select Amplifier accordingly. Six-foot cable equipped both ends with prong-type connectors having screw-band tighteners. For 110/120v. 50/60 cy. a.c.

Model M-36 Vertical Light Source	\$37.23
Model M-26 Vertical Photocell Receiver	41.34
Model M-37 Horizontal Light Source	37.23
Model M-27 Horizontal Photocell Receiver	41.34

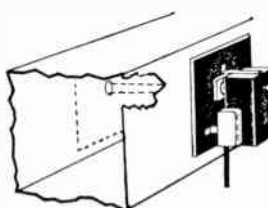
### TWO-UNIT CONTROL

For Industrial Applications (Indoors)



Amplifier includes photocell, Relay and components. Efficient for distances from a few inches to 75 ft. For use where Relay is not required to operate over 400 times a minute, such as; counting, sorting large objects; limit switches; start, stop operations; opening doors, etc. Model 62 R & L "Two-Unit Set" Per Set \$110.25

### STOP FIRE BEFORE IT SPREADS



Automatic Control when light beam projected across duct, detects smoke.

Most catastrophic fires are due to sparks drawn into or originating in air-conditioning ducts, resulting in flames fan-driven throughout a building. The Worner Fan Motor Stop minimizes this hazard by early detection, stopping of fans and sounding alarm. Consists of Light Source, Photocell Receiver and Control Cabinet. Meets requirements of National Board of Fire Underwriters, Factory Insurance Ass'n. Listed by U.L. Send for Bulletin 650.

Write For information On Solid State Equipment



# WORNER ELECTRONIC DEVICES

NET PRICES

## BURGLAR ALARM SYSTEMS

EASY-TO-FOLLOW INSTALLATION INSTRUCTIONS • REQUEST ENGINEERING BULLETINS

### THE WORNER MASTER CONTROL SYSTEM

#### MODEL 9000 SERIES

Consists of Model 9000-S Master Control Panel. Can supervise ONE to FOUR Light Source and Photo-cell detection sets, hereafter referred to as "Fotoelectric Sets".

On separate circuit, the Master Control Panel will also supervise foil tape, door traps and window switch systems. Both circuits operate independently and simultaneously. Sounds continuous alarm (until reset) when either of these detection circuits is opened or wiring of Fotoelectric system is tampered with.

This control panel prevents false alarms should power fail or drop momentarily and resets automatically when power is restored. Also operates with any type electrical devices employed by professional burglar alarm companies.

The unit contains Relays which energize alarm circuits. The cabinet size is 7" x 10 1/4" x 4 3/8" and its operation is safeguarded by a pick-proof lock. The unit is installed remotely. Designed for 110/120v. 50/60 cy. a.c.

Illustration shows FOUR Relay plug-in location for 1, 2, 3 and 4 Relays as needed; one Relay for each Fotoelectric (detection) Set used. Model 9000-S Master Control Panel is priced "less Relays," as only ONE Relay is automatically supplied with each Model No. 9000 series Fotoelectric Set ordered.

<b>Model 9000-S Master Control Panel</b> .....	<b>Each \$91.08</b>
<b>Model Range Fotoelectric Set Per Set</b>	
9100 100 ft. Light Source & Photocell.....	134.67
9150 150 ft. Light Source & Photocell.....	153.57
9075 75 ft. Light Source & Photocell.....	167.73
9250 250 ft. Light Source & Photocell.....	175.71
9500 500 ft. Light Source & Photocell.....	207.00

#### MODEL 7000 SERIES

Comprises (light Source and Photocell) Fotoelectric Sets that operate in conjunction with burglar alarm companies' central control equipment. The Fotoelectric Sets do not interfere with operation of Central Alarm Companies', foil tapes or window traps. For 110/120v. 50/60 cy. a.c. For 24v. 60 cy. use Worner Step-Down Transformer.

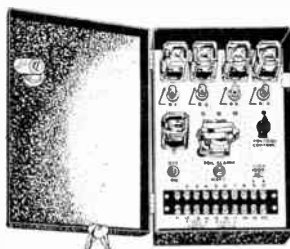
<b>Model Range Fotoelectric Set Per Set</b>	
7100 100 ft. Light Source & Photocell.....	\$134.67
7150 150 ft. Light Source & Photocell.....	153.57
7075 75 ft. Light Source & Photocell.....	167.73
7250 250 ft. Light Source & Photocell.....	175.71
7500 500 ft. Light Source & Photocell.....	207.00

#### MODEL 5000 SERIES

There are 2 Models. Each model has Light Source and Photocell units. The Photocell unit of each Model contains all amplifier components. Thus each Model is a Two-Unit alarm set. Each is designed for indoor use and not intended for use with foil systems, etc.

Has on-off switch, phone jack to test plate current, sensitivity control. Lock. Alarm can be turned off or trespass trap reset only by the possessor of the key. For 110/120v. 50/60 cy. a.c.

<b>Model Range Fotoelectric Set Per Set</b>	
5100 100 ft. Two-Unit System.....	\$134.67
5150 150 ft. Two-Unit System.....	153.57



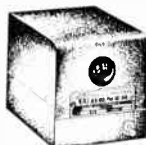
#### LIGHT SOURCE & PHOTOCCELL SETS

All light beams are infra-red (invisible) light.

Sets for 100 and 150 ft. ranges are for indoor use. Sets for 75, 250, and 500 ft. ranges are for both indoor and outdoor use.

Sets for 75, 150, 250 and 500 ft. ranges have unwanted light rejector for maximum daytime operating efficiency.

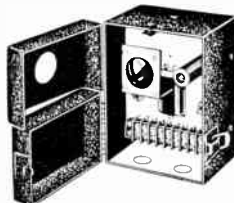
Some cases are similar, but circuits vary greatly.



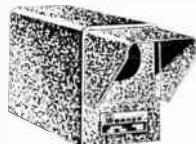
Light Sources and Photocell Units for 100 ft. Ranges. Models: 9100, 7100, 5100.



Light Sources for 150 ft. Range. Models: 9150, 7150, 5150.



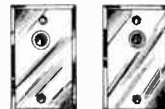
Photocells for 150 ft. Range. Models: 9150, 7150, 5150.



Sets for 75, 250 and 500 foot ranges have hooded weather-proof cases. Photocell cases have locks.

### BURGLAR DETECTION UNITS CONCEALED IN THE WALL

Light Source and Photocell Receiver units concealed behind light-switch-type face plates. Projects invisible light beam ranging up to 30 feet (indoors). Standard size wall plates concealing Fotoelectric detection units are high finish stainless steel. Light bulb rated 2000 hours. For guaranteed efficiency Model 81/82 Fotoelectric sets must be used only with specially engineered Amplifiers listed below. Complete installation instructions enable any electrician to install.

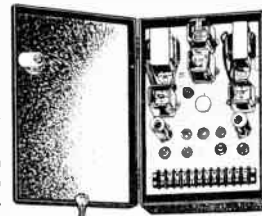


<b>Model 81 "In-Wall" Light Source</b> .....	<b>Each \$32.67</b>
<b>Model 82 "In-Wall" Photocell Receiver</b> .....	<b>Each 38.22</b>

#### AMPLIFIERS FOR ABOVE FOTOLECTRIC SET

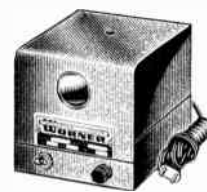
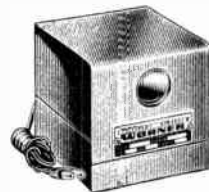
Two specially engineered units for amplifying the energy of the above concealed units.

Circuits with no-voltage control relay prevent false alarms due to line voltage irregularities and will sound alarm if tampered with. Standard alarm continuous. Regulated warning signal "special" upon order. For 110/120v. 60 cy. a.c.



**Model 86-1** is a single channel Amplifier Panel that will amplify current flow of one Fotoelectric Set.....**Each \$140.76**

**Model 86-2** is a dual channel Amplifier Panel that will amplify current flow of two Fotoelectric Sets, guarding separate areas. Will also supervise one Fotoelectric Set, providing for future addition of a second Fotoelectric Set. **Each \$214.83**



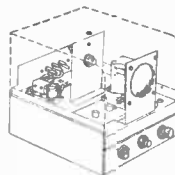
#### TWO-UNIT WORNER WATCHMAN

This Two-Unit Set consists of a Light Source and a Photocell unit that supplies 6-volt energy for activating the alarm circuit.

The Light Source is equipped with removable infrared filter providing visible light beam ranging up to 50 feet. The Photocell unit is equipped with toggle switch for either continuous alarm or to sound only while light beam is broken. Extraneous light rejector maintains daylight range. Two-piece case construction enables removal of cover without mounting. Identical cases 5" x 5" x 5 1/2" welded steel, mahogany hammerloid finish. For indoor use; 110/120v. 60 cycle a.c.

<b>Model 4000 Two-Unit Watchman (Indoors)</b> .....	<b>Per Set \$ 96.30</b>
<b>Model 4100 Two-Unit Alarm (Weatherproof)</b> .....	<b>Per Set 167.73</b>

#### TRANSISTORIZED BURGLAR ALARM Two-Unit Combination. Indoor Use.



Photocell - Amplifier has 2-piece case for convenient installation and servicing.

The Photocell unit supplies 6-volt a.c. energy to activate a 6-volt a.c. alarm, thus providing a Two-Unit alarm set.

Alarm may be sounded at one or more remote locations. Knob control for continuous, limited or reset alarm. Built-in device minimizes unwanted light. Infrared filter provides invisible light beam ranging up to 50 feet. Both units are externally alike. 5" x 5" x 5 1/2". Two-piece hammerloid cases simplify installation and servicing.

**Model 8002 R & L, Transistorized Burglar Alarm Set**.....**\$99.00**

Write For Information On Solid State Equipment

The Complete Line of

Foremost Mfr. of Indicator Lights

**DIALCO**<sup>®</sup>

# INDICATOR LIGHTS

**DIALIGHT**  
CORPORATION

(Illustrations are approx. actual size)

Refer to Catalog L-160

## DATALITES<sup>®</sup> – Ultra-Miniature Indicator Lights

### INCANDESCENT DATALITES WITH DATACAPS



250-8738-1471-504



250-8738-3331-504

### NEON DATALITES WITH DATACAPS



250-8745-1631-504



250-8745-3331-504

Mount in 3/8" Clearance Hole

### FEATURES

A Datalite Indicator consists of three parts: (a) the main body or **Datalamp Holder** which is adapted for permanent mounting on the panel; (b) the **Datalamp cartridge** which telescopes into the Datalamp Holder and makes electrical contact as the pins enter the receptacle in the holder; and (c) the screw-on **Data Cap**. The Data Cap secures the Datalamp and its lens controls the light emission.

INCANDESCENT ■ COMPLETE ASSEMBLIES WITH TURRET TERMINALS		
▲ DATA CAP LENS COLOR	SHORT CYLINDRICAL FOR USE WITH HOT-STAMPED LEGENDS (TRANSLUCENT)	SHORT CYLINDRICAL WITH DIFFUSING RINGS (TRANSPARENT)
Red	250-8738-1471-504	250-8738-3331-504

■ To obtain solder cup terminals change "87" in catalog number to "75". For amp "53" taper pin receptacles, change to "90".

Example: 250-9038-1471-504.

▲ Lens Color: To obtain Data Cap with color other than red, change digit before last dash in catalog number (-1631- or -3331-) to: Green-2; Amber-3; White Translucent-5; Clear Colorless-7.

Example: 250-8738-1473-504 (Amber).

NEON ■ COMPLETE ASSEMBLIES WITH TURRET TERMINALS			
DATA CAP LENS SHAPE	▲ LENS COLOR	ACCOMMODATES CARTRIDGES WITH BUILT-IN RESISTOR	ACCOMMODATES CARTRIDGES WITH NO RESISTOR
Long Cylindrical	Red	250-8745-1631-504	250-8738-1631-504
Short Cylindrical	Red	250-8745-3331-504	250-8738-3331-504

■ To obtain solder cup terminals change "87" in catalog number to "75". For amp "53" taper pin receptacles, change to "90". Example: 250-9038-3331-504.

▲ Lens Color: To obtain Data Cap with color other than red, change digit before last dash in catalog number (-1631- or -3331-) to: Amber-3; White Translucent-5; Clear Colorless-7. Example: 250-8745-3333-504 (Amber).

NEON DATALAMP CARTRIDGES		
LAMP BRIGHTNESS	*CARTRIDGES WITH BUILT-IN RESISTOR	*CARTRIDGES WITH NO RESISTOR
HIGH	507-4538-0937-610	507-3836-0937-600
STANDARD	507-4537-0937-640	507-3835-0937-600

\*To obtain cartridge with short cylindrical lens shape, change -09 in catalog number to -14. Example: 507-3836-1437-600.

## DATA TWIN INDICATOR LIGHT

Accommodates 2 Neon or Incandescent DATALAMP Cartridges



253-6939-1437-504\*

### MOUNTS IN 3/4" CLEARANCE HOLE

The Data Twin Indicator Light houses 2 Datalamp Cartridges. Each cartridge may be operated independently thus indicating 4 possible conditions. The cartridge is removable from front of panel. The light barrier (between the 2 lamps) is an integral part of the lens cap.

\*Examples: 253-6939-1437-504 — For use with all Incandescent or most Neon cartridges without built-in resistor. 253-6945-1437-504 — For use with Neon cartridges with built-in resistor only.

DATALAMP CARTRIDGES					
INCANDESCENT DATALAMP CARTRIDGES FOR USE IN DATA CAP ASSEMBLIES					
NEW CATALOG NOS. SHORT CYLINDRICAL LENS SHAPE TRANSPARENT-COLORLESS	OLD CATALOG NOS. SHORT CYLINDRICAL LENS SHAPE TRANSPARENT-COLORLESS	VOLTS	MA.	LIFE HOURS	
<b>LONG LIFE—HIGH RELIABILITY</b>					
507-3907-1437-600	39L-6.304-1437	6.3	40	.03	50,000
507-3909-1437-600	39L-6.3-1437	6.3	200	.40	50,000
507-3914-1437-600	39L-14-1437	14.0	80	.30	50,000
507-3918-1437-600	39L-28-1437	28.0	40	.30	25,000
<b>LOW POWER RATINGS</b>					
507-3901-1437-600	39-1.35-1437	1.35	60	.006	500
507-3903-1437-600	39-2.7-1437	2.7	60	.04	500
507-3904-1437-600	39-3015-1437	3.0	15	.005	10,000
507-3910-1437-600	39-10-1437	10.0	14	.004	100,000
507-3911-1437-600	39-14-1437	10.0	40	.08	5,000
507-3912-1437-600	39-1004-1437	14.0	17	.03	50,000
507-3915-1437-600	—	18.0	20	.08	20,000
<b>STANDARD RATINGS</b>					
507-3902-1437-600	39-2.52-1437	2.5	200	.20	500
507-3906-1437-600	39-6-1437	6.0	200	.60	1,000
507-3908-1437-600	39-6.3075-1437	6.3	75	.23	500
507-3913-1437-600	39-14-1437	14.0	80	.50	750
507-3916-1437-600	39-18-1437	18.0	40	.15	1,000
507-3917-1437-600	39-28-1437	28.0	40	.34	1,000

\*C.P. is the mean spherical candle power of the lamp used. Values are useful for relative effectiveness.



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DIALCO®

# INDICATOR LIGHTS

DIALIGHT CORPORATION

(Illustrations are approx. actual size)

See Catalog L-160

## DATALITES® – Ultra-Miniature Indicator Lights

Incandescent Datalites—For use on 1.35V - 28V Circuits\*\*



508-8738-504 w/507-3909-1471-600

### DATALAMP HOLDER



508-8738-504



250-8738-14-504 w/507-3909-1471-600



507-3909-0371-600



507-3909-1471-600

### Mount in 3/8" Clearance Hole

Incandescent Datalite Indicator Lights consist of: (1) **Datalamp Cartridges**—a plug-in, replaceable light source, with either short cylindrical or flat lens shape (see chart at right); accommodated by (2) **Datalamp Holders**—with or without collar (see chart above).

**Standard Finish:** Aluminum, black anodize finish. To obtain optional clear anodize finish, change the first digit in the catalog number suffix from -5 to -6. Example: 508-8738-604.

\*\*Datalamp Cartridges are also available with T-2 type lamps in a range of voltages from 6-120V. For more data, see next page. Also, request *Catalog L-160*.

**LENS COLOR:** The digit before the last dash in the catalog number indicates that the color of the Datalamp Cartridge is RED. When color other than red is desired, change this digit to a figure from the listing below. Red—1; Green—2; Yellow (Amber)—3; Blue—4; White Translucent—5; Yellow—6; Clear (Colorless)—7. Example: 507-3901-1473-600 (yellow amber).

TERMINAL TYPE*	DATALAMP HOLDER WITH COLLAR	DATALAMP HOLDER WITHOUT COLLAR
Turret	508-8738-504	250-8738-14-504

\*To obtain Datalamp Holder with other than turret terminals change "87" in catalog No. to "75" (solder cup terminals). For amp "53" taper pin receptacles, change to "90". Example: 508-9038-504.

### DATALAMP CARTRIDGES

DATALAMP CARTRIDGES		DATALAMP CARTRIDGES		VOLTS	MA.	C.P.**	LIFE HOURS
NEW CATALOG NOS. SHORT CYLINDRICAL LENS SHAPE *(TRANSLUCENT)	OLD CAT. NOS. SHORT CYL. LENS SHAPE (TRANSLUCENT)	NEW CATALOG NOS. FLAT LENS SHAPE *(TRANSLUCENT)	OLD CAT. NOS. FLAT LENS SHAPE (TRANSLUCENT)				
<b>LONG LIFE—HIGH RELIABILITY</b>							
507-3907-1471-600	39L-6.304-1471	507-3907-0371-600	39L-6.304-371	6.3	40	.03	50,000
507-3909-1471-600	39L-6.3-1471	507-3909-0371-600	39L-6.3-371	6.3	200	.40	50,000
507-3914-1471-600	39L-14-1471	507-3914-0371-600	39L-14-371	14.0	80	.30	50,000
507-3918-1471-600	39L-28-1471	507-3918-0371-600	39L-28-371	28.0	40	.30	25,000
<b>STANDARD RATINGS</b>							
507-3902-1471-600	39-2.52-1471	507-3902-0371-600	39-2.52-371	2.5	200	.20	500
507-3906-1471-600	39-6-1471	507-3906-0371-600	39-6-371	6.0	200	.60	1,000
507-3908-1471-600	39-6.3075-1471	507-3908-0371-600	39-6.3075-371	6.3	75	.23	500
507-3913-1471-600	39-14-1471	507-3913-0371-600	39-14-371	14.0	80	.50	750
507-3916-1471-600	39-18-1471	507-3916-0371-600	39-18-371	18.0	40	.15	1,000
507-3917-1471-600	39-28-1471	507-3917-0371-600	39-28-371	28.0	40	.34	1,000
<b>LOW POWER RATINGS (TRANSPARENT ONLY)</b>							
507-3901-1431-600	39-1.35-1431	507-3901-0331-600	39-1.35-331	1.35	60	.006	500
507-3903-1431-600	39-2.7-1431	507-3903-0331-600	39-2.7-331	2.7	60	.04	500
507-3904-1431-600	39-3015-1431	507-3904-0331-600	39-3015-331	3.0	15	.005	20,000
507-3910-1431-600	39-10-1431	507-3910-0331-600	39-10-331	10.0	14	.004	100,000
507-3911-1431-600	39-1004-1431	507-3911-0331-600	39-1004-331	10.0	40	.08	10,000
507-3912-1431-600	—	507-3912-0331-600	—	14.0	17	.03	50,000
507-3915-1431-600	—	507-3915-0331-600	—	18.0	20	.08	20,000

\*If transparent lens is desired, change "7" in the catalog number to "3". Examples: 507-3909-1431-600, 507-3909-0331-600.  
 ▲ Not for use with Datalamp Holders or Data Twin Assembly. Use only with separate 515-0050 or 515-0012 Cartridge Connector and 515-0051 Speed Clip.  
 \*\*C.P. is the mean spherical candle power of the lamp used. Values are useful for relative effectiveness.

### Mount in 3/8" Clearance Hole

Neon Datalite Indicator Lights consist of: (1) **Datalamp Cartridges**—a plug-in, replaceable light source, with either stovepipe or long cylindrical lens shape—**with or without** built-in current limiting resistor (see recommended resistance values and appropriate code nos. below). (2) accommodated by **Datalamp Holders** of shorter length when cartridge **without** built-in resistor is used; by Datalamp Holders of longer length when cartridges **with** built-in resistor are used. See charts at right for available selections.

**Standard Finish:** Black anodize. To obtain optional clear anodize finish, change the first digit in the catalog number suffix from -5 to -6.

Example: 508-8745-604.

**LENS COLOR:** The digit before the last dash in the catalog number indicates that the color of the Datalamp Cartridge is RED. When color other than red is desired, change this digit to a figure from the listing below.

Note: Blue or green lens colors are not available for use with Neon light sources.

Red—1; Yellow (Amber)—3; White Translucent—5; Clear (Colorless)—7.

Example: 507-4538-1533-610 (yellow amber)

## NEON DATALITES

For use on

105-125V AC-DC or  
110-125V AC CIRCUITS

LENS SHAPE	NEON DATALAMP CARTRIDGES	
	BUILT-IN RESISTOR HIGH BRIGHTNESS	BUILT-IN RESISTOR STANDARD BRIGHTNESS
Stovepipe	507-4538-0931-610	507-4537-0931-640
Long Cylindrical	507-4538-1531-610	507-4537-1531-640

TERMINAL TYPE*	DATALAMP HOLDER WITH COLLAR	DATALAMP HOLDER WITHOUT COLLAR
Turret	508-8745-504	250-8745-14-504

\*To obtain Datalamp Holder with other than turret terminals change "87" in catalog No. to "75" (solder cup terminals). For amp "53" taper pin receptacles, change to "90". Example: 250-9045-15-504.

LENS SHAPE	▲ NEON DATALAMP CARTRIDGES WITHOUT BUILT-IN RESISTOR	
	HIGH BRIGHTNESS	STANDARD BRIGHTNESS
Stovepipe	507-3836-0931-600	507-3835-0931-600
Long Cylindrical	507-3836-1531-600	507-3835-1531-600

▲ These Datalamp Cartridges are accommodated by Datalamp Holders listed in table for Incandescent Datalites.

Neon Lamp	Volts Applied to Terminals	NEON LAMPS and RESISTOR VALUES	
		Bright Light Resistor and Approx. Life	Long Life Resistor and Approx. Life
Standard Brightness	105-125 AC or DC	56K 3000 hrs.	100K 15,000 hrs.
High Brightness	110-125 AC only	22K 5000 hrs.	33K 25,000 hrs.

Change 2nd digit in code no. suffix as follows: (56K)—640; (22K)—610; (100K)—670; (33K)—630; Example: 507-4538-0931-630.



508-8745-504 w/507-4538-0931-610



250-8745-14-504 w/507-4538-0931-610



507-3836-0931-600 (without built-in resistor)



507-4538-1531-610 (with built-in resistor)

The Complete Line of

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# INDICATOR LIGHTS



(Illustrations are approx. actual size)

See Catalog L-160

## DATALITES® — Ultra-Miniature Indicator Lights with Data Caps INCANDESCENT — For use on 6 - 120V Circuits Mount in 3/8" Clearance Hole



250-8758-3331-504



250-8758-1471-504

This series accommodate longer cartridges that employ telephone type bulbs for higher voltages. Sufficient light is produced to be effective with either transparent or translucent Data Caps.

Datalamp cartridges are provided with 6 supply voltages. For levels between nominal ratings, cartridges of the next higher value should be chosen.

### DATALAMP CARTRIDGES

NEW CATALOG NUMBER	OLD CATALOG NUMBER	VOLTS	MA.	LIFE HOURS**	RELATIVE LUMINOSITY END-ON
507-5819-0747-600	58-6-747	6	140	5000+	0.7
507-5820-0747-600	58-12-747	12	170	5000+	2.1
507-5821-0747-600	58-28-747	28	40	5000+	1.2
507-5822-0747-600	58-48-747	48	53	5000+	1.5
507-5823-0747-600	58-60-747	60	50	5000+	2.2
507-5824-0747-600	58-120-747	120	25	5000+	1.5

\*\*Based on the lamp manufacturer's statement: "Engineered to give a minimum of 5000 hours under static conditions." Lamps giving this performance are comparable with those rated at 25,000 hours "average" life. All Catalog Numbers above designate Datalamp Cartridges with clear (colorless) convex lens with matted back.

### \*INDICATOR LIGHTS WITH TURRET TERMINALS

LENS COLOR	TRANSLUCENT LENS FOR USE WITH HOT-STAMPED LEGENDS	TRANSPARENT LENS WITH REFRACTIVE INNER SURFACES
Red	250-8758-1471-504	250-8758-3331-504
Green ▲	250-8758-1472-504	250-8758-3332-504
Yellow (Amber)	250-8758-1473-504	250-8758-3333-504
Blue ▲	250-8758-1474-504	250-8758-3334-504
White (Translucent)	250-8758-1475-504	250-8758-3335-504
Clear (Colorless)		250-8758-3337-504

\*To specify Datalites with solder cup terminals, change so much of the catalog number that reads -8758- to -7558-.

Example: 250-7558-1473-504.

▲ Not recommended for use with Neon Datalamp Cartridge noted below.

## PERMANENT LAMP INDICATOR LIGHTS with Non-Replaceable NEON LAMPS Mount in 3/8" Clearance Hole

This series utilizes T-2 type neon lamps (NE-2H for high brightness and NE-2E for standard brightness operation) on 110-125V AC or 105-125V DC respectively. See resistance values and life ratings in chart.

Assemblies listed contain built-in current-limiting resistor. Units may be had without resistor, but it must be added externally. The 250 Series (with "outer" Data Cap) permits rotation of this cap for alignment of legend after installation.

### RECOMMENDED RESISTANCE VALUES

Neon Lamp	Volts Applied to Terminals	Bright Light Resistor and Approx. Life		Long Life Resistor and Approx. Life	
		Resistor	Approx. Life	Resistor	Approx. Life
NE-2H High Brightness	110-125 Volts AC	22K	5,000 hrs.	33K	25,000 hrs.
NE-2E Standard Brightness	105-125 Volts DC	56K	5,000 hrs.	100K	25,000 hrs.

LENS COLOR	WITH STOVEPIPE LENS SHAPE		WITH SHORT CYLINDRICAL LENS SHAPE	
	STANDARD BRIGHTNESS 56K*	HIGH BRIGHTNESS 22K*	STANDARD BRIGHTNESS 56K*	HIGH BRIGHTNESS 22K*
Red	249-7841-0931-544	249-7866-0931-514	249-7841-1431-544	249-7866-1431-514
Yellow (Amber)	249-7841-0933-544	249-7866-0933-514	249-7841-1433-544	249-7866-1433-514
White (Translucent)	249-7841-0935-544	249-7866-0935-514	249-7841-1435-544	249-7866-1435-514
Clear (Colorless)	249-7841-0937-544	249-7866-0937-514	249-7841-1437-544	249-7866-1437-514



249-7841-1431-544



249-7866-0931-514



250-7866-1431-514 with Data Cap

DATA CAP LENS COLORS	STANDARD BRIGHTNESS—56K*		HIGH BRIGHTNESS—22K*	
	TRANSPARENT LENS	LENS WITH REFRACTIVE INNER SURFACES	TRANSPARENT LENS	LENS WITH REFRACTIVE INNER SURFACES
Red	250-7841-1431-544	250-7841-3331-544	250-7866-1431-514	250-7866-3331-514
Yellow (Amber)	250-7841-1433-544	250-7841-3333-544	250-7866-1433-514	250-7866-3333-514
White (Translucent)	250-7841-1435-544	250-7841-3335-544	250-7866-1435-514	250-7866-3335-514
Clear (Colorless)	250-7841-1437-544	250-7841-3337-544	250-7866-1437-514	250-7866-3337-514

For units without built-in current-limiting resistor: Change -7841- or -7866- to -7840- or -7865- respectively. Also, second digit of catalog number suffix must be changed to "0".

Examples: 249-7840-0935-504; 250-7865-1433-504.

\* To specify 33K or 100K resistor, change suffix to: -534 or -574 respectively.

Examples: 249-7841-1433-574; 250-7866-3335-534.

The Complete Line of

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**DIALCO**®

# INDICATOR LIGHTS

**DIALIGHT**  
CORPORATION

(Illustrations are approx. actual size)

## Sub-Miniature Indicator Lights for T-1<sup>3</sup>/<sub>4</sub> Bulbs

**LENS COLORS:** For detailed description, see note at the bottom of the right hand column of the facing page.

(Ivory color not available for these units.)

MOUNT IN 1/2" CLEARANCE HOLE  
FRONT OR BACK OF PANEL INSERTION  
WITH MOVABLE FLANGE

MOUNT IN 1/2" CLEARANCE HOLE  
FRONT OF PANEL INSERTION  
WITH FIXED FLANGE



101-3830-0931-201



140-8430-1471-201

TYPE MOUNTING	LENS SURFACE	CATALOG NUMBER STOVEPIPE LENS SHAPE	CATALOG NUMBER CYLINDRICAL LENS SHAPE
Front or Back Mtg. in 15/32" Clearance Hole	Transparent	101-3830-0931-201	140-3830-1431-201
	Translucent	101-3830-0971-201	140-3830-1471-201
Front Mtg. in 17/32" Clearance Hole	Transparent	101-5030-0931-201	140-5030-1431-201
	Translucent	101-5030-0971-201	140-5030-1471-201
Front Mtg. in 15/32" Clearance Hole	Transparent	101-8430-0931-201	140-8430-1431-201
	Translucent	101-8430-0971-201	140-8430-1471-201

MOUNT IN 1/2" CLEARANCE HOLE  
FRONT OF PANEL INSERTION  
WITH FIXED FLANGE  
MS25256 2-12



162-8430-0931-502

Note: The inclusion of lamp MS25237-327 in MS25256, formerly designated by the use of odd numbered suffixes, -1 through -11 inclusive, is now superseded by suffix -327 (28 volts .04 amp) or -328 (6 volts .20 amp) after the even numbered dash number. Examples: MS25256-2-327; MS25256-10-328.

CATALOG NUMBER	MS. NO. WITHOUT LAMP*	LENS CAP COLOR**
162-8430-0933-502	MS25256-2	Aviation Yellow
162-8430-0932-502	MS25256-4	Aviation Green
162-8430-0931-502	MS25256-6	Identification Red
162-8430-0937-502	MS25256-8	Aviation White
162-8430-0975-502	MS25256-10	Translucent White
162-8430-0934-502	MS25256-12	Aviation Blue

To specify translucent stovepipe or cylindrical; or transparent cylindrical lens cap (not covered by MS designations) write for Cat. L-178.

\*Marking: Part number marked on the assembly is the part number for the complete assembly less lamp. — \*\*All lens cap colors are transparent with the exception of white.



134-3830-0351-201

### ROTATABLE LENS

Specially designed spring mounting facilitates rotation of lens and alignment of legend — after installation of the Indicator Light.

LENS SHAPE	LENS FINISH	CATALOG NO. (FRONT OR BACK MTG. 15/32" CLEARANCE HOLE)	CATALOG NO. (FRONT MTG. 17/32" CLEARANCE HOLE)	CATALOG NO. (FRONT MTG. 15/32" CLEARANCE HOLE)
FLAT	Transparent	134-3830-0331-201	134-5030-0331-201	134-8430-0331-201
	Translucent	■ 134-3830-0351-201	■ 134-5030-0351-201	■ 134-8430-0351-201
CONVEX	Unfrosted	134-3830-0131-201	134-5030-0131-201	134-8430-0131-201
	Back Frosted	134-3830-0111-201	134-5030-0111-201	134-8430-0111-201
FACETED	Unfrosted	134-3830-21-31-201	134-5030-2131-201	134-8430-2131-201

■ Specify translucent colors as follows: Red — 0351 . . . Green — 0352 . . . Yellow (Amber) — 0373 . . . Blue — 0374 . . . White — 0375 . . . Light Yellow — 0376.



MIDGET FLANGED BASE  
INCANDESCENT

MANUFACTURER'S RATINGS (Values given are approx.)

LAMP NO.	VOLTS	AMPERES	HOURS	CANDLE-POWER
▲331	1.35	.06	500	.006
▲338	2.7	.06	500	.04
▲375	3.0	.015	20,000	.004
*328	6.0	.20	1,000	.63
345	6.0	.04	1,000	.03
349	6.3	.20	3,000	.55
380	6.3	.04	50,000	.02
381	6.3	.20	50,000	.40
▲344	10.0	.04	50,000	.002
367x	10.0	.04	20,000	.08
330	14.0	.08	750	.50
382	14.0	.08	50,000	.30
370	18.0	.04	1,000	.15
*327	28.0	.04	1,000	.34
*387	28.0	.04	25,000	.30

▲ These lamps only are for use with transparent lens caps without legends.  
\* Conforms to MS25237.      \*\*MS18209 (BuShips)

### Two Terminals — Fully Insulated

Meet or exceed environmental and operational requirements of MIL-L-6723 and MIL-L-3661.

### RUGGED CONSTRUCTION

Lamp, socket, and all connections are completely insulated from the bushing and panel to which it is attached. The use of phenolic material for military specification grade assures permanent isolation from ground. These assemblies are solidly made to withstand usual vibration and corrosion resistance tests.

Order Complete with Lamp.  
Specify Lamp Number.

### DIMMERS — MECHANICAL or POLAROID

Choice of mechanical or polaroid dimming device. Polaroid produces some reduced intensity at all settings, but gives full diameter opening.

Mechanical varies opening size to complete blackout or has permanent small opening as in "semi-blackout" type.

MOUNT IN 1/2" CLEARANCE HOLE  
FRONT OR BACK OF PANEL INSERTION  
WITH MOVABLE FLANGE



108-3830-0111-201

DIMMER TYPE	GLASS LENS TYPE	LENS SURFACE	CATALOG NO. (FRONT OR BACK MTG. 15/32" CLEARANCE HOLE)	CATALOG NO. (FRONT MTG. 17/32" CLEARANCE HOLE)	CATALOG NO. (FRONT MTG. 15/32" CLEARANCE HOLE)
Complete Blackout	Convex	Unfrosted	108-3830-0131-201	108-5030-0131-201	108-8430-0131-201
		Back Frosted	108-3830-0111-201	108-5030-0111-201	108-8430-0111-201
Semi-Blackout	Convex	Unfrosted	109-3830-0131-201	109-5030-0131-201	109-8430-0131-201
		Back Frosted	109-3830-0111-201	109-5030-0111-201	109-8430-0111-201
Polaroid	Convex	Unfrosted	112-3830-0131-201	112-5030-0131-201	112-8430-0131-201
		Back Frosted	112-3830-0111-201	112-5030-0111-201	112-8430-0111-201

NON-DIMMING TYPE	GLASS LENS TYPE	LENS SURFACE	COMPLETE ASSEMBLIES
Front or Back Mtg. in 15/32" Clearance Hole	Convex	Unfrosted	111-3830-0131-201
		Back Frosted	111-3830-0111-201
Front Mtg. in 17/32" Clearance Hole	Convex	Unfrosted	111-5030-0131-201
		Back Frosted	111-5030-0111-201
Front Mtg. in 15/32" Clearance Hole	Convex	Unfrosted	111-8430-0131-201
		Back Frosted	111-8430-0111-201

### WATER-TIGHT ASSEMBLIES

**Water-tight construction:** These Sub-Miniature Lights are completely water-tight on the face of the panel. Watertightness is achieved by means of retained O-ring seals. One O-ring is retained within the back of the lens cap, the other behind the flange on the mounting bushing.

MOUNT IN 1/2" CLEARANCE HOLE.  
FRONT OF PANEL INSERTION  
WITH FIXED FLANGE



177-8430-0931-503

### WATER-TIGHT DIMMERS

On the Dimmer type assembly, a third O-ring is mounted within the dimmer cap — so positioned as to assure absolutely no leakage through the dimmer slot. For data, request: Catalog L-178.

LENS COLOR	COMPLETE ASSEMBLIES	
	TRANSPARENT COLORS	TRANSLUCENT COLORS
Red	177-8430-0931-503	177-8430-0971-503
Green	177-8430-0932-503	177-8430-0972-503
Yellow (Amber)	177-8430-0933-503	177-8430-0973-503
Blue	177-8430-0934-503	177-8430-0974-503
White (Translucent)	177-8430-0935-503	177-8430-0975-503
Light Yellow	177-8430-0936-503	177-8430-0976-503
Clear (Colorless)	177-8430-0937-503	—



### Sub-Sub-Miniatures

New . . . Series 252-9951-0971

Conforms to Drawing MS25446 2-7 . . . Requires only .193" Panel Mounting Clearance Hole . . . For complete data, refer to Catalog L-168.

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**DIALCO**®

# INDICATOR LIGHTS

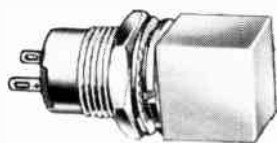
**DIALIGHT**  
CORPORATION

(Illustrations are approx. actual size)

## Sub-Miniature Indicator Lights for T-1<sup>3</sup>/<sub>4</sub> Bulbs with midget flanged base

Use 1/2" or 3/4" Round or Square Friction-Fit Plastic Lens Caps

**MOUNT IN 15/32" CLEARANCE HOLE  
FRONT OF PANEL INSERTION  
WITH FIXED PANEL**



185-9730-1871-602



188-9730-5071-602

This series of indicator lights offers a choice of 2 mounting provisions: (With fixed flange) — **Front** mounting in 15/32" clearance hole; (With movable knurled flange nut) — **Front and Rear** mounting in 1/2" clearance hole.

The lens cap is effectively lighted by T-1<sup>3</sup>/<sub>4</sub> bulb with midget flanged base, which extends completely into the luminous portion. Fine solid color effects are obtained. The two-part construction permits opaque sides with lighted colored faces.

Lens caps may be rotated, permitting legends or cap edges to be easily brought into alignment after installation of the assembly; or they may be keyed, thus permitting them to be pushed into place only in a **pre-determined** position.

Unique anti-rotation (locked) construction provides for secure keyed mounting of mounting bushing on panels.

**LENS FACE COLOR:** The digit before the last dash in the catalog number indicates that the lens face is **RED**. When a color other than red is desired, change this digit to a figure from the listing below.

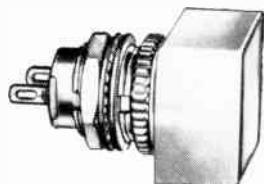
Red — 1; Green — 2; Yellow (Amber) — 3; Blue — 4; White Translucent — 5; Light Yellow — 6; Ivory — 8. Example: 183-9730-1474-602.

See lamp listing and range of voltages on Page 971.

**MOUNT IN 1/2" CLEARANCE HOLE  
FRONT OR BACK OF PANEL INSERTION  
WITH MOVABLE FLANGE**



183-9830-1471-604



187-9830-1871-604

**WITH 1/2" FRICTION FIT LENS CAP - KEYED (NON-ROTATABLE)**

CAP COLOR COMBINATION	CAP SHAPE	FRONT MOUNTING 15/32" CLEARANCE HOLE	FRONT OR REAR MTG. 1/2" CLEARANCE HOLE
Solid Color, Translucent Face and Sides	Round	186-9730-1471-602	186-9830-1471-604
	Square	184-9730-1871-602	184-9830-1871-604
Translucent Colored Face, Black Opaque Sides	Round	186-9730-5071-602	186-9830-5071-604
	Square	184-9730-5071-602	184-9830-5071-604
Translucent Colored Face, Gray Opaque Sides	Round	186-9730-5171-602	186-9830-5171-604
	Square	184-9730-5171-602	184-9830-5171-604

**WITH 3/4" FRICTION FIT LENS CAP - KEYED (NON-ROTATABLE)**

CAP COLOR COMBINATION	CAP SHAPE	FRONT MOUNTING 15/32" CLEARANCE HOLE	FRONT OR REAR MTG. 1/2" CLEARANCE HOLE
Solid Color, Translucent Face and Sides	Round	188-9730-1471-602	188-9830-1471-604
	Square	187-9730-1871-602	187-9830-1871-604
Translucent Colored Face, Black Opaque Sides	Round	188-9730-5071-602	188-9830-5071-604
	Square	187-9730-5071-602	187-9830-5071-604
Translucent Colored Face, Gray Opaque Sides	Round	188-9730-5171-602	188-9830-5171-604
	Square	187-9730-5171-602	187-9830-5171-604

**WITH 1/2" FRICTION FIT LENS CAP - ROTATABLE**

CAP COLOR COMBINATION	CAP SHAPE	FRONT MOUNTING 15/32" CLEARANCE HOLE	FRONT OR REAR MTG. 1/2" CLEARANCE HOLE
Solid Color, Translucent Face and Sides	Round	183-9730-1471-602	183-9830-1471-604
	Square	185-9730-1871-602	185-9830-1871-604
Translucent Colored Face, Black Opaque Sides	Round	183-9730-5071-602	183-9830-5071-604
	Square	185-9730-5071-602	185-9830-5071-604
Translucent Colored Face, Gray Opaque Sides	Round	183-9730-5171-602	183-9830-5171-604
	Square	185-9730-5171-602	185-9830-5171-604

**WITH 3/4" FRICTION FIT LENS CAP - ROTATABLE**

CAP COLOR COMBINATION	CAP SHAPE	FRONT MOUNTING 15/32" CLEARANCE HOLE	FRONT OR REAR MTG. 1/2" CLEARANCE HOLE
Solid Color, Translucent Face and Sides	Round	191-9730-1471-602	191-9830-1471-604
	Square	190-9730-1871-602	190-9830-1871-604
Translucent Colored Face, Black Opaque Sides	Round	191-9730-5071-602	191-9830-5071-604
	Square	190-9730-5071-602	190-9830-5071-604
Translucent Colored Face, Gray Opaque Sides	Round	191-9730-5171-602	191-9830-5171-604
	Square	190-9730-5171-602	190-9830-5171-604

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CORPORATION

(Illustrations are approx. actual size)

When Connecting a Neon Light to a Circuit Having One Side Grounded, Always Connect the Hot Side of the Circuit to the Terminal Marked + (Center Contact).

**Sub-Miniature Indicator Lights for NEON Lamps** NE-2D (C7A)—Standard brightness  
NE-2J (C9A)—High brightness

TWO TERMINALS — FULLY INSULATED . . . Meet or exceed environmental and operational requirements of MIL-L-6723 and MIL-L-3661.

**FEATURES: Omnidirectional Stovepipe Lens:** Molded of high heat plastic, gives 180° light spread. Heavy wall of lens is reinforced by a threaded brass insert. This fitting receives the lamp and screws into the internal thread of the bushing. The bulb enters well into the plastic lens for best effectiveness. The shank of the lens holder is crimped in 3 evenly spaced places to secure the lamp.

**The LIGHT SOURCE: Tiny Neon Glow Lamps NE-2D or NE-2J**

Recommended resistor values:

FOR NE-2D AT 105-125 VOLTS AC OR DC	Long Life
Bright Light	100,000 ohms
■ 62,000 ohms	
FOR NE-2J (HIGH BRIGHTNESS) AT 110-125 VOLTS AC ONLY	Long Life
Bright Light	33,000 ohms
■ 22,000 ohms	



■ Standard values of patented built-in resistors; other values optional.

MOUNT IN 1/8" CLEARANCE HOLE  
FRONT OF PANEL INSERTION  
WITH FIXED FLANGE

**With Built-in Resistor**

(A patented DIALCO feature—  
U.S. Pat No. 2,421,321)

**Conform to MS25257**

**Accommodates a T-2 Neon Glow Lamp:**  
NE-2D (MS25252) for 105-125 Volts A.C.  
or D.C.; for Catalog Numbers see below  
. . . NE-2J (High Brightness) for 110-125  
Volts — A.C. only.



137-8836-0931-552

CATALOG NO. WITHOUT LAMP	MS NO. WITHOUT LAMP	MS NO. WITH LAMP MS25252—NE-2D	LENS COLOR
137-8836-0933-552	MS25257-2	MS25257-1	Aviation Yellow
137-8836-0931-552	MS25257-4	MS25257-3	Identification Red
137-8836-0937-552	MS25257-6	MS25257-5	Clear (Colorless)

**STOVEPIPE or  
ROTATABLE  
CYLINDRICAL LENS**

This omnidirectional stovepipe lens is molded of high heat plastic to a special design. About two-thirds of the lens is "fluted," and the remaining portion is smooth. This produces clear light framed by a sparkling "halo" when viewed from the front. Softer light is afforded along the "fluted" sides. The NE-2D or NE-2J Neon Lamp enters high into the lens for best effectiveness.

Whether used on the front insertion or the back insertion assembly, the stovepipe or cylindrical lens cap is readily removable from the front of the panel, thus making the lamp accessible for easy replacement.

MOUNT IN 1/8" CLEARANCE HOLE  
FRONT OF PANEL INSERTION  
WITH FIXED FLANGE



145-5036-0991-201



138-5036-1431-201



137-8836-1531-552

These assemblies are similar in every respect to the MS assemblies (137-8836-0931-552 Series) above, except that they offer optional features not covered by MS. Finishes: Standard — black anodize; optional — clear anodize. Lamps — NE-2D (standard brightness) for 105-125 volts AC or DC; NE-2J (high brightness) for 110-125 Volts — A.C. only.

LENS COLOR	CATALOG NUMBER FRONT OR BACK MFG. SERIES		CATALOG NUMBER FRONT MFG. SERIES	
	STOVEPIPE LENS	CYLINDRICAL LENS	STOVEPIPE LENS	CYLINDRICAL LENS
Red	145-3836-0991-201	138-3836-1431-201	145-5036-0991-201	138-5036-1431-201
Yellow (Amber)	145-3836-0993-201	138-3836-1433-201	145-5036-0993-201	138-5036-1433-201
White	145-3836-0995-201	138-3836-1435-201	145-5036-0995-201	138-5036-1435-201
Light Yellow	145-3836-0996-201	138-3836-1436-201	145-5036-0996-201	138-5036-1436-201
Clear (Colorless)	145-3836-0997-201	138-3836-1437-201	145-5036-0997-201	138-5036-1437-201

**WATER-TIGHT NEON INDICATOR LIGHTS  
with RETAINED O-RING SEALS**

**WATER-TIGHT, OIL-TIGHT, DUST TIGHT  
ON THE FACE OF THE PANEL**

Two Terminals — Fully Insulated

**MATERIALS AND FINISHES**

- **Mounting Bushing:** Aluminum, black anodize finish. Optional — clear anodize finish.
- **Internal-tooth Lockwasher and Mounting Nut:** Steel, cadmium plated with yellow iridescent chromate finish.
- **Terminals:** Brass, hot tinned elongated slot.

MOUNT IN 1/8" CLEARANCE HOLE  
FRONT OF PANEL INSERTION  
WITH FIXED FLANGE  
With Built-in Resistor



181-8836-0931-553

**WITHOUT BUILT-IN RESISTOR**



137-7236-0931-201



137-8536-1531-201

ASSEMBLY TYPE	LENS FINISH	CATALOG NUMBER	
		LENS SHAPE STOVEPIPE	LENS SHAPE CYLINDRICAL
Front or Back Mtg. in 15/32" Clearance Hole	Transparent	137-7236-0931-201	137-7236-1531-201
Front Mtg. in 17/32" Clearance Hole	Transparent	137-7336-0931-201	137-7336-1531-201
Front Mtg. in 15/32" Clearance Hole	Transparent	137-8536-0931-201	137-8536-1531-201

LENS COLOR	COMPLETE ASSEMBLIES		
	WITH BUILT-IN RESISTOR		WITHOUT BUILT-IN RESISTOR
	ACCOMMODATE NE-2D LAMP	ACCOMMODATE NE-2J LAMP	
Red	181-8836-0931-553	181-8864-0931-513	181-8536-0931-503
Yellow (Amber)	181-8836-0933-553	181-8864-0933-513	181-8536-0933-503
White (Translucent)	181-8836-0935-553	181-8864-0935-513	181-8536-0935-503
Light Yellow	181-8836-0936-553	181-8864-0936-513	181-8536-0936-503
Clear (Colorless)	181-8836-0937-553	181-8864-0937-513	181-8536-0937-503

**LENS COLOR:** The final figure before the last dash in the Catalog Number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted. (For example 137-8536-1535-201).

Red — 1 . . . Yellow (Amber) — 3 . . . White Translucent — 5 . . . Light Yellow — 6 . . . Clear (Colorless) — 7 .

Example: 138-5036-1433-201 (Yellow Amber)

Green and Blue are not recommended for use with Neon lamps.

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# INDICATOR LIGHTS

DIALIGHT CORPORATION

(Illustrations are approx. actual size)

When Connecting a Neon Light to a Circuit Having One Side Grounded, Always Connect the Hot Side of the Circuit to the Terminal Marked + (Center Contact).

## ASSEMBLIES with BUILT-IN RESISTORS (U. S. Patent No. 2,421,321)

"Recognized under the component program of Underwriters' Labs Inc." 75W., 125V — 75W., 250V



## For the T-3¼ NEON GLOW LAMP FOR VOLTAGES UP TO 250

For operation on 105-125V. or 210-250V. . . . The required resistor is an integral part of the unit — BUILT IN. Assemblies conform to MIL-L-3661.



NE-51 or NE-51H

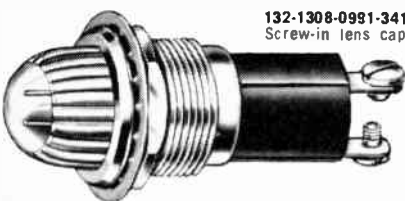
External resistors will be furnished which will permit use of these pilot lights on voltages higher than 250 volts.

### BUILT-IN RESISTOR VALUES (in ohms) for the NE-51 TYPE GLOW LAMPS

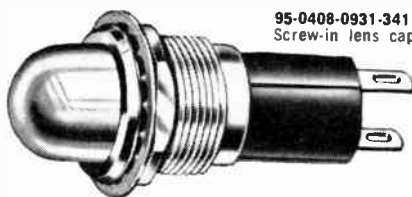
NE-51H (High Brightness)		NE-51 (Standard Brightness)		
Circuit volts applied to terminals		Circuit volts applied to terminals		
110-125 AC	210-250 AC-DC	105-125 AC-DC		
BRIGHT LIGHT	22,000	68,000	BRIGHT LIGHT	56,000
LONG LAMP LIFE	33,000	100,000	LONG LAMP LIFE	100,000

Standard values of patented built-in resistors.

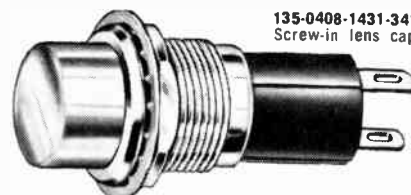
**PROPER CHOICE OF LAMP AND BUILT-IN RESISTOR VALUES:** The NE-51 glow lamp types are shown with resistor table. Lamps are the standard brightness NE-51 and the high brightness NE-51H. The latter may be operated at about three times the level of current that may be applied to the standard lamp and it will produce more than 8 times as much



132-1308-0991-341  
Screw-in lens cap



95-0408-0931-341  
Screw-in lens cap



135-0408-1431-341  
Screw-in lens cap

LENS HOLDER AND PLASTIC LENS STYLE	LENS FINISH	FOR NE-51H—110-125V. AC		FOR NE-51—105-125V. AC-DC	
		CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS
STOVEPIPE (Screw-in)	Internal Fluting	52-1363-0991-311	52-0463-0991-311	52-1308-0991-341	52-0408-0991-341
STOVEPIPE (Screw-in)	Special Internal Fluting	132-1363-0991-311	132-0463-0991-311	132-1308-0991-341	132-0408-0991-341
CYLINDRICAL (Screw-in)	Transparent	135-1363-1431-311	135-0463-1431-311	135-1308-1431-341	135-0408-1431-341
FLAT (Screw-in)	Transparent	81-1363-0331-311	81-0463-0331-311	81-1308-0331-341	81-0408-0331-341
STOVEPIPE (Screw-in)	Transparent	95-1363-0931-311	95-0463-0931-311	95-1308-0931-341	95-0408-0931-341
OOME (Screw-on)	Transparent +	85-1363-1231-311	85-0463-1231-311	85-1308-1231-341	85-0408-1231-341
	Matted Back	85-1363-0841-311	85-0463-0841-311	85-1308-0841-341	85-0408-0841-341
STOVEPIPE (Screw-on)	Internal Fluting +	169-1363-1191-311	169-0463-1191-311	169-1308-1191-341	169-0408-1191-341
	Transparent +	169-1363-1131-311	169-0463-1131-311	169-1308-1131-341	169-0408-1131-341

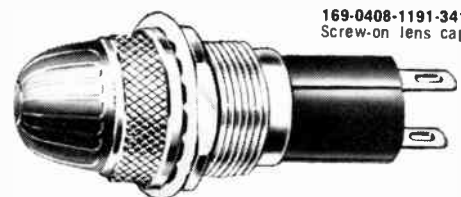
+ To specify white translucent color, change so much of the catalog number that reads -1231- to -0835-; from -1131- to -0935-; from -1191- to -0995-. Example: 169-1363-0935-311.

**WATER-TIGHT CONSTRUCTION:** The assemblies on this page may be made water-tight on the face of the panel. To specify, change the last digit in the catalog number suffix to 3. Example: 95-1308-0931-343.

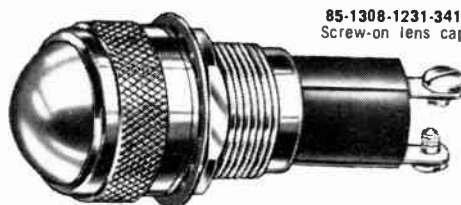
### HOW TO DESIGNATE THE THREE DIGIT CATALOG NUMBER SUFFIX (XXX)

FINISH	RESISTOR	HARDWARE
-1 white nickel	1-22K	1-brass
-2 black nickel	3-33K	3-water-tight
-3 polished chrome	4-56K	on the face
-4 satin chrome	6-68K	of the panel.
	7-100K	

**NOTE:** The part numbers given in this catalog indicate standard indicator lights. The table at left provides the standard and optional designations for Finish, Resistor and Hardware where appropriate. Example: 85-1308-1231-273 (black nickel finish, 100K resistor, water-tight construction).



169-0408-1191-341  
Screw-on lens cap



85-1308-1231-341  
Screw-on lens cap

**LENS COLOR**—The last digit before the 3 digit catalog number suffix indicates that the lens is RED. When color other than red is desired, change this digit to a figure from the listing below.

Red — 1; Yellow (Amber) — 3; White Translucent — 5; Light Yellow — 6; Clear (Colorless) — 7.

## 9/16" Assemblies mount from BACK of panel only

17-1308-1131-245  
Screw-on lens cap



**Optional Finishes:** The catalog number suffix designates an assembly with standard black nickel finish. To specify optional finish, change the first digit of the catalog number suffix to -3 (polished chrome finish), or -4 (satin chrome finish).

Example: 17-1308-1131-345.

**SAMPLES ON REQUEST AT ONCE — NO CHARGE**

### WITH SCREW-ON LENS CAP

LENS STYLE	LENS FINISH	FOR NE-51H—110-125V. AC		FOR NE-51—105-125V. AC-DC	
		CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS
STOVEPIPE	Transparent	17-1363-0931-215	17-0463-0931-215	17-1308-0931-245	17-0408-0931-245
	Internal Fluting	17-1363-0991-215	17-0463-0991-215	17-1308-0991-245	17-0408-0991-245
STOVEPIPE	Transparent +	70-1363-1131-215	70-0463-1131-215	70-1308-1131-245	70-0408-1131-245
	Internal Fluting +	70-1363-1191-215	70-0463-1191-215	70-1308-1191-245	70-0408-1191-245
FLAT	Transparent	37-1363-0331-215	37-0463-0331-215	37-1308-0331-245	37-0408-0331-245

+ See footnote above.

**Standard Hardware:** 3 knurled rings.

**Optional Hardware:** 1 ring, 1 lockwasher, 1 mounting nut. To designate an assembly with "optional hardware", change the last digit in the catalog number suffix to 6. Example: 37-0408-0331-246.

The Complete Line of

Foremost Mfr. of Indicator Lights

**DIALCO**<sup>®</sup>

**INDICATOR LIGHTS**

**DIALIGHT CORPORATION**

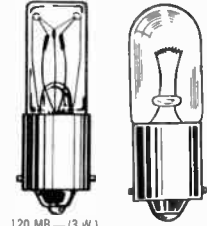
For details, refer to Catalog L-161.

**ASSEMBLIES for T-3-1/4 BULB with MIN. BAYONET BASE and T-3 Bulb with Min. Bayonet Base for 120V.**

(Illustrations are approx. actual size)

**INCANDESCENT  
2 to 55 Volts**

**Mount in 11/16" Clearance Hole For Front of Panel Insertion**



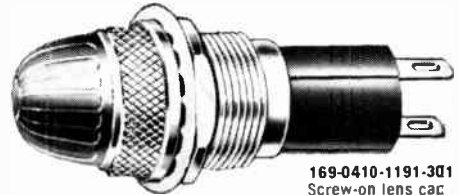
120 MB—(3 W) T-3 Bulb with Miniature Bayonet Base for 120 Volts.

"Recognized under the component program of Underwriters' Labs Inc."



**LEGENDS:**  
Hot-stamped or engraved letters, number or symbols can be supplied only on these lenses.

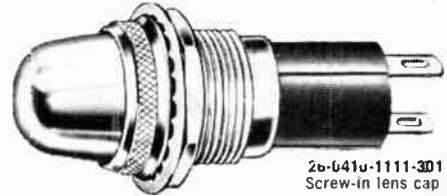
LENS STYLE	LENS FINISH	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS	CATALOG NO. WITH QUICK CONNECT TERMINALS
STOVEPIPE	Transparent	95-1310-0931-301	95-0410-0931-301	95-5710-0931-301
	Translucent	95-1310-0971-301	95-0410-0971-301	95-5710-0971-301
STOVEPIPE	Internal Fluting	52-1310-0991-301	52-0410-0991-301	52-5710-0991-301
STOVEPIPE	Special Internal Fluting	132-1310-0991-301	132-0410-0991-301	132-5710-0991-301
CYLINDRICAL▲	Transparent	135-1310-1431-301	135-0410-1431-301	135-5710-1431-301
CONVEX *	Unfrosted	81-1310-0131-301	81-0410-0131-301	81-5710-0131-301
	Back Frosted	81-1310-0111-301	81-0410-0111-301	81-5710-0111-301
FLAT *	Back Frosted	81-1310-0211-301	81-0410-0211-301	81-5710-0211-301
	Unfrosted	81-1310-0231-301	81-0410-0231-301	81-5710-0231-301
FLATA	Translucent	■ 81-1310-0351-301	■ 81-0410-0351-301	■ 81-5710-0351-301
	Transparent	81-1310-0331-301	81-0410-0331-301	81-5710-0331-301
STOVEPIPE *	Unfrosted	26-1310-1131-301	26-0410-1131-301	26-5710-1131-301
	Back Frosted	26-1310-1111-301	26-0410-1111-301	26-5710-1111-301
STOVEPIPE *	Internal Fluting	26-1310-1191-301	26-0410-1191-301	26-5710-1191-301
	Transparent	169-1310-1131-301	169-0410-1131-301	169-5710-1131-301
STOVEPIPE *	Internal Fluting	169-1310-1191-301	169-0410-1191-301	169-5710-1191-301
	Transparent	85-1310-1231-301	85-0410-1231-301	85-5710-1231-301
DOME	Transparent	85-1310-0841-301	85-0410-0841-301	85-5710-0841-301
	Matted Back	85-1310-0841-301	85-0410-0841-301	85-5710-0841-301



169-0410-1191-301  
Screw-on lens cap



81-0410-0111-301  
Screw-in lens cap



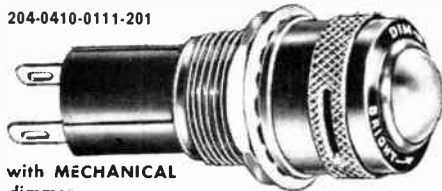
26-0410-1111-301  
Screw-in lens cap

\* These assemblies should be specified when lamps rated over 2 watts are used.

■ Specify translucent colors as follows: Red — 0351; Green — 0352; Yellow (Amber) — 0373; Blue — 0374; Light Yellow — 0376. Example: 81-1310-0374-301.

**LENS COLOR:** The final figure before the last dash in the above numbers indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted. Red — 1; Green — 2; Yellow (Amber) — 3; Blue — 4; White Translucent — 5; Light Yellow — 6; Clear (Colorless) — 7.

204-0410-0111-201



with MECHANICAL dimmer

203-1310-0111-201



with MECHANICAL dimmer

**Mechanical Dimmers**

LENS STYLE AND FINISH	MECHANICAL DIMMER TYPE	WITH ROUND FLANGE		WITH OCTAGON FLANGE	
		CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS
		WITH SCREW-IN LENS CAP			
CONVEX Unfrosted	Semi-Blackout Water-Tight	204-1310-0131-203	204-0410-0131-203	204-5910-0131-203	204-2210-0131-203
	Semi-Blackout Not Water-Tight	204-1310-0131-201	204-0410-0131-201	204-5910-0131-201	204-2210-0131-201
	Complete Blackout Water-Tight	203-1310-0131-203	203-0410-0131-203	203-5910-0131-203	203-2210-0131-203
	Complete Blackout Not Water-Tight	203-1310-0131-201	203-0410-0131-201	203-5910-0131-201	203-2210-0131-201
CONVEX Back Frosted	Semi-Blackout Water-Tight	204-1310-0111-203	204-0410-0111-203	204-5910-0111-203	204-2210-0111-203
	Semi-Blackout Not Water-Tight	204-1310-0111-201	204-0410-0111-201	204-5910-0111-201	204-2210-0111-201
	Complete Blackout Water-Tight	203-1310-0111-203	203-0410-0111-203	203-5910-0111-203	203-2210-0111-203
	Complete Blackout Not Water-Tight	203-1310-0111-201	203-0410-0111-201	203-5910-0111-201	203-2210-0111-201

To obtain assemblies with screw-on lens cap, change 204- to 208-; 203- to 207-. Note: Assemblies with screw-on lens caps are not available with watertight construction. LENS COLOR. See Description above.

**Assemblies with Light Shield Caps**

TYPE OF LIGHT SHIELD CAP	SIZE OF OPENING IN CAP	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDOER TERMINALS
PUSH-IN CAP WITH SNAP LOCK (1 Opening)	3/16" x 9/16"	89-1310-2900-301	89-0410-2900-301
	3/32" x 1/2"	22-1310-2900-301	22-0410-2900-301
	3/16" x 1/2"	90-1310-2900-301	90-0410-2900-301
	1/2" x 1/2"	21-1310-2900-301	21-0410-2900-301
PUSH-PULL ACTION (Variable Opening)	From 0" to 1/4" x 3/8"	156-1310-2900-201	156-0410-2900-201

Finishes: Push-In Cap — Standard Finish is polished chrome. To obtain optional finish, change the first digit in the catalog number suffix to 2- black nickel or 4- satin chrome. Push-Pull Cap — Standard finish 2- black nickel. Optional — 3- polished chrome.

Examples: 89-1310-2900-201; 156-0410-2900-301.



156-0410-2900-201

PUSH-PULL CAP



21-1310-2900-301

PUSH-IN CAP

The Complete Line of

Foremost Mfr. of Indicator Lights



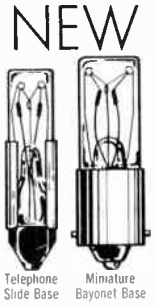
# INDICATOR LIGHTS



(Illustrations are approx. actual size)




## ASSEMBLIES for T-3 BULB with MINIATURE BAYONET BASE or T-2 TELEPHONE SLIDE BASE—INCANDESCENT-120 VOLTS

Mount in 11/16" clearance hole. Lamps can be replaced from front of panel. Screw-in lens caps offer choice of six lens shapes.



**LENS CAPS**

95-3171 SERIES      52-3191 SERIES      135-3271 SERIES








STOVEPIPE      FLUTED      CYLINDRICAL

High temperature Polycarbonate Lens Caps.

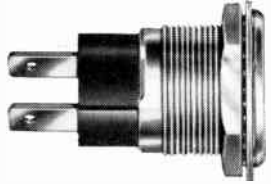
**LENS CAPS**

81-0211 SERIES      81-0111-100 SERIES      81-2131-100 SERIES

FLAT      CONVEX      FACETED

### 81-1059-01-102 Base Assembly



Accommodate Telephone Slide Base Lamps only. Can be used with all lens caps shown above, except the flat lens cap. See Charts #1 and #2.

Chart #1 FOR USE WITH LAMPS WITH TELEPHONE SLIDE BASE

LENS COLOR	COMPLETE ASSEMBLIES	
	CONVEX LENS BACK FROSTED	FACETED LENS UNFROSTED
Red	81-1059-0111-102	81-1059-0431-102
Green	81-1059-0112-102	81-1059-0432-102
Yellow (Amber)	81-1059-0113-102	81-1059-0433-102
Blue	81-1059-0114-102	81-1059-0434-102
White	81-1059-0135-102	81-1059-0435-102
Light Yellow	81-1059-0116-102	81-1059-0436-102
Clear (Colorless)	81-1059-0117-102	81-1059-0437-102

### 95-9110-09-102 Base Assembly



Accommodate Miniature Bayonet Base Lamps only. See Chart #3.

Chart #2 FOR USE WITH LAMPS WITH TELEPHONE SLIDE BASE

LENS COLOR	COMPLETE ASSEMBLIES		
	STOVEPIPE LENS TRANSLUCENT	STOVEPIPE LENS INTERNALLY FLUTED	CYLINDRICAL LENS TRANSLUCENT
Red	95-1059-3171-102	52-1059-3191-102	135-1059-3271-102
Green	95-1059-3172-102	52-1059-3192-102	135-1059-3272-102
Yellow (Amber)	95-1059-3173-102	52-1059-3193-102	135-1059-3273-102
Blue	95-1059-3174-102	52-1059-3194-102	135-1059-3274-102
White	95-1059-3175-102	52-1059-3195-102	135-1059-3275-102
Light Yellow	95-1059-3176-102	52-1059-3196-102	135-1059-3276-102
Clear (Colorless)		52-1059-3197-102	

### 81-9110-01-102 Base Assembly



Accommodate Miniature Bayonet Base Lamps only. See Chart #4.

Chart #3 FOR USE WITH LAMPS WITH MINIATURE BAYONET BASE

LENS COLOR	COMPLETE ASSEMBLIES		
	STOVEPIPE LENS TRANSLUCENT	STOVEPIPE LENS INTERNALLY FLUTED	CYLINDRICAL LENS TRANSLUCENT
Red	95-9110-3171-102	52-9110-3191-102	135-9110-3271-102
Green	95-9110-3172-102	52-9110-3192-102	135-9110-3272-102
Yellow (Amber)	95-9110-3173-102	52-9110-3193-102	135-9110-3273-102
Blue	95-9110-3174-102	52-9110-3194-102	135-9110-3274-102
White	95-9110-3175-102	52-9110-3195-102	135-9110-3275-102
Light Yellow	95-9110-3176-102	52-9110-3196-102	135-9110-3276-102
Clear (Colorless)		52-9110-3197-102	

Chart #4 FOR USE WITH LAMPS WITH MINIATURE BAYONET BASE

LENS COLOR	COMPLETE ASSEMBLIES		
	CONVEX LENS BACK FROSTED	FLAT LENS BACK FROSTED	FACETED LENS UNFROSTED
Red	81-9110-0111-102	81-9110-0211-102	81-9110-0431-102
Green	81-9110-0112-102	81-9110-0212-102	81-9110-0432-102
Yellow (Amber)	81-9110-0113-102	81-9110-0213-102	81-9110-0433-102
Blue	81-9110-0114-102	81-9110-0214-102	81-9110-0434-102
White	81-9110-0135-102	81-9110-0235-102	81-9110-0435-102
Light Yellow	81-9110-0116-102	81-9110-0216-102	81-9110-0436-102
Clear (Colorless)	81-9110-0117-102	81-9110-0217-102	81-9110-0437-102



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Foremost Mfr. of Indicator Lights

**DIALCO**<sup>®</sup>

# INDICATOR LIGHTS

**DIALIGHT**  
CORPORATION

(Illustrations are approx. actual size)

For details, refer to Catalog L-161.

## ASSEMBLIES for T-3 $\frac{1}{4}$ BULB with MINIATURE BAYONET BASE INCANDESCENT — 2 to 55 Volts

### Mount from Rear in 9/16" Clearance Hole



37-0410-0211-205  
(Screw-on Cap)



70-0410-1191-206  
(Screw-on Cap)



17-1310-0931-205  
(Screw-on Cap)

LENS STYLE	LENS FINISH	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS
STOVEPIPE	Transparent	17-1310-0931-205	17-0410-0931-205
	Internal Fluting	17-1310-0991-205	17-0410-0991-205
FLAT	Back Frosted	37-1310-0211-205	37-0410-0211-205
	Transparent	70-1310-1131-205	70-0410-1131-205
STOVEPIPE	Internal Fluting	70-1310-1191-205	70-0410-1191-205
	Back Frosted	70-1310-1111-205	70-0410-1111-205

"Recognized under the component program of Underwriters' Labs Inc."

75W., 125V.



The catalog numbers given indicate complete assemblies with **standard hardware**. **Standard Hardware** — 3 knurled rings. **Optional Hardware**: 1 ring, 1 lock washer, 1 mounting nut. To specify optional hardware, change the last digit in the catalog number to 6. Example: 70-0410-1191-206.

For your convenience, DIALCO'S 506-0562 Wrench can be furnished to permit secure fastening of these indicator lights on mounting panels.



506-0562 WRENCH

### Mount in 1" Clearance Hole

(Illustrations approx. 95% actual size)

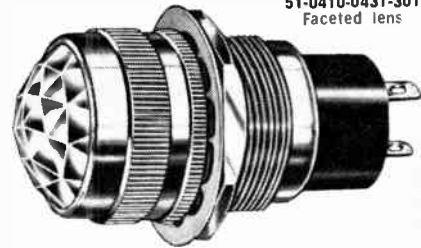
51-1310-0211-301  
Flat lens



19-0410-0531-301  
Large Torpedo lens



51-0410-0431-301  
Faceted lens



LENS STYLE	LENS FINISH	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS
FLAT	Unfrosted	51-1310-0231-301	51-0410-0231-301
	Back Frosted	51-1310-0211-301	51-0410-0211-301
TORPEDO	Unfrosted	80-1310-0531-301	80-0410-0531-301
	Back Frosted	80-1310-0511-301	80-0410-0511-301
LARGE CONVEX	Unfrosted	61-1310-0231-301	61-0410-0231-301
	Back Frosted	61-1310-0211-301	61-0410-0211-301
DOME	Unfrosted	80-1310-1231-301	80-0410-1231-301
	Back Frosted	80-1310-1211-301	80-0410-1211-301
CONVEX	Unfrosted	51-1310-0131-301	51-0410-0131-301
	Back Frosted	51-1310-0111-301	51-0410-0111-301
FACETED	Transparent	51-1310-0431-301	51-0410-0431-301
TORPEDO FACETED	Unfrosted	80-1310-1331-301	80-0410-1331-301
LARGE TORPEDO	Unfrosted	19-1310-0531-301	19-0410-0531-301

**LENS COLOR:** The last digit before the 3 digit catalog number suffix indicates that the lens is RED. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

RED — 1; Green — 2; Yellow (Amber) — 3; Blue — 4; White Translucent — 5; Light Yellow — 6; Clear (Colorless) — 7.

51-0410-0111-301  
Convex lens



80-1310-1211-301  
Dome lens



The catalog numbers listed indicate complete assemblies with screw-on lens cap. These assemblies may also be obtained with **water-tight construction**. To specify, change the last digit in the catalog number to 3. Example: 80-1310-1331-303. These assemblies are also available with **friction-fit** or **bayonet lock lens caps** . . . but can not be furnished with water-tight construction.

The catalog numbers given indicate Standard finish. To obtain optional finishes, see description on facing page.

The Complete Line of

Foremost Mfr. of Indicator Lights

**DIALCO**<sup>®</sup>

# INDICATOR LIGHTS

**DIALIGHT**  
CORPORATION

(Illustrations are approx. actual size)

"Recognized under the component program of Underwriters' Labs Inc."



75W., 125V.

## ASSEMBLIES for INCANDESCENT LAMPS

(with double contact bayonet base or candelabra screw base)

Mount in 1" Clearance Hole • Range of Voltage 6 to 145V • Refer to Cat. L-161

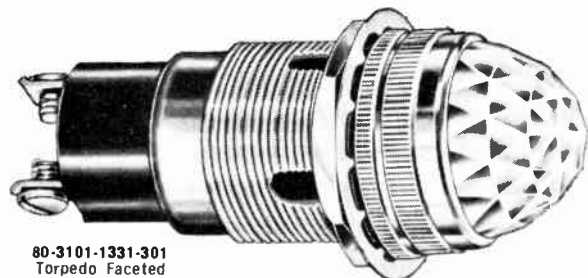
G-6 with Double Contact Bayonet Base — 6 to 32 volts max. S-6 (at 6 watts) with Double Contact Bayonet Base or Candelabra Screw Base — 6, 12, 24, 32, 48, 70-80, 125, 130, 135 and 145 volts.

### Accommodate S-6 Bulb with Candelabra Screw Base

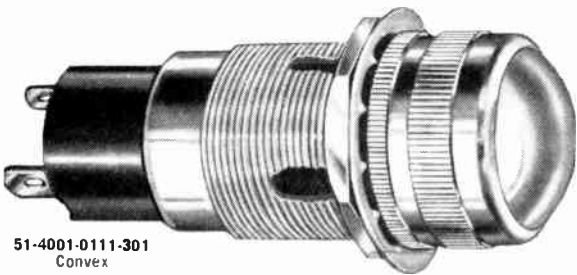
LENS STYLE	LENS FINISH	CATALOG NO. WITH SCREW TERMINALS (SIDE POSITION)	CATALOG NO. WITH SCREW TERMINALS (PROTRUDING)	CATALOG NO. WITH SOLDER TERMINALS	CATALOG NO. WITH QUICK CONNECT TERMINALS
CONVEX	Unfrosted	51-0901-0131-301	51-3101-0131-301	51-4001-0131-301	51-6701-0131-301
	Back Frosted	51-0901-0111-301	51-3101-0111-301	51-4001-0111-301	51-6701-0111-301
FLAT	Unfrosted	51-0901-0231-301	51-3101-0231-301	51-4001-0231-301	51-6701-0231-301
	Back Frosted	51-0901-0211-301	51-3101-0211-301	51-4001-0211-301	51-6701-0211-301
LARGE CONVEX	Unfrosted	61-0901-0231-301	61-3101-0231-301	61-4001-0231-301	61-6701-0231-301
	Back Frosted	61-0901-0211-301	61-3101-0211-301	61-4001-0211-301	61-6701-0211-301
TORPEDO	Unfrosted	80-0901-0531-301	80-3101-0531-301	80-4001-0531-301	80-6701-0531-301
	Back Frosted	80-0901-0511-301	80-3101-0511-301	80-4001-0511-301	80-6701-0511-301
DOME	Unfrosted	80-0901-1231-301	80-3101-1231-301	80-4001-1231-301	80-6701-1231-301
	Back Frosted	80-0901-1211-301	80-3101-1211-301	80-4001-1211-301	80-6701-1211-301
TORPEDO FACETED	Unfrosted	80-0901-1331-301	80-3101-1331-301	80-4001-1331-301	80-6701-1331-301
LARGE TORPEDO	Unfrosted	19-0901-0531-301	19-3101-0531-301	19-4001-0531-301	19-6701-0531-301
FACETED	Unfrosted	51-0901-0431-301	51-3101-0431-301	51-4001-0431-301	51-6701-0431-301

Standard Finish — Polished Chrome. To specify optional finish, change the first digit of the catalog number suffix to -2 (black nickel finish) or -4 (satin chrome finish). Example: 51-0901-0231-201.

**LENS COLOR:** The last digit before the catalog number suffix indicates that the lens is RED. When color other than red is desired, change this digit to a figure from this listing. Red — 1; Green — 2; Yellow (Amber) — 3; Blue — 4; White Translucent — 5; Light Yellow — 6; Clear (Colorless) — 7.  
Example 19-6701-0533-301 (Yellow Amber)



80-3101-1331-301  
Torpedo Faceted

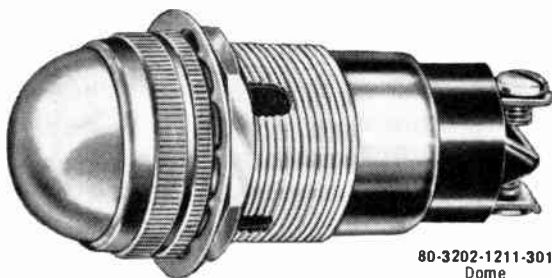


51-4001-0111-301  
Convex

### Accommodate S-6 Bulb with Double Contact Bayonet Base

To obtain assemblies with water-tight construction, change the last digit in Cat. No. to 3.

Example:  
61-3202-0211-303



80-3202-1211-301  
Dome

LENS STYLE	LENS FINISH	CATALOG NO. WITH FIXED SCREW TERMINALS	CATALOG NO. WITH FIXED SOLDER TERMINALS	CATALOG NO. WITH QUICK CONNECT TERMINALS
FLAT	Back Frosted	51-3202-0211-301	51-3402-0211-301	51-6602-0211-301
	Unfrosted	51-3202-0131-301	51-3402-0131-301	51-6602-0131-301
CONVEX	Back Frosted	51-3202-0111-301	51-3402-0111-301	51-6602-0111-301
	Unfrosted	61-3202-0231-301	61-3402-0231-301	61-6602-0231-301
LARGE CONVEX	Back Frosted	61-3202-0211-301	61-3402-0211-301	61-6602-0211-301
	Unfrosted	19-3202-0531-301	19-3402-0531-301	19-6602-0531-301
DOME	Unfrosted	80-3202-1231-301	80-3402-1231-301	80-6602-1231-301
	Back Frosted	80-3202-1211-301	80-3402-1211-301	80-6602-1211-301
TORPEDO FACETED	Unfrosted	80-3202-1331-301	80-3402-1331-301	80-6602-1331-301

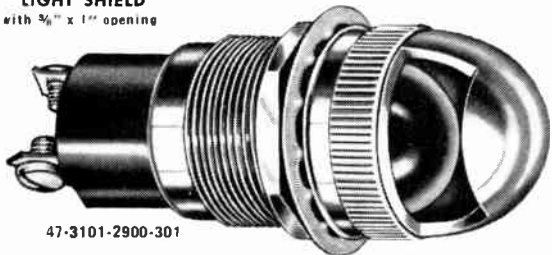
### Accommodate S-6 Bulb with Candelabra Screw Base

TYPE OF LIGHT SHIELD CAP	SIZE OF OPENING IN CAP	CATALOG NO. WITH SCREW TERMINALS (PROTRUDING)	CATALOG NO. WITH SOLDERING TERMINALS	CATALOG NO. WITH QUICK CONNECT TERMINALS
DOME (With 1 Opening)	1/8" x 1"	50-3101-2900-301	50-4001-2900-301	50-6701-2900-301
	1/4" x 1"	49-3101-2900-301	49-4001-2900-301	49-6701-2900-301
	3/8" x 1"	47-3101-2900-301	47-4001-2900-301	47-6701-2900-301
	9/16" x 1"	151-3101-2900-301	151-4001-2900-301	151-6701-2900-301

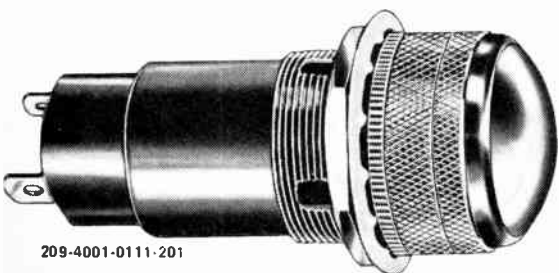
The catalog numbers given indicate standard finish. To obtain optional finishes, change the first digit in the catalog number suffix to: 1 — white nickel; 2 — black nickel; 3 — polished chrome; 4 — satin chrome. Examples: 47-3101-2900-401; 209-4001-0111-301.

### DIMMERS and LIGHT SHIELDS

LIGHT SHIELD  
with 3/8" x 1" opening



47-3101-2900-301



209-4001-0111-201

LENS STYLE AND FINISH	MECHANICAL DIMMER TYPE	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS	CATALOG NO. WITH SCREW TERMINALS (SIDE POSITION)
CONVEX Back Frosted	Semi-Blackout Water-Tight	210-3101-0111-203	210-4001-0111-203	210-0901-0111-203
	Semi-Blackout Not Water-Tight	210-3101-0111-201	210-4001-0111-201	210-0901-0111-201
	Complete Blackout Water-Tight	209-3101-0111-203	209-4001-0111-203	209-0901-0111-203
	Complete Blackout Not Water-Tight	209-3101-0111-201	209-4001-0111-201	209-0901-0111-201
CONVEX Unfrosted Back Frosted	Polaroid	78-3101-0131-201	78-4001-0131-201	78-0901-0131-201
	Polaroid	78-3101-0111-201	78-4001-0111-201	78-0901-0111-201

Similar assemblies are available to accommodate S-6 and G-6 bulbs with double contact bayonet base.

SAMPLES ON REQUEST — AT ONCE — NO CHARGE

ORDER COMPLETE WITH LAMP so that you will be assured of receiving the indicator light and correct lamp at one time for immediate use.

The Complete Line of

Foremost Mfr. of Indicator Lights

**DIALCO**

**INDICATOR LIGHTS**

**DIALIGHT CORPORATION**

(Illustrations are approx. actual size)

“Recognized under the component program of Underwriters’ Labs Inc.”



75W., 125V.

# OIL-TIGHT INDICATOR LIGHTS

OIL-TIGHT • WATER-TIGHT • DUST-TIGHT

With Retained “O” Ring Seal Construction • Mount in 1” Clearance Hole

Rugged, designed for severe vibration conditions. 3 types of Incandescent Lamps may be used: S-6 with Candelabra Screw Base or with Double Contact Bayonet Base; or 10C7/1DC with Double Contact Bayonet Base. The latter is designed to withstand severe vibration and shock.

Assemblies feature: 3 retained oil-proof elastometer seals (1 gasket and 2 “O” rings); high impact phenolic insulation; use of legend discs inserted behind a flat lens sharp to display letters, numbers or symbols.

Assemblies for Incandescent Lamps (S6 Bulb with Candelabra Screw Base)

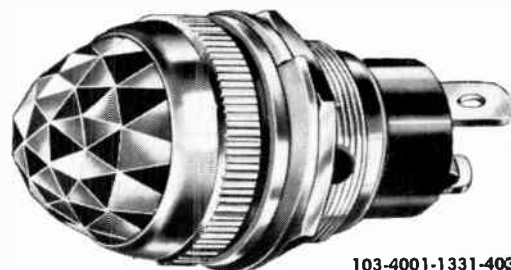
LENS TYPE	LENS SURFACE	CATALOG NO. with SCREW terminals in protruding position	CATALOG NO. with SCREW terminals in side position	CATALOG NO. with SOLDERING terminals
FLAT	unfrosted back (with disc)	215-3101-0231-403	215-901-0231-403	215-4001-0231-403
	back frosted	104-3101-0211-403	104-901-0211-403	104-4001-0211-403
TORPEDO	unfrosted	103-3101-0531-403	103-901-0531-403	103-4001-0531-403
	back frosted	103-3101-0511-403	103-901-0511-403	103-4001-0511-403
TORPEDO FACETED	unfrosted	103-3101-1331-403	103-901-1331-403	103-4001-1331-403
DOME	unfrosted	103-3101-1231-403	103-901-1231-403	103-4001-1231-403
	back frosted	103-3101-1211-403	103-901-1211-403	103-4001-1211-403

Assemblies for Incandescent Lamps (S6 Bulb with Double Contact Bayonet Base)

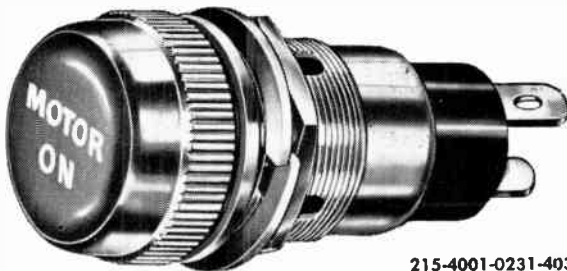
LENS TYPE	LENS SURFACE	CATALOG NO. with MOVABLE SCREW terminals	CATALOG NO. with FIXED SCREW terminals	CATALOG NO. with MOVABLE SOLDER terminals	CATALOG NO. with FIXED SOLDER terminals
FLAT	unfrosted back (with disc)	215-3502-0231-403	215-3202-0231-403	215-3602-0231-403	215-3402-0231-403
	back frosted	104-3502-0211-403	104-3202-0211-403	104-3602-0211-403	104-3402-0211-403
TORPEDO	unfrosted	103-3502-0531-403	103-3202-0531-403	103-3602-0531-403	103-3402-0531-403
	back frosted	103-3502-0511-403	103-3202-0511-403	103-3602-0511-403	103-3402-0511-403
TORPEDO FACETED	unfrosted	103-3502-1331-403	103-3202-1331-403	103-3602-1331-403	103-3402-1331-403
DOME	unfrosted	103-3502-1231-403	103-3202-1231-403	103-3602-1231-403	103-3402-1231-403
	back frosted	103-3502-1211-403	103-3202-1211-403	103-3602-1211-403	103-3402-1211-403

Assemblies for Incandescent Lamps (C7 Bulb with Double Contact Bayonet Base)

LENS TYPE	LENS SURFACE	CATALOG NO. with MOVABLE SCREW terminals	CATALOG NO. with FIXED SCREW terminals	CATALOG NO. with MOVABLE SOLDER terminals	CATALOG NO. with FIXED SOLDER terminals
FLAT	unfrosted back (with disc)	215-3527-0231-403	215-3227-0231-403	215-3627-0231-403	215-3427-0231-403
	back frosted	104-3527-0211-403	104-3227-0211-403	104-3627-0211-403	104-3427-0211-403
TORPEDO	unfrosted	103-3527-0531-403	103-3227-0531-403	103-3627-0531-403	103-3427-0531-403
	back frosted	103-3527-0511-403	103-3227-0511-403	103-3627-0511-403	103-3427-0511-403
TORPEDO FACETED	unfrosted	103-3527-1331-403	103-3227-1331-403	103-3627-1331-403	103-3427-1331-403
DOME	unfrosted	103-3527-1231-403	103-3227-1231-403	103-3627-1231-403	103-3427-1231-403
	back frosted	103-3527-1211-403	103-3227-1211-403	103-3627-1211-403	103-3427-1211-403



103-4001-1331-403



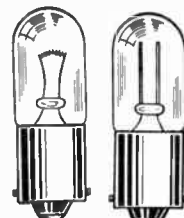
215-4001-0231-403

## ASSEMBLIES for T-3¼ BULB with MIN. BAYONET BASE INCANDESCENT or NEON

For Mounting in 11/16” Clearance Hole

In these Oil-Tight Indicator Lights, a high degree of resistance to shock and vibration is achieved by the use of the rugged Neon lamps on 120 and 240 V; and by choosing low voltage Incandescent lamps with short filaments, such as No. 44 or No. 1866 for circuits powered by transformers stepping down to 6.3 V.

**Exclusive Features:** Assemblies for use with NE-51 Neon Glow Lamps have “bull-in” resistors—an exclusive Dialco feature (U.S. Pat. No. 2,421,321). Options include: binding screw, soldering or quick connect terminals. 7 lens colors are available; see bottom of page 972 for method of specifying color.



Incand.

Neon  
NE-51  
NE-51H  
(High Bright.)

When Connecting a Neon Light to a Circuit Having One Side Grounded, Always Connect the Hot Side of the Circuit to the Terminal Marked + (Center Contact).

### OPTIONAL FINISHES

(All assemblies on this page)

The part numbers given indicate standard satin chrome finish. To specify optional finish, change the first digit in the catalog number suffix to -2 black nickel finish; or -3 polished chrome finish. Examples: 103-3502-1231-203; 125-9363-1191-363.



125-0410-1131-403



125-1310-1191-403

Dome Lens



123-5710-1231-403

Assemblies for the T-3¼ BULB with Miniature Bayonet Base—INCANDESCENT

LENS TYPE	LENS SURFACE	CATALOG NO. with SCREW terminals	CATALOG NO. with SOLDER terminals	CATALOG NO. with QUICK CONNECT terminals
DOME	unfrosted	123-1310-1231-403	123-0410-1231-403	123-5710-1231-403
	back frosted	123-1310-1211-403	123-0410-1211-403	123-5710-1211-403
STOVEPIPE	unfrosted	125-1310-1131-403	125-0410-1131-403	125-5710-1131-403
	back frosted	125-1310-1111-403	125-0410-1111-403	125-5710-1111-403
	inside fluted	125-1310-1191-403	125-0410-1191-403	125-5710-1191-403

ASSEMBLIES FOR USE WITH NE-51H NEON GLOW LAMP

LENS TYPE	LENS SURFACE	CATALOG NO. with SCREW terminals (210-250V. AC-DC)	CATALOG NO. with SOLDER terminals (210-250V. AC-DC)	CATALOG NO. with QUICK CONNECT terminals (210-250V. AC-DC)
DOME +	unfrosted	123-9363-1231-463	123-9463-1231-463	123-5863-1231-463
STOVEPIPE	unfrosted	125-9363-1131-463	125-9463-1131-463	125-5863-1131-463
	inside fluted	125-9363-1191-463	125-9463-1191-463	125-5863-1191-463

ASSEMBLIES FOR USE WITH NE-51H NEON GLOW LAMP

LENS TYPE	LENS SURFACE	ASSEMBLIES FOR USE WITH NE-51H NEON GLOW LAMP			ASSEMBLIES FOR USE WITH NE-51 NEON GLOW LAMP		
		CATALOG NO. with SCREW terminals (110-125V. AC)	CATALOG NO. with SOLDER terminals (110-125V. AC)	CATALOG NO. with QUICK CONNECT terminals (110-125V. AC)	CATALOG NO. with SCREW terminals (105-125V. AC-DC)	CATALOG NO. with SOLDER terminals (105-125V. AC-DC)	CATALOG NO. with QUICK CONNECT terminals (105-125V. AC-DC)
DOME +	unfrosted	123-1363-1231-413	123-0463-1231-413	123-5763-1231-413	123-1308-1231-443	123-0408-1231-443	123-5708-1231-443
	unfrosted	125-1363-1131-413	125-0463-1131-413	125-5763-1131-413	125-1308-1131-443	125-0408-1131-443	125-5708-1131-443
STOVEPIPE	inside fluted	125-1363-1191-413	125-0463-1191-413	125-5763-1191-413	125-1308-1191-443	125-0408-1191-443	125-5708-1191-443

† See Footnote on Page 974.

The Complete Line of

Foremost Mfr. of Indicator Lights

**DIALCO**<sup>®</sup>

# INDICATOR LIGHTS

**DIALIGHT**  
CORPORATION

(Illustrations are approx. 4/5 actual size)

## OPEN TYPE INDICATOR LIGHTS

ACCOMMODATE T-3¼ BULB  
with MINIATURE BAYONET BASE

INCANDESCENT — 2 TO 55V

The assemblies in this grouping can be furnished with one terminal, ground to shell.

LENS STYLE	LENS DIAM.	LENS FINISH	CAT. NO. WITH SOLDER TERMINALS	FOR MTG. CLEAR HOLE	LENS HOLDER FINISH
FLAT	1/2"	Transparent	502-1025-0331-102	7/16"	White Nickel
	1/2"	Translucent	502-1025-0371-102	7/16"	"
CONVEX FACETED	1/2"	Unfrosted	502-1025-0631-102	7/16"	"
	1/2"	Unfrosted	502-1025-2131-102	7/16"	"
FLAT	3/8"	Transparent	502-0531-0331-102	9/32"	"
	3/8"	Translucent	502-0531-0371-102	9/32"	"
CONVEX FACETED	3/8"	Unfrosted	502-0531-0631-102	9/32"	"
	3/8"	Unfrosted	502-0531-2131-102	9/32"	"
FLAT	5/8"	Transparent	502-2526-0331-302	11/16"	Polished Chrome
	5/8"	Translucent	502-2526-0371-302	11/16"	"
CONVEX FACETED	5/8"	Unfrosted	502-2526-0631-302	11/16"	"
	5/8"	Frosted	502-2526-0431-302	11/16"	"
FLAT	1"	Back Frosted	502-3241-0211-302	1"	"
	1"	Back Frosted	502-3241-0111-302	1"	"
CONVEX FACETED	1"	Unfrosted	502-3241-0431-302	1"	"
	1/2"	Back Frosted	502-8136-0111-102	11/16"	White Nickel
CONVEX FACETED	1/2"	Unfrosted	502-8136-0131-102	11/16"	"
	1/2"	Unfrosted	502-8136-2131-102	11/16"	"
STOVEPIPE	5/8"	Inside Fluted	502-5236-0991-102	11/16"	"
STOVEPIPE	5/8"	Transparent	502-9536-0931-102	11/16"	"
CYLINDRICAL	5/8"	Translucent	502-2436-1471-102	11/16"	"



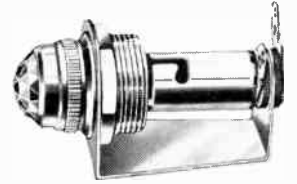
502-0531-2141-102



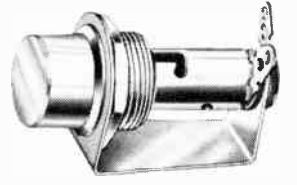
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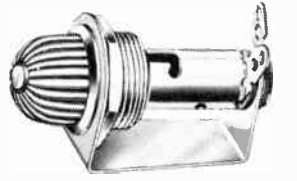
502-2526-0431-302



502-8136-2131-102



502-2436-1471-102



502-5236-0991-102



502-3241-0111-302

## ACCOMMODATE S-6 BULB with CANDELABRA SCREW BASE INCANDESCENT — 6 TO 145V

"Recognized under the component program of Underwriters' Labs Inc."

75W., 125V.

### TAMPER PROOF

LENS TYPE	LENS DIAM.	LENS FINISH	CAT. NO. WITH SOLDER TERMINALS	FOR MTG. CLEAR HOLE
FLAT	1/2"	Unfrosted	502-1010-0231-102	7/16"
		Back Frosted	502-1010-0211-102	7/16"
CONVEX	1/2"	Unfrosted	502-1010-0131-102	7/16"
		Back Frosted	502-1010-0111-102	7/16"
FACETED	1/2"	Unfrosted	502-1010-2131-102	7/16"

Lens Holder Finish: White Nickel

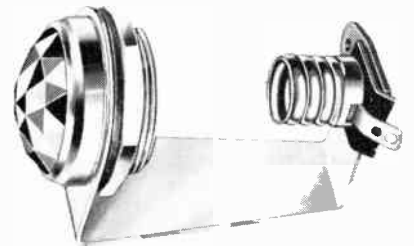
### TAMPER PROOF

LENS TYPE	LENS DIAM.	LENS FINISH	CAT. NO. WITH SOLDER TERMINALS	FOR MTG. CLEAR HOLE
CONVEX	5/8"	Unfrosted	502-2511-0131-302	11/16"
		Back Frosted	502-2511-0111-302	11/16"
FACETED	5/8"	Unfrosted	502-2511-0431-302	11/16"

Lens Holder Finish: Polished Chrome

LENS TYPE	LENS DIAM.	LENS FINISH	CAT. NO. WITH SOLDER TERMINALS	FOR MTG. CLEAR HOLE
FACETED	1"	Unfrosted	502-3214-0431-302	1"
CONVEX	1"	Back Frosted	502-3214-0111-302	1"
FLAT	1"	Back Frosted	502-3214-0211-302	1"

Lens Holder Finish: Polished Chrome



502-3214-0431-302

**LENS COLOR:** The last digit before the 3 digit catalog number suffix indicates that the lens is RED. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red — 1; Green — 2; Yellow (Amber) — 3; Blue 4; White Translucent — 5; Light Yellow — 6; Clear (Colorless) — 7.

**ORDER COMPLETE WITH LAMP** so that you will be assured of receiving the indicator light and correct lamp at one time for immediate use.

SAMPLES ON REQUEST AT ONCE — NO CHARGE

The Complete Line of

Foremost Mfr. of Indicator Lights

**DIALCO**

**INDICATOR LIGHTS**

**DIALIGHT CORPORATION**

(Illustrations are approx. 4/5 actual size)

## Lens Cap Assemblies for Panel Mounting



514-0408-0331-100



514-0608-2131-100



514-0512-2131-102



514-3806-0631-100



514-1012-2131-102

LENS DIAM.	CATALOG NUMBER WITH			SHANK O.D. ▲	SHANK LENGTH
	FLAT LENS	CONVEX LENS	FACETED LENS		
11/32"	514-0408-0331-100	514-0408-0631-100	514-0408-2131-100	.276	1/4"
11/32"	514-0508-0331-102	514-0508-0631-102	514-0508-2131-102	9/32"-32 Thd.	1/4"
11/32"	514-0512-0331-102	514-0512-0631-102	514-0512-2131-102	9/32"-32 Thd.	3/8"
11/32"	514-0608-0331-100	514-0608-0631-100	514-0608-2131-100	.285	1/4"
11/32"	514-0710-0331-102	514-0710-0631-102	514-0710-2131-102	3/8"-24 Thd.	5/16"
1/2"	514-3806-0331-100	514-3806-0631-100	514-3806-2131-100	.373	3/16"
1/2"	514-1008-0331-102	514-1008-0631-102	514-1008-2131-102	7/16"-27 Thd.	1/4"
1/2"	514-1012-0331-102	514-1012-0631-102	514-1012-2131-102	7/16"-27 Thd.	3/8"

▲Decimals ± .005

### OPTIONAL FINISHES

The first digit in the catalog number suffix designates standard finish (exception 95-, 132- and 135-series). The standard and three optional finishes are available for each series and can be specified by changing this digit to -1 (white nickel); -2 (black nickel); -3 (polished chrome) or -4 (satin chrome).  
Examples: 514-2512-0111-202;  
514-0608-2131-100.

LENS DIAM.	LENS SHAPE	CATALOG NUMBER	SHANK O.D.	SHANK LENGTH
1/2"	FLAT	81-0331-300	9/16"-27 Thd.	3/16"
1/2"	CONVEX	81-0631-300	9/16"-27 Thd.	3/16"
1/2"	FACETED	81-2131-300	9/16"-27 Thd.	3/16"
5/8"	CONVEX	514-2512-0111-302	11/16"-27 Thd.	3/8"
5/8"	FACETED	514-2512-2131-302	11/16"-27 Thd.	3/8"
5/8"	STOVEPIPE	■ 132-0991*	9/16"-27 Thd.	3/16"
5/8"	STOVEPIPE	■ 95-0931*●	9/16"-27 Thd.	3/16"
5/8"	CYLINDRICAL	■ 135-1431*●	9/16"-27 Thd.	3/16"

●Specify 505-8112-102 Bushing Assembly for use with these lens cap assemblies (see illus.).  
●To obtain translucent lens, change "3" in the catalog number suffix to "7". Example: 95-0972 (green)

\*LENS COLOR: (132-, 95- and 135- series lens caps only) — The last digit in the catalog number designates the lens color. Change this digit for desired color as follows: Red — 1; Green — 2; Yellow (Amber) — 3; Blue — 4; White Translucent — 5; Light Yellow — 6; Clear (Colorless) — 7.

81-2131-300



135-1431



95-0931



514-2512-0111-302



132-0991



505-8112-102

**BUSHING ASSEMBLY:**  
Mounts in 1/8" clearance hole. Shank length 3/8". Furnished with nut and lockwasher.



514-7612-0111-302



514-7612-0511-302



514-7612-0431-302



514-7612-0211-302



34-0831-300

LENS DIAM.	LENS SHAPE	CATALOG NUMBER	MTG. CLEAR HOLE
1-1/2"	FACETED	34-0431-300	1-3/8"
1-1/2"	DOMED	34-0831-300	1-3/8"



31-0431-300



31-0111-300



31-1331-300



505-3112-102 (Bushing Assembly)

### BUSHING ASSEMBLY:

Mounts in 1" clearance hole. Shank length 3/8". Furnished with nut and lockwasher.

LENS DIAM.	LENS SHAPE	CATALOG NUMBER	SHANK O.D. ▲	SHANK LENGTH
1"	FLAT	514-7612-0211-302	1"-27 Thd.	3/8"
1"	CONVEX	514-7612-0111-302	1"-27 Thd.	3/8"
1"	FACETED	514-7612-0431-302	1"-27 Thd.	3/8"
1"	TORPEDD	514-7612-0511-302	1"-27 Thd.	3/8"
1"	FLAT	**31-0211-300	.885	5/16"
1"	CONVEX	**31-0111-300	.885	5/16"
1"	FACETED	**31-0431-300	.885	5/16"
1"	DOMED	**31-1211-300	.885	5/16"
1"	TORPEDD FACETED	**31-1331-300	.885	5/16"

\*Specify 505-3112-102 Bushing Assembly for use with this series lens cap assembly (see illus.).  
▲Decimals ± .005

**LENS COLOR:** The last digit before the 3 digit catalog number suffix indicates that the lens is RED. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red — 1; Green — 2; Yellow (Amber) — 3; Blue — 4; White Translucent — 5; Light Yellow — 6; Clear (Colorless) — 7.

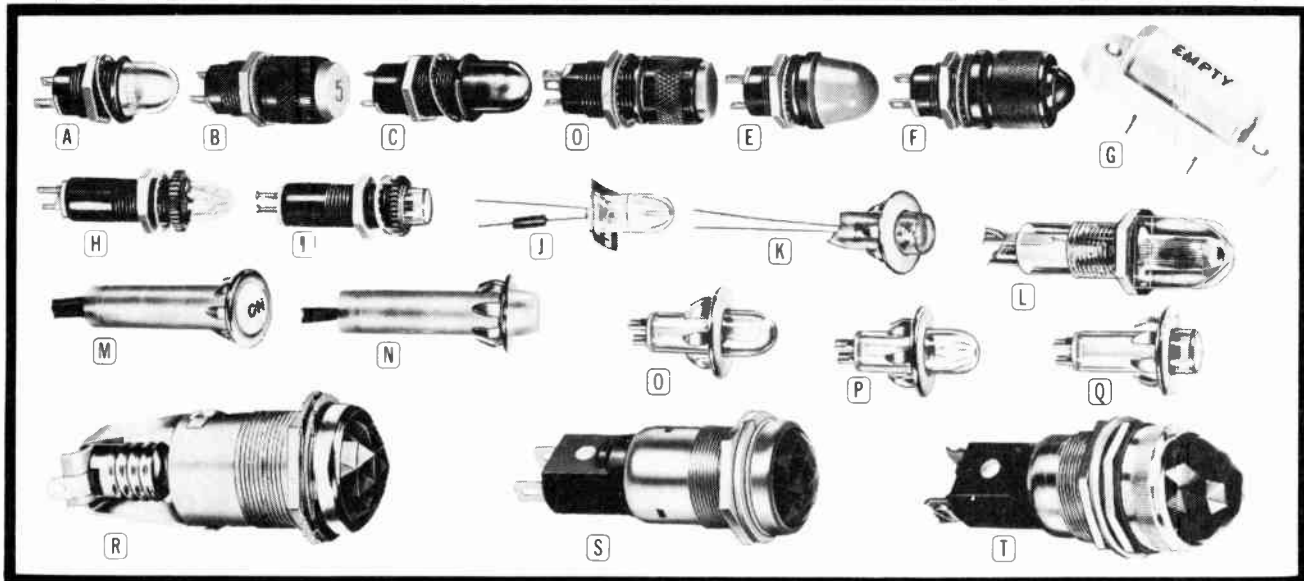
**ORDER COMPLETE WITH LAMP** so that you will be assured of receiving the indicator light and correct lamp at one time for immediate use.

**SAMPLES ON REQUEST AT ONCE — NO CHARGE**



**DRAKE**

**INDICATOR LIGHTS,  
LAMP HOLDERS & LENSES**



**"MF" SERIES INDICATOR LIGHTS  
MIDGET FLANGE BASE UNITS**

Incandescent except for neon -793. Front mounted in  $\frac{1}{32}$ " hole; aluminum body. Both lugs insulated from mounting. Threaded shank lens. Commercial units, clear finish: MIL units, black anodized: †LH-73-LC12, †LH73-LC11 and †LH74-LC13 respectively.

Drake Number	Fig.	Lens Dia.	Projection		Net Each, Lots of*		
			Front	Rear	1-9	10-24	25-99
5131-038-303†	A	$\frac{7}{16}$ "	$\frac{29}{64}$ "	$\frac{3}{4}$ "	\$1.09	\$ .98	\$ .91
5131-038-544	B	$\frac{15}{32}$ "	$\frac{35}{64}$ "	$\frac{3}{4}$ "	1.48	1.33	1.23
5133-048-703*	C	$\frac{7}{16}$ "	$\frac{17}{32}$ "	$\frac{53}{64}$ "	1.65	1.49	1.38

\*Built-in 62K-ohm resistor. Max. panel th.  $\frac{1}{32}$ "; others,  $\frac{5}{32}$ "

**"MF" PRESS-TO-TEST UNITS**

Provides reliable, instantaneous check of lamp condition. Maximum panel thickness,  $\frac{3}{16}$ ".

5131-638-503	D	$\frac{15}{32}$ "	$\frac{37}{64}$ "	$\frac{13}{16}$ "	\$1.90	\$1.71	\$1.59
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**"MF" OIL-TITE/WATER-TITE UNITS**

Recessed rubber "O" rings will withstand up to 25 p.s.i. pressure. Type 5150 has salt shaker dimmer in lens assembly. Maximum panel thickness,  $\frac{3}{16}$ ". Per MIL drawing: †15-15-3217; †SM-B-450166; †SM-C-415155; †ONO20148.

5139-038-304#	E	$\frac{37}{64}$ "	$\frac{15}{32}$ "	$\frac{25}{32}$ "	\$1.33	\$1.19	\$1.11
5150-038-101•	F	$\frac{15}{32}$ "	$\frac{21}{32}$ "	$\frac{25}{32}$ "	2.01	1.81	1.68

**NEON INDICATOR LIGHTS — 115 VOLTS**

**"FLUSHLITE" — U/L AND CSA APPROVED**

"One-of-a-kind". Built-in neon lamp and 25K ohm resistor. To be flush with face of panel, mount from rear in panel, up to  $\frac{1}{32}$ " thick, on  $\frac{3}{16}$ " or  $\frac{1}{8}$ " centers; or, may be mounted on panel top.

Drake Number	Fig.	Lens Size	Projection		Net Each, Lots of*		
			Front	Rear	1-9	10-24	25-99
110-025	G	$\frac{13}{32}$ " x $\frac{1}{4}$ "	$\frac{17}{32}$ " or $\frac{11}{16}$ "	$\frac{17}{32}$ " or $\frac{3}{16}$ "	\$ .50	\$ .45	\$ .42

**"MINEON"**

Similar to "Econoglo"; mounted in black-anodized aluminum body with two turret or solder (\*) lugs (specify or order). Mount from rear of panel, up to  $\frac{3}{16}$ " thick, in  $\frac{3}{8}$ " dia. hole on  $\frac{3}{16}$ " centers. Hi-Brite, built-in neon lamp with 22K-ohm resistor; 115 v. AC.

HR118-323*	H	$\frac{17}{32}$ "	$\frac{15}{32}$ "	$\frac{13}{16}$ "	\$ .84	\$ .76	\$ .70
HR118T-323	---	$\frac{17}{32}$ "	$\frac{15}{32}$ "	$\frac{13}{16}$ "	.92	.83	.77
HR118T-603	I	$\frac{17}{32}$ "	$\frac{23}{32}$ "	$\frac{13}{16}$ "	.92	.83	.77

**"POSTLITE"**

Extremely decorative. Built-in series resistor, 25K ohms, and neon lamp for 110-125 v. AC. Mount from front of panel, up to  $\frac{3}{16}$ " thick, in  $\frac{1}{2}$ " dia. hole on  $\frac{7}{16}$ " centers. Hi-Brite lamp.

105-025	L	$\frac{5}{8}$ " sq.	$\frac{3}{4}$ "	$\frac{13}{16}$ "	\$ .69	\$ .62	\$ .58
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**"GLO-LITES"**

One-piece nylon body and lens with built-in Hi-Brite neon lamp. With two lead terminations, 22 ga. plastic-insulated wire. Mount from front of panel, up to .080" thick, in  $\frac{1}{2}$ " dia. hole on  $\frac{1}{16}$ " centers. Built-in resistor: 25K for 115 v; 100K for 250 V (\*).

Drake Number	Fig.	Lens Dia.	Projection		Net Each, Lots of*		
			Front	Rear	1-9	10-24	25-99
6073-001-544	M	$\frac{27}{64}$ "	$\frac{1}{8}$ "	$\frac{113}{64}$ "	\$ .58	\$ .52	\$ .49
6073-001-634	N	$\frac{27}{64}$ "	$\frac{3}{16}$ "	$\frac{59}{32}$ "	.49	.44	.41
6075-001-544	M	$\frac{27}{64}$ "	$\frac{1}{8}$ "	$\frac{113}{64}$ "	.63	.57	.53
6075-001-634	N	$\frac{27}{64}$ "	$\frac{3}{16}$ "	$\frac{59}{32}$ "	.53	.48	.45

\*PRICES LESS LAMPS UNLESS BUILT-IN.

**WRITE FOR O.E.M. DISCOUNTS ON LARGER QUANTITY ORDERS.**

**NEON INDICATOR LIGHTS (CONT'D)  
"ECONOGLO" — WIRE LEADS**

Mount from front of panel. For type 116, mount in  $\frac{3}{16}$ " hole on panel up to  $\frac{3}{16}$ " thick (fastened with tinnerman nut). For type 117, mount in  $\frac{1}{2}$ " hole on panel up to  $\frac{1}{16}$ " thick (chrome snap-in). Lens shapes (last 3 digits) interchangeable on types 116 and 117. Termination: two-wire leads. Built-in 22K-ohm resistor (\*); others require external resistors, not supplied. Built-in neon lamp. Low cost 115 v. AC indicator lights.

Drake Number	Fig.	Lens Size	Projection		Net Each, Lots of*		
			Front	Rear	1-9	10-24	25-99
116-603	J	$\frac{17}{32}$ "	$\frac{3}{8}$ "	$\frac{15}{32}$ "	\$ .22	\$ .19	\$ .18
HR116-323*	---	$\frac{17}{32}$ "	$\frac{3}{8}$ "	$\frac{15}{32}$ "	.28	.25	.23
117-603	K	$\frac{17}{32}$ "	$\frac{1}{4}$ "	$\frac{5}{8}$ "	.29	.26	.24
HR117-323*	---	$\frac{17}{32}$ "	$\frac{3}{16}$ "	$\frac{13}{32}$ "	.34	.31	.29

**NEW "ECONOGLO" WITH LUGS**

**TINNERMAN NUT OR PLUG BUTTON MOUNTING**

Mount from front of panel. For type 6140, mounts in  $\frac{3}{16}$ " D hole on panel up to  $\frac{3}{16}$ " thick (fasten with Tinnerman nut). For type 6150, mounts in  $\frac{1}{2}$ " D hole on panel up to  $\frac{1}{16}$ " thick (chrome snap-in plug button). Lens shapes (last three digits) interchangeable on type 6140 and 6150. Termination: Two lugs. Incandescent built-in lamp; Low-cost 28 v. AC—lamp rating .04A (6146 or 6156 types) Also 6.3 v. AC lamp rating .04A (6148 or 6158 types).

Drake Number	Fig.	Lens Size	Projection		Selling Prices Per Each		
			Front	Rear	1-9	10-24	25-99
6146-000-303	---	$\frac{17}{32}$ "	$\frac{3}{8}$ "	$\frac{45}{64}$ "	\$1.01	\$ .91	\$ .85
6146-000-323	---	$\frac{17}{32}$ "	$\frac{3}{8}$ "	$\frac{45}{64}$ "	1.01	.91	.85
6146-000-603	---	$\frac{17}{32}$ "	$\frac{3}{8}$ "	$\frac{55}{64}$ "	1.01	.91	.85
6148-000-303	---	$\frac{17}{32}$ "	$\frac{3}{8}$ "	$\frac{45}{64}$ "	.83	.75	.69
6148-000-323	---	$\frac{17}{32}$ "	$\frac{3}{8}$ "	$\frac{45}{64}$ "	.83	.75	.69
6148-000-603	---	$\frac{17}{32}$ "	$\frac{3}{8}$ "	$\frac{55}{64}$ "	.83	.75	.69
6156-000-303	O	$\frac{17}{32}$ "	$\frac{21}{16}$ "	$\frac{45}{64}$ "	1.08	.97	.90
6156-000-323	P	$\frac{17}{32}$ "	$\frac{21}{16}$ "	$\frac{45}{64}$ "	1.08	.97	.90
6156-000-603	Q	$\frac{17}{32}$ "	$\frac{1}{4}$ "	$\frac{55}{64}$ "	1.08	.97	.90
6158-000-303	O	$\frac{17}{32}$ "	$\frac{21}{16}$ "	$\frac{45}{64}$ "	.89	.80	.75
6158-000-323	P	$\frac{17}{32}$ "	$\frac{21}{16}$ "	$\frac{45}{64}$ "	.89	.80	.75
6158-000-603	Q	$\frac{17}{32}$ "	$\frac{1}{4}$ "	$\frac{55}{64}$ "	.89	.80	.75

**1" LENS INDICATOR LIGHTS**

**CANDELABRA SCREW 5-6 — 115 VOLTS  
MONEY-SAVER — U/L AND CSA APPROVED**

Polished chrome lens holder. Lamps replaceable from front or rear. Mount from front of panel, up to  $\frac{1}{32}$ " thick, in 1" dia. hole on  $\frac{1}{16}$ " centers. Slip-fit bezel (\*).

Drake Number	Fig.	Lens Dia.	Projection		Net Each, Lots of*		
			Front	Rear	1-9	10-24	25-99
75-110*	R	1"	$\frac{3}{16}$ "	$2\frac{1}{4}$ "	\$1.11	\$1.00	\$ .93

**STANDARD — U/L AND CSA APPROVED**

Easy front replacement of pop-forward lamps. Snap-in lens assembly.

5756-522-110	S	1"	$\frac{3}{16}$ "	$2\frac{1}{8}$ "	\$1.31	\$1.18	\$1.10
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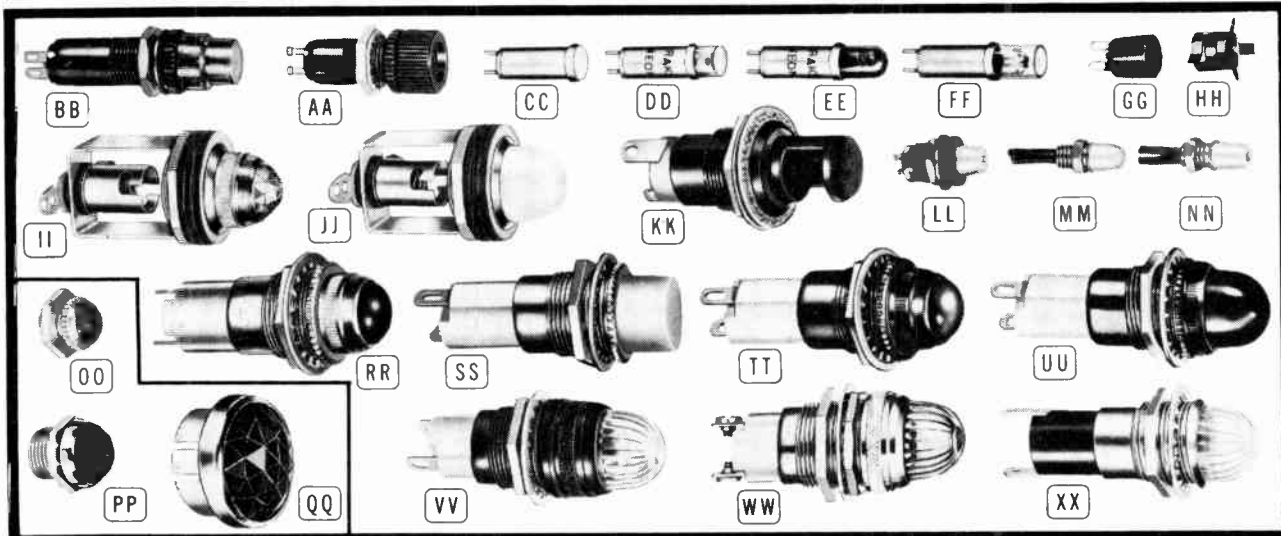
**"TITELITE"**

Neoprene gaskets seal out oil, water, dust and dirt.

5796-522-410	T	1"	$1\frac{1}{16}$ "	$1\frac{3}{32}$ "	\$2.04	\$1.84	\$1.70
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**SPECIFY COLOR ON ORDER:** Incandescent and Neon—R-d, Yellow (Amber), White or Colorless. Incandescent Only—Green or Blue.

Lenses 503, 504, 603 and 604 may be Imprinted; change 0 (2nd digit) to 4 (e.g., 543). Prices on Request.



**BI-PIN CARTRIDGE LAMPHOLDER**

Lampholder has lamp cartridge replaceable from front. Mount from rear of panel, up to 1/4" thick, in 3/8" dia. hole on 3/32" centers. Two tinned turret lugs.

Drake Number	Fig.	Projection		Resis., Ohms	Net Each, Lots of*		
		Front	Rear		1-9	10-24	25-99
4428-001	AA	3/8"	5/16"	None	\$.92	\$.83	\$.77

**NEW MIDGET BI-PIN CARTRIDGE — 120 VOLTS INCANDESCENT INDICATOR LIGHTS**

Relamped from front. Rear mounted in 1/4" dia. "D" hole. Black anodized body and lens holder. Two turret lugs. Translucent (\*) or transparent refracting lenses. Maximum panel thickness, 3/16"

Drake Number	Fig.	Lens Dia.	Projection		Volts	Net Each, Lots of*		
			Front	Rear		1-9	10-24	25-99
5300-428-607*	BB	1 3/32"	3/32"	1 3/32"	115	\$1.19	\$1.07	\$.99
5300-428-696	BB	1 3/32"	3/32"	1 3/32"	115	1.19	1.07	.99

**"BI-PIN CARTRIDGE LAMPS"**

Small size, easy-plug-in neon or incandescent lamp sealed into aluminum casing. Stainless steel pins. Neon cartridges require a series resistor. Nos. 5- (\*) have built-in 22K ohm resistor.

**NEON**

Drake Number	Fig.	Lens Dia.	Projection		Volts	Net Each, Lots of*		
			Front	Rear		1-9	10-24	25-99
1-603	DD	3/32"	1/2"	3/32"	115	\$.83	\$.75	\$.70
5-703*	EE	3/32"	1/2"	3/32"	115	1.10	.99	.92
5-803*	FF	3/32"	1/2"	3/32"	115	1.10	.99	.92

**INCANDESCENT**

Drake Number	Fig.	Lens Dia.	Projection		Volts	Net Each, Lots of*		
			Front	Rear		1-9	10-24	25-99
6-604	DD	3/32"	1/2"	3/32"	6	\$.95	\$.86	\$.80
7-503	CC	3/32"	1/2"	3/32"	10	1.40	1.26	1.17
11-604	DD	3/32"	1/2"	3/32"	25	1.00	.90	.84

**CONNECTORS AND FASTENERS**

Drake No. 399-058 Connector (Fig. GG)—Used with 763 fastener to mount "Bi-Pin Cartridge Lamps" where conventional method is impractical; or, to save money. Net Each, Lots 1-9 \$ .14, Lots 10-24 \$ .13, Lots 25-99 \$ .12. Drake No. 763 Fastener (Fig. HH)—Net Each, Lots 1-9 \$ .04, Lots 10-24 \$ .04, Lots 25-99 \$ .03.

**"MONEY-SAVER" INDICATOR LIGHTS MINIATURE BAYONET BASE T-3 1/4 — 6 TO 28 VOLTS**

Nickel-plated lens holder. Lamps replaceable from front. Mount from front of panel, up to 1/4" thick, in 1/4" dia. hole on 1" centers. Rated 2 watts.

Drake Number	Fig.	Lens Dia.	Projection		Net Each, Lots of*		
			Front	Rear	1-9	10-24	25-99
50-113	II	1/2"	1 1/2"	1 1/2"	\$.50	\$.45	\$.42
51-304	JJ	3/8"	1/2"	1 1/2"	.41	.37	.35

**INSTRUMENT LIGHT**

**MINIATURE BAYONET BASE T-3 1/4 — 6 TO 28 VOLTS**

Threaded hood. Lamps replaceable from front. Mount from front of panel, to 1/4" dia. hole on 3/32" ctrs.; 2 solder lugs.

168E	KK	1 1/4"	1 3/8"	\$1.42	\$1.28	\$1.19
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**NEW "GEMLITE"**

Replaceable, long-life, sub-midget incandescent lamp T-1, 5 V. Front mounted in 3/8" hole. Brass body; two lugs insulated from ground. Meets MIL applications. Max. panel thickness, 3/32".

5160-458-604	LL	1/4"	1/4"	1 1/2"	\$1.74	\$1.57	\$1.45
5160-458-644	LL	1/4"	1/4"	1 1/2"	1.83	1.65	1.53

**NEW "ASTROLITE"**

Built-in T-1 incandescent lamp with 60,000 hours life. 5 V. Mounts in .191" dia. "D" hole. Stainless steel body. Two Teflon® insulated, 6" leads. Translucent, butyrate lens per MS25446. Maximum panel thickness, 3/16" ®Registered DuPont trademark.

6026-704	MM	3/32"	3/32"	1 1/4"	\$2.30	\$2.07	\$1.92
6026-844	NN	3/32"	3/32"	1 1/4"	2.40	2.16	2.00

**DRAKE LENSES**

The last three digits of most Drake numbers identify lens shapes and other variations. Below are three popular lenses.

Drake Number	Fig.	Lens Dia.	Shank			Net Each, Lots*		
			I.D.	Lgth.	1-9	10-24	25-99	
14-15-113	OO	3/16"	3/16"-32 thd.	1 1/4"	1/4"	\$.13	\$.11	\$.11
16-17-113	PP	1/2"	3/16"-27 thd.	1 1/2"	3/8"	.16	.15	.14
75A-110	QQ	1"	.887/.889	5/16"	3/16"	.53	.48	.45

**"DELUXE MOLDED" INDICATOR LIGHTS MINIATURE BAYONET BASE T-3 1/4 — 6 TO 28 VOLTS NEON NE-51H — 115 & 250 V. — U/L & CSA APPROVED**

Polished chrome finish. Assured dependability; fine appearance. Feature E-Z-Tite flange for quick assembly with Drake No. 32 wrench. Lamp replaceable from front. Mount from front of panel, up to 1/4" thick, in 1/4" dia. hole on 3/32" centers. Neon lamps have built-in series resistor. Two solder lugs.

Drake Number	Fig.	Lens Dia.	Projection		Resis., Ohms	Net Each, Lots*		
			Front	Rear		1-9	10-24	25-99
5200-222-101‡	RR	1/2"	1 1/2"	1 1/2"		\$1.02	\$.92	\$.85
5200-222-604	SS	3/8"	1/2"	1 1/2"		.82	.74	.69
5200-228-101*	TT	1/2"	1 1/2"	1 1/2"		1.27	1.15	1.06
5200-228-301*	UU	3/8"	1/4"	1 1/2"		1.51	1.36	1.26
5200-232-623		3/8"	1/2"	1 1/2"	22K	.97	.87	.81
5200-242-603	SS	3/8"	1/2"	1 1/2"	100K	.97	.87	.81
5202-222-301‡		3/8"	1/4"	1 1/2"		1.33	1.20	1.11

**MAXIMUM VISIBILITY SERIES**

Female thread in lens holder permits neon lamp to project into macrodome lens for maximum visibility. U/L and CSA Approved.

5204-238-320*	VV	5/8"	3/32"	1 1/2"	27K	\$1.74	\$1.57	\$1.45
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\*MIL unit (black nickel-plated)—5200-228-101 (LH75-LC14), 5200-228-301 (LH75-LC15), or 5204-238-320 (LH78-LC20).

**"TITELITE" SERIES**

Neoprene gasket seals out oil, water and dust. Front or rear panel mount.

5205-223-320‡	WW	5/8"	3/32"	1 1/2"		\$1.62	\$1.46	\$1.35
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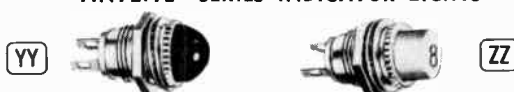
**STANDARD SERIES INDICATOR LIGHTS MINIATURE BAYONET T-3 1/4 — 6 TO 28 VOLTS NEON NE-51H — 115 & 250 V. — U/L & CSA APPROVED**

Nickel-plated lens holder and flange. Replace lamps from front. Front-mount in 1/4" hole on 3/32" centers in panel up to 1/4" thick. Two solder lugs.

5100-182-110‡		1/2"	1 1/2"	1 1/2"		\$.76	\$.69	\$.64
5100-182-304		3/8"	1/2"	1 1/2"		.61	.55	.51
5100-192-323	XX	3/8"	1/2"	1 1/2"	25K	.71	.64	.59
5100-202-323	XX	3/8"	1/2"	1 1/2"	100K	.71	.64	.59

‡NEW—For the first time—these Drake units can use 120 v. min. bay. incandescent lamp; 3 watts, T-2 bulb, 1500 ft.-candles, life 3000 hrs. (twice cand. screw). Lamp prices on request.

**"TINYLITE" SERIES INDICATOR LIGHTS**



**MIDGET SCREW BASE LAMPS G-2 7 TO 28 VOLTS INCANDESCENT**

Lamps replaceable from front. Mount from front of panel, up to 1/2" thick, in 3/8" dia. hole on 1/32" centers. Lamps built-in: 7 V in 121-7; 28 V in 121-28.

Drake Number	Fig.	Lens Dia.	Projection		Net Each, Lots of*		
			Front	Rear	1-9	10-24	25-99
121-7-204	YY	3/8"	3/8"	1 1/2"	\$.74	\$.66	\$.62
121-7-604†		3/8"	3/8"	1 1/2"	.74	.66	.62
121-7-644	ZZ	3/8"	3/8"	1 1/2"	.83	.75	.70
121-28-204	YY	3/8"	3/8"	1 1/2"	.86	.78	.72
121-28-604†		3/8"	3/8"	1 1/2"	.86	.78	.72
121-28-644	ZZ	3/8"	3/8"	1 1/2"	.96	.86	.80

†Same as -644 type, but unprinted.

\*PRICES LESS LAMPS UNLESS BUILT-IN.

**WRITE FOR O.E.M. DISCOUNTS ON LARGER QUANTITY ORDERS.**

Lenses 503, 504, 603 and 604 may be imprinted; change 0 (2nd digit) to 4 (e.g., 543). Prices on Request.

**SPECIFY COLOR ON ORDER: Incandescent and Neon—Red, Yellow (Amber), White or Colorless. Incandescent Only—Green or Blue.**



GENISCO TECHNOLOGY CORPORATION

### C-LITES

Eldema C-Lites are 2-pin cartridge lamps that are easily inserted from the front of the panel into the D-Holder assembly. C-Lites are in three basic series: CF—incandescent, CG—neon, and CR—neon with built-in resistor. Clear anodized aluminum case — stainless steel pins — plastic lens cap — high dielectric insulation — meets Mil-L-3661. Mate with all DH Series holders.

#### INCANDESCENT C-LITES

**SERIES CF** - Mates with all DH Holders

##### STYLE



#### LENS COLORS

- ACS Amber Clear
- BCS Blue Clear
- CCS Cloudy Clear
- GCS Green Clear
- RCS Red Clear
- WCS Water Clear
- YCS Yellow Clear
- ATS Amber Translucent
- BTS Blue Translucent
- GTS Green Translucent
- RTS Red Translucent
- WTS White Translucent
- YTS Yellow Translucent

SPECIFY STYLE — LENS COLOR AND LAMP NUMBER

Example: CF03-RTS-2187

LAMP NO.	VOLTS	M.A.	LIFE HRS
2158*	3	15	10,000
680	5	60	50,000
1730	6	40	1,000
2114	6	60	3,000
1784	6	200	1,000
2180	6.3	40	50,000
2181	6.3	200	50,000
1869*	10	15	50,000
2107*	10	40	5,000
2174	12	40	3,000
1705	14	80	750
2182	14	80	50,000
2102	18	40	1,000
1762	28	40	1,000
2187	28	40	25,000

\*Use with clear colors only.

**NEON C-LITES** Mates with DH Holders

**SERIES CG - SERIES CR**

##### STYLE



#### LENS COLORS

CLEAR ONLY

- ACS Amber Clear
- CCS Cloudy Clear
- RCS Red Clear
- WCS Water Clear
- YCS Yellow Clear

SPECIFY STYLE — LENS COLOR LAMP OR LAMP/RESISTOR

Examples: CG03-RCS-N110  
CR01-ACS-N123

#### NEON LAMP - CG SERIES

- N110 - Standard brightness
- N120 - High brightness

#### NEON LAMP/RESISTOR - CR SERIES

- N114 - Standard brightness medium life - 56K
- N117 - Standard brightness long life - 100K
- N121 - High brightness medium life - 22K
- N123 - high brightness long life - 33K

### C-LITES

**SERIES CN, CL AND CM**

These are special purpose C-Lite types, each with mating single lamp D-Holder. The CL and CM have long life, higher voltage incandescent telephone type lamp bulbs. The CN is an older style neon C-Lite with resistor.

#### NEON C-LITES

**SERIES CN** - neon lamp built-in resistor

Mate with DN Holders

**CN01-RCS-N117**



**CN04-WCS-N123**

Slightly longer than new CR series. Otherwise the two types are identical. Specify in same manner except use CN instead of CR. CN03 style is available.

#### INCANDESCENT C-LITES

**TYPE CL24**

Mate with DL lampholders with D06, D09 or D25 lens caps. Bulb end exposed.



PART NO.	VOLTS	MA	LIFE HRS
CL24-6PS	6	140	5,000+
CL24-12PS	12	170	5,000+
CL24-24PS	24	73	5,000+
CL24-28PS	28	40	5,000+
CL24-48PS	48	53	5,000+
CL24-60PS	60	50	5,000+
CL24-120PS	120	25	5,000+

#### INCANDESCENT C-LITES

**TYPE CM65**

Mate with DM lampholders with D06, D09 or D25 lens caps. Light diffusing frosted lens.



PART NO.	VOLTS	MA	LIFE HRS
CM65-6PS	6	140	5,000+
CM65-12PS	12	170	5,000+
CM65-28PS	28	40	5,000+
CM65-48PS	48	53	5,000+
CM65-60PS	60	50	5,000+
CM65-120PS	120	25	5,000+



**D-HOLDER**

Eldeema D-Holders mate with the plug-in C-Lite cartridge lamps. The standard DH Series is available in single lampholders, dual lampholders and matching switchlites. Other special length single lamp holders — Series DN, DL and DM to mate with the longer C-Lites are included. Anodized housings, nickel plated hardware — high temperature plastic lens caps — meets Mil-L-3661.

**DHO-10B-D14B**  
with CF03**DHN-10B-D15B**  
with CF03**DHO-30B-D09BWC****DHN-60B-D06BRT****DHO-10B-D07BRC****DHN-60B-D25BRT****DH SERIES SINGLE LAMPHOLDERS**

Mate with CF, CG and CR C-Lites

**HOLDER STYLE**

DHO - Rear mounting, 3/8" hole  
DHN - Front mounting, 15/32" hole

**HOLDER TERMINAL AND FINISH**

10B - Turret pin black housing  
20B - #53 socket black housing  
30B - Solder cup black housing  
60B - Solder lug black housing

**SPECIFY HOLDER STYLE — TERMINAL AND FINISH THEN LAMP COLLAR OR LENS CAP STYLE AND LENS COLOR.**

For example: DHO-10B-D14B  
DHN-60B-D06BRT

For clear anodized finish change letter B in terminal - finish and in lamp collar or lens cap to S - DHN-60S-D06SRT.



Installation wrench mates with knurled ring on rear mounting holders and switchlite. Part number — Z-090-375

**LAMP COLLARS**

D14B - Use with DHO  
D15B - Use with DHN or DHO

Note: No lens color specified for collars. For use with C-Lite cartridges with colored lenses.

**LENS CAP STYLE**

D06B - Smooth lens  
D07B - Long smooth lens  
D09B - Fluted lens, clear colors only  
D25B - Shroud lens, translucent colors only.

Note: For use with C-Lite cartridges with water clear lenses.

**LENS COLORS**

AC - Amber Clear\*  
BC - Blue Clear  
CC - Cloudy Clear\*  
GC - Green Clear  
RC - Red Clear\*  
WC - Water Clear\*  
YC - Yellow Clear\*

\*Recommended for neon C-Lites

AT - Amber Translucent  
BT - Blue Translucent  
GT - Green Translucent  
RT - Red Translucent  
WT - White Translucent  
YT - Yellow Translucent

**DH SERIES - TYPE DHS**  
**MOMENTARY SWITCH-LITE**

Rear mounting, 3/8" hole  
Mate with CF, CG and CR C-Lites

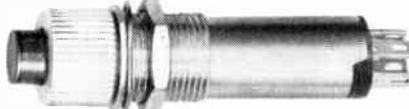
**DHS-60B-A-D16B** with CF03  
Black anodized finish

DHS-60B-A-D16B normally open  
DHS-60B-B-D16B normally closed  
DHS-60B-P-D16B press-to-test

Black or clear finish — specify B — black, S — clear (underlined letters in part numbers by illustrations, 2 places)

**DH SERIES - TYPE DHT**  
**MOMENTARY SWITCH-LITE**

Front mounting, 15/32" hole  
Mate with CF, CG and CR C-Lites

**DHT-61S-A-D16S** with CF03  
Clear anodized finish

DHT - 61B-A-D16B normally open  
DHT - 61B-B-D16B normally closed  
DHT - 61B-P-D16B press-to-test

Four lug terminals — separate light and switch circuit — 1/2 amp rating for normally open and closed types.

**DH SERIES - TYPE DHF**  
**DUAL LAMPHOLDER**

Front or rear mounting 3/4" hole.

**DHF-61B-D17BWC**

Mates with any two CF, CG, or CR C-Lites. Four lug terminals — clear lens. Black anodized finish.

**DN SERIES SINGLE LAMPHOLDERS**

Mate with CN neon C-Lites

**DNO-10B-D14B** with CN01

Slightly longer than DHO holder, otherwise identical and specified in same manner except use DNO instead of DHO. Rear mounting 3/8" hole only.

**DL SERIES SINGLE LAMPHOLDERS**

Mate with CL24 C-Lites

**DLO-10B-D09BWC**

Medium length holder for high voltage incandescent CL24. Rear mounting DLO and front mounting DLN styles available. Identical to DHO and DHN except for length. Specify in same manner — requires lens cap.

**DM SERIES SINGLE LAMPHOLDERS**

Mate with CM65 C-Lites

**DMO-10B-D06BRT**

Long length holder for high voltage incandescent CM65 C-Lites. Front and rear mounting types DMN and DMO available. Specify in same manner as DHN and DHO — requires lens cap.

## R - LITES

R-Lites are Eldema's product family of relampable holders and lens caps for the midget flange based T-1  $\frac{3}{4}$  incandescent and T-2 neon bulbs. The lamps and lens caps are replaceable from the front of the panel. There are five R-Lite groups — each with its own features — the holder and lens cap part numbers in each group start with the same two letters to insure mating parts.

## RM AND RN SERIES

The RM-RN groups meet MIL-I-3661. The RM is for incandescent lamps — the RN Series with a built in resistor is for neon lamps. Standard types RMA and RNA — waterproof types RMW and RNW — two tin plated lug terminals — black anodized aluminum cases — high impact plastic lenses. Mount from the front in  $15/32$ " holes. Equivalent Military numbers are listed.

### RMA-64BO-RM120RC



RMA-64BO-RM160RC

### RMW-63BO-RM130RC



RMA-64BO-RM22BRC

### RM SERIES

#### HOLDER P/N MIL. TYPE

RMA - 64BO Standard — black finish LH73/1

RMW - 63BO Waterproof — black finish LH89/1

#### LENS CAP STYLE MIL. TYPE

RM120 Dome LC12

RM160 Flat top LC29

RM22B Rotating type LC11

(Lens marking can be aligned)

RM130 Waterproof dome LC35

### LENS COLORS

AC Amber Clear

BC Blue Clear

CC Cloudy Clear

GC Green Clear

RC Red Clear

WC Water Clear

YC Yellow Clear

AT Amber Translucent

BT Blue Translucent

GT Green Translucent

RT Red Translucent

WT White Translucent

YT Yellow Translucent

### MIL. TYPE

YN2

BN2

—

GN2

RN2

CN2

—

YT2

BT2

GT2

RT2

WT2

—

SPECIFY HOLDER

### LENS STYLE AND LENS COLOR

For example:

RMA-64BO-RM120RC is Eldema  
LH73/1- LC12RN2 is Military

NOTE: RMA-64BO-RM120 meets  
MS25256. Designate lens color.

### RNA-64B5-RN120RC



RNW-63B5-RN130RC

### RN SERIES

#### HOLDER P/N MIL. TYPE

RNA - 64B5 Standard — black finish with  $62K\Omega$  for NE2D lamp LH74/1

RNA - 64B2 Standard — black finish with  $27K\Omega$  for NE2J lamp LH74/2

RNW - 63B5 Waterproof — black finish with  $62K\Omega$  for NE2D lamp LH88/1

RNW - 63B2 Waterproof — black finish with  $27K\Omega$  for NE2J lamp LH88/2

#### LENS CAP STYLE MIL. TYPE

RN120 Dome LC13

RN130 Waterproof dome LC33

### LENS COLORS

AC Amber Clear

CC Cloudy Clear

RC Red Clear

WC Water Clear

YC Yellow Clear

### MIL. TYPE

YN2

WT2

RN2

CN2

—

SPECIFY HOLDER

### LENS STYLE AND LENS COLOR

For example:

RNA-64B5-RN120RC is Eldema  
LH74/1- LC13RN2 is Military

NOTE: RNA-64B5-RN120 meets  
MS25257. Designate lens color.

## RA SERIES

The RA Series is for flange based T-1  $\frac{3}{4}$  incandescent bulbs. Three mounting styles are available and three metal finishes. Rugged two terminal lamp holders — brass housings — tin plated lug terminals — high impact strength plastic lens caps.

### RAA-6020-RA220RT



RAB-6010-RA210RT

### RAC-6030-RA343RT



### HOLDER STYLE

RAA -  $15/32$ " Front mounting

RAB -  $17/32$ " Front mounting

RAC -  $15/32$ " Front or rear mounting

### HOLDER FINISH

6010 Bright nickel

6020 Black nickel

6030 Polished chrome

### ALL PLASTIC LENS CAP STYLE

RA210 Dome

RA220 Flat top

### ROTATING LENS CAP STYLE

(Lens marking can be aligned)

RA341 Bright nickel ring

RA342 Black nickel ring

RA343 Polished chrome ring

### LENS COLORS

AC Amber Clear

BC Blue Clear

CC Cloudy Clear

GC Green Clear

RC Red Clear

WC Water Clear

YC Yellow Clear

AT Amber Translucent

BT Blue Translucent

GT Green Translucent

RT Red Translucent

WT White Translucent

YT Yellow Translucent

SPECIFY HOLDER STYLE

HOLDER FINISH

LENS STYLE AND LENS COLOR

**RB SERIES**

Low cost relampable holders and lens caps for T-1 3/4 based incandescent lamps. The holder is one piece nickel plated brass construction — Type RBN, single center terminal grounded to panel — Type RBP, with insulating washers and external lug terminal added to electrically isolate holder from the panel.

RBN-1010-RB33IRT



RBP-1010-RB31BRT



RBN-1010-RB190WT

**HOLDER PART NUMBER**

RBN - 1010 Single center terminal  
Front mounting 3/8" hole.

RBP - 1010 Insulating washers  
Two terminals, 27/64" hole.

**SPECIFY HOLDER, LENS STYLE AND LENS COLOR**

NOTE: Special bi-color lens caps — white when off and colored when lighted are available — see series RB data sheet.

**LENS CAP STYLE**

RB190 All plastic, bell shape

RB31B Black shroud lens  
End on viewing only

RB331 Flat top lens, bright  
nickel plated ring.

**LENS COLORS**

AT	Amber	RT	Red
BT	Blue	WT	White
GT	Green	CC	Cloudy

**RL SERIES**

In the RL Series the lamp holders and lens caps accommodate either based incandescent or neon lamps for uniform appearance. Neon holders may have built in resistors. Two tin plated lug terminals — black or clear anodized housings — fresnel ring light diffusing lens caps give maximum brilliance.

RLD-60BO-RL090WC



RLD-60SO-RL130CC



RLA-60BO-RL150RC

**HOLDER STYLE**

RLA - Front mounting, 15/32" Hole

RLD - Rear mounting, 3/8" Hole, 1/8" Panel

RL E - Rear mounting, 3/8" Hole, 3/16" Panel

**HOLDER FINISH AND RESISTOR**

60B0 - Black finish No Resistor

60S0 - Clear finish No Resistor

60B2 - Black finish with 27KΩ for NE2J lamp

60S2 - Clear finish with 27KΩ for NE2J lamp

60B5 - Black finish with 62KΩ for NE2D lamp

60S5 - Clear finish with 62KΩ for NE2D lamp

**SPECIFY HOLDER STYLE, FINISH AND RESISTOR-LENS STYLE AND LENS COLOR****FRESNEL RING LENS CAPS****STYLE**

RL090 Flat top

RL130 Dome

RL150 Skirted

**COLORS**

AC - Amber Clear\*

BC - Blue Clear

CC - Cloudy Clear\*

GC - Green Clear

RC - Red Clear\*

WC - Water Clear\*

YC - Yellow Clear\*

\*Recommended for neon lamps

**SMOOTH FACE LENS CAPS****STYLE**

RL100 Flat top

RL140 Dome

RL160 Skirted

**COLORS**

AT	Amber Translucent
BT	Blue Translucent
GT	Green Translucent
RT	Red Translucent
WT	White Translucent
YT	Yellow Translucent

**B - LITES**

Commercial neon indicators permanently clip mounted — 5/16" mounting hole all plastic construction — inexpensive — two basic types — neon lamp with resistor and attached wire leads and neon lamps only with bare wire leads.

BG90-RC-NE2H



BG20-RC-NE2E

**STYLE**

BG20 Dome

BG90 Flat top

**COLORS**

AC Amber Clear

CC Cloudy Clear

RC Red Clear

WC Water Clear

**LAMP**

NE2E Medium brightness

NE2H High brightness

REQUIRES EXTERNAL RESISTOR  
100KΩ FOR NE2E, 33KΩ FOR NE2H.

SPECIFY STYLE, COLOR AND LAMP.

MOUNTING CLIPS FURNISHED

BG03-RCS-NE2H-33K



FLAT TOP LENS  
6" WIRE LEADS.

CLEAR ALUMINUM COLLAR

MOUNTING CLIPS FURNISHED

DESIGNED FOR 110-125 VOLTS AC OPERATION 25,000 HOUR LIFE RATING.

**PART NUMBER**

BG03 - ACS - NE2H - 33K

BG03 - CCS - NE2H - 33K

BG03 - RCS - NE2H - 33K

BG03 - WCS - NE2H - 33K

**LENS COLORS**

Amber Clear

Cloudy Clear

Red Clear

Water Clear

**T-SERIES**

Eldema T-Series lampholders and lens caps are for the T-31/4 bayonet based incandescent and neon lamps. Four basic types — TAF and TCF for incandescents — TAG and TCG with built-in resistors for neons. Meets Mil-L-3661 — polished chrome, black nickel or bright nickel finish — front mounting in 11/16" holes water proof types — lug or screw terminals.

TCF-6220-TC222RC



TCG-6032-TC263RC



TAF-7020-TA160AT



TAG-6032-TA130WC



TAF-6030-TA120RT



TAF-7030-TA243RT



TAF-6030-TA223CD



TAG-6032-TA263CD

**HOLDER STYLE**

- TAF - Incandescent lampholder  
Screw-in lens caps
- TAG - Neon lampholder  
Screw-in lens caps
- TCF - Incandescent lampholder  
Screw-on lens caps
- TCG - Neon lampholder  
Screw-on lens caps

NOTE: TAF and TAG holders mate with lens caps starting with letters TA. TCF and TCG holders mate with TC lens caps.

**HOW TO SPECIFY HOLDER FEATURES:**

Example — 6010

First digit: 6 = Solder lug  
(Terminals) 7 = Screw terminal

Second digit: 0 = Standard part  
(Mounting) 2 = Water proof

Third digit: 1 = Bright nickel  
(Finish) 2 = Black nickel  
3 = Polished chrome

Fourth digit: 0 = None (TAF & TCF)  
(Resistor) 2 = 27KΩ for NE51H lamp  
4 = 56KΩ for NE51 lamp  
7 = 100KΩ for NE51 lamp  
25,000 hour life rating

**SCREW-IN LENS CAP STYLE**

- TA120 - Smooth dome — clear or translucent colors
- TA130 - Fluted dome — clear colors only
- TA140 - Semi-Fluted dome — clear colors only
- TA160 - Flat top — clear or translucent colors
- TA223† - Convex — clear or diffusing colors
- TA243† - Flat top — clear, translucent or diffusing colors
- TA263† - Smooth dome — clear or diffusing colors
- TA283† - Fluted dome — clear colors only

**SCREW-ON LENS CAP STYLE**

- TC223† - Smooth dome — clear or diffusing colors
- TC243† - Fluted dome — clear colors only
- TC263† - Large dome — clear or diffusing colors

† These lens caps have a metal ring with polished chrome finish specified by the digit 3. For bright nickel, change to 1, black nickel, change to 2. For example: TA221RC and TC242RC.

**LENS COLORS**

- |                    |                         |                       |
|--------------------|-------------------------|-----------------------|
| AC — Amber Clear*  | AT — Amber Translucent  | AD — Amber Diffusing  |
| BC — Blue Clear    | BT — Blue Translucent   | BD — Blue Diffusing   |
| GC — Green Clear   | GT — Green Translucent  | GD — Green Diffusing  |
| RC — Red Clear*    | RT — Red Translucent    | RD — Red Diffusing    |
| WC — Water Clear*  | WT — White Translucent  | WD — White Diffusing  |
| YC — Yellow Clear* | YT — Yellow Translucent | YD — Yellow Diffusing |
| CC — Cloudy Clear* |                         | CD — Clear Diffusing  |

\* These colors recommended for neon lamps

Diffusing colors have surface nearest lamp frosted — Note white is translucent only.

**SPECIFY HOLDER STYLE — HOLDER FEATURES —  
LENS STYLE AND LENS COLOR**

SEE PART NUMBERS BY ILLUSTRATIONS FOR EXAMPLES

**MILITARY VERSIONS**

Certain configurations of the T-Series lampholders and lens caps carry MS numbers and specifications. Contact Eldema for complete cross-reference information. RFI/EMI shielded versions are also available in this series for all of the lampholder types.

**WATERPROOF LENS CAP**

To specify water proof lens caps in the TA styles change the first digit as follows: TA100 series to TA400, TA200 series to TA300. For example: TA120RC to TA420RC, TA223RC to TA323RC. Standard TC lens cap may be used. All necessary sealing gaskets are on the TC holder when it is specified water proof.

**E-LITES**

Two basic types — Series EG, neon lamp only — Series ER, neon lamp with built-in resistor — permanent neon lamp indicators — military type construction — black anodized aluminum body — tin plated turret terminals, high impact plastic lens — five lens colors. Use wrench Part number Z-090-375 to simplify installation.

ER01-WCB-N117



EG03-WCB-N110

**STYLE - NO RESISTOR**

EG01 Dome lens

EG03 Flat lens

**LENS COLORS**

ACB Amber Clear

CCB Cloudy Clear

**LAMP - EG SERIES**

N110 Medium brightness

N120 High brightness

**STYLE WITH RESISTOR**

ER01 Dome lens

ER03 Flat lens

RCB Red Clear

WCB Water Clear

YCB Yellow Clear

**LAMP/RESISTOR - ER SERIES**N117 Medium brightness,  
25,000 hr — 100KΩN123 High brightness,  
25,000 hr — 33KΩ

SPECIFY STYLE — LENS COLOR — LAMP OR LAMP/RESISTOR

**H-LITES**

Eldema Series HL holders and lens caps are for sub-miniature based T-1 incandescent lamps. Military type construction — brass housing — either single or two terminal style — relampable from the front of the panel — mount on centers as close as 0.360. RFI/EMI shielded versions available-see H-Lite brochure.

HLA-1010-HL230WT



HLB-1010-HL321RT



HLC-2020-HL230WT



HLD-1010-HL321RT

**HOLDER PART NUMBER**HLA-1010 Front mounting 1/4" hole,  
single terminal, bright finish.HLB-1010 Front mounting 5/16" hole,  
lug and center terminal —  
bright finish — insulating  
washers.HLC-2010 Two terminal — front mount-  
ing 5/16" hole, bright finish.HLC-2020 Two terminal — front mount-  
ing 5/16" hole, black finish.HLD-1010 Two terminal — front or  
rear mounting — 5/16" hole  
— bright finish.HLD-1020 Two terminal — front or  
rear mounting — 5/16" hole  
— black finish.**LENS CAP STYLE**

HL230 All plastic

HL321 Shroud, bright finish

HL322 Shroud, black finish

**LENS COLORS**

AT Amber Translucent

BT Blue Translucent

GT Green Translucent

RT Red Translucent

WT White Translucent

YT Yellow Translucent

WC Water Clear

CC Cloudy Clear

SPECIFY HOLDER — LENS  
STYLE AND LENS COLOR.**J-LITES**

Permanent mounting indicators with built-in long life sub-miniature T-1 incandescent lamps. Front panel mounting in 0.193 hole — moisture and dust proof — completely sealed — 6 inch leads — commercial and military versions.

JK8111-050-220WT



JK9151-050-210RT

SPECIFY HOUSING — LAMP NO.  
LENS SHAPE — LENS COLORNOTE: JK9151-050-210 meets  
MS25446. Specify lens color.**HOUSING STYLE**

JK8111 Commercial - brass case

JK9151 Military - steel case

**LAMP NO. VOLTS M.A. LIFE HRS**

LAMP NO.	VOLTS	M.A.	LIFE HRS
-050-	5	60	100M
-100-	10	27	10M
-120-	12	60	16M
-280-	28	24	16M

**LENS STYLE**

210 Dome

220 Flat top

**LENS COLORS**

AT Amber Translucent

BT Blue Translucent

GT Green Translucent

RT Red Translucent

WT White Translucent

YT Yellow Translucent

WC Water Clear

**LENS MARKING**

Eldema flat top lens styles may be provided with hot stamped legends. Normal markings in black-other colors to order. Specify marking requirements in complete detail.

**Q-SERIES****CLIPS AND SOCKETS**Mounts C-Lites in 19/64" hole-1/2"  
centers.

Requires access to both sides of panel. Recommended for neon and long life incandescent C-Lites only.

Q-081-905, Spring steel clip.

Q-082-2K, Socket with solder lug terminal.

Q-082-1M, Socket with solder cup terminals (not illustrated).

# Distributor Catalog— Stock Items...Off The Shelf

**NEON PILOT LIGHTS** ■ Enhance as well as beautify any product ■ Complement and highlight design ■ Invite attention  
 ■ Rugged and long lived — 10,000 hour life unaffected by vibration or shock ■ Tamper proof housings ■ Mount quickly, securely  
 ■ UL recognized, CSA approved

### GLO — DOT

Series 2110A Series 2120A Series 2150A



#### STOCK MODELS AVAILABLE

B2110A1 Red	B2120A1 Red	B2150A1 Red
B2110A2 Clear	---	---
B2110A3 Amber	B2120A3 Amber	B2150A3 Amber
B2110A4 White	B2120A4 White	B2150A4 White

#### ADDITIONAL SPECIFICATIONS

**Lamp** NE-2H neon.  
**Voltage** 115 AC.  
**Speednut** Hardened spring steel, rust-resistant finish.  
**Resistor** 22,000 ohms, internal.  
**Leads** 4½" 22AWG 105°C plastic stripped ½".  
**Mtg.Hole** 5/16" Dia.

### OMNI — GLOW

Series 1050A Series 1050C Series 1050N



#### STOCK MODELS AVAILABLE

B1050A1 Red	B1050C1 Red	B1050N1 Red
B1050A2 Clear	---	---
B1050A3 Amber	B1050C3 Amber	B1050N3 Amber
B1050A4 White	B1050C4 White	B1050N4 White

#### ADDITIONAL SPECIFICATIONS

**Lamp** NE-2H neon.  
**Voltage** 115 AC.  
**Speednut** Hardened spring steel, rust-resistant finish.  
**Resistor** 22,000 ohms, internal.  
**Leads** 4½" 18AWG 105°C plastic stripped ½".  
**Mtg.Hole** 1/2" Dia.

### LINE-O-LITE

Series 2330D



#### STOCK MODELS AVAILABLE

MODEL NO.	LENS COLOR
B2330D1	Red
B2330D3	Amber

#### ADDITIONAL SPECIFICATIONS

**Lamp** LT 2-32-1 neon.  
**Voltage** 115 AC.  
**Speednut** Hardened spring steel, rust-resistant finish.  
**Resistor** 17,000 ohms, internal.  
**Leads** 4½" 18 AWG 105 °C plastic stripped ½"  
 1 9/32" x .395/.400"

\*Wall snap fit into panels .055 070 thick without speednut

**MINI-SLIDE Pilot Light Assemblies** ■ Bright, highly visible ■ Long-lived — rated 5000 hours ■ Available complete with lamps from 6 to 120 volts ■ Variety of colors ■ Utilize miniature slide base incandescent lamps ■ Foolproof installation ■ UL recognized, CSA approved



Model 2800 Series		Lens Color	Model 3060 Series	
Black Bezel	Stainless Bezel		Round Lens	Square Lens
B2800A1 ±v	B2801A1 ±v	Red	B3060C1 ±v	B3060D1 ±v
B2800A2 ±v	B2801A2 ±v	Clear	B3060C2 ±v	B3060D2 ±v
B2800A3 ±v	B2801A3 ±v	Amber	B3060C3 ±v	B3060D3 ±v
B2800A4 ±v	B2801A4 ±v	White	B3060C4 ±v	B3060D4 ±v
B2800A5 ±v	B2801A5 ±v	Green	B3060C5 ±v	B3060D5 ±v
B2800A6 ±v	B2801A6 ±v	Blue	B3060C6 ±v	B3060D6 ±v
B2800A7 ±v	B2801A7 ±v	Yellow	B3060C7 ±v	B3060D7 ±v

\*Important — These units shipped complete with lamp, specify voltage when ordering. See lamps listing below.

#### SPECIFICATIONS

**Model 2800 Series**  
**Mounting nut:** Nylon, self-locking, torque limiting (patent pending)  
**Mtg. Hole:** 11/16" Diameter  
**Lens:** Molded polycarbonate, screw in (for easy relamping)

**Model 3060 Series**  
**Mounting nut:** Speednut, hardened spring steel, rust resistant finish  
**Mtg. Hole:** ½" Diameter  
**Lens:** Molded polycarbonate snap-on for easy front panel relamping

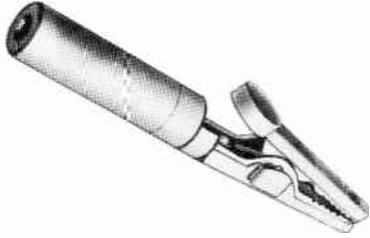


Short slide base "pilot" lamps

- Complete line
- Rugged-long life
- Miniature up to 120 volts ratings to 3 watts

Design Volts	Lamp Number	Design AMPS	Approx. Hrs. Life	Wattage at Design Volts	Rated End Foot Candles
6	6 PSB	.140	5,000	8	800
12	12 PSB	.170	5,000	2.0	2400
24	24 PSB	.073	5,000	1.7	2200
28	28 PSB	.040	5,000	1.1	1900
48	48 PSB	.053	5,000	2.5	1500
60	60 PSB	.050	5,000	3.0	2400
120	120 PSB	.025	5,000	3.0	1600

## TEST ACCESSORIES



## SAFE-T-KLIP

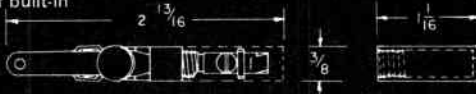
Many models are available to offer a practical solution to the problem of protecting valuable test equipment against accidental shorts or contact with power leads. Thoroughly insulated with tough nylon, they provide safe operation in excess of 600 volts—yet retain their design ability to reach hard-to-get-to recesses common to all electronic chassis.

Safe-t-clip supplied packaged in pairs. Pair is one red, one black.

- Absolute protection from shocks or shorts
- Meets military requirements
- Clips are cadmium plated steel
- U.S. Patent No. 2,754,490

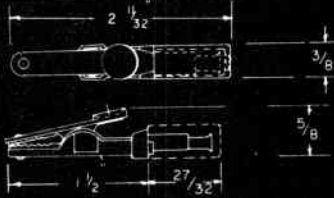
## MODEL B1410A—for lead wires

- Provision for mechanical or solder joint with test wires
- Strain relief built-in



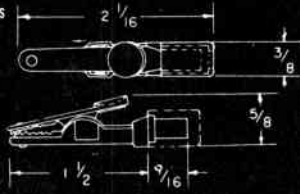
## MODEL B1410B—for test prod

- Use in conjunction with standard .080" test prods
- Threaded entrance hole assures positive connection—will not slide off prod



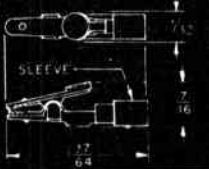
## MODEL B1410C—for standard banana plugs

- Provision for positive electrical connection with standard banana plugs.



## B1410M—MINIATURIZED For Test Leads

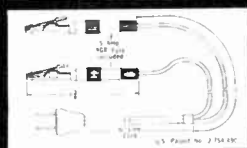
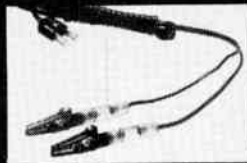
- For leads up to 22 AWG, solder joint
- Built-in strain relief



## SAFE-T-KORD

MODEL 1480—  
for fused power protection

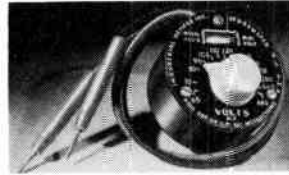
- Eliminate shorts and shocks—dangerous bare leads
- Protect equipment from burn out
- Apply line voltage to components not having line cords
- Thread-on clear Lexan housing for visual inspection and quick replacement of fuse
- Supplied complete with two 5 amp. fuses.



## VOLTAGE TESTERS

Rugged, long-lasting. Completely eliminates conventional (and delicate) meter movements—test lamps ruggedized for toolbox use.

## MINI-VOLT VOLTMETER Model # B400B



(U.S. Pat. 2,644,134)

"Abuseproof" voltmeter, sufficiently accurate to indicate a 2 or 3 volt drop on 110 volt line. Virtually burn-out proof, unit has wide application for all equipment whose proper operation requires correct voltage. Used by electricians, radio and TV repairmen, refrigeration and air conditioning servicemen, experimenters, lab technicians, handymen.

In addition to measuring the exact voltage over the range from 65 to 660 volts, Model #400B is used to identify AC or DC lines, check rectifiers, filter capacitors, chokes; test for blown fuses, grounded components, DC polarity, measure voltage drops with load, and 1001 other uses.

For use on AC (any frequency) or DC, MINI-VOLT, with an impedance of approximately 1/2 megohm, draws negligible current and can therefore provide dependable voltage readings even on circuits used in electronic apparatus.

Provides lifetime of service—glow lamp is guaranteed for 25,000 hours of actual operation. Furnished complete with extra-heavy insulated 12-inch flexible test leads and test prods.

## LINE-VOLT TEST LITE Model # 1310

LINE-VOLT Model No. 1310 is a rugged, compact test light covering the wide range of 55-550 VAC or 90-600 VDC.

LINE-VOLT tells immediately whether there is power in the line, checks fuses, can identify AC or DC lines, grounded components, continuity of line circuits.

Leads are 12" long overall and are heavy-duty flexible wire terminating in 3 1/2" insulated prods with really sharp points—able to pierce insulation, paint, or oxidation. Bright lamp provides immediate positive indication.



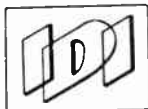
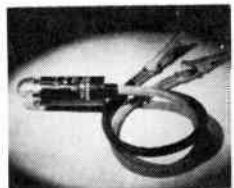
## LO-VOLT TEST LITE Model # 1300

LO-VOLT Test Lite No. 1300 is a compact test light for ready use in many applications.

Operating over a wide range of 3-28 volts AC or DC, LO-VOLT supplies the instant answer to whether there is an available power supply for thermostatic controls, model train equipment, other stepped-down AC voltages as well as battery supplies such as automotive.

A continuity tester when used in conjunction with a power supply to detect the presence of an open.

Completely enclosed so that lamp is not exposed, LO-VOLT is supplied with flexible leads terminating spring clips for ready tie-in to test circuit.

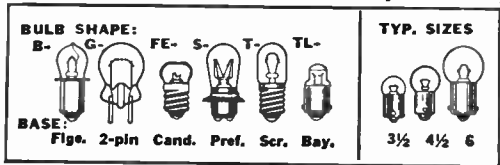


INDUSTRIAL DEVICES, INC.



# MINIATURE LAMPS

## PANEL, PILOT, AND FLASHLIGHT LAMPS



Lamp No.	Bulb	Base	Design		Sugg. Price	
			Volts	Amps.	Each	Box 10
PR2•	B-3/2	S.C. Min. flanged	2.38	0.50	\$0.20	\$1.23
PR3•	B-3/2	S.C. Min. flanged	3.57	.50	.20	.123
PR4•	B-3/2	S.C. Min. flanged	2.33	.27	.20	1.23
PR6•	B-3/2	S.C. Min. flanged	2.47	.30	.20	1.23
PR7	B-3/2	S.C. Min. flanged	3.7	.30	.26	1.53
PR12•	B-3/2	S.C. Min. flanged	5.95	.50	.20	1.23
PR13	B-3/2	S.C. Min. flanged	4.75	.50	.20	1.23
6	S-8	D.C. bayonet	6.4	3.00	.36	2.11
8	S-8	D.C. bayonet	8.0	2.20	.36	2.11
10	G-3 1/2	Min. two-pin	2.5	.50	.27	1.60
13	G-3 1/2	Min. screw	3.7	.30	.17	1.05
14•	G-3 1/2	Min. screw	2.47	.30	.17	1.05
27	G-4 1/2	Min. screw	4.9	.30	.20	1.23
31	G-4 1/2	Min. screw	6.15	.30	.22	1.34
39	T-3 1/4	Min. bayonet	6.3	.36	.36	2.01
40•	T-3 1/4	Min. screw	6.3	.15	.15	.86
41	T-3 1/4	Min. screw	2.5	.20	.22	1.35
43	T-3 1/4	Min. bayonet	2.5	.50	.22	1.35
44•	T-3 1/4	Min. bayonet	6.3	.25	.15	.86
45•	T-3 1/4	Min. bayonet	3.2	.25	.18	1.13
46•	T-3 1/4	Min. screw	6.3	.25	.15	.86
47•	T-3 1/4	Min. bayonet	6.3	.15	.15	.86
48	T-3 1/4	Min. screw	2.0	.06	.22	1.35
49•	T-3 1/4	Min. bayonet	2.0	.06	.18	1.13
50	G-3 1/2	Min. screw	7.5	.22	.16	.92
51•	G-3 1/2	Min. bayonet	7.5	.22	.14	.84
53•	G-3 1/2	Min. bayonet	14.4	.12	.14	.84
55•	G-4 1/2	Min. bayonet	7.0	.41	.14	.84
57•	G-4 1/2	Min. bayonet	14.0	.24	.14	.84
57X•	G-4 1/2	Min. bayonet	14	.24	.18	1.07
67•	G-6	S.C. bayonet	13.5	.59	.18	1.07
67K	G-6	Candelabra screw	13.5	.41	.46	2.66
71K	G-6	Candelabra screw	22	.18	.36	2.01
112	TL-3	Min. screw	1.2	.22	.17	1.05
123	G-3 1/2	Min. screw	1.25	.30	.17	1.05
131	G-3 1/2	Min. screw	1.3	.10	.18	1.13
136	G-4 1/2	Min. screw	1.25	.60	.20	1.23
159	T-3 1/4	Wedge	6.3	.15	.22	1.34
222•	TL-3	Min. screw	2.25	.25	.17	1.05
223•	FE-3 1/4	Min. screw	2.25	.25	.20	1.23
224	TL-2 1/4	Special 1/2-turn thd.	2.15	.22	.20	1.23
233	G-2 1/2	Min. screw	2.33	.27	.20	1.23
243	TL-3	Min. screw	2.33	.27	.20	1.23
259	T-3 1/4	Wedge	6.3	.25	.20	1.23
307IF•	S-8	S.C. bayonet	28	.67	.60	3.53
313•	T-3 1/4	Min. bayonet	28	.17	.30	1.80
327•	T-1 1/4	S.C. midjet flanged	28	.04	.71	4.20
328•	T-1 1/4	S.C. midjet flanged	6	.20	.55	3.29
331	T-1 1/4	S.C. midjet flanged	1.35	.06	.89	5.32
338	T-1 1/4	S.C. midjet flanged	2.7	.06	.89	5.32
345	T-1 1/4	S.C. midjet flanged	6	.04	1.54	9.30
363	G-4 1/2	Min. bayonet	14	.20	.22	1.34
401	G-4 1/2	Min. screw, flasher	1.25	.22	.37	2.11
405	G-4 1/2	Min. screw, flasher	6.5	.50	.29	1.77
406	G-4 1/2	Min. screw, flasher	2.6	.30	.23	1.41
407	G-4 1/2	Min. screw, flasher	4.9	.30	.21	1.29
425	G-4 1/2	Min. screw	5	.50	.20	1.23
428	G-4 1/2	Min. screw	12.5	.25	.17	1.05
431R†	G-4 1/2	Min. bayonet	14	.25	.28	1.68
432	G-4 1/2	Min. screw	18	.25	.22	1.34
432G‡	G-4 1/2	Min. screw	18	.25	.36	2.01
432R†	G-4 1/2	Min. screw	18	.25	.28	1.68
433	G-4 1/2	Min. bayonet	18	.25	.28	1.68
502	G-4 1/2	Min. screw	5.1	.15	.17	1.05
509K	G-6	Candelabra screw	24	.18	.28	1.68
605	G-4 1/2	Min. screw	6.15	.50	.20	1.23
965	T-4 1/2	Min. screw	9.84	.50	.26	1.54
1000	RP-11	D.C. bayonet	6.2	3.87	1.18	7.06
1034•	S-8	D.C. indexing (2-pos. taillight)	12.8	1.80	.34	2.04
1154•	S-8	D.C. indexing (2-pos. taillight)	14	.51	.75	.40
1224K	G-6	Candelabra screw	32	.16	.55	3.32
1240	G-16 1/2	D.C. prefocus	32	3.5	1.96	11.67
1404	G-6	S.C. bayonet	10	.09	.50	2.99
1408	T-3 1/4	Min. bayonet	10	.13	.28	1.68
1446	G-3 1/2	Min. screw	12	.20	.26	1.54
1447	G-3 1/2	Min. screw	8	.15	.20	1.23
1449	G-3 1/2	Min. screw	14	.20	.16	1.00
1458	G-5	Min. bayonet	20	.25	.28	1.68
1474	T-3	Min. screw	14	.17	.36	2.15
1476	T-3	Min. screw	18	.17	.46	2.66
1477	T-3	Min. screw	24	.17	.55	3.32
1487	T-3 1/4	Min. screw	14	.20	.26	1.54
1488	T-3 1/4	Min. bayonet	14	.15	.28	1.68
1490	T-3 1/4	Min. bayonet	3.2	.16	.18	1.13
1491	G-8	D.C. bayonet	2.4	.80	.50	2.99
1493	S-8	D.C. bayonet	6.5	2.75	1.08	6.45
1630	S-8	D.C. prefocus	6.5	2.75	1.44	8.60
1651	S-8	S.C. bayonet	5	.60	.67	4.00
1724	S-11	D.C. bayonet	6.2	4.50	.89	5.32
1763	S-11	S.C. prefocus	6.1	4.10	1.28	8.08
1768	T-1 1/4	Midjet screw	6	.20	.92	5.53
1769	T-1 1/4	Midjet screw	2.5	.20	.89	5.32
1775	T-1 1/4	Midjet screw	6.5	.075	.89	5.32
1809	T-3 1/4	Min. bayonet	2	.06	.55	3.32
1813	T-3 1/4	Min. bayonet	14.4	.10	.26	1.54
1815•	T-3 1/4	Min. bayonet	14	.20	.20	1.23

Lamp No.	Bulb	Base	Design		Sugg. Price	
			Volts	Amps.	Each	Box 10
1819•	T-3 1/4	Min. bayonet	28	.04	\$0.35	\$2.10
1822	T-3 1/4	Min. bayonet	36	.10	.62	3.69
1828	T-3 1/4	Min. bayonet	37.5	.05	.67	4.00
1829•	T-3 1/4	Min. bayonet	28	.07	.36	2.15
1835	T-3 1/4	Min. bayonet	55	.05	.67	4.00
1847•	T-3 1/4	Min. bayonet	6.3	.15	.18	1.13
1850	T-3 1/4	Min. bayonet	5	.09	.26	1.54
1855	T-4 1/2	Min. bayonet	6.3	.80	.36	2.01
1866	T-3 1/4	Min. bayonet	6.3	.25	.22	1.34
1881	T-3 1/4	Min. bayonet	15.5	.24	.19	1.14
1891•	T-3 1/4	Min. bayonet	14	.24	.17	1.02
1892	T-3 1/4	Min. bayonet	14.4	.12	.26	1.55
1898	T-3 1/4	Min. bayonet	14	.33	.36	2.18

†Outside coated red. ‡Outside coated green. §S.C. indicates single contact; D.C., double contact; Min., miniature. •Popular Types.

### NEON INDICATING GLOW LAMPS

Gaseous-discharge type for use as indicators. Average useful life, 25,000 hours AC; Types NE-17, 45, 48, 57, 58, 7,500 hours; Types NE-30, 34, 56, 79, 10,000 hours; Type NE-51, 15,000 hours. DC is approximately 60% of AC values. Ambient Temperature: Not to exceed 300°F.

Lamp No. Δ	Nom. Watts	Volts (Circ.)	Bulb (Clear)	Base	Res. Ohms	Sugg. Each
A1A (NE-2)	1/17	105-125	T-2	Wire Term.	150K	\$0.10
A1B	1/25	105-125	T-2	Wire Term.	200K	.13
A1Cπ	1/10	105-125	T-2	Wire Term.	68K	.13
A2A (NE-2A)	1/25	105-125	T-2	Wire Term.	200K	.10
A2B (NE-2V)	1/15	105-125	T-2	Wire Term.	100K	.13
A9A (NE-2E)	1/15	105-125	T-2φ	Wire Term.	100K	.10
B1A (NE-51)	1/25	105-125	T-3 1/4	Min. Bay.	200K	.20
B2A (NE-51H)π	1/5	105-125	T-3 1/4	Min. Bay.	47K	.22
B4A (NE-7)	1/4	105-125	T-4 1/2	Wire Term.	30K	.69
B5A (NE-17)	1/4	105-125	T-4 1/2	DC Bay.	30K	.86
B6A (NE-21)	1/4	105-125	T-4 1/2	S.C. Bay.	30K	.90
B7A (NE-45)	1/4	105-125	T-4 1/2	Cand. Scr.	None	.81
B8A (NE-47)	1/4	105-125	T-4 1/2	S.C. Bay.	30K	.81
B9A (NE-48)	1/4	105-125	T-4 1/2	DC Bay.	30K	.67
C2A (NE-2H)π	1/4	105-125	T-2φ	Wire Term.	30K	.11
C7A (NE-2D)	1/15	105-125	T-2φ	S.C. Mid. Flge.	110K	.78
C9A (NE-2J)π	1/4	105-125	T-2φ	S.C. Mid. Flge.	30K	.78
F1A (NE-49)	1/4	105-125	T-4 1/2	Min. Bay. Skirt	30K	.90
F2A (NE-54)	1/4	105-125	T-4 1/2	Wire Term.	30K	.57
F3A (NE-57)	1/4	105-125	T-4 1/2	Cand. Scr. #	None	.94
F4A (NE-58)	1/2	210-250	T-4 1/2	Cand. Scr.	None	.90
J5A (NE-30)	1	105-125	S-11	Med. Scr. #	None	1.14
J9A (NE-56)	1	210-250	S-11	Med. Scr. #	None	1.19
K2A (NE-2M)	1/17	105-125	T-2φ	Wire Term.	150K	.32
K3A (NE-2P)π	1/4	105-125	T-2φ	Wire Term.	33K	.32
L5A (NE-32)	1	105-125	G-10	DC Bay.	7.5K	1.14
L9A (NE-31)	1	105-125	G-10	Cand. Skirt.	7.5K	2.83
R1A (NE-79)	1	105-125	S-7	DC Bay.	7.5K	1.28
R2A (NE-34)	2	105-125	S-14	Med. Scr.	None	1.76
R5A (NE-36)	2	105-125	S-14	DC Bay. Skirt.	3.5K	2.28
R6A (NE-40)	3	105-125	S-14	Med. Scr.	None	2.56
R9A (NE-42)	6	105-125	S-14	DC Bay. Skirt.	2.2K	2.52

### AC-DC ARGON INDICATOR LAMPS

Lamp No. Δ	Volts	Base	Res. Ohms	Sugg. Each		
J2A (AR-3)π	1/4	110-125	T-4 1/2	Cand. Scr.	None	\$0.85
J3A (AR-4)π	1/4	110-125	T-4 1/2	DC Bay.	15K	.75
K4A (AR-9)	1/25	110-125	T-2	Wire Term.	200K	.20
W1A (AR-1)	2	110-125	S-14	Med. Scr.	None	1.90

†Lamps with screw base have proper ballast built-in. Those with bayonet base or wire terminals do not have them, but are to be supplied and attached by user. Resistance shown for normal operation at indicated circuit volts. φFormed tip bulb. πUse 135 v. minimum for satisfactory DC operation. #Round end bulb. #Center electrode connected to base shell. ΔNumbers shown supersede those in parentheses.

### CIRCUIT COMPONENT NEON LAMPS

For use as voltage indicators, regulators, switching, etc. All ratings below are DC; all bulb types are T-2 except: NE-51S, NE-67 (T-4 1/2). All have parallel-post electrodes (W-11), except NE-16, fireman's hat electrodes (P-3). Ambient Temperature: -00°F to +165°F limit.

Lamp No. Δ	Starting Volts DC	Operating Volts DC	DC Ma	Base	Sugg. Each
2AA (NE-99)	60-80	52-62	0.3	Wire Term.	\$0.32
3AD (NE-98)	65-80	50	0.3	Wire Term.	.10
3AG	60-90	58	0.4	Wire Term.	.10
3AG-A	60-80	50-65	0.4	Wire Term.	.20
3AG-B	65-73	52-62	0.4	Wire Term.	.36
3AG-C	68-76	52-62	0.4	Wire Term.	.40
3AH	75-135	70	2.0	Wire Term.	.10
4AB (NE-96)	120-150	60-80	0.5	Wire Term.	.20
4AC (NE-97)	110-140	60-80	0.5	Wire Term.	.20
5AB (NE-23)	60-90	59†	0.3	Wire Term.	.16
5AB-A	60-80	50-65	0.3	Wire Term.	.18
5AB-B	62-72	50-60	0.3	Wire Term.	.26
5AB-C	68-78	55-65	0.3	Wire Term.	.32
5AC (NE-68)	60-90	52-65	0.3	Wire Term.	.40
5AG (NE-81)	64-80	50-60	0.3	Wire Term.	.40
5AG-A (NE-76)	68-76	50-60	0.4	Wire Term.	.50
5AH (NE-83)	60-100	65†	10.0	Wire Term.	.20
5AH-A	60-85	52-67	10.0	Wire Term.	.28
5AH-B	75-85	60-68	10.0	Wire Term.	.40
5AH-C	75-100	52-67	10.0	Wire Term.	.32
5AJ (NE-86)	55-90	55†	1.5	Wire Term.	.16
5AJ-A	55-75	45-65	1.5	Wire Term.	.28
5AJ-B	70-90	55-75	1.5	Wire Term.	.30
6AC (NE-67)	55-90	56†	0.2	Min. Bay.	.20
7AA (NE-16)	67-87	53-65	1.5		



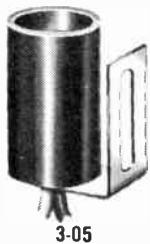


# LAMP HOLDERS

# PILOT LIGHT SOCKETS SPECIAL ASSEMBLIES

## MINIATURE BAYONET

3-00 SERIES



3-05

See Figure 2 for typical mountings.

2-00 SERIES



2-15

See Figure 1 for typical mountings.

7-00 SERIES



7-01



7-35  
For P.C. Boards.

2-00-1 SERIES\*



2-90-1



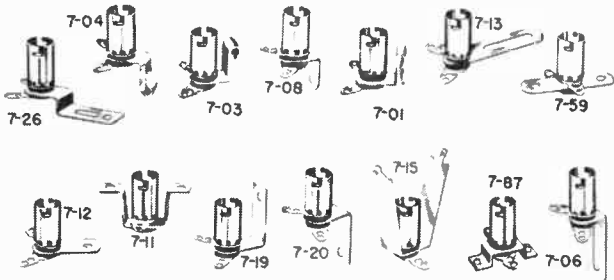
2-40-1

\*Sockets can be supplied with one lead or one terminal for use in grounded circuits.

Example: To specify grounded socket 7-01 becomes 7-01-1, 2-15 becomes 2-15-1, etc.

Brackets are applicable to Series 2-00, 5-00, 6-00, 7-00, 10-00, and 17-00

(Figure 1)



ALL SOCKETS ILLUSTRATED ABOVE HAVE 2 TERMINALS. EXAMPLE: If bracket attached to 7-12 is required with series mentioned, specify: 2-12, 5-12, 6-12, 7-12, 10-12, 17-12.

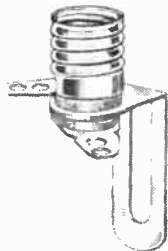
## CANDELABRA SCREW

4-00 SERIES



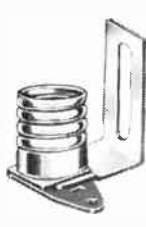
4-45

6-00 SERIES

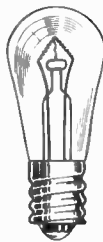


6-06

18-00 SERIES



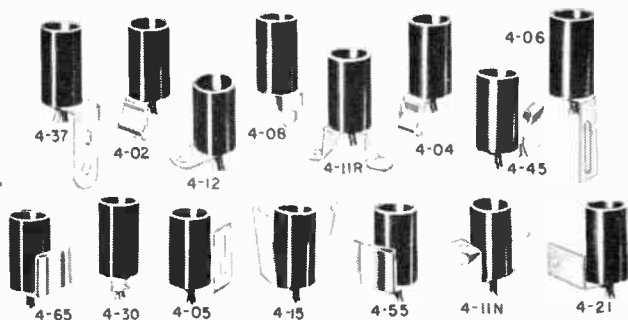
18-79



S-6  
7C7-120V  
10C7-120V

4-00 SERIES — CAND. SCREW • 3-00 SERIES — MIN. BAY. Brackets are applicable to both series.

(Figure 2)



When 3-00 Series Min. Bay. is required, specify 3-37, 3-02, etc.

## MIDGET SCREW

16-00 SERIES  
SOLDER TERM.



16-08

16-200 SERIES  
WIRE LEADS

## MINIATURE SCREW

5-00 SERIES  
SOLDER TERMINALS  
or WIRE LEADS



5-03

See Figure 1 for typical mountings.

## MIDGET GROOVED

25-200 SERIES  
WIRE LEADS



25-212-1

25-500 SERIES  
SOLDERING  
TERMINALS

Used in data processing and automation fields with Lens-End Lamp Nos. 253, 253X, and 261.

Send for Data Sheet No. 25A.



No. 7M-18

MULTIPLE ASSEMBLIES can be made to your specifications.

## WEDGE BASE

23-00 SERIES



23-24

23-200 SERIES



23-223

24-00 SERIES



24-07A



# 159-6V  
# 161-12V  
# 158-12V  
# 259-6.3V

20-00 SERIES — Molded housing, terminal.  
23-200 SERIES — Molded housing with wire leads.  
24-00 SERIES — Wafer type terminals.

## CANDELABRA BAYONET

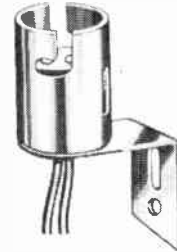
DOUBLE CONTACT

57-00 SERIES



57-45

12-200 SERIES



12-272

SINGLE CONTACT

11-200 SERIES

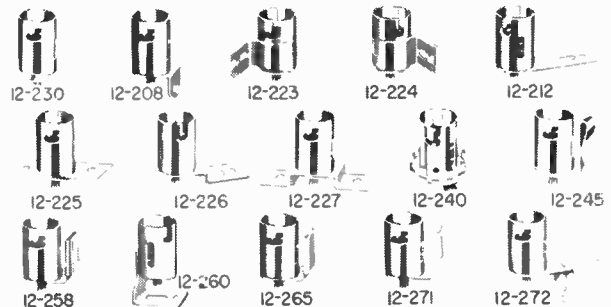


11-271

See Figure 3 for typical mountings.

12-200 SERIES — DOUBLE CONTACT CAND. BAY.

11-200 SERIES — SINGLE CONTACT CAND. BAY. (Fig. 3)



Mounting Brackets shown above can also be used with 11-200 and 12-00 Series. If the bracket attached to 12-272 is required, specify 11-272 for 11-200 Series, or 12-72 for 12-00 Series.



# Leecraft MANUFACTURING CO., INC.

# ATR Inverters, Vibrators, "A" Eliminators, etc.



## ATR DC TO AC UNIVERSAL INVERTERS

New, universal inverters for operating 110-v., 60 cycle A.C. equipment from DC voltages in autos, buses, trucks, boats, tractors, planes and DC districts. Designed especially for standard 110-volt A.C. tape recorders, TV sets, radios, PA systems, electric razors, test equipment, etc. Units are carefully engineered and ruggedly constructed to provide long life operation. All feature complete RF interference suppression and exceptional frequency stability. Have operating efficiency in excess of 75%. Four-point voltage regulator corrects output voltage for minimum and maximum loads, and also helps compensate for input voltages lower or higher than normal. Inverters are recommended for use with loads having power factors in excess of 70%. Built-in toggle switch selects most efficient operation for use with TV sets or tape recorders. Inverters are not recommended for use with large motor driven appliances such as refrigerators, washing machines, etc. All have ON-Off switches. Housed in attractive, heavy-duty metal cabinet with convenient leather carrying strap. Sizes: Standard Model RSF, 8 1/2" x 9 1/2" x 5 1/2"; Heavy-Duty Model RHG, 6 1/2" x 11 1/2" x 8 1/2"; Extra-Heavy-Duty Model HNJ, 6 1/2" x 12 1/2" x 8 1/2". With battery clips for instant connection to power source. Models with "P" suffix equipped with adapter cord for use in auto cigarette lighter receptacle. \*Recommended for 24 volt battery operation. **Before ordering, check wattage of equipment with which inverter will be used.**

Stock No.	Mfr's Type	Input D.C. Volts	A.C. Output 60 Cycles	Output Watt. Int.	Cont.	Shipping Weight	List Price	Net Price
	6U-RSF	6	110	100	80	22 lbs.	\$ 82.50	\$ 55.00
	6U-RSF-P	6	110	100	80	22	82.50	55.00
	6U-RHG	6	110	150	125	27	100.50	73.00
	6U-HSJ	6	110	175	150	37	137.25	91.50
	12U-RSF	12	110	125	100	22	82.50	55.00
	12U-RSF-P	12	110	125	100	22	82.50	55.00
	12U-RHG	12	110	175	150	27	109.50	73.00
	12U-HSJ	12	110	250	200	37	137.25	91.50
	28U-RSF	28	110	125	100	22	82.50	55.00
	28U-RHG	28	110	175	150	27	131.25	87.50
	28U-HSJ	28	110	250	200	37	155.25	103.50
	32U-RSF	32	110	100	100	22	82.50	55.00
	32U-RHG	32	110	200	180	30	116.25	77.50
	32U-HSJ	32	110	325	225	37	155.25	103.50
	50U-RSF	50	110	100	100	22	82.50	55.00
	50U-RHG	50	110	225	200	27	131.25	87.50
	110U-RSF	110	110	250	150	22	82.50	55.00
	110A-U-RHG	110	110	325	250	27	99.00	68.00
	110B-U-RHG	110	110	450	350	30	116.25	77.50
	110U-HSJ	110	110	600	400	37	155.25	103.50
	220U-RSF	220	110	250	150	22	87.37	58.25
	220U-RHG	220	110	325	250	27	100.50	73.00
	220U-HSJ	220	110	500	300	37	135.25	103.50

## PORTABLE PLUG-IN TYPE INVERTERS

SPECIALLY DESIGNED FOR OPERATING STANDARD A. C. DICTATING MACHINES, RECORD PLAYERS, INCANDESCENT LAMPS, ELECTRIC RAZORS, ELECTRONIC TEST EQUIPMENT, AND OTHER SMALL ELECTRICAL AND ELECTRONIC DEVICES FROM D. C. VOLTAGES IN AUTOMOBILES, BUSES, TRUCKS, BOATS, PLANES, TRAINS, AND D. C. DISTRICTS.

Lightweight inverters for operating 110 v. AC equipment from DC voltage sources. Feature excellent frequency stability and high efficiency. 6 and 12-volt units plug into cigarette lighter receptacle of any vehicle; others are equipped with standard 2-prong plugs. All are designed especially for use with dictating machines; record players, electric razors, test equipment, etc. Not recommended for tape recorders and large motor driven appliances such as refrigerators, washing machines, etc. Gray Hammerloid case with leather carrying strap. Sizes: DME, 5 1/2" x 4 1/2" x 2 1/2"; RME and RME, 8 1/2" x 3 1/2" x 2 1/2". \*Recommended for 24-volt operation. **Check wattage rating of equipment before ordering. RME/RME Model Inverters equipped with voltage regulator.**

Stock No.	Mfr's Type	Input D.C. Volts	A.C. Output 60 Cycles	Output Watt. Int.	Cont.	Shipping Weight	List Price	Net Price
	6-DME (1)	6	110	40	30	5 lbs.	\$27.75	\$18.50
	6C-DME (1)	6/12	110	40	30	5	31.87	21.25
	6C-RMF (2)	6	110	80	60	12	54.75	36.50
	6C-RMF (2)	6/12	110	80	60	12	60.37	40.25
	12-DME (1)	12	110	50	40	5	27.75	18.50
	12T-RME (2) (3)	12	110	125	90	12	54.75	36.50
	28-RME (2)	28	110	100	80	12	69.75	46.50
	32-RME (2)	32	110	100	80	12	69.75	46.50
	110-RME (2)	110	110	150	100	12	65.25	43.50
	220-RME	220	110	150	100	12	69.75	46.50

- (1) These Inverters primarily recommended for Edison VP dictating machines. May also be used with Model 200 Sound-scriber (with engine of car not running).
- (2) Primarily recommended for Dictaphone's Time Master, DeJur Stenorette, and Gray Audograph dictating machines or other similar types. Also recommended for use with Norelco tape recorder Model EL-3516 and Gelsolo Model G 255-S tape Recorder.
- (3) This inverter specially designed and recommended also for use with RCA 8 1/2" portable TV set or G.E. 9" portable TV set in an automobile.



## ATR VIBRATORS

FOR ALL AUTO RADIO SETS SINCE 1934 USE ONE OF THE ATR VIBRATORS LISTED BELOW ... ATR VIBRATORS FEATURE

Ceramic Stack Spacers with Two-Bolt Stack construction.

Instant Starting—as a result of highly efficient magnetic circuit with formed base for more uniform operation on both high and low voltages.

Large Oversize Tungsten Contacts having Full Wiping Action—for greater reliability and longer life. Perforated Reed of Highest Quality Swedish Spring Steel.

Highest Precision Construction and Workmanship—Practically all parts used are held to within a tolerance of 0.0005 of inch.

Value Plus—as readily evidenced by the Larger Contacts, Ceramic Spacers and Precision Construction and Workmanship. Available in TEN-PAK.

ATR No. 1400 (Bulk), 4-Prong, 6-Volt For All 6-Volt Sets Since 1934

ATR No. 1843 (Bulk), 3-Prong, 12-Volt For All 12-Volt General Motors Since 1934

ATR No. 1843 also used in following automobiles: 1936 Ford (Philco), Lincoln (Bendix), and Mercury (Bendix); 1936 Chrysler (Philco); 1935-37 Packard; 1936-37 Plymouth (Philco); 1936 Studebaker (Philco) and 1937 Mercury (Philco)

ATR No. 1840 (Bulk), 4-Prong, 12-Volt For 12 Volt Cars other Than GM Since 1934

Vibrator Prices subject to Excise Taxes, if applicable.



## ATR ELECTRONIC TUBE PROTECTOR

A "MUST" FOR EVERY TV HOME! WILL DOUBLE OR TRIPLE THE LIFE OF ALL TYPES OF ELECTRONIC TUBES, INCLUDING TV PICTURE TUBE. Automatic in operation, for use with any electronic equipment having input wattage of 100 to 300 watts. Fuse protected; rugged construction; and enclose in intricate decorator's golden brown hammerloid-finish metal case. Available in two models. Our Floor Model 300 is 4" x 2 1/2" x 2 1/2" and weighs 2 lbs. Has 6 ft. cord set to plug into wall socket. Wall Model 250 is 1-15/16" OD x 3 1/4" in length and plugs directly into wall socket. Shipping weight is 1 lb.

—Wall Model 250 (115 volt A.C.) Net \$2.63

—Floor Model 300 (115 volt A.C.) Net \$3.30



## ATR SHAV-PAKS

Every man should have this lightweight ATR Inverter in his car for that "Keep Clean-Shaved Look". Will operate standard A.C. Electric Shavers from your CAR or Boat. Complete with 3 ft. cord set. Plugs into cigarette lighter receptacle. Fuse protected; rugged construction, and attractively housed in grey hammerloid-finish metal case. Size 4" x 2 1/2" x 2 1/2". Shipping weight 2 1/2 lbs.

Model 6-SPB (6 volt) Net \$8.63

Model 12-SPB (12 volt) Net 8.63



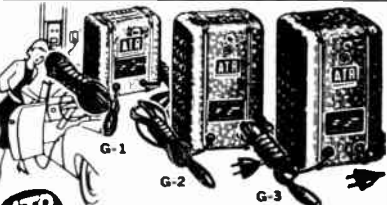
## ATR "A" BATTERY ELIMINATOR

FOR DEMONSTRATING AND TESTING TRANSISTOR OR VIBRATOR-TYPE AUTO RADIOS. Designed for testing D.C. Electrical Apparatus on regular 110 volt A. C. lines. . . . equipped with full-wave dry disc-type rectifier, assuring noiseless, interference-free operation. Fully Automatic and Fool-Proof, has voltmeter, ammeter, and 8-position voltage control. Fuse protected, and housed in heavy gauge grey hammerloid-finish metal case. 6 ft. cord set included. Size: Model 610C-ELIF, 6 1/2" x 9 1/2" x 8 1/2"—shipping weight 22 lbs.; Model 620C-ELIT, 6 1/2" x 12 1/2" x 8 1/2"—shipping weight 33 lbs.

IDEAL AS A POWER SUPPLY FOR MODEL RAILROAD TRAINS, RADIO SETS, ELECTRO PLATING OUTFITS, AND OTHER 6 OR 12 VOLT, D.C. EQUIPMENT. MAY ALSO BE USED AS A BATTERY CHARGER.

—Model 610C-ELIF (6 volt at 10 amps. or 12 volt at 6 amps.) Net \$55.00

—Model 620C-ELIT (6 volt at 20 amps. or 12 volt at 10 amps.) Net \$73.50



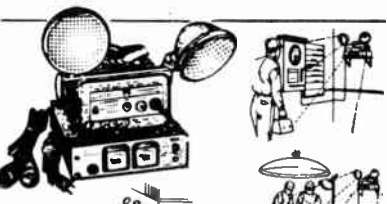
## ATR AUTO PLUG-IN, HOME-TYPE PORTABLE BATTERY CHARGERS

No installation . . . just plug into cigarette lighter receptacle! Makes motor starting easy! Keeps your car battery fully charged in your own garage. Operates directly from standard 110 volt A.C. Household Current. Available in three portable sizes for both 6 or 12 volt cars. Light in weight, rugged in construction, economical, and built to last. Each battery charger is housed in grey hammerloid-finish metal case. Complete with cord set. Size of G-1 is 5 1/2" x 4 1/2" x 2 1/2"—shipping weight is 6 lbs.; G-2 is 8 1/2" x 5 1/2" x 3 1/2"—shipping weight is 8 lbs.; and G-3 is 8 1/2" x 5 1/2" x 5 1/2"—shipping weight is 10 lbs.

(G-1) 6 or 12 volt —Model 612CA4 (4 amp.) Net \$19.46

(G-2) 6 or 12 volt —Model 612CA6 (6 amp.) Net \$22.46

(G-3) 6 or 12 volt —Model 612CA10 (10 amp.) Net \$27.71



illustrates ATR Emergency Lighting and Power Unit, Model ETS complete with lamps.

## ATR EMERGENCY LIGHTING and POWER UNIT

Completely Automatic Standby-Power Units Specially Designed to Permit the Instantaneous Continued Operation of Critical Lighting Equipment, PA Systems, Amplifiers, Intercom Systems, Burglar Alarms, Fire Alarms, Synchronous Electric Clocks, Electric Time and Recording Clocks, Incubators, Gas Valves, Telephone and Test Equipment, and Similar Critical Devices in the Event of 115 Volt A.C. Commercial Power Line Failure. For Use: In Hospitals, Banks, Hotels, Theatres, Factories, Office Buildings, Schools, Homes, and Many Other Areas of Operation.

Type	*Storage Battery Input	A.C. Output 60 Cycles	Output Wattage Int. Cont.	Net With Lamps
661-ETM	6-volts	110-volts	80 60	\$13.00
662-ETS	6	110	80	131.67
663-ETH	6	110	150 125	149.87
1232-ETS	12	110	125 100	131.67
1233-ETH	12	110	175 150	149.67
1234-ETJ	12	110	250 200	168.34

For Units Without Lamps: Deduct \$14.86 Net

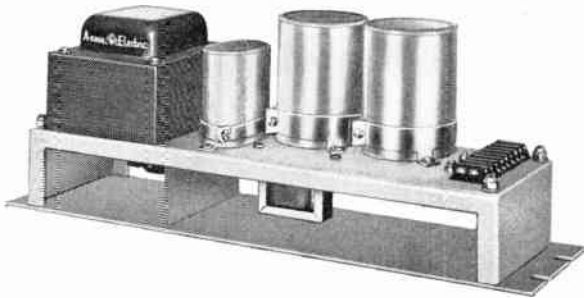


# DC REGULATED POWER SUPPLIES CONSTANT VOLTAGE STABILIZERS VOLTAGE ADJUSTORS

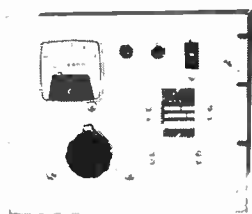
## DC REGULATED POWER SUPPLIES

Continuous duty magnetic power supplies. No tubes. Output voltage adequately maintained. Rapid recovery from input line variations and/or sudden load changes. Current limited. Units feature constant voltage transformer, resonant capacitor, electrolytic filter, silicon rectifiers, adequate bleeder. Bulletin 174.

100-130 volts, 60 cycles, input  
Output ripple voltage less than 1% RMS



Catalog Number	OC Volts	DC Amps	Watts	Price
PS-47509	10	4	40	\$109.20
PS-47623	12	3	36	106.10
PS 57351	12-16-24	66-50-33	800	489.85
PS 47508	15	2	30	104.00
PS 57252	22	25	550	176.80
PS 41422	24	2	48	109.20
PS 41423	24	6	144	148.70
PS 57353	24	10	240	153.90
PS 47125	24	15	360	161.20
PS-47173	24	25	600	202.80
PS-1-47127	24	50	1200	332.80
PS-1-47461	24	75	1800	442.00
PS-1-47200	24	100	2400	582.40
PS-47202	26	4	104	114.40
PS-47638	28	8	224	145.60
PS-47712	28	25	700	223.60
PS-57355	28	30	840	238.15
PS-57356	44	25	1100	291.20
PS-41424	48	4	192	138.30
PS-47519	48	10	480	182.00
PS-57358	48	15	720	197.60
PS-47718	100	4	400	228.80
PS-41425	125	2	250	148.70
PS-47201	125	3	375	218.40
PS-47457	125	6	750	283.90
PS-41426	150	2	300	148.70
PS-41427	200	1	200	140.40
PS-41428	250	1	250	152.90



## UNFILTERED, NON REGULATED POWER SUPPLIES

Sturdily built, economically priced, manual regulation, silicon rectifiers provide full-wave d-c output. Bulletin 174.

INPUT 100-120 VOLTS, 60 CYCLES

Catalog Number	DC Volts	AC Amps	Watts	Price
PS-39887	0-100	3	300	\$176.80
PS-39888	0-100	5	500	215.30
PS-39889	0-100	10	1000	234.00
PS-39890	0-100	20	2000	329.70



## CONSTANT VOLTAGE STABILIZERS

\* Indicates that stabilizer has special output tap for rectifier connection. All standard units listed have a voltage correction response time of less than 2 cycles, stabilizing output voltage  $\pm 1\%$  under  $\pm 15\%$  variation of input voltage. Bulletin 09

Catalog Number	VA Output Capacity	Input Voltage Range:	Output Voltage $\pm 1\%$	Price
T-31937	30	95-130	120*	\$ 21.00
T-31938	60	95-130	120*	26.25
T-31939	120	95-130	120*	34.65
T-31940	250	95-130	120*	51.45
T-31941	350	95-130	120*	64.05
T-31942	500	95-130	120*	80.85
T-31943	500	165-225x190-260x330-450x 355-485x380-520	120x240	80.85
T-31944	750	95-130	120*	105.00
T-31945	750	165-225x190-260x330-450x 355-485x380-520	120x240	105.00
T-31946	1000	95-130	120*	134.40
T-31947	1000	165-225x190-260x330-450x 355-485x380-520	120x240	134.40
T-31948	2000	95-130x165-225x190-260	120x240	343.60
T-31949	3000	95-130x190-260	120*	330.75
T-31950	3000	95-130x190-260	240*	330.75
T-31951	3000	165-225x190-260x330-450x 355-485x380-520	240*	330.75
T-31952	3000	190-260x380-520	480*	330.75
T-31953	5000	95-130x190-260	120*	514.50
T-31954	5000	95-130x190-260	240*	514.50
T-31955	5000	165-225x190-260x330-450x 355-485x380-520	240*	514.50
T-31956	5000	190-260x380-520	480*	514.50

## MANUAL VOLTAGE ADJUSTORS

An inexpensive voltage adjustor that increases a low voltage or reduces a high voltage condition to 115 volts. Seven steps of adjustment from 95 to 125 volts input to approximately 115 volts output. Units supplied with integrally mounted tap-switch, cord and plug and plug-in receptacle for outlet connection. Write for Bulletin 091.



## ACME ELECTRIC CORPORATION

SAA 4020-3307



# BURGESS BATTERIES



P6



2U6



Hg-9



2



Y15



4FH

BURGESS Number	NEDA Number	Other	Volts	Terminal Type	Overall Dimensions			Unit Package Quantities	Weight of Unit Package in Pounds	Sugg. Dealer Each	List Price Each
					L	W	H				
<b>BURGESS ACTIVATORS FOR TRANSISTOR CIRCUITS</b>											
130	14	1035	1½	Flashlight	6¾ (diam.)	1½	12	1¾	\$ .19	\$ .30	
2MN6	1604D	222	9	Snap Type	1	3¼	12	1	.65	.98	
2N6	1602	246	9	Snap Type	1¾	1¾	1	3/10	1.30	1.85	
2U6	1604	216	9	Snap Type	1	3¼	12	1	.48	.69	
2Z3	1610	243	4½	Snap Type	1¾	1¾	1	3/10	1.36	1.95	
230	13	1050	1½	Flashlight	1½ (diam.)	2½	12	2¾	.19	.30	
930	15	1015	1½	Flashlight	3¼ (diam.)	1¾	12	½	.155	.25	
A4	.....	.....	6	Flat Contacts	1¾	1¾	1	¼	.78	1.15	
C6X	1612	2356N	9	Snap Type	2½	1¾	1	5/8	1.64	2.35	
D5	26	707	7½	Snap Type	2½	2	1	7/8	1.15	1.65	
D6	1603	276	9	Snap Type	2½	2	1	1	1.36	1.95	
D6PI	1601	2506	3, 6, 9	Socket	2½	1¾	1	1¾	1.92	2.75	
D6S	1608	2761N	9	Socket	2¼	1¼	1	1½	2.45	3.50	
L6	1611	206	9	Flat Contacts	4¾ (diam.)	1¾	6	½	.62	.89	
M6	1605	266	9	Snap Type	1½	1¾	1	2/5	1.36	1.95	
NE	910	904	1½	Flashlight	¾ (diam.)	1½	6	½	.08	.125	
P6	1600	226	9	Snap Type	1	(diam.)	6	3/8	.62	.89	
PM6	1600D	.....	9	Snap Type	1	(diam.)	6	5/8	.80	1.19	
PMB	1810	228	12	Snap Type	1	(diam.)	1	½	1.05	1.50	
XX9	1900	239	9, 13½	Socket	1¾	2¾	1	½	1.77	2.55	
Y6 (YL6)	1606	.....	9	Snap Type	3/5	3/5	12	½	.83	1.20	

## BURGESS MERCURY ACTIVATORS

Information on additional Mercury Batteries not listed below is available.

Hg-1	1100	E1	1.4	Flat	5/8 (diam.)	2½	4	.13	.57	.85
Hg-1R	.....	E1N	1.35	Flat	5/8 (diam.)	2½	4	.13	.64	.95
Hg-3R	.....	E3	1.35	Flat	1	(diam.)	4	.30	1.05	1.50
Hg-4R	.....	E4	1.35	Flat	1½	(diam.)	4	.45	1.31	1.95
Hg-9	15M	E9	1.4	Flat	1½	(diam.)	12	.90	.64	.95
Hg-12	1101	E12	1.4	Flat	5/8 (diam.)	2	2	.25	.92	1.35
Hg-12R	.....	E12N	1.35	Flat	5/8 (diam.)	2	2	.25	1.05	1.50
Hg-42R	.....	E42N	1.35	Flat	1½	(diam.)	1	.50	3.15	4.50
H113R	.....	E113	4.05	Flat	4¾	(diam.)	2	.15	1.72	2.50
H114R	.....	E114	5.4	Flat	4¾	(diam.)	2	.15	1.85	2.65
H115R	.....	E115N	6.75	Flat	4¾	(diam.)	2	.15	2.06	2.75
H126	1611M	E126	8.4	Flat	4¾	(diam.)	12	1.00	1.32	1.95
H132R	.....	E132N	2.7	Flat	4¾	(diam.)	2	.15	1.17	1.65
H133	1306M	E133	4.2	Flat	2½	(diam.)	12	1.20	1.32	1.95
H133R	.....	E133N	4.05	Flat	2½	(diam.)	2	.20	1.35	1.95
H134R	.....	E134N	5.4	Flat	4¾	(diam.)	2	.25	1.72	2.50
H135R	.....	E135N	6.75	Flat	4¾	(diam.)	2	.30	2.00	2.95
H136R	.....	E136N	8.1	Flat	4¾	(diam.)	2	.35	2.40	3.50
H137R	.....	E137N	9.45	Flat	4¾	(diam.)	1	.20	2.76	3.95
H145	.....	E145	7.0	Flat	2½	(diam.)	2	.15	1.90	2.75
H146X	1604M	E146X	8.4	Snap	1½	(diam.)	6	.75	1.32	1.95
H152R	.....	E152N	2.7	Flat	3½	(diam.)	2	.075	1.05	1.50
H153R	.....	E153N	4.05	Flat	3½	(diam.)	2	.075	1.35	1.95
H162R	.....	E162	2.7	Flat	4¾	(diam.)	2	.15	1.05	1.50
H163	1305	E163	4.2	Flat	2½	(diam.)	2	.15	1.32	1.95
H163R	.....	E163N	4.05	Flat	2½	(diam.)	2	.15	1.57	2.25
H164	1404	E164	5.6	Flat	2½	(diam.)	12	.80	1.32	1.95
H164R	.....	E164N	5.4	Flat	2½	(diam.)	2	.20	1.57	2.25
H165	1500	E165	7.0	Flat	2½	(diam.)	2	.20	1.70	2.50
H165R	.....	E165N	6.75	Flat	2½	(diam.)	2	.20	1.90	2.75
H177	1606M	.....	9.8	Snap	3½	(diam.)	12	.30	1.32	1.95
H233	1300	E233	4.2	Flat	1½	(diam.)	1	.20	2.34	3.50
Hg-312	.....	E312	1.4	Flat	5/8 (diam.)	¾	6	.024	.24	.35
Hg-400	1106	E400	1.4	Flat	2¾	(diam.)	6	.024	.24	.35
Hg-400R	.....	E400N	1.35	Flat	2¾	(diam.)	6	.024	.35	.50
Hg-401	910M	E401	1.4	Flat	2¾	(diam.)	3	.09	.51	.75
Hg-401R	.....	E401N	1.35	Flat	2¾	(diam.)	2	.05	.60	.85
Hg-450R	.....	E450	1.35	Flat	2¾	(diam.)	4	.01	.53	.75
Hg-502R	.....	E502	1.35	Flat	1½	(diam.)	2	.16	.87	1.25
Hg-520	.....	E520	1.40	Flat	½	(diam.)	6	.024	.20	.30
Hg-575	.....	.....	1.4	Flat	2¾	(diam.)	6	.05	.24	.35
Hg-601R	.....	E601	1.35	Flat	5/8 (diam.)	1¾	2	.16	.83	1.30
Hg-625	.....	E625	1.4	Flat	5/8 (diam.)	¼	4	.05	.42	.60
Hg-625R	.....	E625N	1.35	Flat	5/8 (diam.)	¼	4	.05	.53	.75
Hg-630	1104	E630	1.4	Flat	5/8 (diam.)	¼	4	.05	.42	.60
Hg-630R	.....	E630N	1.35	Flat	5/8 (diam.)	¼	4	.05	.53	.75
Hg-640	1105	E640	1.4	Flat	5/8 (diam.)	¾	4	.15	.42	.60
Hg-640R	.....	E640N	1.35	Flat	5/8 (diam.)	¾	4	.15	.53	.75
Hg-675	.....	E675	1.4	Flat	2¾	(diam.)	6	.022	.32	.45
302157	.....	.....	1.35	Socket	2¾	1½	1	.844	12.50	17.75

# BURGESS BATTERIES

BURGESS Number	NEDA Number	Other	Volts	Terminal Type	Overall Dimensions			Unit Pkg.	Wg. Unit	Sugg. Dealer Each	List Price Each
					L	W	H	Quant.	Pkg. in Lbs.		

## BURGESS SEALED RECHARGEABLE NICKEL CADMIUM CELLS AND BATTERIES

Information on additional Nickel Cadmium Batteries not listed below is available.

CD1			1.25		.460 (diam.)	.225		1		\$ 1.05	\$ 1.50
CD2			1.25		.610 (diam.)	.236		1		.74	1.06
CD8			1.25		.984 (diam.)	.232		1		.85	1.21
*CD8L	* (L indicates types		1.25		.984 (diam.)	.257		1		.95	1.36
CD3			1.25		.984 (diam.)	.275		1		.87	1.24
*CD3L	with solder lugs		1.25		.984 (diam.)	.300		1		.97	1.39
CD4			1.25		.984 (diam.)	.350		1		.88	1.26
*CD4L	on terminals).		1.25		.984 (diam.)	.375		1		1.03	1.47
CD5			1.25		1.700 (diam.)	.300		1		1.47	2.10
*CD5L			1.25		1.700 (diam.)	.325		1		1.60	2.29
CD6(AA)			1.25		.560 (diam.)	1.950		1		1.82	2.60
*CD6L(AA)			1.25		.560 (diam.)	2.275		1		1.92	2.74
CD9			1.25		.550 (diam.)	3.680		1		3.01	4.30
CD7(D)			1.25		1.310 (diam.)	2.425		1		4.03	5.76
*CD7L(D)			1.25		1.310 (diam.)	2.775		1		4.09	5.84
CD10(D)			1.25		1.300 (diam.)	2.425		1		5.71	8.16
*CD10L(D)			1.25		1.300 (diam.)	2.775		1		5.84	8.34
CD11(D)			1.25		1.300 (diam.)	2.425		1		4.53	6.50
CD12 (short C)			1.25		.876 (diam.)	1.672		1		2.51	3.59
CD12L(short C)			1.25		.876 (dia.)	1.672 + L		1		2.57	3.67
CD13 (half D)			1.25		1.273 (diam.)	1.440		1		4.03	5.76
CD13L(half D)			1.25		1.273 (dia.)	1.440 + L		1		4.16	5.94
CD14 (C)			1.25		1.01 (diam.)	1.945		1		3.40	4.85
CD21			6		1.065 (diam.)	1.525		1		5.32	7.60
CD22			6		1.065 (diam.)	1.975		1		5.32	7.60
CD23			6		1.800 (diam.)	1.725		1		9.48	13.54
CD24			9.6		1.065 (diam.)	2.650		1		9.22	13.17
CD25			9.6		1.065 (diam.)	3.200		1		9.16	13.09
*CD25L			9.6		1.065 (diam.)	3.200		1		9.09	12.99
CD26			9.6		1.800 (diam.)	2.575		1		15.52	22.17
CD27			12		1.065 (diam.)	2.925		1		11.04	15.77
CD28			12		1.065 (diam.)	3.600		1		11.82	16.89
CD29			12		1.800 (diam.)	3.100		1		17.86	25.51
CD30			6		1 1/2	1 1/2	3 13/16	1		19.96	28.51
CD31			6		3 13/16	1 1/2	3 3/8	1		25.65	36.64
CD100			1.25		1.36	.75	3.36	1		6.43	9.19
CD101			1.25		1.36	1.36	2.40	1		6.05	8.64
CD102			1.25		1.36	1.36	3.36	1		7.12	10.17
CD104			1.25		1.93	1.67	3.13	1		9.35	13.36
CD105			1.25		1.93	1.67	3.65	1		10.19	14.56
CD106S			1.25		1.57	1.48	4.01	1		13.43	19.19
CD107			1.25		1.93	1.67	4.25	1		11.17	15.96
CD108			1.25		3.56	1.05	4.90	1		13.83	19.76
CD109			1.25		3.56	1.34	4.90	1		16.56	23.66
CD110			1.25		3.56	1.66	4.90	1		19.87	28.39
CD111			1.25		3.56	1.97	4.90	1		22.92	32.74

## BURGESS INDUSTRIAL - ELECTRONIC - TRANSISTOR - RADIO "A" BATTERIES

2BBP	...	...	1 1/2	Binding Post	1 1/2	2 3/2	2 1/4	1	1/4	\$1.16	\$1.65
2D	18	720	1 1/2	Socket	2 1/2	1 3/2	2 1/2	1	2/5	1.15	1.65
2F	11	W353	1 1/2	Socket	2 1/2	1 3/8	4 1/4	1	3/4	1.22	1.75
2F2BP	...	...	3	Binding Post	5 1/4	1 3/8	4 3/2	1	1 1/5	5.35	7.65
2F2H	703	W356	3	Binding Post	2 3/8	2 3/8	4 1/4	5	7	1.75	2.50
2FH (2FBP)	700	711	1 1/2	Binding Post	2 5/8	1 11/22	4 1/8	5	3 3/5	.79	1.15
2FA	1	718	6	Socket	4	2 1/4	5 1/4	1	2 1/2	2.87	4.10
2R	813	950	1 1/2	Flashlight	1 3/4	(diam.)	2 3/4	48	11	1.625	.25
2Z	...	1016E	1 1/2	Flashlight	1 1/8	1 1/2	1 3/4	1	1 oz.	.65	.95
20F	719	740	1 1/2	Socket	7 3/8	2 3/4	6 1/4	1	6 1/5	7.65	10.95
21R	20	964	1 1/2	Flashlight	1 3/4	(diam.)	4 1/8	1	2 1/5	.42	.60
37	...	...	1 1/2	Flashlight	1 3/4	(diam.)	6 1/8	1	3/8	.97	1.40
4D	...	...	1 1/2	Socket	2 3/8	2 3/8	2 1/4	1	7/8	1.35	1.93
4D4	1400	274	6	Snap	2 1/2	2	7 1/4	1	2 1/2	4.02	5.75
4F	4	742	1 1/2	Socket	2 3/8	2 3/8	4 3/2	1	1 1/5	1.15	1.65
422	704	750	3	Brass Straps	1 1/2	2 3/2	2 3/4	1	2 ozs.	.79	1.15
432	705	751	4 1/2	Brass Straps	1 1/2	2 3/2	2 1/4	1	3 ozs.	.87	1.25
5R	...	...	1 1/2	Flashlight	4 3/4	(diam.)	2 1/4	12	3/4	.48	.69
532	706	703	4 1/2	Brass Straps	2 1/2	1 3/4	2 1/2	1	3 1/10	1.36	1.95
6F	5	743	1 1/2	Socket	4 3/2	2 3/4	4 1/4	1	2 1/5	2.69	3.85
8F	17	741	1 1/2	Socket	3 3/2	2 3/2	5 1/2	1	3	2.76	3.95
8R	23	960P	1 1/2	Socket	1 3/2	(diam.)	3 1/4	1	1/4	.87	1.25
B2BP	...	...	3	Binding Post	1 3/8	1 3/4	2 1/4	1	1/4	2.42	3.45
B5	8	713	7 1/2	Socket	3 3/2	3/8	2 3/2	1	1/2	2.27	3.25
C5	9	717	7 1/2	Socket	2 3/2	1 3/4	3 3/2	6	4 3/4	1.23	1.75
D3	19	726	4 1/2	Socket	3 7/8	1 3/4	2 1/4	1	3/4	2.03	2.95
F2BP	701	W352	3	Binding Post	2 1/2	1 3/8	4 3/2	5	4	1.33	1.90
F3	3	736	4 1/2	Socket	4	1 1/4	4 1/8	1	1	1.23	1.75
F4BP	915	510S	6	Binding Post	2 3/8	2 3/8	4	1	1 1/5	.92	1.39
F4PI	6	744	6	Socket	2 3/2	2 3/2	4 1/8	1	1 1/2	1.15	1.65
G3	7	746	4 1/2	Socket	4 1/4	1 7/8	4 1/4	1	1 1/5	1.57	2.25
Z4	2	724	6	Flat Contacts	1 3/4	1 3/4	2 3/2	1	1/5	.87	1.25

(Continued on next page)



# BURGESS BATTERIES

BURGESS Number	NEDA Number	Other	Volts	Terminal Type	Overall Dimensions			Unit Pkg. Quant.	Wgt. Unit Pkg. in Lbs.	Sugg. Dealer Each	List Price Each
					L	W	H				

## BURGESS INDUSTRIAL - ELECTRONIC - TRANSISTOR - RADIO "B" BATTERIES

103085C	716	W363F	45	Spring Clip	8 $\frac{1}{32}$	4 $\frac{1}{32}$	7 $\frac{1}{16}$	1	12	\$7.30	\$10.40
10308PI	726	W363P	45	Socket	8 $\frac{1}{32}$	4 $\frac{1}{32}$	7 $\frac{1}{16}$	1	11 $\frac{1}{2}$	7.66	10.95
213085C	715	W364F	45	Spring Clip	8 $\frac{1}{8}$	4 $\frac{15}{32}$	7 $\frac{1}{32}$	1	12-4/5	7.50	10.70
21308PI	727	W364P	45	Socket	8 $\frac{1}{8}$	4 $\frac{15}{32}$	7 $\frac{1}{32}$	1	12-4/5	7.66	10.95
23085C	723	W365F	45	Spring Clip	8 $\frac{3}{32}$	2 $\frac{1}{32}$	7 $\frac{1}{4}$	1	7 $\frac{1}{2}$	7.10	10.15
2308PI	717	W365P	45	Socket	8 $\frac{3}{32}$	2 $\frac{1}{32}$	7 $\frac{1}{4}$	1	7-4/5	7.40	10.60
4156	710	763	22 $\frac{1}{2}$	Binding Post	3 $\frac{1}{32}$	2 $\frac{1}{8}$	2 $\frac{5}{32}$	1	1	1.61	2.35
5156PI	721	....	22 $\frac{1}{2}$	Socket	4 $\frac{7}{64}$	2 $\frac{3}{8}$	2 $\frac{5}{64}$	1	1 $\frac{3}{5}$	4.16	5.95
5156SC	708	778	22 $\frac{1}{2}$	Spring Clip	4 $\frac{1}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{4}$	5	8	4.16	5.95
5308	709	762S	45	Binding Post	4 $\frac{1}{16}$	2 $\frac{1}{16}$	5 $\frac{1}{8}$	1	2 $\frac{1}{2}$	3.05	4.35
A30	206	W359	45	Socket	3 $\frac{3}{16}$	2 $\frac{1}{4}$	4 $\frac{5}{16}$	2	3 $\frac{1}{2}$	2.92	4.19
A60	....	....	90	Socket	4 $\frac{1}{16}$	3 $\frac{3}{8}$	4 $\frac{1}{2}$	1	3 $\frac{1}{3}$	14.50	20.75
B30	207	484	45	Socket	4 $\frac{1}{16}$	2 $\frac{1}{32}$	5 $\frac{1}{16}$	2	4 $\frac{1}{2}$	3.47	4.95
D30	....	487	45	Socket	5 $\frac{1}{16}$	2 $\frac{1}{32}$	7 $\frac{1}{16}$	1	4 $\frac{1}{2}$	4.20	6.00
K10	224	417	15	Flat Contact	1 $\frac{1}{4}$	$\frac{3}{8}$	1 $\frac{17}{32}$	1	2 ozs.	1.28	1.75
K15	225	420	22 $\frac{1}{2}$	Flat Contact	1 $\frac{1}{4}$	$\frac{3}{8}$	2 $\frac{3}{32}$	1	2 ozs.	1.44	1.95
K20	226	430	30	Flat Contact	1 $\frac{1}{4}$	1 $\frac{5}{16}$	2 $\frac{23}{32}$	1	3 ozs.	1.72	2.35
K45	203	457	67 $\frac{1}{2}$	Snap Type	2 $\frac{11}{16}$	1 $\frac{5}{16}$	2 $\frac{1}{4}$	1	$\frac{1}{2}$	2.97	4.25
M30	202	482	45	Socket	3 $\frac{3}{16}$	1 $\frac{1}{4}$	5 $\frac{1}{2}$	1	2	2.97	4.25
N60X	216	495	90	Snap Type	1 $\frac{7}{8}$	1 $\frac{11}{32}$	7 $\frac{1}{8}$	1	1	3.47	4.95
P45	211	477	67 $\frac{1}{2}$	Snap Type	1 $\frac{29}{32}$	1	5 $\frac{3}{32}$	1	$\frac{3}{4}$	2.70	3.85
P60	214	479	90	Snap Type	1 $\frac{29}{32}$	1	7 $\frac{13}{32}$	1	$\frac{4}{5}$	2.97	4.25
U10	208	411	15	Flat Contact	1	3 $\frac{3}{64}$	1 $\frac{7}{16}$	1	1 oz.	.81	1.15
U15	215	412	22 $\frac{1}{2}$	Flat Contact	1	3 $\frac{3}{64}$	1 $\frac{31}{32}$	1	1 oz.	1.05	1.50
U20	210	413	30	Flat Contact	1	3 $\frac{3}{64}$	2 $\frac{17}{32}$	1	2 ozs.	1.23	1.75
U200	722	493	300	Pin Jacks	2 $\frac{3}{4}$	2 $\frac{3}{32}$	3 $\frac{3}{8}$	1	1	8.37	11.95
U30	213	415	45	Snap Type	1 $\frac{3}{32}$	1 $\frac{19}{32}$	3 $\frac{17}{32}$	1	$\frac{1}{8}$	1.75	2.50
UX45	217	416	67 $\frac{1}{2}$	Snap Type	1 $\frac{7}{32}$	3 $\frac{1}{32}$	3 $\frac{31}{32}$	1	$\frac{1}{4}$	2.07	2.95
V45	200C	468	67 $\frac{1}{2}$	Snap Type	2 $\frac{3}{4}$	1 $\frac{11}{32}$	3 $\frac{43}{64}$	6	4 $\frac{1}{2}$	2.77	3.95
V60	204	490	90	Snap Type	3 $\frac{23}{32}$	1 $\frac{19}{32}$	3 $\frac{11}{16}$	1	1.3-1/10	3.15	4.50
W20PI	....	....	30	Socket	1 $\frac{5}{16}$	1 $\frac{13}{16}$	3 $\frac{3}{8}$	1	$\frac{1}{2}$	5.15	7.35
W30	....	....	45	Binding Post	3	1 $\frac{1}{4}$	3 $\frac{25}{32}$	1	$\frac{3}{5}$	2.62	3.75
W30BPX	....	W358	45	Binding Post	3	1 $\frac{1}{4}$	3 $\frac{25}{32}$	1	$\frac{3}{5}$	6.05	8.65
XX15	....	425P	22 $\frac{1}{2}$	Socket	1 $\frac{11}{32}$	1 $\frac{5}{16}$	3 $\frac{3}{8}$	1	$\frac{1}{4}$	1.56	2.25
XX22	....	433P	33	Socket	2 $\frac{17}{32}$	3 $\frac{1}{32}$	3 $\frac{1}{8}$	1	$\frac{1}{3}$	2.27	3.25
XX30	201	455	45	Snap Type	2 $\frac{17}{32}$	3 $\frac{1}{32}$	3 $\frac{25}{32}$	1	$\frac{1}{2}$	2.27	3.25
XX30PI	....	455P	45	Socket	2 $\frac{17}{32}$	3 $\frac{1}{32}$	4 $\frac{1}{32}$	1	$\frac{1}{2}$	2.27	3.25
XX45	200	467	67 $\frac{1}{2}$	Snap Type	2 $\frac{3}{4}$	1 $\frac{11}{32}$	3 $\frac{43}{64}$	1	$\frac{3}{4}$	2.70	3.85
XX50	212	437	75	Snap Type	1 $\frac{27}{32}$	1 $\frac{5}{16}$	6 $\frac{5}{64}$	1	$\frac{9}{10}$	3.15	4.50
XX69	227	W361	103 $\frac{1}{2}$	Flashlight Brass	1 $\frac{11}{32}$	1 $\frac{11}{32}$	11 $\frac{23}{32}$	1	1	4.86	6.95
Y10	220	504	15	Flat Contact	1 $\frac{9}{32}$	1 $\frac{9}{32}$	1 $\frac{23}{64}$	1	1 oz.	.81	1.15
Y15	221	505	22 $\frac{1}{2}$	Flat Contact	1 $\frac{9}{32}$	1 $\frac{9}{32}$	1 $\frac{31}{32}$	1	1 oz.	1.05	1.50
Y20	223	506	30	Flat Contact	1 $\frac{9}{16}$	1 $\frac{9}{32}$	1 $\frac{13}{32}$	1	1 oz.	1.30	1.85
Y20S	222	507	30	Flat Contact	1 $\frac{9}{32}$	1 $\frac{9}{32}$	2 $\frac{1}{16}$	1	1 oz.	1.30	1.85
Z30	205	738	45	Socket	3	2 $\frac{5}{16}$	4 $\frac{1}{16}$	1	1 $\frac{1}{4}$	2.76	3.95
Z30NX	711	W350	45	Binding Post	3 $\frac{1}{32}$	1 $\frac{7}{8}$	4 $\frac{19}{32}$	5	7 $\frac{3}{5}$	2.69	3.85

## BURGESS INDUSTRIAL AND ELECTRONIC "C" BATTERIES

2156	702	766	22 $\frac{1}{2}$	Spring Clips	6 $\frac{21}{32}$	4 $\frac{1}{16}$	2 $\frac{31}{32}$	1	3	9.20	13.25
2370	712	761T	4 $\frac{1}{2}$	Binding Post	3 $\frac{15}{16}$	1 $\frac{3}{8}$	2 $\frac{7}{8}$	5	3 $\frac{7}{10}$	2.10	3.00
2370PI	718	771	4 $\frac{1}{2}$	Socket	4 $\frac{1}{64}$	1 $\frac{27}{64}$	2 $\frac{63}{64}$	1	$\frac{3}{4}$	2.14	3.05
5360	714	781	4 $\frac{1}{2}$	Binding Post	2 $\frac{13}{32}$	2 $\frac{1}{32}$	2 $\frac{21}{32}$	1	$\frac{1}{4}$	1.23	1.75
5540	713	773	7 $\frac{1}{2}$	Bndg Post Neg	4	$\frac{7}{8}$	2 $\frac{3}{4}$	5	1 $\frac{9}{10}$	1.80	2.50
A3BPX	....	....	4 $\frac{1}{2}$	Binding Post	1 $\frac{31}{32}$	2 $\frac{3}{32}$	2 $\frac{1}{4}$	1	$\frac{1}{4}$	4.60	6.60
A8BP	....	....	12	Binding Post	2 $\frac{25}{32}$	1 $\frac{25}{64}$	2 $\frac{15}{32}$	1	$\frac{1}{2}$	10.20	14.60
W5BP	....	W362	7 $\frac{1}{2}$	Binding Post	2 $\frac{31}{32}$	2 $\frac{3}{32}$	1 $\frac{3}{4}$	6	4 $\frac{1}{5}$	2.05	2.95

## BURGESS "A & B" PACKS FOR RADIO AND OTHER ELECTRONIC APPLICATIONS

4TZ60	425	729	1 $\frac{1}{2}$ A, 90B	Socket	7 $\frac{5}{8}$	2 $\frac{1}{8}$	3 $\frac{3}{4}$	1	3 $\frac{3}{5}$	5.33	7.65
6TA60	410	W369	1 $\frac{1}{2}$ A, 90B	Socket	9 $\frac{31}{32}$	2 $\frac{1}{4}$	4 $\frac{1}{16}$	1	4 $\frac{4}{5}$	6.96	9.95
G6B60	400	752	9A, 90B	Recessed Plug	13 $\frac{29}{32}$	2 $\frac{13}{16}$	4 $\frac{21}{32}$	1	6 $\frac{3}{10}$	6.35	9.25

## BURGESS POCKET TAPE RECORDER BATTERIES

2VT8(3XX7)	1700	.....	12	Flat Contact	1 $\frac{5}{16}$	1 $\frac{5}{16}$	3 $\frac{19}{32}$	1	$\frac{3}{8}$	2.00	3.00
2X62X	.....	.....	1 $\frac{1}{2}$ , 9	Snap Type	2 $\frac{1}{2}$	1 $\frac{25}{32}$	2 $\frac{11}{32}$	1	$\frac{1}{2}$	3.20	4.60
2X7	.....	.....	10 $\frac{1}{2}$	Snap Type	2 $\frac{1}{2}$	1 $\frac{25}{32}$	2 $\frac{11}{32}$	1	$\frac{1}{2}$	1.82	2.60

## BURGESS ALKALINE BATTERIES

AL-1	14A	E93	1 $\frac{1}{2}$	Flat Contact	$\frac{9}{64}$ (diam.)	1 $\frac{15}{16}$		6	1	.39	.60
AL-133	1306A	E23	4 $\frac{1}{2}$	Flat Contact	$\frac{21}{32}$ (diam.)	2		12	1	.84	1.25
AL-2	13A	E95	1 $\frac{1}{2}$	Flat Contact	1 $\frac{3}{64}$ (diam.)	2 $\frac{13}{32}$		24	8	.49	.75
AL-7	24A	E92	1 $\frac{1}{2}$	Flat Contact	1 $\frac{3}{32}$ (diam.)	1 $\frac{3}{4}$		12	$\frac{1}{4}$	.33	.50
AL-9	15A	E91	1 $\frac{1}{2}$	Flat Contact	1 $\frac{7}{32}$ (diam.)	1 $\frac{31}{32}$		12	1	.33	.50
AL-N	910A	E90	1 $\frac{1}{2}$	Flat Contact	$\frac{29}{64}$ (diam.)	1 $\frac{1}{8}$		3	1 oz.	.27	.40
APX-19	1307	531	4 $\frac{1}{2}$	Snap Type	$\frac{21}{32}$ (diam.)	2 $\frac{13}{32}$		2	$\frac{3}{8}$	.84	1.25
APX-21	.....	523	4 $\frac{1}{2}$	Flat Contact	$\frac{21}{32}$ (diam.)	2 $\frac{13}{32}$		2	$\frac{3}{8}$	.84	1.25
APX-24	1308	532	3	Flat Contact	$\frac{21}{32}$ (diam.)	2		2	$\frac{3}{8}$	.67	1.00
APX-825	.....	.....	1 $\frac{1}{2}$	Flat Contact	$\frac{29}{32}$ (diam.)	1 $\frac{5}{64}$		2	1 oz.	.33	.50
AL-912	.....	.....	18	Flat Contact	2 $\frac{55}{64}$	2 $\frac{3}{64}$	1 $\frac{3}{32}$	1	$\frac{3}{4}$	5.70	8.15

# BURGESS BATTERIES

BURGESS Number	NEDA Number	Other	Volts	Terminal Type	Overall Dimensions			Unit Pkg. Quant.	Wgt. Unit Pkg. in Lbs.	Sugg. Dealer Each	List Price Each
					L	W	H				
<b>BURGESS FLASHLIGHT AND LANTERN BATTERIES</b>											
2 (24V)	13F	950	1½	Flashlight	1 <sup>1</sup> / <sub>64</sub> (diam.)	2 <sup>3</sup> / <sub>8</sub>	48	10 <sup>1</sup> / <sub>2</sub>	\$ .1625	\$ .25	
2 (50 Bulk)	13F	950	1½	Flashlight	1 <sup>1</sup> / <sub>64</sub> (diam.)	2 <sup>3</sup> / <sub>8</sub>	50	10 <sup>1</sup> / <sub>2</sub>	.1625	.25	
210 (24V)	13C	1150	1½	Flashlight	1 <sup>1</sup> / <sub>64</sub> (diam.)	2 <sup>3</sup> / <sub>8</sub>	48	11	.1675	.29	
210 (50 Bulk)	13C	1150	1½	Flashlight	1 <sup>1</sup> / <sub>64</sub> (diam.)	2 <sup>3</sup> / <sub>8</sub>	50	10 <sup>3</sup> / <sub>4</sub>	.1675	.29	
2MB(6 Pack)	.....	.....	1½	Flashlight	1 <sup>1</sup> / <sub>64</sub> (diam.)	2 <sup>3</sup> / <sub>8</sub>	144	31	.1625	.25	
1	14F	935	1½	Flashlight	6 <sup>3</sup> / <sub>64</sub> (diam.)	1 <sup>1</sup> / <sub>16</sub>	24	2 <sup>5</sup> / <sub>8</sub>	.1625	.25	
Z	15E	515	1½	Flashlight	3 <sup>3</sup> / <sub>64</sub> (diam.)	1 <sup>3</sup> / <sub>32</sub>	12	½	.095	.15	
910 (AA)	15F	915	1½	Flashlight	3 <sup>3</sup> / <sub>64</sub> (diam.)	1 <sup>3</sup> / <sub>32</sub>	24	1	.13	.20	
7	24F	912	1½	Flashlight	1 <sup>1</sup> / <sub>32</sub> (diam.)	1 <sup>3</sup> / <sub>4</sub>	12	¼	.13	.20	
NE	910	904	1½	Flashlight	7 <sup>1</sup> / <sub>16</sub> (diam.)	1 <sup>1</sup> / <sub>64</sub>	6	⅞	.08	1.25	
F4M (Metal)	908	509	6	Spring	2 <sup>5</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>8</sub>	12	19	.92	1.39
F4BP	915	510S	6	Binding Post	2 <sup>5</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	4	1	1 <sup>1</sup> / <sub>5</sub>	.92	1.39
F4SC	917	510F	6	Spring Clip	2 <sup>5</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>2</sub>	1	1 <sup>1</sup> / <sub>4</sub>	.92	1.39
TW1	918	731	6	Binding Post	5 <sup>3</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>16</sub>	1	3 <sup>1</sup> / <sub>5</sub>	1.96	2.95
TW1-X	.....	.....	6	Binding Post	5 <sup>3</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>16</sub>	1	3 <sup>1</sup> / <sub>5</sub>	2.40	3.75
TW2	926	732	12	Binding Post	5 <sup>3</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>16</sub>	1	3 <sup>1</sup> / <sub>5</sub>	1.96	2.95
Z46	.....	.....	2	Flat Contact	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>16</sub>	8 <sup>1</sup> / <sub>32</sub>	2	6 <sup>1</sup> / <sub>4</sub>	2.93	4.40



TW1



No. 6 Ignition



220

### BURGESS IGNITION - TELEPHONE AND PROTECTIVE SYSTEM BATTERIES

\* Battery also available with spring clip terminals

\*\* Battery also available with screw terminals

2F8H	.....	.....	12	Binding Post	8 <sup>5</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>16</sub>	1	6 <sup>1</sup> / <sub>4</sub>	4.25	6.35
2G8H	922	1463	12	Binding Post	10 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>32</sub>	1	7 <sup>1</sup> / <sub>2</sub>	4.01	5.98
4FH	900E	.....	1½	Screw Terminal	2 <sup>5</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	4	12	16	.84	1.25
4F2H	901	W357	3	Spring Clip	3 <sup>2</sup> / <sub>32</sub>	2 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>32</sub>	1	2 <sup>3</sup> / <sub>5</sub>	1.92	2.75
4F4H	902	706	6	Binding Post	8 <sup>5</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>16</sub>	1	6 <sup>1</sup> / <sub>5</sub>	3.70	5.50
4F5H	903	715	7½	Binding Post	7 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>32</sub>	5 <sup>1</sup> / <sub>16</sub>	1	7 <sup>1</sup> / <sub>5</sub>	4.86	7.25
4F6H	904	716	9	Binding Post	8 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>32</sub>	5 <sup>1</sup> / <sub>16</sub>	1	9	5.53	8.25
*6 Ign.	905	6 Ign. S	1½	Screw Terminal	2 <sup>1</sup> / <sub>2</sub> (diam.)	6 <sup>5</sup> / <sub>8</sub>	12	12	21 <sup>3</sup> / <sub>10</sub>	.91	1.35
**6 Tel.	906	6 GL	1½	Spring Clip	2 <sup>1</sup> / <sub>2</sub> (diam.)	6 <sup>5</sup> / <sub>8</sub>	12	12	24 <sup>3</sup> / <sub>5</sub>	.91	1.35
6 Ind.	911	6 R.R.	1½	Screw Terminal	2 <sup>1</sup> / <sub>2</sub> (diam.)	6 <sup>5</sup> / <sub>8</sub>	12	12	25	.90	1.35
S461	907	1461	6	Binding Post	10 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>32</sub>	4	37 <sup>1</sup> / <sub>2</sub>	3.70	5.50

### BURGESS PHOTO-FLASH BATTERIES

120	14P	835	1½	Flashlight	1 (diam.)	1 <sup>1</sup> / <sub>16</sub>	24	2¼	.19	.30	
220	13P	850	1½	Flashlight	1 <sup>1</sup> / <sub>32</sub> (diam.)	2 <sup>2</sup> / <sub>64</sub>	12	2½	.19	.30	
720	24P	812	1½	Flashlight	1 <sup>1</sup> / <sub>32</sub> (diam.)	1¾	24	2½	.13	.20	
920	15P	815	1½	Flashlight	3 <sup>5</sup> / <sub>64</sub> (diam.)	1 <sup>1</sup> / <sub>32</sub>	24	1	.13	.20	
U15	215	412	22½	Flat Contact	3 <sup>1</sup> / <sub>32</sub>	9 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>32</sub>	1	1 oz.	1.05	1.50
Y10	220	504	15	Flat Contact	1 <sup>9</sup> / <sub>32</sub>	1 <sup>9</sup> / <sub>32</sub>	1 <sup>23</sup> / <sub>64</sub>	1	1 oz.	.81	1.15
Y15	221	505	22½	Flat Contact	1 <sup>9</sup> / <sub>32</sub>	1 <sup>9</sup> / <sub>32</sub>	1 <sup>13</sup> / <sub>32</sub>	1	1 oz.	1.05	1.50
U10	208	411	15	Flat Contact	1	3 <sup>3</sup> / <sub>64</sub>	1 <sup>1</sup> / <sub>16</sub>	1	1 oz.	.81	1.15
U20	210	413	30	Flat Contact	1	3 <sup>3</sup> / <sub>64</sub>	2 <sup>1</sup> / <sub>32</sub>	1	2 ozs.	1.23	1.75
XX150	.....	489	225	Pin Jacks	4¼	2 <sup>5</sup> / <sub>8</sub>	4¼	1	2½	7.20	10.25
U160	.....	491	240	Flat Contact	2 <sup>9</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>32</sub>	1	¾	7.20	10.25
N150	.....	492	225	Pin Jacks	3 <sup>1</sup> / <sub>16</sub>	2¾	4¾	1	2½	7.65	10.95
U320	.....	497	510	Flat Contact	2 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>32</sub>	5 <sup>1</sup> / <sub>16</sub>	1	1½	13.00	18.50
K30P-K	.....	.....	45	Battery & Bulb	.....	.....	.....	1	2 <sup>5</sup> / <sub>8</sub>	1.67	2.50



TW3



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### BURGESS RADAR LIGHTS NOTICE: All Radar Lights are packed in individual cartons complete with battery.

BURGESS Number	Description	Unit Pkg. Quant.	Wt. of Un. Pkg. in Lbs.	Sugg. Dealer Ea. Complete	LIST PRICE EACH		
					Head Only	Battery	Complete
TW3	Radar-Lite Spot-Flasher (Lamp 4546, 407)	1	5 <sup>1</sup> / <sub>10</sub>	\$8.96	\$11.00	\$2.95	\$13.95
TW4	Radar-Lite Spot-Without Flasher (Lamp 4546)	1	4¾	7.06	8.55	2.95	11.50
TW7	Radar-Lamp Chrome-Finish (Lamp 1651), TW8 Copper-Finish	1	4 <sup>1</sup> / <sub>5</sub>	6.36	7.00	2.95	9.95
TW9	Radar Bearcat Focusing Lantern (Lamp 425 or 502)	1	4 <sup>1</sup> / <sub>8</sub>	4.67	4.50	2.95	7.45
TW11	Radar-Lite (Bulb Reflector Model) (Lamp 425)	1	4 <sup>3</sup> / <sub>4</sub>	5.68	6.20	2.95	9.15
TW12	12 Volt Radar-Lite (Uses TW2 Battery) (Lamp 965)	1	5	6.88	8.20	2.95	11.15
TW6E	Power Failure Operated Lantern (Flood Beam) (Lamp 4512)	1	6	13.61	17.50	2.95	20.45
TW34	Radar-Flash (Lamp 407)	1	4	4.49	3.95	2.95	6.90

### BURGESS SAFARI LITE, DOLPHIN, RADAR-MATE AND FLASHLIGHTS (less batteries)

BURGESS Number	Description (Batteries not included)	Unit Pkg. Quant.	Wt. of Un. Pkg. in Lbs.	Sugg. Dealer Each	List Price Each
164	Dolphin Lantern. Uses 1 No. F4M battery (Lamp PR13)	1	½	1.97	2.95
JR1	4½ Volt Radar-Mate Lantern. Uses 3 No. 2 (Size D) batteries (Lamp PR3)	6	7½	3.32	4.98
161	Magnet Flashlight—2 Cell Prefocused (Lamp PR2 or PR4)	6	3	1.33	1.99
163	Tuffy-Plastic Flashlight—2 Cell Prefocused (Lamp PR2 or PR4)	6	1¾	.69	.99
257	Satellite Torch—2 Cell Junior Prefocused (Lamp PR2 or PR4)	3	1	1.30	1.95
357	Satellite Torch—2 Cell Prefocused (Lamp PR2 or PR4)	6	2¾	1.30	1.95
263	2 Cell Magnet-Tough Plastic Industrial Flashlight (Lamp PR2)	6	2½	1.33	1.99
453	2 Cell Industrial—Safety Light (Lamp PR2)	1	½	3.38	5.00
563	Penlight (AAA size) (Lamp 224)	12	1½	.82	1.25
663	Penlight (Heavy Duty AA size) (Lamp 222)	12	1½	.82	1.25
763	Snap-Lite Pocket Light (AAA size) (Lamp 224)	12	1½	.82	1.25



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Beckman®

## HIGH VOLTAGE POWER SUPPLIES

## PORTABLE HIGH VOLTAGE DC POWER SUPPLIES



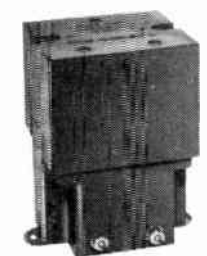
One of the most popular power supplies on the market. Completely redesigned for greater ruggedness and convenience of operation. Widely used for powering electronic equipment and for routine breakdown and insulation testing. Output voltage is well filtered D.C. which is adjustable with convenient front panel control. Input is 115 Volt, 60 cycle A.C. Larger 6" precision 1% mirror scale movement available on order. Regulated models offer closely stabilized output voltage regardless of line or load changes.

NOTE: Regulated power supplies are of the radio frequency type (RF) and adjust from approximately 20% to full rated voltage. Regulation is in the order of  $\pm 1\%$  over most of the range. These supplies are rated at 100 microamps. Transformer operated unregulated supplies are available in 5 milliampere types and have a range of zero to full voltage output. These are recommended for industrial service applications. When ordering add the proper prefix to the basic model number, for example, RF, or 5 MA, depending on your requirements.

Model	Max. Voltage	RF	5 MA
6000-1	1 KV	—	\$200.00
6000	2.5 KV	\$175.00	225.00
6005	5 KV	185.00	250.00
6010	10 KV	200.00	275.00
6015	15 KV	225.00	300.00
6025	25 KV	275.00	350.00

OPTIONS: Mirror Scale Higher Accuracy Meter. Recommended for more exact calibration or test purposes. (Illustrated) \$50.00. Additional Built-In Current Meter (both meters are 3 inch size), including automatic meter protector circuit \$50.00.

## PACKAGED POWER SUPPLIES AND ZENER REGULATIONS



PACKAGED POWER SUPPLY

These new low-cost units make D.C. voltage problems easy. Just wire input and output connections, and the unit is ready to operate. Building block construction provides a basic transformer, a rectifier unit, and where necessary a regulating device. These three elements bolt together quickly and maintenance is simplified should any of the components fail. Each of the three basic building blocks are mechanically constructed in a molded Diallyl Phthalate shell and encapsulated with epoxy resin.

The output is completely isolated and either post may be grounded or the unit operated as a floating supply. The D.C. voltage is filtered and provides 5% or less ripple. Output may be varied from full rating down to zero by simply inserting a small adjustable transformer in the input. Most units are rated for 5 MA current. Power supplies 7.5 KV and higher have modified mechanical construction from that described above. Input 115 V, 60 cycle.

Use with High Voltage Zener Regulators to obtain 1% line and load regulation.

\* If necessary, insert a series resistor to limit zener current to under 5 MA.

Simply connect in parallel\* with any high voltage power supply and automatically obtain line and load voltage regulation as well as ripple reduction. Nominal current rating is 0.5 to 1 MA for better than 1% stabilizer. Regulation over range of 0 to 5 MA is 3%. Can be wired in series for high voltage service (five 4,000 volt types to regulate a 20,000 volt power supply). Twenty built-in taps included, each provides a regulated voltage to an accuracy of 20%. Ideal for photomultiplier tubes. Use as a high voltage reference in conjunction with regulator amplifier circuitry.

Model	Output Voltage	Price
15-0-15-500 MA	15-0-15 volts	\$50.00
30-0-30-100 MA	30-0-30 volts	50.00
05-KV-5 MA	500 volts DC	50.00
1-KV-5 MA	1-KV-DC	60.00
2-KV-5 MA	2-KV-DC	65.00
3-KV-5 MA	3-KV-DC	70.00
5-KV-5 MA	5-KV-DC	75.00
7.5-KV-5 MA	7.5-KV-DC	95.00
10-KV-5 MA	10-KV-DC	100.00
15-KV-5 MA	15-KV-DC	110.00
20-KV-5 MA	20-KV-DC	180.00
30-KV-5 MA	30-KV-DC	210.00

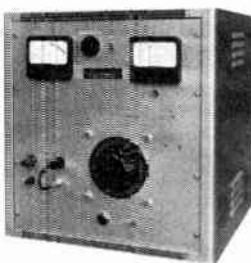
Model	Total Voltage	Volts at Each Tap	Price
ZA-1K	1,000 volts	50 volts	\$60.00
ZA-2K	2,000 volts	100 volts	70.00
ZA-3K	3,000 volts	100 & 200	80.00
ZA-4K	4,000 volts	200 volts	100.00
ZA-5K	5,000 volts	200 volts	110.00



ZENER REGULATOR

Model	Voltage	Current	Price
F-100V	0-100	10 Amp.	\$ 700.00
F-500V	0-500	3 Amp.	850.00
F-6001	0-1000	2 Amp.	950.00
F-6002	0-2000	1 Amp	1050.00
F-6003-A1	0-3000	100 MA.	600.00
F-6003-AV	0-3000	500 MA.	700.00
F-6003-AK	0-3000	1 Amp.	1150.00
F-6005-A1-H	0-5000	100 MA.	650.00
F-6005-AV	0-5000	500 MA.	850.00
F-6005-A1K	0-5000	1 Amp.	1250.00
F-6010-A1	0-10,000	100 MA.	850.00
F-6010-AV	0-10,000	500 MA.	2100.00
F-6020-A05	0-20,000	50 MA.	1050.00
F-6030-A3	0-30,000	300 MA.	3500.00
F-6050-T	0-50,000	1/2 MA.	1000.00
F-6100-T	0-100,000	.1 MA.	1500.00

## HEAVY DUTY DC POWER SUPPLIES

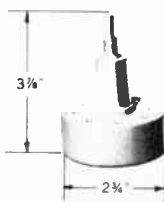


These industrial type power supplies are built for service and efficiency. All are of the transformer type and employ husky components that have been selected for their power handling capacity. Controls are arranged so that operation is simple and the units contain a number of safety features for protection of personnel and equipment. Output is continuously variable from zero to full rated values. These supplies are unregulated and standard ripple is 5% or less. Ripple of from 0.01% to 1%, and regulated supplies are available on special order. All power supplies have automatic overload cutout control circuits.

## HIGH VOLTAGE SWITCHES

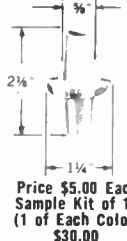
For high voltage, low current circuits requiring complete isolation; nominal rating 5,000 volts (D.C. or A.C.). Model A or D may be used in lower duty circuits to 10,000 volts D.C. Steady state current rating 500 milliamperes—5 Ma when switching. Isolated for 15,000 volts D.C. test to ground... made of modified Diallyl Phthalate.

Model	TYPE	Price
A	2 Pole reversible (for polarity reversing of power supplies)	\$22.00
B	D.P.D.T.	24.00
C	3 P.D.T.	29.00
D	4 Position (1 Gang)	22.00
E	6 Position (1 Gang)	24.00
F	8 Position (1 Gang)	28.00
G	10 Position (1 Gang)	30.00



Price \$10.00 Each  
Sample Kit of 10  
(1 of each color)  
\$60.00

Modified Diallyl Phthalate construction for superior arc resistance and low power factor; convenient miniature size with extra long air paths; sealed center conductor handles up to 20 amperes; neoprene gasket for mounting on oil filled tanks. For quick disconnect (easily mated with standard banana jack) or for permanent service with 10/32" machine bolt; neat styling — available in 10 colors — ideal for mounting on front panels.  
Model C-1 rated for 25,000 volts D.C. max.  
Model C-0 rated for 5,000 volts D.C.



Price \$5.00 Each  
Sample Kit of 10  
(1 of Each Color)  
\$30.00

Beckman® INSTRUMENTS, INC.

CEDAR GROVE OPERATIONS



**DC-AC CONVERTERS  
FREQUENCY CHANGERS**

**Carter  
Motor**

**FHP MOTORS  
TACH-GENERATORS**



**"MARK II" SUPER CONVERTERS**

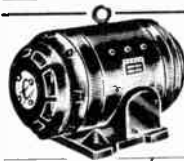
Designed for high PF non-inductive AC loads such as amplifiers, lab and medical equipment, standby emergency lighting, telephone and marine communications. Not damaged by intermittent transients or sudden overloads. 70% PF models available. Will not operate refrigerators, large AC motors, or low PF transformers. For manual frequency control and meter, add \$72.00 to list. For 230 v. AC or 60 cy. output add \$6.00 to list. For built in capacitor filter add \$8.80 to list. Ball bearing, con. duty. Size 8 1/4" x 4 1/2" x 5" high. Weight 13 lbs.

**STANDARD 100% PF CONVERTERS**

Carter Number	DC Input		Watts, AC at 60 cps, 115 v.	List Price
	Volts	Amps		
D1040CB	115	7	19	\$153.00
D1010CB	115	1.7	100	156.00
D1015CB	115	2.0	150	160.00
B1040CB	12	8	40	144.00
B1010CB	12	15	100	148.00
B1015CB	12	23	150	150.00

Mark II Heavy Duty Super Converter. Continuous duty, less filter, 10 1/4" long, 1 1/2" wide, 3" high. Weight, 19 lbs.

D1020CB	115	2.6	200	\$175.00
D1025CB	115	3.2	250	180.00
B1020CB	12	30	200	170.00
B1025CB	12	31	250	172.00



**"MONARCH" CONVERTERS**

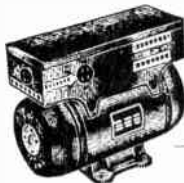
1000 - 1500 and 2000 watt output. 24 to 230 volt input models. The Monarch series is ideal for heavy-duty industrial service, marine, mine, crane and railroad communications. Slow speed (1800 rpm.), long life, 4-pole design; ball bearing equipped. No filter is necessary for most application. Size: 15" x 11" x 12" high. Three-phase output available, add \$60 to list. 24 and 28 v. Input available at 1500 w. rating.

Carter Number	DC Input		Watts, AC at 60 cps, 115 v.	List Price
	Volts	Amps		
I10150M	28	80	1500	\$725.00
S10150M	32	60	1500	725.00
W10200M†	18	60	2000	800.00
H10200M†	64	17	2000	800.00
D10200M‡	115	25	2000	800.00
K10200M‡	230	12.5	2000	825.00

†Reduced voltage starters necessary, add \$159.50 to list price.

‡Reduced voltage starters necessary, add \$110.00 to list price.

**REFRIGERATOR-APPLIANCE  
MARINE CONVERTERS**



Operates standard refrigerators, compressors (up to 1/6 hp only), vacuum cleaners and other appliances from DC; for use aboard commercial and pleasure boats. Converter operates only when power is called for. Has handy AC outlet to run most appliances, from DC, input, from 24 to 230 v. 100. Size: 14" x 6 3/4" x 11" high. Net Weight, 65 lbs. 750 w. con. duty rating.

Number	Input	List Price	Number	Input	List Price
RF24	24 v.	\$540.00	RF48	48 v.	\$540.00
RF28	28 v.	540.00	RF115	115 v.	540.00
RF34	34 v.	540.00	RF230	230 v.	540.00

**"ECLIPTIC" TACHOMETER GENERATORS**



Converts rotation rate into reference voltage for speed indication. Ideal for motor controllers and various industrial applications such as variable speed drives, textile machines, machine tools etc. Couples direct to drive motor, requires no belts or gears. 2 lead, reversible. Linearity below 1%. May be connected to a DC meter calibrated for RPM, FPM, GPH or other measurements. Size 1 3/4" x 2 1/4" plus shaft .118 dia. 19/32" long.

M 176T1	2.5 v. per 1000 RPM	\$51.00
M 176T2	5 v. per 1000 RPM	53.00
M 176T3	12 v. per 1000 RPM	56.00
M 176T4	20 v. per 1000 RPM	70.00
M 176T5	1.25v. per 1000 RPM	51.00

**"CLASSIC" MOTORS & GEARMOTORS**



Available up to 1/7 hp. Gearmotors from 1 to 750 RPM, up to 8 in. lbs. torque, continuous duty. Universal and DC shunt models, induction and variable speed types, base or flange mounted. Ball bearing, high quality die cast construction. Ideal for SCR motor controllers, pumps, lab stirrers, dental drills, 3-5/16" dia., 6-1/16" long. Ask for Classic catalog.

**"REGENT" FHP MOTORS**



Universal motor 1/4 to 3/4 hp. 5000-10000 RPM. Model for 12 v. to 230 v. input. DC shunt models from 12 v. to 115 v. DC, 1800 to 5000 RPM, 1/15 to 1/6 hp. Face, base or resilient mount. Ideal for machine tool drives, grinders, SCR motor controllers, 3 1/2" dia., 6-5/32" long. Ask for Regent bulletin.



**"CUSTOM" CONVERTERS**

Dependable rotary power for operating office business machines, professional tape recorders, railroad, mobile and marine radio and radar equipment. Finest construction. Sealed ball bearings require no lubrication. Long life, continuous duty, high efficiency on all models. Only popular models listed here. For 30-cycle output, add \$6.00 to list prices. All models 100% power factor. Size: 200 watts, 12 1/2" w. x 6 3/4" d. x 7 1/4" h.; 210 and 300 watts, 11 1/2" w. x 500 watts, 12 1/2" w.; 750 watts, 13 1/2" w.

Carter Number	DC Input		List Price	Carter Number	DC Input		List Price
	Volts	Amps			Volts	Amps	
KSX1020C5P	230†	1.3†	\$310.00	D1030CP	115‡	4.6‡	\$260.00
DSX1020C5P	115†	2.6†	300.00	E1050CP	24†	33†	295.00
HSX1020C5P	64†	5†	300.00	C1050CP	32†	25†	295.00
CSX1020C5P	32†	9†	300.00	W1050CP	48†	16†	295.00
BR1021CP*	12‡	29‡	338.00	D1050CP	115†	7†	295.00
B1030CP	12‡	45‡	260.00	C1075CP	32‡	32‡	325.00
E1030CP	24‡	22‡	260.00	D1075CP	115‡	8.8‡	325.00
C1030CP	32‡	19‡	260.00	K1075CP	230‡	4.4‡	340.00

Watts At 115 v. AC. 60 cps. †200 \$300 ‡500 \*750.

\*Equipped with manual frequency control. On all other models, add \$90.00 to list prices. Filter available; add \$0.00 to list prices Add \$8.80 for built in capacitor filter.

**AUTOMATIC STAND-BY  
LOAD-TURNER CONVERTERS**

Starts automatically should AC power fail. Shuts off when power restored. Runs from batteries. Operates packing and control circuits for hospitals, schools, utilities, etc. Popular models listed. Other ratings from 200 to 750 watt output.

Carter Number	Input		AC Watts	List Price
	Volts	Amps		
B1030CPY	12	22	300	\$350.00
W1050CPY	48	16	500	385.00
D1050CPY	115	7	500	385.00
D1075CPY	115	8.8	750	415.00

**"CUSTOM" DYNAMOTORS**

For railroad and marine radio-telephone, industrial communications systems, locomotives, telephone emergency standby power, etc. Heavy duty construction. Low rpm speed, small temperature rise assure extra long life. Filter not normally required. Size: 12 1/2" x 6-11/16 x 7 1/2". Weight, 47 lbs.

Carter Number	Input Range	Output Volts	Output Recv.	Amps Trans.	List Price
KS1220P	236-261	12.8	5	18	\$320.00
DS1220P	118-132	12.8	5	18	310.00
HS1220P	67-71	12.8	5	18	310.00
CS1220P	33-37	12.8	5	18	310.00
WS1220P	45-50	12.8	5	18	310.00
DS640P	118-132	6.3	15	40	310.00
HS640P	67-71	6.3	15	40	310.00
CS640P	33-37	6.3	15	40	310.00
B2820P	11	28	—	20	310.00

**AC TO AC FREQUENCY CHANGERS**



Produces 115 v., 50 or 60 cycle AC output from 25 to 400 cycle input. For operating standard equipment on non-standard frequencies. Standard units are for single phase input and output. Three-phase output available on order. 70% PF models to run tape recorders, optional at no extra cost. For frequency control (meter), add \$50.00 to list price. Not regulated.

Carter Number	Output Watts*	List Price	Carter Number	Output Watts*	List Price
FC1020L	20	\$340.00	FC1025CP	250	\$650.00
FC1040L	40	350.00	FC1050CP	500	685.00
FC1080C	80	490.00	FC1075CP	750	715.00
FC1010C	100	500.00	FC10100M	1000	1310.00
FC1015C	150	510.00	FC10150M	1500	1375.00
FC1020C	200	520.00	FC10200M	2000	1450.00

\*60 cy. output. 50 cy. available.



**CARTER "CLASSIC"  
PM DC TACH-GENERATORS**

A high output DC Tachometer-Generator for slow speed industrial and commercial purposes. Barium ferrite magnet. Couples to motor shaft and to meter for direct readings without belts or gears to step up speed. Requires no batteries, transistors or other external excitation. 2 lead, reversible.

Code No.	DC output Volts per 1000	Mounting	Max. Speed RPM	List Price
CTA60AA	60	base	5000	\$78.00
CTA60BA	60	face	5000	78.00
CTA60CA	60	flange	5000	84.00
CTA50AA	50	base	6000	76.00
CTA50BA	50	face	6000	76.00
CTA50CA	50	flange	6000	82.00
CTA25AA	25	base	10000	74.00
CTA25BA	25	face	10000	74.00
CTA25CA	25	flange	10000	80.00

Models rated less than 4000 RPM maximum speed supplied with built-in capacitor filter to assure ripple of less than 3%. Unfiltered models will average 3% or less AC ripple.



ELECTRO

# ELECTRO REGULATED AND INDUSTRIAL POWER SUPPLIES

Stocked at your franchised ELECTRO distributor.

## PRECISION BUILT

The ELECTRO line provides a wide range of DC outputs up to 125 volts with adequate filtering for requirements ranging from critical transistor circuitry to applications permitting up to 5% ripple.

Every model is engineered to give unusual performance life per dollar. Each has an adjustable output voltage range. Meters indicating voltage and current are large, easy to read. Controls clearly marked. Output ter-

minals are isolated from the cabinet . . . several are rack mounted. A one-year warranty on every ELECTRO power supply. Designed for production line, industrial and educational laboratory applications.

## REGULATED



**Model PS-3A** (Fig. A) regulated power supply for transistor circuit development and experimental use. Output continuously variable. Regulation  $\pm 0.02\%$  line or load. Maximum ripple: 0.002%. Front panel controls.

**Model PSR-500 Series** (Fig. B) delivers 500 watts of DC power with output voltage reg-

ulated to less than 1% for both line and load changes. Maximum ripple less than 1%. All solid-state circuitry. Uses silicon rectifiers and SCR regulation. Fused input, circuit-breaker output protection.

Three models are available with output voltage ranges: 2-32v, 2-55v, and 2-125v.

## INDUSTRIAL

**Model EF** (Fig. C) provides variable voltage 0-28v or 0-14v at 5 amps continuous, 10 amps intermittent load. Ripple less than 1%. Uses selenium rectifiers.

**Models EFB and EFBR** (Figs. C, F) designed for very low ripple requirements of transistor work. Continuously variable voltage control. Selenium rectifiers. Employs chokes and capacitors in ripple filter. Model EFB Federal stock number 6130-957-1450. Model EFBR (Fig. F) same except with standard EIA rack panel.

**Models NFB and NFBR** (Figs. G, F) for continuous heavy-duty. Continuously variable output, 0-32v for loads to 15 amps. Ripple: less than 0.75% at 15 amps. Ripple filter circuit uses chokes and capacitors. Variable autotransformer for smooth control. Bridge-type silicon rectifiers. Model NFBR same except with standard EIA rack panel. (Federal stock number 6130-853-3127.)

**Models GFL, GFLR and GL** (Figs. D, F) low cost, semi-regulated, low ripple, higher voltage. Ideal for designing and testing DC appliances, telephone circuits, relays and solenoids; laboratory work. Continuously variable output 0-125v DC at 5 amps. Ripple: 0.5%. Silicon rectifiers. Overload protection. Model GFLR same except with standard EIA rack panel. Model GL same as GFL, but with less filtering. Ripple: 5% at 5 amps.

**Models PS-5 and PS-5R** (Figs. D, F) designed for 48-volt applications. Delivers 550 watts well-filtered DC output continuously variable 0-55v DC. Ripple: 0.5% rms at 10 amps. Silicon rectifiers. Model PS-5R same except with standard EIA rack panel.

**Model PS-1000-32** (Fig. G) similar to model NFB. Delivers 0-32v DC at 30 amps.

**Model PS-1000-55** (Fig. G) similar to model PS-5. Delivers 0-55v DC at 20 amps. (See table for other specifications.)



## Selection Guide—Power Supplies for every need

Model	Figure	Voltage Output	Amps. Output	Load Regulation* (V/A) †	Max. Ripple%	Meters:	DC Impedance (ohms)*	Size (HxWxD) inches	Weight lbs. (net)	Price (net)
<b>REGULATED</b>										
PS-3A	A	0-25	0-200MA	.02%	0.002	0-25V/200MA	.05	6-1/4 x 5 x 7	3-1/2	\$110.00
PSR-500-32	B	2-32	0-15	Less than 1%	Less than 1	0-50V, 0-25A	.02	9-3/4 x 14-1/4 x 14-1/4	52	375.00
PSR-500-55	B	2-55	0-10	Less than 1%	Less than 1	0-75V, 0-15A	.06	9-3/4 x 14-1/4 x 14-1/4	52	375.00
PSR-500-125	B	2-125	0-5	Less than 1%	Less than 1	0-150V, 0-5A	.25	9-3/4 x 14-1/4 x 14-1/4	52	395.00
<b>INDUSTRIAL</b>										
EF	C	0-28 0-14	0-5 0-5	0.9 (1-5A) 0.6 (1-5A)	1.0 1.0	0-50V, 0-6A	0.9 (1-5A) 0.6 (1-5A)	7 x 12 x 8-1/2	21	120.00
EFB	C	0-32 0-16	0-4 0-8	1.25 1.0	0.1 0.1	0-40/20V, 0-10A	1.25 1.0	7 x 12 x 8-1/2	31	160.00
EFBR	F	0-32 0-16	0-4 0-8	1.25 1.0	0.1 0.1	0-40/20V, 0-10A	1.25 1.0	8-3/4 x 19 x 8-1/2	34	180.00
GFA	E	0-125	0-10	1.6	1.0	0-150V, 0-10A	1.6	14-1/4 x 22 x 15-3/4	150	625.00
GFL	D	0-125	0-5	1.5	0.5	0-150V, 0-5A	1.5	9-3/4 x 14-1/4 x 14-1/4	79	317.50
GFLR	F	0-125	0-5	1.5	0.5	0-150V, 0-5A	1.5	10-1/2 x 19 x 14-1/4	90	337.50
GL	D	0-125	0-5	1.5	5.0	0-150V, 0-5A	1.5	9-3/4 x 14-1/4 x 14-1/4	75	297.50
NFB	G	0-32	0-15	0.4	0.75	0-50V, 0-25A	0.4	9-3/4 x 14-1/4 x 14-1/4	74	295.00
NFBR	F	0-32	0-15	0.4	0.75	0-50V, 0-25A	0.4	10-1/2 x 19 x 14-1/4	85	310.00
PS-5	D	0-55	0-10	0.8	0.5	0-75V, 0-15A	0.8	9-3/4 x 14-1/4 x 14-1/4	68	310.00
PS-5R	F	0-55	0-10	0.8	0.5	0-75V, 0-15A	0.8	10-1/2 x 19 x 14-1/4	79	330.00
PS-1000-32	G	0-32	0-30	0.2	0.75	0-50V, 0-50A	0.2	9-3/4 x 14-1/4 x 19-1/4	104	398.00
PS-1000-55	G	0-55	0-20	0.5	0.5	0-75V, 0-25A	0.5	9-3/4 x 14-1/4 x 19-1/4	104	398.00

\*Voltage output continuously variable.

†Output voltage change for each ampere of output current change, except on regulated units % applies for either line or load.

\*No-load to full-load unless otherwise specified.

†All 2% accuracy.

Rectifiers: Selenium and Silicon ("avalanche" characteristics on industrial units.)

**ELECTRO PRODUCTS LABORATORIES, INC.**

World Radio History



ELECTRO

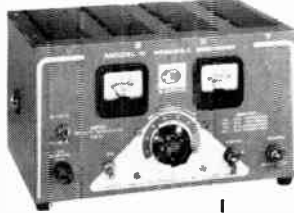
# ELECTRO GENERAL PURPOSE POWER SUPPLIES • INVERTERS

Available through your electronic distributor. Prices and models subject to change.

## GENERAL PURPOSE



H



I



L



K

J

**Model D-612T, Model H** (Figs. H & I) low ripple; for servicing transistor auto and portable radios. Maximum output power in this price range. Ideal for citizens' band transceivers, battery charging, solenoids, etc., requiring up to 16v DC. Model H heavy duty; dual range. Ideal as storage battery replacement in school laboratories, thermoelectric power source, and other high-current, low-voltage applications.

**Model EC-1** (Fig. J) reliable, low cost. 12v DC with 5 amp. output for school labs and industrial research, production testing, etc. Low-cost source for FM and AM auto radio demonstrations. Max. ripple 0.5%. EPL patented rectifier conduction cooling. Used vertically or horizontally.

**Model EC-2** (Fig. K) low priced unit for auto radio and transistor portable servicing. Wide applications in research and development. Continuously variable voltage adjustment provides versatility. Max. ripple 0.5% at 5 amps. Patented conduction cooling. Used vertically or horizontally.

**Models PS-30 and PS-50** (Fig. L) heavy duty adjustable 12-volt unit for servicing auto, aircraft and marine communications equipment. Useful in industrial and educational labs, thermoelectric cooling power source, etc. Maximum ripple at maximum current 1%. 8-position tap switch output voltage adjust. Heavy overload capacity. Model PS-50 delivers 50 amps. continuously. Model PS-30 delivers 30 amps. continuously.

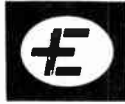
Model	Figure	Voltage Output	Amps. Output	Load Regulation* (V/A) †	Max. Ripple%	Meters‡	DC Impedance (ohms)*	Size (HxWxD) inches	Weight lbs. (net)	Price (net)
<b>GENERAL PURPOSE</b>										
D-612T	H	0-16 0-8	0-10 0-10	0.44 (3-10A) 0.3 (3-10A)	{ 0.5@5A } { 2@10A }	0-20V, 0-10A	0.44 (3-10A) 0.3 (3-10A)	7 x 12 x 8-1/2	20	79.50
H	I	12 (adj.) 6 (adj.)	0-10 0-20	0.23 (3-10A) 0.15 (3-20A)	5 5	0-20V, 0-30A	0.23 (3-10A) 0.15 (3-20A)	7 x 12 x 8-1/2	29	99.50
EC-1	J	12 (adj.)	0-5	1.4	0.5	None	1.4	10-3/4 x 4-3/8 x 6-1/2	10	37.50
EC-2	K	0-16	0-5	1.8	0.5	0-20V/10A	1.8	10-3/4 x 4-3/8 x 6-1/2	9	51.25
PS-30	L	12 (adj.)	0-30	0.12 (6-30A)	1	0-20V, 0-50A	0.27	9-3/4 x 14-1/4 x 14-1/4	56	198.00
PS-50	L	12 (adj.)	0-50	0.17	1	0-20V, 0-50A	0.17	9-3/4 x 14-1/4 x 19-1/4	90	298.00

\*Voltage output continuously variable except where shown.

†Output voltage change for each ampere of output current change.

\*No-load to full-load unless otherwise specified.

‡All 2% accuracy except 5% for general purpose units  
Rectifiers: Selenium and Silicon.



ELECTRO

## ELECTRO DC TO AC TRANSISTORIZED INVERTERS

Convert 12v DC to 117v AC from car, boat or plane battery. Ample power for TV sets, lights, recorders, PA systems, etc.

Operate portable TV, radio, lights, PA systems, tape recorders, CB, small appliances, etc., from car, boat or truck battery. All models feature on-off switch, "start" switch for hard-to-start loads, AC receptacle on control panel, battery-protecting fuse. Automatic electronic turn-off circuitry protects transistors from overload. Charge indicator light (except model TI-100A) gives low charge or overload warning. Compact, lightweight, rugged metal cases. Square-wave output regulated to 5 cps (not recommended where sine wave output is required, nor for refrigerators).

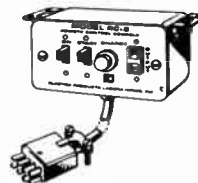
**Model TI-100A** compact, low cost—converts 12v DC to 117v AC, 125 watts 60 cy. Plug for use with car cigarette lighter.



**Model TI-100TR** same except with compensating switch to assure proper frequency for tape-recorders and other low-power factor loads (80 w). Battery charge indicator light.



**Model TI-250** has 250/300 watt output for a wider range of applications. Features (1) electronic overload protection, (2) start switch, (3) battery indicator light, (4) includes cables for connection to battery or DC source.



**Model RC-2 Remote Control** A remote control console is available for the model TI-250 inverter. An 8 ft. cord is provided for operation from remote location.

INVERTERS						
Model	Conversion	Output	Freq. Reg.	Size (in.)	Ship. Wt. (lbs.)	Price
TI-100A	12v DC to 117v AC	125w. cont.	5 cy/sec. NL to FL	3½ x 6¼ x 6¼	7	\$46.50
TI-100TR	12v DC to 117v AC	125w. cont.	5 cy/sec. NL to FL	3½ x 6¼ x 6¼	7	54.50
TI-250	12v DC to 117v AC	250w. cont. 300w. inter.	4 cy/sec. NL to FL	4½ x 10 x 7½	11	96.00
ACCESSORIES						
Model	Description		Size (in.)	Ship. Wt. (lbs.)	Price	
RC-2	Remote Control Console for Model TI-250 (with 8-ft. cord for operation from remote location)		2½ x 4½ x 2½	2	\$17.75	
BCA-1	Battery Clip Adaptor for Models TI-100A & TI-100TR (clip directly to battery terminals)		¾ ft. cable	1	3.00	
BCA-2	Battery Clip Adaptor for Model TI-250		4 ft. cable	1	6.49	

ELECTRO PRODUCTS LABORATORIES, INC.,



# FLASHLIGHTS, LANTERNS and BATTERIES

the world's most trusted brand for over 50 years!

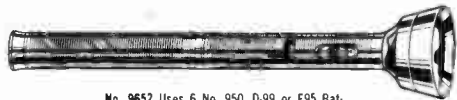
ALL PRICES WITHOUT BATTERIES.

## "CAPTAIN" FLASHLIGHTS . . . Classic Design

- Heavy-Duty Copper/Nickel/Chrome/Plated Steel
- Exclusive 3-Way Lock Switch and Flasher
- End-Loading . . . Ring Hanger



No. 9951 Magnet Lite. Uses 2 No. 950, D-99 or E95 Batteries, No. PR2 Lamp.



No. 9652 Uses 6 No. 950, D-99 or E95 Batteries, No. PR18 Lamp. Also available: No. 9352—Uses 3 No. 950, D-99 or E95 Batteries, No. PR3 Lamp.



No. 9251 Uses 2 No. 950, D-99 or E95 Batteries, No. PR2 Lamp. Also available: No. 9351—Uses 3 No. 950, D-99 or E-95 Batteries, No. PR3 Lamp and No. 9231—Uses 2 No. 935 or E93 Batteries, No. PR4 Lamp.



No. 3300 Rechargeable Flashlight—Twice the Light of standard 2-Cell Flashlights . . . never needs batteries! Uses rechargeable battery, No. PR3 Lamp.

No. 3200 Rechargeable Flashlight—Compact. Never needs batteries. Available in Blue or Black.

	No. 3200	No. 3300	No. 9231	No. 9251	No. 9351	No. 9352	No. 9652	No. 9951
List Each	\$9.95	\$14.95	\$2.29	\$2.29	\$2.95	\$3.95	\$5.95	\$2.95
Sugg. Dealer	5.97	8.97	1.53	1.53	1.97	2.64	3.81	1.97

## WEATHERPROOF LANTERNS



No. 100WB "Big Jim" Lantern w/ flasher and 1 No. 731 Battery, No. 4546 Lamp, No. 407 Signal Lamp.

No. 101WB Same without flasher



No. 108A All American Lantern. "Cordahide" polyethylene construction. Uses 1 No. 509 Battery, No. PR13 Lamp.

No. 68A Display—Contains 3 No. 108A All American Lanterns in Colors (white, red, black).



No. 112 individually boxed (red) All American Lantern with unique power cartridge. "Cordahide" polyethylene construction. Uses No. PR12 Lamp, 5 No. 950, D99 or E95 batteries.

No. 72 Display. 3 No. 112 All American Lanterns in colors (red, blue, gray).



No. 150 "Captain" Stainless Steel Lantern Uses 1 No. 520 Alkaline Battery and No. 4618 1-ampere Lamp for Double Brilliance, Longer Service, No. 407 Signal Lamp.

No. 151 Same without flasher.

	No. 68A	No. 72	No. 100WB	No. 101WB	No. 108A	No. 112	No. 150	No. 151
List Each	\$15.92	\$8.94	\$13.95	\$11.95	\$3.98	\$2.98	\$14.00	\$12.00
Sugg. Dealer	10.60	5.97	8.90	7.55	2.65	1.99	8.39	7.19

## "CORDAHIDE" polyethylene FLASHLIGHTS—

Insulated, Withstand Abuse,  
Resists Oils, Greases,  
Most Chemicals.



No. 330 Utility Lite. Uses 2 No. 950, D-99 or E95 Batteries, No. PR2 Lamp. Available individually boxed (No. 330).



No. 349 Handy Lite. Uses 2 No. 935 or E93 Batteries, No. PR4 Lamp. Available in assortment of 6 (No. 49) in colors.



No. 337 Magnet Utility Lite. Uses 2 No. 950, D-99 or E95 Batteries, No. PR2 Lamp. Available individually boxed (No. 337) or in display of 12 (No. 51) in Colors.

	No. 49	No. 51	No. 330	No. 337
List Each	\$5.94	\$16.68	\$0.99	\$1.39
Sugg. Dealer	4.14	11.16	0.70	0.94

## INDUSTRIAL and SPECIAL PURPOSE LITES



### Industrial Flashlights

No. 1251—2 Cell, No. PR6 Lamp. No. 1351—3 Cell, No. PR7 Lamp. Uses Nos. 950, 1050, D99 or E95 Batteries. Will not shatter crack or dent.



### Safety Flashlights

No. 1259—2 Cell, No. PR6 Lamp. No. 1359—3 Cell, No. PR7 Lamp. Uses Nos. 950, 1050, D99 or E95 Batteries. Approved by U.S. Bureau of Mines, Listed by Underwriters' Laboratories, Inc.



No. 3452 Head-Lite. Uses 1 No. 510S Battery and No. PR13 Lamp. Rainproof pouch also available (No. 1348).



### Torch Lite

No. 273—3" wand, No. 275—5" wand. Uses 2 No. 950, D99 or E95 Batteries and No. PR2 Lamp.

	No. 213	No. 275	No. 1251	No. 1259	No. 1348	No. 1351	No. 1359	No. 3452
List Each	\$1.49	\$1.59	\$2.89	\$4.15	\$0.79	\$3.29	\$4.35	\$3.29
Sugg. Dealer	.99	1.05	1.93	2.74	0.53	2.19	2.89	2.14

## HEAVY-GUAGE, CHROME-PLATED METAL FLASHLIGHTS



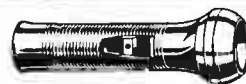
**America's Standard**

No. 2251 All-Purpose Flashlight—2 Cell, No. PR2 Lamp. Use Nos. 950, D-99 or E95 Batteries. Available individually.



**Magnet Lites**

No. 5MF Magnet Lite—2 Cell, No. PR2 Lamp, No. 7MF—3 Cell, No. PR3 Lamp. Use Nos. 950, D-99 or E95 Batteries. Available individually boxed. No. 5MF available in display of 6 with Selling Tags (No. 65MF).



No. 350 "Highlander II" Lite—Uses 2 No. 950, D-99 or E95 Batteries, No. PR2 Lamp. Available in No. 27-A Display—containing 2 No. 350 Lites.



**Leader Lites**

No. 356 Leader Lite—Uses 2 No. 950, D-99 or E95 Batteries, No. PR2 Lamp. Available in Display No. 16A (containing 12 No. 356 Lites).



No. 3251 All American Lites—Uses 2 No. 950, D-99 or E95 Batteries, No. PR2 Lamp. Available in Counter Display of 12 Lites (No. 131). Also available No. 339—Uses 2 No. 935 or E93 Batteries, No. PR4 Lamp/Display.

	No. 5MF	No. 6-5MF	No. 7MF	No. 16A	No. 131	No. 2251
List Each	\$1.99	\$11.94	\$2.49	\$11.88	\$14.28	\$1.95
Sugg. Dealer	1.33	7.98	1.66	7.56	\$9.48	1.30

## MINIATURE FLASHLIGHTS



No. 115 "Little Jim" Pocket Lite—Uses 1 No. 915 or E91 Battery, No. 112 Lamp. Available in Counter Display of 12 (No. 15).



No. 315 Heavy Duty Penlite. Uses 2 No. 915 or E91 Batteries and No. 222 Lamp. Available individually boxed or in Counter Display of 12 (No. 22).



No. 312 Slim Penlite. Uses 2 No. 912 or E92 Batteries and No. 224 Lamp. Available individually boxed or in Counter Display of 12 (No. 12).



No. 178 Display combination miniature lite assortment contains: 6 each of Slim and Heavy Duty Penlites and 6 "Little Jim" Pocket Lites.

	No. 12	No. 15	No. 22	No. 170	No. 312	No. 315
List Each	\$15.48	\$9.48	\$15.48	\$20.22	\$1.29	\$1.29
Sugg. Dealer	10.20	6.30	10.20	13.35	.85	0.85

# EVEREADY® BATTERIES with *POWER TO SPARE*

(See complete line listing for prices)

## POPULAR FLASHLIGHT BATTERIES



No. 915  
Size AA



No. 935  
Size C



No. 950  
Size D



No. 099  
Heavy-Duty  
Size D

## ENERGIZERS FOR TRANSISTOR RADIOS and other electronic applications



No. 206  
9 Volts



No. 216  
9 Volts



No. 226  
9 Volts



No. 333  
4 1/2 Volts



No. 1035  
Size C  
1 1/2 Volts



No. 1015  
Size AA  
1 1/2 Volts

## SUPER POWER ALKALINE BATTERIES

for radios, cameras, toys, flashlights, and high drain applications, rechargeable TV



No. E90  
Size AA  
1 1/2 Volts



No. E91  
Size AA  
1 1/2 Volts



No. 563  
4 1/2 Volts



No. E93  
Size C  
1 1/2 Volts



No. E95  
Size D  
1 1/2 Volts



No. E92  
Size AAA  
1 1/2 Volts



No. 523  
4 1/2 Volts



No. 561  
15 Volts



COMPLETE LINE SPECIFICATIONS



MERCURY BATTERIES



No. E9  
1.4 Volts



No. E146X  
8.4 Volts



No. E133  
4.2 Volts

SEALED NICKEL CADMIUM RECHARGEABLE BATTERIES



B50  
1.25 Volts



C450  
1.25 Volts



CH4  
1.25 Volts



R2  
1.25 Volts

LANTERN BATTERIES



No. 509 — Spring  
No. 510S — Screws  
No. 510F — Fahnestock  
6 Volts



No. 731  
6 Volts



No. 520  
6 Volts  
Alkaline

OTHER BATTERIES



No. 6 "Ignitor"  
1½ Volts



"HOT SHOT"  
No. 1461 6 Volts  
No. 1462 6 Volts  
No. 1463 12 Volts  
No. 1562 7½ Volts  
No. 1662 9 Volts



EMERGENCY LIGHTING  
No. 715 7½ Volts  
No. 706 6 Volts  
No. 716 9 Volts

Eveready® Battery Number	NEDA Number	Overall Dimensions in Inches		Terminals & Voltages	Battery Weight		Unit Pkg. Quan.	Sugg. Dealer Each	List Each	Major Use		
		L	W		H	lbs.					ozs.	
B1	—	Nickel Cad.	1.980	Diam. x 0.394	Flat Contacts—	+1.25	—	1.8	1	2.66	Instr., Hobby, Trans. Appl., Misc.	
B1T	—	Nickel Cad.	1.980	Diam. x 0.406	Solder Tabs—	+1.25	—	1.8	1	2.79		
BH1	—	Nickel Cad.	1.980	Diam. x 0.394	Flat Contacts—	+1.25	—	2.0	1	2.79		
BH1T	—	Nickel Cad.	1.980	Diam. x 0.406	Solder Tabs—	+1.25	—	2.0	1	2.92		
E1	1100	Mercury	0.625	Diam. x 0.650	Flat Contacts—	+1.35	—	0.43	4	0.57	Meters, Instr., Misc.	
E1N	—	Mercury	0.625	Diam. x 0.650	Flat Contacts—	+1.35	—	0.43	4	0.64		
EPX-1	—	Mercury	0.625	Diam. x 0.650	Flat Contacts—	+1.35	—	0.43	4	0.66	Meters, Instr., Misc.	
C1.2	—	Nickel Cad.	0.900	Diam. x 1.684	Flat Contact—	Solder Tab +1.25	—	1.7	1	2.32		
C1.2T	—	Nickel Cad.	0.900	Diam. x 1.689	Solder Tabs—	+1.25	—	1.7	1	2.45	Instr., Trans. Appl., Misc.	
CH1.2	—	Nickel Cad.	0.900	Diam. x 1.684	Flat Contact—	Solder Tab +1.25	—	1.7	1	2.58		
CH1.2T	—	Nickel Cad.	0.900	Diam. x 1.689	Solder Tabs—	+1.25	—	1.7	1	2.71	Camera Light Meter	
CH1.5	—	Nickel Cad.	1.031	Diam. x 1.969	Flat Contact—	Solder Tab +1.25	—	2.3	1	4.06		
CH1.5T	—	Nickel Cad.	1.031	Diam. x 1.974	Solder Tabs—	+1.25	—	2.3	1	4.19	Meters, Instr., Misc.	
RH1.6	—	Nickel Cad.	1½	x ¾ x 2½	Nut & Stud—	+1.25	—	4.1	1	3.53		
B2	—	Nickel Cad.	1.984	Diam. x 0.689	Flat Contact—	+1.25	—	3.4	1	4.69	Instr., Hobby, Trans. Appl., Misc.	
B2T	—	Nickel Cad.	1.984	Diam. x 0.701	Solder Tabs—	+1.25	—	3.4	1	4.82		
C2	—	Nickel Cad.	1.344	Diam. x 2.406	Flat Contact—	Solder Tab +1.25	—	5.0	1	4.06	Instr., Hobby, Trans. Appl., Misc.	
C2T	—	Nickel Cad.	1.344	Diam. x 2.416	Solder Tabs—	+1.25	—	5.0	1	4.19		
R2	—	Nickel Cad.	1¾	x 1¾ x 2½	Nut, Stud & Tab—	+1.25	—	6.0	1	5.97	Meters, Instr., Misc.	
RH2.6	—	Nickel Cad.	1½	x ¾ x 4¼	Nut & Stud—	+1.25	—	6.8	1	5.51		
B3	—	Nickel Cad.	1.984	Diam. x 0.984	Flat Contacts—	+1.25	—	4.8	1	5.70	Meters, Instr., Misc.	
B3T	—	Nickel Cad.	1.984	Diam. x 0.996	Solder Tabs—	+1.25	—	4.8	1	5.83		
E3	—	Mercury	0.985	Diam. x 0.660	Flat Contacts—	+1.35	—	.93	4	1.05	Meters, Instr., Misc.	
R3.5	—	Nickel Cad.	1¾	x 1¾ x 3¾	Nut, Stud & Tab—	+1.25	—	9.2	1	7.12		
CH4	—	Nickel Cad.	1.344	Diam. x 2.406	Flat Contact—	Solder Tab +1.25	—	5.4	1	5.69	Instr., Hobby, Trans. Appl., Misc.	
CH4T	—	Nickel Cad.	1.344	Diam. x 2.416	Solder Tabs—	+1.25	—	5.4	1	5.82		
E4	—	Mercury	1.195	Diam. x 0.660	Flat Contacts—	+1.25	—	1.6	4	1.31	Meters, Instr., Misc.	
EPX-4	—	Mercury	0.662	Diam. x 1.965	Flat Contacts—	+5.4	—	1.16	1	1.57		
RH4	—	Nickel Cad.	1½	x 6¼ x 4¼	Nut & Stud—	+1.25	—	9.5	1	8.40	Camera	
R4.5	—	Nickel Cad.	1½	x 1¼ x 3½	Nut & Stud—	+1.25	—	13.4	1	9.35		
No. 6 "Ignitor" Gen. Purpose	905	Carb. Zinc	2½	Diam. x 6½	**Knurled Nut & Screw—	+1.5	2	2.0	1	0.91	1.35	Ign. Lighting
No. 6 "Gray Label" Telephone	914	Carb. Zinc	2½	Diam. x 6½	***Fahnestock—	+1.5	2	2.0	1	0.91	1.35	Tele.
No. 6 Railroad & Industrial	911	Carb. Zinc	2½	Diam. x 6½	**Knurled Nut & Screw—	+1.5	2	3.0	1	0.94	1.40	Ign., Tele.
EPX-6	—	Mercury	0.662	Diam. x 4.415	Flat Contacts—	+4.05, +8.1	—	1.6	1	2.75	3.95	Camera
R6	—	Nickel Cad.	2½	x 1¼ x 3¼	Nut & Stud—	+1.25	—	15.7	1	10.21	14.60	Instr., Trans. Appl., Misc.
RH7	—	Nickel Cad.	1½	x 1¾ x 4¼	Nut & Stud—	+1.25	—	14.7	1	11.96	17.10	
R7.5	—	Nickel Cad.	2½	x 1¼ x 4¼	Nut & Stud—	+1.25	1	1.6	1	11.17	15.95	
E9	15M	Mercury	0.550	Diam. x 1.968	Flat Contacts—	+1.4	—	1.05	4	0.64	0.95	Trans. Radio

\*NEDA number same as an "Eveready" battery number on a different battery. Omitted to prevent errors in shipping.  
 \*\*Equipped with screw terminals unless Fahnestock spring terminals are specified.  
 \*\*\*Equipped with Fahnestock spring terminals unless screw terminals are specified.  
 • Items differ from corresponding sizes in that they have tabs enabling the user to solder leads to battery without damage.  
 □ Flashlight types.



## COMPLETE LINE SPECIFICATIONS



"Eveready" Battery Number	NEDA Number	Chemical System	Overall Dimensions in Inches			Terminals & Voltages	Battery Weight		Unit Pkg. Quan.	Sugg. Dealer Each	List Each	Major Use	
			L	W	H		lbs.	ozs.					
R11	—	Nickel Cad.	3 1/32 x 1 1/8 x 4 3/8	—	—	Nut & Stud	1	12.0	1	13.79	19.70	Instr., Trans. Appl., Misc.	
E12	1101	Mercury	0.640 Diam. x 1.968	—	—	Flat Contacts	—	1.6	2	0.92	1.35	Trans. Radio	
E12N	—	Mercury	0.640 Diam. x 1.968	—	—	Flat Contacts	—	1.6	2	1.05	1.50	Instr., Misc.	
E13	—	Mercury	0.310 Diam. x 0.210	—	—	Flat Contacts	—	0.04	6	0.27	0.40	Electr. Dev.	
S13	—	Silver	0.310 Diam. x 0.210	—	—	Flat Contacts	—	0.04	6	0.27	0.40	Electr. Dev.	
EPX-13	—	Mercury	0.615 Diam. x 0.238	—	—	Flat Contacts	—	0.14	4	0.50	0.75	—	
EPX-14	—	Mercury	0.655 Diam. x 0.607	—	—	Flat Contacts	—	0.27	4	1.05	1.50	Camera Light Meter	
R15	—	Nickel Cad.	3 1/32 x 1 1/8 x 4 3/8	—	—	Nut & Stud	2	2.9	1	16.78	23.95	—	
RH15	—	Nickel Cad.	3 1/32 x 1 1/8 x 4 3/8	—	—	Nut & Stud	1	9.5	1	21.57	30.75	—	
R19	—	Nickel Cad.	3 1/32 x 1 1/8 x 4 3/8	—	—	Nut & Stud	2	9.6	1	19.90	28.45	Instr., Trans. Appl., Misc.	
B20	—	Nickel Cad.	0.457 Diam. x 0.213	—	—	Flat Contacts	—	.4	1	1.05	1.50	—	
B20T	—	Nickel Cad.	0.457 Diam. x 0.223	—	—	Solder Tabs	—	.4	1	1.18	1.70	—	
EPX-23	—	Mercury	0.590 Diam. x 0.767	—	—	Flat Contacts	—	0.12	6	0.60	0.85	Photoflash	
R23	—	Nickel Cad.	3 1/32 x 1 1/8 x 4 3/8	—	—	Nut & Stud	3	1.6	1	22.94	32.75	Instr. Misc.	
T35	—	Carb. Zinc	1 1/2 Diam. x 1 1/8	—	—	Flat Contacts	—	1.4	6	0.39	0.60	Elec. Clock	
E41	—	Mercury	0.455 Diam. x 0.162	—	—	Flat Contacts	—	0.07	6	0.27	0.40	Electr. Dev.	
S41	—	Silver	0.455 Diam. x 0.165	—	—	Flat Contacts	—	0.06	6	0.27	0.40	Novelties	
F42	13M	Mercury	1 1/2 Diam. x 2.390	—	—	Flat Contacts	—	5.85	1	2.85	4.25	—	
F42N	—	Mercury	1 1/2 Diam. x 2.390	—	—	Flat Contacts	—	5.85	1	2.85	4.25	—	
B50	—	Nickel Cad.	0.610 Diam. x 0.235	—	—	Flat Contacts	—	0.12	1	0.70	1.00	Instr., Trans. Appl., Misc.	
B50T	—	Nickel Cad.	0.610 Diam. x 0.245	—	—	Solder Tabs	—	0.12	1	0.83	1.20	—	
T50	—	Carb. Zinc	1 1/2 Diam. x 2 1/8	—	—	Flat Contacts	—	3.3	6	0.48	0.75	—	
N63	—	Nickel Cad.	2.81 x 2.81 x 1.32	—	—	Spade Terminals	—	12.5	1	26.60	38.00	Elec. Clock	
N65	—	Nickel Cad.	7.32 x 3.1 x 1.46	—	—	Socket	—	11.0	1	101.28	145.00	—	
N67	—	Nickel Cad.	1 3/8 x 1 3/8 x 4 1/8	—	—	Wire Leads	—	8.3	1	18.38	26.50	Instr., Trans. Appl., Misc.	
N70	—	Nickel Cad.	3 3/8 x 1 3/8 x 4 3/8	—	—	Wire Leads	—	12.0	1	29.62	42.50	—	
S76	—	Silver	0.455 Diam. x 0.200	—	—	Flat Contacts	—	0.08	6	0.30	0.45	Novelties	
EPX77	—	Silver	0.455 Diam. x 0.220	—	—	Flat Contacts	—	0.09	6	0.66	1.00	Camera Lt. Meter	
E90	910A	Alkaline	0.470 Diam. x 1.130	—	—	Flat Contacts	—	0.35	2	0.27	0.40	Radio, Electr. Dev.	
E91	15A	Alkaline	3/8 Diam. x 1 1/2	—	—	Flat Contacts	—	0.75	24	0.325	0.50	—	
E92	24A	Alkaline	0.410 Diam. x 1.745	—	—	Flat Contacts	—	0.4	12	0.325	0.50	Electr. Photoflash	
E93	14A	Alkaline	1 1/2 Diam. x 1 1/8	—	—	Flat Contacts	—	2.2	12	0.39	0.60	Radio, Electr. Dev.	
E94	927	Alkaline	1 1/2 Diam. x 1 1/8	—	—	Flat Contacts	—	1.8	12	0.39	0.60	Spec. Lighting Appl.	
E95	13A	Alkaline	1 1/2 Diam. x 2 1/8	—	—	Flat Contacts	—	4.5	12	0.49	0.75	Electr. Photoflash, Comm. Equip.	
D99	13D	Carb. Zinc	1 1/2 Diam. x 2 1/8	—	—	Flat Contacts	—	3.3	48	0.19	0.30	Flashlight, Toys	
B100	—	Nickel Cad.	0.992 Diam. x 0.252	—	—	Flat Contacts	—	0.32	1	0.77	1.10	—	
B100T	—	Nickel Cad.	0.992 Diam. x 0.264	—	—	Solder Tabs	—	0.32	1	0.90	1.30	—	
E113	—	Mercury	0.660 Diam. x 0.845	—	—	Flat Contacts	—	0.45	2	1.72	2.50	Instr.	
E114	—	Mercury	0.660 Diam. x 1.08	—	—	Flat Contacts	—	0.59	2	1.85	2.65	—	
E115	—	Mercury	0.660 Diam. x 1.4	—	—	Flat Contacts	—	0.73	2	2.00	2.85	—	
E115N	—	Mercury	0.660 Diam. x 1.4	—	—	Flat Contacts	—	0.73	2	2.06	2.95	—	
E126	1611M	Mercury	0.724 Diam. x 2	—	—	Flat Contacts	—	1.65	1	1.32	1.95	Trans. Radio	
E132	1200	Mercury	0.662 Diam. x 1.315	—	—	Flat Contacts	—	0.9	2	1.05	1.50	—	
E132N	—	Mercury	0.662 Diam. x 1.315	—	—	Flat Contacts	—	0.9	2	1.17	1.65	—	
E133	1306M	Mercury	0.662 Diam. x 1.965	—	—	Flat Contacts	—	1.4	12	1.32	1.95	—	
E133N	—	Mercury	0.662 Diam. x 1.965	—	—	Flat Contacts	—	1.4	2	1.37	2.00	—	
E134	—	Mercury	0.662 Diam. x 2.620	—	—	Flat Contacts	—	1.9	2	1.57	2.25	—	
E134N	—	Mercury	0.662 Diam. x 2.620	—	—	Flat Contacts	—	1.9	2	1.72	2.50	—	
E135	—	Mercury	0.662 Diam. x 3.275	—	—	Flat Contacts	—	2.4	2	2.06	2.75	Instr., Trans. Appl.	
E135N	—	Mercury	0.662 Diam. x 3.275	—	—	Flat Contacts	—	2.4	2	2.06	2.95	—	
E136	—	Mercury	0.662 Diam. x 3.930	—	—	Flat Contacts	—	2.9	2	2.27	3.25	—	
E136N	—	Mercury	0.662 Diam. x 3.930	—	—	Flat Contacts	—	2.9	2	2.40	3.50	—	
E137	—	Mercury	0.662 Diam. x 4.585	—	—	Flat Contacts	—	3.3	1	2.62	3.75	—	
E137N	—	Mercury	0.662 Diam. x 4.585	—	—	Flat Contacts	—	3.3	1	2.80	4.00	—	
E145	—	Mercury	2 1/2 Diam. x 1 3/8	—	—	Flat Contacts	—	.07	2	1.98	2.90	—	
E146X	1604M	Mercury	1 1/2 x 3/4 x 2	—	—	Min. Snap	—	1.6	6	1.32	1.95	Trans. Radio	
B150	—	Nickel Cad.	0.992 Diam. x 0.272	—	—	Flat Contacts	—	0.4	1	0.80	1.15	—	
B150T	—	Nickel Cad.	0.992 Diam. x 0.284	—	—	Solder Tabs	—	0.45	1	0.93	1.35	Instr., Trans. Appl., Misc.	
E152	—	Mercury	0.485 Diam. x 1.140	—	—	Flat Contacts	—	0.42	2	0.87	1.25	—	
E152N	—	Mercury	0.485 Diam. x 1.140	—	—	Flat Contacts	—	0.42	2	1.05	1.50	—	
E153	—	Mercury	0.485 Diam. x 1.708	—	—	Flat Contacts	—	0.6	2	1.27	1.85	Instr.	
E153N	—	Mercury	0.485 Diam. x 1.708	—	—	Flat Contacts	—	0.6	2	1.39	2.00	—	
E162	—	Mercury	0.662 Diam. x 0.887	—	—	Flat Contacts	—	0.58	2	1.05	1.50	—	
E163	1305	Mercury	0.662 Diam. x 1.327	—	—	Flat Contacts	—	0.87	2	1.32	1.95	—	
E163N	—	Mercury	0.662 Diam. x 1.327	—	—	Flat Contacts	—	0.87	2	1.65	2.45	—	
E164	1404	Mercury	0.662 Diam. x 1.767	—	—	Flat Contacts	—	1.16	12	1.32	1.95	Instr., Trans. Appl.	
E164N	—	Mercury	0.662 Diam. x 1.767	—	—	Flat Contacts	—	1.16	2	1.57	2.25	—	
E165	1500	Mercury	0.662 Diam. x 2 1/2	—	—	Flat Contacts	—	1.45	2	1.70	2.50	—	
E165N	—	Mercury	0.662 Diam. x 2 1/2	—	—	Flat Contacts	—	1.45	2	1.90	2.75	—	
E169	1901	Mercury	0.622 Diam. x 3 3/8	—	—	Flat Contacts	—	4.2	1	3.50	4.95	—	
E175	1501	Mercury	1 1/2 Diam. x 1 1/2	—	—	Flat Contacts	—	1.0	1	1.05	1.50	—	
E177	1606A	Alkaline	3/8 Diam. x 1 1/2	—	—	Min. Snap	—	0.67	1	1.29	1.89	Trans. Radio	
206	1611	Carb. Zinc	3/4 Diam. x 2	—	—	Flat Contact, Neg. Recess.	—	1.2	6	0.62	0.98	—	
216	1604	Carb. Zinc	1 1/2 x 3/4 x 1 1/2	—	—	Min. Snap	—	1.3	12	0.48	0.69	—	
222	1604D	Carb. Zinc	1 1/2 x 3/4 x 1 1/2	—	—	Min. Snap	—	1.3	12	0.64	0.98	—	
B225	—	Nickel Cad.	0.992 Diam. x 0.35	—	—	Flat Contacts	—	0.44	1	0.83	1.20	—	
B225T	—	Nickel Cad.	0.992 Diam. x 0.363	—	—	Solder Tabs	—	0.44	1	0.97	1.40	Instr., Hobby Trans. Appl., Misc.	
BH225	—	Nickel Cad.	0.992 Diam. x 0.358	—	—	Flat Contacts	—	0.40	1	0.97	1.40	—	
BH225T	—	Nickel Cad.	0.992 Diam. x 0.370	—	—	Solder Tabs	—	0.4	1	1.10	1.60	—	
226	1600	Carb. Zinc	1 Diam. x 1 1/8	—	—	Snap Type	—	2.0	6	0.68	0.98	Trans. Radio	
228	1810	Carb. Zinc	1 Diam. x 2 1/8	—	—	Snap Type	—	2.3	1	1.05	1.50	—	
E233	1300	Mercury	1 1/4 Diam. x 1 1/2	—	—	Flat Contacts	—	3.0	1	2.34	3.50	—	
E233N	—	Mercury	1 1/4 Diam. x 1 1/2	—	—	Flat Contacts	—	3.0	1	2.62	3.75	—	
E234	—	Mercury	1 1/4 Diam. x 2 1/8	—	—	Flat Contacts	—	3.88	1	2.70	3.95	Instr.	
E234N	—	Mercury	1 1/4 Diam. x 2 1/8	—	—	Flat Contacts	—	3.88	1	3.15	4.50	—	
E235N	—	Mercury	1.015 Diam. x 3 3/8	—	—	Flat Contacts	—	5.0	1	3.64	5.50	—	
E236N	—	Mercury	1.015 Diam. x 3 3/8	—	—	Flat Contacts	—	5.6	1	4.12	5.95	—	
239	1900	Carb. Zinc	1 1/4 x 1 1/2 x 2 1/8	—	—	Socket	—	3.0	1	1.30	1.85	—	
243	1610	Carb. Zinc	1 1/2 x 1 1/2 x 2 3/8	—	—	Min. Snap	—	4.5	1	1.30	1.85	—	
246	1602	Carb. Zinc	1 1/4 x 1 1/4 x 2 3/8	—	—	Min. Snap	—	4.5	1	1.30	1.85	—	
266	1605	Carb. Zinc	1 1/4 x 1 1/4 x 2 1/8	—	—	Snap Type	—	7.0	1	1.36	1.95	—	
276	—	Carb. Zinc	2 1/4 x 2 1/2 x 3 3/8	—	—	Snap Type	—	15.0	1	1.36	1.95	—	
E286	—	Mercury	1 Diam. x 1 1/8	—	—	Flat Contacts	—	1.6	1	1.35	1.95	Trans. Radio Instr.	
E289	1810M	Mercury	1 Diam. x 2 1/2	—	—	Snap Type	—	3.6	1	2.70	3.95	—	
E312	—	Mercury	0.312 Diam. x 0.140	—	—	Flat Contacts	—	0.02	6	0.245	0.35	—	
S312	—	Silver	0.312 Diam. x 0.140	—	—	Flat Contacts	—	0.02	6	0.245	0.35	Electr. Dev.	
333	1306	Carb. Zinc	0.662 Diam. x 1.965	—	—	Flat Contacts	—	0.9	6	0.68	0.98	—	
W-350	*	Carb. Zinc	3 1/4 x 1 1/4 x 4 3/8	—	—	Knurled Nut & Screw	—	14.5	1	2.69	3.85	—	
W-352	701	Carb. Zinc	2 1/4 x 1 1/4 x 4 1/2	—	—	Knurled Nut & Screw	—	12.0	1	1.33	1.90	Electr. Dev. Instr.	
W-353	11	Carb. Zinc	2 1/2 x 1 3/8 x 4 3/8	—	—	Socket	—	12.5	1	1.22	1.75	Port. Radio	
W-35F	*	Carb. Zinc	2 1/4 x 2 1/4 x 4 1/2	—	—	Knurled Nut & Screw	—	1	6.0	1	1.92	2.75	Radio & Electr. Dev.
W-357	901	Carb. Zinc	3 3/8 x 2 1/8 x 5 1/8	—	—	Fahnestock	—	2	12.0	1	1.92	2.75	Model Ign., Tele.
W-359	*	Carb. Zinc	3 3/8 x 2 1/4 x 4 1/2	—	—	Socket	—	1	11.8	1	3.46	4.95	—
W-361	227	Carb. Zinc	1 3/8 x 1 3/8 x 1 1/2	—	—	Flat Contacts	—	1	4.0	1	4.86	6.95	Port. "B"

\*NEDA number same as an "Eveready" battery number on a different battery.  
 †Omitted to prevent errors in shipping.

\*Items differ from corresponding sizes in that they have tabs enabling the user to solder leads to battery without damage.

◆Furnished with Fahnestock spring terminals. If socket terminals required specify W-363P, W-364P, W-365F.



SECTION 4000

COMPLETE LINE SPECIFICATIONS



"Eveready" Battery Number	NEDA Number	Chemical System	Overall Dimensions in Inches			Terminals & Voltages	Battery Weight		Unit Pkg. Quan.	Sugg. Dealer Each	List Each	Major Use	
			L	W	H		lbs.	ozs.					
W-362	—	Carb. Zinc	2 3/32	x 1 1/2	x 1 3/32	Knurled Nut & Screw+, —4.5, —7.5	—	1.5	1	2.05	2.95	Radio "C"	
◆ W-363F	—	Carb. Zinc	8 1/2	x 4 1/4	x 7 3/8	Fahnestock, +22.5, +45	10	5.0	1	7.66	10.95	Heavy Duty Radio "B"	
◆ W-364F	—	Carb. Zinc	8 7/8	x 4 3/8	x 7 1/8	Fahnestock, +22.5, +45	11	14.0	1	8.37	11.95		
◆ W-365F	723	Carb. Zinc	8 3/8	x 2 1/4	x 4 3/32	Fahnestock, +22.5, +45	7	7.5	1	7.66	10.95	Ind. "B"	
E400	1106	Mercury	0.455	Diam.	x 0.135	Flat Contacts, +1.4	—	0.04	6	0.24	0.35	Trans. Appl.	
E400N	—	Mercury	0.455	Diam.	x 0.135	Flat Contacts, +1.35	—	0.04	6	0.35	0.50		
E401	910M	Mercury	0.470	Diam.	x 1.130	Flat Contacts, +1.4	—	0.4	3	0.50	0.75		
E401N	—	Mercury	0.470	Diam.	x 1.130	Flat Contacts, +1.35	—	0.4	2	0.60	0.85	Lanterns	
409	908C	Carb. Zinc	2 5/8	x 2 3/8	x 4 1/8	Coil Springs, +6	1	6.5	1	—	—		
411	208	Carb. Zinc	1 1/2	x 3/8	x 1 3/8	Flat Contacts, +15	—	0.95	1	0.81	1.15	Port. Radio "B" Instr.	
412	215	Carb. Zinc	1 1/2	x 3/8	x 2	Flat Contacts, +22.5	—	1.3	1	1.05	1.50		
413	210	Carb. Zinc	1 1/2	x 3/8	x 2 1/8	Flat Contacts, +30	—	1.6	1	1.23	1.75		
415	213	Carb. Zinc	1 3/4	x 3/8	x 3 1/8	Min. Snap, +45	—	2.5	1	1.75	2.50		
416	217	Carb. Zinc	1 3/8	x 3/8	x 3 1/2	Min. Snap, +67.5	—	4.0	1	2.07	2.95		
417	224	Carb. Zinc	1 3/8	x 3/8	x 3 1/2	Flat Contacts, +15	—	1.8	1	1.23	1.75		
420	225	Carb. Zinc	1 3/8	x 3/8	x 1 3/8	Flat Contacts, +22.5	—	2.5	1	1.37	1.95		
425P	—	Carb. Zinc	1 3/8	x 1 1/2	x 3 1/8	Socket, +22.5	—	4.1	1	1.56	2.25		Instr. Port. Radio "B"
430	—	Carb. Zinc	1 3/8	x 1 x 2 1/8	Flat Contacts, +30	—	3.2	1	1.65	2.35	Port. Radio "B"		
437	212	Carb. Zinc	1 1/8	x 1 1/2	x 6 1/8	Snap Type, +75	—	14.8	1	3.15			4.50
B450	—	Nickel Cad.	1.697	Diam.	x 0.315	Flat Contacts, +1.25	—	1.17	1	1.47	2.10		
◆ B450T	—	Nickel Cad.	1.697	Diam.	x 0.327	Solder Tabs, +1.25	—	1.17	1	1.60	2.30		
C450	—	Nickel Cad.	0.563	Diam.	x 1.969	Flat Contacts, +1.25	—	0.8	1	1.93	2.75	Instr., Hobby, Trans. Appl., Misc.	
◆ C450T	—	Nickel Cad.	0.563	Diam.	x 1.969	Solder Tabs, +1.25	—	0.8	1	2.10	3.00		
E450	—	Mercury	0.455	Diam.	x 0.570	Flat Contacts, +1.35	—	0.18	4	0.53	0.75	Instr.	
455	—	Carb. Zinc	2 3/8	x 1 x 3 1/8	Snap Type, +45	—	7.8	1	2.27	3.25	Instr. Port. Radio "B"		
455P	—	Carb. Zinc	2 3/8	x 1 1/8	x 3 3/8	Sockets, +45	—	8.6	1	2.27		3.25	Instr.
457	203	Carb. Zinc	2 1/8	x 1 3/8	x 2 1/2	Snap Type, +67.5	—	7.4	1	2.70	3.85	Instr. Port. Radio "B"	
467	200	Carb. Zinc	2 1/8	x 1 3/8	x 3 3/8	Snap Type, +67.5	—	12.0	1	2.70	3.85		For. Radio "B"
468	200C	Carb. Zinc	2 1/8	x 1 3/8	x 3 3/8	Snap Type, +67.5	—	12.0	1	2.77	3.95	Radio, Electr. Dev.	
477	211	Carb. Zinc	1 3/8	x 3/8	x 5 1/8	Snap Type, +67.5	—	8.6	1	2.70	3.85		Port. Radio "B"
479	214	Carb. Zinc	1 3/8	x 1 1/2	x 7 1/2	Snap Type, +90	—	12.0	1	2.97	4.25		
482	202	Carb. Zinc	3 1/2	x 1 1/2	x 5 1/2	Socket, +45	1	15.0	1	2.97	4.25	Fluor. Lantern	
484	207	Carb. Zinc	3 1/2	x 1 1/2	x 5 1/2	Socket, +45	3	2.0	1	3.47	4.95		
487	—	Carb. Zinc	5 1/8	x 2 1/8	x 7 1/8	Socket, +22.5, +45	4	2.0	1	3.84	5.50	Farm Radio "B"	
489	—	Carb. Zinc	4 1/2	x 2 1/8	x 4 3/8	Socket, +22.5	2	12.0	1	6.96	9.95		
490	204	Carb. Zinc	3 3/8	x 1 3/8	x 3 3/8	Snap Type, +90	—	15.0	1	3.15	4.50	Port. Radio "B"	
491	—	Carb. Zinc	2 1/2	x 1 1/8	x 4 1/2	Flat Recessed & Socket, +240	—	13.0	1	5.56	7.95		
492	—	Carb. Zinc	3 3/8	x 2 3/8	x 4 3/8	Socket, +180, +225	2	8.0	1	7.65	10.95	Electr. Flash	
493	722	Carb. Zinc	2 1/8	x 2 3/8	x 3 3/8	Pinjacks, +300	—	14.5	1	8.37	11.95		
495	—	Carb. Zinc	1 1/8	x 1 1/2	x 7/8	Snap Type, +90	1	—	1	3.47	4.95	Geiger Counter	
497	—	Carb. Zinc	3 x 1 1/2	x 5 1/8	Flat Recessed, +180, +510	1	10.0	1	11.16	15.95			
BH500	—	Nickel Cad.	1.360	Diam.	x 0.394	Flat Contacts, +1.25	—	1.0	1	1.75	2.50	Instr., Hobby, Trans. Appl., Misc.	
◆ BH500T	—	Nickel Cad.	1.360	Diam.	x 0.416	Solder Tabs, +1.25	—	1.0	1	1.88	2.70		
E502	—	Mercury	0.550	Diam.	x 1.968	Flat Contacts, +1.35	—	1.05	2	0.87	1.25	Trans. Appl.	
504	220	Carb. Zinc	3/8	x 1 1/2	x 1 3/8	Flat Contacts, +15	—	0.6	1	0.81	1.15		
505	221	Carb. Zinc	3/8	x 1 1/2	x 1 3/8	Flat Recessed, +22.5	—	0.8	1	1.05	1.50	Instr.	
506	223	Carb. Zinc	1 1/8	x 3/8	x 1 3/8	Flat Contacts, +30	—	0.9	1	1.30	1.85		
507	—	Carb. Zinc	3/8	x 1 1/2	x 2.605	Flat Contacts, +30	—	0.9	1	1.30	1.85	Lantern	
509	908	Carb. Zinc	2 5/8	x 2 5/8	x 4 1/2	Coil Springs, +6	1	5.5	1	0.92	1.39		
510F	917	Carb. Zinc	2 5/8	x 2 5/8	x 4 1/8	Fahnestock, +6	1	4.0	1	0.92	1.39	Misc.	
510S	—	Carb. Zinc	2 5/8	x 2 5/8	x 4 1/8	Knurled Nut & Screw, +6	1	7.0	1	0.92	1.39		
520	930	Alkaline	5 1/2	x 4 3/8	x 2 3/8	Ins. Screw, +6	2	8.0	1	3.31	4.95	Lanterns	
E520	—	Mercury	0.495	Diam.	x 0.286	Flat Contacts, +1.4	—	0.07	6	0.21	0.30		
523	1306A	Alkaline	0.662	Diam.	x 1.965	Flat Contacts, +4.5	—	1.17	1	0.82	1.25	Trans. Appl.	
531	1307	Alkaline	0.664	Diam.	x 2.290	Min. Snap, +4.5	—	1.25	1	0.82	1.25		
532	1308	Alkaline	0.664	Diam.	x 1.670	Snap Type, +3	—	0.8	1	0.70	1.00	Automatic Camera	
560	—	Alk. Sec.	2 3/8	x 1 1/2	x 7 3/8	Socket, +7.5	1	9.0	1	4.62	6.95		
561	—	Alk. Sec.	8 3/8	x 2 1/8	x 5 7/8	Socket, +15	6	—	1	10.62	15.95	Electr. Dev.	
563	—	Alk. Sec.	1 3/8	Diam.	x 7 3/8	Flat Contacts, +4.5	—	15.0	3	2.76	4.15		
564	—	Alk. Sec.	8 3/8	x 2 1/8	x 5 7/8	Socket, +13.5	5	8.0	1	9.94	14.95	Micro Television	
596	—	Alk. Sec.	1.375	Diam.	x 3713	Flat Contacts, +1.5	—	7.5	1	1.20	1.75		
E601	—	Mercury	0.627	Diam.	x 1.140	Flat Contacts, +1.35	—	1.22	2	0.83	1.30	Instr.	
621	—	Carb. Zinc	2 3/8	Diam.	x 13	Knurled Nut & Screw, +3	4	10.0	1	3.18	4.75		
E625	—	Mercury	0.615	Diam.	x 0.238	Flat Contacts, +1.4	—	0.15	4	0.42	0.60	Fishing Buoy	
E625N	—	Mercury	0.615	Diam.	x 0.238	Flat Contacts, +1.35	—	0.15	4	0.53	0.75		
EPX-625	—	Mercury	0.615	Diam.	x 0.238	Flat Contacts, +1.4	—	0.15	4	0.51	0.75	Trans. Appl.	
E630	1104	Mercury	0.615	Diam.	x 0.238	Flat Contacts, +1.4	—	0.17	4	0.42	0.60		
E630N	—	Mercury	0.615	Diam.	x 0.238	Flat Contacts, +1.35	—	0.17	4	0.53	0.75	Camera Light Meter	
E640	1105	Mercury	0.625	Diam.	x 0.440	Flat Contacts, +1.4	—	0.38	4	0.42	0.60		
E640N	—	Mercury	0.625	Diam.	x 0.440	Flat Contacts, +1.35	—	0.38	4	0.53	0.75	Trans. Radio	
E675	—	Mercury	0.455	Diam.	x 0.210	Flat Contacts, +1.4	—	0.07	6	0.32	0.45		
703	—	Carb. Zinc	2 3/8	x 2 3/8	x 3 1/8	Spring, +4.5	—	5.0	1	1.36	1.95	Instr.	
706	902	Carb. Zinc	8 3/8	x 2 1/8	x 6 7/8	Ins. Screw, +6	5	14.0	4	4.01	5.98		
707	26	Carb. Zinc	2 3/8	x 2 1/2	x 2 1/8	Snap Type, +7.5	—	12.0	1	1.15	1.65	Ign., Emerg. Lighting	
711	700	Carb. Zinc	2 5/8	x 1 3/8	x 4 1/8	Knurled Nut & Screw, +1.5	—	12.0	1	0.79	1.15		
713	8	Carb. Zinc	3 3/8	x 3/8	x 2 3/8	Socket, +7.5	—	6.3	1	2.27	3.25	Port. Radio "A"	
714	—	Carb. Zinc	3 3/8	x 1 1/2	x 3 1/2	Knurled Nut & Screw, +4.5	—	14.5	1	1.57	2.25		
715	903	Carb. Zinc	7 1/2	x 4 1/8	x 6 7/8	Ins. Screw, +7.5	7	10.0	1	4.86	7.25	Tele. Test Sets	
716	—	Carb. Zinc	8 3/8	x 4 1/8	x 6 7/8	Ins. Screw, +9	8	8.0	1	5.53	8.25		
717	9	Carb. Zinc	2 5/8	x 1 1/8	x 3 1/8	Socket, +7.5	—	8.0	6	1.23	1.75	Ign., Emerg. Lighting	
718	1	Carb. Zinc	3 1/2	x 2 3/8	x 3 1/2	Socket, +6	2	4.0	1	2.87	4.10		
720	18	Carb. Zinc	3 1/2	x 1 3/8	x 5 1/8	Socket, +1.5	—	6.5	1	1.15	1.65	Port. Radio "A"	
724	2	Carb. Zinc	2 3/8	x 1 3/8	x 3 1/2	Flat Contacts, +6	—	2.5	1	0.87	1.25		
726	19	Carb. Zinc	4 3/8	x 1 3/8	x 2 1/8	Socket, +4.5	—	10.5	1	1.23	1.75	Instr.	
729	425	Carb. Zinc	3 3/8	x 2 3/8	x 7 1/8	Socket, +1.5 "A", +1.5 "A", —"B", +90 "B"	2	7.0	1	4.38	6.25		
731	918	Carb. Zinc	5 1/2	x 2 3/8	x 4 1/8	Ins. Screw, +6	3	4.0	1	1.96	2.95	Port. Radio "A-B"	
732	926	Carb. Zinc	5 1/2	x 2 3/8	x 4 1/8	Ins. Screw, +12	3	4.0	1	1.96	2.95		
735	900	Carb. Zinc	2 5/8	x 2 3/8	x 4 3/8	Knurled Nut & Screw, +1.5	1	7.0	1	0.84	1.25	Lantern	
736	3	Carb. Zinc	3 1/8	x 1 3/8	x 4	Socket, +4.5	1	—	1	1.23	1.75		
738	205	Carb. Zinc	3 x 2 3/8	x 4 1/8	Socket, +22.5, +45	1	3.0	1	2.76	3.95	Port. Radio "B"		

\*NEDA number same as an "Eveready" battery number on a different battery. Omitted to prevent errors in shipping.  
 \*\*Equipped with screw terminals unless Fahnestock spring terminals are specified.  
 \*\*\*Equipped with Fahnestock spring terminals unless screw terminals are specified.

\*Items differ from corresponding sizes in that they have tabs enabling the user to solder leads to battery without damage.  
 □ Flashlight types.  
 ◆ Furnished with Fahnestock spring terminals. If socket terminals required specify W-363P, W-365P.  
 †Contains 1 "Eveready" No. 460 battery, and 1 No. 428 lamp.





COMPLETE LINE SPECIFICATIONS



741	17	Carb. Zinc	3 <sup>3</sup> / <sub>32</sub> x 2 <sup>1</sup> / <sub>16</sub> x 5 <sup>3</sup> / <sub>16</sub>	Socket—, +1.5	2	10.0	1	2.76	3.95	} Port. Radio "A"
742	4	Carb. Zinc	2 <sup>5</sup> / <sub>16</sub> x 2 <sup>5</sup> / <sub>16</sub> x 3 <sup>3</sup> / <sub>32</sub>	Socket—, +1.5	1	6.0	1	1.15	1.65	
743	5	Carb. Zinc	3 <sup>1</sup> / <sub>16</sub> x 2 <sup>5</sup> / <sub>16</sub> x 4 <sup>1</sup> / <sub>32</sub>	Socket—, +1.5	1	15.0	1	2.69	3.85	
744	*	Carb. Zinc	2 <sup>5</sup> / <sub>16</sub> x 2 <sup>5</sup> / <sub>16</sub> x 3 <sup>3</sup> / <sub>32</sub>	Socket—, +6	1	6.0	1	1.15	1.65	
746	7	Carb. Zinc	3 <sup>1</sup> / <sub>16</sub> x 1 <sup>1</sup> / <sub>16</sub> x 4 <sup>1</sup> / <sub>32</sub>	Socket—, +4.5	1	3.0	1	1.57	2.25	
750	*	Carb. Zinc	1 <sup>1</sup> / <sub>32</sub> x 1 <sup>1</sup> / <sub>16</sub> x 2 <sup>1</sup> / <sub>32</sub>	Spring—, +3	2.0	2.0	1	0.79	1.15	
CH750	—	Nickel Cad.	0.900 Diam. x 1.684	Flat Contacts—, +1.25	2.0	1.7	1	2.08	3.00	
CH750T	—	Nickel Cad.	0.900 Diam. x 1.689	Solder Tabs—, +1.25	2.0	1.7	1	2.21	3.20	
751	705	Carb. Zinc	2 x 1 <sup>1</sup> / <sub>16</sub> x 2 <sup>1</sup> / <sub>32</sub>	Spring—, +4.5	—	3.0	1	0.87	1.25	
752	400	Carb. Zinc	14 <sup>1</sup> / <sub>16</sub> x 2 <sup>1</sup> / <sub>16</sub> x 4 <sup>1</sup> / <sub>16</sub>	Recessed Plug— "A", +9 "A", — "B", +90 "B"	6	2.0	1	5.78	8.25	
753	401	Carb. Zinc	9 <sup>3</sup> / <sub>32</sub> x 2 <sup>2</sup> / <sub>32</sub> x 4 <sup>1</sup> / <sub>16</sub>	Socket— "A", +7.5 "A", +9 "A", — "B", +90 "B"	4	12.0	1	5.43	7.75	} Port. Radio "A-B"
755	403	Carb. Zinc	8 <sup>7</sup> / <sub>16</sub> x 3 <sup>3</sup> / <sub>4</sub> x 2 <sup>1</sup> / <sub>16</sub>	Socket— "A", +6 "A", +7.5 "A", — "B", +75 "B"	3	9.0	1	5.08	7.25	
756	405	Carb. Zinc	8 <sup>7</sup> / <sub>16</sub> x 2 <sup>1</sup> / <sub>16</sub> x 3 <sup>3</sup> / <sub>32</sub>	Socket— "A", +7.5 "A", +9 "A", — "B", +90 "B"	2	14.0	1	4.87	6.95	
757	406	Carb. Zinc	9 <sup>3</sup> / <sub>32</sub> x 2 <sup>2</sup> / <sub>32</sub> x 4 <sup>1</sup> / <sub>32</sub>	Recessed Plug— "A", +9 "A", — "B", +90 "B"	4	12.0	1	5.57	7.95	
759	*	Carb. Zinc	15 <sup>1</sup> / <sub>16</sub> x 4 <sup>1</sup> / <sub>32</sub> x 6 <sup>1</sup> / <sub>32</sub>	Socket— "A", +1.5 "A", — "B", +90 "B"	16	4.0	1	7.95	10.65	Farm Radio "A-B"
761T	712	Carb. Zinc	4 <sup>1</sup> / <sub>16</sub> x 1 <sup>1</sup> / <sub>32</sub> x 3 <sup>1</sup> / <sub>2</sub>	Knurled Nut & Screw—, +1.5, +3, +4.5	—	14.0	1	1.76	2.50	Tele. Test Sets
762S	709	Carb. Zinc	4 <sup>3</sup> / <sub>32</sub> x 2 <sup>1</sup> / <sub>16</sub> x 5 <sup>1</sup> / <sub>16</sub>	Knurled Nut & Screw—, +22.5, +45	2	12.0	1	3.05	4.35	} Instr.
763	710	Carb. Zinc	3 <sup>1</sup> / <sub>2</sub> x 2 <sup>1</sup> / <sub>32</sub> x 2 <sup>1</sup> / <sub>16</sub>	Knurled Nut & Screw—, +22.5	—	14.0	1	1.61	2.35	
766T	*	Carb. Zinc	6 <sup>3</sup> / <sub>4</sub> x 4 <sup>1</sup> / <sub>16</sub> x 3 <sup>1</sup> / <sub>16</sub>	Fahnestock—, +16.5, +18, +19.5, +21, +22.5	4	10.0	1	5.56	7.95	Switchbd. Testing
773	*	Carb. Zinc	3 <sup>2</sup> / <sub>32</sub> x 3 <sup>1</sup> / <sub>8</sub> x 3 <sup>1</sup> / <sub>8</sub>	5 Knurled Nut & Screws, 1 wire+, —1.5, —3, —4.5, —6, —7.5	—	9.0	1	1.75	2.50	Radio "C"
778	*	Carb. Zinc	4 <sup>1</sup> / <sub>16</sub> x 2 <sup>1</sup> / <sub>32</sub> x 3 <sup>1</sup> / <sub>16</sub>	Fahnestock+, —3, —4.5, —6, —9, —10.5, —16.5, —22.5	1	8.0	1	4.16	5.95	} Instr.
781	*	Carb. Zinc	2 <sup>1</sup> / <sub>32</sub> x 3 <sup>5</sup> / <sub>16</sub> x 3	Knurled Nut & Screw—, +4.5	—	5.0	1	1.23	1.75	
789	—	Carb. Zinc	5 <sup>3</sup> / <sub>32</sub> x 1 <sup>1</sup> / <sub>16</sub> x 3 <sup>1</sup> / <sub>4</sub>	Flat Contacts—, +3	1	1.5	1	2.97	4.25	Fingerprint Camera
799	—	Carb. Zinc	8 <sup>3</sup> / <sub>32</sub> x 4 <sup>1</sup> / <sub>4</sub> x 8 <sup>1</sup> / <sub>32</sub>	Fahnestock—, +22.5, +45, +49.5	13	5.0	1	10.47	14.95	Camera Cranking
812	24P	Carb. Zinc	1 <sup>3</sup> / <sub>32</sub> Diam. x 1 <sup>1</sup> / <sub>4</sub>	Flat Contacts—, +1.5	—	0.3	12	0.1625	0.25	} Photoflash
815	15P	Carb. Zinc	3 <sup>1</sup> / <sub>16</sub> Diam. x 1 <sup>1</sup> / <sub>32</sub>	Flat Contacts—, +1.5	—	0.6	24	0.1625	0.25	
EPX-825	—	Alkaline	0.905 Diam. x 0.228	Flat Contacts—, +1.5	—	0.03	2	0.33	0.50	
835	14P	Carb. Zinc	1 <sup>1</sup> / <sub>32</sub> Diam. x 1 <sup>1</sup> / <sub>16</sub>	Flat Contacts—, +1.5	—	1.4	24	0.19	0.30	
850	13P	Carb. Zinc	1 <sup>1</sup> / <sub>32</sub> Diam. x 2 <sup>1</sup> / <sub>32</sub>	Flat Contacts—, +1.5	—	3.3	12	0.19	0.30	
C900	—	Nickel Cad.	3 <sup>1</sup> / <sub>16</sub> Diam. x 3 <sup>1</sup> / <sub>32</sub>	Solder Tabs—, +1.25	—	1.4	1	3.17	4.55	Trans. Appl.
904	910F	Carb. Zinc	0.455 Diam. x 1.180	Flat Contacts—, +1.5	—	0.22	6	0.08	0.125	Novelties
912	24F	Carb. Zinc	1 <sup>3</sup> / <sub>32</sub> Diam. x 1 <sup>1</sup> / <sub>4</sub>	Flat Contacts—, +1.5	—	0.3	12	.13	0.20	} Flashlight. Toys
915	15 F	Carb. Zinc	3 <sup>1</sup> / <sub>16</sub> Diam. x 1 <sup>1</sup> / <sub>32</sub>	Flat Contacts—, +1.5	—	0.6	24	0.13	0.20	
935	14F	Carb. Zinc	1 <sup>1</sup> / <sub>32</sub> Diam. x 1 <sup>1</sup> / <sub>16</sub>	Flat Contacts—, +1.5	—	1.4	24	0.1625	0.25	
950	13F	Carb. Zinc	1 <sup>1</sup> / <sub>32</sub> Diam. x 2 <sup>1</sup> / <sub>32</sub>	Flat Contacts—, +1.5	—	3.0	48	0.1625	0.25	
960P	23	Carb. Zinc	1 <sup>1</sup> / <sub>32</sub> Diam. x 4 <sup>1</sup> / <sub>16</sub>	Socket—, +1.5	—	5.0	1	0.87	1.25	} Port. Radio "A"
964	20	Carb. Zinc	1 <sup>1</sup> / <sub>32</sub> Diam. x 4	Flat Contacts—, +1.5	—	5.9	1	0.42	0.60	
1007	—	Nickel Cad.	6 <sup>1</sup> / <sub>32</sub> x 3 <sup>1</sup> / <sub>32</sub> x 3 <sup>1</sup> / <sub>16</sub>	Socket—, +10	3	13.0	1	42.00	50.00	Port. Tools
1010	—	Nickel Cad.	2 <sup>1</sup> / <sub>16</sub> x 1 <sup>1</sup> / <sub>16</sub> x 3 <sup>1</sup> / <sub>16</sub>	Ins. Screw—, +1.25	—	4.0	1	5.30	7.95	Model Ign. "Glo-Plug"
1015	15	Carb. Zinc	3 <sup>1</sup> / <sub>16</sub> Diam. x 1 <sup>1</sup> / <sub>32</sub>	Flat Contacts—, +1.5	—	0.6	24	0.155	0.25	} Trans. Radio
1035	14	Carb. Zinc	1 <sup>1</sup> / <sub>32</sub> Diam. x 1 <sup>1</sup> / <sub>16</sub>	Flat Contacts—, +1.5	—	1.4	24	0.19	0.30	
1050	13	Carb. Zinc	1 <sup>1</sup> / <sub>32</sub> Diam. x 2 <sup>1</sup> / <sub>32</sub>	Flat Contacts—, +1.5	—	3.3	48	0.19	0.30	
1150	13C	Carb. Zinc	1 <sup>1</sup> / <sub>32</sub> Diam. x 2 <sup>1</sup> / <sub>32</sub>	Flat Contacts—, +1.5	—	3.3	48	0.1675	—	
1461	907	Carb. Zinc	10 <sup>7</sup> / <sub>16</sub> x 2 <sup>2</sup> / <sub>32</sub> x 7 <sup>3</sup> / <sub>32</sub>	Knurled Nut & Screw—, +6	—	9	4.0	1.85	5.75	Ind. Flashlights
1462	—	Carb. Zinc	5 <sup>1</sup> / <sub>16</sub> x 5 <sup>1</sup> / <sub>16</sub> x 7 <sup>1</sup> / <sub>4</sub>	Knurled Nut & Screw—, +6	9	7.0	1	4.01	5.98	Ign., Fence Cont.
1463	922	Carb. Zinc	10 <sup>7</sup> / <sub>16</sub> x 2 <sup>2</sup> / <sub>32</sub> x 7 <sup>3</sup> / <sub>32</sub>	Knurled Nut & Screw—, +12	7	8.0	1	4.01	5.98	Toy Cars
1562	*	Carb. Zinc	7 <sup>3</sup> / <sub>32</sub> x 4 <sup>1</sup> / <sub>32</sub> x 7 <sup>3</sup> / <sub>32</sub>	Knurled Nut & Screw—, +7 <sup>1</sup> / <sub>2</sub>	11	4.0	1	4.86	7.25	Ign., Lights
1662	913	Carb. Zinc	7 <sup>3</sup> / <sub>16</sub> x 5 <sup>3</sup> / <sub>32</sub> x 7 <sup>1</sup> / <sub>4</sub>	Knurled Nut & Screw—, +9	13	8.0	1	5.53	8.25	} Snap Type—, +9
2356N	1612	Carb. Zinc	2 <sup>1</sup> / <sub>16</sub> x 1 <sup>1</sup> / <sub>32</sub> x 6 <sup>1</sup> / <sub>4</sub>	Socket—, +3, +6, +9	1	8.0	1	1.92	2.75	
2506	1601	Carb. Zinc	8 x 2 <sup>1</sup> / <sub>16</sub> x 1 <sup>1</sup> / <sub>16</sub>	Snap Type—, +9	—	2.5	1	1.05	1.50	} Trans. Radio
2709N	1613	Carb. Zinc	1 <sup>1</sup> / <sub>32</sub> x 4 <sup>1</sup> / <sub>16</sub> x 4 <sup>1</sup> / <sub>16</sub>	Min. Snap—, +6	—	3.5	1	1.05	1.50	
2713N	1403	Carb. Zinc	1 <sup>1</sup> / <sub>32</sub> x 4 <sup>1</sup> / <sub>16</sub> x 4 <sup>1</sup> / <sub>16</sub>	Socket—, +4.5	1	9.0	1	2.76	3.95	} Flasher. Misc.
2731N	1303	Carb. Zinc	2 <sup>1</sup> / <sub>16</sub> x 1 <sup>1</sup> / <sub>4</sub> x 8 <sup>1</sup> / <sub>32</sub>	Socket—, +6	1	7.0	1	0.85	1.29	
2744N	920	Carb. Zinc	2 <sup>5</sup> / <sub>16</sub> x 2 <sup>5</sup> / <sub>16</sub> x 3 <sup>3</sup> / <sub>32</sub>	Coil Spring—, +6	1	7.0	1	0.85	1.29	
2745N	924	Carb. Zinc	2 <sup>5</sup> / <sub>16</sub> x 2 <sup>5</sup> / <sub>16</sub> x 4 <sup>1</sup> / <sub>32</sub>	Knurled Nut & Screw—, +6	1	7.0	1	0.85	1.29	
2746N	925	Carb. Zinc	2 <sup>5</sup> / <sub>16</sub> x 2 <sup>5</sup> / <sub>16</sub> x 4 <sup>1</sup> / <sub>32</sub>	Socket—, +9	1	3.0	1	2.45	3.50	} Lighting. Misc.
2761N	1608	Carb. Zinc	2 <sup>5</sup> / <sub>16</sub> x 1 <sup>1</sup> / <sub>4</sub> x 7 <sup>3</sup> / <sub>32</sub>	Socket—, +9	1	9.0	1	2.76	3.95	
2762N	1609	Carb. Zinc	2 <sup>1</sup> / <sub>16</sub> x 1 <sup>1</sup> / <sub>4</sub> x 8 <sup>1</sup> / <sub>32</sub>	Socket—, +12	3	—	1	2.37	3.40	Trans. Radio
2780N	923	Carb. Zinc	5 <sup>1</sup> / <sub>32</sub> x 2 <sup>2</sup> / <sub>32</sub> x 4 <sup>3</sup> / <sub>32</sub>	Socket—, +1.35	—	13.5	1	12.50	17.75	Flasher. Misc.
E302157	—	Mercury	2 <sup>1</sup> / <sub>2</sub> x 1 <sup>3</sup> / <sub>4</sub> x 4 <sup>1</sup> / <sub>4</sub>	Tabs—, +9.45	—	1.0	1	3.15	4.50	Rad. Det. Equip.
E302250	—	Mercury	1 <sup>1</sup> / <sub>16</sub> Diam. x 1 <sup>1</sup> / <sub>32</sub>	Flat Contacts—, +5.4	—	4.5	1	6.53	9.35	Fire Alarm
E302351	—	Mercury	3 <sup>1</sup> / <sub>4</sub> Diam. x 2 <sup>5</sup> / <sub>32</sub>	Wire Leads—, +10.8	—	0.87	1	4.10	5.95	} Rad. Det. Equip.
E302358	—	Mercury	3 <sup>1</sup> / <sub>4</sub> Diam. x 2 <sup>5</sup> / <sub>32</sub>	Wire Leads—, +16.2	—	1.13	1	5.60	8.00	
E302362	—	Mercury	3 <sup>1</sup> / <sub>4</sub> Diam. x 3 <sup>3</sup> / <sub>32</sub>	Flat Contacts—, +6.75	—	0.75	1	3.46	4.95	
E302435	—	Mercury	1 <sup>1</sup> / <sub>16</sub> Diam. x 1 <sup>1</sup> / <sub>2</sub>	Wire Leads—, +97.2	2	—	1	40.00	56.00	
E302462	—	Mercury	2 <sup>1</sup> / <sub>16</sub> x 1 <sup>1</sup> / <sub>32</sub> x 6 <sup>3</sup> / <sub>16</sub>	Wire Leads—, +47.25	1	1.0	1	22.50	32.00	Transmt. "B"
E302465	—	Mercury	2 <sup>1</sup> / <sub>16</sub> Diam. x 3 <sup>1</sup> / <sub>4</sub>	Flat Contacts—, +9.8	—	9.0	1	6.90	9.80	Geophys.
E302478	—	Mercury	1 <sup>1</sup> / <sub>16</sub> Diam. x 3 <sup>1</sup> / <sub>4</sub>	Screw—, +6.75	—	6.0	1	9.33	13.35	Wire Recorder
E302497	—	Mercury	1 <sup>1</sup> / <sub>16</sub> Diam. x 4 <sup>1</sup> / <sub>4</sub>	Wire Leads—, +29.7	—	5.0	1	12.50	18.00	} Test Equip.
E302579	—	Mercury	1 <sup>1</sup> / <sub>32</sub> x 3 <sup>1</sup> / <sub>4</sub> x 3 <sup>1</sup> / <sub>16</sub>	Sockets—, +27.0	2	1.6	1	33.60	48.00	
E302580	—	Mercury	2 <sup>2</sup> / <sub>32</sub> x 2 <sup>2</sup> / <sub>32</sub> x 3 <sup>3</sup> / <sub>32</sub>	Flat Contacts—, +7	—	5.0	1	5.33	7.60	} Instr.
E302642	—	Mercury	1 <sup>1</sup> / <sub>16</sub> Diam. x 2 <sup>1</sup> / <sub>16</sub>	Special Leads—, +1.35	—	6.14	1	4.80	6.90	
E302651	—	Mercury	1 <sup>1</sup> / <sub>16</sub> Diam. x 2 <sup>1</sup> / <sub>16</sub>	Wire Leads—, +2.7	—	2.0	1	4.00	5.70	Geophys.
E302702	—	Mercury	1 <sup>1</sup> / <sub>32</sub> Diam. x 2 <sup>1</sup> / <sub>32</sub>	Wire Leads—, +5.4	—	6.0	1	7.33	10.45	Meter
E302904	—	Mercury	1 <sup>1</sup> / <sub>32</sub> Diam. x 2 <sup>1</sup> / <sub>32</sub>	Wire Leads—, +6.75	—	9.0	1	8.40	12.00	Test Equip.
E302905	—	Mercury	1 <sup>1</sup> / <sub>32</sub> Diam. x 3 <sup>1</sup> / <sub>32</sub>	Wire Leads—, +9.45	—	11.6	1	10.67	15.25	} Instr.
E302907	—	Mercury	1 <sup>1</sup> / <sub>32</sub> Diam. x 4 <sup>1</sup> / <sub>32</sub>	Wire Leads—, +10.8	—	12.0	1	11.00	17.15	
E302908	—	Mercury	1 <sup>1</sup> / <sub>32</sub> Diam. x 5 <sup>1</sup> / <sub>16</sub>	Snap Type—, +8.4	—	8.82	1	6.75	9.95	Rad. Det. Equip.
E303145	1614	Mercury	2 <sup>1</sup> / <sub>16</sub> x 7 <sup>1</sup> / <sub>4</sub> x 4 <sup>1</sup> / <sub>16</sub>	Flat Contacts—, +9.8	—	1.0	1	2.06	2.95	Depth Finder
E303219	—	Mercury	5.15 Diam. x 1 <sup>1</sup> / <sub>16</sub>	Flat Contacts—, +4.2	—	1.28	1	1.31	1.85	Radio Conv. (FM)
E303236	—	Mercury	3 <sup>3</sup> / <sub>32</sub> x 3 <sup>3</sup> / <sub>32</sub> x 1 <sup>3</sup> / <sub>32</sub>	Recessed Flat Contacts—, +16.8	—	13.0	1	10.80	15.40	Paging Sys.
E303314	—	Mercury	2.81 x 2.85 x 1.320	Snap Type—, +11.2	—	14.0	1	10.15	14.50	Comm. Equip.
E303394	—	Mercury	2 <sup>1</sup> / <sub>2</sub> x 1 <sup>1</sup> / <sub>4</sub> x 2 <sup>1</sup> / <sub>4</sub>	Flat Recessed—, +4.2	—	0.87	1	1.31	1.85	

# GATES POWER SUPPLIES

## SILICON POWER RECTIFIER



For transistor circuits & electronic equipment  
**MODEL 692F**

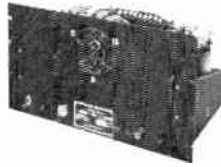
INPUT: 115 volts AC 60 cycles, 1 phase  
OUTPUT: 0-32 Volts DC, 0-10 Amperes D.C. continuous duty  
REGULATION: No load to full load 15%  
RIPPLE: Less than 0.3% RMS  
METERS: 2% Accuracy  
DIMENSIONS: 17" x 9" x 9"  
PRICE: \$169.50 NET  
\*Also available in 5 Amperes  
PRICE: \$114.50 NET

## INDUSTRIAL POWER UNITS



**MODEL A10**

INPUT 115 or 230 AC Volts, 60 cycles—Single Phase.  
DC OUTPUT 115 Volts DC 125 Watts  
APPLICATION: Power sources for operating DC Motors, Relays, Solenoids, Magnetic Chucks.  
DIMENSIONS: 11" H x 9" W x 6 1/2" D  
PRICE \$63.00 NET  
250 Watts — \$72.50

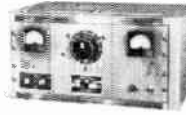


**MODEL 648-6FM**

## SELENIUM POWER SUPPLY

INPUT: 115 Volts AC 60 Cycles—Single Phase  
OUTPUT: 0-48 Volts DC, 0-6 Amperes  
CONTROL: Continuously variable over entire range  
RIPPLE: 1% RMS  
DIMENSIONS: 19" W x 13" D x 10 1/2" H, Fits RETMA, Western Electric racks  
PRICE: \$190.00 NET

## SILICON POWER SUPPLY



**MODEL #GS 14-15F**

INPUT: 115 Volts AC, 1 Phase, 60 cycles  
OUTPUT: 0-14 Volts DC, 0-15 Amperes, continuous duty  
RIPPLE: Less than 1% RMS  
METER ACCURACY: 2%  
DIMENSIONS: 9" H x 17 1/2" W x 9" D  
PRICE: \$159.50 NET  
Rack Model Same Price

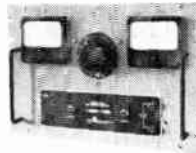
## SILICON RACK MOUNT SUPPLY



**MODEL #GX30-10**

INPUT: 115 Volts AC 60 Cycles, Single Phase  
OUTPUT: 26, 28, 30 Volts DC 0-10 Amperes Continuous Duty  
REGULATION: 10% No Load to Full Load  
RIPPLE: 0.3% RMS  
DIMENSIONS: 8 3/4" H x 19" W x 10" D  
PRICE: \$137.50 NET

## AIRCRAFT BATTERY ELIMINATOR



**MODEL #G101F**

INPUT: 115 Volts AC 60 cycles, single phase  
OUTPUT: 0-32 Volts DC, 0-20 Amperes, continuous duty  
RIPPLE: 0.5% RMS  
Unique overload device prevents needle slam and shows overload condition  
REGULATION: D.C.V. at full load: 30  
D.C.V. at 1/10 load: 35  
METERS: 2% Accuracy  
DIMENSIONS: 19" x 14 1/4" x 12 1/4"  
PRICE: \$275.00 NET  
May be used for Rack or Bench

## ECONOMY RANGE DC POWER SUPPLIES — Less Than 1% Ripple - Good Regulation - Rack Mount Type - Heavy Duty Construction - Powerstat - Fused 2% Meters - 115 Vac Input

MODEL GT 12-5:	Output 0.12V, 5A	\$ 80
MODEL GT 12-10:	Output 0-12V, 10A	\$ 130
MODEL GT 12-15:	Output 0-12V, 15A	\$ 145
MODEL GT 12-25:	Output 0-12V, 25A	\$ 154
MODEL GT 12-100:	Output 0-12V, 100A	\$ 395
MODEL GT 14-5:	Output 0-14V, 5A	\$ 120
MODEL GT 14-15:	Output 0-14V, 15A	\$ 135
MODEL GT 14-20:	Output 0-14V, 20A	\$ 145
MODEL GT 14-30:	Output 0-14V, 30A	\$ 276
MODEL GT 14-40:	Output 0-14V, 40A	\$ 285
MODEL GT 14-50:	Output 0-14V, 50A	\$ 350
MODEL GT 14-75:	Output 0-14V, 75A	\$ 375
MODEL GT 14-100:	Output 0-14V, 100A	\$ 425
MODEL GT 16-5:	Output 0-16V, 5A	\$ 85
MODEL GT 16-10:	Output 0-16V, 10A	\$ 90
MODEL GT 16-25:	Output 0-16V, 25A	\$ 155
MODEL GT 16-30:	Output 0-16V, 30A	\$ 195
MODEL GT 16-40:	Output 0-16V, 40A	\$ 260
MODEL GT 16-50:	Output 0-16V, 50A	\$ 370
MODEL GT 16-70:	Output 0-16V, 70A	\$ 390
MODEL GT 16-80:	Output 0-16V, 80A	\$ 405
MODEL GT 28-5:	Output 0-28V, 5A	\$ 90
MODEL GT 28-12:	Output 0-28V, 12A	\$ 169
MODEL GT 28-24:	Output 0-28V, 24A	\$ 275
MODEL GT 32-5:	Output 0-32V, 5A	\$ 105
MODEL GT 32-8:	Output 0-32V, 8A	\$ 149
MODEL GT 32-12:	Output 0-32V, 12A	\$ 179
MODEL GT 32-15:	Output 0-32V, 15A	\$ 194
MODEL GT 32-24:	Output 0-32V, 24A	\$ 295
MODEL GT 32-30:	Output 0-32V, 30A	\$ 325
MODEL GT 32-50:	Output 0-32V, 50A	\$ 425
MODEL GT 32-60:	Output 0-32V, 60A	\$ 561
MODEL GT 48-5:	Output 0-48V, 5A	\$ 138
MODEL GT 48-10:	Output 0-48V, 10A	\$ 164
MODEL GT 48-15:	Output 0-48V, 15A	\$ 170
MODEL GT 48-25:	Output 0-48V, 25A	\$ 250
MODEL GT 48-35:	Output 0-48V, 35A	\$ 300
MODEL GT 48-50:	Output 0-48V, 50A	\$ 350
MODEL GT 48-60:	Output 0-48V, 60A	\$ 425
MODEL GT 48-80:	Output 0-48V, 80A	\$ 500
MODEL GT 48-100:	Output 0-48V, 100A	\$ 550
MODEL GT 80-5:	Output 0-80V, 5A	\$ 220
MODEL GT 80-10:	Output 0-80V, 10A	\$ 275
MODEL GT 80-20:	Output 0-80V, 20A	\$ 450
MODEL GT 115-5:	Output 0-115V, 5A	\$ 240

PRICES SUBJECT TO CHANGE — SEE AD IN SECTION 4800

MODEL GT 115-10:	Output 0-115V, 10A	\$ 260
MODEL GT 115-15:	Output 0-115V, 15A	\$ 280
MODEL GT 115-20:	Output 0-115V, 20A	\$ 310
MODEL GT 115-25:	Output 0-115V, 25A	\$ 350
MODEL GT 115-30:	Output 0-115V, 30A	\$ 390
MODEL GT 115-40:	Output 0-115V, 40A	\$ 490
MODEL GT 115-50:	Output 0-115V, 50A	\$ 560
MODEL GT 115-60:	Output 0-115V, 60A	\$ 660
MODEL GT 115-70:	Output 0-115V, 70A	\$ 700
MODEL GT 130-2:	Output 0-130V, 2A	\$ 124
MODEL GT 120-5:	Output 0-120V, 5A	\$ 277
MODEL GT 130-5:	Output 0-130V, 5A	\$ 223
MODEL GT 130-10:	Output 0-130V, 10A	\$ 286
MODEL GT 200-10:	Output 0-220V, 10A	\$ 382
MODEL GT 80-50:	Output 0-80V, 50A	Inquire
MODEL GT 80-100:	Output 0-80V, 100A	Inquire

## 3 PHASE MODEL POWERSTAT METERS

MODEL GP 125-40:	Output 40A, 0-125V	\$ Inquire
MODEL GP 125-80:	Output 80A, 0-125V	\$ Inquire
MODEL GP 125-125:	Output 125A, 0-125V	\$ Inquire
MODEL GP 250-15:	Output 15A, 0-250V	\$ Inquire
MODEL GP 250-25:	Output 25A, 0-250V	\$ Inquire
MODEL GP 250-40:	Output 40A, 0-250V	\$ Inquire
MODEL GP 250-75:	Output 75A, 0-250V	\$ Inquire
MODEL GP 500-5:	Output 5A, 0-500V	\$ Inquire
MODEL GP 500-10:	Output 10A, 0-500V	\$ Inquire
MODEL GP 500-25:	Output 25A, 0-500V	\$ Inquire
MODEL GP 500-35:	Output 35A, 0-500V	\$ Inquire

## LOW-COST BASIC / OEM SUPPLIES

MODEL L6-1-30	6.3VDC @ 30A/1%	\$ 125
MODEL L12-12	12VDC @ 12A/Rip. 1Mv/.01%	\$ 180
MODEL L12-15	12VDC @ 15A/1%	\$ 170
MODEL L12-24	12VDC @ 24Amp.	\$ 100
MODEL L12-24	12VDC @ 24A/1%	\$ 144
MODEL L12-50	12VDC @ 50Amp.	\$ 133
MODEL L12-50	12VDC @ 50A/Rip. 1%	\$ 223
MODEL L24-30	24VDC @ 30A/Rip. 1%	\$ 313
MODEL L28-1	28VDC @ 1A/0.5%	\$ 55
MODEL L28-2	28VDC @ 1A/Rip. .05%	\$ 65
MODEL L28-5	28VDC @ 5Amp.	\$ 85
MODEL L28-8	28VDC @ 8Amp.	\$ 110
MODEL L28-12	28VDC @ 12Amp.	\$ 120
MODEL L28-24	28VDC @ 24Amp. (N.F.)	\$ 115
MODEL L28-24	28VDC @ 24Amp.	\$ 180
MODEL L28-30	28VDC @ 30Amp.	\$ 313
MODEL L28-50	28VDC @ 50Amp. (N.F.)	\$ 205
MODEL L28-50	28VDC @ 50Amp.	\$ 285
MODEL L28-50	28VDC @ 50Amp. -1% R.	\$ 403
MODEL L28-100	28VDC @ 100Amp.	\$ 418
MODEL L115-2.5	115VDC 2.5A	\$ 85
MODEL L115-5	115VDC 5A	\$ 124
MODEL L115-10	115VDC 10A (N.F.)	\$ 188
MODEL L115-10	115VDC 10A	\$ 340
MODEL L220-5	220VDC 5A	\$ 223
MODEL L220-10	220VDC 10A	\$ 340
MODEL L440-5	440VDC 5A	\$ 349

(N.F.) means not filtered

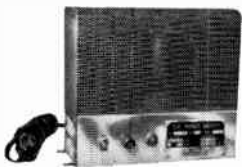
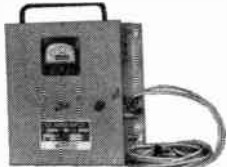
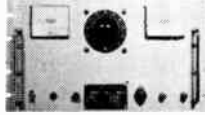

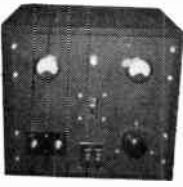
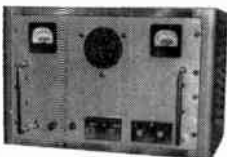


## 12 VOLT POWER SUPPLIES — 1% Ripple

MODEL GS 12-1,	Output 1A, 12V	\$ 35.00
MODEL GS 12-3,	Output 3A, 12V	\$ 55.00
MODEL GS 12-5,	Output 5A, 12V	\$ 65.00
MODEL GS 12-10,	Output 10A, 12V	\$ 85.00
MODEL GS 12-15,	Output 15A, 12V	\$130.00
MODEL GS 12-20,	Output 20A, 12V	\$150.00
MODEL GS 12-25,	Output 25A, 12V	\$170.00
MODEL GS 12-30,	Output 30A, 12V	\$190.00

# GATES

ELECTRONIC COMPANY, INC.

# HIGHEST QUALITY-LOWEST PRICE

	<p><b>SILICON POWER SUPPLY</b> Model GX24-1</p> <p>INPUT: 115 Volts AC, 60 cycles, 1 phase OUTPUT: 24 Volts DC, 0-1 ampere DC, continuous duty RIPPLE: 0.3% RMS REGULATION: 8% no load to full load DIMENSIONS: 3" x 5" x 10" PRICE: \$75.00 0-2 Amps PRICE: \$85.00</p>		<p><b>PORTABLE SILICON BATTERY CHARGER</b> Model G612-20</p> <p>INPUT: 115 volts AC, 60 cycles, 1 phase OUTPUT: 6/12 Volts DC, 20 amperes continuous duty METER: Amp. meter 2% Accuracy DIMENSIONS: 11"H x 9"W x 6 1/2"D PRICE: \$57.50</p>
<p><b>SILICON RECTIFIER</b> Model GT32-30</p> <p>INPUT: 115 Volts, 50-60 cycles, 1 phase OUTPUT: 30 amperes, 0-32 Volts DC RECTIFIER: Full wave silicon rectifier RIPPLE: 1% RMS VOLTAGE CONTROL: Powerstat METERS: 2% Accuracy volt meter, amp. meter DIMENSIONS: 10 1/2" x 13 1/2" x 19" PRICE: \$350.00 — WT. 92 Lbs.</p>			<p><b>SILICON RECTIFIER</b> Model GT32-24</p> <p>INPUT: 115 Volts, 50-60 cycles, 1 phase OUTPUT: 24 amperes, 0-32 Volts DC RECTIFIER: Full wave silicon rectifier RIPPLE: 1% VOLTAGE CONTROL: Powerstat DIMENSIONS: 8 3/4" x 13 1/2" x 19" METERS: 2% Accuracy volt meter, amp. meter PRICE: \$325.00 — WT. 75 Lbs.</p>
<p><b>BENCH PLATING RECTIFIER</b> Model G50-8</p>  <p>INPUT: 115 volts, 50-60 cycles, 1 phase OUTPUT: 50 amperes, 0-8 Volts DC RECTIFIER: Full wave silicon rectifier RIPPLE: 2% \$75. extra VOLTAGE CONTROL: Powerstat METER: 2% Accuracy, volt meter, amp. meter DIMENSIONS: 21" x 15" x 10" PRICE: \$175.00</p>	<p><b>BENCH PLATING RECTIFIER</b> Model G100-8</p>  <p>INPUT: 115 Volts, 50-60 cycles, 1 phase OUTPUT: 100 amperes, 0-8 Volts DC RECTIFIER: Full wave silicon rectifier RIPPLE: 2% \$75. extra VOLTAGE CONTROL: Powerstat METERS: 2% Accuracy, volt meter, amp. meter DIMENSIONS: 21" x 15" x 10" PRICE: \$275.00</p>	<p><b>BENCH PLATING RECTIFIER</b> Model G200-6</p>  <p>INPUT: 115 Volts, 50-60 cycles, 1 phase OUTPUT: 200 amperes, 0-6 Volts DC RECTIFIER: Full wave silicon rectifier RIPPLE: 2% \$100 extra COOLING: Fan VOLTAGE CONTROL: Powerstat METERS: 2% Accuracy, volt meter, amp. meter DIMENSIONS: 21" x 15" x 19" PRICE: \$385.00</p>	<p><b>BENCH PLATING RECTIFIER</b> Model G50-15</p>  <p>INPUT: 115 Volts, 50-60 cycles, 1 phase OUTPUT: 50 amperes, 0-15 Volts DC RECTIFIER: Full wave silicon rectifier RIPPLE: 2% \$125 extra VOLTAGE CONTROL: Powerstat METERS: 2% Accuracy, volt meter, amp. meter DIMENSIONS: 21" x 15" x 10" PRICE: \$210.00</p>

**SILICON RECTIFIERS FOR EXCITATION OF SYNCHRONOUS MOTORS. HEAVY DUTY, INDUSTRIAL CONSTRUCTION. PROVEN IN USE.**

3.5 KW	125 DCV	28 DCA	.....	\$	Inquire
5 KW	125 DCV	40 DCA	.....	\$	Inquire
7 KW	125 DCV	56 DCA	.....	\$	Inquire
10 KW	125 DCV	80 DCA	.....	\$	Inquire
14 KW	125 DCV	56 DCA	.....	\$	Inquire
22 KW	125 DCV	168 DCA	.....	\$	Inquire
55 KW	125 DCV	440 DCA	.....	\$	Inquire

**HIGH CURRENT POWER SUPPLIES†**

MODEL G 300 Output	300A, 24-30V	.....	\$	Inquire
MODEL G 500 Output	500A, 24-30V	.....	\$	Inquire
MODEL G 1000 Output	1000A, 24-30V	.....	\$	Inquire

† Saturable Reactor.

**MAGNETIC AMP. REG. UNITS CONTROL**

Max. reg. 1%

5-30 VDC 40A 115VAC In.	.....	\$	Inquire
5-30 VDC 50A 220VAC In. 1φ	.....	\$	Inquire
5-30 VDC 75A 208VAC In. 3φ	.....	\$	Inquire

**BENCH MODEL PLATING SUPPLIES**

MODEL GI 10-6	6V 10A	.....	\$ 62.00
MODEL GI 10-6F*	6V 10A	.....	\$ 96.00
MODEL GI 10-9	9V 10A	.....	\$ 76.00
MODEL GI 10-9F	9V 10A	.....	\$ 100.00
MODEL GI 10-12	12V 10A	.....	\$ 88.00
MODEL GI 10-12F	12V 10A	.....	\$ 112.00
MODEL GI 25-6	6V 25A	.....	\$ 96.00
MODEL GI 25-6F	6V 25A	.....	\$ 120.00
MODEL GI 25-9	9V 25A	.....	\$ 104.00
MODEL GI 25-9F	9V 25A	.....	\$ 128.00
MODEL GI 25-12	12V 25A	.....	\$ 124.00
MODEL GI 25-12F	12V 25A	.....	\$ 152.00
MODEL GI 25-18	18V 25A	.....	\$ 156.00
MODEL GI 25-18F	18V 25A	.....	\$ 184.00
MODEL GI 25-24	24V 25A	.....	\$ 172.00
MODEL GI 25-24F	24V 25A	.....	\$ 196.00
MODEL GI 35-6	6V 35A	.....	\$ 108.00
MODEL GI 35-6F	6V 35A	.....	\$ 140.00
MODEL GI 35-9	9V 35A	.....	\$ 120.00
MODEL GI 35-9F	9V 35A	.....	\$ 148.00
MODEL GI 35-12	12V 35A	.....	\$ 132.00

MODEL GI 35-12F	12V 35A	.....	\$160.00
MODEL GI 35-18	18V 35A	.....	\$164.00
MODEL GI 35-18F	18V 35A	.....	\$192.00
MODEL GI 35-24	24V 35A	.....	\$184.00
MODEL GI 35-24F	24V 35A	.....	\$208.00
MODEL GI 50-6	6V 50A	.....	\$128.00
MODEL GI 50-6F	6V 50A	.....	\$168.00
MODEL GI 50-9	9V 50A	.....	\$132.00
MODEL GI 50-9F	9V 50A	.....	\$176.00
MODEL GI 50-12	12V 50A	.....	\$144.00
MODEL GI 50-12F	12V 50A	.....	\$188.00
MODEL GI 50-18	18V 50A	.....	\$176.00
MODEL GI 50-18F	18V 50A	.....	\$220.00
MODEL GI 75-6	6V 75A	.....	\$156.00
MODEL GI 75-6F	6V 75A	.....	\$204.00
MODEL GI 75-9	9V 75A	.....	\$172.00
MODEL GI 75-9F	9V 75A	.....	\$220.00
MODEL GI 75-12	12V 75A	.....	\$176.00
MODEL GI 75-12F	12V 75A	.....	\$234.00
MODEL GI 75-18	18V 75A	.....	\$236.00
MODEL GI 75-18F	18V 75A	.....	\$284.00
MODEL GI 100-6	6V 100A	.....	\$180.00
MODEL GI 100-6F	6V 100A	.....	\$238.00
MODEL GI 100-9	9V 100A	.....	\$188.00
MODEL GI 100-9F	9V 100A	.....	\$244.00
MODEL GI 100-12	12V 100A	.....	\$240.00
MODEL GI 100-12F	12V 100A	.....	\$302.00
MODEL GI 100-18	18V 100A	.....	\$288.00
MODEL GI 100-18F	18V 100A	.....	\$348.00
MODEL GI 150-6	6V 150A	.....	\$248.00
MODEL GI 150-6F	6V 150A	.....	\$308.00
MODEL GI 150-9	9V 150A	.....	\$280.00
MODEL GI 150-9F	9V 150A	.....	\$340.00
MODEL GI 150-12	12V 150A	.....	\$296.00
MODEL GI 150-12F	12V 150A	.....	\$356.00
MODEL GI 200-9	9V 200A	.....	\$322.00
MODEL GI 200-9F	9V 200A	.....	\$382.00
MODEL GI 200-12	12V 200A	.....	\$316.00
MODEL GI 200-12F	12V 200A	.....	\$372.00

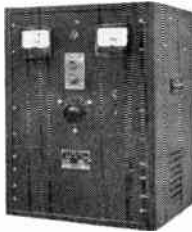
\* FILTERED (F) PRICES SUBJECT TO CHANGE

**TECHNICIAN SPECIALS**

MODEL G28-2	28V 2A 1% R	.....	\$37.50
MODEL G48-3	48V 3A 1% R	.....	\$39.50
MODEL G115-1	115V 1A 1% R	.....	\$49.50

# ALL TYPES OF POWER SUPPLIES

## SILICON POWER RECTIFIER Model G50-50R



INPUT: 220 Volts AC, 60 cycles, 3 phase

OUTPUT: 0-50 volts DC, 0-50 amperes continuous duty

RIPPLE: .3% RMS

REGULATION: No Load to Full Load 8%

METERS: 2% Accuracy

DIMENSIONS: 21" x 15" x 19"

## SILICON INDUSTRIAL POWER UNIT Model G30-100

INPUT: 220 Volts AC, 60 cycles, 3 phase

OUTPUT: 0-32 Volts DC, 0-100 amperes continuous duty

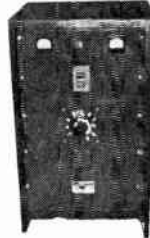
RIPPLE: .3% RMS

REGULATION: 5-8% 1/10th load to full load with constant input and at maximum output voltage setting

METERS: 2% Accuracy

DIMENSIONS: 21" x 15" x 19"

## SILICON AIRCRAFT BATTERY ELIMINATOR Model G30-200



INPUT: 220 Volts AC, 60 cycles, 3 phase

OUTPUT: 0-32 Volts DC, 0-200 amperes continuous duty also avail. 300A

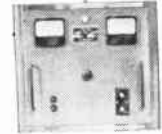
RIPPLE: .5% RMS

REGULATION: 5-4% 1/10th load to full load with constant input and maximum output voltage setting

METERS: 2% Accuracy

DIMENSIONS: 25" x 25" x 43"

## SILICON REGULATED POWER SUPPLY Model G530-40M



INPUT: 115 Volts AC, 60 cycles, 1 phase

OUTPUT: 5-30 Volts DC, 0-40 amperes

RIPPLE: 1% RMS

REGULATION: ±1% from no load to full load

METERS: 2% Accuracy

DIMENSIONS: 21" x 15" x 19"

## SILICON POWER SUPPLY



MODEL GX 30-5

INPUT: 115 Volts AC 60 cycles, single phase

OUTPUT: 28-30-32 Volts DC, 0-5 Amperes, DC Continuous Duty

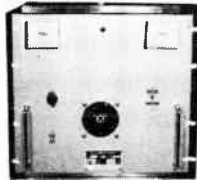
REGULATION: 12% No Load to Full Load

RIPPLE: .5% RMS

DIMENSIONS: 5" W x 13 1/2" L x Overall Height 9"

PRICE: \$85.00 — 6 Amps \$95.00

## SILICON GENERAL PURPOSE RECTIFIER



MODEL G-115

INPUT: 115 Volts AC 60 cycles, 1 Phase

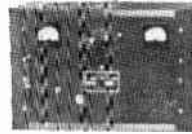
OUTPUT: 0-32 Volts DC, 0-50 Amperes DC, Continuous duty variable over entire range

RIPPLE: 1% RMS

DIMENSIONS: 22"H x 19"W x 15"D

PRICE: \$522.00 NET

## DC POWER SUPPLY



MODEL G94F

INPUT: 115 Volts AC 60 cycles, 1 Phase DC

OUTPUT: 0-30V Volts DC Continuous Variable 0-1 Amperes. RIPPLE: 3 MV RMS

DIMENSIONS: Rack 8 3/4" H x 19" L x 9 1/2" D

CABINET: 10 1/2"H x 22"L x 12"D

PRICE: \$275.00

Also 0-2 Amp. PRICE: \$340.00

## SILICON POWER SUPPLY



MODEL GX30-20

INPUT: 115 Volts, 1 Phase, 60 cycles

OUTPUT: 0-34, Volts, DC 0-20 Amperes, continuous duty

REGULATION: No load to full load: 18%

RIPPLE: Below 1%

Silicon Rectifiers, High Efficiency

DIMENSIONS: 10" x 17" x 3"

PRICE: \$185.00 NET

### 3 PHASE — BENCH MODEL PLATING SUPPLIES

MODEL GL 6-50	6V	50A	\$204.00
MODEL GL 9-50	9V	50A	\$212.00
MODEL GL 12-50	12V	50A	\$220.00
MODEL GL 18-50	18V	50A	\$236.00
MODEL GL 6-75	6V	75A	\$256.00
MODEL GL 9-75	9V	75A	\$264.00
MODEL GL 12-75	12V	75A	\$276.00
MODEL GL 18-75	18V	75A	\$292.00
MODEL GL 6-100	6V	100A	\$268.00
MODEL GL 9-100	9V	100A	\$284.00
MODEL GL 12-100	12V	100A	\$300.00
MODEL GL 18-100	18V	100A	\$316.00
MODEL GL 6-150	6V	150A	\$300.00
MODEL GL 9-150	9V	150A	\$328.00
MODEL GL 12-150	12V	150A	\$352.00
MODEL GL 18-150	18V	150A	\$372.00
MODEL GL 6-200	6V	200A	\$330.00
MODEL GL 9-200	9V	200A	\$352.00
MODEL GL 12-200	12V	200A	\$372.00
MODEL GL 6-250	6V	250A	\$372.00
MODEL GL 9-250	9V	250A	\$396.00
MODEL GL 12-250	12V	250A	\$460.00

### 24 VOLT POWER SUPPLIES — Rack Type — 1% Ripple

MODEL G 24-6R	24VDC	6A	\$ 95.00
MODEL G 24-15R	24VDC	15A	\$105.00
MODEL G 24-25R	24VDC	25A	\$125.00
MODEL G 24-50R	24VDC	50A	\$210.00

PRICES SUBJECT TO CHANGE

See Section 4800 for our low prices on Selenium and Silicon Full Wave Assemblies

### GR LINE REGULATED POWER SUPPLIES — 2% Meters 1% Ripple

MODEL GR 12-5	0-12V	5A	\$120.00
MODEL GR 12-10	0-12V	10A	\$155.00
MODEL GR 12-20	0-12V	20A	Inquire
MODEL GR 12-30	0-12V	30A	\$175.00
MODEL GR 16-5	0-16V	5A	\$175.00
MODEL GR 16-10	0-16V	10A	\$125.00
MODEL GR 8-10	0-8V	10A	\$155.00
MODEL GR 28-5	0-28V	5A	\$ 95.00
MODEL GR 14-5	0-14V	5A	\$125.00
MODEL GR 32-4	0-32V	4A	\$ 79.00
MODEL GR 16-8	0-16V	8A	\$135.00
MODEL GR 32-15	0-32V	15A	\$225.00
MODEL GR 55-10	0-55V	10A	\$210.00
MODEL GR 125-1	0-125V	1A	\$375.00
MODEL GR 125-5	0-125V	5A	\$215.00
MODEL GR 125-10	0-125V	10A	\$485.00

### INDUSTRIAL POWER UNITS — SINGLE PHASE

MODEL GK 115-125A	Output 115V	125W	Input 115V	\$ 63.00
MODEL GK 115-125B	Output 115V	125W	Input 230V	\$ 63.00
MODEL GK 115-125C	Output 115V	125W	Input 440V	\$ 63.00
MODEL GK 115-250A	Output 115V	250W	Input 115V	\$ 72.50
MODEL GK 115-250B	Output 115V	250W	Input 230V	\$ 72.50
MODEL GK 115-250C	Output 115V	250W	Input 440V	\$ 72.50
MODEL GK 115-375A	Output 115V	375W	Input 115V	\$ 89.00
MODEL GK 115-375B	Output 115V	375W	Input 230V	\$ 89.00
MODEL GK 115-375C	Output 115V	375W	Input 440V	\$ 89.00
MODEL GK 115-500A	Output 115V	500W	Input 115V	\$105.00
MODEL GK 115-500B	Output 115V	500W	Input 230V	\$105.00
MODEL GK 115-500C	Output 115V	500W	Input 440V	\$105.00
MODEL GK 115-750A	Output 115V	750W	Input 115V	\$130.00
MODEL GK 115-750B	Output 115V	750W	Input 230V	\$130.00
MODEL GK 115-750C	Output 115V	750W	Input 440V	\$130.00
MODEL GK 115-1000A	Output 115V	1000W	Input 115V	\$150.00
MODEL GK 115-1000B	Output 115V	1000W	Input 230V	\$150.00
MODEL GK 115-1000C	Output 115V	1000W	Input 440V	\$150.00
MODEL GK 230-125A	Output 230V	125W	Input 115V	\$ 67.00
MODEL GK 230-125B	Output 230V	125W	Input 230V	\$ 67.00
MODEL GK 230-125C	Output 230V	125W	Input 440V	\$ 67.00
MODEL GK 230-250A	Output 230V	250W	Input 115V	\$ 75.00
MODEL GK 230-250B	Output 230V	250W	Input 230V	\$ 75.00
MODEL GK 230-250C	Output 230V	250W	Input 440V	\$ 75.00
MODEL GK 230-375A	Output 230V	375W	Input 115V	\$110.00
MODEL GK 230-375B	Output 230V	375W	Input 230V	\$110.00
MODEL GK 230-375C	Output 230V	375W	Input 440V	\$110.00
MODEL GK 230-500A	Output 230V	500W	Input 115V	\$115.00
MODEL GK 230-500B	Output 230V	500W	Input 230V	\$115.00
MODEL GK 230-500C	Output 230V	500W	Input 440V	\$115.00
MODEL GK 230-750A	Output 230V	750W	Input 115V	\$172.00
MODEL GK 230-750B	Output 230V	750W	Input 230V	\$172.00
MODEL GK 230-750C	Output 230V	750W	Input 440V	\$172.00
MODEL GK 230-1000A	Output 230V	1000W	Input 115V	\$180.00
MODEL GK 230-1000B	Output 230V	1000W	Input 230V	\$180.00
MODEL GK 230-1000C	Output 230V	1000W	Input 440V	\$180.00

# GATES

ELECTRONIC COMPANY, INC.

MODEL G230-25



INPUT: 208/440, 3ph 60 cy  
 OUTPUT: 230 @ 25A  
 RIPPLE: 4.5%  
 REGULATION: 1/10 Load 8%  
 METERS: None  
 DIMENSIONS: 21" W x 15" D x 14" H  
 PRICE: \$575.00  
 METERS \$50.00 EXTRA

MODEL G12-250



INPUT: 208, 3ph 60 cy  
 OUTPUT: 0-12V @ 250A  
 RIPPLE: 4.5%  
 REGULATION: 1/10 Load 8%  
 METERS: YES  
 DIMENSIONS: 20" W x 20" D x 35" H  
 PRICE: \$575.00

MODEL G220-10



INPUT: 115VAC  
 OUTPUT: 220VDC @ 10A  
 RIPPLE: 48%  
 METERS: NONE  
 DIMENSIONS: 21" W x 15" D x 10" H  
 PRICE: \$425.00  
 METERS \$50.00 EXTRA

SILICON INDUSTRIAL POWER UNIT  
 MODEL G30-40F



INPUT: 115 Volts AC, 60 cycles, single phase.  
 OUTPUT: 0-32 Volts DC, 0-40 Amperes DC, continuous duty  
 RIPPLE: 1% RMS  
 DIMENSIONS: 12 1/4" H x 19" W x 13" D  
 REGULATION: D.C.V. at full load: 32 minimum D.C.V. at 1/10 load: 35 maximum  
 PRICE: \$425.00

MODEL GT125-5F



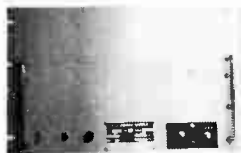
INPUT: 115VAC  
 OUTPUT: 0-125 @ 5A  
 RIPPLE: 0.5%  
 REGULATION: UNREGULATED  
 METERS: YES  
 DIMENSIONS: 21" W x 15" D x 10 1/2" H  
 PRICE: \$325.00

MODEL GT14-40



INPUT: 115VAC  
 OUTPUT: 0-14 @ 40A  
 RIPPLE: 0.1%  
 REGULATION: UNREGULATED  
 METERS: YES  
 DIMENSIONS: 19" W x 13 1/2" D x 8-3/6" H  
 PRICE: \$275.00 — RACK MOUNTED

MODEL GX28-50



INPUT: 115VAC  
 OUTPUT: 28 @ 50A  
 RIPPLE: 0.5%  
 REGULATION: UNREGULATED  
 METERS: NONE  
 DIMENSIONS: 19" W x 13 1/2" D x 12 1/4" H  
 PRICE: \$325.00 — RACK MOUNTED

MODEL G45-30



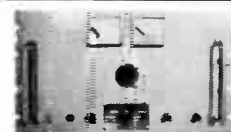
INPUT: 115VAC  
 OUTPUT: 45, 42, 40, 36, 32, 30, 2 1/2, 2 1/8, 2 1/4 @ 30A  
 RIPPLE: 1%  
 REGULATION: FAN COOLED  
 METERS: 5%  
 DIMENSIONS: 19" W x 10" D x 8-3/6" H  
 PRICE: \$375.00



MODEL GT20-200

INPUT: 220 VAC 60 cy. 1 Phase  
 OUTPUT: 0-22 VDC @ 200A  
 RIPPLE: 1%  
 CABINET: 35" x 20" x 20"  
 METERS: VOLT & AMP.  
 PRICE \$625.00

NEW SCR REGULATED POWER SUPPLIES



GCR32-30 115VAC 24-32 @ 30A 1% ±1% Meters 19"Wx17"Dx12 1/4"H  
 PRICE: \$550.00 — Cabinet \$25.00 more  
 GCR32-25 115VAC 24-32 @ 25A 1% ±1% Meters 19"Wx17"Dx12 1/4"H  
 PRICE: \$505.00 — Cabinet \$25.00 more  
 GCR32-20 115VAC 24-32 @ 20A 1% ±1% Meters 19"Wx17"Dx10 1/4"H  
 PRICE: \$475.00 — Cabinet \$25.00 more

TRANSFORMERS \* Primary 115 vac 60C, tapped to deliver 36, 38 and 40V.

36, 38 and 40 VOLTS*			36V. CENTER TAPPED**		
Model No.	Amps	Price	Model No.	Amps	Price
GT 36-2	2	\$ 6.00	XF 36-1	1	\$ 4.75
GT 36-5	5	7.60	XF 36-2	2	6.45
GT 36-8	8	13.00	XF 36-4	4	7.75
GT 36-10	10	14.75	XF 36-8	8	14.10
GT 36-12	12	15.00	XF 36-12	12	15.50
GT 36-15	15	21.50	XF 36-24	24	34.05
GT 36-20	20	28.50	XF 36-30	30	42.50
GT 36-30	30	41.00	XF 36-50	50	56.75
GT 36-50	50	55.00			

CHOKES

Model No.	Amps	My	Ohms	Price	Model No.	Amps	My	Dhms	Price
GH-1	1	.1	1.5	\$ 4.75	GH-15	15	.006	.01	\$14.75
GH-2	2	.04	.9	5.50	GH-20	20	.004	.05	15.00
GH-4	4	.07	.6	6.45	GH-24	24	.004	.025	25.00
GH-5	5	.03	.02	6.60	GH-30	30	.003	.01	35.00
GH-8	8	.03	.3	11.00	GH-50	50	.001	.001	43.00
GH-10	10	.015	.05	12.50	GH-100	100	.0005	.005	53.00
GH-12	12	.01	.1	14.20					

HIGH VOLTAGE DC POWER SUPPLIES

1% Ripple - Good Regulation - Cabinets - Meters - Heavy Duty Construction - Powerstat - Fused 1% Meters - 115 Vac Input Heavy Duty Line Cord.

MODEL GP 32-5	Input 115V, 60c, 1ph.	Output 0-32V @ 5A	\$ Inquire
MODEL GP 32-10	Input 115V, 60c, 1ph.	Output 0-32V @ 10A	\$ Inquire
MODEL GP 32-20	Input 115V, 60c, 1ph.	Output 0-32V @ 20A	\$ Inquire
MODEL GP 32-40	Input 115V, 60c, 1ph.	Output 0-32V @ 40A	\$ Inquire
MODEL GP 32-100	Input 220V, 60c, 3ph.	Output 0-32V @ 100A	\$ Inquire
MODEL GP 32-150	Input 220V, 60c, 3ph.	Output 0-32V @ 150A	\$ Inquire
MODEL GP 60-6	Input 115V, 60c, 1ph.	Output 0-60V @ 6A	\$ Inquire
MODEL GP 60-10	Input 115V, 60c, 1ph.	Output 0-60V @ 10A	\$ Inquire
MODEL GP 60-12	Input 115V, 60c, 1ph.	Output 0-60V @ 12V	\$ Inquire
MODEL GP 60-20	Input 115V, 60c, 1ph.	Output 0-60V @ 20A	\$ Inquire
MODEL GP 60-50	Input 220V, 60c, 3ph.	Output 0-60V @ 50A	\$ Inquire
MODEL GP 60-80	Input 220V, 60c, 3ph.	Output 0-60V @ 80A	\$ Inquire
MODEL GP 60-250	Input 220V, 60c, 3ph.	Output 0-60V @ 250A	\$ Inquire
MODEL GP 125-2.5	Input 117V, 60c, 1ph.	Output 0-125V @ 2.5A	\$ Inquire
MODEL GP 125-3	Input 117V, 60c, 1ph.	Output 0-125V @ 3A	\$ Inquire
MODEL GP 125-5	Input 117V, 60c, 1ph.	Output 0-125V @ 5A	\$ Inquire
MODEL GP 125-10	Input 117V, 60c, 1ph.	Output 0-125V @ 10A	\$ Inquire
MODEL GP 125-20	Input 117V, 60c, 1ph.	Output 0-125V @ 20A	\$ Inquire
MODEL GP 125-24	Input 220V, 60c, 3ph.	Output 0-125V @ 24A	\$ Inquire
MODEL GP 125-40	Input 220V, 60c, 3ph.	Output 0-125V @ 40A	\$ Inquire
MODEL GP 125-80	Input 220V, 60c, 3ph.	Output 0-125V @ 80A	\$ Inquire
MODEL GP 125-120	Input 220V, 60c, 3ph.	Output 0-125V @ 120A	\$ Inquire

MODEL GP 250-5	Input 117V, 60c, 1ph.	Output 0-250V @ 5A	\$ Inquire
MODEL GP 250-10	Input 117V, 60c, 1ph.	Output 0-250V @ 10A	\$ Inquire
MODEL GP 250-12	Input 220V, 60c, 3ph.	Output 0-250V @ 12A	\$ Inquire
MODEL GP 250-20	Input 220V, 60c, 3ph.	Output 0-250V @ 20A	\$ Inquire
MODEL GP 250-40	Input 220V, 60c, 3ph.	Output 0-250V @ 40A	\$ Inquire
MODEL GP 250-60	Input 220V, 60c, 3ph.	Output 0-250V @ 60A	\$ Inquire
MODEL GP 300-1	Input 220V, 60c, 3ph.	Output 0-250V @ 1A	\$ 275.
MODEL GP 300-1.5	Input 220V, 60c, 3ph.	Output 0-250V @ 1.5A	\$ 310.
MODEL GP 300-2	Input 220V, 60c, 3ph.	Output 0-250V @ 2A	\$ 350.
MODEL GP 300-3	Input 220V, 60c, 3ph.	Output 0-250V @ 3A	\$ 450.
MODEL GP 300-5	Input 220V, 60c, 3ph.	Output 0-250V @ 5A	\$ 645.
MODEL GP 500-1	Input 220V, 60c, 3ph.	Output 0-500V @ 1A	\$ 305.
MODEL GP 500-1.5	Input 220V, 60c, 3ph.	Output 0-500V @ 1.5A	\$ 360.
MODEL GP 500-2	Input 220V, 60c, 3ph.	Output 0-500V @ 2A	\$ 425.
MODEL GP 500-3	Input 220V, 60c, 3ph.	Output 0-500V @ 3A	\$ 525.
MODEL GP 500-5	Input 220V, 60c, 3ph.	Output 0-500V @ 5A	\$ 725.
MODEL GP 500-5	Input 220V, 60c, 3ph.	Output 0-500V @ 5A	\$ Inquire
MODEL GP 500-10	Input 220V, 60c, 3ph.	Output 0-500V @ 10A	\$ Inquire
MODEL GP 500-20	Input 220V, 60c, 3ph.	Output 0-500V @ 20A	\$ Inquire
MODEL GP 500-30	Input 220V, 60c, 3ph.	Output 0-500V @ 30A	\$ Inquire

GATES ELECTRONIC CO., INC.

COMPONENTS AND PARTS FOR SALE — SEE SECTION 4800

**PRICES**

Prices in this MASTER should not be considered as final. **INQUIRE ABOUT LATEST PRICES AND DELIVERY.**

**DISCOUNTS**

Trade discounts apply in most cases where **LIST PRICES** are shown.

**ORDERING**

Since previous editions of the MASTER are frequently referred to, it is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

**INVENT RV**

While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.



# RECHARGEABLE NICKEL-CADMIUM BATTERIES



- Can be recharged hundreds of times
- Tremendous savings
- Greater reliability
- Wide range of temperature operations
- Peak performance for your battery needs



General Electric's new rechargeable nickel-cadmium batteries in "AA" and "D" sizes have the same basic cell construction as those that have proven so successful in space age satellites. They will serve in any application using standard cells, and are ideal for the ever-increasing range of battery-powered products.



Toys

Games

Flashlights

Electric shavers

Portable record and  
tape players

Cameras and flash units

Radios

Power tools

Cordless appliances

Transistors

Remote control hobbies

Cell Size	Cat. No.	Suggested User Price Each
AA	GE-X17	\$1.59
D	GE-X18	2.13

Free "build-it-yourself" battery charger schematic included.

GENERAL  ELECTRIC



# AC VOLTAGE STABILIZERS

For Electronic and Electric Equipment



General Electric a-c voltage stabilizers are static-magnetic transformer-type products which provide voltage maintained within  $\pm 1\%$  variation while input line voltage fluctuates  $\pm 15\%$ . They are offered in the following variations:

**Unfiltered output:** output voltage waveform is relatively flat-topped, with harmonic content from 15 to 20%.

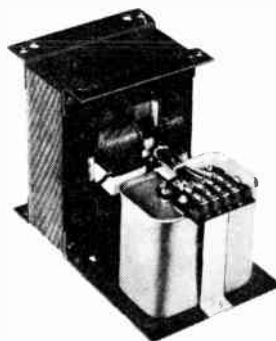
**Harmonic filtered output:** output voltage is filtered to near sinusoidal waveshape, with a maximum of 3% harmonic content.

**Enclosed construction:** completely metal enclosed for safe external mounting.

**Open construction:** for installation within electronic or electric equipment.

**SINGLE PHASE**—Magnetic-capacitor circuitry is frequency sensitive. Stabilizers designed for one frequency are not suitable for use on another.

**THREE PHASE**—Standard single-phase a-c voltage stabilizers can be connected for 3-phase, 4-wire loads with input connected delta. However, single-phase models cannot be connected for 3-phase, 3-wire loads: select from 3-phase delta-delta models.



Open — small ratings



Enclosed — small ratings

## Single Phase

Volt-amp Output Capacity	Input Voltage Range	Stabilized Output Voltage	Unfiltered Output		Harmonic Filtered Output	
			Model Number	List Price	Model Number	List Price

### ENCLOSED — FOR 60 CYCLES

15	95-130	118	9T91Y4070	\$14.70	.....	.....
30	95-130	118	9T91Y4090	16.80	.....	.....
60	95-130	118	9T91Y4110	22.10	.....	.....
120	95-130	118	9T91Y4130	30.50	.....	.....
250	95-130	118	9T91Y4140†	50.90	9T91Y7140†	\$52.50
250	190-260	118	9T91Y4142‡	50.90	.....	.....
250	190-260X380-520	118/236	9T91Y4144‡	56.50	.....	.....
250	380-520	118	9T91Y4145‡	50.90	.....	.....
500	95-130	118	9T91Y4150‡	79.80	9T91Y7150‡	82.40
500	190-260	118	9T91Y4152‡	79.80	.....	.....
500	380-520	118	9T91Y4155‡	79.80	.....	.....
1000	95-130	118	9T91Y4170	122.00	9T91Y7170	126.00
1000	95-130X175-235X190-260	118/236	.....	.....	9T91Y7173	126.00
1000	190-260	118	9T91Y4172	122.00	9T91Y7172	142.00
1000	190-260X380-520	118/236	.....	.....	9T91Y7174	140.00
1000	380-520	118	9T91Y4175	122.00	.....	.....
2000	95-130X175-235X190-260	118/236	9T91Y4183	246.00	9T91Y7183	257.00
2000	190-260X380-520	118/236	9T91Y4184	242.00	9T91Y7184	253.00
2000	380-520	236/472	9T91Y4186	235.00	.....	.....
3000	95-130X175-235X190-260	118/236	9T91Y4193	330.00	9T91Y7193	347.00
3000	190-260X380-520	118/236	9T91Y4194	323.00	.....	.....
3000	380-520	236/472	9T91Y4196	315.00	.....	.....
5000	190-260X380-520	118/236	9T91Y4204	498.00	9T91Y7204	536.00
5000	95-130X175-235X190-260	118/236	9T91Y4203	506.00	9T91Y7203	525.00
5000	380-520	236-472	9T91Y4206	483.00	.....	.....
7500	95-130X175-235X190-260	118/236	9T91Y4213	754.00	.....	.....
7500	190-260X380-520	118/236	9T91Y4214	740.00	9T91Y7214	816.30
10000	95-130X175-235X190-260	118/236	.....	.....	9T91Y7223	1082.00
10000	190-260X380-520	118/236	9T91Y4224	966.00	9T91Y7224	1061.00
15000	190-260X380-520	118/236	9T91Y4244	1418.00	9T91Y7244	1565.00

### OPEN — FOR 60 CYCLES

15	95-130	118	9T91Y5070	\$13.90	.....	.....
30	95-130	118	9T91Y5090	15.80	.....	.....
60	95-130	118	9T91Y5110	20.70	.....	.....
120	95-130	118	9T91Y5130	28.6†	.....	.....
250	95-130	118	9T91Y5140	47.90	9T91Y8140	\$49.40
250	190-260	118	9T91Y5142	47.90	.....	.....
500	95-130	118	9T91Y5150	75.10	9T91Y8150	77.50
500	190-260	118	9T91Y5152	75.10	.....	.....
750	95-130	118	9T91Y5160	94.80	9T91Y8160	97.70
1000	95-130	118	9T91Y5170	115.00	9T91Y8170	118.00
1000	190-260	118	9T91Y5172	115.00	9T91Y8172	118.00
1500	95-130	118	9T91Y5010	159.00	9T91Y8010	167.00
2000	95-130X175-235X190-260	118/236	9T91Y5183	230.00	9T91Y8183	242.00

### ENCLOSED — FOR 50 CYCLES

250	95-130	118	9T91Y4147‡	\$58.60	9T91Y7147‡	\$60.40
250	95-130X175-235X190-260	118/236	9T91Y4148‡	66.30	9T91Y7148‡	68.30
500	95-130X175-235X190-260	118/236	9T91Y4158	104.00	9T91Y7158	107.00
500	190-260X380-520	118/236	9T91Y4159	102.00	9T91Y7159	105.00
1000	95-130X175-235X190-260	118/236	9T91Y4178	159.00	9T91Y7178	164.00
2000	95-130X175-235X190-260	118/236	9T91Y4188	283.00	9T91Y7188	296.00
3000	95-130X175-235X190-260	118/236	9T91Y4198	380.00	9T91Y7198	398.00
5000	95-130X175-235X190-260	118/236	9T91Y4208	583.00	9T91Y7208	612.00
7500	95-130X175-235X190-260	118/236	9T91Y4218	866.00	9T91Y7218	952.00
7500	190-260X380-520	118/236	9T91Y4219	851.00	9T91Y7219	937.00

‡ Can be used with adapter kit for quick conversion to a cord and receptacle unit.

## 3 Phase Delta Delta

Freq.	VA	Input Voltage Range	Stabilized Output Voltage*	Model Number	List Price
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### ENCLOSED

60	6000†	190 to 260/380 to 520 delta	230/236 delta	9T91Y3506	\$1066
60	10000†	190 to 260 delta	236 delta	9T91Y3501G2	1537
50	10000†	190 to 260 delta	236 delta	9T91Y3510	1680

\* Maximum harmonic content — 5%.

† Minimum recommended load — 20% of rated.

## Cord/Receptacle Units

Integral single-phase units with a 2-prong cord set and female receptacle in the case.

Volt-amp Output Capacity	Input Voltage Range	Stabilized Output Voltage	Model Number	List Price
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### ENCLOSED — UNFILTERED OUTPUT — FOR 60 CYCLES

15	95-130	118	9T91Y4070G19	\$16.80
30	95-130	118	9T91Y4090G19	18.90
60	95-130	118	9T91Y4110G19	24.20
120	95-130	118	9T91Y4130G19	32.60

Adapter kits are available for use with 250 and 500 volt-amp stabilizers to provide quick conversion to a cord and receptacle unit.

For Use With Stabilizer Model Number	Order Adapter Kit Model Number		List Price
	2-prong	3-prong	
9T91Y4140	9T91Y4140G55	9T91Y4140G75	2-prong Kits \$2.10
9T91Y4142	9T91Y4140G55	9T91Y4140G75	
9T91Y4144	9T91Y4140G55	9T91Y4140G75	
9T91Y4145	9T91Y4140G55	9T91Y4140G75	
9T91Y4147	9T91Y4140G55	9T91Y4140G75	
9T91Y4148	9T91Y4140G55	9T91Y4140G75	3-prong Kits \$2.60
9T91Y4150	9T91Y4140G55	9T91Y4140G75	
9T91Y4152	9T91Y4140G55	9T91Y4140G75	
9T91Y4155	9T91Y4140G55	9T91Y4140G75	
9T91Y7140	9T91Y7140G55	9T91Y7140G75	
9T91Y7150	9T91Y7150G55	9T91Y7150G75	
9T91Y7147	9T91Y7147G55	9T91Y7147G75	
9T91Y7148	9T91Y7147G55	9T91Y7147G75	

## Filament Ratings—Single Phase—60 Cycles

For stabilized power for 6-volt nominal filaments, these stabilizers are suitable for operation with other 6-volt loads of rated or lower output current requirements. Current-limiting characteristic protects cold filaments from high current surges.

Volt-amp Output Capacity	Input Voltage Range	Output		Model Number	List Price
		Volts	Amps		

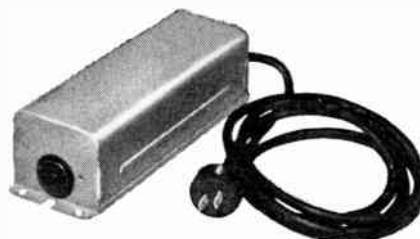
### ENCLOSED

15	95-130	6	2.5	9T91Y366	\$14.70
15	95-130	6.3	2.4	9T91Y368	14.70

### OPEN

15	95-130	6	2.5	9T91Y365	13.90
15	95-130	6.3	2.4	9T91Y367	13.90
31.5	95-130/190-260	6.3	5.0	9T91Y369	15.80
63	95-130/190-260	6.3	10.0	9T91Y370	20.70
94.5	95-130/190-260	6.3	15.0	9T91Y371	23.70
157.5	95-130/190-260	6.3	25.0	9T91Y372	34.70

Typical cord/receptacle unit



GENERAL ELECTRIC





# STABILTRON\* AC VOLTAGE STABILIZERS



For Electronic and Electric Equipment Requiring **PRECISE** Voltage Control

General Electric Stabiltron a-c voltage stabilizers can be used in a wide variety of electronic equipment applications where precise control of voltage is required. The Stabiltron consists entirely of static components — there are no tubes to burn out or moving parts to replace or maintain.

The Stabiltron senses deviations from a predetermined output voltage level by an error detector. The error signal, through the silicon-controlled rectifier circuit, augments the voltage stabilizer action and provides almost instantaneous correction of output voltage.

Typical applications include computers, radar and communications equipment, industrial process control, and X-ray equipment.

**Input Voltage** — The most common power source voltages can be handled by the standard models listed. Stabiltron units can be provided for special voltage levels on request.

**Output Voltage** — Stabiltron voltage stabilizers maintain extremely precise voltage output in spite of wide fluctuations of line voltage, frequency, load, load power factor, and ambient temperatures.

The table below illustrates the effect on the output of the maximum steady state excursions, within rated limits of some of these variables.

**TABLE 1 — TYPICAL OUTPUT VOLTAGE CHARACTERISTICS**

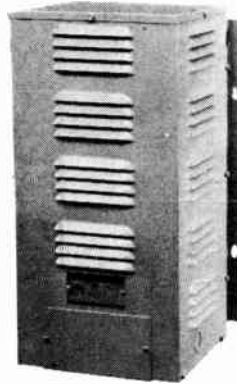
Variable	Excursion	Output Voltage Bandwidth†
Line voltage‡	95 to 130	0.02 to 0.2%
Frequency	57 to 63 cycles	0.15 to 0.4%
Load	0 to 100% rated load	0.02 to 0.1%
Load power factor	0.4 lagging to unity	0.01 to 0.1%
Ambient temperature	-25C to 40C	0.01%/degree C

† A range is indicated because exact amounts are dependent on the static level of other variables.

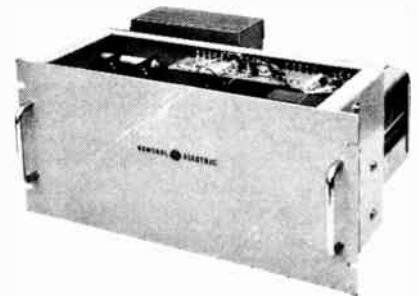
‡ When the Stabiltron unit is operated at less than rated load, the line voltage can be reduced considerably below 95 volts without serious deterioration of the output voltage.

**Response** — Under transient line or load conditions, elapsed time for correction of output voltage and transient excursion from the normal bandwidth are key considerations to equipment operation.

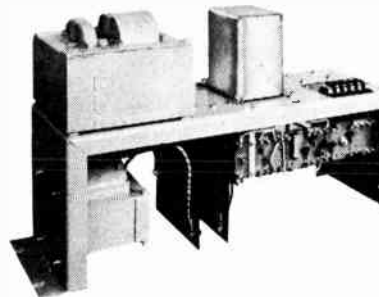
\* Trade-name of General Electric Co.



**ENCLOSED CONSTRUCTION** - 2-kva units are suitable for either wall or floor mounting, 5- and 10-kva units for floor mounting only.



**PANEL CONSTRUCTION** is suitable for standard 19-inch rack mounting.



**OPEN CONSTRUCTION** is suitable for horizontal or vertical mounting surfaces in equipment enclosures.

57-63CPS; 3% HARMONIC; 0.4 LAG TO UNITY LOAD PF

Kva	Model Number	List Price	Input Voltage Range	Output Voltage (Adjustable ±4%)	Approx. Net Weight (Pounds)	Construction Type	Approx. Dim. (In.)		
							H	W	D
0.5	9T91Y3021	\$410	95-130/190-260	118	70	Panel	7	19	14¾
0.5	9T91Y3021G2	402	95-130/190-260	118	70	Open	7	19	13¾
1.0	9T91Y3022	483	95-130/190-260	118	125	Panel	8¾	19	15½
1.0	9T91Y3022G2	476	95-130/190-260	118	125	Open	8¾	19	14
2.0	9T91Y3023	646	95-130/190-260	118/236	185	Enclosed	25	14½	11¼
2.0	9T91Y3023G2	635	95-130/190-260	118/236	180	Open	23½	14½	10¼
5.0	9T91Y3027	1386	95-130/175-235/190-260	118/236	570	Enclosed	26½	28	14
10.0	9T91Y3030	2142	190-260/380-520	118/236	975	Enclosed	28	39	17

The Stabiltron provides fast response and small transient excursion through its unique combination of solid state and magnetic circuitry.

**TABLE 2 — TYPICAL TRANSIENT RESPONSE CHARACTERISTICS**

Transient Change	Percent Peak Output Voltage Excursion	Response Time	Total Recovery Time
0 to 115V input	14%	4 cycles	13 cycles
95 to 130V input	14%	3 cycles	8 cycles
130 to 95V input	9%	5 cycles	9 cycles
0 to 100% rated load	24%	1 cycle	2 cycles
20% to 100% rated load	21%	1 cycle	2 cycles
100% to 20% rated load	34%	1 cycle	10 cycles

‡ The time required for the output to recover 63.3% from its maximum excursion.

§ The time required for the output to recover to normal bandwidth limits.

**Harmonic Content** — Under all rated ranges of line variation and most load conditions, the total harmonic content of the output wave form will not exceed three percent for a sine wave power source. Even under adverse conditions, when the power source is not a sine wave, the Stabiltron voltage stabilizer will correct the wave form to the load to approximately three percent harmonic content.

**Rectifier-filter Loading** — Since the output wave form is low in harmonic content, the Stabiltron voltage stabilizer can be connected successfully to a rectifier (capacitor input) filter load to the input of a d-c power supply having capacitor input filters.





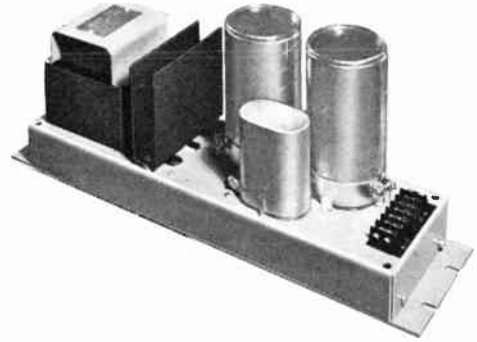
# REGULATED DC POWER SUPPLIES



## Improve Performance of Computers and Other Electronic Equipment

These component power supplies can be used in a wide variety of applications where relatively constant d-c voltage is required despite fluctuating line voltages. Computers, process control equipment, and electronic measuring devices are typical applications where demands for accuracy require constant regulation of voltage.

Performance-proved G-E d-c power supplies can be designed to suit your needs for either 50- or 60-cycle power sources.



### 97- TO 130-VOLT INPUT RANGE, 40C AMBIENT

DC OUTPUT†			LOAD REGULATION‡		Dimensions in Inches (See sketch below)								NET WGT. LBS.
					OVER-ALL			MOUNTING					
					A	B	C	Chassis		Rack			
Volts	Amps	MODEL NO.	100% to 50% load	100% to 20% load				F	E	F'	E'		
<b>60 CYCLES</b>													
10.0	16.0	9T66Y8	5%	8%	19	7	6 <sup>5</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	4	18 <sup>3</sup> / <sub>8</sub>	25	
12.0	5.0	9T66Y51	5%	6%	19	3 <sup>1</sup> / <sub>2</sub>	7 <sup>5</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	3	18 <sup>3</sup> / <sub>8</sub>	16	
12.0	15.0	9T66Y53	5%	7%	19	5 <sup>1</sup> / <sub>4</sub>	8	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	25	
12.0	20.0	9T66Y978	5%	7%	19	7	8	6 <sup>1</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	4	18 <sup>3</sup> / <sub>8</sub>	35	
18.0	5.0	9T66Y61	4%	5%	19	3 <sup>1</sup> / <sub>2</sub>	7 <sup>5</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	3	18 <sup>3</sup> / <sub>8</sub>	19	
18.5	6.0	9T66Y966	4%	5%	19	5 <sup>1</sup> / <sub>4</sub>	7	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	20	
18.5	12.0	9T66Y967	5%	7%	19	5 <sup>1</sup> / <sub>4</sub>	7 <sup>3</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	20	
18.5	24.0	9T66Y965	5%	8%	19	8 <sup>3</sup> / <sub>4</sub>	7	8	16 <sup>1</sup> / <sub>4</sub>	5 <sup>3</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	45	
24.0	2.5	9T66Y987	4%	6%	19	3 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	3	18 <sup>3</sup> / <sub>8</sub>	16	
24.0	6.0	9T66Y988	3%	5%	19	5 <sup>1</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	25	
24.0	10.0	9T66Y989	3%	5%	19	5 <sup>1</sup> / <sub>4</sub>	8	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	28	
24.0	20.0	9T66Y990	3%	5%	19	7	9 <sup>3</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	4	18 <sup>3</sup> / <sub>8</sub>	45	
24.0	50.0	9T66Y991	3%	5%	19	10 <sup>1</sup> / <sub>2</sub>	11 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	5	18 <sup>3</sup> / <sub>8</sub>	105	
28.0	8.0	9T66Y83	3%	5%	19	5 <sup>1</sup> / <sub>4</sub>	8	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	25	
28.0	20.0	9T66Y85	3%	5%	19	7	9 <sup>3</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	4	18 <sup>3</sup> / <sub>8</sub>	50	
28.0	50.0	9T66Y6	3%	5%	19	10 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>8</sub>	10 <sup>1</sup> / <sub>2</sub>	17 <sup>1</sup> / <sub>2</sub>	10 <sup>1</sup> / <sub>2</sub>	18 <sup>3</sup> / <sub>8</sub>	105	
48.0	4.0	9T66Y93	3%	5%	19	5 <sup>1</sup> / <sub>4</sub>	8	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	25	
48.0	10.0	9T66Y94	2%	4%	19	5 <sup>1</sup> / <sub>4</sub>	8	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	35	
90.0	1.0	9T66Y69	2%	3%	19	3 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	16 <sup>1</sup> / <sub>4</sub>	3	18 <sup>3</sup> / <sub>8</sub>	19	
90.0	10.0	9T66Y985	3%	4%	20 <sup>7</sup> / <sub>8</sub> ¶	7 <sup>3</sup> / <sub>8</sub>	7	6 <sup>1</sup> / <sub>2</sub>	20	¶	¶	100	
125.0	2.0	9T66Y980	2%	3%	19	5 <sup>1</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	26	
125.0	4.0	9T66Y970	2%	3%	19	7	7 <sup>5</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	4	18 <sup>3</sup> / <sub>8</sub>	45	
150.0	2.0	9T66Y981	2%	3%	19	5 <sup>1</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	28	
200.0	1.0	9T66Y982	2%	3%	19	5 <sup>1</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	24	

### 50 CYCLES

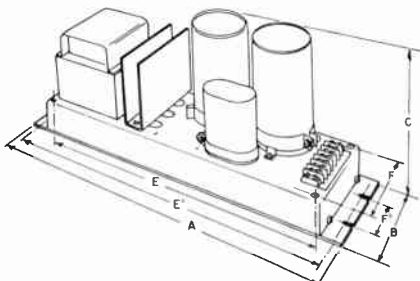
12.0	15.0	9T66Y53G5	5%	7%	19	5 <sup>1</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	27
24.0	10.0	9T66Y989G5	3%	5%	19	5 <sup>1</sup> / <sub>4</sub>	8	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	30
24.0	20.0	9T66Y990G5	3%	5%	19	7	8 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	4	18 <sup>3</sup> / <sub>8</sub>	50
28.0	8.0	9T66Y83G5	3%	5%	19	5 <sup>1</sup> / <sub>4</sub>	8	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	25
48.0	4.0	9T66Y93G5	3%	5%	19	5 <sup>1</sup> / <sub>4</sub>	8	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	30
48.0	10.0	9T66Y94G5	2%	4%	19	5 <sup>1</sup> / <sub>4</sub>	9	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	38
125.0	2.0	9T66Y980G5	2%	3%	19	5 <sup>1</sup> / <sub>4</sub>	7 <sup>3</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	28

† Ripple 1% RMS. All standard units come equipped with a plate for 19-inch rack mounting.

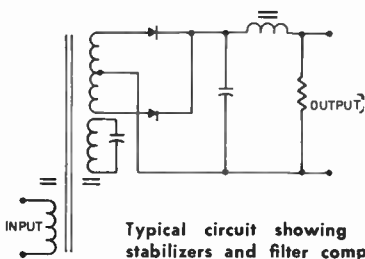
‡ Indicates approximate percent increase in output voltage due to increase of load current from full load.

§ Rack mounting plate has four mounting slots on each end. Distance between centers of two outer slots is 7<sup>1</sup>/<sub>2</sub> in., between two inner slots 3 in.

¶ Not available for 19-inch rack mounting.



Mounting holes suitable for 1/4-20 screws. Length of screw may vary with chassis height.



Typical circuit showing voltage stabilizers and filter components.

### EFFECT OF INPUT VOLTAGE VARIATION

D-c power supplies can be designed for various input voltages and ranges. With all other variables constant, the output voltage will not vary more than ±1 percent for a change in input voltage over the rated range of 97 to 130 volts input.

### EFFECT OF TEMPERATURE CHANGE

For every 40C change in the ambient temperature, the output voltage level will change approximately one percent.

### EFFECT OF FREQUENCY

A change of one percent in frequency will change output voltage level approximately one and one-half percent.

### ISOLATION

All d-c power supplies provide electrical isolation between the a-c power source and the d-c load.

### POLARITY

G-E d-c power supplies can be designed with the polarity you require. All standard units listed can be installed with either plus or minus grounded.

### RIPPLE

Ripple levels of one percent RMS meet most requirements. However, other levels of ripple content can be designed into G-E power supplies.

### EFFICIENCY

Efficiency ranges from 70 to 85 percent for normal output voltage levels. For unusually low output voltages or low power ratings, some decrease in efficiency may occur.

### REGULATION

Load regulation characteristics depend on the rated output voltage and rated power level of the power supply.



# volt-pac®

## VOLTAGE REGULATORS



- New solid-state control
- Precise output voltage control
- Fast voltage-correction rate
- Cabinet or rack-mounted models
- Magnetic circuit-breaker protection

General Electric's new automatic voltage regulator line provides closely regulated output voltages from varying input voltages. They normally include a motor-operated Volt-Pac variable transformer, associated buck-boost transformers which handle a wide range of input-voltage variation, and a new solid-state SCR control.

These automatic regulators maintain a preselected output voltage level within 1 percent bandwidth, and are temperature compensated from -20 to +40C. They can be bench or floor mounted, or in smaller sizes, mounted in standard relay racks.



Single-Phase



Three-Phase

Input Voltage Range	Nom. Output Voltage	Adjustable Output Voltage†		Correc-tion Rate Sec.	Load		Model No.	List Price	Rack-mounted Approximate Dimensions (In.)				Model No.	List Price	Cabinet-mounted Approximate Dimensions (In.)				
		Min.	Max.		Max. Amps	KVA ‡			Width	Height	Depth	NetWt.			Width	Height	Depth	NetWt.	
<b>115 VOLTS — SINGLE-PHASE</b>																			
95	135	115	110	120	10.4	10	1.15	9T92Y100G25	\$430	19	6¾	12¼	50	9T92Y100G24	\$460	22½	9½	17	70
95	135	115	110	120	10.4	25	2.9	9T92Y101G25	460	19	8¾	15¼	70	9T92Y101G24	490	22½	10¾	17	95
95	135	115	110	120	10.4	50	5.75	9T92Y102G25	515	19	8¾	15¼	100	9T92Y102G24	545	22½	10¾	17	125
95	135	115	110	120	10.4	100	11.5	9T92Y103G25	625	19	12¼	19½	120	9T92Y103G24	655	22½	14	19¾	150
95	135	115	110	120	10.4	150	17.2	.....	.....	.....	.....	.....	.....	9T92Y104G24	700	21½	20	18¼	170
<b>230 VOLTS — SINGLE-PHASE</b>																			
200	260	230*	220	240	17.2	13	3.0	9T92Y105G25	\$515	19	8¾	15¼	70	9T92Y105G24	\$545	22½	10¾	17	95
200	260	230*	220	240	17.2	32.5	7.5	9T92Y106G25	570	19	8¾	15¼	100	9T92Y106G24	600	22½	10¾	17	125
200	260	230*	220	240	17.2	52	12.0	9T92Y107G25	660	19	12¼	19½	120	9T92Y107G24	690	22½	14	19¾	150
200	260	230*	220	240	17.2	130	30.0	.....	.....	.....	.....	.....	.....	9T92Y108G24	800	22½	20	18¼	170
<b>460 VOLTS — SINGLE-PHASE</b>																			
400	520	460	440	480	34.4	13	6.0	9T92Y109G25	\$675	19	8¾	18¾	85	9T92Y109G24	\$705	22½	10½	19¾	110
400	520	460	440	480	34.4	32.5	15.0	9T92Y110G25	745	19	8¾	18¾	115	9T92Y110G24	775	22½	10½	19¾	140
400	520	460	440	480	34.4	52	24.0	.....	.....	.....	.....	.....	.....	9T92Y111G24	890	21¾	20	18¼	220
400	520	460	440	480	34.4	130	60.0	.....	.....	.....	.....	.....	.....	9T92Y112G24	1110	25¾	30¾	18½	350
<b>230 VOLTS — THREE-PHASE</b>																			
200	260	230*	220	240	17.2	12.5	5.0	9T92Y113G25	\$995	19	8¾	18¾	75	9T92Y113G24	\$985	22½	10½	19¾	100
200	260	230*	220	240	17.2	34	13.5	.....	.....	.....	.....	.....	.....	9T92Y114G24	1095	25¾	13¾	17¼	140
200	260	230*	220	240	17.2	68	27.0	.....	.....	.....	.....	.....	.....	9T92Y115G24	1325	25¾	13¾	17¼	200
200	260	230*	220	240	17.2	136	54.0	.....	.....	.....	.....	.....	.....	9T92Y116G24	1755	20¾	30¾	18½	300
200	260	230*	220	240	7.5	170	67.5	.....	.....	.....	.....	.....	.....	9T92Y117G34	1950	25¾	30¾	18½	500
<b>460 VOLTS — THREE-PHASE</b>																			
400	520	460	440	480	34.4	13	10.4	.....	.....	.....	.....	.....	.....	9T92Y118G24	\$1115	25¾	13¾	17¼	140
400	520	460	440	480	34.4	32.5	26.0	.....	.....	.....	.....	.....	.....	9T92Y119G24	1245	25¾	13¾	17¼	200
400	520	460	440	480	34.4	52	41.5	.....	.....	.....	.....	.....	.....	9T92Y120G24	1600	20¾	30¾	18½	300
400	520	460	440	480	34.4	100	80.0	.....	.....	.....	.....	.....	.....	9T92Y121G34	1900	25¾	30¾	18½	500
400	520	460	440	480	15.0	130	104.0	.....	.....	.....	.....	.....	.....	9T92Y122G34	2000	28¾	30¾	18½	600

\* 208-volt nominal output voltage operation requires no change in power connection, but does require selecting correct control transformer ratio. When operated at a nominal 208 volts output, the regulator will correct for an input range of 181 to 236 volts, with the output voltage adjustable from 199 to 217 volts.  
 † The specified input voltage range is applicable for nominal output voltage. When operating at any other output voltage within specified range, the input voltage range will change proportionately with the change in output voltage level selected.  
 ‡ Load kva based on nominal output voltage.

**No Waveform Distortion**

No harmonic waveform distortion is introduced at any load or with any input voltage. The output voltage waveform is a precise reproduction of applied input waveform.

**Adjustable Output Voltage**

Output voltage for units nominally rated 115 volts is adjustable from 110 to 120 volts. Output voltage also is adjustable from 220 to 240 volts for units rated 230 volts; from 440 to 480 volts for nominally rated units of 460 volts. Please note that the specified input-voltage range is applicable for nominal output voltage. When operating at any other output voltage within specified range, the input voltage range shifts in proportion with the selected output voltage.

**Accurate Static-sensing Control**

Solid-state control combined with the new Sylvan-Kettler static-sensing device achieve the optimum in automatic accuracy. The voltage regulator is governed automatically by a dead-band-type voltage-sensitive control utilizing either lamp or zener bridges. The circuit includes magnetic input circuit breakers and an output voltmeter.

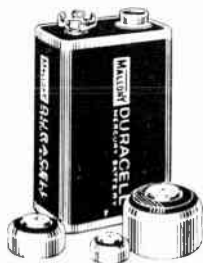
**TYPICAL SPECIFICATIONS**

Regulation Accuracy	±1.0%
Speed of correction	10.4 volt/sec
Output voltage	Adjustable from 110-120 volts
Input voltage	95 to 135, single-phase
Frequency	60-cycle
Load Range	Zero to full load
Efficiency	Up to 99%
Power Factor Range	0 to 100%
Wave Form Distortion	None
Output Meter	0-150 Volts AC
Ambient Temperature Operating Range	-20C to +40C
Protection	Magnetic Circuit Breaker in Power Input Line—Control Circuitry Fused

Prices subject to change without notice.



# MALLORY Duracell® Batteries



## MERCURY DURACELL BATTERIES

Mercury Duracell batteries offer more power per unit of volume than any other type. Sizes range from the RM312, which is aspirin tablet size, up thru the Power-Pak types. Voltage stability is excellent, as in storage life. Types with **R** in the suffix are rated at 1.35 volts per cell; all others rated 1.4 V. All have flat terminals unless otherwise noted. Types with suffix **T** have solder tab on negative terminal; suffix **T2** types have solder tabs on both terminals.

Mallory Number	Volts	Cap. mA-H	Use	Size, Inches L. x W. x H.	Wt., Oz.	List Pr.
RM1	1.4	1000	Phys. indep.	3/8 dia. x 1 1/2	0.43	\$0.75
RM1R	1.35	1000	Electronic	3/8 dia. x 1 1/2	0.43	.95
RM1RT†	1.35	1000	Electronic	3/8 dia. x 1 1/2	0.43	1.00
RM1RT2;†	1.35	1000	Electronic	3/8 dia. x 1 1/2	0.43	1.05
RM3R	1.35	2200	Electronic	1 dia. x 1 1/2	0.93	1.50
RM4R	1.35	3400	Electronic	1.2 dia. x 1 1/2	1.6	1.95
RM4RT†	1.35	3400	Electronic	1.2 dia. x 1 1/2	1.6	2.00
RM4Z	1.4	2400	Electronic	1.2 dia. x 1 1/2	1.2	1.50
RM12	1.4	3600	Tape recdr.	3/8 dia. x 1 1/2	2.0	1.25
RM12R	1.35	3600	Tachometer	3/8 dia. x 1 1/2	2.0	1.50
RM12RT†	1.35	3600	Electronic	3/8 dia. x 1 1/2	2.0	1.55
RM12RT2;†	1.35	3600	Electronic	3/8 dia. x 1 1/2	2.0	1.60
RM24	1.4	1000	Radio AAA	0.4 dia. x 1 1/4	0.5	.75
RM42	1.4	14000	Elec. "1"	1.2 dia. x 2 3/8	5.9	3.95
RM42R	1.35	14000	Elec. "1"	1.2 dia. x 2 3/8	5.9	4.50
RM42RT†	1.35	14000	Elec. "1"	1.2 dia. x 2 3/8	5.9	4.55
RM42RT2;†	1.35	14000	Elec. "1"	1.2 dia. x 2 3/8	5.9	4.60
RM312	1.4	36	Phys. indep.	3/8 dia. x 3/8	0.02	.35
RM400	1.4	80	Phys. indep.	19/32 dia. x 9/16	0.04	.35
RM400R	1.35	80	Electronic	19/32 dia. x 9/16	0.04	.50
RM400RT2;†	1.35	80	Electronic	19/32 dia. x 9/16	0.04	.60
RM401	1.4	800	Radio "N"	19/32 dia. x 1 1/8	0.4	.75
RM401R	1.35	800	Electronic	19/32 dia. x 1 1/8	0.4	.85
RM411	1.4	160	Electronic	1 x 19/32 x 1 1/2	1.08	2.95
RM412	22.4	160	Electronic	1 x 19/32 x 1 1/2	1.65	3.95
RM413	28	160	Electronic	1 x 19/32 x 2 1/2	2.04	4.95
RM415*	42	160	Electronic	1 x 19/32 x 3 1/2	3.03	7.50
RM450R	1.35	350	Electronic	3/8 dia. x 1 1/2	0.18	.75
RM502R	1.35	2400	Electronic	1/2 dia. x 1 1/2	1.05	1.25
RM520	1.4	130	Phys. indep.	3/8 dia. x 9/16	0.07	.25
RM575	1.4	100	Phys. indep.	455 dia. x 1 1/29	0.05	.35
RM601R	1.35	1800	Electronic	3/8 dia. x 1 1/2	1.2	1.30
RM625	1.4	350	Phys. indep.	3/8 dia. x 1 1/2	0.15	.60
RM625R	1.35	250	Electronic	3/8 dia. x 1 1/2	0.15	.75
RM625RT†	1.35	250	Electronic	3/8 dia. x 1 1/2	0.15	.80
RM625RT2;†	1.35	250	Electronic	3/8 dia. x 1 1/2	0.15	.85
RM630	1.4	350	Phys. indep.	3/8 dia. x 1 1/2	0.17	.60
RM630R	1.35	250	Electronic	3/8 dia. x 1 1/2	0.17	.75
RM640	1.4	500	Radio	3/8 dia. x 1 1/2	0.26	.60
RM640R	1.35	500	Electronic	3/8 dia. x 1 1/2	0.26	.75
RM640RT2;†	1.35	500	Electronic	3/8 dia. x 1 1/2	0.26	.85
RM675	1.4	160	Phys. indep.	19/32 dia. x 9/16	0.07	.45
TR112	2.8	350	Electronic	2 1/2 dia. x 1 1/4	0.75	2.25
TR113R	4.05	250	Electronic	2 1/2 dia. x 1 1/4	0.45	2.50
TR114R	5.4	250	Electronic	2 1/2 dia. x 1 1/4	0.59	2.65
TR114RT2;†	5.4	250	Electronic	2 1/2 dia. x 1 1/4	0.73	2.75
TR115	7.0	350	Dictating	2 1/2 dia. x 1 1/4	0.73	2.75
TR115R	6.75	250	Electronic	2 1/2 dia. x 2 1/2	1.13	3.95
TR118	11.2	350	Medical	3/4 dia. x 2	1.6	1.95
TR126	8.4	600	Radio	1 1/2 dia. x 1 1/2	1	1.50
TR132	2.8	1000	Paging	1 1/2 dia. x 1 1/2	1	1.65
TR132R	2.7	1000	Electronic	1 1/2 dia. x 1 1/2	1	1.65
TR133	4.2	1000	Radio, Pag.	1 1/2 dia. x 2	1.4	1.65
TR133R	4.05	1000	Radio, Pag.	1 1/2 dia. x 2	1.4	1.95
TR134	5.6	1000	Gar. door	1 1/2 dia. x 2 1/4	1.9	2.25
TR134T2;†	5.6	1000	Electronic	1 1/2 dia. x 2 1/4	1.9	2.35
TR135	5.4	1000	Electronic	1 1/2 dia. x 2 1/4	1.9	2.50
TR135R	7.0	1000	Gar. door	1 1/2 dia. x 3 1/4	2.4	2.75
TR135R	6.75	1000	Electronic	1 1/2 dia. x 3 1/4	2.4	2.95
TR136	8.4	1000	Gar. door	1 1/2 dia. x 3 1/4	2.9	3.25
TR136R	8.1	1000	Electronic	1 1/2 dia. x 3 1/4	2.9	3.50
TR137	9.8	1000	Electronic	1 1/2 dia. x 4 1/4	3.4	3.75
TR145	9.45	1000	Electronic	1 1/2 dia. x 4 1/4	3.4	3.95
TR145*	7	250	Electronic	1 1/2 dia. x 1 1/2	0.58	2.50
TR146X*	8.4	575	Radio	1 x 1 1/2 x 1 1/2	2.0	1.95
TR152	2.8	350	Electronic	1 1/2 dia. x 1 1/2	0.42	1.25
TR152R	2.7	350	Electronic	1 1/2 dia. x 1 1/2	0.42	1.50
TR153	4.2	350	Electronic	1 1/2 dia. x 1 1/2	0.6	1.65
TR153R	4.05	350	Electronic	1 1/2 dia. x 1 1/2	0.6	1.95
TR162R	2.7	500	Electronic	1 1/2 dia. x 3/8	0.58	1.50
TR163	4.2	500	TV tuner	1 1/2 dia. x 1 1/2	0.87	1.65
TR163R	4.05	500	Electronic	1 1/2 dia. x 1 1/2	0.87	1.85
TR164	5.6	500	Radio	1 1/2 dia. x 1 1/2	1.16	1.95
TR164R	5.40	500	Electronic	1 1/2 dia. x 1 1/2	1.16	2.25
TR165	7	500	TV tuner	1 1/2 dia. x 2 1/4	1.45	2.50
TR165R	6.75	500	Electronic	1 1/2 dia. x 2 1/4	1.45	2.75
TR169	12.6	500	Electronic	1 1/2 dia. x 3 1/2	2.88	4.95
TR175	7	350	Radio	3 1/4 dia. x 1 1/2	0.4	1.50
TR177*	9.8	160	Radio	3 1/4 dia. x 1 1/2	0.67	1.95
TR233	4.2	2200	Radio	1 1/4 dia. x 1 1/2	3	3.25
TR233R	4.05	2200	Electronic	1 1/4 dia. x 1 1/2	3	3.75
TR234	5.4	2200	Electronic	1 1/4 dia. x 2 1/8	3.88	3.95
TR234R	5.6	2200	Electronic	1 1/4 dia. x 2 1/8	3.88	4.50
TR235R	6.75	2200	Electronic	1 1/4 dia. x 3 1/2	4.63	5.25
TR236R	8.10	2200	Electronic	1 1/4 dia. x 3 1/2	4.76	5.95
TR286*	8.4	750	Radio	1 dia. x 1 1/2	1.6	1.95
TR289*	12.6	750	CB radio	1 dia. x 2 1/2	3.6	3.25
TR431*	11.2	1000	Dictation	1 dia. x 2 3/8	5	3.95
ZM9	1.4	2400	Radio "AA"	1/2 dia. x 1 1/2	1	.95
ZM12	1.4	3600	Clock	3/8 dia. x 2	2.0	1.35

\*Snap terminals. †1 tab, 1 flat terminal. ‡2 tab terminals.

## MERCURY POWER-PAK\* BATTERIES

Mercury Power-Pak batteries are used in heavy duty industrial applications where extreme reliability is required. Detailed drawings of terminals and precise specifications are available on request.

Mall. No.	Volts	mA-H	Use	Terminals	List
302157	1.35	28,000	Radiation eqpt.	Socket	\$17.75
302250	9.45	250	Radiation eqpt.	Tab	4.40
302351	5.4	2,200	Fire alarm	Flat	9.00
302358	10.8	250	Radiation eqpt.	Leads	5.95
302362	16.2	250	Radiation eqpt.	Leads	8.00
302435	6.75	250	Radiation eqpt.	Flat	4.95
302462	97.2	1,000	Transmitter "B"	Leads	56.00
302465	47.25	1,000	Geophysical	Leads	32.00
302478	9.8	2,400	Recorder	Flat	9.80
302497	6.75	2,200	Test equipment	Posts	12.50
302579	29.7	250	Test equipment	Leads	18.00
302580	27	3,400	Electronic	Socket	48.00
302642	7.0	2,400	Fire alarm	Flat	7.40
302651	1.35	14,000	Electronic	Leads	6.30
302702	2.7	2,200	Geophysical	Leads	5.40
302904	5.4	3,400	Meter	Leads	9.95
302905	6.75	3,400	Test equipment	Leads	11.50
302907	9.45	3,400	Electronic	Leads	15.00
302908	10.8	3,400	Radiation eqpt.	Leads	16.50
303145	8.4	3,600	Depth finder	Snap	9.95
303219	9.8	175	Electronic	Flat	2.95
303236	4.2	1,000	Electronic	Flat	1.80
303314	16.8	2,400	Transceiver	Flat	15.40
303394	11.2	3,600	Electronic	Snap	14.50
303462	15.4	2,400	Transceiver	Flat	16.50

## ALKALINE DURACELL BATTERIES



Alkaline Duracell batteries are designed for high drain applications such as photo-flash and portable lighting. Life is up to 10 times longer than ordinary zinc-carbon batteries and storage life exceeds two years. The discharge curve on Alkaline Duracell batteries closely parallels that of mercury types. Voltage stability, while not as good as mercury, is vastly superior to zinc-carbon types. All types shown are available in blister-pack display cards, add suffix **B** (e.g., MN1300B) to order.

Mallory No.	Volts	Use	Wt., Oz.	List Pr.
MN1300	1.5	All Purpose "D"	5 1/2	\$0.95
MN1306	4.5	Transistor radio	1 1/2	1.25
MN1400	1.5	All Purpose "C"	2 1/2	.75
MN1500	1.5	All Purpose "AA"	.82	.50
MN1604	9.0	Transistor radio	1 1/2	1.25
MN2400	1.5	All Purpose "AAA"	.4	.50
MN9100	1.5	All Purpose "N"	.34	.40

## RECHARGEABLE ALKALINE BATTERIES



Rechargeable alkaline batteries are offered in three sizes: AA, C and D. These cells are used in equipment such as portable TV, record players, etc. They offer a low cost means of providing rechargeable power. They are not intended, however, to be used as substitutes for other rechargeable batteries. Special charging and low-voltage protection circuits are required. For complete details on these circuits, ask for Bulletin 6-136.

Mallory No.	Volts	Size, Inches (Cell)	Wt., Oz.	List
SA130	1.5	1.3 dia. x 2.367 h. (D)	5	\$1.50
SA14C	1.5	1.01 dia. x 1.93 h. (C)	2 1/2	1.25
SA15AA	1.5	0.55 dia. x 1.94 h. (AA)	1	.75

## DURACELL PHOTO BATTERIES

Mallory Number	Volts	Wt., Oz.	List Pr.	Mallory Number	Volts	Wt., Oz.	List Pr.
PX1	1.35	0.6	\$0.95	PX23	5.6	2.0	\$0.85
PX4	5.6	3.2	2.25	PX24*	3.0	1.0	1.00
PX6	8.1	4.0	3.95	PX450	1.35	0.3	.75
PX13B	1.35	0.14	.75	PX625	1.35	0.15	.75
PX14	2.7	0.3	1.50	PX640	1.35	0.38	.75
PX18	4.5	5.3	5.95	PX675B	1.35	0.07	.60
PX19*	4.5	1.2	1.25	PX825*	1.5	0.38	.50
PX21*	4.5	1.2	1.25				

\*Alkaline; all others mercury.

## SILVER OXIDE DURACELL BATTERIES

Mallory Number	Volts	Size, In.	List Pr.
MS13	1.5	.21 x .31	40c
MS41	1.5	.16 x .46	40c
MS76	1.5	.21 x .46	45c

## VOLTAGE REFERENCE BATTERY



The voltage reference battery uses high reliability mercury cells to achieve an exceptionally high degree of stability. Voltage accuracy is ± 1/2% for periods up to 2 years when used as directed. Supplied in lined leatherette case with instructions. Eight voltages from 1.35 to 10.80 V in 1.35-volt steps.

Mallory No. 303113—List. \$36.50

\*Mallory trademark.

# MALLORY Batteries and Flashlights

## ZINC-CARBON BATTERIES

Mallory zinc-carbon batteries are manufactured to rigid quality control standards. Each type is specially engineered to provide the finest operation for its specific use. A wide variety of sizes and voltages are available for use in lighting, radios, toys, games, etc. Standard D and C cells are "Sealed in steel" for maximum protection from leakage.



Mallory No.	Nom. Volts	Use	T*	Size, Inches L. x W. x H.	Wt. Oz.	List Price
M4	1.5	Radio "A"	a	2 7/16 x 2 3/4 x 3 11/16	24	\$ 1.65
M9	7.5	Radio "A"	a	2 7/16 x 1 11/16 x 3 1/2	8	1.75
M13F	1.5	Flashlight "D"	b	1 11/16 dia. x 2 13/32	3.3	.25
M13P	1.5	Photo "D"	b	1 11/16 dia. x 2 13/32	3.3	.30
M13R	1.5	Radio "D"	b	1 11/16 dia. x 2 13/32	3.3	.30
M13X	1.5	Industrial "D"	b	1 11/16 dia. x 2 13/32	3.3	.30
M14F	1.5	Flashlight "C"	b	1 11/16 dia. x 1 13/16	1.5	.25
M14P	1.5	Photo "C"	b	1 11/16 dia. x 1 13/16	1.5	.30
M14R	1.5	Radio "C"	b	1 11/16 dia. x 1 13/16	1.5	.30
M15F	1.5	"AA" penlight	b	9/16 dia. x 1 13/32	0.5	.20
M15P	1.5	Photo "AA"	b	9/16 dia. x 1 13/32	0.5	.25
M15R	1.5	Radio penlight	b	9/16 dia. x 1 13/32	0.5	.25
M20	1.5	Radio "A"	b	1 5/8 dia. x 4 9/16	6	.60
M24F	1.5	"AAA" penlite	b	1 1/2 dia. x 1 3/4	0.4	.15
M200	67.5	Radio "B"	c	2 13/16 x 1 3/8 x 3 45/64	12	3.85
M208	15	Electronic "B"	b	1 1/2 x 5/8 x 1 29/64	1.0	1.15
M210	30	Electronic "B"	b	1 1/2 x 5/8 x 2 9/16	1.8	1.75
M211P	67.5	Radio "B"	e	1 29/32 x 63/64 x 5 7/16	9	3.85
M215	22.5	Radio "B"	b	1 1/2 x 5/8 x 2	1.4	1.50
M504	15	Electronic "B"	b	5/8 x 1 19/32 x 1 3/4	0.6	1.15
M505	22.5	Electronic "B"	b	5/8 x 1 19/32 x 1 63/64	0.8	1.50
M506	30	Electronic "B"	b	1 1/4 x 5/8 x 1 21/64	0.9	1.85
M507	30	Electronic "B"	b	5/8 x 1 19/32 x 2 39/64	0.9	1.85
M900	1.5	Ignition	e	2 3/4 x 2 3/8 x 4 9/32	24	1.25
M903	7.5	Lighting	e	7 1/4 x 4 1/16 x 6 7/16	122	7.25
M904	9	Lighting	e	8 7/16 x 4 1/16 x 6 7/16	152	8.25
M905F	1.5	Ignition	f	2 3/4 dia. x 6 3/4	29	1.25
M905S	1.5	Ignition	f	2 3/4 dia. x 6 3/4	29	1.25
M906F	1.5	Telephone	f	2 3/4 dia. x 6 3/4	29	1.25
M906S	1.5	Telephone	f	2 3/4 dia. x 6 3/4	29	1.25
M907	6	Industrial	e	10 13/16 x 2 29/32 x 7 9/32	153	4.98
M908	6	Metal lantern	d	2 11/16 x 2 11/16 x 4 7/16	21	1.39
M910F	1.5	Flashlight "N"	b	2 9/16 dia. x 1 13/16	0.22	.13
M911F	1.5	R.R. Indust.	f	2 3/4 dia. x 6 3/4	34	1.35
M911S	1.5	R.R. Indust.	f	2 3/4 dia. x 6 3/4	34	1.35
M915	6	Lighting	e	2 11/16 x 2 11/16 x 4 3/2	21	1.39
M918	6	Lighting	e	5 1/2 x 2 27/32 x 4 15/16	52	2.95
M1600	9	Radio	e	1 dia. x 1 13/16	1.8	.89
M1602	9	Radio	e	1 13/32 x 1 13/32 x 2 3/4	4.5	1.85
M1603	9	Radio	e	2 3/4 x 2 13/32 x 3 3/4	15	1.95
M1604	9	Radio	e	1 7/8 x 1 1/2 x 1 29/32	1.3	.69
M1605	9	Radio	e	1 7/8 x 1 1/2 x 2 1/16	7	1.95
M1611	9	Radio	b	3/4 dia. x 2	1.2	.89
PF489	22.5	Elect. flash	a	4 11/16 x 2 11/16 x 4 3/8	76	9.95
PF491	240	Elect. flash	a, b	2 19/32 x 1 5/16 x 4 1/2	13	7.95
PF492	22.5	Elect. flash	a	3 7/16 x 2 29/32 x 4 29/32	72	10.95
PF497	510	Elect. flash	b	3 x 1 19/32 x 5 5/8	26	15.95

\*Terminals: a, socket; b, flat; c, snap; d, coil spring; e, screw; f, Farnestock ellip.

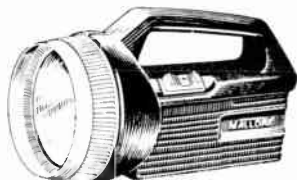
## MALLORY "TORCH" LIGHT



The Mallory "Torch" light is ideal for outdoor use. High-impact plastic case is unaffected by moisture or humidity. Comfortable, contour design is easy to hold; prevents rolling away. Unique, angled head pinpoints the powerful beam. Uses two M13F batteries. For longest life, use two MN1300 Alkaline Duracell® batteries.

Mallory No. 213—Less batteries. List Price.....\$1.59

## MALLORY "RUGGED MIKE" LANTERN



The Mallory "Rugged Mike" lantern uses four D-cell batteries to provide a 500-ft. beam. Made of rugged, high-impact plastic for maximum weather protection; lantern will float if dropped in water. Ideal for outdoorsmen or as emergency light in car, boat or home. Uses four M13F batteries or four MN1300 Alkaline Duracell batteries for longest life and best service.

Mallory No. 413—Less batteries. List Price.....\$2.49

## GUARDSMAN® LANTERN

The Mallory Guardsman is a heavy-duty lantern with rotating beacon and powerful, 500-ft. spotlight beam. The beacon rotates a full 360° and is available in three colors: Red, amber or blue. Spotlight beam has tilt control lever. Beacon and beam may be operated together or independently. Comes equipped with sturdy swing-up handle, pistol grip and suction cup; complete with three No. MN1400 batteries. Optional 25-ft. accessory cord provides plug-in operation from any 12-volt cigarette lighter socket. Handsome, ivory case.



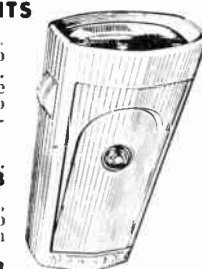
Mallory No.	Beacon Color	List Price	Mallory No.	Beacon Color	List Price
997	Amber	\$14.95	999	Red	\$14.95
998	Blue	14.95	899	Access. cord	3.50

## COMPACT FLASHLIGHTS

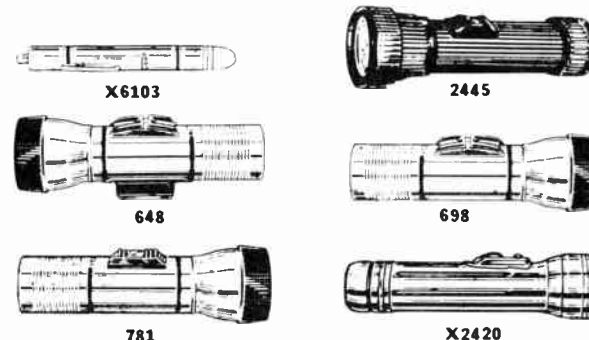
The modern concept in personal lighting. Handy, compact size slips easily into pocket or purse. Delivers powerful 250-ft. spotlight beam. Supplied in attractive beige, high-impact plastic case with two long-lasting Mallory No. MN1500 alkaline batteries.

Mallory No. 807—With clear plastic lens. List Price.....\$1.98

Mallory No. 810—With red plastic lens, ideal for map reading in aircraft. Also handy for emergency use because its beam can be seen for more than 1/2 mile. List Price.....\$1.98



## POWERBEAM® FLASHLIGHTS



Mallory Powerbeam flashlights are manufactured to exacting specifications for long, dependable life. Number X6103 is a penlight type with handy clip for carrying it in a breast pocket. Numbers 648, 698 and 781 have chrome cases with red protector for the lens. Number 2445 "Rugged Mike" is a heavy-duty industrial flashlight which will withstand years of fantastic abuse. Numbers X2420 and X3420 have all-chrome cases with end-cap hanger and project long-distance spotlight beams. All flashlights use either standard zinc-carbon batteries or long-lasting Mallory Alkaline Duracell batteries.

Mallory No.	Description	Use No. and Type of Batteries	List* Price
X6103	Penlite, chrome	2 type "A A"	\$0.79
648	Chrome with magnet	2 "D" cells	1.79
698	Chrome	2 "D" cells	1.19
781	Jr. chrome	2 "C" cells	1.19
2445	Plastic, rubber	2 "D" cells	1.79
2445R	2445 with hanger	2 "D" cells	1.89
X2420	Chrome spotlite	2 "D" cells	1.98
X3420	Chrome spotlite	3 "D" cells	2.49

\*Prices shown do not include batteries.

## POWERBEAM® LANTERN

The Mallory Powerbeam "Safety Lite" has a tilting spotlight which projects a powerful beam more than 500 feet. The tilt feature allows the light beam to be directed at any desired angle, regardless of the resting place of the light. The heavily chrome plated handle also contains a swing-up red warning flasher which can be seen clearly for long distances after dark. The "Safety Lite" is supplied with Mallory No. M918 lantern battery.

Mallory No. 385C—List Price...\$11.95



# RCA BATTERIES

RADIO • FLASHLIGHT • FARM  
TRANSISTOR • HEARING AID  
INDUSTRIAL • PHOTO FLASH

JUNE 1, 1967

Type	Distr. Resale Price Ea.*	List Price Ea.*	Volts	Suggested Current Range mA	Max. Dimensions Inches			Standard Package		NEDA Type No.	Replaces		
					L.	W. or Dia.	Overall Ht.	Units	Lbs. (Appr.)		Eveready	Burgess	Mallory
<b>PORTABLE "A" TYPES</b>													
VS004	1.15	1.65	1 1/2	0-1000	2 3/4	2 3/8	3 7/8	12	17	4	742	4F	M4
VS034A♦	.13	.20	1 1/2	0-25	—	3/8	1 1/2	144	5.3	15F	915	Z	M15F
VS035A♦	.13	.20	1 1/2	0-80	—	1 1/2	1 1/8	240	22.5	14F	935	1	M14F
VS036♦	.1625	.25	1 1/2	0-150	—	1 1/2	2 1/8	192	39	13F	950	2 or 2R	M13F
VS065	1.23	1.75	7/8	0-70	2 3/4	1 1/8	3 1/4	6	1	9	717	C5	M9
VS067	1.23	1.75	4 1/4	0-250	3 1/8	1 1/4	4 3/8	6	6	3	736	F3	—
VS068♦	.87	1.25	6	0-250	1 1/2	1 1/2	2 1/8	6	1	2	724	Z4	—
VS069	1.15	1.65	1 1/2	0-300	2 3/8	1 1/2	3 1/4	6	3	18	720	2D	—
VS070	.87	1.25	1 1/2	0-250	—	1 1/2	4 1/8	6	4.5	23	960P	8R	—
VS072	1.23	1.75	4 1/4	0-150	4 3/8	1 1/8	2 1/8	3	2	19	726	D3	—
VS129	2.27	3.25	7 1/4	0-50	3 3/8	5/8	2 3/8	6	2.5	8	713	B5	—
VS141	1.22	1.75	1 1/2	0-500	2 1/2	1 3/8	4 3/8	6	4.5	11	W353	2F	—
VS236♦	.42	.60	1 1/2	0-300	—	1 1/2	4 3/8	12	4.5	20	964	21R	M20
VS315A	1.15	1.65	7/8	0-80	2 3/8	2 3/8	2 1/8	6	4.7	26	707	D5	—
VS343♦	.19	.30	1 1/2	0-150	—	1 1/2	2 3/8	192	40	13D	D99	—	—
VS345	1.16	1.65	6	0-250	2 3/8	2 3/8	3 3/8	12	17	6	744	F4P1	—
VS734♦	.16	.25	1.5	0-25	—	3/8	1 1/2	144	5.4	15P	815	920	M15P
VS735♦	.19	.30	1.5	0-80	—	1 1/2	1 1/8	72	7	14P	835	120	M14P
VS736♦	.19	.30	1.5	0-150	—	1 1/2	2 1/8	72	13	13P	850	220	—

♦ National Electronic Distributors Association. ♦ Flashlight-type terminals. ▲ 2 snap-fasteners. \* Optional.

Type	Distr. Resale Price Ea.*	List Price Ea.*	Volts	Suggested Current Range mA	Max. Dimensions Inches			Standard Package		NEDA Type No.	Replaces		
					L.	W. or Dia.	Overall Ht.	Units	Lbs. (Appr.)		Eveready	Burgess	Mallory
<b>PORTABLE "B" TYPES</b>													
VS013	2.97	4.25	45	0-40	3 1/2	1 7/8	5 1/4	6	13.8	202	482	M30	—
VS014	3.46	4.95	45	0-40	3 3/8	2 1/8	4 1/4	5	9.5	206	W359	A30	—
VS015	2.76	3.95	22 1/2, 45	0-25	3	2 1/8	4 1/8	6	6.5	205	738	Z30	—
VS016A	2.70	3.85	67 1/4	0-10	2 1/8	1 3/8	3 3/4	12	10.5	200	467	XX45	M200
VS055A	2.27	3.25	45	0-10	2 3/4	1	3 1/8	12	6.7	201	455	XX30	—
VS082A	2.70	3.85	67 1/4	0-6	2 1/8	1 3/8	2 1/4	12	6.3	203	457	K45	—
VS084	1.05	1.50	22 1/4	0-25	1 1/2	3/8	2	12	1	215	412	U15	M215 or RM412
VS086A	1.75	2.50	45	0-4	1 3/4	5/8	3 1/8	12	2	213	415	U30	M213 or RM415
VS090A	3.15	4.50	90	0-10	3 3/8	1 3/8	3 3/4	6	6.5	204	490	V60	—
VS125A	2.77	3.95	67 1/2	0-10	2 1/8	1 3/8	3 3/8	12	9.8	200C	468	V45	M-200
VS217A	3.15	4.50	75	0-10	1 3/8	1 1/2	6 1/8	12	12.6	212	437	XX50	—
VS218A	2.70	3.85	67 1/2	0-8	1 3/8	1 3/8	5 1/8	12	6.4	211	477	P45	M211P
VS219A	2.97	4.25	90	0-8	1 1/2	1 1/2	7 1/8	12	9.1	214	479	P60	M214P
VS316A	3.47	4.95	90	0-10	1 3/8	1 3/8	7 1/4	6	6.5	216	495	N60X	—
VS318A	2.07	2.95	67 1/2	0-3	1 1/4	5/8	3 1/2	6	1.5	217	416	UX45	M217
VS344	3.47	4.95	45	0-70	3 1/2	2 1/8	5 3/8	6	19.3	207	484	B30	—

♦ National Electronic Distributors Association. ▲ 2 snap-fasteners. ♦ Flashlight-type terminals. \* Optional.

Type	Distr. Resale Price Ea.*	List Price Ea.*	A		B		Suggested Current Range mA	Max. Dimensions Inches			Standard Package		NEDA Type No.	Replaces		
			Volts	Capacity	Volts	Capacity		L.	W. or Dia.	Overall Ht.	Units	Lbs. (Appr.)		Eveready	Burgess	Mallory
<b>PORTABLE "A-B" TYPES</b>																
VS019	5.43	7.75	7 1/2, 9	90	0-50	0-15	9 3/2	2 3/8	4 3/8	1	5.3	401	753	F6A60	—	
VS047	5.78	8.25	9	90	0-50	0-15	14 1/8	2 1/8	4 1/8	1	6.5	400	752	G6B60	—	
VS050	5.08	7.25	6 7/8, 9	75	0-50	0-12	8 1/8	2 1/8	3 3/4	1	2.9	403	755	T5250	—	
VS057W	4.87	6.95	7 1/2, 9	90	0-50	0-12	8 7/8	2 1/8	3 3/8	1	2.9	405	756	T6260	—	
VS058	5.57	7.95	9	90	0-50	0-15	9 3/2	2 3/8	4 3/8	1	5.5	406	757	F6A60P	—	
VS064	4.38	6.25	1 1/2	90	0-300	0-14	3 3/8	2 3/8	7 1/8	1	2.3	425	729	4T260	—	

Type	Distr. Resale Price Ea.*	List Price Ea.*	Volts	Suggested Current Range mA	Max. Dimensions Inches			Standard Package		NEDA Type No.	Replaces		
					L.	W. or Dia.	Overall Ht.	Units	Lbs. (Appr.)		Eveready	Burgess	Mallory
<b>HEARING AID TYPES</b>													
VS312▲	.24	.35	1.4	—	—	—	—	60	3	—	E312	—	RM312
VS400▲	.24	.35	1.4	—	—	—	—	60	0.5	1106	E400	—	RM400
VS401▲	.50	.75	1.4	0-50	—	0.455	0.135	24	1	910M	E401	—	RM401
VS575▲	.24	.35	1.4	—	—	—	—	60	0.5	—	E575	—	RM575
VS625▲	.42	.60	1.4	—	—	—	—	60	0.5	—	E625	—	RM625
VS630▲	.42	.60	1.4	0-20	—	0.615	0.238	40	0.5	1104	E630	—	RM630
VS675▲	.32	.45	1.4	0-10	—	0.210	0.455	60	0.5	—	E675	—	RM675
VS1713	.30	.45	1.5	—	—	—	—	60	0.5	—	S13	—	MS13
VS1741	.30	.45	1.5	—	—	—	—	60	0.5	—	S41	—	MS41
VS1776	.34	.50	1.5	—	—	—	—	60	0.5	—	S76	—	MS76

Type	Distr. Resale Price Ea.*	List Price Ea.*	Volts	Suggested Current Range mA	Max. Dimensions Inches			Standard Package		NEDA Type No.	Replaces		
					L.	W. or Dia.	Overall Ht.	Units	Lbs. (Appr.)		Eveready	Burgess	Mallory
<b>TYPES FOR TRANSISTOR APPLICATIONS</b>													
VS1▲	.57	.75	1.4	0-75	—	0.627	0.650	40	2	1100	E1	HG1	RM1
VS9▲	.64	.95	1.4	0-200	—	0.555	1.968	24	1 3/4	15M	E9	HG9	ZM9
VS12▲	.92	1.35	1.4	0-250	—	0.640	1.968	10	1 1/4	1101	E12	HG12	RM12
VS126▲	1.32	1.95	8.4	0-50	—	0.730	2.000	24	2	1611M	E126	H126	TR126
VS132▲	1.05	1.50	2.8	0-75	—	0.662	1.315	10	3/4	1200	E132	H132	TR132
VS133▲	1.32	1.95	4.2	0-75	—	0.662	1.965	24	2.3	1306M	E133	H133	TR133
VS146X▲	1.32	1.95	8.4	0-30	1.031	0.660	1.641	24	1 1/4	1604M	E146X	H146X	TR146X
VS163▲	1.32	1.95	4.2	0-50	—	0.662	1.327	10	3/4	1305	E163	H163	TR163
VS164▲	1.32	1.95	5.6	0-50	—	0.662	1.767	24	2 1/4	1404	E164	H164	TR164
VS165▲	1.70	2.50	7	0-50	—	0.662	2.217	10	1	1500	E165	H165	TR165
VS177▲	1.32	1.95	9.8	0-10	—	0.547	1.906	24	1	1606M	E177	H177	TR177
VS233▲	2.34	3.50	4.2	0-60	—	1.016	1.969	10	2.5	1300	E233	H233	TR233
VS300A	.62	.89	9	0-9	—	1	1 1/8	36	4	1600	226	P6	M1600
VS301	1.92	2.75	3, 6, 9	0-150	8	1 1/8	2 1/8	6	8	1601	2506	D6P1	—
VS304	1.30	1.85	9, 13, 5	0-10	1 1/2	1 1/2	2 1/8	12	2.3	1900	239	X9	—
VS305	1.30	1.85	9	0-15	1 1/2	1 1/2	2 3/4	12	3.8	1602	246	N6	M1602
VS306	1.36	1.95	9	0-30	2 1/8	2 1/8	3 3/8	6	5.6	1603	276	D6	M1603
VS322	1.36	1.95	9	0-20	1 1/8	1 1/8	2 1/8	12	5.3	1605	266	M6	M1605
VS323	.48	.69	9	0-8	1 1/2	1 1/2	1 1/2	72	6	1604	216	U6	M1604
VS324	1.30	1.85	4.5	0-40	1 1/2	1 1/2	2 3/4	6	1.5	1610	243	Z23	—
VS327	.62	.89	9	0-7	—	3/4	2	12	1	1611	206	L6	M1611
VS329	1.05	1.50	12	0-9	—	1	2 1/8	12	1.8	1810	228	PM8	TR289
VS330	1.64	2.35	9	0-80	2 3/8	1 3/8	6 1/4	6	6.5	1612	2356N	C6X	—
VS331	2.45	3.50	9	0-30	2 3/8	1 1/4	7 3/8	6	8 1/4	1608	2761N</		

# RCA BATTERIES

RADIO • FLASHLIGHT • FARM  
TRANSISTOR • HEARING AID  
INDUSTRIAL • PHOTO FLASH

Type	Distr. Resale Price Ea.*	List Price Ea.*	Volts	Suggested Current Range mA	Max. Dimensions Inches		Standard Package		NEDA* Type No.	Replaces			
					L.	W. or Overall Dia.	Ht.	Units		Lbs. (Appr.)	Eveready	Burgess	Mallory
<b>LANTERN TYPES</b>													
VS034A♦	.13	.20	1½	0-25	—	¾	1½	144	5.3	15F	915	Z	M15F
VS035A♦	.1625	.25	1½	0-80	—	1½	1¾	240	22.5	14F	935	I	M14F
VS036♦	.1625	.25	1½	0-150	—	1½	2½	192	39	13F	950	2R	M13F
VS040C	.92	1.39	6	0-250	2½	2½	4½	12	17	908	509	F4H	M908
VS040S	.92	1.39	6	0-250	2½	2½	4½	12	18	915	510S	F4BP	M915
VS073	.08	.125	1½	0-20	—	0.445	1.180	96	1½	910	904	N	M910F
VS074	.13	.20	1½	0-20	—	½	1¾	48	1	24F	912	7	M24F
VS103	4.01	5.98	6	0-1000	8¾	2½	6½	4	26	902	706	4F4H	M902
VS134	.79	1.15	3	0-25	1½	¾	2½	10	1	704	750	422	—
VS138	1.92	2.75	3	0-1000	3¾	2½	5½	5	13.5	901	W357	4F2H	—
VS139	4.86	7.25	7½	0-1000	7¼	4½	6½	4	30	903	715	4F5H	M903
VS140	5.53	8.25	9	0-1000	8½	4½	6½	4	37	904	716	4F6H	M904
VS142	.87	1.25	4½	0-25	1½	¾	2½	10	1.5	705	751	432	—
VS317	1.96	2.95	6	0-500	5½	2½	4½	6	20	918	731	TW1	M918
VS342	1.96	2.92	12	0-250	5½	2½	4½	6	20	926	732	TW2	—
VS343	.19	.30	1½	0-150	—	1½	2½	192	40	13D	D99	—	—



Type	A		B		Volts	Suggested Current Range mA	Max. Dimensions Inches		Standard Package		NEDA* Type No.	Replaces			
	1	2	1	2			L.	W. or Overall Dia.	Ht.	Units		Lbs. (Appr.)	Eveready	Burgess	Mallory
<b>FARM TYPES</b>															
VS022	7.95	10.65	1½	90	0-300	0-12	15¼	4½	6¼	1	16.5	413	759	17GD60	—
VS1	.57	.85	1.4	—	0-75	—	0.627	0.650	40	2	1100	E1	HG1	RM1	
VS12	.92	1.35	1.4	—	0-250	—	0.640	1.968	10	1¼	1101	E12	HG12	RM12	
VS006C	.91	1.35	1.5	—	0-1500	—	2½	6½	12	26	906	6GL	6TEL	M906	
VS006S	.91	1.35	1.5	—	0-1500	—	2½	6½	12	25	905	6IGN	6IGN	M905	
VS028	1.23	1.75	4.5	—	0-50	—	2½	3	5	1½	714	781	5360	—	
VS029	1.75	2.50	1.5, 3, 4.5, 6, 7.5	—	0-50	—	3½	3	5	2½	713	781	5540	—	
VS039	3.70	5.50	6	—	0-1500	—	10½	7½	4	37.5	907	1461	—	M907	
VS040C	.92	1.39	6	—	0-250	—	2½	4½	12	17	908	509	F4H	M908	
VS040S	.92	1.39	6	—	0-250	—	2½	4½	12	18	915	510S	F4BP	M915	
VS070	.87	1.25	1.5	—	0-250	—	1½	4½	6	4.5	23	960P	8R	—	
VS083	.81	1.15	15	—	0-2.5	—	1½	9	6	0.4	208	411	U10	M208	
VS084	1.05	1.50	22.5	—	0-2.5	—	1½	9	2	12	1	215	412	U15	
VS085	1.23	1.75	30	—	0-2.5	—	1½	9	12	1.3	210	413	U20	M210	
VS093	8.37	11.95	300	—	0-2.5	—	2½	3½	3	3.7	722	493	U20P	—	
VS100	1.33	1.90	3	—	0-250	—	2½	4½	5	3.5	701	W352	F2BP	—	
VS101	.79	1.15	1.5	—	0-500	—	2½	4½	5	4	700	711	2FH	—	
VS102	1.61	2.35	22.5	—	0-40	—	3½	3½	5	4.7	710	763	4156	—	
VS103	4.01	5.98	6	—	0-1000	—	8½	6½	4	26	902	706	4F4H	M902	
VS106	.84	1.25	1.5	—	0-1000	—	2½	4½	12	18	900	735	4FH	M900	
VS112	3.05	4.35	22.5, 45	—	0-50	—	4½	5½	5	16.9	709	762S	5308	—	
VS114	2.69	3.85	22.5, 45	—	0-20	—	3½	17½	5	5	711	W350	Z30NX	—	
VS127W	7.66	10.95	22.5, 45	—	0-250	—	8½	4½	4	44	724	W363F	10308SC	—	
VS130	1.76	2.50	1.5, 3, 4.5	—	0-150	—	4½	1½	5	4.5	712	761T	2370ST	—	
VS131	4.16	5.95	3, 4.5, 6, 9, 10.5, 16.5, 22.5	—	0-50	—	4	2½	4	6.5	708	778	5156SC	—	
VS132	1.05	1.50	2.8	—	0-75	—	—	0.662	1.315	10	¾	1200	E132	H132	TR132
VS133	1.32	1.95	4.2	—	0-75	—	—	0.662	1.965	24	2.3	1306M	E133	H133	TR133
VS134	.79	1.15	3	—	0-25	—	1½	5	10	1	704	750	422	—	
VS136	1.92	2.75	3	—	0-500	—	2½	4½	5	7.5	103	W356	2F2H	—	
VS138	1.92	2.75	3	—	0-1000	—	3½	5½	5	13.5	901	W357	4F2H	—	
VS139	4.86	7.25	7.5	—	0-1000	—	7¼	6½	4	30	903	715	4F5H	M903	
VS140	5.53	8.25	9	—	0-1000	—	8¼	6½	4	37	904	716	4F6H	M904	
VS142	.87	1.25	4.5	—	0-25	—	1½	5	10	1.5	705	751	432	—	
VS157W	8.37	11.95	22.5, 45	—	0-300	—	8½	4½	4	51	715	W364F	21308SC	—	
VS163	1.32	1.95	4.2	—	0-50	—	—	0.662	1.327	10	¾	1305	E163	H163	TR163
VS164	1.32	1.95	5.6	—	0-50	—	—	0.662	1.767	24	2¼	1404	E164	H164	TR164
VS317	1.96	2.95	6	—	0-500	—	5½	4½	6	20	918	731	TW1	M918	
VS340	4.01	5.98	12	—	0-600	—	10½	7½	4	32	922	1463	2G8H	—	
VS342	1.96	2.95	12	—	0-250	—	5½	4½	6	20	926	732	TW2	—	
VS346	1.36	1.95	4.5	—	0-50	—	2½	3½	10	3	706	703	532	—	
VS400	.24	.35	1.4	—	0-7	—	—	0.455	0.135	60	½	1106	E400	HG400	RM400
VS630	.42	.60	1.4	—	0-20	—	—	0.615	0.238	40	½	1104	E630	HG630	RM630
VS640	.42	.60	1.4	—	0-50	—	—	0.625	0.440	20	¾	1105	E640	HG640	RM640



## PHOTO FLASH

VS704	.81	1.15	15	0-1.5	¾	1½	1¾	12	0.4	220	504	Y10	M504
VS705	1.05	1.50	22½	0-1.5	¾	1½	2	12	0.5	221	505	Y15	M505
VS734♦	.16	.25	1½	0-25	—	¾	1¾	144	5.4	15P	815	920	M15P
VS735♦	.19	.30	1½	0-80	—	1½	1¾	72	7	14P	835	120	M14P
VS736♦	.19	.30	1½	0-150	—	1½	2½	72	13	13P	850	220	M13P



♦ Flashlight-type terminals.      • National Electronic Distributors Association.      \* Optional.

## ALKALINE TYPES

VS1073	.27	.40	1½	0-150	—	0.470	1.130	24	2	910	E90	AL-N	Mn9100
VE1074	.33	.50	1½	0-25	—	0.410	1.735	48	1¼	824	E92	AL-7	Mn2400
VS1149▲	.84	1.25	4½	0-100	—	0.662	1.965	24	2.75	815	523	AL-133	Mn1309
VS1323▲	.84	1.25	9	—	—	—	—	24	2.5	—	—	—	Mn1604
VS1334	.33	.50	1½	0-300	—	0.550	1.960	24	2	1306	E91	AL-9	Mn1500
VS1335	.50	.75	1½	0-500	—	1½	1¾	48	4	814	E93	AL-1	Mn1400
VS1336	.65	.95	1½	0-1000	—	1¾	2½	48	25	813	E95	AL-2	Mn1300
VS1337	.84	1.25	4½	—	—	—	—	10	2	—	—	—	PX19
VS1338	.84	1.25	4½	—	—	—	—	10	2	—	—	—	PX21
VS1339	.75	1.00	3	—	—	—	—	10	1	—	—	—	PX24



### RECHARGEABLE

VS1560	4.33	6.50	7½	—	—	—	—	12	19.5	—	560	—	—
VS1561	10.62	15.95	15	—	—	—	—	4	25.5	—	561	—	—
VS1563	2.76	4.15	4.5	—	—	—	—	12	11.0	—	563	—	—
VS1564	9.94	14.95	13.5	—	—	—	—	4	24.0	—	564	—	—

▲ Alkaline types specially designed for transistor radios.      \* Optional.



# HIGH VOLTAGE POWER PACKS



## COMPACT "M" SERIES 2 TO 75 KVDC

The "M" series Power Packs are a completely new design. Long life and a small package directed the use of the latest techniques and advanced materials. Many features have been incorporated with the highest quality materials, at the same time maintaining economy of cost.

Standard input voltage is 118 at frequencies from 50 to 500 cycles per second inclusive. Available also are input voltages of 220, 230 and 240 volts from 50 to 500 cycles per second inclusive. For 220 volts suffix the desired part number with "X", 230 volts "Y" and 240 Volts "Z". All units may be modified for other input voltages.

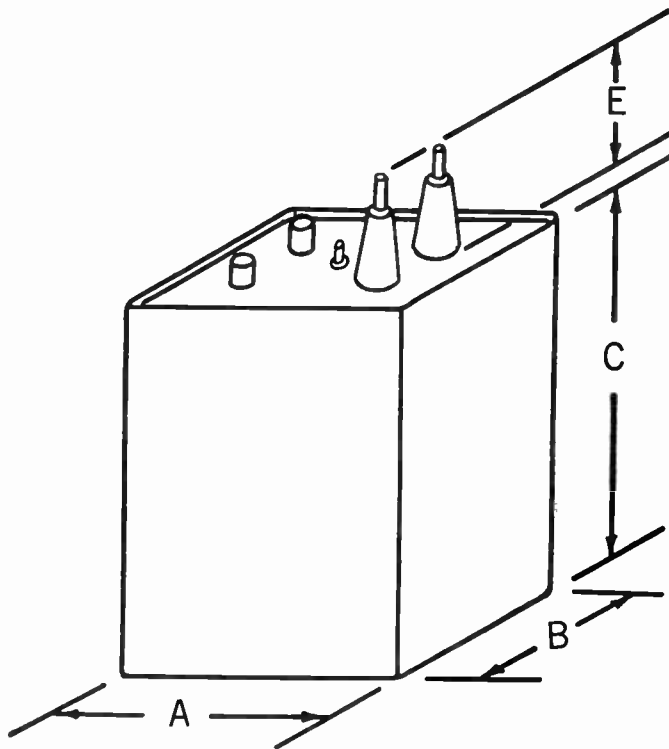
The output is filtered DC and standard potentials and current ratings are listed below. All units can be modified for any required potential and current below the values specified in the listing. The output potential can be varied from zero to the rated voltage and load by means of a variable auto transformer at the primary.

Ripple is 1% RMS or 2.75% peak to peak at rated current and voltage.

Design life is 40,000 hours at 35°C and 5,000 hours at 85°C.

Case finish is light blue gray lacquer per MIL-L-7178.

All units except the 75 KV, have two output terminals isolated from the container, permitting either terminal to be operated at ground or an intermediate point between them can be tied to ground. The 75 KV unit has a single high voltage terminal for the output. The Power Pack is normally furnished to deliver a positive output potential relative to ground. If a negative output is desired it can be shipped as such from the factory upon request. The polarity can be easily reversed as required by opening the top access port and reversing the selenium rectifier board. The remaining output terminal at low potential is left ungrounded so that the lead current be monitored if required.



PART NUMBER	KV RANGE	MAX. MA.	DIMENSIONS				MOUNTING AREA		WEIGHT LBS.
			A	B	C	E	L	W	
HV20-152M	0-2	1.5	3 <sup>3</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>4</sub>	2 LBS.
HV50-152M	0-5	1.5	3 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>4</sub>	2 LBS.
HV100-152M	0-10	1.5	3 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>4</sub>	4 LBS.
HV150-152M	0-15	1.5	3 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>4</sub>	5 LBS.
HV200-152M	0-20	1.5	3 <sup>3</sup> / <sub>4</sub>	4 <sup>9</sup> / <sub>16</sub>	5 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	4 <sup>9</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>4</sub>	9 LBS.
HV300-152M	0-30	1.5	3 <sup>3</sup> / <sub>4</sub>	4 <sup>9</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	4 <sup>9</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>4</sub>	11 LBS.
HV500-152M	0-50	1.5	4 <sup>1</sup> / <sub>16</sub>	6	8 <sup>1</sup> / <sub>2</sub>	4 <sup>5</sup> / <sub>16</sub>	6	6 <sup>1</sup> / <sub>4</sub>	18 LBS.
HV750-152M	0-75	1.5	5 <sup>5</sup> / <sub>8</sub>	7 <sup>5</sup> / <sub>8</sub>	12 <sup>3</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>2</sub>	7 <sup>3</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>4</sub>	45 LBS.
HV20-502M	0-2	5	3 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>4</sub>	2 LBS.
HV50-502M	0-5	5	3 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>4</sub>	3 LBS.
HV100-502M	0-10	5	3 <sup>3</sup> / <sub>4</sub>	4 <sup>9</sup> / <sub>16</sub>	5 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	4 <sup>9</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>4</sub>	8 LBS.
HV150-502M	0-15	5	3 <sup>3</sup> / <sub>4</sub>	4 <sup>9</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	4 <sup>9</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>4</sub>	10 LBS.
HV200-502M	0-20	5	3 <sup>3</sup> / <sub>4</sub>	4 <sup>9</sup> / <sub>16</sub>	8	2 <sup>1</sup> / <sub>8</sub>	4 <sup>9</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>4</sub>	14 LBS.
HV300-502M	0-30	5	4 <sup>1</sup> / <sub>16</sub>	6	8 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	6	6 <sup>1</sup> / <sub>4</sub>	22 LBS.
HV500-502M	0-50	5	5 <sup>5</sup> / <sub>8</sub>	7 <sup>3</sup> / <sub>8</sub>	12 <sup>3</sup> / <sub>16</sub>	4 <sup>5</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>4</sub>	45 LBS.
HV750-502M	0-75	5	11 <sup>1</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>16</sub>	16 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>2</sub>	14 <sup>1</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>8</sub>	124 LBS.
HV10-103M	0-1	10	3 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>4</sub>	2 LBS.
HV25-103M	0-2.5	10	3 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>4</sub>	3 LBS.
HV50-103M	0-5	10	3 <sup>3</sup> / <sub>4</sub>	4 <sup>9</sup> / <sub>16</sub>	5 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	4 <sup>9</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>4</sub>	10 LBS.
HV100-103M	0-10	10	3 <sup>3</sup> / <sub>4</sub>	4 <sup>9</sup> / <sub>16</sub>	8	1 <sup>1</sup> / <sub>16</sub>	4 <sup>9</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>4</sub>	14 LBS.
HV150-103M	0-15	10	4 <sup>1</sup> / <sub>16</sub>	6	8 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub>	6	6 <sup>1</sup> / <sub>4</sub>	22 LBS.
HV250-103M	0-25	10	5 <sup>5</sup> / <sub>8</sub>	7 <sup>5</sup> / <sub>8</sub>	12 <sup>3</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>4</sub>	7 <sup>3</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>4</sub>	45 LBS.
HV375-103M	0-37.5	10	11 <sup>1</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>16</sub>	16 <sup>1</sup> / <sub>2</sub>	4 <sup>5</sup> / <sub>16</sub>	14 <sup>1</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>8</sub>	124 LBS.

SURFACE AREA REQUIRED FOR MOUNTING INCLUDING AREA REQUIRED FOR FOOTED BRACKETS

SEE SECTION 1500, PAGES 365-367

## HIGH & LOW VOLTAGE CAPACITORS

# Plastic Capacitors, Inc.



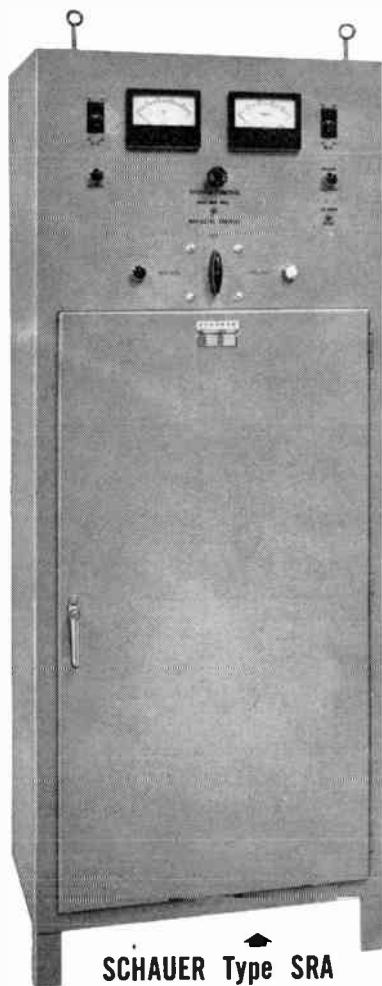
# SCHAUER POWER SUPPLIES

New in design and applied engineering technology are Schauer standard and custom-engineered power supplies for communication, industrial and laboratory use. Among a wide range of types are fully transistorized series regulated and magnetic amplifier regulated, output regulated and non-regulated units. Illustrated here are but a few of the types and designs that are available.

Special features that can be incorporated include alarm cir-

cuits, current limiting circuit, bus switching, etc. All units are built of quality components, conservatively rated and completely wired for maximum reliability under continuous duty conditions.

Your power supply problems can be readily solved by consulting with Schauer — manufacturers of quality products since 1907. Ask your distributor for Schauer Catalog No. 640.

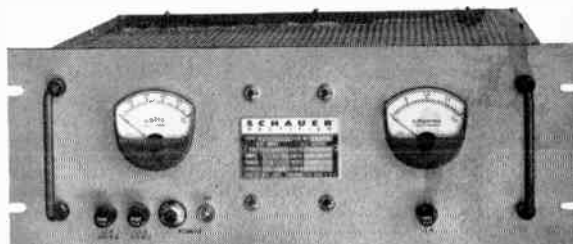


**SCHAUER Type SRA  
Power Supply**

Magnetic amplifier regulated input and output with alarm circuit and provisions for switching to either positive or negative bus of a 3-wire D.C. system. Regulation is maintained within 1% total band for load variations from no load to 125% of full load and for input voltage variations of  $\pm 10\%$ . Available in capacities from 10 through 250 amperes in 48, 60 and 125 volt models for 3 phase, 60 cycle input lines at standard commercial voltages.

## SCHAUER Type TRPS Power Supply

Transistorized regulated power supply for relay rack mounting, providing exceptionally close output regulation. Can be supplied in capacities up to 25 amperes maximum at voltage ratings up to 125 volts D.C. and in a variety of packaging and mounting arrangements.



## SCHAUER Type SA48006 Power Supply

For operating and testing AM and FM 2-way and marine radios. Provides maximum 48 amperes at 6 volts D.C. or 24 amperes at 12 volts D.C. by switching. Output adjustable by multiple tap switch. The ventilated steel case for bench or wall mounting is 10" wide x 9½" deep x 15" high.



## SCHAUER Type SK Power Supply

General purpose power supplies for applications where close output regulation and a highly filtered D.C. supply are not required. Bench, wall and floor mountings and many variations in output and characteristics are possible.



Rectifier Division

**SCHAUER MANUFACTURING CORP.**



# HIGH VOLTAGE RF TYPE DC

# POWER SUPPLIES

## 15-30 KV DC REGULATED



### MODEL RG-30

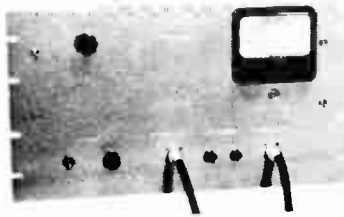
CONTINUOUSLY VARIABLE 15-30 KV  
REGULATED DC POWER SUPPLY WITH  
FOCUS VOLTAGE TAP 4-6 KV

Continuous duty supply with highly filtered outputs and regulations better than 0.5% at 1 ma. for line and load. Ripple .05%. Input: 117 V 60 cycles. Designed for flying spot and projection use. 19"W x 8<sup>3</sup>/<sub>4</sub>" H x 13"D.

With HV meter

\$375 net

## 0-30 KV DC UNREGULATED



### MODEL PN-30

REVERSIBLE POLARITY  
0-30 KV DC POWER SUPPLY

Continuously variable—reversible 0-30 KV unregulated. Current output approx. 2 ma. at 20 KV, 1 ma. at 30 KV. Ripple 0.1%. Input: 117 V 60 cycles. 19"W x 10<sup>1</sup>/<sub>2</sub>" H x 13"D.

With HV meter

\$275 net

## 12-40 KV DC UNREGULATED



### MODEL 2040

12-40 KV DC POWER SUPPLY

A highly filtered, rugged supply ideal for precipitators, spot knocking, electrostatic flocking and spraying and insulation breakdown testing. Voltage range variable 12 to above 40 KV. Current output 1 ma. at 30 KV. Input: 117 V-60 cycles. 19"W x 10<sup>1</sup>/<sub>2</sub>" H x 13"D.

With HV meter

\$235 net

## 1-90 KV DC REGULATED



### MODEL LAB-90

1-90 KV REGULATED DC  
POWER SUPPLY

Continuously variable. Output current: 1 ma. at 90 KV, 2 ma. from 40 KV down. Voltage regulations better than 0.5% throughout range. Input: 117 V-60 cycles. 21<sup>3</sup>/<sub>4</sub>" W x 28" H x 18" D.

Specify Polarity—Positive or Negative

Complete with HV meter \$945 net

## 1-60 KV DC REGULATED



### MODEL LAB-60PN

REVERSIBLE POLARITY  
CONTINUOUSLY VARIABLE 1-60 KV DC  
REGULATED POWER SUPPLY

Current output: 1 ma. at 60 KV, 2 ma. may be drawn from 50 KV down. Regulations — no load to full load better than 0.5% at 1 ma. 21"Wx22<sup>3</sup>/<sub>4</sub>"Hx18"D.

With HV meter \$820 net

MODEL LAB-60 — Same specifications as above except not reversible \$765 net

Specify polarity

## 1-30 KV DC REGULATED



### MODEL LAB-30PN

REVERSIBLE POLARITY CONTINUOUSLY VARIABLE 1-30 KV REGULATED DC POWER SUPPLY

Regulations against line and load 0.5% at 2 ma. Polarity reversible from front panel. Input: 117V 60 cycles. 21"W x 14"H x 15"D.

With HV meter

\$645 net

MODEL LAB-30 — with same electrical characteristics as above. Available in either positive or negative polarity.

With HV meter

\$545 net

## 1-15 KV DC REGULATED



### MODEL LAB-10 PN

CONTINUOUSLY VARIABLE

REVERSIBLE POLARITY 1-15 KV  
REGULATED DC SUPPLY

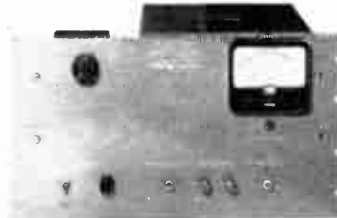
Output current 2 ma. Regulations line and load better than 0.5%. Input: 117 V 60 cycles. Complete with HV and current meters.

19"W x 8<sup>3</sup>/<sub>4</sub>" H x 13"D

\$385 net

MODEL LAB-10 — Same specifications as above except not reversible \$285 net

## 1-15 KV DC UNREGULATED



### MODEL PN-15

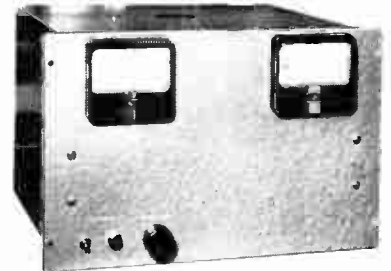
FLOATING REVERSIBLE POLARITY  
CONTINUOUSLY VARIABLE DC  
POWER SUPPLY

The high voltage output available through Alden HV connectors on front panel. Reversible and floating secondary — either positive or negative can be grounded or left floating. Current output 2 ma. at 15 KV. Voltage continuously variable through knob on front panel. Input: 117 V 60 cycles. Dimensions 8<sup>3</sup>/<sub>4</sub>" high x 19" wide x 11" deep.

Complete with meter

\$250 net

## 0-20 KV DC REGULATED



### MODEL LAB-20

CONTINUOUSLY VARIABLE 0-20 KV  
REGULATED RF TYPE DC  
POWER SUPPLY

Current output: 4 ma. @ 20 KV; 10 ma. from 10 KV down. Regulations better than 0.5% against line and load changes across entire range. 19"W x 12<sup>1</sup>/<sub>4</sub>" H x 15"D.

Complete with HV and current meters

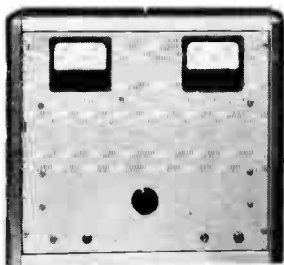
\$545 net



# HIGH VOLTAGE CO., INC.

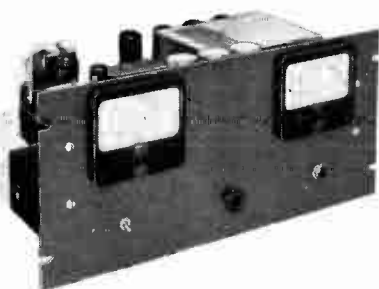
World Radio History

**0-35 KV REGULATED DC POWER SUPPLY**



Continuously variable 0-35 KV regulated DC power supply. Current output 4 ma. @ 35 KV. Regulations against line and load better than 0.5%. Ripple less than 0.25%. Dimensions in cabinet: 19 7/8" H x 21 3/4" W x 18" D.  
**MODEL LAB-35** — Complete with HV and Current meters ..... \$775 net

**REGULATED DC**



**CONTINUOUSLY VARIABLE**

Output current 2 ma. Input: 117 V 60 cycles. Regulated against line and load better than 0.5%. Complete with current and volt meters. Dimensions: Panel height 8 3/4", width 19", depth 13".

VOLTAGE RANGE	MODEL	PRICES
3-6 KV	RG-5	\$260 net
5-12 KV	RG-10	270 net
10-18 KV	RG-15	285 net

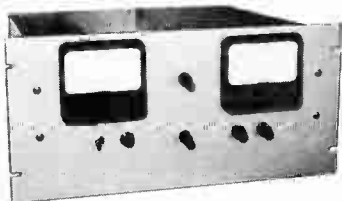


**HIGH VOLTAGE RF TYPE DC**

**POWER SUPPLIES**

**1-35 KV SOLID STATE DC POWER SUPPLY**

REGULATED 0.05% AGAINST LINE AND LOAD @ 1 ma.



Continuously variable 1-35 KV regulated power supply with regulated focus voltage tap 4-9 KV. A continuous duty DC supply with highly filtered outputs and regulated against line and load better than 0.05% at 1 ma. Ripple less than 0.05%. Input: 117V 60 cycles. Dimensions: 19" W x 8 3/4" H x 15" D.

**MODEL TR-135** Complete with HV and Current Meters **\$625 Net**

**20-40 KV DC REGULATED**

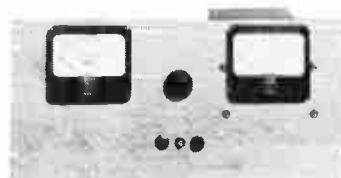


**MODEL RG-40**

**CONTINUOUSLY VARIABLE 20-40 KV REGULATED DC POWER SUPPLY WITH FOCUS VOLTAGE TAP 4-9 KV**

Continuous duty supply with highly filtered outputs and regulations better than 0.5% at 1 ma. for line and load. Ripple .05%. Input: 117 V 60 cycles. Designed for flying spot and projection use. 19"W x 10 1/2"H x 13"D. With HV meter .....\$385 net

**UNREGULATED 0-60 KV SOLID STATE**



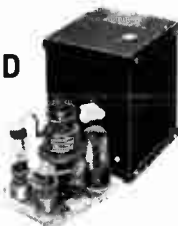
**MODEL ST-60**

**CONTINUOUSLY VARIABLE 0-60 KV DC POWER SUPPLY**

Continuously variable from 0-60 KV; 250 microamps; 1 ma. @ 20 KV. Input: 117 V 60 cycles. 19"W x 8 3/4"H x 12"D. Complete with HV and current meters. **\$350 net**

**5 KV UNREGULATED**

**MODEL 4575**



**5 KV — 1 ma. DC POWER SUPPLY**  
 For an output voltage of 5 KV DC at 1 milliampere, the low voltage input requirement is 250 V at 50 milliamperes. By varying the DC input the output voltage can be varied from approx. 1 KV to 7 1/2 KV. Dimensions: 5 5/8" high x 5" deep x 4 1/4" wide. In completely enclosed metal housing

<b>MODEL 4575</b>	<b>\$32.50 net</b>
<b>MODEL 4575-2</b> — same as above with 2 ma. output at 5 KV	<b>\$42.50 net</b>
<b>MODEL 4575PN</b> — Reversible polarity. High voltage secondary floating or can be grounded. 1 ma. at 5 KV	<b>\$42.50 net</b>
<b>MODEL 4575-2PN</b> —Reversible polarity. 2 ma. at 5 KV	<b>\$52.50 net</b>

**7 1/2-12 KV UNREGULATED**

**MODEL 7512**



**7 1/2-12KV — 1 ma. DC Power Supply**  
 Voltage output of approx. 7.5 to 12 KV. 1 ma. of current may be drawn throughout the voltage range. To obtain an output voltage of 7.5 KV at 1 ma., low voltage input requirement is 300 V DC at 50 ma. By varying the DC input, the output voltage can be increased. Maximum input voltage of 425 V at 100 ma. will give an output of 12 KV at 1 ma. 5 3/4" W., 8 1/4" H., 6 3/4" D. **\$42.50 net**

**10-20 KV UNREGULATED**

**MODEL 7516**



**10-20 KV — .5 ma. DC POWER SUPPLY**

Voltage output of approx. 10 to 20 KV. To obtain output voltage of 10 KV at 1 ma., low voltage input requirement is 300 V DC at 50 ma. Maximum input voltage of 425 V at 100 ma. will give an output of 20 KV at .5 ma. 5 3/4"W x 8 1/4"H x 6 3/4"D **\$48.50 net**



**HIGH VOLTAGE CO., INC.**

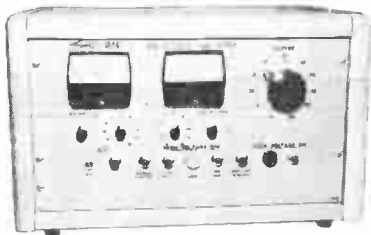




# HIGH VOLTAGE

60-400 Hz RECTIFICATION

# DC POWER SUPPLIES



## INDUSTRIAL SERVICE HV DC POWER SUPPLIES

### Applications

- Precipitation and other electrostatic usage
- Hipot and over-potential testers
- High voltage DC chargers
- Dielectric test equipment
- Nuclear and laser research

### Features and Specifications

- All solid state — reliable operation, conservative design, quality components and construction
- Output continuously adjustable from zero
- Reversible polarity
- Triple-range Kilovoltmeter and Millimeter with provision for accurate recalibration
- OVERLOAD and OVERVOLTAGE trip-out protection — Fully adjustable from 5% to 120% of rated values
- Provision for external interlock
- Safety interlock
- Zero start interlock
- Functional indicators and controls
- Surge protection

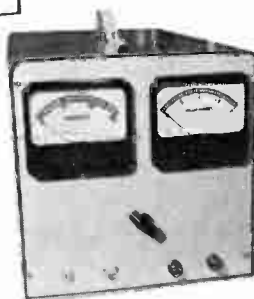
Input: 115 volt. 60 Hz, single phase. Volt-ampere efficiency approximately 60%

Regulation: Approximately 15% from 10% to full load.\*

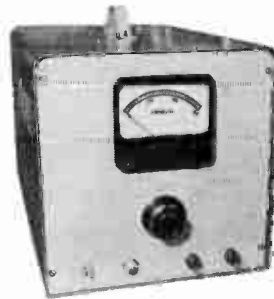
Mechanical: All models built in desk cabinet 10" high X 21" W X 18" D.

\* 1/2% servo regulator for line and load variations optionally available.

Model No.	Output Voltage KV	Output Current MA	Ripple % RMS	Net Price
L 3-50	0-3	50	3 1/2	\$350
L 3-100	0-3	100	1 1/2	400
L 3-200	0-3	200	3 1/2	450
L 6-25	0-6	25	3 1/2	420
L 6-50	0-6	50	1 1/2	470
L 6-100	0-6	100	3	520
L 12-10	0-12	10	3	490
L 12-20	0-12	20	1 1/2	540
L 12-50	0-12	50	3	590
L 30-5	0-30	5	3	550
L 30-10	0-30	10	1 1/2	600
L 30-20	0-30	20	3	750



P Series



PF-60\*\*

## PORTABLE HIGH VOLTAGE DC LAB SUPPLIES

- Solid state — Compact — Light weight
- Output continuously adjustable from zero
- Reversible Polarity
- Kilovoltmeter and Millimeter
- Overload trip-out protection

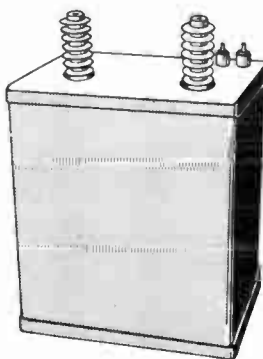
Model No.	Output Voltage KV	Output Current MA	Ripple % RMS/MA	Size WxDxH	Wt. lbs.	Net Price
P 10-5	0-10	5	1	8x12x9"	18	\$195
P 15-5	0-15	5	1	8x12x9"	18	225
P 20-5	0-20	5	1	8x12x9"	20	280
P 30-2	0-30	2	1	8x12x9"	25	290
P 30-5	0-30	5	1	11 1/4 x 18 x 11 1/4"	45	375
P 60-2	0-60	2	1.5	11 1/4 x 18 x 11 1/4"	60	475
P 90-0.3*	0-90	0.3	2.5	11 1/4 x 18 x 11 1/4"	70	625

\*NOTE: For electrostatic applications, features high internal limiting resistor which rapidly reduces output voltage as load increases; low stored energy; extreme safety and reliability; fixed polarity; specify positive or negative.

All models rated for 115 Volt, 60Hz, single phase input. Input volt-ampere efficiency approximately 50%.

\*\*Model PF-60, 0-60 KV variable; 75 microamps unit for electrostatic powder depositing, flocking and general lab use. .... \$350 Net

## MODULAR HIGH VOLTAGE DC POWER PACKS



- Reversible polarity
- Selenium rectifiers
- Conservatively rated components
- 60 to 400 Hz input
- Pluggable output cables
- 125 Volts max. input permitted.

Model No.	Output Voltage KV*	Output Current MA	Ripple % RMS/MA	Size WxDxH	Wt. lbs.	Net Price
M 10-5	10	5	1	4x4 3/4 x 6 1/2"	10	\$95
M 15-2	15	2	1	4x4 3/4 x 6 1/2"	10	115
M 15-5	15	5	1	4 3/8 x 5 1/8 x 6"	12	125
M 20-5	20	5	1	4 1/2 x 5 1/2 x 7 1/4"	15	180
M 30-2	30	2	1	4 1/2 x 5 1/2 x 7 1/4"	15	190
M 30-5	30	5	1	5 1/2 x 7 1/4 x 8 1/2"	20	250
M 60-2	60	2	1.5	10x12x10 1/2"	60	325
M 90-0.3**	90	0.3	2.5	10x14x10 1/2"	85	475

\*Nominal output (± 5%) obtained at 117 Volts input.

\*\*Fixed polarity. Specify positive or negative; 300uA available at reduced output voltage; for electrostatic applications.

### HIGH VOLTAGE CERAMIC CAPACITOR



Improved HV ceramic capacitor for filtering, coupling, by-pass and HV applications. Rated 3900 mfd. 30 KV DC. 1 5/8" long x 2 3/4" dia. MODEL BT-3900. \$10.50 net

### HIGH VOLTAGE TRANSFORMER



For use in air or oil in single-ended or doubler circuit. 13.5 KV RMS @ 40 ma. MODEL T-13 \$47.00 net

### AVAILABLE

### 50 KC HIGH FREQUENCY SILICON RECTIFIER 30 KV PIV

500 ma. Average

5" long x 1/2" dia.

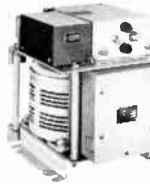
MODEL PIV-30-500 \$35.00 net



# STABILINE® automatic VOLTAGE REGULATORS

- THE MOST EXTENSIVE LINE OF AUTOMATIC VOLTAGE REGULATORS
- RATED OUTPUTS FROM 0.25 TO 275 KVA

Deliver a constant output voltage regardless of variations in input voltage or changes in load current. Conservatively rated, ruggedly built, precision products. Submit specifications for ratings desired but not given in the charts. Input voltage ranges shown are at nominal output voltage; input voltage range shifts with output voltage setting. All are cabinet types; those with other construction also are indicated.



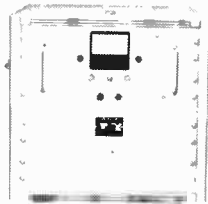
TYPE EMT4104BUT

## Types EMT4104B, (U), (UT)

Have two primary windings for parallel or series (120 or 240 volt) duty. Type EMT4104B is cabinet enclosed; EMT4104BU is of open construction; EMT4104BUT has components screened or enclosed.

## EMT series

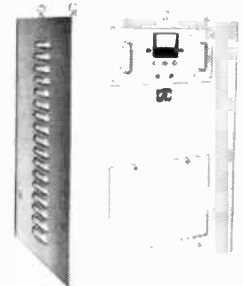
Electro Mechanical Transistorized types in ratings from 2.3 to 118 kva. Control circuit is completely transistorized. POWERKOTE Coils in power section permit higher output ratings. Rated accuracy  $\pm 0.75\%$  for all variations of line voltage or load current within stated range of unit.



TYPE EMT4115B

## EMS series

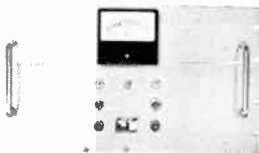
Electro Mechanical Transistorized types for single or three phase duty with ratings from 25 to 275 kva. Several types available with individual line control for greater application flexibility. Plug-in transistorized control circuit permits quick replacement in event of malfunction.



TYPE EMS42100

## EMK series

Electro Mechanical high speed, high accuracy assemblies in ratings of 2.5/5.0 KVA. Accuracy  $\pm 1.0\%$  of nominal output voltage.



TYPE EMK4105R

## IES series

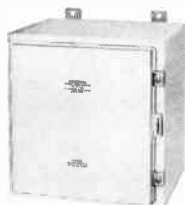
Solid-state types with accuracy within 100 millivolts bandwidth, efficiency up to 95%, fast response, low distortion and wide operating frequency range. No vacuum tubes, motors, blowers or relays are used. All units have provision for remote sensing and have removable plug-in solid-state circuit boards.



TYPE IES9101

## All-boost Marine

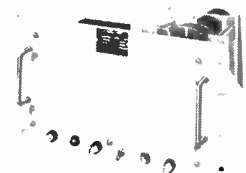
Electro Mechanical Transistorized type EMT10228 is fully enclosed in a weatherproof cabinet. Well suited for marine or industrial applications where equipment must withstand effects of dust and moisture. Has 6 KVA rated output.



TYPE EMT10228

## Militarized

Standard Electro Mechanical and Electro Mechanical Transistorized types that meet the requirements of applicable military specifications. Type EMTH41007MH is  $3\frac{1}{2} \times 6 \times 4\frac{1}{2}$ "; type EM4108MCR fits standard 19" relay rack. Accuracy  $\pm 1.0\%$ .



TYPE EM4108MCR



THE SUPERIOR ELECTRIC COMPANY

SEE OTHER SUPERIOR ELECTRIC PRODUCT PAGES

EMT SERIES

NOMINAL OUTPUT VOLTAGE	OUTPUT VOLTAGE (ADJUSTABLE)	INPUT VOLTAGE RANGE†‡	MAXIMUM OUTPUT AMPERES	RATED OUTPUT KVA	CORRECTION RATE AT 60 CYCLES (SECONDS/VOLT)	TYPE
<b>50/60 CYCLE, SINGLE PHASE OPERATION</b>						
115	110-120	95-135	20	2.3	0.075	EMT4102B†
			57	6.6	0.075	EMT4106C‡
		90-115	52	6.0	0.12	EMT10228
			105-125	114	13.0	0.15
120*	110-120	108-137	144	16.6	0.125	EMT4115B
			35	4.2	0.10	EMT4104B††
230‡	220-240	195-255	36	8.3	0.083	EMT4207B
			93	21.4	0.083	EMT4220
			130	29.9	0.111	EMT4228C
240†‡	220-240	228-256	35	8.4	0.10	EMT4104B††
460	440-480	400-520	20	9.2	0.041	EMT4407B
			45	20.7	0.041	EMT4418B
<b>50/60 CYCLE, THREE PHASE OPERATION</b>						
230‡	220-240	195-255	33	13.1	0.083	EMT6210YB
			48	19.1	0.083	EMT6215YB
			63	25.1	0.083	EMT6220YB
			145	57.8	0.25	EMT6245YB
			188	74.9	0.25	EMT62700B
460	440-480	400-520	18	14.3	0.041	EMT6412YB
			24	19.1	0.041	EMT6417YB
			35	27.9	0.041	EMT6425YB
			75	59.8	0.125	EMT6450YB
			100	75.0	0.125	EMT6475YB
			148	118	0.188	EMT64100YB
			420-500			

EMS SERIES

<b>60 CYCLE, SINGLE PHASE, 2-WIRE</b>						
115	110-120	103.5-126.5	833	100	0.65	EMS41100
230‡	220-240	218.5-241.5	435	100	0.22	EMS42100‡
<b>50/60 CYCLE, SINGLE PHASE, 3-WIRE, INDIVIDUAL LINE CONTROL</b>						
240/120	230-250/115-125	204-276/102-138	104	25.0	.03-.06	EMS14225
			250	60.0	.03/.06	EMS14260
	220-240/110-120	228-252/114-126	417	100	10/.21	EMS142100††
<b>50/60 CYCLE, THREE PHASE, SINGLE CONTROL</b>						
230‡	220-240	203-257	339	135	0.28	EMS62135Y†
460	440-480	445-495	230	180	0.30	EMS64180Y
			347	275	0.30	EMS64275Y
<b>50/60 CYCLE, THREE PHASE, INDIVIDUAL LINE CONTROL</b>						
208/120	191-217/115-125	177-239/102-138	250	90.0	.08/.14	EMS16290Y
		165-233/95-135	525	190	.37/.22	EMS162190Y††

EMK SERIES

<b>50/60 CYCLE, SINGLE PHASE</b>						
115	110-120	95-135	23	2.6	0.02	EMK4105†
		105-125	46	5.3	0.04	

IES SERIES

<b>50 OR 60 CYCLE ±10%, SINGLE PHASE</b>						
115	110-120	95-135**	4.4	0.5	—	IES91005
			8.7	1.0	—	IES9101
			26.1	3.0	—	IES9103
			52.2	6.0	—	IES9106
			130	15.0	—	IES9115
230	220-240	195-255**	13	3.0	—	IES9203
			26.1	6.0	—	IES9206
			65	15.0	—	IES9215

MILITARIZED TYPES

<b>45-66 CYCLE, SINGLE PHASE</b>						
120	115-125	105-135	66.6	8.0	0.10	EM4108MCR
<b>380-420 CYCLE, SINGLE PHASE</b>						
115	115	103.5-126.5	6	0.69	0.13▲	EMTH41007MH

▲At 400 cycles

†Also available as rack model (suffix R when ordering)

\*For 60 cycle operation only

\*\*Can also be operated on an input range of 95 to 135 volts with a rating of 57 amperes, 6.6 kva and a correction rate of 0.075 seconds per volt

‡Also available as rack (suffix R when ordering) or wall mounted (suffix W when ordering) models

††Unit can be converted for 208 volt operation by simple tap changes. Input and output voltage ranges change proportionally

\*\*At nominal output. Shifts with output voltage setting but not proportionally.

†††Also available in open construction (suffix U) and with screened and enclosed (suffix UT) construction.

††††At nominal output. Shifts proportionally with output voltage setting

**STABILINE®**  
FULL RANGE  
REGULATOR CONTROLLERS



TYPE FR500MP

For use with any motor-driven

**POWERSTAT®**  
Variable  
Transformer  
to provide  
full range:

**1**

**REGULATED AC VOLTAGE**

—Regulates output voltage from any motor-driven 120 or 240 volt 50/60 cycle, single phase POWERSTAT Variable Transformer. For three phase, the unit monitors one line-to-neutral or one line-to-line voltage. Can be used for 480 volt duty by using step-down transformer. Output voltage remains within a 2-volt band on 120 volts and within 4-volt band on 240 volts.

**2**

**REGULATED AC CURRENT**

—Combined with POWERSTAT Variable Transformer, current/voltage transformer and current transformer, the unit will maintain constant output current accurate within ±1% of the maximum current setting.

**3**

**REGULATED DC VOLTAGE—**

Combined with a POWERSTAT Variable Transformer and a user-supplied d-c power supply, the unit provides regulated d-c voltage. Can be supplied for d-c use or can be modified by user.

# SOLA<sup>®</sup> CVDC power supplies, available off-the-shelf.

Sola offers a wide range of CVDC type power supplies which are available from stock of your local electronic parts distributor or the factory. These standard designs are available in any quantity and are the result of Sola custom engineering efforts.

Inherently highly reliable, the CVDC supplies are ruggedly built and use simple circuitry. Fast and dependable regulation, current limiting, and high efficiency are provided by the heart of the supply: the famous Sola Constant Voltage Transformer.

## CHARACTERISTICS

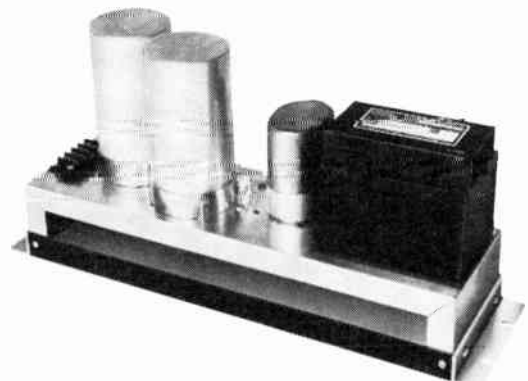
- Fast, dependable line-voltage regulation: within  $\pm 1\%$  for fluctuations of  $\pm 15\%$ ; voltage will return to regulation envelope in approximately 50 milliseconds.
- Load regulation: from 1/2% to 8%, one half to full load.
- Automatic current limiting: short circuit protection; withstands load faults; high overloads cannot damage power supply or equipment components.
- High efficiency: upwards of 75%; low input-power requirements.
- Simplified operation: no adjustments or maintenance; continuous duty.
- Convection cooling.
- Ripple: 1% rms maximum.
- Ambient operating temperature: 50° C maximum.

Constant-voltage Sola transformer provides  $\pm 1\%$  regulation for line voltage variations as great as  $\pm 15\%$ , serves as the heart of CVDC power supplies for voltage-sensitive equipment.

## STANDARD CVDC MODELS

(fixed output for pulse, variable, intermittent and fixed loads—Inputs 100-130 volts, 60Hz)

CATALOG NO.	OUTPUT RATINGS			PANEL HT.	WT. LBS.	PRICE 1-4
	VOLTS	AMPS	VA			
281513-1	6	10	60	3½	27	\$150.00
282123	6	15	90	5¼	38	175.00
281514-1	12	5	60	3½	18	115.00
282124	12	10	120	5¼	31	150.00
281845	12	15	180	5½	50	195.00
281515-1	18	5	90	3½	20	120.00
282125	18	10	180	5¼	45	175.00
281024-1	24	6	144	5¼	30	145.00
282126	24	10	240	5¼	48	180.00
281203	24	15	360	8¾	64	250.00
282127	24	25	600	7	72	335.00
28626	28	8	224	5¼	42	180.00
282128	28	15	420	7	55	250.00
281048	48	4	192	5¼	32	135.00
281561	48	10	480	5½	48	185.00
282129	48	20	960	8¾	95	275.00
281125	125	2	250	5¼	44	145.00
281150	150	2	300	5¼	48	145.00
281200	200	1	200	5¼	39	140.00
281250	250	1	250	5¼	45	150.00



**SOLA ELECTRIC** **SB**  
DIVISION OF SOLA BASIC INDUSTRIES



**TABTRON****"TECHNICAL APPARATUS BUILDERS"**

For all DC Power Requirements write Eng.  
Dept. Specialists in Design, Mfgs. of D.C.  
Power Supplies. "TABTRON"®, "TABPAK"®,  
"REG-D-TAB"®, "REG-O-VAC"®, "TABSTAT"®, "TABGLD"®, "TABLITE"®, "VOLTAB"®, "AMPTAB"®.

**PACKAGED AC & DC POWER**

"TABTRON" VARIABLE DC POWER SUPPLIES, COMPLETELY BUILT, DESIGNED FOR CONTINUOUS SERVICE, READY TO USE. "VARIAC"® VARIABLE TRANSFORMER, ISOLATION RECTIFIER TRANSFORMER, FULL WAVE BRIDGE RECTIFIER, METERS, VOLTS AND AMP., PILOT LIGHT, SWITCH, TERMINALS AND FUSE, CABINET OR RACK MT'D (RP), STD 115/60CY INPT. OTHER INPTS TO ORDER.

Model	Variable DC Volts & Amps Ripple & Regulation Price Fig*
T10V35A	0 to 10VDC @ 35Amp ..... \$126. 4
T10V500AV	0 to 9VDC @ 500Amp/4% Rip/3 1/2 inpt. .... 936. 4
T12V10ACE	0 to 12VDC @ 10A/0.1% Rip @ 2A ..... 57. 2
T12V15ARM	0 to 12VDC @ 15A/1% Rip ±5% Reg ..... 207. 5
T12V20A	0 to 12VDC @ 20Amp/Inpt up 1 30A ..... 117. 4
T12V20ARM	0 to 12VDC @ 20Amp/1% Rip ±5% Reg ..... 162. 4
T12V50A	0 to 12VDC @ 50Amp ..... 189. 4
T12V100A	0 to 12VDC @ 100Amp ..... 306. 5
T12V200AY	0 to 12VDC @ 200Amp/inpt 3 ..... 441. 6
T12V300AY	0 to 12VDC @ 300Amp/inpt 3 1/2 ..... 585. 8
T14V30ARM	0 to 14VDC @ 30A/1% Rip ±5% Reg ..... 378. 5
T14V40ARC	0 to 14VDC @ 40A/0.1% Rip ..... 396. 5
T16V250AY	0 to 16VDC @ 250Amps/4% Rip/3 1/2 inpt ..... 954. 8
T16V5ACE	0 to 16VDC @ 5A/0.5% Rip ..... 69. 2
T16V10ACC	0 to 16VDC @ 10A/0.5% Rip @ 2Amps ..... 90. 2
T16V50A	0 to 16VDC @ 50Amps ..... 210. 5
T24V25A	0 to 24VDC @ 25Amps ..... 190. 5
T24V50A	0 to 24VDC @ 50Amps ..... 270. 5
T24V100A	0 to 24VDC @ 100A/220V inpt ..... 522. 6
T24V200AY	0 to 24VDC @ 200A/4% Rip/3 1/2 inpt. .... 756. 8
T32V5A	0 to 32VDC @ 5Amps ..... 66. 2
T32V5ACC	0 to 32VDC @ 5Amp/0.5% Rip/160Mv ..... 88. 3
T28V5ARC	0 to 28VDC @ 5Amp/0.05% Rip/14Mv ..... 144. 3
T32V12A	0 to 32VDC @ 12Amp ..... 126. 4
T32V12ACC	0 to 32VDC @ 12Amp/0.5% Rip ..... 171. 4
T28V12ARC	0 to 28VDC @ 12Amp/0.05% Rip 14Mv ..... 234. 5
T32V15ARM	0 to 32VDC @ 15Amp/1% Rip/±5% Reg ..... 243. 5

Model	Variable DC Volts & Amps Ripple & Regulation Price Fig*
T30V20ACE	0 to 30VDC @ 20Amp/1% Rip @ 5A ..... \$198. 3
T32V24A	0 to 32VDC @ 24Amps ..... 189. 4
T32V24ACC	0 to 32VDC @ 24Amp/0.5% Rip 160Mv ..... 252. 5
T28V30ARC	0 to 28VDC @ 30A/0.05% Rip/14Mv ..... 441. 5
T32V30ARM	0 to 32VDC @ 30A/1% Rip/±5% Reg ..... 387. 5
T32V50A	0 to 32VDC @ 50Amps ..... 360. 6
T32V50ACC	0 to 32VDC @ 50A/1% Rip/160Mv ..... 432. 6
T28V100AY	0 to 28VDC @ 100A/4% Rip/inpt 3 1/2 ..... 720. 6
T28V200AY	0 to 28VDC @ 200A/4% Rip/inpt 3 1/2 ..... 819. 8
T32V60ARMY	0 to 32VDC @ 60A/1% Rip ±5% Reg/3 1/2 ..... 666. 6
T48V5ACC	0 to 48VDC @ 5A/0.5% Rip/240Mv ..... 135. 4
T48V10ACC	0 to 48VDC @ 10A/0.5% Rip/240Mv ..... 162. 4
T48V15ARM	0 to 48VDC @ 15A/1% Rip ±5% Reg ..... 342. 5
T60V5ACC	0 to 60VDC @ 5A/0.5% Rip/300Mv ..... 207. 5
T60V15ARM	0 to 60VDC @ 15A/1% Rip ±5% Reg ..... 441. 6
T60V10ACC	0 to 60VDC @ 10Amp/0.5% Rip/300Mv ..... 324. 5
T90V15ARM	0 to 90VDC @ 15A/2% Rip ±5% Reg ..... 522. 6
T130V2ACC	0 to 130VDC @ 2A/1% Rip/1.3V ..... 119. 4
T120V5ACC	0 to 120VDC @ 5A/1% Rip/1.2V ..... 270. 5
T130V10ACC	0 to 130VDC @ 10A/1% Rip/1.3V ..... 387. 6
T150V10ARM	0 to 150VDC @ 10A/1% Rip/±5% Reg ..... 486. 6
T220V10A	0 to 220VDC @ 10Amps ..... 405. 6
T220V10ACC	0 to 220VDC @ 10A/1% Rip/2.2V ..... 495. 6
T300V1ACC	0 to 300VDC @ 1A/0.03% Rip/90Mv ..... 225. 4
T300V2ACC	0 to 300VDC @ 2A/0.03% Rip/90Mv ..... 351. 4

\* Size: Fig 1, 4Hx5Wx6D; Fig 2, 5Hx9Wx6D; Fig 3, 7Hx6 1/2Wx12D; Fig 4, 9Hx15Wx7D; Fig 5, 10Hx22Wx15D; Fig 6, 19Hx22Wx15D; Fig 7, 14 1/2Hx14Wx10D; Fig 8, 37Hx22Wx18D.

**VARIABLE AC & DC "VOLTAB" SCHOOL — COLLEGE — LAB & INDUSTRIAL AC & DC POWER!**

Model	Description	Price *Fig
VOLTAB-I	0 to 16VAC & DC & 0-130VAC @ 2.5A ..... \$ 75. 2	
VOLTAB-II	0 to 16VAC & DC @ 10A & 0-140VAC/3.75A ..... \$130. 3	
VOLTAB-III	0 to 45VAC & DC @ 5A & 0-140VAC/10A ..... \$189. 3	

Model	Description	Price *Fig
VARI-TAB6	0 to 36VAC & 0 to 32VDC @ 6A ..... \$ 63. 2	
VARI-TAB15	0 to 36VAC & 0 to 32VDC @ 15A ..... \$126. 3	
VARI-TAB25	0 to 36VAC & 0 to 32VDC @ 25A ..... \$171. 3	

**REGULATED DC SUPPLIES "MR" MAGNETIC or "Q" TRANSISTORIZED & HI VOLTAGE SUPPLIES!**

Model	Description	Price *Fig
MRT12V50ACC	0 to 12V @ 50A/1% Rip/10 to 12V Regulated ..... \$504. 5	
MRT32V25ACC	0 to 32V @ 25A/1% Rip/24 to 28V Regulated ..... 486. 5	
MRT32V50ACC	0 to 32V @ 50A/1% Rip/24 to 28V Regulated ..... 702. 6	
QBA15	10 to 15VDC @ 1Amp/Rip & Reg 500Mv ..... 81. 1	
QBA20	15 to 20VDC @ 1Amp/Rip & Reg 500Mv ..... 81. 1	
QBA25	20 to 25VDC @ 1Amp/Rip & Reg 500Mv ..... 81. 1	
QBA30	25 to 30VDC @ 1Amp/Rip & Reg 500Mv ..... 81. 1	
QT30V3A	0 to 30VDC @ 3Amp/10Mv Rip/0.5V/Reg ..... 144. 3	
QT36V25L	0 to 36VDC @ 25Amp/1Mv Rip & Reg ..... 666. 5	

Model	Description	Price *Fig
HIV2.5K	0 to 2500VDC @ 5MA/2% Rip ..... \$ 69. 2	
HIV5K	0 to 5000VDC @ 5MA/2% Rip ..... 81. 2	
HIV10K	0 to 10,000VDC @ 5MA/2% Rip ..... 108. 3	
QPT18D3	±14 to 18VDC x 2 @ 300MA/5Mv Rip/1% Reg ..... 48. 1	
QT25D5	0 to 25VDC @ 0.5Amp/5Mv Rip/0.25V Reg ..... 50. 1	
QT40V1.5	0 to 40VDC @ 1.5Amp/1Mv Rip & Reg ..... 140. 3	
QT60V1L	0 to 60VDC @ 1Amp/1Mv Rip & Reg ..... 198. 4	
QT120D5L	0 to 120VDC @ 500MA/1Mv Rip & Reg ..... 243. 4	
QT36V50L	0 to 36VDC @ 50A/1Mv Rip & Reg ..... 950. 5	

**INDUSTRIAL BASIC DC SUPPLIES OEM/INBUILT, BENCH or SPECIAL ORDER RACK MTG. (RP)!**

Model	Description	Price	Model	Description	Price	Model	Description	Price
B6V30ACC	6.3VDC @ 30A/1% Ripple ..... \$ 99		B28V5A	28VDC @ 5A ..... \$ 43		B28V50ACC	28VDC @ 50A/1% Rip ..... \$324	
B12V12ARC	12VDC @ 12A/1Mv Ripple ..... 156		B28V5ACC	28VDC @ 5A/1% Rip ..... 60		B28V100A/P	28VDC @ 100A/4% Rip ..... 400	
B12V15AM	12VDC @ 15A/1% Rip f ±5% Reg ..... 162		B28V5ARC	28VDC @ 5A/3Mv Rip ..... 108		B115V2.5A	115V @ 2.5A ..... 81	
B12V24A	12VDC @ 24A ..... 98		B28V12A	28VDC @ 12A ..... 115		B115V5A	115V @ 5A ..... 120	
B12V24ACC	12VDC @ 24A/2% Ripple ..... 140		B28V12ACC	28VDC @ 12A/1% Rip ..... 153		B115V5ACC	115V @ 5A/1% Rip ..... 243	
B12V50A	12VDC @ 50A ..... 132		B28V24A	28VDC @ 24A ..... 126		B115V10A	115V @ 10A ..... 185	
B12V50ACC	12VDC @ 50A ..... 216		B28V24ACC	28VDC @ 24A/1% Rip ..... 171		B115V10ACC	115V @ 10A/1% Rip ..... 336	
B12V30AM	24VDC @ 30A/1% Rip/5% Reg ..... 300		B28V30AM	28VDC @ 30A/1% Rip/±5% Reg ..... 333		B220V2.5A	\$207; B220V5A ..... 243	
B28V1ARC	28-24VDC @ 1A/1% Rip ..... 36		B28V50A	28VDC @ 50A ..... 200		B220V5ACC	220VDC @ 5A/1% Rip ..... 378	
B28V2ARC	28-24VDC @ 2A/1% Rip ..... 54		B28V50AC	28VDC @ 50A/Filtered ..... 261		B220V10A	\$330; B220V10ACC ..... 459	

**LOW-COST "TAB-PAKS" DC POWER for PILOT LIGHTS, RELAYS & SOLENOIDS!**

Model	Description	Price	Model	Description	Price	Model	Description	Price
B12VER	12VDC @ 2Amp ..... \$15		B24VER	24VDC @ 2Amps ..... \$18		B48VAR	48VDC @ 1Amp ..... \$30	
B12V2BF	12VDC @ 2Amp Filtered ..... 22		B24V2BF	24VDC @ 2Amps Filtered ..... 27		B48VER	48VDC @ 2Amp ..... 40	
B12VGR	12VDC @ 4Amp ..... 24		B24VJR	24VDC @ 6Amps ..... 32		B60V2BF	60VDC @ 2Amp Filtered ..... 66	
B12VNR	12VDC @ 24Amp ..... 64		B24V6BF	24VDC @ 6Amps Filtered ..... 45		B115VAR	115VDC @ 1Amp ..... 63	
B24VAR	24VDC @ 1Amp ..... 16		B24VLR	24VDC @ 12Amps ..... 56		B115VER	115VDC @ 2Amp ..... 72	

**BATTERY CHARGERS for NICKEL CADMIUM "NBC", LEAD, SILVER, ALKALI "ABC" AUTOMATIC SENSING TO 0.06V!**

Model	Description	Price	Model	Description	Price
NBC75D04	"NICAD" ADJ one to 75 Cells up to 40Mo ..... \$ 10		ABC12V4A	Automatic CHG. 12V to 4A & ADJ Trickle ..... \$ 50	
NBC25V1A	"NICAD" & other ADJ/1 to 25V up to 1Amp ..... 20		ABC24V4A	Automatic CHG. 24V to 4A & ADJ Trickle ..... 72	
NBC60D5A	"NICAD" & others ADJ 1 to 60 Cells to 500Ma ..... 36		ABC12V20A	Automatic CHG. 12V to 20A & ADJ Trickle ..... 90	
BC612A3	6 & 12V to 3A (115 & 230V/50-60 cys) & trickle ..... 15		ABC12V70AR	up to 12V @ 70Amp & ADJ Float ..... 261	
BC612A5	6 & 12V to 5A (115V/50 to 800 cys) & trickle ..... 28		ABC14V3AR	up to 14V @ 3A & ADJ 20Ma/Float ..... 90	
BC12-24V5A	12 & 24V to 5A (115V/50 to 800 cys) & trickle ..... 40		ABC14V50AR	up to 14V @ 50A & ADJ to 5A/Float ..... 300	
ABC6V3A	Automatic CHG. 6V to 3A & Trickle ..... 45		ABC30V8AR	up to 30V @ 8Amp & Float 0.8A ..... 180	

**WRITE FOR OTHER SIZES AND TYPES—COMPLETE FAIL-SAFE SYSTEMS—TO YOUR SPECIFICATIONS!****SOLID-STATE INVERTERS, CONVERTERS & DC to DC SUPPLIES!**

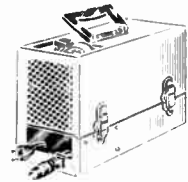
Model	Description	Price	Model	Description	Price
Y225L	Inverter 12VDC to 115VAC/SQ.W @ 225 Watts ..... \$ 45		C250K	DC to DC Converter 6VDC to 250 & 125VDC @ 150Ma ..... \$ 48	
Y350L	Inverter 12VDC to 115VAC/SQ.W @ 350 Watts ..... \$ 70		C600L	DC to DC Converter 12VDC to 600 & 250VDC @ 200Ma ..... \$ 72	
Y450L	Inverter 12VDC to 115VAC/SQ.W @ 450 Watts ..... \$ 93		C50KL	DC to DC 6 to 12VDC Converter 50 Watts ..... \$ 36	
Y450M	Inverter 24VDC to 115VAC/SQ.W @ 450 Watts ..... \$144		C25LM	DC to DC 12 to 24VDC Converter 50 Watts ..... \$ 48	

**SINCE 1945 RECTIFIER ENGINEERING! AC & DC POWER! OEM MANUFACTURER!**

# terado CHARGERS, INVERTERS AND VOLTAGE ADJUSTERS

CHANGES BATTERY CURRENT TO 110 VAC, 60 CYCLE,  $\pm 1/2$  CYCLE, REGARDLESS OF LOAD\*

## INVERTER-BATTERY CHARGER TRAV-ELECTRIC\*



Operates anything using 117 VAC, 60 cps from 25 amps rechargeable wet storage battery enclosed. Capacity, 175 watts; 125 watts continuous. Frequency stable within 1/2 cps with load change. Plugs into AC outlet or car cigarette lighter to recharge battery. Charger has automatic overcharge protection. Meter shows charge rate and hours of anticipated output. Size: 12" x 5 1/2" x 8". Wt.: Net, 30 lbs. including battery; shpg., 38 lbs.  
Terado No. 50-160—Net Each.....\$6063

## INVERTERS

### DUAL CONTINENTAL\* Transistorized, 600 watts

Converts 12 VDC to 110 V, 60 cycle, 550 to 600 watts. Filtered for tape recorders. Frequency stable within 1/2 cycle with changing input voltage load. Includes battery cables, remote control, variable AC output. Size: 10 3/4" w. x 13" d. x 6" h. Shpg. Wt., 60 lbs.  
Terado No. 50-202—Net Each.....\$30777

### CONTINENTAL\*

#### Transistorized, 300 watts

Same as DUAL CONTINENTAL except: 275-300 watts capacity. Size: 10 3/4" w. x 6" d. x 6" h. Shpg. Wt., 30 lbs.  
Terado No. 50-191—Net Each.....\$15313

### ATLAS\*

#### Transistorized, 200 watts

Same as DUAL CONTINENTAL except: 175-200 watts capacity. Size: 10 3/4" w. x 6" d. x 6" h. Shpg. Wt., 21 lbs.  
Terado No. 50-200—Net Each.....\$11453

### TITAN\*

#### Transistorized, 175 watts

Same as DUAL CONTINENTAL except: less remote control; 150-175 watts capacity; on-off switch; AC receptacle. Size: 10 3/4" w. x 6" d. x 6" h. Shpg. Wt., 20 lbs.  
Terado No. 50-201—Net Each.....\$10051

### SUPREME\*

Non-transistorized. Converts 12 VDC to AC. Power output, 175-200 W, filtered. Remote control has variable AC output switch and signal light. Size: 10 3/4" w. x 6" d. x 6" h. Shpg. Wt., 20 lbs.  
Terado No. 50-153—Net Each.....\$8407

### RECORDER\*

150-175 watt version of SUPREME, less remote control. Plugs into cigarette lighter. Size: 10 3/4" w. x 6" d. x 6" h. Shpg. Wt., 21 lbs.  
Terado No. 50-175—Net Each.....\$7667

### AUTOMATIC\*

Operates automatically from 6 or 12 VDC without vibrator change or switching (6 V, 55-75 watts; 12 V, 85-110 watts). Easy installation into cigarette lighter. For dictation machines, radios, tape recorders, phonographs, heating pads, etc. Steel case. Seal brown baked enamel. Size: 3 1/2" w. x 6 1/2" d. x 4" h. Shpg. Wt., 8 lbs.  
Terado No. 50-134—Net Each.....\$4452

### SUPER\*

Single input version of AUTOMATIC above. Size: 3 1/2" w. x 6 1/2" d. x 4" h. Shpg. Wt., 8 lbs.  
Terado No. 50-126—Input, 6 V; AC power output, 60-75 watts. Net Each.....\$3847  
Terado No. 50-127—Input, 12 V; AC Power output, 75-100 watts. Net Each.....\$3847

### MASTER\*

Voltage input, 12 V; AC power output, 60-75 watts. Size: 3 1/2" w. x 6 1/2" d. x 4" h. Shpg. Wt., 6 lbs.  
Terado No. 50-122—Net Each.....\$3196

### CHIEF\*

Operates tape recorders, power tools, dictation machines, mixers, blenders, etc. Front AC receptacle connects direct to battery. Toggle switch output control. Ventilated steel case. Size: 3 1/2" w. x 6 1/2" d. x 4" h. Shpg. Wt., 8 lbs.  
Terado No. 50-137—Input, 6 V; AC power output, 75-100 watts. Net Each.....\$5390  
Terado No. 50-138—Input, 12 V; AC power output, 100-125 watts. Net Each.....\$5390

### ELECTRAL\*

Glove compartment size inverter, available in 12 volt input. Easy installation into cigarette lighter. Vinyl coated steel case with leatherette appearance. Size: 3" w. x 2 1/4" d. x 5 1/2" h. Shpg. Wt., 3 lbs.  
Terado No. 50-167—Voltage input, 12 V; AC power output, 42-52 watts. Net Each.....\$2077

### SENIOR\*

Operates radios, lights, phonographs and small tape recorders. Available in 6 V or 12 V input. Simple to install into cigarette lighter. Aluminum case. Seal brown baked enamel. Size: 2 1/2" w. x 4 1/2" d. x 2 1/4" h. Shpg. Wt., 3 lbs.  
Terado No. 50-115—Voltage input, 6 V; AC power output, 35-40 watts. Net Each.....\$1847  
Terado No. 50-116—Voltage input, 12 V; AC power output, 40-50 watts. Net Each.....\$1847

### DYNAMO\*

Permits operating AC radios and electric shavers on 12 VDC battery. Power output, 25-30 watts. Size: 2" x 2" x 3 3/4". Shpg. Wt., 2 lbs.  
Terado No. 50-197—Net Each.....\$1195

### AUTO SHAVER\*

Operates all electric shavers. Available in 6 V (10-15 W) or 12 V (15-20 W) input. Plugs into cigarette lighter. Polyethylene non-breakable case. Size: 3 3/8" w. x 2 1/4" d. x 4 1/4" h. Shpg. Wt., 2 lbs.  
Terado No. 50-102—6 V. Net Each.....\$931  
Terado No. 50-103—12 V. Net Each.....\$931

## TRANSISTORIZED Frequency Not Stabilized

### GEMINI

(Transistorized, 450 to 500 watts)  
Transistorized 12 VDC to 110 VAC. Designed to operate equipment not sensitive to frequency change. Size: 12 1/2" x 6" x 6". Shpg. Wt., 20 lbs.  
Terado No. 50-128—Net Each.....\$97.17  
Remote Control No. 50-130—Net Each.....\$11.50

### FALCON

(Transistorized, 275 to 300 watts)  
Transistorized 12 VDC to 110 VAC. Designed to operate equipment not sensitive to frequency change. Size: 12 1/2" x 6" x 6". Shpg. Wt., 20 lbs.  
Terado No. 50-129—Net Each.....\$74.25  
Remote Control No. 50-130—Net Each.....\$11.50

### GALAXY

Transistorized 12 VDC to 110 VAC, 140-175 watts filtered. Adjustable voltage and frequency. Ideal where frequency is not critical. Size: 10 3/4" w. x 6" d. x 6" h. Shpg. Wt., 9 1/2 lbs.  
Terado No. 50-205—Net Each.....\$3676

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Terado No. 50-170—Net Each.....\$3296

## BATTERY CHARGERS

### DYN-A-MITE

Baked seal brown paint over aluminum case. Charge rate 1 amp, both 6 and 12 volts. Size: 1 3/4" x 1 3/4" x 3 1/4". Wt., 1 lb.  
Terado No. 50-186—Net Each.....\$590

### TINY GIANT

Copper clad steel case. Charge rate 1 1/2 amps, both 6 and 12 volts. Warning buzzer for improper connection. Size: 2-1/16" x 3" x 5 1/2". Wt., 1 1/2 lbs.  
Terado No. 50-185—Net Each.....\$766

### LEADER

Copper clad steel case. Charge rate 1 1/2 amps, both 6 and 12 volts. Warning buzzer for improper connection. Size: 2-1/16" x 3" x 5 1/2". Wt., 2 lbs.  
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Copper clad steel case. Charge rate 4 amps, both 6 and 12 volts. Automatic circuit breaker protection. Size: 2 3/4" x 3" x 5 1/2". Wt., 2 lbs.  
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### APERITE

Brown baked enamel case. Charges 6 amps, or in low position charge automatically tapers to 0. Will not over-charge battery; has charge rate meter. Size: 4" x 5" x 6". Wt., 7 1/2 lbs.  
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Brown baked enamel, ventilated steel case. Charge rate 6 amps, both 6 and 12 volts. Charge rate meter. Brackets for colling wire provided. Size: 4" x 5" x 6". Wt., 5 lbs.  
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#### INVERTER-CHARGER COMBINATION Transistorized—Solid State Frequency Not Controlled

Copper baked enameled case. Changes battery voltage to 117 volts. AC capacity 450 to 500 watts. Charges 12 volt storage battery at 20 amps, 10 amps or trickle. Has charge meter. Size: 12 1/2" x 6" x 6". Shpg. Wt., 21 lbs.  
Terado No. 50-131—Net Each.....\$10450

### MARK II

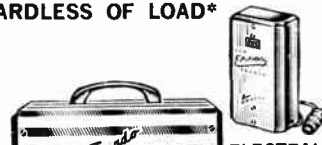
Same specifications as MARK I above except inverter capacity is 275-300 watts.  
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Hermetically sealed, single pole double throw (Form C) silver contacts, rated at 1 amp at 24 v. non-inductive load. Operating temperature range -55°C to +85°C. Insulation: 500 v. at any terminal to ground. Excellent vibration characteristics due to short armature. Base fits 7-pin miniature tube socket. Size: 3/8" x 1-11/16" long.

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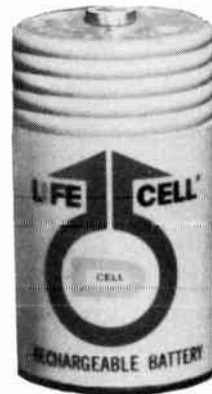
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**SPECIFICATIONS**
**ELECTRICAL**
**Battery Configuration**

Nominal Voltage Output	1.5 Volts
Nominal Capacity at the 20 Hour Rate	950 mah
Nominal Capacity at the 5 Hour Rate	750 mah
Nominal Capacity at the 1 Hour Rate	450 mah
Internal Resistance of Charged Cell	30 milliohms (approx.)

**Recharging Configuration**

Nominal Input Voltage	120 Volts AC
Nominal Current Drain	15 ma

**MECHANICAL.** Weight: 3.95 Ounces - 112 Grams • Dimensions: 2.406 Inches High - 1.32 Inches Diameter. Interchangeable with Standard D Cell.

**Cell Type**—Sealed secondary lead-acid cell has a gelled electrolyte which permits operation, charging, and storage in any position.

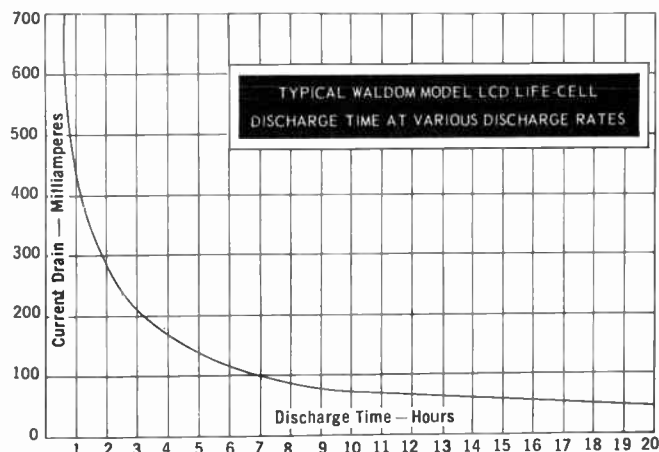
**Cycle-Life**—The number of charge-discharge cycles obtainable depends, as with any other rechargeable battery, upon how it is used, depth of discharge, temperature, and many other factors. An average of 150-200 cycles is normal. There are cells now on test with over 250 cycles.

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**Capacity**—The chart below shows typical lengths of time the Waldom Life-Cell will operate at various current drains.

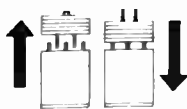

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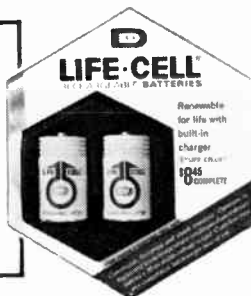
**Package No. LCD-1**
**445**  
COMPLETE

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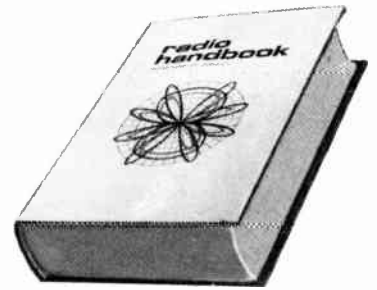
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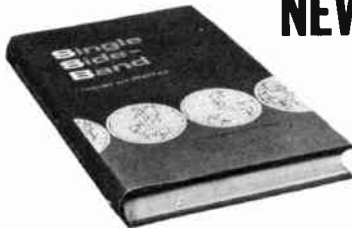
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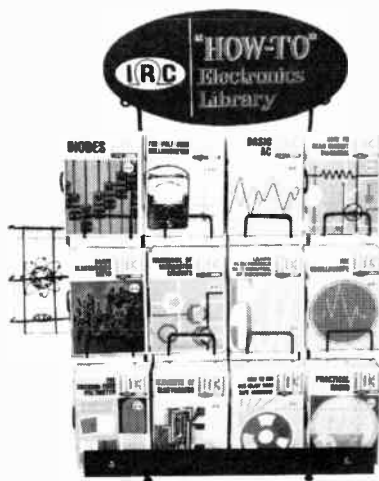
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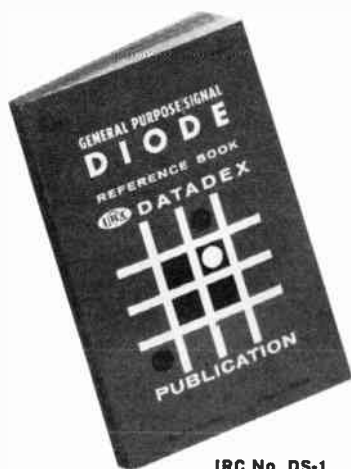
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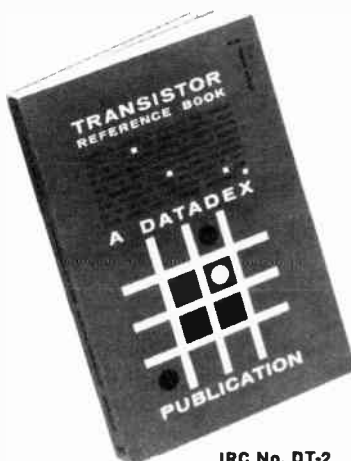
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1	32	4
D		
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2	32	4
N		
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STANDARD



MINIATURE

### VARIATION OF DELAY WITH HEATER VOLTAGE

FIG. 1—Effect of change in heater voltage on delay in seconds. Only low voltage heaters (2.5 to 26 V.) incorporate heater voltage regulations as shown in diagram.

For 22 to 30 V. supply: We recommend Amperite Delay Relays with 26 V. heaters for airplanes and similar power supplies. These heaters are regulated for battery variation of 22 to 30 V. as shown in this diagram.

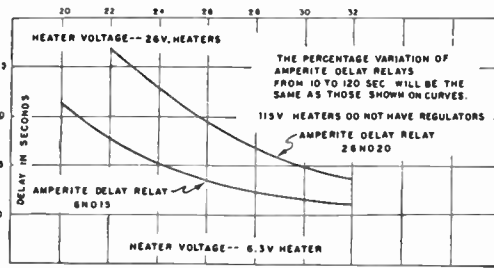


Figure 1

### CONTACT RATING

	Delay	Contact Rating		DC Voltage Breakdown	
		Non-Inductive	Inductive	Contact-to-Contact	Heater-to-Contact
STANDARD RELAYS	2 to 10 Sec.	115V - 3a AC	250V	500V	800V
	15 to 180 Sec.	115V - 3a AC 220V - 1a AC	800V 800V	800V 800V	800V 800V
MINIATURE RELAYS	2 to 10 Sec.	115V - 2a AC	250V	500V	800V
	15 to 180 Sec.	115V - 2a AC 220V - 1a AC	800V 800V	800V 800V	800V 800V
FLASHERS		- 1/2a AC			

**CONTACT DROP:** — 0.1V — Prox. at 1A.

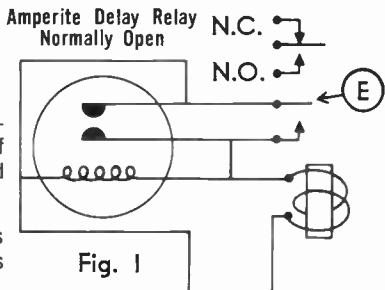
**DELAYS AVAILABLE:**—From 2 to 180 seconds. Relays can be used in series to obtain longer delays. The delay of any individual relay up to 120 seconds can be increased up to 25% by using a resistor in series with the heater. Delays above 120 seconds cannot be increased. Relays with short delays such as 2 to 5 seconds can be increased 50%.

**LIFE** of any individual relay will depend on the service the contacts are subjected to. With a 115V — 2A A.C. non inductive load the contacts will withstand at least 250,000 operations. **SHELF LIFE** of Amperite Delay Relays is over 10 years.

**INDUCTIVE A.C. LOADS:** When breaking an inductive A.C. load, use a condenser of .01 to .1 mfd across contacts. In some cases, putting a 20,000 ohm, 5w. resistor across the contacts reduces the arcing considerably.

**Relay Contacts should not be used on voltages above 220V.**

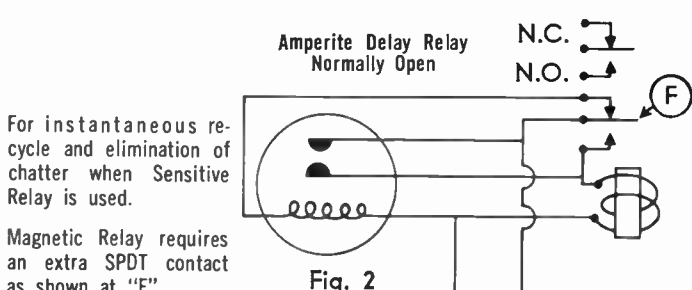
### FOR INSTANTANEOUS RECYCLE AND ELIMINATION OF CHATTER



For instantaneous recycle and elimination of chatter. Cannot be used with Sensitive Relays.

Magnetic Relay requires extra N.O. contact as shown at "E".

Fig. 1



For instantaneous recycle and elimination of chatter when Sensitive Relay is used.

Magnetic Relay requires an extra SPDT contact as shown at "F".

Fig. 2

**INSTANTANEOUS RECYCLE:** This can be obtained by using a normally open Amperite Delay Relay in conjunction with a Magnetic Relay as shown above. If normally closed is required — use a normally open Amperite Delay Relay — and use the NC contacts on the magnetic relay. Choose the Amperite Delay Relay for the voltage required and the delay required (e.g. — 115N030 — would be used on 115 volt supply — for a 30 second delay).

**LONG CYCLE RELAYS:** are also available. For example, Amperite Delay Relay 115N07T has a delay in closing of 3 to 7 seconds. After heater is disconnected, contacts will remain closed for 30 seconds minimum. Write us about your requirements.

THERMOSTATIC

# AMPERITE

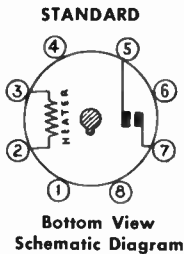
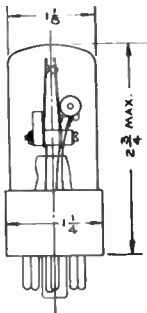
DELAY RELAYS

GLASS ENCLOSED • HERMETICALLY SEALED • A.C., D.C., OR PULSATING CURRENT



**BREAKING D.C. CURRENT:** When Relay contacts open D.C. Current above 50 volts, a condenser with a resistor in series with the condenser must be connected across the contacts. The following condenser values are approximate.

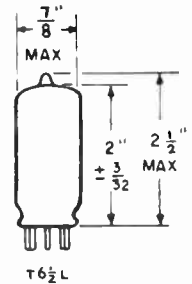
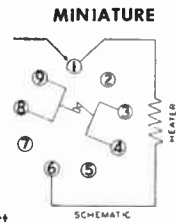
	50 V. D.C.	115 V. D.C.	230 V. D.C.
0 to .5 Amp.	None	.1 MF	.25 MF
.5 to 1.5 Amps.	"	.25 "	.25 "
1.5 to 3 Amps.	.25 MF	1 "	.5 "



**Base Wiring:**  
Standard Radio Octal:  
Prongs 2-3-heater;  
Prongs 5-7-contacts.

**SPECIFICATIONS:**

**Base Wiring:**  
9-Pin Miniature:  
Prongs 1-6 heater;  
Prongs 3-4, 1 contact;  
Prongs 8-9, 2nd contact



Standard Octal Base

Bottom View Schematic Diagram

9-Pin Miniature Base

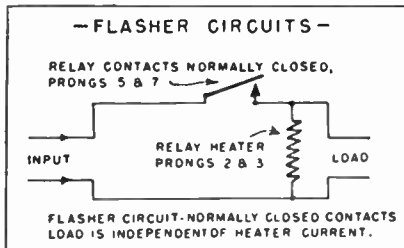
**STANDARD AND MINIATURE TYPES OF AMPERITE DELAY RELAYS AND FLASHERS... Net \$2.40 each**

**STANDARD RELAYS:** Available in 2 to 180 Seconds Delay. **MINIATURE RELAYS:** Available in 2 to 120 Seconds Delay.

Types shown in Bold type in the chart below are more popular relays and are more readily available.

MINIATURE TYPES: Designated by letter T (e.g. 6N05T)

Delay-Seconds	Tolerance Seconds at 20°C	NORMALLY OPEN CONTACTS							NORMALLY CLOSED CONTACTS						
		HEATER VOLTAGES							HEATER VOLTAGES						
		2.5 V.	5.0 V.	6.3 V.	12.6 V.	26 V. (22-30)	50 V.	115 V.	2.5 V.	5.0 V.	6.3 V.	12.6 V.	26 V. (22-30)	50 V.	115 V.
2	± 1 1/2	2N02	5N02	6N02	12N02	26N02	50N02	115N02	2C2	5C2	6C2	12C2	26C2	50C2	115C2
3	± 1 1/2	2N03	5N03	<b>6N03</b>	12N03	<b>26N03</b>	50N03	<b>115N03</b>	2C3	5C3	<b>6C3</b>	12C3	<b>26C3</b>	50C3	<b>115C3</b>
5	± 2 1/2	2N05	5N05	<b>6N05</b>	12N05	<b>26N05</b>	50N05	<b>115N05</b>	2C5	5C5	<b>6C5</b>	12C5	<b>26C5</b>	50C5	<b>115C5</b>
8	± 3	2N08	5N08	<b>6N08</b>	12N08	<b>26N08</b>	50N08	<b>115N08</b>	2C8	5C8	<b>6C8</b>	12C8	<b>26C8</b>	50C8	<b>115C8</b>
10	± 4	2N010	5N010	<b>6N010</b>	12N010	<b>26N010</b>	50N010	<b>115N010</b>	2C10	5C10	<b>6C10</b>	12C10	<b>26C10</b>	50C10	<b>115C10</b>
15	± 4	2N015	5N015	<b>6N015</b>	12N015	<b>26N015</b>	50N015	<b>115N015</b>	2C15	5C15	<b>6C15</b>	12C15	<b>26C15</b>	50C15	<b>115C15</b>
20	± 5	2N020	5N020	<b>6N020</b>	12N020	<b>26N020</b>	50N020	<b>115N020</b>	2C20	5C20	<b>6C20</b>	12C20	<b>26C20</b>	50C20	<b>115C20</b>
30	± 10	<b>2N030</b>	<b>5N030</b>	<b>6N030</b>	<b>12N030</b>	<b>26N030</b>	50N030	<b>115N030</b>	2C30	5C30	<b>6C30</b>	12C30	<b>26C30</b>	50C30	<b>115C30</b>
45	± 10	2N045	5N045	<b>6N045</b>	12N045	<b>26N045</b>	50N045	<b>115N045</b>	2C45	5C45	<b>6C45</b>	12C45	<b>26C45</b>	50C45	<b>115C45</b>
60	± 15	<b>2N060</b>	5N060	<b>6N060</b>	12N060	<b>26N060</b>	50N060	<b>115N060</b>	2C60	5C60	<b>6C60</b>	12C60	<b>26C60</b>	50C60	<b>115C60</b>
75	± 15	2N075	5N075	<b>6N075</b>	12N075	<b>26N075</b>	50N075	<b>115N075</b>	2C75	5C75	<b>6C75</b>	12C75	<b>26C75</b>	50C75	<b>115C75</b>
90	± 20	2N090	5N090	<b>6N090</b>	12N090	<b>26N090</b>	50N090	<b>115N090</b>	2C90	5C90	<b>6C90</b>	12C90	<b>26C90</b>	50C90	<b>115C90</b>
120	± 35	2N0120	5N0120	<b>6N0120</b>	12N0120	<b>26N0120</b>	50N0120	<b>115N0120</b>	2C120	5C120	<b>6C120</b>	12C120	<b>26C120</b>	50C120	<b>115C120</b>
150	± 35	2N0150	5N0150	<b>6N0150</b>	12N0150	<b>26N0150</b>	50N0150	<b>115N0150</b>	2C150	5C150	<b>6C150</b>	12C150	<b>26C150</b>	50C150	<b>115C150</b>
180	± 45	2N0180	5N0180	<b>6N0180</b>	12N0180	<b>26N0180</b>	50N0180	<b>115N0180</b>	2C180	5C180	<b>6C180</b>	12C180	<b>26C180</b>	50C180	<b>115C180</b>



Flashers operate approximately 1/3 on, 2/3 off. The percentage time on can be increased by reducing voltage of heater.

**115V Flashers ONLY** made in quantities of 12 or less. Cannot be supplied in production quantities.

Normally closed flashers are standard, and are indicated by the letter "F." The number following letter "F" denotes flashes per minute. For example a 6F30 flasher, has 6.3V heater, normally closed 30 FPM with a ± 15 flashes per minute tolerance. A 6F30T, would be the same type but in 9-pin miniature. Flashers are available from 30 to 90 Flashes per minute with tolerances as shown in the chart below:

**FLASHERS** have contact rating of 1/2a 115V AC, non-inductive.

Tol.	FPM - 20°C	Standard Flashers Available		
30 ± 15		6F30	26F30	115F30
45 ± 15		6F45	26F45	115F45
60 ± 20		6F60	26F60	115F60
75 ± 20		6F75	26F75	
90 ± 25		6F90	26F90	

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# ALLIED CONTROL

ALLIED CONTROL COMPANY INC.

## RELAYS AND SOCKETS

### GENERAL PURPOSE RELAYS

RELAY TYPE <sup>1</sup>	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	AMPS <sup>2</sup>	COIL POWER AT 25°C	COIL RESIST. OHMS <sup>3</sup>	NET PRICE	OUTLINE DRAWING	DESCRIPTION
<b>AS</b>								Compact design, single hole mounting, terminal board on the front and contacts on top for easy inspection. Terminals: .078 x .107 hook Weight: 2.0 ounces max. Mounting: (1) 6-32 NC-2B tapped hole 7-32 deep
AS-3A	115v a-c	SPDT	5	3.5 va	850	\$5.40		
AS-3D	26.5v d-c	SPDT	5	1.3 w	528	4.60		
<b>TAT</b>								Subminiature with the performance of a miniature plus extra long life Terminals: Elongated holes .080 x .040 Weight: 0.70 ounces max. Mounting: (4) 4-48 NF-2B tapped holes
TAT-2C	6v d-c	DPDT	2	700 mw	52	2.96		
TAT-2C	12v d-c	DPDT	2	700 mw	185	2.96		
TAT-2C	24v d-c	DPDT	2	700 mw	700	2.96		
TAT-2C	48v d-c	DPDT	2	700 mw	2500	2.96		
TAT-2C	115v d-c	DPDT	2	700 mw	15000	4.66		
<b>TAT</b>								Subminiature with the performance of a miniature plus extra long life Terminals: Elongated holes .080 x .040 Weight: 0.75 ounces max. Mounting: (4) 4-48 NF-2B tapped holes
TAT-4C	6v d-c	4PDT	2	700 mw	52	3.34		
TAT-4C	12v d-c	4PDT	2	700 mw	185	3.34		
TAT-4C	24v d-c	4PDT	2	700 mw	700	3.34		
TAT-4C	48v d-c	4PDT	2	700 mw	2500	3.34		
TAT-4C	115v d-c	4PDT	2	700 mw	15000	5.04		
<b>TFMDO</b>								Enclosed in a transparent polycarbonate cover and rigidly secured to base. Enclosure: Dust cover Weight: 2.5 ounces Socket: Any std. RETMA or EIA octal
<b>TEFDO</b>								
TFMDO-2C	6v d-c	DPDT	5	700 mw	52	6.02		
TFMDO-2C	12v d-c	DPDT	5	700 mw	185	6.02		
TFMDO-2C	24v d-c	DPDT	5	700 mw	700	6.02		
TFMDO-2C	115v d-c	DPDT	5	700 mw	15000	7.72		
TEFDO-2C	6v a-c	DPDT	5	1.2 va	6.4	4.92		
TEFDO-2C	12v a-c	DPDT	5	1.2 va	31.8	4.92		
TEFDO-2C	24v a-c	DPDT	5	1.2 va	112.5	4.92		
TEFDO-2C	115v a-c	DPDT	5	1.2 va	2580.0	4.92		
TEFDO-2C	220v a-c	DPDT	5	2.4 va	6000.0	5.42		



# ALLIED CONTROL

ALLIED CONTROL COMPANY INC.

## GENERAL PURPOSE RELAYS

RELAY TYPE <sup>1</sup>	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	AMPS <sup>2</sup>	COIL POWER AT 25°C	COIL RESIST. OHMS <sup>3</sup>	NET PRICE
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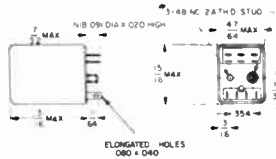
OUTLINE DRAWING

DESCRIPTION

### TF154-2C



TF154-2C	6v d-c	DPDT	5	700 mw	52	\$3.37
TF154-2C	12v d-c	DPDT	5	700 mw	185	3.37
TF154-2C	24v d-c	DPDT	5	700 mw	700	3.37
TF154-2C	48v d-c	DPDT	5	700 mw	2500	3.37
TF154-2C	115v d-c	DPDT	5	700 mw	15000	5.07



Features no internal wiring, contact arms extended to form combination solder and plug-in terminals

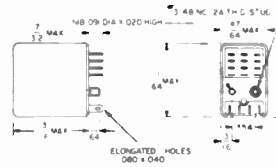
Terminals: Elongated holes .080 x .040

Enclosure: Dust cover  
Weight: 0.80 ounces max.  
Socket: Allied type 30055-1

### TF154-4C



TF154-4C	6v d-c	4PDT	5	700 mw	52	3.87
TF154-4C	12v d-c	4PDT	5	700 mw	185	3.87
TF154-4C	24v d-c	4PDT	5	700 mw	700	3.87
TF154-4C	48v d-c	4PDT	5	700 mw	2500	3.87
TF154-4C	115v d-c	4PDT	5	700 mw	15000	5.57



Features no internal wiring, contact arms extended to form combination solder and plug-in terminals

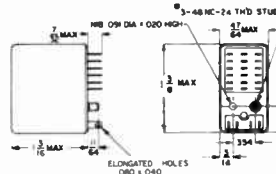
Terminals: Elongated holes .080 x .040

Enclosure: Dust cover  
Weight: 0.95 ounces max.  
Socket: Allied type 30055-2

### TF154-6C



TF154-6C	6v d-c	6PDT	5	1.5 w	25	5.02
TF154-6C	12v d-c	6PDT	5	1.5 w	90	5.02
TF154-6C	24v d-c	6PDT	5	1.5 w	430	5.02
TF154-6C	48v d-c	6PDT	5	1.5 w	1550	5.02
TF154-6C	115v d-c	6PDT	5	1.5 w	9000	5.92



Features no internal wiring, contact arms extended to form combination solder and plug-in terminals

Terminals: Elongated holes .080 x .040

Enclosure: Dust cover  
Weight: 1.0 ounces max.  
Socket: Allied type 30055-2

## CRADLE MAGNETIC LATCHING

### T351—SINGLE COIL

T351-2C	6v d-c	DPDT	1	900 mw	40	\$5.00
T351-2C	12v d-c	DPDT	1	900 mw	166	5.00
T351-2C	24v d-c	DPDT	1	900 mw	630	5.00
T351-2C	48v d-c	DPDT	1	900 mw	2640	5.20
T351-2C	110v d-c	DPDT	1	900 mw	13800	6.46
TF351-2C	6v d-c	DPDT	5	900 mw	40	5.12
TF351-2C	12v d-c	DPDT	5	900 mw	166	5.12
TF351-2C	24v d-c	DPDT	5	900 mw	630	5.12
TF351-2C	48v d-c	DPDT	5	900 mw	2640	5.32
TF351-2C	110v d-c	DPDT	5	900 mw	13800	6.52
T351-4C	6v d-c	4PDT	1	900 mw	40	5.50
T351-4C	12v d-c	4PDT	1	900 mw	166	5.50
T351-4C	24v d-c	4PDT	1	900 mw	630	5.50
T351-4C	48v d-c	4PDT	1	900 mw	2640	5.70
T351-4C	110v d-c	4PDT	1	900 mw	13800	6.90

### T351—DUAL COIL

T351-2C	2/6v d-c	DPDT	1	1.2 w	31.5	6.00
T351-2C	2/12v d-c	DPDT	1	1.2 w	134	6.00
T351-2C	2/24v d-c	DPDT	1	1.2 w	485	6.00
T351-2C	2/48v d-c	DPDT	1	1.2 w	1760	6.40
T351-2C	2/110v d-c	DPDT	1	1.2 w	9600	8.80
T351-4C	2/6v d-c	4PDT	1	1.2 w	31.5	6.74
T351-4C	2/12v d-c	4PDT	1	1.2 w	134	6.74
T351-4C	2/24v d-c	4PDT	1	1.2 w	485	6.74
T351-4C	2/48v d-c	4PDT	1	1.2 w	1760	7.14
T351-4C	2/110v d-c	4PDT	1	1.2 w	9600	9.54
TF351-2C	2/6v d-c	DPDT	5	1.2 w	31.5	6.12
TF351-2C	2/12v d-c	DPDT	5	1.2 w	134	6.12
TF351-2C	2/24v d-c	DPDT	5	1.2 w	485	6.12
TF351-2C	2/48v d-c	DPDT	5	1.2 w	1760	6.52
TF351-2C	2/110v d-c	DPDT	5	1.2 w	9600	8.92

Designed for pulse operation. In the single coil version a pulse of 10 milliseconds minimal duration is required to activate the armature.

Weight: 2C-2 oz.  
4C-4 oz.

Socket: 2C-30055-1  
4C-30055-2

The dual coil functions similarly to the single wound version except that while the armature is actuated by a pulse applied to one winding it is reset by pulsing the second winding.

Weight: 2C-2 oz.  
4C-4 oz.

Socket: 2C-30055-1  
4C-30055-2


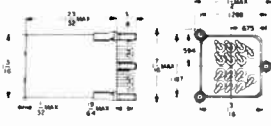

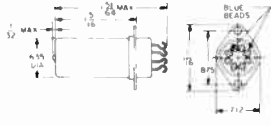

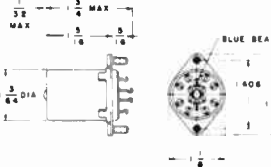

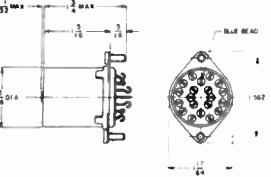

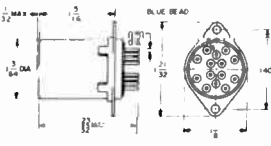

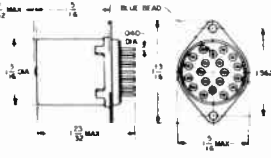

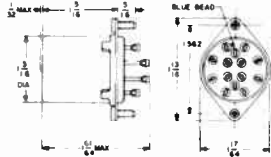




# ALLIED CONTROL

ALLIED CONTROL COMPANY INC.

## MINIATURE TYPE RELAYS


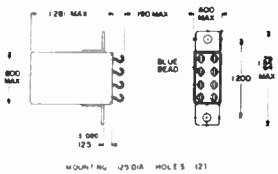
RELAY TYPE <sup>1</sup>	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	AMPS <sup>2</sup>	COIL POWER AT 25°C	COIL RESIST. OHMS <sup>3</sup>	NET PRICE	OUTLINE DRAWING	DESCRIPTION
 CH	CH-12D 26.5v d-c	4PDT	10	4.0 w	180	\$30.00		Vibration: 20g to 2000 cps Shock: 50g operational Operate: 15 milliseconds Release: 10 milliseconds Temp: -65°C to +125°C Weight: 5.0 ounces max. Mounting: (3) 6-32 NC-2A thd. studs
 MH-6	MH-6D 26.5v d-c MHB-6D 26.5v d-c	DPDT	5	1.75 w 1.25 w	400 325	\$14.25 14.25		Vibration: 15g to 1000 cps Shock: 50g operational Operate: 8 milliseconds Release: 5 milliseconds Temp. MH: -55°C to +85°C MHB: -65°C to +125°C Weight: 2.0 ounces max. Mounting: (2) 0.125 dia. holes
 MH-12*	MH-12D 26.5v d-c MHB-12D 26.5v d-c	4PDT	5	2.5 w 3.0 w	300 250	\$20.90 20.90		Vibration: 15g to 1000 cps Shock: 50g operational Operate: 10 milliseconds Release: 5 milliseconds Temp. MH: -55°C to +85°C MHB: -65°C to +125°C Weight: 3.0 ounces max. Mounting: (3) 6-32 NC-2A thd. studs
 MH-18*	MH-18D 26.5v d-c MHB-18D 26.5v d-c	6PDT	5	3.0 w 3.5 w	240 200	\$23.75 23.75		Vibration: 15g to 1000 cps Shock: 50g operational Operate: 10 milliseconds Release: 5 milliseconds Temp. MH: -55°C to +85°C MHB: -65°C to +125°C Weight: 4.2 ounces max. Mounting: (3) 6-32 NC-2A thd. studs
 MHUO-12	MHUO-12D 26.5v d-c	4PDT	5	2.5 w	300	\$20.90		Vibration: 15g to 1000 cps Shock: 50g operational Operate: 10 milliseconds Release: 5 milliseconds Temp: -55°C to +85°C Weight: 3.0 ounces max. Mounting: (2) .144 dia. holes Socket: Allied type 16188-1 above chassis mtg.
 MHUO-18	MHUO-18D 26.5v d-c	6PDT	5	3.0 w	240	\$23.75		Vibration: 15g to 1000 cps Shock: 50g operational Operate: 10 milliseconds Release: 5 milliseconds Temp: -55°C to +85°C Weight: 4.2 ounces max. Mounting: (2) .144 dia. holes Socket: Allied type 16189-1 above chassis mtg.
 MHY	MHY-12D 26.5v d-c	4PDT	10	3.5 w	200	\$25.41		Vibration: 20g to 500 cps Shock: 50g operational Operate: 10 milliseconds Release: 5 milliseconds Temp: -65°C to +125°C Weight: 4.2 ounces max. Mounting: (2) #6-32 NC-2A thd. studs


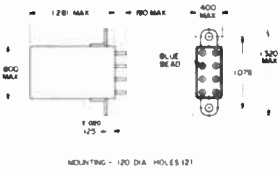
<sup>1</sup>Also available as MHJ-12D & MHJ-18D for 20G up to 2000 CPS vibration.


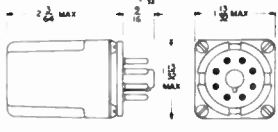



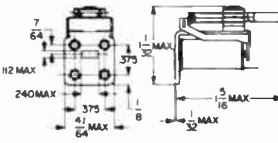
# ALLIED CONTROL ALLIED CONTROL COMPANY INC.


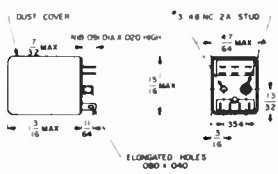
## SENSITIVE and PLATE CIRCUIT RELAYS


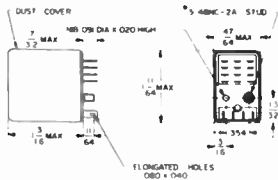
	RELAY TYPE <sup>1</sup>	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	AMPS <sup>2</sup>	COIL POWER AT 25°C	COIL RESIST. OHMS <sup>3</sup>	PRICE	OUTLINE DRAWING	DESCRIPTION
	WJS-3D	3.2 ma d-c	SPDT	3	25 mw	2500	\$11.57		<b>Vibration:</b> 15g to 2000 cps <b>Shock:</b> 50g operational <b>Operate:</b> 15 milliseconds <b>Release:</b> 10 milliseconds <b>Temp:</b> -65°C to +125°C <b>Weight:</b> 1.0 ounces max. <b>Welded Construction</b>
	WJS-3D	2.2 ma d-c	SPDT	3	25 mw	5000	11.57		
	WJS-3D	1.6 ma d-c	SPDT	3	25 mw	10000	13.50		
	WJS-6D	4.0 ma d-c	DPDT	3	40 mw	2500	11.83		
	WJS-6D	2.8 ma d-c	DPDT	3	40 mw	5000	11.83		
	WJS-6D	2.0 ma d-c	DPDT	3	40 mw	10000	13.83		

	WJSD-6D	2.8 ma d-c	DPDT	3	40 mw	5000	11.83		<b>Vibration:</b> 15g to 2000 cps <b>Shock:</b> 50g operational <b>Operate:</b> 15 milliseconds <b>Release:</b> 10 milliseconds <b>Temp:</b> 65°C to +125°C <b>Weight:</b> 1.0 ounces max. <b>Socket:</b> Armet type HRC-1 or equiv. <b>Welded Construction</b>
	WJSD-6D	2.0 ma d-c	DPDT	3	40 mw	10000	13.83		


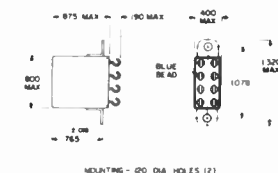
	TFMDD-2C	9.5 ma d-c	DPDT	5	220 mw	2500	6.32		Included in a transparent polycarbonate cover and rigidly secured to base. <b>Enclosure:</b> Dust cover <b>Weight:</b> 2.5 ounces max. <b>Socket:</b> Any std. RETMA or EIA octal
	TFMDD-2C	7.0 ma d-c	DPDT	5	250 mw	5000	6.82		
	TFMDD-2C	5.5 ma d-c	DPDT	5	300 mw	10000	7.22		

	TFT-2C	9.5 ma d-c	DPDT	5	220 mw	2500	3.39		Subminiature with small size moving parts resulting in quick release and exceptional contact rating. <b>Terminals:</b> Elongated holes .080 x .040 <b>Weight:</b> 0.70 ounces max. <b>Mounting:</b> (4) 4-48NF 2B tapped holes
	TFT-2C	7.0 ma d-c	DPDT	5	250 mw	5000	3.89		
	TFT-2C	5.5 ma d-c	DPDT	5	300 mw	10000	4.29		

	TS154-2C	5.8 ma d-c	DPDT	1	85 mw	2500	3.55		Features no internal wiring. Contact arms extend to form combination solder and plug in terminals. <b>Terminals:</b> Printed circuit available as type TSP-154 <b>Enclosure:</b> Dust cover <b>Weight:</b> 0.80 ounces max. <b>Socket:</b> Allied type 30055-1
	TS154-2C	4.1 ma d-c	DPDT	1	85 mw	5000	4.05		
	TS154-2C	3.1 ma d-c	DPDT	1	85 mw	10000	4.45		

	TS154-4C	8.4 ma d-c	4PDT	1	175 mw	2500	3.98		Features no internal wiring. Contact arms extend to form combination solder and plug in terminals. <b>Terminals:</b> Printed circuit available as type TSP-154 <b>Enclosure:</b> Dust cover <b>Weight:</b> 0.95 ounces max. <b>Socket:</b> Allied type 30055-2
	TS154-4C	6.2 ma d-c	4PDT	1	175 mw	5000	4.46		
	TS154-4C	4.5 ma d-c	4PDT	1	175 mw	10000	4.86		

## SUBMINIATURE TYPE RELAYS


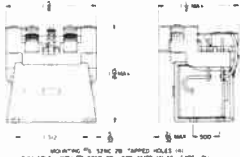

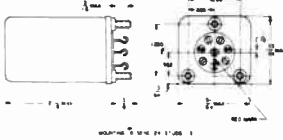

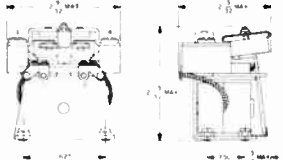

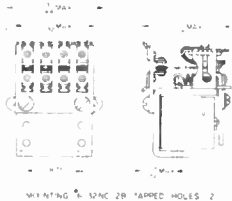




	WKJ-6D	6v d-c	DPDT	3	1.5 w	40	\$10.08		<b>Vibration:</b> 20g to 2000 cps <b>Shock:</b> 100g operational <b>Operate:</b> 5 milliseconds <b>Release:</b> 3 milliseconds <b>Temp:</b> 65°C to +125°C <b>Weight:</b> 0.5 ounces max. <b>Plug-in:</b> Type WKJD (not shown) <b>Socket:</b> Armet type HRC-1 or equivalent
	WKJ-6D	12v d-c	DPDT	3	1.5 w	150	10.08		
	WKJ-6D	26.5v d-c	DPDT	3	1.5 w	600	10.08		
	WKJ-6D	48v d-c	DPDT	3	1.5 w	2320	10.58		
	WKJ-6D	115v d-c	DPDT	3	1.5 w	10000	11.80		
	WKJD-6D	26.5v d-c	DPDT	3	1.5 w	600	10.08		



# ALLIED CONTROL

ALLIED CONTROL COMPANY INC.


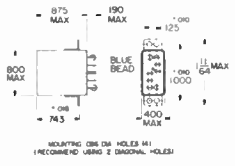
## POWER RELAYS

RELAY TYPE <sup>1</sup>	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	CONTACTS AMPS <sup>2</sup>	COIL POWER AT 25°C	COIL RESIST. OHMS <sup>3</sup>	NET PRICE	OUTLINE DRAWING	DESCRIPTION			
	BO-6A	6v a-c	DPDT	15	5.0 va	1.07		Compact, rugged design for industrial control applications. Terminals: .096 diameter holes, tin dipped Weight: 5.5 ounces max. Mounting: (4) 6-32 elastic stop nuts			
	BO-6A	24v a-c	DPDT	15	5.0 va	17					
	BO-6A	115v a-c	DPDT	15	5.0 va	445					
	BO-6A	220v a-c	DPDT	15	5.0 va	1700					
	BO-6D	6.3v d-c	DPDT	15	2.5 w	14.2					
	BO-6D	13.2v d-c	DPDT	15	2.5 w	70					
	BO-6D	26.5v d-c	DPDT	15	2.5 w	230					
	BO-6D	115v d-c	DPDT	15	2.5 w	5000					
	BOT-6A	6v a-c	DPDT	15	5.0 va	1.07					
	BOT-6A	24v a-c	DPDT	15	5.0 va	17					
	BOT-6A	115v a-c	DPDT	15	5.0 va	445					
	BOT-6A	220v a-c	DPDT	15	5.0 va	1700					
	BOT-6D	6v d-c	DPDT	15	2.5 w	14.2					
	BOT-6D	12v d-c	DPDT	15	2.5 w	70					
	BOT-6D	26.5v d-c	DPDT	15	2.5 w	230					
	BOT-6D	110v d-c	DPDT	15	2.5 w	5000					
		BOHR-6A	115v a-c	DPDT	10	5.0 va			445		Vibration: 10-55 cps at .062" double amplitude Shock: 30g operational Temp: 55°C to +71.5°C Weight: 9.5 ounces max. Plug-in: Type BOHRO (not show) Socket: Any std. RETMA or EIA octal
		BOHR-6D	26.5v d-c	DPDT	10	2.5 w			230		
BOHRO-6A		115v a-c	DPDT	15	5.0 va	445					
BOHRO-6D		26.5v d-c	DPDT	15	2.5 w	230					
	CNA-13A	115v a-c	SPST NO DB	25	10.5 va	145		Heavy duty, compact relay with double break contact construction eliminating pigtailed terminals. Terminals: Coil (1 & 2) 3-32 dia. holes Contacts (3 & 4) 10-32 screw type Weight: 9.5 ounces max. Mounting: (4) 6-32 elastic stop nuts			
	CNAS-13A	115v a-c	SPST NO DB	50	10.5 va	145					
	PB-9A	115v a-c	3PDT	10	6.0 va	380		Small design with semi-balanced armature construction Operate: 25 milliseconds Release: 4 milliseconds Temp: -55 C to +71.5 C Weight: 4.0 ounces max.			
	PB-12A	115v a-c	4PDT	10	6.0 va	380					
	PO-9A	24v a-c	3PDT	15	10.5 va	8.0		Low cost, compact, multi pole Terminals: .079 x .164 hook, tin dipped Weight: 7.5 ounces max. Mounting: (4) 6-32 tapped holes (as shown) Type PON-(4) 6-32 elastic stop nuts			
	PO-9A	115v a-c	3PDT	15	10.5 va	145.0					
	PO-9D	13.2v d-c	3PDT	15	2.5 w	70					
	PO-9D	24v d-c	3PDT	15	2.5 w	230					
	PO-9D	115v d-c	3PDT	15	2.5 w	5000					
	PO-12A	115v a-c	4PDT	15	10.5 va	145		Low cost, compact, multi pole Terminals: .079 x .164 hook, tin dipped Weight: 8.0 ounces max. Mounting: (4) 6-32 tapped holes (as shown) Type PON-(4) 6-32 elastic stop nuts			
	PO-12D	13.2v d-c	4PDT	15	2.5 w	70					
	PO-12D	24v d-c	4PDT	15	2.5 w	230					



# ALLIED CONTROL ALLIED CONTROL COMPANY INC.

## WELDED SUBMINIATURE TYPE RELAYS


RELAY TYPE <sup>1</sup>	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	CONTACTS AMPS <sup>2</sup>	COIL POWER AT 25°C	COIL RESIST. OHMS <sup>3</sup>	NET PRICE	OUTLINE DRAWING	DESCRIPTION
<b>WKY</b> 	WKY-60 6v d-c	DPDT	3	1.5 w	40	\$10.08		Vibration: 20g to 2000 cps Shock: 50g operational Operate: 5 milliseconds Release: 3 milliseconds Temp: 65°C to 125 C Weight: 0.5 ounces max. Plug-in: Type WKYO (not shown) Socket: Armel type HRK-1 or equivalent
	WKY-60 12v d-c	DPDT	3	1.5 w	150	10.08		
	WKY-60 26.5v d-c	DPDT	3	1.5 w	600	10.08		
	WKY-60 48v d-c	DPDT	3	1.5 w	2320	10.58		
	WKY-60 115v d-c	DPDT	3	1.5 w	10000	11.80		
	WKYO-6D 26.5v d-c	DPDT	3	1.5 w	600	10.08		


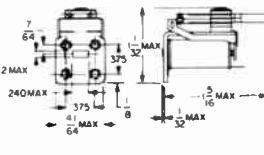
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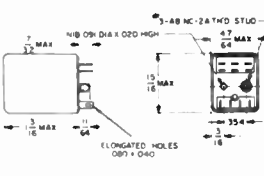
## TELEPHONE TYPE RELAYS


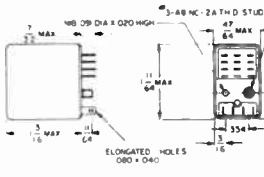
RELAY TYPE	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	CONTACTS AMPS	COIL POWER AT 25°C	COIL RESIST. OHMS	NET PRICE	OUTLINE DRAWING	DESCRIPTION
<b>SK</b> 	SK-4C 24v d-c	4PDT	2	1.5 w	425	\$6.30		Miniature size for front of panel wiring with an efficient metal to metal hinge. Terminals: elongated holes .062 x .125 Weight: 2.5 ounces max. Mounting: (2) 4-40 NC-2B tapped holes

<b>SKH</b> 	SKH-4C 24v d-c	4PDT	2	1.5 w	425	12.80		SK type hermetically sealed. Temp: -55°C to +85 C Weight: 5.0 ounces max. Mounting: (3) 6-32 NC-2A studs
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<b>TAH</b> 	TAH-2C 24v d-c	DPDT	2	700 mw	700	7.41		Compact, rugged design with extremely long life Operate: 15 milliseconds Release: 8 milliseconds Temp: -55°C to +71°C Weight: 2.5 ounces max.
	TAH-4C 24v d-c	4PDT	2	700 mw	700	8.90		

<b>TAT-2C</b> 	TAT-2C 6v d-c	DPDT	2	700 mw	52	2.96		Subminiature with the performance of a miniature plus extra long life Terminals: Elongated holes .080 x .040 Weight: 0.70 ounces max. Mounting: (4) 4-48 NF-2B tapped holes
	TAT-2C 12v d-c	DPDT	2	700 mw	185	2.96		
	TAT-2C 24v d-c	DPDT	2	700 mw	700	2.96		
	TAT-2C 48v d-c	DPDT	2	700 mw	2500	2.96		
	TAT-2C 115v d-c	DPDT	2	700 mw	15000	4.66		


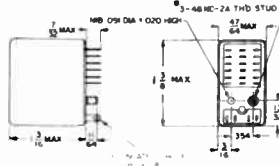
<b>*T154-2C</b> 	T154-2C 6v d-c	DPDT	2	700 mw	52	3.25		Features no internal wiring, contact arms extended to form combination solder and plug-in terminals Terminals: Printed circuit available as type TP-154 Enclosure: Dust cover Weight: 0.80 ounces max. Socket: Allied type 30055-1
	T154-2C 12v d-c	DPDT	2	700 mw	185	3.25		
	T154-2C 24v d-c	DPDT	2	700 mw	700	3.25		
	T154-2C 48v d-c	DPDT	2	700 mw	2500	3.25		
	T154-2C 115v d-c	DPDT	2	700 mw	15000	4.95		


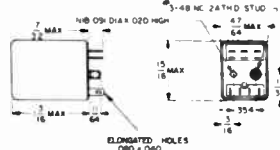
<b>*T154-4C</b> 	T154-4C 6v d-c	4PDT	2	700 mw	52	3.63		Features no internal wiring, contact arms extended to form combination solder and plug-in terminals Terminals: Printed circuit available as type TP-154 Enclosure: Dust cover Weight: 0.95 ounces max. Socket: Allied type 30055-2
	T154-4C 12v d-c	4PDT	2	700 mw	185	3.63		
	T154-4C 24v d-c	4PDT	2	700 mw	700	3.63		
	T154-4C 48v d-c	4PDT	2	700 mw	2500	3.63		
	T154-4C 115v d-c	4PDT	2	700 mw	15000	5.33		


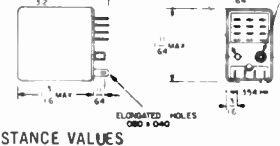


# ALLIED CONTROL ALLIED CONTROL COMPANY INC.

## TELEPHONE TYPE RELAYS


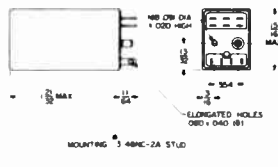
RELAY TYPE <sup>1</sup>	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	AMPS <sup>2</sup>	COIL POWER AT 25°C	COIL RESIST. OHMS <sup>3</sup>	NET PRICE	OUTLINE DRAWING	DESCRIPTION
<b>*T154-6C</b>								
	T154-6C	6v d-c	6PDT	2	1.5 w	25	\$4.66	 <p>Features no internal wiring, contact arms extended to form combination solder and plug-in terminals</p> <p>Terminals: Printed circuit available as type TP-154</p> <p>Enclosure: Dust cover</p> <p>Weight: 1.0 ounces max.</p> <p>Socket: Allied type 30055-20</p>
	T154-6C	12v d-c	6PDT	2	1.5 w	90	4.66	
	T154-6C	24v d-c	6PDT	2	1.5 w	430	4.66	
	T154-6C	48v d-c	6PDT	2	1.5 w	1550	4.66	
	T154-6C	115v d-c	6PDT	2	1.5 w	9000	5.56	
* Available with bifurcated contacts type T163								


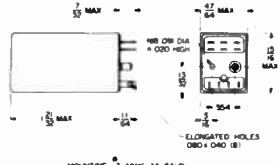
<b>T-163</b>								
	T-163-2C	6v d-c	DPDT	2	700 mw	52	3.65	 <p>Same as T-154-2C except for bifurcated contacts.</p>
	T-163-2C	12v d-c	DPDT	2	700 mw	185	3.65	
	T-163-2C	24v d-c	DPDT	2	700 mw	700	3.65	
	T-163-2C	48v d-c	DPDT	2	700 mw	2500	3.65	
	T-163-2C	115v d-c	DPDT	2	700 mw	15000	5.35	

	T-163-4C	6v d-c	4PDT	2	700 mw	52	4.16	 <p>Same as T-154-4C except for bifurcated contacts.</p>
	T-163-4C	12v d-c	4PDT	2	700 mw	185	4.16	
	T-163-4C	24v d-c	4PDT	2	700 mw	700	4.16	
	T-163-4C	48v d-c	4PDT	2	700 mw	2500	4.16	
	T-163-4C	115v d-c	4PDT	2	700 mw	15000	5.86	



ALSO AVAILABLE WITH 6PDT CONTACTS AS TYPE T-163-6C WITH LOWER RESISTANCE VALUES

## A. C. CRADLE SERIES

RELAY TYPE <sup>1</sup>	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	AMPS <sup>2</sup>	NOMINAL COIL POWER MAX.	COIL RESISTANCE OHMS <sup>3</sup>	NET PRICE	OUTLINE DRAWING	DESCRIPTION
<b>TF255</b>								
	T255-2C	6v a-c	DPDT	2	1.2 va	6.4	\$4.28	 <p>New design for quiet hum-free operation, long life, low cost versatile cradle series relay.</p> <p>Enclosure: Dust cover</p> <p>Weight: 1.3 ounces max.</p> <p>Socket: 30054-1</p>
	T255-2C	12v a-c	DPDT	2	1.2 va	31.8	4.28	
	T255-2C	24v a-c	DPDT	2	1.2 va	112.5	4.28	
	T255-2C	48v a-c	DPDT	2	1.2 va	460.0	4.28	
	T255-2C	115v a-c	DPDT	2	1.2 va	2580.0	4.28	
	TF255-2C	6v a-c	DPDT	5	1.2 va	6.4	4.40	
	TF255-2C	12v a-c	DPDT	5	1.2 va	31.8	4.40	
	TF255-2C	24v a-c	DPDT	5	1.2 va	112.5	4.40	
	TF255-2C	115v a-c	DPDT	5	1.2 va	2580.0	4.40	
	TF255-2C	220v a-c	DPDT	5	2.4 va	6000.0	4.90	

	T255-4C	6v a-c	4PDT	2	1.2 va	6.4	4.88	 <p>New design for quiet hum-free operation, long life, low cost versatile cradle series relay.</p> <p>Enclosure: Dust cover</p> <p>Weight: 1.3 ounces max.</p> <p>Socket: 30054-2</p>
	T255-4C	12v a-c	4PDT	2	1.2 va	31.8	4.88	
	T255-4C	24v a-c	4PDT	2	1.2 va	112.5	4.88	
	T255-4C	48v a-c	4PDT	2	1.2 va	460.0	4.88	
	T255-4C	115v a-c	4PDT	2	1.2 va	2580.0	4.88	
	TF255-4C	6v a-c	4PDT	5	2.4 va	4.45	5.12	
	TF255-4C	12v a-c	4PDT	5	2.4 va	20.0	5.12	
	TF255-4C	24v a-c	4PDT	5	2.4 va	65.0	5.12	
	TF255-4C	115v a-c	4PDT	5	2.4 va	1575.0	5.12	
	TF255-4C	220v a-c	4PDT	5	2.4 va	6000.0	5.62	

NOTE: Available without dust cover type TE and TEF. with bifurcated contacts type TEB (open) and T266 (dust cover) Retainer springs for above type 30040-4 T255-2C 30040-5 T255-4C

<b>S</b>								
	S6A1	26.5v d-c	DPDT	2	1w	700	\$11.50	 <p>Half crystal can relay in all welded construction with solder hook or plug-in terminals.</p> <p>Weight: 0.3 ounces</p>
	S6H3	26.5v d-c	DPDT	2	1w	700	11.50	
	SL6A1	26.5v d-c	DPDT	2	1w	700	11.50	
	SL6H3	26.5v d-c	DPDT	2	1w	700	11.50	

NOTE: relay conforms to MIL-R-5757/9

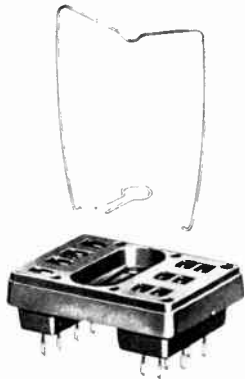


# ALLIED CONTROL

ALLIED CONTROL COMPANY INC.

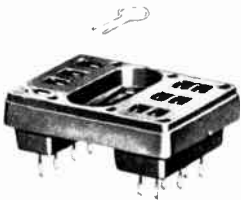
## SOCKETS - RETAINERS

SOCKET NUMBER RELAY TYPE



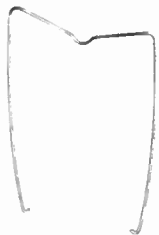
30055-1 T154-2C  
 30055-1 T163-2C  
 30055-1 T351-2C  
 30055-2 T154-4C  
 30055-2 T163-4C  
 30055-2 T351-4C  
 30055-20 T154-6C  
 30055-20 T163-6C

30055-1 \$.55  
 30055-2 .60  
 30055-3 .72  
 30055-4 .88  
 30055-5 .55  
 30055-6 .70  
 30055-8 .70  
 30055-20 .95  
 30055-24 .95



30054-1 T154-2C  
 30054-1 T163-2C  
 30054-1 T255-2C  
 30054-2 T154-4C  
 30054-2 T163-4C  
 30054-2 T255-4C  
 30054-20 T154-6C  
 30054-20 T163-6C

30054-1 .50  
 30054-2 .55  
 30054-20 .90  
 30040-1 .05  
 30040-2 .05  
 30040-3 .05  
 30040-4 .05  
 30040-5 .05



30040-1 T154-2C  
 30040-1 T163-2C  
 30040-2 T154-4C  
 30040-2 T163-4C  
 30040-3 T154-6C  
 30040-3 T163-6C  
 30040-4 T255-2C  
 30040-5 T255-4C

NOTE: STANDARD PACKAGE FOR SOCKETS—20  
 STANDARD PACKAGE FOR RETAINERS—100

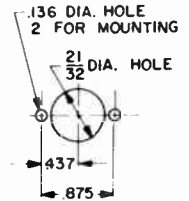
### DESCRIPTION

Hardware: Ground wire  
 Hardware Material: Stainless steel 18-8, Type 302  
 Contacts: Beryllium copper, gold plated  
 Insulator: Black phenolic per Mil-P-14D CFG  
 Chassis Thickness: .062 recommended

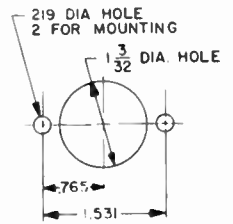
SOCKET NUMBER RELAY TYPE PANEL LAYOUT



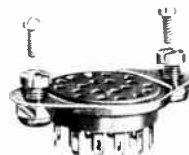
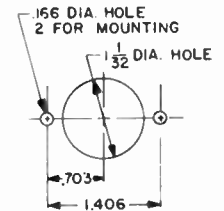
16479-1 MH0-6D  
 (Above chassis mtg.)



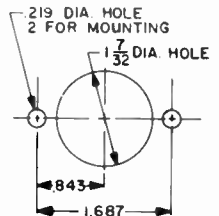
16185-1 MHL0-12D  
 (Below chassis mtg.)



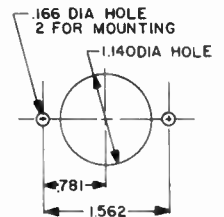
16188-1 MHU0-12  
 (Above chassis mtg.)



16187-1 MHL0-18D  
 (Below chassis mtg.)



16189-1 MHU0-18  
 (Above chassis mtg.)



### DESCRIPTION

Hardware: Saddle, spacers, screws and washers  
 Hardware Finish: Cadmium plated  
 Contacts: Beryllium copper, silver plated, tin dipped  
 Insulator: Mica-filled phenolic  
 Chassis Thickness: .062 recommended

### GENERAL INFORMATION

- 1—Relay type—the letter H designates a hermetically sealed unit.
- 2—Contact ratings are for a resistive load at 29 volts d-c. Low level contacts are available except on Power Relays and Types AS, BJ, CH, MHY and MHYO.
- 3—Ohms—d-c resistance, standard tolerance  $\pm 10\%$
- 4—Contact ratings are for a resistive load at 29 volts d-c or 115 volts a-c.
- 5—Other mounting variations are available.

How to order: Specify Allied relay type and coil voltage or current Example: MHYO-12D 26.5v d-c TS154-4C 8.4 ma d-c

# SECTION 4500 CDE RELAYS



## MINIATURE GENERAL PURPOSE RELAYS CLASS 240.01 5000-7000 SERIES STANDARD STOCK RATINGS

Standard Sensitivity 40 mw min. Type 5212†			Sensitive 20 mw min. Type 5712†			Ultra-Sensitive 10 mw min. Type 5812†		
Nominal Coil Voltage D.C.	Coil Resistance Ohms	Pull-in Current Max.	Nominal Coil Voltage D.C.	Coil Resistance Ohms	Pull-in Current Max.	Nominal Coil Voltage D.C.	Coil Resistance Ohms	Pull-in Current Max.
3	75	29.4	6	580	7.8	6	1000	4.5
6	300	15.0	12	2300	3.9	12	4000	2.3
12	1250	7.2	18	4800	2.7	18	8500	1.6
24	5000	3.6	24	9250	2.0	—	10000	1.3
28	7000	3.1	—	10000	1.58	—	12500	1.1
—	—	—	—	—	—	—	15000	1.0

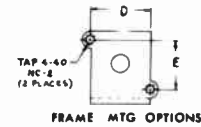
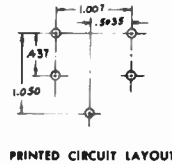
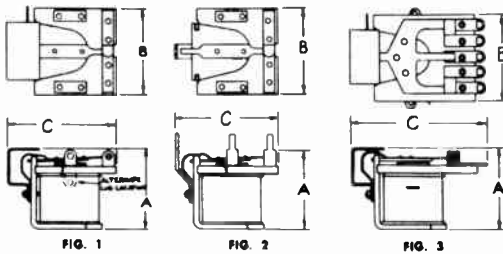
† Order by basic type and coil rating (or resistance in ohms when no coil voltage is shown).

Contacts	Term.	Fig.	A	B	C
<b>Standard DC 5200</b>					
1C	Lug	1*	1 1/2	1 1/2	1 1/2
2C-1A	Lug	3*	1 1/2	1 1/2	1 1/2
1C	P.C.	2+	1 1/2	1 1/2	1 1/2
<b>Standard AC 5300</b>					
1C	Lug	1*	1 1/2	1 1/2	1 1/2
1C	P.C.	2+	1 1/2	1 1/2	1 1/2
<b>Sensitive DC 5700</b>					
1C	Lug	1*	1 1/2	1 1/2	1 1/2
2C-1A	Lug	3*	1 1/2	1 1/2	1 1/2
1C	P.C.	2+	1 1/2	1 1/2	1 1/2
<b>Ultra-Sensitive DC 5800</b>					
1C	Lug	1*	1 1/2	1 1/2	1 1/2
2C-1A	Lug	3*	1 1/2	1 1/2	1 1/2
1C	P.C.	2+	1 1/2	1 1/2	1 1/2

\* Standard base Fig. 4:D, .687; E, .562. Alternate: D, .750; E, .625.

+ See Fig. 5 for printed circuit layout.

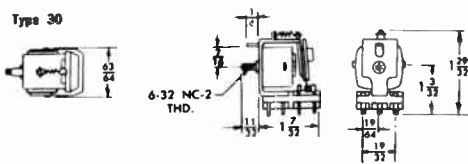
### Outline Drawings & Dimensions



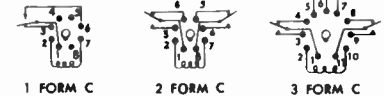
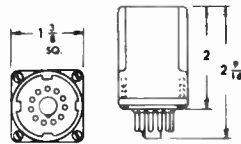
## GENERAL PURPOSE RELAYS CLASS 240.10 TYPES 30, 31, 32 STANDARD STOCK RATINGS

Coil Voltage	Coil Resistance	Nominal Power	TYPE 30 Open						TYPES 31-32 Enclosed					
			5 AMP CONTACTS			10 AMP CONTACTS			5 AMP CONTACTS			10 AMP CONTACTS		
			SPDT Type† 301-	DPDT Type† 302-	3PDT Type† 303-	SPDT Type† 301-	DPDT Type† 302-	3PDT Type† 303-	SPDT Type† 311-	DPDT Type† 312-	3PDT Type† 323-	SPDT Type† 311-	DPDT Type† 312-	3PDT Type† 323-
<b>AC Types</b>														
6VAC	5.3 Ohms	1.7 VA	A5-6V	A5-6V	A5-6V	A10-6V	—	—	—	A5-6V	A5-6V	—	A10-6V	—
12VAC	24 Ohms	1.6 VA	A5-12V	A5-12V	A5-12V	—	A10-12V	—	—	A5-12V	A5-12V	—	A10-12V	A10-12V
24VAC	86 Ohms	1.8 VA	A5-24V	A5-24V	A5-24V	—	A10-24V	A10-24V	A5-24V	A5-24V	A5-24V	A10-24V	A10-24V	A10-24V
115VAC	2000 Ohms	1.9 VA	A5-115V	A5-115V	A5-115V	A10-115V	A10-115V	A10-115V	A5-115V	A5-115V	A5-115V	A10-115V	A10-115V	A10-115V
230VAC	8200 Ohms	1.9 VA	A5-230V	A5-230V	A5-230V	—	A10-230V	A10-230V	—	A5-230V	—	—	A10-230V	A10-230V
<b>DC Types</b>														
6VDC	32 Ohms	1.13W	D5-6V	—	D5-6V	D10-6V	D10-6V	—	D5-6V	D5-6V	—	—	D10-6V	D10-6V
12VDC	110 Ohms	1.2W	D5-12V	—	D5-12V	D10-12V	D10-12V	—	D5-12V	D5-12V	—	—	D10-12V	D10-12V
24VDC	475 Ohms	1.12W	D5-24V	—	D5-24V	D10-24V	D10-24V	—	D5-24V	D5-24V	—	—	D10-24V	D10-24V
110VDC	10000 Ohms	1.2W	D5-110V	—	D5-110V	D10-110V	D10-110V	—	D5-110V	D5-110V	—	—	D10-110V	D10-110V

† Order by complete type number; e.g. 301A5-6V.



### Types 31-32

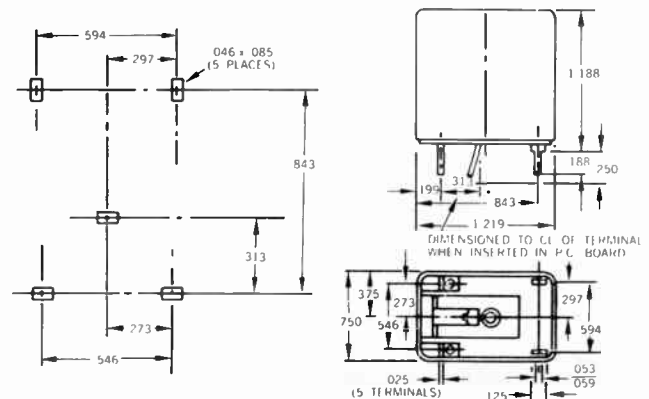


## FULLY ENCLOSED MINIATURE CLASS 240.05 TYPE 600 STANDARD STOCK RATINGS

Type	Nominal Coil Voltage (DC)	Coil Resistance Ohms	Pull-in Volts	Pull-in Current MA
603-3V	3V	80	2.2	27.5
603-6V	6V	340	4.5	13.2
603-9V	9V	750	6.7	8.95
603-12V	12V	1350	9.0	6.65
603-18V	18V	3000	13.5	4.50
603-24V	24V	5400	18.0	3.34
603-28V	28V	8000	22.0	2.75

**GENERAL SPECIFICATIONS**  
Type: D.C. printed circuit  
Nominal coil power: 60 MW.  
Maximum coil resistance: 8000 ohms

Weight: 1.5 oz. max.  
Mechanical life up to 100,000,000 cycles  
Breakdown strength: 900V A.C.  
U.L. acceptable materials & spacings  
Min. coil oper. power: approx. 45 MW.



electronic controls, inc.

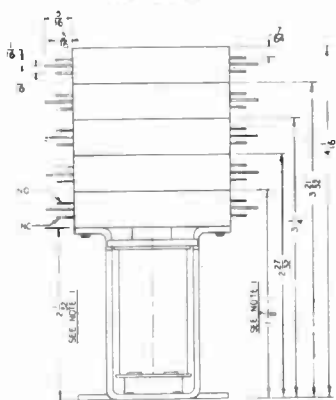


# T-BAR® Switch/Relays

**T-BARS are for switching more circuits in less space ...up to 60 circuits simultaneously!**



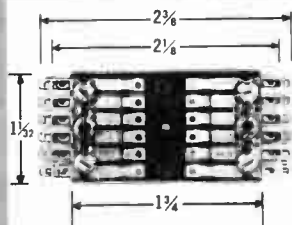
MTG.-2-#6-32 NF HOLES ON 1.375 CENTERS



SERIES 801 T-BAR RELAY COIL CHARACTERISTICS\*

Voltage	12 POLES 1 WAFER RELAY Wt: 4.5 oz.			24 POLES 2 WAFER RELAYS Wt: 6.75 oz.			36 POLES 3 WAFER RELAYS Wt: 7.25 oz.			48 POLES*** 4 WAFER RELAYS Wt: 8.5 oz.			60 POLES 5 WAFER RELAYS Wt: 9 oz.		
	Resist. Ohms	Current Amps	Power Watts	Resist. Ohms	Current Amps	Power Watts	Resist. Ohms	Current Amps	Power Watts	Resist. Ohms	Current Amps	Power Watts	Resist. Ohms	Current Amps	Power Watts
6 VDC	11.9	0.504	3.01	11.09	0.541	3.24	7	0.857	5.06	5.5	1.09	6.54	5.5	1.09	6.54
12 VDC	49.1	0.244	2.96	45	0.267	3.19	28	0.429	5.16	22	0.545	6.54	22	0.545	6.54
24 VDC	193	0.124	2.98	174	0.138	3.32	111	0.216	5.19	94	0.255	6.12	94	0.255	6.12
28 VDC	258	0.109	3.03	227	0.123	3.44	150	0.187	5.23	120	0.233	6.52	120	0.233	6.52
48 VDC	778	0.062	2.98	674	0.071	3.41	438	0.110	5.26	350	0.137	6.58	350	0.137	6.58
110 VDC	3963	0.028	3.05	3450	0.032	3.54	2355	0.047	5.18	1930	0.057	6.27	1930	0.057	6.27
115 VAC**	3963	0.024	2.80	3450	0.027	3.10	2355	0.041	4.72	1930	0.049	5.62	1930	0.049	5.62

\*All characteristics are nominal and subject to normal manufacturing tolerances, other voltages available on special order.  
 \*\*115 VAC units are made with a full wave bridge rectifier and use the same coils as listed under 110 VDC units.  
 \*\*\*Four wafer relays with all "A" form contacts use three-wafer relay coils.  
 NOTE 1: ONE WAFER RELAYS USE A SHORTER ACTUATOR ASSY. — INSTEAD OF 2-1/32 AS SHOWN, THE ACTUATOR IS 1-15/32 HIGH.



GENERAL FEATURES:

The series 801 T-Bar Relays are solenoid actuated multi-pole relays with a unique design permitting stack-up of enclosed contact "wafers." Each wafer has a maximum of 12 pole double throw contacts thereby allowing ECI to supply the 801 relay with any combination from 4 to 60 poles.

**CONTACT RATING:**  
 3 amp, resistive load 150 watt maximum make or break;  
 5 amp, 500 watt maximum carry.

**CONTACT MATERIAL:**  
 Gold bonded, fine silver, standard. Others available on special order.

**CONTACT FORMS:**  
 "A" single throw N.O.  
 "B" single throw N.C.  
 "C" double throw, break before make  
 "D" double throw, make before break

**NUMBER OF POLES (RELAYS):**  
 One Wafer — 12 poles  
 Two Wafers — 24 poles  
 Three Wafers — 36 poles  
 Four Wafers — 48 poles  
 Five Wafers — 60 poles  
 ("A" form only)

**OPERATE VOLTAGE:**  
 Min. voltage: 80% of nominal at 25°C

**RELEASE VOLTAGE:**  
 Max. voltage: 20% of nominal at 25°C

**OPERATE TIME:**  
 One Wafer Relay — 15 ms. max.  
 Two Wafer Relay — 25 ms. max.  
 Three Wafer Relay — 30 ms. max.  
 Four Wafer Relay — 35 ms. max.  
 Five Wafer Relay — 40 ms. max.

**RELEASE TIME:**  
 5 ms. max. (36 pole) — 10 ms. max. (12 pole)

**TERMINALS:**  
 Solder tab that also mates with T-Bar connector P/N 88601 (two required per wafer)

**ENCLOSURE:**  
 Contacts enclosed in dust tight plastic enclosure that is separated from the actuator assembly. Withstands Mil. Std. — 202 method 106B moisture resistance test.

**LIFE:**  
 Mechanical — 20,000,000 operations minimum for relay  
 Electrical — 20,000,000 operations minimum at 100 milliamperes to 100,000 minimum at 5 amps, 150 watts resistive load.

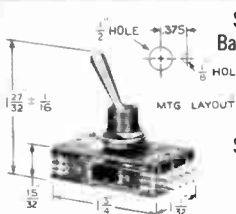
**DIELECTRIC:**  
 1000 vrms terminals to case at sea level and 25°C  
 1000 vrms terminal to terminal at sea level and 25°C  
 1000 vrms coil to case at sea level and 25°C

**TEMPERATURE RANGE:**  
 -55°C to +85°C

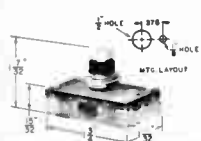
**INSULATION RESISTANCE:**  
 5,000 megohms @ 25°C minimum

**ORDERING INFORMATION:**  
 Specify Series No., — number of poles plus contact form letter-coil voltage. For example a 36 pole double throw relay with a 24 VDC coil is: 801-36C-24

SERIES 802 Bat Handle T-Bar Switches

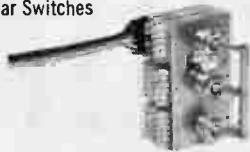


SERIES 803 Push Button Switch



Series 802 & 803	
No. of Poles	Weights Oz. Approx.
12	2.0
24	2.5
36	3.0

Ganged T-Bar Switches

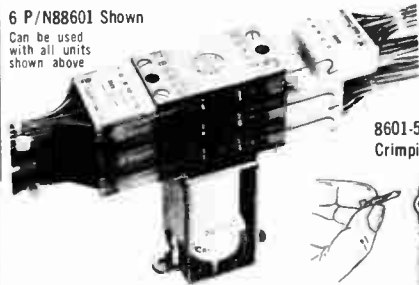


Toggles may be ganged for controlling additional circuits . . . 48, 72, 108, etc. Shown here, 108 poles.

T-BAR Connectors save time and reduce installation costs using individual snap-in crimp terminals crimped to pre-stripped wire and then snapped into a contact block, which forms the connector. The connector is pushed onto the wafer terminals, eliminating soldering. Because we offer a connector, rather than a receptacle, harness work can be completed outside the chassis and therefore no fancy chassis work is required to accept a receptacle. It not only makes the metal work simpler, but it also saves layout engineering and drafting time. Since T-Bar Switch/Relays are so easily mounted, they are often found on the back of meter panels or on their own brackets.

6 P/N88601 Shown

Can be used with all units shown above



8601-51 Crimping Tool

PHYSICAL PROPERTIES:

Wire Accommodated: (1) #18, #20, #22, #24, #26, STO  
 (2) #22, #24, #26 STR  
 Connector Material: Nylon Zytel or Lexan®  
 Snap-in Contact Material: Phosphor Bronze  
 Snap-in Contact Finish: Tin Plated (other on request)  
 Retaining Clip Material: Stainless Steel  
 Connector Weight: Approximately 0.3 oz.

MANUFACTURED BY:

electronic controls, inc.  
 T-Bar Switch/Relay Div. •

Manufactured under 1 or more of the following patents: 3,206,990, 3,226,508

© "T-Bar" — Reg. T.M.



# GLOBE RELAYS

## MIDGET SERIES

### TYPE "W" MIDGET GENERAL PURPOSE

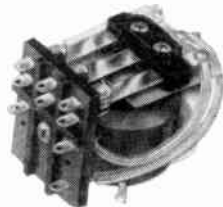
This relay offers high reliability at a minimum cost. The silver cadmium-oxide contacts are mounted on beryllium copper blades.\*\* There is good contact wiping action. This unit operates well in ambient temperatures up to 125° C.

\*\* Fine silver contacts for 5 amp applications.

**CONTACTS:** 5 amps @ 24 VDC or 115 VAC, 10 amps @ 24 VDC or 115 VAC. Arrangement 1, 2 or 3 PDT.

**COIL:** D-C applications up thru 120 VDC, A-C applications up thru 230 VAC.

**MOUNTING:** One 6-32 screw and keying boss to prevent turning.



### TYPE "WP" MIDGET PRINTED CIRCUIT

Relay is identical to the "W" type using the same integrally maulded parts. The terminals are designed for direct mounting into printed circuit boards. They will fit into .050 inch diameter holes and project 1/2 inch beyond an 1/8 inch thick circuit board. Base plate area on the board is only 1.070 x .920 inches. Dimensional artwork for hole configuration is available.

**CONTACTS:** 5 amps @ 24 VDC or 115 VAC, 10 amps @ 24 VDC or 115 VAC. Arrangement 1, 2 or 3 PDT.

**COIL:** D-C applications up thru 120 VDC, A-C applications up thru 120 VAC.

**MOUNTING:** Soldered into printed circuit boards.



### TYPE "WC" MIDGET GENERAL PURPOSE WITH DUSTITE ENCLOSURE

Relay is identical to type "W." However, the unit provides a clear dust-proof polystyrene case on Octal type plug-in base. Operating temperatures up to 85° C ambient. Variation of base or a hermetically sealed can, can be provided on request. This unit comes in standard Globe wiring. For special wiring to meet existing installations specify "WZ" wiring.

**CONTACTS:** 5 amps @ 24 VDC or 115 VAC, 10 amps @ 24 VDC or 115 VAC. Arrangement 1, 2 or 3 PDT.

**COIL:** D-C applications up thru 120 VDC, A-C applications up thru 230 VAC.

**MOUNTING:** Octal plug-in.



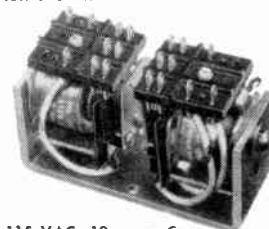
### TYPE "WL" MIDGET LATCHING

This latching relay may be had with either coil to operate at any specified voltage. It is designed that either coil may be used to operate the contacts into a latched position. The other coil will latch or unlatch the contacts into the opposite position.

**CONTACTS:** 5 amps @ 24 VDC or 115 VAC, 10 amps @ 24 VDC or 115 VAC.

**COIL:** D-C applications up thru 120 VDC, A-C applications up thru 230 VAC on either coil.

**MOUNTING:** 2 holes for #6 screws in center of frame.



## PRICES (SUBJECT TO CHANGE)

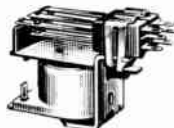
Coil		5 Ampere Contacts						10 Ampere Contacts			
Voltage	Current	D-C Resistance	"W," "WP" Open		"WC" Dustite		"W," "WP" Open		"WC" Dustite		
			Part No.	Price(Net)	Part No.	Price(Net)	Part No.	Price(Net)	Part No.	Price(Net)	
PLATE	9 to 30MA	2,500 Ω	1W1	\$3.50	1WC1	\$5.50	1W20	\$3.75	1WC20	\$5.80	
			2W1	4.20	2WC1	6.60	2W20	4.45	2WC20	6.75	
			3W1	4.90	3WC1	8.10	3W20	5.95	3WC20	8.55	
PLATE	7 to 20MA	5,000 Ω	1W2	3.95	1WC2	5.95	1W21	4.20	1WC21	6.25	
			2W2	4.60	2WC2	7.00	2W21	4.85	2WC21	7.15	
			3W2	5.45	3WC2	8.45	3W21	5.70	3WC21	8.90	
PLATE	4 to 14MA	10,000 Ω	1W3	4.35	1WC3	6.35	1W22	4.60	1WC22	6.65	
			2W3	5.00	2WC3	7.40	2W22	5.25	2WC22	7.55	
			3W3	5.85	3WC3	8.85	3W22	6.10	3WC22	9.30	
6V. D-C	200MA	30 Ω	1W4	3.05	1WC4	5.10	1W23	3.50	1WC23	5.55	
			2W4	3.35	2WC4	5.65	2W23	3.80	2WC23	6.10	
			3W4	3.75	3WC4	6.95	3W23	4.40	3WC23	7.60	
12V. D-C	120MA	100 Ω	1W5	3.05	1WC5	5.10	1W24	3.50	1WC24	5.55	
			2W5	3.35	2WC5	5.65	2W24	3.80	2WC24	6.10	
			3W5	3.75	3WC5	6.95	3W24	4.40	3WC24	7.60	
24V. D-C	53MA	450 Ω	1W6	3.05	1WC6	5.10	1W25	3.50	1WC25	5.55	
			2W6	3.35	2WC6	5.65	2W25	3.80	2WC25	6.10	
			3W6	3.75	3WC6	6.95	3W25	4.40	3WC25	7.60	
115V. D-C	15MA	8,000 Ω	1W7	3.55	1WC7	5.65	1W26	4.00	1WC26	6.05	
			2W7	3.85	2WC7	6.15	2W26	4.30	2WC26	6.60	
			3W7	4.55	3WC7	7.45	3W26	5.20	3WC26	8.40	
6V. A-C	400MA	5 Ω	1W8	3.05	1WC8	5.15	1W27	3.50	1WC27	5.60	
			2W8	3.55	2WC8	5.75	2W27	4.00	2WC27	6.40	
			3W8	4.05	3WC8	7.05	3W27	4.70	3WC27	7.70	
12V. A-C	150MA	20 Ω	1W9	3.05	1WC9	5.15	1W28	3.50	1WC28	5.60	
			2W9	3.55	2WC9	5.75	2W28	4.00	2WC28	6.40	
			3W9	4.05	3WC9	7.05	3W28	4.70	3WC28	7.70	
24V. A-C	120MA	70 Ω	1W10	3.05	1WC10	5.15	1W29	3.50	1WC29	5.60	
			2W10	3.55	2WC10	5.75	2W29	4.00	2WC29	6.40	
			3W10	4.05	3WC10	7.05	3W29	4.70	3WC29	7.70	
115V. A-C	25MA	1,500 Ω	1W11	3.05	1WC11	5.15	1W30	3.50	1WC30	5.60	
			2W11	3.55	2WC11	5.75	2W30	4.00	2WC30	6.40	
			3W11	4.05	3WC11	7.05	3W30	4.70	3WC30	7.70	
230V. A-C	8MA	8,000 Ω	1W12	3.55	1WC12	5.75	1W31	4.00	1WC31	6.10	
			2W12	4.05	2WC12	6.25	2W31	4.50	2WC31	6.90	
			3W12	4.25	3WC12	7.55	3W31	5.20	3WC31	8.20	

globe electrical mfg. co.



Write for technical information and complete catalog of Globe Relays.

# GUARDIAN® ELECTRIC



## SERIES 900 & 910 10 AMP RELAY

- \*U/L Recognized Component
- Designed with reduced number of parts for long, trouble-free service
- Has keyed and locked lifters



Series 910 is exactly the same as the 900 relay, both electrically and mechanically, but with  $\frac{3}{4}$  quick disconnects instead of soldered termination.

Dependable, low cost, DPDT relay featuring new, trouble-free design that incorporates a minimum of parts. Contacts all rated 10 amps, 115V., AC resistive load. Has molded switches, one-piece mounting clip and return spring; molded bobbin and coil cover. Average shpg. wt., 6 oz.

SIZE: 2 $\frac{1}{4}$ " x 1 $\frac{1}{4}$ " x 1 $\frac{3}{32}$ "

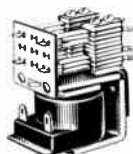
Guardian No.	Coil Voltage	QUANTITIES		
		Net Each, Lots of		
		1-9	10-24	25-49
900-2C-24A	24 AC	\$1.75	\$1.66	\$1.49
900-2C-115A	115 AC	1.75	1.66	1.49
900-2C-230A	230 AC	1.75	1.66	1.49
905-2C-6D	6 DC	1.75	1.66	1.49
905-2C-12D	12 DC	1.75	1.66	1.49
905-2C-24D	24 DC	1.75	1.66	1.49

\*U/L Recognition File #E-23524B

Guardian No.	Coil Voltage	QUANTITIES		
		Net Each, Lots of		
		1-9	10-24	25-49
910-2C-24A	24 AC	\$1.75	\$1.66	\$1.49
910-2C-115A	115 AC	1.75	1.66	1.49
910-2C-230A	230 AC	1.75	1.66	1.49
915-2C-6D	6 DC	1.75	1.66	1.49
915-2C-12D	12 DC	1.75	1.66	1.49
915-2C-24D	24 DC	1.75	1.66	1.49

\*U/L Recognized Component File #E-23524B

Further savings are available when Series 900 relays are purchased in bulk packs of 50 units. Relays are supplied nested in new, convenient "form fitted" assembly line trays... one package of 50—\$70.00; 2 and up—\$61.50 ea.



## ALL PURPOSE ECONOMY RELAY IR-640U AC—IR-645U DC—10 AMPERE

A compact, lightweight relay capable of unusually heavy power control for its size. Long life, high quality relay available in a variety of AC and DC voltages with a selection of contact combinations.

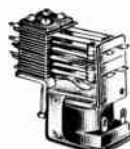
All contact ratings are 10 amps. Contact ratings at 60 cycles, 115V. non-inductive load. 8-32 single screw, center pole mounting. Shpg. wt., 3.5 oz.

\*U/L Recognized Component File #E-17260

SIZE: 1 $\frac{1}{4}$ " x 1 $\frac{1}{2}$ " x 1"

Guardian No.	Coil Res.	Coil Voltage	Cont. Comb.	QUANTITIES				
				Net Each, Lots of				
				1-24	25-49	50-99	100-249	250-up
IR-640U-A-6A	3	6AC	SPST*	\$2.90	\$2.61	\$2.47	\$2.32	\$2.03
IR-640U-C-6A	3	6AC	SPDT	3.15	2.84	2.68	2.52	2.21
IR-640U-2C-6A	3	6AC	DPDT	3.40	3.06	2.89	2.72	2.38
IR-640U-4C-6A	17	6AC	4PDT	5.00	4.50	4.25	4.00	3.50
IR-640U-A-24A	48	24AC	SPST*	2.90	2.61	2.47	2.32	2.03
IR-640U-C-24A	48	24AC	SPDT	3.15	2.84	2.68	2.52	2.21
IR-640U-2C-24A	48	24AC	DPDT	3.40	3.06	2.89	2.72	2.38
IR-640U-4C-24A	24	24AC	4PDT	5.00	4.50	4.25	4.00	3.50
IR-640U-A-120A	1,400	120AC	SPST*	2.90	2.61	2.47	2.32	2.03
IR-640U-C-120A	1,400	120AC	SPDT	3.15	2.84	2.68	2.52	2.21
IR-640U-2C-120A	1,400	120AC	DPDT	3.40	3.06	2.89	2.72	2.38
IR-640U-4C-120A	550	120AC	4PDT	5.00	4.50	4.25	4.00	3.50
IR-640U-2C-240A	5,260	240AC	DPDT	4.20	3.78	3.57	3.36	2.94
IR-645U-A-6D	25	6DC	SPST*	2.90	2.61	2.47	2.32	2.03
IR-645U-C-6D	25	6DC	SPDT	3.15	2.84	2.68	2.52	2.21
IR-645U-2C-6D	25	6DC	DPDT	3.40	3.06	2.89	2.72	2.38
IR-645U-4C-6D	12	6DC	4PDT	5.00	4.50	4.25	4.00	3.50
IR-645U-A-12D	100	12DC	SPST*	2.90	2.61	2.47	2.32	2.03
IR-645U-C-12D	100	12DC	SPDT	3.15	2.84	2.68	2.52	2.21
IR-645U-2C-12D	100	12DC	DPDT	3.40	3.06	2.89	2.72	2.38
IR-645U-4C-12D	50	12DC	4PDT	5.00	4.50	4.25	4.00	3.50
IR-645U-A-24D	400	24DC	SPST*	2.90	2.61	2.47	2.32	2.03
IR-645U-C-24D	400	24DC	SPDT	3.15	2.84	2.68	2.52	2.21
IR-645U-2C-24D	400	24DC	DPDT	3.40	3.06	2.89	2.72	2.38
IR-645U-4C-24D	200	24DC	4PDT	5.00	4.50	4.25	4.00	3.50
IR-645U-A-110D	8,400	110DC	SPST*	3.40	3.06	2.89	2.72	2.38
IR-645U-C-110D	8,400	110DC	SPDT	3.70	3.33	3.15	2.96	2.59
IR-645U-2C-110D	8,400	110DC	DPDT	3.95	3.56	3.36	3.16	2.77
IR-645U-4C-110D	4,000	110DC	4PDT	5.25	4.73	4.46	4.20	3.68

\*Normally Open.



## SERIES 240U AC—245U DC

Designed for contact ratings up to 15 amps, Guardian series 240 AC and 245 DC relays are compact, reliable, inexpensive. Factory pretested and adjusted to be ready

for assembly into your product. Contact rating is 15 amp, 115V., 60 cycles non-inductive load. Easy assembly with 8-32 single-screw, center-hole mounting. Shpg. wt., 4.5 oz.

\*U/L Recognized Component File #E-23524A

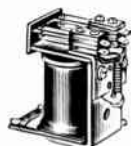
SIZE: (4PDT) 2 $\frac{3}{32}$ " x 1 $\frac{3}{32}$ " x 2 $\frac{3}{16}$ "

Guardian No.	Coil Res.	Coil Voltage	Cont. Comb.	QUANTITIES				
				Net Each, Lots of				
				1-24	25-49	50-99	100-249	250-up
240U-A-6A	3	6AC	SPST*	\$3.15	\$2.84	\$2.68	\$2.52	\$2.21
240U-2C-6A	3	6AC	DPDT	3.95	3.56	3.36	3.16	2.77
240U-4C-6A	1.7	6AC	4PDT	5.80	5.22	4.93	4.64	4.06
240U-A-24A	48	24AC	SPST*	3.15	2.84	2.68	2.52	2.21
240U-2C-24A	48	24AC	DPDT	3.95	3.56	3.36	3.16	2.77
240U-4C-24A	24	24AC	4PDT	5.80	5.22	4.93	4.64	4.06
240U-A-120A	1,400	120AC	SPST*	3.15	2.84	2.68	2.52	2.21
240U-2C-120A	1,400	120AC	DPDT	3.95	3.56	3.36	3.16	2.77
240U-4C-120A	550	120AC	4PDT	5.80	5.22	4.93	4.64	4.06
245U-A-60	25	6DC	SPST*	3.15	2.84	2.68	2.52	2.21
245U-2C-6D	25	6DC	DPDT	3.95	3.56	3.36	3.16	2.77
245U-4C-6D	12	6DC	4PDT	5.80	5.22	4.93	4.64	4.06
245U-A-12D	100	12DC	SPST*	3.15	2.84	2.68	2.52	2.21
245U-2C-12D	100	12DC	DPDT	3.95	3.56	3.36	3.16	2.77
245U-4C-12D	50	12DC	4PDT	5.80	5.22	4.93	4.64	4.06
245U-A-24D	400	24DC	SPST*	3.15	2.84	2.68	2.52	2.21
245U-2C-24D	400	24DC	DPDT	3.95	3.56	3.36	3.16	2.77
245U-4C-24D	200	24DC	4PDT	5.80	5.22	4.93	4.64	4.06

\*Normally Open.

## PLATE CIRCUIT DC RELAY

### IR-625—10 AMPERE

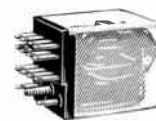


Has extra long coil for greater sensitivity. Adaptable to voltage operation as well as sensitive plate circuit control installations. Coil impregnated for reliability and longer life. Average power requirement, 0.2 watt. Contacts, fine silver. Contact ratings, 10 amps. Mounting: One 8-32 (NC-2) center hole. Shpg. wt., 5.5 oz.

SIZE: 2 $\frac{1}{8}$ " x 2" x 1 $\frac{1}{2}$ "

Guardian No.	Oper. Mils.	Coil Res.	Cont. Comb.	QUANTITIES				
				Net Each, Lots of				
				1-24	25-49	50-99	100-249	250-up
IR-625-2.5	9 M.A.	2,500	DPDT	\$4.45	\$4.01	\$3.78	\$3.56	\$3.12
IR-625-5	6.3 M.A.	5,000	DPDT	4.75	4.28	4.04	3.80	3.33
IR-625-10	4.5 M.A.	10,000	DPDT	5.80	5.22	4.93	4.64	4.06

## HEAVY DUTY INDUSTRIAL AC RELAY 1300-1305 4-POLE RELAY



4DPT... 3 AMP Plug-In Relay available AC or DC. Contacts rated 3 amps at 30VDC or 115VAC resistive. Heat resistant; Lexan cover; Life in excess of 100 million operations. A/C size: 1 $\frac{1}{4}$ " x  $\frac{5}{16}$ " x 1 $\frac{1}{4}$ ". Weight: 1 $\frac{1}{2}$  oz.

QUANTITIES

Guardian No.	Voltage Coil	QUANTITIES				
		Net Each, Lots of				
		1-24	25-49	50-99	100-249	250 & up
1300-4C	6AC	\$5.50	\$4.95	\$4.67	\$4.40	\$3.85
1300-4C	12AC	5.50	4.95	4.67	4.40	3.85
1300-4C	24AC	5.50	4.95	4.67	4.40	3.85
1300-4C	115AC	5.85	5.26	4.97	4.68	4.09
1305-4C	6DC	\$4.50	\$4.05	\$3.82	\$3.60	\$3.15
1305-4C	12DC	4.50	4.05	3.82	3.60	3.15
1305-4C	24DC	4.50	4.05	3.82	3.60	3.15
1305-4C	115DC	5.25	4.72	4.46	4.20	3.67

1300 Series Relay Socket (SOLDER TERMINAL)..... 60¢ each



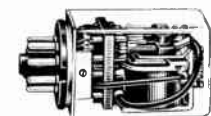
**SMALL SIZE—EFFICIENT MEDIUM POWER AC-DC RELAY—1200 AC—1205 DC—10 AMPERE**

Small-sized, highly efficient relay applicable to automation, communications, remote control, switching devices and experimental uses. Heavy solder lug type terminals molded in phenolic block, with barriers for over-surface insulation.

Contacts rated 10 amps at 60 cycles, 115V., AC, non-inductive load. Mounting: Single mounting hole, 6-32 TAP. Shpg. wt., 2.5 oz.

\*U/L Recognized Component File #E-17260A (AC only)

SIZE: 1 5/8" x 1" x 1 1/4"				QUANTITIES				
Guardian No.	Coil Res.	Coil Voltage	Cont. Comb.	1-24	Net Each, Lots of 25-49	50-99	100-249	250-up
1200-2C-6A	8	6AC	DPDT	\$3.75	\$3.38	\$3.19	\$3.00	\$2.63
1200-3C-6A	4	6AC	3PDT	4.25	3.83	3.61	3.40	2.98
1200-2C-24A	59	24AC	DPDT	3.75	3.38	3.19	3.00	2.63
1200-3C-24A	50	24AC	3PDT	4.25	3.83	3.61	3.40	2.98
1200-2C-120A	1,190	120AC	DPDT	3.75	3.38	3.19	3.00	2.63
1200-3C-120A	1,000	120AC	3PDT	4.25	3.83	3.61	3.40	2.98
1200-2C-240A	5,340	240AC	DPDT	4.00	3.60	3.40	3.20	2.80
1200-3C-240A	4,750	240AC	3PDT	4.50	4.05	3.83	3.60	3.15
1205-2C-6D	18	6DC	DPDT	3.40	3.06	2.89	2.72	2.38
1205-3C-6D	18	6DC	3PDT	3.85	3.47	3.27	3.08	2.70
1205-2C-12D	75	12DC	DPDT	3.40	3.06	2.89	2.72	2.38
1205-3C-12D	75	12DC	3PDT	3.85	3.47	3.27	3.08	2.70
1205-2C-24D	300	24DC	DPDT	3.40	3.06	2.89	2.72	2.38
1205-3C-24D	300	24DC	3PDT	3.85	3.47	3.27	3.08	2.70
1205-2C-110D	6,500	110DC	DPDT	3.75	3.38	3.19	3.00	2.63
1205-3C-110D	6,500	110DC	3PDT	4.25	3.83	3.61	3.40	2.98



**ENCLOSED PLUG-IN RELAY  
1210 AC—1215 DC—10 AMPERE**

A powerful and economical relay enclosed in a transparent, lightweight Lexan case which has high impact strength, unaffected by weather, and is resistant to temperatures of 200°F. Relay available with 8 pin octal plug for DPDT and 11 pin for 3PDT. Contacts rated for 10 amps at 60 cycles, 115V., AC, non-inductive load.

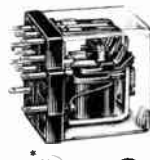
8 pin for DPDT 11 pin for 3PDT Shpg. wt., 3.5 oz.

\*U/L Recognized Component File #E-17260A (AC only)

SIZE: 2 3/4" x 1 3/8" x 1 3/8"				QUANTITIES				
Guardian No.	Coil Voltage	Coil Res.	Cont. Comb.	1-24	Net Each, Lots of 25-49	50-99	100-249	250-up
1210-2C-6A	6AC	33	DPDT	\$6.00	\$5.40	\$5.10	\$4.80	\$4.20
1210-3C-6A	6AC	33	3PDT	7.50	6.75	6.38	6.00	5.25
1210-2C-24A	24AC	54	DPDT	6.00	5.40	5.10	4.80	4.20
1210-3C-24A	24AC	54	3PDT	7.50	6.75	6.38	6.00	5.25
1210-2C-120A	120AC	1,100	DPDT	6.00	5.40	5.10	4.80	4.20
1210-3C-120A	120AC	1,100	3PDT	7.50	6.75	6.38	6.00	5.25
1210-2C-240A	240AC	5,000	DPDT	6.25	5.63	5.31	5.00	4.38
1210-3C-240A	240AC	5,000	3PDT	7.75	6.98	6.59	6.20	5.43
1215-2C-6D	6DC	18	DPDT	6.00	5.40	5.10	4.80	4.20
1215-3C-6D	6DC	18	3PDT	7.50	6.75	6.38	6.00	5.25
1215-2C-12D	12DC	75	DPDT	6.00	5.40	5.10	4.80	4.20
1215-3C-12D	12DC	75	3PDT	7.50	6.75	6.38	6.00	5.25
1215-2C-24D	24DC	300	DPDT	6.00	5.40	5.10	4.80	4.20
1215-3C-24D	24DC	300	3PDT	7.50	6.75	6.38	6.00	5.25
1215-2C-110D	110DC	6,500	DPDT	6.50	5.85	5.53	5.20	4.55
1215-3C-110D	110DC	6,500	3PDT	8.00	7.20	6.80	6.40	5.60

**ENCLOSED PLATE CIRCUIT PLUG-IN RELAY**

SIZE: 2 3/4" x 1 3/8" x 1 3/8"				QUANTITIES				
Guardian No.	Oper. Mills	Coil Res.	Cont. Comb.	1-24	Net Each, Lots of 25-49	50-99	100-249	250-up
1215-2C-2.5	10 MA	2,500	DPDT	\$6.20	\$5.58	\$5.27	\$4.96	\$4.34
1215-3C-2.5	12 MA	2,500	3PDT	7.25	6.53	6.16	5.80	5.08
1215-2C-5	7.2 MA	5,000	DPDT	6.30	5.67	5.36	5.04	4.41
1215-3C-5	8.5 MA	5,000	3PDT	7.50	6.75	6.38	6.00	5.25
1215-2C-10	5 MA	10,000	DPDT	6.50	5.85	5.53	5.20	4.55
1215-3C-10	6 MA	10,000	3PDT	7.75	6.98	6.59	6.20	5.43



**VERSATILE ENCLOSED RELAY  
• PLUG-IN • SOLDER TO •  
OR QUICK CONNECT TERMINALS  
1220 AC—1225 DC—10 AMPERE**

Newly designed relay is reduced in height and cost by the elimination of the radio-type plug, extra wiring and sub-assembly between relay and plug. Features "UNI-GUARD," continuous loop moving blades; snap lock cover; and terminals that can be used as solder lug, AMP Faston 110 Series quick connect or socket plug-in. The 1220 Relay comes complete with mounting bracket.

\*U/L Recognized Component File #E-23524

SIZE: 1 3/2" x 1 1/16" x 1 1/16"				QUANTITIES				
Guardian No.	Coil Voltage	Coil Res.	Cont. Comb.	1-24	Net Each, Lots of 25-49	50-99	100-249	250-up
IR-1220-2C-6A	6AC	3.3	DPDT	\$4.00	\$3.60	\$3.40	\$3.20	\$2.80
IR-1220-2C-24A	24AC	54	DPDT	4.00	3.60	3.40	3.20	2.80
IR-1220-2C-120A	120AC	1,100	DPDT	4.00	3.60	3.40	3.20	2.80
IR-1220-2C-240A	240AC	5,000	DPDT	4.25	3.83	3.61	3.40	2.98
IR-1220-3C-6A	6AC	3.3	3PDT	4.50	4.05	3.83	3.60	3.15
IR-1220-3C-24A	24AC	54	3PDT	4.50	4.05	3.83	3.60	3.15
IR-1220-3C-120A	120AC	1,100	3PDT	4.50	4.05	3.83	3.60	3.15
IR-1220-3C-240A	240AC	5,000	3PDT	4.75	4.28	4.04	3.80	3.33
IR-1225-2C-6D	6DC	18	DPDT	4.00	3.60	3.40	3.20	2.80
IR-1225-2C-12D	12DC	75	DPDT	4.00	3.60	3.40	3.20	2.80
IR-1225-2C-24D	24DC	300	DPDT	4.00	3.60	3.40	3.20	2.80
IR-1225-2C-110D	110DC	6,500	DPDT	4.25	3.83	3.61	3.40	2.98
IR-1225-3C-6D	6DC	18	3PDT	4.50	4.05	3.83	3.60	3.15
IR-1225-3C-12D	12DC	75	3PDT	4.50	4.05	3.83	3.60	3.15
IR-1225-3C-24D	24DC	300	3PDT	4.50	4.05	3.83	3.60	3.15
IR-1225-3C-110D	110DC	6,500	DPDT	4.75	4.28	4.04	3.80	3.33



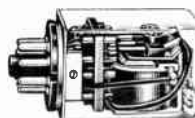
**1R-1220—SOCKET**

Net 1-9 60c each Net 10-up .55c each

The 1220 snap-in socket has U/L component recognition. Socket terminal lugs can be soldered to or will accept AMP Series 110 quick connects.

**ENCLOSED PLUG-IN AC RELAY—1210-N**

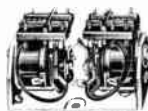
With Built-In Neon Lamp to Indicate Circuit Faults—10 AMPERE



This plug-in relay utilizes a miniature neon lamp connected across coil terminals. The lamp lights each time the coil is energized, or indicates a circuit fault when lamp is "dark." Ideal for detecting circuit faults in relay banks, mass relay arrangements, or where relays are visibly located at intermediate switching points of the circuitry. Precludes the use of circuit testers. Available with 8 pin octal plug for DPDT and 11 pin for 3PDT. Contacts rated 10 amps at 115V., AC, 60 cycles, non-inductive load. Shpg. wt., 3.5 oz.

SIZE: 2 3/4" x 1 3/8" x 1 3/8"				QUANTITIES				
Guardian No.	Coil Voltage	Coil Res.	Cont. Comb.	1-24	Net Each, Lots of 25-49	50-99	100-249	250-up
1210N-2C-115A	120AC	1,100	DPDT	\$6.75	\$6.08	\$5.74	\$5.40	\$4.73
1210N-3C-115A	120AC	1,100	3PDT	8.00	7.20	6.80	6.40	5.60

**INTERLOCKING RELAY—AC  
IR-1200/1200—10 AMPERE**

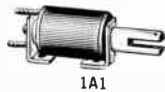


Two interlocking AC relays in sturdy metal frame bracket. Used to maintain circuits continuously without coil power consumption. Unit is electrically pulse operated with mechanical hold and electrical release. Contacts rated for 10 amps, at 60 cycles, 115V., AC, non-inductive load. Coil resistance is 1,100 ohms. Shpg. wt., 5.5 oz.

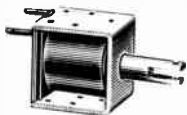
SIZE: 1 3/8" x 1 3/8" x 3 3/4"				QUANTITIES				
Guardian No.	Cont. Comb.	Coil Voltage	1-24	Net Each, Lots of 25-49	50-99	100-249	250-up	
IR-1200/1200-4C-115A	4PDT	120AC	\$10.40	\$9.36	\$8.84	\$8.32	\$7.28	

# GUARDIAN® ELECTRIC

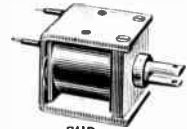
## GUARDIAN AC SOLENOIDS



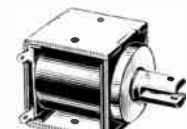
1A1



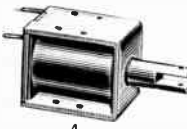
2



2HD



3HD



4



4HD



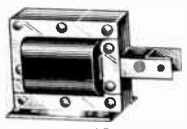
11 A-C/D-C



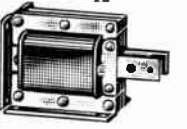
11HD



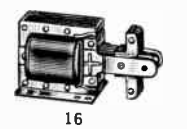
11SPDT



12



14



16

MFG. NO.	VOLTS DC	DUTY	OHMS	MINIMUM—MAXIMUM STROKES and LIFT		SIZE, INCHES L. X W. X H.	SPG. WT. OZS.	NET EACH, LOTS OF				
								1-24	25-49	50-99	100-249	250 Up
1A1	115A	Inter.	300	8 oz. at 1/8"	2 oz. at 1/2"	1 3/4 x 1 1/8 x 1 1/8	4.5	\$3.15	\$2.84	\$2.68	\$2.52	\$2.21
1A1	115A	Cont.	675	3 oz. at 1/8"	.5 oz. at 3/8"	1 3/4 x 1 1/8 x 1 1/8	4.5	3.15	2.84	2.68	2.52	2.21
2	115A	Inter.	60	33 oz. at 1/8"	4.5 oz. at 7/8"	1 1/8 x 1 1/8 x 1 1/8	10	3.68	3.31	3.13	2.94	2.58
2	115A	Cont.	166	10.5 oz. at 1/8"	3 oz. at 7/8"	1 1/8 x 1 1/8 x 1 1/8	10	3.68	3.31	3.13	2.94	2.58
2HD	115A	Inter.	39	38 oz. at 1/8"	16 oz. at 3/4"	1 3/32 x 1 1/8 x 1 1/8	13	8.66	7.79	7.36	6.93	6.06
2HD	115A	Cont.	113	17 oz. at 1/8"	4 oz. at 3/4"	1 3/32 x 1 1/8 x 1 1/8	13	8.66	7.79	7.36	6.93	6.06
3HD	115AC	Inter.	25	96 oz. at 1/8"	13 oz. at 7/8"	2 1/32 x 1 1/8 x 1 1/8	14	6.00	5.40	5.10	4.80	4.50
3HD	115AC	Cont.	100	24 oz. at 1/8"	2 oz. at 7/8"	2 1/32 x 1 1/8 x 1 1/8	14	6.00	5.40	5.10	4.80	4.50
4	115A	Inter.	37	24 oz. at 1/8"	22 oz. at 1"	2 x 1 1/8 x 1 1/8	14.5	4.20	3.78	3.57	3.36	2.94
4	115A	Cont.	133	8 oz. at 1/8"	6 oz. at 1"	2 x 1 1/8 x 1 1/8	14.5	4.20	3.78	3.57	3.36	2.94
4HD	115AC	Inter.	15	107 oz. at 1/8"	30 oz. at 1 1/4"	2 3/4 x 1 1/8 x 1 1/8	15	6.41	5.77	5.45	5.13	4.81
4HD	115AC	Cont.	53	26 oz. at 1/8"	8 oz. at 1 1/4"	2 3/4 x 1 1/8 x 1 1/8	15	6.41	5.77	5.45	5.13	4.81
11	24A	Inter.	5.1	10 oz. at 1/8"	3 oz. at 1"	1 3/8 x 1 7/32 x 1 3/8	7.5	3.15	2.84	2.68	2.52	2.21
11	24A	Cont.	12	26 oz. at 1/8"	3 oz. at 1"	1 3/8 x 1 7/32 x 1 3/8	7.5	3.15	2.84	2.68	2.52	2.21
11	115A	Inter.	125	10 oz. at 1/8"	3 oz. at 1"	1 3/8 x 1 7/32 x 1 3/8	7.5	3.15	2.84	2.68	2.52	2.21
11	115A	Cont.	300	26 oz. at 1/8"	3 oz. at 1"	1 3/8 x 1 7/32 x 1 3/8	7.5	3.15	2.84	2.68	2.52	2.21
12	115A	Inter.	100	32 oz. at 1/8"	4 oz. at 1"	1 5/8 x 1 1/8 x 1 1/8	6	4.46	4.01	3.79	3.57	3.12
12	115A	Cont.	150	22 oz. at 1/8"	3 oz. at 7/8"	1 5/8 x 1 1/8 x 1 1/8	6	4.46	4.01	3.79	3.57	3.12
14	115A	Inter.	11	110 oz. at 1/8"	52 oz. at 1 1/2"	2 1/8 x 1 1/8 x 2 1/8	19	6.04	5.44	5.13	4.83	4.23
14	115A	Cont.	18	65 oz. at 1/8"	37 oz. at 1 1/2"	2 1/8 x 1 1/8 x 2 1/8	19	6.04	5.44	5.13	4.83	4.23
16	115A	Inter.	41	96 oz. at 1/8"	35 oz. at 3/4"	1 5/8 x 1 1/8 x 1 1/8	7.5	3.68	3.31	3.13	2.94	2.58
16	115A	Cont.	85	50 oz. at 1/8"	10 oz. at 3/4"	1 5/8 x 1 1/8 x 1 1/8	7.5	3.68	3.31	3.13	2.94	2.58
16	230A	Inter.	200	96 oz. at 1/8"	35 oz. at 3/4"	1 5/8 x 1 1/8 x 1 1/8	7.5	3.94	3.55	3.35	3.15	2.76
16	230A	Cont.	350	50 oz. at 1/8"	10 oz. at 3/4"	1 5/8 x 1 1/8 x 1 1/8	7.5	3.94	3.55	3.35	3.15	2.76
18	115A	Inter.	8.8	280 oz. at 1/8"	80 oz. at 1"	2 1/2 x 1 1/8 x 2 1/8	16.5	4.99	4.49	4.24	3.99	3.49
18	115A	Cont.	19.7	145 oz. at 1/8"	40 oz. at 1"	2 1/2 x 1 1/8 x 2 1/8	16.5	4.99	4.49	4.24	3.99	3.49
18	230A	Inter.	45	280 oz. at 1/8"	80 oz. at 1"	2 1/2 x 1 1/8 x 2 1/8	16.5	5.25	4.73	4.46	4.20	3.68
18	230A	Cont.	78	145 oz. at 1/8"	40 oz. at 1"	2 1/2 x 1 1/8 x 2 1/8	16.5	5.25	4.73	4.46	4.20	3.68
24	115A	Inter.	310	16 oz. at 1/8"	3 oz. at 5/8"	1 1/4 x 7/32 x 3/4	3	3.41	3.07	2.90	2.73	2.39
24	115A	Cont.	500	10.5 oz. at 1/8"	2 oz. at 5/8"	1 1/4 x 7/32 x 3/4	3	3.41	3.07	2.90	2.73	2.39
26	115AC	Inter.	140	28 oz. at 1/8"	3 oz. at 7/8"	2 3/32 x 7/8 x 1 1/8	4	3.60	3.24	3.06	2.88	2.70
26	115AC	Cont.	250	13 oz. at 1/8"	4 oz. at 3/4"	2 3/32 x 7/8 x 1 1/8	4	3.60	3.24	3.06	2.88	2.70
28	24A	Inter.	7.5	35 oz. at 1/8"	5 oz. at 1/2"	1 1/8 x 1 1/8 x 1 1/8	3.5	3.15	2.84	2.68	2.52	2.21
28	24A	Cont.	17.4	20 oz. at 1/8"	2.5 oz. at 1/2"	1 1/8 x 1 1/8 x 1 1/8	3.5	3.15	2.84	2.68	2.52	2.21
28	115A	Inter.	220	35 oz. at 1/8"	5 oz. at 1/2"	1 1/8 x 1 1/8 x 1 1/8	3.5	3.41	3.07	2.90	2.73	2.39
28	115A	Cont.	400	20 oz. at 1/8"	2.5 oz. at 1/2"	1 1/8 x 1 1/8 x 1 1/8	3.5	3.41	3.07	2.90	2.73	2.39
34	115A	Inter.	400	15 oz. at 1/8"	1 oz. at 1/2"	1 1/8 x 3/4 x 1 3/4	2.5	2.31	2.08	1.96	1.85	1.62
34	115A	Cont.	865	7 oz. at 1/8"	.5 oz. at 1/2"	1 1/8 x 3/4 x 1 3/4	2.5	2.31	2.08	1.96	1.85	1.62

## GUARDIAN AC SOLENOID SWITCHES

MFG. No.	VOLTS AC	DUTY	OHMS	MINIMUM—MAXIMUM STROKES and LIFT		SIZES, INCHES L. X W. X H.	SHPG. WT. OZ.	NET EACH, LOTS OF				
								1-24	25-49	50-99	100-249	250 Up
11S-SPDT	115A	Inter.	125	26 oz. at 1/8"	3 oz. at 1"	1 3/4 x 1 7/32 x 2 1/8	7.5	\$4.15	\$3.73	\$3.53	\$3.32	\$2.90
11S-SPDT	115A	Cont.	300	10 oz. at 1/8"	3 oz. at 1"	1 3/4 x 1 7/32 x 2 1/8	7.5	4.15	3.73	3.53	3.32	2.90
24S-SPDT	115A	Inter.	310	16 oz. at 1/8"	3 oz. at 5/8"	1 1/8 x 7/32 x 2 3/8	3	4.41	3.97	3.75	3.52	3.09
24S-SPDT	115A	Cont.	500	10.5 oz. at 1/8"	2 oz. at 5/8"	1 1/8 x 7/32 x 2 3/8	3	4.41	3.97	3.75	3.52	3.09
28S-SPDT	115A	Inter.	220	35 oz. at 1/8"	5 oz. at 1/2"	1 1/8 x 1 1/8 x 2 1/8	3.5	3.94	3.54	3.30	3.15	2.75
28S-SPDT	115A	Cont.	400	20 oz. at 1/8"	2.5 oz. at 1/2"	1 1/8 x 1 1/8 x 2 1/8	3.5	3.94	3.54	3.30	3.15	2.75
34S-SPDT	115A	Inter.	400	15 oz. at 1/8"	1 oz. at 1/2"	1 1/8 x 3/4 x 2 3/4	2.5	3.31	2.98	2.81	2.65	2.32
34S-SPDT	115A	Cont.	865	7 oz. at 1/8"	5 oz. at 1/2"	1 1/8 x 3/4 x 2 3/4	2.5	3.31	2.98	2.81	2.65	2.32

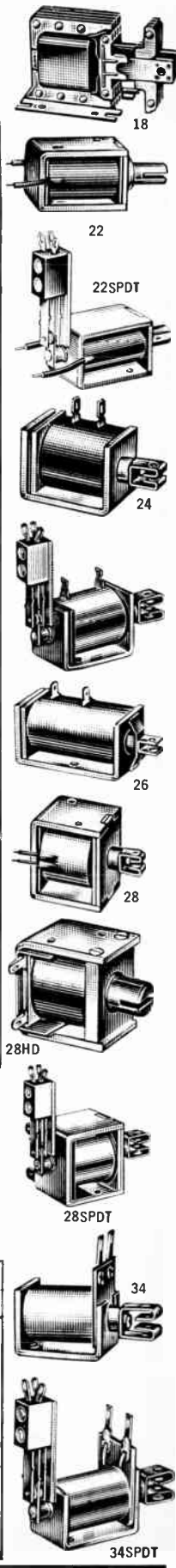
Solenoids available in both intermittent and continuous duty types. Intermittent types should not be energized for more than 5 consecutive minutes, or be permitted to rise more than 85°C. above 24°C. ambient, without giving sufficient time to cool between operation cycles. Continuous duty types are designed so they will not rise more than 85°C. above the 24°C. ambient temperature when operated at rated load. Plunger has slotted end with 1/8" diameter hole for coupling.

When Ordering give the following information: (1) Solenoid Number; (2) Operating voltages and AC or DC current; (3) Continuous or intermittent duty (if intermittent, give the cycle of operation, length of time current will be passed through the coil, and any other pertinent information); (4) Maximum stroke and maximum pull required.

Pull Data listed in this bulletin obtained during "cold" operation.

# GUARDIAN DC SOLENOIDS

MFG. NO.	VOLTS DC	DUTY	OHMS	MINIMUM—MAXIMUM STROKES and LIFT		SIZE, INCHES L. X W. X H.	SPG. WT. OZS.	NET EACH, LOTS OF				
								1-24	25-49	50-99	100-249	250 Up
1A1	24D	Inter.	42.6	5 oz. at 1/8"	1 oz. at 3/8"	1 3/4 x 1 3/8 x 1 1/8	4.5	\$2.89	\$2.60	\$2.46	\$2.31	\$2.02
1A1	24D	Cont.	74.4	2 oz. at 1/8"	.5 oz. at 1/4"	1 3/4 x 1 3/8 x 1 1/8	4.5	2.89	2.60	2.46	2.31	2.02
1A1	115D	Inter.	803	5 oz. at 1/8"	1 oz. at 3/8"	1 3/4 x 1 3/8 x 1 1/8	4.5	3.41	3.07	2.90	2.73	2.39
1A1	115D	Cont.	2070	2 oz. at 1/8"	.5 oz. at 1/4"	1 3/4 x 1 3/8 x 1 1/8	4.5	3.41	3.07	2.90	2.73	2.39
2HD	24D	Inter.	1.2	120 oz. at 1/8"	5 oz. at 3/4"	1 3/2 x 1 1/2 x 1 1/8	13	8.93	8.04	7.59	7.14	6.25
2HD	24D	Cont.	.4	60 oz. at 1/8"	1 oz. at 5/8"	1 3/2 x 1 1/2 x 1 1/8	13	8.93	8.04	7.59	7.14	6.25
3HD	24DC	Inter.	21	160 oz. at 1/8"	8 oz. at 3/4"	2 1/8 x 1 1/2 x 1 3/8	14	6.00	5.40	5.10	4.80	4.50
3HD	24DC	Cont.	52	100 oz. at 1/8"	3 oz. at 3/4"	2 1/8 x 1 1/2 x 1 3/8	14	6.00	5.40	5.10	4.80	4.50
4	24D	Inter.	15	90 oz. at 1/8"	4 oz. at 1"	2 1/4 x 1 3/8 x 1 5/8	14.5	4.20	3.78	3.57	3.36	2.94
4	24D	Cont.	50	55 oz. at 1/8"	2.5 oz. at 7/8"	2 1/4 x 1 3/8 x 1 5/8	14.5	4.20	3.78	3.57	3.36	2.94
4	115D	Inter.	346	90 oz. at 1/8"	4 oz. at 1"	2 1/4 x 1 3/8 x 1 5/8	14.5	4.46	4.01	3.79	3.57	3.12
4	115D	Cont.	1210	55 oz. at 1/8"	2.5 oz. at 7/8"	2 1/4 x 1 3/8 x 1 5/8	14.5	4.46	4.01	3.79	3.57	3.12
4HD	24D	Inter.	15	156 oz. at 1/8"	21 oz. at 3/4"	2 1/4 x 1 3/8 x 1 5/8	15	6.41	5.77	5.45	5.13	4.49
4HD	24D	Cont.	50	86 oz. at 1/8"	1 oz. at 3/4"	2 1/4 x 1 3/8 x 1 5/8	15	6.41	5.77	5.45	5.13	4.49
4HD	110D	Inter.	330	156 oz. at 1/8"	21 oz. at 3/4"	2 1/4 x 1 3/8 x 1 5/8	15	6.41	5.77	5.45	5.13	4.49
4HD	110D	Cont.	1200	86 oz. at 1/8"	1 oz. at 3/4"	2 1/4 x 1 3/8 x 1 5/8	15	6.41	5.77	5.45	5.13	4.49
11	6D	Inter.	2	34 oz. at 1/8"	2 oz. at 7/8"	1 3/8 x 1 2 3/2 x 1 3/8	7.5	3.15	2.84	2.68	2.52	2.21
11	6D	Cont.	5	25 oz. at 1/8"	1 oz. at 5/8"	1 3/8 x 1 2 3/2 x 1 3/8	7.5	3.15	2.84	2.68	2.52	2.21
11	24D	Inter.	32	25 oz. at 1/8"	1 oz. at 3/4"	1 3/8 x 1 2 3/2 x 1 3/8	7.5	3.15	2.84	2.68	2.52	2.21
11	24D	Cont.	72	34 oz. at 1/8"	2 oz. at 3/4"	1 3/8 x 1 2 3/2 x 1 3/8	7.5	3.15	2.84	2.68	2.52	2.21
22	6D	Inter.	4.7	24 oz. at 1/8"	1 oz. at 3/8"	1 1/8 x 3/4 x 3/4	2.5	2.94	2.65	2.50	2.35	2.06
22	6D	Cont.	9	13 oz. at 1/8"	.5 oz. at 1/4"	1 1/8 x 3/4 x 3/4	2.5	2.94	2.65	2.50	2.35	2.06
22	24D	Inter.	60	24 oz. at 1/8"	1 oz. at 1/8"	1 1/8 x 3/4 x 3/4	2.5	2.94	2.65	2.50	2.35	2.06
22	24D	Cont.	144	13 oz. at 1/8"	.5 oz. at 3/8"	1 1/8 x 3/4 x 3/4	2.5	2.94	2.65	2.50	2.35	2.06
24	24DC	Inter.	52	36 oz. at 1/8"	3 oz. at 1/2"	1 1/4 x 2 3/2 x 5 3/4	3	3.41	3.07	2.90	2.73	2.56
24	24DC	Cont.	114	18 oz. at 1/8"	1/2 oz. at 1/2"	1 1/4 x 2 3/2 x 5 3/4	3	3.41	3.07	2.90	2.73	2.56
26	24DC	Inter.	30	65 oz. at 1/8"	3 oz. at 3/4"	2 3/2 x 7/8 x 1 3/8	3	3.40	3.06	2.89	2.72	2.55
26	24DC	Cont.	85	36 oz. at 1/8"	1 1/2 oz. at 1/2"	2 3/2 x 7/8 x 1 3/8	3	3.40	3.06	2.89	2.72	2.55
28	6D	Inter.	3.3	41 oz. at 1/8"	2 oz. at 1/2"	1 1/8 x 1 3/8 x 1 3/8	3.5	2.94	2.65	2.50	2.35	2.06
28	6D	Cont.	7.7	24 oz. at 1/8"	1 oz. at 3/8"	1 1/8 x 1 3/8 x 1 3/8	3.5	2.94	2.65	2.50	2.35	2.06
28	12D	Inter.	13	41 oz. at 1/8"	2 oz. at 1/2"	1 1/8 x 1 3/8 x 1 3/8	3.5	2.94	2.65	2.50	2.35	2.06
28	12D	Cont.	27	24 oz. at 1/8"	1 oz. at 3/8"	1 1/8 x 1 3/8 x 1 3/8	3.5	2.94	2.65	2.50	2.35	2.06
28	24D	Inter.	50	41 oz. at 1/8"	1 oz. at 3/8"	1 1/8 x 1 3/8 x 1 3/8	3.5	2.94	2.65	2.50	2.35	2.06
28	24D	Cont.	104	24 oz. at 1/8"	2 oz. at 1/2"	1 1/8 x 1 3/8 x 1 3/8	3.5	2.94	2.65	2.50	2.35	2.06
34	6D	Inter.	4.3	17 oz. at 1/8"	1 oz. at 1/8"	1 1/8 x 3/4 x 1 1/4	2.5	2.31	2.08	1.96	1.85	1.62
34	6D	Cont.	9.1	8.5 oz. at 1/8"	.5 oz. at 1/4"	1 1/8 x 3/4 x 1 1/4	2.5	2.31	2.08	1.96	1.85	1.62
34	24D	Inter.	66	17 oz. at 1/8"	1 oz. at 1/8"	1 1/8 x 3/4 x 1 1/4	2.5	2.31	2.08	1.96	1.85	1.62
34	24D	Cont.	145	8.5 oz. at 1/8"	.5 oz. at 1/4"	1 1/8 x 3/4 x 1 1/4	2.5	2.31	2.08	1.96	1.85	1.62



# GUARDIAN DC SOLENOID SWITCHES

MFG. No.	VOLTS AC	DUTY	OHMS	MINIMUM—MAXIMUM STROKES and LIFT		SIZES, INCHES L. X W. X H.	SHPG. WT. OZ.	NET EACH, LOTS OF				
								1-24	25-49	50-99	100-249	250 Up
11S-SPDT	24D	Inter.	32	34 oz. at 1/8"	2 oz. at 3/4"	1 3/4 x 1 7/2 x 2 1 3/4	7.5	\$4.15	\$3.73	\$3.53	\$3.32	\$2.90
11S-SPDT	24D	Cont.	72	25 oz. at 1/8"	2 oz. at 3/4"	1 3/4 x 1 7/2 x 2 1 3/4	7.5	4.15	3.73	3.53	3.32	2.90
22S-SPDT	24D	Inter.	60	24 oz. at 1/8"	1 oz. at 1/8"	1 3/8 x 3/4 x 2 1 3/4	2.5	3.94	3.54	3.30	3.15	2.75
22S-SPDT	24D	Cont.	144	13 oz. at 1/8"	5 oz. at 3/8"	1 3/8 x 3/4 x 2 1 3/4	2.5	3.94	3.54	3.30	3.15	2.75
24S-SPDT	24D	Inter.	52	32 oz. at 1/8"	2 oz. at 1/2"	1 1 1/8 x 2 3/2 x 2 3/4	3	4.41	3.97	3.75	3.52	3.09
24S-SPDT	24D	Cont.	114	17 oz. at 1/8"	5 oz. at 3/8"	1 1 1/8 x 2 3/2 x 2 3/4	3	4.41	3.97	3.75	3.52	3.09
28S-SPDT	24D	Inter.	50	41 oz. at 1/8"	2 oz. at 1/2"	1 3/8 x 1 3/8 x 2 1 3/4	3.5	3.94	3.54	3.30	3.15	2.75
28S-SPDT	24D	Cont.	104	24 oz. at 1/8"	1 oz. at 3/8"	1 3/8 x 1 3/8 x 2 1 3/4	3.5	3.94	3.54	3.30	3.15	2.75
34S-SPDT	24D	Inter.	66	17 oz. at 1/8"	1 oz. at 1/8"	1 3/8 x 3/4 x 2 1 3/4	2.5	3.31	2.98	2.81	2.65	2.32
34S-SPDT	24D	Cont.	145	8.5 oz. at 1/8"	5 oz. at 1/4"	1 3/8 x 3/4 x 2 1 3/4	2.5	3.31	2.98	2.81	2.65	2.32

GUARDIAN POWER RELAYS

GUARDIAN TIME DELAY RELAYS



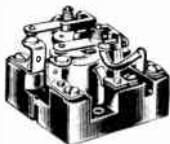
**2200U DPDT** — Contacts: double pole, double throw. Size: 3 3/8" L. x 2 1/2" W. x 3/8" H. Shipping Weight: 11 ounces.

Series 2200 and 2210 power relays are rated at 25 amperes, continuous duty at 230 Volts AC, with 75% power factor. Operating power requirement for AC is 9.5 volt amperes, 60 cycles. Coil drain approximately .080 amperes at 115 volts, 60 cycles. Approximate weight of replacement coil assemblies is 6 ounces

**MOUNTING:** 2 holes .196" dia. on 1 7/8" centers.

\*UL/Recognized Component File #E23524

Guardian	Volts	QUANTITIES				
		1-24	25-49	50-99	100-249	250 UP
2200U-DPDT-6	6AC	\$6.75	\$6.08	\$5.74	\$5.40	\$4.73
2200U-DPDT-24	24AC	6.75	6.08	5.74	5.40	4.73
2200U-DPDT-120	120AC	6.75	6.08	5.74	5.40	4.73
2200U-DPDT-240	240AC	7.25	6.53	6.16	5.80	5.08

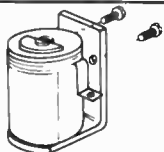


**2210U DPSTNO**

Contacts: Double pole, single throw, normally open. Size: 2 1/4" L. x 2 1/2" W. x 3/8" H. Shipping Weight: 10 ounces.

\*UL/Recognized Component File #E23524

Guardian	Volts	QUANTITIES				
		1-24	25-49	50-99	100-249	250 UP
2210U-DPST-N.O.-6	6AC	\$5.75	\$5.18	\$4.89	\$4.60	\$4.03
2210U-DPST-N.O.-24	24AC	5.75	5.18	4.89	4.60	4.03
2210U-DPST-N.O.-120	120AC	5.75	5.18	4.89	4.60	4.03
2210U-DPST-N.O.-240	240AC	6.10	5.49	5.19	4.98	4.37



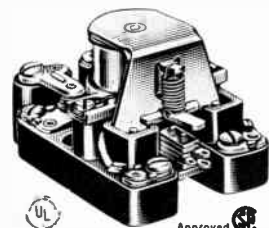
**Interchangeable Coil Assemblies** (No Solder Connections)... By removing two easy accessible screws, coil assembly can be replaced by coil of another value. Complete instructions for this operation are included with each unit. Solder connections are not required when changing coils.

REPLACEMENT COILS FOR EITHER RELAY

Guardian	Volts	QUANTITIES				
		1-24	25-49	50-99	100-249	250 UP
2200-6A	6AC	\$2.35	\$2.12	\$2.00	\$1.88	\$1.65
2200-24A	24AC	2.35	2.12	2.00	1.88	1.65
2200-120A	120AC	2.35	2.12	2.00	1.88	1.65
2200-240A	240AC	2.65	2.39	2.25	2.12	1.86

**Power Relay Replacement Contact Switch Parts** — Available for Series 2200, only — Replacement Contact Switch Parts for easy right or left SPDT assembly. No solder needed. Package contains one normally open and one normally closed contact bracket, complete moving blade and terminal. Left or Right Switch Assemblies determined by viewing relay from armature hinge end with contacts up.

Guardian	QUANTITIES				
	1-24	25-49	50-99	100-249	250 UP
CS-2200 — LEFT	\$1.95	\$1.76	\$1.66	\$1.56	\$1.37
CS-2200 — RIGHT	1.95	1.76	1.66	1.56	1.37



**GUARDIAN SERIES 2400U AC SERIES 2405 DC POWER RELAY**

15 Amperes

Size: 3 3/8" x 2 1/2" x 2 1/8". Shipping Weight: 8 ounces. Mounting: Two .196" Diam. holes on 1 7/8" centers.

In power applications that require up to 15 ampere contacts the Guardian Series 2400 AC, or Series 2405 DC Power Relays are Specified. Both have standard DPDT contacts rated for 15 amperes non-inductive, or 1 HP at 115/230 volts, 60 cycles. Series 2400 standard coil voltages are 6, 12, 24 and 120 VAC. Series 2405 standard coil voltages are 6, 12, 24 and 110 VDC. Inverted coil construction protects armature and contacts. Armature extension permits manual circuit testing. Screw type terminals easily accessible for top or bottom connections. Easy to mount recessed auxiliary switch, up to SPDT for 10 ampere operation, available for both AC and DC versions.

\*U/L Recognized Component File #E-23524

Guardian No.	Volts	Rating Amps.	QUANTITIES				
			1-24	25-49	50-99	100-249	250 Up
2400U-DPDT-6	6AC	15	\$6.25	\$5.63	\$5.31	\$5.00	\$4.38
2400U-DPDT-24	24AC	15	6.25	5.63	5.31	5.00	4.38
2400U-DPDT-120	120AC	15	6.25	5.63	5.31	5.00	4.38
2400U-DPDT-240	240AC	15	6.50	5.85	5.53	5.20	4.55
2405-DPDT-6	6DC	15	6.25	5.63	5.31	5.00	4.38
2405-DPDT-12	12DC	15	6.25	5.63	5.31	5.00	4.38
2405-DPDT-24	24DC	15	6.25	5.63	5.31	5.00	4.38
2405-DPDT-110	110DC	15	6.75	6.08	5.74	5.40	4.73
2400-SPDT-AUX Auxiliary Switch		10	1.35	1.22	1.15	1.08	.95



**SERIES TD** — This is the most accurate and compact solid-state time-delay available commercially from stock. 3DPT contacts handle up to 10 amp resistive load. Six standard model relays for 24V., DC and 115V., AC 50/60 cycles provide delays from 1 to 180 seconds. All units utilize silicon semi-conductors and precision tantalum capacitors for reliability. 15-turn screw-type potentiometer furnishes high resolution and accuracy. Accurate to 5% of a nominal setting over its complete temperature and voltage range. Repeatability is 2% after a line interruption of 50 milliseconds. Termination can be quick disconnects, socket or solder connections. Size: 3" x 1 3/8" x 1 1/8". Shpg. wt., 5 oz.

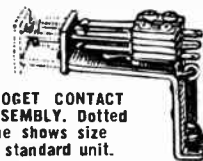
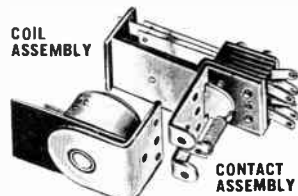
Guardian No.	Coil Voltage	Adjustment Range	Net Each, Lots of		
			1-49	50-99	100 Up
TD33C15-24D	24VDC±10%	1 to 15 sec.	\$24.20	\$21.88	\$19.69
TD33C60-24D	24VDC±10%	10 to 60 sec.	25.19	22.67	20.40
TD33C180-24D	24VDC±10%	50 to 180 sec.	32.09	29.88	26.90
TD63C15-115A	115VAC±10%	1 to 15 sec.	29.70	26.73	24.06
TD63C60-115A	115VAC±10%	10 to 60 sec.	30.06	27.54	24.79
TD63C180-115A	115VAC±10%	50 to 180 sec.	36.85	33.16	29.84



**SERIES TOO** — Incorporates many features of more expensive units, but is the most economical 5 amp DPDT 115V., AC solid-state adjustable time-delay relay ever offered. Delay is adjustable from 0.5 to 30 seconds on attract and is controlled by a 10-turn potentiometer for high resolution, easy reset and accuracy. Unit terminates in octal plug. Accurate within 10% of a nominal setting over its entire temperature and voltage range. Repeatability is within 2% after a line interruption of 100 milliseconds. Size: 3" x 2 3/8" x 2 1/4". Shpg. wt., 8 oz.

Guardian No.	Coil Voltage	Adjustment Range	Net Each, Lots of		
			1-49	50-99	100 Up
TDO-62C30-115A	115V ±%	50/60 cycle 0.5 to 30 sec.	\$16.32	\$15.69	\$14.12

**SERIES 200 RELAY WITH COMPLETELY INTERCHANGEABLE COIL AND CONTACT ASSEMBLIES**



**MIDGET CONTACT ASSEMBLY.** Dotted line shows size of standard unit.

The coil consists of the coil and field piece; the contact assembly consists of switch blades, armature, return spring and mounting bracket. The Guardian Midget Assembly is interchangeable with the standard Series 200 coil assembly. Available with SPDT, DPDT or 4PDT contact switch assemblies, each interchangeable with all AC or DC coils.

SERIES 200 RELAY

Guardian No.	Volts	Coil	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250 Up
200-6A	6	AC	\$1.85	\$1.67	\$1.57	\$1.48	\$1.30
200-12A	12	AC	1.85	1.67	1.57	1.48	1.30
200-24A	24	AC	1.85	1.67	1.57	1.48	1.30
200-115A	115	AC	2.15	1.94	1.83	1.72	1.51
200-230A	230	AC	2.85	2.57	2.42	2.28	2.00
200-6D	6	DC	2.00	1.80	1.70	1.60	1.40
200-12D	12	DC	2.00	1.80	1.70	1.60	1.40
200-24D	24	DC	2.00	1.80	1.70	1.60	1.40
200-32D	32	DC	2.00	1.80	1.70	1.60	1.40
200-110D	110	DC	2.65	2.39	2.25	2.12	1.86
200-5,000D	†	DC	2.30	2.07	1.96	1.84	1.61
200-10,000D	†	DC	2.65	2.39	2.25	2.12	1.86

† Plate.

CONTACT SWITCH ASSEMBLIES

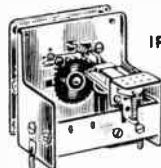
Guardian No.	Type	Cont. Amps	Cont. Comb.	Net Each, Lots of				
				1-24	15-49	50-99	100-249	250 Up
200-1	Standard	8	SPDT	\$1.60	\$1.44	\$1.36	\$1.28	\$1.12
200-2	Standard	8	DPDT	2.10	1.89	1.79	1.68	1.47
200-4	Standard	12.5	DPDT	2.35	2.12	2.00	1.88	1.65
200-5	Standard	8	4PDT	3.70	3.33	3.15	2.96	2.59
200-M1	Midget	10	SPDT	1.50	1.35	1.28	1.20	1.05
200-M2	Midget	10	DPDT	1.85	1.67	1.57	1.48	1.30
200-M5	Midget	8	4PDT	3.00	2.70	2.55	2.40	2.10

CONTACT SWITCH PARTS

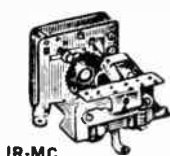
Guardian No.	Type	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250 Up
200-3	Standard	\$1.60	\$1.99	\$1.36	\$1.28	\$1.12
200-M3	Midget	1.60	1.99	1.36	1.28	1.12

Use contact switch parts 200-3 for adding poles to contact switch assemblies 200-1 and 200-2. Use midget contact switch parts 200-M3 for adding poles to midget contact switch assemblies 200-M1 and 200-M2.

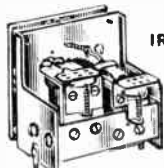
**STEPPING CONTROLS**—For accurate sequence selecting, pulse multiplying, pulse dividing, circuit selecting, automatic homing, remote homing, counting and latching. Guardian steppers are specified for automatic control of electrically operated business machines, accumulators (coin and other), animated displays, electrical scoreboards, automatic overhead garage doors, assembly line controls, automatic packaging (loading) controls, sump pump controls, commercial slide projectors, among others. All Guardian steppers are intermittent duty direct-drive units with switching operations completed upon energization.



IR-PC



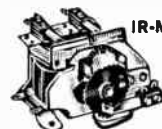
IR-MC



IR-PER



MER



IR-MAS

**CONTINUOUS ROTATION**

The circuit selection wiper on Continuous Rotation Steppers moves in one direction only, upon energization of the step coil. This type of stepper is available in standard 24 point (MC) or 40 point (PC). The Guardian MC Midget Continuous Rotation Stepper is particularly adaptable to repetitive sequence functions. The 24 bridging contact deck is evenly divisible by eight possible sequences. The PC stepper features self-stepping speeds up to 30 steps per second and mechanical life expectancy of over 4,000,000 steps.

All stepper contact points are rated 1½ amps resistive, at 115 V., 60 cps. Coil\* Voltages are 115V., AC, 24 DC 60 cps.

**ELECTRICAL RESET**

The circuit selecting wiper on Electrical Reset Steppers can be reset to zero or home from any desired position, by energization of the reset magnet. They are frequently employed to record counts by various numerical groups, then resetting automatically.

**Type M.E.R.** A direct drive (steps on energization) with positive mechanical reset interlock actuated by the reset magnet and unlocked on the first energization of the step magnet. Assures positive reset on as short a pulse as one-hundredth of a second. By interconnecting two or more Steppers, count can be increased to any desired total counting by tens, or any convenient multiple. Will control a sequence of operation and then automatically reset to starting position.

**Type P.E.R.** Operation same as M.E.R. but with up to 36 active contacts.

**ADD AND SUBTRACT**

Add and subtract steppers are basically continuous rotation types with the added feature of being able to reserve the movement of the selecting wiper when required.

**Type IR-MAS** A midget add and subtract stepper incorporating a cam actuated switch which operates at zero position. Used primarily to indicate a zero balance between pulses supplied to the "add" coil as compared to pulses received by the "subtract" coil.

Guardian No.	Watts	Volt Amperes	No. of Points	No. of Active Contacts***	Max. Steps Per Second	Shipping Weight Ounces	SIZE			QUANTITIES				
							Length	Width	Height	1-24	25-49	50-99	100-249	250-up
IR-PC-115 AC	30	40	40	40	20	17	3¾	3¾	3½	\$19.95	\$17.96	\$16.96	\$15.96	\$13.97
IR-MC-115 AC	17	30	24	24	20	9½	3¼	3	2¾	14.75	13.28	12.54	11.80	10.32
IR-PER-115 AC	35-7**	50-10**	40	36	20	22	3	3¾	3¾	26.25	23.63	22.31	21.00	18.37
MER-115 AC	20-8**	35-9**	24	22	20	11½	2¾	3¾	2¾	15.75	14.18	13.39	12.60	11.03
MER-24DC	20-8**	35-9**	24	22	20	11½	2¾	3¾	2¾	15.75	14.18	13.39	12.60	11.03
IR-MAS-115 AC	9	12	30	****	10	11	3¼	3¾	1¾	17.35	15.62	14.75	13.88	12.15

**NOTE**— \*Steppers will operate satisfactorily at 15% below or 10% above rated voltage. \*\*Listings are for stepping coil and reset coil, respectively. \*\*\*Includes Zero (0) position. \*\*\*\*Zero (0) position switch only.

**ROTIMITE STEPPER—DC IR-705-12P**



An entirely new concept in stepper design, the Guardian "Rotomite" is first with maximum stepper control in minimum space. Offering high contact rating of 3 amps resistive, 1 amp inductive (50% PF). Featuring continuous duty operation with life well in excess of one million steps, the completely enclosed Rotomite is geared for continuous rotation of 12 positions. A few Rotomite applications presently include computers, business machines, lighting and vending controls, counting and sorting devices, and model trains. Shpg. wt., 5 oz.

Guardian No.	No. Points	Coil Voltage	QUANTITIES				
			1-24	25-49	50-99	100-249	250-up
IR-705-12P-6D	12	6DC	\$6.60	\$5.94	\$5.61	\$5.28	\$4.62
IR-705-12P-12D	12	12DC	6.60	5.94	5.61	5.28	4.62
IR-705-12P-24D	12	24DC	6.60	5.94	5.61	5.28	4.62

**LATCHING ON/OFF RELAY—AC—IR-640L—5 AMPERE**



Midget Latching Relay with single coil and 5 amp contact rating for SPST, or SPDT, contact combinations. Recommended for positive ON/OFF control of positioning devices, remote controls, lighting circuits and many additional applications. Impulse as short as 20 M.S. energizes coil to reverse position of snap-action switches. Holds last position of switch with coil de-energized. Contacts rated for 5 amps, at 60 cycles, 115 V., AC, non-inductive load. Shpg. wt., 4 oz.

Guardian No.	Cont. Comb.	Coil Voltage	QUANTITIES				
			1-24	25-49	50-99	100-249	250-up
IR-640L-A-115A	SPST	115AC	\$4.45	\$4.01	\$3.78	\$3.56	\$3.12
IR-640L-C-115A	SPDT	115AC	4.75	4.28	4.04	3.80	3.33

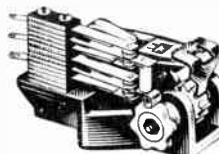
**HEAVY DUTY INDUSTRIAL AC RELAY—IR-220—20 AMPERE**



This rugged unit makes and breaks up to 20 amps, at 230 volts. Armature is equipped with phenolic contact mounting block carrying ¾" dual contacts. Phenolic is tested at 1500 volts breakdown to ground. Contacts are silver alloy. Relay is available in dual SPST, normally open contact combination only. Contact rating 20 amps at 60 cycles, 230V., AC, non-inductive load. Mounting: Mounting holes—clearance for 8-32 with 2½" centers. Shpg. wt., 5.5 oz.

Guardian No.	Coil Voltage	Coil Res.	Cont. Comb.	QUANTITIES				
				1-24	25-49	50-99	100-249	250-up
IR-220-A-24A	24AC	25	SPST*	\$4.50	\$4.05	\$3.83	\$3.60	\$3.15
IR-220-A-115A	115AC	600	SPST*	5.05	4.55	4.29	4.04	3.54
IR-220-A-230A	230AC	2,500	SPST*	5.55	5.00	4.72	4.44	3.89

\* Normally Open.



**NEW SERIES 660 AC—665 DC SEQUENCE RELAY**

Intended to perform switching operations in a desired, repetitive sequence. Each electrical impulse moves the relay contacts to the next position in the sequence. Applications include lights, signs, motors, appliances and similar units. Contacts rated up to 12½ amps, 115V., 60 cycles, non-inductive load. Shpg. wt., 8 oz. Mounting: 4 holes 8-32 (NC-2B).

Guardian No.	Coil Voltage	Cont. Comb.	QUANTITIES				
			1-24	25-49	50-99	100-249	250-up
660-C-24A	24AC	SPDT	\$6.85	\$6.17	\$5.82	\$5.48	\$4.80
660-2C-24A	24AC	DPDT	7.40	6.66	6.29	5.92	5.18
660-4C-24A	24AC	4PDT	10.75	9.68	9.14	8.60	7.53
660-C-115A	115VAC	SPDT	6.85	6.17	5.82	5.48	4.80
660-2C-115A	115VAC	DPDT	7.40	6.66	6.29	5.92	5.18
660-4C-115A	115VAC	4PDT	10.75	9.68	9.14	8.60	7.53
665-C-24D	24DC	SPDT	6.85	6.17	5.82	5.48	4.80
665-2C-24D	24DC	DPDT	7.40	6.66	6.29	5.92	5.18
665-4C-24D	24DC	4PDT	10.75	9.68	9.14	8.60	7.53

**ELECTRICAL RESET OVERLOAD RELAY—X-300-ER**



Applicable for use in industrial panel installation, provides precise protection from current surges and continuous overloads.

Remote panel installation of control potentiometer simplifies adjustment of relay to operate on any current value from 250 to 750 milliamperes, DC. Auxiliary for pilot light indication of "overload" or "clear" position. Reset relay can be operated from any point convenient to operator. Insulation between coil and ground rated at 3,000 volts. Shpg. wt., 13 oz.

Guardian No.	Reset Coil	QUANTITIES				
		1-24	25-49	50-99	100-249	250-up
X-300-ER	6VAC	\$10.00	\$8.55	\$8.50	\$8.00	\$7.00

**32 POLE GROUP SELECTOR DC RELAY—IR-805-S**



Group selector relay can simultaneously make common up to 32 circuits. All circuits insulated from ground. Contact blades molded in thermosetting phenolic. All contacting members completely enclosed. Shipping weight 6 oz.

Guardian No.	Coil Voltage	Coil Res.	QUANTITIES				
			1-24	25-49	50-99	100-249	250-up
IR-805-S	24VDC	72	\$5.00	\$4.50	\$4.25	\$4.00	\$3.50



# LINE ELECTRIC COMPANY

RELAYS • BUZZERS • FOOT SWITCHES

## GENERAL PURPOSE RELAYS



### MINIATURE OPEN TYPE (SERIES MK)

Open type relay in standard contact arrangements up to 3PDT, 5 or 10 amp contact rating. Voltages up to 230 volts, A.C. or D.C. Factory adjusted to pull in at 75% max. of nominal voltage D.C. and 80% max. of nominal voltage A.C. Designed to pass 1,000 volt A.C. Hipot test between all elements. UL File #36213

AC	5 amp contact rating	6, 12, 24, 115V	220V
	MK1A SPDT	\$3.10	\$3.55
	MK2A DPDT	3.75	4.15
	MK3A 3PDT	4.15	4.55



### PLATE CIRCUIT RELAYS 5 amp. open type

	2500Ω	5000Ω	10,000Ω	20,000Ω
MKC-1 SPDT	\$3.15	\$3.25	\$3.80	\$4.05
MKC-2 DPDT	3.65	3.80	4.30	4.55
MKC-3 3PDT	4.10	4.20	4.75	5.00

10 amp models ask for series MKCO

DC	5 amp contact rating	6, 12, 24V	110V
	MK1D SPDT	\$3.05	\$3.45
	MK2D DPDT	3.40	3.85
	MK3D 3PDT	3.85	4.25

All models available in 10 amps. DIMENSIONS: 1-11/16 × 1-3/16 × 29/32  
All models available in 10 amps. Ask for series MKO.



### MINIATURE PLUG-IN (SERIES MKP)

Plug-in type relay, same factory tested, quality features as above. Will operate continuously in ambient temperature ranges of 45° to 75°C. for D.C. coils and -45° to 55°C. for A.C. coils. Metal or clear C-11 Styrene dust cover. UL File #36213

AC	5 amp contact rating	6, 12, 24, 115V	220V
	MKP1A SPDT	\$5.45	\$5.90
	MKP2A DPDT	6.05	6.45
	MKP3A 3PDT	7.50	7.95



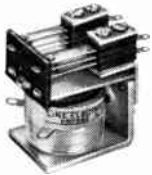
### PLATE CIRCUIT RELAYS 5 amp. enclosed type

	2500Ω	5000Ω	10,000Ω	20,000Ω
MKF-1 SPDT	\$5.90	\$6.00	\$6.40	\$6.65
MKF-2 DPDT	6.30	6.40	6.80	7.10
MKF-3 3PDT	7.75	7.90	8.40	8.65

10 amp models ask for series MKFO

DC	5 amp contact rating	6, 12, 24V	110V
	MKP1D SPDT	\$5.40	\$5.85
	MKP2D DPDT	6.00	6.40
	MKP3D 3PDT	7.45	7.90

All models available in 10 amps. Ask for series MKH. DIMENSIONS: 2-1/4 × 1-5/8 × 1-3/8



### MINIATURE MULTIPLE LEAF (SERIES MW)

A small, versatile relay available in a variety of contact configurations consisting of forms A, B, C or D (make before break), up to a maximum of 12 springs. Coils can be supplied for operation on D.C. or A.C. 60 cps. Operation on 400 cps. source is available with self-contained rectifiers on relays with covers.

	10 amp contact rating	6, 12, 24, 115V	220V
AC	MW1A SPDT	\$2.70	\$3.10
	MW2A DPDT	3.30	3.75
	MW3A 3PDT	3.80	4.20
	MW14A 4PDT	6.35	6.75
		6, 12, 24V	110V
DC	MW1D SPDT	\$2.60	\$3.10
	MW2D DPDT	3.25	3.65
	MW3D 3PDT	3.75	4.15
	MW14D 4PDT	6.35	6.80

DIMENSIONS: 1-17/32 × 1-21/32 × 1-0

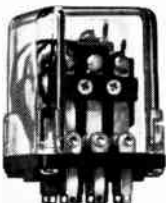


### SPOTLIGHT RELAYS (SERIES A)

High quality, general purpose plug-in relay with built-in circuit indicator lamp. Available in C-11 Styrene colored cases for circuit identification or in metal can. Saves panel space, reduces costly labor. UL File #36213.

	5 amp contact rating	6, 12, 24, 115V	220V
AC	A-1A SPDT	\$6.40	\$6.85
	A-2A DPDT	7.00	7.40
	A-3A 3PDT	8.45	8.85
		6, 12, 24V	110V
DC	A-1D SPDT	\$6.35	\$6.75
	A-2D DPDT	6.95	7.35
	A-3D 3PDT	8.40	8.80

All models available in 10 amps. AH Series.  
DIMENSIONS: 2-1/4 × 1-3/8 × 1-3/8



### SPOTLIGHT RELAYS. LOW COST. (SERIES ATR)

A plug-in relay which is identical in construction to our miniaturized low profile SERIES MKTR (see page 3) but with built-in circuit indicator lamp. It can be used in conjunction with our 92-67 or 92-82 sockets and 91-49 spring clip. UL File #36213.

	5 amp contact rating	6, 12, 24, 115V	220V
AC	ATR1A SPDT	\$5.25	\$5.60
	ATR2A DPDT	5.90	6.30
	ATR3A 3PDT	6.35	6.80
		6, 12, 24V	110V
DC	ATR1D SPDT	\$5.15	\$5.55
	ATR2D DPDT	5.55	6.00
	ATR3D 3PDT	6.05	6.45

All models available in 10 amps AHTR Series.  
DIMENSIONS: 1-3/16 × 1-3/8 × 1-3/8





# LINE ELECTRIC COMPANY

RELAYS • BUZZERS • FOOT SWITCHES

## GENERAL PURPOSE RELAYS

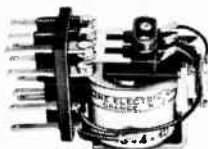


### PRINTED CIRCUIT or TAPER TAB (SERIES MKT)

Printed circuit type relay incorporating coil, frame and load contacts of standard Series MK. Connector lugs fit standard amp terminal #41355. Series MKTE is the MKT with plastic dust cover. Available with studs for chassis mount or taper tab connectors. Price same as MKTR. UL File #36213

		5 amp contact rating	6, 12, 24, 115V	220V
AC	MKT1A SPDT		\$3.25	\$3.65
	MKT2A DPDT		3.95	4.35
	MKT3A 3PDT		4.40	4.85
			6, 12, 24V	110V
DC	MKT1D SPDT		3.20	\$3.60
	MKT2D DPDT		3.60	4.05
	MKT3D 3PDT		4.10	4.50

All models available in 10 amps. Series MKTO  
 DIMENSIONS: 2-1/32 x 1-7/32 x 29/32  
 Also available as a Plate Circuit Relay



### QUICK CONNECT TERMINAL RELAYS (SERIES MKA)

Quick connect terminal type miniature relay incorporating coil, frame and load contacts of the standard Series MK. The connector lugs fit standard .110" quick connect terminals. UL File #36213

		5 amp contact rating	6, 12, 24, 115V	220V
AC	MKA1A SPDT		\$3.25	\$3.65
	MKA2A DPDT		3.95	4.35
	MKA3A 3PDT		4.40	4.85
DC	MKA1D SPDT		\$3.20	\$3.60
	MKA2D DPDT		3.60	4.05
	MKA3D 3PDT		4.10	4.50

All models available in 10 amps. DIMENSIONS: 29/32 x 1-7/32 x 1-11/16  
 Also available as a Plate Circuit Relay



### SERIES MKD. OPEN TYPE WITH .187 QUICK CONNECT LUGS

		5 amp contact rating	6, 12, 24, 115V	220V
AC	MKD-1A SPDT		\$3.25	\$3.65
	MKD-2A DPST		3.95	4.35
	MKD-3A 3PDT		4.40	4.80
	MKD-4A SPST-NO		3.20	3.60
	MKD-5A DPST-NO		3.85	4.25
	MKD-6A 3PST-NO		4.25	4.65
	MKD-7A SPST-NC		3.20	3.60
	MKD-8A DPST-NC		3.85	4.25
	MKD-9A 3PST-NC		4.25	4.65

		5 amp contact rating	6, 12, 24V	110V
DC	MKD-1D SPDT		\$3.20	\$3.60
	MKD-2D DPDT		3.60	4.05
	MKD-3D 3PDT		4.10	4.50
	MKD-4D SPST-NO		3.15	3.55
	MKD-5D DPST-NO		3.50	3.95
	MKD-6D 3PST-NO		3.95	4.35
	MKD-7D SPST-NC		3.15	3.55
	MKD-8D DPST-NC		3.50	3.95
	MKD-9D 3PST-NC		3.95	4.35

### SERIES MKDO. OPEN TYPE WITH .187 QUICK CONNECT LUGS

		10 amp contact rating	6, 12, 24, 115V	220V
AC	MKDO-1A SPDT		\$3.30	\$3.75
	MKDO-2A DPDT		4.05	4.45
	MKDO-3A 3PDT		4.55	5.00
	MKDO-4A SPST-NO		3.25	3.70
	MKDO-5A DPST-NO		3.95	4.35
	MKDO-6A 3PST-NO		4.40	4.85
	MKDO-7A SPST-NC		3.25	3.70
	MKDO-8A DPST-NC		3.95	4.35
	MKDO-9A 3PST-NC		4.40	4.85

		10 amp contact rating	6, 12, 24V	110V
DC	MKDO-1D SPDT		\$3.25	\$3.65
	MKDO-2D DPDT		3.75	4.15
	MKDO-3D 3PDT		4.25	4.65
	MKDO-4D SPST-NO		3.20	3.60
	MKDO-5D DPST-NO		3.65	4.05
	MKDO-6D 3PST-NO		4.10	4.50
	MKDO-7D SPST-NC		3.20	3.60
	MKDO-8D DPST-NC		3.65	4.05
	MKDO-9D 3PST-NC		4.10	4.50

### SERIES MKDC. PLATE CIRCUIT RELAYS WITH .187 QUICK CONNECT LUGS

5 amp open type	2500Ω 5000Ω 10,000Ω 20,000Ω			
	MKDC-1 SPDT	\$3.30	\$3.45	\$4.05
MKDC-2 DPDT	3.85	4.00	4.55	4.85
MKDC-3 3PDT	4.25	4.60	5.00	5.25
MKDC-4 SPST-NO	3.25	3.40	4.00	4.25
MKDC-5 DPST-NO	3.75	3.90	4.45	4.75
MKDC-6 3PST-NO	4.10	4.45	4.85	5.10
MKDC-7 SPST-NC	3.25	3.40	4.00	4.25
MKDC-8 DPST-NC	3.75	3.90	4.45	4.75
MKDC-9 3PST-NC	4.10	4.45	4.85	5.10

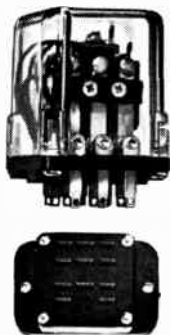
10 amp open type	2500Ω 5000Ω 10,000Ω 20,000Ω			
	MKDCO-1 SPDT	\$3.35	\$3.50	\$4.10
MKDCO-2 DPDT	3.95	4.10	4.65	4.95
MKDCO-3 3PDT	4.40	4.75	5.15	5.40
MKDCO-4 SPST-NO	3.30	3.45	4.05	4.30
MKDCO-5 DPST-NO	3.85	4.00	4.55	4.85
MKDCO-6 3PST-NO	4.25	4.60	5.00	5.25
MKDCO-7 SPST-NC	3.30	3.45	4.05	4.30
MKDCO-8 DPST-NC	3.85	4.00	4.55	4.85
MKDCO-9 3PST-NC	4.25	4.60	5.00	5.25



# LINE ELECTRIC COMPANY

RELAYS • BUZZERS • FOOT SWITCHES

## GENERAL PURPOSE RELAYS



### MINIATURE PLUG-IN LOW PROFILE LOW COST (SERIES MKTR)

Despite its compact size this new totally enclosed, low cost, low profile miniature relay has not compromised the high quality of its progenitor the Series MK open relay. The low mounting profile (dust cover included) has been made possible by incorporating the frame of the relay with the connector-header. Thus a certain basic hardware has been eliminated resulting in important size reduction. Versatility is also assured since the standard terminals can be used with Amp snap-on connectors, printed circuits, or plug-in receptacles. Also available with studs for chassis mounting. Termination can be used for soldered connections. The plug-in-receptacle is true 10 ampere construction. Lugs can be used for either solder or snap-on connections. UL File #36213 10 Amps series MKTRO

	5 amp contact rating	6, 12, 24, 115V	220V
AC	MKTR1A SPDT	\$4.25	\$4.65
	MKTR2A DPDT	4.95	5.35
	MKTR3A 3PDT	5.40	5.85
		6, 12, 24V	110V
DC	MKTR1D SPDT	\$4.20	\$4.60
	MKTR2D DPDT	4.60	5.05
	MKTR3D 3PDT	5.10	5.50

AVAILABLE 3 WAYS: Plate circuit relay. Spotlight relay (with or without colored dust cover). Hermetic seal or any combination. DIMENSIONS: 1-27/32 X 1-3/8 X 1-3/8

- 92-67 RECEPTACLE .30 net.
- 92-82 Clip-on Receptacle .50
- 91-49 Hold down Spring .12

### NEW MINIATURE SENSITIVE RELAYS (SERIES SK) 60 MILLIWATTS PER POLE



This entire series of SK type relays is identical in construction to our MK series miniature relays, with one essential difference—the special alloy used in pole and frame increases the magnetic

flux many times thus making the relays very sensitive to very low power levels—only 60 milliwatts per pole.

UL File #39077

#### SERIES SK OPEN TYPE 5 AMPS

	up to 2500Ω	5000Ω	10,000Ω	15,000Ω	20,000Ω
SK-1 SPDT	\$4.15	\$4.25	\$4.80	\$4.80	\$5.05
SK-2 DPDT	4.65	4.80	5.30	5.30	5.55
SK-3 3PDT	5.10	5.20	5.75	5.75	6.00
SK-4 SPST-NO	4.10	4.20	4.75	4.75	5.00
SK-5 DPST-NO	4.55	4.70	5.20	5.20	5.45
SK-6 3PST-NO	4.95	5.05	5.60	5.60	5.85
SK-7 SPST-NC	4.10	4.20	4.75	4.75	5.00
SK-8 DPST-NC	4.55	4.70	5.20	5.20	5.45
SK-9 3PST-NC	4.95	5.05	5.60	5.60	5.85

#### SERIES SKT PRINTED CIRCUIT TYPE 5 AMPS

	up to 2500Ω	5000Ω	10,000Ω	15,000Ω	20,000Ω
SKT-1 SPDT	\$4.30	\$4.45	\$5.10	\$5.10	\$5.30
SKT-2 DPDT	4.85	5.00	5.55	5.55	5.85
SKT-3 3PDT	5.25	5.40	6.00	6.00	6.25
SKT-4 SPST-NO	4.25	4.40	5.05	5.05	5.25
SKT-5 DPST-NO	4.75	4.90	5.45	5.45	5.75
SKT-6 3PST-NO	5.10	5.25	5.85	5.85	6.10
SKT-7 SPST-NC	4.25	4.40	5.05	5.05	5.25
SKT-8 DPST-NC	4.75	4.90	5.45	5.45	5.75
SKT-9 3PST-NC	5.10	5.25	5.85	5.85	6.10

- Type SK
- Type SKA
- Type SKD
- Type SKT

#### SERIES SKA OPEN TYPE 5 AMPS .110 QUICK CONNECT LUGS

	up to 2500Ω	5000Ω	10,000Ω	15,000Ω	20,000Ω
SKA-1 SPDT	\$4.30	\$4.45	\$5.05	\$5.05	\$5.30
SKA-2 DPDT	4.85	5.00	5.55	5.55	5.85
SKA-3 3PDT	5.25	5.40	6.00	6.00	6.25
SKA-4 SPST-NO	4.25	4.40	5.00	5.00	5.25
SKA-5 DPST-NO	4.75	4.90	5.45	5.45	5.75
SKA-6 3PST-NO	5.10	5.25	5.85	5.85	6.10
SKA-7 SPST-NC	4.25	4.40	5.05	5.05	5.25
SKA-8 DPST-NC	4.75	4.90	5.45	5.45	5.75
SKA-9 3PST-NC	5.10	5.25	5.85	5.85	6.10

#### SERIES SKD OPEN TYPE 5 AMPS .187 QUICK CONNECT LUGS

	up to 2500Ω	5000Ω	10,000Ω	15,000Ω	20,000Ω
SKD-1 SPDT	\$4.30	\$4.45	\$5.05	\$5.05	\$5.30
SKD-2 DPDT	4.85	5.00	5.55	5.55	5.85
SKD-3 3PDT	5.25	5.40	6.00	6.00	6.25
SKD-4 SPST-NO	4.25	4.40	5.00	5.00	5.25
SKD-5 DPST-NO	4.75	4.90	5.45	5.45	5.75
SKD-6 3PST-NO	5.10	5.25	5.85	5.85	6.10
SKD-7 SPST-NC	4.25	4.40	5.00	5.00	5.25
SKD-8 DPST-NC	4.75	4.90	5.45	5.45	5.75
SKD-9 3PST-NC	5.10	5.25	5.85	5.85	6.10

- Type SKP

#### SERIES SKP PLUG-IN PLASTIC HOUSING 5 AMPS

	up to 2500Ω	5000Ω	10,000Ω	15,000Ω	20,000Ω
SKP-1 SPDT	\$6.90	\$7.00	\$7.40	\$7.40	\$7.65
SKP-2 DPDT	7.30	7.40	7.80	7.80	8.10
SKP-3 3PDT	8.75	8.90	9.40	9.40	9.65
SKP-4 SPST-NO	6.85	6.95	7.35	7.35	7.60
SKP-5 DPST-NO	7.20	7.30	7.70	7.70	8.00
SKP-6 3PST-NO	8.60	8.75	9.25	9.25	9.50
SKP-7 SPST-NC	6.85	6.95	7.35	7.35	7.60
SKP-8 DPST-NC	7.20	7.30	7.70	7.70	8.00
SKP-9 3PST-NC	8.60	8.75	9.25	9.25	9.50

#### SERIES SKTR LOW COST PLATE CIRCUIT RELAYS

##### PLUG-IN TYPE

5 AMP. DC	Up to 2500Ω	5000Ω	10,000Ω	20,000Ω
SKTR1 SPDT	\$5.30	\$5.45	\$6.05	\$6.30
SKTR2 DPDT	5.85	6.00	6.55	6.85
SKTR3 3PDT	6.25	6.60	7.00	7.25

##### PRINTED CIRCUIT TYPE ENCLOSED

SKTE1 SPDT	\$5.30	\$5.45	\$6.05	\$6.30
SKTE2 DPDT	5.85	6.00	6.55	6.85
SKTE3 3PDT	6.25	6.60	7.00	7.25



- Type SKTR



# LINE ELECTRIC COMPANY

RELAYS • BUZZERS • FOOT SWITCHES

## GENERAL PURPOSE RELAYS

### MINIATURE 4-POLE RELAY

(SERIES JA)



The series JA is a high quality, miniature 4PDT relay for AC or DC operation. The JA relay features nylon dust cover, gold flashed fine silver contacts rated at 3 amps. This imported relay features exceptional quality and rugged design to meet the most exacting requirements. It is excellent for computers, logic systems and data processing. Standard configuration features solder terminals and 3-48, 23/64" mounting stud. Can be used with our 92-79 solder lug socket or 92-80 P.C. socket (50c each)

	Voltage	Resistance	Nominal Power	Price
DC	6 VDC	40 OHMS	800 MW	\$4.10
	12 VDC	160 OHMS	800 MW	4.10
	24 VDC	650 OHMS	800 MW	4.10
	48 VDC	2500 OHMS	800 MW	4.20
	90 VDC	10000 OHMS	800 MW	4.90
	110 VDC	10000 OHMS	800 MW	4.90
AC	6 VAC	10.5 OHMS	1.1 VA	\$4.40
	12 VAC	43 OHMS	1.1 VA	4.40
	24 VAC	160 OHMS	1.1 VA	4.40
	115 VAC	3900 OHMS	1.1 VA	4.90

### MEDIUM POWER RELAY

OPEN TYPE

(SERIES LR)



Open type, heavy-duty type relay designed for many applications. Standard fine silver contacts rated at 10

amperes, optional Silver Cadmium load contacts rated at 15 amps. Ambient temperature operating range, continuous duty: A.C., -45° to 55°C.; D.C., -45° to 75°C.

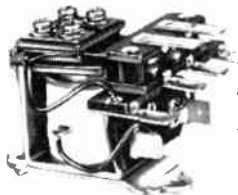
AC				DC			
10 amp contact rating				10 amp contact rating			
	6, 12, 24, 115V		220V		6, 12, 24V		110V
LR1A	SPDT	\$4.00	\$4.20	LR1D	SPDT	\$3.80	\$4.00
LR2A	DPDT	4.85	5.05	LR2D	DPDT	4.65	4.85
LR12A	SPDT-DB(15A)	5.05	5.25	LR12D	SPDT-DB(15A)	5.85	5.05

DIMENSIONS: 2-3/8 × 1-1/2 × 1-21/32

### MEDIUM POWER RELAY

OPEN TYPE

(SERIES LRT)



AC			
10 amp contact rating			
	6, 12, 24, 115V		220V
LRT-1A	SPDT	\$4.50	\$4.70
LRT-2A	DPDT	5.35	5.55
LRT-12A	SPDT-DB	5.55	5.75

Same quality features of the LR series (above) but in a special configuration utilizing .250 quick connect terminals.

DC			
10 amp contact rating			
	6, 12, 24V		110V
LRT-1D	SPDT	\$4.30	\$4.50
LRT-2D	DPDT	5.15	5.35
LRT-12D	SPDT-DB	5.35	5.55

NEW

### MEDIUM POWER RELAY

PLUG-IN TYPE

(SERIES LRP)



This relay is available in either metal or plastic enclosures, equipped with a standard octal plug in header

for single and double pole types. Eleven pin headers are also available. The standard LRP plastic enclosure is a clear C-11 Styrene, colors are available at no extra charge. Female sockets for 8 and 11 pin headers are also available.

AC				DC			
10 amp contact rating				10 amp contact rating			
	6, 12, 24, 115V		220V		6, 12, 24V		110V
LRP1A	SPDT	\$7.00	\$7.10	LRP1D	SPDT	\$6.80	\$7.00
LRP2A	DPDT	8.20	8.50	LRP2D	DPDT	8.00	8.40
LRP12A	SPDT-DB(15A)	8.80	9.00	LRP12D	SPDT-DB(15A)	8.70	8.80

DIMENSIONS: 3-1/4 × 1-15/16 × 1-15/16

### HEAVY DUTY RELAY

OPEN TYPE

(SERIES LG)



Open type relay, specifically designed for extremely heavy-duty applications. Standard Fine Silver load contacts are rated at 15 amps. with optional Silver Cad-

mium Oxide contacts where larger inrush loads are encountered. Loads are rated at 115/60 non-inductive. All load contacts are factory gold-flashed to prevent contact oxidation prior to use.

AC				DC			
15 amp contact rating				15 amp contact rating			
	6, 12, 24, 115V		220V		6, 12, 24V		110V
LG1A	SPDT	\$4.30	\$4.50	LG1D	SPDT	\$4.20	\$4.40
LG2A	DPDT	4.85	5.05	LG2D	DPDT	4.75	4.95
LG3A	3PDT	5.40	5.60	LG3D	3PDT	5.30	5.60

DIMENSIONS: 1-1/2 × 2-3/8 × 1-13/16



# LINE ELECTRIC COMPANY

RELAYS • BUZZERS • FOOT SWITCHES

## GENERAL PURPOSE RELAYS



### HEAVY DUTY RELAY PLUG-IN TYPE (SERIES LGP)

Plug-in type relay, with same quality features as above. Also available in either metal or clear biC-11 Styrene enclosure. Ambient temperature operating range, continuous duty; A.C., -45° to 55°C.; D.C., -45° to 75°C.

AC	10 amp contact rating	6, 12, 24, 115V	220V
LGP1A	SPDT	\$7.30	\$7.50
LGP2A	DPDT	7.85	8.05
LGP3A	3PDT	8.40	8.60

DC	10 amp contact rating	6, 12, 24V	110V
LGP1D	SPDT	\$7.20	\$7.40
LGP2D	DPDT	7.75	8.05
LGP3D	3PDT	8.40	8.60



### HEAVY DUTY POWER RELAYS\* (SERIES STA)

A 25 amp. power relay ideally suited for starting motors up to 1 hp, elevator controls, and many other applications which require high current or high voltage switching with maximum dependability. One piece molded base, sturdy two-hole mounting. Top removable coil.

Available with one or two auxiliary 5 ampere contacts.

\* See new miniature power relay (series PF) on Pg. 7 of this listing.

AC	25 amp contact rating	6, 12, 24, 115V	220V
STA2A	DPDT	\$6.55	\$6.85
STA3A	(1. aux. con.)	8.55	8.85
STA14A	(2. aux. con.)	10.05	10.35

DC	25 amp contact rating	6, 12, 24VDC	110VDC
STA2D	DPDT	\$6.55	\$6.85
STA3D	(1. aux. con.)	8.55	8.85
STA14D	(2. aux. con.)	10.05	10.35

DIMENSIONS: 2-1/2 × 2-15/16 × 3-3/8



### HEAVY DUTY POWER RELAYS (SERIES STM)

Same quality features as Series ST, but assembled on a compact base. Available with one or two auxiliary 5 amp contacts.

AC	25 amp contact rating	6, 12, 24, 115V	220V
STM1A	SPDT	\$4.25	\$4.75
STM4A	SPST NO	3.90	4.40
STM5A	DPST NO	4.65	5.15
STM7A	SPST NC	3.90	4.40
STM10A	SPST NO DB	4.15	4.65

STMC AVAILABLE WITH 1 AUX. CON.  
STMCC AVAILABLE WITH 2 AUX. CON.

DC	25 amp contact rating	6, 12, 24V	110V
STM1D	SPDT	\$4.25	\$4.95
STM4D	SPST NO	3.90	4.50
STM5D	DPST NO	4.65	5.50
STM7D	SPST NC	3.90	4.50
STM10D	SPST NO DB	4.15	4.75

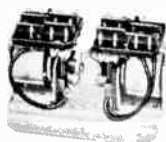
DIMENSIONS: 2-1/8 × 2-1/2 × 2-5/16

## MECHANICAL LATCH RELAYS

### OPEN TYPE (SERIES RL)

Open type for use where a sustained relay closure is required, and current drain of a relay coil is to be eliminated. Incorporates two coils, one to close load con-

tacts, the other to reset them. Requires only momentary electrical contact to operate or release. Provides positive mechanical latch, eliminating chatter during sustained relay closure.



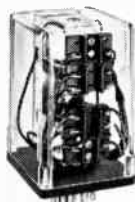
AC	5 amp contact rating	6, 12, 24, 115V	220V
RL1A	SPDT	\$7.15	\$8.00
RL2A	DPDT	8.25	9.00
RL3A	3PDT	9.15	9.95
RL14A	4PDT	10.45	11.30
RL15A	5PDT	11.45	12.30
RL16A	6PDT	12.55	13.35

DC	5 amp contact rating	6, 12, 24V	110V
RL1D	SPDT	\$6.50	\$7.75
RL2D	DPDT	7.50	8.75
RL3D	3PDT	8.50	9.75
RL14D	4PDT	9.50	10.75
RL15D	5PDT	10.50	11.75
RL16D	6PDT	11.50	12.75

Available in 10 amp contact rating. ASK FOR SERIES RLO DIMENSIONS: 2-11/16 × 1-3/4 × 1-3/4

### PLUG-IN TYPE (SERIES RLP)

Plug-in type, same factory-tested quality features as above. Available in clear C-11 Styrene enclosure up to 5PDT.



AC	5 amp contact rating	6, 12, 24, 115V	220V
RLP1A	SPDT	\$9.40	\$10.25
RLP2A	DPDT	10.50	11.30
RLP3A	3PDT	14.75	15.60
RLP14A	4PDT	16.15	17.00
RLP15A	5PDT	17.25	18.00

DC	5 amp contact rating	6, 12, 24V	110V
RLP1D	SPDT	\$8.75	\$10.05
RLP2D	DPDT	9.85	11.15
RLP3D	3PDT	14.10	15.40
RLP14D	4PDT	15.55	16.80
RLP15D	5PDT	16.65	17.90

All models available 3PDT, 4PDT, 5PDT, and in 10 amp contact rating.

ASK FOR SERIES RLH



# LINE ELECTRIC COMPANY

RELAYS • BUZZERS • FOOT SWITCHES

## HERMETICALLY SEALED RELAYS



### PLUG-IN TYPE (SERIES HKP)

The Series HKP relay incorporates the basic MK frame into hermetically sealed plug-in configuration. All units are thoroughly vacuum baked and out-gassed and back filled with nitrogen before sealing. The HK series will fit any standard octal based receptacle and is in the classification of a general purpose relay.

### PLATE CIRCUIT RELAYS 5 Amp

	2500Ω	5000Ω	10,000Ω	20,000Ω
HKF1 SPDT	\$8.90	\$9.00	\$9.40	\$9.65
HKF2 DPDT	9.30	9.40	9.80	10.10
HKF3 3PDT	10.75	10.90	11.40	11.65

	5 amp contact rating	6, 12, 24, 115V	220V
AC	HKP1A SPDT	\$8.45	\$8.90
	HKP2A DPDT	9.05	9.45
	HKP3A 3PDT	10.50	10.95
		6, 12, 24V	110V
DC	HKP1D SPDT	\$8.40	\$8.85
	HKP2D DPDT	9.00	9.40
	HKP3D 3PDT	10.45	10.90

	10 amp contact rating	6, 12, 24, 115V	220V
AC	HKH1A SPDT	\$8.50	\$8.95
	HKH2A DPDT	9.15	9.55
	HKH3A 3PDT	10.60	11.10
		6, 12, 24V	110V
DC	HKH1D SPDT	\$8.45	\$8.90
	HKH2D DPDT	9.10	9.50
	HKH3D 3PDT	10.60	10.95

DIMENSIONS: 2-1/16 x 1-21/32 x 1-7/16

### PLUG-IN TYPE. LOW COST (Series HKTR. 5 AMP) (Series HKTRO. 10 AMP)

These relays are hermetically sealed counterparts of our MKTR relays (see page 3) but they are especially designed for use with our 92-67 socket. Low profile general purpose applications.

### PRINTED CIRCUIT TYPE. LOW COST (Series HKT. 5 AMP) (Series HKTO. 10 AMP)

The same construction as HKTR and HKTRO (on left) but especially designed for use on printed circuit boards, mounting by means of .030 diameter pins.

	5 amp contact rating	6, 12, 24, 115V	220V
AC	HKTR-1A SPDT	\$ 8.45	\$ 8.90
	HKTR-2A DPDT	9.05	9.45
	HKTR-3A 3PDT	10.50	10.95
	HKTR-4A SPST-NO	8.40	8.85
	HKTR-5A DPST-NO	8.95	9.35
	HKTR-6A 3PST-NO	8.10	10.80
	HKTR-7A SPST-NC	8.40	8.85
	HKTR-8A DPST-NC	8.95	9.35
	HKTR-9A 3PST-NC	8.10	10.80
		6, 12, 24V	110V
DC	HKTR-1D SPDT	\$ 8.40	\$ 8.85
	HKTR-2D DPDT	9.00	9.40
	HKTR-3D 3PDT	10.45	10.90
	HKTR-4D SPST-NO	8.35	8.80
	HKTR-5D DPST-NO	8.90	9.30
	HKTR-6D 3PST-NO	10.30	10.75
	HKTR-7D SPST-NC	8.35	8.80
	HKTR-8D DPST-NC	8.90	9.30
	HKTR-9D 3PST-NC	10.45	10.75

	5 amp contact rating	6, 12, 24, 115V	220V
AC	HKT-1A SPDT	\$ 8.25	\$ 8.65
	HKT-2A DPDT	9.95	9.35
	HKT-3A 3PDT	10.40	10.85
	HKT-4A SPST-NO	8.20	8.60
	HKT-5A DPST-NO	9.85	9.25
	HKT-6A 3PST-NO	10.25	10.70
	HKT-7A SPST-NC	8.20	8.60
	HKT-8A DPST-NC	9.85	9.25
	HKT-9A 3PST-NC	10.25	10.70
		6, 12, 24V	110V
DC	HKT-1D SPDT	\$ 8.20	\$ 8.60
	HKT-2D DPDT	9.60	10.00
	HKT-3D 3PDT	10.10	10.50
	HKT-4D SPST-NO	8.15	8.55
	HKT-5D DPST-NO	9.50	9.90
	HKT-6D 3PST-NO	9.95	10.35
	HKT-7D SPST-NC	8.15	8.55
	HKT-8D DPST-NC	9.50	9.90
	HKT-9D 3PST-NC	9.95	10.35

	10 amp contact rating	6, 12, 24, 115V	220V
AC	HKTRO-1A SPDT	\$ 8.50	\$ 8.95
	HKTRO-2A DPDT	9.15	9.55
	HKTRO-3A 3PDT	10.60	11.10
	HKTRO-4A SPST-NO	8.45	8.90
	HKTRO-5A DPST-NO	9.05	9.45
	HKTRO-6A 3PST-NO	10.45	10.95
	HKTRO-7A SPST-NC	8.45	8.90
	HKTRO-8A DPST-NC	9.05	9.45
	HKTRO-9A 3PST-NC	10.45	10.95
		6, 12, 24V	110V
DC	HKTRO-1D SPDT	\$ 8.45	\$ 8.90
	HKTRO-2D DPDT	9.10	9.50
	HKTRO-3D 3PDT	10.60	10.95
	HKTRO-4D SPST-NO	8.40	8.85
	HKTRO-5D DPST-NO	9.00	9.40
	HKTRO-6D 3PST-NO	10.45	10.80
	HKTRO-7D SPST-NC	8.40	8.85
	HKTRO-8D DPST-NC	9.00	9.40
	HKTRO-9D 3PST-NC	10.45	10.80

	10 amp contact rating	6, 12, 24, 115V	220V
AC	HKTO-1A SPDT	\$ 8.25	\$ 8.65
	HKTO-2A DPDT	9.70	10.10
	HKTO-3A 3PDT	10.25	10.65
	HKTO-4A SPST-NO	8.20	8.60
	HKTO-5A DPST-NO	9.65	10.00
	HKTO-6A 3PST-NO	10.10	10.50
	HKTO-7A SPST-NC	8.20	8.60
	HKTO-8A DPST-NC	9.65	10.00
	HKTO-9A 3PST-NC	10.10	10.50
		6, 12, 24V	110V
DC	HKTO-1D SPDT	\$ 8.20	\$ 8.60
	HKTO-2D DPDT	9.50	9.90
	HKTO-3D 3PDT	10.10	10.50
	HKTO-4D SPST-NO	8.15	8.55
	HKTO-5D DPST-NO	9.40	9.80
	HKTO-6D 3PST-NO	9.95	10.35
	HKTO-7D SPST-NC	8.15	8.55
	HKTO-8D DPST-NC	9.40	9.80
	HKTO-9D 3PST-NC	9.95	10.35



# LINE ELECTRIC COMPANY

RELAYS • BUZZERS • FOOT SWITCHES

## TIME DELAY RELAYS

### PLUG-IN TYPE (SERIES TRP)

The series TRP Time Delay Relay provides a pre-set delay between the closing of one set of contacts and the subsequent operation of a set of SPDT load contacts.

The series TRP initiates from a sustained switch closure to L1 and L2. The unit resets instantaneously when this circuit is opened; ready for another timing operation.

The series TRP is available in two operational options:

**Type "A"**—If sustained closure is interrupted during time cycle, unit will not reset. When closure is again made, timing will continue to give originally selected time delay.

**Type "B"**—If sustained closure is interrupted during time cycle, unit will instantaneously reset.

Information Required When Ordering  
Time Cycle selected from chart.

\$18.50  
List

### SPECIFICATIONS

Plug in only using standard 8 pin octal receptacle.

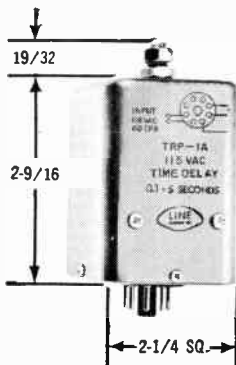
#### TIME CYCLES

Model	Minimum Setting	Maximum Setting
TRP-5	0.1 sec.	5 seconds
TRP-10	0.1 sec.	10 seconds
TRP-15	0.1 sec.	15 seconds
TRP-30	0.1 sec.	30 seconds
TRP-60	0.1 sec.	60 seconds

Note: Time Cycles exceeding 60 seconds available, contact factory for details.

Voltagcs 115/60 only.

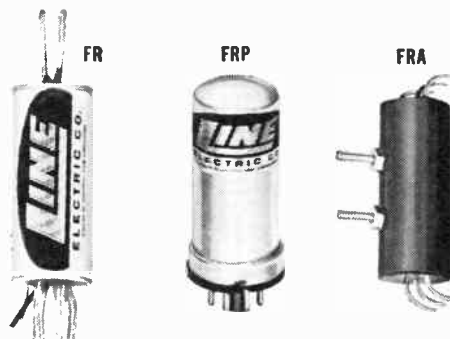
Load Contacts SPDT rated at 5 amps., non-inductive — Note: 10 amps available, contact factory.



## REED RELAYS — 3 STANDARD TYPES

In computer, data processing and guidance system development, design engineers are enthusiastically applying dry reed relays in place of switching diodes. The reasons: miniature profile—life expectancy exceeding 100,000,000 operations—less heat generated compared with switching diodes—3 millisecond operating time and very high resistance in the open contact stage.

To efficiently serve the growing demand for dry reed relays in these and other applications, Line Electric now stocks these 3 standard types for immediate delivery in prototype quantities.



#### Open Coil Type—Series FR

6 VDC & 12 VDC & 24 VDC. 6 Contact Arrangements  
FR1-SPDT, \$ 5.50 ea. FR4-SPST NO, \$3.30 ea.  
FR2-2PDT, \$ 9.00 ea. FR5-2PST NO, \$4.50 ea.  
FR3-3PDT, \$12.75 ea. FR6-3PST NO, \$5.50 ea.

#### Plug-In Type—Series FRP

6 VDC & 12 VDC & 24 VDC. 6 Contact Arrangements  
FRP1-SPDT, \$ 8.50 ea. FRP4-SPST NO, \$6.00 ea.  
FRP2-2PDT, \$12.00 ea. FRP5-2PST NO, \$7.50 ea.  
FRP3-3PDT, \$16.00 ea. FRP6-3PST NO, \$8.50 ea.

#### Lug Mount Type—Series FRA

6 VDC & 12 VDC & 24 VDC. 2 Contact Arrangements  
FRA1-SPDT, \$7.50 ea. FRA4-SPST NO, \$4.50 ea.

#### SPECIFICATIONS

<b>CONTACT RATING</b> 10 volt-amperes resistive 3 watts D.C. resistive	<b>OPERATE TIME</b> 3 milliseconds maximum, including bounce
<b>MAXIMUM CURRENT</b> 0.5 amperes	<b>CONTACT RESISTANCE</b> 50 milliohms
<b>DIELECTRIC STRENGTH</b> 250 volts 60 cps R.M.S.	<b>INSULATION RESISTANCE</b> 1000 megohms minimum
<b>MAXIMUM VOLTAGE</b> 110 volts	<b>RELEASE TIME</b> 5 milliseconds maximum, including bounce
<b>LIFE EXPECTANCY</b> Rated load - - - 1 x 10 <sup>6</sup> operations Dry circuit - - - 100 x 10 <sup>6</sup> operations	

## NEW MINIATURE POWER RELAY (SERIES PF)



The PF Series Relays are especially designed for applications where limited space is a factor. This relay, although small in size, is ideally suited for heavy duty industrial control applications where long life and fast action are a requirement. The PF Relay is supplied with 1/4" quick connect terminals on the contacts for ease of installation. Other type terminals are available upon request. Consult factory for details.

#### CONTACTS

Material 1/4" dia. silver cadmium oxide gold flashed.  
Contact Terminals 1/4" quick connect. Pierced for soldering.

#### COILS

Dielectric Strength 750 V.R.M.S.  
Nominal Power D.C. relays - 1.1 watts avg.  
A.C. relays - 2.5 volt amps avg.  
Over-Voltage D.C. - 140% of nominal. A.C. - 125% of nominal.  
Operate Time 15 milliseconds or less.  
Weight 3 ounces  
Temperature Range -40° C. to +50° C.  
Coil Terminals Solder type.  
25 amp. contact rating 6-12-24-115V 220V

AC PF10A SPST-NO-DB	\$3.90	\$4.30
DC PF10D SPST-NO-DB	3.70	4.30



# LINE ELECTRIC COMPANY

RELAYS • BUZZERS • FOOT SWITCHES

## MINIATURE TELEPHONE RELAYS



(SERIES GT)

Fast acting miniature telephone type relay. Highly versatile, supplied in contact arrangements up to 6PDT,

and in a variety of styles including open, dust cover, and hermetically sealed. Factory will supply enclosure details.

**AC**

	6, 12, 24V	115V
GT1A SPDT	\$5.55	\$5.95
GT2A DPDT	6.50	6.75
GT3A 3PDT	7.00	7.45
GT14A 4PDT	7.40	7.85
GT15A 5PDT	8.10	8.50
GT16A 6PDT	8.80	9.30

**DC**

	6, 12, 24V	110V
GT1D SPDT	\$3.55	\$4.00
GT2D DPDT	4.50	4.75
GT3D 3PDT	5.00	5.45
GT14D 4PDT	5.40	5.85
GT15D 5PDT	6.10	6.50
GT16D 6PDT	6.80	7.30

DIMENSIONS: Max. 1-9/16 × 17/32 × 3/4

## BUZZERS D.C. - A.C.



### VARIABLE SOUND AND PITCH D.C. - A.C.

The series BD buzzers are designed for use in offices, plants, etc., where quality, good appearance and dependable operation is demanded. Three sizes of buzzers are available, each size varying in tone and volume of sound. However, the volume of sound and pitch of each size buzzer can be varied by means of double, locking adjustments. The three sizes of buzzers are equipped with phosphor bronze springs and pure hard-drawn silver contacts. They are bug and dust-proof with tight-fitting polished chrome covers.

BD



BDH

Model No.	6-8VDC	12VDC	24VDC	48VDC
BD-0	\$3.25	\$3.50	\$3.75	\$5.25
BD-1	3.15	3.25	3.40	4.80
BD-2	3.25	3.50	3.75	5.20

(BD-0 Low tone, BD-1 Medium tone, BD-2 Loud tone)

**Hermetic Seal**

BDH	8.50	9.00	9.50	10.00
-----	------	------	------	-------

DIMENSIONS: BD0—1-5/8 × 1-1/8 × 1-1/2  
 BD1—2-1/8 × 2 × 11/16  
 BD2—2-7/8 × 2-1/2 × 1  
 BDH—1-9/16 × 3-13/16 × 2-13/16



MD

**AC BUZZERS**

Available for 6, 12, 24, 115, 220, and 440 volts A.C. 60 cps operation, these buzzers are ideally suited for paging, warning, starting and dismissal signals. These buzzers are a non-contact type therefore suitable for continuous duty, providing a clear, penetrating signal.



MB



MC



MA

6, 12, 24, 115 VAC/60 cy 220VAC/60 cy

MA	\$2.25	\$2.80
MB	2.50	3.05
MC	3.15	3.70
MD	1.60	2.40
MCH		
Hermetic Seal	10.00	11.00

## PEDALINE FOOT SWITCH



The Pedaline is a compact light weight foot operated switch. The single switch type weighs only 7 ounces; the double switch type 7½ ounces. Baked on light gray hammertone enamel finish with black foot pad. Available with a single pole snap action switch or two single pole double throw switches which operate in sequence.

#PL1 single switch only	\$3.15
#PL-1C single switch w/line cord	\$4.45
#PL5 double switch	\$4.80
#PL-5C double switch w/line cord	\$5.65

DIMENSIONS: 3-1/2 × 2-5/8 × 1

## LINE ELECTRIC CO.

Division of Industrial Timer Corporation

IN CANADA: Sperry Gyroscope Ottawa Ltd.

# MAGNECRAFT RELAYS

The relays you can rely on

## 461 different Relay Models

Immediate Delivery from  
STOCKING DISTRIBUTORS

Page 1

MAGNECRAFT ELECTRIC CO.

All prices and specifications effective August 1, 1966 and subject to change without notice.

All prices are NET for 1 to 9 Relays except Mercury-Wetted Contact and Dry Reed Relay prices are NET for 1 to 24.

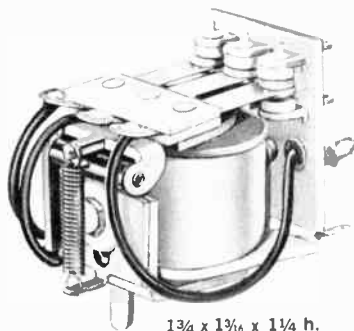
All contact ratings based on 115 VAC or 32 VDC, non-inductive load.

Voltage operated relays pull in at 85% of nominal voltage.

**ORDER BY CATALOG NUMBER.** Labels on MAGNECRAFT STOCK RELAY CARTONS carry Catalog Number, contact combination and rating; coil voltage or current.

All enclosed relays are identified by catalog number and wiring diagram.

**NOTE.** Order MAGNECRAFT STOCK RELAYS from STOCKING DISTRIBUTORS. Their stocks are supplemented by complete stocks maintained at the MAGNECRAFT plant in Chicago.



1 3/4 x 1 1/8 x 1 1/4 h.

### Class 88

AC and DC  
Small, 10-amp.  
General Purpose  
Relay

**Open Type Relay.** Has 10 ampere silver alloy contacts. Tinned solder terminals, spaced for easy wiring. One #6-32 tapped mounting hole with locating boss. Weight 2 ounces.

### The General Purpose Relay with Telephone Type Reliability

The MAGNECRAFT 88 Relay is an abrupt departure in clapper type relay design. Dimensionally interchangeable with relays made by others the 88 has been developed to provide Telephone Type Relay reliability at general purpose relay prices.

Unique in relays of this type MAGNECRAFT 88 Relays have rugged, precision-built hinge-pin armature bearings with over-size bearing surfaces—the same construction used in the finest telephone type relays for lowest friction and maximum contact effectiveness with stabilized adjustment over long life.

Glass insulation provides great di-electric strength unaffected by humidity and temperature changes.

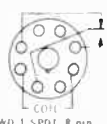
Molded Nylon bobbins with ruggedized coil terminal inserts eliminate possibility of shorts.

Built-in contact wipe with riveted contacts further advance reliability through long life.

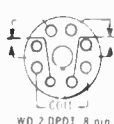
The many refinements, plus MAGNECRAFT Quality Control and Inspection Standards, give you hidden values beyond price—unseen values that keep making friends through years of dependable service.

When you inspect and compare you will soon see that many MAGNECRAFT 88 extra values are not hidden.

#### Wiring diagrams for Class 88 Plug-in Mounted Relay



WD 1 SPDT 8 pin



WD 2 DPDT 8 pin



WD 3 3PDT 11 pin

h\* is overall dimension above socket WD is abbreviation for Wiring Diagram  
†Voltage operated relays pull in at 85% of nominal voltage.



### CRACKPROOF

### Class 88CP

AC and DC  
Small, Plug-in  
in Crackproof  
plastic cover

See wiring diagrams  
at lower left

1 3/8 x 1 1/8 x 2 1/8 h

Enc. 40-279 **CRACKPROOF**, clear as glass, tough as steel dust cover of poly-carbonate resin housing Class 88 relay with 8- or 11-pin standard octal plug. Silver alloy contacts, 10 amp. rating. Weight, 3 ounces.

contact arrangement	COIL			10 ampere silver alloy contacts			
	†volt. or current	res. ohms	nominal power	OPEN RELAY		with Enclosure 40-279	
				Stock Part No.	Price 1 to 9	Stock Part No.	Price 1 to 9
alternating current voltage actuated							
SPDT WD-1	6VAC	3 VA		W88AX1	3.45	W88ACPX1	5.56
	12VAC			W88AX2	3.45	W88ACPX2	5.56
	24VAC			W88AX3	3.50	W88ACPX3	5.61
	115VAC			W88AX4	3.66	W88ACPX4	5.79
	230VAC			W88AX34	4.12	W88ACPX76	6.31
DPDT WD 2	6VAC	3 VA		W88AX5	4.07	W88ACPX5	6.24
	12VAC			W88AX6	4.07	W88ACPX6	6.24
	24VAC			W88AX7	4.12	W88ACPX7	6.29
	115VAC			W88AX8	4.27	W88ACPX8	6.44
	230VAC			W88AX32	4.74	W88ACPX32	6.99
3PDT WD-3	6VAC	3 VA		W88AX9	4.56	W88ACPX9	7.66
	12VAC			W88AX10	4.56	W88ACPX10	7.66
	24VAC			W88AX11	4.62	W88ACPX11	7.81
	115VAC			W88AX12	4.77	W88ACPX12	7.97
	230VAC			W88AX36	5.26	W88ACPX39	8.51
direct current voltage actuated							
SPDT WD-1	6VDC	25	1.5W	W88X2	3.20	W88CPX1	5.35
	12VDC	100		W88X3	3.20	W88CPX2	5.35
	24VDC	400		W88X4	3.28	W88CPX3	5.40
	110VDC	8000		W88X5	3.85	W88CPX4	5.95
DPDT WD 2	6VDC	25	1.5W	W88X6	3.73	W88CPX5	5.85
	12VDC	100		W88X7	2.73	W88CPX6	5.85
	24VDC	400		W88X8	3.79	W88CPX7	5.95
	110VDC	8000		W88X9	4.36	W88CPX8	6.51
3PDT WD-3	6VDC	25	1.5W	W88X10	4.17	W88CPX9	7.23
	12VDC	100		W88X11	4.17	W88CPX10	7.28
	24VDC	400		W88X12	4.21	W88CPX11	7.38
	110VDC	8000		W88X13	4.77	W88CPX12	7.95
DC current actuated for plate circuit operation							
SPDT WD-1	7.2 MA	2500	125MW	W88X14	3.75	W88CPX13	5.90
	5.0 MA	5000		W88X15	3.85	W88CPX14	6.00
	3.6 MA	10000		W88X16	4.25	W88CPX15	6.40
DPDT WD-2	10 MA	2500	250MW	W88X17	4.01	W88CPX16	6.30
	7.2 MA	5000		W88X18	4.11	W88CPX17	6.40
	5 MA	10000		W88X19	4.51	W88CPX18	6.80
3PDT WD-3	12.3 MA	2500	375MW	W88X20	4.44	W88CPX19	7.70
	8.7 MA	5000		W88X21	4.54	W88CPX20	7.80
	6.1 MA	10000		W88X22	4.94	W88CPX21	8.20

### Class 88HP—Hermetically Sealed Enclosure Plug-in Mounted—10 amps.—AC and DC

40-180 enclosure, hermetically sealed, housing Class 88 high reliability relay (see above) with standard 8-pin octal plug. Silver alloy contacts, 10-ampere rating. Weight 5 ounces.

### 88HP

Stock Part No.	contacts 10 amps.	COIL		nom. power	Price 1 to 9
		†Volts	Ohms		
W88AHPX-21	DPDT WD-2	6VAC	—	3VA	8.59
W88AHPX-22		12VAC	—		8.59
W88AHPX-23		24VAC	—		8.64
W88AHPX-24		115VAC	—		8.79
W88HPX-32	DPDT WD-2	6VDC	25	1.5W	8.19
W88HPX-33		12VDC	100		8.19
W88HPX-34		24VDC	400		8.24
W88HPX-35		110VDC	8000		9.29
W88AHPX-36	3PDT WD-3	115VAC	—	3VA	10.60
W88HPX-51		24VDC	400		1.5W



1-11/16 diameter x 2-1/32 h.



# MAGNECRAFT RELAYS

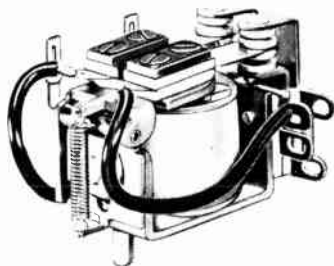
## Power and Latching

### Small—Power—AC and DC—15 amps.

### Power—AC and DC—50 amps.

### Latch-in—AC and DC—Small

88R



1 7/8 x 1-15/32 x 1-5/32 high

Class **88R** extra quality, high reliability clapper type relay with 15 ampere heavy duty silver alloy contacts for industrial control applications. Has the exclusive quality features of Class 88 relays described on page one. Tinned solder terminals. One #6-32 tapped mounting hole and locating boss. Weight 3 ounces.

Stock Part No.	contacts 15 amps.	COIL		nominal power	Price 1 to 9
		†volts	ohms		
W88ARX1	DPDT	6VAC	—	3VA	5.97
W88ARX2		12VAC	—		5.97
W88ARX3		24VAC	—		6.02
W88ARX4		115VAC	—		6.17
W88RX1	DPDT	6VDC	25	1.5W	5.90
W88RX2		12VDC	100		5.90
W88RX3		24VDC	400		5.95
W88RX4		110VDC	8000		6.40

88D

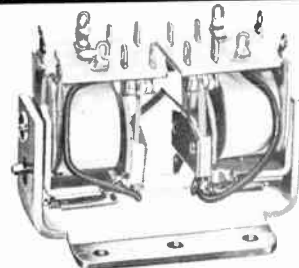


1-13/16 x 1 1/4 (less soldering tabs) x 1-7/16 high

The popular high reliability Class 88 Relay (see page 1) specially designed with 50-ampere SPST, Double Break, Normally Open contacts. Developed especially for switching heavy current in minimum space reliably and economically. Unique contact structure provides positive wiping action. One 6-32 tapped mounting hole and locating boss. Weight, 3 ounces.

Stock Part No.	contacts 50 amps.	COIL		nominal power	Price 1 to 9
		†volts	ohms		
W88ADX-1	50 amperes SPST	24VAC	—	3VA	5.15
W88ADX-2		115VAC	—		5.25
W88ADX-3		230VAC	—		5.70
W88DX-1	double break Normally Open	6VDC	25	1.5W	4.65
W88DX-2		12VDC	100		4.65
W88DX-3		24VDC	400		4.70
W88DX-4		110VDC	8000		5.94

88L



2-11/16 max. x 1 3/4 x 1-15/16 high max.

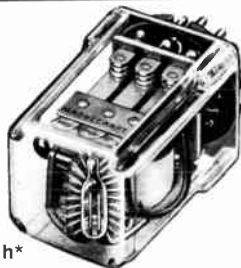
Two class 88 relays (see page 1) with interlocking latch-in levers mounted on a common base. Each armature latches when pulled in. Energizing one armature releases (rests) the other. Each relay is complete with independent operating coil. Contacts are silver alloy, 10 ampere rating. Relay coils are designed for continuous duty operation. Weight 6 1/2 ounces.

Stock Part No.	contacts 10 amps.	COIL		nominal power	Price 1 to 9
		†volts	ohms		
W88ALX-2	4PDT	6VAC	—	6VA	10.60
W88ALX-3		24VAC	—		10.60
W88ALX-4		115VAC	—		10.60
W88ALX-5	6PDT	6VAC	—	6VA	12.80
W88ALX-6		24VAC	—		12.80
W88ALX-7		115VAC	—		12.80
W88LX-1	4PDT	6VDC	12	3W	9.65
W88LX-2		12VDC	50		9.65
W88LX-3		24VDC	200		9.65
W88LX-4		110VDC	4000		10.85
W88LX-5	6PDT	6VDC	12	3W	11.75
W88LX-6		12VDC	50		11.75
W88LX-7		24VDC	200		11.75
W88LX-8		110VDC	4000		12.95

### Small—AC—10-amp.—plug-in relay with neon "ON" light

88ANCP

**CRACKPROOF**  
clear as glass  
tough as steel!



1 3/8 x 1 3/8 x 2 1/8 h\*

Enc. 40-279 CRACKPROOF, clear as glass, tough as steel dust cover of polycarbonate resin with 8- or 11-pin standard octal plug housing Class 88 high reliability relay (see page 1) with built-in neon circuit indicator light. Indicator light comes on when coil is energized.

- Eliminates need for expensive pilot lamp assemblies
- Circuit condition can be seen at a glance
- Saves panel space

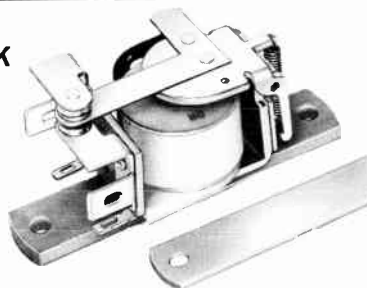
Silver alloy contacts, 10 ampere rating. Weight, 3 ounces.

Stock Part No.	contacts 10 amps.	wiring diagrams	†volt. AC	nominal power	Price 1 to 9
W88ANCPX-1	SPDT	WD 1*	115	3VA	6.64
W88ANCPX-2	DPDT	WD 2*	115		7.29
W88ANCPX-3	3PDT	WD 3*	115		8.81

\*See page 1.  
†Voltage operated relays pull in at 85% of nominal voltage at 25° C.

### Low Cost Power Switching—AC and DC—15 amps.

88K



2 5/8 (including mounting base) x 1 1/4 x 1 1/4 high

Using the same frame and hinge-pin armature mechanism of the standard Class 88 Relay, the Class **88K** has 15 ampere heavy duty silver cadmium oxide, goldflashed contacts, for power switching at new low costs. Contacts assembled to glass insulated terminal board for high dielectric strength. Flexible moving contact arm provides excellent contact wipe for reliable operation over long life. Ideally suited for industrial switching application, the terminals are designed to accept AMP Faston "250" Series receptacles on the contacts and "110" Series receptacles on the coil, or equivalent thereof. If desired, standard soldering connections can be used. Relay is securely fastened to mounting base. Mounting base insulator furnished with relay for installation between mounting base and chassis.

### Low Cost Power Switching Relay With Furnished Mounting Base

Stock Part No.	Contacts 15 amps	COIL		nominal power	Price 1 to 9
		†volts	* ohms		
W88AKX-1	SPDT	24VAC	25	3VA	4.48
W88AKX-2		115VAC			4.65
W88AKX-3		230VAC			5.63
W88KX-1	SPDT	6VDC	100	1.5W	4.31
W88KX-2		12VDC			4.36
W88KX-3		24VDC			4.46
W88KX-4		110VDC			8000

\*Resistance values ± 10%, measured at 25° C.

†Voltage operated relays pull in at 85%, or less, of nominal voltage at 25° C.

Send for complete 50-page Engineering Catalog

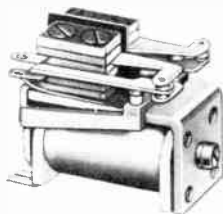
MAGNECRAFT ELECTRIC CO.

Telephone Type

# MAGNECRAFT RELAYS

**Sub-miniature—DC—3 amps.**

33



1-11/32 x 11/16 x 1 1/4 h. max.

Class 33 midget sub-miniature; the smallest telephone type MAGNECRAFT Relay and one of the smallest telephone type relays on the market. Class 33 is also the fastest operating and inherently more shock resistant and vibration resistant. Long life, reliability and accuracy fit Class 33 relays for a wide range of small space requirements. They are extensively used for aircraft, computer and mobile applications where small size, light weight and resistance to shock and vibration are essential.

Palladium contacts; 3 ampere rating. Four 4-40 tapped mounting holes on 3/8 x 3/8 centers. Weight 1 ounce.

Stock Part No.	contacts 3 amps.	COIL		nominal power	Price 1 to 9
		Volts	ohms		
W33X237	DPDT	6VDC	17	2.0W	4.87
W33X238		12VDC	75		4.87
W33X239		24VDC	280		4.92
W33X240		110VDC	6500		5.50
W33X241	4DPT	6VDC	17	2.0W	6.58
W33X242		12VDC	75		6.58
W33X243		24VDC	280		6.63
W33X244		110VDC	6500		7.23

**22TPM Direct Plug-in Assemblies with Twin Contacts Snap-on Cover**

Effect big saving over factory-wired plug-ins.

- A. You wire the precision built socket
- B. Plug the 22TPM Relay into the socket
- C. Snap-on CRACKPROOF clear as glass, tough as steel polycarbonate resin dust cover.



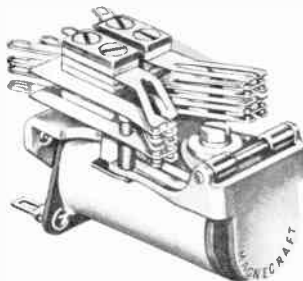
1-21/32 x 2-45/64 x 2 5/8 h.

Class 22TPM direct plug-in assemblies give you all the plug-in advantages with savings, compactness and convenience not obtainable with factory-wired plug-ins. These stock assemblies have twin palladium contacts rated 4 amps at 115 VAC or 32 VDC non-inductive load. Part Numbers and prices include complete assembly-socket with screws, 22TPM Relay and snap-on dust cover.

Stock Part No.	contacts 4 amps.	COIL		nominal power	Price 1 to 9
		Volts	ohms		
W22ATPMX-1	DPDT	115VAC	—	5VA	8.35
W22ATPMX-2	4DPT	115VAC	—	5VA	11.52
W22TPMX-1	DPDT	24VDC	500	1.5W	8.10
W22TPMX-2	4DPT	24VDC	500	1.5W	10.87

**Small—AC and DC—Twin Contacts**

22T



2-1/16 x 1-3/32 x 1 1/4 h. max.

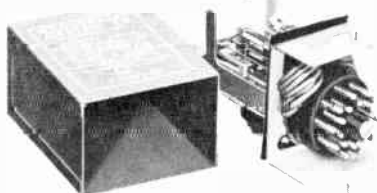
Class 22T—miniature long form relay with accuracy reliability and long life equal and sometimes superior to larger relays. A unique, pin type armature hinge of heavy duty design and precision construction assures stabilized adjustment through millions of operations. Twin Palladium contacts with long, flexible bifurcated contact springs assure the ultimate in switching reliability.

Twin Palladium contacts, 4 ampere rating. All mounting and wiring at heel end. Tinned solder terminals with easy-to-wire spacing. Two #6-32 tapped mounting holes on 3/4 centers. Weight, 5 ounces.

Stock Part No.	contacts 4 amps.	COIL		nominal power	Price 1 to 9
		V or C	ohms		
<b>alternating current voltage actuated</b>					
W22ATX12	DPDT	115VAC	—	5VA	5.94
<b>direct current voltage actuated</b>					
W22TX267	4PDT	6VDC	20	2.0W	8.44
W22TX268		12VDC	80	2.0W	8.44
W22TX269		24VDC	375	1.5W	8.49
W22TX270		110VDC	8000	1.5W	9.97
W22TX271	6PDT	6VDC	12	3.0W	11.87
W22TX272		12VDC	50	3.0W	11.87
W22TX273		24VDC	250	1.5W	11.92
W22TX274		110VDC	5000	1.5W	12.91
<b>DC current actuated for plate circuit operation</b>					
W22TX276	SPDT	4.5 MA	5000	100MW	5.91
W22TX277		6.0 MA	2700	100MW	5.24
W22TX278		3.2 MA	10000	200MW	6.18
W22TX275	DPDT	4.5 MA	10000	200MW	6.93

**Small—DC—Plug-in with removable dust cover**

22CP



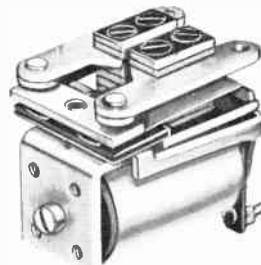
1-9/16 x 2-11/16 x 3-13/32 h\*

45-176 removable dust cover with Class 22 relay and 20-pin octal plug. Hold-down bracket permits mounting in any position. Internal bracket supports cover. One screw holds cover. Rubber gasket seals out dust. Silver alloy contacts, 5 ampere rating. Hold down bracket has two mounting holes for 6-32 screws on 2 1/2 centers. Weight, 8 ounces.

Stock Part No.	contacts 5 amps.	COIL		nominal power	Price 1 to 9
		Volts	ohms		
W22CPX61	6PDT	6VDC	12	3.0W	16.72
W22CPX62		12VDC	50		16.72
W22CPX63		24VDC	225		16.77
W22CPX64		110VDC	5000		17.35

**Miniature Power—DC 50 amps.—SPST-NO-DB**

11D



1 5/8 x 15/16 x 1-7/16 h.

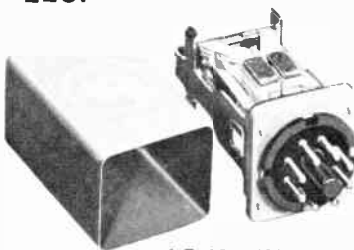
Class 11D miniature telephone type relay with heavy brass contact arms and large 50-ampere silver alloy, single pole, single throw, normally open, double break contacts. The Class 11 is a small size relay with big relay reliability accuracy and long life.

Solder terminals, spaced for easy wiring. Four 4-40 tapped mounting holes on 3/8 x 7/8 centers. Weight, 3 ounces.

Stock Part No.	contacts 50 amps.	COIL		nominal power	Price 1 to 9
		Volts	ohms		
W11DX38	SPST-NO	6VDC	25	1.5W	5.39
W11DX39		12VDC	100		5.45
W11DX40		24VDC	400		5.45
W11DX41		110VDC	9000		6.08

**Small—AC and DC—Plug-in with removable dust cover**

22CP



1-7/16 x 1 5/8 x 2-11/16 h\*

40-284 enclosure with removable dust cover housing Class 22 relay with 8- or 11-pin standard octal plug. Internal bracket supports cover and protects relay. One screw holds cover in place. Silver alloy contacts, 5 ampere rating. Weight, 6 ounces.

Stock Part No.	contacts 5 amps.	COIL		nominal power	Price 1 to 9
		Volts	ohms		
<b>alternating current voltage actuated</b>					
W22ACPX60	DPDT	115VAC	—	5VA	10.23
<b>direct current voltage actuated</b>					
W22CPX44	SPDT	6VDC	20	2.0W	8.73
W22CPX45		12VDC	80	2.0W	8.73
W22CPX46		24VDC	375	1.5W	8.78
W22CPX47		110VDC	8000	1.5W	10.02
W22CPX48	DPDT	6VDC	20	2.0W	9.85
W22CPX49		12VDC	80	2.0W	9.85
W22CPX50		24VDC	375	1.5W	9.90
W22CPX51		110VDC	8000	1.5W	11.14
W22CPX52	3DPT	6VDC	20	2.0W	11.87
W22CPX53		12VDC	80	2.0W	11.87
W22CPX54		24VDC	375	1.5W	11.92
W22CPX55		110VDC	8000	1.5W	13.16
W22CPX57	SPDT	4.5 MA	5000	100MW	9.36
W22CPX58		4.5 MA	2700	100MW	9.02
W22CPX59		3.2 MA	10000	200MW	10.02
W22CPX56	DPDT	4.5 MA	10000	200MW	11.14

h\* is overall dimension above socket

# MAGNECRAFT RELAYS

**Hermetically Sealed**

**Hermetically Sealed Sub-miniature DC—5 amps.**

**33HS**

31/32 x 1-11/32 x 1-41/64 h\*



40-157 enclosure, hermetically sealed, housing Class 33 miniature relay with 8- or 14-pin high compression, glass insulated, solder terminal header. Silver alloy contacts, 5-ampere rating. Three 4-40 tapped mounting holes on 1/2 x 1 centers. Weight, 3 ounces.

Stock Part No.	contacts 5 amps.	CDIL—DC		nominal power	Price 1 to 9
		∓Volts	ohms		
W33HSX177	DPDT	6VDC	17	2.0W	13.21
W33HSX178		12VDC	280		13.21
W33HSX179		24VDC	280		13.26
W33HSX180	110VDC	6500	13.87		
W33HSX181	4PDT	6VDC	17	2.0W	16.65
W33HSX182		12VDC	75		16.65
W33HSX183		24VDC	280		17.70
W33HSX184		110VDC	6500		17.36

**Hermetically Sealed Miniature DC—5 amps.**

**11HS**

1 1/8 x 1-7/16

x 2-1/16 h\*



40-102 enclosure, hermetically sealed, housing Class 11 miniature relay with 14-pin high compression, glass insulated solder terminal header. Silver alloy contacts, 5 ampere rating. Three #6-32 NC-2 threaded mounting studs on 1/8 x 1 1/8 centers. Weight, 6 ounces.

Stock Part No.	contacts 5 amps.	CDIL—DC		nominal power	Price 1 to 9
		∓V or C.	ohms		
W11HSX321	4PDT	6VDC	25	1.5W	15.92
W11HSX322		12VDC	100		15.97
W11HSX323		24VDC	400		15.97
W11HSX324		110VDC	9000		17.06

DC current actuated for plate circuit operation  
W11HSX325 | DPDT | 5 MA | 10000 | 250MW | 13.70  
WD-8

**Hermetically Sealed Miniature DC 5 amps.**

**11HS**

1-15/64 x 1-47/64 x 2 3/8 h\*



40-188 enclosure, hermetically sealed, housing. Class 11 miniature relay with 20-pin high compression glass insulated solder terminal header. Silver alloy contacts, 5 ampere rating. Three #6-32 NC-2 threaded mounting studs on 1/2 x 1 1/2 centers. Weight, 6 ounces.

Stock Part No.	contacts 5 amps.	COIL—DC		nominal power	Price 1 to 9
		∓volts	ohms		
W11HSX326	6PDT	6VDC	13	2.5W	19.91
W11HSX327		12VDC	56		19.91
W11HSX328		24VDC	280		19.96
W11HSX329	110VDC	5000	20.18		



**Hermetically Sealed—small—AC and DC—5 amps.**

40-158 enclosure, hermetically sealed, housing Class 22 relay with 14-pin glass insulated solder terminal header. Silver alloy contacts, 5 ampere rating. Three #6-32 threaded mounting studs on 1/8 x 1 3/8 centers. Weight, 7 ounces.

Stock Part No.	contacts 5 amps.	COIL		nominal power	Price 1 to 9
		∓volts	ohms		
alternating current voltage actuated					
W22AHSX32	4PDT	115VAC	500	5VA	17.30
direct current voltage actuated					
W22HSX144	4PDT	6VDC	20	2.0W	17.00
W22HSX145		12VDC	80	2.0W	17.00
W22HSX146		24VDC	375	1.5W	17.05
W22HSX147		110VDC	8000	1.5W	18.03

**22HS**

1-7/16 x 1 5/8 x 2-11/16 h\*

## Micro-Miniature Rotary Relays

**MAGNECRAFT Class 44 Rotary Relays** have been developed to provide increased reliability in the crystal can size. Here are a few of many areas in which improvement has been made:

1. Frame and header assembly of rugged bridge-type construction—assures greatly increased resistance to distortion from shock, vibration and temperature—to military specifications.
2. Balanced armature—minimizes the effect of gravity, shock and vibration on operating reliability.
3. Hinge design—oversize, instrument type bearings at BOTH ends.
  - a. Minimizes friction for increased sensitivity and greater contact pressure.
  - b. Increases operating reliability and life.
4. The finest development in high temperature insulation.
5. Hermetically sealed in inert gas for maximum protection against severe ambient conditions.

Contact combination: Double Pole, Double Throw  
Contact rating: 2 amperes at 28 VDC or 115 VAC, non-inductive.  
Operate Time: 5 milliseconds maximum with nominal voltage.  
Release Time: 5 milliseconds maximum.

**44**



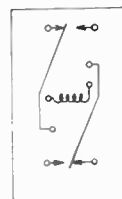
Enc. 40-227 plug-in header no bracket

Enc. 40-222 solder terminals no bracket

Enc. 40-224 solder terminals side bracket

Enc. 40-234 solder terminals flange bracket

Case Dimensions .875 x .797 x .359



Standard Contact Arrangement

COIL—DC volts	ohms	noml. power	Stock Part No.		Price 1 to 9	
			Enc. 40-227	Enc. 40-222	Enc. 40-224	Enc. 40-234
6.5	34	1.2W	W44HPX-34	17.60	W44HSX-103	17.95
11	92		W44HPX-35	17.60	W44HSX-104	17.60
26.5	552		W44HPX-36	17.60	W44HSX-105	17.60
38.5	1278		W44HPX-37	18.00	W44HSX-106	18.00
76	5000		W44HPX-38	19.90	W44HSX-107	19.90
6.5	34	1.2W	W44HSX-108	17.95	W44HSX-113	17.95
11	92		W44HSX-109	17.95	W44HSX-114	17.95
26.5	552		W44HSX-110	17.95	W44HSX-115	17.95
38.5	1278		W44HSX-111	18.35	W44HSX-116	18.35
76	5000		W44HSX-112	20.25	W44HSX-117	20.25

## Class 33F, RF Switching, Subminiature

Class 33 telephone type relay designed especially for lowest capacitance between springs and minimum losses at high frequencies. Suitable for antenna change-over switching. Contact springs have ceramic insulation. Contacts are Palladium, 2 ampere rating.

Tinned solder terminals. Four #4-40 tapped mounting holes on 3/8 x 3/8 centers. Weight, 1 ounce. 1 1/32 l, 1/16 w, 1/4 h.

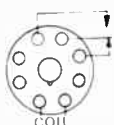


**33F**

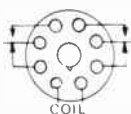
h\* is dimension above mounting base. WD is abbreviation for Wiring Diagram  
∓Voltage operated relays pull in at 85% of nominal voltage.

Stock Part No.	contacts 2 amps.	CDIL—DC		nominal power	Price 1 to 9
		∓volts	ohms		
W33FX20	SPDT	6VDC	28	1.5W	4.06
W33FX21		12VDC	100		4.11
W33FX22		24VDC	500		4.16
W33FX23		110VDC	6500		4.69

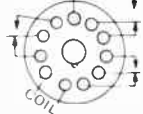
### Plug-in Header Wiring Diagrams



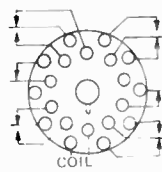
WD-4, SPDT, 8-pin



WD-5 DPDT, 8-pin

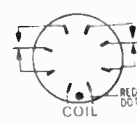


WD-6 3PDT, 11-pin

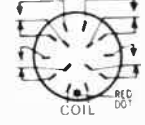


WD-7 6PDT, 20-pin

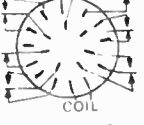
### Solder Terminal Header Wiring Diagrams



WD-8 DPDT, 8-hook



WD-9 4PDT, 14-hook



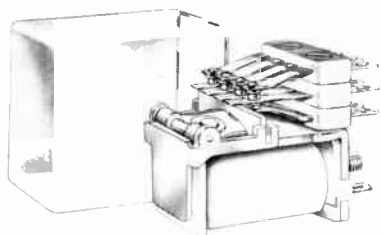
WD-10 6PDT, 20-hook

# Telephone Type and Heavy Duty Relays

# MAGNECRAFT RELAYS

Page 5

**Low Cost—5 Amp—4PDT with See Through Plastic Dust Cover**



1-7/64 x 1-19 32 x 55 64 deep

**77CS**  
Telephone Type  
Relay  
with Snap-On  
Dust Cover

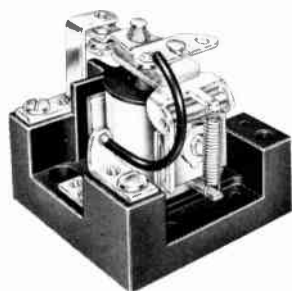
Class 77 Telephone Type Relay features miniature size 4PDT contact combination, switches up to 5-amperes, has greater contact pressure without increasing coil operating power. The special design eliminates internal wiring, solder connections and pig-tails. The precision built hinge-pin armature bearings with oversize bearing surfaces guarantee longer life. Molded nylon bobbin with rugged coil terminal inserts eliminates possibility of shorts. Insulation of contact terminals provides higher dielectric strength unaffected by humidity and temperature changes. Comes in a molded insulated snap-on dust cover.

Stock Part No.	Contacts Amps	Coil		Price 1 to 9
		†Volts	Ohms	
W77CSX-1	4PDT 5 Amps	6VDC	40	5.30
W77CSX-2		12VDC	160	5.30
W77CSX-3		24VDC	600	5.40
W77CSX-4		48VDC	2500	5.55
W77CSX-5		110VDC	10000	5.97

†Voltage operated relays pull in at 85%, or less, of nominal voltage at 25 C.

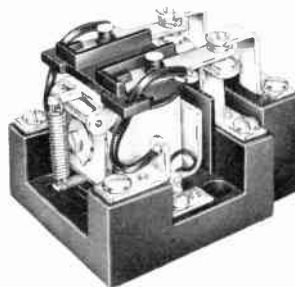
## Class 99—Heavy Duty Industrial Control Power Relays

Designed for motor starting, elevator control and other applications requiring high current or high voltage switching. Dimensionally, it is interchangeable with relays made by others, but Magnecraft's heavy duty hinge pin construction gives it longer life and adjustment stability. Oversize, 5/16" diameter contacts of silver cadmium oxide, gold flash. Standard dielectric strength: 1500 VAC, RMS. Screw type terminals. Molded phenolic base.



2½ x 2½ x 2½ high

**Class 99**  
with 25 Ampere  
SPDT Contacts  
(1 Form C)



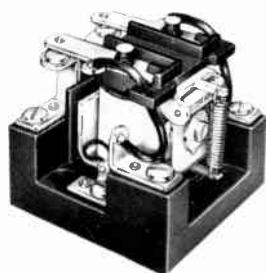
3-3 16 x 2½ x 2-5 16 high

**Class 99**  
with 25 Ampere  
DPDT Contacts  
(2 Form C)

Stock Part No.	Contacts Amps	Coil		Price 1 to 9
		†Volts	Ohms	
W99AX-1	SPDT 25 Amps	24VAC	—	5.66
W99AX-2		115VAC	—	5.68
W99AX-3		230VAC	—	5.86
W99X-1	SPDT 25 Amps	6VDC	18	5.42
W99X-2		12VDC	70	5.42
W99X-3		24VDC	290	5.44
W99X-4		110VDC	6000	5.83

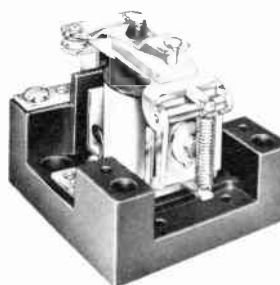
Stock Part No.	Contacts Amps	Coil		Price 1 to 9
		†Volts	Ohms	
W99AX-4	DPDT 25 Amps	24VAC	—	8.43
W99AX-5		115VAC	—	8.43
W99AX-6		230VAC	—	8.63
W99AX-7		440VAC	—	8.68
W99X-5	DPDT 25 Amps	6VDC	18	8.12
W99X-6		12VDC	70	8.12
W99X-7		24VDC	290	8.14
W99X-8		110VDC	6000	8.53

†Voltage operated relays pull in at 85%, or less, of nominal voltage at 25 C.



2½ x 2½ x 2-5/16 high

**Class 99**  
with 25 Ampere  
DPST-NO Contacts  
(2 Form A)



2½ x 2½ x 2-3/32 high

**Class 99**  
with 50 Ampere  
SPST-NO-DB Contacts  
(1 Form A  
Double Break)

Stock Part No.	Contacts Amps	Coil		Price 1 to 9
		†Volts	Ohms	
W99AX-8	DPST 25 Amps	24VAC	—	6.65
W99AX-9		115VAC	—	6.67
W99AX-10		230VAC	—	6.85
W99X-9	DPST 25 Amps	6VDC	18	6.36
W99X-10		12VDC	70	6.36
W99X-11		24VDC	290	6.39
W99X-12		110VDC	6000	6.77

Stock Part No.	Contacts Amps	Coil		Price 1 to 9
		†Volts	Ohms	
W99ADX-1	SPST-NO-DB 50 Amps	24VAC	—	5.64
W99ADX-2		115VAC	—	5.64
W99ADX-3		230VAC	—	5.85
W99DX-1	SPST-NO-DB 50 Amps	6VDC	18	5.35
W99DX-2		12VDC	70	5.35
W99DX-3		24VDC	290	5.37
W99DX-4		110VDC	6000	5.74

†Voltage operated relays pull in at 85%, or less, of nominal voltage at 25 C.

# MAGNECRAFT RELAYS

Molded Axial Lead Reed Relays

## 101M SPST-NO, Miniature

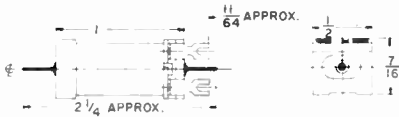
**Molded Bobbin Dry Reed Relay with Axial Leads**



Nom. Power, 600MW  
Weight, 1 oz.

Operate, 1 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, less than 1/2 ms. aver.  
Contact Load Rating, 12VA at .25 amp. max. or 100VAC max., non-inductive.  
Contact Resistance, 150 milliohms aver.  
Life Expectancy, 5 million cycles at full load; 20 million at 1/2 load.  
Capacitance across contacts, 0.3 pf. aver.  
Operates in any position.

Stock Part No.	Contacts	MA	COIL—DC		Price
			Volts	Ohms	1 to 24
W101MX-1	SPST-NO	—	6	100	2.20
W101MX-2		—	12	250	2.25
W101MX-3		—	24	500	2.25
W101MX-4		—	9	—	2500



## 104M SPDT, Miniature

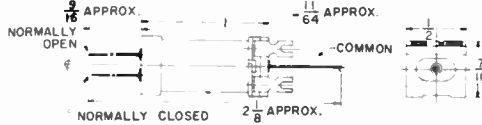
**Molded Bobbin Dry Reed Relay with Axial Leads**



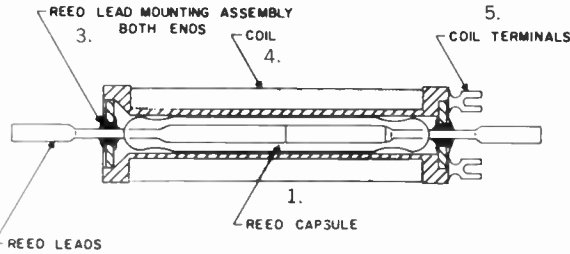
Nom. Power, 500MW  
Weight, 1 oz.

Operate, 1 ms. aver. Release, 1 ms. aver.  
Contact Bounce, less than 1/2 ms. aver. N.O. contacts; less than 2 ms. aver. N.C. contacts.  
Contact Load Rating, 3 VA max. at .25 amp. max. or 28V max., non-inductive.  
Contact Resistance, 150 milliohms, aver.  
Capacitance across contacts, 1.3 pf. aver.  
Life Expectancy, 10 million cycles at full load. Operating position, any.

Stock Part No.	Contacts	MA	COIL—DC		Price
			Volts	Ohms	1 to 24
W104MX-1	SPDT	—	6	100	5.63
W104MX-2		—	12	250	5.68
W104MX-3		—	24	500	5.68
W104MX-4		—	9	—	2500



**NEW AND IMPROVED Molded Modular Axial Lead Reed Relays Give You Many Advantages Over The Regular Open Style Reed Relays! Manufacturing Cost Is Reduced While Our High Quality and Reliability Is Actually Improved!**



### MOLDED OPEN STYLE CROSS SECTION

1. Reed Capsule contacts are hermetically sealed with inert gas in glass capsule to completely protect them from dust, contamination, moisture or tampering.
2. Reed Leads are gold plated or tinned for ease in soldering connecting lead wires.
3. Reed Lead Mounting Assembly provides fastening reed lead to bobbin for stress relief to minimize forces begin exerted to glass capsule during soldering.
4. Coil is accurately wound on specially designed one-piece molded bobbin insulated for excellent dielectric characteristics.
5. Coil Terminals are molded into bobbin to give maximum strength and avoid shorts and open connections. Terminals are tinned for ease of soldering.

## 102M SPST-NO, Standard Size

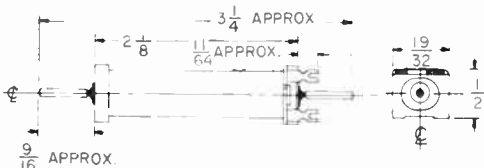
**Molded Bobbin Dry Reed Relay with Axial Leads**



Nom. Power, 300MW Weight, 1 oz.

Operate, 3 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, less than 1 ms. aver.  
Contact Load Rating, 15VA at 1 amp. max. or 250VAC max., non-inductive.  
Contact Resistance, 100 milliohms, aver.  
Life Expectancy, 20 million cycles at full load; 100 million at 1/2 load.  
Capacitance across contacts, 0.9 pf. aver.  
Operating position, any.

Stock Part No.	Contacts	MA	COIL—DC		Price
			Volts	Ohms	1 to 24
W102MX-1	SPST-NO	40	—	100	2.18
W102MX-2		—	6	200	2.25
W102MX-3		—	12	500	2.25
W102MX-4		—	24	2000	2.47
W102MX-5		—	5.5	—	5000



## 103M SPDT, Standard Size

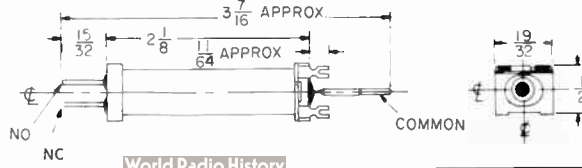
**Molded Bobbin Dry Reed Relay with Axial Leads**



Nom. Power, 300MW Weight, 1 oz.

Operate, 2 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, 4 ms. average on release, normally closed contacts.  
Contact Load Rating, 10VA at 1/2 amp. max. or 250VAC max., non-inductive.  
Contact Resistance, 100 Milliohms, aver.  
Life Expectancy, 25 million cycles at full load; 50 million at 1/2 load.  
Capacitance across contacts, 3.0 pf. aver.  
Operating position, any.

Stock Part No.	Contacts	MA	COIL—DC		Price
			Volts	Ohms	1 to 24
W103MX-1	SPDT	—	6	200	4.23
W103MX-2		—	12	500	4.23
W103MX-3		—	24	2000	4.45
W103MX-4		—	5.5	—	5000



**169 Reed Relays In Stock for Immediate Delivery! We Have Them . . . The Greatest Selection of Mercury-Wetted and Dry Reed Relays Stocked by Any Manufacturer!**

**Series 101, Form A  
Miniature Reed**

# MAGNECRAFT RELAYS

**101 SPST-NO, Miniature**

Open type miniature dry reed relay with solder terminals.

Nom. Power, 600MW  
Weight, 1 oz.



Operate, 1 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, less than 1/2 ms. aver.  
Contact Load Rating, 12VA at .25 amp. max. or 100VAC max., non-inductive.  
Contact Resistance, 150 milliohms aver.  
Life Expectancy, 5 million cycles at full load; 20 million at 1/2 load.  
Capacitance across contacts, 0.7 pf. aver.  
Operates in any position.

Stock Part No.	Contacts	COIL—DC			Price 1 to 24
		MA	Volts	Ohms	
W101X-1	SPST-NO	—	6V	100	3.29
W101X-2		—	12V	250	3.29
W101X-3		—	24V	500	3.85
W101X-4		9MA	—	2500	4.25



**101EP SPST-NO, Miniature**

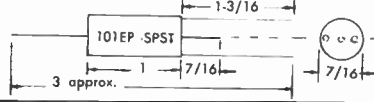
Encapsulated dry reed relay with axial leads.

Nominal Power, 600MW  
Weight, 1 oz.



Operate, 1 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, less than 1/2 ms. aver.  
Contact Load Rating, 12VA at .25 amp. max. or 100VAC max., non-inductive.  
Contact Resistance, 150 milliohms aver.  
Life Expectancy, 5 million cycles at full load; 20 million at 1/2 load.  
Capacitance across contacts, 0.5 pf. aver.  
Operates in any position.

Stock Part No.	Contacts	COIL—DC			Price 1 to 24
		MA	Volts	Ohms	
W101EPX-5	SPST-NO	—	6V	65	3.62
W101EPX-6		—	12V	225	3.62
W101EPX-7		—	24V	1000	4.24
W101EPX-8		8MA	—	5000	4.68



**101MPC SPST-NO, Miniature**

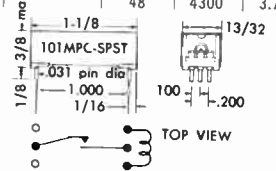
MPC high reliability Printed Circuit Construction described on page 6

Nom. Power, 500MW  
Weight, 1 oz.

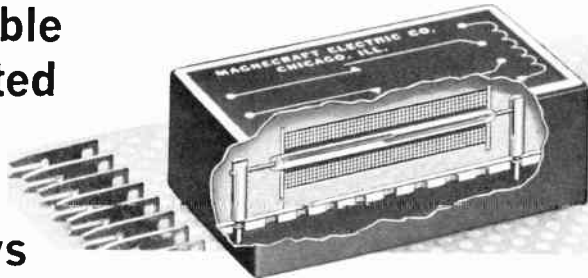


Operate, 1 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, less than 1/2 ms. aver.  
Contact Load Rating, 12VA at .25 amp. max. or 100VAC max., non-inductive.  
Contact Resistance, 150 milliohms aver.  
Life Expectancy, 5 million cycles at full load; 20 million at 1/2 load.  
Capacitance across contacts, 0.8 pf. aver.  
Operates in any position.

Stock Part No.	Contacts	COIL—DC		Price 1 to 24
		Volts	Ohms	
W101MPCX-1	SPST-NO	6	70	3.60
W101MPCX-2		12	300	3.60
W101MPCX-3		24	1100	3.63
W101MPCX-4		48	4300	3.77



## Ultra-Reliable Encapsulated Printed Circuit Reed Relays



1. Reed contact leads are soldered stress-free to rugged terminal posts.
2. Terminal posts extend through the terminal board as printed circuit pins.
3. The complete assembly is encapsulated, which provides:

- a. Mechanical protection for the glass capsule, contact leads and coil.
- b. Full protection against tampering and contaminating atmosphere.
- c. Rigid positioning of terminal supports and printed circuit pins; stresses on circuit pins cannot transmit to the reed contact leads and affect relay adjustment.

The package illustrated is a Class 102PC, DPST-NO Standard Size Relay (page 7) cut away to show typical assembly of one reed.

Construction of miniature encapsulated printed circuit reed relays (pages 5 and 6) is similar to the standard size.

**101PC SPST-NO, Miniature**

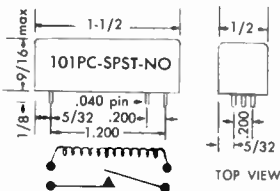
Ultra-reliable encapsulated printed circuit construction described above.

Nom. Power 600MW  
Weight, 1 oz.



Operate, 1 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, less than 1/2 ms. aver.  
Contact Load Rating, 12VA at .25 amp. max. or 100VAC max., non-inductive.  
Contact Resistance, 150 milliohms aver.  
Life Expectancy, 5 million cycles at full load; 20 million at 1/2 load.  
Capacitance across contacts, 0.8 pf. aver.  
Operates in any position.

Stock Part No.	Contacts	COIL—DC			Price 1 to 24
		MA	Volts	Ohms	
W101PCX-5	SPST-NO	—	6V	65	5.11
W101PCX-6		—	12V	250	5.16
W101PCX-7		—	24V	1000	5.26
W101PCX-8		8MA	—	5000	5.68



**101PC DPST-NO, Miniature**

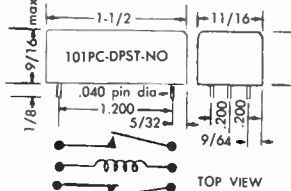
Ultra-reliable encapsulated printed circuit construction described above.

Nom. Power, 900MW  
Weight, 2 oz.



Operate, 1 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, less than 1/2 ms. aver.  
Contact Load Rating, 12VA at .25 amp. max. or 100VAC max., non-inductive.  
Contact Resistance, 150 milliohms aver.  
Life Expectancy, 5 million cycles at full load; 20 million at 1/2 load.  
Capacitance across contacts, 1.0 pf. aver.  
Operates in any position.

Stock Part No.	Contacts	COIL—DC			Price 1 to 24
		MA	Volts	Ohms	
W101PCX-9	DPST-NO	—	6V	40	7.15
W101PCX-10		—	12V	150	7.18
W101PCX-11		—	24V	650	7.24
W101PCX-12		8MA	—	5000	7.69



**101MPC 3PST-NO, Miniature**

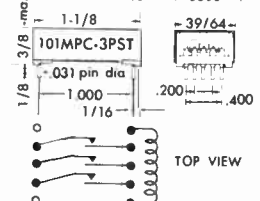
MPC high reliability Printed Circuit Construction described on page 6

Nom. Power, 700MW  
Weight, 1 oz.



Operate, 1 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, less than 1/2 ms. aver.  
Contact Load Rating, 12VA at .25 amp. max. or 100VAC max., non-inductive.  
Contact Resistance, 150 milliohms aver.  
Life Expectancy, 5 million cycles at full load; 20 million at 1/2 load.  
Capacitance across contacts, 1.0 pf. aver.  
Operates in any position.

Stock Part No.	Contacts	COIL—DC		Price 1 to 24
		Volts	Ohms	
W101MPCX-5	3PST-NO	6	50	6.75
W101MPCX-6		12	220	6.75
W101MPCX-7		24	850	6.77
W101MPCX-8		48	3300	6.85



# MAGNECRAFT RELAYS

## Series 104, Form C Miniature Reed

### 104EP SPDT, Miniature—Encapsulated with Axial Leads

Encapsulated dry reed relay with axial leads.

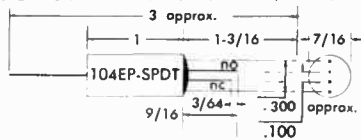
Nominal Power, 600MW  
Weight, 1 oz.



SPDT, true form C, no biasing magnet. Operate, 1 ms. aver. Release, 1 ms. aver. Contact Bounce, less than 1/2 ms. aver. N.O. contacts; less than 2 ms. aver. N.C. contacts. Contact Load Rating, 3VA max. at .25 amp. max. or 28 V max., non-inductive. Contact Resistance, 150 milliohms, aver.

Capacitance across contacts, 1.5 pf. aver. Life Expectancy, 10 million cycles at full load. Operating position, any.

Stock Part No.	Contacts	COIL—DC			Price 1 to 24
		MA	Volts	Ohms	
W104EPX-2	SPDT	—	6	65	7.37
W104EPX-3		—	12	225	7.37
W104EPX-4		—	24	1000	8.05
W104EPX-5		—	8	5000	8.55



### 104MPC SPDT, Miniature

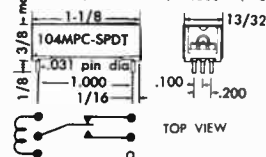
MPC high reliability Printed Circuit Construction described at left.

Nom. Power, 500MW  
Weight, 1 oz.

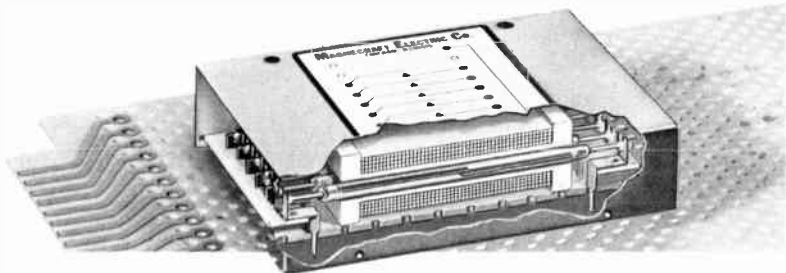


SPDT, true form C, no biasing magnet. Operate, 1 ms. aver. Release, 1 ms. aver. Contact Bounce, less than 1/2 ms. aver. N.O. contacts; less than 2 ms. aver. N.C. contacts. Contact Load Rating, 3VA max. at .25 amp. max. or 28V max., non-inductive. Contact Resistance, 150 milliohms, aver. Capacitance across contacts, 1.5 pf. aver. Life Expectancy, 10 million cycles at full load. Operating position, any.

Stock Part No.	Contacts	COIL—DC		Price 1 to 24
		Volts	Ohms	
W104MPCX-1	SPDT	6	70	6.82
W104MPCX-2		12	300	6.83
W104MPCX-3		24	1100	6.85
W104MPCX-4		48	4300	6.98



### MPC—The Low Profile Printed Circuit Reed Relay Package that combines High Reliability and Low Cost



1. Reed Relay contacts are hermetically sealed with inert gas in glass capsule; completely protected from contamination and tampering.
2. Contact leads are soldered (or welded) stress-free to rigidly positioned terminal supports.
3. The combination circuit board pins and terminal supports are securely fastened to

- terminal board; stresses on circuit board pins cannot transmit to contact leads and affect relay adjustment.
4. Integrally molded Nylon bobbin and mounting base combine electrical insulation and mechanical protection for the glass capsule.
5. Snap-on steel cover adds mechanical protection and magnetic shielding.

The package illustrated is a Class 102MPC 6PST-NO Standard Size Relay (page 7) cut away to show typical assembly of one reed. Construction of miniature MPC packages (pages 5 and 6) and sub-miniature MPC packages (page 9) is similar in principle to the standard size MPC package illustrated.

### 104PC SPDT, Miniature

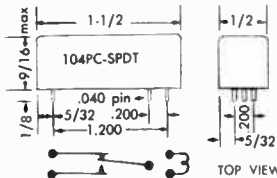
Ultra-Reliable encapsulated printed circuit construction described on page 5.

Nom. Power 600MW  
Weight, 1 oz.



SPDT, true form C, no biasing magnet. Operate, 1 ms. aver. Release, 1 ms. aver. Contact Bounce, less than 1/2 ms. aver. N.O. contacts; less than 2 ms. aver. N.C. contacts. Contact Load Rating, 3VA max. at .25 amp. max. or 28V max., non-inductive. Contact Resistance, 150 milliohms, aver. Capacitance across contacts, 1.5 pf. aver. Life Expectancy, 10 million cycles at full load. Operating position, any.

Stock Part No.	Contacts	COIL—DC			Price 1 to 24
		MA	Volts	Ohms	
W104PCX-7	SPDT	—	6V	65	10.07
W104PCX-8		—	12V	225	10.12
W104PCX-9		—	24V	1000	10.22
W104PCX-10		—	8	5000	10.64



† Voltage operated relays pull in at 85% of nominal voltage at 25°C.

### 104PC DPDT, Miniature

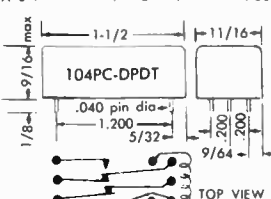
Ultra-Reliable encapsulated printed circuit construction described on page 5.

Nom. Power, 900MW  
Weight, 3 oz.



DPDT, true 2 Form C, no biasing magnet. Operate, 1 ms. aver. Release, 1 ms. aver. Contact Bounce, less than 1/2 ms. aver. N.O. contacts; less than 2 ms. aver. N.C. contacts. Contact Load Rating, 3VA max. at .25 amp. max. or 28V max., non-inductive. Contact Resistance, 150 milliohms, aver. Capacitance across contacts, 2.0 pf. aver. Life Expectancy, 10 million cycles at full load. Operating position, any.

Stock Part No.	Contacts	COIL—DC			Price 1 to 24
		MA	Volts	Ohms	
W104PCX-3	DPDT	—	6V	40	14.59
W104PCX-4		—	12V	150	14.62
W104PCX-5		—	24V	650	14.68
W104PCX-6		—	8	5000	15.13



### 104MPC DPDT, Miniature

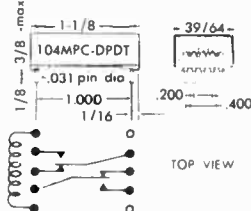
MPC high reliability Printed Circuit Construction described at left.

Nom. Power, 700MW  
Weight, 2 oz.



DPDT, true 2 Form C, no biasing magnet. Operate, 1 ms. aver. Release, 1 ms. aver. Contact Bounce, less than 1/2 ms. aver. N.O. contacts; less than 2 ms. aver. N.C. contacts. Contact Load Rating, 3VA max. at .25 amp. max. or 28V max., non-inductive. Contact Resistance, 150 milliohms, aver. Capacitance across contacts, 2.0 pf. aver. Life Expectancy, 10 million cycles at full load. Operating position, any.

Stock Part No.	Contacts	COIL DC		Price 1 to 24
		Volts	Ohms	
W104MPCX-5	DPDT	6	50	11.62
W104MPCX-6		12	220	11.63
W104MPCX-7		24	850	11.65
W104MPCX-8		48	3300	11.73



**Series 102, Form A  
Standard Size Reed**

# MAGNECRAFT RELAYS

**102PC SPST-NO, Standard Size**

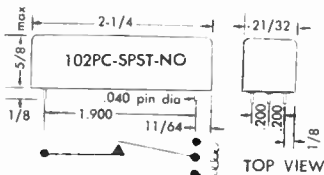
Ultra-Reliable encapsulated printed circuit construction described on page 5.



Nom. Power, 400MW Weight, 1 oz.

Operate, 3 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, less than 1 ms. aver.  
Contact Load Rating, 15VA at 1 amp. max. or 250VAC max., non-inductive.  
Contact Resistance, 100 milliohms, aver.  
Life Expectancy, 20 million cycles at full load; 100 million at 1/2 load.  
Capacitance across contacts, 1.0 pf. aver.  
Operating position, any.

Stock Part No.	Contacts	COIL DC			Price 1 to 24
		MA	Volts	Ohms	
W102PCX-1	SPST-NO	—	6V	100	4.77
W102PCX-2		—	12V	400	4.83
W102PCX-3		—	24V	1500	4.87
W102PCX-4		6.5MA	—	5000	5.32



**102PC DPST-NO, Standard Size**

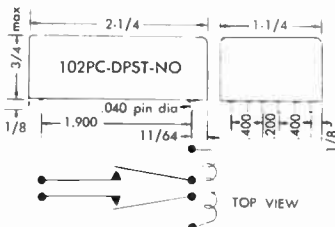
Ultra-Reliable encapsulated printed circuit construction described on page 5.



Nom. Power, 700MW Weight, 2 oz.

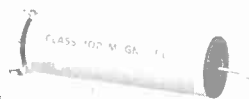
Operate, 3 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, less than 1 ms. aver.  
Contact Load Rating, 15VA at 1 amp. max. or 250VAC max., non-inductive.  
Contact Resistance, 100 milliohms, aver.  
Life Expectancy, 20 million cycles at full load; 100 million at 1/2 load.  
Capacitance across contacts, 1.2 pf. aver.  
Operating position, any.

Stock Part No.	Contacts	COIL DC			Price 1 to 24
		MA	Volts	Ohms	
W102PCX-5	DPST-NO	—	6V	50	6.22
W102PCX-6		—	12V	200	6.28
W102PCX-7		—	24V	800	6.33
W102PCX-8		9MA	—	5000	6.78



**102 SPST NO, Standard Size**

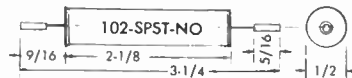
Open type, standard size, dry reed relay with solder terminals.



Nom. Power, 300MW Weight, 1 oz.

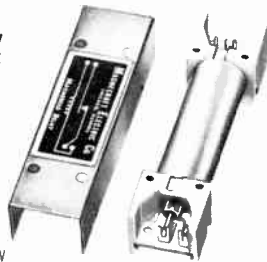
Operate, 3 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, less than 1 ms. aver.  
Contact Load Rating, 15VA at 1 amp. max. or 250VAC max., non-inductive.  
Contact Resistance, 100 milliohms, aver.  
Life Expectancy, 20 million cycles at full load; 100 million at 1/2 load.  
Capacitance across contacts, 0.9 pf. aver.  
Operating position, any.

Stock Part No.	Contacts	COIL-DC			Price 1 to 24
		MA	Volts	Ohms	
W102X-1	SPST-NO	32MA	—	100	2.57
W102X-2		23MA	6V	200	2.57
W102X-3		14.5MA	12V	500	2.57
W102X-4		7.5MA	24V	2000	2.70
W102X-5		4.6MA	—	5000	3.25



**102MPC SPST-NO, Standard Size**

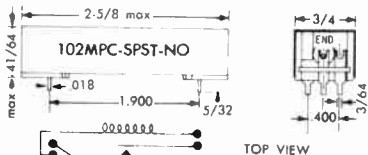
MPC, high reliability printed circuit construction described on page 6.



Nom. Power, 500MW Weight, 1 oz.

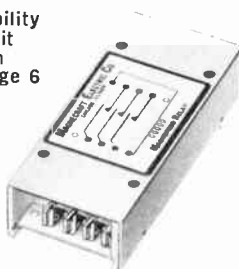
Operate, 3 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, less than 1 ms. aver.  
Contact Load Rating, 15VA at 1 amp. max. or 250VAC max., non-inductive.  
Contact Resistance, 100 milliohms, aver.  
Life Expectancy, 20 million cycles at full load; 100 million at 1/2 load.  
Capacitance across contacts, 1.0 pf. aver.  
Operating position, any.

Stock Part No.	Contacts	COIL DC			Price 1 to 24	
		MA	Volts	Ohms		
W102MPCX-5	SPST-NO	140	—	30	3.29	
W102MPCX-6		85	6VDC	70		
W102MPCX-7		48	12VDC	250		
W102MPCX-8		24	24VDC	1000		
W102MPCX-9		12	48VDC	4000		
W102MPCX-10		9	—	7000		4.14



**102MPC 3PST-NO, Standard Size**

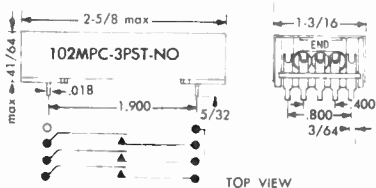
MPC high reliability printed circuit construction described on page 6



Nom. Power, 750MW Weight, 2 oz.

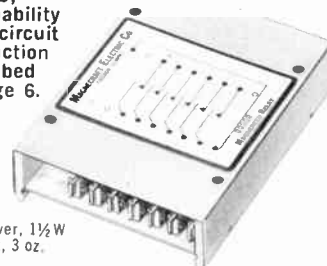
Operate, 3 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, less than 1 ms. aver.  
Contact Load Rating, 15VA at 1 amp. max. or 250VAC max., non-inductive.  
Contact Resistance, 100 milliohms, aver.  
Life Expectancy, 20 million cycles at full load; 100 million at 1/2 load.  
Capacitance across contacts, 1.2 pf. aver.  
Operating position, any.

Stock Part No.	Contacts	COIL DC			Price 1 to 24
		MA	Volts	Ohms	
W102MPCX-48	3PST-NO	—	6	50	5.62
W102MPCX-49		—	12	175	5.63
W102MPCX-50		—	24	750	5.77
W102MPCX-51		—	48	3000	5.97



**102MPC 6PST-NO, Standard Size**

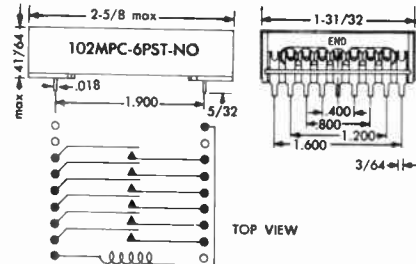
MPC, high reliability printed circuit construction described on page 6.



Nom. Power, 1 1/2 W Weight, 3 oz.

Operate, 3 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, less than 1 ms. aver.  
Contact Load Rating, 15VA at 1 amp. max. or 250VAC max., non-inductive.  
Contact Resistance, 100 milliohms, aver.  
Life Expectancy, 20 million cycles at full load; 100 million at 1/2 load.  
Capacitance across contacts, 1.2 pf. aver.  
Operating position, any.

Stock Part No.	Contacts	COIL-DC			Price 1 to 24
		MA	Volts	Ohms	
W102MPC-52	6PST-NO	—	6	25	9.18
W102MPC-53		—	12	100	9.30
W102MPC-54		—	24	375	9.35
W102MPC-55		—	48	1500	9.43





# MAGNECRAFT RELAYS

Series 103, Form C  
Standard Size Reed

## 103PC SPDT, Standard Size

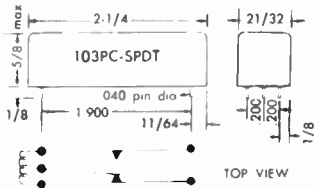
Ultra-Reliable encapsulated printed circuit construction described on page 5.



Nom. Power, 400MW Weight, 1 oz.

SPDT, true Form C, no biasing magnet.  
Operate, 2 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, 4 ms. average on release, normally closed contacts.  
Contact Load Rating, 10VA at 1/2 amp. max. or 250VAC max., non-inductive.  
Contact Resistance, 100 Milliohms, aver.  
Life Expectancy, 25 million cycles at full load; 50 million at 1/2 load.  
Capacitance across contacts, 3.0 pf. aver.  
Operating Position, any.

Stock Part No.	Contacts	COIL-DC			Price 1 to 24
		MA	Volts	Ohms	
W103PCX-1	SPDT	6V	100	7.22	
W103PCX-2		12V	400	7.27	
W103PCX-3		24V	1500	7.32	
W103PCX-4		6.5MA	5000	7.76	



## 103PC DPDT, Standard Size

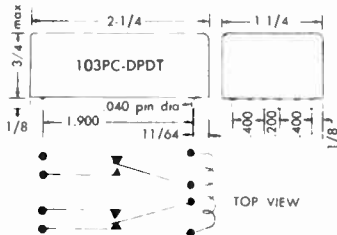
Ultra-Reliable encapsulated printed circuit construction described on page 5.



Nom. Power, 700MW Weight, 2 oz.

DPDT, true 2 Form C, no biasing magnet.  
Operate, 2 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, 4 ms. average on release, normally closed contacts.  
Contact Load Rating, 10VA at 1/2 amp. max. or 250VAC max., non-inductive.  
Contact Resistance, 100 Milliohms, aver.  
Life Expectancy, 25 million cycles at full load; 50 million at 1/2 load.  
Capacitance across contacts, 3.5 pf. aver.  
Operating Position, any.

Stock Part No.	Contacts	COIL-DC			Price 1 to 24
		MA	Volts	Ohms	
W103PCX-5	DPDT	6V	50	10.77	
W103PCX-6		12V	200	10.79	
W103PCX-7		24V	800	10.84	
W103PCX-8		9MA	5000	11.31	



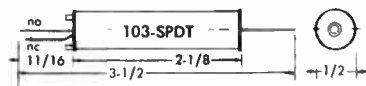
## 103 SPDT, Standard Size

Open type, standard size, dry reed relay with solder terminals.

Nom. Power, 300MW Weight, 1 oz.

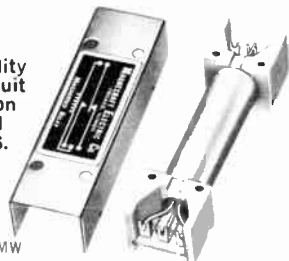
SPDT, true Form C, no biasing magnet.  
Operate, 2 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, 4 ms. average on release, normally closed contacts.  
Contact Load Rating, 10VA at 1/2 amp. max. or 250VAC max., non-inductive.  
Contact Resistance, 100 Milliohms, aver.  
Life Expectancy, 25 million cycles at full load; 50 million at 1/2 load.  
Capacitance across contacts, 3.0 pf. aver.  
Operating Position, any.

Stock Part No.	Contacts	COIL-DC			Price 1 to 24
		MA	Volts	Ohms	
W103X-8	SPDT	32MA	—	100	4.54
W103X-9		23MA	6V	200	4.75
W103X-10		14.5MA	12V	500	5.22
W103X-11		7.5MA	24V	2000	5.66
W103X-12		4.6MA	—	5000	5.79



## 103MPC SPDT, Standard Size

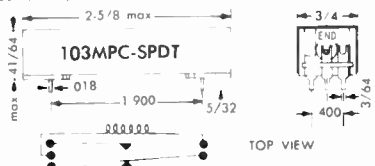
MPC, high reliability printed circuit construction described on page 6.



Nom. Power, 500MW Weight, 1 oz.

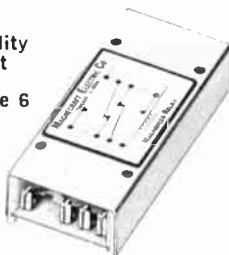
SPDT, true Form C, no biasing magnet.  
Operate, 2 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, 4 ms. average on release, normally closed contacts.  
Contact Load Rating, 10VA at 1/2 amp. max. or 250VAC max., non-inductive.  
Contact Resistance, 100 Milliohms, aver.  
Life Expectancy, 25 million cycles at full load; 50 million at 1/2 load.  
Capacitance across contacts, 2.0 pf. aver.  
Operating Position, any.

Stock Part No.	Contacts	CDIL-DC			Price 1 to 24
		MA	Volts	Ohms	
W103MPCX-1	SPDT	140	—	30	5.83
W103MPCX-2		85	6	70	5.83
W103MPCX-3		48	12	250	5.83
W103MPCX-4		24	24	1000	5.83
W103MPCX-5		12	48	4000	6.00
W103MPCX-6		9	—	7000	6.68



## 103MPC DPDT, Standard Size

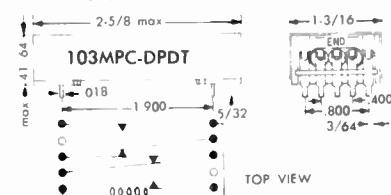
MPC high reliability printed circuit construction described on page 6



Nom. Power, 750MW Weight, 1 oz.

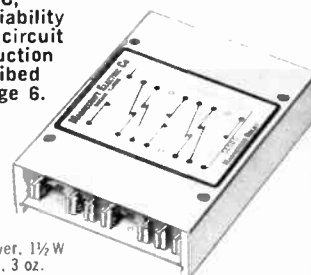
DPDT, true 2 Form C, no biasing magnets.  
Operate, 2 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, 4 ms. average on release, normally closed contacts.  
Contact Load Rating, 10VA at 1/2 amp. max. or 250VAC max., non-inductive.  
Contact Resistance, 100 Milliohms, aver.  
Life Expectancy, 25 million cycles at full load; 50 million at 1/2 load.  
Capacitance across contacts, 3.0 pf. aver.  
Operating Position, any.

Stock Part No.	Contacts	CDIL-DC			Price 1 to 24
		MA	Volts	Ohms	
W103MPCX-30	DPDT	—	6	50	8.33
W103MPCX-31		12	175	8.33	
W103MPCX-32		24	750	8.47	
W103MPCX-33		48	3000	8.67	



## 103MPC 4PDT, Standard Size

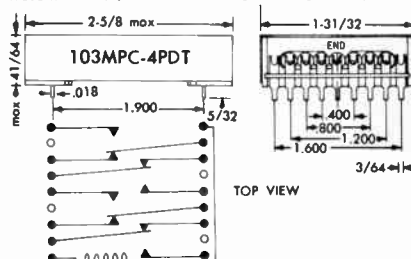
MPC, high reliability printed circuit construction described on page 6.



Nom. Power, 1 1/2 W Weight, 3 oz.

4PDT, 4 true Form C, no biasing magnets.  
Operate, 2 ms. aver. Release, 1/2 ms. aver.  
Contact Bounce, 4 ms. average on release, normally closed contacts.  
Contact Load Rating, 10VA at 1/2 amp. max. or 250VAC max., non-inductive.  
Contact Resistance, 100 Milliohms, aver.  
Life Expectancy, 25 million cycles at full load; 50 million at 1/2 load.  
Capacitance across contacts, 3.0 pf. aver.  
Operating Position, any.

Stock Part No.	Contacts	COIL-DC			Price 1 to 24
		MA	Volts	Ohms	
W103MPCX-34	4PDT	6	25	14.60	
W103MPCX-35		12	100	14.70	
W103MPCX-36		24	375	14.77	
W103MPCX-37		48	1500	14.88	



1 Voltage operated relays pull in at 85% of nominal voltage at 25°C.

Mercury-Wetted  
and Dry Reed

# MAGNECRAFT RELAYS

## Mercury Wetted Reed Relays for Printed Circuit Applications

### 131PC SPST-NO Miniature

Nom. Power  
600MW  
weight 1 oz.



### 131PC DPST-NO Miniature

Nom. Power  
900MW  
weight 2 oz.



Mercury-Wetted Reed Relay performance in ultra-reliable encapsulated printed circuit assembly described on page 5.

Operate, 1 ms. aver. Release, 1 ms. aver.

Contact Bounce, none

Contact Load Rating, 28VA, 1 amp. max. or 100V max., non-inductive.

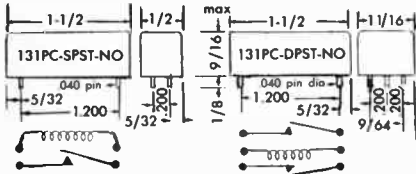
Contact Resistance, 50 milliohms aver.

Capacitance across contacts, 1.0 pf. aver.

Life Expectancy, 100 million cycles at rated load.

Operating Position, Upright, not more than 30° from vertical.

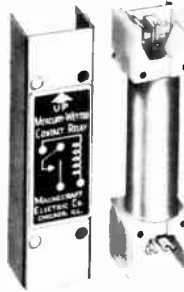
Stock Part No.	Contacts	COIL—DC			Price 1 to 24
		MA	Volts	Ohms	
W131PCX-8	SPST-NO	6	65	8.38	
W131PCX-9		12	250	8.44	
W131PCX-10		24	1000	8.55	
W131PCX-11		8	5000	9.01	
W131PCX-12	DPST-NO	6	40	10.62	
W131PCX-13		12	150	10.66	
W131PCX-14		24	650	10.71	
W131PCX-15		8	5000	11.21	



### 132MPC SPST-NO Standard Size

MPC high reliability  
Printed Circuit  
Construction  
described on page 6

Nom. Power  
500MW  
weight 2 oz.



Operate, 2 ms. aver. Release, 2 ms. aver.

Contact bounce, none.

Contact Load Rating, 50VA at 3.0 amps., max. or 400V max., non-inductive.

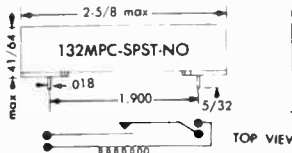
Contact Resistance, 50 milliohms average.

Capacitance across contacts, 1.0 pf. aver.

Life Expectancy, 25 million cycles at full load; 1 billion at low load.

Operating Position, Upright, not more than 30° from vertical.

Stock Part No.	Contacts	COIL—DC			Price 1 to 24
		MA	Volts	Ohms	
W132MPCX-1	SPST-NO	140	30	5.83	
W132MPCX-2		85	6VDC		70
W132MPCX-3		48	12VDC	250	
W132MPCX-4		24	24VDC	1000	
W132MPCX-5		12	48VDC	4000	
W132MPCX-6		9	7000	6.68	



### 133MPC SPDT Standard Size

MPC high reliability  
Printed Circuit  
Construction  
described on page 6

Nom. Power  
500MW  
weight 2 oz.



Operate, 2 ms. aver. Release, 2 ms. aver.

Contact bounce, none.

Contact Load Rating, 50VA at 2.0 amps. max. or 400V max., non-inductive.

Contact Resistance, 50 milliohms average.

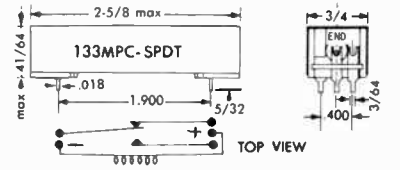
Capacitance across contacts, 3.0 pf. aver.

Life Expectancy, 25 million cycles at full load; 1 billion at low load.

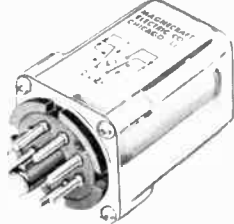
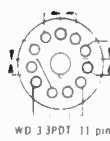
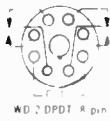
Operating Position, Upright, not more than 30° from vertical.

Magnetically biased, observe coil polarity.

Stock Part No.	Contacts	COIL—DC			Price 1 to 24
		MA	Volts	Ohms	
W133MPCX-1	SPDT	140	30	8.42	
W133MPCX-2		85	6VDC		70
W133MPCX-3		48	12VDC	250	
W133MPCX-4		24	24VDC	1000	
W133MPCX-5		12	48VDC	4000	
W133MPCX-6		9	7000	9.35	



### 103CP Dry Reed Relay Plug-in Assemblies



Dimensions: 1 1/8 x 1 1/8 x 2 3/8 h. Weight 5 oz.

Each plug-in assembly includes two or three standard size, Form C, break before make switching capsules with operating coil in plastic dust cover.

Operate, 2 ms, aver.—Release, 1/2 ms, aver.

Contact Bounce, 4 ms, average on release (normally closed contact).

Contact Load Rating, 10VA at 1/2 amp. max., or 250VAC max., non-inductive.

Contact Resistance, 100 milliohms aver.

Capacitance across contacts, 4.0 pf. aver.

Life Expectancy, 25 million cycles at rated load; 100 million cycles at low load level.

Stock Part No.	contacts	COIL—DC			Price 1 to 24
		MA	ivolts	ohms	
W103CPX-7	DPDT	6V	75	12.92	
W103CPX-8		12V	300	12.95	
W103CPX-9		24V	1000	13.01	
W103CPX-10	WD-2	8MA	5000	13.57	
W103CPX-11	3PDT	6V	40	16.77	
W103CPX-12		12V	150	16.83	
W103CPX-13		24V	650	16.95	
W103CPX-14		10MA	5000	17.50	

## Micro-Miniature, Form A, Dry Reed Relays

### 105EP SPST-NO Encapsulated with axial leads.



Nom. Power, 400MW  
Weight, 1 oz.

Micro-Miniature Reed Switch Capsule and Operating Coil are completely encapsulated in epoxy resin. Highly resistant to mechanical shock. Thoroughly protected from humidity and corrosive atmosphere.

Operate, 1/4 ms. aver.—Release, 1/2 ms. aver.

Contact Bounce, 1/2 ms. average.

Contact Load Rating, 0.1 VA max. at 10 MA max. or 12V max., non-inductive.

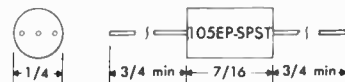
Contact Resistance, 200 milliohms, aver.

Capacitance across contacts, 0.5 pf. aver.

Life Expectancy, 10 million cycles at rated load.

Operating Position, any.

Stock Part No.	Contacts	COIL—DC		Price 1 to 24
		Volts	Ohms	
W105EPX-1	SPST-NO	6VDC	90	6.18
W105EPX-2		12VDC	350	6.18
W105EPX-3		24VDC	1300	6.30



### 105MPC SPST-NO

MPC high reliability  
Printed Circuit  
Construction  
described on page 6

Nom. Power, 300MW  
Weight, 1 oz.



Operate, 1/4 ms. aver.—Release, 1/2 ms. aver.

Contact Bounce, 1/2 ms. average.

Contact Load Rating, 0.1 VA max. at 10 MA max. or 12V max., non-inductive.

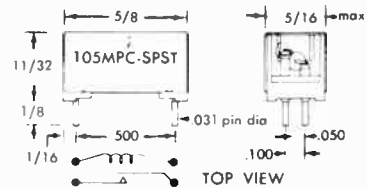
Contact Resistance, 200 milliohms, aver.

Capacitance across contacts, 0.5 pf. aver.

Life Expectancy, 10 million cycles at rated load.

Operating Position, any.

Stock Part No.	Contacts	COIL DC		Price 1 to 24
		Volts	Ohms	
W105MPCX-1	SPST-NO	6VDC	120	5.45
W105MPCX-2		12VDC	500	5.47
W105MPCX-3		24VDC	2000	5.58



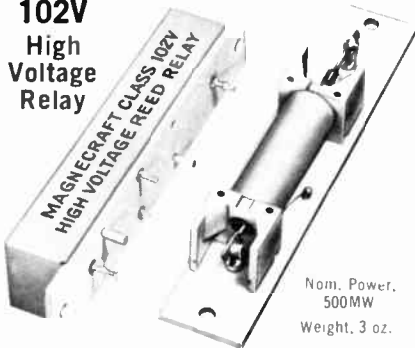
# MAGNECRAFT RELAYS

## Dry Reed and Coaxial

Page 12

### Special Purpose Dry Reed Relays with High Reliability MPC Packaging

#### 102V High Voltage Relay



**SPST-NO Contacts of special material** switch up to 5000VDC with reed relay reliability. Capsule and coil assembly is similar to MPC construction, page 6. Contact leads are soldered to rigid terminal posts on an epoxy resin terminal board. Internally insulated metal cover provides magnetic shielding.

Operate, 3 ms. aver. Release, 0.5 ms. aver.  
Contact Load Rating, 50VA at 5000VDC max or 3 amps. max., resistive.

Life Expectancy, 20 million cycles at rated load. Operates in any position.

Nominal Power Required, 500, MW.

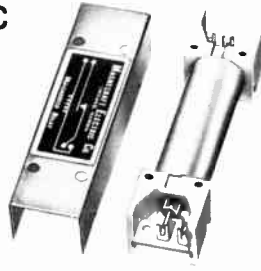
Overall, approx.  $4\frac{1}{2} \times 1\frac{1}{8} \times \frac{7}{8}$ . Weight 3 oz.

Stock Part No.	Contacts	COIL DC			Price 1 to 24
		MA	Volts	Ohms	
W102VX 9	SPST-NO	140	—	30	13.69
W102VX 10		—	6	70	13.69
W102VX 11		—	12	250	13.73
W102VX 12		—	24	1000	13.78
W102VX 13		—	48	4000	14.15
W102VX 14		—	9	—	7000

#### 102RMPC

#### 3-amp. Power Relay

Nom. Power  
500MW  
Weight, 1 oz.



Developed especially to switch higher currents with reed relay reliability and the MPC low circuit board profile.

**SPST-NO Contacts of special material.** MPC construction with printed circuit terminals described on page 6. Dimensions and Wiring same as 102MPC SPST-NO described on page 7.

Operate, 1 ms. aver. Release, 1 ms. aver.

Contact Bounce, 0.5 ms. average.

Contact Resistance, 150 milliohms, aver.

Contact Load Rating, 100VA, 3 amperes max., or 250 volts, max.

Operating Position, any.

Dimensions same as 102MPC, Page 7.

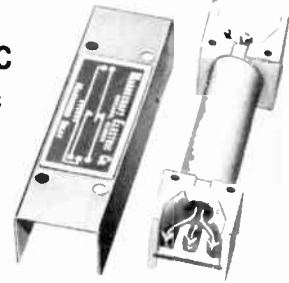
†Voltage operated relays pull in at 85% of nominal voltage at 25°C.

Stock Part No.	Contacts	COIL DC		Price 1 to 24
		Volts	Ohms	
W102RMPCX 1	SPST-NO	6VDC	70	7.87
W102RMPCX 2		12VDC	250	7.88
W102RMPCX 3		24VDC	1000	7.93
W102RMPCX 4		48VDC	4000	8.18

#### 103LMPC

#### Magnetic Latching Relay

Nom. Power  
150MW  
Weight, 1 oz.



Ideal for memory applications. Bi-stable SPDT Contacts—biased permanent magnet holds either contact position without coil power until coil polarity is reversed.

MPC Construction with printed circuit terminals described on page 6. Dimensions and wiring same as 103MPC, page 8.

Operate, 2 ms. aver. Bounce, 3 ms. max. Contact Resistance, 150 milliohms aver.

Contact Load Rating, 10VA, 0.2 amp. max. or 200V max., non-inductive.

Life Expectancy, 25 million cycles at rated load. Operating Position, any.

Stock Part No.	Con- tacts	COIL—DC			Price 1 to 24	
		MA	Volts	Ohms		
<b>Single Wound Coils</b>						
W103LMPCX-3	SPDT	40	—	70	7.07	
W103LMPCX-4		—	6	250	7.07	
W103LMPCX-5		—	12	1000	7.07	
W103LMPCX-6		—	24	4000	7.26	
W103LMPCX-7		—	4	—	7000	8.01
<b>Double Wound Coils</b>						
W103LMPCX-8		SPDT	80	—	30/30	8.22
W103LMPCX-9	—		6	120/120	8.33	
W103LMPCX-10	—		12	460/460	8.33	
W103LMPCX-11	—		24	1800/1800	9.00	
W103LMPCX-12	—		8	—	3000/3000	10.04

### Class 128 Coaxial Relays for High Power RF Switching

#### Flat Mounting Compact Coaxial Relays

Small compact relay combining a heavy duty coaxial cavity and the MAGNECRAFT 88 Relay structure described on page one.

The precision-built, hinge-pin type armature bearings of the Class 88 assure consistent pull-in power with maximum reliability over long life.

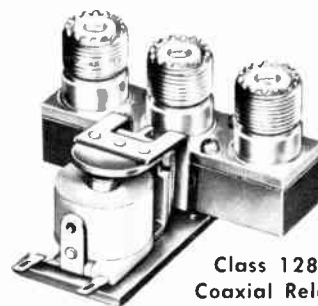
The coaxial contact structure is enclosed in a heavy duty precision machined brass cavity with removable plug for convenient inspection of contacts.

SPDT RF switching contacts are silver cadmium oxide, gold flashed, conservatively rated 100 watts of RF power; impedance matched to 50 ohm cable using standard type UHF connectors. VSWR 1.25: 1 maximum from 0 to 500 megacycles.

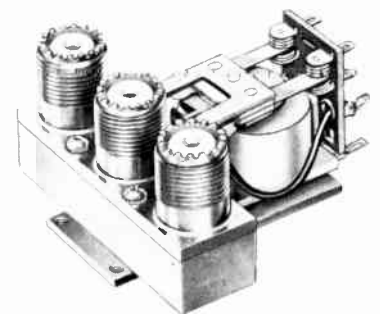
Operate time, 25 ms maximum

Release time, 25 ms maximum

Overall dimensions.  $2\frac{5}{8} \times 2\frac{7}{8} \times 1\frac{1}{8}$ .



Class 128  
Coaxial Relay



Class 128 Coaxial Relay with  
DPDT Auxiliary Contacts.

Stock Part No.	Coaxial Contacts	COIL		Price 1 to 9
		Volts	Ohms	
<b>Class 128 Relay</b>				
W128AX 7	SPDT	115 VAC	—	18 47
W128X 9	SPDT	12 VDC	100	18 13
W128X 10	SPDT	24 VDC	400	18 20
<b>Class 128 Relay with DPDT Auxiliary Contacts</b>				
W128AX 11	SPDT	115 VAC	—	20 85
W128X-14	SPDT	12 VDC	100	20 02
W128X-15	SPDT	24 VDC	400	20 08

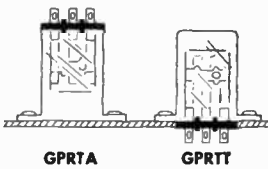
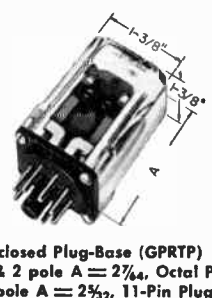
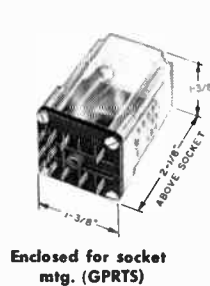
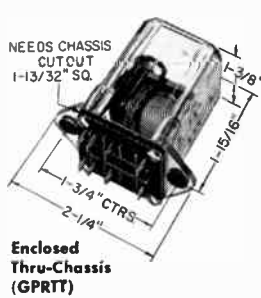
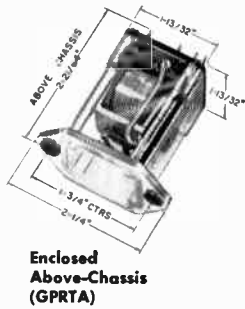
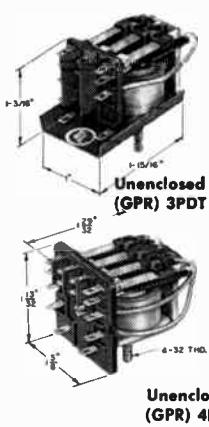
For Low Capacity RF Switching Relays See Class 33F, Page 7. Write Us for Our New 8 Page Coaxial Relay PDB 674

# OHMITE

resistors • rheostats • tap switches • relays  
variable transformers • tantalum capacitors  
semiconductor devices • r.f. chokes



## MODEL GPR GENERAL PURPOSE RELAYS



Includes Indicator, Plate, Thyatron and Latching Versions in Unenclosed and Enclosed Types

Simple, rugged, low cost relays handling substantial power for small size. Uncomplicated design provides unusual flexibility for making and changing connections and mounting. Stock includes relays in versatile enclosures, some with indicator light, also plate, thyatron and latching versions. Wide commercial and industrial use where economy and versatility are important.

**Basic (Unenclosed) Relay:** All connections terminate on barrier-type terminal panel on combination solder—quick-connect

(push-on) lugs which accept AMP 110 female connectors. The terminal panel is conveniently incorporated into printed circuit boards. Fixed contacts are integral inlay on terminal itself. Normally furnished with a 6-32 x 1/2" mounting stud and non-turn boss (or lug for 4-pole relays). A 6-32 threaded hole is optional. Unenclosed relays can also be mounted by plugging their panels into Ohmite SOGPR sockets. See "Socket" following.

**Contact Ratings:** Two ratings—fine silver contacts, 5 amps at 115 VAC or 32 VDC; silver-cadmium contacts, 10 amps.

**Insulation:** Tested at 1500 VAC.

**Coil Wattage:** 1.4 watts DC operation; 160 watts (2.0 volt-amps) AC except 2.4 watts (3.70 volt-amps) for 4-pole AC and AC latching relays.

**ENCLOSED RELAYS (GPRTA-, GPRTT-, GPRTS-, GPRTP-).** Four types of clear plastic enclosures as follows:

**Chassis Mounting Types:** "GPRTA"—("Terminals-Above-Chassis" type) has terminal panel opposite to mounting flange; "GPRTT"—("Terminals-Through-Chassis" type) has terminal panel on same end as mounting flange, requires chassis cutout; "GPRTS" type (Terminals for Socket Use) is similar to GPRTT but has no mounting flanges. It is intended strictly for plug-in mounting in Ohmite socket "SOGPR" (see "Socket" below).

**Plug Base Type:** "GPRTP"—employs octal plug for 1 and 2 pole relays; 11-pin plug for 3-pole. The octal plug base is integral with relay for rigidity—is designed with recessed pins which meet UL spacing requirements (150V).

(Continued on next page)

### STOCK GPR RELAYS\*

Contacts	5 AMP CONTACTS										10 AMP CONTACTS														
	COIL DATA		Unenclosed GPR	Enclosed Above Chassis GPRTA†	Enclosed Thru-Chassis GPRTT†	Enclosure for SOGPR Socket GPRTS	Enclosed Plug GPRTP	Unenclosed GPR	Enclosure for SOGPR Socket GPRTS	Enclosed Plug Base GPRTP	Indicator Plug Base GPRTP	COIL DATA		Unenclosed GPR	Enclosure for SOGPR Socket GPRTS	Enclosed Plug Base GPRTP	Indicator Plug Base GPRTP								
	Volts	Amps.	Net \$ 1-24	Net \$ 1-24	Net \$ 1-24	Net \$ 1-24	Net \$ 1-24	Net \$ 1-24	Net \$ 1-24	Net \$ 1-24	Net \$ 1-24	Volts	Amps.	Net \$ 1-24	Net \$ 1-24	Net \$ 1-24	Net \$ 1-24								
SPDT	6VAC	.334	4.2	-3T 3.35	-3T 5.45	-3T 5.45	-3T 5.70	-203T 3.40	-203T 5.80			SPDT	12VAC	.167	17	-12T 3.35	-12T 5.45	-12T 5.45	-12T 5.70	-212T 3.40	-212T 5.80				
DPDT	6VAC	.334	4.2	-8T 4.05	-8T 6.15	-8T 6.15	-8T 6.35	-206T 4.15	-206T 6.25	-291T 7.45		DPDT	12VAC	.167	17	-15T 4.05	-15T 6.15	-15T 6.15	-15T 6.35	-215T 4.15	-215T 6.25	-292T 7.45			
3PDT	6VAC	.334	4.2	-9T 4.45	-9T 7.10	-9T 7.10	-9T 7.85	-209T 4.60	-209T 7.30			3PDT	12VAC	.167	17	-18T 4.45	-18T 7.10	-18T 7.10	-18T 7.85	-218T 4.60	-218T 7.30	-293T 7.45			
4PDT	6VAC	.650	2.5	-403T 5.25			-403T 8.30	-433T 5.40	-433T 8.60			4PDT	12VAC	.309	10	-408T 5.25			-408T 8.30	-438T 5.40	-438T 8.60				
SPDT	24VAC	.084	65	-21T 3.35	-21T 5.45	-21T 5.45	-21T 5.70	-221T 3.40	-221T 5.80			SPDT	24VAC	.084	65	-21T 3.35	-21T 5.45	-21T 5.45	-21T 5.70	-221T 3.40	-221T 5.80				
DPDT	24VAC	.084	65	-24T 4.05	-24T 6.15	-24T 6.15	-24T 6.35	-224T 4.15	-224T 6.25	-293T 7.45		DPDT	24VAC	.084	65	-24T 4.05	-24T 6.15	-24T 6.15	-24T 6.35	-224T 4.15	-224T 6.25	-292T 7.45			
3PDT	24VAC	.084	65	-37T 4.45	-37T 7.10	-37T 7.10	-37T 7.85	-227T 4.60	-227T 7.30			3PDT	24VAC	.084	65	-37T 4.45	-37T 7.10	-37T 7.10	-37T 7.85	-227T 4.60	-227T 7.30	-293T 7.45			
4PDT	24VAC	.155	40	-409T 5.25			-409T 8.30	-439T 5.40	-439T 8.60			4PDT	24VAC	.155	40	-409T 5.25			-409T 8.30	-439T 5.40	-439T 8.60				
SPDT	115VAC	.0174	1600	-30T 3.35	-30T 5.45	-30T 5.45	-30T 5.70	-230T 3.40	-230T 5.80			SPDT	115VAC	.0174	1600	-30T 3.35	-30T 5.45	-30T 5.45	-30T 5.70	-230T 3.40	-230T 5.80				
DPDT	115VAC	.0174	1600	-33T 4.05	-33T 6.15	-33T 6.15	-33T 6.35	-233T 4.15	-233T 6.25	-294T 7.45		DPDT	115VAC	.0174	1600	-33T 4.05	-33T 6.15	-33T 6.15	-33T 6.35	-233T 4.15	-233T 6.25	-293T 7.45			
3PDT	115VAC	.0174	1600	-36T 4.45	-36T 7.10	-36T 7.10	-36T 7.85	-236T 4.60	-236T 7.30			3PDT	115VAC	.0174	1600	-36T 4.45	-36T 7.10	-36T 7.10	-36T 7.85	-236T 4.60	-236T 7.30	-294T 7.45			
4PDT	115VAC	.0325	1000	-412T 5.25			-412T 8.30	-442T 5.40	-442T 8.60			4PDT	115VAC	.0325	1000	-412T 5.25			-412T 8.30	-442T 5.40	-442T 8.60				
SPDT	230VAC	.0087	7000	-39T 3.75	-39T 5.85	-39T 5.85	-39T 6.10	-239T 3.80	-239T 6.20			SPDT	230VAC	.0087	7000	-39T 3.75	-39T 5.85	-39T 5.85	-39T 6.10	-239T 3.80	-239T 6.20				
DPDT	230VAC	.0087	7000	-42T 4.45	-42T 6.55	-42T 6.55	-42T 6.75	-242T 4.55	-242T 6.95	-295T 7.90		DPDT	230VAC	.0087	7000	-42T 4.45	-42T 6.55	-42T 6.55	-42T 6.75	-242T 4.55	-242T 6.95	-294T 7.45			
3PDT	230VAC	.0087	7000	-45T 4.85	-45T 7.50	-45T 7.50	-45T 8.25	-245T 5.00	-245T 7.70			3PDT	230VAC	.0087	7000	-45T 4.85	-45T 7.50	-45T 7.50	-45T 8.25	-245T 5.00	-245T 7.70	-295T 7.90			
4PDT	230VAC	.0147	4000	-415T 5.85			-415T 8.70	-445T 5.80	-445T 9.00			4PDT	230VAC	.0147	4000	-415T 5.85			-415T 8.70	-445T 5.80	-445T 9.00				
SPDT	6VDC	.23	26	-48T 3.20	-48T 5.30	-48T 5.30	-48T 5.65	-248T 3.25	-248T 5.75			SPDT	6VDC	.23	26	-48T 3.20	-48T 5.30	-48T 5.30	-48T 5.65	-248T 3.25	-248T 5.75				
DPDT	6VDC	.23	26	-51T 3.55	-51T 5.65	-51T 5.65	-51T 6.30	-251T 3.65	-251T 6.50	-296T 7.40		DPDT	6VDC	.23	26	-51T 3.55	-51T 5.65	-51T 5.65	-51T 6.30	-251T 3.65	-251T 6.50	-295T 7.40			
3PDT	6VDC	.23	26	-54T 4.05	-54T 6.65	-54T 6.65	-54T 7.80	-254T 4.20	-254T 6.85			3PDT	6VDC	.23	26	-54T 4.05	-54T 6.65	-54T 6.65	-54T 7.80	-254T 4.20	-254T 6.85	-296T 7.40			
4PDT	6VDC	.23	26	-418T 4.95			-418T 8.00	-448T 5.10	-448T 8.30			4PDT	6VDC	.23	26	-418T 4.95			-418T 8.00	-448T 5.10	-448T 8.30				
SPDT	12VDC	.114	105	-57T 3.20	-57T 5.30	-57T 5.30	-57T 5.65	-257T 3.25	-257T 5.75			SPDT	12VDC	.114	105	-57T 3.20	-57T 5.30	-57T 5.30	-57T 5.65	-257T 3.25	-257T 5.75				
DPDT	12VDC	.114	105	-60T 3.55	-60T 5.65	-60T 5.65	-60T 6.30	-260T 3.65	-260T 6.50	-297T 7.40		DPDT	12VDC	.114	105	-60T 3.55	-60T 5.65	-60T 5.65	-60T 6.30	-260T 3.65	-260T 6.50	-296T 7.40			
3PDT	12VDC	.114	105	-63T 4.05	-63T 6.65	-63T 6.65	-63T 7.80	-263T 4.20	-263T 6.85			3PDT	12VDC	.114	105	-63T 4.05	-63T 6.65	-63T 6.65	-63T 7.80	-263T 4.20	-263T 6.85	-297T 7.40			
4PDT	12VDC	.114	105	-421T 4.95			-421T 8.00	-451T 5.10	-451T 8.30			4PDT	12VDC	.114	105	-421T 4.95			-421T 8.00	-451T 5.10	-451T 8.30				
SPDT	24VDC	.060	400	-66T 3.20	-66T 5.30	-66T 5.30	-66T 5.65	-266T 3.25	-266T 5.75			SPDT	24VDC	.060	400	-66T 3.20	-66T 5.30	-66T 5.30	-66T 5.65	-266T 3.25	-266T 5.75				
DPDT	24VDC	.060	400	-69T 3.55	-69T 5.65	-69T 5.65	-69T 6.30	-269T 3.65	-269T 6.50	-298T 7.40		DPDT	24VDC	.060	400	-69T 3.55	-69T 5.65	-69T 5.65	-69T 6.30	-269T 3.65	-269T 6.50	-297T 7.40			
3PDT	24VDC	.060	400	-72T 4.05	-72T 6.65	-72T 6.65	-72T 7.80	-272T 4.20	-272T 6.85			3PDT	24VDC	.060	400	-72T 4.05	-72T 6.65	-72T 6.65	-72T 7.80	-272T 4.20	-272T 6.85	-298T 7.40			
4PDT	24VDC	.060	400	-424T 4.95			-424T 8.00	-454T 5.10	-454T 8.30			4PDT	24VDC	.060	400	-424T 4.95			-424T 8.00	-454T 5.10	-454T 8.30				
SPDT	110VDC	.0110	10,000	-75T 3.80	-75T 5.90	-75T 5.90	-75T 6.25	-275T 3.85	-275T 6.35			SPDT	110VDC	.0110	10,000	-75T 3.80	-75T 5.90	-75T 5.90	-75T 6.25	-275T 3.85	-275T 6.35				
DPDT	110VDC	.0110	10,000	-78T 4.20	-78T 6.30	-78T 6.30	-78T 6.90	-278T 4.25	-278T 7.10	-299T 8.05		DPDT	110VDC	.0110	10,000	-78T 4.20	-78T 6.30	-78T 6.30	-78T 6.90	-278T 4.25	-278T 7.10	-298T 7.40			
3PDT	110VDC	.0110	10,000	-81T 4.65	-81T 7.30	-81T 7.30	-81T 8.40	-281T 4.80	-281T 7.50			3PDT	110VDC	.0110	10,000	-81T 4.65	-81T 7.30	-81T 7.30	-81T 8.40	-281T 4.80	-281T 7.50	-299T 8.05			
4PDT	110VDC	.0110	10,000	-427T 5.55			-427T 8.60	-457T 5.70	-457T 8.90			4PDT	110VDC	.0110	10,000	-427T 5.55			-427T 8.60	-457T 5.70	-457T 8.90				
	Approx. weight			2.5 oz.	3.0 oz.	3.0 oz.	3.0 oz.	3.5 oz.	2.5 oz.	3.5 oz.	3.5 oz.			2.5 oz.	3.5 oz.	3.5 oz.	3.5 oz.								

\*Column heads carry symbols to indicate UL or CSA (Canadian Standards Assn.) approval. The grey tint indicates that relay is recognized under UL "components program" (File No. E33069, Guide No. 380W1.14C, Assignment No. 62C3559A). CSA File No. is 21309. See explanation in "UL and CSA Approval."

†4-Pole GPRTS relays are not covered by CSA.

‡GPRTA and GPRTT types as listed by UL, differ slightly from the stock versions above and consequently, are made to order. These UL versions have a "U" added to the catalog number, such as in "GPRTAU." They also have CSA approval.

# OHMITE

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variable transformers • tantalum capacitors  
semiconductor devices • r.f. chokes



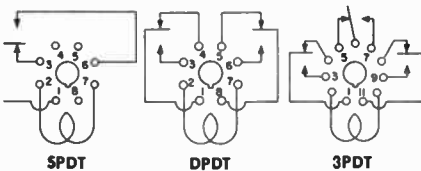
## MODEL GPR GENERAL PURPOSE RELAYS

**Socket (SOGPR):** Unique socket fits the terminal panels of all GPR relays and provides over-the-surface spacing to meet UL requirements for 150 volts. Requires chassis cut-out to mount. Hold down springs (see illustration) for unenclosed and enclosed relays, are provided with each socket but are not required except under conditions of vibration or shock. Socket solder terminals will also accept AMP 110 quick-connectors. See socket listings.

**Indicator Relay:** Incorporates light bulb to indicate energized condition of coil. Stocked only in GPRTP enclosures described in preceding. Neon bulb furnished with coil ratings 70 volts and above; incandescent bulbs for coil ratings below 70 volts.

**Plate Relays:** Feature same physical construction as standard general purpose relays but are adjusted for greater sensitivity and can be used as electronic circuit controls, i.e., in the plate circuits of standard vacuum tubes.

**Thyratron Plate Relay:** Designed specifically for plate circuit of thyratron tubes 2050 and 2D21 with 115 VAC supply (see diagram). Also suitable for operation in series with silicon controlled rectifiers from a 115 VAC supply. Ready to work, no capacitors or adjustments required, no chatter. Available unenclosed and in most GPR enclosures.



Plug wiring schemes for plug base (GPRTP) relays

**Latching Relay:** Consists of two GPR relays with armatures linked so that the n.o. contacts of one are mechanically latched in closed position when, and after, this relay is energized. When 2nd relay is energized, first relay restores and latches 2nd. Permits switching of twice the number of circuits and holding without coil current. Unenclosed type "GPRLE". Enclosed type "GPRLETP" in clear plastic case with Jones plug P-324-SB fitting S-324-AB socket.

**UL & CSA Approval:** Column heads in the stock tables carry the UL (Underwriters' Laboratories) or CSA symbol (Canadian Standards Association) where applicable. The grey tint in the column indicates the relays are recognized under the "UL components program". The acceptability of such relays by UL depends upon their combination with other equipment such as sockets etc.



### SOCKETS for GPR, GPRTS RELAYS

For up to 3PDT: 1 1/4" square, requires 1 1/2" x 1 1/2" cutout.\* 2 holes (for No. 6 screws) on 1 3/8" centers.

Stock No. SOGPR-9.....Net 1-24 \$1.10

For 4-pole models, 1 3/4" x 2", requires 1 1/2" x 1 1/2" cutout.\* 2 holes (for No. 6 screws) on 1 3/8" centers.

Stock No. SOGPR-12.....Net 1-24 \$1.25

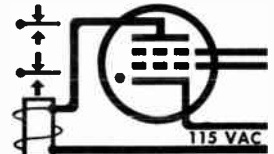
\*Std. punches & dies from Ward Machinery Co., Chicago, No. 28, Style 22N, 1 1/4 x 1 1/2, for SOGPR-9; No. 28, Style 14R, 1 1/2 x 1 1/2, for SOGPR-12.

### STOCK "GPR" PLATE CIRCUIT RELAYS — 5 AMP CONTACTS

Contacts	COIL DATA			Unenclosed GPR		Enclosed Above-Chassis GPRTA		Enclosed Thru-Chassis GPRTT		Enclosed for SOGPR Socket GPRTS		Enclosed Plug-Base GPRTP	
	Ohms	Pull-in max.		Net \$ 1-24	Net \$ 1-24	Net \$ 1-24	Net \$ 1-24	Net \$ 1-24	Net \$ 1-24	Net \$ 1-24	Net \$ 1-24	Net \$ 1-24	
SPDT	2500	7.2	-82T	3.80	-82T	5.80	-82T	5.80			-82T	6.15	
DPDT	2500	10	-83T	4.35	-83T	5.95	-83T	5.95			-83T	6.55	
3PDT	2500	12.3	-84T	5.00	-84T	6.95	-84T	6.95			-84T	8.10	
4PDT	2500	15.0	-463T	5.90						-463T	8.95		
SPDT	5000	5	-85T	3.90	-85T	5.90	-85T	5.90			-85T	6.25	
DPDT	5000	7.2	-86T	4.45	-86T	6.05	-86T	6.05			-86T	6.70	
3PDT	5000	8.7	-87T	5.10	-87T	7.05	-87T	7.05			-87T	8.20	
4PDT	5000	11	-467T	6.00						-467T	9.05		
SPDT	10,000	3.6	-88T	4.35	-88T	6.30	-88T	6.30			-88T	6.70	
DPDT	10,000	5	-89T	4.90	-89T	6.50	-89T	6.50			-89T	7.10	
3PDT	10,000	6.1	-90T	5.50	-90T	7.50	-90T	7.50			-90T	8.60	
4PDT	10,000	7.5	-469T	6.40						-469T	9.45		
Approx. weight				2.5 oz.	3.0 oz.	3.0 oz.	3.0 oz.	3.0 oz.	3.5 oz.				

### STOCK GPR THYRATRON RELAYS

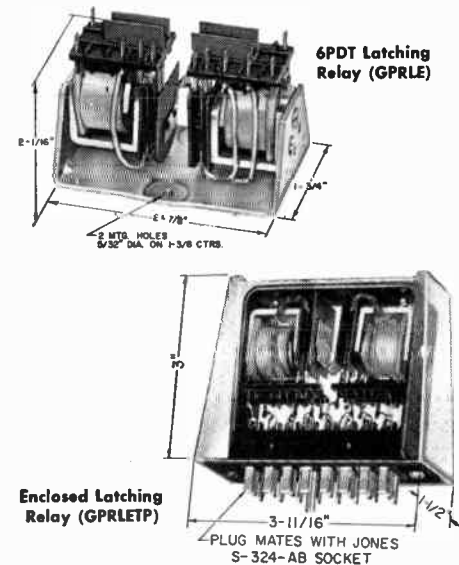
Contacts	5 AMP CONTACTS				10 AMP CONTACTS			
	Unenclosed GPR	Net \$ 1-24	Enclosed Above-Chassis GPRTA	Net \$ 1-24	Unenclosed GPR	Net \$ 1-24	Enclosed Above-Chassis GPRTA	Net \$ 1-24
SPDT	GPRX -191T	3.50	GPRTX -191T	5.60	GPRX -191T	5.85	GPRTX -191T	8.95
DPDT	-192T	4.20	-192T	6.30	-192T	6.50	-192T	8.75
3PDT	-193T	4.60	-193T	7.25	-193T	8.00	-193T	10.35
4PDT	-473T	5.40						



Relay in circuit Showing Thyratron

### STOCK "GPR" LATCHING RELAYS — 5 AMP CONTACTS

Total Contacts	COIL DATA—(Each Coil)			Unenclosed GPRLE†	Net \$ 1-24	Enclosed Plug-Base GPRLETP†	Net \$ 1-24
	Volts	Amps.	Ohms				
4PDT	6VAC	.650	2.5	GPRLEX-1T	11.00	GPRLETPX-1T	17.30
6PDT	6VAC	.650	2.5	GPRLEX-2T	13.20	GPRLETPX-2T	20.55
4PDT	12VAC	.309	10.0	GPRLEX-3T	11.00	GPRLETPX-3T	17.30
6PDT	12VAC	.309	10.0	GPRLEX-4T	13.20	GPRLETPX-4T	20.55
4PDT	24VAC	.155	40.0	GPRLEX-5T	11.00	GPRLETPX-5T	17.30
6PDT	24VAC	.155	40.0	GPRLEX-6T	13.20	GPRLETPX-6T	20.55
4PDT	115VAC	.0325	1000	GPRLEX-7T	11.00	GPRLETPX-7T	17.30
6PDT	115VAC	.0325	1000	GPRLEX-8T	13.20	GPRLETPX-8T	20.55
4PDT	230VAC	.0147	4000	GPRLEX-9T	11.80	GPRLETPX-9T	18.10
6PDT	230VAC	.0147	4000	GPRLEX-10T	14.00	GPRLETPX-10T	21.35
4PDT	6VDC	.23	26	GPRLEX-11T	9.90	GPRLETPX-11T	16.20
6PDT	6VDC	.23	26	GPRLEX-12T	12.00	GPRLETPX-12T	19.35
4PDT	12VDC	.114	105	GPRLEX-13T	9.90	GPRLETPX-13T	16.20
6PDT	12VDC	.114	105	GPRLEX-14T	12.00	GPRLETPX-14T	19.35
4PDT	24VDC	.060	400	GPRLEX-15T	9.90	GPRLETPX-15T	16.20
6PDT	24VDC	.060	400	GPRLEX-16T	12.00	GPRLETPX-16T	19.35
4PDT	110VDC	.0110	10,000	GPRLEX-17T	11.15	GPRLETPX-17T	17.45
6PDT	110VDC	.0110	10,000	GPRLEX-18T	13.25	GPRLETPX-18T	20.60
Approx. weight				7.0 oz.		11.3 oz.	



†See paragraph, "UL & CSA Approval."

# OHMITE

resistors • rheostats • tap switches • relays  
variable transformers • tantalum capacitors  
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## ALL-PURPOSE RELAYS (Also see Model GPR Relays)



### MODEL DO RELAY AC or DC OPERATION

Ideal for mobile equipment applications where severe shock and vibration are encountered. Coil drain: 3-watts DC, 6 watts 60 cycle AC. Contact ratings: 10 amps. at 115 v. AC; 32 volt DC resistive load. Insulation tested at 1500 v. AC. Size, (4 pole) 2 1/4 x 2 1/8 x 1 1/2"; (3 pole) 2 1/4 x 1 1/8 x 1 1/2".

Stock No.	Type	Coil Data		Stock No.	Type	Coil Data	
		V.A.C. Amps.	Net 1-24			V.D.C. Amps.	Net 1-24
DOX-50T	3PDT	6	2.33	DOX-145T	3PDT	6	.487
DOX-183T	4PDT	6	2.33	DOX-186T	4PDT	6	.487
DOX-49T	3PDT	12	1.28	DOX-51T	3PDT	12	.231
DOX-184T	4PDT	12	1.28	DOX-102T	4PDT	12	.231
DOX-181T	3PDT	24	.57	DOX-141T	3PDT	24	.105
DOX-185T	4PDT	24	.57	DOX-137T	4PDT	24	.105
DOX-226T	1PST*	115	.110	DOX-93T	3PDT	110	.022
DOX-34T	1PST*	115	.110	DOX-187T	4PDT	110	.022
DOX-227T	1PST*	115	.110	DOX-182T	3PDT	220	.014
DOX-28T	1PST*	115	.110	DOX-188T	4PDT	220	.014
DOX-46T	3PDT	115	.110				
DOX-30T	3PDT	115	.110				
DOX-228T	1PST	115	.110				
DOX-31T	1PST	115	.110				
DOX-53T	4PDT	115	.110				
DOX-33T	4PDT	115	.110				
DOX-61T	3PDT	230	.070				
DOX-130T	4PDT	230	.070				

† Normally open  
† AC Voltage is 60 cycle  
\* Double Break Contacts — 20 Amp.  
‡ Listed by UL.



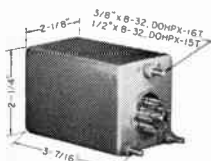
### MODEL DOS RELAY AC or DC OPERATION

Quality, general-purpose relays originally designed to meet rigorous aircraft specs. Extremely compact yet rugged. Coil drain: 2.5 watts DC, 3 watts at 60 cycles AC. Contact ratings: DP, 15 amps. at 115 v. AC or 32 v. DC resistive load; SP, 25 amps. Molded phenolic insulation; tested at 1500 v. AC. 1 1/8 x 1 1/8 x 1 1/2".

Stock No.	Type	Coil Data		Stock No.	Type	Coil Data	
		V.A.C. Amps.	Net 1-24			V.D.C. Amps.	Net 1-24
DOSX-229T	1PST*	6	.890	DOSX-158T	DPDT	6	.550
DOSX-230T	1PST*	6	.890	DOSX-66T	DPDT	12	.210
DOSX-16T	DPDT	6	.890	DOSX-9T	DPDT	24	.105
DOSX-231T	DPDT	12	.460	DOSX-237T	1PST	110	.022
DOSX-162T	1PST*	24	.269	DOSX-238T	1PST	110	.022
DOSX-232T	1PST*	24	.269	DOSX-59T	DPDT	110	.022
DOSX-162T	DPDT	24	.269	DOSX-177T	DPDT	220	.013
DOSX-233T	1PST*	115	.043				
DOSX-34T	1PST*	115	.043				
DOSX-234T	1PST*	115	.043				
DOSX-31T	1PST*	115	.043				
DOSX-7T	DPDT	115	.043				
DOSX-33T	1PST*	115	.043				
DOSX-235T	1PST*	230	.030				
DOSX-236T	1PST*	230	.030				
DOSX-12T	DPDT	230	.030				

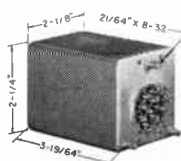
† Normally open  
† AC Voltage is 60 cycle  
\* Double Break Contacts — 25 Amp.  
‡ Listed by UL.

### DO RELAYS IN HERMETIC ENCLOSURES



DOHPX-16T, 3PDT, 11 Prongs  
DOHPX-15T, 4PDT, 20 Prongs

Stock DO relays with 115 volt coil in hermetically sealed metal enclosures, filled with dry nitrogen. Both 3 and 4-pole DO relays are supplied in these enclosures with plug (DOHPX-) or solder terminal (DOHX-) connectors as illustrated. Weights: 3-pole hermetic relay approx. 14 oz.; 4-pole approx. 15 oz.

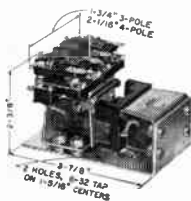


DOHX-22T, 3PDT, 14 Terminals  
DOHX-23T, 4PDT, 14 Terminals

#### 10 AMP. CONTACTS

Stock No.	Type	Coil Data		Net 1-24
		Volts	Amps.	
DOHPX-16T	3PDT	115VAC	.110	23.05
DOHPX-15T	4PDT	115VAC	.110	28.80
DOHX-22T	3PDT	115VAC	.110	22.40
DOHX-23T	4PDT	115VAC	.110	24.05

### MODEL DO LATCHING RELAY (DOLEX-)



DOLEX-3T, 3PDT  
DOLEX-5T, 4PDT

Consists of Model DO relay and a "reset magnet" with both armatures mechanically latched so that the normally open contacts of the relay remain closed when the relay energizing voltage is removed. The relay releases to normal position when the reset coil is pulsed. Permits "holding" of circuits without continuous coil current. Coils of stock units (both relays and reset coils) are 115VAC. Available with 3 or 4-pole relays. Weights: 3-pole—16.5 oz.; 4-pole—17 oz.

#### 10 AMP. CONTACTS

Stock No.	Type	Coil Data		Net 1-24
		Volts	Amps.	
DOLEX-3T	3PDT	115VAC	.110	15.95
DOLEX-5T	4PDT	115VAC	.110	17.20

† Coil data applies to relay part of latching assembly. Reset magnet operates on 115VAC, 60 cycle also.



### MODEL DOSY RELAY FOR PLATE CIRCUIT OPERATION

The high operating sensitivity makes the DOSY relay adaptable to a wide range of electronic control circuits, such as plate circuit controls, etc.

The insulation is of high grade, molded phenolic material. At 115 v. AC or 32 v. DC, resistive load, Model DOSY relay has a contact rating of 15 amperes.

There are two DPDT types, one having 10,000 ohms coil resistance (maximum pull-in current of 8 ma. DC); the other having 5,000 ohms coil resistance. Dimensions are same as for Model DOS next column.

Stock No.	Type	Coil Data		Net Each 1-24
		D.C. Ohms	Max. Pull-in Current	
DOSYX-67T	DPDT	10,000	8 MA	6.40
DOSYX-68T	DPDT	5,000	11 MA	6.40
DOSYX-69T	SPDT	10,000	5 MA	5.90
DOSYX-70T	SPDT	5,000	7 MA	5.90

### MODEL DOS PLUG-IN & ENCL. TYPES

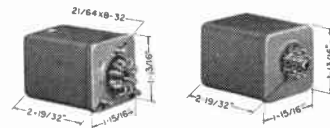


DOSPX-1T      DOSEPX-5T

Model DOS, DPDT relay with standard octal plug base, unenclosed or enclosed types. Enclosed dust-proof type has drawn aluminum cover. Overall dimensions, exclusive of plug: DOSPX-1T—1 1/8 x 2 x 1 1/8"; DOSEPX-5T—2 1/8 x 2 1/8 x 2 1/8". Contacts—15 amps. Similar to DOSX-7T shown under "DOS Relays" above.

Stock No.	Type	Coil		Net 1-24
		V.A.C.	Amps.	
DOSPX-1T Unenclosed	DPDT	115	.043	7.60
DOSEPX-5T Enclosed	DPDT	115	.043	8.70

### DOS RELAYS IN HERMETIC ENCLOSURES



Hermetic Enclosures with 8 Terminals  
DOSHX-39T, 115VDC  
DOSHX-40T, 115VAC

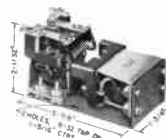
Hermetic Enclosures with Octal Plugs  
DOSHPX-46T, 115VDC  
DOSHPX-47T, 115VAC

Hermetically Sealed non-removable enclosures, filled with dry nitrogen, are also available to provide protection under adverse ambient conditions. DOS relays with 115 volt AC or DC coils are provided in these enclosures with either octal plug (DOSHPX-) or solder-terminal (DOSHX-) connectors as illustrated. Weights: 8 oz. each approx.

#### 15 AMP. CONTACTS

Stock No.	Type	Coil Data		Net 1-24
		Volts	Amps.	
DOSHX-40T	DPDT	115VAC	.043	14.25
DOSHPX-47T	DPDT	115VAC	.043	14.35
DOSHX-39T	DPDT	110VDC	.022	14.35
DOSHPX-46T	DPDT	110VDC	.022	14.45

### MODEL DOS LATCHING RELAY (DOSLEX-)



DOSLEX-1T

Consists of Model DOS relay and a "reset magnet" with both armatures mechanically latched so that the normally open contacts of the relay remain closed when the relay energizing voltage is removed. The relay releases to normal position when the reset coil is pulsed. Permits "holding" of circuits without continuous coil current. Coils of stock units (both relay and reset magnet) are 115VAC. Weight: 14.2 oz.

#### 15 AMP. CONTACTS

Stock No.	Type	Coil Data †		Net 1-24
		Volts	Amps.	
DOSLEX-1T	DPDT	115VAC	.043	12.60

† Coil data applies to relay part of latching assembly. Reset magnet operates on 115VAC, 60 cycle also.

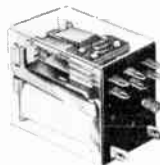


# HART/ADVANCE PRODUCTS

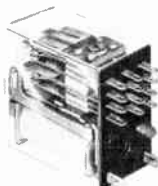
FORMERLY PHILLIPS/ADVANCE  
NOW MADE BY  
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## MINIATURE INDUSTRIAL RELAYS

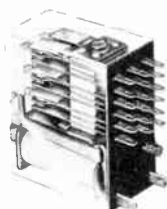
**"VersaPac" 67** Designed for industrial applications requiring 1 to 8 form C where space, weight, and cost are important. Single and bifurcated contacts rated at 3 and 5 amps are available. The use of armco magnetic ingot iron and a one piece frame and core provide for unusually precise adjustments. Mechanical life expectancy is in excess of 100 million operations. A plastic cover protects the relay, and sockets are available.



2 Form C  
1 1/16 x 3/4 x 1 1/16



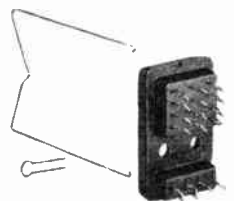
4 Form C  
1 1/16 x 3/4 x 1 1/16



6 Form C  
1 1/16 x 3/4 x 1 1/16



8 Form C  
1 1/16 x 3/4 x 1 1/16



MOUNTING HARDWARE

### POWER ADJUSTMENT

2 FORM C	Nominal Voltage (DC)	Coil Res. (Ohms)	Contact Rating (Amps)	Net
67DP-A-2C3	6	52	3	\$3.40
67DP-D-2C3	12	185	3	3.40
67DP-G-2C3	24	700	3	3.40
67DP-K-2C3	48	2500	3	3.40
67DP-N-2C3	115	15,000	3	4.80
67DP-A-2C5	6	52	5	3.50
67DP-D-2C5	12	185	5	3.50
67DP-G-2C5	24	700	5	3.50
67DP-K-2C5	48	2500	5	3.50
67DP-N-2C5	115	15,000	5	4.90
67DP-A-2C3B	6	52	3*	3.80
67DP-D-2C3B	12	185	3*	3.80
67DP-G-2C3B	24	700	3*	3.80
67DP-K-2C3B	48	2500	3*	3.80
67DP-N-2C3B	115	15,000	3	5.20
67DP-A-2C5B	6	52	5*	3.90
67DP-D-2C5B	12	185	5*	3.90
67DP-G-2C5B	24	700	5*	3.90
67DP-K-2C5B	48	2500	5*	3.90
67DP-N-2C5B	115	15,000	5*	5.30

\*Denotes Bifurcated Contacts.

4 FORM C	Nominal Voltage (DC)	Coil Res. (Ohms)	Contact Rating (Amps)	Net
67DP-A-4C3	6	52	3	\$3.80
67DP-D-4C3	12	185	3	3.80
67DP-G-4C3	24	700	3	3.80
67DP-K-4C3	48	2500	3	3.80
67DP-N-4C3	115	15,000	3	5.20
67DP-A-4C5	6	52	5	4.00
67DP-D-4C5	12	185	5	4.00
67DP-G-4C5	24	700	5	4.00
67DP-K-4C5	48	2500	5	4.00
67DP-N-4C5	115	15,000	5	5.40
67DP-A-4C3B	6	52	3*	4.30
67DP-D-4C3B	12	185	3*	4.30
67DP-G-4C3B	24	700	3*	4.30
67DP-K-4C3B	48	2500	3*	4.30
67DP-N-4C3B	115	15,000	3*	5.70
67DP-A-4C5B	6	52	5*	4.45
67DP-D-4C5B	12	185	5*	4.45
67DP-G-4C5B	24	700	5*	4.45
67DP-K-4C5B	48	2500	5*	4.45
67DP-N-4C5B	115	15,000	5*	5.85

\*Denotes Bifurcated Contacts.

### POWER ADJUSTMENT

6 FORM C	Nominal Voltage (DC)	Coil Res. (Ohms)	Contact Rating (Amps)	Net
67DP-B-6C3	6	25	3	\$4.90
67DP-E-6C3	12	90	3	4.90
67DP-H-6C3	24	430	3	4.90
67DP-L-6C3	48	1550	3	4.90
67DP-P-6C3	115	9000	3	5.85
67DP-B-6C5	6	25	5	5.20
67DP-E-6C5	12	90	5	5.20
67DP-H-6C5	24	430	5	5.20
67DP-L-6C5	48	1550	5	5.20
67DP-P-6C5	115	9000	5	6.15
67DP-B-6C3B	6	25	3*	5.40
67DP-E-6C3B	12	90	3*	5.40
67DP-H-6C3B	24	430	3*	5.40
67DP-L-6C3B	48	1550	3*	5.40
67DP-P-6C3B	115	9000	3*	6.35
67DP-B-6C5B	6	25	5*	5.60
67DP-E-6C5B	12	90	5*	5.60
67DP-H-6C5B	24	430	5*	5.60
67DP-L-6C5B	48	1550	5*	5.60
67DP-P-6C5B	115	9000	5*	6.55

8 FORM C	Nominal Voltage (DC)	Coil Res. (Ohms)	Contact Rating (Amps)	Net
67DP-C-8C3	6	20	3	\$7.00
67DP-F-8C3	12	72	3	7.00
67DP-J-8C3	24	350	3	7.00
67DP-M-8C3	48	1250	3	7.00
67DP-R-8C3	115	8000	3	7.95
67DP-C-8C5	6	20	5	7.40
67DP-F-8C5	12	72	5	7.40
67DP-J-8C5	24	350	5	7.40
67DP-M-8C5	48	1250	5	7.40
67DP-R-8C5	115	8000	5	8.35
67DP-C-8C3B	6	20	3*	7.70
67DP-F-8C3B	12	72	3*	7.70
67DP-J-8C3B	24	350	3*	7.70
67DP-M-8C3B	48	1250	3*	7.70
67DP-R-8C3B	115	8000	3*	8.65
67DP-C-8C5B	6	20	5*	7.90
67DP-F-8C5B	12	72	5*	7.90
67DP-J-8C5B	24	350	5*	7.90
67DP-M-8C5B	48	1250	5*	7.90
67DP-R-8C5B	115	8000	5*	8.85

### SENSITIVE ADJUSTMENT

	Operate Current (Amps)	Coil Res. (Ohms)	Contact Rating (Amps)	Net
67DS-S-2C3	.0085	1000	3	\$3.70
67DS-K-2C3	.0058	2500	3	3.70
67DP-T-2C3	.0041	5000	3	4.20
67DP-V-2C3	.0031	10,000	3	4.60
67DP-N-2C3	.0026	15,000	3	4.60
67DS-S-4C3	.0130	1000	3	4.15
67DS-K-4C3	.0084	2500	3	4.15
67DS-T-4C3	.0062	5000	3	4.65
67DS-V-4C3	.0045	10,000	3	5.05
67DS-N-4C3	.0035	15,000	3	5.05

### MOUNTING HARDWARE

(Includes Socket, Retaining Clip and Ground Clip)

Part No.	Description	Net
6-1313-9	2 Pole Solder Terminal	.55
6-1313-10	2 Pole Printed Circuit Terminal	.65
6-1313-11	4 Pole Solder Terminal	.60
6-1313-12	4 Pole Printed Circuit Terminal	.70
6-1313-13	6 Pole Solder Terminal	.95
6-1313-14	6 Pole Printed Circuit Terminal	1.05
6-1313-15	8 Pole Solder Terminal	1.30
6-1313-16	8 Pole Printed Circuit Terminal	1.40

ALL SOCKET TERMINALS ARE GOLD PLATED

IMMEDIATE IN STOCK DELIVERY THROUGH LEADING INDUSTRIAL ELECTRONIC DISTRIBUTORS

TELEPHONE RELAYS

**TYPE 2** Dependable and versatile, the Type 2 is the "workhorse" of relays. It operates millions of times with reliability and requires little attention during its long life. An unusually large number of variations in contact assemblies, contact materials, coils, adjustments, and mounting arrangements are available.

**On special order:**

**Operating Voltage:** Up to 750 volts DC. Up to 440 volts AC, 60 cycles.

**Resistance:** Up to 50,000 ohms, single or double wound.

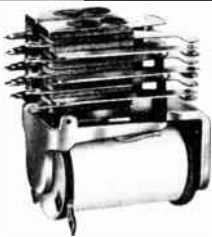
**Standard Contacts:** 18 ga. palladium, rated 3 amps, 150W. resistive. (Gold Flashed)



LONG FRAME

Type (DC)	Coil Voltage	Contact Arrange.	Coil Res. (Ohms)	Operate Curr. (Amps)	Operate Time (Sec.)	Net
2DC-6-2C	6	DPDT	50	.048	.030	7.20
2DC-6-6C	6	6PDT	50	.090	.065	11.20
2DC-24-2C	24	DPDT	600	.015	.025	7.50
2DC-24-6C	24	6PDT	600	.024	.050	11.50
2DC-48-4C	48	4PDT	2,000	.011	.040	7.70
2DC-48-6C	48	6PDT	2,000	.013	.050	11.70
2DC-115-1C	115	SPDT	3,600	.0045	.010	7.00
2DC-115-3C	115	3PDT	3,600	.008	.015	9.25
2DC-230-2C	230	DPDT	10,000	.004	.010	8.80
2DC-230-4C	230	4PDT	10,000	.006	.050	10.80

Type (AC)	Coil Voltage	Contact Arrange.	Coil Res. (Ohms -DC)	Curr. Drain (Amps-AC)	Pick-up Volt. 60 Cy.	Net
2AC-6-1C	6	SPDT	0.2	1	4.5	7.10
2AC-6-4C	6	4PDT	0.2	1	4.5	8.60
2AC-24-2C	24	DPDT	4	.24	21	7.55
2AC-24-4C	24	4PDT	4	.24	21	8.60
2AC-115-1C	115	SPDT	100	.08	100	7.50
2AC-115-3C	115	3PDT	100	.08	100	9.70



SHORT FRAME

**TYPE 4C** Relays constructed on the same general design of compact assembly and possess similar specifications. The heelpiece, armature and coil core are made of annealed magnetic iron, with the heelpiece acting as a return path for the magnetic circuit. The armature is pivoted on long-life bearings to insure constant pickup and drop-out adjustment. Standard relays are supplied with solder terminals for contact springs and coils.

**Standard Contacts:** 18 ga. palladium, rated 3 amps, 150W. resistive. (Gold Flashed)

TYPE (DC)	CONTACT ARRANGE.	COIL RES. OHMS	NET
4CDC-6-2C	DPDT	30	5.30
4CDC-12-2C	DPDT	75	5.30
4CDC-24-2C	DPDT	425	5.30
4CDC-115-2C	DPDT	6500	5.80
4CDC-6-4C	4PDT	30	7.05
4CDC-12-4C	4PDT	75	7.05

TYPE (DC)	CONTACT ARRANGE.	COIL RES. OHMS	NET
4CDC-24-4C	4PDT	425	7.05
4CDC-115-4C	4PDT	6500	7.65
4CDC-12-6C	6PDT	75	8.60
4CDC-24-6C	6PDT	425	8.65
4CDC-115-6C	6PDT	6500	9.20

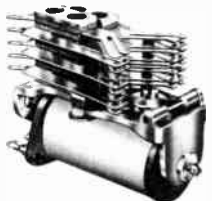
**TYPE 8** Small versatile multi-contact telephone type relays. Available with many variations in coils, contact assemblies, contact ratings, adjustments, terminal arrangements and mountings for a variety of applications. Standard contact blades are made of spring temper nickel silver, designed to give true independent twin contact operation.

**Coil Characteristics:**

**Operating Voltage:** Up to 300 volts D. C., 115 volts A. C., 60 or 400 cycles.

**Resistance:** Up to 21,000 ohms. Single or double wound.

**Standard Contacts:** Twin palladium, rated 4 amps, 175W. resistive. (Gold Flashed)



MEDIUM FRAME

TYPE (DC)	COIL RES. (OHMS)	OPERATE CURR. (AMPS)	WATTS	OPERATE TIME (SEC.)	NET
8DC-12-4C	100	.072	.518	.022	8.25
8DC-12-6C	100	.100	1.0	.030	11.30
8DC-24-4C	300	.046	.635	.020	8.25
8DC-24-6C	300	.064	1.23	.025	11.30
8DC-115-4C	8000	.010	.80	.023	9.80
8DC-115-6C	8000	.012	1.15	.023	12.15

TYPE (AC)	COIL RES. (OHMS)	CURR. DRAIN (AMPS)	PICK-UP VOLT. 60 CY.	NET
8AC-115-2C	400	.075	95	6.30
8AC-115-4C	400	.075	95	8.90

POWER RELAYS



LATCHING

**TYPE LE** The LE Series relays are employed in industrial and power control applications where it is desirable to eliminate continuous use of current consumption by the duty coil.

The latching mechanism in these relays is positive, and assures consistent performance. The units are assembled on a heavy bakelite base.

**Dimensions:** H. 2 3/8", W. 2 1/2", L. 3 3/8".

**Mounting Data:** 2 holes .152 dia.; clearance for 6-32 NC-2 screws; 2" centers.

Type	Coil Resistance	Contacts*	Net
LE/2C/115VA	160 ohms	DPDT 15 amps	12.00
LE/2C/24VD	100 ohms	DPDT 15 amps	11.65

**TYPE PC** Compact and positive-acting relays for either AC or DC. Used in air conditioning and lighting systems, small motor starting, transformers, garage door openers—wherever dependable circuit switching is necessary. Contacts rated at 15 Amps resistive, 5 Amps inductive at 115VAC or 26.5 VDC.

**Dimensions:** H. 1 1/8", W. 1 3/8", L. 2 3/8"—1 & 2 pole.  
H. 1 3/8", W. 2 3/8", L. 3 1/4"—3 & 4 pole.

**Mounting Data:** 2 tapped holes 6-32 NC-2; 2" centers.

**Weight:** 8 oz.



TYPE	COIL RESISTANCE (OHMS)	CONTACTS FORM	RATING (AMPS)	NET
PC/1C/6VA	1.6	SPDT	15	3.95
PC/1C/12VA	4	SPDT	15	3.95
PC/1C/24VA	16	SPDT	15	3.95
PC/1C/115VA	450	SPDT	15	3.95
PC/1C/220VA	1600	SPDT	15	4.95
PC/1C/6VD	16	SPDT	15	3.95
PC/1C/12VD	63	SPDT	15	3.95
PC/1C/24VD	250	SPDT	15	3.95
PC/1C/110VD	4000	SPDT	15	4.45
PC/2C/6VA	1.6	DPDT	15	5.95
PC/2C/12VA	4	DPDT	15	5.95
PC/2C/24VA	16	DPDT	15	5.95

TYPE	COIL RESISTANCE (OHMS)	CONTACTS FORM	RATING (AMPS)	NET
PC/2C/115VA	450	DPDT	15	5.95
PC/2C/220VA	1600	DPDT	15	6.95
PC/2C/6VD	16	DPDT	15	5.95
PC/2C/12VD	63	DPDT	15	5.95
PC/2C/24VD	250	DPDT	15	5.95
PC/2C/110VD	4000	DPDT	15	6.55
PC/3C/6VA	1.6	3PDT	15	8.45
PC/3C/24VA	16	3PDT	15	8.45
PC/3C/115VA	450	3PDT	15	8.45
PC/3C/220VA	1600	3PDT	15	9.65
PC/3C/6VD	16	3PDT	15	8.45
PC/3C/12VD	63	3PDT	15	8.45
PC/3C/24VD	250	3PDT	15	8.45
PC/3C/110VD	4000	3PDT	15	8.95
PC/4C/6VA	1.6	4PDT	15	10.95
PC/4C/24VA	16	4PDT	15	10.95
PC/4C/115VA	450	4PDT	15	10.95
PC/4C/220VA	1600	4PDT	15	12.45
PC/4C/6VD	16	4PDT	15	10.95
PC/4C/12VD	63	4PDT	15	10.95
PC/4C/24VD	250	4PDT	15	10.95
PC/4C/110VD	4000	4PDT	15	11.45

Note: PC/3C and PC/4C not available in 12 volts AC.



## HART/ADVANCE PRODUCTS FORMERLY PHILLIPS/ADVANCE



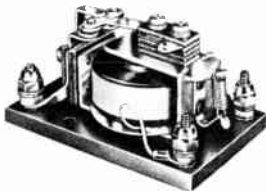
**TYPE PG** A continuous duty general purpose relay, available in AC or DC with DPDT (2C) and SPDT-DB (1Z) contact arrangements. Excellent for general industrial power control circuits and withstand vibration and shock because of special armature and frame design. 30 amp contact rating is achieved on the PG/1Z by including a jumper between blades, effecting a single pole design.

**Dimensions:** H. 1 7/8", W. 1 1/8", L. 1 1/2".

**Mounting Data:** 4 tapped holes 6-32 NC-2; 1/2" x 1-5/16" centers.

**Weight:** 4.4 oz.

TYPE	COIL RESISTANCE (OHMS)	FORM	CONTACTS RATING (AMPS)	NET
PG/2C/6VA	1.4	DPDT	15	7.50
PG/2C/24VA	25	DPDT	15	7.50
PG/2C/115VA	400	DPDT	15	7.50
PG/2C/220VA	1600	DPDT	15	7.95
PG/2C/6VD	16	DPDT	15	6.90
PG/2C/12VD	63	DPDT	15	6.90
PG/2C/24VD	250	DPDT	15	6.90
PG/1Z/6VD	16	SPDT	30	8.95
PG/1Z/115VA	400	SPDT	30	10.40



**TYPE PV** Very heavy-duty power-transfer relays—excellent for motor starting, lighting circuits and numerous applications where heavy double make contacts are needed. "T" blade is equipped with two 3/4" silver-cadmium oxide contacts, with ample contact gap. These contacts minimize pitting and burning under heavy non-inductive or inductive loads.

**Dimensions:** H. 1 1/8", W. 2 1/4", L. 3 1/4".

**Mounting Data:** 2 holes .169 dia. clearance for 8-32 NC-2 screws, 1 1/8" centers.

**Weight:** 6.8 oz.

TYPE	COIL RESISTANCE (OHMS)	FORM	CONTACTS RATING (AMPS)	NET
PV/1X/6VD	16	SPST-NO	30	7.35
PV/1X/115VA	450	SPST-NO	30	7.70
PV/1Z/6VD	16	SPDT	30	8.55
PV/1Z/115VA	450	SPDT	30	8.70

**TYPE 33B** Designed and constructed with a variety of features which contribute to the sensitivity and longevity of this relay. Contacts and terminals are mounted on molded phenolic blocks with integral barriers. Moveable contact blades are made of spring temper phosphor bronze for high conductivity and long life. Adjusting screws on each blade permit close adjustment in the factory for contact gap, over-travel, and pressure. Armature pivots on machined phosphor bronze bearing pins and pivot holes are precision reamed. Adjustment of the armature and yoke assembly allows proper alignment between the armature and pole face. Four 6-32 N. C. tapped mounting holes in the base allow easy mounting on chassis or bracket.

**Dimensions:** H. 2 3/4", W. 2 1/8" (5 Pole), L. 2".

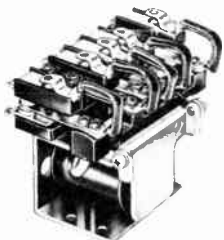
**Mounting Data:** 4 Tapped Holes 6-32NC-2, 1/2" x 1 1/4" centers.

**Weight:** 6 ounces max.

**Contact Rating:** Code 14—20 Amps Resistive at 115 VAC.

**Stock Numbers are coded:** 33BDC-24-5C-14.

A Type 33 relay for 24 volt DC operation with a 5C contact assembly using code number 14 contacts.



AVAILABLE THRU  
5 FORM C (AC OR DC)

Type (DC)	Coil Res. (Ohms)	Operate Curr. (Amps)	Watts	Operate Time (Sec.)	Contact Arrange.	Net
33BDC-6-3C-14	18	.185	.62	.019	3PDT	6.60
33BDC-6-5C-14	18	.225	.91	.025	5PDT	8.10
33BDC-24-3C-14	250	.064	1.02	.025	3PDT	6.60
33BDC-24-5C-14	250	.070	1.22	.029	5PDT	8.10
33BDC-230-3C-14	10,000	.010	1.0	.014	3PDT	8.60
33BDC-230-5C-14	10,000	.011	1.21	.016	5PDT	10.10

Type (AC)	Coil Res. (Ohm —DC)	Curr. Drain (Amps)	Pick-up Volt. 60 Cy.	Contact Arrange.	Net
33BAC-6-3C-14	1	.720	4.5	3PDT	6.60
33BAC-6-5C-14	1	.720	4.5	5PDT	8.10
33BAC-24-3C-14	9	.390	21	3PDT	6.60
33BAC-24-5C-14	9	.390	21	5PDT	8.10
33BAC-115-3C-14	215	.070	100	3PDT	6.60
33BAC-115-5C-14	215	.070	100	5PDT	8.10

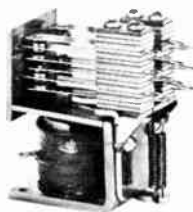
## GENERAL PURPOSE RELAYS

**TYPE 12** Low cost general purpose relay with multiple contacts. Used widely in commercial applications such as industrial controls, communications equipment, and automatic vending machines. On special order available in resistances up to 12,000 ohms. AC or DC, 230 volts, maximum. Coil dissipation, 3 watts maximum.

**Dimensions:** H. 2 3/4"; L. 1 7/8"; W. 1".

**Mounting:** 4 6-32 tapped holes on 3/4" x 7/8" centers.

**Standard Contacts:** 3/4" silver. Rated 10 amperes resistive at 115 VAC.



TYPE	COIL VOLTAGE (DC)	CONTACT ARRANGE.	RATING (AMPS)	NET
12DC-6-2C-10	6	DPDT	10	2.30
12DC-12-2C-10	12	DPDT	10	2.40
12DC-24-2C-10	24	DPDT	10	2.50
12DC-115-2C-10	115	DPDT	10	2.80
12DC-6-3C-10	6	3PDT	10	2.65
12DC-12-3C-10	12	3PDT	10	2.75
12DC-24-3C-10	24	3PDT	10	2.80
12DC-115-3C-10	115	3PDT	10	3.15
12DC-6-4C-10	6	4PDT	10	3.00
12DC-12-4C-10	12	4PDT	10	3.10
12DC-24-4C-10	24	4PDT	10	3.15
12DC-115-4C-10	115	4PDT	10	3.50
12DC-6-6C-10	6	6PDT	10	3.50
12DC-12-6C-10	12	6PDT	10	3.60
12DC-24-6C-10	24	6PDT	10	3.65
12DC-115-6C-10	115	6PDT	10	4.00

TYPE	COIL VOLTAGE (AC)	CONTACT ARRANGE.	RATING (AMPS)	NET
12AC-6-2C-10	6	DPDT	10	2.40
12AC-12-2C-10	12	DPDT	10	2.50
12AC-24-2C-10	24	DPDT	10	2.55
12AC-115-2C-10	115	DPDT	10	2.70
12AC-6-3C-10	6	3PDT	10	2.70
12AC-12-3C-10	12	3PDT	10	2.80
12AC-24-3C-10	24	3PDT	10	2.90
12AC-115-3C-10	115	3PDT	10	3.10
12AC-6-4C-10	6	4PDT	10	3.10
12AC-12-4C-10	12	4PDT	10	3.15
12AC-24-4C-10	24	4PDT	10	3.20
12AC-115-4C-10	115	4PDT	10	3.40
12AC-6-6C-10	6	6PDT	10	3.60
12AC-12-6C-10	12	6PDT	10	3.65
12AC-24-6C-10	24	6PDT	10	3.70
12AC-115-6C-10	115	6PDT	10	3.90



SOLDER TERMINAL

**TYPE 15** A small economical unit designed for printed circuit or screw mounting. 200 milliwatts nominal operating power. Available form 1C only.

**Dimensions:** H. 0.781"; L. 1 1/4"; W. 1".

**Mounting:** Single 1/2" tapped hole.

TYPE	COIL VOLTAGE	COIL RES.	CONTACT RATING (AMPS)	NET
15-6-1CT	6	85	1	1.50
15-12-1CT	12	300	1	1.50
15-24-1CT	24	1100	1	1.50



PRINTED CIRCUIT

TYPE	COIL VOLTAGE	COIL RES.	CONTACT RATING (AMPS)	NET
15-6-1C	6	85	1	1.50
15-12-1C	12	300	1	1.50
15-24-1C	24	1100	1	1.50

HART/ADVANCE PRODUCTS FORMERLY PHILLIPS/ADVANCE



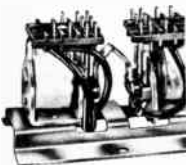
**TYPES—GHA—GHP** Low-cost continuous-duty general purpose relay. Contacts rated at 5 amps resistive load. Available as an open relay (GHA) or with a dustite plastic enclosure (GHP). Enclosed types with SPDT and DPDT contacts have 8 pin octal plug-in bases while the 3PDT types use 11 pin plug-in bases. Open relays supplied with axial type solder lugs. UL (Underwriters Laboratories) approval granted on types GHA1C and GHA2C.

**Dimensions:** Open Style—1 1/4" x 1 3/4" x 1 3/8"  
Enclosed Style—1 1/2" x 1 1/2" x 2 1/8".



TYPE	COIL RESISTANCE (OHMS)	FORM	CONTACTS RATING (AMPS)	NET
GHA/1C/6VA	4	SPDT	5	3.05
GHA/1C/12VA	16	SPDT	5	3.05
GHA/1C/24VA	63	SPDT	5	3.05
GHA/1C/115VA	1600	SPDT	5	3.05
GHA/1C/220VA	5000	SPDT	5	3.55
GHA/1C/6VD	25	SPDT	5	3.05
GHA/1C/12VD	100	SPDT	5	3.05
GHA/1C/24VD	400	SPDT	5	3.05
GHA/1C/110VD	8000	SPDT	5	3.55
GHA/2C/6VA	4	DPDT	5	3.55
GHA/2C/12VA	16	DPDT	5	3.55
GHA/2C/24VA	63	DPDT	5	3.55
GHA/2C/115VA	1600	DPDT	5	3.55
GHA/2C/220VA	5000	DPDT	5	4.05
GHA/2C/6VD	25	DPDT	5	3.35
GHA/2C/12VD	100	DPDT	5	3.35
GHA/2C/24VD	400	DPDT	5	3.35
GHA/2C/110VD	8000	DPDT	5	3.85
GHA/3C/6VA	4	3PDT	5	4.05
GHA/3C/12VA	16	3PDT	5	4.05
GHA/3C/24VA	63	3PDT	5	4.05
GHA/3C/115VA	1600	3PDT	5	4.05

TYPE	COIL RESISTANCE (OHMS)	FORM	CONTACTS RATING (AMPS)	NET
GHA/3C/220VA	5000	3PDT	5	4.55
GHA/3C/6VD	25	3PDT	5	3.75
GHA/3C/12VD	100	3PDT	5	3.75
GHA/3C/24VD	400	3PDT	5	3.75
GHA/3C/110VD	8000	3PDT	5	4.25
GHP/1C/6VA	4	SPDT	5	5.10
GHP/1C/12VA	16	SPDT	5	5.10
GHP/1C/24VA	63	SPDT	5	5.10
GHP/1C/115VA	1600	SPDT	5	5.10
GHP/1C/6VD	25	SPDT	5	5.15
GHP/1C/12VD	100	SPDT	5	5.15
GHP/1C/24VD	400	SPDT	5	5.15
GHP/1C/110VD	8000	SPDT	5	5.65
GHP/2C/6VA	4	DPDT	5	5.75
GHP/2C/12VA	16	DPDT	5	5.75
GHP/2C/24VA	63	DPDT	5	5.75
GHP/2C/115VA	1600	DPDT	5	5.75
GHP/2C/220VA	5000	DPDT	5	6.25
GHP/2C/6VD	25	CPDT	5	5.65
GHP/2C/12VD	100	DPDT	5	5.65
GHP/2C/24VD	400	DPDT	5	5.65
GHP/2C/110VD	8000	DPDT	5	6.15
GHP/3C/6VA	4	3PDT	5	7.05
GHP/3C/24VA	63	3PDT	5	7.05
GHP/3C/115VA	1600	3PDT	5	7.05
GHP/3C/220VA	5000	3PDT	5	7.55
GHP/3C/6VD	25	3PDT	5	6.95
GHP/3C/12VD	100	3PDT	5	6.95
GHP/3C/24VD	400	3PDT	5	6.95
GHP/3C/110VD	8000	3PDT	5	7.45



LATCHING

**TYPE LGA** Used in industrial and power control applications where it is desirable to eliminate continuous use of current consumption by the duty coil. Latching mechanism is positive and assures consistent performance. Both operate and reset coils are electrically operated.

**Dimensions:** 1 3/4" x 1 3/8" x 3 1/2".  
Two 6-32 mounting holes on 1 3/8" centers.

TYPE	COIL RESISTANCE (BOTH COILS) (OHMS)	FORM	CONTACTS RATING (AMPS)	NET
LGA/4C/24VA	40	4PDT	5	10.45
LGA/4C/115VA	1000	4PDT	5	10.45
LGA/4C/6VD	16	4PDT	5	9.35
LGA/4C/12VD	63	4PDT	5	9.35
LGA/4C/24VD	250	4PDT	5	9.35
LGA/4C/110VD	5000	4PDT	5	10.55
LGA/6C/24VA	40	6PDT	5	12.50
LGA/6C/115VA	1000	6PDT	5	12.50
LGA/6C/6VD	16	6PDT	5	11.40
LGA/6C/12VD	63	6PDT	5	11.40
LGA/6C/24VD	250	6PDT	5	11.40
LGA/6C/110VD	5000	6PDT	5	12.60



**TYPES GHB—GHH** Similar in size and mounting to the GHA and GHP types shown above with contacts rated at 10 amps resistive. GHB is open style with axial leads and GHH utilizes plastic enclosure and plug-in base. UL Listing granted on types GHB/1C and GHB/2C.

**Dimensions:** Open Style—1 1/4" x 1 3/4" x 1 3/8"  
Enclosed Style—1 1/2" x 1 1/2" x 2 1/8".



TYPE	COIL RESISTANCE (OHMS)	FORM	CONTACTS RATING (AMPS)	NET
GHB/1C/6VA	4	SPDT	10	3.50
GHB/1C/24VA	63	SPDT	10	3.50
GHB/1C/115VA	1600	SPDT	10	3.50
GHB/1C/6VD	25	SPDT	10	3.50
GHB/1C/12VD	100	SPDT	10	3.50
GHB/1C/24VD	400	SPDT	10	3.50
GHB/2C/6VA	4	DPDT	10	4.05
GHB/2C/24VA	63	DPDT	10	4.05
GHB/2C/115VA	1600	DPDT	10	4.05
GHB/2C/6VD	25	DPDT	10	3.80
GHB/2C/12VD	100	DPDT	10	3.80
GHB/2C/24VD	400	DPDT	10	3.80
GHB/3C/6VA	4	3PDT	10	4.60

TYPE	COIL RESISTANCE (OHMS)	FORM	CONTACTS RATING (AMPS)	NET
GHB/3C/24VA	63	3PDT	10	4.60
GHB/3C/115VA	1600	3PDT	10	4.60
GHB/3C/6VD	25	3PDT	10	4.40
GHB/3C/12VD	100	3PDT	10	4.40
GHB/3C/24VD	400	3PDT	10	4.40
GHH/2C/6VA	4	DPDT	10	6.05
GHH/2C/24VA	63	DPDT	10	6.05
GHH/2C/115VA	1600	DPDT	10	6.05
GHH/2C/6VD	25	DPDT	10	5.75
GHH/2C/12VD	100	DPDT	10	5.75
GHH/2C/24VD	400	DPDT	10	5.75
GHH/3C/6VA	4	3PDT	10	7.25
GHH/3C/12VA	16	3PDT	10	7.25
GHH/3C/24VA	63	3PDT	10	7.25
GHH/3C/115VA	1600	3PDT	10	7.25
GHH/3C/6VD	25	3PDT	10	7.25
GHH/3C/12VD	100	3PDT	10	7.25
GHH/3C/24VD	400	3PDT	10	7.25



**TYPE GHE** A plate circuit current operated unit having extremely good sensitivity. Standard GHE enclosed in dustite plastic enclosure and mounts with either an 8 pin or 11 pin plug-in base. Nominal power of 130 milliwatts per 1C (single pole) is required.

**Dimensions:** 1 1/2" x 1 1/2" x 2 1/8".

TYPE	COIL RESISTANCE (OHMS)	COIL CURRENT	FORM	CONTACTS RATING (AMPS)	NET
GHE/1C/2500D	2500	7.2 MA	SPDT	5	4.40
GHE/1C/5000D	5000	5.0 MA	SPDT	5	4.85
GHE/1C/10000D	10000	3.6 MA	SPDT	5	5.25
GHE/2C/2500D	2500	10.0 MA	DPDT	5	5.15
GHE/2C/5000D	5000	7.2 MA	DPDT	5	5.25
GHE/2C/10000D	10000	5.0 MA	DPDT	5	5.65
GHE/3C/2500D	2500	11.8 MA	3PDT	5	6.60
GHE/3C/5000D	5000	8.3 MA	3PDT	5	6.70
GHE/3C/10000D	10000	5.8 MA	3PDT	5	7.10

## HART/ADVANCE PRODUCTS FORMERLY PHILLIPS/ADVANCE



**TYPE MK** Ultra-small and feather-light, these direct current devices require less than 1/2 cubic inch mounting space. All switching is entirely above ground... insulated material is silicone glass. Beryllium copper armature hinges assure stable performance under vibration and shock.

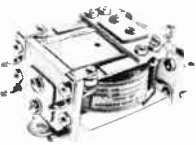
**Dimensions:** H. 3/16", W. 1/4", L. 3/16".

**Mounting Data:** Relay supplied with single 2-56 NC-2 machine screw.

**Weight:** 11 grams.

TYPE	COIL RESISTANCE	CONTACTS		NET
		FORM	RATING (AMPS)	
MK 1C/6VD	50	SPDT	1	4.95
MK 1C/12VD	200	SPDT	1	4.95
MK 1C/24VD	800	SPDT	1	4.95
MK 2C/6VD	30	DPDT	1	5.95
MK 2C/12VD	120	DPDT	1	5.95
MK 2C/24VD	500	DPDT	1	5.95
MK 2C/5000D	5000	DPDT	1	6.95

## ANTENNA · COAXIAL RELAYS



**TYPE AH** A changeover relay designed specifically for RF operation. The small size of this relay makes it ideal for use in compact sets where the load does not exceed 1/2 KW. Low-Loss handling of RF energy is assured by the Steatite insulation used throughout, and by adequate spacing between contacts. Units are fast and positive in action, and will operate in any position.

**Dimensions:** H. 1 1/4", W. 1 1/8", L. 2 3/4".

**Mounting Data:** 2 tapped holes; 6-32 NC-2; 2" centers.

TYPE	COIL RES. (OHMS)	CONTACTS		NET
		FORM	RATING (AMPS)	
AH 2C/6VD	16	DPDT	10	11.75
AH 2C/12VD	63	DPDT	10	11.75
AH 2C/24VD	250	DPDT	10	11.75
AH 2C/115VA	450	DPDT	10	13.00
AH 2C1C/115VA	450	DPDT & SPDT (aux)	10	14.25



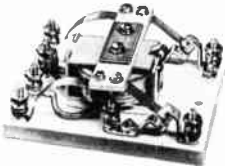
**TYPE AM** Space-saving "transmit-receive" antenna relays for many different low-power RF applications. They fill the need for 300-ohm circuit switching in mobile, marine, aircraft, television, communication and fixed-station service. Conically-shaped silver contacts assure low resistance paths for either "receive" or "transmit" positions.

**Dimensions:** H. 1-9/16", W. 15/16", L. 1-15/16".

**Mounting Data:** Relay supplied with single 6-32 NC-2 mounting stud with hex nut.

**Weight:** 2 oz.

TYPE	COIL RES. (OHMS)	CONTACTS		NET
		FORM	RATING (AMPS)	
AM 2C/6VA	4	DPDT	2	4.70
AM 2C/115VA	1600	DPDT	2	5.05
AM 2C/6VD	25	DPDT	2	4.20
AM 2C/12VD	100	DPDT	2	4.20
AM 2C/24VD	250	DPDT	2	4.20



**TYPE AT** For heavy-duty RF transmitter antenna changeover applications. Primarily designed for fixed-station usage, with a conservative 1-kilowatt RF rating. Insulated with ceramic Steatite. Excellent wiping action of contacts assures flow of most minute currents for receiving positions. High efficiency. Available with auxiliary single-pole, normally open contacts.

**Dimensions:** H. 1-11/16", W. 2-13/16", L. 3-9/16".

**Mounting Data:** 4 holes .157 dia.; clearance for 6-32 screws.

**Weight:** 12.6 oz.

TYPE	COIL RES. (OHMS)	CONTACTS		NET
		FORM	RATING (AMPS)	
AT 2C/115VA	450	DPDT	10	13.20



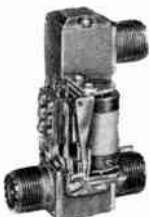
**TYPE CB** Unsurpassed for meeting problems of coaxial cable switching. Designed for performance on 52-ohm coaxial lines. Low standing-wave ratios permit usage on frequencies up to 300 megacycles. Units operate equally well in any position. The CB/1000 is a kit for converting CB/1C to CB/1C2C contact arrangement. All types CB, with exception of CB/1C2C/115VA(N), supplied with SO-239 connectors. CB/1C2C/115VA(N) supplied with "N" connectors.

**Dimensions:** H. 1 7/8", W. 3 1/8", L. 3 3/8".

**Mounting Data:** 2 tapped holes 6-32 NC-2; 1 1/8" centers.

**Weight:** 11.1 oz.

TYPE	COIL RESISTANCE (OHMS)	CONTACTS		NET
		FORM	RATING (AMPS)	
CB 1C/6VD	18	SPDT	5	20.00
CB 1C/12VD	70	SPDT	5	20.00
CB 1C/24VD	280	SPDT	5	20.00
CB 1C/115VA	280	SPDT	5	21.00
CB 1C2C/6VD	18	SPDT (int) DPDT (aux)	5	23.60
CB 1C2C/12VD	70	SPDT (int) DPDT (aux)	5	23.60
CB 1C2C/24VD	280	SPDT (int) DPDT (aux)	5	23.60
CB 1C2C/115VA	280	SPDT (int) DPDT (aux)	5	24.55
CB1000		DPDT	5	5.00
CB/1C2C/115VA(N)	280	SPDT (int) DPDT (aux)	5	24.55



**TYPE CE** Designed for coaxial line switching where space is a problem. The standing wave ratio is extremely low for efficient transfer of RF energy. These relays are ideally suited for use in mobile, aircraft, marine, experimental, and fixed-station communications equipment. The CE relay is designed for performance on 52 ohm coaxial lines but may also be used on lines of other impedances. This unit is rated for continuous duty operation in any position. The 1/4" dia. silver internal contacts are rated at 2 amps resistive and external contacts of 2 form C max. are available with 2 amp rating for auxiliary circuit switching.

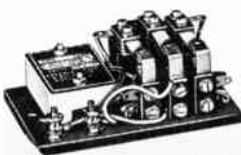
**Dimensions:** H. 1 1/4", W. 2 1/4", L. 3" (Including connectors).

**Mounting Data:** 2 Tapped Holes 6-32NC-2, 3/4" centers.

**Weight:** 4 ounces max.

TYPE	Coil Res. (Ohms)	Form	CONTACTS	
			Rating (Amps)	Net
CE 1C/6VD	20	SPDT	2	\$21.70
CE 1C/12VD	80	SPDT	2	21.70
CE 1C/24VD	300	SPDT	2	21.70
CE 1C/115VA	750	SPDT	2	24.55
CE/1C2C/6VD	20	SPDT (Int) DPDT (Aux)	2	23.10
CE/1C2C/12VD	80	SPDT (Int) DPDT (Aux)	2	23.10
CE/1C2C/24VD	300	SPDT (Int) DPDT (Aux)	2	23.10
CE/1C2C/115VA	750	SPDT (Int) DPDT (Aux)	2	24.30

## TIME DELAY · SENSITIVE · HIGH VOLTAGE RELAYS



**TYPES DB & DM** With their adjustable time-delay range, these relays excellent for use in preheating tube-filaments; for specialized lighting circuits, photographic controls, protection applications, etc. DB provides time-delay before break. DM provides delay before make. Both series utilize bi-metal thermal units which can be adjusted for delays from 5 to 60 seconds. Cooling of the thermal units for proper re-cycling requires 8 to 10 times the delay period.

**Dimensions:** H. 1 1/8", W. 2 3/8", L. 3 3/8".

**Mounting Data:** 2 holes .152 dia.; 3 3/8" centers.

**Weight:** 7.8 oz.

TYPE	COIL RES. (OHMS)	CONTACTS		NET
		FORM	RATING (AMPS)	
DB 2C/115VA	450	DPDT	15	13.60
DM 2C/115VA	450	DPDT	15	14.35

HART/ADVANCE PRODUCTS FORMERLY PHILLIPS/ADVANCE



TIME DELAY

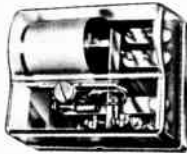
**TYPE DT** Efficient, low-cost units used in conjunction with various relays for delayed making or breaking of controlled circuits. Applicable wherever a time delay of 5 to 60 seconds is needed. Units are adjustable with a range of 8 to 20 cycles per minute. Operating on the bi-metal thermal principle, these types are housed in unglazed porcelain, and are obtainable with either normally-open or normally-closed contacts.

**Dimensions:** H. 1<sup>3</sup>/<sub>4</sub>" ; W. 1<sup>1</sup>/<sub>4</sub>" , L. 1<sup>5</sup>/<sub>4</sub>" .

**Mounting Data:** 2 holes .154 dia. for 6-32 NC-2 screws; 1<sup>3</sup>/<sub>8</sub>" centers.

**Weight:** 1.4 oz.

TYPE	COIL VOLT	CONTACTS FORM	RATING (AMPS)	NET
DT/1A/115VA	115VAC	SPST	2	2.75
DT/1B/115VA	115VAC	SPST-NC	2	2.75



SENSITIVE

**TYPE SV** For use in any DC circuit restricted to a few thousandths of a watt power consumption.

Transparent, molded plastic cover guards against dust or dirt reaching the contacts or other working parts.

Adjustments are quickly made with the vernier screws which vary relay sensitivity from the 5-milliwatt factory setting. Both the two stationary contacts and the spring tension can be accurately and permanently set—yet easily changed.

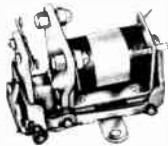
**Dimensions:** H. 1<sup>1</sup>/<sub>2</sub>" , W. 2" , L. 2<sup>3</sup>/<sub>4</sub>" .

**Mounting Data:** 2 holes .52 dia.

**Weight:** 6.5 oz.

**Sensitivity:** 5 Milliwatts.

TYPE	COIL RESISTANCE (OHMS)	COIL CURRENT (MA)	CONTACTS FORM	RATING (AMPS)	NET
SV/1C/005D	.005	1000	SPDT	1	7.95
SV/1C/1000D	1000	2.25	SPDT	1	8.25
SV/1C/1600D	1600	1.80	SPDT	1	8.25
SV/1C/2200D	2200	1.50	SPDT	1	8.25
SV/1C/3500D	3500	1.20	SPDT	1	8.40
SV/1C/5500D	5500	0.95	SPDT	1	8.75
SV/1C/8700D	8700	0.75	SPDT	1	9.40
SV/1C/10000D	10000	0.70	SPDT	1	9.40
SV/1C/14000D	14000	0.60	SPDT	1	10.10
SV/1C/20000D	20000	0.50	SPDT	1	11.10
SV/1C/30000D	30000	0.40	SPDT	1	11.85
SV/1C/40000D	40000	0.35	SPDT	1	13.30



HIGH VOLTAGE

**TYPE HV** Applicable where "standard" design high voltage units occupy too much space. Contact assembly mounted on Steatite to insure high insulation and low energy loss. Will break up to 5000 volts RMS at 200 milliamperes current. Available in SPDT (double break-double make DM-DB) contact arrangement.

**Dimensions:** 1<sup>7</sup>/<sub>2</sub>" x 2<sup>7</sup>/<sub>2</sub>" x 3<sup>1</sup>/<sub>4</sub>" .

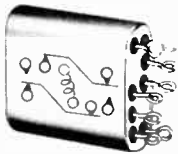
**Mounting data:** 2 holes 3/4" diameter on 1 3/4" centers.

TYPE	COIL RESISTANCE	CONTACTS	NET
HV/1Z/24VD	120 Ohms	SPDT DB-OM	17.65
HV/1Z/110VD	3000 Ohms	SPDT DB-OM	18.25

MICRO-MINIATURE RELAYS

**TYPE MV** Hermetically sealed rotary action DPDT (2 Form C) DC relay for severe military and industrial applications. All units are designed to meet requirements of MIL-R-5757 D. Occupies 1/4 cubic inch. Contains new spring leaf contact blades which insure longer life with rapid heat dissipation. This Series, is available from stock with wide variety of terminal and mounting arrangements.

Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Net
MV/2C/30D-13	Sol. Head. w/Side Brkt. (2 Hole)	30	6	\$13.50
MV/2C/30D-15	Sol. Head. w/Side Brkt. (4 Hole)	30	6	13.50
MV/2C/30D-24	Plug In—Plain Can	30	6	13.50
MV/2C/30D-34	3* Leads—Plain Can	30	6	13.80
MV/2C/120D-11	Solder Header w/2 Side Studs	120	12	13.50
MV/2C/120D-12	Solder Header w/2 Top Studs	120	12	13.50
MV/2C/120D-13	Sol. Head. w/Side Brkt. (2 Hole)	120	12	13.50
MV/2C/120D-16	Solder Header w/2 Mtg. Brkts.	120	12	13.50
MV/2C/120D-24	Plug In—Plain Can	120	12	13.50
MV/2C/120D-26	Plug In w/2 Mtg. Brackets	120	12	13.50
MV/2C/120D-31	3* Leads w/2 Side Studs	120	12	13.80
MV/2C/120D-33	3* Leads w/Side Brkt (2 Hole)	120	12	13.80
MV/2C/120D-34	3* Leads—Plain Can	120	12	13.80
MV/2C/600D-11	Solder Header w/2 Side Studs	600	26	13.50
MV/2C/600D-12	Solder Header w/2 Top Studs	600	26	13.50
MV/2C/600D-13	Sol. Head. w/Side Brkt. (2 Hole)	600	26	13.50
MV/2C/600D-14	Solder Header—Plain Can	600	26	13.50
MV/2C/600D-15	Sol. Head. w/Side Brkt. (4 Hole)	600	26	13.50



CRYSTAL CAN

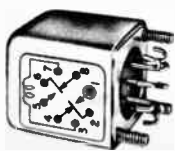
Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Net
MV/2C/600D-16	Solder Header w/2 Mtg. Brkts.	600	26	13.50
MV/2C/600D-17	Solder Header w/Flange Bracket	600	26	13.50
MV/2C/600D-21	Plug In w/2 Side Studs	600	26	13.50
MV/2C/600D-22	Plug In w/2 Top Studs	600	26	13.50
MV/2C/600D-24	Plug In—Plain Can	600	26	13.50
MV/2C/600D-31	3* Leads w/2 Side Studs	600	26	13.80
MV/2C/600D-33	3* Leads w/Side Bracket (2 Hole)	600	26	13.80
MV/2C/600D-34	3* Leads—Plain Can	600	26	13.80
MV/2C/1000D-11	Solder Header w/2 Side Studs	1000	35	13.50
MV/2C/1000D-12	Solder Header w/2 Top Studs	1000	35	13.50
MV/2C/1000D-13	Solder Header w/Side Brkt. (2 Hole)	1000	35	13.50
MV/2C/1000D-15	Solder Header w/Side Brkt. (4 Hole)	1000	35	13.50
MV/2C/1000D-17	Solder Header w/Flange Bracket	1000	35	13.50
MV/2C/1000D-24	Plug In—Plain Can	1000	35	13.50
MV/2C/2500D-12	Solder Header w/2 Top Studs	2500	55	13.60
MV/2C/2500D-13	Solder Header w/Side Brkt. (2 Hole)	2500	55	13.60
MV/2C/2500D-24	Plug In—Plain Can	2500	55	13.60
MV/2C/5000D-16	Solder Header w/2 Mtg. Brkts.	5000	78	13.95
MV/2C/5000D-21	Plug In w/2 Side Studs	5000	78	13.95
MV/2C/5000D-24	Plug In—Plain Can	5000	78	13.95
MV/2C/10,000D-13	Solder Header w/Side Brkt. (2 Hole)	10,000	110	18.50
MV7033	Conforms to RY4NA3B3L02 of MIL-R-5757D	600	26.5	13.50



NEOMITE

**TYPE NM** Hermetically sealed SPDT (form C) DC relay for missiles, aircraft, control equipment and printed circuits. Occupying only 0.04 of a cubic inch, it is ideal where space is at a minimum and long life is important. Contact resistance is extraordinarily low, making it invaluable in dry circuit switching. Available from stock with a screw down mounting bracket or a bend-over-tab mounting bracket for printed circuit board use.

TYPE	RESISTANCE (OHMS)	PULL-IN CURRENT MAX. (MA)	COIL NOMINAL VOLTAGE (VDC)	NET
NM 1C 50	50	44	4	21.00
NM 1C 200	200	22	8	21.00
NM 1C 500	500	14	12	21.00
NM 1C/1K	1000	10	16	21.00
NM 1C/2K	2000	7	24	21.00
6B 346000	Two hole Bracket			.50
6B 347000	Tab Bracket			.50



**TYPE VGS** Miniature sealed rotary action DPDT (2 form C) relay for missile and aircraft use. A more sensitive version of its forerunner, the VG. VGS occupies less than a cubic inch of space and withstands 15 G's to 2000 cycles vibration, utilizing only 125 milliwatts of power at 25 degrees C. Contacts rated at 5 amps resistive at 115 VAC or 26.5 VDC. Contact material is silver magnesium nickel alloy, gold flashed.

TYPE	COIL RESISTANCE (OHMS)	NET
VGS/2C/2000D	2000	22.50

## HART/ADVANCE PRODUCTS FORMERLY PHILLIPS/ADVANCE

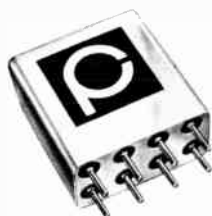


HIGH SHOCK AND VIBRATION CRYSTAL CAN

**TYPE VR** A 0.2 inch grid-spaced hermetically sealed relay, designed to meet the requirements of Military Specification MIL-R-5757D. Will withstand 35 G's vibration and 100 G's shock. The standard catalog item has a pull-in power of 250 milli-watts at 25 degrees C, and a nominal operating power of 1.25 watts. The double-pole double-throw contacts are of silver magnesium nickel, gold plated and have a rating of 3 amperes resistive at 28 volts DC or 115 volts AC.

Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Net
VR/2C/35D-10	Solder Header w/2 Mtg. Brkts.	35	6.3	\$13.00
VR/2C/35D-24	Plug In—Plain Can	35	6.3	13.00
VR/2C/125D-10	Solder Header w/2 Mtg. Brkts.	125	12.5	13.00
VR/2C/125D-12	Solder Header w/2 Top Studs	125	12.5	13.00
VR/2C/125D-13	Solder Header w/Side Bracket	125	12.5	13.00
VR/2C/125D-14	Solder Header—Plain Can	125	12.5	13.00
VR/2C/125D-24	Plug In—Plain Can	125	12.5	13.00
VR/2C/125D-31	3* Leads w/Side Studs	125	12.5	13.30

Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Net
VR/2C/125D-34	3* Leads—Plain Can	175	17.5	13.30
VR/2C/675D-10	Solder Header w/2 Mtg. Brkts.	675	26.5	13.00
VR/2C/675D-11	Solder Header Side Studs	675	26.5	13.00
VR/2C/675D-12	Solder Header w/2 Top Studs	675	26.5	13.00
VR/2C/675D-13	Solder Header w/Side Bracket	675	26.5	13.00
VR/2C/675D-14	Solder Header—Plain Can	675	26.5	13.00
VR/2C/675D-20	Plug In w/2 Mtg. Brackets	675	26.5	13.00
VR/2C/675D-24	Plug In—Plain Can	675	26.5	13.00
VR/2C/675D-33	3* Leads w/Side Bracket	675	26.5	13.30
VR/2C/675D-34	3* Leads—Plain Can	675	26.5	13.30
VR/2C/1500D-24	Plug In—Plain Can	1500	48.0	13.00
VR/2C/2450D-14	Solder Header—Plain Can	2450	60.0	13.10
VR/2C/2450D-24	Plug In—Plain Can	2450	60.0	13.10
VR/2C/9100D-24	Plug In—Plain Can	9100	110.0	14.00
VR/2C/9100D-31	3* Leads w/Side Studs	9100	110.0	14.30



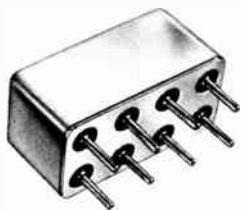
CRYSTAL CAN MEETS MIL-R-5757/10

**TYPE 30** Phillips micro-miniature Type 30 provides rugged, dependable performance from a compact, hermetically sealed relay. It is ideal for applications involving computer systems, missile or aircraft control circuits, communications equipment and general electronic circuitry.

Quality controlled production and precision components assembled and tested under dust-free, super clean manufacturing conditions assures you that the Phillips micro-miniature Type 30 will uphold the high quality standards of your products. Conforms to MIL-5757 D. Meets the following low level requirements: 30 microvolts open circuit voltage; 10 microamperes contact current.

Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Net
30-01D	Solder Header w/2 Mtg. Brkts.	200	12.6	\$7.25
30-01G	Solder Header w/2 Mtg. Brkts.	700	26.5	7.25
30-01M	Solder Header w/2 Mtg. Brkts.	9100	110.0	8.25
30-02D	Solder Header w/Side Bracket	200	12.6	7.25
30-02G	Solder Header w/Side Bracket	700	26.5	7.25
30-02M	Solder Header w/Side Bracket	9100	110.0	8.25
30-04D	Solder Header w/2 Side Studs	200	12.6	7.25
30-04G	Solder Header w/2 Side Studs	700	26.5	7.25

Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Net
30-04M	Solder Header w/2 Side Studs	9100	110.0	8.25
30-05D	Solder Header w/2 Top Studs	200	12.6	7.25
30-05G	Solder Header w/2 Top Studs	700	26.5	7.25
30-05M	Solder Header w/2 Top Studs	9100	110.0	8.25
30-07D	Plug In—Plain Can	200	12.6	7.25
30-07G	Plug In—Plain Can	700	26.5	7.25
30-07M	Plug In—Plain Can	9100	110.0	8.25



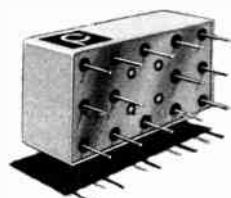
HALF SIZE MEETS MIL-R-5757/9

**TYPE 62** A unique half-size microminiature relay having these eleven specific advantages: (1) diagonally mounted coil allows larger coil for greater sensitivity; (2) uniquely designed armature assures maximum sensitivity and magnetic uniformity; (3) massive pole pieces provide higher heat dissipation; (4) contacts of gold-flashed silver magnesium nickel for high temperature stability and low level performance; (5) single coil design provides greater reliability; (6) single stamping forms integral return spring and back stop. Fewer parts, greater dependability; (7) Welded, spade-type coil terminations; (8) greater rigidity thru unitized, welded construction; (9) designed for optimum magnetic characteristics; (10) balanced armature provides higher resistance to vibration and shock; (11) sensitivity level below 200 milliwatts.

Dimensions: H. 0.400"; L. 0.390"; W. 0.800".

Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Net
62-01D	Solder Header w/Mtg. Brackets	145	12.0	\$14.25
62-01G	Solder Header w/Mtg. Brackets	700	26.5	14.25
62-02D	Solder Header w/Mtg. Brackets	145	12.0	14.25

Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Net
62-02G	Solder Header w/Mtg. Bracket	700	26.5	14.25
62-07D	Plug In—Plain Can	145	12.0	14.25
62-07G	Plug In—Plain Can	700	26.5	14.25



4 POLE—HALF SIZE MEETS MIL-R-5757/12

**TYPE 64** The Type 64 embodies engineering advances truly unique among today's four-pole, double throw relays—twice the versatility of conventional 2PDT's, half the size of conventional 4PDT's, with no sacrifice in performance. Designed specifically to meet aero-space needs, the Type 64 features all-welded construction and "Thermo-Dri" nitrogen backfilling to assure contamination-free operation. Symmetrical circuitry simplifies wiring. Available in various coil resistances and all popular header styles. Meets MIL-R-5757/12A.

Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Net
64-01E	Solder Header w/Mtg. Brackets	120	12.6	\$24.50
64-01H	Solder Header w/Mtg. Brackets	500	26.5	24.50
64-01Q	Solder Header w/Mtg. Brackets	11300	110.0	24.50

Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Net
64-07E	Plug In—Plain Can	120	12.6	24.50
64-07H	Plug In—Plain Can	500	26.5	24.50
64-07Q	Plug In—Plain Can	11300	110.0	24.50

**TYPE 80** A 40 milliwatt micro-miniature relay using latest manufacturing techniques, including back-filling with "Thermo-Dry" nitrogen and precise adjustments to obtain an operate time of less than 10 milliseconds. This unit meets all requirements of military specifications, MIL-R-5757/13A. Vibration, 20 G's through 2000 CPS. Shock, 65 G's for 11 milliseconds. Operating temperature range, -65 C to +125 C.

Type	Mounting	Coil Res. (Ohms)	Operating Current (Amps)	Net
80-01A	Solder Header w/2 Mount. Brackets	20	.0450	\$13.00
80-01M	Solder Header w/2 Mount. Brackets	1000	.0064	13.00
80-01P	Solder Header w/2 Mount. Brackets	2000	.0045	13.00
80-01Q	Solder Header w/2 Mount. Brackets	2500	.0040	13.00
80-01R	Solder Header w/2 Mount. Brackets	4000	.0035	13.00
80-01S	Solder Header w/2 Mount. Brackets	5000	.0030	13.00
80-01T	Solder Header w/2 Mount. Brackets	8000	.0025	13.00
80-01U	Solder Header w/2 Mount. Brackets	10,000	.0020	13.00
80-07A	Plug In—Plain Can	20	.0450	13.00
80-07M	Plug In—Plain Can	1000	.0064	13.00
80-07P	Plug In—Plain Can	2000	.0045	13.00
80-07Q	Plug In—Plain Can	2500	.0040	13.00

Type	Mounting	Coil Res. (Ohms)	Operating Current (Amps)	Net
80-07R	Plug In—Plain Can	4000	.0035	13.00
80-07S	Plug In—Plain Can	5000	.0030	13.00
80-07T	Plug In—Plain Can	8000	.0025	13.00
80-07U	Plug In—Plain Can	10,000	.0020	13.00
80-09A	3* Leads—Side Strap	20	.0450	13.30
80-09M	3* Leads—Side Strap	1000	.0064	13.30
80-09P	3* Leads—Side Strap	2000	.0045	13.30
80-09Q	3* Leads—Side Strap	2500	.0040	13.30
80-09R	3* Leads—Side Strap	4000	.0035	13.30
80-09S	3* Leads—Side Strap	5000	.0030	13.30
80-09T	3* Leads—Side Strap	8000	.0025	13.30
80-09U	3* Leads—Side Strap	10,000	.0020	13.30



SENSITIVE MEETS MIL-R-5757/13

HART/ADVANCE PRODUCTS FORMERLY PHILLIPS/ADVANCE



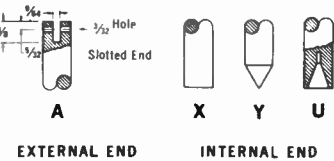
**TYPE W** A small DPDT enclosed 25 amp General Purpose Relay, Mechanical life expectancy is 10 million cycles at low contact loading. U.L. approval on all stock items listed.  
 Dimensions: H. 1 7/8", W. 1 1/2", L. 1 1/2".  
 Weight: Under 10 oz.  
 Mounting: Socket or side stud with quick disconnect terminals.  
 Rating: 25 amp resistive, 1 HP, 120 VAC or 2 HP, 240 VAC.

Sockets:	Description	Net
WPS	Socket	1.06
WPS-C	Mounting Flange	1.21
WPS-C4	Mounting Flange for Holding Circuit	1.46

TYPE	VOLTAGE	COIL RESIS. (OHMS)	NET
WU012D3	12DC	50	8.00
WU024D3	24DC	250	8.00
WU024D2	24DC	250	8.00
WU115A2	115AC	250	8.00
WU115A3	115AC	250	8.00
WU220A3	220AC	1000	8.30
WHU115A4 *	115AC	250	8.95

\* Provided with holding circuit

STANDARD PLUNGER STYLES AVAILABLE



**TYPES 38, 39, 40, 41, 42, 51** Solid frame solenoids using high-grade steel in all parts of the magnetic circuit. Carefully controlled annealing, after all machining operations are completed, assures maximum efficiency. The frame is dovetailed and staked to the end plate, adding mechanical strength and increasing the performance of the magnetic circuit. Plungers and plunger stops, which are made of annealed and specially processed steel, are available in three standard types for specific operating requirements. Type 51 is a laminated frame solenoid and has been designed and engineered to meet all of the requirements of the highest quality A. C. solenoid. Special production techniques and rigid quality control combine to provide a highly efficient unit. The frame is composed of silicon steel laminations securely riveted to a steel frame. Pole faces are precision ground and equipped with copper shading rings. Silicon steel laminations are also used for the plunger.

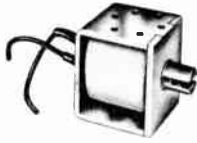
Type	41	42	38	39	40	51
size	1 x 1 1/2 x 1 1/4	1 x 1 1/2 x 2	1 1/4 x 1 3/4 x 1 1/2	1 1/4 x 1 7/8 x 2 1/2	1 1/4 x 1 3/4 x 2 1/2	2 1/4 x 1 1 3/4 x 3 1/2
weight (oz.)	6	8	12	16	20	16
coil watts max. at 25°C.	3	6	10	12	15	60 VA
std. plunger	AC DC AX AX	AC DC AX AU	AC DC AX AY	AC DC AX AY	AC DC AX AY	
max. stroke inches	3/8"	1/2"	1/2"	3/8"	3/8"	1"
plunger dia.	3/8"	3/8"	1/2"	1/2"	1/2"	

SOLENOIDS

DC SOLENOIDS

TYPE 38

AC SOLENOIDS



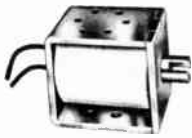
CONTINUOUS DUTY				25% INTERMITTENT DUTY *			
Type	Volt.	Coil Res.	Net	Type	Volt.	Coil Res.	Net
38C06DC-AY	6	6	4.50	—	—	—	—
38C12DC-AY	12	21	4.50	382512DC-AY	12	6	4.50
38C24DC-AY	24	66	4.50	382524DC-AY	24	21	4.50
38C48DC-AY	48	300	4.50	382548DC-AY	48	66	4.50
38C115DC-AY	115	1500	4.50	3825115DC-AY	115	400	4.50

CONTINUOUS DUTY				25% INTERMITTENT DUTY *			
Type	Volt.	Coil Res.	Net	Type	Volt.	Coil Res.	Net
38C0660-AX	6	0.75	4.50	—	—	—	—
38C1260-AX	12	2.5	4.50	38251260-AX	12	0.75	4.50
38C2460-AX	24	10	4.50	38252460-AX	24	2.5	4.50
38C11560-AX	115	135	4.50	382511560-AX	115	50	4.50
38C23060-AX	230	470	4.50	382523060-AX	230	135	4.50

DC SOLENOIDS

TYPE 39

AC SOLENOIDS



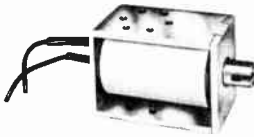
CONTINUOUS DUTY				25% INTERMITTENT DUTY *			
Type	Volt.	Coil Res.	Net	Type	Volt.	Coil Res.	Net
39C06DC-AY	6	4	5.10	—	—	—	—
39C12DC-AY	12	10	5.10	392512DC-AY	12	4	5.10
39C24DC-AY	24	60	5.10	392524DC-AY	24	10	5.10
39C48DC-AY	48	250	5.10	392548DC-AY	48	60	5.10
39C115DC-AY	115	1600	5.10	3925115DC-AY	115	300	5.10

CONTINUOUS DUTY				25% INTERMITTENT DUTY *			
Type	Volt.	Coil Res.	Net	Type	Volt.	Coil Res.	Net
39C0660-AX	6	4	5.10	—	—	—	—
39C1260-AX	12	1.5	5.10	39251260-AX	12	4	5.10
39C2460-AX	24	7	5.10	39252460-AX	24	1.5	5.10
39C11560-AX	115	105	5.10	392511560-AX	115	30	5.10
39C23060-AX	230	400	5.10	392523060-AX	230	105	5.10

DC SOLENOIDS

TYPE 40

AC SOLENOIDS



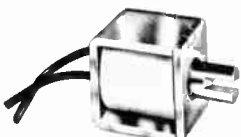
CONTINUOUS DUTY				25% INTERMITTENT DUTY *			
Type	Volt.	Coil Res.	Net	Type	Volt.	Coil Res.	Net
40C06DC-AY	6	3.6	6.00	—	—	—	—
40C12DC-AY	12	12	6.00	402512DC-AY	12	3.6	6.00
40C24DC-AY	24	47.5	6.00	402524DC-AY	24	12	6.00
40C48DC-AY	48	225	6.00	402548DC-AY	48	47.5	6.00
40C115DC-AY	115	1570	6.00	4025115DC-AY	115	417	6.00

CONTINUOUS DUTY				25% INTERMITTENT DUTY *			
Type	Volt.	Coil Res.	Net	Type	Volt.	Coil Res.	Net
40C0660-AX	6	0.8	6.00	—	—	—	—
40C1260-AX	12	1.5	6.00	40251260-AX	12	0.8	6.00
40C2460-AX	24	8.8	6.00	40252460-AX	24	1.5	6.00
40C11560-AX	115	84	6.00	402511560-AX	115	25	6.00
40C23060-AX	230	417	6.00	402523060-AX	230	84	6.00

DC SOLENOIDS

TYPE 41

AC SOLENOIDS



CONTINUOUS DUTY				25% INTERMITTENT DUTY *			
Type	Volt.	Coil Res.	Net	Type	Volt.	Coil Res.	Net
41C06DC-AU	6	12	4.10	—	—	—	—
41C12DC-AU	12	60	4.10	412512DC-AU	12	12	4.10
41C24DC-AU	24	200	4.10	412524DC-AU	24	60	4.10
41C48DC-AU	48	830	4.10	412548DC-AU	48	200	4.10
41C115DC-AU	115	4500	4.10	4125115DC-AU	115	1400	4.10

CONTINUOUS DUTY				25% INTERMITTENT DUTY *			
Type	Volt.	Coil Res.	Net	Type	Volt.	Coil Res.	Net
41C0660-AX	6	1	4.10	—	—	—	—
41C1260-AX	12	10	4.10	41251260-AX	12	1	4.10
41C2460-AX	24	45	4.10	41252460-AX	24	10	4.10
41C11560-AX	115	740	4.10	412511560-AX	115	230	4.10
41C23060-AX	230	2700	4.10	412523060-AX	230	740	4.10

DC SOLENOIDS

TYPE 42

AC SOLENOIDS



CONTINUOUS DUTY				25% INTERMITTENT DUTY *			
Type	Volt.	Coil Res.	Net	Type	Volt.	Coil Res.	Net
42C06DC-AU	6	8	4.50	—	—	—	—
42C12DC-AU	12	30	4.50	422512DC-AU	12	8	4.50
42C24DC-AU	24	115	4.50	422524DC-AU	24	30	4.50
42C48DC-AU	48	420	4.50	422548DC-AU	48	115	4.50
42C115DC-AU	115	2300	4.50	4225115DC-AU	115	675	4.50

CONTINUOUS DUTY				25% INTERMITTENT DUTY *			
Type	Volt.	Coil Res.	Net	Type	Volt.	Coil Res.	Net
42C0660-AX	6	1	4.50	—	—	—	—
42C1260-AX	12	3.5	4.50	42251260-AX	12	1	4.50
42C2460-AX	24	30	4.50	42252460-AX	24	3.5	4.50
42C11560-AX	115	370	4.50	422511560-AX	115	125	4.50
42C23060-AX	230	1100	4.50	422523060-AX	230	370	4.50

TYPE 51 AC SOLENOIDS

CONTINUOUS DUTY				25% INTERMITTENT DUTY *			
Type	Volt.	Coil Res.	Net	Type	Volt.	Coil Res.	Net
51C11560	115	30	7.20	512511560	115	15	7.20
51C23060	230	150	7.20	512523060	230	65	7.20
51C46060	460	650	7.20	512546060	460	285	7.20

\* DUTY BASED ON 4 MINUTE CYCLE



HART MANUFACTURING CO.

A SUBSIDIARY OF OAK ELECTRO/NETICS CORP.

World Radio History.

# BY POTTER & BRUMFIELD

## ORDERING INSTRUCTIONS — File-O-Matic Sec. 23

All relay contacts are rated at 120V, 60 Hz, non inductive load. When ordering specify relay type and coil voltage or resistance.

Example: PR5AY, 120 Volts AC, 60 Hz or LBS, 2500 ohms resistance.

To operate 110V DC relays on 220V DC use a 5 watt wire-wound resistor of a

value approximately the relay coil resistance in series with the relay coil.

**CONTACT LEGEND:** S-Single; D-Double; P-Pale; T-Throw; N-Normally; O-Open; C-Closed; B-Break; M-Make.

Prices and Specifications subject to change without notice. For latest prices refer to United Pricing Service.

### ALPHABETICAL INDEX

Relay	Page	Relay	Page	Relay	Page	Relay	Page	Relay	Page
AB	4	GP Kit	1	KL	2	LS, LSP	8	PM	8
ABC	4	GR	5	KM	6	MB	8	PM Cover	4
AP	5	HC	9	KR3-H	3	MC	8	PR	4
BS	7	HP	1	KR3P-H	3	MDP	16	PR Cover	4
BS Cover	7	HP Socket	1	KRP	3	MG	8	PW	7
BU	5	JM	11	KRP-N	3	MH	8	RS	7
CD, CH, CU	12	JR, JRM	10	KRP Spring	2	ML	8	SA	6
FC, FL	9	KA, KAP	2	KT	6	MR	4	SC, SCG	9
GA	1	KB, KBP	5	KUP	3	MR Cover	4	SL, SLG	9
GB	6	KCP	6	KUP Sockets	3	MS	6	SM	7
GF	4	KCP Spring	2	KUP Spring	2	MS Cover	6	SS	7
GM	5	KHP, KHS	2	LB	7	P Case	3	TL	9
GP	1	KHP Spring	2	LM	7	PC	6	TM	14

### KEY TO SUFFIXES

SUFFIX	STANDS FOR	EXAMPLE
A	— Alternating Current	BS17A
D	— Direct Current	BS17D
DD	— DC in a sealed "D" can	MH23DD
G	— Silver Cad.-Oxide Contacts	KRP5AG
L	— Plate Circuit	SM5L
M	— Sealed in "M" can	MH17DM
N	— Neon Light	KRP11AN
P	— Enclosed in Plastic Dust Cover	MG11DP
R	— With Built-in Rectifier	MH17AMR
S	— Sealed in can	PW5DS, SM5DS
T	— Sealed in "T" can	MG11DT
Y	— U/L Component Recognition or Listing	AB11AY

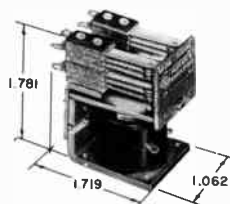
## IN STOCK AT LEADING ELECTRONIC PARTS DISTRIBUTORS

### GENERAL PURPOSE RELAYS

TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
GA11A	6V	1.7	6VA	DPDT	5	\$3.50
GA11A	12V	6.8	6VA	DPDT	5	3.50
GA11A	24V	24	6VA	DPDT	5	3.50
GA11A	120V	690	6VA	DPDT	5	3.50
GA11D	6V	18	2.0W	DPDT	5	3.50
GA11D	12V	72	2.0W	DPDT	5	3.50
GA11D	24V	288	2.0W	DPDT	5	3.50
GA11D	110V	6,050	2.0W	DPDT	5	4.00
GA14A	24V	24	6VA	3PDT	5	4.25
GA14A	120V	690	6VA	3PDT	5	4.25
GA14D	24V	288	2.0W	3PDT	5	4.25
GA17A	6V	1.7	6VA	4PDT	5	5.10
GA17A	12V	6.8	6VA	4PDT	5	5.10
GA17A	24V	24	6VA	4PDT	5	5.10
GA17A	120V	690	6VA	4PDT	5	5.10
GA17A	240V	2,950	6VA	4PDT	5	5.50
GA17D	6V	18	2.0W	4PDT	5	5.10
GA17D	12V	72	2.0W	4PDT	5	5.10
GA17D	24V	288	2.0W	4PDT	5	5.10
GA17D	110V	6,050	2.0W	4PDT	5	5.60
GPA	6V	1.7	6VA	None	—	1.75
GPA	12V	6.8	6VA	None	—	1.75
GPA	24V	24	6VA	None	—	1.75
GPA	120V	690	6VA	None	—	1.75
GPA	240V	2,950	6VA	None	—	2.20
GPD	—	2,500	—	None	—	1.60
GPD	—	5,000	—	None	—	1.85
GPD	—	10,000	—	None	—	2.20
GPD	6V	18	2.0W	None	—	2.20
GPD	12V	72	2.0W	None	—	2.20
GPD	24V	288	2.0W	None	—	2.20
GPD	110V	6,050	2.0W	None	—	3.30

**GA SERIES** Low cost, all purpose, multiple contact, voltage switching relay. Used for many industrial control applications. Tinned, pierced solder type terminals. Contacts:  $\frac{1}{8}$ " dia. silver, designed for maximum self-cleaning action. Mounting: No. 8-32 tapped core with locating boss. Weight:  $3\frac{1}{2}$  ozs.

See GF series for similar relays having 10 amp ratings. (Page 4).



**GP SERIES** Separate AC and DC coils to match with 2PDT or 4PDT switches. AC coils (GPA) available in 6, 12, 24, 120 and 240 volts. DC coils (GPD) available in 6, 12, 24 and 110 volts; current coils: 2,500, 5,000 and 10,000 ohms. Contacts:  $\frac{1}{8}$ " dia. silver.

GP11 Switch Assembly DPDT 5 amps \$1.80  
GP17 Switch Assembly 4PDT 5 amps 3.10

**GP-100** A complete kit of GP Series coils and switches consisting of the following: AC coils: Two 6V., two 12V., four 24V., six 120V., two 240V. DC coils: Two 6V., two 12V., two 24V., four 110V. Also two 2,500 and four 10,000 ohm coils; eighteen DPDT switch assemblies. Fourteen 4PDT switch assemblies. The complete kit is ideal for experimenters, school and industrial laboratories.

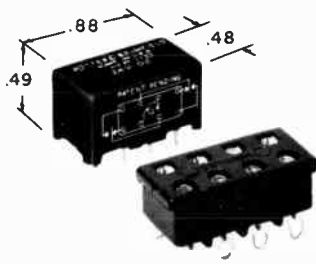
NET \$140.35



**HP SERIES** This commercial microminiature relay is recommended for applications requiring high performance in minimum space, such as TV cameras, dictating machines, desk top computers, copying machines and others. For circuit board or socket mounting and encased in a high impact dust cover, the HP is a half crystal case size relay with terminals on a .200" grid.

**9HP1** solder terminal socket and retainer for HP relay.

Box of 10 Net \$4.50



SPECIFY COIL VOLTAGE OR RESISTANCE WHEN ORDERING

EEM File System Sec. 4500 electronic engineers master

§Enclosed Relay



# POTTER & BRUMFIELD

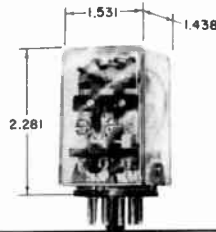
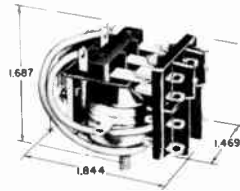
# Potter & Brumfield Relays

## GENERAL PURPOSE RELAYS

**KA AND KAP SERIES** Small, low cost, highly efficient general purpose relays for handling light power loads such as small motors, solenoids and other relays, and general automation work. All KA and KAP relays with "Y" suffix bear CSA\* listing and carry U/L component recognition (File No. E22575). Mechanical life expectancy: 10 million operations. Duty: Continuous. Contacts: Movable, 1/8" dia. gold-flashed silver; stationary, 3/16" dia. wide silver overlay.

The KA is the open version of this series. Mounting: One No. 6-32 threaded stud and locating tab on 1/4" centers. Weight: 2 ozs. The KAP is the enclosed model and is protected by a clear, high impact plastic dust cover. Terminals: 8 or 11-pin plug. Weight: 3 ozs.

"G" suffix indicates silver-cadmium-oxide contacts on movables rated 10 amps.



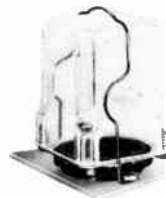
### HOLD DOWN SPRINGS

Designed to insure secure mounting of relays in any position. Will accommodate machine screws or rivets.

For KAP relays: (shown above)  
9KA1 50 per box NET \$5.50

For KCP and KRP relays (pages 6 and 3)  
9KR15 50 per box NET \$5.50

For KUP plain case relays (page 3)  
9KU3 50 per box NET \$5.00



**KHP AND KHS SERIES** Small, rugged, 4PDT, available for AC or DC operation, KHP has nylon dust cover; KHS is hermetically sealed in metal enclosure. These relays are designed to meet the exacting requirements of data processing, computer and process control applications. Contacts are 1/2" gold-flashed silver and are rated 3 amps @ 30V DC or 120V AC resistive for 100,000 operations. "12" suffix indicates silver-cadmium-oxide contacts. Mounting: Solder terminals with a No. 3-48 stud 1/8" long. Adaptable to sockets (below) with printed circuit or solder lug terminals. Weights without sockets: KHP 1 1/2 ozs.; KHS 1 1/2 ozs.

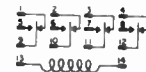
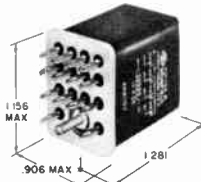
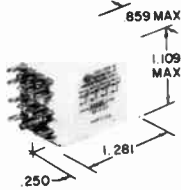
KHP hold down spring (similar to KCP-KRP, above.)

9KH3 50 per box, weight 3 ozs. Net \$5.50

9KH1 Solder terminal sockets and retainers.  
Box of 10 Net \$6.60

9KH2 Printed circuit terminal sockets,  
Box of 10 Net \$6.60

Weight per box: 4 ozs.



**KL SERIES** Multiple contact relay. Varied contact combinations and high dielectric phenolic insulation affords extreme versatility and utility. Widely used in such applications as industrial controls, elevator controls, communications equipment and electronic measuring devices. Mounting: All models—Two No. 6-32 tapped holes on 1 1/2" centers. Contacts: 1/8" dia. gold-flashed silver. Weight: 5 ozs.



TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
KA5AY	6V	21	2VA	SPDT	5	\$3.35
KA5AY	12V	6	2VA	SPDT	5	3.35
KA5AY	24V	75	2VA	SPDT	5	3.35
KA5AY	120V	2,250	2VA	SPDT	5	3.35
KA5AY	240V	9,110	2VA	SPDT	5	3.80
KA5AG	6V	6	2VA	SPDT	10	3.40
KA5AG	12V	21	2VA	SPDT	10	3.40
KA5AG	24V	75	2VA	SPDT	10	3.40
KA5AG	120V	2,250	2VA	SPDT	10	3.40
KA5AG	240V	9,110	2VA	SPDT	10	3.85
KA5DY	6V	32.1	1.2W	SPDT	5	3.20
KA5DY	12V	120	1.2W	SPDT	5	3.20
KA5DY	24V	472	1.2W	SPDT	5	3.20
KA5DY	110V	10,000	1.2W	SPDT	5	3.85
KA5DG	6V	32.1	1.2W	SPDT	10	3.25
KA5DG	12V	120	1.2W	SPDT	10	3.25
KA5DG	24V	472	1.2W	SPDT	10	3.25
KA5DG	110V	10,000	1.2W	SPDT	10	3.90
KA11AY	6V	6	2VA	DPDT	5	4.05
KA11AY	12V	21	2VA	DPDT	5	4.05
KA11AY	24V	75	2VA	DPDT	5	4.05
KA11AY	120V	2,250	2VA	DPDT	5	4.05
KA11AY	240V	9,110	2VA	DPDT	5	4.45
KA11AG	6V	6	2VA	DPDT	10	4.15
KA11AG	12V	21	2VA	DPDT	10	4.15
KA11AG	24V	75	2VA	DPDT	10	4.15
KA11AG	120V	2,250	2VA	DPDT	10	4.15
KA11AG	240V	9,110	2VA	DPDT	10	4.55
KA11DY	6V	32.1	1.2W	DPDT	5	3.55
KA11DY	12V	120	1.2W	DPDT	5	3.55
KA11DY	24V	472	1.2W	DPDT	5	3.55
KA11DY	110V	10,000	1.2W	DPDT	5	4.20
KA11DG	6V	32.1	1.2W	DPDT	10	3.70
KA11DG	12V	120	1.2W	DPDT	10	3.70
KA11DG	24V	472	1.2W	DPDT	10	3.70
KA11DG	110V	10,000	1.2W	DPDT	10	4.30
KA14AY	6V	6	2VA	3PDT	5	4.45
KA14AY	12V	21	2VA	3PDT	5	4.45
KA14AY	24V	75	2VA	3PDT	5	4.45
KA14AY	120V	2,250	2VA	3PDT	5	4.45
KA14AY	240V	9,110	2VA	3PDT	5	4.90
KA14AG	6V	6	2VA	3PDT	10	4.60
KA14AG	12V	21	2VA	3PDT	10	4.60
KA14AG	24V	75	2VA	3PDT	10	4.60
KA14AG	120V	2,250	2VA	3PDT	10	4.60
KA14AG	240V	9,110	2VA	3PDT	10	5.05
KA14DY	6V	32.1	1.2W	3PDT	5	4.05
KA14DY	12V	120	1.2W	3PDT	5	4.05
KA14DY	24V	472	1.2W	3PDT	5	4.05
KA14DY	110V	10,000	1.2W	3PDT	5	4.65
KA14DG	6V	32.1	1.2W	3PDT	10	4.20
KA14DG	12V	120	1.2W	3PDT	10	4.20
KA14DG	24V	472	1.2W	3PDT	10	4.20
KA14DG	110V	10,000	1.2W	3PDT	10	4.85
KAP5AGS	24V	75	2VA	SPDT	10	5.80
KAP5AGS	120V	2,250	2VA	SPDT	10	5.80
KAP5DGS	24V	472	1.2W	SPDT	10	5.70
KAP5DGS	110V	10,000	1.2W	SPDT	10	6.35
KAP11AYG	24V	75	2VA	DPDT	5	6.35
KAP11AYG	120V	2,250	2VA	DPDT	5	6.35
KAP11AYG	240V	9,110	2VA	DPDT	5	6.75
KAP11AGG	6V	6	2VA	DPDT	10	6.45
KAP11AGG	24V	75	2VA	DPDT	10	6.45
KAP11AGG	120V	2,250	2VA	DPDT	10	6.45
KAP11DYG	24V	472	1.2W	DPDT	10	6.40
KAP11DYG	110V	10,000	1.2W	DPDT	10	7.05
KAP11DYG	12V	120	1.2W	DPDT	5	6.30
KAP11DYG	24V	472	1.2W	DPDT	5	6.30
KAP11DYG	110V	10,000	1.2W	DPDT	5	6.95
KAP14AYG	24V	75	2VA	3PDT	5	7.90
KAP14AYG	120V	2,250	2VA	3PDT	5	8.30
KAP14AYG	240V	9,110	2VA	3PDT	5	8.30
KAP14AGG	24V	75	2VA	3PDT	10	8.05
KAP14AGG	120V	2,250	2VA	3PDT	10	8.05
KAP14DGG	24V	472	1.2W	3PDT	10	8.00
KAP14DGG	110V	10,000	1.2W	3PDT	10	8.60
KAP14DYG	12V	120	1.2W	3PDT	5	7.80
KAP14DYG	24V	472	1.2W	3PDT	5	7.80
KAP14DYG	110V	10,000	1.2W	3PDT	5	8.45
KHP17A11S	6V	10.5	1.2VA	4PDT	3	5.55
KHP17A11S	12V	43	1.2VA	4PDT	3	5.55
KHP17A11S	24V	160	1.2VA	4PDT	3	5.55
KHP17A11S	120V	3,900	1.2VA	4PDT	3	6.05
KHP17D11S	6V	40	900MW	4PDT	3	5.05
KHP17D11S	12V	160	900MW	4PDT	3	5.05
KHP17D11S	24V	650	900MW	4PDT	3	5.20
KHP17D11S	24V	650	900MW	4PDT	3	5.20
KHP17D11S	48V	2,600	900MW	4PDT	3	5.25
KHP17D11S	90V	9,000	900MW	4PDT	3	5.90
KHP17D11S	110V	11,000	900MW	4PDT	3	5.90
KHP17D12S	110V	11,000	900MW	4PDT	3	6.05
KHS17A11S	6V	10.5	1.2VA	4PDT	3	9.55
KHS17A11S	12V	43	1.2VA	4PDT	3	9.55
KHS17A11S	24V	160	1.2VA	4PDT	3	9.55
KHS17A11S	120V	3,900	1.2VA	4PDT	3	9.90
KHS17D11S	6V	40	900MW	4PDT	3	8.55
KHS17D11S	12V	160	900MW	4PDT	3	8.55
KHS17D11S	24V	650	900MW	4PDT	3	8.55
KHS17D11S	110V	11,000	900MW	4PDT	3	9.40
KL5A	120V	760	2.9VA	5PDT	5	4.05
KL5D	12V	140	1.1W	5PDT	5	3.80
KL5D	24V	600	1.1W	5PDT	5	3.80
KL11A	12V	7.8	2.9VA	DPDT	5	5.05
KL11A	24V	33	2.9VA	DPDT	5	5.05
KL11A	120V	760	2.9VA	DPDT	5	5.05
KL11A	24V	33	2.9VA	3PDT	5	5.60
KL11A	120V	760	2.9VA	3PDT	5	5.60
KL14D	24V	600	1.1W	3PDT	5	5.40
KL14D	110V	10,000	1.1W	3PDT	5	6.05
KL17A	6V	2.25	2.9VA	4PDT	5	6.60
KL17A	24V	33	2.9VA	4PDT	5	6.60
KL17A	120V	760	2.9VA	4PDT	5	6.60
KL17D	12V	140	1.1W	4PDT	5	6.30
KL17D	24V	600	1.1W	4PDT	5	6.30
KL17D	110V	10,000	1.1W	4PDT	5	6.95

\*Canadian Standards Association File No. LR-15734

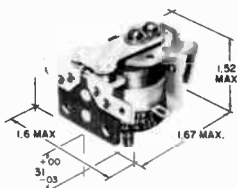
†Sealed Relay  
§Enclosed Relay

See ordering information on page 1.

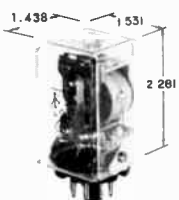


GENERAL PURPOSE RELAYS

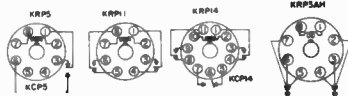
**KR3-H SERIES** Ruggedly constructed but of small size, KR3-H is a heavy duty relay especially designed for applications where limited space is a factor. Its heavy duty copper alloy movable contact carrier has twin 1" dia. silver-cadmium-oxide contacts rated 20 amps @ 120V AC 60 Hz resistive, or 28V DC; 1 HP 120/240V 60 Hz. Contact arrangement is 1 Form X (SPST-NO-DB) only. Terminals: suitable for 1" quick connect, also solder; for contacts: solder only for coil. Size: 1.6" x 1.671" x 1.52". Seated height: 1.21". Mounting: One 6-32 stud and locating tab on .437" center. Weight: 2 ozs.



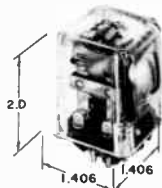
**KRP3-H SERIES** All electrical specifications listed above for the KR3-II series relays apply to the KRP3-H. However, the KRP3-H is enclosed in a clear, high impact plastic dust cover and features an octal plug-in base. Weight: Approximately 3 ozs.



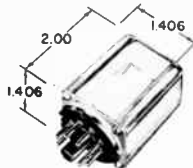
**KRP SERIES** Versatile, multi-contact arrangement. Enclosed in a clear high impact plastic dust cover. Standard 8-pin octal-type plug for KRP5 and KRP11, 11-pin for KRP-14. Weight: Approx. 3 ozs. Contacts: 5 amp, 1" dia. gold-flashed silver, 10 amp 3/8" dia. silver cadmium-oxide. See KCP-KRP hold down spring for special mounting applications. See KRP-N indicator lamp relay for current monitoring applications.



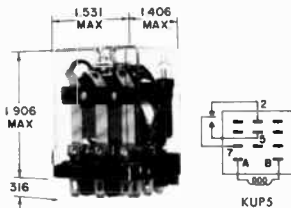
**KRP-N INDICATOR LAMP RELAY** A general purpose relay incorporating a lamp to indicate current or voltage availability in power circuit. Contacts: 5" dia. silver cadmium-oxide. Enclosure: Clear, high impact plastic dust cover. Mounting: Standard octal plug. Weight: Approx. 3 ozs. Hold down spring (Please see page 2).



**"P" — CASE** A clear high impact plastic case for mounting rectifiers, capacitors, resistors or a combination of these. Available with octal-type plug with 8 or 11-pins. Comes complete with four screws. Weight: .5 ozs. each. See KCP-KRP Hold Down Spring for special mounting applications.  
35D070 Case (8-pin plug) NET \$ .60  
35D072 Case (11-pin plug) NET \$ .75

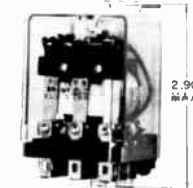


**KUP SERIES** This reliable 10-ampere relay for industrial control is available with a socket that is also rated 10 amperes. The .187" terminals of the relay are of the quick-connect/solder type. Sockets are priced separately and their terminals are of the pierced solder type. The KUP is enclosed in a clear, high impact plastic dust cover. Silver-cadmium-oxide contacts assure long contact life. Operation: Continuous.



Hold down spring (Please see page 2)

**KUP SERIES** with slotted flange case for direct-to-chassis mounting. Identical in both electrical and mechanical specifications as the KUP described above, except that they are not suitable for socket mounting. The .187" terminals are of the quick-connect/solder type. Slot width: .156". Weight: 3 ozs.



All models carry U/L Component Recognition.

**9KU1** pierced solder terminals sockets for KUP plain case relays. Rated 10 amperes; molded nylon. Mounting hole .165 dia.

Box of 5 NET \$3.75

**9KU2** printed circuit pin terminal sockets for KUP relays. Will accept .187" terminals of KUP in plain case. Molded nylon. Mounting hole .165 dia.

Box of 5. NET \$4.50

**9KU4** screw terminal socket for KUP plain case relays. The nylon socket (accepts .187" terminals) is riveted to the bakelite frame that provides screw terminals.

Box of 5 NET \$12.50

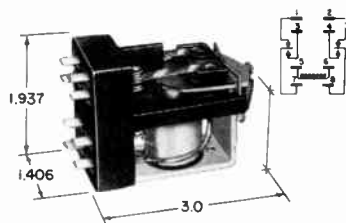


TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
KR3AH	6V	6	2VA	SPST-NO-DB	20	\$4.10
KR3AH	12V	21	2VA	SPST-NO-DB	20	4.10
KR3AH	24V	75	2VA	SPST-NO-DB	20	4.10
KR3AH	120V	2,250	2VA	SPST-NO-DB	20	4.10
KR3DH	6V	32	1.2W	SPST-NO-DB	20	3.90
KR3DH	12V	120	1.2W	SPST-NO-DB	20	3.90
KR3DH	24V	472	1.2W	SPST-NO-DB	20	3.90
KR3DH	110V	10,000	1.2W	SPST-NO-DB	20	4.50
KRP3AH§	6V	6	2VA	SPST-NO-DB	20	6.65
KRP3AH§	12V	21	2VA	SPST-NO-DB	20	6.65
KRP3AH§	24V	75	2VA	SPST-NO-DB	20	6.65
KRP3AH§	120V	2,250	2VA	SPST-NO-DB	20	6.65
KRP3DH§	6V	32	1.2W	SPST-NO-DB	20	6.45
KRP3DH§	12V	120	1.2W	SPST-NO-DB	20	6.45
KRP3DH§	24V	472	1.2W	SPST-NO-DB	20	6.45
KRP3DH§	110V	10,000	1.2W	SPST-NO-DB	20	7.10
KRP5A§	6V	6	2VA	SPDT	5	5.70
KRP5A§	24V	75	2VA	SPDT	5	5.70
KRP5A§	120V	2,250	2VA	SPDT	5	5.70
KRP5AG§	6V	6	2VA	SPDT	10	5.85
KRP5AG§	24V	75	2VA	SPDT	10	5.85
KRP5AG§	120V	2,250	2VA	SPDT	10	5.85
KRP5D§	6V	32.1	1.2W	SPDT	5	5.65
KRP5D§	12V	120	1.2W	SPDT	5	5.65
KRP5D§	24V	472	1.2W	SPDT	5	5.65
KRP5D§	110V	10,000	1.2W	SPDT	5	6.30
KRP5DG§	6V	32.1	1.2W	SPDT	10	5.80
KRP5DG§	12V	120	1.2W	SPDT	10	5.80
KRP5DG§	24V	472	1.2W	SPDT	10	5.80
KRP5DG§	110V	10,000	1.2W	SPDT	10	6.40
KRP11A§	6V	6	2VA	DPDT	5	6.35
KRP11A§	12V	21	2VA	DPDT	5	6.35
KRP11A§	24V	75	2VA	DPDT	5	6.35
KRP11A§	120V	2,250	2VA	DPDT	5	6.35
KRP11A§	240V	9,110	2VA	DPDT	5	6.75
KRP11AG§	6V	6	2VA	DPDT	10	6.55
KRP11AG§	12V	21	2VA	DPDT	10	6.55
KRP11AG§	24V	75	2VA	DPDT	10	6.55
KRP11AG§	120V	2,250	2VA	DPDT	10	6.55
KRP11AG§	240V	9,100	2VA	DPDT	10	7.00
KRP11D§	6V	32.1	1.2W	DPDT	5	6.30
KRP11D§	12V	120	1.2W	DPDT	5	6.30
KRP11D§	24V	472	1.2W	DPDT	5	6.30
KRP11D§	110V	10,000	1.2W	DPDT	5	6.95
KRP11DG§	6V	32.1	1.2W	DPDT	10	6.50
KRP11DG§	12V	120	1.2W	DPDT	10	6.50
KRP11DG§	24V	472	1.2W	DPDT	10	6.50
KRP11DG§	110V	10,000	1.2W	DPDT	10	7.15
KRP14A§	6V	6	2VA	3PDT	5	7.90
KRP14A§	12V	21	2VA	3PDT	5	7.90
KRP14A§	24V	75	2VA	3PDT	5	7.90
KRP14A§	120V	2,250	2VA	3PDT	5	7.90
KRP14A§	240V	9,110	2VA	3PDT	5	8.30
KRP14AG§	6V	6	2VA	3PDT	10	8.20
KRP14AG§	12V	21	2VA	3PDT	10	8.20
KRP14AG§	24V	75	2VA	3PDT	10	8.20
KRP14AG§	120V	2,250	2VA	3PDT	10	8.20
KRP14AG§	240V	9,100	2VA	3PDT	10	8.60
KRP14D§	6V	32.1	1.2W	3PDT	5	7.80
KRP14D§	12V	120	1.2W	3PDT	5	7.80
KRP14D§	24V	472	1.2W	3PDT	5	7.80
KRP14D§	110V	10,000	1.2W	3PDT	5	8.45
KRP14DG§	6V	32.1	1.2W	3PDT	10	8.10
KRP14DG§	12V	120	1.2W	3PDT	10	8.10
KRP14DG§	24V	472	1.2W	3PDT	10	8.10
KRP14DG§	110V	10,000	1.2W	3PDT	10	8.75
KRP11AN§	6V	6	2VA	DPDT	10	7.50
KRP11AN§	12V	21	2VA	DPDT	10	7.50
KRP11AN§	24V	75	2VA	DPDT	10	7.50
KRP11AN§	120V	2,250	2VA	DPDT	10	7.50
KRP11AN§	240V	9,110	2VA	DPDT	10	7.90
KRP11DN§	6V	32.1	1.2W	DPDT	10	7.45
KRP11DN§	12V	120	1.2W	DPDT	10	7.45
KRP11DN§	24V	420	1.2W	DPDT	10	7.45
KRP11DN§	110V	10,000	1.2W	DPDT	10	8.10
KRP14AN§	6V	6	2VA	3PDT	10	9.15
KRP14AN§	12V	21	2VA	3PDT	10	9.15
KRP14AN§	24V	75	2VA	3PDT	10	9.15
KRP14AN§	120V	2,250	2VA	3PDT	10	9.15
KRP14AN§	240V	9,110	2VA	3PDT	10	9.55
KUP5A15§	6V	3.1	2VA	3PDT	10	3.70
KUP5A15§	12V	21	2VA	SPDT	10	3.70
KUP5A15§	24V	75	2VA	SPDT	10	3.70
KUP5A15§	120V	2,250	2VA	SPDT	10	3.70
KUP5A15§	240V	9,110	2VA	SPDT	10	4.10
KUP5D15§	6V	32.1	1.2W	SPDT	10	3.55
KUP5D15§	12V	120	1.2W	SPDT	10	3.55
KUP5D15§	24V	472	1.2W	SPDT	10	3.55
KUP5D15§	110V	10,000	1.2W	SPDT	10	4.15
KUP11A15§	6V	5.1	2VA	DPDT	10	4.50
KUP11A15§	12V	21	2VA	DPDT	10	4.50
KUP11A15§	24V	75	2VA	DPDT	10	4.50
KUP11A15§	120V	2,250	2VA	DPDT	10	4.50
KUP11A15§	240V	9,110	2VA	DPDT	10	4.90
KUP11D15§	6V	32.1	1.2W	DPDT	10	4.05
KUP11D15§	12V	120	1.2W	DPDT	10	4.05
KUP11D15§	24V	472	1.2W	DPDT	10	4.05
KUP11D15§	110V	10,000	1.2W	DPDT	10	4.65
KUP14A15§	6V	4.2	2.75VA	3PDT	10	5.05
KUP14A15§	12V	18	2.75VA	3PDT	10	5.05
KUP14A15§	24V	72	2.75VA	3PDT	10	5.05
KUP14A15§	120V	1,700	2.75VA	3PDT	10	5.05
KUP14A15§	240V	7,200	2.75VA	3PDT	10	5.45
KUP14D15§	6V	32.1	1.2W	3PDT	10	4.65
KUP14D15§	12V	120	1.2W	3PDT	10	4.65
KUP14D15§	24V	472	1.2W	3PDT	10	4.65
KUP14D15§	110V	10,000	1.2W	3PDT	10	5.05
KUP14A55§*	6V	4.2	2.75VA	3PDT	10	5.05
KUP14A55§*	12V	18	2.75VA	3PDT	10	5.05
KUP14A55§*	24V	72	2.75VA	3PDT	10	5.05
KUP14A55§*	120V	1,700	2.75VA	3PDT	10	5.05
KUP14A55§*	240V	7,200	2.75VA	3PDT	10	5.45
KUP14D55§*	6V	32.1	1.2W	3PDT	10	4.65
KUP14D55§*	12V	120	1.2W	3PDT	10	4.65
KUP14D55§*	24V	472	1.2W	3PDT	10	4.65
KUP14D55§*	110V	10,000	1.2W	3PDT	10	5.05

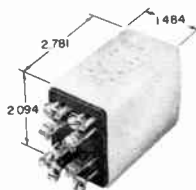
§Enclosed Relay See ordering information on page 1.  
\*KUP55 with slotted flange case

# Potter & Brumfield Relays

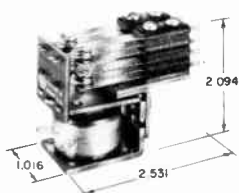
**AB SERIES** For appliance and general purpose applications where rugged construction, long life and quiet operation are required. All equipped with terminals to fit snap-on connectors and may also be applied to printed circuits using dip soldering. Snap-on screw adaptors packed with each relay. All AC models carry U/L component recognition (File No. E29244) and CSA\* listing. Mounting: Two No. 8-32 tapped holes, on 1" centers. Silver contacts. Weight: Approx. 5 ozs.



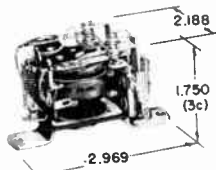
**ABC SERIES** Medium duty power relay with dust cover. For small motors, industrial control and similar applications. All equipped with terminals to fit snap-on connectors and may also be applied to printed circuits using dip soldering. Snap-on screw adaptors packed with each relay. All AC models carry U/L component recognition (File No. E29244) and CSA\* listing. Mounting: One No. 8-32 threaded stud 3/8" long and locating tab on 1/2" centers. Contacts: 1/2" dia. silver. Weight: Approx. 7 ozs.



**GF SERIES** Medium duty power relay for industrial control applications. Long contact arms have 1/2" dia. silver contacts rated at 10 amps at 120V AC or 28V DC resistive. Contacts have excellent wipe or self-cleaning action. Tinned, pierced solder terminals. Mounting: 8-32 tapped core with locating boss. Weight: 4.75 ozs. (See GA series, page 1, for similar voltage actuated relays.)



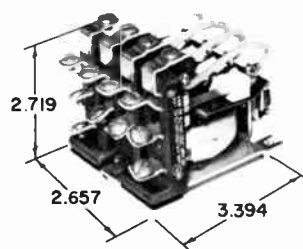
**MR SERIES** A medium duty power relay that can handle small motors, transmitters, and general purpose applications. Mounting: Two 3/8" dia. holes on 2 1/2" centers for MR3 and 1 1/2" centers for MR2, 5 and 14. Contacts: 3/8" dia. silver. Weight: 4 ozs.



MS/MR Metal dust cover similar to PM/PR shown below. 3 1/2" x 2 3/4" x 2 1/2". Weight: 7.5 ozs.

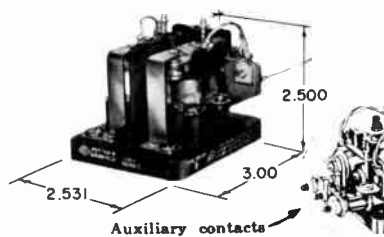
35D130 fits MS/MR NET \$2.10

**PM SERIES** A compact heavy duty 4PDT power relay for polyphase and heavy duty switching applications. Screw terminals. Has 1/2" silver-cadmium-oxide contacts rated at 25 amps at 120V, 25 amps at 240V, 50/60 Hz resistive AC, 1HP per movable arm at 120V, or 240V, AC single phase, U/L (File No. E22575) and CSA\* listed, except 480V. Mounts by one front key-hole and two rear channel slots for 8-32 screws on 2" x 2" triangular centers. Weight: 14 ozs.



9PM1 Adaptor plates for mounting PM on PR mounting holes. Box of 10 NET \$1.65 Enclosures for PM relay — see below.

**PR SERIES** Heavy duty relay for industrial control applications requiring long life and fast action. Heavy duty screw type terminals. All AC and DC models except PR-11AL5 carry U/L (File No. E22575) and CSA\* listing. Mounting: Two 3/8" dia. holes on 1 1/2" centers. Weight: 11 ozs. max. Contacts: 3/8" dia. silver. Enclosure: See "PR" cover. The PR11AL5 relay is equipped with 3/8" dia. silver SPDT auxiliary contacts rated at 5 amps.



PM:  
L 5.313  
W 3.812  
H 3.812

PR:  
L 5.312  
W 3.375  
H 3.125



**PM and PR DUST COVERS** These dust covers have a sheet metal base with knock-outs for 1" dia. conduit and an aluminum cover fitted with two screws. Finished in gray hammertone. Mounting: Three No. 10 holes on 1 1/2" x 4 1/4" centers. Approx. weight: 1 lb.

35D227 Metal cover for PM only NET \$3.30  
9PM2 Plastic dust cover for PM only.  
Box of 4 NET \$1.80  
35D013 Metal cover for PR only NET \$3.30

## POWER RELAYS

TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
AB11AY	6V	1.3	6.4VA	DPDT	10	\$ 5.55
AB11AY	24V	23	6.4VA	DPDT	10	5.55
AB11AY	120V	510	6.4VA	DPDT	10	5.55
AB11AY	240V	2,050	6.4VA	DPDT	10	6.00
AB11D	12V	72	2.0W	DPDT	10	5.45
AB11D	24V	288	2.0W	DPDT	10	5.45
AB11D	110V	6,050	2.0W	DPDT	10	6.00
ABC11AY\$	6V	1.3	6.4VA	DPDT	10	6.70
ABC11AY\$	24V	23	6.4VA	DPDT	10	6.70
ABC11AY\$	120V	510	6.4VA	DPDT	10	6.70
ABC11AY\$	240V	2,050	6.4VA	DPDT	10	7.15
ABC11D\$	6V	18	2.0W	DPDT	10	6.60
ABC11D\$	12V	72	2.0W	DPDT	10	6.60
ABC11D\$	24V	288	2.0W	DPDT	10	6.60
ABC11D\$	110V	6,050	2.0W	DPDT	10	7.15
GF17A	6V	1.7	6VA	4PDT	10	7.00
GF17A	12V	6.8	6VA	4PDT	10	7.00
GF17A	24V	24	6VA	4PDT	10	7.00
GF17A	120V	690	6VA	4PDT	10	7.00
GF17A	240V	2,950	6VA	4PDT	10	7.40
GF17D	6V	18	2.0W	4PDT	10	7.00
GF17D	12V	72	2.0W	4PDT	10	7.00
GF17D	24V	288	2.0W	4PDT	10	7.00
GF17D	110V	6,050	2.0W	4PDT	10	7.45
MR3A	6V	2.75	3.25VA	SPST-NO-DB	10	4.10
MR3A	24V	50	3.25VA	SPST-NO-DB	10	4.10
MR3A	120V	1,250	3.25VA	SPST-NO-DB	10	4.10
MR3D	6V	24	1.6W	SPST-NO-DB	10	3.70
MR3D	12V	96	1.6W	SPST-NO-DB	10	3.70
MR3D	24V	360	1.6W	SPST-NO-DB	10	3.70
MR5A	6V	2.75	3.25VA	SPDT	8	3.65
MR5A	12V	13.25	3.25VA	SPDT	8	3.65
MR5A	24V	50	3.25VA	SPDT	8	3.65
MR5A	120V	1,250	3.25VA	SPDT	8	3.65
MR5A	240V	4,600	3.25VA	SPDT	8	4.10
MR5D	6V	24	1.6W	SPDT	8	3.40
MR5D	12V	96	1.6W	SPDT	8	3.40
MR5D	24V	360	1.6W	SPDT	8	3.40
MR5D	110V	8,000	1.6W	SPDT	8	3.90
MR11A	6V	2.75	3.25VA	DPDT	8	5.15
MR11A	12V	13.25	3.25VA	DPDT	8	5.15
MR11A	24V	50	3.25VA	DPDT	8	5.15
MR11A	120V	1,250	3.25VA	DPDT	8	5.15
MR11A	240V	4,600	3.25VA	DPDT	8	5.55
MR11D	6V	24	1.6W	DPDT	8	4.90
MR11D	12V	96	1.6W	DPDT	8	4.90
MR11D	24V	360	1.6W	DPDT	8	4.90
MR11D	110V	8,000	1.6W	DPDT	8	5.40
MR14A	6V	2.75	3.25VA	3PDT	8	6.15
MR14A	12V	13.25	3.25VA	3PDT	8	6.15
MR14A	24V	50	3.25VA	3PDT	8	6.15
MR14A	120V	1,250	3.25VA	3PDT	8	6.15
MR14A	240V	4,600	3.25VA	3PDT	8	6.55
MR14D	6V	24	1.6W	3PDT	8	5.80
MR14D	12V	96	1.6W	3PDT	8	5.80
MR14D	24V	360	1.6W	3PDT	8	5.80
MR14D	110V	8,000	1.6W	3PDT	8	6.30
PM17AY	6V	.37	14VA	4PDT	25	12.95
PM17AY	12V	1.4	14VA	4PDT	25	12.95
PM17AY	24V	5.0	14VA	4PDT	25	12.95
PM17AY	120V	120	14VA	4PDT	25	12.95
PM17AY	240V	587	14VA	4PDT	25	13.40
PM17A	480V	1,790	14VA	4PDT	25	14.30
PM17DY	6V	8.2	4.4W	4PDT	25	12.40
PM17DY	12V	33	4.4W	4PDT	25	12.40
PM17DY	24V	132	4.4W	4PDT	25	12.40
PM17DY	110V	2,760	4.4W	4PDT	25	13.00
PR1AY	24V	12	9.8VA	SPST-NO	25	4.25
PR3AY	6V	.86	9.8VA	SPST-NO-DB	25	4.35
PR3AY	12V	3.2	9.8VA	SPST-NO-DB	25	4.35
PR3AY	24V	12	9.8VA	SPST-NO-DB	25	4.35
PR3AY	120V	290	9.8VA	SPST-NO-DB	25	4.35
PR3AY	240V	1,200	9.8VA	SPST-NO-DB	25	4.75
PR3DY	6V	18	2.0W	SPST-NO-DB	25	4.35
PR3DY	12V	71	2.0W	SPST-NO-DB	25	4.35
PR3DY	24V	288	2.0W	SPST-NO-DB	25	4.35
PR3DY	110V	6,050	2.0W	SPST-NO-DB	25	5.00
PR5AY	6V	.86	9.8VA	SPDT	25	4.55
PR5AY	12V	3.2	9.8VA	SPDT	25	4.55
PR5AY	24V	12	9.8VA	SPDT	25	4.55
PR5AY	120V	290	9.8VA	SPDT	25	4.55
PR5AY	240V	1,200	9.8VA	SPDT	25	5.00
PR5DY	6V	18	2.0W	SPDT	25	4.55
PR5DY	12V	71	2.0W	SPDT	25	4.55
PR5DY	24V	288	2.0W	SPDT	25	4.55
PR5DY	110V	6,050	2.0W	SPDT	25	5.20
PR7AY	6V	.86	9.8VA	DPST	25	5.15
PR7AY	12V	3.2	9.8VA	DPST	25	5.15
PR7AY	24V	12	9.8VA	DPST	25	5.15
PR7AY	120V	290	9.8VA	DPST	25	5.15
PR7AY	240V	1,200	9.8VA	DPST	25	5.60
PR7DY	6V	18	2.0W	DPST	25	5.15
PR7DY	12V	71	2.0W	DPST	25	5.15
PR7DY	24V	288	2.0W	DPST	25	5.15
PR7DY	110V	6,050	2.0W	DPST	25	5.80
PR11AY	6V	.86	9.8VA	DPDT	25	6.75
PR11AY	12V	3.2	9.8VA	DPDT	25	6.75
PR11AY	24V	12	9.8VA	DPDT	25	6.75
PR11AY	120V	290	9.8VA	DPDT	25	6.75
PR11AY	240V	1,200	9.8VA	DPDT	25	7.30
PR11AY	480V	4,500	9.8VA	DPDT	25	8.20
PR11AL5	6V	.86	9.8VA	DPDT	20	8.55
PR11AL5	12V	3.2	9.8VA	DPDT	20	8.55
PR11AL5	24V	12	9.8VA	DPDT	20	8.55
PR11AL5	120V	290	9.8VA	DPDT	20	8.55
PR11AL5	240V	1,200	9.8VA	DPDT	20	9.00
PR11DY	6V	18	2.0W	DPDT	25	6.75
PR11DY	12V	71	2.0W	DPDT	25	6.75
PR11DY	24V	288	2.0W	DPDT	25	6.75
PR11DY	110V	6,050	2.0W	DPDT	25	7.40

\*Canadian Standards Association File No. LR-15734

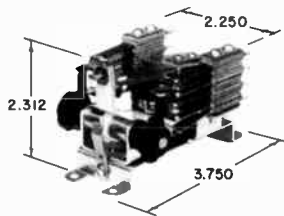
§Enclosed Relay

See ordering information on page 1.

Potter & Brumfield Relays

AP SERIES RATCHET, IMPULSE

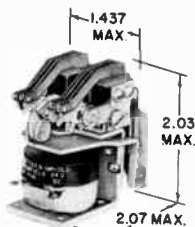
A reliable compact unit for applications requiring on-off or reversing action on alternate operations. Positive ratchet operation at all speeds on impulses as short as 60 ms. Intermittent operation only. Mounting: Three 3/8" dia. holes on 3 1/2" x 1 1/4" triangular centers. Contacts: 3/8" dia. silver. Weight: 7 ozs. Coils for intermittent duty only.



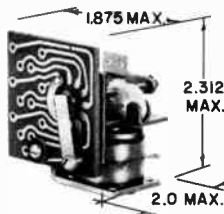
BU BUZZER AC operated coil with a spring steel armature which buzzes when coil is energized. Used extensively in test equipment, laboratories and a host of other applications where a small light weight, dependable buzzer is required. Weight: 1 1/2 ozs. Mounting: No. 6-32 tapped core.



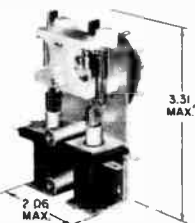
GM SERIES Unusually versatile switching makes this impulse/sequencing relay especially suitable for single coil latching. The 2 Form C contact arrangement is switched alternately by cam action during drop-out of the armature. It can also be furnished with additional 2 Form C auxiliary contacts (designated by "L"). AC version operates on a 50% coil duty cycle (5 Min. max.). Mounting: 8-32 tapped core with locating boss. Weights: With aux. contacts 4 1/2 ozs. Without aux. contacts 4 ozs.



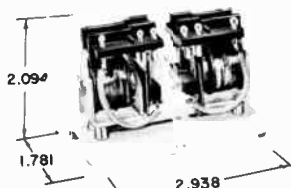
The GM1N10 and GM1N12 AC or DC use the basic GM structure with uni-directional printed circuit boards with 10 or 12-steps, respectively. The board is attached to an extension of the ratchet shaft. The movable contact arm advances one position each time the armature drops out. Contact rating: .25 amps. Contact arrangement: SP-10 pos. and SP-12 pos. Size: 2.312" x 1.875" x 2".



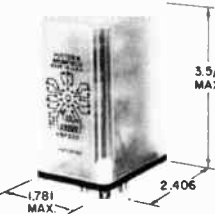
GR SERIES A unique bi-directional stepping relay employing two solenoids for contact operation. Audio control, speed, temperature or other factors may be increased or decreased remotely. Adding and subtracting functions are typical applications. Solenoid coils are epoxy potted. Mounting: Two 6-32 bosses on .875" centers. Pierced solder lug terminals. Coil duty cycle: Intermittent, 5 minutes max. on, 5 minutes min. off.



KB SERIES LATCHING RELAY Both release and trip coils must be for the same voltage. One coil operates relay to set latch and other coil releases it. Ideal for memory work and overload applications. Operates on momentary impulse to either coil. Mounting: Two 3/8" dia. holes on 1 1/2" centers. Weight: 6 ozs. Contacts: 1/2" dia. silver rated 5 amps; "G" suffix indicates silver-cadmium-oxide contacts on movables rated 10 amps. AC relays with 5 amp. Contacts carry U/L component recognition (File No. 29244) and are CSA\* listed. AC coil for intermittent duty only.



KBP SERIES LATCHING RELAY Enclosed in a translucent polypropylene dust cover, the KBP is furnished with 20-pin octal type plugs for socket mounting. Contact arrangements of 4PDT and 5PDT are available. Otherwise all specifications are identical to the KB series described above. U/L component recognition does not apply to the KBP series. Weight: 8 ozs.



SPECIAL PURPOSE RELAYS

TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amp	
AP11A	6V	.6	18.5VA	DPDT	5	\$ 9.20
AP11A	12V	2.28	18.5VA	DPDT	5	9.20
AP11A	24V	8.8	18.5VA	DPDT	5	9.20
AP11A	120V	240	18.5VA	DPDT	5	9.20
AP11A	240V	900	18.5VA	DPDT	5	9.70
AP11D	6V	4.0	9.0W	DPDT	5	9.20
AP11D	24V	65	9.0W	DPDT	5	9.20
AP11D	110V	1,350	9.0W	DPDT	5	9.90
AP17A	24V	8.8	18.5VA	4PDT	5	11.15
AP17A	120V	240	18.5VA	4PDT	5	11.15
AP17D	12V	15.5	9.0W	4PDT	5	11.15
AP17D	24V	65	9.0W	4PDT	5	11.15
AP17D	110V	1,350	9.0W	4PDT	5	11.85
BU	6V	2.75	4.6VA	—	—	1.85
BU	12V	13.25	4.6VA	—	—	1.85
BU	24V	50	4.6VA	—	—	1.85
BU	120V	1,250	4.6VA	—	—	1.85
GM11A	24V	16	9.4VA	DPDT	3	7.60
GM11A	120V	420	9.4VA	DPDT	3	7.60
GM11A111	120V	420	9.4VA	DPDT/DPDT	3	10.80
GM11D	12V	36	4W	DPDT	3	7.30
GM11D	24V	144	4W	DPDT	3	7.30
GM11DL11	12V	36	4W	DPDT/DPDT	3	10.60
GM11DL11	24V	144	4W	DPDT/DPDT	3	10.60
GM11DL11	110V	3,030	4W	DPDT/DPDT	3	11.10
GM1N10A	120V	510	9.4VA	SP-10 pos.	.25	9.40
GM1N12A	120V	510	9.4VA	SP-12 pos.	.25	9.50
GM1N10D	24V	144	4W	SP-10 pos.	.25	9.15
GM1N12D	24V	144	4W	SP-12 pos.	.25	9.30
GR1N10A	120V	420	15VA	SP-10 pos.	2	14.50
KB17AY	6V	2.3	5VA	4PDT	5	11.05
KB17AY	12V	10	5VA	4PDT	5	11.05
KB17AY	24V	42	5VA	4PDT	5	11.05
KB17AY	120V	1,030	5VA	4PDT	5	11.05
KB17AY	240V	4,100	5VA	4PDT	5	11.85
KB17AG	6V	2.3	5VA	4PDT	10	11.15
KB17AG	12V	10	5VA	4PDT	10	11.15
KB17AG	24V	42	5VA	4PDT	10	11.15
KB17AG	120V	1,030	5VA	4PDT	10	11.15
KB17AG	240V	4,100	5VA	4PDT	10	11.95
KB17D	6V	13.1	2.7W	4PDT	5	9.90
KB17D	12V	52	2.7W	4PDT	5	9.90
KB17D	24V	230	2.7W	4PDT	5	9.90
KB17D	110V	4,560	2.7W	4PDT	5	11.20
KB17DG	6V	13.1	2.7W	4PDT	10	10.15
KB17DG	12V	52	2.7W	4PDT	10	10.15
KB17DG	24V	230	2.7W	4PDT	10	10.15
KB17DG	110V	4,560	2.7W	4PDT	10	11.40
KB23AY	34V	27	7.8VA	6PDT	5	13.25
KB23AY	120V	700	7.8VA	6PDT	5	13.25
KB23AG	24V	27	7.8VA	6PDT	10	13.45
KB23AG	120V	700	7.8VA	6PDT	10	13.45
KB23D	24V	230	2.7W	6PDT	5	12.00
KB23DG	24V	230	2.7W	6PDT	10	12.35
KB23DG	110V	4,560	2.7W	6PDT	10	13.60
KBP17AG	120V	1,030	5VA	4PDT	5	15.50
KBP17AG	120V	1,030	5VA	4PDT	10	15.70
KBP17DS	24V	230	2.7W	4PDT	5	14.45
KBP17DGS	12V	52	2.7W	4PDT	10	14.65
KBP17DGS	24V	230	2.7W	4PDT	10	14.65
KBP20AS	120V	700	7.8VA	5PDT	5	16.00
KBP20AGS	120V	700	7.8VA	5PDT	10	16.25
KBP20DGS	12V	52	2.7W	5PDT	10	15.45
KBP20DGS	24V	230	2.7W	5PDT	10	15.45

SPECIFY COIL VOLTAGE OR RESISTANCE WHEN ORDERING

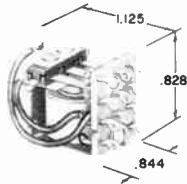
\*Canadian Standards Association File No. LR-15734

§Enclosed Relay

See ordering information on page 1.

# Potter & Brumfield Relays

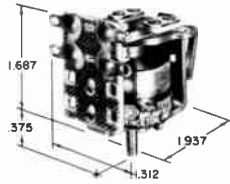
**KM SERIES** Subminiature relay for applications requiring unusually small relays with up to 3-poles  $\frac{3}{8}$ " dia. silver contacts. Withstands 30g mechanical shock and .06" excursion 10 to 55 Hz mechanical vibration. Used extensively in small business machines, alarm systems, automatic toys and communications systems. Mounting: One 2-56 tapped core and locating .062" dia. half-punch on .187" centers. Solder terminals. Weight: .58 ozs.



## SPECIAL PURPOSE RELAYS

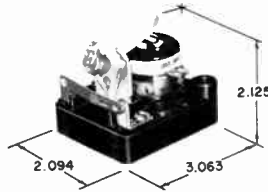
TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
KM5D	6V	36	1.1W	SPDT	2	\$3.60
KM5D	12V	144	1.1W	SPDT	2	3.60
KM5D	24V	500	1.1W	SPDT	2	3.60
KM11D	6V	36	1.1W	DPDT	2	3.95
KM11D	12V	144	1.1W	DPDT	2	3.95
KM11D	24V	500	1.1W	DPDT	2	3.95
KM14D	6V	36	1.1W	3PDT	2	4.55
KM14D	12V	144	1.1W	3PDT	2	4.55
KM14D	24V	500	1.1W	3PDT	2	4.55

**KT SERIES ANTENNA SWITCHING RELAY** Glass base insulation for minimum RF loss to switch 300 ohm line. Mounting: One No. 6-32 threaded stud and locating tab on  $\frac{1}{8}$ " centers. Contacts:  $\frac{1}{8}$ " dia. gold-flashed silver. Weight: 1 $\frac{1}{2}$  ozs.



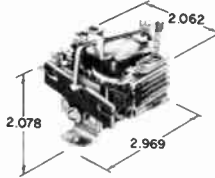
KT11A	6V	6	2VA	DPDT	5	3.90
KT11A	120V	2,250	2VA	DPDT	5	3.90
KT11D	6V	32.1	1.2W	DPDT	5	3.90
KT11D	12V	120	1.2W	DPDT	5	3.90

**MS SERIES MOTOR STARTING RELAYS** For starting capacitor start, induction-run motors. Operates on back EMF of start winding. Armature gap can be altered to change pull-in. Carries U/L component recognition (File No. 29245). Mounting: Two  $\frac{5}{16}$ " dia. holes on 1 $\frac{1}{4}$ " centers. Contacts: 3 HP,  $\frac{3}{8}$ " dia. fine silver; 3 HP,  $\frac{3}{8}$ " dia. silver cadmium. Weight: 5 ozs. max. MS/MR Metal dust cover similar to PM/PR shown on page 4. 3 $\frac{3}{8}$ " x 2 $\frac{3}{8}$ " x 2 $\frac{1}{2}$ ". Weight: 7.5 ozs. 35D130 fits MS/MR NET \$2.10



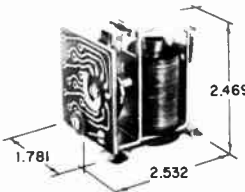
MS2AY	120V	530	5.9VA	SPST-NC	$\frac{3}{4}$ HP	3.80
MS2AY	240V	2,100	5.9VA	SPST-NC	$\frac{3}{4}$ HP	4.25
MS4AY	120V	530	5.9VA	SPST-NC-DB	3HP	4.45
MS4AY	240V	2,100	5.9VA	SPST-NC-DB	3HP	4.85

**PC SERIES** Single coil impulse latching relay for on-off and current reversal switching on alternate pulses. Operates on 30 millisecond pulses to the coil. Mounting: Two  $\frac{3}{16}$ " dia. holes on 2 $\frac{1}{2}$ " centers. Weight: 5 ozs. Contacts:  $\frac{1}{8}$ " dia. gold-flashed silver-cadmium-oxide. Coils for intermittent duty only.



PC11A	6V	.6	18.5VA	DPDT	7.5	5.90
PC11A	12V	2.28	18.5VA	DPDT	7.5	5.90
PC11A	24V	8.8	18.5VA	DPDT	7.5	5.90
PC11A	120V	240	18.5VA	DPDT	7.5	5.90
PC11D	6V	.4	9.0W	DPDT	7.5	5.70
PC11D	12V	15.5	9.0W	DPDT	7.5	5.70
PC11D	24V	65	9.0W	DPDT	7.5	5.70
PC17A	24V	8.8	18.5VA	4PDT	7.5	8.15
PC17A	120V	240	18.5VA	4PDT	7.5	8.15
PC17D	24V	65	9.0W	4PDT	7.5	7.95

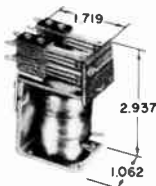
**SA SERIES STEPPING SWITCH** A twelve position stepping relay with printed circuit strips to switch currents up to 250 milliamps. Armature-driven pawl operates a ratchet wheel to drive the movable contact in steps of 30 degrees over 12 positions. Used widely for audio-level switching in TV remote control units, scoreboards and process controls. Mounting: Two 6-32 holes on 1 $\frac{1}{8}$ " centers. Weight: 4 ozs. AC coil for intermittent duty only.



SA-1N-12A	120V	140	20VA	12-steps	.25	7.00
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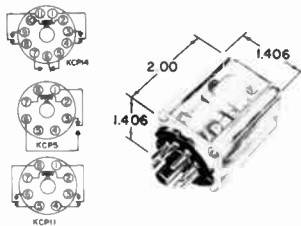
## PLATE CIRCUIT AND SENSITIVE RELAYS

**GB SERIES** (See GA series page 1 for similar voltage actuated relays.) Sensitivity 115 milliwatts for single pole and 275 milliwatts for 4 pole. Medium cost, high quality relay. Pick-up is not adjustable. Mounting: No. 8-32 tapped core and locating boss. Contacts:  $\frac{3}{16}$ " dia. silver. Weight: Approximately 5 ozs.



TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
GB5D	6.8MA	2,500	115MW	SPDT	5	\$3.60
GB5D	4.8MA	5,000	115MW	SPDT	5	3.80
GB5D	3.4MA	10,000	115MW	SPDT	5	4.30
GB11D	7MA	2,500	125MW	DPDT	5	5.10
GB11D	5MA	5,000	125MW	DPDT	5	5.20
GB11D	3.53MA	10,000	125MW	DPDT	5	5.80
GB17D	10.5MA	2,500	275MW	4PDT	5	6.10
GB17D	7.4MA	5,000	275MW	4PDT	5	6.25
GB17D	5.25MA	10,000	275MW	4PDT	5	6.70

**KCP SERIES** Low cost plate circuit relay enclosed in clear high impact plastic cover. Sensitivity 125 mw single pole; 250 mw double pole; 375 mw three pole. Mounting: Standard octal plug-in type. Eight pin for KCP5 and KCP11. Eleven pin for KCP14. Contacts: 1" dia. gold-flashed silver. Weight: Approximately 3 ozs. Use KCP-KR1 hold down spring when vibration is a factor or when using inverted or horizontal mounting. (see page 2).



KCP5§	7.2MA	2,500	125MW	SPDT	2	6.20
KCP5§	5MA	5,000	125MW	SPDT	2	6.30
KCP5§	3.6MA	10,000	125MW	SPDT	2	6.70
KCP11§	10MA	2,500	250MW	DPDT	2	6.60
KCP11§	7.2MA	5,000	250MW	DPDT	2	6.70
KCP11§	5MA	10,000	250MW	DPDT	2	7.15
KCP14§	12.3MA	2,500	375MW	3PDT	2	8.15
KCP14§	8.7MA	5,000	375MW	3PDT	2	8.25
KCP14§	6.1MA	10,000	375MW	3PDT	2	8.65

§Enclosed Relay

See ordering information on page 1.

# Potter & Brumfield Relays

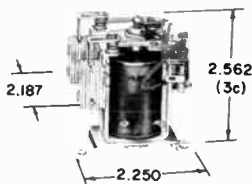
## PLATE CIRCUIT AND SENSITIVE RELAYS

**LB SERIES** Designed for top performance, long life at an unusually low cost. Each coil is wound with a given coil resistance and factory adjusted to operate on minimum current requirements. Mounting: Two  $\frac{3}{8}$ " dia. holes on  $2\frac{1}{2}$ " centers. Contacts:  $\frac{1}{8}$ " dia. silver. Weight: Approximately 2 ozs.



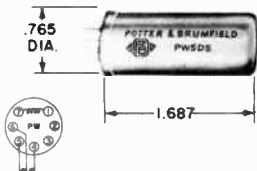
TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
LB5	9MA	2,500	200MW	SPDT	5	\$ 2.70
LB5	6.3MA	5,000	200MW	SPDT	5	2.90
LB5	4.5MA	10,000	200MW	SPDT	5	3.15

**LM SERIES** (See KL page 2 for similar voltage actuated relays.) Sensitivity: 100 milliwatts for single pole and 200 milliwatts for double pole. Medium cost, high quality relay with  $\frac{3}{8}$ " dia. gold-flashed silver contacts. Pick-up adjustable by tail spring adjusting screw. Mounting: Two No. 6-32 tapped holes on  $1\frac{1}{2}$ " centers. Weight: Approximately 5 ozs. DC Coils only.



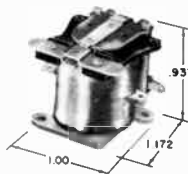
LM5	6.3MA	2,500	100MW	SPDT	5	4.15
LM5	4.5MA	5,000	100MW	SPDT	5	4.35
LM5	3.2MA	10,000	100MW	SPDT	5	4.65
LM11	9MA	2,500	200MW	DPDT	5	5.90
LM11	6.3MA	5,000	200MW	DPDT	5	6.10
LM11	4.5MA	10,000	200MW	DPDT	5	6.70

**PW SERIES** (In both voltage and current actuated models.) Sensitivity: 40 mw for current actuated models, 180 mw for voltage actuated models. Precision, light weight, hermetically sealed relay for aircraft and missile applications. Will withstand 10g vibration to 500 Hz. Mounting: Standard 7-pin miniature tube base. Weight: Approx. 1 oz.



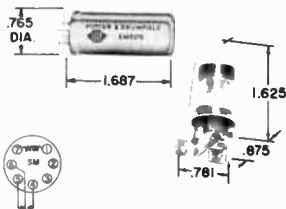
PW5DS†	6V	202	180MW	SPDT	1	11.30
PW5DS†	12V	810	180MW	SPDT	1	11.30
PW5DS†	24V	3,240	180MW	SPDT	1	11.30
PW5LS†	2.8MA	5,000	40MW	SPDT	1	11.65
PW5LS†	2.0MA	10,000	40MW	SPDT	1	12.10

**RS SERIES** (In both voltage and current actuated models.) 60 mw. sensitivity. Low-cost, small, light weight, sensitive relay for radio-sonde, light dimmer and model applications. Mounting: Two No. 4-40 tapped holes on diagonal  $\frac{3}{4}$ " x  $\frac{1}{8}$ " centers. Contacts: Bar palladium. Weight:  $1\frac{1}{2}$  ozs.



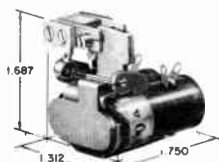
RSSD	6V	335	110MW	SPDT	2	2.75
RSSD	12V	1,350	110MW	SPDT	2	2.90
RSSD	5MA	2,500	60MW	SPDT	2	3.00
RSSD	3.5MA	5,000	60MW	SPDT	2	3.30
RSSD	2.5MA	10,000	60MW	SPDT	2	3.80

**SM SERIES** (In both voltage and current actuated models.) Sensitivity 75 mw for current actuated models. Medium cost, light weight, dust covered (right) or hermetically sealed (left) relay for light contact loads found in computers, model airplanes and similar applications. Extremely long mechanical life because of reed armature. Mounting: Sealed, standard 7-pin miniature tube socket; dust cover, two  $\frac{3}{8}$ " dia. holes on  $\frac{1}{2}$ " centers. Contacts: Stationary silver; movable rhodium. Weight: 1 oz. max.



SM5DS†	6V	80	500MW	SPDT	.25	6.90
SM5DS†	12V	360	500MW	SPDT	.25	6.90
SM5DS†	24V	900	500MW	SPDT	.25	6.90
SM5LS§	2.7MA	10,000	75MW	SPDT	.25	6.55
SM5LS§	3.9MA	5,000	75MW	SPDT	.25	7.20
SM5LS§	2.7MA	10,000	75MW	SPDT	.25	7.70

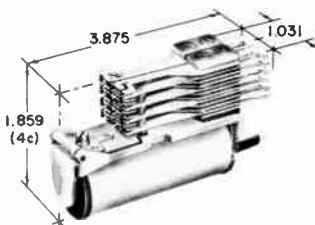
**SS SERIES** Ultra sensitive precision relay. 10 mw sensitivity. Dual series-connected coils with balanced armature on needle-point bearings for all low energy circuits such as instruments and bridge balancing. May also be used as a differential relay by connecting the two coils in separate circuits. Mounting: Two No. 6-32 tapped holes on  $\frac{1}{2}$ " centers. Contacts:  $\frac{1}{8}$ " dia. silver. Weight: Approx.  $3\frac{1}{2}$  ozs.



SSSD	1MA	10,000	10MW	SPDT	2	14.50
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## TELEPHONE TYPE RELAYS

**BS SERIES** Long coil telephone type. Suited for computer and automatic test equipment applications requiring large number of poles. Tinned, pierced solder terminals for rear panel wiring. Mounting: Two No. 8-32 NC 2B tapped holes on  $\frac{1}{2}$ " centers. Contact arms: Bifurcated with  $\frac{1}{16}$ " dia. twin palladium contacts. Weight: Approximately 9 ozs.



BS17A	120V	103	16.5VA	4PDT	4	\$ 9.65
BS17D	24V	1,000	576MW	4PDT	4	7.90
BS17D	110V	6,500	1.8W	4PDT	4	8.55
BS17L	5.5MA	10,000	300MW	4PDT	4	8.55
BS23A	120V	103	16.5VA	6PDT	4	11.25
BS23D	24V	1,000	576MW	6PDT	4	9.60
BS23D	110V	6,500	1.8W	6PDT	4	10.15

**BS DUST COVER** Two sizes of sheet metal enclosures. Small size for BS relays up to 6 Form C (6PDT, BS23), measures: H:  $2\frac{1}{8}$ ", W:  $1\frac{1}{4}$ ", L:  $3\frac{1}{2}$ " exclusive  $\frac{1}{8}$ " knob; weight: 6.5 ozs. Medium size for up to 10 Form C, measures: H:  $2\frac{3}{8}$ ", other dimensions same as small size; weight: 7 ozs.  
35D188, Small size NET \$2.00

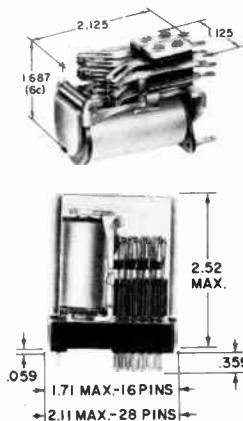
†Sealed Relay  
§Enclosed Relay

See ordering information on page 1.

# Potter & Brumfield Relays

**LS SERIES** Short springs and light weight armature provide fast action without sacrificing reliability and long life. Stainless steel hinge bearing designed to give 100 million operations. Tinned, pierced solder terminals. Mounting: Two No. 6-32 tapped holes on 1" centers. Bifurcated contact arms with 1/8" dia. twin palladium contacts. Weight: Approximately 4 ozs.

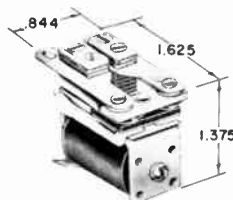
The LSP version has identical specifications as the LS, except that it is enclosed in a high impact, clear plastic cover and is provided with a rectangular socket with combination taper tab or solder terminations. Enables plug-in like any other plug-in component. Two sizes of sockets and covers are available: 16-pin for 4 Form C (4PDT) or 28-pin for 6 Form C (6PDT). Dimensions: LSP17D: 1.71" x 1.39" x 2.52" seated; weight: 4 ozs. LSP23D: 2.11" x 1.39" x 2.52" seated; weight: 4 1/2 ozs.



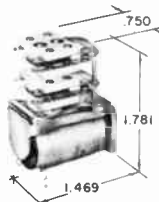
## TELEPHONE TYPE RELAYS

TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
LS17D	24V	300	1.9W	4PDT	4	5.95
LS17D	48V	1,300	1.8W	4PDT	4	6.10
LS17D	110V	8,000	1.5W	4PDT	4	6.35
LS23D	24V	300	1.9W	6PDT	4	7.20
LS23D	48V	1,300	1.8W	6PDT	4	7.35
LS23D	110V	8,000	1.5W	6PDT	4	7.65
LSP17D§	24V	300	1.9W	4PDT	4	7.80
LSP17D§	48V	1,300	1.8W	4PDT	4	7.90
LSP17D§	110V	8,000	1.5W	4PDT	4	8.20
LSP23D§	24V	300	1.9W	6PDT	4	9.65
LSP23D§	48V	1,300	1.8W	6PDT	4	9.75
LSP23D§	110V	8,000	1.5W	6PDT	4	10.05
MB3D	6V	13.3	2.7W	SPST-NO-DB	60	5.65
MB3D	12V	62.3	2.7W	SPST NO DB	60	5.80
MB3D	24V	245	2.7W	SPST NO DB	60	5.80
MB3D	110V	5,000	2.7W	SPST-NO DB	60	6.20
MC5A	6V	2.5	4.6VA	SPDT	1	5.50
MC5D	12V	96	1.6W	SPDT	1	4.85
MC5D	24V	365	1.6W	SPDT	1	4.85
MC11A	120V	680	4.6VA	DPDT	1	7.60
MC11D	24V	365	1.6W	DPDT	1	7.00
MC11D	110V	6,200	1.6W	DPDT	1	7.55
MG11D	6V	23	1.6W	DPDT	2	5.45
MG11D	12V	90	1.6W	DPDT	2	5.45
MG11D	24V	365	1.6W	DPDT	2	5.45
MG11D	110V	7,560	1.6W	DPDT	2	5.95
MG17D	6V	23	1.6W	4PDT	2	7.30
MG17D	12V	90	1.6W	4PDT	2	7.30
MG17D	24V	365	1.6W	4PDT	2	7.30
MG17D	110V	7,560	1.6W	4PDT	2	7.65
MG17DP§	12V	90	1.6W	4PDT	2	12.15
MG17DP§	24V	365	1.6W	4PDT	2	12.15
MG17DP§	110V	7,560	1.6W	4PDT	2	12.75
MG17DT†	24V	365	1.6W	4PDT	2	13.25
MG17DT†	110V	7,560	1.6W	4PDT	2	13.85
MH11L	4.5MA	10,000	200MW	DPDT	3	6.25
MH11LM†	4.5MA	10,000	200MW	DPDT	3	10.60
MH17D	6V	23	1.6W	4PDT	5	6.25
MH17D	12V	96	1.6W	4PDT	5	6.25
MH17D	24V	365	1.6W	4PDT	5	6.25
MH17DM†	12V	96	1.6W	4PDT	5	12.65
MH17DM†	24V	365	1.6W	4PDT	5	12.65
MH17AM†	120V	6,200	2VA	4PDT	5	20.65
MH23D	6V	13.3	2.5W	6PDT	5	7.90
MH23D	12V	62.3	2.5W	6PDT	5	7.90
MH23D	24V	245	2.5W	6PDT	5	7.90
MH23D	110V	5,000	2.5W	6PDT	5	8.40
MH23DD†	12V	62.3	2.5W	6PDT	5	16.80
MH23DD†	24V	245	2.5W	6PDT	5	16.80
MH23DD†	110V	5,000	2.5W	6PDT	5	17.40

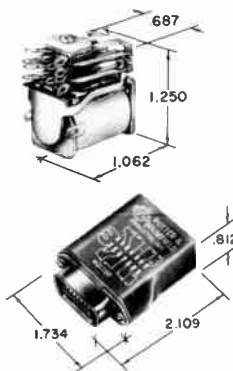
**MB SERIES** Miniature DC contactor. Designed for very high current applications. Extra rugged construction insures long life. Handles 150 ampere surges for 0.3 sec. Contact arms: Stationary, heavy brass, 1/2" dia. silver contacts pierced solder terminals. Movable, 1/2" x 1/2" silver bar contact. Mounting: Four No. 3-48 tapped holes on 1/2" x 1/2" centers. Weight: 2 ozs.



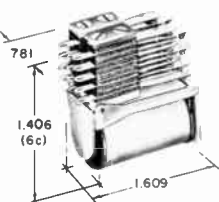
**MC SERIES** Built with ceramic contact spaces for RF switching to minimize losses at high frequencies. Intercontact capacitance 1.5 mmfd. max. Tinned, pierced solder type terminals. Mounting: Four No. 3-48 tapped holes on 3/8" x 3/8" centers. Contacts: 1/8" dia. palladium. Weight: 2 ozs.



**MG SERIES** Sub-miniature telephone type relay can be furnished open, sealed or in nylon dust cover. Mounting: Open model has four No. 3-48 tapped holes on 1/2" x 1/2" centers. Sealed model has three No. 4-40 threaded studs on 1" x 1/2" centers. Dust cover model has plug-in header that fits Amphenol receptacle No. 57-20140 or similar. Contacts: 1/8" dia. silver. Weight: Open 1.2 ozs.; Dust cover 2.0 ozs.; Sealed 2.75 ozs.



**MH SERIES MINIATURE TYPE** Ideal for applications where space and weight are factors. Mounting: Open model, MH11L, one No. 6-32 threaded stud 1 1/2" long plus locating boss. All other open models have four No. 3-48 holes on 1/2" x 1/2" centers. Sealed models, M enclosures, three 6-32 NC 2 threaded studs on 1 1/2" x 1/2" centers. D enclosures, three 6-32 threaded studs on 1 1/2" x 1/2" centers. All sealed models have hook end solder terminals. All models have 1/8" dia. gold-flashed silver contacts. Weight: Open models 2 1/2 oz. max. Sealed models 5 ozs. max.



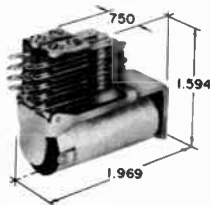
**SPECIFY COIL VOLTAGE OR RESISTANCE WHEN ORDERING**

†Sealed Relay  
§Enclosed Relay

See ordering information on page 1.

# Potter & Brumfield Relays

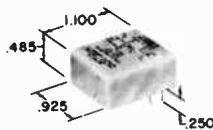
**ML SERIES** A small telephone type relay having excellent sensitivity and outstanding switching capabilities. Ideal for transistorized computer networks, telephone systems and battery powered communications equipment. Single contact arms have  $\frac{1}{8}$ " dia. gold-plated silver contacts rated at 3 amps for 100,000 operations. Pierced solder terminals. Mounting: Four 3-48 holes on  $\frac{1}{8}$ " centers. Weight: 2.5 ozs.



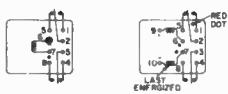
## TELEPHONE TYPE RELAYS

TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
ML11D	4.0MA	2,500	40mW	DPDT	3	\$ 6.65
ML11D	2.83MA	5,000	40mW	DPDT	3	6.80
ML11D	2.0MA	10,000	40mW	DPDT	3	7.15
ML17D	5.65MA	2,500	80mW	4PDT	3	7.90
ML17D	4.0MA	5,000	80mW	4PDT	3	8.10
ML17D	2.83MA	10,000	80mW	4PDT	3	8.40
ML23D	6.93MA	2,500	120mW	6PDT	3	8.95
ML23D	4.9MA	5,000	120mW	6PDT	3	9.15
ML23D	3.4MA	10,000	120mW	6PDT	3	9.45

**FC SERIES** Conventional micro-miniature relay lies flat on printed circuit board. Withstands 150g shock, 400g linear acceleration, 30g vibration to 2000 Hz. Ambient temperature range: -65° to +125°C. Hermetically welded. Bifurcated contacts. Plugs in on .2" grid. Meets applicable sections of MIL-R-5757D, and MSFC-SPEC-339. Weight: .75 oz.



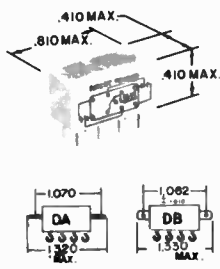
**FL SERIES** Dual-coil latching relay has same specs as above, except operates by pulsing each coil alternately (observing coil polarity); or connecting the coils in series from a reversing (polarized) source. Remains latched without coil power.



## HIGH PERFORMANCE RELAYS

TYPE Hermetically Sealed	COILS			CONTACTS		SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
FC11D	6V	60	.65W	DPDT	3	\$17.90
FC11D	12V	210	.65W	DPDT	3	17.90
FC11D	24V	900	.65W	DPDT	3	17.90
FC4037	26.5V		MIL-R-5757D or RY4YY4B3P			17.90
FL11D	6V	67.5	.65W	DPDT	3	20.15
FL11D	12V	230	.65W	DPDT	3	20.15
FL11D	24V	1,000	.65W	DPDT	3	20.15
FL4027	26.5V		MIL-R-5757D or RY4YY4B3P			20.15

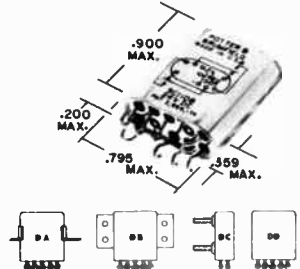
**HC SERIES** A micro-miniature, non-polarized, non-latching half-size crystal case relay for high reliability performance. Its high-torque motor structure and bifurcated, gold-plated silver DPDT contacts, rated dry circuit to 2 amps @ 28V DC resistive, provide positive performance in low level applications. Temperature range: -65°C to +125°C. Hermetically welded. HC11D has plug-in, plain case; HC11DA has hook-end solder terminals and shoulder brackets; HC11DB has hook-end solder terminals and flat mounting plate with 2 holes. The HC series meets or exceeds all applicable sections of MIL-R-5757D/9, and complies with MSFC-SPEC-339. Size: Plain case .8" x .4" x .4" (seated). Weight:  $\frac{1}{2}$  oz.



**SPECIFY COIL VOLTAGE OR RESISTANCE WHEN ORDERING**

HC11D	24V	814	.72W	DPDT	2	17.50
HC11DA	24V	814	.72W	DPDT	2	17.50
HC11DB	24V	814	.72W	DPDT	2	17.50

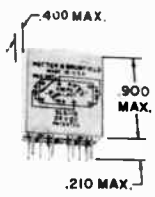
**SC SERIES** Micro-miniature permanent magnet relay for low power, high shock/vibration applications. 200g shock, 30g vibration to 2000 Hz with no contact openings. Ambient temperature range: -65°C to +125°C. Features single coil action and conforms to standard micro-miniature coil operation except polarized connections because of magnetic circuit. Positive terminal marked with red dot. Mounting: SC11D\*\*, -DA, -DB, DC and DD correspond to similarly designed SL mountings. SCG11D has rectangular header with terminals on .2" grid. Weight:  $\frac{1}{2}$  oz.



SC11D	6V	35	1W	DPDT	3	18.10
SC11D	12V	135	1W	DPDT	3	18.10
SC11D	24V	550	1W	DPDT	3	18.10
SC11DA	6V	35	1W	DPDT	3	18.10
SC11DA	12V	135	1W	DPDT	3	18.10
SC11DA	24V	550	1W	DPDT	3	18.10
SC11DB	6V	35	1W	DPDT	3	18.10
SC11DB	12V	135	1W	DPDT	3	18.10
SC11DB	24V	550	1W	DPDT	3	18.10
SC11DC	24V	550	1W	DPDT	3	18.10
SC11DD	24V	550	1W	DPDT	3	18.10

\*\*Armlet No. HRK-1, 8-pin receptacles available from distributors for plug-in applications.

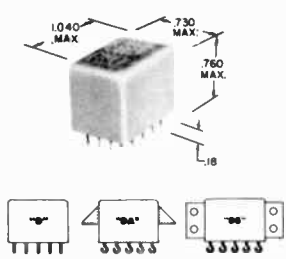
**SL SERIES** Dual coil micro-miniature magnetic latching relay with same shock/vibration, resistance and ambient temperature range as SC. Coils may be connected in series for polar operation. Mounting: SL11D\* for plug-in applications; -DA has shoulder flanges with two .104" x .136" holes on a 1.062" center; -DB has a welded bracket with four .125" dia. holes on 1.062" x .281" centers; -DC has two No. 4-40 NC 2A threaded studs on .488" x .220" diagonal centers; -DD has plain case with hook end solder terminals. SLG11D has plug-in terminals on .2" grid.



SL11D	6V	40	1W	DPDT	3	19.85
SL11D	12V	160	1W	DPDT	3	19.85
SL11D	24V	630	1W	DPDT	3	19.85
SL11DA	6V	40	1W	DPDT	3	19.85
SL11DA	12V	160	1W	DPDT	3	19.85
SL11DA	24V	630	1W	DPDT	3	19.85
SL11DB	6V	40	1W	DPDT	3	19.85
SL11DB	12V	160	1W	DPDT	3	19.85
SL11DB	24V	630	1W	DPDT	3	19.85
SL11DC	24V	630	1W	DPDT	3	19.85
SL11DD	24V	630	1W	DPDT	3	19.85

\*Viking No. P/N VB10/3DV 1 10-pin receptacles available from distributor for plug-in applications.

**TL SERIES** High performance 4PDT micro-miniature magnetic latching relay for severe environments. Hermetically welded relay case. Strong permanent magnetic forces keep the contacts locked in desired position when relay is de-energized. Approx. 0.5 ms transfer time. Temperature range: -65°C to +125°C. Meets or exceeds applicable sections MIL-R-5757D and MSFC-SPEC-339. Weight: Approx. 1 $\frac{1}{2}$  ozs. Mountings: D = plain case, plug-in header. DA = shoulder bracket .300" from base, hook-end solder. DB = flat plate, .593" wide x 1.60" long, 4 -.125" dia. holes on .281" x 1.30" centers, hook-end solder.



TL17D	24V	600	1W	4PDT	3	28.75
TL17DA	24V	600	1W	4PDT	3	28.75
TL17DB	24V	600	1W	4PDT	3	28.75

**POTTER & BRUMFIELD**

IS A MEMBER OF THE NATIONAL ASSOCIATION OF RELAY MANUFACTURERS

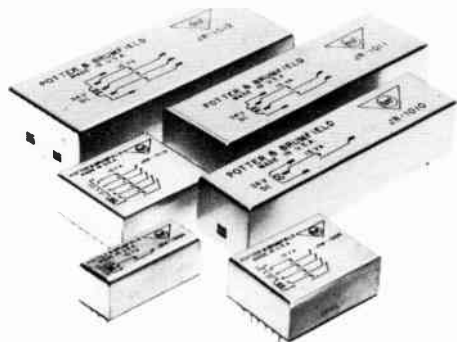


See ordering information on page 1.

# DRY REED RELAYS

## TYPE JR STANDARD

## TYPE JRM MINIATURE



Fast response, reliable performance, high sensitivity, and long life make JR standard and JRM miniature series relays especially suited for data processing applications, computer equipment, logic circuitry and various other sophisticated control circuits.

### TWO TYPES OF BASIC CAPSULES

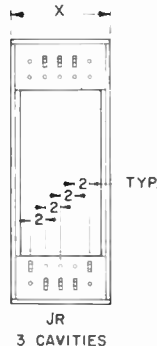
Both JR and JRM relays employ dry reed glass capsules with two basic types of contact arrangements, Form A (SPST-NO) or Form C (SPDT). Biasing with a permanent magnet changes Form A to a Form B (SPST-NC). This arrangement

requires that coil polarity be observed. It uses a two-cavity bobbin. Combining one Form A with one Form B results in a single Form C (SPDT) break-before-make; this uses a three-cavity bobbin. A "true" Form C (SPDT) uses a reed switch with two stationary and one movable contact. The movable contact is normally closed until the coil is energized, causing a "true" Form C (SPDT) break-before-make; it uses a single-cavity bobbin.

### SPECIFICATIONS

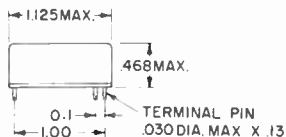
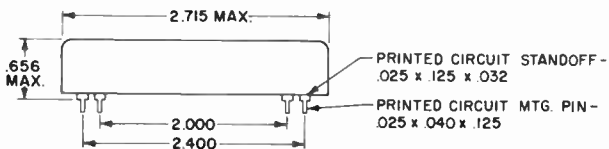
Pick-up: 75% of nominal @ 25°C.  
 Operate Time: At nom. voltage @ 25°C.: JR: 3ms. JRM: 1ms.  
 Release Time: At 25°C.: JR: .5ms. JRM: .05ms.  
 Coil Power: Based upon nom. voltage and resistance. JR: 1 capsule — 240 mw; 2 capsules — 360 mw; 3 capsules — 720 mw; 4 capsules — 960 mw; 5 capsules 1.5 w.  
 JRM: 1 capsule — 180 mw; 2 capsules — 275 mw; 3 capsules — 420 mw; 4 capsules — 540 mw; 5 capsules — 720 mw.  
 For additional specifications see columnar listings and drawings.

### OUTLINE DIMENSIONS



**JR Standard Relays**      **Weights**  
 X = 1 Cavity = .687" max.—1.50 ozs.  
 X = 2 Cavities = .890" max.—2.00 ozs.  
 X = 3 Cavities = 1.094" max.—2.50 ozs.  
 X = 4 Cavities = 1.297" max.—3.00 ozs.  
 X = 5 Cavities = 1.516" max.—3.50 ozs.

**JRM Miniature Relays**  
 X = 1 Cavity = .432" max.—.366 oz.  
 X = 2 Cavities = .557" max.—.395 oz.  
 X = 3 Cavities = .698" max.—.530 oz.  
 X = 4 Cavities = .808" max.—.620 oz.  
 X = 5 Cavities = .963" max.—.781 oz.



### JR STANDARD SERIES

TYPE	COILS		CONTACTS		Number of Cavities	SUGG. RESALE PRICE
	Sugg. Nominal Voltage	Resistance in Ohms	Arrangement	Reed Rating Watts		
JR1000	6	150	1A	15	1	\$ 2.65
JR1001	6	100	2A	15	2	3.55
JR1003	6	37.5	4A	15	4	4.95
JR1020	6	150	1A	50	1	3.75
JR1021	6	100	2A	50	2	5.75
JR1040	6	150	1C*	10	1	6.65
JR1041	6	100	2C*	10	2	7.30
JR1060	6	100	18	15	2	3.55
JR1061	6	50	28	15	3	4.65
JR1084	6	50	1A+18	15	3	4.40
JR1085	6	24	2A+28	15	5	7.20
JR1005	12	600	1A	15	1	2.65
JR1006	12	400	2A	15	2	3.55
JR1008	12	150	4A	15	4	4.95
JR1025	12	600	1A	50	1	3.75
JR1026	12	400	2A	50	2	5.75
JR1045	12	600	1C*	10	1	6.65
JR1046	12	400	2C*	10	2	7.30
JR1063	12	400	18	15	2	3.55
JR1064	12	200	28	15	3	4.70
JR1086	12	200	1A+18	15	3	4.40
JR1087	12	96	2A+28	15	5	7.20
JR1010	24	2,400	1A	15	1	3.10
JR1011	24	1,600	2A	15	2	3.80
JR1013	24	600	4A	15	4	5.20
JR1030	24	2,400	1A	50	1	4.00
JR1031	24	1,600	2A	50	2	6.00
JR1050	24	2,400	1C*	10	1	6.95
JR1051	24	1,600	2C*	10	2	7.40
JR1066	24	1,600	18	15	2	3.60
JR1067	24	800	28	15	3	4.80
JR1088	24	800	1A+18	15	3	4.65
JR1089	24	384	2A+28	15	5	7.25

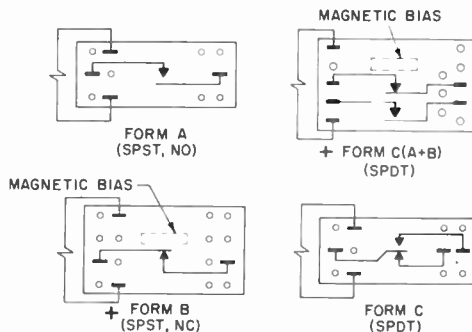
\*True Form C

### JRM MINIATURE SERIES

JRM1000	6	200	1A	10	1	2.90
JRM1001	6	130	2A	10	2	4.20
JRM1003	6	67	4A	10	4	6.65
JRM1018	6	200	1C*	4	1	6.15
JRM1019	6	130	2C*	4	2	10.55
JRM1036	6	130	18	10	2	3.65
JRM1037	6	86	28	10	3	4.90
JRM1048	6	86	1A+18	10	3	4.90
JRM1049	6	50	2A+28	10	5	7.50
JRM1006	12	800	1A	10	1	2.90
JRM1007	12	520	2A	10	2	4.20
JRM1009	12	268	4A	10	4	6.65
JRM1024	12	800	1C*	4	1	6.15
JRM1025	12	520	2C*	4	2	10.55
JRM1040	12	520	18	10	2	3.65
JRM1041	12	344	28	10	3	4.90
JRM1050	12	344	1A+18	10	3	4.90
JRM1051	12	200	2A+28	10	5	7.50
JRM1012	24	3,200	1A	10	1	3.15
JRM1013	24	2,080	2A	10	2	4.30
JRM1015	24	1,072	4A	10	4	6.75
JRM1030	24	3,200	1C*	4	1	6.25
JRM1031	24	2,080	2C*	4	2	10.65
JRM1044	24	2,080	18	10	2	3.75
JRM1045	24	1,376	28	10	3	5.00
JRM1052	24	1,376	1A+18	10	3	5.00
JRM1053	24	800	2A+28	10	5	7.60

\*True Form C

### TYPICAL WIRING DIAGRAMS





# JM SERIES MERCURY-WETTED CONTACT RELAYS

Rare long life, high speed, and unvarying dependability — all are the result of the basic component of these relays: a hermetically sealed glass capsule. It contains the contact arrangement and a small reservoir of mercury sealed in a high pressure hydrogen atmosphere. A film of mercury is renewed for every operation—that's why you can think in terms of billions of operations without contact bounce, pits or welds.

## TWO TYPES OF CAPSULES

The capsule used in JMF modules and JML relays has a SPDT, break-before-make (Form C), non-bridging contact arrangement. Each capsule used in JMP, and JM1 to JM4 relays has a SPDT, make-before-break (Form D), bridging contact arrangement. JMF, JML and JMP series achieve a high rate of sensitivity by factory-adjusted magnet biasing.

## CONTACT RATINGS

JMF and JML: 500V max., and 2 amps max., 100VA max.  
JMP and JM1 to JM4: 500V max., and 5 amps max., 250 VA max.

\*With contact protection unless in a low level circuit. Details of a simple protection circuit consisting of resistor and capacitor in series are packed with each relay.

## TERMINATIONS

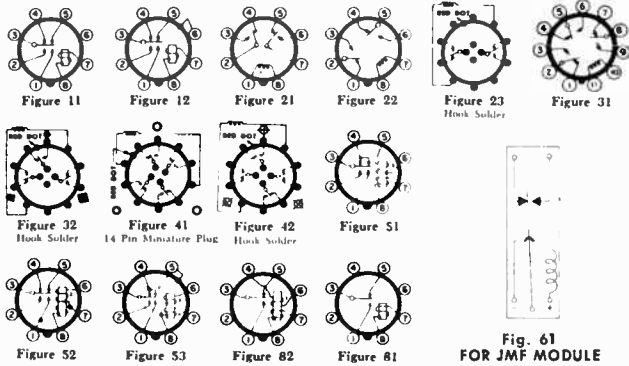
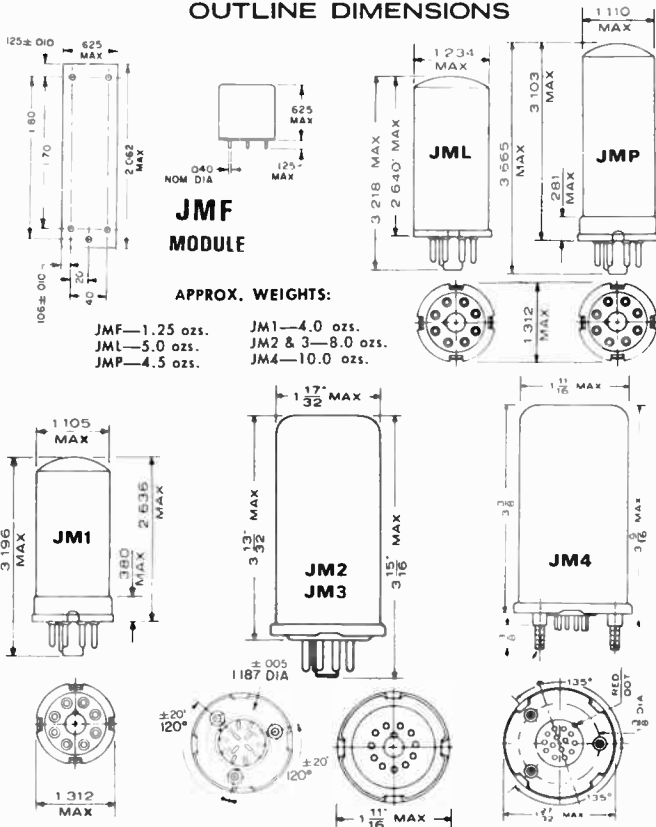


Fig. 61 FOR JMF MODULE

## OUTLINE DIMENSIONS



### APPROX. WEIGHTS:

JMF—1.25 ozs.  
JML—5.0 ozs.  
JMP—4.5 ozs.  
JM1—4.0 ozs.  
JM2 & 3—8.0 ozs.  
JM4—10.0 ozs.

SERIES	COIL CHARACTERISTICS			SUGG. RESALE PRICE			
	Cap. No.	Coil Figure No.	Resistance in Ohms ±10%		Soak* mo. DC	Must Operate ma. DC	Must Release ma. DC
<b>JMF</b> PRINTED CIRCUIT MODULE. SENSITIVE FORM C NON-BRIDG.	SINGLE-SIDE-STABLE						
	JMF	1020 61	65	—	38.1	6.3	\$9.40
	JMF	1070 61	450	—	12.9	2.1	9.40
	JMF	1080 61	675	—	11.6	1.9	9.40
	JMF	1120 61	1425	—	8.4	1.4	9.40
	JMF	1150 61	2400	—	7.8	1.3	9.40
JMF	1160 61	4000	—	4.0	0.67	9.90	
JMF	5080 61	675	—	±5.4	—5.4	9.40	
<b>JML</b> SENSITIVE FORM C NON-BRIDG.	SINGLE-SIDE-STABLE						
	JML	1061 81	40	36.0	9.75	1.68	12.20
	JML	1110 81	350	13.1	3.56	0.61	12.20
	JML	1160 81	1000	8.1	2.21	0.38	12.20
	JML	1190 81	2500	4.0	1.43	0.17	13.00
	JML	1200 81	4000	3.4	1.25	0.25	13.00
	JML	1240 81	11000	2.6	0.72	0.12	13.00
	JML	1260 81	25000	1.9	0.52	0.09	13.00
	JML	1440 82	(1) 4000 (2) 800	2.7	11.60	0.10	14.30
	JML	5160 81	1000	—	-1.24	-1.24	12.70
	JML	5200 81	4000	—	-0.53	-0.53	13.00
	JML	5430 82	(1) 1100 (2) 1100	—	-1.76	-1.76	14.30
JML	8130 81	600	Voltage RMS 60 Hz 6.3V			12.70	
<b>JMP</b> POLARIZED FORM D BRIDGING	SINGLE-SIDE-STABLE						
	JMP	1160 11	1000	16.2	5.60	0.40	15.95
	JMP	1200 11	4000	8.55	2.96	0.24	17.10
	JMP	1340 52	(1) 700 (2) 3300	33.80	14.20	2.80	18.10
	JMP	1470 53	(1) 1020 (2) 970	25.2	14.0	6.0	19.90
	JMP	5200 11	4000	—	-1.5	1.5	17.10
	JMP	5340 52	(1) 700 (2) 3300	—	-6.0 -2.4	-6.0 -2.4	18.65
	JMP	8120 12	500	Voltage RMS 60 Hz 6.3V			16.50
	JMP	8200 12	4000	18.5V			17.65
	JMP	8240 11	11000	117.0V with 1200 ohm (±5%) 1/2 watt resistor in series with coil			17.65
	*Current to be applied to the coil winding for at least 2 seconds just prior to current flow tests.						
	<b>JM1</b> FORM D BRIDGING 1 CAPSULE SPDT	COIL CHARACTERISTICS					
SINGLE-SIDE-STABLE							
JM1		106 12	40	67.7	2.98	9.0	14.75
JM1		109 12	130	38.8	5.55	16.1	14.75
JM1		112 11	500	20.1	11.10	31.6	14.75
JM1		114 12	700	20.0	15.40	37.4	14.75
JM1		118 12	2500	10.1	27.80	70.7	15.00
JM1		119 11	4000	8.1	35.60	89.5	8.55
JM1		119 12	4000	8.1	35.60	89.5	15.55
JM1		120 11	7000	6.0	46.20	117.0	15.55
JM1		121 11	11000	5.0	60.80	148.0	15.55
JM1		123 11	25000	3.6	99.00	224.0	15.55
JM1	405 51	(1) 700 (2) 3300	(1) 32.0 (2) 12.3		(1) 37.4 (2) 81.0	17.00	
<b>JM2</b> FORM D BRIDGING 2 CAPSULES DPDT	COIL CHARACTERISTICS						
	SINGLE-SIDE-STABLE						
	JM2	104 22	50	110.0	6.04	12.25	23.95
	JM2	106 21	140	65.5	10.00	20.5	23.95
	JM2	109 22	315	44.0	15.30	30.7	23.95
	JM2	110 22	500	34.8	19.20	38.7	23.95
JM2	111 22	700	30.5	23.50	45.8	23.95	
JM2	112 22	1250	22.1	30.40	61.2	23.95	
JM2	115 21	5000	11.3	62.10	122.0	23.95	
JM2	115 22	5000	11.3	62.10	122.0	23.95	
<b>JM3</b> FORM D BRIDGING 3 CAPSULES 3PDT	COIL CHARACTERISTICS						
	SINGLE-SIDE-STABLE						
	JM3	109 31	315	44.0	15.30	30.7	31.00
	JM3	110 31	500	34.8	19.20	38.7	31.00
	JM3	111 31	700	30.5	23.50	45.8	31.00
JM3	115 31	5000	11.3	62.10	122.0	31.00	
JM3	115 32	5000	11.3	62.10	122.0	31.00	
<b>JM4</b> FORM D BRIDGING 4 CAPSULES 4PDT	COIL CHARACTERISTICS						
	SINGLE-SIDE-STABLE						
	JM4	106 41	65	100.0	7.15	15.1	39.90
	JM4	110 41	390	42.0	18.00	37.0	39.90
	JM4	110 42	390	42.0	18.00	37.0	39.90
	JM4	112 41	700	35.4	27.20	49.5	39.90
	JM4	118 41	6500	10.5	75.00	151.0	39.90
	JM4	119 42	10000	8.6	94.30	187.0	39.90
*Octal style plugs, except Fig. 23, 32, 42 (Hook Solder), Fig. 41 (14-Pin miniature plug).							

See ordering information on page 1.

## SOLID STATE

## TIME DELAY RELAYS

AS LOW AS \$12.50



- ON DELAY
- OFF DELAY
- KNOB ADJUSTABLE
- RESISTOR ADJUSTABLE
- FIXED TIME DELAY

A wide selection of three separate series of solid state time delay controls are represented by Potter & Brumfield time delay relays, the CD series, the CH series, and the CU series. The differences between the three types consist in their degree of accuracy, the variety available in each series, and their cost.

## BASIC TIMING CIRCUIT

The basic timing circuit of all three series consists of a resistor in series with a capacitor. When the input voltage is applied to the resistor-capacitor circuit, the voltage across the capacitor slowly increases. When the firing level is reached a solid state trigger circuit acts to turn on a solid state output switch that energizes a switching relay or external electrical load. The solid state design eliminates cams, clutches and motors. Using no moving parts, the timing circuit can have no mechanical wear, an advantage that is especially desirable when accurate recycling is required.

## CD SERIES

Remarkably dependable, accurate and flexible, the CD series offers an unusually wide selection of operational configurations, all with accurate time delay values, fast reset time and excellent repeatability. It is available in two types: Knob-adjustable in two versions, one with the relay in the same enclosure as the solid state unit, the other with an auxiliary relay. A second type is adjustable with an exter-

nal resistor. The CD series is available for time delay on operate or on release.

## CH SERIES

The CH series is intended for a wide range of industrial applications where economy is of greater interest than highly critical performance. It is available in two types: Knob-adjustable with the relay in the same enclosure as the solid state unit. The second type has a fixed time delay period that is set at the factory and cannot be modified; its case has no knob. The CH series is available for time delay on operate and on release.

## CU SERIES

An outstanding value in a solid state time delay relay at low cost, the CU series is designed for delay on operate applications in machine tool controls, copiers, office equipment, coin-operated machines, process controls and many others. It is available in two types: Fixed time delay that is set at the factory and cannot be modified. Second, adjustable with an external resistor. For minimum time two terminals, 2 and 5, must be shorted; for maximum time the listed external resistor between terminals 2 and 5 must be added. For intermediate times select a lesser value resistor, or a potentiometer. Either model can be furnished in two types of enclosures with the relay in the same enclosure as the solid state unit. The CU series is offered with delay on operate only.

## COMPARISON OF SPECIFICATIONS OF CD WITH CH AND CU SERIES

TYPE	DIAL SETTING	TEMP. RANGE	ACCURACY (TEMP. & VOLT. RANGE)	TRANSIENT PROTECTION	INHERENT FALSE OPERATION	RESET TIME	REPEATABILITY	POLARITY PROTECTION
CD	Time, calibrated $\pm 5\%$ of full scale	$-40^{\circ}$ to $+55^{\circ}\text{C}$	$\pm 5\%$ of nominal	Tested to 100V, $\frac{1}{2}$ cycle surges (on all 120V AC models)	None	60 Milliseconds	$\pm 1\%$	Yes
CH	Reference scale	$-10^{\circ}$ to $+55^{\circ}\text{C}$	$\pm 10\%$ of nominal	Twice rated input voltage for 8 milliseconds	Contacts may transfer momentarily if timing interval is interrupted	100 Milliseconds	$\pm 2\%$	Yes
CU	Not applicable	Norm. room temp.	Tolerance: Fixed $\pm 5\%$ of nominal; resist. adj. $\pm 10\%$ of nominal	Twice rated input voltage for 8 milliseconds	Contacts may transfer momentarily if timing interval is interrupted	100 Milliseconds	$\pm 3\%$	Yes

# CHOOSE FROM CU, CH OR CD SERIES RELAYS

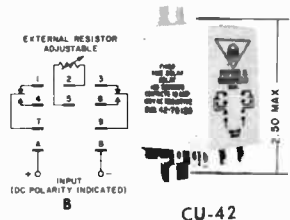
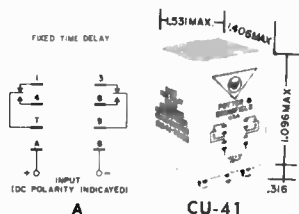
## SOCKETS FOR CU-41 PLAIN CASE RELAYS

### DESCRIPTION

CUA and CUC are fixed time delays. CUF and CUH are resistor adjustable delays. All with internal DPDT 10 amp contact relay.

- |              |              |
|--------------|--------------|
| CUA 41-70010 | CUF 41-70010 |
| CUA 41-70120 | CUF 41-70120 |
| CUC 41-30010 | CUH 41-30010 |
| CUC 41-30120 | CUH 41-30120 |
| CUA 41-30010 | CUF 41-30010 |
| CUA 42-70010 | CUF 42-70010 |
| CUA 42-70120 | CUF 42-70120 |
| CUC 42-30010 | CUH 42-30010 |
| CUC 42-30120 | CUH 42-30120 |
| CUA 42-30010 | CUF 42-30010 |

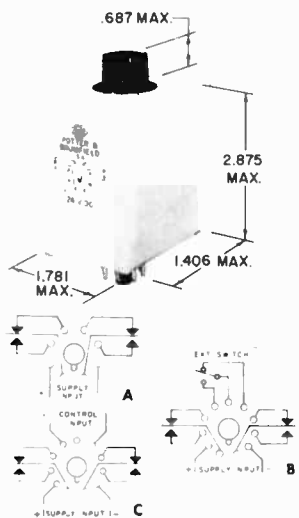
CU-41 is a plain case relay, CU-42 has a slotted flange case. Diagram A is for fixed delays, diagram B for resistor adjustable delays.



CH-38 and CD-38. Knob-adjustable delay "on operate" with internally mounted DPDT relay. Contacts rated to 10 amps. Diagram A.

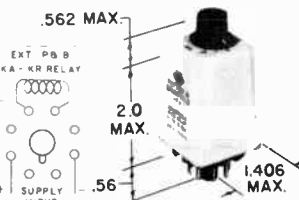
- |              |              |
|--------------|--------------|
| CHA-38-70001 | CHD-38-30003 |
| CHB-38-30001 | CDB-38-70003 |
| CHB-38-30003 | CDB-38-70004 |
| CHB-38-70001 | CDB-38-70005 |
| CHB-38-70003 | CDD-38-30003 |
| CHB-38-80001 | CDD-38-30004 |
| CHD-38-30001 | CDD-38-30005 |

Delay "on release" CH requires auxiliary SPDT switch or relay contacts: CBH-38-70011, CHB-38-70013, CHD-38-30011, CHD-38-30013; Diagram B. CD "release" occurs when "Control" circuit is de-energized; supply circuit must be on continuously: CDB-38-70012, CDD-38-30012; Diagram C.



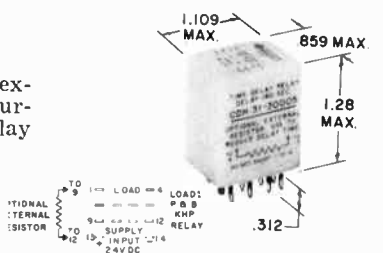
CD-21. Knob-adjustable. Use with P&B KRP relays (see page 3) as listed under Note 2.

- |              |
|--------------|
| CDB-21-70003 |
| CDB-21-70001 |
| CDD-21-30003 |
| CDD-21-30001 |



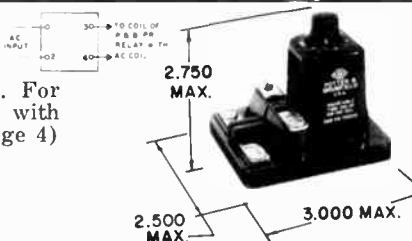
CD-31. Adjustable with external resistor (not furnished). Use with KHP relay (see page 2), Note 4.

- |              |
|--------------|
| CDH-31-30005 |
|--------------|



CD-45. Knob-adjustable. For heavy duty when used with PR power relay (see page 4) as listed under Note 6.

- |              |
|--------------|
| CDB-45-70002 |
|--------------|



All CU series time delays have an internal DPDT 10 amp relay of the KUP series featured on page 3. The cases for the CU and KUP are dimensionally the same. The plain cases fit the same sockets, and the same hold down spring (9KU3) can be used. Please use the KUP type designations (9KU1, 9KU2 and 9KU4) and prices (page 3) for these accessories when ordering.

### WIDE SELECTION OF TIME DELAY RANGES

TYPE	TIME DELAY IN SECONDS	INPUT VOLTAGE	NOTES	SUGG. RESALE PRICE
CUA41-70010	10	120V AC	1	\$12.50
CUA41-70120	120	120V AC	1	14.00
CUC41-30010	10	24V DC	1	12.50
CUC41-30120	120	24V DC	1	14.00
CUA41-30010	10	24V AC	1	12.50
CUA42-70010	10	120V AC	1	12.50
CUA42-70120	120	120V AC	1	14.00
CUC42-30010	10	24V DC	1	12.50
CUC42-30120	120	24V DC	1	14.00
CUA42-30010	10	24V AC	1	12.50
CUF41-70010	1.0-10	120V AC	250 K.*	13.25
CUF41-70120	1.0-120	120V AC	3 Meg.*	14.50
CUH41-30010	1.0-10	24V DC	200 K.*	13.25
CUH41-30120	1.0-120	24V DC	2.5 Meg.*	14.50
CUF41-30010	1.0-10	24V AC	250 K.*	13.25
CUF42-70010	1.0-10	120V AC	250 K.*	13.25
CUF42-70120	1.0-120	120V AC	3 Meg.*	14.50
CUH42-30010	1.0-10	24V DC	200 K.*	13.25
CUH42-30120	1.0-120	24V DC	2.5 Meg.*	14.50
CUF42-30010	1.0-10	24V AC	250 K.*	13.25
CHA38-70001	10	120V AC	1	17.45
CHB38-30001	1.0-10	24V AC	1	18.50
CHB38-30003	1.0-180	24V AC	1	18.50
CHB38-70001	1.0-10	120V AC	1	18.50
CHB38-70003	1.0-180	120V AC	1	18.50
CHB38-80001	1.0-10	240V AC	1	19.50
CHD38-30001	1.0-10	24V DC	1	17.50
CHD38-30003	1.0-180	24V DC	1	17.50
CHB38-70011	1.0-10	120V AC	1 & 7	22.50
CHB38-70013	1.0-180	120V AC	1 & 7	22.50
CHD38-30011	1.0-10	24V DC	1 & 7	20.50
CHD38-30013	1.0-180	24V DC	1 & 7	20.50
CDB38-70003	1.0-10	120V AC	1	43.80
CDB38-70004	0.6-60	120V AC	1	43.80
CDB38-70005	1.8-180	120V AC	1	43.80
CDD38-30003	0.1-10	24V DC	1	41.55
CDD38-30004	0.6-60	24V DC	1	41.55
CDD38-30005	1.8-180	24V DC	1	41.55
CDB21-70003	0.1-10	120V AC	2	38.70
CDB21-70001	1.8-180	120V AC	2	38.70
CDD21-30003	0.1-10	24V DC	3	38.35
CDD21-30001	1.8-180	24V DC	3	38.35
CDH31-30005	180 Max.	24V DC	4 & 5	38.90
CDB45-70002	0.6-60	120V AC	6	37.05
CDB38-70012	0.6-60	120V AC	1 & 7	52.45
CDD38-30012	0.6-60	24V DC	1 & 7	49.50

\*External resistor (not furnished) for maximum time.

### NOTES

- Has internal relay with DPDT contacts rated at 10 amperes, 120V AC.
- Use with Potter & Brumfield relay KRP5AG-120V AC, KRP11AG-120V or KRP14AG-120V AC or KRP14AG-120V AC.
- Use with Potter & Brumfield KRP5DG-24V DC, KRP11DG-24V DC or KRP14DG-24V DC relay.
- Use with Potter & Brumfield KHP-17D11-24V DC relay.
- Supplied with 180 seconds delay; adjustable to 1.8 seconds with external resistor (not furnished).
- Use with Potter & Brumfield PR11AY-120V AC relay.
- Provides delay on release; all others have delay on operate.

### APPROX. WEIGHTS:

- |              |           |               |           |
|--------------|-----------|---------------|-----------|
| SERIES CD-31 | 2.00 ozs. | SERIES CD-45  | 6.00 ozs. |
| SERIES CD-21 | 4.25 ozs. | SERIES CD-38  | 8.25 ozs. |
| SERIES CH-38 | 4.00 ozs. | ALL SERIES CU | 3.25 ozs. |

See ordering information on page 1.

# TM SERIES TIME DELAY RELAYS AND AUTOMATIC RESET TIMERS

## THREE TYPES:

- ON DELAY
- INTERVAL
- OFF DELAY



**Built-in  
accuracy  
and  
dependability**



Potter & Brumfield TM series timers are available in a wide variety of timing and adjustability ranges. Three types of timing sequences, on delay, interval, and off delay are offered by Type TM-01, Type TM-11, and TM-21, respectively. They assure accurate timing control for motors, pumps, heating, air conditioning, vending machines, machine tools and many other types of equipment. They are easy to install as all internal timer components are connected to external terminals. The self-lubricated 3 watt synchronous motor runs continuously and requires no shut-off switch. The durable, molded phenolic enclosure and base provides protection against dust and moisture.

### SPECIFICATIONS

Voltage: 120V or 240V, 50/60 Hz.

Switch Load Capacity: 690VA pilot duty — 120V — 600V AC.

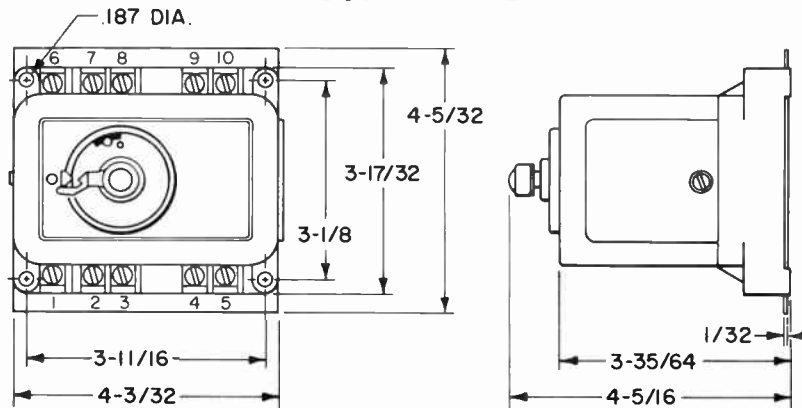
Motor: 3 watts, 240V AC maximum.

Accuracy: Plus or minus 1%, total dial range.

Minimum Setting: Two dial graduations, or two seconds out of 60 second range, or at zero position.

NOTE: Switches are independent of motor. Switches can be wired independently up to 600 volts. Zero set on each timer. If application requires by-passing of timer, the timer is set at zero and locked.

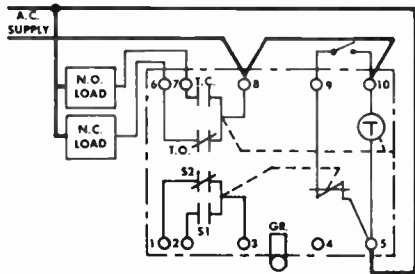
### OUTLINE DIMENSIONS



### TM SERIES RESET TIMERS

Volts	Series	Model	Time Range	Range of Adjustability	Resale Price
120	ON DELAY	TM-01-020	1 minute	2-60 seconds	\$34.00
120		TM-01-120	3 minutes	6-180 seconds	34.00
120		TM-01-220	5 minutes	10-300 seconds	34.00
120		TM-01-320	1 hour	2 min.-1 hour	34.00
120		TM-01-420	5 hours	10 min.-5 hours	34.00
240	ON DELAY	TM-01-023	1 minute	2-60 seconds	35.70
240		TM-01-123	3 minutes	6-180 seconds	35.70
120	INTERVAL	TM-11-320	1 hour	2 min.-1 hour	34.00
120		TM-11-420	5 hours	10 min.-5 hours	34.00
120	OFF DELAY	TM-21-020	1 minute	2-60 seconds	34.00
120		TM-21-120	3 minutes	6-180 seconds	34.00
120		TM-21-220	5 minutes	10-300 seconds	34.00
120		TM-21-320	1 hour	2 min.-1 hour	34.00
240	OFF DELAY	TM-21-123	3 minutes	6-180 seconds	35.70

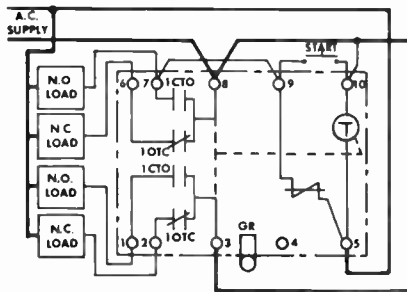
TYPE TM-01



Type TM-01

Maintained contact pilot "on" delay application. Switches may be wired independent of motor and solenoid. "S" switches may be used for untimed loads.

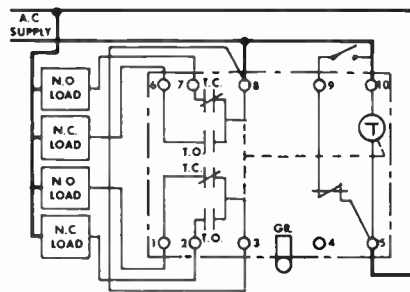
TYPE TM-11



Type TM-11

Pushbutton or momentary pilot "interval" timing application.

TYPE TM-21

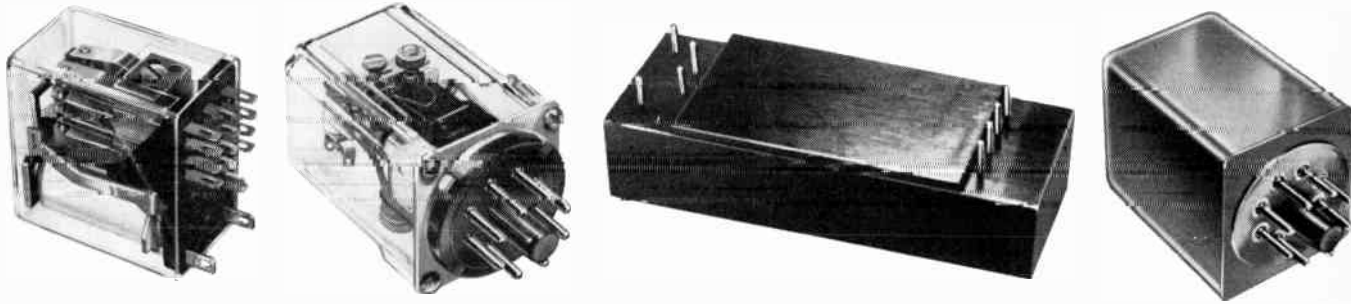


Type TM-21

Maintained contact pilot "off" delay application. Load switches may be wired independently. Load switches shown in timed out position.

# Relays

## Miniature Sensitive Miniature Telephone Cradle Reed



Series	SR	TR	CR	RR
Description	Miniature Sensitive Plate Circuit Relay	Miniature Telephone Relay	Cradle Relay	Mercury Wetted or Dry Reed Relay
Contact Arrangement	SPDT	Up to 6 PDT	2, 4 and 6 Pole	1 - 10 Pole
Maximum Contact Current	2 amp 28 VDC/115VAC resistive	10 amp 28 VDC/115VAC resistive	10 amp 28VDC/115VAC resistive	3 amp 28VDC/115VAC resistive
Expected Mechanical Life	20 x 10 <sup>6</sup> ops.	10 <sup>8</sup> ops.	10 <sup>8</sup> ops.	10 <sup>9</sup> ops.
Maximum Coil Resistance	32,000 $\Omega$	30,000 $\Omega$	30,000 $\Omega$	18,000 $\Omega$
Minimum Operating Power	5 milliwatts	50 milliwatts	50 milliwatts	15 milliwatts
Maximum Continuous Dissipation	3 watts	2 watts	2 watts	3 watts
Minimum Operate Speed	2 - 3 milliseconds	5 - 10 milliseconds	6 - 10 milliseconds	Less than 1 millisecond
Insulation Resistance	1,000 meg ohms min.	1,000 meg ohms min.	1,000 meg ohms min.	1,000 meg ohms min.
Vibration Immunity	10 G 10 - 55 cps.	10 G 10 - 500 cps.	10 G 10 - 500 cps.	20 G 10 - 2000 cps.
Shock Immunity	10 G 11 $\pm$ 1 ms.	20 G 11 $\pm$ 1 ms.	20 G 11 $\pm$ 1 ms.	50 G 11 $\pm$ 1 ms.
Available Enclosures	Open, dust protected hermetically sealed	Open, dust protected hermetically sealed	Dust protected	Magnetically shielded
Terminal Styles	Solder, min. plug, octal plug	Solder, printed circuit, min. plug, octal plug	Combination solder/plug in, printed circuit	Solder, printed circuit, octal plug
Mating Sockets	77 MIP-8	77 MIP-8, 11	Special CR	77 MIP-8
Write for Bulletin	SR 367	TR 567	CR 667	RR 767



**RELCOA**  
RELAY COMPANY OF AMERICA

Division of Detronix Ltd.



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59-901	59-21	12	3.42	3.08	2.74	2.40
59-902	59-20		4.12	3.71	3.30	2.89
59-903	59-22		4.12	3.71	3.30	2.89
59-904	59-24		3.42	3.08	2.74	2.40
59-905	59-23		4.12	3.71	3.30	2.89
59-906	59-19	4.12	3.71	3.30	2.89	
60-901	60-108025-0	13	2.70	2.43	2.16	1.89
60-902	60-111025-0		2.70	2.43	2.16	1.89
60-903	60-117025-0		2.70	2.43	2.16	1.89
70-901	70-108224-5	13	3.74	3.37	3.00	2.62
70-902	70-111224-5		3.74	3.37	3.00	2.62
70-903	70-117224-5		3.74	3.37	3.00	2.62
70-904	70-120224-5		3.74	3.37	3.00	2.62
70-905	70-108221-5		5.97	5.37	4.77	4.18
70-906	70-111221-5		5.97	5.37	4.77	4.18
70-907	70-117221-5		5.97	5.37	4.77	4.18
70-908	70-120221-5		5.97	5.37	4.77	4.18
70-909	70-308221-5		9.54	8.59	7.64	6.68
70-910	70-311221-5		9.54	8.59	7.64	6.68
70-911	70-317221-5	13	9.54	8.59	7.64	6.68
70-912	70-320221-5		9.54	8.59	7.64	6.68
70-913	70-108225-5		3.74	3.37	3.00	2.62
70-914	70-111225-5		3.74	3.37	3.00	2.62
70-915	70-117225-5		3.74	3.37	3.00	2.62
70-916	70-120225-5		3.74	3.37	3.00	2.62
70-917	70-108226-5		3.74	3.37	3.00	2.62
70-918	70-111226-5		3.74	3.37	3.00	2.62
70-919	70-117226-5		3.74	3.37	3.00	2.62
70-920	70-120226-5		3.74	3.37	3.00	2.62
70-921	70-308224-5	9	8.55	7.69	6.83	5.97
70-922	70-311224-5		8.55	7.69	6.83	5.97
70-923	70-317224-5		8.55	7.69	6.83	5.97
70-924	70-320224-5		8.55	7.69	6.83	5.97
75-901	75-840301-2906A	9	4.59	4.13	3.67	3.21
75-902	75-840301-2910A		4.59	4.13	3.67	3.21
75-903	75-840301-2913A		4.59	4.13	3.67	3.21
75-904	75-250301-2506A	9	4.59	4.13	3.67	3.21
75-905	75-250301-2510A		4.59	4.13	3.67	3.21
75-906	75-250301-2513A		4.59	4.13	3.67	3.21
80-901	80-312111-1000	9	7.27	6.54	5.82	5.09
80-902	80-312131-1000		7.27	6.54	5.82	5.09
80-904	80-312171-1000		7.27	6.54	5.82	5.09

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			1/24	25/49	50/99	100/249
84-901	84-20405-101	7	2.85	2.57	2.28	2.00
84-902	84-20105-101		2.90	2.61	2.32	2.03
84-903	84-20205-101		3.05	2.75	2.44	2.14
84-904	84-20305-101		3.35	3.02	2.68	2.35
84-905	84-20406-301		3.00	2.70	2.40	2.10
84-906	84-20106-301		3.20	2.88	2.55	2.24
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84-908	84-20306-301		3.59	3.24	2.87	2.52
84-912	84-20102-101		2.90	2.61	2.32	2.03
84-913	84-20202-101		3.05	2.75	2.44	2.14
84-914	84-20302-101		3.35	3.02	2.68	2.35
84-916	84-20103-301		3.20	2.88	2.56	2.24
84-917	84-20203-301		3.35	3.02	2.68	2.35
84-918	84-20303-301		3.59	3.24	2.87	2.52
84-922	84-50102-101		2.90	2.61	2.32	2.03
84-923	84-50202-101	3.05	2.75	2.44	2.14	
84-924	84-50302-101	3.35	3.02	2.68	2.35	
84-926	84-50103-301	3.20	2.88	2.56	2.24	
84-927	84-50203-301	3.35	3.02	2.68	2.35	
84-928	84-50303-301	3.59	3.24	2.87	2.52	
84D-902	84-31506-301	7	3.05	2.75	2.44	2.14
84D-903	84-31106-301		3.05	2.75	2.44	2.14
84TD-902	84-35	12	7.57	6.82	6.06	5.30
84TD-903	84-36		7.57	6.82	6.06	5.30
84TE-902	84-32	12	7.57	6.82	6.06	5.30
84TE-903	84-33		7.57	6.82	6.06	5.30
85-901	85-20226-12000A	9	10.80	9.72	8.64	7.56
85-902	85-21226-12000A		10.80	9.72	8.64	7.56
85-903	85-23226-12000A		10.80	9.72	8.64	7.56
91-180-1	None	7	.60	.54	.48	.42
91-901	91-132006-13000		5.14	4.63	4.11	3.60
91-902	91-131006-13000		5.37	4.84	4.30	3.76
91-903	91-133006-13000		5.57	5.02	4.46	3.90
91-904	91-192006-13000		4.94	4.45	3.96	3.46
91-905	91-191006-13000		5.17	4.66	4.14	3.67
91-906	91-193006-13000		5.37	4.84	4.30	3.76
91-907	91-192006-19000		4.84	4.36	3.87	3.39
91-908	91-191006-19000		5.07	4.57	4.06	3.55
91-909	91-193006-19000		5.27	4.75	4.22	3.69
91D-911	91-228004-22000	7	4.96	4.47	3.97	3.48
91D-912	91-227004-22000		4.96	4.47	3.97	3.48
91D-913	91-222004-22000		4.96	4.47	3.97	3.48

**Consult your RBM Controls authorized distributor for factory prices in larger quantities.**

PRODUCTION PART NUMBER IS RBM MANUFACTURING NUMBER WHICH IS STAMPED ON EACH UNIT

Catalog Number	Production Number	Page	Suggested Price			
			1/24	25/49	50/99	100/249
92-901	92-321111-11607	7	5.87	5.29	4.70	4.11
92-902	92-311111-11607		6.07	5.47	4.86	4.25
92-903	92-331111-11607		6.24	5.62	5.00	4.37
92-904	92-321177-11607		5.79	5.21	4.63	4.05
92-905	92-311177-11607		5.99	5.39	4.79	4.19
92-906	92-331177-11607		6.14	5.53	4.92	4.30
92-907	92-327711-77607		5.70	5.13	4.56	3.99
92-908	92-317711-77607		5.90	5.31	4.72	4.13
92-909	92-337711-77607		6.05	5.45	4.84	4.24
92-910	92-327777-77607		5.64	5.08	4.51	3.95
92-911	92-317777-77607		5.84	5.26	4.67	4.09
92-912	92-337777-77607		5.99	5.39	4.80	4.20
92D-911	92-383333-33507		6.04	5.44	4.84	4.23
92D-912	92-373333-33507		6.04	5.44	4.84	4.23
92D-913	92-323333-33507	6.04	5.44	4.84	4.23	
93-153-1	None	6	.60	.54	.48	.42
93-901	93-208030-13000B		3.25	2.93	2.60	2.28
93-902	93-208303-13000B		3.95	3.56	3.16	2.74
93-903	93-208333-13000B		4.40	3.96	3.52	3.08
93-904	93-202030-13300B		3.25	2.93	2.60	2.28
93-905	93-202303-13300B		3.95	3.56	3.16	2.74
93-906	93-202333-13300B		4.40	3.96	3.52	3.08
93-907	93-201030-13000B		3.25	2.93	2.60	2.28
93-908	93-201303-13000B		3.95	3.56	3.16	2.74
93-909	93-201333-13000B		4.40	3.96	3.52	3.08
93-910	93-203030-13000B		3.65	3.29	2.92	2.56
93-911	93-203303-13000B		4.35	3.92	3.48	3.05
93-912	93-203333-13000B		4.80	4.32	3.84	3.36
93-913	93-508030-13300B		3.10	2.79	2.48	2.17
93-914	93-508303-13300B	3.50	3.15	2.80	2.45	
93-915	93-508333-13300B	4.00	3.60	3.20	2.80	
93-916	93-507030-13300B	3.10	2.79	2.48	2.17	
93-917	93-507303-13300B	3.50	3.15	2.80	2.45	
93-918	93-507333-13300B	4.00	3.60	3.20	2.80	
93-919	93-502030-13300B	3.10	2.79	2.48	2.17	
93-920	93-502303-13300B	3.50	3.15	2.80	2.45	
93-921	93-502333-13300B	4.00	3.60	3.20	2.80	
93-922	93-501030-13300B	3.70	3.33	2.96	2.59	
93-923	93-501303-13300B	4.10	3.69	3.28	2.87	
93-924	93-501333-13300B	4.60	4.14	3.68	3.22	
93-931	93-208090-13000A	3.20	2.88	2.56	2.24	
93-932	93-208909-13000A	3.85	3.47	3.08	2.70	
93-933	93-208999-13000A	4.25	3.83	3.40	2.98	
93-934	93-202090-13300A	3.20	2.88	2.56	2.24	
93-935	93-202909-13300A	3.85	3.47	3.08	2.70	
93-936	93-202999-13300A	4.25	3.83	3.40	2.98	
93-937	93-201090-13000A	3.20	2.88	2.56	2.24	
93-938	93-201909-13000A	3.85	3.47	3.08	2.70	
93-939	93-201999-13000A	4.25	3.83	3.40	2.98	
93-940	93-203090-13000A	3.60	3.24	2.88	2.52	
93-941	93-203909-13000A	4.25	3.83	3.40	2.98	
93-942	93-203999-13000A	4.65	4.19	3.72	3.26	
93-943	93-508090-13300A	3.05	2.75	2.44	2.14	
93-944	93-508909-13300A	3.40	3.06	2.72	2.38	
93-945	93-508999-13300A	3.85	3.47	3.08	2.70	
93-946	93-507090-13300A	3.05	2.75	2.44	2.14	
93-947	93-507909-13300A	3.40	3.06	2.72	2.38	
93-948	93-507999-13300A	3.85	3.47	3.08	2.70	
93-949	93-502090-13300A	3.05	2.75	2.44	2.14	
93-950	93-502909-13300A	3.40	3.06	2.72	2.38	
93-951	93-502999-13300A	3.85	3.47	3.08	2.70	
93-952	93-501090-13300A	3.65	3.29	2.92	2.56	
93-953	93-501909-13300A	4.00	3.60	3.20	2.80	
93-954	93-501999-13300A	4.45	4.01	3.56	3.12	
93-956	93-202090-30300A	3.20	2.88	2.56	2.24	
93-965	93-202909-30300A	3.85	3.47	3.08	2.70	
93-966	93-202999-30300A	4.25	3.83	3.40	2.98	
93-967	93-201090-30000A	3.20	2.88	2.56	2.24	
93-968	93-201909-30000A	3.85	3.47	3.08	2.70	
93-969	93-201999-30000A	4.25	3.83	3.40	2.98	
93-976	93-507090-30300A	3.05	2.75	2.44	2.14	
93-977	93-507909-30300A	3.40	3.06	2.72	2.38	
93-978	93-507999-30300A	3.85	3.47	3.08	2.70	
93-979	93-502090-30300A	3.05	2.75	2.44	2.14	
93-980	93-502909-30300A	3.40	3.06	2.72	2.38	
93-981	93-502999-30300A	3.85	3.47	3.08	2.70	
93-985	93-207030-13000B	3.25	2.93	2.60	2.28	
93-986	93-207303-13000B	3.95	3.56	3.16	2.74	
93-987	93-207333-13000B	4.40	3.96	3.52	3.08	
93-988	93-207090-13000A	3.20	2.88	2.56	2.24	
93-989	93-207909-13000A	3.85	3.47	3.08	2.70	
93-990	93-207999-13000A	4.25	3.83	3.40	2.98	
93-991	93-207090-30000A	3.20	2.88	2.56	2.24	
93-992	93-207909-30000A	3.85	3.47	3.08	2.70	
93-993	93-207999-30000A	4.25	3.83	3.40	2.98	
93P-901	93-208030-70000B	6	5.50	4.95	4.40	3.85
93P-902	93-208303-60000B		6.15	5.54	4.92	4.31
93P-903	93-208333-90000B		7.65	6.89	6.12	5.36
93P-904	93-202030-70300B		5.50	4.95	4.40	3.85
93P-905	93-202303-60300B		6.15	5.54	4.92	4.31
93P-906	93-202333-90300B		7.65	6.89	6.12	5.36
93P-907	93-201030-70000B		5.50	4.95	4.40	3.85
93P-908	93-201303-60000B		6.15	5.45	4.92	4.31
93P-909	93-201333-90000B		7.65	6.89	6.12	5.36
93P-910	93-203030-70000B		5.90	5.31	4.72	4.13

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			1/24	25/49	50/99	100/249
93P-911	93-203303-60000B	6	6.55	5.90	5.24	4.59
93P-912	93-203333-90000B		8.05	7.25	6.44	5.64
93P-913	93-508030-70300B		5.45	4.91	4.36	3.82
93P-914	93-508303-60300B		6.10	5.49	4.88	4.27
93P-915	93-508333-90300B		7.60	6.84	6.08	5.32
93P-916	93-507030-70300B		5.45	4.91	4.36	3.82
93P-917	93-507303-60300B		6.10	5.49	4.88	4.27
93P-918	93-507333-90300B		7.60	6.84	6.08	5.32
93P-919	93-502030-70300B		5.45	4.91	4.36	3.82
93P-920	93-502303-60300B		6.10	5.49	4.88	4.27
93P-921	93-502333-90300B		7.60	6.84	6.08	5.32
93P-922	93-501030-70300B		6.05	5.45	4.84	4.24
93P-923	93-501303-60300B		6.70	6.03	5.36	4.69
93P-924	93-501333-90300B		8.20	7.38	6.56	5.74
93P-931	93-208090-70000A	5.45	4.91	4.36	3.82	
93P-932	93-208909-60000A	6.05	5.45	4.84	4.24	
93P-933	93-208999-90000A	7.50	6.75	6.00	5.25	
93P-934	93-202090-70300A	5.45	4.91	4.36	3.82	
93P-935	93-202909-60300A	6.05	5.45	4.84	4.24	
93P-936	93-202999-90300A	7.50	6.75	6.00	5.25	
93P-937	93-201090-70000A	6	5.45	4.91	4.36	3.82
93P-938	93-201909-60000A		6.05	5.45	4.84	4.24
93P-939	93-201999-90000A		7.50	6.75	6.00	5.25
93P-940	93-203090-70000A		5.85	5.27	4.68	4.10
93P-941	93-203909-60000A		6.45	5.81	5.16	4.42
93P-942	93-203999-90000A		7.90	7.11	6.32	5.53
93P-943	93-508090-70300A		5.40	4.86	4.32	3.78
93P-944	93-508909-60300A		6.00	5.40	4.80	4.20
93P-945	93-508999-90300A		7.45	6.71	5.96	5.22
93P-946	93-507090-70300A		5.40	4.86	4.32	3.78
93P-947	93-507909-60300A		6.00	5.40	4.80	4.20
93P-948	93-507999-90300A		7.45	6.71	5.96	5.22
93P-949	93-502090-70300A		5.40	4.86	4.32	3.78
93P-950	93-502909-60300A		6.00	5.40	4.80	4.20
93P-951	93-502999-90300A	7.45	6.71	5.96	5.22	
93P-952	93-501090-70300A	6.00	5.40	4.80	4.20	
93P-953	93-501909-60300A	6.60	5.94	5.28	4.62	
93P-954	93-501999-90300A	8.05	7.25	6.44	5.64	
93P-955	93-207030-70000B	5.50	4.95	4.40	3.85	
93P-956	93-207303-60000B	6.15	5.54	4.92	4.31	
93P-957	93-207333-90000B	7.65	6.89	6.12	5.36	
93P-958	93-207090-70000A	5.45	4.91	4.36	3.82	
93P-959	93-207909-60000A	6.05	5.45	4.84	4.24	
93P-960	93-207999-90000A	7.50	6.75	6.00	5.25	
93Q-901	93-208030-25000B	6	3.75	3.38	3.00	2.63
93Q-902	93-208303-25000B		4.50	4.05	3.60	3.15
93Q-903	93-208333-25000B		5.00	4.50	4.00	3.50
93Q-904	93-202030-25300B		3.75	3.38	3.00	2.63
93Q-905	93-202303-25300B		4.50	4.05	3.60	3.15
93Q-906	93-202333-25300B		5.00	4.50	4.00	3.50
93Q-907	93-20					



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			1/24	25/49	50/99	100/249	
93Q-957	93-207333-25000B	6	5.00	4.50	4.00	3.50	
93Q-958	93-207090-25000A		3.70	3.33	2.96	2.59	
93Q-959	93-207909-25000A		4.40	3.96	3.52	3.08	
93Q-960	93-207999-25000A		4.85	4.37	3.88	3.40	
129-901	129990-1220		8	3.89	3.50	3.11	2.72
129-902	129115-6880z	3.94		3.55	3.16	2.76	
129-903	129115-6810z	4.05		3.65	3.24	2.84	
129-904	129115-6830z	4.14		3.73	3.31	2.90	
129-905	129990-1230	4.32		3.89	3.46	3.03	
129-906	129117-5480z	4.37		3.94	3.50	3.06	
129-907	129117-5410z	4.50		4.05	3.60	3.15	
129-908	129117-5430z	4.59		4.14	3.68	3.22	
129-911	129115-7180z	3.94		3.55	3.16	2.76	
129-912	129115-7110z	4.05		3.65	3.24	2.84	
129-913	129115-7130z	4.14		3.73	3.31	2.90	
129-914	129117-6780z	4.37		3.94	3.50	3.06	
129-915	129117-6710z	4.50	4.05	3.60	3.15		
129-916	129117-6730z	4.59	4.14	3.68	3.22		
129AR-901	129515-3180z	8	6.64	5.98	5.31	4.65	
129AR-902	129505-3110z		6.95	6.25	5.55	4.86	
129AR-903	129505-3130z		7.25	6.53	5.80	5.08	
129AR-904	129517-5380z		7.24	6.52	5.80	5.07	
129AR-905	129507-5310z		7.54	6.79	6.04	5.28	
129AR-906	129507-5330z		7.85	7.07	6.28	5.50	
129TD-901	129990-1260	12	8.57	7.72	6.86	6.00	
129TD-902	129990-1270		8.57	7.72	6.86	6.00	
142TE-901	142-133023-40024	12	18.00	16.20	14.40	12.60	
142TE-902	142-163023-40027		18.00	16.20	14.40	12.60	
142TE-903	142-134023-40021		18.00	16.20	14.40	12.60	
142TE-911	142-133026-40025		18.00	16.20	14.40	12.60	
142TE-912	142-163026-40028		18.00	16.20	14.40	12.60	
142TE-913	142-134026-40022		18.00	16.20	14.40	12.60	
142TE-921	142-133027-40026		18.00	16.20	14.40	12.60	
142TE-922	142-163027-40029		18.00	16.20	14.40	12.60	
142TE-923	142-134027-40023		18.00	16.20	14.40	12.60	
143-901	143-121520-14400A		8	4.78	4.30	3.83	3.35
143-902	143-121120-14400A			4.78	4.30	3.83	3.35
143-903	143-121220-14400A			4.78	4.30	3.83	3.35
143-911	143-321520-14400A	4.78		4.30	3.83	3.35	
143-912	143-321120-14400A	4.78		4.30	3.83	3.35	
143-913	143-321220-14400A	4.78		4.30	3.83	3.35	
143-914	143-321320-14400A	4.78		4.30	3.83	3.35	
987-902	98756-7160	8	4.10	3.69	3.28	2.87	
987-903	98756-6142		4.20	3.78	3.36	2.94	
987-904	98756-3194		4.44	4.00	3.55	3.11	
987-906	98706-7162		4.22	3.80	3.38	2.96	
987-907	98706-6144		4.35	3.92	3.48	3.05	
987-908	98706-3196		4.55	4.10	3.64	3.19	
987-910	98750-7161		4.66	4.20	3.73	3.26	
987-911	98750-6143		4.79	4.32	3.83	3.36	
987-912	98750-3195		4.99	4.50	4.00	3.50	
ABRMR1-901	97-701360-151		16	4.25	3.83	3.40	2.98
ABRMR1-902	97-701360-152	4.25		3.83	3.40	2.98	
ABRMR1-903	97-701360-138	4.25		3.83	3.40	2.98	
BRM-902	96-911001	16	1.25	1.13	1.00	.88	
BRMR1-901	97-101700-16		5.11	4.60	4.09	3.58	
BRMR1-902	97-101700-17		5.16	4.64	4.13	3.61	
BRMR1-903	97-101700-18		5.26	4.73	4.21	3.68	
BRMR2-901	97-104700-20	16	7.15	6.43	5.72	5.00	
BRMR2-902	97-104700-21		7.18	6.46	5.74	5.03	
BRMR2-903	97-104700-22		7.24	6.52	5.79	5.07	
BRS-901	98-611002	16	1.25	1.13	1.00	.88	
BRSR1-901	99-401242-3	17	4.77	4.30	3.82	3.34	
BRSR1-902	99-401242-4		4.83	4.35	3.87	3.39	
BRSR1-903	99-401242-5		4.87	4.39	3.90	3.41	
BRSR2-901	99-404242-6	17	6.22	5.60	4.98	4.36	
BRSR2-902	99-404242-7		6.28	5.66	5.03	4.40	
BRSR2-903	99-404242-8		6.33	5.70	5.07	4.44	
CA-901	45997-23	11	5.76	4.33	4.33	4.33	
CA-902	45997-24		7.80	5.85	5.85	5.85	
CA-903	45997-30		10.40	7.80	7.80	7.80	
CA-904	45997-29		9.66	7.25	7.25	7.25	
C10-901	109214-105	10	14.00	12.60	11.20	9.80	
C10-902	109214-101		14.00	12.60	11.20	9.80	
C10-903	109214-102		14.00	12.60	11.20	9.80	
C15-901	109202-105	10	19.80	17.82	15.84	13.86	
C15-902	109202-101		19.80	17.82	15.84	13.86	
C15-903	109202-102		19.80	17.82	15.84	13.86	
C30-901	109196-105	10	24.30	21.87	19.44	17.01	
C30-902	109196-101		24.30	21.87	19.44	17.01	
C30-903	109196-102		24.30	21.87	19.44	17.01	
C50R-901	109423-705	10	26.00	23.40	20.80	18.20	
C50R-902	109423-701		26.00	23.40	20.80	18.20	
C50R-903	109423-702		26.00	23.40	20.80	18.20	
CR15-901	109203-101	11	43.20	38.88	34.56	30.24	
CR15-902	109203-102		43.20	38.88	34.56	30.24	
CR30-901	109197-101	11	52.10	46.89	41.68	36.47	
CR30-902	109197-102		52.10	46.89	41.68	36.47	
MC-901	45225-5	11	4.68	3.51	3.51	3.51	
MC-902	45225-1		4.68	3.51	3.51	3.51	
MC-903	45225-2		4.68	3.51	3.51	3.51	
MC-904	45225-3		4.68	3.51	3.51	3.51	
MC-905	45225-4		4.68	3.51	3.51	3.51	
MC-911	45225-35		4.68	3.51	3.51	3.51	
MC-912	45225-31		4.68	3.51	3.51	3.51	
MC-913	45225-32		4.68	3.51	3.51	3.51	
MC-914	45225-33		4.68	3.51	3.51	3.51	
MC-915	45225-34		4.68	3.51	3.51	3.51	
MS25-901	62-981		14	3.25	2.93	2.60	2.28
MS25-902	62-982	3.38		3.05	2.71	2.36	
MS25-903	62-983	3.84		3.46	3.07	2.69	
MS25-904	62-984	3.56		3.21	2.85	2.49	
MS25-905	62-985	4.10		3.69	3.28	2.87	
MS25-906	62-986	5.05		4.55	4.04	3.54	
MS25P-901	62-551	14	5.76	5.19	4.61	4.04	
MS25P-902	62-552		5.90	5.31	4.72	4.13	
MS25P-903	62-553		6.37	5.74	5.10	4.46	
MS25P-904	62-554		6.00	5.40	4.80	4.20	
MS25P-905	62-555		6.40	5.76	5.12	4.48	
MS25P-906	62-556		7.35	6.62	5.88	5.15	
MS40-901	61-360	14	2.00	1.80	1.60	1.40	
MS40-902	61-361		2.00	1.80	1.60	1.40	
MS40-903	61-362		2.00	1.80	1.60	1.40	
MS40-904	61-363		2.00	1.80	1.60	1.40	
MS40-905	61-364		2.00	1.80	1.60	1.40	
MS40-906	61-365		2.00	1.80	1.60	1.40	
MS40-907	61-366		2.25	2.03	1.80	1.58	
MS40-908	61-367		2.25	2.03	1.80	1.58	
MS40-909	61-368		2.50	2.25	2.00	1.75	
MS50-901	62-931	15	4.10	3.69	3.28	2.87	
MS50-902	62-932		4.15	3.74	3.32	2.91	
MS50-903	62-933		4.20	3.78	3.36	2.94	
MS50-904	62-934		4.38	3.94	3.51	3.07	
MS50-905	62-935		4.92	4.43	3.94	3.44	
MS50-906	62-936		5.87	5.28	4.70	4.11	
MS50-921	62-941		5.00	4.50	4.00	3.50	
MS50-922	62-942		5.03	4.53	4.03	3.52	
MS50-923	62-943		5.08	4.57	4.06	3.55	
MS50-924	62-944		5.29	4.76	4.23	3.70	
MS50-925	62-945		5.82	5.24	4.66	4.07	
MS50-926	62-946	6.77	6.09	5.42	4.74		
MS50P-901	62-561	15	6.14	5.53	4.92	4.30	
MS50P-902	62-562		6.19	5.58	4.96	4.34	
MS50P-903	62-563		6.30	5.67	5.04	4.41	
MS50P-904	62-564		6.40	5.76	5.12	4.48	
MS50P-905	62-565		6.80	6.12	5.44	4.76	
MS50P-906	62-566		8.25	7.43	6.60	5.78	
MS50P-921	62-571		7.35	6.61	5.88	5.15	
MS50P-922	62-572		7.38	6.64	5.90	5.17	
MS50P-923	62-573		7.43	6.68	5.94	5.20	
MS50P-924	62-574		7.85	7.07	6.28	5.50	
MS50P-925	62-575		8.25	7.43	6.60	5.78	
MS50P-926	62-576	9.15	8.23	7.33	6.40		
MS64-901	64-901	14	2.37	2.13	1.90	1.66	
MS64-902	64-902		2.44	2.20	1.96	1.71	
MS64-903	64-903		2.82	2.54	2.27	1.97	
MS64-904	64-904		2.96	2.66	2.37	2.07	
MS64-911	64-911		2.37	2.13	1.90	1.66	
MS64-912	64-912		2.44	2.20	1.96	1.71	
MS64-913	64-913		2.82	2.54	2.27	1.97	
MS64-914	64-914		2.96	2.66	2.37	2.07	
OBRSR1-901	99-801170-187		17	3.58	3.23	2.87	2.51
OBRSR1-902	99-801170-186			3.61	3.25	2.89	2.53
OBRSR1-903	99-801170-185			3.87	3.49	3.10	2.71</

GENERAL PURPOSE RELAYS — GENERAL REPLACEMENT RELAYS  
TIME DELAY RELAYS — POWER & INDUSTRIAL CONTACTORS

Maximum Continuous Load In Amperes (Inductive)	Number of Poles								
	Single Pole			Two Pole			Three Pole		
	Classification	Type	Page	Classification	Type	Page	Classification	Type	Page
LOW LEVEL Thermo-couple, pilot lights, etc.	General Purpose	93	6	General Purpose	91	7	General Purpose	92	7
	Time Delays	84T	12	General Purpose	93	6	General Purpose	93	6
	General Purpose	84	7						
3	Time Delays	84T	12	General Purpose	91	7	General Purpose	987	8
	Time Delays	59	12	General Purpose	987	8	General Purpose	92	7
5	General Purpose	93	6	General Purpose Time Delays	93 142T	6 12	General Purpose	93	6
8	General Purpose	84	7						
10	General Purpose	93	6	General Purpose	93	6	General Purpose	93	6
12				General Purpose	91	7	General Purpose	92	7
15	General Purpose	987	8	General Purpose	987	8	General Purpose	987	8
18	General Purpose	129	8	Power Contactors	143	8			
	Time Delays	129T	12	Power Contactors	75	9			
25				Power Contactors	80	9	Power Contactors	85	9
				Power Contactors 25 amp. Type 143 Resistive Only	143	8			
30							Power Contactors	S30	9
							Industrial Contactors	C30	10
							Industrial Contactors	CR30	11
40							Power Contactors	S40	9
10-15 30-50	Type C 4 Pole Industrial Contactors Pages 10 and 11.								

REPLACEMENT CONTACTS, CONTACT BLOCK AND CARRIER, MAGNET COILS, MAGNET AND ARMATURE KITS FOR TYPE C CONTACTORS .....PAGE 11  
All relays rated below 5 amps have special alloy contacts designed for low level current.

A.C. ENGINEERING DESIGN DATA

Type	Magnet Coil Rating (Volt Amperes)			Operation in % of Nom. Coil Rating		Breakdown Voltage All Terminals - 60 cy. RMS			Contact Material		Electrical Life		**Mechanical Life		Practical Maximum Operating Ambient Degrees Fahrenheit
	Sealed			Pick-up	Safe *Max. Operate	Opposite Polarity	Open Contacts Same Polarity	To Ground	Power Rating	Pilot Rating	Oper. At Rated Load	Oper. Per Min.	Oper. At No Load	Oper. Per Min.	
	Inrush	Nom.	Max.												
59	No Magnet Coil			85%	110%	1500	1000	1500	—	Fine Silver	100,000	1	1,000,000	1	140
75	16	10	12	85%	110%	1500	1000	1500	Silver Alloy	—	†100,000	6	1,000,000	60	140
80	27	15.6	17	85%	110%	1500	1500	1500	Silver Alloy	—	†100,000	3	1,000,000	50	130
84	4	2.8	3	85%	110%	1500	1000	1500	Silver Alloy	Fine Silver	100,000	6	1,000,000	60	140
84T	9	2.8	3	85%	110%	1500	1000	1500	—	Gold Alloy	100,000	6	1,000,000	60	140
85	90	19	23	85%	110%	2200	2200	2200	Silver Alloy	—	†100,000	6	500,000	10	130
91	22	8	10	85%	110%	1500	1000	1500	Fine Silver	• Gold Alloy	†100,000	6	750,000	60	130
92	24	8.9	12	85%	110%	1500	1000	1500	Fine Silver	• Gold Alloy	†100,000	6	750,000	60	130
93	4.5	3.0	4	85%	110%	1500	1000	1500	Fine Silver	• Gold Alloy	100,000	6	10,000,000	60	160
129	10	4.5	5	85%	110%	1500	1000	1500	Silver Alloy	—	†100,000	3	500,000	60	130
129AR	10	4.5	5	85%	110%	1500	1000	1500	Silver Alloy	—	†100,000	3	500,000	60	130
129T	10	4.5	5	85%	110%	1500	1000	1500	Silver Alloy	—	†100,000	3	500,000	1	130
142TE	4.5	3.0	4	85%	110%	1500	1000	1500	Fine Silver	—	100,000	1	10,000,000	60	150
143	24	8.9	12	85%	110%	1500	1000	1500	Silver Alloy	—	†100,000	6	500,000	30	130
987	9	5.5	6.5	85%	110%	1500	1000	1500	Fine Silver	• Gold Alloy	100,000	6	1,000,000	60	140
C	90	18	21	85%	110%	2200	2200	2200	Silver Alloy	—	†100,000	6	1,000,000	10	130
CR	90	18	21	85%	110%	2200	2200	2200	Silver Alloy	—	†100,000	6	1,000,000	10	130
S	50	14.5	17	85%	110%	2200	2200	2200	Silver Alloy	—	†100,000	6	500,000	10	130

\* Magnet coils designed for continuous duty. Do not operate at rate higher than indicated under Mechanical Life.  
 \*\* Based on steady state test under laboratory environmental conditions. Consult factory if application involves unusual load, speed of operation, off-on ratio, environmental or operating conditions. Electric life substantially greater when operated below rated load.  
 † Load tests — making inrush ratings (0.4 to 0.5 P.F.) — breaking 125% continuous rating (0.65 to 0.8 P.F.).  
 • Cross-bar contacts.

**REED SWITCHES — REED RELAYS — CURRENT SENSITIVE RELAYS  
TIME DELAY RELAYS — GENERAL PURPOSE RELAYS**

Maximum Continuous Load In Amperes (Inductive)	Number of Poles								
	Single Pole			Two Pole			Three Pole		
	Classification	Type	Page	Classification	Type	Page	Classification	Type	Page
<b>DRY CIRCUIT TO 0.250</b>	Reed Switches	BRM BRS TRM	16	Reed Relays	OBRMR2 BRMR2 BRSR2 TRMR2	17 16 17 16	Reed Relays	OBRMR3	17
	Reed Relays	ABRMR1 BRMR1 OBRMR1 BRSR1 TRMR1	16 16 17 17 16						
	Current Sensitive	MS25 MS25P MS40 MS64	14	Current Sensitive	MS50 MS50P	15	Current Sensitive	MS50 MS50P	15
<b>1.0</b>	Reed Switches	BRS	16	Reed Relays	BRSR2	17	Current Sensitive	MS50 MS50P	15
	Reed Relays	BRSR1	17						
	Current Sensitive	MS25 MS25P MS40 MS64	14	Current Sensitive	MS50 MS50P	15	Current Sensitive	MS50 MS50P	15
<b>2.0</b>	Current Sensitive	MS25 MS25P MS40 MS64	14	Current Sensitive	MS50 MS50P	15	Current Sensitive	MS50 MS50P	15
<b>3.0</b>	General Purpose	84D	7						
<b>5.0 (Resistive Only)</b>				Time Delays	142T	12			
<b>10 (Resistive Only)</b>				General Purpose	91D	7	General Purpose	92D	7

SINGLE POLE POWER CONTACTORS (7½ TO 80 AMPERES) ..... Page 13  
All relays rated below 3 amps. have special alloy contacts — designed for low level current.

**D.C. ENGINEERING DESIGN DATA**

Type	Nominal Magnet Coil Rating (Watts)	Operation in % of Nom. Coil Rating		Breakdown Voltage All Terminals - 60 cy. RMS			Contact Material		Electrical Life		**Mechanical Life		Practical Maximum Operating Ambient Degrees Fahrenheit
		Pick-up	*Max. Safe Operate	Opposite Polarity	Open Contacts Same Polarity	To Ground	Power Rating	Pilot Rating	Oper. At Rated Load	Oper. Per Min.	Oper. At No Load	Oper. Per Min.	
<b>60</b>	2	75%	110%	1000	1000	1000	Fine Silver	—	100,000	4	250,000	4	122
<b>70</b>	9	75%	110%	500	500	500	Copper or Silver	—	100,000	4	250,000	4	122
<b>84D</b>	3	75%	110%	1500	1000	1500	—	Silver Alloy	100,000	6	1,000,000	60	140
<b>91D</b>	6.5	75%	110%	1500	1000	1500	Fine Silver	—	100,000	6	750,000	60	140
<b>92D</b>	7	75%	110%	1500	1000	1500	Fine Silver	—	100,000	6	750,000	60	140
<b>93</b>	1.5	75%	110%	1500	1000	1500	Fine Silver	*Gold Alloy	100,000	6	10,000,000	60	160
<b>142TE</b>	1.5	85%	110%	1500	1000	1500	Fine Silver	—	100,000	1	10,000,000	60	150
<b>BRM</b>	Switch Only—No Magnet Coil			500	250	250	—	Special Alloy	5,000,000	60	2,000,000,000	7200	185
<b>BRMR1</b>	0.100	60%	110%	500	250	250	—	Special Alloy	2,000,000	60	2,000,000,000	7200	185
<b>BRMR2</b>	0.150	60%	110%	500	250	250	—	Special Alloy	2,000,000	60	2,000,000,000	7200	185
<b>BRS</b>	Switch Only—No Magnet Coil			500	500	250	—	Special Alloy	20,000,000	60	2,000,000,000	7200	185
<b>BRSR1</b>	0.125	75%	110%	500	500	250	—	Special Alloy	20,000,000	60	2,000,000,000	7200	185
<b>BRSR2</b>	0.250	75%	110%	500	500	250	—	Special Alloy	20,000,000	60	2,000,000,000	7200	185
<b>All Type MS</b>	Current Sensitive			1000	1000	1000	—	*Gold Alloy	100,000	60	10,000,000	180	185
<b>TRM</b>	Switch Only—No Magnet Coil			250	250	250	—	Special Alloy	2,000,000	60	2,000,000,000	7200	185
<b>TRMR1</b>	0.150	70%	110%	250	250	250	—	Special Alloy	2,000,000	60	2,000,000,000	7200	185
<b>TRMR2</b>	0.250	70%	110%	250	250	250	—	Special Alloy	2,000,000	60	2,000,000,000	7200	185

\* Magnet coils designed for continuous duty. Do not operate at rate higher than indicated under Mechanical Life.  
\*\* Based on steady state test under laboratory environmental conditions. Consult factory if application involves unusual load, speed of operation, off-on ratio, environmental or operating conditions. Electric life substantially greater when operated below rated load.  
• Cross-bar contacts.

TYPE 93



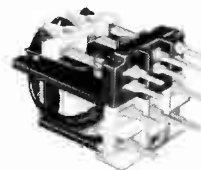
Solder Terminals (Fig. 1a)

OPEN TYPE

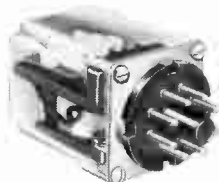
Solder Terminal Relay designed for front single hole screw or stud rear mounting. Stud and screw included.

SIZE Fig. 1a 1 3/8" x 1 1/8" x 1 3/8"  
SIZE Fig. 1b 1 1/8" x 1 3/8" x 1 3/8"

TYPE 93



Printed Circuit (Fig. 1b)

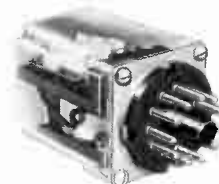


8 Pin Plug-In (Fig. 2)

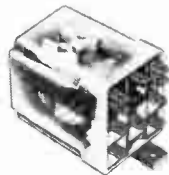
PLUG-IN

8 pin octal base for single & two pole — 11 pin base for three pole. High impact case.

SIZE 2 1/8" x 1 1/8" x 1 1/8"



11 Pin Plug-In (Fig. 2)



Quick Connect (Fig. 3)

QUICK CONNECT

Enclosed relay designed for front mounting. Panel board polarized sockets are available. Terminal .020 x .187. Hardware included.

SIZE 2 1/8" x 1 1/8" x 1 1/8"



Relay Receptacle (Fig. 4)  
93-153-1 Socket Kit (Hardware Included)

\* May be controlled by SCR providing firing angle no more than 10 degrees.

A.C. Voltage	CONTACT RATING			
	Fine Silver Button		Gold-Alloy Cross Bar	
	Inductive	Resistive	Inductive	Resistive
120	1/6 H.P.	10 AMP.	1/10 H.P.	5 AMP.
240	1/3 H.P.	5 AMP.	1/6 H.P.	3 AMP.

Coil Voltage	D.C. Resistance in Ohms @ 25°C	Contact Form	Open Type				Enclosed Type			
			Solder Terminals (Fig. 1a)		Printed Circuit (Fig. 1b)		Plug-In (Fig. 2)		Quick Connect Terminals (Fig. 3)	
			10 Amp. Button Contacts	5 Amp. Cross-Bar Contacts	5 Amp. Cross-Bar Contacts	10 Amp. Button Contacts	5 Amp. Cross-Bar Contacts	10 Amp. Button Contacts	5 Amp. Cross-Bar Contacts	
			Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number	
6 (50/60 CY.)	3.5	1PDT	93-901	93-931	—	93P-901	93P-931	93Q-901	93Q-931	
		2PDT	93-902	93-932	—	93P-902	93P-932	93Q-902	93Q-932	
		3PDT	93-903	93-933	—	93P-903	93P-933	93Q-903	93Q-933	
12 (50/60 CY.)	14	1PDT	93-985	93-988	*93-991	93P-955	93P-958	93Q-955	93Q-958	
		2PDT	93-986	93-989	*93-992	93P-956	93P-959	93Q-956	93Q-959	
		3PDT	93-987	93-990	*93-993	93P-957	93P-960	93Q-957	93Q-960	
24 (50/60 CY.)	55	1PDT	93-904	93-934	*93-964	93P-904	93P-934	93Q-904	93Q-934	
		2PDT	93-905	93-935	*93-965	93P-905	93P-935	93Q-905	93Q-935	
		3PDT	93-906	93-936	*93-966	93P-906	93P-936	93Q-906	93Q-936	
120 (50/60 CY.)	1400	1PDT	93-907	93-937	*93-967	93P-907	93P-937	93Q-907	93Q-937	
		2PDT	93-908	93-938	*93-968	93P-908	93P-938	93Q-908	93Q-938	
		3PDT	93-909	93-939	*93-969	93P-909	93P-939	93Q-909	93Q-939	
208/240 (50/60 CY.)	4850	1PDT	93-910	93-940	—	93P-910	93P-940	93Q-910	93Q-940	
		2PDT	93-911	93-941	—	93P-911	93P-941	93Q-911	93Q-941	
		3PDT	93-912	93-942	—	93P-912	93P-942	93Q-912	93Q-942	
6 D.C.	24	1PDT	93-913	93-943	—	93P-913	93P-943	93Q-913	93Q-943	
		2PDT	93-914	93-944	—	93P-914	93P-944	93Q-914	93Q-944	
		3PDT	93-915	93-945	—	93P-915	93P-945	93Q-915	93Q-945	
12 D.C.	96	1PDT	93-916	93-946	*93-976	93P-916	93P-946	93Q-916	93Q-946	
		2PDT	93-917	93-947	*93-977	93P-917	93P-947	93Q-917	93Q-947	
		3PDT	93-918	93-948	*93-978	93P-918	93P-948	93Q-918	93Q-948	
24 D.C.	384	1PDT	93-919	93-949	*93-979	93P-919	93P-949	93Q-919	93Q-949	
		2PDT	93-920	93-950	*93-980	93P-920	93P-950	93Q-920	93Q-950	
		3PDT	93-921	93-951	*93-981	93P-921	93P-951	93Q-921	93Q-951	
110 D.C.	8000	1PDT	93-922	93-952	—	93P-922	93P-952	93Q-922	93Q-952	
		2PDT	93-923	93-953	—	93P-923	93P-953	93Q-923	93Q-953	
		3PDT	93-924	93-954	—	93P-924	93P-954	93Q-924	93Q-954	

**TYPE 84**



FIGURE 1



FIGURE 2

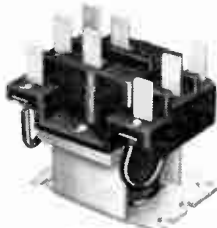
SIZE 2 3/8" x 1 5/8" x 1 1/2"

- Totally Enclosed
- Screw or 1/4" Quick Connect Termination
- Hardware Included
- Operates Any Position
- Isolated Coil
- I or T Mounting Brackets
- A.C. Coils Rated 50/60 cy
- Low Cost

**SINGLE POLE NORMALLY OPEN and SINGLE POLE DOUBLE THROW**

Coil Voltage A.C.	Catalog Number Figure 1		Contact Rating 125/250 V.A.C.	
	1PNO	1PDT	Inductive	Resistive
6	84-901	84-905	N.O. 8 Amps. Continuous 25 Amps. Inrush	N.O. 16 Amps. Continuous
24	84-902	84-906		
120	84-903	84-907		
230/240	84-904	84-908		
Coil Voltage A.C.	Catalog Number Figure 2		D.T. 8 Amps. Continuous 18 Amps. Inrush	D.T. 8 Amps. Continuous
	1PNO	1PDT		
24	84-912	84-916		
120	84-913	84-917		
230/240	84-914	84-918	3 Amps. @ 125 V.A.C. or 1.5 Amps. @ 250 V.A.C. Pilot Duty	
24	84-922	84-926		
120	84-923	84-927		
230/240	84-924	84-928	D.C. Contact Rating Inductive	
Coil Voltage D.C.	Resistance in Ohms @ 25°C	Catalog Number Figure 1	Voltage	Current
			12	3 Amp.
24	280	84D-903	24	1.5 Amp.

**TYPE 91**



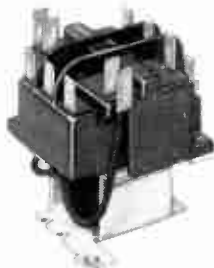
91-180-1 SOCKET AND TERMINAL KIT  
SIZE 2 1/8" x 1 7/8" x 2 3/8"

- 1/4" Quick Connect Termination
- Enclosed Contacts
- Operates Any Position
- Solenoid Action
- Wiring Terminals Included
- A.C. Coils Rated 50/60 cy.
- Can Be Panel Mounted

**TWO POLE DOUBLE THROW**

Coil Voltage A.C.	Catalog Number	Circuit Rating Terminals		Power Rating (A)	
		1-2-3	4-5-6	Inductive	Resistive
24	91-901	(A)	(A)	12 Amp. Cont. 60 Amp. Inrush 125 V.A.C.	15 Amp. 277 V.A.C. Max.
120	91-902				
230/240	91-903				
24	91-904	(A)	(B)	6 Amp. Cont. 35 Amp. Inrush 250 V.A.C.	Pilot Rating (B)
120	91-905				
230/240	91-906				
24	91-907	(B)	(B)	125 V.A. 1/10 H.P. 125/250 V.A.C.	3 Amp. 277 V.A.C. Max.
120	91-908				
230/240	91-909				
Coil Voltage D.C.	Catalog Number	Resistance in Ohms @ 25°C		D.C. Contact Rating - Resistive	
6	91D-911	665		10 Amps. @ 32 V. Max.	
12	91D-912	1300			
24	91D-913	2500			

**TYPE 92**



SIZE 2 3/8" x 2 3/8" x 2 3/4"

- 1/4" Quick Connect Termination
- Enclosed Contacts
- Operates Any Position
- Solenoid Action
- Wiring Terminals Included
- Manual Operating Button
- A.C. Coils Rated 50/60 cy

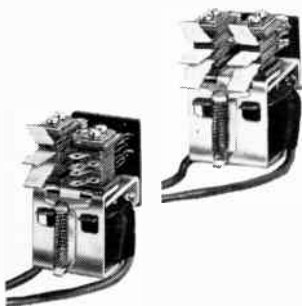
**THREE POLE DOUBLE THROW**

Coil Voltage A.C.	Catalog Number	Circuit Rating			Power Rating (A)	
		X	Y	Z	Inductive	Resistive
24	92-901	(A)	(A)	(A)	12 Amp. Cont. 60 Amp. Inrush 125 V.A.C.	15 Amp. 277 V.A.C. Max.
120	92-902					
230/240	92-903					
24	92-904	(A)	(B)	(A)	6 Amp. Cont. 35 Amp. Inrush 250 V.A.C.	Pilot Rating (B)
120	92-905					
230/240	92-906					
24	92-907	(B)	(A)	(B)	120 V.A. 1/10 H.P. 125/250 V.A.C.	3 Amp. 277 V.A.C. Max.
120	92-908					
230/240	92-909					
24	92-910	(B)	(B)	(B)	D.C. Contact Rating - Resistive	10 Amps. @ 32 V. Max.
120	92-911					
230/240	92-912					
Coil Voltage D.C.	Catalog Number	Resistance in Ohms @ 25°C				
6	92D-911	600				
12	92D-912	1200				
24	92D-913	2400				

**8 RBM CONTROLS**

**A.C. GENERAL PURPOSE RELAYS**

**TYPE 987**



SIZE 2 1/8" x 1" x 2"

9" Leadwire Coil

•  
Front or Rear Mounting

•  
Hardware Included

•  
Quick Connect Terminals on 15 Amp Poles

•  
Solder Terminals on 3 Amp Poles

**TWO POLE and THREE POLE DOUBLE THROW**

Coil Voltage 60 cy.	Contact Form	Catalog Number	Contact Rating — Non-Inductive 125/250 V.A.C.	
			Left Stack	Right Stack
24	2PDT	987-902	SPDT - 15 AMP.	SPDT - 3 AMP.
120	2PDT	987-903		
240	2PDT	987-904	SPDT - 15 AMP.	SPDT - 15 AMP.
24	2PDT	987-906		
120	2PDT	987-907		
240	2PDT	987-908	SPDT - 15 AMP.	2PDT - 3 AMP.
24	3PDT	987-910		
120	3PDT	987-911		
240	3PDT	987-912		

**A.C. POWER RELAYS**

**TYPE 129**

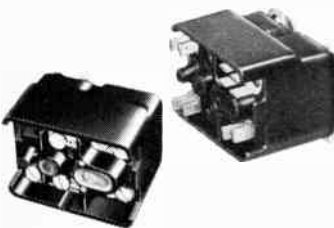


FIGURE 1      FIGURE 2

SIZE 2 3/8" x 1 7/8" x 1 7/8"

•  
Double-Break Contacts

•  
Totally Enclosed

•  
Screw or 1/4" Quick Connect Termination

•  
Hardware Included

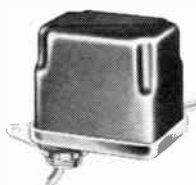
•  
Non-Positional

**SINGLE POLE NORMALLY OPEN and SINGLE POLE DOUBLE THROW**

Coil Voltage (50/60 cy.)	Catalog Number				Contact Rating 250 V.A.C. Max.	
	Figure 1		Figure 2		Inductive	Resistive
	1PNO	†1PDT	1PNO	†1PDT		
6	129-901	129-905	—	—	18 Amp. Continuous 1 H.P.-125 V. 2 H.P.-250 V.	18 Amp. Continuous
24	129-902	129-906	129-911	129-914		
120	129-903	129-907	129-912	129-915		
208/230	129-904	129-908	129-913	129-916		

† All contact terminals must be wired same polarity.

**TYPE 129AR**



SIZE 2 3/4" x 2 1/8" x 3 1/8"

•  
Totally Enclosed

•  
Double-Break Contacts

•  
Easy to Mount

•  
Pre-Wired

•  
No Enclosure Required

•  
Low Cost

**SINGLE POLE NORMALLY OPEN and SINGLE POLE DOUBLE THROW**

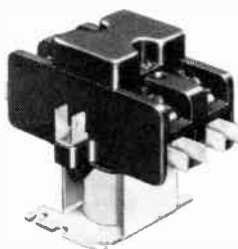
Coil Voltage (50/60 cy.)	Catalog Number		Contact Rating — 250 V.A.C. Max.	
	1PNO	†1PDT	Inductive	Resistive
—	—	—	18 Amp. Continuous 1 H.P.-120 V. 2 H.P.-250 V.	18 Amp. Continuous
24	129AR-901	129AR-904		
120	129AR-902	129AR-905		
208/230	129AR-903	129AR-906		

FITS ANY 1/2" KNOCK-OUT. MEETS STANDARD CODE REQUIREMENTS. Underwriters Lab. white card listed. File E12139D 184N13.13 7/17/63. Aluminum die-cast base and bushing. High impact phenolic enclosure. Locknuts and position locking washer included. Color coded 8" lead wires.

† All contact terminals must be wired same polarity.

**A.C. POWER CONTACTORS**

**TYPE 143**



SIZE 3 1/4" x 2 3/8" x 2 1/2"

•  
Straight-Through Wiring

•  
Auxiliary Quick-Connect Terminals

•  
Hardware Included

•  
Screw Power Terminals For #10 Solid Wire Max.

•  
Double Break Contacts

**TWO POLE NORMALLY OPEN**

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating	
		Inductive	Resistive
24	143-901	18 Amp. CONT. 90 Amp. INRUSH @ 250 V.A.C. Inductive Only	
120	143-902		
208/240	143-903		
24	143-911	25 Amp. @ 277 V.A.C. Resistive Only	
120	143-912		
208/240	143-913		

**TYPE 75**

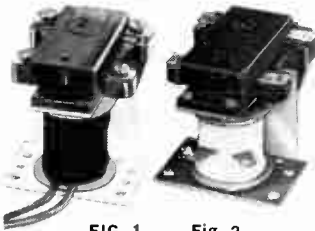


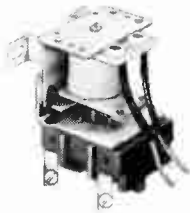
FIG. 1      FIG. 2  
SIZE 2 1/2" x 2 1/8" x 2 1/4"

- Screw Power Termination
- #8 Solid Wire Max.
- 
- 9" Lead Wire or Quick Connect Coil Terminals
- 
- Hardware Included

**TWO POLE NORMALLY OPEN**

Coil Voltage (60 cy.)	Catalog Number Fig. 1	Catalog Number Fig. 2	Contact Rating (A.C.)	
			Inductive	Resistive
24	75-901	75-904	1 H.P. Per Pole 115/230 V.	20 Amp. 240 V. Per Pole
115/120	75-902	75-905	2 Pole Rating 2 H.P. — 230 V. or 15 Amp. Cont.	
230/240	75-903	75-906	75 Amp. Inrush	

**TYPE 80**



SIZE 3 1/8" x 2 5/8" x 2 7/8"

- Screw Power Termination
- #8 Solid Wire Max.
- 
- Double-Break Contacts
- 
- Hi-Dielectric
- 
- 9" Coil Leads
- 
- Mount as Shown
- 
- Low Cost

**TWO POLE NORMALLY OPEN**

Coil Voltage (60 cy.)	Catalog Number	Contact Rating (A.C.) Inductive
24	80-901	25 Amp. Continuous 150 Amp. Inrush 250 V. Max.
120	80-902	
240	80-904	

**TYPE 85**



SIZE 3 1/2" x 3 1/8" x 2 5/8"

- Screw Terminals
- 
- #6 Solid Wire Max.
- 
- Double Break Contacts
- 
- 1/4" Auxiliary Wiring Terminals
- 
- Straight-Thru Wiring
- 
- Hi-Dielectric Materials

**THREE POLE NORMALLY OPEN**

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.) — Inductive	
		250 V.	600 V.
24	85-901	25 Amp. Cont. 150 Amp. Inrush	12.5 Amp. Cont. 75 Amp. Inrush
120	85-902		
208/240	85-903		

**TYPE S30**



SIZE 3 7/8" x 2 3/8" x 2 1/2"

- Solenoid Action
- 
- Enclosed Contacts
- 
- Resilient Mounting
- 
- Screw Power Termination For #8 Solid Wire Max.
- 
- Epoxy Coil
- 
- Hi-Dielectric
- 
- Double Break Contacts

**THREE POLE NORMALLY OPEN**

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.) — Inductive		
		Voltage	Continuous	Inrush
24	S30-901	250 600	30 Amp. 15 Amp.	180 Amp. 90 Amp.
115	S30-902			
230	S30-903			

**TYPE S40**



SIZE 3 7/8" x 2 3/4" x 2 1/2"

- Pressure Power Termination For #6 Solid Wire Max.
- 
- Solenoid Action
- 
- Enclosed Contacts
- 
- Resilient Mounting
- 
- Hi-Dielectric
- 
- Epoxy Coil
- 
- Double Break Contacts

**THREE POLE NORMALLY OPEN**

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.) Inductive
24	S40-901	40 Amp. Continuous 200 Amp. Inrush 250 V. Max.
115	S40-902	
230	S40-903	

UNIQUE DESIGN PERMITS COMMON BASE, COIL & MAGNET FOR CONTACTOR RATINGS FROM 10 TO 50 AMPERES • DOUBLE BREAK "NO-KISS" CONTACT ACTION • REPLACEABLE CONTACTS & COIL • EPOXY SEALED MOLDED MAGNET COIL HOUSING • LAMINATED CORROSION RESISTANT E-TYPE MAGNET & SELF-ALIGNING ARMATURE • HI-DIELECTRIC ARC RESISTANT MOLDED CONTACT BLOCK & CARRIER • 50/60 CYCLE MAGNET COIL • RESILIENT MOUNTING

## TYPE C10



SIZE 3 5/8" x 2 3/4" x 3 3/8"

10 Amp.  
600 Volts

- Pressure Type Power Terminals #10 Solid Wire Max.

- All Contacts Convert to N.C. See Page 11

- Double Break Contacts

## FOUR POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)		
		Horsepower		
		Voltage	Single Phase	Three Phase
24	C10-901	110	1/2	3/4
		220	3/4	1
110	C10-902	600	1	1
220	C10-903	Resistive		
		10 Amp. 600 V. Max. (Per Pole)		

## TYPE C15



SIZE 3 5/8" x 2 3/4" x 3 3/8"

15 Amp.  
600 Volts

- Pressure Type Power Terminals #10 Solid Wire Max.

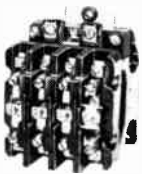
- All Contacts Convert to N.C. See Page 11

- Double Break Contacts

## FOUR POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)		
		Horsepower		
		Voltage	Single Phase	Three Phase
24	C15-901	110	1	1 1/2
		220	1 1/2	2
110	C15-902	600	1 1/2	2
220	C15-903	Resistive		
		15 Amp. 600 V. Max. (Per Pole)		

## TYPE C30



SIZE 3 5/8" x 2 3/4" x 3 3/8"

30 Amp.  
600 Volts

- Pressure Type Power Terminals #6 Solid Wire Max.

- SPNO Auxiliary Converts to N.C. See Page 11

- Double Break Contacts

## THREE POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)		
		Horsepower		
		Voltage	Single Phase	Three Phase
24	C30-901	110	2	3
		220	3	7 1/2
110	C30-902	600	5	10
220	C30-903	Resistive		
		30 Amp. — 600 V. (Per Pole)		

## TYPE C50R



SIZE 3 5/8" x 2 3/4" x 3 3/8"

50 Amp.  
480 Volts

- Pressure Type Power Terminals #6 Stranded Wire Max.

- Double Break Contacts

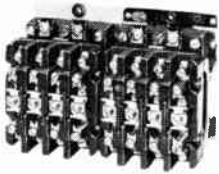
## FOUR POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)
24	C50R-901	Resistive Only For Electric Heating 50 Amp. — 480 Volt Max.
110	C50R-902	
220	C50R-903	



TWO TYPE C CONTACTORS MOUNTED SIDE BY SIDE ON COMMON STEEL BASE • RESILIENT MOUNTING • HARDENED STEEL MECHANICAL INTERLOCK PREVENTS SIMULTANEOUS CLOSING OF BOTH CONTACTORS • NO CROSS-PHASE WIRING • SUITABLE FOR MOTOR REVERSING & TRANSFORMER TAP CHANGING APPLICATION.

**TYPE CR15**



SIZE 3 5/8" x 5 1/4" x 3 3/8"

15 Amp.  
600 Volt

- Pressure Type Power Terminals #10 Solid Wire Max.
- All Contacts Convert to N.C. See Below
- Double Break Contacts

**FOUR POLE NORMALLY OPEN REVERSING**

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)		
		Horsepower		
		Voltage	Single Phase	Three Phase
110	CR15-901	110	1	1 1/2
220	CR15-902	220	1 1/2	2

**TYPE CR30**



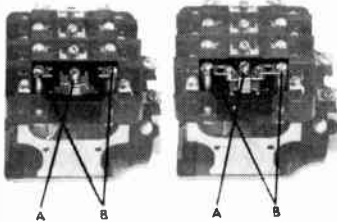
SIZE 3 5/8" x 5 1/4" x 3 3/8"

30 Amp.  
600 Volt

- SPNO Auxiliary Converts to N.C. See Below
- Double Break Contacts

**THREE POLE NORMALLY OPEN REVERSING**

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)		
		Horsepower		
		Voltage	Single Phase	Three Phase
110	CR30-901	110	2	3
220	CR30-902	220	3	7 1/2



Normally Open    Normally Closed

**CONVERSION INSTRUCTIONS**

All 10 and 15 ampere contact assemblies on RBM standard type C contactors are normally open. To convert to normally closed, use screwdriver. No special parts needed.

1. Remove movable contact assembly and lock washer by backing off terminal nut "A".
2. Loosen screws "B" and remove stationary contact assemblies.
3. Invert movable contact assembly, and replace on contactor with flat "I" spring resting on contact block. Contacts facing out.
4. Remove screws "B" from, and reinsert into opposite end of, stationary contact assembly. Re-install stationary contact assemblies; holding contacts in alignment with movable contacts while tightening screws.

**TYPE C REPLACEMENT PARTS**

**MAGNET COILS — Figure 4**

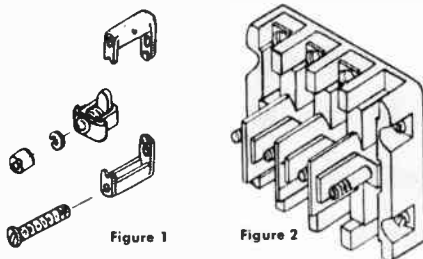


Figure 1

Figure 2

Voltage (50/60 cy.)	*Standard		*Special	
	Catalog Number	Replaces	Catalog Number	Replaces
24	MC-901	45225-5	MC-911	45225-35
110	MC-902	45225-1	MC-912	45225-31
220	MC-903	45225-2	MC-913	45225-32
440	MC-904	45225-3	MC-914	45225-33
550	MC-905	45225-4	MC-915	45225-34

\* Do not substitute standard for special coils or vice versa.

**CONTACT ASSEMBLIES — Figure 1**

Type	Use Contact Assembly	
	Catalog Number	Replaces
C10, C15, CR15*	CA-901	45997-3 45997-4
C30, CR30*	CA-902	45997-5
C50R	CA-903	45997-22
†109-153 †109-453	CA-904	45997-16 45997-20

**ARMATURE & MAGNET  
Figure 3**

Catalog Number
RP-901

**CONTACT BLOCK &  
CARRIER — Figure 2**

4 Pole	5 Pole
Catalog Number	Catalog Number
RP-902	RP-903

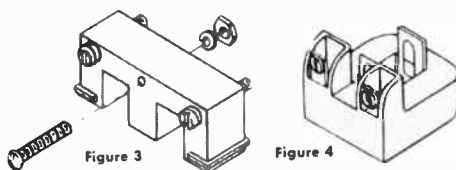
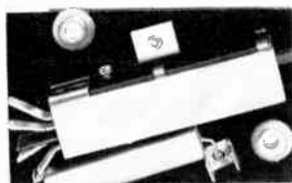


Figure 3

Figure 4

‡ Reversing type — 2 sets required. † Not standard catalog items.

## TYPE 59



SIZE 3 3/8" x 2 1/8" x 7/8"

- Thermal Type
- 
- Fixed Timing
- 
- Ambient Compensated
- 
- 1/4" Quick-Connect Termination
- 
- Wiring Terminals Included
- 
- Resilient Mounting
- 
- Non-Positional Reset Time
- Approx. 60 Sec.

## SINGLE POLE NORMALLY OPEN

TIME DELAY TO CLOSE — AFTER ENERGIZATION — 15 TO 45 SECS.

Operating		Catalog Number	Contact Rating
Voltage (50/60 cy.)	Watts		
24	3.0	59-901	3 Amp. 125/250 V.A.C. Pilot Duty
115/120	7.0	59-902	
230/240	10.0	59-903	

## SINGLE POLE NORMALLY CLOSED

TIME DELAY TO OPEN — AFTER ENERGIZATION — APPROX. 30 SECS.

24	3.0	59-904	3 Amp. 125/250 V.A.C. Pilot Duty
115/120	7.0	59-905	
230/240	10/0	59-906	

## TYPE 84T



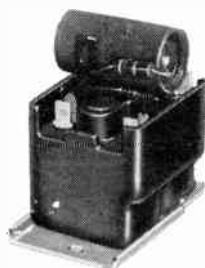
SIZE 2 5/8" x 2 1/4" x 1 1/2"

- Rectifier/ Capacitor Type
- 
- Fixed Timing
- 
- 1/4" Quick-Connect Termination
- 
- Wiring Terminals Included
- 
- Totally Enclosed
- 
- Approx. Reset Time
- 4 Seconds

## SINGLE POLE DOUBLE THROW

Coil (50/60 cy.)	Contact Action		Catalog Number	Time Delay in Seconds ±25%	Contact Rating (A.C.) Inductive
	Delay After Coil Energized	Delay After Coil De-Energized			
115/120	X	—	84TE-902	2	3 Amp. 125 V. 1.5 Amp. 250 V. Continuous
230/240	X	—	84TE-903	2	
115/120	—	X	84TD-902	2	
230/240	—	X	84TD-903	2	

## TYPE 129T



SIZE 3 1/8" x 2" x 3"

- Rectifier/ Capacitor Type
- 
- Fixed Timing
- 
- 1/4" Quick-Connect Termination
- 
- Wiring Terminals Included
- 
- Totally Enclosed
- 
- Double Break Contacts

## SINGLE POLE NORMALLY OPEN

TIME DELAY TO OPEN — AFTER DE-ENERGIZATION — 2 seconds ±25%.

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating — 250 V.A.C. Max.	
		Inductive	Resistive
115/120	129TD-901	18 Amp. Continuous	18 Amp. Continuous
230/240	129TD-902	1 H.P. — 125 V. 2 H.P. — 250 V.	Continuous

## TYPE 142TE

SIZE 1 3/4" x 1 1/4" x 3 1/2"  
(3 3/32" over knob)

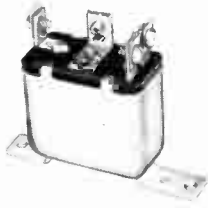
- Solid State
- 
- Adjustable Timing
- 
- Totally Enclosed
- 
- 8 Pin Plug-In
- 
- Repeat ±2% @ 25°C Nom. Voltage
- 
- 10% Over Complete Voltage and Temp. Range
- 
- Reset Time Approx. 100 M.S.

## TWO POLE DOUBLE THROW

CONTACT RATING — 5 AMP. — 115/230 V.A.C. (RESISTIVE) OR 28 V.D.C.

Coil Voltage	Contact Action		
	Time Delay After Coil Energized		
	0.5 - 10.0 Seconds Catalog Number	0.5 - 180.0 Seconds Catalog Number	0.5 - 300.0 Seconds Catalog Number
24 (50/60 cy.)	142TE-901	142TE-911	142TE-921
120 (50/60 cy.)	142TE-902	142TE-912	142TE-922
24 D.C.	142TE-903	142TE-913	142TE-923

## TYPE 60



SIZE 2 7/8" x 1 1/8" x 2 5/8"

Metal Case

•  
Totally Enclosed•  
Isolated Coil•  
Screw Terminals•  
Screws Included•  
Low Cost

## SINGLE POLE NORMALLY OPEN

Coil Voltage (D.C.)	Resistance In Ohms @ 25°C	Catalog Number	Contact Rating D.C.	
			Inductive	
			Voltage	Current
6	11	60-901	6	15 Amp.
12	35	60-902	12	15 Amp.
24	160	60-903	24	7.5 Amp.

## TYPE 70 D.C. POWER CONTACTORS

## CONTACT RATING

D.C. INDUCTIVE LOAD — 36 V. MAX.

NON-TURNING STUDS • DRAWN STEEL DUST PROOF ENCLOSURE • COPPER STUD POWER & COIL TERMINALS • DOUBLE BREAK ROTATING DISC MOVABLE CONTACT • SOLENOID ACTUATED • SUGGESTED MOUNTING — CAP DOWN

Voltage (D.C.)	Normally Open		Normally Closed	
	Continuous	Inrush	Continuous	Inrush
6	80 Amp.	300 Amp.	60 Amp.	100 Amp.
12	80 Amp.	150 Amp.	60 Amp.	60 Amp.
24	50 Amp.	50 Amp.	30 Amp.	30 Amp.
36	50 Amp.	50 Amp.	30 Amp.	30 Amp.

## 4 TERMINAL



SIZE 2 1/2" x 3 1/2" x 2 1/2"

Four Terminal

•  
Isolated Coil•  
Silver or Copper Contacts•  
Hardware Included•  
Continuous Duty Coil•  
Ease In Wiring

## SINGLE POLE NORMALLY OPEN

Coil Voltage (D.C.)	Resistance in Ohms @ 25°C	Catalog Number	Contact Material
6	4	70-901	Copper
12	19	70-902	
24	60	70-903	
36	114	70-904	
6	4	70-905	Silver
12	19	70-906	
24	60	70-907	
36	114	70-908	

## 3 TERMINAL



SIZE 2 1/2" x 3 1/2" x 2 1/2"

Three Terminal

•  
Continuous Duty Coil•  
Copper Contacts•  
Hardware Included•  
Coil Common to Case or Coil Common to Battery•  
Rugged Construction

## SINGLE POLE NORMALLY OPEN

Coil Voltage (D.C.)	Resistance in Ohms @ 25°C	Catalog Number	Contact Material
6	4	70-913	Copper Coil Grounded to Case
12	19	70-914	
24	60	70-915	
36	114	70-916	
6	4	70-917	Copper Coil Common to Load
12	19	70-918	
24	60	70-919	
36	114	70-920	

## 6 TERMINAL



SIZE 3 3/8" x 3 3/8" x 2 1/2"

Six Terminal

•  
Continuous Duty Coil•  
Isolated Coil•  
Hardware Included•  
Choice of 2 Types Contacts

## SINGLE POLE DOUBLE THROW

Coil Voltage (D.C.)	Resistance in Ohms @ 25°C	Catalog Number	Contact Material
6	4	70-909	N.O. and N.C. Silver
12	19	70-910	
24	60	70-911	
36	114	70-912	
6	4	70-921	N.O. Copper and N.C. Silver
12	19	70-922	
24	60	70-923	
36	114	70-924	

DESIGN DATA PAGE 5 — MOUNTING DIMENSIONS PAGE 18 — PRICES PAGES 1, 2, 3

## SINGLE POLE DOUBLE THROW — TWO POLE DOUBLE THROW — THREE POLE DOUBLE THROW

Electrical Life				Mechanical Life	Operate Time (Incl. Bounce)	Vibration	Shock	Operating Ambient
NON-INDUCTIVE LOAD	0.5 Amp.	1.0 Amp.	2.0 Amp.					
NUMBER OPERATIONS	1,000,000	300,000	100,000	100,000,000 At 180 Operations Per Minute (No Load)	20 Milliseconds	2G 10-55 Cycles	2G Operate 10G Non-Operate	-55°C to +85°C

## TYPE MS40



SIZE 1 1/8" x 1 1/8" x 1 1/8"

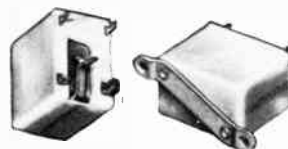
- Solder Terminals
- 
- 4-40 Mounting
- 
- Armature  
Common to Frame
- 
- Long Life
- 
- Low Cost

## SINGLE POLE DOUBLE THROW — OPEN TYPE

Contact Rating		Coil Power	
2 Amp. Non-Inductive 28 V.D.C. — 115 V.A.C.		Minimum Required	0.050 Watts
		Maximum Capacity	1.0 Watts
D.C. Magnet Coil At 25°C			
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number
18.7 MA.	14 MA.	250	MS40-901
13.5 MA.	10 MA.	500	MS40-902
11.0 MA.	8.2 MA.	750	MS40-903
9.3 MA.	7 MA.	1000	MS40-904
7.7 MA.	5.8 MA.	1500	MS40-905
6.0 MA.	4.5 MA.	2500	MS40-906
4.3 MA.	3.2 MA.	5000	MS40-907
3.5 MA.	2.6 MA.	7500	MS40-908
2.9 MA.	2.2 MA.	10000	MS40-909

\*D.O. Approx. 35% of PU. †Nominal ±10%.

## TYPE MS64

FIG. 1      FIG. 2  
SIZE 1 3/4" x 3/4" x 1 1/8"

- Printed Circuit  
Terminals or  
Bracket Mounting
- 
- Isolated Contacts
- 
- Snap-on Cover
- 
- Molded Construction

## SINGLE POLE DOUBLE THROW — ENCLOSED TYPE

Contact Rating		Coil Power	
2 Amp. Non-Inductive 28 V.D.C. — 115 V.A.C.		Minimum Required	0.050 Watts
		Maximum Capacity	1.0 Watts
D.C. Magnet At 25°C			
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number Fig. 1
6 V.	4.5 V.	400	MS64-901
12 V.	9.0 V.	1600	MS64-902
24 V.	18.0 V.	6500	MS64-903
3 MA.	2.3 MA.	10000	MS64-904

\*D.O. Approx. 35% of PU. †Nominal ±10%.

## TYPE MS25



SIZE 1 1/8" x 1 1/2" x 1 1/8"

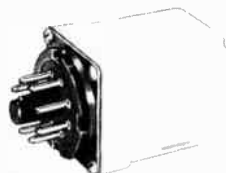
- Solder Terminals
- 
- Isolated Contacts
- 
- Protective  
Contact Cover
- 
- Insulating Fiber Base

## SINGLE POLE DOUBLE THROW — OPEN TYPE

Contact Rating		Coil Power	
2 Amp. Non-Inductive 28 V.D.C. — 115 V.A.C.		Minimum Required	0.040 Watts
		Maximum Capacity	1.5 Watts
D.C. Magnet Coil At 25°C			
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number
6 V.	4.5 V.	510	MS25-901
12 V.	9.0 V.	2025	MS25-902
24 V.	18.0 V.	8100	MS25-903
3.7 MA.	2.8 MA.	5000	MS25-904
2.7 MA.	2.0 MA.	10000	MS25-905
2.1 MA.	1.6 MA.	15000	MS25-906

\*D.O. Approx. 35% of PU. †Nominal ±10%.

## TYPE MS25P



SIZE 2" x 1 3/8" x 1 3/8"

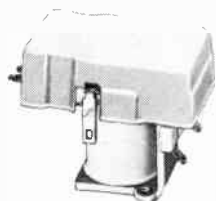
- 8 Pin Plug-In
- 
- Isolated Contacts
- 
- High Impact  
Case

## TWO POLE DOUBLE THROW — PLUG-IN

D.C. Magnet Coil At 25°C			
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number
6 V.	4.5 V.	510	MS25P-901
12 V.	9.0 V.	2025	MS25P-902
24 V.	18.0 V.	8100	MS25P-903
3.7 MA.	2.8 MA.	5000	MS25P-904
2.7 MA.	2.0 MA.	10000	MS25P-905
2.1 MA.	1.6 MA.	15000	MS25P-906

\*D.O. Approx. 35% of PU. †Nominal ±10%.

**TYPE MS50**



SIZE 1 5/8" x 1 1/8" x 1 3/8"

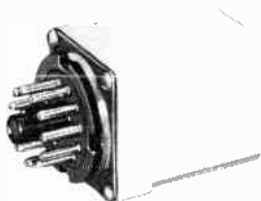
- Solder Terminals
- 
- Isolated Contacts
- 
- Protective Contact Cover

**TWO POLE DOUBLE THROW — OPEN TYPE**

Contact Rating		Coil Power	
2 Amp. Non-Inductive 28 V.D.C. — 115 V.A.C.		Minimum Required	0.125 Watts
		Maximum Capacity	1.5 Watts
D.C. Magnet Coil At 25°C			Catalog Number
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	
6 V.	4.5 V.	160	MS50-901
12 V.	9.0 V.	650	MS50-902
24 V.	18.0 V.	2600	MS50-903
6.7 MA.	5.0 MA.	5000	MS50-904
4.7 MA.	3.5 MA.	10000	MS50-905
3.9 MA.	2.9 MA.	15000	MS50-906

\*D.O. Approx. 35% of PU. †Nominal ±10%.

**TYPE MS50P**



SIZE 2" x 1 3/8" x 1 3/8"

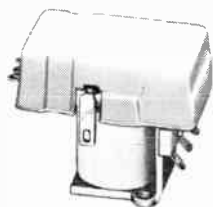
- 8 Pin Plug-In
- 
- Isolated Contacts
- 
- High Impact Case

**TWO POLE DOUBLE THROW — PLUG-IN**

D.C. Magnet Coil At 25°C			Catalog Number
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	
6 V.	4.5 V.	160	MS50P-901
12 V.	9.0 V.	650	MS50P-902
24 V.	18.0 V.	2600	MS50P-903
6.7 MA.	5.0 MA.	5000	MS50P-904
4.7 MA.	3.5 MA.	10000	MS50P-905
3.9 MA.	2.9 MA.	15000	MS50P-906

\*D.O. Approx. 35% of PU. †Nominal ±10%.

**TYPE MS50**



SIZE 1 5/8" x 1 1/8" x 1 3/8"

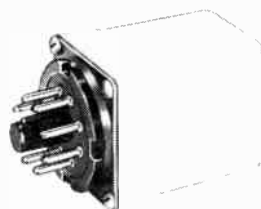
- Solder Terminals
- 
- Isolated Contacts
- 
- Protective Contact Cover

**THREE POLE DOUBLE THROW — OPEN TYPE**

Contact Rating		Coil Power	
2 Amp. Non-Inductive 28 V.D.C. — 115 V.A.C.		Minimum Required	0.200 Watts
		Maximum Capacity	1.5 Watts
D.C. Magnet Coil At 25°C			Catalog Number
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	
6 V.	4.5 V.	100	MS50-921
12 V.	9.0 V.	400	MS50-922
24 V.	18.0 V.	1600	MS50-923
8.5 MA.	6.4 MA.	5000	MS50-924
6.0 MA.	4.5 MA.	10000	MS50-925
4.9 MA.	3.7 MA.	15000	MS50-926

\*D.O. Approx. 35% of PU. †Nominal ±10%.

**TYPE MS50P**



SIZE 2" x 1 3/8" x 1 3/8"

- 11 Pin Plug-In
- 
- Isolated Contacts
- 
- High Impact Case

**THREE POLE DOUBLE THROW — PLUG-IN**

D.C. Magnet Coil At 25°C			Catalog Number
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	
6 V.	4.5 V.	100	MS50P-921
12 V.	9.0 V.	400	MS50P-922
24 V.	18.0 V.	1600	MS50P-923
8.5 MA.	6.4 MA.	5000	MS50P-924
6.0 MA.	4.5 MA.	10000	MS50P-925
4.9 MA.	3.7 MA.	15000	MS50P-926

\*D.O. Approx. 35% of PU. †Nominal ±10%.

16 RBM CONTROLS

GLASS REED SWITCHES

BRM-902

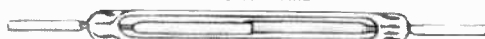
MINIATURE



BI-REED

BRS-901

STANDARD



BI-REED

TRM-901

MINIATURE



TRI-REED

Contact Form		Single Pole Normally Open						Single Pole Double Throw			
Miniature or Standard		Miniature			Standard			Miniature			
Catalog Number		BRM-902			BRS-901			TRM-901			
Non-Inductive Contact Rating	Make and Break	15 VA. A.C. — 5 Watts D.C. ¼ Amp. Maximum up to 250 Volts			15 VA. A.C. — 15 Watts D.C. 1.0 Amp. Maximum up to 250 Volts			15 VA. A.C. — 5 Watts D.C. ¼ Amp. Maximum up to 125 V. A.C. or 32 V. D.C.			
	No Make or Break	1.0 Amp. 250 V.			5 Amp. 250 V.			1 Amp. 125 V. A.C. or 32 V. D.C.			
Contact Life Based on 10 Ohm Miss Test	Resistive Load (D.C.)	10 Micro-Amp. @ 10 Milli-Volts	¼ Amp. @ 32 Volts		10 Micro-Amp. @ 10 Milli-Volts	¼ Amp. @ 32 Volts		10 Micro-Amp. @ 10 Milli-Volts	¼ Amp. @ 32 Volts		
	Number Operations	100,000,000	10,000,000		200,000,000	125,000,000		100,000,000	10,000,000		
Approximate Overall Dimensions		Over Leads	Glass Length	Glass Diameter	Over Leads	Glass Length	Glass Diameter	Over Leads	Glass Length	Glass Diameter	
Weight		1.5"	0.75"	0.100"	3.35"	2.1"	0.200"	1.5"	0.60"	0.125"	
Minimum Breakdown Voltage (60 cy. R.M.S.)		0.315 Grams			2.5 Grams			0.295 Grams			
Minimum Insulation Resistance (Megohms)		250 V.			500 V.			250 V.			
Initial Contact Resistance (Milliohms Max.)		500 K.			500 K.			100 K.			
Maximum Operate Time (Milliseconds)		150			50			150			
Ampere-Turns To Operate		Pull-In (Including Bounce)		Release	Pull-In (Including Bounce)		Release	Pull-In (Including Bounce)		Release	
		1.0		0.5	2.0		0.5	1.0		0.5	
Nominal Coil Power		Pull-In		Drop Out	Pull-In		Drop Out	Pull-In		Drop Out	
		Nominal	Minimum		Nominal	Minimum		Nominal	Minimum		
Vibration		50 ±15		20	50% of P.U.	100 ±15		60	30% of P.U.	50 ±15	
Shock (JAN S-44)		35		70% of P.U.	30		70% of P.U.	35		70% of P.U.	
Ambient Temperature Range		0.335 Watts			0.360 Watts			0.335 Watts			
Standard Test Coil Specifications See Test Circuit Page 19		15G — 2000 C.P.S.			20G — 750 C.P.S.			15G — 2000 C.P.S.			
Wire Size		50G (Min.)			40G (Min.)			50G (Min.)			
Number Turns		-55° to +85°C			-55° to +85°C			-55° to +85°C			
Tube I.D.		#44			#36			#44			
Tube O.D.		10,000			10,000			10,000			
Tube Length		0.150"			0.210"			0.150"			
		0.200"			0.375"			0.200"			
		0.75"			1.75"			0.75"			

MINIATURE D.C. GLASS REED RELAYS

TYPE BRMR

See BRM-902 For Contact Rating

Operate Time 1 M.S. Including Bounce

Release Time 0.5 M.S. Max.

Magnetically Shielded



FIGURE 1 SIZE Fig. 1 - 1 3/16" x 3/16" x 3/64" PLUS LEADS  
FIGURE 2 SIZE Fig. 2 - 1 1/8" x 4/64" x 3/64" PLUS LEADS

Coil Power	Nominal Voltage	Max. Pick-up Voltage	Minimum Drop-out Voltage	Max. Pick-up Current	Resistance in Ohms ±10%	Catalog Number
<b>SINGLE POLE NORMALLY OPEN — Figure 1</b>						
1.0 Watts Max. @ 25°C	6 V.	3.25 V.	0.8 V.	27.0 MA.	105	BRMR1-901
	12 V.	6.5 V.	1.0 V.	15.5 MA.	420	BRMR1-902
	28 V.	15.2 V.	2.2 V.	6.5 MA.	2350	BRMR1-903
<b>TWO POLE NORMALLY OPEN — Figure 2</b>						
1.5 Watts Max. @ 25°C	6 V.	3.25 V.	0.8 V.	46.5 MA.	70	BRMR2-901
	12 V.	6.5 V.	1.0 V.	25.2 MA.	280	BRMR2-902
	28 V.	15.2 V.	2.2 V.	6.5 MA.	1540	BRMR2-903

TYPE TRMR

See TRM-901 For Contact Rating

Operate Time 1 M.S. Including Bounce

Release Time 0.5 M.S. Max.

Shielded

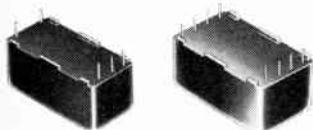


FIGURE 1 SIZE Fig. 1 - 1 3/16" x 3/16" x 3/64" PLUS LEADS  
FIGURE 2 SIZE Fig. 2 - 1 1/8" x 4/64" x 3/64" PLUS LEADS

Coil Power	Nominal Voltage	Max. Pick-up Voltage	Minimum Drop-out Voltage	Max. Pick-up Current	Resistance in Ohms ±10%	Catalog Number
<b>TRUE FORM — SINGLE POLE DOUBLE THROW — Figure 1</b>						
1.0 Watts Max. @ 25°C	6 V.	4 V.	1.5 V.	42 MA.	105	TRMR1-901
	12 V.	8 V.	3 V.	21 MA.	420	TRMR1-902
	28 V.	19 V.	6 V.	8 MA.	2350	TRMR1-903
<b>TRUE FORM — TWO POLE DOUBLE THROW — Figure 2</b>						
1.5 Watts Max. @ 25°C	6 V.	4 V.	1.5 V.	64 MA.	70	TRMR2-901
	12 V.	8 V.	3 V.	32 MA.	280	TRMR2-902
	28 V.	19 V.	6 V.	12 MA.	1540	TRMR2-903

TYPE ABRMR

See BRM-902 For Contact Rating

Operate Time 1 M.S. Including Bounce

Release Time 0.5 M.S. Max.

Shielded



SIZE 1 3/16" x 1 3/16" x 1 1/2" PLUS LEADS

Coil Power	Nominal Voltage	Max. Pick-up Voltage	Minimum Drop-out Voltage	Max. Pick-up Current	Resistance in Ohms ±10%	Catalog Number
<b>SINGLE POLE NORMALLY OPEN</b>						
1.0 Watts Max. @ 25°C	6 V.	3.25 V.	0.8 V.	27.0 MA.	70	ABRMR1-901
	12 V.	6.5 V.	1.0 V.	15.5 MA.	280	ABRMR1-902
	28 V.	15.2 V.	2.2 V.	6.5 MA.	1500	ABRMR1-903

**TYPE BRSR**

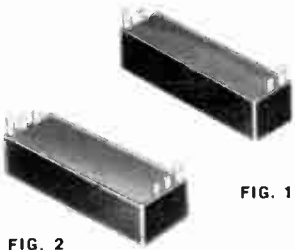


FIG. 1

FIG. 2

SIZE Fig. 1 - 2.55" x .675" x .625"  
 SIZE Fig. 2 - 2.55" x .925" x .625"

See BRS-901  
 For Contact Rating

•  
 Operate Time 2 M.S.  
 Including Bounce

•  
 Release Time  
 0.5 M.S. Max.

•  
 Shielded

Coil Power	Nominal Voltage	Max. Pick-up Voltage	Minimum Drop-out Voltage	Max. Pick-up Current	Resistance in Ohms ±10%	Catalog Number
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**SINGLE POLE NORMALLY OPEN**

3.0 Watts Max. @ 25°C	6 V.	4.5 V.	0.55 V.	43.0 MA.	115	BRSR1-901
	12 V.	9.0 V.	1.10 V.	22.5 MA.	445	BRSR1-902
	28 V.	18.0 V.	2.50 V.	7.8 MA.	2550	BRSR1-903

**TWO POLE NORMALLY OPEN**

3.2 Watts Max. @ 25°C	6 V.	4.5 V.	0.51 V.	86.5 MA.	58	BRSR2-901
	12 V.	9.0 V.	1.00 V.	45.0 MA.	220	BRSR2-902
	28 V.	18.0 V.	2.10 V.	13.3 MA.	1500	BRSR2-903

**TYPE OBRSR**



SIZE 2 3/4" x 5/8" x 3/16"

See BRS-901  
 For Contact Rating

•  
 Shielded

•  
 Operate Time 2 M.S.  
 Including Bounce

•  
 Release Time  
 0.5 M.S. Max.

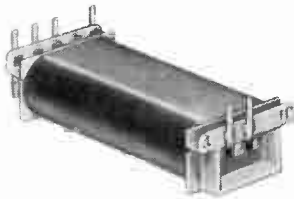
•  
 Open Type

Coil Power	Nominal Voltage	Max. Pick-up Voltage	Minimum Drop-out Voltage	Max. Pick-up Current	Resistance in Ohms ±10%	Catalog Number
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**SINGLE POLE NORMALLY OPEN**

2.5 Watts Max. @ 25°C	6 V.	4.5 V.	0.55 V.	31.0 MA.	160	OBRSR1-901
	12 V.	9.0 V.	1.10 V.	16.0 MA.	600	OBRSR1-902
	28 V.	18.0 V.	2.50 V.	12.5 MA.	2500	OBRSR1-903

**TYPE OBRSR**



SIZE 2 3/4" x 1 3/4" x 1/8"

See BRS-901  
 For Contact Rating

•  
 Shielded

•  
 Operate Time 2 M.S.  
 Including Bounce

•  
 Release Time  
 0.5 M.S. Max.

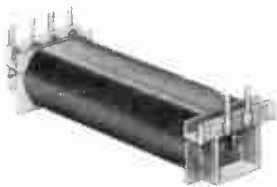
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 Open Type

Coil Power	Nominal Voltage	Max. Pick-up Voltage	Minimum Drop-out Voltage	Max. Pick-up Current	Resistance in Ohms ±10%	Catalog Number
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**SINGLE POLE NORMALLY OPEN and  
 SINGLE POLE NORMALLY CLOSED**

3.4 Watts Max. @ 25°C	6 V.	4.5 V.	0.55 V.	112.5 MA.	45	OBRSR1-907
	12 V.	9.0 V.	1.10 V.	55.0 MA.	180	OBRSR1-908
	28 V.	18.0 V.	2.50 V.	18.5 MA.	1070	OBRSR1-909

**TYPE OBRSR**



SIZE 2 3/4" x 5/8" x 3/16"

See BRS-901  
 For Contact Rating

•  
 Shielded

•  
 Operate Time 2 M.S.  
 Including Bounce

•  
 Release Time  
 0.5 M.S. Max.

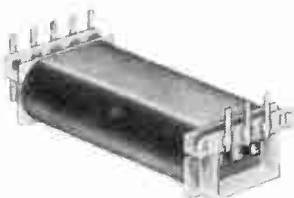
•  
 Open Type

Coil Power	Nominal Voltage	Max. Pick-up Voltage	Minimum Drop-out Voltage	Max. Pick-up Current	Resistance in Ohms ±10%	Catalog Number
------------	-----------------	----------------------	--------------------------	----------------------	-------------------------	----------------

**TWO POLE NORMALLY OPEN**

3.0 Watts Max. @ 25°C	6 V.	4.5 V.	0.55 V.	55.5 MA.	88	OBRSR2-901
	12 V.	9.0 V.	1.10 V.	28.0 MA.	350	OBRSR2-902
	28 V.	18.0 V.	2.50 V.	14.5 MA.	1400	OBRSR2-903

**TYPE OBRSR**



SIZE 2 3/4" x 1 3/4" x 1/8"

See BRS-901  
 For Contact Rating

•  
 Shielded

•  
 Operate Time 2 M.S.  
 Including Bounce

•  
 Release Time  
 0.5 M.S. Max.

•  
 Open Type

Coil Power	Nominal Voltage	Max. Pick-up Voltage	Minimum Drop-out Voltage	Max. Pick-up Current	Resistance in Ohms ±10%	Catalog Number
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**THREE POLE NORMALLY OPEN**

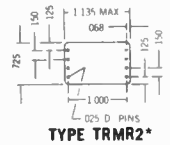
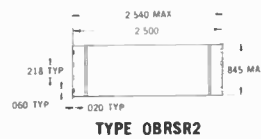
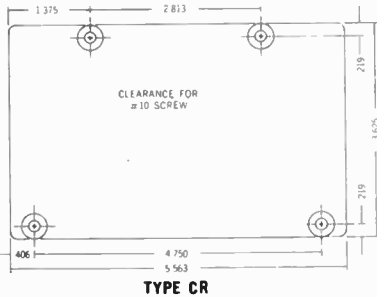
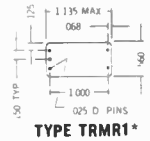
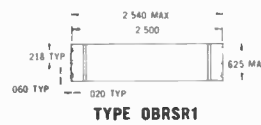
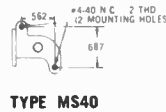
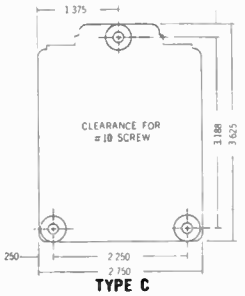
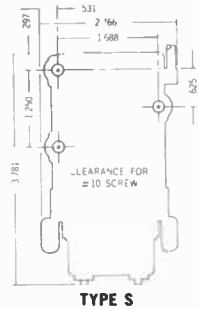
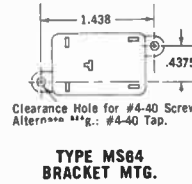
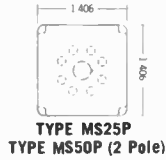
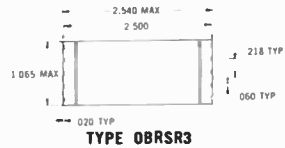
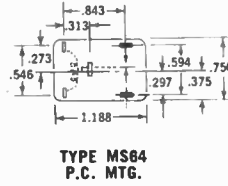
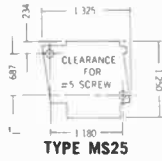
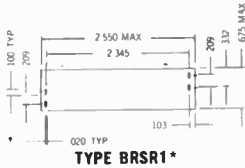
3.4 Watts Max. @ 25°C	6 V.	4.5 V.	0.55 V.	112.5 MA.	45	OBRSR3-901
	12 V.	9.0 V.	1.10 V.	55.0 MA.	180	OBRSR3-902
	28 V.	18.0 V.	2.50 V.	18.5 MA.	1070	OBRSR3-903





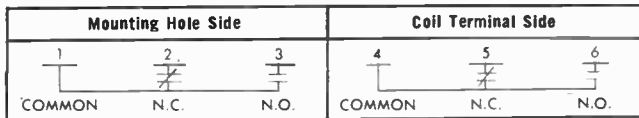
DIMENSIONS ARE APPROX. CONSULT FACTORY FOR EXACT DIMENSIONS.

\*ASTERISK DENOTES BOTTOM VIEW—ALL OTHERS TOP VIEW

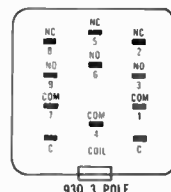
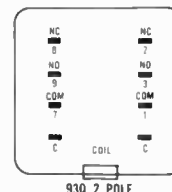
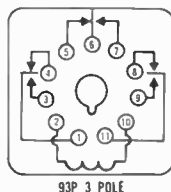
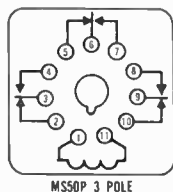
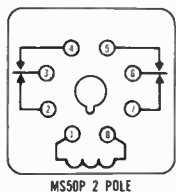
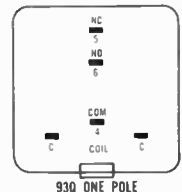
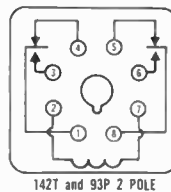
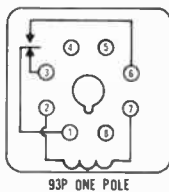
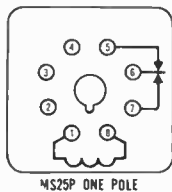
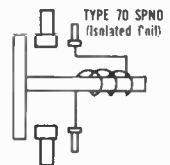
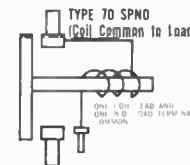
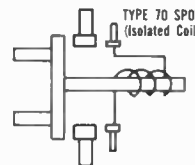
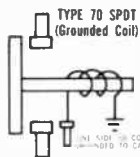
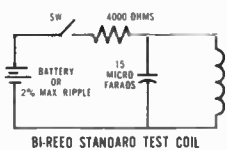
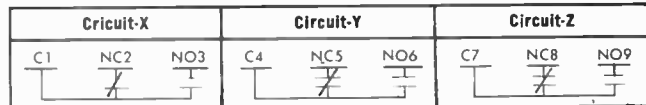


WIRING DIAGRAMS

TYPE 91 CONTACT TERMINAL ARRANGEMENT

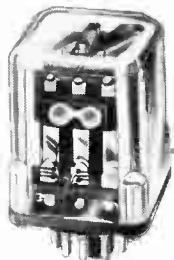


TYPE 92 CONTACT TERMINAL ARRANGEMENT



# SCHRACK RELAYS

## CAD SERIES



Contacts	10 Amp. Rating		
	SPDT	DPDT	3PDT
Relay Type	CAD5A10	CAD11A10	CAD14A10
6 volts a.c.	\$4.95	\$5.55	\$6.75
12 volts a.c.			
24 volts a.c.			
115 volts a.c.			
230 volts a.c.	\$5.50	\$5.95	\$7.15
Relay Type	CAD5D10	CAD11D10	CAD14D10
6 volts d.c.	\$4.95	\$5.55	\$6.75
12 volts d.c.			
24 volts d.c.			
110 volts d.c.	\$5.50	\$5.95	\$7.15

5 AMP ALSO AVAILABLE

Same basic design as CA series; however, with clear plastic dust cover and octal-type plug-in base. Case is secured firmly to base by 4 "upset" plastic studs. Contact carrier plate is self-centering. Contact carrier is made of "KERIPOLE," a polyester material with glass fibre filling.

## NEW MINIATURE UNIVERSAL TYPE RA

A precision piece of equipment at a commercial price —



1.515" high, 0.847" wide with dust cover

designed for use in computers, data processing equipment, communications equipment, process control applications, and other equally important systems.

Type RA is a four pole universal type relay for 4 PDT or double-make, double-break (DPDT-DB) action.  $\frac{3}{32}$ " contacts rated at 3A — normally supplied in gold-flashed silver. Also available in silver cadmium oxide, gold nickel, silver palladium, etc.

### STANDARD COIL DATA

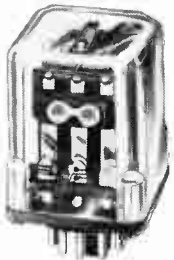
DC Voltage	Resistance in Ohms $\pm 10\%$ at 25°C	AC Voltage	Average AC current in MA (relay closed)
6	40	6	200
12	160	12	100
24	650	24	52
48	2,600	48	25
90	9,000	115	10.5
110	11,000		

Sockets Available

From this relay you can expect 100,000,000 OPERATIONS

New Magnetic Latching Relay also available in Miniature size

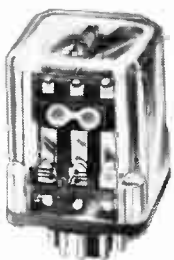
## CSD SERIES



A plate circuit relay, similar to the CAD Type; however with increased sensitivity (125 MW per movable arm).

Contacts	SPDT	2 Amp. Rating DPDT	3PDT
Relay Type	CSD5	CSD11	CSD14
2500 ohms	\$5.20	\$5.60	\$6.80
5000 ohms	\$5.30	\$5.70	\$6.90
10,000 ohms	\$5.70	\$6.10	\$7.30

## SENSITIVE RELAY — CMD SERIES



In this series there are eleven types in three classifications.

No.	Coil	List Price
CMD-5D	600 $\Omega$	\$4.95
CMD-5D	2400 $\Omega$	4.95
CMD-5D	9600 $\Omega$	5.20
CMD-11D	450 $\Omega$	6.10
CMD-11D	1890 $\Omega$	6.10
CMD-11D	7300 $\Omega$	6.10
CMD-5A	540 $\Omega$	5.00
CMD-5A	234 $\Omega$	4.75
CMD-5A	1000 $\Omega$	4.75
CMD-5A	3850 $\Omega$	4.75
CMD-5A	6900 $\Omega$	5.30

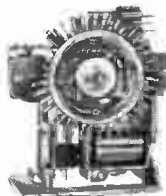
1. D.C. Relays with one form C contact Type CMD 5D — Pull-in sensitivity 40 mw; Coil Windings — 600 ohm, 2400 ohm, 9600 ohm

2. D.C. Relays with two form C contacts Type CMD 11D — Pull-in sensitivity 60 mw; Coil Windings — 450 ohm, 1890 ohm, 7300 ohm

3. A.C. Relays with one form C contact Type CMD 5A — Pull-in sensitivity 80 MVA; Coil Windings — 540 ohm, 234 ohm, 1000 ohm, 3850 ohm, and 6900 ohm

Contact ratings are 2 amps at 115 VAC. Contact points are gold-flashed silver.

## ROTARY STEPPING SWITCH TYPE RT



The SCHRACK Rotary Stepping Switch is a combination of three reliable components:

1. Standard Relay with 1 Form C heavy-duty contact.
2. Ratchet driven Rotary Switch consisting of four banks of twelve or ten points each with sliding bifurcated wipers.

3. Ratchet driven Stepping Relay with two cams which actuate one Form C contact each.

Schrack Rotary Stepping Switches have a highly efficient magnetic circuit and a driving mechanism designed for maximum operating safety. All components are mounted on a rigid die-cast light metal frame and contacts are permanently molded in a sturdy melamine plastic.

ROTARY SWITCH terminals are arranged in a circular pattern with four groups of twelve points each. A conversion can make it operate with 3 groups of 16 each. An alternate version with 4 x 10 points is available for applications requiring decimal counting. Each group occupies a quadrant of the circle and contains a common bus which is connected to the twelve or ten insulated points in sequence by means of a sliding wiper as the switch is operated.

The sliding contacts are bifurcated spring phosphor bronze wipers. The wiper contact assemblies are insulated electrically from each other and the wipers are of the non-bridging type.

The contacts of the rotary switch bank are capable of carrying .5-amps on a steady state basis and of interrupting 1 amps at 110 volts DC with a resistive load or .2 amps at 115 volts AC. Coil Voltages 12, 24, 48 or 110 DC.

TYPE RT 304 — 4 x 12 Contact Points \$19.00 ea.

TYPE RT 404 — 4 x 10 Contact Points \$19.00 ea.

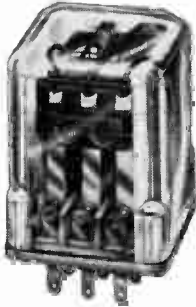
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SCHRACK ELECTRICAL SALES CORPORATION

# SCHRACK RELAYS

## SINGLE COIL MAGNETIC LATCHING RELAYS — TYPES CRD & CRF



(CRF shown)  
Sockets Available

This is a bi-stable power relay held in operated position by a strong residual magnetism of the coil core after the coil is de-energized. The coil core is of a special alloy having sufficient remnant magnetic force to hold the armature locked-in for an indefinite period of time after being energized momentarily.

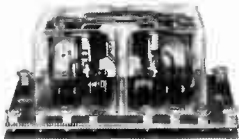
This Schrack relay has only one coil winding. In operation this coil is energized by half-wave rectified AC obtained by means of a diode such as Type IN3255 connected in series with the relay coil and mounted in the circuit outside the relay case. For de-magnetizing, to return the armature to its normal position, the same relay coil is energized by full-wave A.C., however, with reduced amplitude obtained by a series-connected resistor. The effect is to destroy the remnant magnetism in the coil core and ready the relay for another pull-in operation.

Although AC operation is recommended, it is possible to operate the Schrack Magnetic Latching Relay with a D.C. pulse using reduced levels and by reversing polarity as shown in technical data sheets.

In design, these magnetic latching relays are identical, except for the base, with the Schrack Type CAD plug-in relay. Contacts are rated at 5 or 10 amps depending on materials used. DPDT (2 form C) or 3 DPDT (3 form C) versions are available.

As can be readily seen, this relay has distinct advantages over the mechanical type since there are no parts subject to wear and friction. Long, trouble-free service and freedom from maintenance may be expected. Since Type CRD is plug-in, chassis may be pre-wired, and its compact design requires less than half the space of the conventional mechanical design. An indefinite "memory" storage and safe programming of complex circuits open up a wide range of potential uses for this most advanced relay design which is being offered at an unusually low commercial price.

## LATCHING RELAY — TYPE CBT



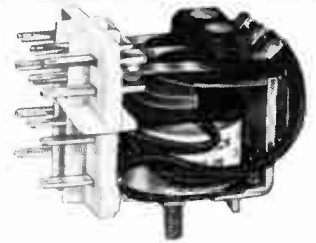
A dual coil mechanical latching relay. Each relay operates on a momentary impulse on either coil and is held in the set position until released by an impulse on the other coil. Both coils must be for the same voltage and are continuously rated.

Contact rating: 10 amps. (Based on 600 operations per hour at 115 volts AC 60 cy. resistive load).

May be operated continuously at 1000 cycles per hour.

The CBT relays have a transparent dust cover and a sturdy base plate of insulating material. Screw-type terminals are provided for all contact and coil connections. Available in voltages from 6-230 AC and 6-110 DC.

## OPEN RELAY TYPE CA



Recognized under the components program of Underwriters Laboratories, Inc.

### 5 AMP RATING

	CA5A5	CA11A5	CA14A5
6 volts a.c.			
12 volts a.c.	\$2.60	\$3.00	\$3.85
24 volts a.c.			
115 volts a.c.			
230 volts a.c.	2.95	3.40	4.20

### 10 AMP RATING

	CA5A10	CA11A10	CA14A10
6 volts a.c.			
12 volts a.c.	\$2.65	\$3.05	\$3.90
24 volts a.c.			
115 volts a.c.			
230 volts a.c.	3.00	3.45	4.30

### 5 AMP RATING

	CA505	CA1105	CA1405
6 volts d.c.			
12 volts d.c.	\$2.60	\$3.00	\$3.80
24 volts d.c.			
60 volts d.c.			
110 volts d.c.	2.95	3.40	4.15

### 10 AMP RATING

	CA5010	CA11010	CA14010
6 volts d.c.			
12 volts d.c.	\$2.65	\$3.05	\$3.85
24 volts d.c.			
60 volts d.c.			
110 volts d.c.	3.00	3.45	4.25

A robust and dependable open-type relay, equipped with lugs suitable for soldering and for mounting of AMP-FASTON Connectors, Series 110. Contact rating: 5 amps or 10 amps; according to contact material. Standard coils available: 6, 12, 24, 115, 230 volts a.c.; 6, 12, 24, 110 volts d.c. Standard versions include 1, 2, or 3 Form C contacts. Optional: solder lugs for printed circuit boards.

## DRY REED RELAYS TYPE RU



May be incorporated into printed circuits as easily as other components. These are rugged, compact, high-power units available in a wide range of voltages and contact arrangements featuring long mechanical life (JYU mil. operations). They are not influenced by mounting position and are fully protected against corrosive atmospheres.

	TYPE	PILE-UP	LIST PRICE
1/2 AMP 3 WATTS	RU510	103 1A	\$ 4.05
		106	4.15
		112	4.30
		124	4.80
	RU520	103 2A	6.85
		106	6.95
		112	6.95
		124	7.25
	RU530	103 3A	9.65
		106	9.80
		112	9.85
		124	10.35
1 AMP 4 WATTS	RU511	103 1C	12.70
		106	12.80
		112	12.90
		124	13.45
	RU521	103 2C	24.10
		106	24.20
		112	24.20
		124	24.40
	RU531	103 3C	35.50
		106	35.60
		112	35.80
		124	35.95
1 AMP 15 WATT	RU512	103 1A	4.20
		106	4.25
		112	4.35
		124	4.75
3 AMP 50 WATT	RU513	103 1A	8.20
		106	8.25
		112	8.35
		124	8.75
		148	9.55

## LOW COST PROTECTION AGAINST SINGLE PHASING IN A THREE WAY SYSTEM

Operates by the use of bi-metallic strips and dissimilar coefficients of expansion under temperature changes. When temperature increases due to overload, a microswitch is activated in any leg of a three phase circuit. Microswitch is normally placed in series with the solenoid of any switching device in the 3 phase line. Reset button may be manually or automatically operated.



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SCHRACK ELECTRICAL SALES CORPORATION

## Sigma Stock Relay Price List No. 25 Effective January 1, 1967

CATALOG NUMBER	PRICE	CATALOG NUMBER	PRICE	CATALOG NUMBER	PRICE	CATALOG NUMBER	PRICE
4F — 1,000 S — SIL	\$ 6.50	41JOZ — 12,000 ACS — SIL	\$12.15	50RO2 — 6 AC	\$ 5.90	57F1 — 12 DC	\$ 7.75
4F — 2,500 S — SIL	6.50	41ROZ — 5,000 ACG — BSL	5.75	50RO2 — 12 AC	5.90	57F1 — 24 DC	7.75
4F — 5,000 S — SIL	6.85	41RZ — 5,000 ACG — BSL	5.75	50RO2 — 24 AC	5.90	57F1 — 110 DC	9.25
4F — 8,000 S — SIL	7.10	42RO — 200 G — SIL	6.55	50RO2 — 115 AC	5.90	57F2 — 115 AC	9.75
4F — 10,000 S — SIL	7.10	42RO — 500 G — SIL	6.55	50RO2 — 230 AC	6.30	57F2 — 230 AC	9.75
4R — 1,000 S — SIL	8.90	42RO — 1,000 G — SIL	6.55	50RO2 — 6 DC	5.85	57F2 — 12 DC	9.50
4R — 5,000 S — SIL	9.20	42RO — 2,500 G — SIL	6.55	50RO2 — 12 DC	5.85	57F2 — 24 DC	9.50
4R — 8,000 S — SIL	9.45	42RO — 5,000 G — SIL	6.80	50RO2 — 24 DC	5.85	57F2 — 110 DC	11.00
4R — 10,000 S — SIL	9.45	42RO — 10,000 G — SIL	7.00	50RO2 — 48 DC	5.85	57F3 — 115 AC	11.50
5F — 1,000 S — SIL	9.25	42RO — 12,000 G — SIL	7.30	50RO2 — 110 DC	6.25	57F3 — 230 AC	11.50
5F — 2,500 S — SIL	9.25	42RO6 — 500 G — SIL	6.55	50RO2 — 6 AC — SCO	6.05	57F3 — 12 DC	11.25
5F — 5,000 S — SIL	9.90	42RO6 — 1,000 G — SIL	6.55	50RO2 — 12 AC — SCO	6.05	57F3 — 24 DC	11.25
5F — 10,000 S — SIL	10.85	42RO6 — 2,500 G — SIL	6.55	50RO2 — 24 AC — SCO	6.05	57F3 — 110 DC	12.75
5F — 1,000 SS — PAL	10.50	42RO6 — 5,000 G — SIL	6.80	50RO2 — 115 AC — SCO	6.45	59A01D — 6 DC	3.55
5F — 10,000 SS — PAL	12.10	42RO6 — 10,000 G — SIL	7.00	50RO2 — 6 DC — SCO	6.00	59A01D — 12 DC	3.55
5R — 1,000 S — SIL	11.70	42RO — 150 S — SIL	7.20	50RO2 — 12 DC — SCO	6.00	59A01D — 24 DC	3.55
5R — 2,500 S — SIL	11.70	42RO — 500 S — SIL	7.20	50RO2 — 48 DC — SCO	6.00	59F1D — 6 DC	2.05
5R — 5,000 S — SIL	12.35	42RO — 1,000 S — SIL	7.20	50RO2 — 110 DC — SCO	6.40	59F1D — 12 DC	2.05
5R — 10,000 S — SIL	13.25	42RO — 2,500 S — SIL	7.20	50F3 — 6 AC	4.20	59F1D — 24 DC	2.05
5R — 16,000 S — SIL	14.25	42RO — 5,000 S — SIL	7.45	50F3 — 12 AC	4.20	62R2 — 6 DC	3.40
8P3 — 115 (Receiver)	22.00	42RO6 — 1,000 S — SIL	7.20	50F3 — 24 AC	4.20	62R2 — 12 DC	3.40
8P8 — 115 (Receiver)	44.00	42JOZ — 4,000 ACG — SIL	11.25	50F3 — 115 AC	4.20	62R2 — 24 DC	3.40
8P10 — 115 (Receiver)	42.00	42ROZ — 8 ACG — SIL	6.55	50F3 — 230 AC	4.60	62R2 — 48 DC	3.50
8RC01A (Receiver)	18.15	42ROZ — 50 ACG — SIL	6.55	50F3 — 6 DC	3.85	62R2 — 110 DC	4.80
8RC02A (Receiver)	18.75	42ROZ — 200 ACG — SIL	6.55	50F3 — 12 DC	3.85	62R4 — 6 DC	3.80
8L3 — 115 (Light Source)	16.00	42ROZ — 4,000 ACG — SIL	6.55	50F3 — 24 DC	3.85	62R4 — 12 DC	3.80
8P4 (Receiver)	16.00	42RO6Z — 4,000 ACG — SIL	6.55	50F3 — 48 DC	3.85	62R4 — 24 DC	3.80
8L4 (Light Source)	14.00	42ROZ — 7,000 ACS — SIL	7.80	50F3 — 110 DC	4.35	62R4 — 48 DC	4.00
8P7 (Receiver)	14.50	48F — 1,000 G — SIL	5.90	50F3 — 6 AC — SCO	4.40	62R4 — 110 DC	5.20
8L7 (Light Source)	10.50	48F — 2,500 G — SIL	5.90	50F3 — 12 AC — SCO	4.40	62R6 — 6 DC	4.85
8A (Amplifier)	60.00	48RO — 1,000 G — SIL	6.90	50F3 — 24 AC — SCO	4.40	62R6 — 12 DC	4.85
AT373-1 (Housing)	15.00	48RO — 2,500 G — SIL	6.90	50F3 — 115 AC — SCO	4.40	62R6 — 24 DC	4.85
11F — 250 G — SIL	1.95	50F1 — 6 AC	3.10	50F3 — 230 AC — SCO	4.80	62R6 — 48 DC	5.20
11F — 550 G — SIL	1.95	50F1 — 12 AC	3.10	50F3 — 6 DC — SCO	4.05	62R6 — 110 DC	5.80
11F — 1,000 G — SIL	1.95	50F1 — 24 AC	3.10	50F3 — 12 DC — SCO	4.05	AD22 (Socket Assembly)	.55
11F — 1,500 G — SIL	1.95	50F1 — 48 AC	3.10	50F3 — 24 DC — SCO	4.05	AD23 (Socket Assembly)	.55
11F — 2,300 G — SIL	1.95	50F1 — 115 AC	3.10	50F3 — 48 DC — SCO	4.55	AD24 (Socket Assembly)	.65
11F — 6,000 G — SIL	2.15	50F1 — 230 AC	3.60	50F3 — 110 DC — SCO	4.55	AD25 (Socket Assembly)	.65
11F — 9,000 G — SIL	2.35	50F1 — 6 DC	3.05	50RO3 — 6 AC	6.80	AD26 (Socket Assembly)	.95
11F2 — 2,300 G — SIL	2.15	50F1 — 12 DC	3.05	50RO3 — 12 AC	6.80	AD27 (Socket Assembly)	.95
11FP — 1,000 G — SIL	2.05	50F1 — 24 DC	3.05	50RO3 — 24 AC	6.80	63F2 — 6 DC	5.10
11FP — 2,300 G — SIL	2.05	50F1 — 48 DC	3.05	50RO3 — 115 AC	6.80	63F2 — 12 DC	5.10
11FZ — 25 ACS — SIL	3.05	50F1 — 110 DC	3.55	50RO3 — 230 AC	7.25	63F2 — 24 DC	5.10
11FZ — 9,000 ACS — SIL	3.60	50F1 — 6 AC — SCO	3.20	50RO3 — 6 DC	6.75	63F2 — 48 DC	5.10
22JNCC — 500 G — SIL	16.35	50F1 — 12 AC — SCO	3.20	50RO3 — 12 DC	6.75	63F4 — 6 DC	7.10
22JNCC — 2,500 G — SIL	15.35	50F1 — 24 AC — SCO	3.20	50RO3 — 24 DC	6.75	63F4 — 12 DC	7.10
22JNCC — 5,000 G — SIL	15.85	50F1 — 48 AC — SCO	3.20	50RO3 — 48 DC	6.75	63F4 — 24 DC	7.10
22JNCC — 1,000 G — SIL	16.50	50F1 — 115 AC — SCO	3.20	50RO3 — 110 DC	7.20	63F4 — 48 DC	7.10
22KNCC — 5,000 G — SIL	17.60	50F1 — 230 AC — SCO	3.70	50RO3 — 6 AC — SCO	7.00	63RO2 — 6 DC	8.20
22KNCC — 8,000 G — SIL	18.15	50F1 — 6 DC — SCO	3.15	50RO3 — 12 AC — SCO	7.00	63RO2 — 12 DC	8.20
AT155 (Socket Assembly)	.45	50F1 — 12 DC — SCO	3.15	50RO3 — 24 AC — SCO	7.00	63RO2 — 24 DC	8.20
22RJJC — 500 G — SIL	13.00	50F1 — 24 DC — SCO	3.15	50RO3 — 115 AC — SCO	7.00	63RO2 — 48 DC	8.20
22RJJC — 1,000 G — SIL	13.00	50F1 — 48 DC — SCO	3.15	50RO3 — 230 AC — SCO	7.45	63RO4 — 6 DC	10.60
22RJJC — 2,500 G — SIL	13.50	50F1 — 110 DC — SCO	3.65	50RO3 — 6 DC — SCO	6.95	63RO4 — 12 DC	10.60
22RJJC — 5,000 G — SIL	14.00	50RO1 — 6 AC	5.30	50RO3 — 12 DC — SCO	6.95	63RO4 — 24 DC	10.60
22RJJC — 1,000 G — SIL	14.50	50RO1 — 12 AC	5.30	50RO3 — 24 DC — SCO	6.95	63RO4 — 48 DC	10.60
22RJJC — 2,500 G — SIL	15.00	50RO1 — 24 AC	5.30	50RO3 — 48 DC — SCO	6.95	AD35 (Socket Assembly)	.50
22RJJC — 5,000 G — SIL	15.50	50RO1 — 115 AC	5.30	50RO3 — 110 DC — SCO	7.40	65F1A — 6 DC	1.50
22RJJC — 8,000 G — SIL	16.00	50RO1 — 230 AC	5.70	55F2 — 115 AC	7.50	65F1A — 12 DC	1.50
22RJJC — 12,000 G — SIL	17.50	50RO1 — 6 DC	5.20	55F2 — 230 AC	7.50	65F1A — 24 DC	1.50
26F — 1,000 S — SIL	9.45	50RO1 — 12 DC	5.20	55F2 — 12 DC	7.25	65FP1A — 6 DC	1.60
26F — 8,000 CDS — PAL	11.55	50RO1 — 24 DC	5.20	55F2 — 24 DC	7.25	65FP1A — 12 DC	1.60
32JD — 1,200 GD — SIL	26.50	50RO1 — 48 DC	5.20	55F2 — 110 DC	8.75	65FP1A — 24 DC	1.60
32RJJD — 1,200 GD — SIL	26.50	50RO1 — 110 DC	5.65	55F23 — 115 AC	7.50	67R4 — 12 AC	5.00
32RJPD — 1,200 GD — SIL	26.50	50RO1 — 6 AC — SCO	5.40	55F23 — 230 AC	7.50	67R4 — 24 AC	5.00
32RJJP — 3,100 G — SIL	23.50	50RO1 — 12 AC — SCO	5.40	55F23 — 12 DC	7.25	67R4 — 115 AC	5.40
33J — 1,200 VG — SIL	22.00	50RO1 — 24 AC — SCO	5.40	55F23 — 24 DC	7.25	67R4 — 6 DC	4.40
33RJK — 1,200 VG — SIL	22.00	50RO1 — 115 AC — SCO	5.40	55F23 — 110 DC	8.75	67R4 — 12 DC	4.40
33RJK — 1,200 VG — SIL	22.00	50RO1 — 230 AC — SCO	5.80	55F3 — 115 AC	8.50	67R4 — 24 DC	4.40
33RJP — 1,200 VG — SIL	22.00	50RO1 — 6 DC — SCO	5.30	55F3 — 230 AC	8.50	67R4 — 48 DC	4.60
34RJP2 — 6,300 G — SCN	21.10	50RO1 — 12 DC — SCO	5.30	55F3 — 12 DC	8.25	67R4 — 110 DC	5.10
34RJP2D — 4,000 GD — SCN	22.00	50RO1 — 24 DC — SCO	5.30	55F3 — 24 DC	8.25	AD 28 (Socket Assembly)	.60
35JP2 — 1,000 VG — SCN	18.00	50RO1 — 48 DC — SCO	5.30	55F3 — 110 DC	9.75	AD 29 (Socket Assembly)	.60
35RJP2 — 4,000 VG — SCN	18.00	50RO1 — 110 DC — SCO	5.75	55F33 — 115 AC	8.50	72AOZ — 160 TG — TCP	33.00
35RJP2 — 1,000 VG — SCN	18.00	50F2 — 6 AC	3.80	55F33 — 230 AC	8.50	72AOZ — 160 TS — TCP	33.00
36JP2 — 700 G — SMN	15.20	50F2 — 12 AC	3.80	55F33 — 12 DC	8.25	72AOZ — 4,000 TS — TCP	34.10
36RJP2 — 700 G — SMN	15.20	50F2 — 24 AC	3.80	55F33 — 24 DC	8.25	AT36-1 (Contact Repair Kit)	3.50
41F — 200 S — SIL	4.30	50F2 — 115 AC	3.80	55F33 — 110 DC	9.75	301R1 — 6	3.50
41F — 500 S — SIL	4.30	50F2 — 230 AC	4.20	55F4 — 115 AC	10.00	301R1 — 12	3.50
41F — 1,000 S — SIL	4.30	50F2 — 6 DC	3.45	55F4 — 230 AC	10.00	301R1 — 24	3.50
41F — 5,000 S — SIL	4.50	50F2 — 12 DC	3.45	55F4 — 12 DC	9.50	301R1 — 150	3.50
41F — 10,000 S — SIL	4.75	50F2 — 24 DC	3.45	55F4 — 24 DC	9.50	301R2 — 6	5.25
41RO — 1,000 S — SIL	6.15	50F2 — 48 DC	3.45	55F4 — 110 DC	11.00	301R2 — 12	5.25
41RO — 5,000 S — SIL	6.30	50F2 — 110 DC	3.90	55F43 — 115 AC	10.00	301R2 — 24	5.25
41RO — 10,000 S — SIL	6.60	50F2 — 6 AC — SCO	3.95	55F43 — 230 AC	10.00	301R2 — 150	5.25
41RO6 — 1,000 S — SIL	6.15	50F2 — 12 AC — SCO	3.95	55F43 — 12 DC	9.50	301R4 — 6	7.40
41RO6 — 2,500 S — SIL	6.15	50F2 — 24 AC — SCO	3.95	55F43 — 24 DC	9.50	301R4 — 12	7.40
41RO6 — 5,000 S — SIL	6.30	50F2 — 115 AC — SCO	3.95	55F43 — 110 DC	11.00	301R4 — 24	7.40
41RO6 — 10,000 S — SIL	6.30	50F2 — 230 AC — SCO	4.35	57F1 — 115 AC	8.00	AD32-1 (Socket)	.65
41FZ — 10 ACG — BSL	3.90	50F2 — 6 DC — SCO	3.60	57F1 — 230 AC	8.00		
41FZ — 5,000 ACG — BSL	4.10	50F2 — 12 DC — SCO	3.60				
41FZ — 35 ACS — SIL	4.50	50F2 — 24 DC — SCO	3.60				
41FZ — 10,000 ACS — SIL	5.00	50F2 — 48 DC — SCO	3.60				
		50F2 — 110 DC — SCO	4.05				

This catalog presents condensed engineering and ordering data on the most frequently used relays among Sigma's more than one hundred thousand standard types. Price List No. 25 lists those available for off-the-shelf delivery from factory or distributor stocks.

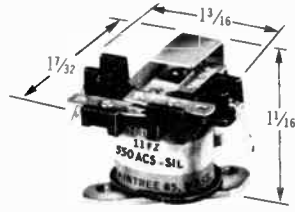
Contact ratings for all relays included in this catalog are 28 VDC or 115 VAC resistive unless otherwise specified. Dual-coil relays are identified by letter 'D' in adjustment code. All dimensions maximum.

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SIGMA PAGE 1

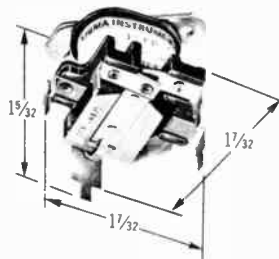
Assured Reliability With Advanced Design

# General Purpose Series 11 AC and DC — SPDT



**\*11FZ —**  
Screw mounting (2 #4-40 spaced .888), 5 solder terminals, armature common to mounting bracket

CATALOG NUMBER			COIL DATA		CONTACT LOAD RATING (amperes)
Relay Type	Ohms and Adjustment	Contact Material	Nominal VAC	Nominal Power (va)	
	25 ACS	— SIL	6	.6	1
	100 ACS	— SIL	12		
	550 ACS	— SIL	24		
	2,300 ACS	— SIL	48		
	9,000 ACS	— SIL	115	.6	.5
	25 ACS	— PAL	6		
	100 ACS	— PAL	12		
	550 ACS	— PAL	24		
	2,300 ACS	— PAL	48		
	9,000 ACS	— PAL	115		

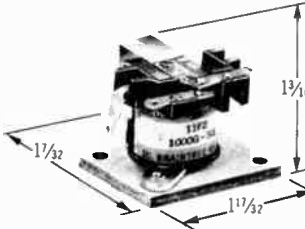


**\*11F —**  
Same as 11FZ

**\*11FP —**  
Shoulder lug mounting, terminals for printed circuit connection

CATALOG NUMBER			COIL DATA			CONTACT LOAD RATING (amperes)
Relay Type	Ohms and Adjustment	Contact Material	Nominal VDC	Pickup Max. (ma DC)	Pickup Power (mw)	
	250 W	— BSL	12	28	200	5
	550 W	— BSL	—	19		
	1,000 W	— BSL	24	14		
	1,500 W	— BSL	—	11.6		
	2,300 W	— BSL	48	9.2	50	1
	6,000 W	— BSL	—	5.8		
	9,000 W	— BSL	—	4.8		
	250 G	— SIL	6	14.0		
	550 G	— SIL	—	9.5	50	.5
	1,000 G	— SIL	12	7.0		
	1,500 G	— SIL	—	5.8		
	2,300 G	— SIL	—	4.6		
	6,000 G	— SIL	24	2.9	50	.5
	9,000 G	— SIL	—	2.4		
	250 G	— PAL	6	14.0		
	550 G	— PAL	—	9.5		
	1,000 G	— PAL	12	7.0	50	.5
	1,500 G	— PAL	—	5.8		
	2,300 G	— PAL	—	4.6		
	6,000 G	— PAL	24	2.9		
	9,000 G	— PAL	—	2.4		

Exceptional among small, low-cost relays rated for 1-ampere switching. DC operation from sliding-current as well as on-off 50–200-milliwatt signals, plus an AC shaded-pole design operating from 0.3 volt-ampere on-off signals. Good environmental capability. UL- and CSA-listed. Temperature range: -40 to +122°F. Weight (ounces): 1.2 maximum.



**\*11F2 —**  
Insulated base with clearance holes for screw mounting, 5 solder terminals

\*U. L. File No. E28610, Yellow Card; C. S. A. File No. 20954, White Card.

# General Purpose Series 50 AC and DC — SPDT, 2PDT, 3PDT



CATALOG NUMBER		COIL DATA		CONTACT LOAD RATING (amperes)	
Relay Type	Nominal Coil Voltage	Nominal Coil Resistance (ohms, at 25°C)	Nominal Power	Standard Contacts	SCO Contacts Specify when ordering
	<b>*50R01 —</b> 8-pin plug	6 AC	5.8	5	10
	<b>*50R02 —</b> 8-pin plug	12 AC	23.5		
	<b>*50R03 —</b> 11-pin plug	24 AC 115 AC 230 AC	95 2,300 7,500		
	<b>*50F1 —</b> 5 solder terminals	6 DC	23.5	5	10
	<b>*50F2 —</b> 8 solder terminals	12 DC	95		
	<b>*50F3 —</b> 11 solder terminals	24 DC 48 DC 110 DC	430 1,630 10,000		

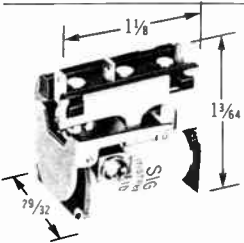
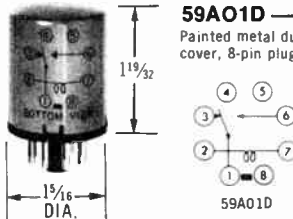
Highly efficient, compact, low-cost multipole relay for switching of industrial loads of 5 or 10 amperes to actuate small solenoids or other relays. 10-million-operation mechanical life. Temperature range: 50F: +14 to +158°F; 50R0: To +131°F. Weight (ounces): 50F: 2; 50R0: 3. 50F's screw mounted (1 #6-32 hole); 50R's plastic-dust-covered.

\*U. L. File No. E28610, Yellow Card; C. S. A. File No. LR 23903, White Card.

For detailed engineering data on Sigma relays, consult individual bulletins.

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 SIGMA PAGE 2     Assured Reliability With Advanced Design.

# General Purpose Series 59 DC — SPDT

Relay Type	Nominal Coil Voltage	COIL DATA		CONTACT LOAD RATING (amperes)
		Nominal Coil Resistance (ohms, at 25°C)	Nominal Power (milliwatts)	
<b>59F1D</b> — Screw mounting (2 #3-48 holes spaced .394), 5 solder terminals  	6 DC	120	300	2
	12 DC	465		
	24 DC	1,800		
<b>59A01D</b> — Painted metal dust cover, 8-pin plug  	6 DC	120	300	2
	12 DC	465		
	24 DC	1,800		

Dependable, low-cost, snap-switch relay for commercial applications where economy and size determine choice. The snap switch that serves as the contact assembly provides positive operation whether input signal changes slowly or

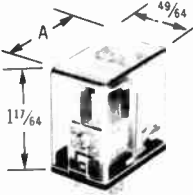
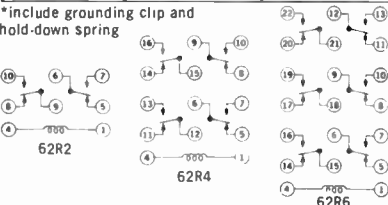
abruptly. Pin-hinge armature construction for 1-million-operation mechanical life. Temperature range: +14 to +158°F. Weight (ounces): 59F1D: .8; 59A01D: 1.5.

# General Purpose Series 62 DC — 2PDT, 4PDT, 6PDT



SOCKET ASSEMBLIES*			Dimension A	Relay Type	Nominal Coil Voltage	COIL DATA		CONTACT LOAD RATING (amperes)
	Solder Terminals	Printed Circuit Terminals				Nominal Coil Resistance (ohms, at 25°C)	Nominal Power	
2-pole	AD22	AD23	62R2: 6 1/64	*62R2 — 8-prong plug	6 DC	52	700 mw	2
4-pole	AD24	AD25	62R4: 1 3/16		12 DC	185		
6-pole	AD26	AD27	62R6: 1 25/64		24 DC	700		
					48 DC	2,500		
					110 DC	15,000		
				*62R4 — 14-prong plug	6 DC	52	700 mw	2
					12 DC	185		
					24 DC	700		
					48 DC	2,500		
					110 DC	15,000		
				*62R6 — 20-prong plug	6 DC	25	1.4 w	
					12 DC	90		
					24 DC	430		
					48 DC	1,550		
					110 DC	9,000		

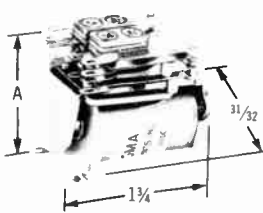
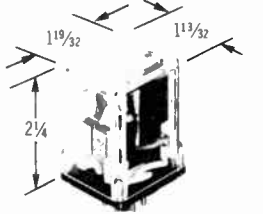
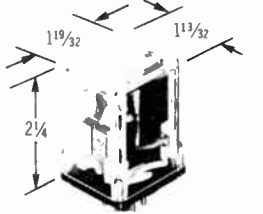
\*include grounding clip and hold-down spring



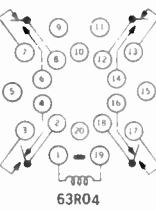
For economical low-level to 2-ampere multiple-circuit switching. Consistent long-life performance. Mounting versatility. Compact size. Light weight. Contacts rated for 1 million operations at maximum load, 100 million mechanical. Choice of solder- or printed-circuit-terminal sockets designed for fast, easy connection. Ideal for communications and data processing equipment, measuring instruments, process controls, recording devices, alarm systems. Interchangeable with similar commercial relays. Temperature range: +14 to +158°F. Weight: Approximately 1 ounce. Plastic dust-covered. Single stud mounting (#3-48).

\* U.L. File No. E28610, Yellow Card

# General Purpose Series 63 DC — 2PDT, 4PDT

Relay Type	Nominal Coil Voltage	COIL DATA		CONTACT LOAD RATING (amperes, resistive)
		Nominal Coil Resistance (ohms, at 25°C)	Nominal Power (milliwatts)	
<b>63F2</b> — Screw mounting (2 #4-40 holes spaced .737), 8 solder terminals  	6 DC	50	720	at 28 VDC: 1
	12 DC	200		
	24 DC	800		
<b>63RO2</b> — Plastic dust cover, 8-pin plug  	48 DC	3,200	720	at 48 VDC: .6
	6 DC	50		
	12 DC	200		
<b>63F4</b> — Screw mounting (2 #4-40 holes spaced .737), 14 solder terminals  	24 DC	800	720	at 115 VAC: 2
	48 DC	3,200		
	6 DC	50		
<b>63RO4</b> — Plastic dust cover, 20-pin plug. Used with Socket Assembly AD35, available only from Sigma	12 DC	200	720	
	24 DC	800		
	48 DC	3,200		

Dimension A  
63F2: 1 5/16  
63F4: 1 17/32



Price List (page 1) lists relays immediately available from factory and distributor stocks.

# General Purpose Series 65 DC — SPDT

Relay Type	CATALOG NUMBER	Nominal Coil Voltage	COIL DATA		CONTACT LOAD RATING (amperes)
			Nominal Coil Resistance (ohms, at 25°C)	Nominal Power (milliwatts)	
<p><b>65F1A —</b> Screw mounting (2 #4-40 holes spaced .888), 5 solder terminals</p>	6 DC	410	90	1	
	12 DC	1,640			
	24 DC	6,560			
<p><b>65FP1A —</b> Terminals for printed circuit mounting</p>					

For commercial applications requiring a small, low-cost relay capable of positive response to low-power signals. Excellent adjustment stability, sturdy construction, 5-million-operation mechanical life. An economical choice for such applications as remote TV channel selectors, vending machines, semi-automatic home slide projectors, automatic toys and games. Temperature range: -14 to +158°F. Weight: 1 ounce.

# General Purpose Series 67 AC and DC — 4PDT



Relay Type	CATALOG NUMBER	Nominal Coil Voltage	COIL DATA		CONTACT LOAD RATING (amperes)
			Nominal Coil Resistance (ohms, at 25°C)	Nominal Power	
<p><b>*67R4 —</b> Plastic dust cover, stud mounting (#3-48), 14-prong plug</p>	12 AC	43	1.2 va	3	
	24 AC	160			
	115 AC	3,900			
	6 DC	40	900 mw	3	
	12 DC	160			
	24 DC	650			
	48 DC	2,600			
	110 DC	11,000			

Miniature, rugged relay. Switches low-level to 3-ampere loads from 1.2 volt-ampere or 900-milliwatt signals. 100,000 operations minimum at rated load. 100,000,000 mechanical operations DC types; 50,000,000 AC types. Solder- or printed-circuit-terminal sockets for fast chassis top mounting and easy wiring. Relay and sockets interchangeable with comparable types. For computers, data-handling equipment, process control, other demanding applications. Temperature range: -4 to +140°F. Weight: 1/4 ounces.

Socket Assemblies: AD28 — Solder Terminals  
AD29 — Printed Circuit Terminals

\* U.L. File No. E28610, Yellow Card

# Sensitive Series 4 DC — SPDT



Relay Type	CATALOG NUMBER	Ohms and Adjustment	Contact Material	COIL DATA			CONTACT LOAD RATING (amperes)
				Pickup Max. (ma DC)	Dropout Min. (ma DC)	Pickup Power (mw)	
<p><b>4A —</b> Aluminum dust cover, 5-pin plug</p>	1,000 S — SIL	4.5	2.0	20	2		
	2,500 S — SIL	3.0	1.3				
	5,000 S — SIL	2.0	.90				
	<p><b>4F —</b> Screw mounting (2 #6-32 holes spaced .375), 3 solder terminals, 2 coil leads, armature common with mounting bracket</p>	8,000 S — SIL	1.6	.75	50	2.5	
		10,000 S — SIL	1.4	.65			
		12,000 S — SIL	1.3	.60			
		1,000 LG — SIL	7.0	3.0			
	<p><b>*4R —</b> Aluminum dust cover, 5-pin plug</p>	2,500 LG — SIL	4.5	1.9			
		5,000 LG — SIL	3.2	1.4			
		8,000 LG — SIL	2.5	1.0			
10,000 LG — SIL		2.2	.9				
	12,000 LG — SIL	2.0	.8				

Similar to 4F but with insulated base

Terminal diagram for 4A, 4R showing 5 pins labeled 1-5.

\* U. L. File No. BP509

A stable, precise, low-cost relay for vacuum tube and transistor drives, applications requiring high dropout or narrow differential, and operation from gradually changing or on-off signals. Ideal for circuits where energizing current does not drop to zero. UL-listed for use in burglary protection equipment. Temperature range: S: +32 to +122°F; LG: -67 to +185°F. Weight: 2 1/4-3 3/4 ounces.

For detailed engineering data on Sigma relays, consult individual bulletins.

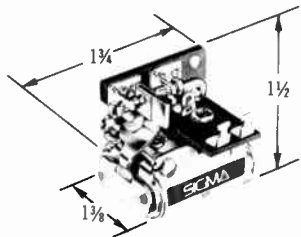
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 SIGMA PAGE 4     Assured Reliability With Advanced Design

Sensitive Series 5 DC — SPDT

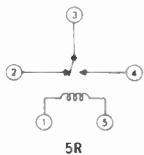


One of the most versatile relays available. Applications range from air navigation systems to burglar alarms, meter protection equipment. Unusually high contact forces at inputs as low as 1 milliwatt, gradually changing or on-off. Useful for overload-underload detection — reacts without amplification to minute variations from normal. Highly accurate, stable, rugged. Withstands heavy voltage-or-current 30-to-1 coil overloads. All types UL-listed for use in burglary protection equipment. Temperature range: SS: +50 to +140°F; G, S: -4 to +158°F; LS, CDS, DCG: -67 to +212°F; CD: +64.4 to +100.4°F. Weight: 4¼ to 5¼ ounces.

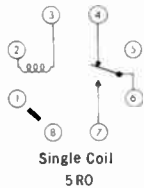
Relay Type



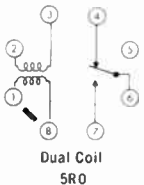
**\*5F —**  
Screw mounting (2 #6-32 holes spaced 23/32), 5 solder terminals



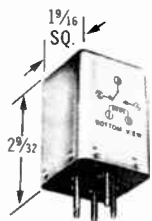
5R



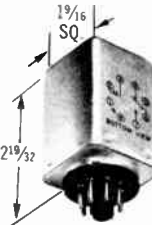
Single Coil  
5RO



Dual Coil  
5RO

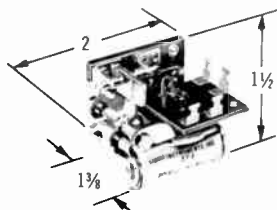


**\*5R —**  
Aluminum dust cover, 5-pin plug



**\*5RO —**  
Aluminum dust cover, 8-pin plug

Relay Type	Ohms and Adjustment	Contact Material	COIL DATA*			CONTACT LOAD RATING (amperes)
			Pickup Max. (ma DC)	Dropout Min. (ma DC)	Pickup Power (mw)	
*5F	1,000	SS — PAL	1.0	.40	1	.25
	2,500	SS — PAL	.65	.25		
	5,000	SS — PAL	.45	.20		
	10,000	SS — PAL	.30	.13		
	16,000	SS — PAL	.25	.10		
*5R	1,000	S — SIL	2.3	.80	5	1
	2,500	S — SIL	1.4	.50		
	5,000	S — SIL	1.0	.40		
	10,000	S — SIL	.70	.25		
	16,000	S — SIL	.55	.20		
*5RO	1,000	S — PAL	2.3	.80	5	.5
	2,500	S — PAL	1.4	.50		
	5,000	S — PAL	1.0	.40		
	10,000	S — PAL	.70	.25		
	16,000	S — PAL	.55	.20		
*5F4	1,000	G — SIL	3.2	1.2	10	1.5
	2,500	G — SIL	2.0	.80		
	5,000	G — SIL	1.4	.50		
	10,000	G — SIL	1.0	.40		
	16,000	G — SIL	.80	.30		
*5RO	1,000	G — PAL	3.2	1.2	10	.5
	2,500	G — PAL	2.0	.80		
	5,000	G — PAL	1.4	.50		
	10,000	G — PAL	1.0	.40		
	16,000	G — PAL	.80	.30		
*5F4	1,000	LS — SIL	2.7	.75	7	1
	2,500	LS — SIL	1.7	.50		
	5,000	LS — SIL	1.2	.34		
	10,000	LS — SIL	.95	.24		
	16,000	LS — SIL	.66	.19		
*5RO	1,000	LS — PAL	2.7	.75	7	.5
	2,500	LS — PAL	1.7	.50		
	5,000	LS — PAL	1.2	.34		
	10,000	LS — PAL	.85	.24		
	16,000	LS — PAL	.66	.19		
*5F4	1,000	CD — SIL	4.4	3.5	20	1
	2,500	CD — SIL	2.8	2.3		
	5,000	CD — SIL	2.0	1.6		
	10,000	CD — SIL	1.4	1.1		
	16,000	CD — SIL	1.1	.88		
*5RO	1,000	CD — PAL	4.4	3.5	20	.5
	2,500	CD — PAL	2.8	2.3		
	5,000	CD — PAL	2.0	1.6		
	10,000	CD — PAL	1.4	1.1		
	16,000	CD — PAL	1.1	.88		
*5F4	1,000	CDS — SIL	3.2	2.0	10	1
	2,500	CDS — SIL	2.0	1.26		
	5,000	CDS — SIL	1.4	.90		
	10,000	CDS — SIL	1.0	.60		
	16,000	CDS — SIL	.80	.50		
*5RO	1,000	CDS — PAL	3.2	2.0	10	.5
	2,500	CDS — PAL	2.0	1.26		
	5,000	CDS — PAL	1.4	.90		
	10,000	CDS — PAL	1.0	.60		
	16,000	CDS — PAL	.80	.50		
*5F4	500	DCG — SIL	9.0	3.0	40	2
	2,000	DCG — SIL	4.5	1.5		
	5,000	DCG — SIL	2.9	.9		
	8,000	DCG — SIL	2.3	.75		



**\*5F4 —**  
Screw mounting (2 #6-32 holes spaced 23/32), 7 solder terminals



**\*5RO —**  
Aluminum dust cover, 8-pin plug

\*U. L. File No. BP509

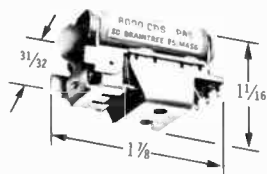
Price List (page 1) lists relays immediately available from factory and distributor stocks.

**SIGMA DIVISION**  **SIGMA INSTRUMENTS INC**  
 SIGMA PAGE 5 Assured Reliability With Advanced Design



# Sensitive Series 26 DC — SPDT

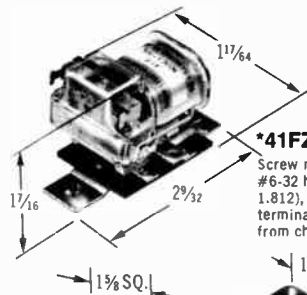
A rugged, compact relay providing 1-ampere load switching from 5-milli-watt signals, high release. Durable construction, long mechanical life. Useful for such applications as alarm systems, radio-controlled models, liquid level controls. Temperature range: S Adjustment: -85 to +212°F. CDS Adjustment: +50 to +105°F. Weight: 2 ounces.



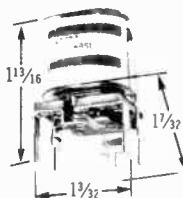
**26F —**  
Screw mounting (2 #6-32 holes spaced .375), 5 solder terminals

Relay Type	Ohms and Adjustment	Contact Material	COIL DATA			CONTACT LOAD RATING (amperes)
			Pickup Max. (ma DC)	Dropout Min. (ma DC)	Pickup Power (mw)	
26F — Screw mounting (2 #6-32 holes spaced .375), 5 solder terminals	1,000 S	— SIL	2.3	1.1	5	1
	2,500 S	— SIL	1.4	.7		
	5,000 S	— SIL	1.0	.5		
	8,000 S	— SIL	.8	.4		
	1,000 S	— PAL	2.3	1.1		
26F — Screw mounting (2 #6-32 holes spaced .375), 5 solder terminals	2,500 S	— PAL	1.4	.7	5	.5
	5,000 S	— PAL	1.0	.5		
	8,000 S	— PAL	.8	.4		
26F — Screw mounting (2 #6-32 holes spaced .375), 5 solder terminals	8,000 CDS	— PAL	.7	.4	4	.5

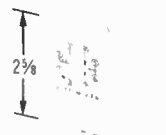
# Sensitive Series 41 AC and DC — SPDT



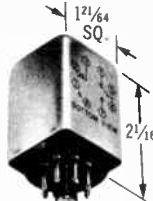
**\*41FZ —**  
Screw mounting (2 #6-32 holes spaced 1.812), 5 solder terminals, insulated from chassis



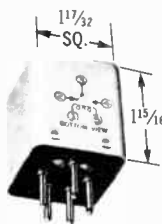
**\*41FPZ —**  
5 terminals for printed-circuit connection, armature common with frame



**41JOZ —**  
Hermetically sealed, 8-pin plug



**\*41ROZ —**  
Aluminum dust cover, 8-pin plug



**\*41RZ —**  
Aluminum dust cover, 5-pin plug

Relay Type	Ohms and Adjustment	Contact Material	COIL DATA			CONTACT LOAD RATING (amperes)
			Nominal Voltage	Pickup Max.	Pickup Power	
41FZ — Screw mounting (2 #6-32 holes spaced 1.812), 5 solder terminals, insulated from chassis	10 ACG	— BSL	6 VAC	4 v	.4 va	5
	1,000 ACG	— BSL	—	40 v		
	2,500 ACG	— BSL	—	63 v		
	5,000 ACG	— BSL	115 VAC	90 v		
41FZ — Screw mounting (2 #6-32 holes spaced 1.812), 5 solder terminals, insulated from chassis	12,000 ACG	— BSL	230 VAC	140 v	.2 va	2
	35 ACS	— SIL	6 VAC	4 v		
	500 ACS	— SIL	24 VAC	18 v		
41FZ — Screw mounting (2 #6-32 holes spaced 1.812), 5 solder terminals, insulated from chassis	2,500 ACS	— SIL	—	45 v	.2 va	2
	10,000 ACS	— SIL	115 VAC	85 v		
	12,000 ACS	— SIL	150 VAC	95 v		



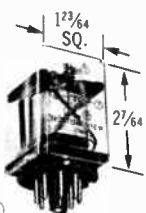
**\*41F —**  
Screw mounting (2 #6-32 holes spaced 1.812), 5 solder terminals, insulated from chassis



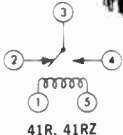
**\*41R —**  
Aluminum dust cover, 5-pin plug



**\*41RO —**  
Aluminum dust cover, 8-pin plug



**\*41RO6 —**  
Plastic dust cover, 8-pin plug



41F — Screw mounting (2 #6-32 holes spaced 1.812), 5 solder terminals, insulated from chassis	200	G — BSL	12 VDC	32 ma	200 mw	Type 41F: 10
	500	G — BSL	—	20 ma		
	1,000	G — BSL	24 VDC	14 ma		
	2,500	G — BSL	48 VDC	9.0 ma		
	5,000	G — BSL	—	6.5 ma		
	10,000	G — BSL	—	4.5 ma		
41F — Screw mounting (2 #6-32 holes spaced 1.812), 5 solder terminals, insulated from chassis	12,000	G — BSL	—	4.0 ma	40 mw	Types 41R, 41RO, 41RO6: 5
	200	S — SIL	6 VDC	15 ma		
	500	S — SIL	—	9.0 ma		
	1,000	S — SIL	12 VDC	6.5 ma		
	2,500	S — SIL	—	4.0 ma		
	5,000	S — SIL	24 VDC	3.0 ma		
41F — Screw mounting (2 #6-32 holes spaced 1.812), 5 solder terminals, insulated from chassis	10,000	S — SIL	—	2.0 ma	40 mw	2
	12,000	S — SIL	48 VDC	1.8 ma		

\*U. L. File No. E28610, Yellow Card; C. S. A. File No. 20954

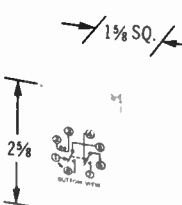
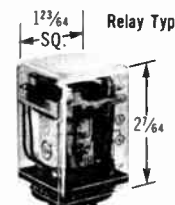
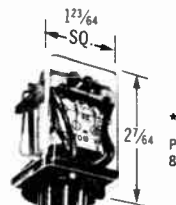
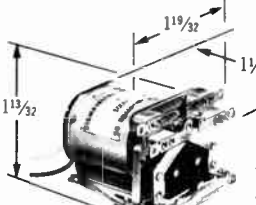


Rugged, versatile industrial relay for applications ranging from airport lighting systems to smoke detection controls. Pivotless hinge construction and extra-long beryllium copper spring arm contribute to 1-billion-operation mechanical life. Balanced design for coil overload capacity 4 to 6 times rated input, long contact life.

load-carrying capability from dry-circuit to 10 amperes. Operates from gradually changing or on-off DC signals, on-off AC signals. UL- and CSA-listed. Temperature range: -67 to +185°F, except plastic covers to +158°F. Weight (ounces): Open: 2 1/2; enclosed: 3-4.

For detailed engineering data on Sigma relays, consult individual bulletins.

# Sensitive Series 42 AC and DC — DPDT

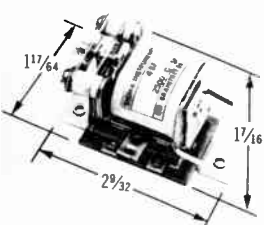
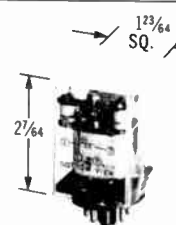


CATALOG NUMBER				CDIL DATA			CONTACT LOAD RATING (amperes)
Relay Type	Ohms and Adjustment	Contact Material	Nominal Voltage	Pickup Max.	Pickup Power		
 <p><b>42JOZ</b> — Hermetically sealed, 8-pin plug</p>	 <p><b>*42ROZ</b> — Plastic dust cover, 8-pin plug</p>	 <p><b>*42RO6Z</b> — Plastic dust cover, 8-pin plug</p>	7,000 ACS — SIL 8 ACG — SIL 50 ACG — SIL 200 ACG — SIL 4,000 ACG — SIL 12,000 ACG — SIL	115 VAC 6 VAC 12 VAC 24 VAC 115 VAC 230 VAC	90 v 4 v 9 v 18 v 90 v 150 v	.3 va .5 va	2 5
 <p><b>*42F</b> — Stud mounting (2 #6-32 holes spaced .375), 6 solder terminals, 2 coil leads, non-insulated base</p>	 <p><b>*42RO</b> — Plastic dust cover, 8-pin plug</p>	 <p><b>*42RO6</b> — Plastic dust cover, 8-pin plug</p>	150 G — SIL 200 G — SIL 500 G — SIL 1,000 G — SIL 2,500 G — SIL 5,000 G — SIL 10,000 G — SIL 12,000 G — SIL 150 S — SIL 200 S — SIL 500 S — SIL 1,000 S — SIL 2,500 S — SIL 5,000 S — SIL 10,000 S — SIL 12,000 S — SIL	— 12 VDC — 24 VDC 48 VDC — — 6 VDC — 12 VDC 24 VDC — — —	38 ma 32 ma 20 ma 14 ma 9.0 ma 6.5 ma 4.5 ma 4.0 ma 26 ma 22 ma 14 ma 10 ma 6.2 ma 4.5 ma 3.1 ma 2.9 ma	200 mw 100 mw	5 2

Combines 100-milliwatt sensitivity with rugged design for 1-billion-operation mechanical life, 1 million under load. For general-purpose applications from alarm and control systems to demand meters and timing circuits. Low power minimizes coil load in circuits with limited load-handling ability. Excellent stability, high circuit insulation, coil overload capacity 4 to 6 times rated input. High release for use in circuits with high idle current. UL- and CSA-listed. Temperature range: -67 to +185°F, except plastic covers to +158°F. Weight (ounces): Open: 2½; enclosed: 3¼-5¼.

Price List (page 1) lists relays immediately available from factory and distributor stocks.

# Sensitive Series 48 DC — SPDT

CATALOG NUMBER				CDIL DATA			CONTACT LOAD RATING (amperes)
Relay Type	Ohms and Adjustment	Contact Material	Pickup Max. (ma DC)	Dropout Min. (ma DC)	Pickup Power (mw)		
 <p><b>48F</b> — Screw mounting (2 #6-32 holes spaced 1.813), 3 solder terminals, 2 coil leads, insulated base</p>	 <p><b>48RO</b> — Plastic dust cover, 8-pin plug</p>	500 G — SIL 1,000 G — SIL 2,500 G — SIL 5,000 G — SIL	4.5 3.2 2.0 1.4	.45 .32 .2 .14	10	2	

An excellent low-cost, sensitive relay for use in burglary, fire, or police alarm systems requiring operation from 10-mw minimum input signals. Bridge-type contact structure. Solid contacts. Compliant armature for good contact wipe. Temperature range: -4 to +158°F. Weight (ounces): 48F: 3; 48RO: 4.

# Power Series 55 AC and DC — 2PDT, 3PDT, 4PDT

CATALOG NUMBER				COIL DATA		CONTACT LOAD RATING	
	A	B	C	Nominal Coil Voltage	Nominal Power (AC, volt-ampere; DC, watts)	Resistive: at 230 VAC: 15 amperes at 28 VDC: 10 amperes	Inductive (at 0.6 power factor): at 230 VAC: 7.5 amperes at 28 VDC: 5 amperes
55F2	2½/32	1½/32	1¾/32	115 AC	635 5.6		
55F23	2¾/32	2¼/32	2¾/32	230 AC	3,150 5.6		
				12 DC	80 1.92		
				24 DC	327 1.92		
				110 DC	6,250 1.92		

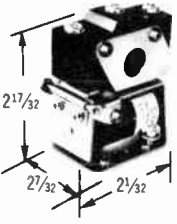
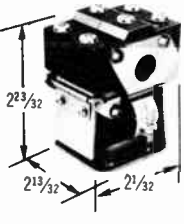
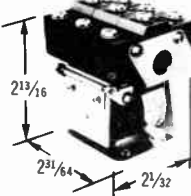
A rugged, reliable relay for continuous heavy-duty, multiple switching of resistive loads to 15 amperes at 230 VAC. Handles 60-ampere inrush current without contact welding. Mechanical life at least five million operations. Temperature range: +14 to +158°F. Weight: 5-8 ounces. All screw mounted.

Price List (page 1) lists relays immediately available from factory and distributor stocks.

## Power Series 55 AC and DC — 2PDT, 3PDT, 4PDT (continued)

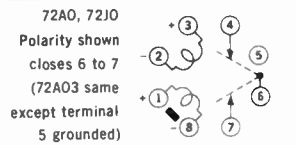
			CATALOG NUMBER	COIL DATA	CONTACT LOAD RATING	
			Relay Type	Nominal Coil Voltage Nominal Power (AC, volt-Resistance (ohms, at 25°C); DC, watts)		
55F3 —	A 2 <sup>7</sup> / <sub>32</sub>	B 1 <sup>15</sup> / <sub>16</sub>	C 1 <sup>15</sup> / <sub>16</sub>	55F3 — 4 #8-32 holes spaced 1.102 x .866, solder terminals	115 AC 332 7.5 230 AC 1,560 7.5 12 DC 70 2.2	<b>Resistive:</b> at 230 VAC: 15 amperes at 28 VDC: 10 amperes  <b>Inductive</b> (at 0.6 power factor): at 230 VAC: 7.5 amperes at 28 VDC: 5 amperes
55F33 —	2 <sup>9</sup> / <sub>32</sub>	2 <sup>23</sup> / <sub>64</sub>	2 <sup>7</sup> / <sub>64</sub>	55F33 — 4 #8-32 holes spaced 1.102 x .866, screw terminals	24 DC 274 2.2 110 DC 5,500 2.2	
55F4 —	2 <sup>21</sup> / <sub>64</sub>	2 <sup>13</sup> / <sub>32</sub>	1 <sup>15</sup> / <sub>16</sub>	55F4 — 4 #8-32 holes spaced 1.339 x .866, solder terminals	115 AC 224 9.7 230 AC 980 9.7 12 DC 51 2.9	
55F43 —	2 <sup>13</sup> / <sub>32</sub>	2 <sup>23</sup> / <sub>32</sub>	2 <sup>7</sup> / <sub>64</sub>	55F43 — 4 #8-32 holes spaced 1.339 x .866, screw terminals	24 DC 230 2.9 110-DC 4,210 2.9	

## Power Series 57 AC and DC — SPDT, 2PDT, 3PDT

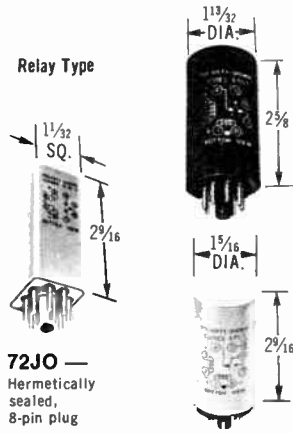
			CATALOG NUMBER	COIL DATA	CONTACT LOAD RATING						
			Relay Type	Nominal Coil Voltage Nominal Power (AC, volt-Resistance (ohms, at 25°C); DC, watts)							
			57F1 — 4 # 8-32 holes spaced .866 x .866	115 AC 635 5.6 230 AC 3,150 5.6 12 DC 96 1.5 24 DC 384 1.5 110 DC 6,250 1.92	<b>Resistive:</b> at 230 VAC: 15 amperes at 28 VDC: 6 amperes  <b>Inductive</b> (at 0.6 power factor): at 230 VAC: 7.5 amperes at 28 VDC: 3 amperes						
						57F2 — 4 #8-32 holes spaced 1.102 x .866	115 AC 332 7.5 230 AC 1,560 7.5 12 DC 72 2.0 24 DC 274 2.0 110 DC 5,500 2.2				
									57F3 — 4 #8-32 holes spaced 1.338 x .866	115 AC 224 9.7 230 AC 980 9.7 12 DC 62 2.3 24 DC 250 2.3 110 DC 4,210 2.9	
									<p>Snap-switch power relay for single or multipole switching of 10-to-15-ampere industrial loads, as fractional horsepower motors or solenoids. Contact assembly is totally enclosed snap-action precision switch providing positive response to slowly changing signals and contact isolation for reliable 3-phase switching of 5-to-15-ampere loads. Temperature range: +14 to +158°F. Weight: 6-11 ounces. All screw mounted, with screw terminals.</p>		

For detailed engineering data on Sigma relays, consult individual bulletins.

# Pulse and Telegraph Series 72 — SPDT, Polar



Highly sensitive, extremely fast, virtually bounce-free. Resists extremes of temperature, shock, vibration; occupies little space; operates for many millions of cycles. An excellent choice for high-speed switching, telegraphy at 100 words a minute, and pulse repetition. Typically switches a 60-milliampere, 120-VDC inductive load 500 million times. Contacts replaceable for extended life. Temperature range for telegraphy: -85 to +185°F. Weight: 4 ounces.



CATALOG NUMBER		COIL DATA		CONTACT LOAD RATING (milliamperes)
Switching Form, Ohms, and Adjustment	Contact Material	Pickup, Max. (ma DC, either coil, either polarity)	Pickup Power (mw)	
Z — 10 TG	TCP	14.4	2.1	at 120 VDC inductive: 60
Z — 160 TG	TCP	3.6	2.1	
Z — 1,000 TG	TCP	1.44	2.1	
Z — 4,000 TG	TCP	.72	2.1	
Z — 10 TS	TCP	5.6	.31	
Z — 160 TS	TCP	1.4	.31	
Z — 1,000 TS	TCP	.56	.31	
Z — 4,000 TS	TCP (All latching, 2-position)	.28	.31	

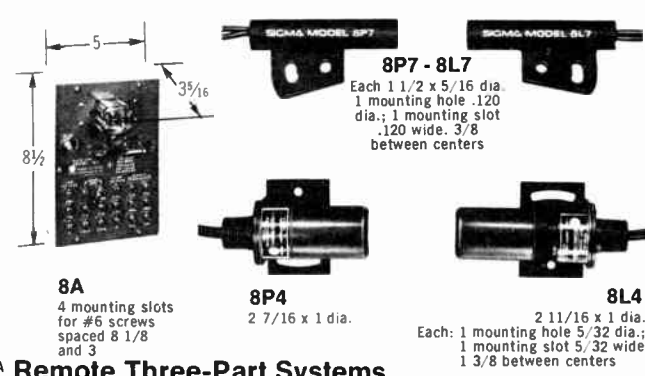
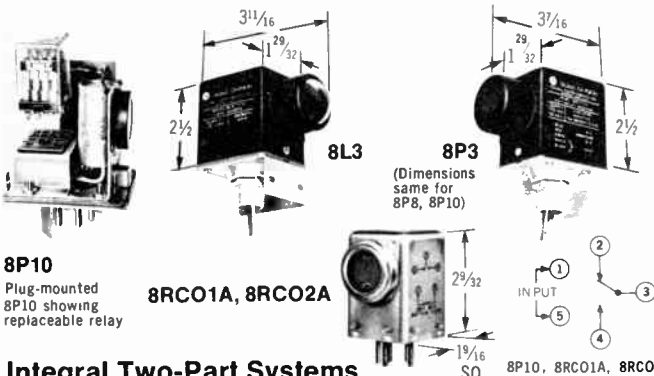
AT36-1 — Contact Repair Kit (2 contact screws; 1 ferro-nickel armature).

# Photocontrols Series 8 — SPDT, DPDT



Economical, compact systems for light-beam control of moving objects in materials handling, processing, production, packaging. High-efficiency optical systems for positive "light" or "dark" operation. No interwiring necessary between

integral receiver and light source systems. Principal components — photoconductive cells, relays, transformers — Sigma-manufactured for highest dependability. Replaceable incandescent lamps operate from low voltage for maximum life.



## Integral Two-Part Systems

**Receivers**  
12-foot range. SPDT. 115 VAC, 60 cps, supply. Housings: NEMA 1 and 12.  
**High-Speed Types 8P8 and 8P10** operate 1200 times a minute. Output relay replaceable plug-in type rated for 100,000 electrical operations, 100,000,000 mechanical. Weight (ounces): 8P8: 13; 8P10: 8.  
**General-Purpose Type 8P3** switches heavier loads 600 times a minute. 200,000 electrical operations, 10,000,000 mechanical. Weight: 13 ounces.  
Temperature range, 8P3, 8P8, 8P10, +32 to +122°F.  
**Miniature, Low-Cost Types 8R.** 120 cycles/minute for 1 million electrical operations minimum, 1 billion mechanical. Rugged plug-in unit, replaceable in seconds. U. L. construction. 8RC01A has 5/8" light-sensitive aperture. 8RC02A has plastic shield with 3/32" aperture for positive operation under high ambient light conditions. Temperature range -40 to +140°F. Weight: 3 ounces.

**Light Source**  
Type 8L3. Lamp rated for 10,000-hour life.

CATALOG NUMBER		Receiver Mounting	Operations Minute	Contact Load Rating (amperes, resistive)
Receiver	Light Source			
8P8-115	8L3-115	Bracket, 1/2" conduit, leads #18 AWG, 19"¹	1200	At 28 VDC/115 VAC: 5 At 230 VAC: 2.5
8P10-115	8L3-115	Bracket, 5-pin plug		
8P3-115	8L3-115	Bracket, 1/2" conduit, leads #18 AWG, 19"	600	At 28 VDC/115 VAC: 10 At 230 VAC: 5
8RC01A²	8L3-115	Bracket,		
8RC02A	8L3-115	5-pin plug	120	At 28 VDC/115 VAC: 3

¹ 8L3 Light Source mounting same.  
² U. L. File No. E36169, Yellow Card.

## Remote Three-Part Systems

**Subminiature Receiver 8P7 and Light Source 8L7**  
12-inch range. Operates 600 times a minute. 4000-hour lamp life. Housings high impact-and-heat-resistant polycarbonate. Weight (ounces): 8P7: 1/4; 8L7: 1/3.

**Miniature Receiver 8P4 and Light Source 8L4**  
25-foot maximum range. Operates 600 times a minute. Adjustable-focus light source can be connected to 4.5-volt control terminal for 15-foot operation with 40,000-hour lamp life, or to 5.5-volt terminal for 25-foot operation, 4000-hour lamp life. Black anodized aluminum housings. Weight (ounces): 8P4: 2.9; 8L4: 2.7.

**Amplifier 8A**  
Solid-state circuitry. Plug-in replaceable relay rated for ten million mechanical operations. Output contacts DPDT. Source voltage 115/230 VAC, 50/60 cps. Temperature range +32 to +122°F. Weight: 2 lbs.  
AT373-1 Housing 8A: JIC, oil-tight, weatherproof. 1 1/2" high x 10 15/16" wide x 4 1/4" deep. 4 mounting holes 5/16" diameter spaced 10 3/4" x 6". Weight: 9 lbs., 4 oz.

CATALOG NUMBER		Receiver and Light Source Mounting	CATALOG NUMBER	Contact Load Rating (amperes, resistive)
Receiver	Light Source			
8P7	8L7	Bracket, leads #22 AWG, 10" minimum	8A (chassis only)	At 28 VDC or 115/230 VAC: 5
8P4	8L4	Bracket, 3/8" conduit, leads #18 AWG, 10" minimum	To order enclosure specify AT373-1 Housing	

\*Must be ordered to complete 8P7-8L7 or 8P4-8L4 system.

For detailed engineering data on Sigma relays, consult individual bulletins.

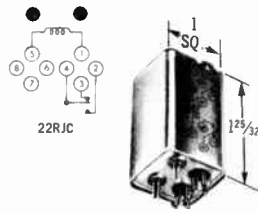
**SIGMA DIVISION**  **SIGMA INSTRUMENTS INC**

SIGMA PAGE 9 Assured Reliability With Advanced Design

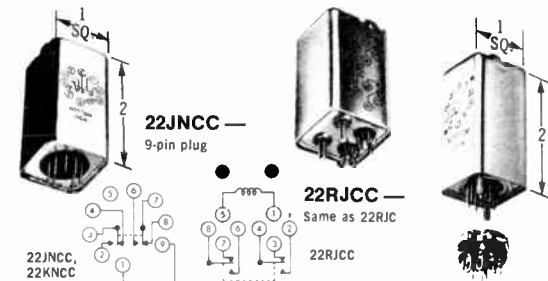
Page 1140 • The MASTER — 32nd Edition World Radio History © United Technical Publications

## High Performance Series 22 DC — SPDT and DPDT

For airborne and ground-based military equipment. A sensitive, high-reliability miniature, non-polarized relay featuring excellent stability and dropout 33% of pickup current. Resists 10 g to 300 cps vibration, 100 g shock. Temperature range: -65 to +125°C. Weight: 3 ounces. All hermetically sealed.



Relay Type	Ohms and Adjustment	Contact Material	COIL DATA			CONTACT LOAD RATING (amperes)
			Nominal VDC	Pickup, Max. (ma DC)	Pickup Power (mw)	
22RJC — Stud mounting (2 #4-40 spaced 1/2), 8 solder terminals	500 G	SIL	6	6.3	20	2
	1,000 G	SIL	—	4.5		
	2,500 G	SIL	12	2.8		
	5,000 G	SIL	—	2.0		
	8,000 G	SIL	24	1.6		
	12,000 G	SIL	—	1.3		
	500 G	GSP	6	6.3	20	.5
	1,000 G	GSP	—	4.5		
	2,500 G	GSP	12	2.8		
	5,000 G	GSP	—	2.0		
	8,000 G	GSP	24	1.6		
	12,000 G	GSP	—	1.3		

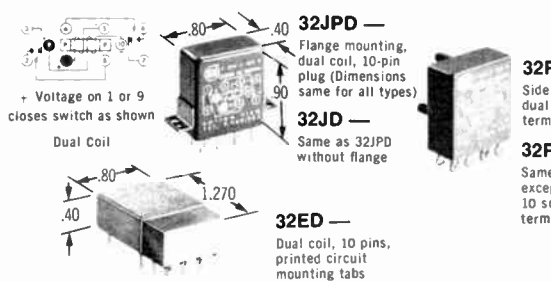


22KNCC — Stud mounting (2 #4-40 spaced .968), 9-pin plug Used with Sigma Socket Assembly AT155 (includes 2 #4-40 x 3/16 hex nuts; 2 #4 split lockwashers)	500 G	SIL	—	9	40	2
	1,000 G	SIL	12	6.3		
	2,500 G	SIL	—	4.0		
	5,000 G	SIL	24	2.8		
	8,000 G	SIL	—	2.3		
	12,000 G	SIL	48	1.8		
	500 G	GSP	—	9.0	40	.5
	1,000 G	GSP	12	6.3		
	2,500 G	GSP	—	4.0		
	5,000 G	GSP	24	2.8		
	8,000 G	GSP	—	2.3		
	12,000 G	GSP	48	1.8		

## High Performance Series 32 — DPDT, Latching



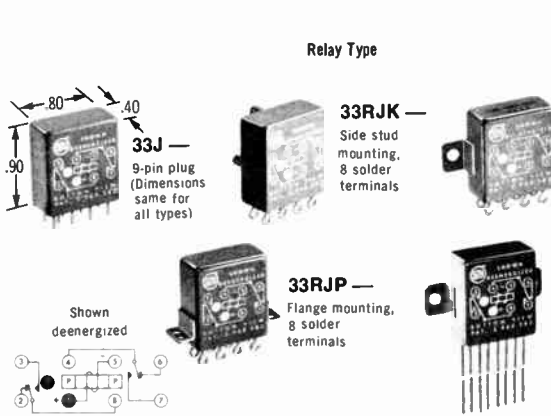
Relay Type	Ohms and Adjustment	Contact Material	COIL DATA			CONTACT LOAD RATING (amperes)
			Nominal VDC	Pickup, Max. (ma DC, either polarity)	Pickup Power (mw)	
32RJK2 — Top stud mounting, single coil, 8 solder terminals	1,200 G	SIL	—	6.4	50	2
	1,950 G	SIL	26.5 for 5 ms operate	5.0		
	3,100 G	SIL	26.5	4.0		



32RJKD — Side stud mounting, dual coil, 10 solder terminals	210 GD	SIL	—	21.5	100 (either coil)	2
	325 GD	SIL	12	17.5		
	1,200 GD	SIL	26.5	9.0		

High-reliability, subminiature, single- or dual-coil relay. Exceeds MIL-R-5757D. Positive snap action for slowly changing or on-off signals. Stays magnetically latched, either position, until reset by reverse current or use of second coil. High vibration-shock resistance (30 g to 5000 cps, 100 g — both without contact chatter). Temperature range: -65 to +125°C. Weight: .65 ounce. All hermetically sealed.

## High Performance Series 33 — DPDT



Relay Type	Ohms and Adjustment	Contact Material	COIL DATA			CONTACT LOAD RATING (amperes)			
			Nominal VDC	Pickup, Max. (ma DC or VDC)	Pickup Power (mw)				
33RJK — Side stud mounting, 8 solder terminals	320 VG	SIL	12	17.8 ma	100	2			
	1,200 VG	SIL	26.5	9.2 ma					
	1,950 VG	SIL	—	7.2 ma					
	320 FG	SIL	12	25°C 6.2 v 125°C 8.6 v					
	1,200 FG	SIL	26.5	13 v 18 v					
	1,950 FG	SIL	—	16 v 22 v					
33RJP — Side bracket mounting, 8 3-inch wires	320 VW	SIL	—	25 ma	200	2			
	1,200 VW	SIL	—	13 ma					
	1,950 VW	SIL	—	10 ma					
	33RJP7 — 94900*			26.5			25°C 125°C .13 v 18 v	200	2

High-reliability, subminiature relay combines exceptional shock and vibration immunity (30 g to 5000 cps; 70 g for FG, VG adjustments, 100 g for VW) with 100- and 200-milliwatt sensitivity. Exceeds MIL-R-5757D. Temperature range: -65 to +125°C. Weight: .65 ounce. All hermetically sealed.

\*Qualifies to MIL-R-5757D/10C or M5757/10 - 141. U.S. Govt. Part No. RY4NA3B3L01.

Price List (page 1) lists relays immediately available from factory and distributor stocks.

## High Performance Series 34 — DPDT, Latching

**Relay Type**

**34JP12D** — Flange mounting, dual coil, 10-pin plug

**34J** — Single coil, 8-pin plug

**34RJP2D** — Same as 34RJP2 except dual coil, 10 solder terminals

**34RJP2** — Same as 34RJP2D except single coil, 8-pin plug

**34JD** — Same as 34J except dual coil, 10-pin plug

**34JP2D** — Flange mounting, dual coil, 10-pin plug

**34RJP2** — Flange mounting, 8 solder terminals

Dimensions: .800, .400, .900

Wiring diagrams show coil connections and switch states for single and dual coils.

Ohms and Adjustment	Contact Material	COIL DATA			CONTACT LOAD RATING (amperes)
		Nominal VDC	Pickup, Max. (ma DC either polarity)	Pickup Power (mw)	
1,000 GD	SCN	12	6.3	40	2
4,000 GD	SCN	26.5	3.2 (either coil)		
6,300 G	SCN	26.5	1.8	20	2

Sensitive, all-welded, crystal-can relay exceeding MIL-R-57570 requirements. Exceptional life and reliability. Operates from changing-amplitude, sustained, or single-pulse signals. Stays magnetically latched, either position, until reset by reverse current or use of second coil. Typical mechanical life 100 million operations. Resistant to 30 g to 2000 cps vibration, 50 g shock. Temperature range: -65 to +125°C. Weight: .7 ounce. All hermetically sealed.

## High Performance Series 35 — DPDT

**Relay Type**

**35JP12** — Flange mounting, 8-pin plug

**35J** — Same as 35JP12 without flange

**35JP2** — Flange mounting, 8-pin plug

**35RJP2** — Flange mounting, 8 solder terminals

**35RJL** — Side bracket mounting, 8 solder terminals

**35RJP12** — Flange mounting, 8 solder terminals

Dimensions: .800, .400, .900

Wiring diagrams show coil connections and switch states.

Ohms and Adjustment	Contact Material	Nominal VDC	Pickup, Max. (VDC, either polarity)		Pickup Power (mw)	CONTACT LOAD RATING (amperes)
			25°C	125°C		
250 VG	SCN	6	3.3	4.7	40	2
1,000 VG	SCN	12	6.5	9.3		
4,000 VG	SCN	26.5	13.5	19.3		

High-sensitivity relay for on-off switching. True crystal-can, all-welded, exceeds MIL-R-57570 requirements. Excellent vibration-shock resistance (30 g to 2000 cps, 50 g). Long mechanical life, typically 50 million cycles at dry circuit levels. Temperature range: -65 to +125°C. Weight: .7 ounce. All hermetically sealed.

## High Performance Series 36 DC — DPDT

**Relay Type**

**36JP12** — Flange mounting, 8-pin plug

**36RJP12** — Flange mounting, 8 solder terminals

**36RJP2** — Flange mounting, 8 solder terminals

**36RJ** — 8 solder terminals

**36J** — Same as 36RJ except 8 pins

**36JL8** — Side bracket mounting, 8-pin plug

Dimensions: .800, .410, .410

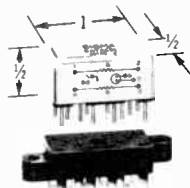
Wiring diagrams show coil connections and switch states.

Ohms and Adjustment	Contact Material	Nominal VDC	Pickup, Max. (VDC)		Pickup Power (mw)	CONTACT LOAD RATING (amperes)
			25°C	125°C		
44 G	SMN	6	3.4	4.9	260	2
175 G	SMN	12	6.7	9.9		
700 G	SMN	26.5	13.5	18.0		
2,800 G	SMN	48	27.0	39.5		

Long-life reliability in an all-welded, half-size subminiature relay exceeding MIL-R-57570/9B requirements. Exceptional performance at dry circuit, minimum current levels, and rated load. Resistant to 30 g vibration to 2000 cps, 50 g shock. Occupies only .15 cubic inch. Temperature range: -65 to +125°C. Weight: .35 ounce. All hermetically sealed.

## Opto-Electronic Datacel Series 301 — 1, 2, and 4 Pole

Opto-electronic relays featuring input-output circuit isolation and solid-state construction. Light-beam coupling to one, two, or four photoconductive cells isolates each circuit electrically. Suitable for AC or DC input and output. 300-milliwatt output cell power rating. Visual on-off state indication. Designed for high-density printed-circuit packaging, plus socket conversion to solder-terminal mounting. Switching functions include isolation interface, logic circuits (and/or gates, inverter, latch), data sampling, noiseless potentiometer, low signal level, automatic feedback. High reliability, long life for data processing input-output control, automatic test equipment, machine control equipment; electronic instrumentation; telephone switching; digital circuitry. Temperature range: -40 to +50 C. Weight: 1/4 ounce.



**301** — 8 or 12 pins

**AD32-1** 2 mounting holes .120 dia. spaced 1.300 x .260, 12 solder terminals

CATALOG NUMBER	Input Characteristics—Lamp <sup>1</sup>		Output Characteristics — Photocell (at 25°C)			
	Voltage	Current (milli-amperes)	On Resistance, R <sub>i</sub> (ohms, maximum)	Off Resistance, R <sub>o</sub> (megohms, minimum)	Voltage Rating (DC or AC peak)	Power Dissipation, Each Cell (milliwatts)
301R1-6	6	40	400	10	250	500
301R1-12	12	19	500			500
301R1-24	24	40	200			175
301R1-150	150	2	500			500
301R2-6	6	40	400	10	250	400
301R2-12	12	19	500			400
301R2-24	24	40	200			175
301R2-150	150	2	500			400
301R4-6	6	80	650	10	250	175
301R4-12	12	38	1,000			175
301R4-24	24	40	500			75

AD32-1 Socket for solder terminal mounting. Fits all models.

<sup>1</sup> 6, 12, and 24-volt input: Incandescent lamp. 150-volt: Neon. (Requires 150 VDC or AC peak to fire. Current-limiting resistor must be used in series with neon lamp to limit current to 2 milliampere.)

For detailed engineering data on Sigma relays, consult individual bulletins.



- Precision Film Resistors • Wire-Wound Controls
- Slide Switches • Composition Resistors
- Spark Suppressors



### MOLDED TYPES



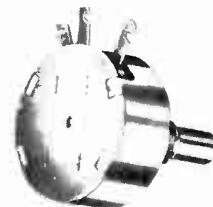
All designed to exceed MIL-R-10509 at modest price levels.

**EVAPORATED METAL FILM PRECISION RESISTORS**, Type VFM, resistance ranges from 24.9 ohms through 2 megohms; power ratings from 1/8 watt through 1/2 watt. Request Bulletin No. 2078-67.

**DEPOSITED CARBON FILM PRECISION RESISTORS**, Type CFM, resistance range from 10 ohms through 5.1 megohms; power ratings from 1/8 watt through 1 watt. Request Bulletin No. 2078-67.

### WIRE-WOUND CONTROLS

Available from 3/4" o.d., 2 watt trimmer control through 5 watt potentiometer or "L" pad. Shafts, bushings, mounting hardware, and other features are available to meet specific requirements. Request Bulletin Nos. 2060 and 2080-67.



### SLIDE SWITCHES

Fourteen basic types available in current ratings to 11.0 amps at 125 volts AC. UL listed. One through four poles; 2, 3, and 4 positions; detent or spring return action. Also available in miniature "Swidget" series (illus.) and "Sydneynder" series actuated from side and in rocker switches. Request bulletin nos. 2072, 2072-1, and 2079.



### CONFORMAL COATED TYPES

featuring the new  
**VACUMETTE**  
**TYPE X SERIES**

for high precision and stability, yet at low prices!



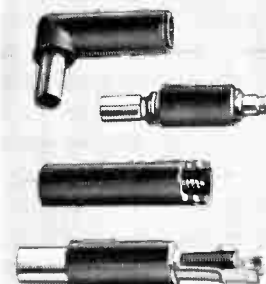
Designed to exceed MIL-R-10509. Temp. coefficient  $0^\circ \pm 100$  ppm/ $^\circ\text{C}$  (EIA Code T-1). Multi-coated for maximum environmental protection. Resistance ranges from 10 ohms through 2 megohms. Power ratings from 1/8 watt through 1/2 watt. Request Bulletin No. 2078-67.

**OTHER EVAPORATED METAL FILM RESISTORS**, Type VF, resistance ranges from 24.9 ohms through 1 megohm; power ratings from 1/8 through 1 watt. Request Bulletin No. 2078-67.

**DEPOSITED CARBON FILM RESISTORS**, Type CF, resistance ranges from 10 ohms through 10 megohms; power ratings from 1/8 through 2 watts. Request Bulletin No. 2078-67.

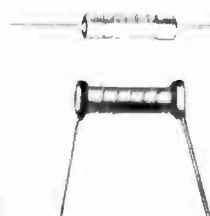
### AUTOMOTIVE AND OIL BURNER SPARK SUPPRESSORS

For suppression of radio and television noise interference due to ignition spark discharge at plugs and high tension distributor; and due to ignition discharge action of oil burner igniting coil. Complete line of resistive-type suppressors. Request Bulletin No. 125.



### ENAMEL COATED METAL TYPES

**NOBLETTE TYPE NA and NOBLELOY TYPE NR PRECISION FILM RESISTORS** with rugged vitreous enamel coating. Resistance ranges from 0.5 ohm through 20 megohms; power ratings from 1/2 watt through 5 watts. Request Bulletin No. 302-63.



### CARBOMITE RESISTORS

Insulated, fixed composition resistors for replacement and service applications. 1/10 watt through 2 watts. Available as type "M" packaged in bulk. Also as type "MR" consisting of five type "M" resistors of one resistance value and tolerance mounted on one 3 x 5 card, ten cards per package. File drawers and storage cabinets for type "MR" resistors available. Request Bulletin No. 2047.



There's long life and superior performance behind every C-W component — meeting highest quality and reliability standards at a moderate cost.

Your C-W distributor can supply prices, and bulletins mentioned above — also details on the convenient RESIST-O-FILE stocking plan for composition resistors.



CONTINENTAL-WIRT ELECTRONICS CORP.



## RESISTORS

±1% PRECISION <sup>®</sup>CARBOFILM AND <sup>®</sup>AEROMET RESISTORS

## CARBOFILM PRECISION RESISTORS



Precision deposited carbon resistors designed for circuits calling for the accuracy and stability of wire-wound resistors with the marked economy of carbon resistors. The exclusive Aeroglaze conformal coating offers mechanical protection superior to any other coating eliminating the need for special tubes, sleeves and jackets. Aeroglaze coating will meet all moisture requirements of MIL-R-10509B. Carbofilm resistors offer outstanding stability, low voltage coefficient, low capacitance and inductance in high frequency applications.

## CARBOFILM CHARACTERISTICS

**TESTING:** All Tests conducted in accordance with MIL-R-10509B requirements.

**TEMPERATURE COEFFICIENT:** Approximately 200 ppm per degree C in the lower resistance ranges and not exceeding 500 ppm per degree C in the highest values specified by MIL-R-10509B.

**MOISTURE RESISTANCE:** Will meet or surpass the requirements of MIL-R-10509B.

**LOAD LIFE:** When tested for more than 1,000 hours at full load operation in 40°C ambient temperature, maximum changes are less than 1% with an average change of less than 0.5%.

**TEMPERATURE CYCLING:** After 5 complete temperature cycles there is an average change of 0.21% with a maximum change of less than 0.5%.

**SHORT TIME OVERLOAD:** When subjected to 2.5 times the rated working voltage, but not exceeding 2 times the maximum rated voltage for 5 seconds, changes are less than 0.25% with an average change of 0.13%.

**LOW TEMPERATURE OPERATION:** Maximum changes are less than 1%.

**ACCURACY:** Guaranteed tolerance of plus/minus 1% at 25°C. (77°F.)

**AGING:** Due to manufacturing process and control, changes attributed to aging are negligible. The average change in resistance for self-aging is approximately 0.2% per year.

**VOLTAGE COEFFICIENT:** Does not exceed .002% per volt.

## METAL FILM RESISTORS



A superior epoxy coated metal film resistor manufactured under the most exacting quality control standards and specifications assuring excellent performance under the most adverse operating conditions. Units are conformally coated with 100% solid epoxy for added stability under most adverse conditions. Rated for full load operation at 125°C and linearly derated to zero load at 175°C these units meet or exceed all requirements of MIL-R-10509F.

## AEROMET CHARACTERISTICS

**TESTING:** All tests conducted in accordance with MIL-R-10509F requirements.

**TEMPERATURE COEFFICIENT:** Unites marked characteristic C are +−50PPM, those marked E are +−25PPM.

**MOISTURE RESISTANCE:** Average change of +−.05% far exceeds +−.5% allowed in MIL-R-10509F.

**LOAD LIFE:** When tested for more than 1000 hours at full load operation in 125°C ambient temperature, maximum changes are less than +−.5% with average change of less than +−2%.

**TEMPERATURE CYCLING:** After 5 complete temperature cycles (−65°C to +150°C) there is an average change > .01% with a maximum change of +−.25%.

**SHORT TIME OVERLOAD:** A D.C. test voltage 2½ times rated continuous voltage but not exceeding 2 times maximum voltage is applied for 5 seconds, changes are less than +−.25% with an average change of less than .02%.

**LOW TEMPERATURE OPERATION:** Maximum changes less than +−.25% with average change less than .01%.

**ACCURACY:** Guaranteed within tolerance marked on unit at 25°C.

**AGING:** Average change in resistance for self-aging, approximately .1% per year.

**VOLTAGE COEFFICIENT:** Does not exceed .002% per volt.

For full technical information request Bulletin NPJ-115-16 Rev. 2

## CARBOFILM

TYPE	SIZES	STD. MIN. OHMS	STD. MAX. MEGOHMS	Availability		MIL-R-10509B Max DC Voltage	Equiv. to MIL-R-10509B			MARKING
				Comm. Value	MIL-BELL Value		Type	Char.	Tol.	
CPSX½	.203 x ½	10	2.2	✓	✓	350	RN20	X	1%	RN20 Number
CPX½	.260 x ¾	2,210,000	5.0	✓		350	---	--	---	Type, Value, Tolerance
CPLX½	.260 x 1	5,100,000	7.5	✓		500	---	--	---	Type, Value, Tolerance
*CPX 1	.328 x 1¼	10	15	✓	✓	500	RN25	X	1%	Type, Value, Tolerance and RN25 Number
**CPX 2	.328 x 2¼	50	100†	✓		750	RN30	X	1%	Type, Value, Tolerance and RN30 Number

† Only stock value above 50 megohms is 100 megohms furnished in ±2% tolerance.

\* Values from 10.1 meg to 15 meg will be furnished at ±2% only.

\*\* Values from 30.1 meg to 100 meg will be furnished at ±2% only.

## AEROMET

## Aeromet Stocked In MIL BELL Values Only

TYPE	SIZE		STD. MIN. OHMS	STD. MAX. OHMS	MIL-R-10509F MAX. D.C. VOLTS	EQUIV. TO MIL-R-10509F			MARKING
	DIA. (MAX)	BODY LENGTH				TYPE	CHAR.	TOL.	
CPFX1/10	.100	.281	49.9	100,000	250	RN55	C,E	F	RN55 No.
CPFX1/8	.115	.320	49.9	499,000	250	RN60	C,E	F	RN60 No.
CPFX¼	.203	.620	49.9	1,000,000	300	RN65	C,E	F	RN65 No.
CPFX½	.260	.750	24.9	1,000,000	350	RN70	C,E	F	RN70 No.





# RESISTORS

±1% PRECISION CARBOFILM AND AEROMET RESISTORS

AEROGLAZE® CARBOFILM ± 1% RESISTORS MIL-BELL VALUES\*\*

COMMERCIAL STOCK VALUES ±1% TOLERANCE

OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	MEG-OHMS	MEG-OHMS	MEG-OHMS
10.0	36	82	300	820	2950	7000	20,000	62,000	220,000	650,000	2.0	6.2	27.0	
11.0	39	85	330	850	3000	7450	22,000	65,000	225,000	680,000	2.2	5.5	30.0	
12.0	40	89.5	350	900	3300	7500	22,500	68,000	240,000	700,000	2.225	6.8	33.0	
12.5	43	90	360	910	3500	8000	24,000	70,000	250,000	750,000	2.4	7.0	36.0	
13.0	44.5	91	390	1000	3600	8200	25,000	75,000	270,000	800,000	2.5	7.5	39.0	
14.5	45	99.5	400	1100	3900	8500	27,000	80,000	300,000	820,000	2.7	8.0	43.0	
15.0	47	100	430	1200	4000	8950	30,000	82,000	330,000	850,000	3.0	8.2	47.0	
16.0	50	110	450	1250	4300	9000	33,000	85,000	350,000	900,000	3.3	8.5	50.0	
17.5	51	120	470	1300	4450	9100	35,000	90,000	360,000	910,000	3.5	9.0	100.0†	
18.0	55	130	500	1450	4500	9950	36,000	91,000	390,000		3.6	9.1		
20.0	56	150	510	1500	4700	10,000	39,000	100,000	400,000	MEGOHMS	3.9	10.0		
22.0	59.5	160	550	1600	5000	11,000	40,000	110,000	430,000		4.0	12.0		
22.5	60	175	560	1750	5100	12,000	43,000	120,000	450,000	1.0	4.3	12.5		
24.0	62	180	600	1800	5500	12,500	45,000	125,000	470,000	1.1	4.5	13.0		
25.0	65	200	620	2000	5600	13,000	47,000	130,000	500,000	1.2	4.7	15.0		
27.0	68	220	650	2200	5950	13,500	50,000	150,000	510,000	1.25	5.0	16.0		
29.5	70	225	680	2250	6000	15,000	51,000	160,000	550,000	1.3	5.1	18.0		
30.0	74.5	240	700	2400	6200	16,000	55,000	175,000	560,000	1.5	5.5	20.0		
33.0	75	250	750	2500	6500	17,500	56,000	180,000	600,000	1.6	5.6	22.0		
35	80	270	800	2700	6800	18,000	60,000	200,000	620,000	1.8	6.0	25.0		

	Net Price ††
<b>CPSX½ (RN20X)</b>	
10 ohms to 49.9 ohms	.64
50 ohms to 2.2 meg	.54
<b>CPX½</b>	
2.21 meg to 5.0 meg	.83
<b>CPLX½</b>	
5.1 meg to 7.5 meg	.90
<b>CPX-1 (RN25X)</b>	
10 ohms to 99.9 ohms	.94
100 ohms to 5.0 meg	.81
5.01 meg to 10.0 meg	.89
10.1 meg to 15.0 meg*	1.03
<b>CPX-2 (RN30X)</b>	
50 ohms to 199 ohms	1.20
200 ohms to 10.0 meg	.97
10.1 meg to 30.0 meg	1.13
30.1 meg to 50.0 meg*	1.25
100 meg*	1.62

†Only stock value above 50 megohms is 100 megohms furnished in ±2% tolerance.

††Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-249, 250-499, 500-999

\*All new production will be furnished at ± 2% only for values in these ranges.

\*\*Prices listed are for MIL-BELL values only. For commercial standard values listed in catalog IDC 565 add 10% to the above prices in the appropriate columns. For prices on any values other than MIL-BELL or catalog commercial standard values contact your authorized Aerovox Industrial Distributor.

MIL-BELL STOCK VALUES ±1% TOLERANCE

AEROMET ± 1% RESISTORS MIL-BELL VALUES ONLY

OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	MEG-OHMS	MEG-OHMS	MEG-OHMS
10.0	23.2	53.6	124	287	665	1540	3570	8250	19100	44200	102000	237000	549000	1.13	2.61	6.04	
10.2	23.7	54.9	127	294	681	1580	3650	8450	19600	45300	105000	243000	562000	1.15	2.67	6.19	
10.5	24.3	56.2	130	301	698	1620	3740	8660	20000	46400	107000	249000	576000	1.18	2.74	6.34	
10.7	24.9	57.6	133	309	715	1650	3830	8870	20500	47500	110000	255000	590000	1.21	2.80	6.49	
11.0	25.5	59.0	137	316	732	1690	3920	9090	21000	48700	113000	261000	604000	1.24	2.87	6.65	
11.3	26.1	60.4	140	324	750	1740	4020	9310	21500	49900	115000	267000	619000	1.27	2.94	6.81	
11.5	26.7	61.9	143	332	768	1780	4120	9530	22100	51100	118000	274000	634000	1.30	3.01	6.98	
11.8	27.4	63.4	147	340	787	1820	4220	9760	22600	52300	121000	280000	649000	1.33	3.09	7.15	
12.1	28.0	64.9	150	348	806	1870	4320	10000	23200	53600	124000	287000	665000	1.37	3.16	7.32	
12.4	28.7	66.5	154	357	825	1910	4420	10200	23700	54900	127000	294000	681000	1.40	3.24	7.50	
12.7	29.4	68.1	158	365	845	1960	4530	10500	24300	56200	130000	301000	698000	1.43	3.32	7.68	
13.0	30.1	69.8	162	374	866	2000	4640	10700	24900	57600	133000	309000	715000	1.47	3.40	7.87	
13.3	30.9	71.5	165	383	887	2050	4750	11000	25500	59000	137000	316000	732000	1.50	3.48	8.06	
13.7	31.6	73.2	169	392	909	2100	4870	11300	26100	60400	140000	324000	750000	1.54	3.57	8.25	
14.0	32.4	75.0	174	402	931	2150	4990	11500	26700	61900	143000	332000	768000	1.58	3.65	8.45	
14.3	33.2	76.8	178	412	953	2210	5110	11800	27400	63400	147000	340000	787000	1.62	3.74	8.66	
14.7	34.0	78.7	182	422	976	2260	5230	12100	28000	64900	150000	348000	806000	1.65	3.83	8.87	
15.0	34.8	80.6	187	432	1000	2320	5360	12400	28700	66500	154000	357000	825000	1.69	3.92	9.09	
15.4	35.7	82.5	191	442	1020	2370	5490	12700	29400	68100	158000	365000	845000	1.74	4.02	9.31	
15.8	36.5	84.5	196	453	1050	2430	5620	13000	30100	69800	162000	374000	866000	1.78	4.12	9.53	
16.2	37.4	86.6	200	464	1070	2490	5760	13300	30900	71500	165000	383000	887000	1.82	4.22	9.76	
16.5	38.3	88.7	205	475	1100	2550	5900	13700	31600	73200	169000	392000	909000	1.87	4.32	10.0	
16.9	39.2	90.9	210	487	1130	2610	6040	14000	32400	75000	174000	402000	931000	1.91	4.42		
17.4	40.2	93.1	215	499	1150	2670	6190	14300	33200	76800	178000	412000	953000	1.96	4.53		
17.8	41.2	95.3	221	511	1180	2740	6340	14700	34000	78700	182000	422000	976000	2.00	4.64		
18.2	42.2	97.6	226	523	1210	2800	6490	15000	34800	80600	187000	432000		2.05	4.75		
18.7	43.2	100	232	536	1240	2870	6650	15400	35700	82500	191000	442000		2.10	4.87		
19.1	44.2	102	237	549	1270	2940	6810	15800	36500	84500	196000	453000	MEGOHMS	2.15	4.99		
19.6	45.3	105	243	562	1300	3010	6980	16200	37400	86600	200000	464000		2.21	5.11		
20.0	46.4	107	249	576	1330	3090	7150	16500	38300	88700	205000	475000		2.26	5.23		
20.5	47.5	110	255	590	1370	3160	7320	16900	39200	90900	210000	487000	1.00	2.32	5.36		
21.0	48.7	113	261	604	1400	3240	7500	17400	40200	93100	215000	499000	1.02	2.37	5.49		
21.5	49.9	115	267	619	1430	3320	7680	17800	41200	95300	220000	511000	1.05	2.43	5.62		
22.1	51.1	118	274	634	1470	3400	7870	18200	42200	97600	226000	523000	1.07	2.49	5.76		
22.6	52.3	121	280	649	1500	3480	8060	18700	43200	100000	232000	536000	1.10	2.55	5.90		

\*Request OEM Price in quantities of 25-49, 50-99, 100-249, 250-499, 500-999 and 1,000-4,999.



**"GREENOHM V"™ VITREOUS-ENAMEL RESISTORS**

Based on years of research and engineering development, these vitreous-enamel wire-wound power resistors offer superlative performance and life as proved by countless tests. "Greenohm V" resistors provide all the outstanding quality which made Clarostat "Greenohm" cement-coated units famous, plus a glass-smooth vitreous-enamel coating in a handsome bluish-green for maximum eye appeal. Made to MIL-R-26C specifications.

- Fixed and adjustable
- 5-watt to 200 watt sizes
- ± 5% tolerance, 1 ohm and over. ± 10% tolerance, 0.9 ohms and under. ± 10% for adjustable.

**"GREENOHM V"™ FIXED RESISTORS (VITREOUS ENAMEL)**

**5-WATT SERIES VPR-5-F**

Core: 1" x 5/16"

Terminals, wire lead and lug

Resistance Ohms				
1	30	350	1250	7000
1.5	35	400	1500	7500
2	40	450	1750	8000
3	50	500	2000	9000
4	75	800	2250	10K
5	100	700	2500	12.5K
7.5	125	750	3000	15K
10	150	800	3500	17.5K
12	200	900	4000	20K
15	225	1000	4500	22.5K
20	250	1100	5000	25K
25	300	1200	6000	

**NET PRICES:**

1 to 1K	\$0.51
1100 to 5K	.54
6K to 10K	.57
12.5K to 15K	.60
17.5K to 20K	.63
22.5K to 25K	.66

**10-WATT SERIES VPR-10-F**

Core: 1 3/4" x 5/16"

Terminals, wire lead and lug

Resistance Ohms				
0.4	30	500	3000	13.5K
1	35	600	3500	14.3K
1.2	40	700	4000	15K
1.3	50	750	4500	16K
1.5	75	800	5000	17.5K
2	100	800	6000	18K
3	125	1000	7000	20K
4	150	1100	7500	22.5K
5	200	1200	8000	25K
7.5	225	1250	8500	30K
10	250	1500	9000	35K
12	300	1750	10K	40K
15	350	2000	11K	45K
20	400	2250	12K	50K
25	450	2500	12.5K	

**NET PRICES:**

0.4 to 1K	\$0.57
1100 to 5K	.60
6K to 10K	.69
11K to 20K	.78
22.5K to 25K	.81
30K to 50K	.90

**100-WATT SERIES VK-100-N**

Core: 6 1/2" x 3/4"

Lug terminals — Mtg. bracket furnished

Resistance Ohms				
1	50	300	3000	25K
2	75	500	4000	30K
3	100	750	5000	40K
4	125	1000	7500	50K
5	150	1500	10K	60K
10	200	2000	15K	75K
25	250	2500	20K	100K

**NET PRICES:**

1 to 3	\$2.22
4 to 1K	1.59
1500 to 5K	1.68
7500 to 10K	1.80
15K to 20K	1.98
25K to 40K	2.13
50K to 60K	2.22
75K	2.43
100K	2.73



**20-WATT SERIES VPR-20-H**

Core: 2" x 7/16"

Terminals, wire lead and lug

Resistance Ohms				
0.4	350	1850	7500	55K
0.6	400	2000	8000	60K
0.8	500	2250	9000	65K
5	850	2400	10K	70K
10	700	2500	12.5K	75K
25	750	2750	15K	80K
50	800	3000	20K	85K
75	850	3500	25K	90K
100	1000	4000	30K	95K
150	1200	4500	35K	100K
200	1250	5000	40K	
250	1500	6000	45K	
300	1750	7000	50K	

**NET PRICES:**

0.4 to 1K	\$0.66
1200 to 5K	.69
6K to 10K	.81
12.5K to 20K	.84
25K to 40K	.99
45K to 60K	1.14
65K to 80K	1.35
85K to 100K	1.56

**160-WATT SERIES VK-160-W**

Core: 8 1/2" x 1 1/8"

Lug terminals — Mtg. bracket furnished

Resistance Ohms				
1	50	750	7500	50K
2	75	1000	10K	60K
3	100	1500	15K	75K
4	125	2000	20K	100K
5	150	2500	25K	
10	250	3000	30K	
25	500	5000	40K	

**NET PRICES:**

1 to 5	\$3.18
10 to 1K	2.28
1500 to 5K	2.31
7500 to 10K	2.52
15K to 20K	2.70
25K to 40K	2.79
50K to 60K	2.88
75K	3.06
100K	3.24

**25-WATT SERIES VP-25-K**

Core: 2" x 9/16"

Lug terminals — Mtg. bracket furnished

Resistance Ohms				
1	50	800	5000	30K
2	75	1000	6000	35K
3	100	1500	7500	40K
4	150	2000	10K	50K
5	200	2500	12K	60K
10	250	3000	15K	70K
15	500	3500	20K	80K
25	750	4000	25K	100K

**NET PRICES:**

1 to 1K	\$0.72
1500 to 10K	.75
6K to 10K	.84
12K to 20K	.90
25K to 40K	1.02
50K to 60K	1.20
70K to 80K	1.41
100K	1.62

**50-WATT SERIES VP-50-K**

Core: 4" x 9/16"

Lug terminals — Mtg. bracket furnished

Resistance Ohms				
1	100	1000	7500	50K
2	150	1250	8000	75K
3	200	1500	10K	100K
4	250	2000	12K	125K
5	300	2500	15K	150K
10	400	3000	20K	175K
25	500	4000	25K	200K
50	750	5000	30K	225K
75	800	6000	35K	250K

**NET PRICES:**

1	\$1.53
2 to 1K	1.11
1500 to 5K	1.14
7500 to 10K	1.26
12K to 20K	1.38
25K to 35K	1.53
50K	1.71
75K	1.95
100K	2.13
125K	2.55
150K	2.70
175K	2.79
200K	2.88
225K	3.24
250K	3.24

**200-WATT SERIES VK-200-W**

Core: 10 1/2" x 1 1/8"

Lug terminals — Mtg. bracket furnished

Resistance Ohms				
1	50	750	7500	40K
2	75	1000	10K	50K
3	100	1500	12K	60K
4	150	2000	15K	75K
5	200	2500	20K	100K
10	250	3000	25K	
25	500	5000	30K	

**NET PRICES:**

1 to 5	\$3.42
10 to 1K	2.46
1500 to 5K	2.52
7500 to 10K	2.70
15K to 20K	2.88
25K to 40K	2.97
50K to 60K	3.06
75K	3.24
100K	3.45



**"GREENOHM V"™ ADJUSTABLE RESISTORS ( VITREOUS ENAMEL )**

**10-WATT SERIES VP-10-FA**

Core: 1 3/4" x 5/16"

Lug terminals — Mtg. brackets furnished

Resistance Ohms				
1	25	350	1500	5000
3	50	400	2000	6000
8	75	500	2250	7000
5	100	600	2500	7500
7.5	150	750	3000	8000
10	200	800	3500	8500
15	250	1000	4000	9000
20	300	1250	4500	10K

**NET PRICES:**

1 to 1K	\$1.14
1250 to 5K	1.17
6000 to 10K	1.26

**25-WATT SERIES VP-25-KA**

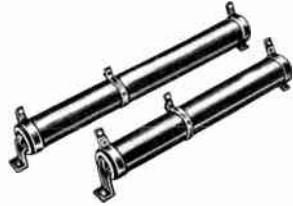
Core: 2" x 9/16"

Lug terminals — Mtg. brackets furnished

Resistance Ohms				
1	50	750	3500	9000
3	75	800	4000	10K
8	100	1000	4500	12K
5	150	1250	5000	15K
7.5	200	1500	6000	20K
10	250	2000	7000	25K
15	300	2250	7200	
20	400	2500	7500	
25	500	3000	8000	

**NET PRICES:**

1 to 1K	\$1.29
1250 to 5K	1.32
6K to 10K	1.41
12K to 20K	1.47
25K	1.59



**50-WATT SERIES VP-50-KA**

Core: 4" x 9/16"

Lug terminals — Mtg. brackets furnished

Resistance Ohms				
1	100	1250	6000	25K
2	150	1500	7000	30K
3	200	2000	7200	35K
4	250	2250	7500	40K
5	300	2500	8000	50K
10	400	3000	9000	60K
20	500	3500	10K	75K
25	750	4000	12K	80K
50	800	4500	15K	100K
75	1000	5000	20K	

**NET PRICES:**

1 ohm	\$2.10
2 to 1K	1.68
1250 to 5K	1.71
6K to 10K	1.80
12K to 20K	1.92
25K to 40K	2.10
50K to 60K	2.28
80K	2.52
100K	2.70

**75-WATT SERIES VP-75-KA**

Core: 6" x 9/16"

Lug terminals — Mtg. brackets furnished

Resistance Ohms				
1	200	2000	7200	35K
2	250	2250	7500	40K
3	300	2500	8000	45K
4	400	3000	9000	50K
5	500	3500	10K	60K
10	750	4000	12K	80K
15	800	4500	15K	100K
25	1000	5000	20K	
50	1250	6000	25K	
100	1500	7000	30K	

**NET PRICES:**

1 to 2	\$2.37
3 to 1K	1.86
1250 to 5K	1.92
6000 to 10K	2.01
12K to 20K	2.13
25K to 40K	2.31
45K to 60K	2.52
80K	2.76
100K	2.91

**100-WATT SERIES VK-100-NA**

Core: 6 1/2" x 3/4"

Lug terminals — Mtg. brackets furnished

Resistance Ohms				
1	25	400	3500	40K
2	50	500	5000	50K
3	100	750	10K	75K
4	150	1000	15K	100K
5	200	1500	20K	
10	250	2000	25K	
15	300	2500	30K	

**NET PRICES:**

1 to 3	\$3.00
4 to 1K	2.37
1500 to 5K	2.43
10K	2.55
15K to 20K	2.70
25K to 40K	2.88
50K	3.00
75K	3.12
100K	3.27

**160-WATT SERIES VK-160-WA**

Core: 8 1/2" x 1 1/8"

Lug terminals — Mtg. brackets furnished

Resistance Ohms				
1	10	250	5000	30K
2	25	500	10K	40K
3	50	1000	15K	50K
4	100	1500	20K	75K
5	150	2500	25K	100K

**NET PRICES:**

1 to 5	\$4.05
10 to 1K	3.15
1500 to 5K	3.18
10K	3.39
15K to 20K	3.57
25K to 40K	3.66
60K	3.75
75K	3.93
100K	4.14

**200-WATT SERIES VK-200-WA**

Core: 10 1/2" x 1 1/8"

Lug terminals — Mtg. brackets furnished

Resistance Ohms				
1	20	200	2500	30K
2	25	250	5000	40K
3	50	300	10K	50K
4	75	500	15K	75K
5	100	1000	20K	100K
10	150	1500	25K	

**NET PRICES:**

1 to 5	\$4.32
10 to 1K	3.33
1500 to 5K	3.42
10K	3.57
15K to 20K	3.75
25K to 40K	3.84
50K	3.96
75K	4.14
100K	4.32

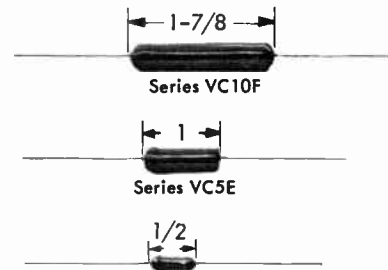
PRODUCTS OF  
**THE HOUSE OF RESISTORS®**



**RESISTORS • CONTROLS**  
**RESISTANCE DEVICES**

**AXIAL LEAD VITREOUS RESISTORS**

Available in three sizes 3, 5 and 10 watts, Series VC3D, VC5E and VC10F. Axial lead resistors are particularly adapted to printed circuit, terminal board, and point-to-point wiring applications. These resistors save considerable space because of the elimination of mounting brackets and terminal lugs. Standard resistance tolerance is  $\pm 5\%$  for 1 ohm and higher and tolerance below 1 ohm is  $\pm 10\%$ . Attractively packaged in a newly designed carton particularly adapted to this new axial lead resistor, beautifully finished with Clarostat's new vitreous shade of teal green.



Lead Length: 1/2"    Lead Diameter: .032

**SERIES VC3D**  
STOCK VALUES

1	20	68	250	600	1.75K	4.5K
1.5	22	75	270	680	1.8K	4.7K
2	25	82	300	700	2K	5K
3	27	100	330	750	2.2K	5.6K
4	30	120	350	800	2.25K	6K
5	33	125	390	820	2.5K	6.8K
7.5	35	150	400	900	2.7K	7K
10	39	180	450	1K	3K	7.5K
12	40	200	470	1.1K	3.3K	8K
15	47	220	500	1.2K	3.5K	8.2K
18	50	225	560	1.25K	3.9K	9K
	56			1.5K	4K	10K

*Net Prices*

1	to 1K	.....\$ .51
1.1K	to 5K	......54
6K	to 10K	......57

**SERIES VC5E**  
STOCK VALUES

1	22	82	330	820	2.7K	7.5K
1.5	25	100	350	900	3K	8K
2	27	120	390	1K	3.3K	8.2K
3	30	125	400	1.1K	3.5K	9K
4	33	150	450	1.2K	3.9K	10K
5	35	180	470	1.25K	4K	12.5K
7.5	39	200	500	1.5K	4.5K	15K
10	40	220	560	1.75K	4.7K	17.5K
12	47	225	600	1.8K	5K	18K
15	50	250	680	2K	5.6K	20K
18	56	270	700	2.2K	6K	22K
20	68	300	750	2.25K	6.8K	22.5K
	75		800	2.5K	7K	25K

*Net Prices*

1	to 1K	..... \$ .54
1.1K	to 5K	......57
6K	to 10K	......60
12.5K	to 20K	......72
22.5K	to 25K	......75

**SERIES VC10F**  
STOCK VALUES

1	25	120	400	1.2K	3.5K	8.5K	22.5K
1.5	27	125	450	1.25K	3.9K	9K	25K
2	30	150	470	1.3K	4K	10K	27K
3	33	180	500	1.5K	4.5K	11K	30K
4	35	200	560	1.75K	4.7K	12K	33K
5	39	220	600	1.8K	5K	12.5K	35K
7.5	40	225	680	2K	5.6K	13.5K	39K
10	47	250	700	2.2K	6K	15K	40K
12	50	270	750	2.25K	6.8K	16K	45K
15	56	300	800	2.5K	7K	17.5K	47K
18	68	330	820	2.7K	7.5K	18K	50K
20	75	350	900	3K	8K	20K	
22	82	390	1K	3.3K	8.2K	22K	
	100			1.1K			

*Net Prices*

1	to 1K	..... \$ .60
1.1K	to 5K	......63
6K	to 10K	......72
11K	to 20K	......81
22.5K	to 40K	......84
45K	to 50K	......96



**POWER RESISTOR DECADE BOX**

The Resistance Decade Box, Model 240-C for bench use — Model 250 for rack mounting, provides any resistance from 1 to 999,999 ohms for working circuits at the flip of a switch. Six front-panel dials enable selection in 1 ohm increments, the total value being read directly from the dial. Each decade has a power rating of 225 watts maximum, 1,000 VDC or 660 VAC maximum.

Resistance changing switches are of the type that prevent a resistance breakdown between steps, thus protecting delicate meters and measuring instruments in the circuit. Knobs indicate the resistance

value being used at a glance.

Clarostat GRENOHM Power Resistors are used throughout. These components are wire-wound power resistors on ceramic tubes and coated with an exclusive Clarostat inorganic cold-setting cement, providing the most rugged, long-lasting, trouble-free power resistor available. The resistors are mounted in rigid metal supports.

Overall length: 240C: 13" long x 8 1/2" deep x 5 1/2" high, weight 1 1/2 lbs. 250: 19" long x 13 3/4" deep x 7" high (fits in standard 19" relay rack), weight 1 1/2 lbs.

**SUGGESTED USES:** Resistance determination, Load Resistance, Meter Multiplier, Calibrating Meters, Providing any desired ohmage as a universal power resistor.

Decade No.	1	2	3	4	5	6
Max. Current Rating (amps)	5	1.5	.5	.15	0.5	.005
Resistance Tolerance	5%	2%	2%	2%	2%	2%

**NET PRICE:** Model 240C \$110.00, Model 250 \$150.00

**SERIES U39**

**UNIVERSAL "HUMDINGER" CONTROL**  
**2W. WIRE WOUND**

Series U'39 is a shaftless potentiometer with the contact arm grounded to the housing. The design of terminals and mounting tabs, meets the following requirements: Above chassis mounting, as a potentiometer or rheostat; printed circuit mounting, as a potentiometer or rheostat. The terminal layout meets the popular industry standards. A fiber adapter plate is furnished with each control. Series U39 is ideally suited for radio and television requirements, as well as many industrial applications. Resistance tolerance  $\pm 20\%$ . Linear only.

Cat. No.	Total Res. Ohms	Min. Res. Ohms	Cat. No.	Total Res. Ohms	Min. Res. Ohms
U39-1.5	1.5	—	U39-700	700	—
U39-5	5	—	U39-700-.00	700	200
U39-8	8	—	U39-800	800	—
U39-15	15	—	U39-800-50	800	50
U39-50	50	—	U39-1000	1000	—
U39-75	75	—	U39-1000-100	1000	100
U39-100	100	—	U39-1500	1500	—
U39-125	125	—	U39-2000	2000	—
U39-150	150	—	U39-2000-100	2000	100
U39-175	175	—	U39-3000	3000	—
U39-200	200	—	U39-3000-700	3000	700
U39-300	300	—	U39-4000	4000	—
U39-500	500	—	U39-4000-350	4000	350
U39-500-100	500	100	U39-4000-1000	4000	1000
U39-600	600	—	U39-5000	5000	—
U39-650	650	—			

**NET PRICE \$ .60**



**SERIES U39**



PRODUCTS OF  
**THE HOUSE OF RESISTORS®**



**RESISTORS • CONTROLS**  
**RESISTANCE DEVICES**

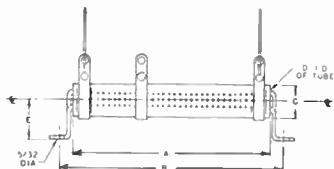
## "GREENOHM"\* WIRE-WOUND RESISTORS



**FIXED TYPES** Wire-wound resistors for most rugged applications. Will withstand tremendous overloads and temperature changes without altering resistance values or appearance. Wire windings on high grade ceramic tubing and coated with special inorganic cement. In accordance with EIA standards, overall tolerances are  $\pm 5\%$  for resistors of 50 ohms and higher. For resistors of 49.9 ohms and lower, overall tolerances are  $\pm 10\%$ .

**ADJUSTABLE TYPES** Same electrically and mechanically as Fixed types, but incorporating sliding band or bands for tapping any desired resistance values. Slider band tightened by means of screw. In accordance with EIA standards, overall tolerances are  $\pm 10\%$ .

### DIMENSIONS BY TYPES



SERIES	WATTS	A	B	C	O	E
PR-5-F	5	1	1 $\frac{1}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{7}{16}$
PR-10-F	10	1 $\frac{3}{4}$	2 $\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{7}{16}$
PR-10-FA	10	1 $\frac{3}{4}$	2 $\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{7}{16}$
PR-20-K	20	2	2 $\frac{1}{2}$	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{9}{16}$
P-25-K	25	2 $\frac{1}{2}$	3	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{9}{16}$
P-25-KA	25	2 $\frac{1}{2}$	3	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{9}{16}$

## FIXED RESISTORS

### 5-WATT SERIES PR-5-F

These resistors conform to EIA specification for type RRW-125 and 128.

Ohms	Ohms	Ohms	Ohms
1	75	800	5,000
2	100	900	6,000
3	125	1,000	7,000
4	150	1,100	7,500
5	200	1,200	8,000
7.5	225	1,250	8,500
10	250	1,500	9,000
12	300	1,750	10K
15	350	2,000	
20	400	2,250	
25	450	2,500	
30	500	3,000	
35	600	3,500	
40	700	4,000	
50	750	4,500	

NET PRICE \$0.33

Mounting brackets supplied at extra cost.

### 10-WATT SERIES PR-10-F

These resistors conform to military specifications for type RW29, and EIA type RRW-126 and 129.

Ohms	Ohms	Ohms	Ohms
1	200	2,000	14.5K
2	225	2,250	15K
3	250	2,500	16K
4	300	3,000	17.5K
5	350	3,500	18K
7.5	400	4,000	20K
10	450	4,500	22.5K
12	500	5,000	25K
15	600	6,000	30K
20	700	7,000	35K
25	750	7,500	40K
30	800	8,000	50K
35	900	8,500	
40	1,000	9,000	
50	1,100	10K	
75	1,200	11K	
100	1,250	12K	
125	1,500	12.5K	
150	1,750	13.5K	

NET PRICE \$0.36

Mounting brackets supplied at extra cost.

### 20-WATT SERIES PR-20-K

These resistors conform to EIA specifications for type RRW-127.

Ohms	Ohms	Ohms	Ohms
5	850	7,000	70K
10	1,000	7,500	75K
25	1,200	8,000	80K
50	1,250	9,000	85K
75	1,500	10K	90K
100	1,750	12.5K	95K
150	1,850	15K	100K
200	2,000	20K	
250	2,250	25K	
300	2,500	30K	
350	2,750	35K	
400	3,000	40K	
500	3,500	45K	
650	4,000	50K	
700	4,500	55K	
750	5,000	60K	
800	6,000	65K	

NET PRICES:

5 ohms to 15K ohms	\$0.42
20K to 50K ohms	.57
55K to 100K ohms	.72

Mounting brackets supplied at extra cost.

### 25-WATT SERIES P-25-K

Ohms	Ohms	Ohms	Ohms
1	100	2,500	20K
2	150	3,000	25K
3	200	3,500	30K
5	250	4,000	35K
7.5	300	4,500	40K
10	400	5,000	45K
15	500	6,000	50K
20	750	7,000	60K
25	800	7,500	70K
41	1,000	8,000	75K
50	1,250	9,000	80K
51	1,500	10K	85K
60	2,000	12K	90K
75	2,250	15K	100K

NET PRICES:

1 ohm to 5,000	\$0.51
6,000 to 15K ohms	.57
20K to 50K ohms	.66
60K ohms	.75
70K ohms	.84
75K ohms	.87
80K ohms	.90
85K ohms	.99
90K ohms	1.05
100K ohms	1.17

Mounting brackets at no extra cost.

## ADJUSTABLE RESISTORS

These resistors conform to military specification for type RW-29 and EIA specification for type RRW-226.

### 10-WATT SERIES PR-10-FA

Res.	Res.	Res.	Res.
1	75	750	4,000
2	100	800	4,500
3	150	1,000	5,000
5	200	1,250	6,000
7.5	250	1,500	7,000
10	300	2,000	7,500
15	350	2,250	8,000
20	400	2,500	8,500
25	500	3,000	9,000
50	600	3,500	10K

NET PRICE \$0.57

### 25-WATT SERIES P-25-KA

Res.	Res.	Res.	Res.
1	75	1,000	5,000
2	100	1,250	6,000
3	150	1,500	7,000
5	200	2,000	7,500
7.5	250	2,250	8,000
10	300	2,500	9,000
15	400	3,000	10K
20	500	3,500	12K
25	750	4,000	15K
50	800	4,500	20K
			25K
			50K

NET PRICES:

1 ohm to 5,000 ohms	\$0.63
6,000 to 15K ohms	.72
20K to 25K ohms	.84
50K ohms	.99

Above adjustable resistors supplied with mounting brackets at no extra cost. Extra slider bands — 30¢ each.

**DALE****for Optimum Value in Wirewound Resistors****INDUSTRIAL WIREWOUND POWER RESISTORS,  
SILICONE COATED**

Dale's expanded industrial wirewound line provides direct, competitively-priced replacements for the full line of vitreous enamel styles and sizes. Dale's special silicone coating enhances, rather than limits, long-term stability. HL resistors shown here have a proven failure rate of .05% after more than 1,800,000 unit test hours. Test conditions: Full rated power, 25°C; failure defined as 3%ΔR, 60% confidence level.

Contact Distributor  
for Prices

CW Axial Lead



HL Tubular

NHL  
Non-Inductive

HL Flat

HLM  
Miniature Flat

HLA Adjustable



HLT Tapped



HLW Tubular

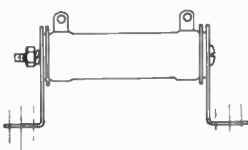


TYPE	APPLICATION	APPLICABLE MIL SPEC AND TYPES	WATTAGE RATING	RESISTANCE RANGE	CORE SIZES	TERMINALS	MOUNTINGS	TOLERANCE
<b>CW Axial Lead</b>	Axial leads. For applications requiring high performance at low cost	MIL-R-26 RW-57, 58, 59	1.25-13 watts	.1 ohm to 273K ohms	Body Dia. .093 to .375" Body Length .406 to 1.781" Leads 1.5 to 2"	Leads	Terminals	+5% (10% below 1 ohm)
<b>HL Tubular</b>	Silicone-coated general purpose wirewound resistor. A direct replacement in both cost and performance for vitreous enamel types.	MIL-R-26 RX-29, 30, 31, 32, 33, 35, 36, 37, 38, 47	5-225 watts	.1 ohm to 1.3 Megohms	O.D. 1/4 to 1-1/8" Length 1-10 1/2"	Lugs	Push-in bracket or thru-bolt	±5% (10% below 1 ohm)
<b>NHL Non-Inductive</b>	High frequency circuits and applications requiring low inductive effect and minimum distributed capacity	None	5-225 watts	1 ohm to 90K ohms	O.D. 1/4 to 1-1/8" Length 1-10 1/2"	Lugs or Leads	Push-in bracket or thru bolt	±5%
<b>HL Flat</b>	For limited space requiring high power-to-size ratio. Vertical or horizontal stacking.	MIL-R-26 RW-20 thru RW-24	24-95 watts	.1 ohm to 150K ohms	Length 1 1/4 to 6"	Lugs	Spring push-in	+5% (10% below 1 ohm)
<b>HLM Miniature Flat</b>	For limited space, high power-to-size requirements particularly in high vibration areas.	None	10-20 watts	.1 ohm to 51K ohms	Length 3/4 to 2-1/16"	Lugs	Thru mount with eccentric spacers	+5% (10% below 1 ohm)
<b>HLA Adjustable</b>	For resistance or voltage adjustment	MIL-R-19365C RX-29, 32, 33, 35, 36, 37, 38, 47	12-225 watts	1 ohm to 100K ohms	O.D. 5/16 to 1-1/8" Length 1 1/2 to 10 1/2"	Lugs	Push-in bracket or thru bolt	±5%
<b>HLT Tapped</b>	For voltage divider networks	MIL-R-26	11-225 watts	.1 ohm to 1.1 Megohms	O.D. 5/16 to 1-1/8" Length 1 1/2 to 10 1/2"	Lugs	Push-in bracket or thru bolt	+10% each section (+10% total)
<b>HLW Tubular</b>	General application where terminal wires are required for direct electrical connection	None	3-20 watts	.1 ohm to 80K ohms	O.D. 1/4 to 7/16" Length 1" to 2"	Lugs with terminal wires	Terminals, thru bolt or push-in bracket	±5% (10% below 1ohm)

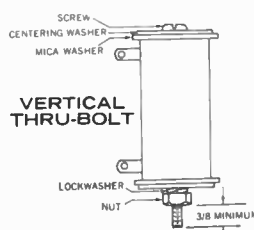
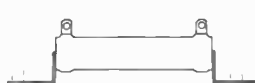
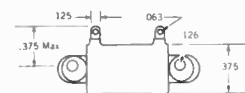
**MOUNTING BRACKETS**

for HL, HLA, HLT &amp; NHL RESISTORS

"M" TYPE THRU-BOLT



"P" TYPE PUSH-IN

**EXCLUSIVE BRACKET DESIGN FOR  
HLM MINIATURE FLAT STYLE**

Mounting strap fits snugly through core and is bound tightly against unit by two eccentric spacers. Eliminates expensive cements and improves heat transfer and power handling capabilities.

**DALE***for Optimum Value in Housed Wirewound Resistors***WIREWOUND POWER RESISTORS, HEAT SINK ENCASED**

Patented design. Mount to or through the chassis. Provide high power and precision tolerance in a variety of sizes, mounting and terminal configurations. RH and HG types exceed MIL-R-18546. PH types meet electrical and environmental requirements.

**TYPE RH**

Six models, 5 through 250 watts. All models have bonus power dissipation ability within MIL-R-18546 size.

**TYPE HG**

Uses beryllium oxide core for optimum heat dissipation. More than doubles Mil. Spec. power requirements at no increase in size. Exceptional stability when derated to mil. levels.

**STANDARD ELECTRICAL SPECIFICATIONS**

DALE TYPE	MIL-R-18546 TYPE	POWER RATING* (WATTS)		RESISTANCE RANGES (OHMS)			MAX. WORKING VOLTAGE	MAX. † WT. GRAMS	STANDARD TEMPERATURE COEFFICIENT VALUE RANGES (OHMS) ††		
		DALE *	MIL	.05%. .1%. .25%	.5%. 1%. 3%				± 50 PPM	± 30 PPM	± 20 PPM
RH-5	RE-60	7.5 (5)	5	1 to 6.5K	.1 to 24.5K	160	3	1 to 44.9	45 to 2.39K	2.4K to 24.5K	
RH-10	RE-65	12.5 (10)	10	1 to 12.7K	.1 to 47.1K	265	6	1 to 79.9	80 to 4.09K	4.1K to 47.1K	
RH-25	RE-70	25	20	.5 to 25.7K	.1 to 95.2K	550	13	1 to 149.9	150 to 8.49K	8.5K to 95.2K	
RH-50	RE-75	50	30	.5 to 73.4K	.1 to 273K	1250	28	1 to 449.9	450 to 26.09K	26.1K to 273K	
RH-100	RE-77	100	75	.3 to 50K	.1 to 50K	1900	400	1 to 2.9K	2.91K to 40K	40.1K to 50K	
RH-250	RE-80	250	120	.3 to 75K	.1 to 75K	2300	800	1 to 4K	4.1K to 45K	45.1K to 75K	
HG-5	RE-60	15	5	1 to 6.5K	1 to 24.5K	220	3	1 to 44.9	45 to 2.39K	2.4K to 22K	
HG-10	RE-65	20	10	1 to 12.7K	.1 to 47.1K	340	6	1 to 79.9	80 to 4.09K	4.1K to 47.1K	
HG-25	RE-70	35	20	.5 to 25.7K	.1 to 95.2K	650	13	1 to 149.9	150 to 8.49K	8.5K to 95.2K	
HG-50	RE-75	50	30	.5 to 73.4K	.1 to 273K	1400	28	1 to 449.9	450 to 26.09K	26.1K to 273K	

\*Rating is based on chassis mounting area and stability.

\*\*NOTE: Figures in parentheses on RH 5 and RH 10 indicate wattage printed on these resistors. New construction allows them to be rated at 7.5 and 12.5 watts — but they will be printed with these higher ratings **only** upon customer request.

†A weight increase of 10% should be allowed for non inductive types.

††Consult factory for values below 1 ohm and for special T.C. requirements.

Contact Distributor for Prices

**TYPE PH**

**Dual Terminals.**  
Also with axial type configuration.

**TYPE PH**

**Single Terminal**  
speeds assembly time.

**TYPE PH**

**Plug-in Connection**  
for fast connect/disconnect from circuit.

**PH TERMINAL INFORMATION:**

Type PH-10-1 has dual, axial type terminal. Types PH-25, PH-50, PH-100 have dual terminals as shown above. Types PH-10-5 and PH-25-8 have single termination and ground to chassis. Types PH-10-20 and PH-25-12 have dual termination using female taper receptacles as shown.

**STANDARD ELECTRICAL SPECIFICATIONS**

DALE TYPE	DALE RATING (WATTS)	RESISTANCE RANGES (OHMS)			MAX. WORKING VOLTAGE	MAX. WT. (GRAMS)	STANDARD TEMPERATURE COEFFICIENT VALUE RANGES (OHMS) †		
		.05%. .1%. .25%	.5%. 1%. 3%				± 50 PPM	± 30 PPM	± 20 PPM
PH-10-1	10	1 to 12.7K	.1 to 47.1K	240	6	1 to 79.9	80 to 4.09K	4.1K to 47.1K	
PH-10-5	10	.5 to 6.3K	.1 to 23.5K	170	6	1 to 39.9	40 to 1.99K	2K to 23.5K	
PH-10-20	10	1 to 6.5K	.1 to 24.5K	150	6	1 to 44.9	45 to 2.39K	2.4K to 24.5K	
PH-25	25	.5 to 25.7K	.1 to 95.2K	425	22	1 to 149.9	150 to 8.49K	8.5K to 95.2K	
PH-25-8	25	.25 to 12.8K	.1 to 47.7K	300	22	.5 to 74.9	75 to 4.19K	4.2K to 47.7K	
PH-25-12	25	.5 to 25.7K	.1 to 95.2K	425	22	1 to 149.9	150 to 8.49K	8.5K to 95.2K	
PH-50	50	3 to 52K	.1 to 75K	1500	80	1 to 1.14K	1.15K to 66.99K	67K to 75K	
PH-100	100	5 to 35K	.1 to 50K	1700	186	1 to 2.99K	3K to 50K		

**DALE**

for Optimum Value in Wirewound Resistors

**WIREWOUND PRECISION RESISTORS, SILICONE COATED** (Available with Weldable Leads)

**TYPE RS**



Meets applicable requirements of MIL-R-26D, MIL-R-26C and MIL-R-23379. Non-inductive styles available.

**TYPE RLS**



Radial leads for printed circuit board mounting. Meets applicable requirements of MIL-R-26D. Non-inductive styles available.

**STANDARD ELECTRICAL SPECIFICATIONS**

DALE TYPE	MIL-R-260 TYPE *	DALE RATING **		RESISTANCE RANGES (OHMS)		MAX. † WORKING VOLTAGE		MAX. WT. GRAMS	STANDARD TEMPERATURE COEFFICIENT VALUE RANGES (OHMS) † †		
		U	V	.05% .1% .25%	.5% 1% 3%	U	V		± 50 PPM	± 30 PPM	± 20 PPM
RS-¼	—	.4 W	—	10 to 950	1 to 3.4K	18	—	.21	1 to 6.9	7 to 434.9	435 to 3.4K
RS-½	—	.75 W	—	10 to 1.3K	1 to 4.9K	29	—	.23	1 to 9.9	10 to 624.9	625 to 4.9K
RS-1A, RLS-1A	RW-70	1.0 W	—	1 to 2.7K	.1 to 10.4K	50	—	.34	1 to 9.9	10 to 4.09K	1.1K to 10.4K
RS-1B, RLS-1B	—	1.1 W	—	1 to 4.0K	.1 to 15K	62	—	.40	1 to 9.9	10 to 1.49K	1.5K to 15K
RS-2, RLS-2	—	4.0 W	5.5 W	1 to 12.7K	.1 to 47.1K	210	250	2.1	1 to 9.9	10 to 4.09K	4.1K to 47.1K
RS-2A, RLS-2A	—	3.25 W	4.75 W	1 to 11.4K	.1 to 42.1K	185	220	.90	1 to 9.9	10 to 4.39K	4.4K to 42.1K
RS-2B, RLS-2B	RW-79	3.0 W	3.75 W	1 to 6.5K	.1 to 24.5K	135	148	.70	1 to 9.9	10 to 2.39K	2.4K to 24.5K
RS-2C, RLS-2C	—	2.5 W	3.25 W	1 to 8.6K	.1 to 32.3K	138	157	1.6	1 to 9.9	10 to 2.29K	2.3K to 32.3K
RS-2C-23	RW-69	2.5 W	3.25 W	1 to 8.6K	.1 to 32.3K	138	157	1.6	1 to 9.9	10 to 2.29K	2.3K to 32.3K
RS-5, RLS-5	—	5.0 W	6.5 W	.5 to 25.7K	.1 to 95.2K	330	376	4.2	1 to 9.9	10 to 8.49K	8.5K to 95.2K
RS-5-69	RW-74	5.0 W	6.5 W	.5 to 24.5K	.1 to 91.0K	323	368	4.2	1 to 9.9	10 to 8.49K	8.5K to 91.0K
RS-5-70	RW-67	5.0 W	6.5 W	.5 to 25.7K	.1 to 95.2K	330	376	4.2	1 to 9.9	10 to 8.49K	8.5K to 95.2K
RS-7, RLS-7	—	7.0 W	9.0 W	.5 to 41.4K	.1 to 154K	504	576	4.7	1 to 9.9	10 to 12.79K	12.8K to 154K
RS-10, RLS-10	—	10 W	13 W	.5 to 73.4K	.1 to 273K	799	911	9.0	1 to 9.9	10 to 26.09K	26.1K to 273K
RS-10-38	RW-78	10 W	13 W	.5 to 71.3K	.1 to 265K	788	898	9.0	1 to 9.9	10 to 26.09K	26.1K to 265K
RS-10-39	RW-68	10 W	13 W	.5 to 73.4K	.1 to 273K	799	911	9.0	1 to 9.9	10 to 26.09K	26.1K to 273K

\*NOTE: The following Dale RS series resistors meet requirements of MIL R-26C (Char. G & V) and MIL R-23379:

**MIL-R-26C**

DALE TYPE	RS-2C	RS-5	RS-10
MIL. TYPE	RW-69	RW-67	RW-68

**MIL-R-23379**

DALE TYPE	RS-1A	RS-2C-23	RS-5	RS-10
MIL. TYPE	RWP-18	RWP-20	RWP-21	RWP-23

\*\*Char. U available in tolerance of 1% and less. Char. V available only in tolerances of 3% and greater.

† Maximum Working Voltage determined at .0008 dia. wire resistance values. † † T.C. below 1 Ω is ± 90 PPM, all models. Consult factory for special T.C. requirements.

Contact Distributor for Prices

**WIREWOUND PRECISION RESISTORS, BOBBIN TYPE** (Available with Weldable Leads)

**STANDARD ELECTRICAL SPECIFICATIONS**

Non-inductive precision resistors. Epoxy molded for high dielectric strength and complete environmental protection. Meet applicable requirements of MIL-R-39005 and MIL-R-93.



**TYPE WWA**

Patented design insures high stability. Special tolerances and matching available.



**TYPE MWA**

Sub-miniature size retains Dale's unique bobbin-type design and high protection molded coating.

DALE TYPE	MIL-R-93 TYPE	POWER RATING (WATTS)	MINIMUM RESISTANCE RANGE (OHMS) †					MAXIMUM RESISTANCE (OHMS) ALL TOLERANCES	MAXIMUM WORKING VOLTAGE	MAXIMUM WEIGHT (GRAMS)
			.05%	.1%	.25%	.5%	1%			
MWA-8	—	.1	50	10	5	2	1	100K	27	.21
MWA-10	—	.125	50	10	5	2	1	160K	37	.23
WWA-13	—	.125	50	10	5	2	1	311K	50	.35
WWA-22	—	.15	130	20	5	.2	.1	600K	100	.9
WWA-23	RB 56	.15	105	12	5	.2	.1	650K	150	1.0
WWA-24	RB 55	.20	40	12	6	.2	.1	900K	200	1.2
WWA-26	RB 54	.25	20	10	5	.2	.1	1.72 Meg.	300	1.5
WWA-36	RB 53	.33	15	4	1	.2	.1	4 Meg.	300	3.1
WWA-38	RB-52	.50	10	3	1	.2	.1	5.4 Meg.	600	3.8

\*Consult factory for tolerances below .05%



**WIREWOUND PRECISION RESISTORS, SILICONE COATED** (Available with Weldable Leads)

• Axial and radial lead types meet a wide range of precision requirements. Both types RS and G meet applicable requirements of MIL-R-26D, MIL-R-26C (Char. G & V) and MIL-R-23379 • Non-inductive styles (NS, NLS, GN, GNL) are available • Both RS and G types have established outstanding reliability records (write for test reports).

**STANDARD ELECTRICAL SPECIFICATIONS**

**TYPE G**

Beryllium oxide core for decreased size, increased stability. Meets applicable specifications of MIL-R-26D and MIL-R-23379.



**TYPE GL**

Radial leads for printed circuit board mounting. Meets applicable requirements of MIL-R-26D.

DALE TYPE	MIL-R-26D TYPE*	DALE RATING **		RESISTANCE RANGES (OHMS)		MAX. † WORKING VOLTAGE		MAX. WT. GRAMS	STANDARD TEMPERATURE COEFFICIENT VALUE RANGES (OHMS) ††		
		U	V	.05%, .1%, .25%	5%, 1%, 3%	U	V		± 50 PPM	± 30 PPM	± 20 PPM
G-1	RW-81	1.0 W	—	10 to 950	1 to 3.4K	29	—	.20	1 to 6.9	7 to 434.9	435 to 3.4K
G-2	—	1.5 W	—	10 to 1.3K	1 to 4.9K	42	—	.21	1 to 9.9	10 to 624.9	625 to 4.9K
G-3, GL-3	RW-80	2.25 W	—	1 to 2.7K	.1 to 10.4K	74	—	.34	1 to 9.9	10 to 1.09K	1.1K to 10.4K
G-5, GL-5	—	4.0 W	5 W	1 to 6.5K	.1 to 24.5K	153	170	.80	1 to 9.9	10 to 2.39K	2.4K to 24.5K
G-5A, GL-5A	—	4.5 W	6.5 W	1 to 11.4K	.1 to 42.1K	214	257	.95	1 to 9.9	10 to 4.39K	4.4K to 42.1K
G-5C, GL-5C	—	5 W	7 W	1 to 8.6K	.1 to 32.3K	194	230	1.2	1 to 9.9	10 to 2.29K	2.3K to 32.3K
G-6, GL-6	—	6 W	8 W	1 to 12.7K	.1 to 47.1K	258	298	2.0	1 to 9.9	10 to 4.09K	4.1K to 47.1K
G-10, GL-10	—	7 W	10 W	.5 to 25.7K	.1 to 95.2K	390	467	3.6	1 to 9.9	10 to 8.49K	8.5K to 95.2K
G-12, GL-12	—	10 W	12 W	.5 to 41.4K	.1 to 154K	607	665	4.2	1 to 9.9	10 to 12.79K	12.8K to 154K
G-15, GL-15	—	15 W	18 W	.5 to 73.4K	.1 to 273K	979	1072	7.6	1 to 9.9	10 to 26.09K	26.1K to 273K

\*NOTE: The following Dale G series resistors meet requirements of MIL-R-26C (Char G & V) and MIL R-23379:

MIL-R-26C			
DALE TYPE	G-5C	G-10	G-15
MIL. TYPE	RW-69	RW-67	RW-68

MIL-R-23379					
DALE TYPE	G-1	G-3	G-5C-2	G-10	G-15
MIL. TYPE	RWP-17	RWP-19	RWP-20	RWP-21	RWP-23

\*\*Char. U available in tolerance of 1% and less. Char. V available only in tolerances of 3% and greater.

† Maximum Working Voltage determined at .0008 dia. wire resistance values. †† T.C. below 1Ω is ± 90 PPM, all models. Consult factory for special T.C. requirements.



**PRECISION METAL FILM RESISTORS**

(Available with Weldable Leads)

Vacuum-deposited metal film resistors. Meet a wide variety of military and industrial applications. Inherently good R.F. characteristics and low noise level. Protected against moisture and other severe environmental factors. Wide choice of tolerances and temperature coefficients.



**TYPE MF**

Epoxy molded. Meets MIL-R-10509 (Char. D, C or E, depending on T.C.). Includes sub-miniature MF50 (1/20 watt).



**TYPE MFF**

Epoxy conformal coated. Meets electrical and environmental characteristics of MIL-R-10509F, but is dimensionally smaller. Characteristics D, C or E apply, depending on T.C. required.

**STANDARD ELECTRICAL SPECIFICATIONS**

DALE TYPE	MIL. TYPE	125° C RATING (Char. C&E)	70° C RATING (Char. D)	MAX. WT. (Grams)	MAX. WORKING VOLTAGE
MF50	RN-50	1/20 w	1/10 w	.11	200
MF-1/10	RN-55	1/10 w	1/8 w	.25	200
MF-1/8	RN-60	1/8 w	1/4 w	.45	300
MF-1/4	RN-65	1/4 w	1/2 w	.84	350
MFS-1/2	RN-70	1/2 w	3/4 w	1.6	500
MF-1	RN-75	1 w	—	4.4	500
MF-2	RN-80	—	2 w*	7.9	750
MFF-1/8	—	1/8 w	—	.40	300
MFF-1/4	—	1/4 w	—	.65	350
MFF-1/2	—	1/2 w	—	.95	500
MFF-1	—	1 w	—	2.7	500
MFF-2	—	2 w**	—	4.7	750

\*Characteristic B \*\*105° C Rating  
Tolerance: ±1%, ±.5%, ±0.25%, ±0.10% standard  
Special tolerances and matching on request.

**RESISTANCE RANGE (OHMS) 1%, .5%, .25%, .1%**

	T-0* (0 ± 150 PPM/° C)	T-1 (0 ± 100 PPM/° C)	T-2 (0 ± 50 PPM/° C)	T-9 (0 ± 25 PPM/° C)
MF 50	30.1 to 80.6K	49.9 to 80.6K	100 to 80.6K	100 to 80.6K
MF-1/10	10 to 301K	49.9 to 301K	49.9 to 301K	49.9 to 200K
MF-1/8, MFF-1/8	10 to 1 Megohm	25 to 499K	40 to 499K	49.9 to 499K
MF-1/4, MFF-1/4	10 to 1 Megohm	10 to 1 Megohm	40 to 1 Megohm	49.9 to 1 Megohm
MFS-1/2, MFF-1/2	10 to 1.5 Megohm	25 to 1.5 Megohm	49.9 to 1 Megohm	49.9 to 1 Megohm
MF-1, MFF-1	25 to 2.6 Megohms	25 to 2.6 Megohms	49.9 to 2.6 Megohms	100 to 2.6 Megohms
MF-2, MFF-2	100 to 10 Megohms	100 to 8 Megohms	150 to 6 Megohms	200 to 5 Megohms

\*T-0 is available in tolerance of ± .25% and greater only. †† Standard T.C.'s available in -55° C to +175° C range.

**DALE**

*for Optimum Value in Metal Film Resistors*

**DEPOSITED CARBON RESISTORS**

Contact Distributor for Prices

(Available with Weldable Leads)

Designed for inherent stability, long load life and excellent protection against environmental factors in a wide range of applications. Made of pure crystalline carbon film bonded to selected ceramic cores. Excellent high frequency characteristics. Types DC and MC meet functional requirements of MIL-R-10509F.



**TYPE MC**

Molded housing. Completely insulated and protected against environmental or mechanical damage. Specially formulated molding compound gives best humidity protection available.

**TYPE DC**

Specially coated for complete insulation against moisture, salt spray and other severe environmental factors. Miniature size.

**STANDARD ELECTRICAL SPECIFICATIONS**

DALE TYPE	MIL. TYPE		POWER RATING (WATTS)		MINIMUM RESISTANCE (OHMS)	MAXIMUM 1% RESISTANCE (OHMS)	MAXIMUM 2% RESISTANCE (OHMS)	MAX. WT. (GRAMS)		MAXIMUM WORKING VOLTAGE
	MC	DC	B	D*				MC	DC	
MC-1/10, DC-1/10	RN-55	—	1/10	1/8	2	400K	400K	.25	.15	200
MC-1/8, DC-1/8	RN-60	—	1/8	1/4	1	3 Megohms	5 Megohms	.45	.30	300
MC-1/4, DC-1/4	RN-65	RN 10	1/4	1/2	1	5 Megohms	6 Megohms	.85	.35	350
MCS-1/2, DCS-1/2	RN-70	RN 20	1/2	3/4	1	10 Megohms	15 Megohms	1.50	.80	500
MC-1, DC-1	RN-75	RN 25	1	—	1	15 Megohms	30 Megohms	4.50	2.8	500
MC-2, DC-2	RN-80	RN 30	.2	—	2	100 Megohms	125 Megohms	8.25	5.5	750
— DC-5	—	—	—	5	5	150 Megohms	300 Megohms	—	21.9	14,000

Tolerance: .5%, 1%, 2%

Operating Temp. Range: -55 C to +165 C

Temperature Coefficient: -200 PPM to -500 PPM, depending on value within normal resistance range.

\*Applies to MC only.

**DALE**

*for Optimum Value in Trimmer Potentiometers*

**WIREWOUND TRIMMER POTENTIOMETERS – Humidity-Proof – Precision**

To insure top performance regardless of application, Dale uses one simple, highly reliable design throughout its entire trimmer line. Choose from Military, Commercial and General Purpose models in all popular sizes and terminal configurations. Military models

are the equivalents of RT-10, 11, 12 and 22. Panel mount styles available for most series. In addition to the models shown here, special configurations and characteristics and completely non-magnetic units can be furnished to your requirements.

**MILITARY GRADE TRIMMER POTENTIOMETERS (High Temperature, Precision) Humidity Proof (Mil Spec.)**

SERIES	ILLUSTRATION	MODEL	CONFIGURATION	STANDARD RESISTANCE & TOLERANCE	POWER RATING	OPERATING TEMPERATURE RANGE	ADJUSTMENT TURNS	HEIGHT	WIDTH	LENGTH
600	 Mil. Equiv. RT-10 PANEL MOUNT STYLES AVAILABLE	680 690 697 692	• Printed Circuit Pins 22 AWG • Hook Type Wire Solder Terminal • 28 AWG Stranded Teflon Leads • 26 AWG Solid Leads	10 ohms to 50K ohms ±5%	1 watt at 70° C, derated to 0 at 175 C	-65° C to 175 C	15+2	.18	.32	1.00
1200	 Mil. Equiv. RT-11 PANEL MOUNT STYLES AVAILABLE	1287 1288 1299	• Printed Circuit Pins 21 AWG • Stranded Teflon Leads 28 AWG • Solder Lug	10 ohms to 100K ohms +5%	1 watt at 70° C, derated to 0 at 175 C	-65° C to 175 C	25+2	.28	.31	1.25
1600	 Mil. Equiv. RT-12 PANEL MOUNT STYLES AVAILABLE	1680 1697 1690	• Printed Circuit Pins 21 AWG • Stranded Teflon Leads 28 AWG • Solder Lug	10 ohms to 100K ohms +5%	1 watt at 70° C, derated to 0 at 175 C	-65° C to 175 C	22+3	.19	.32	1.25
5000	 Mil. Equiv. RT-22	5050 5080 5091	• Stranded Teflon Leads 30 AWG • Printed Circuit Pins 21 AWG, Edge Mount† • Printed Circuit Pins 21 AWG†	10 ohms to 50K ohms +5%	1 watt at 70° C, derated to 0 at 175 C	-65° C to 175 C	23+2	.19 .22†	.50	.50

COMMERCIAL GRADE TRIMMER POTENTIOMETERS

SERIES	ILLUSTRATION	MODEL	CONFIGURATION	STANDARD RESISTANCE & TOLERANCE	POWER RATING	OPERATING TEMPERATURE RANGE	ADJUSTMENT TURNS	HEIGHT	WIDTH	LENGTH
200		295	• 28 AWG Stranded Vinyl Leads emerging separately	10 ohms to 50K ohms ±10%	0.5 watt at 70° C, derated to 0 at 105° C	-65° C to 105° C	25±2	.22	.31	1.32
		298	• Gold-plated Printed Circuit Solder Lug							
		299	• Gold-plated Solder Lug							
300		398	• Gold-plated Printed Circuit Solder Lug	100 ohms to 20K ohms ±15%	.25 watt at 70° C, derated to 0 at 85° C	-65° C to 85° C	25±2	.22	.31	1.25
		399	• Gold-plated Solder Lug							
2100	 PANEL MOUNT STYLES AVAILABLE	2187	• Printed Circuit Pins 21 AWG	10 ohms to 100K ohms ±10%	1 watt at 70° C derated to 0 at 125° C	-65° C to 125° C	25±2	.28	.31	1.25
		2188	• Stranded Vinyl Leads 28 AWG							
		2199	• Gold-plated Solder Lug							
		2192	• 24 AWG Solid Leads							
2200	 PANEL MOUNT STYLES AVAILABLE	2280	• Printed Circuit Pins 22 AWG	10 ohms to 50K ohms ±10%	1 watt at 70° C, derated to 0 at 125° C	-65° C to 125° C	15±2	.18	.32	1.00
		2292	• 26 AWG Solid Leads							
		2297	• 28 AWG Stranded Vinyl Leads							
2300		2387	• Printed Circuit Terminals Gold-plated	10 ohms to 50K ohms ±10%	0.5 watt derated to 0 at 85° C	-55° C to 85° C	15±2	.36	.28	1.00
		2389	• Hook-type solder lugs							

NOTE: Both 2100 and 2200 Series can be made humidity proof on request.

GENERAL PURPOSE TRIMMER POTENTIOMETERS

100		195	• 28 AWG Stranded Vinyl Leads emerging separately	10 ohms to 50K ohms ±5%	0.8 watt at 70° C, derated to 0 at 135° C	-65° C to 135° C	25±2	.22	.31	1.32
		198	• Gold-plated Printed Circuit Solder Lug							
		199	• Gold-plated Solder Lug							
1100	 PANEL MOUNT STYLES AVAILABLE	1187	• Printed Circuit Pins 21 AWG	10 ohms to 100K ohms ±10%	1 watt at 70° C, derated to 0 at 175° C	-65° C to 175° C	25±2	.28	.31	1.25
		1188	• 28 AWG Stranded Teflon Leads							
		1199	• Solder Lug							
1500	 HUMIDITY PROOF PANEL MOUNT STYLES AVAILABLE	1580	• Printed Circuit Pins 22 AWG	10 ohms to 100K ohms ±5%	1 watt at 70° C, derated to 0 at 175° C	-65° C to 175° C	25±2	.18	.30	1.25
		1590	• Hook Type Wire Solder Terminal							
		1597	• Stranded Teflon Leads 28 AWG							

PRICE LIST TRIMMER POTENTIOMETERS








SERIES	RESISTANCE VALUES	1-9	10-24	25-49	STANDARD VALUES					
600 (680, 690, 691, 692, 697)	10Ω - 10K	\$5.56	\$5.13	\$4.71	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K					
	Over 10K - 30K	6.11	5.64	5.17						
	Over 30K - 50K	6.43	5.94	5.47						
1200 (1287, 1288, 1289)	10Ω - 10K	\$5.56	\$5.13	\$4.71	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K 100K					
	Over 10K - 30K	6.11	5.64	5.17						
	Over 30K - 50K	6.43	5.94	5.47						
	Over 50K - 100K	7.83	7.23	6.63						
200 (295)	10Ω - 10K	\$5.56	\$5.23	\$4.91	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K 100K					
	Over 10K - 30K	5.98	5.63	5.28						
	Over 30K - 50K	6.36	5.98	5.61						
	Over 50K - 100K	7.38	6.94	6.51						
200 (298, 299)	10Ω - 10K	\$4.28	\$4.03	\$3.78	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K 100K					
	Over 10K - 30K	4.73	4.45	4.17						
	Over 30K - 50K	5.08	4.78	4.49						
	Over 50K - 100K	6.14	5.78	5.42						
300 (398, 399)	10Ω - 10K	\$3.68	\$3.37	\$3.09	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K 100K					
	Over 10K - 30K	4.11	3.79	3.48						
	Over 30K - 50K	4.56	4.21	3.86						
	Over 50K - 100K	5.93	5.47	5.02						
100 (198, 199)	10Ω - 10K	\$5.05	\$4.75	\$4.46	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K					
	Over 10K - 30K	5.56	5.23	4.91						
	Over 30K - 50K	5.98	5.63	5.28						
	Over 50K - 100K	7.23	6.80	6.38						
100 (195)	10Ω - 10K	\$6.55	\$6.16	\$5.78	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K					
	Over 10K - 30K	7.05	6.64	6.23						
	Over 30K - 50K	7.48	7.04	6.60						
	Over 50K - 100K	8.67	8.16	7.65						
1600 (1680, 1697, 1690)	10Ω - 10K	\$5.56	\$5.13	\$4.71	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K					
	Over 10K - 30K	6.11	5.64	5.17						
	Over 30K - 50K	6.43	5.94	5.47						
	Over 50K - 100K	7.83	7.23	6.63						
5000 (5050, 5080, 5091)	10Ω - 10K	\$5.47	\$5.14	\$4.84	10Ω 500Ω 20K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K					
	Over 10K - 30K	6.02	5.69	5.36						
	Over 30K - 50K	7.07	6.68	6.29						
2100* (2187, 2188, 2189)	10Ω - 10K	\$3.10	\$2.85	\$2.62	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K 100K					
	Over 10K - 30K	3.61	3.31	3.05						
	Over 30K - 50K	4.11	3.77	3.47						
	Over 50K - 100K	5.20	4.77	4.40						
2200* (2280, 2292, 2297)	10Ω - 10K	\$3.44	\$3.15	\$2.91	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K					
	Over 10K - 30K	3.94	3.62	3.33						
	Over 30K - 50K	4.78	4.41	4.05						
2300 (2387, 2389)	NEWLY RELEASED MODELS CONTACT DISTRIBUTOR FOR PRICES									
1100 (1187, 1188, 1189)	10Ω - 10K	\$5.00	\$4.62	\$4.23	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K 100K					
	Over 10K - 30K	5.55	5.12	4.69						
	Over 30K - 50K	6.09	5.62	5.15						
	Over 50K - 100K	7.28	6.72	6.16						
1500 (1580, 1590, 1597)	10Ω - 10K	\$5.56	\$5.13	\$4.71	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K					
	Over 10K - 30K	6.11	5.64	5.17						
	Over 30K - 50K	6.43	5.94	5.47						
	Over 50K - 100K	7.83	7.23	6.63						

\*Add \$.13/unit to all 2100 and 2200 price breaks for sealed units. To specify, add "-17" to part number. Example: "2187-17."

# CORNING® GLASS TIN OXIDE FILM RESISTORS

New glass tin oxide film resistors—with tighter, 1/2 to 5% purchase and load-life tolerances, precision temperature coefficients—make CORNING resistors more than ever your best buy for stability and reliability. Add these new and improved character-

istics to the established physical and electrical integrity of glass tin oxide film resistors and you will see how CORNING precision, general-purpose, and power resistors can add real value to your equipment.

	TYPE AND MIL SPEC	MODEL/MIL MODEL	RESISTANCE (ohms)	WATTAGE	TOLERANCE
<b>NEW NC</b>	New low $\pm 50$ ppm TC with 1/2 and 1% tolerances for predictable performance. Meets MIL-R-10509E, Char. C. 	NC4/RN55C NC5/RN60C NC6/RN65C	49.9 to 150K 49.9 to 499K 49.9 to 1 meg.	<b>125°C</b> 1/10 1/8 1/4	1/2, 1% 1/2, 1% 1/2, 1%
<b>IMPROVED NA</b>	Stable 1/2% and 1% performance at 70°C and 125°C ratings. Meets MIL-R-10509E, Char. D. 	NA55/RN55D NA60/RN60D NA65/RN65D NA70/RN70D	51.1 to 150K 51.1 to 499K 10 to 499K 51.1 to 499K 10 to 1 meg. 51.1 to 1 meg.	<b>70°C 125°C</b> 1/8 1/10 1/4 1/8 1/2 1/4 3/4 —	1/2, 1% 1/2 1% 1/2 1% 1/2, 1%
<b>NEW C</b>	Precision stability in a unique multi-use part for both MIL-R-22684B and MIL-R-10509E, Char. D. 100 ppm TC. 	C4/RL07S C5/RL20S	51 to 150K 10 to 499K	<b>70°C 70°C 125°C</b> 1/4 1/8 1/10 1/2 1/4 1/8	1, 2, 5% 1, 2, 5%
<b>C</b>	General-purpose, low-cost film type. Film resistor performance characteristics at prices comparable to carbon composition types. MIL-R-22684B. 	C32/RL32S C42S/RL42S	10 to 1 meg. 10 to 1.5 meg.	1 @ 70°C 2 @ 70°C	2%, 5% 2%, 5%
<b>FP</b>	Low-power resistors that won't burn, even under 100 times-rated overload. FP Style Resistors open up, fuse, but will not flame. Highly stable and non-inductive performance. 	FP-2 FP-3 FP-4 FP-5 FP-7 FP-10	9 to 90K 9 to 40K 16 to 90K 19 to 90K 24 to 90K 24 to 90K	<b>40°C 70°C</b> 3 2 4 3 5 4 7 5 — 7 10 —	5, 10% 5, 10% 5, 10% 5, 10% 5, 10% 5, 10%
<b>S</b>	Fixed-film type for high-temperature operation. Silicone baked lacquer. MIL-R-11804D, Char. P. 	S20/RD60P S25/RD65P S30/RD70P	10 to 500K 10 to 1.54 meg. 30.1 to 4.22 meg.	<b>130°C 25°C</b> 1/2 1 1 2 2 4	1, 2, 5, 10% 1, 2, 5, 10% 1, 2, 5, 10%
<b>R</b>	Power type, essentially non-inductive in high-frequency operations. MIL-R-11804D. 	R31/RD31P R33/RD33P R35/RD35P R37/RD37P R39/RD39P	10 to 70K 19.6 to 150K 19.6 to 301K 19.6 to 500K 30.1 to 1 meg.	7 @ 25°C 13 @ 25°C 25 @ 25°C 55 @ 25°C 115 @ 25°C	2, 5, 10% 2, 5, 10% 2, 5, 10% 2, 5, 10% 2, 5, 10%

### STANDARD VALUES\*

NA, N, S, R RESISTORS						1, 2, and 5% Tolerances						C RESISTORS	
1%	2%	5%	1%	2%	5%	1%	2%	5%	1%	2%	5%	±2% & ±5%	±10%†
1.00	1.00	1.00	1.78	1.78	1.78	3.16	3.16	3.16	5.62	5.62	5.62	10	10
1.02			1.82			3.24			5.76			11	—
1.05	1.05		1.87	1.87		3.32	3.32		5.90	5.90		12	12
1.07			1.91			3.40			6.04			13	—
1.10	1.10	1.10	1.96	1.96	1.96	3.48	3.48	3.48	6.19	6.19	6.19	15	15
1.13			2.00			3.57			6.34			16	—
1.15	1.15		2.05	2.05		3.65	3.65		6.49	6.49		18	18
1.18			2.10			3.74			6.65			20	—
1.21	1.21	1.21	2.15	2.15	2.15	3.83	3.83	3.83	6.81	6.81	6.81	22	22
1.24			2.21			3.92			6.98			24	—
1.27	1.27		2.26	2.26		4.02	4.02		7.15	7.15		27	27
1.30			2.32			4.12			7.32			30	—
1.33	1.33	1.33	2.37	2.37	2.37	4.22	4.22	4.22	7.50	7.50	7.50	33	33
1.37			2.43			4.32			7.68			36	—
1.40	1.40		2.49	2.49		4.42	4.42		7.87	7.87		39	39
1.43			2.55			4.53			8.06			43	—
1.47	1.47	1.47	2.61	2.61	2.61	4.64	4.64	4.64	8.25	8.25	8.25	47	47
1.50			2.67			4.75			8.45			51	—
1.54	1.54		2.74	2.74		4.87	4.87		8.66	8.66		56	56
1.58			2.80			4.99			8.87			62	—
1.62	1.62	1.62	2.87	2.87	2.87	5.11	5.11	5.11	9.09	9.09	9.09	68	68
1.65			2.94			5.23			9.31			75	—
1.69	1.69		3.01	3.01		5.36	5.36		9.53	9.53		82	82
1.74			3.09			5.49			9.76			91	—

\*Standard resistance values are obtained from the decade table by multiplying by multiples of 10. As an example, 1.33 can represent 13.3 ohms, 133 ohms, 1.33k, 13.3k, 133k, 1.33 megohm.

†Values not listed are considered non-standard. †C42 only.

# Charles T. Gamble Industries



## PRECISION WIRE WOUND RESISTORS & NETWORKS

Charles T. Gamble Industries has engineered and designed non-inductive precision wire wound resistors to meet the requirements of Mil-R-93D. These resistors are completely sealed against the effects of high humidity and salt water immersion cycling. The material used in the manufacture of our resistors has a very high dielectric strength. The bobbin material used in winding the resistors is one and the same as the encapsulating material. All resistors use resistance wire with very low thermal E.M.F. to the copper leads. Where thermal effects can be disregarded, welded construction with nickel alloy leads may be specified.

Standard temperature coefficient is  $\pm 10$  PPM/ $^{\circ}$ C. Lower T.C.'s, and T.C.'s as high as 6000 PPM/ $^{\circ}$ C can be supplied.

Tolerance available (non power styles): 1%, 0.5%, 0.1%, 0.05%, 0.025%, 0.02% and 0.01%. Resistors with tolerances of 0.1% and below are stabilized by artificial aging and temperature cycling.

### NETWORKS: RC NETWORKS, LADDER NETWORKS, VOLTAGE DIVIDERS, BINARY NETWORKS

Sub-miniature Axial lead Precision resistors have been designed for applications where space is a prime factor.

Encapsulated printed circuit resistors are designed for printed circuit board application, where space is a factor.

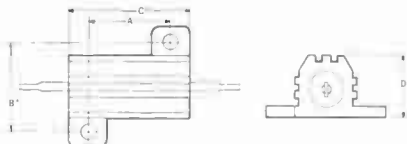
Radial lug type resistors have been designed to meet the requirements of Mil-R-93D.

All resistors are hermetically sealed with epoxy resin to protect the windings against the effects of high humidity and salt water immersion cycling. Resistors can either be inductive or non-inductive wound.

The materials used in the construction of radial lug type resistors are identical to those used in the construction of axial lead types.

These resistors are supplied with a thru hole for mounting to the chassis by means of a #6 thru bolt.

### HEAT SINK MOUNTED PRECISION WIREWOUND POWER RESISTORS



POWER RATING	DIMENSIONS				MAXIMUM OHMS
	A	B	C	D	
10 WATT	.562	.625	.750	.390	20,000
25 WATT	.718	.781	1.062	.542	60,000
50 WATT	1.563	.844	1.968	.610	70,000

Ratings shown are based upon use of appropriate chassis mounting.

### STANDARD AXIAL LEAD PRECISION RESISTORS

Type	Military Specs. New	Military Specs. Old	Commercial Wattage Rating	Max. Resist. Based on .0007 E Alloy	Military Wattage Rating	Max. Volts	Length	Size Dia.
0808AL			.125W	300K		200V	1/4"	1/4"
1108AL	RB56		.125W	350K	.125W	250V	1/2"	1/4"
1608AL	RB55	AFRT 10	.250W	400K	.15 W	184V	1/2"	1/4"
1208AL			.200W	350K	.250W	225V	3/8"	1/4"
2408AL	RB54	AFRT 11	.333W	1 meg.	.250W	300V	3/4"	1/4"
2412AL	RB53	AFRT 12	.500W	1.2 meg.	.333W	300V	3/4"	3/8"
3212AL	RB52	AFRT 13	1.000W	2 meg.	.400W	600V	1"	3/8"
1616AL			.500W	1.3 meg.		300V	1/2"	1/2"
3216AL	RF57	AFRT 14	1.000W	3 meg.	.750W	600V	1"	1/2"
4816AL	RB58	AFRT 15	2.000W	6 meg.	1.000W	900V	1 1/2"	1/2"
6416AL	RB59	AFRT 16	2.500W	10 meg.	1.250W	1200V	2"	1/2"
2008AL			.500W	.425 meg.		300V	5/8"	1/4"
1612AL			.400W	.500 meg.		300V	1/2"	3/8"
2012AL			.750W	.600 meg.		600V	5/8"	3/8"
3208AL			.500W	1.1 meg.		300V	1"	1/4"
2016AL			.750W	2 meg.		600V	5/8"	1/2"
1212AL			.250W	1 meg.		225V	3/8"	3/8"

### SUB-MINIATURE AXIAL LEAD PRECISION RESISTORS

Type	Commercial Wattage Rating	Maximum Resistance based on .0007 E Alloy	Maximum Voltage	Length	Size Dia.
500156AL	.1W	70K	85 Volts	1/2"	5/32"
625156AL	.15W	100K	125 Volts	5/8"	5/32"
375125AL	.125	50K	72 Volts	3/8"	1/8"
109250AL	.120	25K	50 Volts	1/4"	3/64"
375187AL	.1W	40K	65 Volts	3/8"	3/16"
375109AL	.120	30K	55 Volts	3/8"	3/64"
375093AL	.1	20K	55 Volts	3/8"	3/32"

### ENCAPSULATED PRINTED CIRCUIT RESISTORS

Type	Military Specs.	Commercial Wattage	Military Wattage	Max. Volts	Max. Resist. Based on .0007	Length	Size Dia.	Lead Spacing	Lead Length
0808PC		.125W		90V	70K	1/4"	1/4"	.100	1"
1208PC		.200W		200V	200K	3/8"	1/4"	.100	1"
1608PC		.250W		184V	400K	1/2"	1/4"	.100	1"
2408PC		.333W		300V	1 meg.	3/4"	1/4"	.100	1"
3208PC		.500W		750V	1.1 meg.	1"	1/4"	.100	1"
1008PC	RB71	.250W	.125W	240V	250K	5/8"	1/4"	.200	1"
1612PC	RB70	.500W	.250W	150V	.301 meg.	1/2"	3/8"	.200	1"
3212PC		1.000W		1350V	1.75 meg.	1"	3/8"	.250	1"
3232PC		1.250W		1700V	2.50 meg.	1"	1/2"	.250	1"

### STANDARD RADIAL LUG PRECISION RESISTORS

Type	Military Specs. New	Military Specs. Old	Commercial Wattage	Military Wattage Rating	Maximum Voltage	Max. Resist. Based on .0007	Length	Size Dia.
1616RLU	RB08	AFRT 17	.500	1/4W	300V	885K	1/2"	1/2"
2020RLU	RB16	AFRT 18	.666	1/3W	300V	1 meg.	3/8"	5/8"
3220RLU	RB17	AFRT 19	1.000	1/2W	600V	2.5 meg.	1"	5/8"
4024RLU	RB18		1.500	3/4W	600V	6.5 meg.	1 1/4"	3/4"
6828RLU	RB19		2.000	1W	900V	12 meg.	2 1/8"	7/8"



**CHARLES T. GAMBLE INDUSTRIES**  
Precision Wire Wound Resistors



# GLO-BAR THERMISTORS



For Color TV sets. Replaces RCA No. 113996, 942922-5, Zenith No. 635444, Magnavox No. 230170-1 1.25 ohms  $\pm$  .25% hot. Type FR922  
No. 25-908-5 Card of 1 (Std. Pkg. 10) Net .89



20 ohms hot at 600 M.A. 250 ohms cold. No load. Replacement on GE No. RRW051. Type FR051.  
No. 25-912-5 Card of 1 (Std. Pkg. 10) Net 1.10

11 ohms hot at 600 M.A. Replacement on Motorola No. 6A735941. Type FR11. FS612  
No. 25-920-5 Card of 1 (Std. Pkg. 10) Net 1.84

19 ohms hot. Replacement on Motorola No. 6R720260. Type FR19 FS651  
No. 25-934-5 Card of 1 (Std. Pkg. 10) Net 1.10

1 m.a. at 870 VDC. Replaces GE K122J425-1, Admiral 61346-1, Emerson 397171, Hoffman IRS-2, RCA 1440614-1, Magnavox 230130-1, Philco 33-1373-9, Sylvania 38-015257-3, Warwick 61-71-1. Type FS314, FS925

No. 25-2052 Card of 1 (Std. Pkg. 10) Net .74  
10 M.A. at 560 VDC. Replaces Hoffman IRS-11. Type FS504, FS402.

No. 25-2056 Card of 1 (Std. Pkg. 10) Net .74  
100 ohms hot, 150 M.A. Type FS801.

No. 25-2078 Card of 1 (Std. Pkg. 10) Net 1.17



75 ohms hot at 300 M.A. 950 ohms cold. No load. Replacement on GE No. RRW041. Type FR041 and FS312.  
No. 25-914-5 Card of 1 (Std. Pkg. 10) Net 1.62



Kit of 2 resistors. Replaces all GE filament resistors. Also Motorola, Sears, Crosley, Hoffman, Teletone and and Pathe. Type FR2.

No. 25-910-5 Card of 2 (Std. Pkg. 10) Net 2.21  
31 ohms hot at 300 M.A. 260 ohms cold. No load. Replacement on GE No. RRW097. Type FR31.

No. 25-916-5 Card of 1 (Std. Pkg. 10) Net 1.40

35 ohms hot at 600 M.A. 460 ohms cold. No load. Replacement for GE No. RRW054. Type FR35, FR054.

No. 25-918-5 Card of 1 (Std. Pkg. 10) Net 1.40



50 ohms hot at 150 M.A. Replacement on Philco No. 33-1343-3 and 33-1343-6 Used in over 400 models of Philco AC-DC Radios Type FR50, FR100, FS800

No. 25-922-5 Card of 1 (Std. Pkg. 10) Net 1.17



Voltage sensitive -- 10,500 ohms at 125 volts. Replacement on GE No. RRW052. Type FR052.

No. 25-924-5 Card of 1 (Std. Pkg. 10) Net 2.36

Voltage sensitive -- 14,000 ohms at 140 volts. Replacement on GE No. RRW-088. Type FR-088.

No. 25-930-5 Card of 1 (Std. Pkg. 10) Net 2.36



43 ohms hot at 600 M.A. 125 ohms cold. No load. Replacement for Crosley. Type FR43.

No. 25-926-5 Card of 1 (Std. Pkg. 10) Net 1.84



9 ohms hot at 600 M.A. Replacement for RCA No. 100118, 942922-1. Type FR9

No. 25-928-5 Card of 1 (Std. Pkg. 10) Net 1.22

6 ohms hot. Replacement for Motorola No. 6B744326. Type FR6.

No. 25-932-5 Card of 1 (Std. Pkg. 10) Net 1.22

11 ohms hot at 450 M.A. 9.2 ohms at 600 M.A. Replacement on Philco No. 33-1343-17, 33-1343-11.

Type FR11P  
No. 25-940-5 Card of 1 (Std. Pkg. 10) Net 1.22



79 ohms cold. .47 ohms hot. Replaces RCA No. 107291. Type FR291.

No. 25-933-5 Card of 1 (Std. Pkg. 10) Net 1.17

.49 ohms hot. Replacement on RCA No. 942922-2, 107291. Type FR.49

No. 25-938-5 Card of 1 (Std. Pkg. 10) Net .89

120 ohms cold. Replacement for RCA No. 107191. Type FR191.

No. 25-931-5 Card of 1 (Std. Pkg. 10) Net 1.17



5.8 ohms hot at 450 M.A. Replacement on RCA No. 942922-3, Philco No. 33-1343-12, 15 and 106637.

Type FR 5-8

No. 25-942-5 Card of 1 (Std. Pkg. 10) Net 1.22

Used in automatic degaussing circuits for RCA 114014, Magnavox 230175-1, Wells-Gardner 43X0454-001, Wards 057-001300, Muntz PR9041, Silvertone 61-77-1, RCA 1472164-1, 2, 3. Type FR066.

No. 25-2020 Card of 1 (Std. Pkg. 10) Net 1.04

Glo-Bar Resistor for auto. 150 ohms cold. Replaces Bendix No. 220629-9. Type FT150.

No. 25-2178 Card of 1 (Std. Pkg. 10) Net .95

120 ohms cold. Replaces RCA No. 107191, 942922-5. Type FS902, FS914.

No. 25-2094 Card of 1 (Std. Pkg. 10) Net 1.16

79 ohms cold, 49 ohms hot. Replaces RCA No. 107291. Type FS903, FS912.

No. 25-2096 Card of 1 (Std. Pkg. 10) Net .89

2 M.A. at 870 VDC. Replaces RCA No. 1472668-1. Type FS923.

No. 25-2118 Card of 1 (Std. Pkg. 10) Net .74



Universal Glo-Bar. Cold Resistance value is high enough to protect circuit. Hot resistance value is determined by Glo-Bar operating temperature based on normal operating current. Type FRT1

No. 25-944-5 Card of 1 (Std. Pkg. 10) Net .89



1.3 ohms cold. Replaces RCA No. 907209-4, 112542. Type FR1.3, FS909.

No. 25-2000 Card of 1 (Std. Pkg. 10) Net .68

3.5 ohms cold. Replaces RCA No. 907209-1, 107464. Type FR3.5, FS908.

No. 25-2004 Card of 1 (Std. Pkg. 10) Net .69

3.8 ohms cold. Replaces Admiral No. 61A27. Type FR3.8, FS101.

No. 25-2006 Card of 1 (Std. Pkg. 10) Net .69

4.5 ohms cold. Replaces Philco No. 33-1343-18, -19, -20, -21. Type FR4.5, FS807.

No. 25-2008 Card of 1 (Std. Pkg. 10) Net .69

10 ohms cold. Replaces RCA No. 909012-2. Type FR10.

No. 25-2012 Card of 1 (Std. Pkg. 10) Net .69

12.9 ohms cold. Replaces RCA 107420. Type FR12.9.

No. 25-2014 Card of 1 (Std. Pkg. 10) Net .69

13 ohms cold. Replaces Motorola No. 6C65884A03. Type FR13, FS629.

No. 25-2016 Card of 1 (Std. Pkg. 10) Net .69

12.9 ohms cold. Replaces RCA No. 107420. Type FS904.

No. 25-2098 Card of 1 (Std. Pkg. 10) Net .74

10 ohms cold. Replaces RCA No. 9090122. Type FS911.  
No. 25-2104 Card of 1 (Std. Pkg. 10) Net .74



500K ohms at 25 C. Replaces Magnavox No. 230130-1, 2, Hoffman IRS-10. Type FR5K, FS501, FS500, FS401

No. 25-2010 Card of 1 (Std. Pkg. 10) Net 1.09

600K ohms Hot - 1 Meg. ohm cold. Replaces GE No. RRW175, ET14X118, WT14X118. Type FR1M, FS313.

No. 25-2002 Card of 1 (Std. Pkg. 10) Net 1.28

735K ohms cold. Replaces Admiral No. 60A-64-1. Zenith 634726. Type FS100, FS1213

No. 25-2026 Card of 1 (Std. Pkg. 10) Net .74

750K ohms cold. Replaces GE No. K122J193-1. Type FS301.

No. 25-2036 Card of 1 (Std. Pkg. 10) Net .74

500K ohms cold. Replaces GE K1226193-2 Type FS302.

No. 25-2038 Card of 1 (Std. Pkg. 10) Net .74

600K ohms cold. Replaces GE K122J193-5. Type FS304.

No. 25-2040 Card of 1 (Std. Pkg. 10) Net .74

150K ohms cold. Replaces GE K122J193-6. Type FS305.

No. 25-2042 Card of 1 (Std. Pkg. 10) Net .74

1.0 m.a. at 110 VDC replaces GE K122J425-6. Type FS308.

No. 25-2044 Card of 1 (Std. Pkg. 10) Net .74

1.0 M.A. at 600 VDC. Replaces Motorola 6C66263A03. Type FS631.

No. 25-2070 Card of 1 (Std. Pkg. 10) Net .74

1.0 m.a. at 340 VDC. Replaces Philco No. 33-1373-1. Type FS808.

No. 25-2082 Card of 1 (Std. Pkg. 10) Net .74

150,000 ohms cold. Replaces RCA No. 1472350-1. Type FS920.

No. 25-2114 Card of 1 (Std. Pkg. 10) Net .74

50,000 ohms cold. Replaces RCA No. 1472350-2. Type FS921.

No. 25-2116 Card of 1 (Std. Pkg. 10) Net .74

390,000 ohms cold. Replaces Sylvania No. 38-11780-3. Type FS1002.

No. 25-2124 Card of 1 (Std. Pkg. 10) Net .74

250,000 ohms cold. Replaces Sylvania No. 38-11780-4. Type FS1003.

No. 25-2126 Card of 1 (Std. Pkg. 10) Net .74

1.0 M.A. at 110 VDC. Replaces Sylvania No. 38-15257-5. Type FS1006.

No. 25-2130 Card of 1 (Std. Pkg. 10) Net .74

.050 M.A. at 49 VDC. Replaces Zenith No. 63-4906. Type FS1203.

No. 25-2134 Card of 1 (Std. Pkg. 10) Net .74

.050 M.A. at 125 VDC. Replaces Zenith 63-5040. Type FS1204.

No. 25-2136 Card of 1 (Std. Pkg. 10) Net .74

.050 M.A. at 80 VDC. Replaces Zenith No. 63-5058. Type FS1205.

No. 25-2138 Card of 1 (Std. Pkg. 10) Net .74

.050 M.A. at 40 VDC. Replaces Zenith No. 63-5184. Type FS1206.

No. 25-2140 Card of 1 (Std. Pkg. 10) Net .74

750,000 ohms cold. Replaces Zenith No. 63-5187. Type FS1207.

No. 25-2142 Card of 1 (Std. Pkg. 10) Net .74

.050 M.A. at 168 VDC. Replaces Zenith No. 63-5311. Type FS1208.

No. 25-2144 Card of 1 (Std. Pkg. 10) Net .74

.050 M.A. at 100 VDC. Replaces Zenith No. 63-5314. Type FS1209.

No. 25-2146 Card of 1 (Std. Pkg. 10) Net .74

.050 M.A. at 160 VDC. Replaces Zenith No. 63-5316. Type FS1210.

No. 25-2148 Card of 1 (Std. Pkg. 10) Net .74

.050 M.A. at 61 VDC. Replaces Zenith No. 63-5357. Type FS1211.

No. 25-2150 Card of 1 (Std. Pkg. 10) Net .74

.050 M.A. at 137 VDC. Replaces Zenith No. 63-5378. Type FS1212.

No. 25-2152 Card of 1 (Std. Pkg. 10) Net .74

.100 M.A. at 90 VDC. Replaces Zenith No. 63-5472. Type FS1215.

No. 25-2156 Card of 1 (Std. Pkg. 10) Net .74

.050 M.A. at 109 VDC. Replaces Zenith No. 63-5494. Type FS1216.

No. 25-2158 Card of 1 (Std. Pkg. 10) Net .74

1.5 Meg. ohms cold. Replaces Zenith No. 63-6331. Type FS1217.

No. 25-2160 Card of 1 (Std. Pkg. 10) Net .74

Glo-Bar Resistor for auto. 2.8 ohms cold. Replaces Motorola No. 6K563621. Type FT2.8.

No. 25-2164 Card of 1 (Std. Pkg. 10) Net .48

Glo-Bar Resistor for auto. 3.3 ohms cold. Replaces Motorola No. 6K564854. Type FT3.3.

No. 25-2166 Card of 1 (Std. Pkg. 10) Net .48

Glo-Bar Resistor for auto. 4.5 ohms cold. Replaces Motorola No. 6K542967. Type FT4.5.

No. 25-2168 Card of 1 (Std. Pkg. 10) Net .48



# GLO-BAR THERMISTORS

Glo-Bar Resistor for auto. 7.5 ohms cold. Replaces Motorola No. 6K542314. Type FT7.5.  
 No. 25-2170 Card of 1 (Std.Pkg. 10) Net .48  
 Glo-Bar Resistor for auto. 10 ohms cold. Replaces Motorola No. 6K540634. Type FT10.  
 No. 25-2172 Card of 1 (Std.Pkg. 10) Net .48  
 Glo-Bar Resistor for auto. 28 ohms cold. Replaces Bendix No. 220629-3 & 4. Type FT28.  
 No. 25-2174 Card of 1 (Std.Pkg. 10) Net .48  
 Glo-Bar Resistor for auto. 35 ohms cold. Replaces Motorola No. 6A539409. Type FT35.  
 No. 25-2176 Card of 1 (Std.Pkg. 10) Net .48



UNIVERSAL GLO-BAR DISK  
 Type FRT2.  
 No. 25-2022 Card of 1 (Std.Pkg. 10) Net 1.40



Kit of 2 resistors consisting of thermistor and varistor used in automatic degaussing circuits. Replaces RCA No. 116534. Type FRTV.  
 No. 25-2024 Card of 1 (Std.Pkg. 10) Net 1.99



1.0 m.a. at 175 VDC. Replaces Admiral 61A-46-2. Warwick 61-86-1. Olympic RE.34098. Type FS701, FS1104, FS103.  
 No. 25-2030 Card of 1 (Std.Pkg. 10) Net .74  
 1 m.a. at 500 VDC. Replaces 61B-46-3. Type FS106.  
 No. 25-2032 Card of 1 (Std.Pkg. 10) Net .74  
 .050 m.a. at 125 VDC. Replaces Emerson 397191. Type FS203, FS405, FS917.  
 No. 25-2034 Card of 1 (Std.Pkg. 10) Net .74  
 10 M.A. at 680 VDC. Replaces Philco No. 33-1373-5. Type FS811.  
 No. 25-2086 Card of 1 (Std.Pkg. 10) Net .74

1.0 m.a. at 220 VDC replaces GE K122913-1. Type FS309.  
 No. 25-2046 Card of 1 (Std.Pkg. 10) Net .74  
 1.0 M.A. at 870 VDC. Replaces Philco No. 33-1373-3. Type FS809.  
 No. 25-2084 Card of 1 (Std.Pkg. 10) Net .74  
 10 M.A. at 560 VDC. Replaces Philco No. 33-1373-6. Type FS812.  
 No. 25-2088 Card of 1 (Std.Pkg. 10) Net .74  
 10 M.A. at 700 VDC. Replaces Philco No. 33-1373-8. Type FS815.  
 No. 25-2090 Card of 1 (Std.Pkg. 10) Net .74  
 1.0 M.A. at 1000 VDC. Replaces Philco No. 33-1373-10. Type FS816.  
 No. 25-2092 Card of 1 (Std.Pkg. 10) Net .74  
 10 M.A. at 300 VDC. Replaces RCA No. 1440614-4. Type FS918.  
 No. 25-2112 Card of 1 (Std.Pkg. 10) Net .74  
 1.0 M.A. at 300 VDC. Replaces RCA No. 1440614-2. Type FS924.  
 No. 25-2120 Card of 1 (Std.Pkg. 10) Net .74  
 1.0 M.A. at 290 VDC. Replaces Sylvania No. 39-152574. Type FS1005.  
 No. 25-2128 Card of 1 (Std.Pkg. 10) Net .74

## FUSED RESISTORS

150 ohm, 5 watt fuse resistor Replaces Motorola No. 65A631725C Type F150  
 Part No. Std. Pkg. Net  
 25-318-1 Card of 1 10 .32  
 25-318-BU Bulk Pack 100 27.50C



4.5 ohm, 10 watt fuse resistor Replaces Silvertone No. 61-191-0 Type F10-4.5  
 Part No. Std. Pkg. Net  
 25-304-1 Card of 1 10 .52  
 25-304-BU Bulk Pack 100 44.00C

100 ohm, 5 watt fuse resistor Replaces Admiral No. 61A11-4. Type F100  
 Part No. Std. Pkg. Net  
 25-314-1 Card of 1 10 .32  
 25-314-BU Bulk Pack 100 27.50C

47 ohm, 5 watt fuse resistor Replacement for radios and record players Type F47  
 Part No. Std. Pkg. Net  
 25-312-1 Card of 1 10 .32  
 25-312-BU Bulk Pack 100 27.50C

3.6 ohm, 7 watt fuse resistor Replaces GE No. 14X183 Type F-7.36  
 Part No. Std. Pkg. Net  
 25-300-1 Card of 1 10 .32  
 25-300-BU Bulk Pack 100 27.50C



150 ohm, 0.12 amp fuse resistor Replaces Motorola No. 65A633275 Type F12A  
 Part No. Std. Pkg. Net  
 25-306-1 Card of 1 10 .32  
 25-306-BU Bulk Pack 100 27.50C



18 ohm, 5 watt fuse resistor Replaces Packard Bell and others Type F18  
 Part No. Std. Pkg. Net  
 25-310-1 Card of 1 10 .32  
 25-310-BU Bulk Pack 100 27.50C



7.5 ohm, 15 watt fuse resistor Replaces Motorola No. 17A732705 and GE 14X95 used in Color TV.  
 Part No. Std. Pkg. Net  
 25-308-1 Card of 1 10 .59  
 25-308-BU Bulk Pack 100 49.50C



Heavy duty 1.45, 5 watt fuse resistor Replaces Philco No. 76-13605-2 Type F145  
 Part No. Std. Pkg. Net  
 25-316-1 Card of 1 10 .35  
 25-316-BU Bulk Pack 100 29.80C

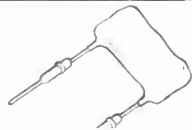
4.7 ohm, 5 watt fuse resistor Universal replacement Type FJR4.7 FJR.7  
 Part No. Std. Pkg. Net  
 25-326-1 Card of 1 10 .56  
 25-326-BU Bulk Pack 100 46.70C

5.6 ohm, 5 watt fuse resistor Universal replacement. Type FJR5.6 FJ5.6  
 Part No. Std. Pkg. Net  
 25-328-1 Card of 1 10 .56  
 25-328-BU Bulk Pack 100 46.70C

7.5 ohm, 5 watt fuse resistor Universal replacement. Type FJR7.5 FJ7.5  
 Part No. Std. Pkg. Net  
 25-330-1 Card of 1 10 .56  
 25-330-BU Bulk Pack 100 46.70C



5 ohm, 7 watt fuse resistor Replaces RCA No. 942924-1. Type F7-5  
 Part No. Std. Pkg. Net  
 25-302-1 Card of 1 10 .35  
 25-302-BU Bulk Pack 100 29.80C



4.7 ohm fuse resistor. Replacement for RCA, Philco, Truetone, Westinghouse, Western Auto, Gamble Skagmo Type F4.7  
 Part No. Std. Pkg. Net  
 25-980-1 Card of 1 10 .32  
 25-980-1BU Bulk Pack 100 27.50C  
 25-996-1 Kit of 10 1 3.00

5 ohm fuse resistor Replacement for Magnavox, Traveler, Hallicrafters, Motorola. Type F5  
 Part No. Std. Pkg. Net  
 25-982-1 Card of 1 10 .32  
 25-982-1BU Bulk Pack 100 27.50C  
 25-996-2 Kit of 10 1 3.00

5.6 ohm fuse resistor. Replacement for Arvin, Western Auto, Bendix, Muntz, RCA, Montgomery Ward, Sylvania, Sonora, Philco, Raytheon. Type F5-6  
 Part No. Std. Pkg. Net  
 25-984-1 Card of 1 10 .32  
 25-984-1BU Bulk Pack 100 27.50C  
 25-996-3 Kit of 10 1 3.00

6 ohm fuse resistor. Replacement for Zenith. Type F6  
 Part No. Std. Pkg. Net  
 25-986-1 Card of 1 10 .32  
 25-986-1BU Bulk Pack 100 27.50C  
 25-996-4 Kit of 10 1 3.00

7.5 ohm fuse resistor. Replacement for Admiral, Crosley, Zenith, Sears, Westinghouse, Sylvania, Sentinel, Philco, Magnavox, Emerson, Olympic, Hoffman, Hallicrafters, Motorola, Majestic, Type F 80  
 Part No. Std. Pkg. Net  
 25-988-1 Card of 1 10 .32  
 25-988-1BU Bulk Pack 100 27.50C  
 25-996-5 Kit of 10 1 3.00

9 ohm fuse resistor. Replacement for Firestone, Western Auto, Muntz, Raytheon, Gamble-Skagmo, Montgomery Ward Type F9  
 Part No. Std. Pkg. Net  
 25-990-1 Card of 1 10 .32  
 25-990-BU Bulk Pack 100 27.50C  
 25-996-6 Kit of 10 1 3.00

10 ohm fuse resistor. Replacement for Admiral. Type F10  
 Part No. Std. Pkg. Net  
 25-992-1 Card of 1 10 .32  
 25-992-1BU Bulk Pack 100 27.50C  
 25-996-7 Kit of 10 1 3.00

5 WATT FUSE RESISTOR KIT  
 Kit of 10 assorted fuse resistors in plastic box contains: 6 - 7.5 ohm, 1 - 5.6 ohm, 1 - 4.7 ohm, 1 - 9 ohm, 1 - 22 ohm resistors.  
 Part No. Std. Pkg. Net  
 25-996 Kit of 10 1 3.00

22 ohm fuse resistor Replacement for Admiral, Motorola, Stromberg-Carlson. Type F22  
 Part No. Std. Pkg. Net  
 25-994-1 Card of 1 10 .32  
 25-994-1BU Bulk Pack 100 27.50C  
 25-996-8 Kit of 10 1 3.00

5 WATT FUSE RESISTOR KIT  
 Kit of 10 assorted fuse resistors in plastic box contains:  
 6 - 7.5 ohm  
 1 - 9 ohm  
 1 - 22 ohm  
 No. Std. Pkg. Net  
 25-996 Kit of 10 1 3.00

COLOR TV CAPACITOR  
 Replacement for all color TV sets. A new replacement capacitor for color TV sets. Can be used on all makes of color sets and is also an exact replacement for RCA No. 945328-3 and Admiral No. 62C2773 TV sets. Value: .001 MFD at 2000 volts, DC.  
 No. Std. Pkg. Net  
 25-902-5 Replacement capacitor 24 .39

AUTO RADIO REPLACEMENTS  
 5 WATT RESISTORS  

Part No.	Standard Pack 10	Net
25-600	.10 ohms	.31
25-602	.22 ohms	.31
25-604	.51 ohms	.31
25-606	.68 ohms	.31
25-608	.82 ohms	.31
26-972	.27 ohms	.31
26-974	.33 ohms	.31
26-976	.47 ohms	.31
26-978	5.6 ohms	.31
26-980	1800 ohms	.31
26-970	Kit of 5 (26-972 thru 26-980)	1.55

25 WATT WIRE WOUND FILAMENT DROPPING RESISTORS  

Ohms	Part No.	1 Per Card Net .55 ea.	Ohms	Part No.	1 Per Card Net .55 ea.	Ohms	Part No.	1 Per Card Net .55 ea.
3.5	25-706		36	25-734		110	25-756	
4.7	25-708		38	25-736		120	25-758	
5	25-710		41	25-738		133	25-760	
7	25-712		45	25-738		170	25-762	
10	25-714		48	25-740		200	25-764	
12	25-716		51	25-781		250	25-766	
15	25-718		54	25-742		300	25-768	
17.5	25-720		57	25-744		400	25-770	
20	25-722		59	25-744		430	25-772	
22.5	25-724		60	25-746		500	25-774	
25	25-726		65	25-748		600	25-776	
27.5	25-728		68	25-750		700	25-778	
30	25-730		74	25-752		900	25-780	
33	25-732		100	25-754		1000	25-792	

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distributors**





# CARBON COMPOSITION RESISTORS



IRC, Inc.

## TYPE RC CARBON COMPOSITION RESISTORS

### PERFORMANCE CHARACTERISTICS

These are in relation to MIL-R-11 and/or MIL-R-39008 specification limits. A performance span or range is given for each important characteristic. You know in advance the typical limits within which IRC carbon composition resistors can be expected to perform. Ask for Catalog "D".

The performance data are based on many thousands of individual tests made on random samples taken from production. The resistors are tested to MIL-R-11 and/or MIL-R-39008 and to other tests of greater severity.

### APPEARANCE

IRC carbon composition resistors have a glossy brown, smooth body. The molded jacket has close dimensional tolerances for trouble-free use in high speed lead forming and inserting machines. There is no wax coating to clog equipment.

### IDENTIFICATION

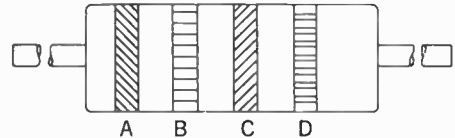
Resistance values are clearly indicated by standard EIA/MIL Color Code bands. Solvent-resistant paints are baked on to provide distinct, permanent color bands.

### STANDARD RESISTANCE VALUES

Type RC resistors are supplied in all EIA/MIL standard values, subject to the minimum and maximum values for each type. (See table.) Other values are available on special order.



EIA/MIL COLOR CODE



- Band A—1st significant figure
- Band B—2nd significant figure
- Band C—Number of zeros or decimal multiplier
- Band D—Tolerance
- Band E—(not shown) — Solderability

Color	Significant Figure	Multiplying Value
Black	0	1
Brown	1	10
Red	2	100
Orange	3	1,000
Yellow	4	10,000
Green	5	100,000
Blue	6	1,000,000
Violet	7	10,000,000
Gray	8	100,000,000
White	9	1,000,000,000
Gold	±5% tolerance	4th band
Silver	±10% tolerance	
No color	±20% tolerance	

### PACKAGING

Type RC resistors are packaged on the exclusive GRIP STRIP<sup>®</sup>, in multiples of 50.

Also, see page 1162 for RC resistors in IRC's new SNAP PAK.

### FIXED COMPOSITION RESISTORS

IRC's unique design of 1/4-, 1/2- and 1-watt resistors means better performance and reliability. 50% more molding around the resistance element assures greater moisture protection. The working element is a layer of carbon thermally bonded to an inert glass filament for better resistance and temperature characteristics. Ribbed, shoulder leads are deeply imbedded in the molding to prevent twist or pull-out and act as heat sinks to conduct heat away for cooler operation and longer field life.

IRC TYPE	RC07	RC20	RC32	RC42
MIL Style	RC07 — RCR07	RC20	RC32	RC42
Rating	1/4w @ 70° amb.	1/2w @ 70° amb.	1w @ 70° amb.	2w @ 70° amb.
Minimum Resistance	2.7 ohms	2.7 ohms	2.7 ohms	10 ohms
Maximum Resistance	22 meg	22 meg	22 meg	22 meg
Rated Voltage	250V	350V	500V	500V
Dimensions— Body size	.250" x .090" dia.	.390" x .140" dia.	.562" x .225" dia.	1/4" x .312" dia.
Lead size	1 1/2" x .025" dia.	1 1/2" x .031" dia.	1 1/2" x .040" dia.	1 1/2" x .045" dia.

### STANDARD STOCK VALUES\*

10% and 5% tolerance. 10% in bold type. All values available in 5%. Values are indicated on each resistor by EIA color code.

2.7	10	39	150	560	2,200	8,200	33K	120K	470K	1.8 meg.	6.8 meg.
3.0	11	43	160	620	2,400	9,100	36K	130K	510K	2.0 meg.	7.5 meg.
3.3	12	47	180	680	2,700	10K	39K	150K	560K	2.2 meg.	8.2 meg.
3.6	13	51	200	750	3,000	11K	43K	160K	620K	2.4 meg.	9.1 meg.
3.9	15	56	220	820	3,300	12K	47K	180K	680K	2.7 meg.	10.0 meg.
4.3	16	62	240	910	3,600	13K	51K	200K	750K	3.0 meg.	11.0 meg.
4.7	18	68	270	1,000	3,900	15K	56K	220K	820K	3.3 meg.	12.0 meg.
5.1	20	75	300	1,100	4,300	16K	62K	240K	910K	3.6 meg.	13.0 meg.
5.6	22	82	330	1,200	4,700	18K	68K	270K	1.0 meg.	3.9 meg.	15.0 meg.
6.2	24	91	360	1,300	5,100	20K	75K	300K	1.1 meg.	4.3 meg.	16.0 meg.
6.8	27	100	390	1,500	5,600	22K	82K	330K	1.2 meg.	4.7 meg.	18.0 meg.
7.5	30	110	430	1,600	6,200	24K	91K	360K	1.3 meg.	5.1 meg.	20.0 meg.
8.2	33	120	470	1,800	6,800	27K	100K	390K	1.5 meg.	5.6 meg.	22.0 meg.
9.1	36	130	510	2,000	7,500	30K	110K	430K	1.6 meg.	6.2 meg.	

\* Lower and higher values than standard available on special order.



# SNAP PAK PACKAGING

IRC, Inc.



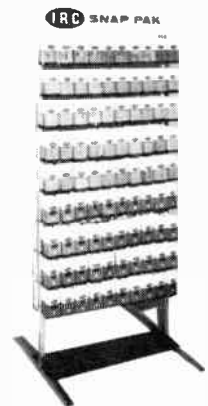
(Actual Size)

\* Patent No. 3,322,268

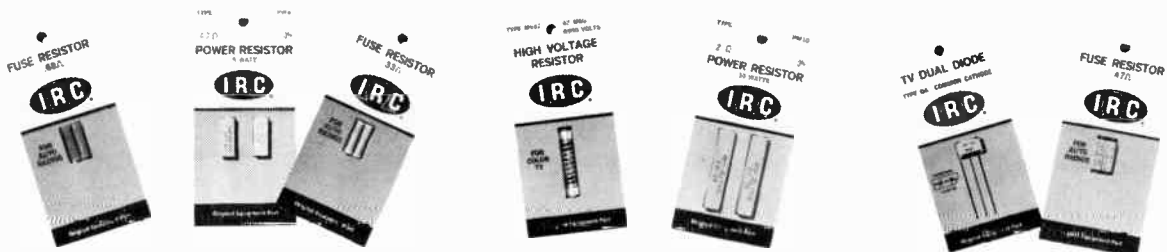
## NEW! IRC SNAP PAK\*

New convenience and versatility are yours when you use IRC's SNAP PAK. Developed and patented by IRC, SNAP PAK is available in all sizes, types, values, tolerances of Carbon Composition RC resistors. For Industrials, servicemen, hobbyist, or experimenter, SNAP PAK is ideal. Look over these features:

- Resistors are securely held in package even after opening. Remove needed items and the remainder stay put.
- Resistors always identified, no reading of color codes — fast, easy.
- New convenience and organization.
- Package fits shelves, drawers, racks, bins, and pegboard — truly easy filing and finding.
- Eliminates loose resistors, lead damage.
- Easy to count, sort and inventory.
- Keeps resistors neat, organized, protected.
- In-package test feature allows you to test resistors without opening package.
- Saves on time, money, lost resistors.
- Handy size permits space saving stocking.
- Look for the SNAP PAK display!



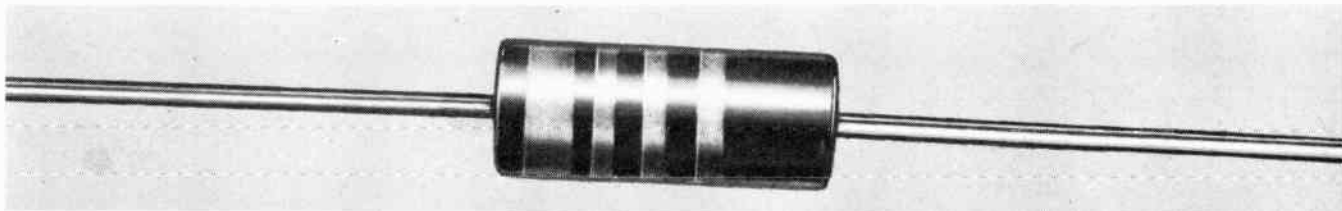
## OTHER IRC PRODUCTS IN SNAP PAK STYLE PACKAGES



The same type of package that revolutionizes Carbon Composition resistor buying has been adapted to these other popular IRC products. Solves stocking problems — no loose parts or large boxes to clutter up your shelves, drawers, cabinets or caddy.

- BWH Resistors, all values, tolerances. See page 1163.
- Fuse Resistors — .33Ω, .47Ω, .68Ω. See page 1167.
- High Voltage Resistors — MV47, MV66. See page 1169.
- PW5, PW10, Power Resistors. See page 1167.
- Dual Diodes — D4, D5. See page 1260.

# MOLDED WIREWOUND RESISTORS

**IRC, Inc.**


## OUTPERFORMS FIXED COMPOSITION RESISTORS

IRC's BWH molded wirewound resistor can be used in most applications normally filled by the lower values of composition resistors. The BWH exhibits the inherent stability, reliability, and long-term life characteristics of a wirewound unit. It also provides low resistances unattainable in composition resistors.

Exceptionally stable, small and completely insulated the BWH meets or exceeds all MIL-R-11 performance requirements. Because it is the RC-32 size it will fit any 1 watt composition resistor processing equipment.

BWH resistors are packaged on the exclusive IRC GRIP STRIP<sup>®</sup>, in multiples of 10 and 50, and in the new SNAP PAK (see page 1162) in multiples of 25.

The rating of this resistor is:

- ½ watt at 137°C. ambient
- 1 watt at 115°C. ambient
- 2 watts at 70°C. ambient.

**TOLERANCES & RESISTANCE VALUES.** Available in  $\pm 5\%$  and  $\pm 10\%$  tolerances in accordance with standard EIA resistance values. Minimum standard resistance: 0.10 ohm Maximum standard resistance: 1800 ohms.

**COLOR CODING.** Resistance values are indicated by standard EIA Color Code bands, and are distinguished from composition resistors by a wide band for the first significant figure.

**INSULATION.** A plastic housing molded with IRC manufactured thermosetting materials at high pressure and temperature results in a high insulation resistance. This protects the element from effects of extreme climatic conditions. Type BWH resistors are brown in color.

**NOISE.** Negligible.

**SHELF DRIFT.** Negligible.

## PERFORMANCE SPECIFICATIONS

**Temperature Coefficient.** ( $-55^{\circ}\text{C}$  to  $150^{\circ}\text{C}$ )

$\pm 0.065\% / ^{\circ}\text{C}$	$\pm 0.030\% / ^{\circ}\text{C}$
0.10 ohm to 1.0 ohm	1.1 ohms to 1800 ohms

In order to cover a wide range of resistance values, it is necessary to use different wire alloys, which have different temperature coefficients of resistance. The above table gives the maximum temperature coefficient within a particular resistance group.

**Inductance.** From  $0.04\mu\text{h}$  (0.24 ohm resistor) to  $5.0\mu\text{h}$  (1000 ohm resistor).

**Dielectric Withstanding Voltage.** 1000 volts rms minimum at atmospheric pressure. 625 volts rms minimum at barometric pressure of 3.4 inches of mercury.

STANDARD STOCK VALUES ( $\pm 5\%$ and $\pm 10\%$ tolerance) ( $\pm 10\%$ tolerance in bold type. All values available in $\pm 5\%$ )				
OHMS	OHMS	OHMS	OHMS	OHMS
0.10	1.0	10	100	1,000
0.11	1.1	11	110	1,100
0.12	1.2	12	120	1,200
0.13	1.3	13	130	1,300
0.15	1.5	15	150	1,500
0.16	1.6	16	160	1,600
0.18	1.8	18	180	1,800
0.20	2.0	20	200	—
0.22	2.2	22	220	—
0.24	2.4	24	240	—
0.27	2.7	27	270	—
0.30	3.0	30	300	—
0.33	3.3	33	330	—
0.36	3.6	36	360	—
0.39	3.9	39	390	—
0.43	4.3	43	430	—
0.47	4.7	47	470	—
0.51	5.1	51	510	—
0.56	5.6	56	560	—
0.62	6.2	62	620	—
0.68	6.8	68	680	—
0.75	7.5	75	750	—
0.82	8.2	82	820	—
0.91	9.1	91	910	—

**Low Temperature Operation.**  $\pm 3\%$  maximum.

**Temperature Cycling.**  $\pm 3\%$  maximum.

**Moisture Resistance.**  $\pm 6.5\%$  maximum (load or no load).

**Short Time Overload.** (8 watts for 5 seconds)  $\pm 3.0\%$  maximum.

**Load Life.** (After 1000 hrs. at temperature and loading shown on derating curve.)  $\pm 5\%$  maximum group average.  $\pm 10\%$  maximum individual.

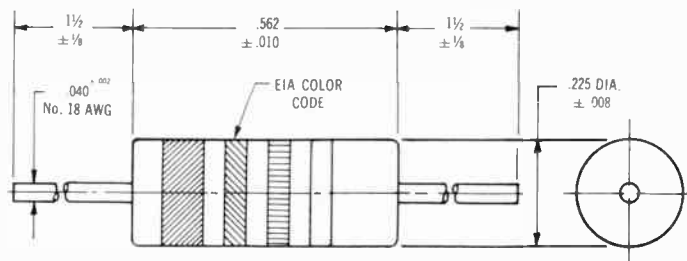
**Terminal Strength.**  $\pm 1\%$  maximum.

**Solder.**  $\pm 3\%$  maximum.

**Acceleration, Shock, High Frequency Vibration.**  $\pm 2\%$  maximum.

All tests performed as required in MIL-R-11 specification unless noted otherwise.

NOTE: Because of test inaccuracies common in measuring low resistance values, an allowance of 0.01 ohm should be added to the resistance change limits listed above.



# RESISTOR KITS & ASSORTMENTS

**IRC, Inc.**

**RESIST-O-CABINET.** A practical way to give any shop a professional appearance. Sturdy metal Resist-O-Cabinets are FREE with any of five balanced assortments. Designed for stacking, and for tidy stocks of many small parts. Resist-O-Cabinets have four non-spill drawers and 28 compartments. Overall size is 5 $\frac{3}{8}$ " x 5 $\frac{1}{16}$ " x 10 $\frac{7}{8}$ ". Blue and silver finish.



1/4 WATT ASSORTMENT #7A 150 RC07 1/4-Watt Resistors		1/2 WATT ASSORTMENT #4A 150 RC20 1/2-Watt Resistors		1 WATT ASSORTMENT #5A 125 RC32 1-Watt Resistors		2 WATT ASSORTMENT #3A 120 BWH and RC42 2-Watt Resistors		COMB. ASSORTMENT #6A 139 Insulated Resistors and Type DCF Precision Film Resistors				
Quantity	Range	Quantity	Range	Quantity	Range	Quantity	Range	Range	1/2 Watt	1 Watt	2 Watt	DCF
3	47 ohms	3	47 ohms	3	47 ohms	2	4.7 ohms	47 ohms	2	1	1	—
6	100 ohms	4	100 ohms	3	100 ohms	2	10 ohms	100 ohms	2	1	1	—
4	150 ohms	3	220 ohms	3	150 ohms	1	15 ohms	150 ohms	2	1	—	—
4	220 ohms	3	270 ohms	3	220 ohms	2	22 ohms	220 ohms	2	1	—	—
3	270 ohms	4	470 ohms	3	270 ohms	1	27 ohms	270 ohms	2	1	—	—
6	470 ohms	8	1,000 ohms	3	470 ohms	1	33 ohms	470 ohms	2	1	1	—
3	680 ohms	4	1,500 ohms	7	1,000 ohms	1	39 ohms	1,000 ohms	4	4	—	1
10	1,000 ohms	4	2,200 ohms	3	1,500 ohms	3	47 ohms	1,500 ohms	2	1	—	—
6	1,500 ohms	4	2,700 ohms	5	2,200 ohms	2	68 ohms	2,200 ohms	2	1	—	—
8	2,200 ohms	5	3,300 ohms	3	2,700 ohms	3	82 ohms	2,700 ohms	2	1	—	—
4	2,700 ohms	7	4,700 ohms	3	3,300 ohms	4	100 ohms	3,300 ohms	2	2	—	—
5	3,300 ohms	7	10K ohms	5	4,700 ohms	3	150 ohms	4,700 ohms	3	1	1	—
4	3,900 ohms	5	22K ohms	7	10K ohms	3	220 ohms	10K ohms	3	4	1	1
10	4,700 ohms	5	27K ohms	3	15K ohms	3	270 ohms	15K ohms	2	2	—	—
6	6,800 ohms	5	33K ohms	5	22K ohms	4	330 ohms	22K ohms	2	2	1	—
10	10K ohms	8	47K ohms	7	27K ohms	4	470 ohms	27K ohms	2	4	—	—
6	15K ohms	4	56K ohms	4	33K ohms	5	1,000 ohms	33K ohms	2	1	—	—
4	18K ohms	4	68K ohms	4	39K ohms	4	1,500 ohms	39K ohms	2	1	—	—
8	22K ohms	8	100K ohms	7	47K ohms	4	2,200 ohms	47K ohms	4	3	1	—
3	27K ohms	7	220K ohms	4	68K ohms	4	3,300 ohms	68K ohms	2	2	—	—
6	33K ohms	8	270K ohms	7	100K ohms	3	3,900 ohms	100K ohms	4	4	—	1
3	39K ohms	5	330K ohms	3	150K ohms	4	4,700 ohms	150K ohms	2	2	—	—
6	47K ohms	8	470K ohms	3	220K ohms	5	6,800 ohms	220K ohms	3	1	—	—
3	68K ohms	8	1.0 meg.	7	270K ohms	7	8,200 ohms	270K ohms	4	2	—	—
8	100K ohms	7	2.2 meg.	7	470K ohms	7	10K ohms	470K ohms	4	3	—	—
3	220K ohms	4	3.3 meg.	7	1.0 meg.	5	15K ohms	1.0 meg.	4	4	—	1
3	470K ohms	5	4.7 meg.	3	2.2 meg.	7	22K ohms	2.2 meg.	3	3	—	—
5	1.0 meg.	3	10.0 meg.	3	4.7 meg.	4	27K ohms	4.7 meg.	2	1	—	—
						7	47K ohms	5.0 meg.	—	—	—	1
						5	100K ohms					
						3	220K ohms					
						3	470K ohms					
						4	1.0 meg.					

## ASSORTMENT NO. 77

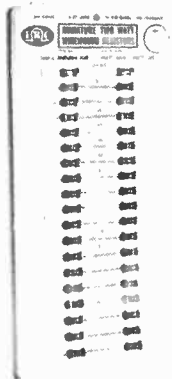
**SERVICE CONVENIENCE FROM IRC**

**38 LOW RANGE RESISTORS**

This BWH resistor assortment is a real time and work saver. Resistors are neatly mounted in a sturdy 6" x 12" molded plastic dispenser. They are removed easily, but do not fall out.

Balanced assortment of miniature wirewounds. Two each of the following values:

.27	.56	1.2	2.7	5.6
.33	.68	1.5	3.3	6.8
.39	.82	1.8	3.9	8.2
.47	1.0	2.2	4.7	



- Quick Identification—resistor value is printed on dispenser
- Instant Use—dispenser can be hung over workbench
- Fits easily in tube caddy or tool case
- Keeps leads straight for easier handling

## RESIST-O-GUIDES

S-008C Resistor Color Code Chart. New color, serrated edge wheels, updated information on IRC types, MIL styles and minimum and maximum values.



## HANDY-PAKS

The neatest, most compact resistor package available, and it's exclusive from IRC. Slimline plastic sleeve keeps leads straight and in place.

- Easier to identify—Type, resistance value and power rating on every Handy-Pak. Resistor color code is easily seen through the plastic.
- Handier to use—Opens at either end. Simply slide package out of plastic sleeve... withdraw the required number of resistors and slide the package into the sleeve.
- Quicker to find—Handy-Paks can be indexed by power rating and resistance. Resistors are always visible for inventory.

**3 TYPES AVAILABLE** — 10% tolerance.

... 1/2 watt contains 6 RC20 carbon composition resistors; 1 watt package contains 4 RC32 resistors and the 2 watt Handy-Pak contains 3 RC42 resistors.



# TUBULAR POWER WIREWOUND RESISTORS

## IRC, Inc.



**RESISTEG COATED POWER RESISTORS** need no derating. They operate at full rated power even at high resistance values. Other features include heat resistant terminals for easy soldering, ceramic cores that withstand shock and are impervious to moisture, heavy windings that handle overloads without burnout, and standard size spring loaded push-in brackets for easy mounting on sizes of 25 watts and over.

IRC Tubular Power Wirewound Resistors are standard tubular construction with lugs and/or leads for use in general applications. They are used in DC and low frequency AC circuits where appreciable power must be dissipated:

- High voltage bleeder resistors in power supplies
- Voltage dropping resistors
- Voltage divider networks
- Bias supply resistor
- RC decoupling resistor
- Filament dropping resistor
- Load resistor
- Shunt resistor

### FIXED RESISTANCE TYPES

**TYPE 1A—5-8 watts.** Resisteg coating. Core Size: 1" long by  $\frac{3}{16}$ " dia. Terminals: 13A. Tolerance:  $\pm 5\%$ . No mounting hardware included. Standard package: 5.

Ohms						
1	20	200	750	2250	8000	
1.5	25	225	800	2500	9000	
2	30	250	900	3000	10K	
3	35	300	1000	3500	12.5K	
4	40	350	1100	4000	15K	
5	50	400	1200	4500	17.5K*	
7.5	75	450	1250	5000	20K*	
10	100	500	1500	6000	22.5K*	
12	125	600	1750	7000	25K*	
15	150	700	2000	7500		

\* No. 1 Terminal

**TYPE 13A—10-12 watts.** Resisteg coating. Core Size:  $1\frac{3}{4}$ " long x  $\frac{3}{16}$ " dia. Terminals: 13A. Tolerance:  $\pm 5\%$ . No mounting hardware included. Standard package: 5.

Ohms						
1	30	350	1250	7000	17.5K	
1.5	35	400	1500	7500	18K	
2	40	450	1750	8000	20K	
3	50	500	2000	8500	22.5K	
4	75	600	2250	9000	25K	
5	100	700	2500	10K	30K	
7.5	125	750	3000	11K	35K	
10	150	800	3500	12K	40K	
12	200	900	4000	12.5K	45K	
15	225	1000	4500	13.5K	50K	
20	250	1100	5000	15K		
25	300	1200	6000	16K		

**TYPE 2C—20 watts.** Resisteg coating. Core size: 2" long x  $\frac{3}{16}$ " dia. Terminals: 13A. Tolerance:  $\pm 5\%$ . No mounting hardware included. Standard package: 5.

Ohms						
1	150	800	2750	10K	55K	
2	200	900	3000	12.5K	60K	
3	250	1000	3500	15K	65K	
4	300	1200	4000	20K	70K	
5	350	1250	4500	25K	75K	
10	400	1500	5000	30K	80K	
25	500	1750	6000	35K	85K*	
50	650	2000	7000	40K	90K*	
75	700	2250	7500	45K	95K*	
100	750	2500	8000	50K	100K*	
			9000			

\* No. 1 Terminal.

**TYPE 2D—25 watts.** Resisteg coating. Core size: 2" long x  $\frac{3}{16}$ " dia. Terminals: 12A. Tolerance:  $\pm 5\%$ . Mounting hardware included: Z-1 brackets. Standard package 1.

Ohms						
1	25	500	3000	12K	50K	
2	50	750	3500	15K	60K	
3	75	800	4000	20K	70K	
4	100	1000	5000	25K	80K	
5	150	1500	6000	30K	100K	
10	200	2000	7500	35K		
15	250	2500	10K	40K		

**TYPE 4D—50 watts.** Resisteg coating. Core size: 4" long x  $\frac{3}{16}$ " dia. Terminals: 12A. Tolerance:  $\pm 5\%$ . Mounting hardware included: Z-1 bracket. Standard package: 1.

Ohms						
1	50	750	4000	20K	150K	
2	75	800	5000	25K	175K	
3	100	1000	7500	35K	200K	
4	150	1500	8000	50K	250K	
5	200	2000	10K	75K		
10	250	2500	12K	100K		
25	500	3000	15K	125K		

**TYPE 6 $\frac{1}{2}$ E—100 watts.** Resisteg coating. Core size:  $6\frac{1}{2}$ " long x  $\frac{3}{4}$ " dia. Terminals: 12A. Tolerance:  $\pm 5\%$ . Mounting hardware included: Z-2 bracket. Standard package: 1.

Ohms						
1	25	250	2500	20K	75K	
2	50	500	3000	25K	100K	
3	75	750	5000	30K		
4	100	1000	7500	40K		
5	125	1500	10K	50K		
10	150	2000	15K	60K		

**TYPE 8 $\frac{1}{2}$ H—160-175 watts.** Resisteg coating. Core size:  $8\frac{1}{2}$ " long x  $1\frac{1}{8}$ " dia. Terminals: 4A. Tolerance:  $\pm 5\%$ . Mounting hardware included: Z-3 brackets. Standard package: 1.

Ohms						
1	25	250	2500	20K	75K	
2	50	500	3000	25K	100K	
3	75	750	5000	30K		
4	* 100	1000	7500	40K		
5	125	1500	10K	50K		
10	150	2000	15K	60K		

**TYPE 10 $\frac{1}{2}$ H—200-225 watts.** Resisteg coating. Core size:  $10\frac{1}{2}$ " long x  $1\frac{1}{8}$ " dia. Terminals: 4A. Tolerance:  $\pm 5\%$ . Mounting hardware included: Z-3 brackets. Standard package: 1.

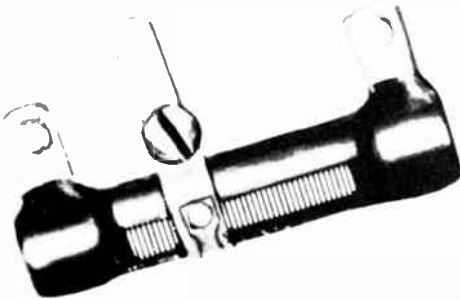
Ohms						
1	25	250	2500	20K	75K	
2	50	500	3000	25K	100K	
3	75	750	5000	30K		
4	100	1000	7500	40K		
5	125	1500	10K	50K		
10	150	2000	15K	60K		



# ADJUSTABLE & MILITARY POWER RESISTORS

IRC, Inc.

## ADJUSTABLE RESISTANCE TYPES



IRC Adjustable Power Wirewound Resistors are standard resistors with a track of exposed wire to allow for the adjustable feature. The track or slot is made by masking a section of the winding before coating, and then removing the mask after the coating has cured. No wire brushing, which could damage the resistance wire, is used.

The IRC adjustable feature provides the ideal solution to odd resistance values and to handling a variety of line voltages. One or more adjustable lugs may be used for voltage divided applications.

**TYPE 1 3/4AA**—10-12 watts. Core size: 1 3/4" long x 3/8" dia. Terminals: 12A. One adjustable band; type A. Tolerance: ±10%. Standard package: 1. Mounting hardware included: Z-0 brackets.

Ohms					
1	20	250	800	3000	7500
2	25	300	1000	3500	8000
3	50	350	1250	4000	8500
5	75	400	1500	4500	9000
7.5	100	500	2000	5000	10K
10	150	600	2250	6000	
15	200	750	2500	7000	

**TYPE 2DA**—25 watts. Core size: 2" long x 3/8" dia. Terminals: 12A. One adjustable band; type X-2. Tolerance: ±10%. Mounting hardware included: Z-1 bracket. Standard package: 1.

Ohms					
1	20	250	1250	4000	9000
2	25	300	1500	4500	10K
3	50	400	2000	5000	12K
5	75	500	2250	6000	15K
7.5	100	750	2500	7000	20K
10	150	800	3000	7500	25K
15	200	1000	3500	8000	

**TYPE 4DA**—50 watts. Core size: 4" long x 3/8" dia. Terminals: 12A. One adjustable band. Tolerance: ±10%. Mounting hardware included: Z-2 brackets. Standard package: 1.

Ohms					
1	75	750	3000	7500	25K
2	100	800	3500	8000	30K
3	150	1000	4000	9000	40K
4	200	1250	4500	10K	50K
5	250	1500	5000	12K	60K
10	300	2000	6000	15K	80K
25	400	2250	7000	20K	100K
50	500	2500			

**TYPE 5EA**—75 watts. Core size: 5" long x 3/4" dia. Terminals: 12A. One adjustable band. Tolerance: ±10%. Mounting hardware included: Z-2 brackets. Standard package: 1.

Ohms					
1	5	100	1500	15K	40K
2	10	250	2500	20K	50K
3	25	500	5000	25K	75K
4	50	1000	10K	30K	100K

**TYPE 6 1/2EA**—100 watts. Core size 6 1/2" long x 3/4" dia. Terminals: 12A. One adjustable band. Tolerance: ±10%. Mounting hardware included: Z-2 brackets. Standard package: 1.

Ohms					
1	5	100	1500	15K	40K
2	10	250	2500	20K	50K
3	25	500	5000	25K	75K
4	50	1000	10K	30K	100K

**TYPE 8 1/2HA**—160-175 watts. Core size: 8 1/2" long x 1 1/8" dia. Terminals: 4A. One adjustable band. Tolerance: ±10%. Mounting hardware included: Z-3 brackets. Standard package: 1.

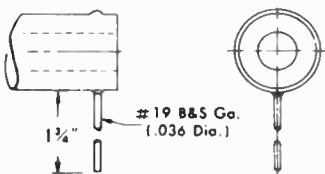
Ohms					
1	5	100	1500	15K	40K
2	10	250	2500	20K	50K
3	25	500	5000	25K	75K
4	50	1000	10K	30K	100K

**TYPE 10 1/2HA**—200-225 watts. Core size: 10 1/2" long x 1 1/8" dia. Terminals: 4A. One adjustable band. Tolerance: ±10%. Mounting hardware included: Z-3 brackets. Standard package: 1.

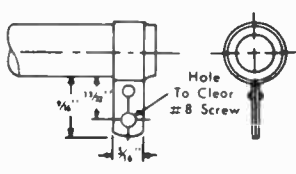
Ohms					
1	5	100	1500	15K	40K
2	10	250	2500	20K	50K
3	25	500	5000	25K	75K
4	50	1000	10K	30K	100K

## TERMINAL AND BRACKET TYPES

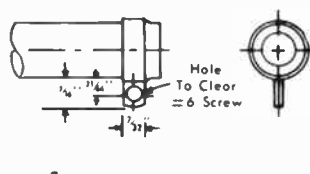
Type 1



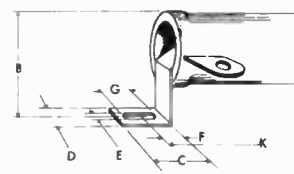
Type 4A



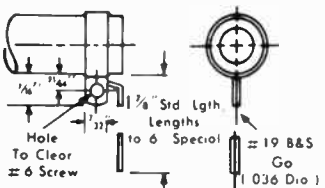
Type 12A



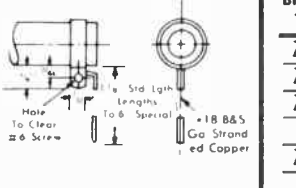
Z BRACKET STANDARD



Type 13A



Type 14A



Bracket Type	Use with Resistor O.D. Type	DIMENSIONS								
		A	B	C	D	E	F	G	K	
Z-0	3/16 A	—	1 1/32	1/2	3/8	.173	1 1/64	.266	Core Lgth. + 1 1/32	
Z-1	1/16 D	—	1 1/4	3/16	3/8	.173	5/16	1 1/64	" " + 5/8	
Z-2	3/4 E	—	1 1/16	5/8	3/8	.173	1 1/32	2 3/64	" " + 1 1/16	
Z-3	1 1/8 H	—	2 1/16	1 1/16	1/2	3/16	1 1/32	1/4	" " + 1 1/16	
Z-4	7/16 C	—	3/8	2 3/64	7/32	3/64	1/4	3/64	" " + 1/2	

# POWER & FUSE RESISTORS

IRC, Inc.

## FUSE RESISTORS

These special resistors function as a resistor under normal conditions, and as a fuse under overload conditions.



Attractive new SNAP PAK style package. Back of card contains complete replacement information.

**Exact Duplicate Original Equipment Part** as used in Auto Radios. .33Ω and .68Ω in insulated fiberglass sleeve. .47Ω in rectangular ceramic case. Precisely wound element and superior lead solderability.

- FR.33 — .33 ohm
- FR.47 — .47 ohm
- FR.68 — .68 ohm

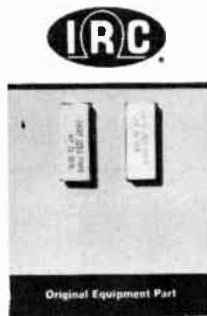


- FR5.0\* — 5 ohms
- FR5.6 — 5.6 ohms
- FR7.5 — 7.5 ohms

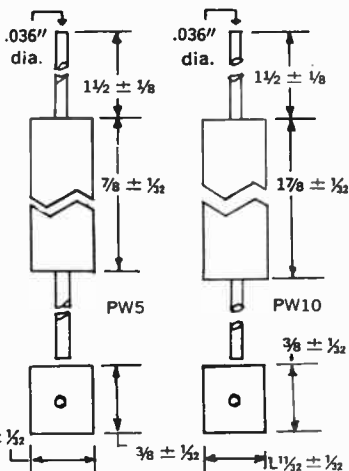
\* Suitable for 4.75 amp fuse for resistor applications.

Fuse resistors are used extensively as a surge-limiting resistor in voltage doubler circuits of TV receivers. Installation of an IRC Type FR fuse resistor in a TV set will prevent over-loading of more valuable components and possible fire due to a short circuit. The compact, modern design of the IRC fuse resistor measures only 1<sup>25</sup>/<sub>64</sub>" x 1<sup>1</sup>/<sub>32</sub>" x 3/<sub>8</sub>". This unit is completely insulated in a rectangular ceramic case, and equipped with plug-in terminals.

TYPE PW5  
47 Ω 10%  
POWER RESISTOR  
5 WATT



Attractive new SNAP PAK style package



## AXIAL LEAD POWER WIRE WOUND RESISTORS TYPES PW5 PW10 STANDARD STOCK VALUES

PW5				PW10			
Ohms:				Ohms:			
.15	7.5	300	2000	1	120	1000	6000
.22	10	350	2250	2	125	1200	7000
.27	15	400	2500	3	150	1250	7500
.33	20	500	3000	4	200	1500	8000
.47	25	600	3300	5	250	1750	8200
.51	30	700	3500	7.5	300	2000	8500
.56	40	750	3900	10	350	2250	9000
.68	50	800	4000	15	400	2500	10,000
.82	75	820	4500	20	500	3000	12,000
1	100	900	5000	25	600	3300	12,500
2	120	1000	6000	30	700	3500	15,000
3	125	1200		40	750	3900	20,000
4	150	1250		50	800	4000	25,000
5	200	1500		75	820	4500	
5.6	250	1750		100	900	5000	

These popular axial lead power resistors are the industry favorites for 5 and 10 watt applications. The compact shape fits among other components more easily. The axial lead design speeds installation. And, the superior solderability of the terminals assures sound connections every time.

A precisely wound element is sealed in a ceramic case fully protected and insulated. Conservative rating permits continuous operation at full power. Resistance, wattage and tolerance are permanently marked on resistor body. Standard tolerance is 10%.

## MULTI-RANGE POWER RESISTORS

Up to 47 values from a single resistor. 5 multi-range resistors give complete 10 watt coverage . . . 200 values from 1/2 to 50,000 ohms. No delays for a particular value, and you don't tie up inventory with odd values. Ideal for in-home servicing and weekend shop work.

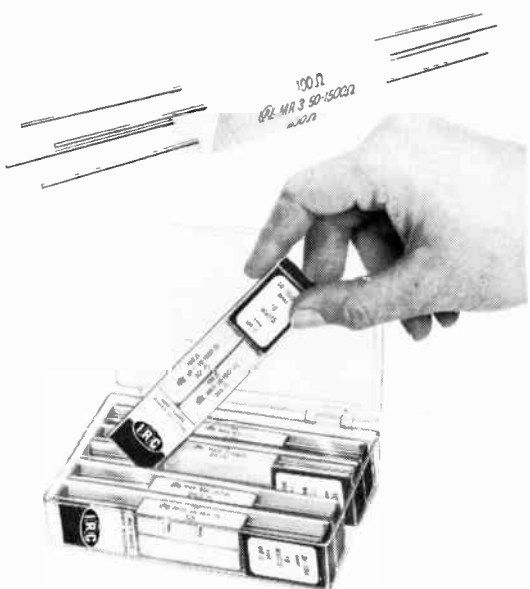
Four-wire wound elements are sealed in a steatite housing. It's simple to solder a basic interconnection for the required value, and cut off unused terminals. Connection diagrams included.

### 5 TYPES COVER 200 VALUES

- TYPE MR1. 0.5 through 15 ohms. 1, 2, 4, 8 ohm elements. 10 watts. 47 values.
- TYPE MR2. 5 through 150 ohms. 10, 20, 40, 80 ohm elements. 10 watts. 47 values.
- TYPE MR3. 50 through 1,500 ohms. 100, 200, 400, 800 ohm elements. 10 watts. 47 values.
- TYPE MR4. 500 through 15K ohms. 1K, 2K, 4K, 8K ohm elements. 10 watts. 47 values.
- TYPE MR5. 3K through 50K ohms. 10K, 10K, 15K, 15K ohm elements. 10 watts. 12 values.

### MULTI-RANGE KIT #55

Complete 10 watt power resistor coverage that fits in the palm of your hand. Rigid clear plastic case holds 5 Handy-Paks, 2 of each type MR resistor. With these 10 versatile resistors you have finger-tip coverage of 200 values from 1/2 to 50,000 ohms. Fits easily in tool case or tube caddy.



# PRECISION WIREWOUND RESISTORS

IRC, Inc.



## WIREWOUND PRECISION RESISTORS.

For accuracy in critical applications, IRC Precision Wire Wound resistors are produced to exacting standards of reliability. IRC's winding technique prevents shorted turns or strains in the winding, and special insulation gives excellent protection from humidity. Positive electrical connections and easy soldering.

RADIAL LUG TYPES						
IRC TYPE NO	WW2J	WW3J	WW4J	WW5J	WW8J*	WW11J*
MIL-R-93A Style	RB19	RB16	RB17	RB18	RB15	RB16
Rating in Watts 65°C. Ambient	2	.50	1	1	.50	.50
Maximum Volts	2000	400	700	1000	250	500
No. of Sections	8	2	4	4	1	2
Maximum Resistance .0015 Diameter Wire	4.0 Meg.	0.3 Meg.	0.75 Meg.	1.7 Meg.	0.29 Meg.	0.4 Meg.
Maximum Resistance .0009 Diameter Wire	20.0 Meg.	1.6 Meg.	4.0 Meg.	7.5 Meg.	1.5 Meg.	2.0 Meg.
Minimum Resistance (ohms)						
±0.05% Tolerance	25	25	25	25	25	25
±0.1% Tolerance	10	10	10	10	10	10
±0.25% Tolerance	5	5	5	5	5	5
±0.50% Tolerance	1	1	1	1	1	1
±1.0% Tolerance	0.1	0.1	0.1	0.1	0.5	0.1

RADIAL LEAD TYPES										
IRC TYPE NO.	WW3J*	WW4J*	WW8J*	WW10J	WW11J*	WW20J*	WW21J*	WW22J* (Center Tapped)	WW23J*	WW24J* (Center Tapped)
Rating in Watts 65°C. Ambient	.50	1	.50	.25	.50	.25	.25	.25†	.50	.50†
Maximum Volts	400	700	250	150	500	150	300	150†	300	400†
No. of Sections	2	4	1	1	2	1	2	2	2	4
Maximum Resistance .0015 Diameter Wire	0.3 Meg.	0.75 Meg.	0.29 Meg.	40K	0.4 Meg.	35K	70K	35K†	225K	350K†
Maximum Resistance .0009 Diameter Wire	1.6 Meg.	4.0 Meg.	1.5 Meg.	0.215 Meg.	2.0 Meg.	150K	500K	250K	1.5 Meg.	1.5 Meg.†
Minimum Resistance (ohms)										
±0.05% Tolerance	25	25	25	200	25	250	200	200†	25	25 †
±0.10% Tolerance	10	10	10	150	10	200	150	150†	10	10 †
±0.25% Tolerance	5	5	5	75	5	100	75	75†	5	5 †
±0.5% Tolerance	1	1	1	50	1	75	50	50†	1	1 †
±1.0% Tolerance	0.1	0.1	0.5	10	0.1	10	10	10†	0.5	0.1†

† signifies per tap section

\* Special manufacturing applies

## STANDARD STOCK TYPES AND VALUES

**TYPE WW2J with lugs—1% Tolerance**

600K Ohms	1.0 Megohm
750K Ohms	1.5 Megohms
900K Ohms	2.0 Megohms
	2.5 Megohms

**TYPE WW3J with lugs—1% Tolerance**

0.1 Ohm	1,500 Ohms	30K Ohms
0.2 Ohm	2,000 Ohms	35K Ohms
0.5 Ohm	2,500 Ohms	40K Ohms
1.0 Ohm	3,000 Ohms	50K Ohms
5 Ohms	3,500 Ohms	60K Ohms
10 Ohms	4,000 Ohms	75K Ohms
25 Ohms	5,000 Ohms	100K Ohms
50 Ohms	7,500 Ohms	125K Ohms
100 Ohms	10K Ohms	150K Ohms
200 Ohms	12.5K Ohms	175K Ohms
250 Ohms	15K Ohms	200K Ohms
300 Ohms	20K Ohms	225K Ohms
500 Ohms	22.5K Ohms	
1,000 Ohms	25K Ohms	

**TYPE WW4J with lugs—1% Tolerance**

0.1 Ohm	2,000 Ohms	40K Ohms
0.2 Ohm	2,500 Ohms	50K Ohms
0.5 Ohm	3,000 Ohms	60K Ohms
1.0 Ohm	3,500 Ohms	75K Ohms
5 Ohms	4,000 Ohms	100K Ohms
10 Ohms	5,000 Ohms	125K Ohms
25 Ohms	7,500 Ohms	150K Ohms
50 Ohms	10K Ohms	175K Ohms
100 Ohms	12.5K Ohms	200K Ohms
200 Ohms	15K Ohms	225K Ohms
250 Ohms	20K Ohms	250K Ohms
300 Ohms	22.5K Ohms	300K Ohms
500 Ohms	25K Ohms	400K Ohms
1,000 Ohms	30K Ohms	500K Ohms
1,500 Ohms	35K Ohms	

**TYPE WW5J with lugs—1% Tolerance**

600K Ohms	900K Ohms
750K Ohms	1.0 Megohm

**TYPE WW10J with leads—1% Tolerance**

10 Ohms	2,000 Ohms	20K Ohms
25 Ohms	2,500 Ohms	25K Ohms
50 Ohms	3,000 Ohms	30K Ohms
100 Ohms	3,500 Ohms	40K Ohms
200 Ohms	4,000 Ohms	50K Ohms
250 Ohms	5,000 Ohms	60K Ohms
300 Ohms	7,500 Ohms	75K Ohms
500 Ohms	10K Ohms	100K Ohms
1,000 Ohms	12.5K Ohms	
1,500 Ohms	15K Ohms	

**Special Resistance Tolerances**

Standard tolerances ±1%. Other tolerances, subject to minimum values shown on specification charts, are available on special order for all WWJ types, as follows:

0.5%	0.25%	0.2%	0.1%	0.05%
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# PRECISION DEPOSITED CARBON & HIGH VOLTAGE RESISTORS

**IRC, Inc.**

**DEPOSITED CARBON PRECISIONS** are available in 1/2, 1 and 2 watt sizes. The wide range of values, 1% tolerance, economy, low voltage coefficient, excellent frequency characteristics, predictable temperature, high voltage rating, low noise level, and small size make IRC deposited carbon resistors ideal for application in advanced electronic equipment and critical TV circuits.



**MOLDED DEPOSITED CARBON RESISTORS** are designed for high reliability, stable performance, low voltage coefficient, low capacitive and inductive impedance in high frequency applications. In miniature 1/8, 1/4, and 1/2 watt sizes, plus 1 and 2 watt types.



Standard tolerance is 1%. (2% tolerance on high range units.) The housing gives complete protection, and offers better heat dissipating qualities. This results in improved load life and maximum moisture protection.

### MIL VALUES—TYPES DCC, DCF, DCH and MDC

One decade of standard values is as follows:

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
10.0	12.1	14.7	17.8	21.5	26.1	31.6	38.3	46.4	56.2	68.1	82.5
10.2	12.4	15.0	18.2	22.1	26.7	32.4	39.2	47.5	57.6	69.8	84.5
10.5	12.7	15.4	18.7	22.6	27.4	33.2	40.2	48.7	59.0	71.5	86.6
10.7	13.0	15.8	19.1	23.2	28.0	34.0	41.2	49.9	60.4	73.2	88.7
11.0	13.3	16.2	19.6	23.7	28.7	34.8	42.2	51.1	61.9	75.0	90.9
11.3	13.7	16.5	20.0	24.3	29.4	35.7	43.2	52.3	63.4	76.8	93.1
11.5	14.0	16.9	20.5	24.9	30.1	36.5	44.2	53.6	64.9	78.7	95.3
11.8	14.3	17.4	21.0	25.5	30.9	37.4	45.3	54.9	66.5	80.6	97.6

Higher standard values may be determined by multiplying by 10, 100, 1000, etc., up to maximum stated for type.

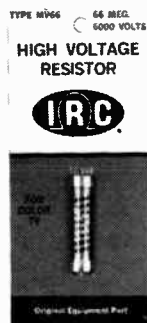
### SELECTION GUIDE

IRC Type	MIL		Power Watts		Resistance		Tolerance	Body Size	Temperature Coefficient PPM/°C	Lead Dia.
	Type	Char.			Min. Ohms	Max. Ohms				
	<b>MIL-R-10509</b>		<b>@ 70°C</b>	<b>@ 125°C</b>			} 0.5% } 1.0% } 2.0%			
MDA	RN60	B, D	1/8, 1/4	1/8	10	5 meg.		—500	.406x.130	.025
MDB	RN65	B, D	1/4, 1/2	1/4	10	5 meg.		—500	.594x.203	.025
MDC	RN70	B, D	1/2, 1	1/2	10	25 meg.		—500	.719x.216	.032
MDF	RN70	B	1		10	50 meg.		—500	1.105x.395	.032
MDH	RN80	B	2		15	100 meg.		—500	2.234x.395	.032
DCC	RN20	X	<b>@ 40°C</b>	<b>@ 70°C</b>	10	25 meg.	—500	.594x.156	.032	
DCF	RN25	X	1	1/2	10	50 meg.	—500	.938x.297	.032	
DCH	RN30	X	2		15	100 meg.	—500	2.062x.297	.032	

### HIGH VOLTAGE RESISTORS FOR COLOR TV

### SPECIFICATIONS

Type MV47 — 6000 Volts, 47 Meg. ± 20%  
Type MV66 — 6000 Volts, 66 Meg. ± 20%



**EXACT DUPLICATE ORIGINAL EQUIPMENT PART** is available in two ranges for complete coverage, 47 and 66 megohms.

Film type axial lead resistors. Resistive coating applied in helical path on ceramic tube, providing long, effective resistance length with exceptional stability. Precise mechanical spacing of helical turns gives a uniform pitch, and allows uniform voltage gradient throughout the length of the resistor. All resistors are pre-cured and the resistance coating is stabilized at high temperature to eliminate appreciable aging. Temperature coefficient of approximately  $-1\%/^{\circ}\text{C}$  over temperature range of  $-55^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$ .

### HIGH VOLTAGE RESISTOR ASSORTMENTS

**ASSORTMENT #100** — 25 MV47 resistors, packaged one to a display card, 5 cards to a strip. Contains 5 strips.

**ASSORTMENT #101** — 25 MV66 resistors, packaged one to a display card, 5 cards to a strip. Contains 5 strips.

Attractive new SNAP PAK style package. Back of card contains complete replacement information.

# MALLORY Power Resistors

## TYPE HJ (FIXED) AND AV (ADJUSTABLE)

Vitreous enamel-coated, wire-wound resistors. Furnished with complete hardware except HHJ, 1HJ and 2HJ which have wire leads.



**To Order:** Use type number followed by resistance value (e.g., 1HJ4000).  
**Tolerance:** ±5% except (\*), ±10%.

### 200-WATT TYPE 20HJ (FIXED)

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
25	\$2.21	750	\$2.21	5000	\$2.28	50,000	\$2.77
50	2.21	1000	2.21	7500	2.44	75,000	2.93
75	2.21	1500	2.28	10,000	2.44	100,000	3.11
100	2.21	2000	2.28	20,000	2.60		
250	2.21	2500	2.28	30,000	2.68		
500	2.21	3000	2.28	40,000	2.68		

### FIXED VITREOUS TYPES

#### 8-WATT TYPE HHJ

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
1*	\$0.46	50	\$0.46	750	\$0.50	4500	\$0.50
1.5*	.46	75	.46	800	.50	5000	.50
2*	.46	100	.46	900	.50	6000	.53
3*	.46	125	.46	1000	.50	7000	.53
4*	.46	150	.46	1100	.50	7500	.53
5*	.46	200	.46	1200	.50	8000	.53
7.5*	.46	225	.46	1250	.50	9000	.53
10*	.46	250	.46	1500	.50	10,000	.53
12	.46	300	.46	1750	.50	12,500	.57
15	.46	350	.50	2000	.50	15,000	.57
20	.46	400	.50	2250	.50	20,000	.61
25	.46	450	.50	2500	.50	25,000	.63
30	.46	500	.50	3000	.50		
35	.46	600	.50	3500	.50		
40	.46	700	.50	4000	.50		

### ADJUSTABLE VITREOUS TYPES

#### 10-WATT TYPE 1AV

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
1	\$1.00	75	\$1.00	750	\$1.00	4000	\$1.06
2	1.00	100	1.00	800	1.00	4500	1.06
3	1.00	150	1.00	1000	1.00	5000	1.06
5	1.00	200	1.00	1250	1.06	6000	1.14
7.5	1.00	250	1.00	1500	1.06	7000	1.14
10	1.00	300	1.00	2000	1.06	7500	1.14
15	1.00	350	1.00	2250	1.06	8000	1.14
20	1.00	400	1.00	2500	1.06	8500	1.14
25	1.00	500	1.00	3000	1.06	9000	1.14
50	1.00	600	1.00	3500	1.06	10,000	1.14

#### 12-WATT TYPE 1HJ

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
1*	\$0.51	150	\$0.51	1500	\$0.53	11,000	\$0.71
2*	.51	200	.51	1750	.53	12,000	.71
3*	.51	225	.51	2000	.53	12,500	.71
4*	.51	250	.51	2250	.53	13,500	.71
5*	.51	300	.51	2500	.53	14,300	.71
7.5*	.51	350	.51	3000	.53	15,000	.71
10*	.51	400	.51	3500	.53	16,000	.71
12	.51	450	.51	4000	.53	17,500	.71
15	.51	500	.51	4500	.53	18,000	.71
20	.51	600	.51	5000	.53	20,000	.71
25	.51	700	.51	6000	.63	22,500	.75
30	.51	750	.51	7000	.63	25,000	.75
35	.51	800	.51	7500	.63	30,000	.75
40	.51	900	.51	8000	.63	35,000	.75
50	.51	1000	.51	8200	.63	40,000	.75
75	.51	1100	.53	8500	.63	45,000	.83
100	.51	1200	.53	9000	.63	50,000	.83
125	.51	1250	.53	10,000	.63		

#### 25-WATT TYPE 2AV

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
1	\$1.57	100	\$1.16	1000	\$1.16	5000	\$1.19
3	1.57	150	1.16	1250	1.19	6000	1.28
5	1.16	200	1.16	1500	1.19	7500	1.28
10	1.16	250	1.16	2000	1.19	10,000	1.28
15	1.16	300	1.16	2500	1.19	12,000	1.32
25	1.16	400	1.16	3000	1.19	15,000	1.32
50	1.16	500	1.16	3500	1.19	20,000	1.32
75	1.16	750	1.16	4000	1.19	25,000	1.45

#### 20-WATT TYPE 2HJ

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
5	\$0.61	300	\$0.61	2500	\$0.63	12,500	\$0.77
10	.61	400	.61	2750	.75	15,000	.77
15	.61	500	.61	3000	.75	20,000	.77
25	.61	750	.61	3500	.75	25,000	.77
50	.61	1000	.61	4000	.75	30,000	.77
75	.61	1250	.61	4500	.75	35,000	.90
100	.61	1500	.61	5000	.75	40,000	.90
150	.61	1750	.63	6000	.75	50,000	.90
200	.61	2000	.63	7500	.75	75,000	1.31
250	.61	2250	.63	10,000	.75	100,000	1.34

#### 50-WATT TYPE 5AV

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
1	\$1.51	150	\$1.51	2000	\$1.54	20,000	\$1.72
2	1.51	200	1.51	2500	1.54	25,000	1.90
5	1.51	250	1.51	3000	1.54	30,000	1.90
10	1.51	400	1.51	4000	1.54	40,000	1.90
25	1.51	500	1.51	5000	1.54	50,000	1.99
50	1.51	750	1.51	7500	1.62		
75	1.51	1000	1.51	10,000	1.62		
100	1.51	1500	1.54	15,000	1.72		

#### 25-WATT TYPE 2.5HJ

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
1	\$0.65	75	\$0.65	2000	\$0.68	12,500	\$0.81
2	.65	100	.65	2500	.68	15,000	.81
3	.65	150	.65	3000	.78	20,000	.81
5	.65	200	.65	3500	.78	25,000	.81
7.5	.65	250	.65	4000	.78	30,000	.94
10	.65	500	.65	5000	.78	40,000	.94
15	.65	750	.65	6000	.78	50,000	1.09
25	.65	1000	.65	7500	.78	75,000	1.28
50	.65	1500	.65	10,000	.78	100,000	1.47

#### 75-WATT TYPE 7.5AV

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
5	\$1.69	200	\$1.69	2000	\$1.74	15,000	\$1.92
10	1.69	250	1.69	2500	1.74	20,000	1.92
25	1.69	400	1.69	3000	1.74	25,000	2.09
50	1.69	500	1.69	4000	1.74	30,000	2.09
75	1.69	750	1.69	5000	1.74	40,000	2.09
100	1.69	1000	1.69	7500	1.81	50,000	2.27
150	1.69	1500	1.74	10,000	1.81		

#### 50-WATT TYPE 5HJ

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
10	\$0.99	750	\$0.99	7500	\$1.11	30,000	\$1.39
25	.99	1000	.99	10,000	1.11	40,000	1.39
50	.99	1500	1.02	12,500	1.21	50,000	1.55
100	.99	2000	1.02	15,000	1.21	75,000	1.77
250	.99	2500	1.02	20,000	1.21	100,000	1.92
500	.99	5000	1.02	25,000	1.39		

#### 100-WATT TYPE 10AV

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
1	\$1.95	200	\$1.95	2000	\$2.01	20,000	\$2.26
2	1.95	250	1.95	2500	2.01	25,000	2.49
5	1.95	300	1.95	3000	2.01	30,000	2.49
10	1.95	400	1.95	4000	2.01	35,000	2.49
25	1.95	500	1.95	5000	2.01	40,000	2.49
50	1.95	750	1.95	7500	2.13	50,000	2.57
100	1.95	1000	1.95	10,000	2.13	75,000	2.81
150	1.95	1500	2.01	15,000	2.26	100,000	3.01

#### 75-WATT TYPE 7.5HJ

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
10	\$1.17	750	\$1.17	7500	\$1.30	30,000	\$1.57
25	1.17	1000	1.17	10,000	1.30	40,000	1.57
50	1.17	1500	1.22	12,500	1.40	50,000	1.75
100	1.17	2000	1.22	15,000	1.40	75,000	1.99
250	1.17	2500	1.22	20,000	1.40	100,000	2.12
500	1.17	5000	1.22	25,000	1.57		

#### 160-WATT TYPE 16AV

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
1	\$2.85	200	\$2.85	2500	\$2.88	25,000	\$3.31
2	2.85	250	2.85	3000	2.88	30,000	3.31
5	2.85	300	2.85	4000	2.88	35,000	3.31
10	2.85	400	2.85	5000	2.88	40,000	3.31
25	2.85	500	2.85	7500	3.07	50,000	3.40
50	2.85	750	2.85	10,000	3.07	75,000	3.56
100	2.85	1000	2.85	15,000	3.24	100,000	3.72
150	2.85						

# MALLORY Power Resistors

## TYPE AE WIRE-WOUND RESISTORS AXIAL LEAD VITREOUS ENAMEL COATED

Mallory type AE wire-wound resistors have axial leads and a tough green vitreous enamel coating. Available in three power ratings: 3, 5 and 10 watts. The equivalent MIL-R-26 styles are: RW59 (3AE), RW57 (5AE) and RW58 (10AE).  
**To order:** Use type number followed by resistance value (e.g., 3AE4000). **Tolerance:** = 5% except (\*), = 10%.


Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
1*	\$0.45	35	\$0.45	500	\$0.49	2500	\$0.49
1.5*	.45	40	.45	600	.49	3000	.49
2*	.45	50	.45	700	.49	3500	.49
3*	.45	75	.45	750	.49	4000	.49
4*	.45	100	.45	800	.49	4500	.49
5*	.45	125	.45	900	.49	5000	.49
6*	.45	150	.45	1000	.49	6000	.52
7.5*	.45	200	.45	1100	.49	7000	.52
10*	.45	225	.45	1200	.49	7500	.52
12	.45	250	.45	1250	.49	8000	.52
15	.45	300	.45	1500	.49	9000	.52
20	.45	350	.49	1750	.49	10,000	.52
25	.45	400	.49	2000	.49		
30	.45	450	.49	2250	.49		

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
1*	\$0.46	50	\$0.46	750	\$0.50	4500	\$0.50
1.5*	.46	75	.46	800	.50	5000	.50
2*	.46	100	.46	900	.50	6000	.53
3*	.46	125	.46	1000	.50	7000	.53
4*	.46	150	.46	1100	.50	7500	.53
5*	.46	200	.46	1200	.50	8000	.53
7.5*	.46	225	.46	1250	.50	9000	.53
10*	.46	250	.46	1500	.50	10,000	.53
12	.46	300	.46	1750	.50	12,500	.57
15	.46	350	.50	2000	.50	15,000	.57
20	.46	400	.50	2250	.50	17,500	.61
25	.46	450	.50	2500	.50	18,000	.61
30	.46	500	.50	3000	.50	20,000	.61
35	.46	600	.50	3500	.50	22,500	.63
40	.46	700	.50	4000	.50	25,000	.63

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
1*	\$0.51	125	\$0.51	1250	\$0.53	11,000	\$0.71
1.5*	.51	150	.51	1500	.53	12,000	.71
2*	.51	200	.51	1750	.53	12,500	.71
3*	.51	225	.51	2000	.53	13,500	.71
4*	.51	250	.51	2250	.53	15,000	.71
5*	.51	300	.51	2500	.53	16,000	.71
7.5*	.51	350	.51	3000	.53	17,500	.71
10*	.51	400	.51	3500	.53	18,000	.71
12	.51	450	.51	4000	.53	20,000	.71
15	.51	500	.51	4500	.53	22,500	.75
20	.51	600	.51	5000	.53	25,000	.75
25	.51	700	.51	6000	.63	30,000	.75
30	.51	750	.51	7000	.63	35,000	.75
35	.51	800	.51	7500	.63	40,000	.75
40	.51	900	.51	8000	.63	45,000	.83
50	.51	1000	.51	8500	.63	50,000	.83
75	.51	1100	.53	9000	.63		
100	.51	1200	.53	10,000	.63		

\*Tolerance, = 10%; all others, = 5%.

### TYPE AE RESISTOR SIZES



Type	Diameter	Length
3AE	1/4"	1 1/4"
5AE	11/32"	1"
10AE	1/2"	1 1/2"

## TYPE MOL METAL OXIDE FILM RESISTORS

Mallory MOL resistors have a thin layer of metal oxide evaporated onto a high quality ceramic rod. A precision ground spiral provides exactly the correct resistance. The MOL is essentially non-inductive with superb stability characteristics. May be used in place of either composition carbon, deposited carbon or wire-wound types. Full wattage at 70° C ambient.  
**To order:** Use type number followed by resistance value (e.g., 2MOL1000). **Tolerance:** = 10%.

### 2-WATT TYPE 2MOL

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
33	\$0.20	220	\$0.20	1500	\$0.20	10,000	\$0.20
39	.20	270	.20	1800	.20	12,000	.20
47	.20	330	.20	2200	.20	15,000	.20
56	.20	390	.20	2700	.20	18,000	.20
68	.20	470	.20	3300	.20	22,000	.20
82	.20	560	.20	3900	.20	27,000	.20
100	.20	680	.20	4700	.20	33,000	.20
120	.20	820	.20	5600	.20	39,000	.20
150	.20	1000	.20	6800	.20	47,000	.20
180	.20	1200	.20	8200	.20	56,000	.20

### 3-WATT TYPE 3MOL

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
39	\$0.20	270	\$0.20	1800	\$0.20	12,000	\$0.25
47	.20	330	.20	2200	.20	15,000	.25
56	.20	390	.20	2700	.20	18,000	.25
68	.20	470	.20	3300	.20	22,000	.25
82	.20	560	.20	3900	.20	27,000	.28
100	.20	680	.20	4700	.22	33,000	.28
120	.20	820	.20	5600	.22	39,000	.28
150	.20	1000	.20	6800	.22	47,000	.28
180	.20	1200	.20	8200	.24	56,000	.28
220	.20	1500	.20	10,000	.24		

### 4-WATT TYPE 4MOL

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
82	\$0.20	560	\$0.20	3900	\$0.21	27,000	\$0.32
100	.20	680	.20	4700	.22	33,000	.32
120	.20	820	.20	5600	.22	39,000	.32
150	.20	1000	.20	6800	.22	47,000	.32
180	.20	1200	.20	8200	.25	56,000	.32
220	.20	1500	.20	10,000	.25	68,000	.32
270	.20	1800	.20	12,000	.29	82,000	.32
330	.20	2200	.21	15,000	.29	100,000	.32
390	.20	2700	.21	18,000	.29	120,000	.32
470	.20	3300	.21	22,000	.29		

### 5-WATT TYPE 5MOL

Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
100	\$0.20	680	\$0.20	4700	\$0.23	33,000	\$0.32
120	.20	820	.20	5600	.23	39,000	.32
150	.20	1000	.20	6800	.23	47,000	.32
180	.20	1200	.20	8200	.26	56,000	.32
220	.20	1500	.20	10,000	.26	68,000	.32
270	.20	1800	.20	12,000	.30	82,000	.32
330	.20	2200	.22	15,000	.30	100,000	.32
390	.20	2700	.22	18,000	.30	120,000	.32
470	.20	3300	.22	22,000	.30		
560	.20	3900	.22	27,000	.32		

### 7-WATT TYPE 7MOL

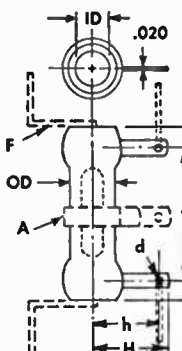
Ohms	Net Each	Ohms	Net Each	Ohms	Net Each	Ohms	Net Each
120	\$0.22	820	\$0.22	5600	\$0.26	39,000	\$0.36
150	.22	1000	.22	6800	.26	47,000	.36
180	.22	1200	.22	8200	.30	56,000	.36
220	.22	1500	.22	10,000	.30	68,000	.36
270	.22	1800	.22	12,000	.33	82,000	.36
330	.22	2200	.22	15,000	.33	100,000	.36
390	.22	2700	.22	18,000	.33	120,000	.36
470	.22	3300	.22	22,000	.33		
560	.22	3900	.22	27,000	.36		
680	.22	4700	.26	33,000	.36		

### TYPE MOL RESISTOR SIZES



Type	Diam.	Lgth.	Lead
2MOL	1/4"	1 1/8"	#17
3MOL	1/4"	1 1/8"	#20
4MOL	1/4"	1 1/8"	#20
5MOL	1/4"	1 1/8"	#20
7MOL	1/4"	2 1/8"	#20

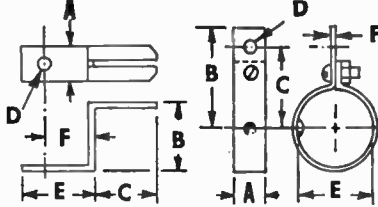
### HJ AND AV RESISTOR DIMENSIONS



Mallory Type	Watts	Dimensions, Inches							Hardware	
		O.D.	I.D.	L	T	H	h	d	F	A
HHJ	5	1/16	13/64	1	15/64	1 1/2	1/4	†	30V†	...
1HJ	10	1/16	13/64	1 1/4	1 1/8	1 3/4	1/4	†	30V†	...
1AV*	10	1/16	13/64	1 1/4	1 1/8	1 3/4	1/4	.144	30V	1V
2HJ	20	1/16	13/64	2	1 1/8	2 1/4	1/4	†	31V†	...
2AV*	20	1/16	13/64	2	1 1/8	2 1/4	1/4	.144	31V	3V
2.5HJ	25	1/16	13/64	2	1 1/8	2 1/4	1/4	.144	31V	...
5HJ	50	1/16	13/64	4	3 1/8	4 1/4	1/4	.144	31V	...
5AV*	50	1/16	13/64	4	3 1/8	4 1/4	1/4	.144	31V	3V
7.5HJ	75	1/16	13/64	6	5 1/8	6 1/4	1/4	.144	31V	...
7.5AV*	75	1/16	13/64	6	5 1/8	6 1/4	1/4	.144	31V	3V
10HJ	100	3/16	1/2	6 1/2	6	7 1/4	1/4	.144	33V	...
10AV*	100	3/16	1/2	6 1/2	6	7 1/4	1/4	.144	33V	4V
16HJ	160	1 1/8	1 1/4	8 1/2	8	10 1/4	1	.144	35V	...
16AV*	160	1 1/8	1 1/4	8 1/2	8	10 1/4	1	.144	35V	6V
20HJ	200	1 1/8	1 1/4	10 1/2	10	12 1/4	1	.144	32V	...
20AV*	200	1 1/8	1 1/4	10 1/2	10	12 1/4	1	.144	32V	6V

\*Adjustable types; all others fixed. †Has wire leads 2 1/2" long x .040" dia. ‡Mounting feet not furnished.

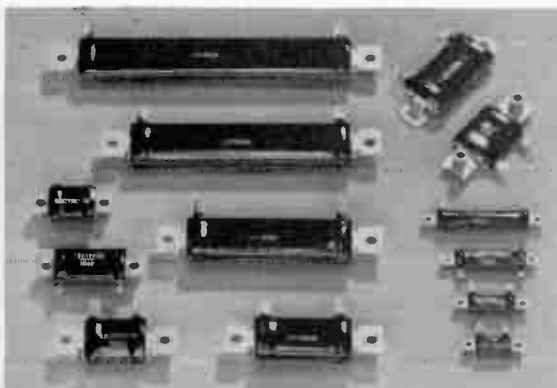
### HARDWARE DIMENSIONS



Mall. No.	Dimensions, Inches					
	A	B	C	D	E	F
1V	1/8	1/8	1/8	.096	1/8	.020
3V	3/16	3/16	3/16	.166	3/16	.032
4V	1/4	1/4	1/4	.166	1/4	.032
6V	3/8	3/8	3/8	.173	3/8	.032
30V	1 1/8	1 1/8	1 1/8	.142	1 1/8	...
31V	1 1/8	1 1/8	1 1/8	.203	1 1/8	...
32V	1 1/8	1 1/8	1 1/8	.265	1 1/8	...
33V	1 1/8	1 1/8	1 1/8	.203	1 1/8	...
35V	1 1/8	1 1/8	1 1/8	.265	1 1/8	...

# LECTROHM

INCORPORATED



OVALS



FLEXIBLES



AXIALS

LECTROHM, while manufacturing the standard vitreous line, is also producing whole new groups of types, each designed to solve a special problem. Miniaturization and printed circuit restrictions in space and ventilation no longer are complicated by conventional power resistor size standards. New coating materials and winding methods developed by LECTROHM permit an infinite variety of configurations yet retain operating and life characteristics expected of the finest grade vitreous enameled types. LECTROHM engineers will fit the resistor size and shape to your design.



In addition to the many "Special" resistors illustrated above, LECTROHM manufactures the complete line of standard vitreous fixed and adjustable wire-wound resistors from 5 to 200 watts.



TAPED RESISTORS FOR AUTOMATION



UPRIGHTS    A SOLDER LUG TYPE.    B PIGTAIL TYPE.  
C PRINTED CIRCUIT.    D HORIZONTAL MOUNTING BRACKET

# OHMITE

resistors • rheostats • tap switches • relays  
variable transformers • tantalum capacitors  
semiconductor devices • r.f. chokes



## OHMITE VITREOUS ENAMELED FIXED AND DIVIDOHM® RESISTORS

**12 WATT SIZE RESISTOR**  
Core: 1 1/8" x 1/8" — Mounting Centers 2 1/8"

Res. Ohms	Max. Amps.	Fixed Resist.		Adj. Resist.	
		Stock No.	Net 1-9	Stock No.	Net 1-9
.51	4.86	3723	\$0.60		
1.0	3.46	3730	.60	1001	\$1.20
1.5	2.83	3734	.60		
2.0	2.45			1002	1.20
2.2	2.34	3738	.60		
3.0	2.00			1003	1.20
3.3	1.91	3742	.60		
4.7	1.60	3746	.60		
5.0	1.54			1004	1.20
6.8	1.33	3750	.60		
7.5	1.26			1005	1.20
10	1.10	3754	.60	1006	1.20
12	1.00	3756	.60		
15	.89	3758	.60	1007	1.20
18	.82	3760	.60		
20	.77			1008	1.20
22	.74	3762	.60		
25	.69			1009	1.20
27	.67	3764	.60		
33	.60	3766	.60		
39	.55	3768	.60		
47	.53	3770	.60		
50	.49			1010	1.20
56	.46	3772	.60		
68	.42	3774	.60		
75	.40			1011	1.20
82	.38	3776	.60		
100	.35	3778	.60	1012	1.20
120	.32	3780	.60		
150	.28	3782	.60	1013	1.20
180	.26	3784	.60		
200	.24			1014	1.20
220	.23	3786	.60		
250	.22			1015	1.20
270	.21	3788	.60		
300	.20			1016	1.20
330	.19	3790	.60		
350	.18			1017	1.20
390	.18	3792	.60		
400	.17			1018	1.20
470	.16	3794	.60		
500	.15			1019	1.20
560	.15	3796	.60		
600	.14			1020	1.20
680	.13	3798	.60		
750	.13			1021	1.20
800	.12			1022	1.20
820	.12	3800	.60		
1,000	.11	3802	.60	1023	1.20
1,200	.10	3804	.64		
1,250	.098			1024	1.24
1,500	.089	3806	.64	1025	1.24
1,800	.082	3808	.64		
2,000	.077			1026	1.24
2,200	.074	3810	.64		
2,250	.073			1027	1.24
2,500	.069			1028	1.24
2,700	.067	3812	.64		
3,000	.063			1029	1.24
3,300	.060	3814	.64		
3,500	.058			1030	1.24
3,900	.056	3816	.64		
4,000	.055			1031	1.24
4,500	.052			1032	1.24
4,700	.051	3818	.64		
5,000	.049			1033	1.24
5,600	.046	3820	.74		
6,000	.045			1034	1.33
6,800	.042	3822	.74		
7,000	.042			1035	1.33
7,500	.040			1036	1.33
8,000	.039			1037	1.33
8,200	.038	3824	.74		
8,500	.037			1038	1.33
9,000	.036			1039	1.33
10,000	.035	3826	.74	1040	1.33
12,000	.032	3828	.83		
15,000	.028	3830	.83		
18,000	.026	3832	.83		
22,000	.023	3834	.87		
27,000	.021	3836	.87		
33,000	.019	3838	.87		
39,000	.018	3840	.87		
47,000	.016	3842	.98		
51,000	.015	3843	.98		

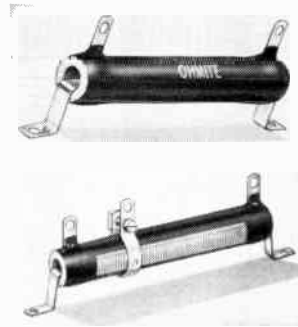
**25 WATT SIZE RESISTOR**  
Core: 2" x 1/8" — Mounting Centers 2 3/8"

Res. Ohms	Max. Amps.	Fixed Resist.		Adj. Resist.	
		Stock No.	Net 1-9	Stock No.	Net 1-9
1	5.00	0200K	\$0.76	0360	\$1.35
2	3.54	0200K	.76	0360B	1.35
3	2.88	0200L	.76	0361	1.35
5	2.24	0200A	.76	0362	1.35
7.5	1.82			0362B	1.35
10	1.58	0200B	.76	0363	1.35
15	1.29	0200R	.76	0364	1.35
20	1.12			0364B	1.35
25	1.00	0200C	.76	0365	1.35
50	.71	0200D	.76	0366	1.35
75	.58	0200E	.76	0367	1.35
100	.50	0200F	.76	0368	1.35
150	.41	0200G	.76	0369	1.35
200	.35	0200H	.76	0370	1.35
250	.32	0201	.76	0371	1.35
300	.29			0371B	1.35
400	.25			0371C	1.35
500	.22	0202	.76	0372	1.35
750	.18	0203	.76	0373	1.35
800	.17	0204	.76	0374	1.35
1,000	.16	0205	.76	0375	1.35
1,250	.14			0375B	1.39
1,500	.13	0206	.79	0376	1.39
2,000	.12	0207	.79	0377	1.39
2,250	.11			0377B	1.39
2,500	.10	0208	.79	0378	1.39
3,000	.091	0209	.79	0379	1.39
3,500	.084	0210	.79	0380	1.39
4,000	.079	0211	.79	0381	1.39
4,500	.074			0381B	1.39
5,000	.070	0212	.79	0382	1.39
6,000	.064	0213	.89	0383	1.49
7,000	.060			0383B	1.49
7,500	.057	0214	.89	0384	1.49
8,000	.055			0384B	1.49
9,000	.052			0384C	1.49
10,000	.050	0215	.89	0385	1.49
12,000	.042	0216	.95	0386	1.54
15,000	.036	0217	.95	0387	1.54
20,000	.031	0218	.95	0388	1.54
25,000	.028	0219	1.09	0389	1.69
40,000	.022	0222	1.09		
50,000	.020	0224	1.27		
100,000	.010	0229	1.72		

**50 WATT SIZE RESISTOR**  
Core: 4" x 1/8" — Mounting Centers 4 3/8"

Res. Ohms	Max. Amps.	Fixed Resist.		Adj. Resist.	
		Stock No.	Net 1-9	Stock No.	Net 1-9
5	3.16	0400A	\$1.17	0560	\$1.76
10	2.23	0400B	1.17	0561	1.76
25	1.41	0400C	1.17	0562	1.76
50	1.00	0400D	1.17	0563	1.76
75	.82	0400E	1.17	0564	1.76
100	.71	0400F	1.17	0565	1.76
150	.58	0400G	1.17	0566	1.76
200	.50	0100H	1.17	0567	1.76
250	.45	0401	1.17	0568	1.76
300	.41			0568B	1.76
400	.35			0568C	1.76
500	.32	0402	1.17	0569	1.76
750	.26	0403	1.17	0570	1.76
1,000	.22	0405	1.17	0572	1.76
1,250	.20			0572B	1.80
1,500	.18	0406	1.20	0573	1.80
2,000	.16	0407	1.20	0574	1.80
2,500	.14	0408	1.20	0575	1.80
3,000	.13	0409	1.20	0576	1.80
3,500	.12			0576B	1.80
4,000	.11	0410	1.20	0577	1.80
4,500	.10			0577B	1.80
5,000	.10	0411	1.20	0578	1.80
6,000	.091			0578B	1.89
7,000	.084			0578C	1.89
7,500	.081	0412	1.29	0579	1.89
8,000	.079	0413	1.29	0580	1.89
9,000	.074			0580B	1.89
10,000	.071	0414	1.29	0581	1.89
12,000	.064	0415	1.42	0582	2.02
15,000	.057	0416	1.42	0583	2.02
20,000	.050	0417	1.42	0584	2.02
25,000	.045	0418	1.62	0585	2.22
30,000	.036			0586	2.22
35,000	.032	0419	1.62		
40,000	.029			0587	2.22
50,000	.026	0420	1.81	0588	2.40
60,000	.024			0589	2.40
75,000	.021	0421	2.07		
80,000	.021			0590	2.67
100,000	.018	0422	2.24	0591	2.84

These all-welded construction resistors have welded high-strength alloy terminals. For perfect electrical connection, the resistance wire is welded to the terminal. Units are wire-wound on ceramic cores and protected by Ohmite Vitreous Enamel. Furnished with mounting brackets and on DIVIDOHM with one adjustable lug.



**75 WATT SIZE — Dividohm**  
Core: 6" x 1/8" — Mounting Centers 6 3/8"

Res. Ohms	Max. Amps.	Adjustable Res.			Stock No.
		Res. Ohms	Max. Amps.	Stock No.	
5	3.87	0769	5,000	.12	0783
10	2.74	0770	6,000	.11	0783B
15	2.24	0771	7,000	.10	0783C
25	1.73	0772	7,500	.10	0784
50	1.22	0773	8,000	.096	0784B
100	.86	0774	9,000	.091	0784C
200	.61	0774B	10,000	.086	0785
250	.55	0775	12,000	.079	0785B
300	.50	0775B	15,000	.070	0786
400	.43	0775C	20,000	.061	0787
500	.39	0776	25,000	.054	0788
750	.32	0777	30,000	.050	0789
1,000	.27	0778	35,000	.046	0790
1,250	.24	0778B	40,000	.043	0791
1,500	.22	0779	45,000	.035	0792
2,000	.19	0780	50,000	.033	0793
2,500	.17	0781	60,000	.030	0794
3,000	.16	0781B	80,000	.026	0795
3,500	.15	0782	100,000	.023	0796
4,000	.14	0782B			

Net (1-9), 5 thru 1,000 ohms.....\$1.96  
 Net (1-9), 1,250 thru 5,000 ohms..... 2.02  
 Net (1-9), 6,000 thru 10,000 ohms..... 2.11  
 Net (1-9), 12,000 thru 20,000 ohms..... 2.24  
 Net (1-9), 25,000 thru 40,000 ohms..... 2.44  
 Net (1-9), 45,000 thru 60,000 ohms..... 2.65  
 Net (1-9), 80,000 ohms..... 2.92  
 Net (1-9), 100,000 ohms..... 3.09

**100 WATT SIZE RESISTOR**  
Core: 6 1/2" x 3/8" — Mounting Centers 7 3/8"

Res. Ohms	Max. Amps.	Fixed Resist.		Adj. Resist.	
		Stock No.	Net 1-9	Stock No.	Net 1-9
5	4.47	0600A	\$1.62	0956	\$2.22
10	3.16	0600B	1.62	0957	2.22
25	2.00	0601	1.62	0958	2.22
50	1.41	0602	1.62	0959	2.22
75	1.15	0603	1.62		
100	1.00	0604	1.62	0960	2.22
150	.816	0605	1.62		
250	.63	0606	1.62	0960B	2.22
500	.45	0607	1.62	0961	2.22
750	.365	0608	1.62		
1,000	.32	0609	1.62	0962	2.22
1,500	.26	0610	1.68	0962B	2.28
2,000	.223	0611	1.68		
2,500	.20	0612	1.68	0963	2.28
3,000					

# OHMITE

resistors • rheostats • tap switches • relays  
variable transformers • tantalum capacitors  
semiconductor devices • r.f. chokes



## FIXED AND DIVIDOHM® RESISTORS (CONT.)

### 175 WATT SIZE RESISTOR

Core: 8 1/2" x 1 1/2" — Mounting Centers 9 3/4"

Res. Ohms	Max. Amps.	Fixed Resist.		Adj. Resist.	
		Stock No.	Net 1-9	Stock No.	Net 1-9
5	5.92	0700A	\$3.35	1156	\$4.27
10	4.18	0700B	2.39	1157	3.32
25	2.64	0701	2.39	1158	3.32
50	1.87	0702	2.39	1159	3.32
75	1.52	0703	2.39		
100	1.32	0704	2.39	1160	3.32
150	1.08	0705	2.39		
250	.84	0706	2.39	1160B	3.32
500	.59	0707	2.39	1161	3.32
750	.48	0708	2.39		
1,000	.42	0709	2.39	1162	3.32
1,500	.34	0710	2.44	1162B	3.36
2,000	.30	0711	2.44		
2,500	.26	0712	2.44	1163	3.36
3,000	.24	0713	2.44		
5,000	.19	0714	2.44	1164	3.36
7,500	.15	0715	2.66		
10,000	.13	0716	2.66	1165	3.58
15,000	.11	0717	2.85	1166	3.77
20,000	.094	0718	2.85	1167	3.77
25,000	.083	0719	2.94	1168	3.86
30,000	.076	0720	2.94	1169	3.86
40,000	.066	0721	2.94	1170	3.86
50,000	.059	0722	3.03	1171	3.96
60,000	.054	0723	3.03		
75,000	.048	0724	3.23	1172	4.16
100,000	.042	0725	3.42	1173	4.35

### 225 WATT SIZE RESISTOR

Core: 10 1/2" x 1 1/2" — Mounting Centers 11 3/4"

Res. Ohms	Max. Amps.	Fixed Resist.		Adj. Resist.	
		Stock No.	Net 1-9	Stock No.	Net 1-9
5	6.72	0900A	\$3.61	1356	\$4.54
10	4.74	0900B	2.58	1357	3.51
25	3.00	0901	2.58	1358	3.51
50	2.12	0902	2.58	1359	3.51
75	1.73	0903	2.58		
100	1.50	0904	2.58	1360	3.51
150	1.25	0905	2.58		
250	.95	0906	2.58	1360B	3.51
500	.67	0907	2.58	1361	3.51
750	.55	0908	2.58		
1,000	.47	0909	2.58	1362	3.51
1,500	.39	0910	2.66	1362B	3.58
2,000	.34	0911	2.66		
2,500	.30	0912	2.66	1363	3.58
3,000	.27	0913	2.66		
5,000	.21	0914	2.66	1364	3.58
7,500	.17	0915	2.85		
10,000	.15	0916	2.85	1365	3.77
15,000	.13	0917	3.03	1366	3.96
20,000	.11	0918	3.03	1367	3.96
25,000	.095	0919	3.13	1368	4.05
30,000	.087	0920	3.13	1369	4.05
40,000	.075	0921	3.13	1370	4.05
50,000	.067	0922	3.23	1371	4.16
60,000	.061	0923	3.23		
75,000	.055	0924	3.42	1372	4.35
100,000	.047	0925	3.63	1373	4.56

### 8 Watt—1" x 5/16" Core Size

Ohms	Amps	Ohms	Amps	Ohms	Amps
1	2.83	200	.20	2,250	.059
1.5	2.30	225	.18	2,500	.056
2	2.00	250	.17	3,000	.051
3	1.63	300	.16	3,500	.047
4	1.41	350	.15	4,000	.044
5	1.26	400	.14	4,500	.042
7.5	1.00	450	.13	5,000	.040
10	.89	500	.12	6,000	.036
12	.81	600	.11	7,000	.033
15	.73	700	.11	7,500	.032
20	.63	750	.10	8,000	.031
25	.56	800	.10	9,000	.029
30	.51	900	.094	10,000	.028
35	.47	1,000	.089	12,500	.025
40	.44	1,100	.085	15,000	.023
50	.40	1,200	.081	17,500	.021
75	.32	1,250	.080	20,000	.020
100	.28	1,500	.073	22,500	.018
125	.25	1,750	.067	25,000	.017
150	.23	2,000	.063		

Net (1-9), 1 thru 1,000 ohms.....\$0.55  
 Net (1-9), 1,100 thru 5,000 ohms..... .58  
 Net (1-9), 6,000 thru 10,000 ohms..... .61  
 Net (1-9), 12,500 thru 20,000 ohms..... .68  
 Net (1-9), 22,500 and 25,000 ohms..... .71

## Popular OHMITE "BROWN DEVIL"® RESISTORS



### 3 Watt—7/16" x .20" Core Size

Ohms	Amps	Ohms	Amps	Ohms	Amps
1.0	1.73	24	.35	510	.077
1.1	1.65	27	.33	560	.073
1.2	1.58	30	.32	620	.070
1.3	1.52	33	.30	680	.067
1.5	1.41	36	.29	750	.063
1.6	1.37	39	.28	820	.060
1.8	1.29	43	.26	910	.057
2.0	1.22	47	.25	1,000	.055
2.2	1.17	51	.24	1,100	.052
2.4	1.12	56	.23	1,200	.050
2.7	1.05	62	.22	1,300	.048
3.0	1.00	68	.21	1,500	.045
3.3	.95	75	.20	1,600	.043
3.6	.91	82	.19	1,800	.042
3.9	.88	91	.18	2,000	.039
4.3	.83	100	.17	2,200	.037
4.7	.80	110	.16	2,400	.035
5.1	.77	120	.16	2,700	.033
5.6	.73	130	.15	3,000	.032
6.2	.69	150	.14	3,300	.030
6.8	.66	160	.14	3,600	.029
7.5	.63	180	.13	3,900	.028
8.2	.60	200	.12	4,300	.026
9.1	.57	220	.12	4,700	.025
10	.55	240	.11	5,100	.024
11	.52	270	.11	5,600	.023
12	.50	300	.10	6,200	.022
13	.48	330	.095	6,800	.021
15	.45	360	.091	7,500	.020
16	.43	390	.088	8,200	.019
18	.42	430	.083	9,100	.018
20	.39	470	.080	10,000	.017
22	.37				

Net (1-9), 1 thru 1,000 ohms.....\$0.51  
 Net (1-9), 1,100 thru 4,700 ohms..... .55  
 Net (1-9), 5,100 thru 10,000 ohms..... .58

### 5 1/4 Watt—5/8" x 1/4" Core Size

Ohms	Amps	Ohms	Amps	Ohms	Amps
1.0	2.29	30	.42	820	.080
1.1	2.19	33	.40	910	.076
1.2	2.09	36	.38	1,000	.072
1.3	2.01	39	.37	1,100	.069
1.5	1.87	43	.35	1,200	.066
1.6	1.81	47	.33	1,300	.064
1.8	1.71	51	.32	1,500	.059
2.0	1.62	56	.31	1,600	.057
2.2	1.54	62	.29	1,800	.054
2.4	1.48	68	.28	2,000	.051
2.7	1.39	75	.27	2,200	.049
3.0	1.32	82	.25	2,400	.047
3.3	1.24	91	.24	2,700	.044
3.6	1.21	100	.23	3,000	.042
3.9	1.16	110	.22	3,300	.040
4.3	1.10	120	.21	3,600	.038
4.7	1.06	130	.20	3,900	.037
5.1	1.01	150	.19	4,300	.035
5.6	.97	160	.18	4,700	.033
6.2	.92	180	.17	5,100	.032
6.8	.88	200	.16	5,600	.031
7.5	.84	220	.16	6,200	.029
8.2	.80	240	.15	6,800	.028
9.1	.76	270	.14	7,500	.027
10	.72	300	.13	8,200	.025
11	.69	330	.12	9,100	.024
12	.66	360	.12	10,000	.023
13	.64	390	.12	11,000	.022
15	.59	430	.11	12,000	.021
16	.57	470	.11	13,000	.020
18	.54	510	.10	15,000	.019
20	.51	560	.097	16,000	.018
22	.49	620	.092	18,000	.017
24	.47	680	.088	20,000	.016
27	.44	750	.084		

Net (1-9), 1 thru 1,000 ohms.....\$0.55  
 Net (1-9), 1,100 thru 4,700 ohms..... .58  
 Net (1-9), 5,100 thru 10,000 ohms..... .61  
 Net (1-9), 11,000 thru 20,000 ohms..... .68

High quality, small size, wire-wound resistors ideal for voltage dropping, bias units, bleeders, etc. They're extra-sturdy, all-ceramic, vitreous enameled. These all-welded construction units have welded high-strength alloy terminals. For perfect electrical connection, the resistance wire is welded to the terminal. They give time-proved protection against shock, vibration, heat and humidity. Their long record of continuous trouble-free service—their wide use in all climates of the world—prove their complete reliability and economy. All units can be conveniently mounted by means of their 1 1/2" tinned wire leads. Standard resistance tolerance is ±5%.

### 12 Watt—1 1/4" x 5/16" Core Size

Ohms	Amps	Ohms	Amps	Ohms	Amps
0.5	4.90	300	.20	6,000	.044
1	3.46	350	.18	7,000	.041
1.5	2.82	400	.17	7,500	.040
2	2.45	450	.16	8,000	.038
3	2.00	500	.15	8,500	.037
4	1.73	600	.14	9,000	.036
5	1.54	700	.13	10,000	.035
7.5	1.26	750	.12	11,000	.033
10	1.09	800	.12	12,000	.031
12	1.00	900	.11	12,500	.031
15	.89	1,000	.11	13,500	.029
20	.77	1,100	.10	15,000	.028
25	.69	1,200	.10	16,000	.027
30	.63	1,250	.097	17,500	.026
35	.58	1,500	.089	18,000	.025
40	.54	1,750	.082	20,000	.024
50	.49	2,000	.077	22,500	.023
75	.40	2,250	.073	25,000	.022
100	.34	2,500	.069	30,000	.020
125	.31	3,000	.063	35,000	.018
150	.28	3,500	.058	40,000	.017
200	.24	4,000	.054	45,000	.016
225	.23	4,500	.051	50,000	.015
250	.22	5,000	.049		

Net (1-9), 0.5 thru 1,000 ohms.....\$0.60  
 Net (1-9), 1,100 thru 5,000 ohms..... .64  
 Net (1-9), 6,000 thru 10,000 ohms..... .74  
 Net (1-9), 11,000 thru 20,000 ohms..... .83  
 Net (1-9), 22,500 thru 40,000 ohms..... .87  
 Net (1-9), 45,000 and 50,000 ohms..... .98

### 20 Watt—2" x 7/16" Core Size

Ohms	Amps	Ohms	Amps	Ohms	Amps
0.5	6.32	800	.15	10,000	.043
1.0	4.47	850	.15	12,500	.035
2.0	3.16	1,000	.14	15,000	.032
3.0	2.58	1,200	.13	20,000	.027
4.0	2.24	1,250	.12	25,000	.024
5	2.00	1,500	.12	30,000	.022
10	1.41	1,750	.11	35,000	.021
25	.89	2,000	.10	40,000	.019
50	.63	2,250	.094	45,000	.018
75	.52	2,500	.089	50,000	.017
100	.45	2,750	.085	55,000	.016
150	.36	3,000	.081	60,000	.016
200	.32	3,500	.075	65,000	.015
250	.28	4,000	.070	70,000	.014
300	.26	4,500	.066	75,000	.013

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## OHMITE Series 99 Resistors

### SERIES 99 MOLDED VITREOUS AXIAL LEAD RESISTORS



All welded resistors with 1000 v. AC insulation. They meet general requirements of specification MIL-R-26 for RW57, RW58, RW59, RW67, RW68 and RW69. Chip and break resistant, uniformly molded white vitreous enamel protects against moisture, salt spray and immersion. Vitri-fied markings resist high temperatures, solvents and abrasion. Can be mounted on component clips. **Tolerance:** ± 5% standard. **Size:** 1.5-watt, 0.422" lg. x 0.125" dia.; 2 1/2-watt, 0.375" lg. x 0.188" dia.; 3 1/4-watt, 0.547" lg. x 0.203" dia.; 5-watt, 0.938" lg. x 0.203" dia.; 11-watt, 1.781" lg. x 0.312" dia. Tinned leads 1 1/2" lg., #20 AWG except 1-watt, #24 AWG.

#### STYLE 995-1A 1.5-WATT AND STYLE 995-2A 2 1/2-WATT

Ohms	Stock Number		Ohms	Stock Number	
	1.5-Watt	2 1/2-Watt		1.5-Watt	2 1/2-Watt
1.0	4030	3860	75	4087	3918
1.1	4031	3861	82	4089	3920
1.2	4032	3862	91	4091	3922
1.3	4033	3863	100	4092	3923
1.5	4034	3864	110	4093	3924
1.6	4035	3865	120	4094	3925
1.8	4036	3866	130	4095	3926
2.0	4037	3867	150	4096	3927
2.2	4038	3868	160	4097	3928
2.4	4039	3869	180	4098	3929
2.7	4041	3871	200	4099	3930
3.0	4042	3872	220	4100	3931
3.3	4043	3873	240	4101	3932
3.6	4044	3874	250	4102	3933
3.9	4045	3875	270	4103	3934
4.0	4046	3876	300	4104	3935
4.3	4047	3877	330	4105	3936
4.7	4048	3878	350	4105A	3937
5.0	4049	3879	360	4106	3938
5.1	4050	3880	390	4107	3939
5.6	4051	3881	400	4108	3940
6.2	4053	3883	430	4109	3941
6.8	4054	3884	450	4109A	3942
7.5	4056	3886	470	4110	3943
8.2	4058	3888	500	4111	3944
9.1	4060	3890	510	4112	3945
10	4061	3891	560	4113	3946
12	4062	3892	600	4114	3947
13	4063	3893	620	4115	3948
15	4064	3894	680	4116	3949
16	4065	3895	700	4117	3950
18	4066	3896	750	4118	3951
20	4067	3897	800	4119	3952
22	4068	3898	820	4120	3953
24	4069	3899	900	4121	3954
25	4070	3900	910	4122	3955
27	4071	3901	1000	4123	3956
30	4072	3902	1100	4124	3957
33	4073	3903	1200	4125	3958
35	4074	3904	1300	4126	3959
36	4074A	3905	1400	4126A	3960
39	4075	3906	1500	4127	3961
40	4076	3907	1600	4128	3962
43	4077	3908	1800	4129	3963
47	4078	3909	2000	4130	3964
50	4079	3910	2200	4131	3965
51	4080	3911	2400	4132	3966
56	4081	3912	2500	4133	3967
62	4082	3913	2700	4134	3968
68	4084	3915	3000	4135	3969
68	4085	3916			

Values Ohms*	Style 995-1A 1.5-Watt				Style 995-2A 2 1/2-Watt			
	1-9	10-24	25-99	100-249	1-9	10-24	25-99	100-249
1-1000	62c	53c	43c	37c	60c	51c	42c	36c
1100-3000	66c	56c	46c	40c	64c	54c	45c	38c

#### STYLE 995-10A 11-WATT

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1.0	4730	10	4761	82	4789	600	4814
1.1	4731	11	4762	91	4791	620	4815
1.2	4732	12	4763	100	4792	680	4816
1.3	4733	13	4764	110	4793	700	4817
1.5	4734	15	4765	120	4794	750	4818
1.6	4735	16	4766	130	4795	800	4819
1.8	4736	18	4767	150	4796	820	4820
2.0	4737	20	4768	160	4797	900	4821
2.2	4738	22	4769	180	4798	910	4822
2.4	4739	24	4770	200	4799	1000	4823
2.7	4741	25	4771	220	4800	1100	4824
3.0	4742	27	4772	240	4801	1200	4825
3.3	4743	30	4773	250	4802	1300	4826
3.6	4744	33	4774	270	4803	1400	4826A
3.9	4745	35	4774A	300	4804	1500	4827
4.0	4746	36	4775	330	4805	1600	4828
4.3	4747	39	4776	350	4805A	1800	4829
4.7	4748	40	4777	360	4806	2000	4830
5.0	4749	43	4778	390	4807	2200	4831
5.1	4750	47	4779	400	4808	2400	4832
5.6	4751	50	4780	430	4809	2500	4833
6.2	4753	51	4781	450	4809A	2700	4834
6.8	4754	56	4782	470	4810	3000	4835
7.5	4756	62	4784	500	4811	3300	4836
8.2	4758	68	4785	510	4812	3500	4836A
9.1	4760	75	4787	560	4813	3600	4837

\*Restricted to those values shown in the table of stock numbers.

#### STYLE 995-3A 3 1/4-WATT AND STYLE 995-5B 5-WATT

Ohms	Stock Number		Ohms	Stock Number	
	3 1/4-Watt	5-Watt		3 1/4-Watt	5-Watt
1.0	4330	4530	330	4405	4605
1.1	4331	4531	350	4405A	4605A
1.2	4332	4532	360	4406	4606
1.3	4333	4533	390	4407	4607
1.5	4334	4534	400	4408	4608
1.6	4335	4535	430	4409	4609
1.8	4336	4536	450	4409A	4609A
2.0	4337	4537	470	4410	4610
2.2	4338	4538	500	4411	4611
2.4	4339	4539	510	4412	4612
2.7	4341	4541	560	4413	4613
3.0	4342	4542	600	4414	4614
3.3	4343	4543	620	4415	4615
3.6	4344	4544	680	4416	4616
3.9	4345	4545	700	4417	4617
4.0	4346	4546	750	4418	4618
4.3	4347	4547	800	4419	4619
4.7	4348	4548	820	4420	4620
5.0	4349	4549	900	4421	4621
5.1	4350	4550	910	4422	4622
5.6	4351	4551	1000	4423	4623
6.2	4353	4553	1100	4424	4624
6.8	4354	4554	1200	4425	4625
7.5	4356	4556	1300	4426	4626
8.2	4358	4558	1400	4426A	4626A
9.1	4360	4560	1500	4427	4627
10	4361	4561	1600	4428	4628
11	4362	4562	1800	4429	4629
12	4363	4563	2000	4430	4630
13	4364	4564	2200	4431	4631
15	4365	4565	2400	4432	4632
16	4366	4566	2500	4433	4633
18	4367	4567	2700	4434	4634
20	4368	4568	3000	4435	4635
22	4369	4569	3300	4436	4636
24	4370	4570	3500	4436A	4636A
25	4371	4571	3600	4437	4637
27	4372	4572	3900	4438	4638
30	4373	4573	4000	4439	4639
33	4374	4574	4300	4440	4640
35	4374A	4574A	4500	4440A	4640A
36	4375	4575	4700	4441	4641
39	4376	4576	5000	4442	4642
40	4377	4577	5100	4443	4643
43	4378	4578	5600	4444	4644
47	4379	4579	6000	4445	4645
50	4380	4580	6200	4446	4646
51	4381	4581	6800	4447	4647
56	4382	4582	7000	4448	4648
62	4384	4584	7500	4449	4649
68	4385	4585	8000	4450	4650
75	4387	4587	8200	4451	4651
82	4389	4589	9000	4452	4652
91	4391	4591	9100	4453	4653
100	4392	4592	10,000	4454	4654
110	4393	4593	11,000		4655
120	4394	4594	12,000		4656
130	4395	4595	13,000		4657
150	4396	4596	14,000		4657A
160	4397	4597	15,000		4658
180	4398	4598	16,000		4659
200	4399	4599	17,000		4659B
220	4400	4600	18,000		4660
240	4401	4601	20,000		4661
250	4402	4602	22,000		4662
270	4403	4603	24,000		4663
300	4404	4604	25,000		4664

Values Ohms*	Style 995-3A 3 1/4-Watt				Style 995-5B 5-Watt			
	1-9	10-24	25-99	100-249	1-9	10-24	25-99	100-249
1-1000	59c	50c	41c	35c	62c	53c	43c	37c
1100-5000	62c	53c	43c	37c	66c	56c	46c	40c
5100-10,000	66c	56c	46c	40c	70c	60c	49c	42c
11,000-20,000					78c	68c	55c	47c
22,000-25,000					82c	70c	57c	49c

#### STYLE 995-10A 11-WATT (CONTINUED)

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
3900	4838	7000	4848	15,000	4858	35,000	4867A
4000	4839	7500	4849	16,000	4859A	36,000	4868
4300	4840	8000	4850	17,000	4859C	39,000	4869
4500	4840A	8200	4851	18,000	4860	40,000	4870
4700	4841	9000	4852	20,000	4861	43,000	4871
5000	4842	9100	4853	22,000	4862	45,000	4871A
5100	4843	10,000	4854	24,000	4863	47,000	4872
5800	4844	11,000	4855A	25,000	4864	50,000	4873
6000	4845	12,000	4856	27,000	4865	51,000	4874
6200	4846	13,000	4857	30,000	4866		
6800	4847	14,000	4857B	33,000	4867		

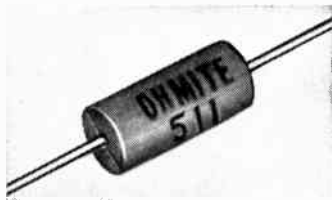
Values Ohms*	Net Each, Lots of			
	1-9	10-24	25-99	100-249
1-1000	\$0.68	\$0.58	\$0.48	\$0.41
1100-5000	.73	.62	.51	.44
5100-10,000	.84	.71	.59	.50
11				

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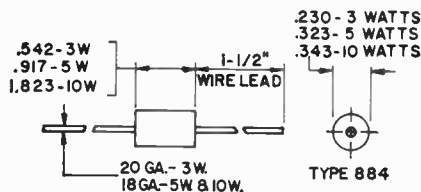
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## TYPE 884 MOLDED WIREWOUND RESISTORS ± 1% TOLERANCE



These precision power resistors are furnished from stock in power ratings of 3, 5 and 10 watts depending upon resistance. Single layer wound on ceramic core, Type 884 units feature a pressure-molded jacket of tough, resilient, silicone-ceramic material. Negligible inductance at audio frequencies. Temperature coefficient of resistance is  $0 \pm 20 \text{ppm}/^\circ\text{C}$ . Values shown are selected from MIL Standard MS90169, MIL-R-10509 and Bell Tel. Labs.



3 WATT		3 WATT (Cont.)		3 WATT (Cont.)		3 WATT (Cont.)		3 WATT (Cont.)		3 WATT (Cont.)		5 WATT (Cont.)	
Ohms	Max. Volts	Ohms	Max. Volts	Ohms	Max. Volts	Ohms	Max. Volts	Ohms	Max. Volts	Ohms	Max. Volts	Ohms	Max. Volts
.100	.547	3.40	3.19	16.9	7.12	84.5	15.9	422	35.6	2100	79.4	10,500	178
.121	.602	3.48	3.23	17.4	7.22	86.6	16.1	432	36.1	2150	80.3	10,700	179
.150	.670	3.57	3.27	17.8	7.30	88.7	16.3	442	36.4	2210	81.4	11,000	182
.182	.739	3.65	3.31	18.2	7.39	90.9	16.5	453	36.9	2260	82.3	11,300	184
.200	.774	3.74	3.35	18.7	7.49	93.1	16.7	464	37.3	2320	83.4	11,500	185
.221	.814	3.83	3.39	19.1	7.57	95.3	16.9	475	37.7	2370	84.3	11,800	188
.249	.864	3.92	3.43	19.6	7.66	97.6	17.1	487	38.2	2430	85.4	12,100	190
.274	.906	4.02	3.47	20.0	7.74	100	17.3	499	38.7	2490	86.4	12,400	193
.332	.998	4.12	3.51	20.5	7.84	102	17.5	511	39.1	2550	87.4	12,700	195
.392	1.08	4.22	3.56	21.0	7.94	105	17.7	523	39.6	2610	88.4	13,000	197
.475	1.19	4.32	3.60	21.5	8.03	107	17.9	536	40.1	2670	89.5	13,300	200
.499	1.22	4.42	3.64	22.1	8.14	110	18.2	549	40.6	2740	90.6	13,700*	200
.562	1.30	4.53	3.69	22.6	8.23	113	18.4	562	41.0	2800	91.6	14,000*	200
.681	1.43	4.64	3.73	23.2	8.34	115	18.6	576	41.6	2870	92.8	14,300*	200
.750	1.50	4.75	3.77	23.7	8.43	118	18.8	590	42.0	2940	93.9	14,700*	200
.825	1.57	4.87	3.82	24.3	8.54	121	19.1	604	42.5	3010	95.0	15,000*	200
1.00	1.73	4.99	3.87	24.9	8.64	124	19.3	618	43.1	3090	96.2	15,400*	200
1.02	1.75	5.11	3.91	25.5	8.74	127	19.5	634	43.6	3160	97.4	15,800*	200
1.05	1.77	5.23	3.96	26.1	8.84	130	19.7	649	44.1	3240	98.6	16,200*	200
1.07	1.79	5.36	4.01	26.7	8.95	133	20.0	665	44.6	3320	99.8	16,500*	200
1.10	1.82	5.49	4.06	27.4	9.06	137	20.3	681	45.2	3400	101	16,900*	200
1.13	1.84	5.62	4.10	28.0	9.16	140	20.5	698	45.7	3480	102	17,400*	200
1.15	1.86	5.76	4.16	28.7	9.28	143	20.7	715	46.3	3570	103	17,800*	200
1.18	1.88	5.90	4.20	29.4	9.39	147	21.0	732	46.8	3650	105	18,200*	200
1.21	1.91	6.04	4.25	30.1	9.50	150	21.2	750	47.4	3740	106	18,700*	200
1.24	1.93	6.19	4.31	30.9	9.62	154	21.5	768	48.0	3830	107	19,100*	200
1.27	1.95	6.34	4.36	31.6	9.74	158	21.8	787	48.6	3920	108	19,600*	200
1.30	1.97	6.49	4.41	32.4	9.86	162	22.0	806	49.2	4020	110	20,000*	200
1.33	2.00	6.65	4.46	33.2	9.98	165	22.2	825	49.7	4120	111	20,500*	200
1.37	2.03	6.81	4.52	34.0	10.1	169	22.5	845	50.4	4220	112	21,000*	200
1.40	2.05	6.98	4.57	34.8	10.2	174	22.8	866	51.0	4320	114	21,500*	200
1.43	2.07	7.15	4.63	35.7	10.3	178	23.1	887	51.6	4420	115	22,100*	200
1.47	2.10	7.32	4.68	36.5	10.5	182	23.4	909	52.2	4530	117	22,700*	200
1.50	2.12	7.50	4.74	37.4	10.6	187	23.7	931	52.8	4640	118	23,300*	200
1.54	2.15	7.68	4.80	38.3	10.7	191	23.9	953	53.4	4750	119	22,600	337
1.58	2.18	7.87	4.86	39.2	10.8	196	24.2	976	54.1	4870	121	23,200	341
1.62	2.20	8.06	4.92	40.2	11.0	200	24.5	1000	54.7	4990	122	23,700	344
1.65	2.22	8.25	4.97	41.2	11.1	205	24.8	1020	55.3	5110	124	24,300	347
1.69	2.25	8.45	5.04	42.2	11.2	210	25.1	1050	56.1	5230	125	24,900	353
1.74	2.28	8.66	5.10	43.2	11.4	215	25.4	1070	56.6	5360	127	25,500	357
1.78	2.31	8.87	5.16	44.2	11.5	221	25.7	1100	57.4	5490	128	26,100	361
1.82	2.34	9.09	5.22	45.3	11.7	226	26.0	1130	58.2	5620	130	26,700	365
1.87	2.37	9.31	5.28	46.4	11.8	232	26.4	1150	58.7	5760	131	27,400	370
1.91	2.39	9.53	5.34	47.5	11.9	237	26.7	1180	59.5	5900	133	28,000	374
1.96	2.42	9.76	5.41	48.7	12.1	243	27.0	1210	60.2	6040	134	28,700	379
2.00	2.45	10.0	5.47	49.9	12.2	249	27.3	1240	61.0	6190	136	29,400	383
2.05	2.48	10.2	5.53	51.1	12.4	255	27.7	1270	61.7	6340	138	30,100	388
2.10	2.51	10.5	5.61	52.3	12.5	261	28.0	1300	62.4	6490	140	30,900	393
2.15	2.54	10.7	5.66	53.6	12.7	267	28.3	1330	63.2	6650	141	31,600	397
2.21	2.57	11.0	5.74	54.9	12.8	274	28.7	1370	64.1	6810	143	32,400	402
2.26	2.60	11.3	5.82	56.2	13.0	280	29.0	1400	64.8	6980	145	33,200	407
2.32	2.64	11.5	5.87	57.6	13.1	287	29.3	1430	65.5	7,150	146	34,000	412
2.37	2.67	11.8	5.95	59.0	13.3	294	29.7	1470	66.4	7,320	148	34,800	417
2.43	2.70	12.1	6.02	60.4	13.4	301	30.0	1500	67.0	7,500	150	35,700	422
2.49	2.73	12.4	6.10	61.9	13.6	309	30.4	1540	68.0	7,680	152	36,500	427
2.55	2.77	12.7	6.17	63.4	13.8	316	30.8	1580	68.8	7,870	154	37,400	432
2.61	2.80	13.0	6.24	64.9	13.9	323	31.2	1620	69.7	8,060	155	38,300	437
2.67	2.83	13.3	6.32	66.5	14.1	332	31.6	1650	70.3	8,250	157	39,200	442
2.74	2.87	13.7	6.41	68.1	14.3	340	31.9	1690	71.2	8,450	159	40,200	448
2.80	2.90	14.0	6.48	69.8	14.5	348	32.3	1730	72.2	8,660	161	41,200	454
2.87	2.93	14.3	6.55	71.5	14.6	357	32.7	1780	73.0	8,870	163	42,200	460
2.94	2.97	14.7	6.64	73.2	14.8	365	33.1	1820	73.9	9,090	165	43,200*	460
3.01	3.00	15.0	6.70	75.0	15.0	374	33.5	1870	74.9	9,310	167	44,200*	460
3.09	3.04	15.4	6.80	76.8	15.2	383	33.9	1910	75.7	9,530	169	45,300*	460
3.16	3.08	15.8	6.88	78.7	15.4	392	34.3	1960	76.6	9,760	171	46,400*	460
3.24	3.12	16.2	6.97	80.6	15.5	402	34.7	2000	77.4	10,000	173	47,500*	460
3.32	3.16	16.5	7.03	82.5	15.7	412	35.1	2050	78.4	10,200	175	48,700*	460

### TYPE 884 NET PRICES

.10 thru .99 ohms .....Net 1-24 \$1.98	15,001 thru 20K ohms .....Net 1-24 .88	100,001 thru 125K ohms .....Net 1-24 1.33
1.0 thru 1K ohms .....Net 1-24 .71	20,001 thru 40K ohms .....Net 1-24 .93	125,001 thru 150K ohms .....Net 1-24 1.45
1,001 thru 5K ohms .....Net 1-24 .78	40,001 thru 55K ohms .....Net 1-24 1.00	150,001 thru 175K ohms .....Net 1-24 1.59
5,001 thru 10K ohms .....Net 1-24 .82	55,001 thru 75K ohms .....Net 1-24 1.10	175,001 thru 200K ohms .....Net 1-24 1.73
10,001 thru 15K ohms .....Net 1-24 .84	75,001 thru 100K ohms .....Net 1-24 1.21	

Resistance values marked \* are derated in wattage because of maximum voltage gradient considerations. Even with these voltage limitations, however, the wattage ratings are still adequate for most precision applications. However, where wattage requirements dictate, the same value shown in a derated area for either the 3 or 5 watt sizes can be supplied in the next higher wattage as the case may be.



# OHMITE

resistors • rheostats • tap switches • relays  
variable transformers • tantalum capacitors  
semiconductor devices • r.f. chokes



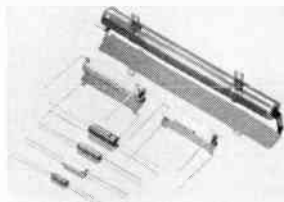
## LITTLE DEVIL® RESISTOR ASSORTMENTS FOR SERVICE USE



Servicemen's assortments of 150 Ohmite "Little Devil," 1/4-watt or 1/2-watt, or 125, 1-watt or 2-watt insulated composition resistors, in the 40 values (10 ohms to 10 megohms) most frequently used by servicemen. CAB-4 has 37 resistance values. The assortment is offered at the price of the resistors alone—the cabinet is furnished without extra cost! Cabinet is only 9" long, 4 3/4" high, and 5 1/4" deep.

Assortment	Stock No.	Quantity of Resistors	Wattages	Net Price
SERVICE	<b>CAB-4</b>	150	1/4 watt	\$19.50
±10% tolerance (40 resistance values)	<b>CAB-10</b>	150	1/2 watt	18.00
	<b>CAB-2</b>	125	1 watt	22.50
	<b>CAB-3</b>	125	2 watt	30.00

## OHMITE R.F. PLATE CHOKES



This series of seven Ohmite single layer wound solenoid radio frequency plate chokes covers the entire frequency range of 3 to 520 megacycles. The four highest frequency chokes are wound on low power factor plastic cores while

the other three units are wound on steatite tubes. The single layer winding is designed to avoid adverse harmonic effects within the recommended operating range and also prevents breakdown from high r.f. potentials.

Stock Number	Operating Range Megacycles	Micro-henries	Core Dimensions	Net Each 1-9
Z-7	3 to 20 Mc.	84.0	6" x 9/16"	\$1.44
Z-14	7 to 35 Mc.	44.0	2" x 7/16"	.71
Z-28	20 to 60 Mc.	21.0	1 3/4" x 3/16"	.60
Z-50	35 to 110 Mc.	7.0	3/8" x 3/32"	.48
Z-144	80 to 200 Mc.	1.8	3/4" x 3/16"	.45
Z-235	160 to 350 Mc.	0.84	3/4" x 3/16"	.45
Z-460	320 to 520 Mc.	0.20	1/2" x 3/32"	.45

Non-magnetic Brackets Furnished with Z-7. The Z-14 and Z-28 are rated at 600 ma. All others 1000 ma.

## NEW OHM'S LAW CALCULATOR

Redesigned! This new, improved version of the famous Ohmite Ohm's Law Calculator — popular the world over with servicemen, engineers and students — now has scales for solving parallel resistance problems, AND a standard slide rule. More useful than ever! With one setting of the scale the calculator gives the answer to any Ohm's Law problem—reading directly in ohms, volts, amperes, and watts. Three of the new scales on the back provide a quick, one-setting means of solving parallel resistance problems. The slide rule scales will multiply, divide, find squares, and square roots.



Ohm's Law Calculator (Cardboard) ..... **Net Price \$0.25**  
Ohm's Law Calculator (Plastic) ..... **Net Price 1.50**

## LITTLE DEVIL COLOR CODER

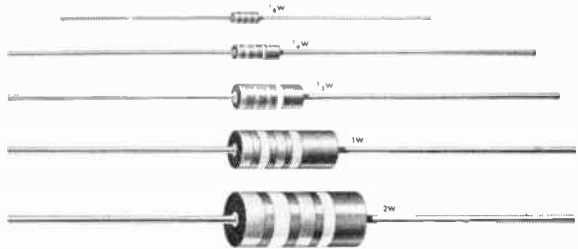


Here is a handy little device that makes it easy to determine the resistance and tolerance

values of EIA color coded composition resistors. Just turn the color wheels until the color corresponds to the color band on the resistor and read the resistance value directly in ohms in the windows.

Little Devil Color Coder.... **Net Price \$ .10**

## OHMITE LITTLE DEVIL RESISTORS MOLDED COMPOSITION TYPE



on Tally Tape EXCEPT 1/8W SIZE

Ohmite's famous molded composition resistors, in the 1/8, 1/4, 1/2, 1 and 2-watt sizes, conform respectively to Styles RC05, RC07, RC20, RC32 and RC42 of MIL-R-11E and meet all the requirements of this military specification.

Little Devils have molded insulation and feature great stability, low noise level, low voltage coefficient, high insulation breakdown voltage and rapid heat dissipation. They may be used at full rated wattage at 70°C (158°F) ambient temperature.

Available from stock in the standard EIA resistance values in the tolerances and resistance ranges shown in the price table below. Ratings for maximum continuous RMS voltage drop are high: 150 volts for 1/8 watt units, 250 volts for 1/4 watt, 350 volts for 1/2 watt, 500 volts for 1 watt and 750 volts for 2 watt units.

### STANDARD EIA VALUES

Figures in large, bold type are ±10% EIA values. All values listed are ±5% values. Price table lists the various "Little Devil" sizes and indicates the tolerances and resistance ranges in which they are supplied.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs.	Megs.
1.0	9.1	82	680	5600	47000	0.36	3.0
1.1	10	91	750	6200	51000	0.39	3.3
1.2	11	100	820	6800	56000	0.43	3.6
1.3	12	110	910	7500	62000	0.47	3.9
1.5	13	120	1000	8200	68000	0.51	4.3
1.6	15	130	1100	9100	75000	0.56	4.7
1.8	16	150	1200	10000	82000	0.62	5.1
2.0	18	160	1300	11000	91000	0.68	5.6
2.2	20	180	1500	12000	100000	0.75	6.2
2.4	22	200	1600	13000	110000	0.82	6.8
2.7	24	220	1800	15000	120000	0.91	7.5
3.0	27	240	2000	16000	130000	1.0	8.2
3.3	30	270	2200	18000	140000	1.1	9.1
3.6	33	300	2400	20000	150000	1.2	10.0
3.9	36	330	2700	22000	160000	1.3	11.0
4.3	39	360	3000	24000	170000	1.5	12.0
4.7	43	390	3300	27000	180000	1.6	13.0
5.1	47	430	3600	30000	190000	1.8	15.0
5.6	51	470	3900	33000	200000	2.0	16.0
6.2	56	510	4300	36000	210000	2.2	18.0
6.8	62	560	4700	39000	220000	2.4	20.0
7.5	68	620	5100	43000	230000	2.7	22.0
8.2	75					0.33	

## PRICES, RESISTANCE RANGES, DIMENSIONS

Size Watts	Size		Resistance Range		MIL Type	±5%		±10%	
	lgth.	Dia.	From	Thru		Net 1-4	Net 5-49	Net 1-4	Net 5-49
1/8	.145"	.062"	2.7 ohms	9.1 ohms	RC 05†	37c LIDNU	31c LIDNU	27c LIDVS	22c LIDVS
			10 ohms	22 megs		34c LIDNU	28c LIDNU	24c LIDVS	20c LIDVS
1/4	1/4"	.090"	2.7 ohms	9.1 ohms	RC 07	29c LIDED	24c LIDED	14c LIDSM	12c LIDSM
			10 ohms	22 megs		26c LIDED	22c LIDED	13c LIDSM	11c LIDSM
1/2	3/8"	3/64"	1 ohm	2.4 ohms	RC 20*	26c LIDFA	22c LIDFA	13c LIDLO	11c LIDLO
			2.7 ohms	22 megs		24c LIDFA	20c LIDFA	12c LIDLO	10c LIDLO
1	9/16"	7/32"	2.7 ohms	22 megs	RC 32	36c LIDBU	30c LIDBU	18c LIDME	15c LIDME
			10 ohms	22 megs		48c LIDOC	40c LIDOC	24c LIDHI	20c LIDHI

\*Min. res. under MIL-R-11E is 2.7 ohms. †Min. res. under MIL-R-11E is 10 ohms. Leads 1 1/2" long.

**MEMCOR COMPONENTS**

**POWER WIREWOUND VITREOUS ENAMELED  
RESISTORS... RHEOSTATS**

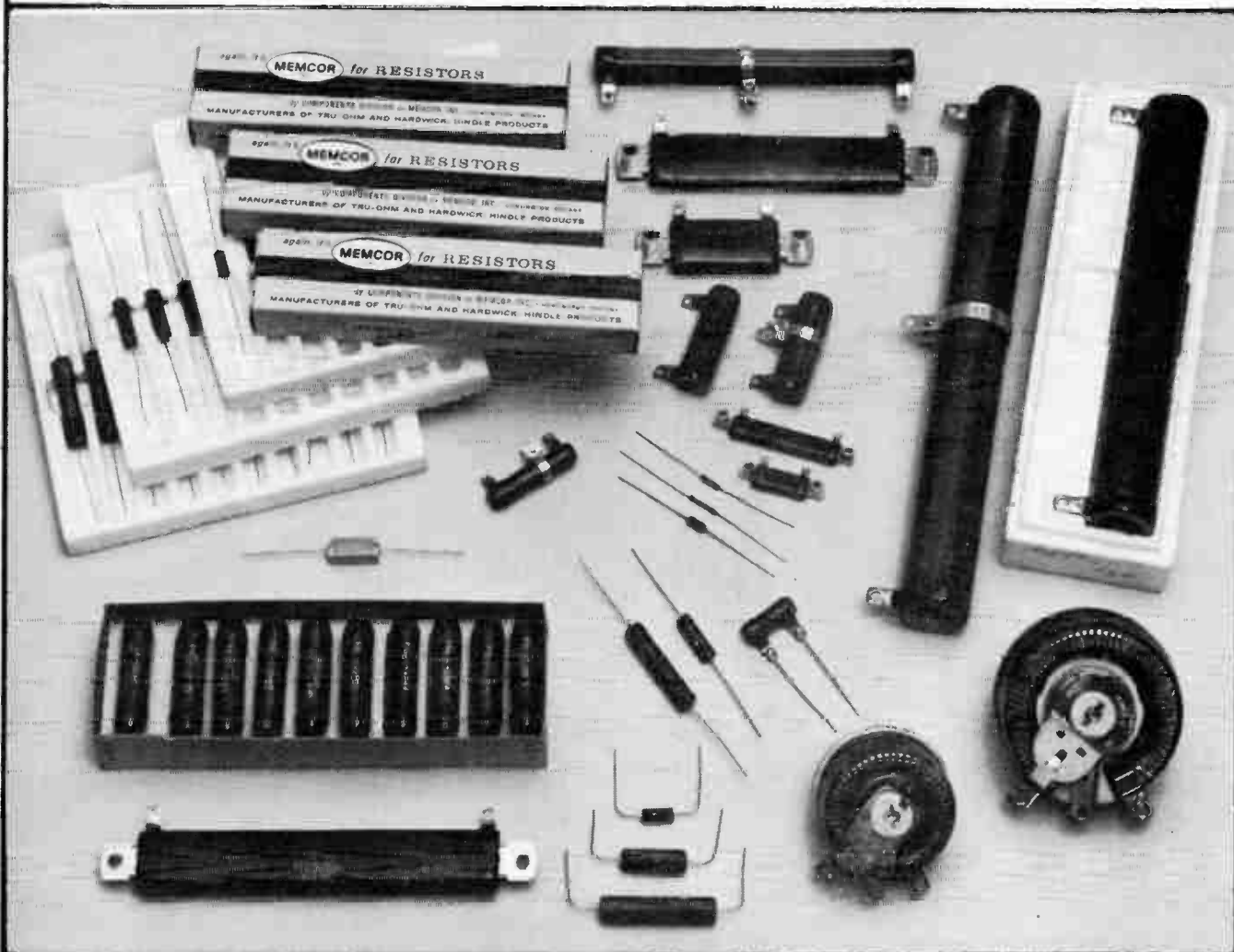
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**ELECTROSYSTEMS, INC.**

COMPONENTS OPERATION

**MEMCOR  
DIVISION**



SEE FOLLOWING PAGES  
FOR COMPLETE CATALOG  
OF ALL TYPES OF  
RESISTORS AND RHEOSTATS  
AVAILABLE

A DIVISION OF LTV ELECTROSYSTEMS, INC.

**MEMCOR COMPONENTS**

... VAL 3 ... VAL 5


Originators of TRU-OHM & HARDWICK, HINDLE Products

**RESISTORS**  
POWER  
WIRE WOUND  
VITREOUS ENAMELED

MEMCOR Components . . . resistors and rheostats . . . are manufactured by the MEMCOR Components facility of the MEMCOR Division of LTV ElectroSystems, Inc.

MEMOR Components represent the cumulative design skill and production knowledge of two great lines of resistance products — Tru-Ohm and Hardwick, Hindle. This "second generation" product maintains all of the proven features of both original lines plus the manufacturing refinements that can only result from industry experience.

The values of resistance listed in this section are in stock for immediate delivery—special resistance values or terminal diversions are readily available. **When ordering** — identify type and value of resistor by stock number.

VITREOUS AXIAL LEADS <b>VAL 3</b> (3 WATTS) CORE: 1/2" x 1/8" WEIGHT: .002 LBS.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
		1	2701	9.1	2707B	62	2733A	450	2738B	2500
The VAL type lends itself to applications where size is a factor.	1.1	2701A	10	2708	68	2733B	470	2739	2700	2756
	1.2	2701B	11	2708A	75	2724	500	2740	3000	2757
	1.3	2701C	12	2709	82	2725	510	2740A	3300	2758
	1.5	2702	13	2709A	91	2725A	560	2741	3500	2758A
	1.6	2702A	15	2710	100	2726	600	2742	3600	2758B
	1.8	2702B	16	2710A	110	2726A	620	2742A	3900	2759
	2	2703	18	2711	120	2727	680	2743	4000	2760
	2.2	2703A	20	2712	130	2727A	700	2744	4300	2760A
	2.4	2703B	22	2713	150	2728	750	2745	4500	2760B
	2.7	2703C	24	2713A	160	2728A	800	2746	4700	2761
	3	2704	25	2714	180	2729	820	2747	5000	2762
	3.3	2704A	27	2715	200	2730	900	2748	5100	2762A
	3.6	2704B	30	2716	220	2731	910	2748A	5600	2763
	3.9	2704C	33	2717	225	2732	1000	2749	6000	2764
	4	2705	35	2717A	240	2732A	1100	2749A	6200	2764A
	4.3	2705A	36	2717B	250	2733	1200	2750	6800	2765
	4.7	2705B	39	2718	270	2734	1300	2750A	7000	2766
	5	2706	40	2719	300	2735	1400	2750B	7500	2767
5.1	2706A	43	2719A	330	2736	1500	2751	8000	2768	
5.6	2706B	47	2720	350	2736A	1600	2751A	8200	2769	
6.2	2706C	50	2721	360	2736B	1800	2752	9000	2770	
6.8	2706D	51	2721A	390	2737	2000	2753	9100	2770A	
7.5	2707	56	2722	400	2738	2200	2754	10K	2771	
8.2	2707A	60	2723	430	2738A	2400	2754A			
VITREOUS AXIAL LEADS <b>VAL 5</b> (5 WATTS) CORE: 1/4" x 1/8" WEIGHT: .006 LBS.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
The VAL type can also be supplied taped or reeled for automatic insertion.	2.4	2803B	22	2813	160	2828A	820	2846	5000	2860A
	2.7	2803C	24	2813B	180	2829	900	2847	5100	2861
	3	2804	25	2814	200	2830	910	2847A	5600	2862
	3.3	2804A	27	2815	220	2831	1000	2848	6000	2863
	3.6	2804B	30	2816	240	2831A	1100	2848A	6200	2863A
	3.9	2804C	33	2817	250	2832	1200	2849	6800	2864
	4	2805	35	2817A	270	2833	1300	2849A	7000	2865
	4.3	2805A	36	2817B	300	2834	1400	2849B	7500	2866
	4.7	2805B	39	2818	330	2835	1500	2850	8000	2867
	5	2806	40	2819	350	2835A	1600	2850A	8200	2868
	5.1	2806A	43	2819A	360	2835B	1800	2851	9000	2869
	5.6	2806B	47	2820	390	2836	2000	2852	9100	2869A
	6.2	2806C	50	2821	400	2837	2200	2853	10K	2870
	6.8	2806D	51	2821A	430	2837A	2400	2853A	11K	2869B
	7.5	2807	56	2822	450	2837B	2500	2854	12K	2871
	8.2	2807A	62	2822A	470	2838	2700	2855	13K	2871A
	9.1	2807B	68	2823	500	2839	3000	2856	14K	2871B
	1	2801A	75	2824	510	2839A	3300	2857	15K	2872
1.1	2801B	82	2825	560	2840	3500	2857A	16K	2872A	
1.2	2801C	91	2825A	600	2841	3600	2857B	17K	2872B	
1.3	2801D	100	2826	620	2841A	3900	2858	18K	2873	
1.5	2802	110	2826A	680	2842	4000	2859	20K	2874	
1.6	2802A	120	2827	700	2843	4300	2859A	22K	2875	
1.8	2802B	130	2827A	750	2844	4500	2859B	24K	2875A	
2	2803	150	2828	800	2845	4700	2860	25K	2876	
2.2	2803A									

A DIVISION OF LTV ELECTROSYSTEMS, INC.

**MEMCOR COMPONENTS**

... VAL 10  
... FRL 5 ... FRL 10

**RESISTORS**  
POWER  
WIRE WOUND  
VITREOUS ENAMELED

Originators of TRU-OHM & HARDWICK, HINDLE Products

VITREOUS AXIAL LEADS <b>VAL 10</b> (10 WATTS)		Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
CORE: 3/16" x 1 1/8" WEIGHT: .014 LBS.		4.7	2905B	40	2919	360	2935B	1800	2951	9100	2969A
		5	2906	43	2919A	390	2936	2000	2952	10K	2970
		5.1	2906A	47	2920	400	2937	2200	2953	11K	2970A
		5.6	2906B	50	2921	430	2937A	2400	2953A	12K	2971
		6.2	2906C	51	2921A	450	2937B	2500	2954	13K	2971A
		6.8	2906D	56	2922	470	2938	2700	2955	14K	2971B
		7.5	2907	62	2922A	500	2939	3000	2956	15K	2972
		8.2	2907A	68	2923	510	2939A	3300	2957	16K	2972A
		9.1	2907B	75	2924	560	2940	3500	2957A	17K	2972B
		10	2908	82	2925	600	2941	3600	2957B	18K	2973
		11	2908A	91	2925A	620	2941A	3900	2958	20K	2974
		12	2909	100	2926	670	2942	4000	2959	22K	2975
		13	2909A	110	2926A	680	2942A	4300	2959A	24K	2975A
		15	2910	120	2927	700	2943	4500	2959B	25K	2976
		1.6	2902A	130	2927A	750	2944	4700	2960	27K	2977
		1.8	2902B	150	2928	800	2945	5000	2961	30K	2978
		2	2903	160	2928A	820	2946	5100	2961A	33K	2979
		2.2	2903A	180	2929	900	2947	5600	2962	35K	2979A
		2.4	2903B	200	2930	910	2947A	6000	2963	36K	2979B
		2.7	2903C	220	2931	1000	2948	6200	2963A	39K	2980
		3	2904	240	2931A	1100	2948A	6800	2964	40K	2981
		3.3	2904A	250	2932	1200	2949	7000	2965	43K	2981A
		3.6	2904B	270	2933	1300	2949A	7500	2966	45K	2981B
		3.9	2904C	300	2934	1400	2949B	8000	2967	47K	2982
		4	2905	330	2935	1500	2950	8200	2968	50K	2983
		4.3	2905A	350	2935A	1600	2950A	9000	2969	51K	2983B

These widely-used fixed wire wound vitreous enameled resistors have solidly anchored welded tabs (lugs) and shock-absorbing mounting brackets to withstand vibration. Multi-layer vitreous enamel coating locks the uniformly-wound resistance wire in position and also seals out moisture. MEMCOR resistors have a high-temperature stability and a com-

patible coefficient of expansion which prevents crazing and cracking. MEMCOR resistors have a standard tolerance of ±5% on all values above one OHM and a ±10% tolerance on resistance values lower than one OHM (available in closer tolerances). All MEMCOR resistors listed in this section manufactured to the

rigid requirements of MIL-R-26 Specifications... MEMCOR resistors meet and exceed all requirements of this specification. **FR and FRL TYPES** MEMCOR fixed wire wound vitreous enameled types in 5, 10 and 20 watt sizes (FRL) are light enough to be mounted by attached leads and are also available without (FR) tuned leads.



VITREOUS FIXED LEADS <b>FRL 5</b> (5 WATTS)		Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
CORE: 3/16" x 3/16" x 1" WEIGHT: .012 LBS. MOUNTING BY LEADS		3	1005	100	1019	800	1033	4500	1047
		4	1006	125	1020	900	1034	5000	1048
		5	1007	150	1021	1000	1035	6000	1049
		7.5	1008	200	1022	1100	1036	7000	1050
		10	1009	225	1023	1200	1037	7500	1051
		12	1010	250	1024	1250	1038	8000	1052
		15	1011	300	1025	1500	1039	9000	1053
		20	1012	350	1026	1750	1040	10K	1054
		25	1013	400	1027	2000	1041	12.5K	1055
		30	1014	450	1028	2250	1042	15K	1056
		35	1015	500	1029	2500	1043	17.5K	1057
		40	1016	600	1030	3000	1044	20K	1058
		1.5	1003	700	1031	3500	1045	22.5K	1059
		2	1004	750	1032	4000	1046	25K	1060

VITREOUS FIXED LEADS <b>FRL 10</b> (10 WATTS)		Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
CORE: 3/16" x 3/16" x 1 1/4" WEIGHT: .019 LBS. MOUNTING BY LEADS		3	1105	100	1119	800	1133	4500	1147
		4	1106	125	1120	900	1134	5000	1148
		5	1107	150	1121	1000	1135	6000	1149
		7.5	1108	200	1122	1100	1136	7000	1150
		10	1109	225	1123	1200	1137	7500	1151
		12	1110	250	1124	1250	1138	8000	1152
		15	1111	300	1125	1500	1139	8500	1153
		20	1112	350	1126	1750	1140	9000	1154
		25	1113	400	1127	2000	1141	10K	1155
		30	1114	450	1128	2250	1142	11K	1156
		35	1115	500	1129	2500	1143	12K	1157
		1	1102	600	1130	3000	1144	12.5K	1158
		1.5	1103	700	1131	3500	1145	13.5K	1159
		2	1104	750	1132	4000	1146	15K	1161

**MEMCOR COMPONENTS**

A DIVISION OF LTV ELECTROSYSTEMS, INC.

... FRL 20  
... FR 5 ... FR 10 ... FR 20

Originators of TRU-OHM & HARDWICK, HINDLE Products

**RESISTORS**  
POWER  
WIRE WOUND  
VITREOUS ENAMELED

	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
<b>VITREOUS FIXED LEADS  FRL 20 (20 WATTS)</b>  CORE: 3/16" x 1/4" x 2" WEIGHT: .033 LBS. MOUNTING BY LEADS	.5	1201	250	1214	1500	1227	7000	1241	45K	1252
	1	1202	300	1215	1750	1228	7500	1242	50K	1253
	3	1203	350	1216	2000	1230	8000	1243	55K	1254
	4	1204A	400	1217	2250	1231	9K	1243A	60K	1255
	5	1204	500	1218	2500	1233	10K	1244	65K	1256
	10	1205	650	1219	2750	1234	12.5K	1245	70K	1257
	15	1206	700	1220	3000	1235	15K	1246	75K	1258
	25	1207	750	1221	3500	1236	20K	1247	80K	1259
	50	1208	800	1222	4000	1237	25K	1248	85K	1260
	75	1209	910	1223A	4500	1238	30K	1249	90K	1261
	100	1210	1000	1224	5000	1239	35K	1250	95K	1262
	150	1211	1200	1225	6000	1240	40K	1251	100K	1263
	200	1213	1250	1226						

The FR type resistors can be mounted by brackets, vertical through bolts or by their tabs.

The sturdy terminals are hot-tinned for soldering ease, and the holes in the terminals are of suitable size to accommodate screws.

Mounting brackets are furnished **only** on request at no additional cost. If required, please specify bracket stock number.

Standard packaging — 5, 10 and 20 watt sizes are packed 10 units per carton and larger sizes are packed individually.



	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
<b>VITREOUS FIXED FR 5 (5 WATTS)</b>  CORE: 3/16" x 3/16" x 1" WEIGHT: .012 LBS.	.5	4401	4	4406	125	4420	900	4434	5000	4448
	1	4402	5	4407	150	4421	1000	4435	6000	4449
	1.5	4403	7.5	4408	200	4422	1100	4436	7000	4450
	2	4404	10	4409	225	4423	1200	4437	7500	4451
	3	4405	12	4410	250	4424	1250	4438	8000	4452
			15	4411	300	4425	1500	4439	9000	4453
			20	4412	350	4426	1750	4440	10K	4454
			25	4413	400	4427	2000	4441	12.5K	4455
			30	4414	450	4428	2250	4442	15K	4456
			35	4415	500	4429	2500	4443	17.5K	4457
			40	4416	600	4430	3000	4444	20K	4458
			50	4417	700	4431	3500	4445	22.5K	4459
			75	4418	750	4432	4000	4446	25K	4460
			100	4419	800	4433	4500	4447		

	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
<b>VITREOUS FIXED FR 10 (10 WATTS)</b>  CORE: 3/16" x 3/16" x 1 1/4" WEIGHT: .019 LBS. MTG. BRKT.: P4989	.5	4501	100	4519	800	4533	4500	4547	16K	4562
	1	4502	125	4520	900	4534	5000	4548	17.5K	4563
	1.5	4503	150	4521	1000	4535	6000	4549	18K	4564
	2	4504	200	4522	1100	4536	7000	4550	20K	4565
			225	4523	1200	4537	7500	4551	22.5K	4566
			250	4524	1250	4538	8000	4552	25K	4567
			300	4525	1500	4539	8500	4553	30K	4568
			350	4526	1750	4540	9000	4554	35K	4569
			400	4527	2000	4541	10K	4555	40K	4570
			450	4528	2250	4542	11K	4556	45K	4571
			500	4529	2500	4543	12K	4557	50K	4572
			600	4530	3000	4544	12.5K	4558		
			700	4531	3500	4545	13.5K	4559		
			750	4532	4000	4546	15K	4561		

	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
<b>VITREOUS FIXED FR 20 (20 WATTS)</b>  CORE: 3/16" x 1/4" x 2" WEIGHT: .033 LBS. MTG. BRKT.: P3749	.5	4601	300	4615	2000	4630	10K	4644	75K	4658
	1	4602	350	4616	2250	4631	12.5K	4645	80K	4659
	3	4603	400	4617	2500	4633	15K	4646	85K	4660
	4	4603A	500	4618	2750	4634	20K	4647	90K	4661
	5	4604	650	4619	3000	4635	25K	4648	95K	4662
	10	4605	700	4620	3500	4636	30K	4649	100K	4663
	15	4606	750	4621	4000	4637	35K	4650		
	25	4607	800	4622	4500	4638	40K	4651		
	50	4608	910	4623A	5000	4639	45K	4652		
	75	4609	1000	4624	6000	4640	50K	4653		
	100	4610	1200	4625	7000	4641	55K	4654		
	150	4611	1250	4626	7500	4642	60K	4655		
	200	4613	1500	4627	8000	4643	65K	4656		
	250	4614	1750	4628	9000	4663A	70K	4657		

**MEMCOR COMPONENTS**

A DIVISION OF LTV ELECTROSYSTEMS, INC.

... FR 25 ... FR 50

... FR 100 ... FR 160 ... FR 200

Originators of TRU-DHM &amp; HARDWICK, HINDLE Products

**RESISTORS**  
 POWER  
 WIRE WOUND  
 VITREOUS ENAMELED

VITREOUS FIXED <b>FR 25</b> (25 WATTS) CORE: $\frac{3}{8}$ " x $\frac{3}{8}$ " x 2" WEIGHT: .051 LBS. MTG. BRKT.: P3747	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
	1	1301	75	1310	1000	1321	6000	1330	35K	1338
2	1302	100	1311	1500	1323	7500	1331	40K	1339	
3	1303	150	1312	2000	1324	10K	1332	50K	1340	
4	1304	200	1313	2500	1325	12K	1333	60K	1341	
5	1305	250	1314	3000	1326	15K	1334	70K	1342	
10	1306	500	1317	3500	1327	20K	1335	75K	1343	
25	1308	750	1318	4000	1328	25K	1336	80K	1344	
50	1309	800	1319	5000	1329	30K	1337	100K	1345	

VITREOUS FIXED <b>FR 50</b> (50 WATTS) CORE: $\frac{3}{8}$ " x $\frac{3}{8}$ " x 4" WEIGHT: .082 LBS. MTG. BRKT.: P3747	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
	1	1401	100	1410	2000	1421	12K	1430	75K	1439
2	1402	150	1411	2500	1422	12.5K	1431	100K	1440	
3	1403	200	1412	3000	1423	15K	1432	125K	1441	
4	1404	250	1413	4000	1424	20K	1433	150K	1442	
5	1405	500	1416	5000	1425	25K	1434	175K	1443	
10	1406	750	1417	6000	1426	30K	1435	200K	1444	
25	1407	800	1418	7500	1427	35K	1436	225K	1445	
50	1408	1000	1419	8000	1428	40K	1437	250K	1446	
75	1409	1500	1420	10K	1429	50K	1438			

VITREOUS FIXED <b>FR 100</b> (100 WATTS) CORE: $\frac{3}{4}$ " x $\frac{1}{2}$ " x $6\frac{1}{2}$ " WEIGHT: .200 LBS. MTG. BRKT.: P3689	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
	1	1501	75	1509	1500	1518	20K	1529	75K	1537
2	1502	100	1510	2000	1519	25K	1530	100K	1538	
3	1503	125	1511	2500	1520	30K	1531			
4	1504	150	1512	3000	1521	35K	1532			
5	1505	250	1513	5000	1525	40K	1533			
10	1506	500	1514	7500	1526	50K	1534			
25	1507	750	1515	10K	1527	60K	1535			
50	1508	1000	1516	15K	1528	70K	1536			

VITREOUS FIXED <b>FR 160</b> (160 WATTS) CORE: $1\frac{1}{8}$ " x $\frac{3}{4}$ " x $8\frac{1}{2}$ " WEIGHT: .445 LBS. MTG. BRKT.: P4898	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
	1	1601	75	1610	1500	1618	20K	1629	80K	1637
2	1602	100	1611	2000	1619	25K	1630	100K	1638	
3	1603	125	1611A	2500	1620	30K	1631			
4	1604	150	1612	3000	1621	35K	1632			
5	1605	250	1614	5000	1625	40K	1633			
10	1606	500	1615	7500	1626	50K	1634			
25	1608	750	1616	10K	1627	60K	1635			
50	1609	1000	1617	15K	1628	75K	1636			

VITREOUS FIXED <b>FR 200</b> (200 WATTS) CORE: $1\frac{1}{4}$ " x $\frac{3}{4}$ " x $10\frac{1}{2}$ " WEIGHT: .740 LBS. MTG. BRKT.: P4898	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
	1	1701	75	1709	2000	1717	25K	1728		
2	1702	100	1710	2500	1718	30K	1729			
3	1703	150	1711	3000	1719	35K	1730			
4	1704	250	1712	5000	1723	40K	1731			
5	1705	500	1713	7500	1724	50K	1732			
10	1706	750	1714	10K	1725	60K	1733			
25	1707	1000	1715	15K	1726	75K	1734			
50	1708	1500	1716	20K	1727	100K	1735			

### ADJUSTABLE VALUE RESISTORS

MEMCOR adjustable resistors are used in applications where it is necessary to make adjustment in resistance periodically... where intermediate values of resistance are needed... or when multi-tabs are required. The AR types are especially useful in laboratories for experimental work, circuit design, etc.

A section of the winding is exposed on one side to enable the adjustment band to make contact at any desired point. This adjustable band **should not** be moved unless the screw holding it in position is completely loosened to prevent abrading or possible damage to the resistance wire.

Adjustable lugs are formed to the exact contour of the body of the resistor to assure positive contact with the exposed section of winding. Standard adjustable bands are screw-driven style and have an embossed area on the lug.

Special adjustable lugs are available with a silver contact... also, bakelite thumb screw type bands are available.

The AR wattage ratings (and the  $\pm 10\%$  tolerance) given in this section are for **the entire** resistor. Never exceed the maximum rating through any portion of the resistor.


A DIVISION OF LTV ELECTROSYSTEMS, INC.

**MEMCOR COMPONENTS**

**AR 10 ... AR 25 ... AR 50 ... AR 75**  
**... AR 100 ... AR 160 ... AR 200**

Originators of TRU-DHM & HARDWICK, HINDLE Products

**RESISTORS**  
**POWER**  
**WIRE WOUND**  
**VITREOUS ENAMELED**

	<b>VITREOUS ADJUSTABLE</b> <b>AR 10</b> <b>(10 WATTS)</b> CORE: $\frac{3}{8}$ " x $\frac{3}{8}$ " x $1\frac{3}{4}$ " WEIGHT: .019 LBS. MTG. BRKT.: P4989		Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
			1	2001	75	2011	750	2021	4000	2031
			2	2002	100	2012	800	2022	4500	2032
			3	2003	150	2013	1000	2023	5000	2033
			5	2004	200	2014	1250	2024	6000	2034
			7.5	2005	250	2015	1500	2025	7000	2035
			10	2006	300	2016	2000	2026	7500	2036
			15	2007	350	2017	2250	2027	8000	2037
			20	2008	400	2018	2500	2028	8500	2038
			25	2009	500	2019	3000	2029	9000	2039
50	2010	600	2020	3500	2030	10K	2040			
<b>VITREOUS ADJUSTABLE</b> <b>AR 25</b> <b>(25 WATTS)</b> CORE: $\frac{3}{8}$ " x $\frac{3}{8}$ " x 2" WEIGHT: .052 LBS. MTG. BRKT.: P3747	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
	1	2101	50	2110	750	2119	3500	2129	10K	2139
	2	2102	75	2111	800	2120	4000	2130	12K	2140
	3	2103	100	2112	1000	2122	4500	2131	15K	2141
	5	2104	150	2113	1250	2133	5000	2132	20K	2142
	7.5	2105	200	2114	1500	2124	6000	2133	25K	2143
	10	2106	250	2115	2000	2125	7000	2134		
	15	2107	300	2116	2250	2126	7500	2136		
	20	2108	400	2117	2500	2127	8000	2137		
	25	2109	500	2118	3000	2128	9000	2138		
<b>VITREOUS ADJUSTABLE</b> <b>AR 50</b> <b>(50 WATTS)</b> CORE: $\frac{3}{8}$ " x $\frac{3}{8}$ " x 4" WEIGHT: .096 LBS. MTG. BRKT.: P3747	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
	1	2201	100	2210	1000	2219	4500	2228	15K	2238
	2	2202	150	2211	1250	2220	5000	2229	20K	2239
	3	2203	200	2212	1500	2221	6000	2230	25K	2240
	4	2204	250	2213	2000	2222	7000	2231	30K	2241
	5	2205	300	2214	2250	2223	7500	2233	40K	2242
	10	2206	400	2215	2500	2224	8000	2234	50K	2243
	25	2207	500	2216	3000	2225	9000	2235	60K	2244
	50	2208	750	2217	3500	2226	10K	2236	80K	2246
	75	2209	800	2218	4000	2227	12K	2237	100K	2247
<b>VITREOUS ADJUSTABLE</b> <b>AR 75</b> <b>(75 WATTS)</b> CORE: $\frac{3}{8}$ " x $\frac{3}{8}$ " x 6" WEIGHT: .150 LBS. MTG. BRKT.: P3747	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
	1	2301	200	2312	2000	2322	7500	2333	40K	2343
	2	2302	250	2313	2250	2323	8000	2334	45K	2344
	3	2303	300	2314	2500	2324	9000	2335	50K	2345
	4	2304	400	2315	3000	2325	10K	2336	60K	2346
	5	2305	500	2316	3500	2326	12K	2337	80K	2348
	10	2306	750	2317	4000	2327	15K	2338	100K	2349
	15	2307	800	2318	4500	2328	20K	2339		
	25	2308	1000	2319	5000	2329	25K	2340		
	50	2309	1250	2320	6000	2330	30K	2341		
100	2311	1500	2321	7000	2331	35K	2342			
<b>VITREOUS ADJUSTABLE</b> <b>AR 100</b> <b>(100 WATTS)</b> CORE: $\frac{3}{4}$ " x $\frac{1}{2}$ " x $6\frac{1}{2}$ " WEIGHT: .200 LBS. MTG. BRKT.: P3689	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	<b>Caution</b> — the voltage should be off when making adjustments to prevent any possible injury to the operator from high voltage.	
	1	2401	100	2409	10K	2424	100K	2433		
	2	2402	250	2411	15K	2425				
	3	2403	500	2413	20K	2426				
	4	2404	1000	2415	25K	2427				
	5	2405	1500	2416	30K	2428				
	10	2406	2500	2418	40K	2429				
	25	2407	5000	2421	50K	2430				
	50	2408	6000	2422	60K	2432				
	<b>VITREOUS ADJUSTABLE</b> <b>AR 160</b> <b>(160 WATTS)</b> CORE: $1\frac{1}{8}$ " x $\frac{3}{4}$ " x $8\frac{1}{2}$ " WEIGHT: .460 LBS. MTG. BRKT.: P4898	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms		
1		2501	100	2510	10K	2524	80K	2532		
2		2502	250	2512	15K	2525	100K	2534		
3		2503	500	2513	20K	2526				
4		2504	1000	2514	25K	2527				
5		2505	1500	2515	30K	2528				
10		2506	2500	2517	40K	2529				
25		2508	3500	2519	50K	2530				
50		2509	5000	2522	60K	2531				
<b>VITREOUS ADJUSTABLE</b> <b>AR 200</b> <b>(200 WATTS)</b> CORE: $1\frac{1}{8}$ " x $\frac{3}{4}$ " x $10\frac{1}{2}$ " WEIGHT: .670 LBS. MTG. BRKT.: P4898		Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	<b>Caution</b> — the voltage should be off when making adjustments to prevent any possible injury to the operator from high voltage.
	1	2601	25	2607	1500	2613	25K	2625		
	2	2602	50	2608	2500	2615	30K	2626		
	3	2603	100	2609	5000	2620	40K	2627		
	4	2604	250	2610	10K	2622	50K	2628		
	5	2605	500	2611	15K	2623	60K	2630		
	10	2606	1000	2612	20K	2624	100K	2631		


**MEMCOR COMPONENTS**

A DIVISION OF LTV ELECTROSYSTEMS, INC.

... MOR 10 ... MOR 20  
... OR 30 ... OR 40 ... OR 55

Originators of TRU-OHM & HARDWICK, HINDLE Products

**RESISTORS**  
POWER  
WIRE WOUND  
VITREOUS ENAMELED

 <p><b>VITREOUS MIDGET OVAL MOR 10 (10 WATTS)</b> CORE: 3/8" x 3/4" LENGTH: 1 1/8" MTG. CENTERS: 1"</p>	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
	1	3001	30	3009	250	3017	1500	3025
	2	3002	40	3010	300	3018	1750	3026
	5	3003	50	3011	400	3019	2000	3027
	7.5	3004	75	3012	500	3020	2500	3028
	10	3005	100	3013	600	3021	3000	3029
	15	3006	125	3014	750	3022	4000	3030
	20	3007	150	3015	1000	3023	5000	3031
	25	3008	200	3016	1250	3024		
	<p><b>VITREOUS MIDGET OVAL MOR 20 (20 WATTS)</b> CORE: 3/8" x 2" LENGTH: 2 5/8" MTG. CENTERS: 2 1/4"</p>	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms
1		3201	75	3209	800	3217	4000	3225
2		3202	100	3210	1000	3218	5000	3226
5		3203	150	3211	1250	3219	6000	3227
10		3204	200	3212	1500	3220	7500	3228
15		3205	250	3213	2000	3221	10K	3229
25		3206	300	3214	2500	3222	12.5K	3230
40		3207	400	3215	3000	3223	15K	3231
50		3208	500	3216	3500	3224	20K	3232

**OVAL (FLAT CORE) RESISTORS**


MEMCOR wire wound flat core resistors are applicable for individual and/or stack mounting. Their high watt rating per unit of space and the bracket construction which facilitates stacking (integral mounting brackets are supplied as standard)... make the MOR and OR types space savers par excellence.

The line of ovals (OR) was designed particularly for applications where available space is limited... and the supplementary line of midget ovals (MOR) are

very desirable for applications where the size of the components must be kept to an absolute minimum. The through bracket helps dissipate heat and reduces hot spots. This permits higher wattage dissipation without requiring additional space.

When stack mounted, the OR and MOR resistors should be derated. For an ambient temperature not higher than 40°C. the maximum rise of these resistors will not exceed 300°C. when mounted on a steel panel.

Tapped or adjustable ovals are available.

 <p><b>VITREOUS OVAL OR 30 (30 WATTS)</b> CORE: 5/8" x 1" x 1 1/4" WEIGHT: .055 LBS.</p>	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
	1	3301	40	3306A	500	3313	5000	3323
	1.5	3301A	50	3307	750	3314	7500	3324
	2	3302B	75	3307A	1000	3315	10K	3325
	3	3302	100	3308	1500	3317		
	5	3303	150	3309	2000	3318		
	10	3304	200	3310	2500	3319		
	15	3305	250	3311	3000	3320		
	25	3306	400	3312	4000	3322		
	<p><b>VITREOUS OVAL OR 40 (40 WATTS)</b> CORE: 5/8" x 1" x 2" WEIGHT: .075 LBS.</p>	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms
1		3401	25	3406	400	3412	3500	3421
1.5		3401A	40	3406A	500	3413	5000	3423
2		3402A	50	3407	750	3414	7500	3424
3		3402	75	3407A	1000	3415	10K	3425
4		3403A	100	3408	1500	3417	15K	3426
5		3403	150	3409	2000	3418	20K	3427
7.5		3404A	200	3410	2500	3419	25K	3428
10		3404	250	3411	3000	3420		
<p><b>VITREOUS OVAL OR 55 (55 WATTS)</b> CORE: 5/8" x 1" x 3 1/2" WEIGHT: .130 LBS.</p>		Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms
	1	3501	25	3506	400	3512	4000	3522
	1.5	3501A	40	3506A	500	3513	5000	3523
	2	3502A	50	3507	750	3514	7500	3524
	3	3502	75	3507A	1000	3515	10K	3525
	4	3503A	100	3508	1500	3517	15K	3526
	5	3503	150	3509	2000	3518	20K	3527
	7.5	3504A	200	3510	2500	3519	25K	3528
	10	3504	250	3511	3000	3520	30K	3529

**MOULDED SILICONE RESISTORS**

These resistors will operate at 350°C. (660°F.) and will withstand thermal shocks to minus 55°C. Because of the moulded construction the resistors are effectively hermetically sealed and will withstand severe moisture conditions without deterioration.

The construction of the resistors are uniform in all dimensions within a few thousandths of an inch, which facilitates their use in automatic-insertion machinery... for which use they may be obtained specially packaged. They will improve the appearance of any assembly in which they are used.

Temperature co-efficients of plus or minus 20 parts per million per C. degree are standard.

The moulding compound used in these resistors was developed through research and development extending over several years, and represents a marked advance in the "state-of-the-art" for such compounds.



A DIVISION OF LTV ELECTROSYSTEMS, INC.

**RESISTORS****SILICONE  
MOULDED****MEMCOR COMPONENTS****... MAL 3**

Originators of TRU-OHM &amp; HARDWICK, HINDLE Products

**MOULDED  
AXIAL LEADS****MAL 3  
(3 WATTS)**CLOSE TOLERANCE  
±1% IN STOCK

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
.100	3M10	16.2	3M143	100	3M219	619	3M295	3830	3M371
.121	3M11	16.5	3M144	102	3M220	634	3M296	3920	3M372
.150	3M12	16.9	3M145	105	3M221	649	3M297	4020	3M373
.182	3M13	17.4	3M146	107	3M222	665	3M298	4120	3M374
.200	3M14	17.8	3M147	110	3M223	681	3M299	4220	3M375
.221	3M15	18.2	3M148	113	3M224	698	3M300	4320	3M376
.249	3M16	18.7	3M149	115	3M225	715	3M301	4420	3M377
.274	3M17	19.1	3M150	118	3M226	732	3M302	4530	3M378
.332	3M18	19.6	3M151	121	3M227	750	3M303	4640	3M379
.392	3M19	20.0	3M152	124	3M228	768	3M304	4750	3M380
.475	3M20	20.5	3M153	127	3M229	787	3M305	4870	3M381
.499	3M21	21.0	3M154	130	3M230	806	3M306	4990	3M382
.562	3M22	21.5	3M155	133	3M231	825	3M307	5110	3M383
.681	3M23	22.1	3M156	137	3M232	845	3M308	5230	3M384
.750	3M24	22.6	3M157	140	3M233	866	3M309	5360	3M385
.825	3M25	23.2	3M158	143	3M234	887	3M310	5490	3M386
1.00	3M26	23.7	3M159	147	3M235	909	3M311	5620	3M387
1.02	3M27	24.3	3M160	150	3M236	931	3M312	5760	3M388
1.05	3M28	24.9	3M161	154	3M237	953	3M313	5900	3M389
1.10	3M29	25.5	3M162	158	3M238	976	3M314	6040	3M390
1.13	3M30	26.1	3M163	162	3M239	1000	3M315	6100	3M391
1.15	3M31	26.7	3M164	165	3M240	1020	3M316	6340	3M392
1.18	3M32	27.4	3M165	169	3M241	1050	3M317	6400	3M393
1.21	3M33	28.0	3M166	174	3M242	1070	3M318	6650	3M394
1.24	3M34	28.7	3M167	178	3M243	1100	3M319	6810	3M395
1.27	3M35	29.4	3M168	182	3M244	1130	3M320	6980	3M396
1.30	3M36	30.1	3M169	187	3M245	1150	3M321	7150	3M397
1.33	3M37	30.9	3M170	191	3M246	1180	3M322	7320	3M398
1.37	3M38	31.6	3M171	196	3M247	1210	3M323	7500	3M399
1.40	3M39	32.4	3M172	200	3M248	1240	3M324	7680	3M400
1.43	3M40	33.2	3M173	205	3M249	1270	3M325	7870	3M401
1.47	3M41	34.0	3M174	210	3M250	1300	3M326	8060	3M402
1.50	3M42	34.8	3M175	215	3M251	1330	3M327	8250	3M403
1.54	3M43	35.7	3M176	221	3M252	1370	3M328	8450	3M404
1.58	3M44	36.5	3M177	226	3M253	1400	3M329	8660	3M405
1.62	3M45	37.4	3M178	232	3M254	1430	3M330	8870	3M406
1.65	3M46	38.3	3M179	237	3M255	1470	3M331	9090	3M407
1.69	3M47	39.2	3M180	243	3M256	1500	3M332	9310	3M408
1.74	3M48	40.2	3M181	249	3M257	1540	3M333	9530	3M409
1.78	3M49	41.2	3M182	255	3M258	1580	3M334	9760	3M410
1.82	3M50	42.2	3M183	261	3M259	1620	3M335	10K	3M411
1.87	3M51	43.2	3M184	267	3M260	1650	3M336	10.2K	3M412
1.91	3M52	44.2	3M185	274	3M261	1690	3M337	10.5K	3M413
1.96	3M53	45.3	3M186	280	3M262	1740	3M338	10.7K	3M414
2.00	3M54	46.4	3M187	287	3M263	1780	3M339	11K	3M415
2.05	3M55	47.5	3M188	294	3M264	1820	3M340	11.3K	3M416
2.10	3M56	48.7	3M189	301	3M265	1870	3M341	11.5K	3M417
2.15	3M57	49.9	3M190	309	3M266	1910	3M342	11.8K	3M418
2.21	3M58	51.1	3M191	316	3M267	1960	3M343	12.1K	3M419
2.26	3M59	52.3	3M192	324	3M268	2000	3M344	12.4K	3M420
2.32	3M60	53.6	3M193	332	3M269	2050	3M345	12.7K	3M421
2.37	3M61	54.9	3M194	340	3M270	2100	3M346	13K	3M422
2.43	3M62	56.2	3M195	348	3M271	2150	3M347	13.3K	3M423
2.49	3M63	57.6	3M196	357	3M272	2210	3M348	13.7K	3M424
2.55	3M64	59.0	3M197	365	3M273	2260	3M349	14K	3M425
	3M65	60.4	3M198	374	3M274	2320	3M350	14.3K	3M426
	3M66	61.9	3M199	383	3M275	2370	3M351	14.7K	3M427
		63.4	3M200	392	3M276	2430	3M352	15K	3M428
		64.9	3M201	402	3M277	2490	3M353	15.4K	3M429
		66.5	3M202	412	3M278	2550	3M354	15.8K	3M430
		68.1	3M203	422	3M279	2610	3M355	16.2K	3M431
		69.8	3M204	432	3M280	2670	3M356	16.5K	3M432
		71.5	3M205	442	3M281	2740	3M357	16.9K	3M433
		73.2	3M206	453	3M282	2800	3M358	17.4K	3M434
		75.0	3M207	464	3M283	2870	3M359	17.8K	3M435
		76.8	3M208	475	3M284	2940	3M360	18.2K	3M436
		78.7	3M209	487	3M285	3010	3M361	18.7K	3M437
		80.6	3M210	499	3M286	3090	3M362	19.1K	3M438
		82.5	3M211	511	3M287	3160	3M363	19.6K	3M439
		84.5	3M212	523	3M288	3240	3M364	20K	3M440
		86.6	3M213	536	3M289	3320	3M365	20.5K	3M441
		88.7	3M214	549	3M290	3400	3M366	21K	3M442
		90.9	3M215	562	3M291	3480	3M367	21.5K	3M443
		93.1	3M216	576	3M292	3500	3M368	22.1K	3M444
		95.3	3M217	590	3M293	3650	9M369		
		97.6	3M218	604	3M294	3740	3M370		

# SPEER FIXED COMPOSITION RESISTORS

Speer resistors are made on modern high speed equipment which molds component material into one integral, dense unit. Heavy pure tin-coated copper lead wires, thermosetting bonding resins, finely divided inorganic fillers, and specially produced and treated high conductivity materials such as carbon blacks are the materials used.

During the molding process, preformed insulating shells of bodged inorganic fillers are filled with carefully adjusted conducting compounds. The binders and fillers of both shell and core are completely compatible and, under high pressure, allow the formation of an inseparable bond between core and shell. The thermal transfer characteristics of shell and core are essentially equal.

After high pressure molding, the "green" resistors are cured in precisely adjusted, indirectly heated continuous tube furnaces. The resin cure is complete and the final resistance of the unit is thereby fixed. A vacuum and pressure of special high temperature material develops maximum protection against moisture penetration.

The special impregnant used is completely stable under all operating conditions. This material seals and produces an effective barrier to moisture penetration.

Speer resistors are color coded with special paints developed to provide a high degree of solvent resistance.

All Speer resistors have lead wires of high conductivity copper with a solderable coating of heavy pure tin. The wires are completely precoated before assembly, so that the solderable surface is unbroken over the entire area. The tin coat is controlled to a thickness of .0003"-.0008", several times as heavy as that on ordinary tinned wire. The use of pure tin affords superior storage life and offers the ultimate in low temperature solderability.

The impregnated resistors are measured on high speed automatic resistance sorters and classified into appropriate resistance nominals and tolerances. The color bands and protective outer film are applied after sorting.

## SPECIFICATIONS

Speer Type	Mil Type	Rating In Watts	Resistance Range Ohms	Diameter D	Length L	Wire Size A.W.G.	Nom. Dia. LD	Length LL
SR ¼	RC 07	¼	10 Ohm to 1.0 Meg.	.090 ± .008	.250 ± .031	No. 22	.025	1½ ± ⅛
SR ½	RC 20	½	2.7 Ohm to 22 Meg.	.138 ± .007	.390 ± .025	No. 20	.032	1½ ± ⅛
SR 1	RC 32	1	2.7 Ohm to 22 Meg.	.225 ± .010	.562 ± .030	No. 18	.040	1½ ± ⅛
SR 2	RC 42	2	10 Ohm to 22 Meg.	.312 ± .010	.688 ± .030	No. 17	.045	1½ ± ⅛

## STANDARD RESISTANCE VALUES AND TOLERANCES

As shown in the table below, Speer resistors are available in all standard values specified by MIL-R-11 and RS 172.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Meg.	Meg.
2.7	<b>11</b>	47	<b>200</b>	820	3600	15K	<b>62K</b>	270K	<b>1.1</b>	<b>5.1</b>
<b>3.0</b>	12	<b>51</b>	220	<b>910</b>	3900	<b>16K</b>	68K	<b>300K</b>	1.2	5.6
3.3	<b>13</b>	56	<b>240</b>	1000	<b>4300</b>	18K	<b>75K</b>	330K	<b>1.3</b>	<b>6.2</b>
<b>3.6</b>	15	<b>62</b>	270	<b>1100</b>	4700	<b>20K</b>	82K	<b>360K</b>	1.5	6.8
3.9	<b>16</b>	68	<b>300</b>	1200	<b>5100</b>	22K	<b>91K</b>	390K	<b>1.6</b>	<b>7.5</b>
<b>4.3</b>	18	<b>75</b>	330	<b>1300</b>	5600	<b>24K</b>	100K	<b>430K</b>	1.8	8.2
4.7	<b>20</b>	82	<b>360</b>	1500	<b>6200</b>	27K	<b>110K</b>	470K	<b>2.0</b>	<b>9.1</b>
5.1	<b>22</b>	<b>91</b>	390	<b>1600</b>	6800	<b>30K</b>	120K	<b>510K</b>	2.2	10.0
5.6	<b>24</b>	100	<b>430</b>	1800	<b>7500</b>	33K	<b>130K</b>	560K	<b>2.4</b>	<b>11.0</b>
<b>6.2</b>	27	<b>110</b>	470	<b>2000</b>	8200	<b>36K</b>	150K	<b>620K</b>	2.7	12.0
6.8	<b>30</b>	120	<b>510</b>	2200	<b>9100</b>	39K	<b>160K</b>	680K	<b>3.0</b>	<b>13.0</b>
<b>7.5</b>	33	<b>130</b>	560	<b>2400</b>	10K	<b>43K</b>	180K	<b>750K</b>	3.3	15.0
8.2	<b>36</b>	150	<b>620</b>	2700	<b>11K</b>	47K	<b>200K</b>	820K	<b>3.6</b>	<b>16.0</b>
<b>9.1</b>	39	<b>160</b>	680	<b>3000</b>	12K	<b>51K</b>	220K	<b>910K</b>	3.9	18.0
10	<b>43</b>	180	<b>750</b>	3300	<b>13K</b>	56K	<b>240K</b>	1.0M	<b>4.3</b>	<b>20.0</b>
									4.7	22.0

Items in bold face type available in 5% tolerance only.



SPEER RESISTOR DIVISION, SPEER CARBON COMPANY

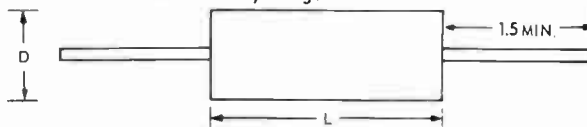
Speer Carbon Company is a Division of Air Reduction Company, Inc.

# Specifications and Typical Performance Data for Standard JXP Precision Resistors

All JXP resistors meet or exceed the requirements for Characteristic E ( $\pm 25$  ppm/ $^{\circ}$ C) metal film resistors as set forth in MIL-R-10509.

Resistors of any resistance value within the ranges specified in the accompanying table are available for short time delivery. The resistance ranges specified for the commercial listings below are extended beyond

standard military ranges. Performance within these ranges, however, is considered to be equivalent to those within military ranges.



Wattage at 125 $^{\circ}$ C	Military		Commercial		Length A Max.	Diameter B Max.	Axial Lead # Size
	Style	Range	Style	Range			
1/10	RN55E	49.9 $\Omega$ - 100K	JXP55	25 $\Omega$ - 150K*	0.260	0.115	$\approx$ 22 AWG
1/8	RN60E	49.9 $\Omega$ - 499K	JXP60	35 $\Omega$ - 500K*	0.400	0.136	$\approx$ 22 AWG
1/4	RN65E	49.9 $\Omega$ - 1M	JXP65	30 $\Omega$ - 1.5M*	0.590	0.210	$\approx$ 22 AWG
1/2	RN70E	49.9 $\Omega$ - 1M	JXP70	35 $\Omega$ - 2.0M*	0.730	0.250	$\approx$ 20 AWG

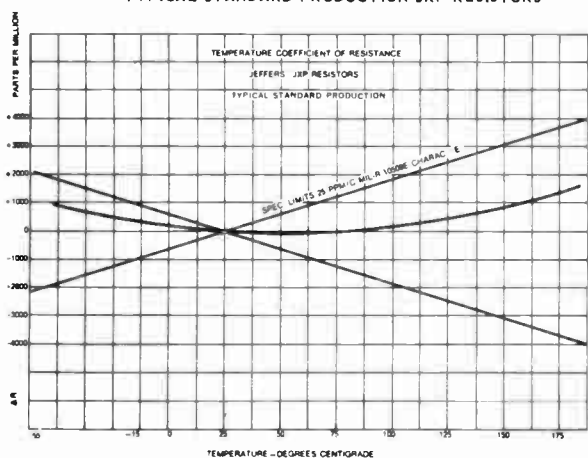
Special tolerances to  $\pm 0.02\%$ . Standard TC:  $0 \pm 25$  ppm/ $^{\circ}$ C ( $-55^{\circ}$ C +  $175^{\circ}$ C). Special TC's to  $\pm 5$  ppm/ $^{\circ}$ C over limited temperature spans.

\*Extended ranges may be supplied on special order.

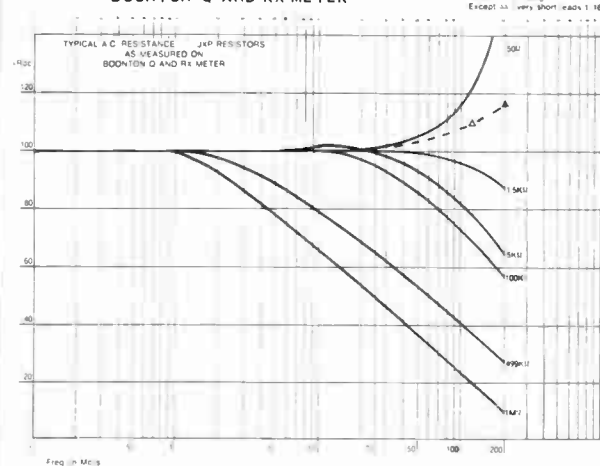
Standard lead material is 100% tin coated low oxygen content copper with a non-borated gold interface.

Other lead materials can be supplied as special order items.

TEMPERATURE COEFFICIENT OF RESISTANCE FOR TYPICAL STANDARD PRODUCTION JXP RESISTORS



TYPICAL A.C. RESISTANCE AS MEASURED ON BOONTON Q AND RX METER



Jeffers capability as a leading producer of low temperature coefficient, precision resistors is derived from significant proprietary advances in metal film technology and the establishment of a manufacturing facility and product philosophy that is devoted exclusively to production of only the highest grade of precision resistors. This concentration of effort has eliminated the necessary compromises in equipment and processes and reduced the diversion of skills which would otherwise be necessary for the accommodation of a multi-grade product line.

In other words, Jeffers makes all its parts to a T.C. of 25 P.P.M. or less. It does not "sort" to find production lots which will hopefully contain a large percentage of 25 P.P.M. units.

This product plan has resulted in some important contributions

to quality and economical precision resistor manufacture. For example:

*All operations in the manufacture of JXP precision resistors are carried out under qualified white room conditions, an important factor in statistical reliability.*

*Shortest delivery available for precision resistors is a natural result of the efficiencies of a manufacturing operation that deals with only one grade of product.*

In addition to manufacturing facilities, Jeffers has complete environmental test facilities, instrument calibration and certified measurement ability for precision resistor evaluation.

You can order standard or custom-tailored JXPs, matched sets—even networks and packaged assemblies. Write:

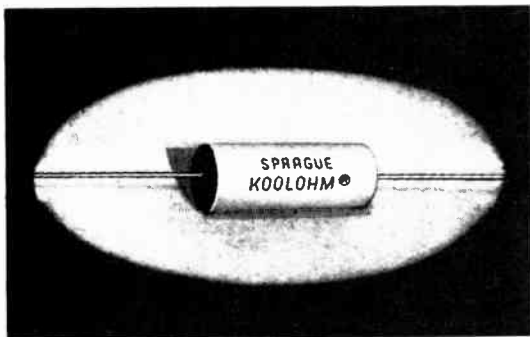


JEFFERS ELECTRONICS DIVISION, SPEER CARBON COMPANY

Speer Carbon Company is a Division of Air Reduction Company, Inc.

# SPRAGUE RESISTORS

## KOOLOHM® AXIAL-LEAD WIREWOUND RESISTORS FOR INDUSTRIAL APPLICATIONS



- Types 450E, 452E, 454E, 456E and 458E are Standard Resistors. Types 451E, 453E, 455E, 457E and 459E are Non-Inductive Resistors

- Insulated-Shell Design for Easy Mounting
- Feature Improved Internal Construction in Which Windings and Leads are Welded to End-Cap for Superior Mechanical Strength
- Ceramic-Insulated Wire is Space Wound and Cemented, to Prevent Turn-to-Turn Shorting. Permits Higher Resistance Values in a Given Size Than in Conventional Resistors
- Non-Porous Tubular Ceramic Shells Sealed With High Temperature Silicone Cement
- Unexcelled Insulation and Mechanical Protection. Can be Mounted in Direct Contact With Chassis
- Call Your Sprague Industrial Distributor for Quantity Prices.
- For Complete Technical Details, Refer to Latest Issue of Sprague Engineering Bulletin 7300

Ohms	Type 450E 3 WATTS 1/4" x 3/16"		Type 452E 5 WATTS 1/4" x 1"		Type 454E 7 WATTS 1 1/2" x 1 1/16"		Type 456E 10 WATTS 1 5/8" x 1 29/32"		Type 458E 14 WATTS 1 5/8" x 1 29/32"	
	Cat. No.		Cat. No.		Cat. No.		Cat. No.		Cat. No.	
1	450E1R05	Call Your Sprague Industrial Distributor for Current Quantity Prices	452E1R05	Call Your Sprague Industrial Distributor for Current Quantity Prices	454E1R05	Call Your Sprague Industrial Distributor for Current Quantity Prices	456E1R05	Call Your Sprague Industrial Distributor for Current Quantity Prices	458E1R05	Call Your Sprague Industrial Distributor for Current Quantity Prices
1.5	450E1R55		452E1R55		454E1R55		456E1R55		458E1R55	
2	450E2R05		452E2R05		454E2R05		456E2R05		458E2R05	
3	450E3R05		452E3R05		454E3R05		456E3R05		458E3R05	
4	450E4R05		452E4R05		454E4R05		456E4R05		458E4R05	
5	450E5R05		452E5R05		454E5R05		456E5R05		458E5R05	
7.5	450E7R55		452E7R55		454E7R55		456E7R55		458E7R55	
10	450E1005		452E1005		454E1005		456E1005		458E1005	
12	450E1205		452E1205		454E1205		456E1205		458E1205	
15	450E1505		452E1505		454E1505		456E1505		458E1505	
18	450E1805		----		----		----		----	
20	450E2005		452E2005		454E2005		456E2005		458E2005	
22	450E2205		----		----		----		----	
25	450E2505		452E2505		454E2505		456E2505		458E2505	
27	450E2705		----		----		----		----	
30	450E3005	452E3005	454E3005	456E3005	458E3005					
33	450E3305	----	----	----	----					
35	----	452E3505	454E3505	456E3505	458E3505					
39	450E3905	----	----	----	----					
40	450E4005	452E4005	454E4005	456E4005	458E4005					
47	450E4705	----	----	----	----					
50	450E5005	452E5005	454E5005	456E5005	458E5005					
56	450E5605	----	----	----	----					
68	450E6805	----	----	----	----					
75	450E7505	452E7505	454E7505	456E7505	458E7505					
82	450E8205	----	----	----	----					
100	450E1015	452E1015	454E1015	456E1015	458E1015					
120	450E1215	452E1215	454E1215	456E1215	458E1215					
150	450E1515	452E1515	454E1515	456E1515	458E1515					
180	450E1815	----	----	----	----					

# SPRAGUE RESISTORS

## KOOLOHM AXIAL-LEAD WIREWOUND RESISTORS, continued

Ohms	Type 450E 3 WATTS $\frac{1}{4}'' \times \frac{9}{16}''$	Type 452E 5 WATTS $\frac{1}{4}'' \times 1''$	Type 454E 7 WATTS $1\frac{1}{2}'' \times 1\frac{3}{16}''$	Type 456E 10 WATTS $1\frac{1}{2}'' \times 1\frac{7}{32}''$	Type 458E 14 WATTS $1\frac{1}{2}'' \times 1\frac{7}{32}''$
	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
200	450E2015	452E2015	454E2015	456E2015	458E2015
220	450E2215	452E2215	454E2215	456E2215	458E2215
250	450E2515	452E2515	454E2515	456E2515	458E2515
270	450E2715	---	---	---	---
300	450E3015	452E3015	454E3015	456E3015	458E3015
330	450E3315	---	---	---	---
350	---	452E3515	454E3515	456E3515	458E3515
390	450E3915	---	---	---	---
400	450E4015	452E4015	454E4015	456E4015	458E4015
450	---	452E4515	---	---	---
470	450E4715	---	---	---	---
500	450E5015	452E5015	454E5015	456E5015	458E5015
560	450E5615	---	---	---	---
600	450E6015	452E6015	454E6015	456E6015	458E6015
680	450E6815	---	---	---	---
700	450E7015	452E7015	454E7015	456E7515	458E7015
750	---	452E7515	454E7515	---	458E7515
800	450E8015	452E8015	454E8015	456E8015	458E8015
820	450E8215	---	---	---	---
900	450E9015	452E9015	454E9015	456E9015	458E9015
1000	450E1025	452E1025	454E1025	456E1025	458E1025
1100	---	452E1125	454E1125	456E1125	458E1125
1200	450E1225	452E1225	454E1225	456E1225	458E1225
1400	450E1425	452E1425	454E1425	456E1425	458E1425
1500	450E1525	452E1525	454E1525	456E1525	458E1525
1800	450E1825	452E1825	454E1825	456E1825	458E1825
2000	450E2025	452E2025	454E2025	456E2025	458E2025
2200	450E2225	452E2225	454E2225	456E2225	458E2225
2500	450E2525	452E2525	454E2525	456E2525	458E2525
2700	450E2725	---	---	---	---
3000	450E3025	452E3025	454E3025	456E3025	458E3025
3300	450E3325	---	454E3325	456E3325	458E3325
3500	---	452E3525	454E3525	456E3525	458E3525
3900	450E3925	---	454E3925	456E3925	458E3925
4000	450E4025	452E4025	454E4025	456E4025	458E4025
4500	---	452E4525	454E4525	456E4525	458E4525
4700	450E4725	---	---	---	---
5000	450E5025	452E5025	454E5025	456E5025	458E5025
5600	450E5625	---	---	---	---
6000	450E6025	452E6025	454E6025	456E6025	458E6025
6800	450E6825	---	---	---	---
7000	---	452E7025	454E7025	456E7025	458E7025
7500	450E7525	452E7525	454E7525	456E7525	458E7525
8000	450E8025	452E8025	454E8025	456E8025	458E8025
8200	450E8225	---	---	---	---
9000	450E9025	452E9025	454E9025	456E9025	458E9025
10000	450E1035	452E1035	454E1035	456E1035	458E1035
11000	---	---	454E1135	456E1135	458E1135
12000	---	452E1235	454E1235	456E1235	458E1235
14000	---	452E1435	454E1435	456E1435	458E1435
15000	---	452E1535	454E1535	456E1535	458E1535
16000	---	---	454E1635	456E1635	458E1635
18000	---	452E1835	454E1835	456E1835	458E1835
20000	---	452E2035	454E2035	456E2035	458E2035
22000	---	---	454E2235	456E2235	---
25000	---	---	454E2535	456E2535	---
30000	---	---	454E3035	456E3035	---
35000	---	---	454E3535	456E3535	---
40000	---	---	454E4035	456E4035	---
45000	---	---	---	456E4535	---
50000	---	---	---	456E5035	---
60000	---	---	---	456E6035	---
70000	---	---	---	456E7035	---

# SPRAGUE RESISTORS

## NON-INDUCTIVE KOOLOHM AXIAL-LEAD WIREWOUND RESISTORS

Ohms	Type 451E 3 WATTS $\frac{1}{4}$ " x $\frac{1}{16}$ "		Type 453E 5 WATTS $\frac{1}{4}$ " x 1"		Type 455E 7 WATTS $\frac{1}{2}$ " x $1\frac{1}{16}$ "		Type 457E 10 WATTS $\frac{1}{2}$ " x $1\frac{1}{8}$ "		Type 459E 14 WATTS $\frac{1}{2}$ " x $1\frac{1}{8}$ "	
	Cat. No.		Cat. No.		Cat. No.		Cat. No.		Cat. No.	
1	451E1R05	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	453E1R05	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	455E1R05	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	457E1R05	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	459E1R05	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES
1.5	451E1R55		453E1R55		455E1R55		457E1R55		459E1R55	
2	451E2R05		453E2R05		455E2R05		457E2R05		459E2R05	
3	451E3R05		453E3R05		455E3R05		457E3R05		459E3R05	
4	451E4R05		453E4R05		455E4R05		457E4R05		459E4R05	
5	451E5R05		453E5R05		455E5R05		457E5R05		459E5R05	
7.5	451E7R55		453E7R55		455E7R55		457E7R55		459E7R55	
10	451E1005		453E1005		455E1005		457E1005		459E1005	
12	451E1205		453E1205		455E1205		457E1205		459E1205	
15	451E1505		453E1505		455E1505		457E1505		459E1505	
18	451E1805		---		---		---		---	
20	451E2005		453E2005		455E2005		457E2005		459E2005	
22	451E2205		---		---		---		---	
25	451E2505		453E2505		455E2505		457E2505		459E2505	
27	451E2705		---		---		---		---	
30	451E3005		453E3005		455E3005		457E3005		459E3005	
33	451E3305		---		---		---		---	
35	451E3505		453E3505		455E3505		457E3505		459E3505	
39	451E3905		---		---		---		---	
40	451E4005		453E4005		455E4005		457E4005		459E4005	
47	451E4705	---	---	---	---					
50	451E5005	453E5005	455E5005	457E5005	459E5005					
56	451E5605	---	---	---	---					
68	451E6805	---	---	---	---					
75	451E7505	453E7505	455E7505	457E7505	459E7505					
82	451E8205	---	---	---	---					
100	451E1015	453E1015	455E1015	457E1015	459E1015					
120	451E1215	453E1215	455E1215	457E1215	459E1215					
150	451E1515	453E1515	455E1515	457E1515	459E1515					
180	451E1815	---	---	---	---					
200	451E2015	453E2015	455E2015	457E2015	459E2015					
220	451E2215	453E2215	455E2215	457E2215	459E2215					
250	451E2515	453E2515	455E2515	457E2515	459E2515					
270	451E2715	---	---	---	---					
300	451E3015	453E3015	455E3015	457E3015	459E3015					
330	451E3315	---	---	---	---					
350	451E3515	453E3515	455E3515	457E3515	459E3515					
390	451E3915	---	---	---	---					
400	451E4015	453E4015	455E4015	457E4015	459E4015					
450	451E4515	453E4515	---	---	---					
470	451E4715	---	---	---	---					
500	451E5015	453E5015	455E5015	457E5015	459E5015					
560	---	---	---	---	---					
600	---	453E6015	455E6015	457E6015	459E6015					
680	---	---	---	---	---					
700	---	453E7015	455E7015	457E7015	459E7015					
750	---	453E7515	455E7515	457E7515	459E7515					
800	---	453E8015	455E8015	457E8015	459E8015					

# SPRAGUE RESISTORS

## NON-INDUCTIVE KOOLOHM AXIAL-LEAD WIREWOUND RESISTORS (Cont.)

Ohms	Type 451E 3 WATTS 1/4" x 3/16"		Type 453E 5 WATTS 1/4" x 1"		Type 455E 7 WATTS 1 1/32" x 1 1/16"		Type 457E 10 WATTS 1 1/32" x 1 2/32"		Type 459E 14 WATTS 1 1/32" x 1 2/32"	
	Col. No.		Col. No.		Col. No.		Col. No.		Col. No.	
820	---	Call Your Sprague Industrial Distributor for Quantity Prices	453E9015	Call Your Sprague Industrial Distributor for Quantity Prices	455E9015	Call Your Sprague Industrial Distributor for Quantity Prices	457E9015	Call Your Sprague Industrial Distributor for Quantity Prices	459E9015	Call Your Sprague Industrial Distributor for Quantity Prices
900	---		453E1025		455E1025		457E1025		459E1025	
1000	---		---		---		---		---	
1100	---		453E1125		455E1125		457E1125		459E1125	
1200	---		453E1225		455E1225		457E1225		459E1225	
1400	---		---		455E1425		457E1425		459E1425	
1500	---		---		455E1525		457E1525		459E1525	
1800	---		---		455E1825		457E1825		459E1825	
2000	---		---		455E2025		457E2025		459E2025	
2200	---		---		455E2225		457E2225		459E2225	
2500	---	---	455E2525	457E2525	459E2525					
3000	---	---	---	457E3025	459E3025					
3300	---	---	---	457E3325	459E3325					
3500	---	---	---	457E3525	459E3525					
3900	---	---	---	457E3925	459E3925					
4000	---	---	---	457E4025	459E4025					
4500	---	---	---	457E4525	459E4525					
5000	---	---	---	457E5025	459E5025					
6000	---	---	---	---	---					
7000	---	---	---	---	---					
7500	---	---	---	---	---					
8000	---	---	---	---	---					
9000	---	---	---	---	---					
10000	---	---	---	---	---					

## Commercial Tab-Terminal KOOLOHM® Wirewound Resistors

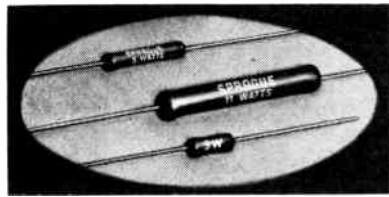


- Ceramic Outer Jacket. May be Mounted Anywhere—Even Flat Against Chassis or Grounded Parts.
- Each resistor is Tropicallized by a Glazed Ceramic Outer Coating and Improved End Seals Which Offer Complete Protection Against Moisture or Any Other Climatic Conditions
- Extremely High Insulation Resistance—10,000 Volts From Surface of Ceramic Jacket to Inner Resistance Elements
- Insulated Wire Permits Winding Higher Values in Layers Which Means Much Smaller Physical Sizes for Each Wattage Rating
- Insulated Wire Permits True Non-Inductive Wound Designs
- Standard Resistance Tolerance:  $\pm 5\%$
- These Resistors Are Also Available in 5 and 10 Watt Ratings, Axial-Lead Style. See Latest Issue of Sprague Catalog C-617

Ohms	Type 25KT 25 Watts		Type 50KT 50 Watts		Type 120KT 120 Watts		Ohms	Type 25NIT 25NIT Watts		Type 50NIT 50NIT Watts		Type 120NIT 120NIT Watts				
	Cat. No.		Cat. No.		Cat. No.			Cat. No.		Cat. No.		Cat. No.				
<b>TYPE KT STANDARD RESISTORS</b>													<b>TYPE NIT NON-INDUCTIVE RESISTORS</b>			
5	25KT5R05	Call Your Sprague Industrial Distributor for Current Quantity Prices	50KT5R05	Call Your Sprague Industrial Distributor for Current Quantity Prices	120KT5R05	Call Your Sprague Industrial Distributor for Current Quantity Prices	5	25NIT5R05	Call Your Sprague Industrial Distributor for Current Quantity Prices	50NIT5R05	Call Your Sprague Industrial Distributor for Current Quantity Prices	120NIT5R05	Call Your Sprague Industrial Distributor for Current Quantity Prices			
10	25KT1005		50KT1005		120KT1005		25NIT1005	50NIT1005		120NIT1005						
25	25KT2505		50KT2505		120KT2505		25NIT2505	50NIT2505		120NIT2505						
50	25KT5005		50KT5005		120KT5005		25NIT5005	50NIT5005		120NIT5005						
75	25KT7505		50KT7505		120KT7505		25NIT7505	50NIT7505		120NIT7505						
100	25KT1015		50KT1015		120KT1015		25NIT1015	50NIT1015		120NIT1015						
150	25KT1515		50KT1515		120KT1515		25NIT1515	50NIT1515		120NIT1515						
200	25KT2015		50KT2015		120KT2015		25NIT2015	50NIT2015		120NIT2015						
250	25KT2515		50KT2515		120KT2515		25NIT2515	50NIT2515		120NIT2515						
390	---		---		120KT3915		---	---		120NIT3915						
500	25KT5015	50KT5015	120KT5015	25NIT5015	50NIT5015	120NIT5015										
600	25KT6015	50KT6015	120KT6015	25NIT6015	50NIT6015	120NIT6015										
750	25KT7515	50KT7515	120KT7515	25NIT7515	50NIT7515	120NIT7515										
1000	25KT1025	50KT1025	120KT1025	25NIT1025	50NIT1025	120NIT1025										
1500	25KT1525	50KT1525	120KT1525	25NIT1525	50NIT1525	120NIT1525										
2000	25KT2025	50KT2025	120KT2025	25NIT2025	50NIT2025	120NIT2025										
2500	25KT2525	50KT2525	120KT2525	25NIT2525	50NIT2525	120NIT2525										
3000	25KT3025	50KT3025	120KT3025	25NIT3025	50NIT3025	120NIT3025										
4000	25KT4025	50KT4025	---	25NIT4025	50NIT4025	---										
5000	25KT5025	50KT5025	120KT5025	25NIT5025	50NIT5025	120NIT5025										
7500	25KT7525	50KT7525	120KT7525	25NIT7525	50NIT7525	120NIT7525										
10000	25KT1035	50KT1035	120KT1035	25NIT1035	50NIT1035	120NIT1035										
12000	25KT1235	50KT1235	120KT1235	---	---	---										
15000	25KT1535	50KT1535	120KT1535	---	---	---										
20000	25KT2035	50KT2035	120KT2035	---	---	---										
25000	25KT2535	50KT2535	120KT2535	---	---	---										
40000	25KT4035	---	---	---	---	---										
50000	25KT5035	50KT5035	120KT5035	---	---	---										
75000	25KT7535	50KT7535	120KT7535	---	---	---										
100000	25KT1045	50KT1045	120KT1045	---	---	---										

# SPRAGUE RESISTORS

## BLUE JACKET® INDUSTRIAL WIREWOUND RESISTORS



- Improved Minified Resistors Designed for Thorough Reliability and Stability Under Extreme Operating Conditions
- Matched Coefficient of Expansion Allows Uniform Expansion of Vitreous Enamel Coating, Ceramic Base, and End Caps, Eliminating Cracking, and Protects From Fumes and Humidity
- Windings and Leads Welded to End-Caps for Superior Mechanical Strength
- For 2BJ, 3BJ, 5BJ and 10BJ Commercial or Service Equivalents to These Resistors, Refer to the Latest issue of Sprague Catalog C-617
- See Your Sprague Industrial Distributor for Quantity Prices

Ohms	Type 239E, 1 WATT 1/8" x 3/8"		Type 240E, 2 WATTS 3/16" x 3/8"		Type 242E, 3 WATTS 1/4" x 1/2"		Type 243E, 5 WATTS 3/4" x 1/4"		Type 244E, 7 WATTS 5/16" x 1"		Type 247E, 10 WATTS 3/16" x 1 3/4"	
	Cat. No.		Cat. No.		Cat. No.		Cat. No.		Cat. No.		Cat. No.	
1	239E1R05		240E1R05		242E1R05		243E1R05		244E1R05		247E1R05	
1.2	239E1R25											
1.5	239E1R55		240E1R55		242E1R55		243E1R55		244E1R55		247E1R55	
1.8	239E1R85											
2	239E2R05		240E2R05		242E2R05		243E2R05		244E2R05		247E2R05	
2.2	239E2R25											
2.7	239E2R75											
3	239E3R05		240E3R05		242E3R05		243E3R05		244E3R05		247E3R05	
3.3	239E3R35											
3.9	239E3R95											
4	239E4R05		240E4R05		242E4R05		243E4R05		244E4R05		247E4R05	
4.7	239E4R75											
5	239E5R05		240E5R05		242E5R05		243E5R05		244E5R05		247E5R05	
5.6	239E5R65											
6.8	239E6R85											
7.5	239E7R55		240E7R55		242E7R55		243E7R55		244E7R55		247E7R55	
8.2	239E8R25											
10	239E1005		240E1005		242E1005		243E1005		244E1005		247E1005	
12	239E1205		240E1205		242E1205		243E1205		244E1205		247E1205	
15	239E1505		240E1505		242E1505		243E1505		244E1505		247E1505	
18	239E1805		240E1805		242E1805							
20	239E2005		240E2005		242E2005		243E2005		244E2005		247E2005	
22	239E2205		240E2205		242E2205							
25	239E2505		240E2505		242E2505		243E2505		244E2505		247E2505	
27	239E2705		240E2705		242E2705							
30	239E3005		240E3005		242E3005		243E3005		244E3005		247E3005	
33	239E3305		240E3305		242E3305							
35												
39	239E3905		240E3905		242E3905		243E3505		244E3505		247E3505	
40	239E4005		240E4005		242E4005		243E4005		244E4005		247E4005	
47	239E4705		240E4705		242E4705							
50	239E5005		240E5005		242E5005		243E5005		244E5005		247E5005	
56	239E5605		240E5605		242E5605							
68	239E6805		240E6805		242E6805							
75	239E7505		240E7505		242E7505		243E7505		244E7505		247E7505	
82	239E8205		240E8205		242E8205							
100	239E1015		240E1015		242E1015		243E1015		244E1015		247E1015	
120	239E1215		240E1215		242E1215		243E1215		244E1215		247E1215	
150	239E1515		240E1515		242E1515		243E1515		244E1515		247E1515	
180	239E1815		240E1815		242E1815							
200	239E2015		240E2015		242E2015		243E2015		244E2015		247E2015	
220	239E2215		240E2215		242E2215		243E2215		244E2215		247E2215	
250	239E2515		240E2515		242E2515		243E2515		244E2515		247E2515	
270	239E2715		240E2715		242E2715							
300	239E3015		240E3015		242E3015		243E3015		244E3015		247E3015	
330	239E3315		240E3315		242E3315							
350												
390	239E3915		240E3915		242E3915		243E3515		244E3515		247E3515	
400	239E4015		240E4015		242E4015		243E4015		244E4015		247E4015	
450												
470	239E4715		240E4715		242E4715		243E4515		244E4515		247E4515	
500	239E5015		240E5015		242E5015		243E5015		244E5015		247E5015	
560	239E5615		240E5615		242E5615							
600	239E6015		240E6015		242E6015		243E6015		244E6015		247E6015	
680	239E6815		240E6815		242E6815							
700	239E7015		240E7015		242E7015		243E7015		244E7015		247E7015	
750							243E7515		244E7515		247E7515	
800	239E8015		240E8015		242E8015		243E8015		244E8015		247E8015	
820	239E8215		240E8215		242E8215							
900	239E9015		240E9015		242E9015		243E9015		244E9015		247E9015	
1000	239E1025		240E1025		242E1025		243E1025		244E1025		247E1025	
1100												
1200	239E1225		240E1225		242E1225		243E1225		244E1225		247E1225	
1400	239E1425		240E1425		242E1425		243E1425		244E1425		247E1425	
1500	239E1525		240E1525		242E1525		243E1525		244E1525		247E1525	
1800	239E1825		240E1825		242E1825		243E1825		244E1825		247E1825	
2000	239E2025		240E2025		242E2025		243E2025		244E2025		247E2025	
2200	239E2225		240E2225		242E2225		243E2225		244E2225		247E2225	
2500	239E2525		240E2525		242E2525		243E2525		244E2525		247E2525	
2700												
3000							243E3025		244E3025		247E3025	
3300							243E325		244E325		247E325	
3500												
3900							243E3925		244E3925		247E3925	
4000							243E4025		244E4025		247E4025	
4500							243E4525		244E4525		247E4525	
4700												
5000							243E5025		244E5025		247E5025	
5600												
6000							243E6025		244E6025		247E6025	
6800												
7000							243E7025		244E7025		247E7025	
7500							243E7525		244E7525		247E7525	
8000							243E8025		244E8025		247E8025	
8200												



# SPRAGUE RESISTORS

## BLUE JACKET INDUSTRIAL WIREWOUND RESISTORS, continued

Ohms	Type 239E, 1 WATT $\frac{1}{8}'' \times \frac{3}{8}''$		Type 240E, 2 WATTS $\frac{3}{16}'' \times \frac{3}{8}''$		Type 242E, 3 WATTS $\frac{1}{4}'' \times \frac{1}{2}''$		Type 243E, 5 WATTS $\frac{1}{4}'' \times \frac{1}{2}''$		Type 244E, 7 WATTS $\frac{3}{16}'' \times 1''$		Type 247E, 10 WATTS $\frac{3}{16}'' \times 1\frac{1}{4}''$		
	Cat. No.		Cat. No.		Cat. No.		Cat. No.		Cat. No.		Cat. No.		
9000		Call Your Sprague Industrial Distributor for Quantity Prices		Call Your Sprague Industrial Distributor for Quantity Prices	242E9025		243E9025		244E9025		247E9025	Call Your Sprague Industrial Distributor for Quantity Prices	
10000						242E1035		243E1035		244E1035			247E1035
11000								243E1235		244E1135			247E1135
12000								243E1435		244E1235			247E1235
14000										244E1435			247E1435
15000								243E1535		244E1535			247E1535
16000								244E1635		247E1635			
17000								244E1735					
18000								244E1835		247E1835			
20000								244E2035		247E2035			
22000								244E2235		247E2235			
25000								244E2535		247E2535			
30000								244E3035		247E3035			
35000										247E3535			
40000										247E4035			
45000										247E4535			
50000										247E5035			

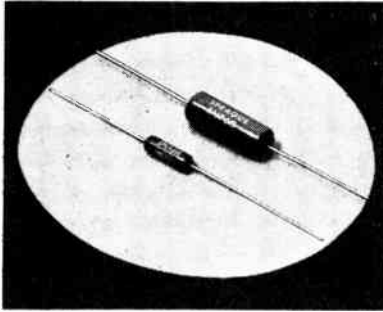
## TYPE RW57, RW58, RW59 BLUE JACKET<sup>®</sup> WIREWOUND RESISTORS

- This Series of Blue Jacket Wirewound Resistors Meet All Performance Characteristics of Military Specification MIL R-26C, Characteristics V and G
- Contact Your Sprague Industrial Distributor for Quantity Prices

Ohms	Type RW59 3 WATTS $\frac{3}{16}'' \times \frac{1}{2}''$		Type RW57 6.5 WATTS $\frac{3}{16}'' \times 1''$		Type RW58 11 WATTS $\frac{1}{32}'' \times 1\frac{1}{8}''$		Ohms	Type RW59 3 WATTS $\frac{3}{16}'' \times \frac{1}{2}''$		Type RW57 6.5 WATTS $\frac{3}{16}'' \times 1''$		Type RW58 11 WATTS $\frac{1}{32}'' \times 1\frac{1}{8}''$	
	Cat. No.		Cat. No.		Cat. No.			Cat. No.		Cat. No.		Cat. No.	
1.0	RW59V1R0	Call Your Sprague Industrial Distributor For Current Quantity Prices	RW57V1R0	Call Your Sprague Industrial Distributor For Current Quantity Prices	RW58V1R0	Call Your Sprague Industrial Distributor For Current Quantity Prices	150	RW59V1S1	Call Your Sprague Industrial Distributor For Current Quantity Prices	RW57V1S1	Call Your Sprague Industrial Distributor For Current Quantity Prices	RW58V1S1	Call Your Sprague Industrial Distributor For Current Quantity Prices
1.1	RW59V1R1		RW57V1R1		RW58V1R1		160	RW59V1S2		RW57V1S2		RW58V1S2	
1.2	RW59V1R2		RW57V1R2		RW58V1R2		180	RW59V1S3		RW57V1S3		RW58V1S3	
1.3	RW59V1R3		RW57V1R3		RW58V1R3		200	RW59V1S4		RW57V1S4		RW58V1S4	
1.5	RW59V1R5		RW57V1R5		RW58V1R5		220	RW59V1S5		RW57V1S5		RW58V1S5	
1.6	RW59V1R6		RW57V1R6		RW58V1R6		240	RW59V1S6		RW57V1S6		RW58V1S6	
1.8	RW59V1R8		RW57V1R8		RW58V1R8		270	RW59V1S7		RW57V1S7		RW58V1S7	
2.0	RW59V2R0		RW57V2R0		RW58V2R0		300	RW59V1S8		RW57V1S8		RW58V1S8	
2.2	RW59V2R2		RW57V2R2		RW58V2R2		330	RW59V1S9		RW57V1S9		RW58V1S9	
2.4	RW59V2R4		RW57V2R4		RW58V2R4		360	RW59V1S0		RW57V1S0		RW58V1S0	
2.7	RW59V2R7		RW57V2R7		RW58V2R7		390	RW59V1S1		RW57V1S1		RW58V1S1	
3.0	RW59V3R0		RW57V3R0		RW58V3R0		430	RW59V1S2		RW57V1S2		RW58V1S2	
3.3	RW59V3R3		RW57V3R3		RW58V3R3		470	RW59V1S3		RW57V1S3		RW58V1S3	
3.6	RW59V3R6		RW57V3R6		RW58V3R6		510	RW59V1S4		RW57V1S4		RW58V1S4	
3.9	RW59V3R9		RW57V3R9		RW58V3R9		560	RW59V1S5		RW57V1S5		RW58V1S5	
4.3	RW59V4R3		RW57V4R3		RW58V4R3		620	RW59V1S6		RW57V1S6		RW58V1S6	
4.7	RW59V4R7	RW57V4R7	RW58V4R7	680	RW59V1S7	RW57V1S7	RW58V1S7						
5.1	RW59V5R1	RW57V5R1	RW58V5R1	750	RW59V1S8	RW57V1S8	RW58V1S8						
5.6	RW59V5R6	RW57V5R6	RW58V5R6	820	RW59V1S9	RW57V1S9	RW58V1S9						
6.2	RW59V6R2	RW57V6R2	RW58V6R2	910	RW59V1S0	RW57V1S0	RW58V1S0						
6.8	RW59V6R8	RW57V6R8	RW58V6R8	1000	RW59V101	RW57V101	RW58V101						
7.5	RW59V7R5	RW57V7R5	RW58V7R5	1100	RW59V102	RW57V102	RW58V102						
8.2	RW59V8R2	RW57V8R2	RW58V8R2	1200	RW59V111	RW57V111	RW58V111						
9.1	RW59V9R1	RW57V9R1	RW58V9R1	1300	RW59V112	RW57V112	RW58V112						
10	RW59V100	RW57V100	RW58V100	1500	RW59V113	RW57V113	RW58V113						
11	RW59V110	RW57V110	RW58V110	1600	RW59V114	RW57V114	RW58V114						
12	RW59V120	RW57V120	RW58V120	1800	RW59V115	RW57V115	RW58V115						
13	RW59V130	RW57V130	RW58V130	2000	RW59V116	RW57V116	RW58V116						
15	RW59V150	RW57V150	RW58V150	2200	RW59V117	RW57V117	RW58V117						
16	RW59V160	RW57V160	RW58V160	2400	RW59V118	RW57V118	RW58V118						
18	RW59V180	RW57V180	RW58V180	2700	RW59V119	RW57V119	RW58V119						
20	RW59V200	RW57V200	RW58V200	3000	RW59V120	RW57V120	RW58V120						
22	RW59V220	RW57V220	RW58V220	3300	RW59V121	RW57V121	RW58V121						
24	RW59V240	RW57V240	RW58V240	3600	RW59V122	RW57V122	RW58V122						
27	RW59V270	RW57V270	RW58V270	3900	RW59V123	RW57V123	RW58V123						
30	RW59V300	RW57V300	RW58V300	4300	RW59V124	RW57V124	RW58V124						
33	RW59V330	RW57V330	RW58V330	4700	RW59V125	RW57V125	RW58V125						
36	RW59V360	RW57V360	RW58V360	5100	RW59V126	RW57V126	RW58V126						
39	RW59V390	RW57V390	RW58V390	5600	RW59V127	RW57V127	RW58V127						
43	RW59V430	RW57V430	RW58V430	6200	RW59V128	RW57V128	RW58V128						
47	RW59V470	RW57V470	RW58V470	6800	RW59V129	RW57V129	RW58V129						
51	RW59V510	RW57V510	RW58V510	7500	RW59V130	RW57V130	RW58V130						
56	RW59V560	RW57V560	RW58V560	8200									
62	RW59V620	RW57V620	RW58V620	9100									
68	RW59V680	RW57V680	RW58V680	10,000									
75	RW59V750	RW57V750	RW58V750	11,000									
82	RW59V820	RW57V820	RW58V820	12,000									
91	RW59V910	RW57V910	RW58V910	13,000									
100	RW59V101	RW57V101	RW58V101	15,000									
110	RW59V111	RW57V111	RW58V111	16,000									
120	RW59V121	RW57V121	RW58V121	18,000									
130	RW59V131	RW57V131	RW58V131	20,000									

# SPRAGUE RESISTORS

## FILMISTOR<sup>®</sup> METAL-FILM RESISTORS



- Filmistor<sup>®</sup> C Series Resistors are Ideal for Circuits Requiring High Accuracy, Reliability, and Stability with Low Temperature Coefficients.
- Physical Size of Types RN55 and RN60 is Compatible With Those of Other Resistors, Capacitors, and Diodes for "Cordwood" Packaging.
- Designed to Meet the Stringent Performance Requirements of Spec. MIL-R-10509D.
- Low Self-inductance, Low Distributed Capacitance. Equal or Surpass the Characteristics of Precision Wirewound Resistors, Yet Are Smaller in Size.
- Metallic Resistive Film is Firmly Bonded to Special Ceramic Core, Automatically Spiralled to Desired Resistance Value.
- Tough Molded Shell Provides Protection Against Mechanical Damage as Well as Catastrophic Failures From Electrolysis Caused by Moisture Penetration.
- Standard Resistance Tolerance,  $\pm 1\%$
- For Complete Technical Data, Refer to Latest Issue of Engineering Bulletin 7025
- Call Your Sprague Industrial Distributor For Quantity Prices.

### STANDARD RESISTANCE VALUES (Ohms)

20.0	57.6	165	475	1.37 K	3.92 K	11.3 K	32.4 K	93.1 K	267 K	750 K
20.5	59.0	169	487	1.40 K	4.02 K	11.5 K	33.2 K	95.3 K	274 K	768 K
21.0	60.4	174	499	1.43 K	4.12 K	11.8 K	34.0 K	97.6 K	280 K	787 K
21.5	61.9	178	511	1.47 K	4.22 K	12.1 K	34.8 K	100 K	287 K	806 K
22.1	63.4	182	523	1.50 K	4.32 K	12.4 K	35.7 K	102 K	294 K	825 K
22.6	64.9	187	536	1.54 K	4.42 K	12.7 K	36.5 K	105 K	301 K	845 K
23.2	66.5	191	549	1.58 K	4.53 K	13.0 K	37.4 K	107 K	309 K	866 K
23.7	68.1	196	562	1.62 K	4.64 K	13.3 K	38.3 K	110 K	316 K	887 K
24.3	69.8	200	576	1.65 K	4.75 K	13.7 K	39.2 K	113 K	324 K	909 K
24.9	71.5	205	590	1.69 K	4.87 K	14.0 K	40.2 K	115 K	332 K	931 K
25.5	73.2	210	604	1.74 K	4.99 K	14.3 K	41.2 K	118 K	340 K	953 K
26.1	75.0	215	619	1.78 K	5.11 K	14.7 K	42.2 K	121 K	348 K	976 K
26.7	76.8	221	634	1.82 K	5.23 K	15.0 K	43.2 K	124 K	357 K	1.00 meg.
27.4	78.7	226	649	1.87 K	5.36 K	15.4 K	44.2 K	127 K	365 K	1.02 meg.
28.0	80.6	232	665	1.91 K	5.49 K	15.8 K	45.3 K	130 K	374 K	1.05 meg.
28.7	82.5	237	681	1.96 K	5.62 K	16.2 K	46.4 K	133 K	383 K	1.07 meg.
29.4	84.5	243	698	2.00 K	5.76 K	16.5 K	47.5 K	137 K	392 K	1.10 meg.
30.1	86.6	249	715	2.05 K	5.90 K	16.9 K	48.7 K	140 K	402 K	1.13 meg.
30.9	88.7	255	732	2.10 K	6.04 K	17.4 K	49.9 K	143 K	412 K	1.15 meg.
31.6	90.9	261	750	2.15 K	6.19 K	17.8 K	51.1 K	147 K	422 K	1.18 meg.
32.4	93.1	267	768	2.21 K	6.34 K	18.2 K	52.3 K	150 K	432 K	1.21 meg.
33.2	95.3	274	787	2.26 K	6.49 K	18.7 K	53.6 K	154 K	442 K	1.24 meg.
34.0	97.6	280	806	2.32 K	6.65 K	19.1 K	54.9 K	158 K	453 K	1.27 meg.
34.8	100	287	825	2.37 K	6.81 K	19.6 K	56.2 K	162 K	464 K	1.30 meg.
35.7	102	294	845	2.43 K	6.98 K	20.0 K	57.6 K	165 K	475 K	1.33 meg.
36.5	105	301	866	2.49 K	7.15 K	20.5 K	59.0 K	169 K	487 K	1.37 meg.
37.4	107	309	887	2.55 K	7.32 K	21.0 K	60.4 K	174 K	499 K	1.40 meg.
38.3	110	316	909	2.61 K	7.50 K	21.5 K	61.9 K	178 K	511 K	1.43 meg.
39.2	113	324	931	2.67 K	7.68 K	22.1 K	63.4 K	182 K	523 K	1.47 meg.
40.2	115	332	953	2.74 K	7.87 K	22.6 K	64.9 K	187 K	536 K	1.50 meg.
41.2	118	340	976	2.80 K	8.06 K	23.2 K	66.5 K	191 K	549 K	1.54 meg.
42.2	121	348	1.0 K	2.87 K	8.25 K	23.7 K	68.1 K	196 K	562 K	1.58 meg.
43.2	124	357	1.02 K	2.94 K	8.45 K	24.3 K	69.8 K	200 K	576 K	1.62 meg.
44.2	127	365	1.05 K	3.01 K	8.66 K	24.9 K	71.5 K	205 K	590 K	1.65 meg.
45.3	130	374	1.07 K	3.09 K	8.87 K	25.5 K	73.2 K	210 K	604 K	1.69 meg.
46.4	133	383	1.10 K	3.16 K	9.09 K	26.1 K	75.0 K	215 K	619 K	1.74 meg.
47.5	137	392	1.13 K	3.24 K	9.31 K	26.7 K	76.8 K	221 K	634 K	1.78 meg.
48.7	140	402	1.15 K	3.32 K	9.53 K	27.4 K	78.7 K	226 K	649 K	1.82 meg.
49.9	143	412	1.18 K	3.40 K	9.76 K	28.0 K	80.6 K	232 K	665 K	1.87 meg.
51.1	147	422	1.21 K	3.48 K	10.0 K	28.7 K	82.5 K	237 K	681 K	1.91 meg.
52.3	150	432	1.24 K	3.57 K	10.2 K	29.4 K	84.5 K	243 K	698 K	1.96 meg.
53.6	154	442	1.27 K	3.65 K	10.5 K	30.1 K	86.6 K	249 K	715 K	2.00 meg.
54.9	158	453	1.30 K	3.74 K	10.7 K	30.9 K	88.7 K	255 K	732 K	
56.2	162	464	1.33 K	3.83 K	11.0 K	31.6 K	90.9 K	261 K		

#### 1/20 WATT METAL FILM TYPE 415E/RN50C

.065" Dia. x .140" Long  
20 ohms thru 100K

#### 1/10 WATT METAL FILM TYPE 416E/RN55C

.095" Dia. x .250" Long  
49.9 ohms thru 100K

#### 1/8 WATT METAL FILM TYPE 418E/RN60C

.135" Dia. x .400" Long  
49.9 ohms thru 499 K

#### 1/4 WATT METAL FILM TYPE 419E/RN65C

.200" Dia. x .600" Long  
49.9 ohms thru 1 meg.

#### 1/2 WATT METAL FILM TYPE 420E/RN70C

.250" x Dia. .750" Long  
49.9 ohms thru 1 meg.

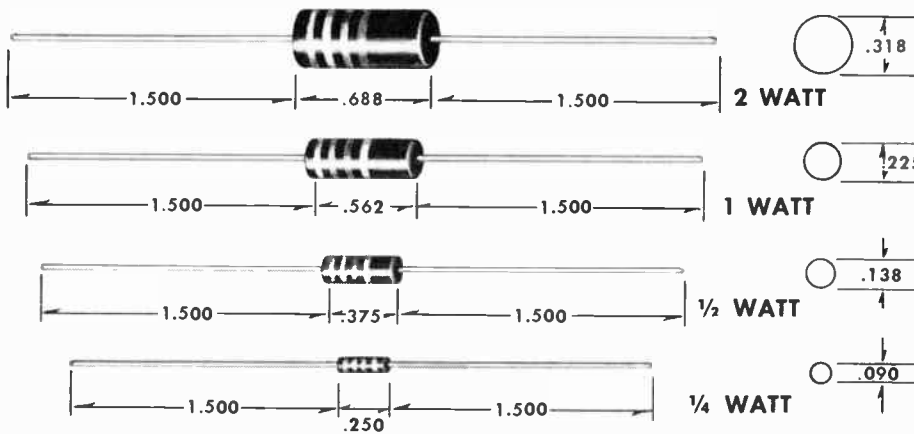
#### 1 WATT METAL FILM TYPE 421E/RN75C

.375" Dia. x 1.062" Long  
49.9 ohms thru 2 meg.



# STACKPOLE

## FIXED COMPOSITION RESISTORS



Stackpole Resistors offer superior performance in terms of load life, moisture resistance, shelf life, and other important characteristics. Available in 1/4, 1/2, 1, and 2 watt insulated types in resistance values with 5%, 10% and 20% tolerances as shown below.

### EASIEST SOLDERING

is assured thanks to an exclusive extra solder coating applied after the usual tin dipping. Leads of Stackpole Resistors solder readily by any method—dip or iron—stay tarnish free even after months in storage. And, their baked-on color codes resist solvent scrubbing operations... maintain uniform, attractive appearance.

### 269 STANDARD VALUES FOR MODERN CIRCUITRY

±20%	±10%	±5%	±20%	±10%	±5%	±20%	±10%	±5%	±20%	±10%	±5%
10	10	10		390	390	15000	15000	15000		560000	560000
	12	11	470	470	430			16000	680000	680000	620000
	13	12			470	18000	18000	20000	680000	680000	750000
15	15	15		560	560	22000	22000	22000		820000	820000
	16	16			620			24000		820000	910000
	18	18	680	680	680		27000	27000	1.0 Meg	1.0 Meg	1.0 Meg
	20	20			750			30000			1.1 Meg
22	22	22		820	820	33000	33000	33000		1.2 Meg	1.2 Meg
	24	24			910			36000		1.2 Meg	1.3 Meg
	27	27	1000	1000	1000		39000	39000	1.5 Meg	1.5 Meg	1.5 Meg
	30	30			1100			43000		1.5 Meg	1.6 Meg
33	33	33		1200	1200	47000	47000	47000		1.8 Meg	1.8 Meg
	36	36			1300			51000			2.0 Meg
	39	39	1500	1500	1500		56000	56000	2.2 Meg	2.2 Meg	2.2 Meg
	43	43			1600			62000		2.2 Meg	2.4 Meg
47	47	47		1800	1800	68000	68000	68000		2.7 Meg	2.7 Meg
	51	51			2000			75000		2.7 Meg	3.0 Meg
	56	56	2200	2200	2200		82000	82000	3.3 Meg	3.3 Meg	3.3 Meg
	62	62			2400			91000		3.3 Meg	3.6 Meg
68	68	68		2700	2700	100000	100000	100000		3.9 Meg	3.9 Meg
	75	75			3000			110000		3.9 Meg	4.3 Meg
	82	82	3300	3300	3300		120000	120000	4.7 Meg	4.7 Meg	4.7 Meg
	91	91			3600			130000			5.1 Meg
100	100	100		3900	3900	150000	150000	150000		5.6 Meg	5.6 Meg
	110	110			4300			160000		5.6 Meg	6.2 Meg
	120	120	4700	4700	4700		180000	180000	6.8 Meg	6.8 Meg	6.8 Meg
	130	130			5100			200000		6.8 Meg	7.5 Meg
150	150	150		5600	5600	220000	220000	220000		8.2 Meg	8.2 Meg
	160	160			6200			240000			9.1 Meg
	180	180	6800	6800	6800		270000	270000	10.0 Meg	10.0 Meg	10.0 Meg
	200	200			7500			300000		10.0 Meg	11.0 Meg
220	220	220		8200	8200	330000	330000	330000		12.0 Meg	12.0 Meg
	240	240			9100			360000		12.0 Meg	13.0 Meg
	270	270	10000	10000	10000		390000	390000	15.0 Meg	15.0 Meg	15.0 Meg
	300	300			11000			430000			16.0 Meg
330	330	330		12000	12000	470000	470000	470000		18.0 Meg	18.0 Meg
	360	360			13000			510000		18.0 Meg	20.0 Meg
									22.0 Meg	22.0 Meg	22.0 Meg

AVAILABLE THROUGH LEADING INDUSTRIAL ELECTRONIC PARTS DISTRIBUTORS

Electronic Components Div., STACKPOLE CARBON COMPANY

# VECO VICTORY ENGINEERING CORPORATION

## THERMISTORS • VARISTORS

### VECO THERMISTOR AND VARISTOR KITS For Experimentors and Circuit Designers

Each kit contains an assortment of Thermistors or Varistors for experimentation and development of prototype circuitry. Schematics and complete technical data are included.

KD25	13 Thermistor Disks	\$10.50
KP50	6 Thermistor Probes	14.50
KR75	8 Thermistor Rods	8.75
KTB1	8 Thermistor Beads	19.50
KW125	12 Thermistor Washers (6 types) & Mtg. Kit	13.50
KV1001	9 Silicon Carbide Varistor Disks	7.50
KV1002	4 Silicon Carbide Varistors	1.50
M168	7 Thermistors and Varistors	5.00
M168A	10 Thermistors and Varistors	10.00

**VECO**  
sets the pace  
for  
**THERMISTORS**

### New! VECO "THINISTOR"® KITS (Thin Film Thermistors)

VECO's new revolutionary, ultra-thin, ultra-fast Thinistor Thermistors (See Figs. 12 and 13) now available in kit form for evaluation and for prototype circuitry development.

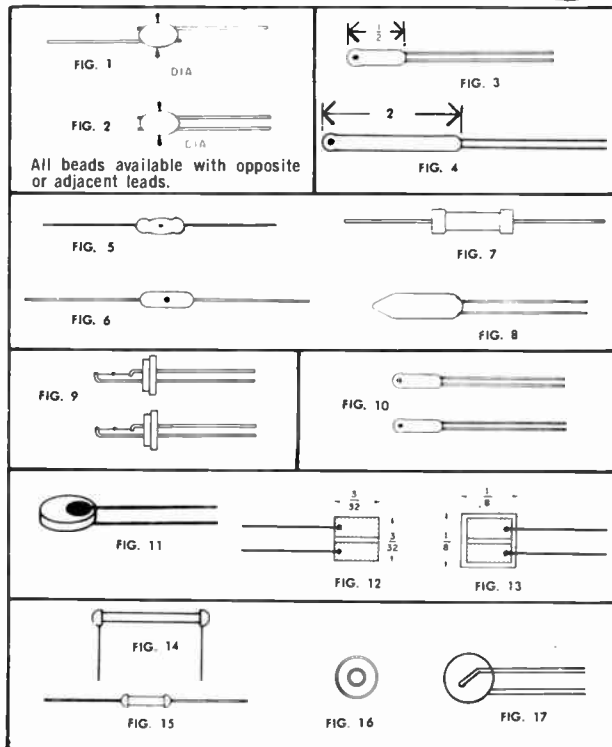
KFN101	4 Free-standing (no substrate) Thinistors	\$ 50.00
KFN201	6 Substrate-backed Thinistors	100.00
KFN301	2 Free-standing and 2 Substrate Thinistors	60.00
KFN401	2 Matched Pairs of Thinistors (Within 1%)	189.50

(For Infra-red Detection)

VECO Number	Resistance @ 25°C (Ohms)	Net Price	Fig.
<b>BEAD THERMISTORS</b>			
<b>.043" Dia. 3/16" Min. Leads</b>			
21A2	100 ± 20%	\$ 3.00	2
25A5	500 ± 20%	2.40	2
32A12	2,000 ± 20%	1.95	2
51A2	100,000 ± 15%	1.95	2
65A5	5 MEG ± 20%	3.30	2
<b>.013" Dia. 3/16" Min. Leads</b>			
32A5	2,000 ± 25%	3.00	1
32A48	2,000 ± 25%	2.60	1
34A2	3,500 ± 15%	4.20	1
<b>.013" Dia. 3/16" Min. Leads</b>			
51A30	100,000 ± 25%	3.20	1
61A9	1 MEG ± 25%	3.90	1
<b>.010" Dia. 3/16" Min. Leads</b>			
31A7	1,000 ± 25%	5.70	1
32A50	2,000 ± 25%	5.70	1
41A5	10,000 ± 25%	5.40	1
51A22	100,000 ± 25%	5.50	1
61A5	1 MEG ± 25%	6.40	1
<b>.005" Dia. 1/4" Min. Leads</b>			
31A401C	1,000 ± 25%	20.00	1
32A402C	2,000 ± 25%	20.00	1
51A401C	100,000 ± 25%	20.00	1
<b>GLASS PROBE THERMISTORS</b>			
13A13	30 ± 20%	4.00	4
22A31	200 ± 20%	3.00	4
32A11	2,000 ± 20%	1.95	3
45A11	50,000 ± 20%	2.25	3
72A10	15 MEG ± 20%	3.80	4
<b>GLASS ROD &amp; BULB THERMISTORS</b>			
32A3	2,000 ± 25%	4.60	5
37A1	7,000 ± 20%	3.60	6
44A1	35,000 ± 25%	1.90	7
45B2	50,000 ± 40%	2.60	7
46A2	60,500 ± 29%	2.60	7
<b>MATCHED THERMISTORS</b>			
A33	2,000 ± 25%	15.00	9
A59	100,000 ± 15%	7.00	10
A60	2,000 ± 20%	7.00	10
<b>ROD THERMISTORS .05" Dia.</b>			
41S2	10,000 ± 10%	1.35	14
51R2	100,000 ± 10%	1.35	14
<b>ROD THERMISTORS .110" Dia.</b>			
33S1	3,150 ± 10%	1.10	15
36S1	6,300 ± 10%	1.10	15
41R1	10,000 ± 10%	1.10	15
45R1	50,000 ± 10%	1.10	15
51R1	100,000 ± 10%	1.10	15
<b>ROD THERMISTORS .172" Dia.</b>			
32S2	2,000 ± 10%	1.20	15
35S3	5,000 ± 10%	1.20	15
42R5	20,000 ± 10%	1.20	15
43R6	30,000 ± 10%	1.20	15
45R9	50,000 ± 10%	1.20	15

### "VECO-VAMP"® (Varistor Meter Protector)

Non-polarized, current-sensitive "VECO-VAMP" placed across the terminals of a sensitive meter, will shut overload current in excess of normal range automatically! Save coil burnouts, damaged pointers!  
Price \$1.50



### VECO VARISTORS - FIG. 17

VECO Number	Exponent n	V ± 30% @ 5 ma, D.C.	Net Price
Q23L9	3	6V	1.00
Q63L9	3	10V	1.00
114L2	4	15V	1.00
124L1	4	25V	1.00
124L2	4	35V	1.00
134L1	4	50V	1.00
155L3	5	75V	1.00
175L1	5	100V	1.00
195L1	5	120V	1.00

Prices subject to change without notice.

VECO Number	Resistance @ 25°C (Ohms)	Net Price	Fig.
<b>DISK THERMISTORS .1" Dia.</b>			
25E2	500 ± 10%	.80	11
31E2	1,000 ± 10%	.80	11
33D7	3,000 ± 10%	.80	11
35D2	5,000 ± 10%	.80	11
41D2	10,000 ± 10%	.80	11
<b>DISK THERMISTORS .2" Dia.</b>			
21E23	100 ± 10%	.80	11
23E16	300 ± 10%	.80	11
31D10	1,000 ± 10%	.80	11
33D16	3,000 ± 10%	.80	11
35D6	5,000 ± 10%	.80	11
<b>DISK THERMISTORS .3" Dia.</b>			
15E4	50 ± 10%	.80	11
21E21	100 ± 10%	.85	11
25D5	500 ± 10%	.85	11
31D32	1,000 ± 10%	.80	11
33D10	3,000 ± 10%	.80	11
<b>DISK THERMISTORS .4" Dia.</b>			
13E3	25 ± 10%	.85	11
21E2	100 ± 10%	.85	11
23D18	300 ± 10%	.85	11
31D3	1,000 ± 10%	.85	11
32D12	2,000 ± 10%	.85	11
<b>DISK THERMISTORS .5" Dia.</b>			
12E2	20 ± 10%	.85	11
15E3	50 ± 10%	.85	11
21E22	100 ± 10%	.85	11
25D4	500 ± 10%	.85	11
31D33	1,000 ± 10%	.85	11
<b>DISK THERMISTORS .77" Dia.</b>			
11E2	10 ± 10%	.85	11
13E19	30 ± 10%	.85	11
18D2	75 ± 10%	.85	11
21D2	100 ± 10%	.85	11
23D34	300 ± 10%	.85	11
<b>DISK THERMISTORS 1.0" Dia.</b>			
05E1	5 ± 10%	1.20	11
11E1	10 ± 10%	1.20	11
15E1	50 ± 10%	1.20	11
21E5	100 ± 10%	1.20	11
22D10	200 ± 10%	1.20	11
<b>WASHER THERMISTORS .2" Dia.</b>			
22X1	150 ± 10%	.95	16
31W1	1,100 ± 10%	.95	16
<b>WASHER THERMISTORS .77" Dia.</b>			
11X1	10 ± 10%	1.05	16
12X10	15 ± 10%	1.05	16
21W1	100 ± 10%	1.05	16
22W6	200 ± 10%	1.05	16
32Y3	1,800 ± 10%	1.05	16
<b>MOUNTING ACCESSORIES</b>			
A816	Washer Mtg. Kit	1.25	
A819	Probe Packing Gland	4.00	
A828	Washer Mtg. Kit w/Bracket	1.75	

### VECO TECHNICAL LITERATURE

V42 VECO Thermistor-Varistor Data Book.....\$1.00  
V1133 VECO Hand Book of Thermistor Applications..... 2.00  
For descriptive list of free VECO technical literature request VECO Literature Catalog SB53D.

### IMPORTANT — PLEASE NOTE

All figures shown indicate physical characteristics only. For specific dimensions consult respective catalogs which are available on request.

The listing on this page represents only a small part of the wide variety of VECO thermistors and varistors available, both as discrete components and in ready-to-mount sensor assemblies and in specialized instrumentation.

# WORKMAN Electronic

PRODUCTS, INC.

# REPLACEMENT COMPONENTS

Prices subject to change without notice.

GLOBAL RESISTORS			
MODEL	DESCRIPTION	LIST	D.L.R.
FR. 49	.49 at 3 amps.	1.76	1.06
FR1.3	1.3Ω cold	1.10	.66
FR1M	600KΩ hot 1 MegΩ cold	1.93	1.16
FR2	Replaces filament res'tres	3.30	1.98
FR3.5	3.5Ω cold	1.10	.66
FR3.8	3.8Ω cold	1.10	.66
FR4.5	4.5Ω cold	1.10	.66
FR5-8	5-8Ω at 450ma	1.82	1.09
FR6	6Ω Hot-600ma	1.82	1.09
FR9	9Ω Hot-600ma	1.82	1.09
FR10	10Ω cold	1.10	.66
FR11	11Ω Hot-600ma	2.75	1.65
FR11P	11Ω-450ma 9.2Ω-600ma	1.82	1.09
FR12.9	12.9Ω cold	1.10	.66
FR13	13Ω cold	1.10	.66
FR19	19Ω Hot - 600ma	1.65	.99
FR31	31Ω Hot - 300ma	2.09	1.25
FR35	35Ω Hot - 600ma	2.09	1.25
FR43	43Ω Hot - 600ma	2.75	1.65
FR50	50Ω Hot - 150ma	1.76	1.06
FR041	75Ω Hot - 300ma	2.42	1.45
FR051	20Ω Hot - 600ma	1.65	.99
FR052	10.5Ω at 125 volts	3.52	2.11
FR054	35Ω Hot -600ma	3.52	2.11
FR066	For Color TV DeGauss	1.54	.92
FR088	14KΩ at 140 volts	3.52	2.11
FR100	50Ω Hot-150ma	1.76	1.06
FR191	120Ω cold	1.76	1.06
FR291	79Ω cold - .47Ω hot	1.32	.79
FR922	For color TV DeGauss	1.32	.79
FR5K	500KΩ at 25° C	1.65	.99
FRT 1	100Ω hot to 20Ω hot	2.04	1.22
FRT2	Heavy duty universal	2.20	1.32
FRTV	For Color TV kit of 2	3.30	1.98

FUSED RESISTORS			
F4.7	4.7Ω - 5 Watts	.61	.36
F5	5Ω - 5 Watts	.61	.36
F5.6	5.6Ω - 5 Watts	.61	.36
F6	6Ω - 5 Watts	.61	.36
F7	7.5Ω - 3 amperes	.79	.47
F7-3.6	3.5Ω-7W, G.E.#14X183	.61	.36
F80	7.5Ω - 3 amperes	.61	.36
F9	9Ω - 5 Watts	.61	.36
F10	10Ω - 5 Watts	.61	.36
F10-4.5	4.5Ω - 10 Watts	.83	.50
F18	18Ω - 5 Watts	.61	.36
F22	22Ω - 5 Watts	.61	.36
F47	47Ω - 5 Watts	.61	.36
F100	100Ω - 5 Watts	.61	.36
F145	1.45Ω-5W heavy duty, Philco	.79	.47
F150	150Ω - 5 Watts	.61	.36
F12A	150Ω - 0.12 amperes	.61	.36
FJ4.7	H'vy duty 4.7Ω 3.5 amp.	.83	.50
FJ5.6	H'vy duty 5.6Ω 3.5 amp.	.83	.50
FJ7.5	H'vy duty 7.5Ω 3.5 amp.	.83	.50
FJR4.7	H'vy duty 4.7Ω 3.5 amp. 5W	.83	.50
FJH5.6	H'vy duty 5.6Ω 3.5 amp. 5W	.83	.50
FJR7.5	H'vy duty 7.5Ω 3.5 amp. 5W	.83	.50
FZ4.7	4.7Ω - 3 amperes	.40	.24
FZ5.6	5.6Ω - 3 amperes	.40	.24
FZ7.5	7.5Ω - 3 amperes	.40	.24
FZ9	9Ω - 3 amperes	.40	.24
FZ4.7-5	Pk. of 5, 4.7Ω-3 amps	1.76	1.09
FZ5.6-5	Pk. of 5, 5.6Ω-3 amps	1.76	1.09
FZ7.5-5	Pk. of 5, 7.5Ω-3 amps	1.76	1.09
FZ9-5	Pk. of 5, 9Ω-3 amps	1.76	1.09
FZ4.7R	15 pk. 4.7Ω-3 amp.	—	2.85
FZ5.6R	15 pk. 5.6Ω-3 amp.	—	2.85
FZ7.5R	15 pk. 7.5Ω-3 amp.	—	2.85
FZ9R	15 pk. 9Ω-3 amp.	—	2.85
FB1	Universal replacement	2.20	1.32
F26	No. AWG 26 Wire, 5 pcs.	.28	.17
F28	No. AWG 28 Wire, 5 pcs.	.28	.17
F15-7.5	7.5Ω - 15 Watts	1.06	.64
F7-5	5Ω - 7 Watts	.79	.47

AUTO RADIO RESISTORS			
WT10	0.10Ω - 5 Watt	.53	.32
WT22	0.22Ω - 5 Watt	.53	.32
WT27	0.27Ω - 5 Watt	.53	.32
WT33	0.33Ω - 5 Watt	.53	.32
WT47	0.47Ω - 5 Watt	.53	.32
WT56	5.6Ω - 5 Watt	.53	.32
WT68	0.68Ω - 5 Watt	.53	.32
WT82	0.82Ω - 5 Watt	.53	.32
TW	1800Ω - 7 Watt	.42	.25
FT2.8	2.8Ω cold	.72	.43
FT3.3	3.3Ω cold	.72	.43
FT4.5	4.5Ω cold	.72	.43
FT7.5	7.5Ω cold	.72	.43
FT10	10Ω cold	.72	.43
FT28	28Ω cold	.72	.43
FT35	35Ω cold	.72	.43
FT150	150Ω cold	1.43	.86
GD1	For 6V. in 12V. systems	6.05	3.63
GD2	2, 4, or 6 amp loads	3.63	2.18
GD3	5 to 6 amp loads	1.38	.83
GD4	7 to 8 amp loads	1.38	.83

WIREWOUND RESISTORS			
6W-B	6W Bendohms, 34 values	.54	.33
6WB-34	6W Bend. 34 vals. on card	18.26	10.95
25W	25W, 42 values 3.4Ωto 1KΩ	.83	.50
30W	30W, 18 values 19Ωto 196Ω	1.76	1.06
50W-5	50 Watt-5Ω for color	2.20	1.32
50WJ-5	50 Watt-5Ω heavy duty	3.14	1.88
146	4Ω - 25 watt	.94	.56
151	51Ω - 30 watt	1.05	.63
389	1400Ω - 20 watt	.88	.53
792	910Ω - 20 watt	.88	.53
MO1	59Ω - 25 watt	.94	.56
WR	5-15W 50 values each univ.	.61	.36
WR50	Card of 50 values	—	14.85
WS	2W 21 values 22 to 10.Ω	.40	.24

SQUARE OHMS			
5W-SQ	5W 81 Values 1-10KΩ	.40	.24
10W-SQ	10W 87 Values 1-25KΩ	.44	.26
20W-SQ	20W 87 Values 1-35KΩ	.72	.43
25W-SQ	25W 121 Values 1-50KΩ	.83	.50

AMP FUSES			
W3-1	RCA #945392-3	.75	.45
W200-10	RCA #945309-1	.75	.45
W400-1	RCA #945392-2	.75	.45
W450-1	RCA #945392-4	.75	.45
W500-1	RCA, Emerson, Olympic	.75	.45
W1000-1	Zenith #136-71	.75	.45
W1200-1	Em.#808236, Zenith#136-63	.75	.45
W1400-1	Emerson #808241	.75	.45
W1700-1	Em.#808238, Zenith#136-62	.75	.45
W2000-1	Zenith #136-66	.75	.45

CIRCUIT BREAKERS			
FA1	Break Current 1 amp.	1.27	.76
FA1.5	Carry Current .65 amp.	1.27	.76
FA2	Break Current 1.5 amp.	1.27	.76
FA2.5	Carry Current 1.25 amp.	1.27	.76
FA3	Break Current 2 amp.	1.27	.76
FA3.5	Carry Current 1.9 amp.	1.27	.76
FA4	Break Current 4 amp.	1.27	.76
FA4.5	Carry Current 2.5 amp.	1.27	.76
FA5	Break Current 4.5 amp.	1.27	.76
FA5.5	Carry Current 3 amp.	1.27	.76
FA6	Break Current 5 amp.	1.27	.76
FA7	Carry Current 3.5 amp.	1.27	.76
FA7	Break Current 6 amp.	1.27	.76
FA7	Carry Current 3.9 amp.	1.27	.76
FA7	Break Current 7 amp.	1.27	.76
FA7	Carry Current 4.4 amp.	1.27	.76

COLOR RESISTORS			
3 Watt	All Values	.83	.50
4 Watt	All Values	.88	.53
5 Watt	All Values	.94	.56
7 Watt	All Values	.99	.59
10 Watt	All Values	1.21	.73

SUPER BRIGHTENERS			
W2	9V, parallel, standard base	2.92	1.75
W22	8V, parallel, standard base	1.78	.89
W3	9V, series, standard base	3.19	1.91
W23	8V, series, standard base	1.78	.89
W4	8.5V Std. Isolation	4.07	2.44
W5	9V RCA Parallel	4.29	2.57
W25	8V RCA Parallel	2.89	1.49
W6	9V RCA Series	4.29	2.57
W26	8V RCA Series	2.92	1.75
W7	9V Sylvania Parallel	4.29	2.57
W27	8V Sylvania Parallel	2.92	1.75
W8	9V Sylvania Series	4.29	2.57
W28	8V Sylvania Series	2.92	1.75
W9	9V Std. Series-Parallel	4.57	2.74
W29	8V Std. Series-Parallel	3.19	1.91
W10	3.5V RCA Series	3.85	2.31
W210	3V RCA Series	3.07	1.84
W11	3.5V Sylvania Series	3.85	2.31
W211	3V Sylvania Series	3.07	1.84
W12	9V RCA Series-Parallel	4.95	2.97
W212	8V RCA Series-Parallel	3.43	2.07
W14	9V Sylvania Series Parallel	4.95	2.97
W214	8V Sylvania Series Parallel	3.43	2.07
W15	9V 23EP4 Parallel	4.29	2.57
W16	9V 23EP4 Parallel	4.29	2.57
W17	8.5V RCA Isolation	4.29	2.57
W18	8.5V, isolation, Sylvania	4.29	2.57
W20	8.5V 70° Color Parallel	10.73	6.44
W21	8.5V 90° Color Parallel	10.73	6.44

TRANSISTORS			
AA1	PNP osc.mix, conv.I.F.audio	1.82	.99
AA2	NPN osc.mix, conv.I.F.audio	1.82	1.09
AA3	PNP hi freq.osc., mix, conv.	2.86	1.72
AA4	PNP TO3 diamond base	2.34	1.41
AA5	PNP TO36 stud base	4.68	2.81
AF4	NPN Silicon UHF	3.40	2.04
AT6 M	PNP mini. audio driver	1.82	1.09
B5 M	PNP mini. audio output	1.82	1.09
BA6 M	PNP mini. I.F. amplifier	1.82	1.09
BE6 M	PNP mini. conv. oscillator	1.82	1.09
CB6	PNP VHF amplifier, hi freq.	3.30	1.98
J6	PNP conv., osc., mix, hi freq.	3.30	1.98
TBX12	For CB vibrators	4.62	2.77
TBX18	High power switching	5.23	3.14
U8	NPN Silicon VHF	2.60	1.56

CHEMICALS			
ET1	Scru-Loos rust solvent	1.82	1.09
H6	"Wiss'h" cleaner 6 oz.	1.82	1.09
H6A	"Wiss'h" 6 oz. with needle	2.26	1.35
HC6	Lucid 6 Oz. Aerosol	2.48	1.49
H14	"Wiss'h" cleaner 16 oz.	3.58	2.15
HF6	"Freez-It" cooler 6 oz.	1.82	1.09
HF16	"Freez-It" cooler 16 oz.	3.58	2.15
HQT	"Wiss'h" quart size kit	5.56	3.33
S3	Super "Wiss'h" pocket size	1.43	.86
S6	Super "Wiss'h" 6 oz.	2.20	1.32
S16	Super "Wiss'h" 16 oz.	4.40	2.64
S24	Super "Wiss'h" 24 oz. tank	5.50	3.28
SC3	Color Tuner Toner, 3 oz.	1.93	1.16
SC8	Color Tuner Toner, 8 oz.	3.58	2.15
SG6	Silicone-Lube	1.38	.83

SERVICE AIDS			
BC2	Battery Charger, 6 amps	38.13	22.87
BC4	U.L.ap.12v. battery charger	10.87	6.52
BC6	Battery Charger, 6 volt	4.38	3.08
BC12	Battery Charger, 12 volt	4.38	3.08
BZ1	Buzit	15.95	9.57
BZ5	Chek-It Circuit Tester	2.74	1.64
BZ8	Transistor Diode Checker	—	21.45
C200	Line Matching transformer	2.92	1.75
D1	Conv't. Std. to Button	2.89	1.74
D2	Conv't. Std. to Shell	2.89	1.74
D3	Conv't. Shell to Button	2.89	1.74
D4	Conv't. Button to Shell	2.89	1.74
D5	Conv't. 23EP4 to Syl. 8YP4	2.89	1.74
D6	Conv't. 23EP4 to Standard	2.89	1.74
D7	Conv't. 90° to 70° Color	6.05	3.63
D8	Conv't. 70° to 90° Color	6.05	3.63
D9	Duo Decal stand, to color but.	2.89	1.74
D10	G.E.11SP22 to 70° Color	6.05	3.63
PO1	Precision Oiler	1.21	.73
PO2	Precision Graphite	1.21	.73
PO3	Precision Grease	1.21	.73
RS1	110° Button Socket	1.32	.79
RS2	110° Shell Socket	1.32	.79
RS8	Standard Socket	1.32	.79
RS4	For 70° Color CRT	2.64	1.58
RS5	For 23EP4 CRT	1.32	.79
RS6	For 90° Color, 36 in. leads	3.30	1.98
RS7	7GR CRT replac'm't socket	1.32	.79
TG1	Tube Guard	2.20	1.32
TG2	Tube Guard for Color TV	2.62	1.57
TM3	TO36 mica insulators	.72	.43
TM5	TO3 mica insulators	.72	.43
TMA	TO3 anodized alum.insul'trs	1.21	.73
TMK	Power transistor mtg.kit	1.05	.63
TMM	Mica Collector Insulators	.72	.43
TMN	TO3 Nylon screw insulators	.72	.43
TMS	Dia'd.base trans. socket	.61	.36
VB4	Transistorized vibrator	12.08	7.19
VB5	Transistorized vibrator	12.08	7.19
X1	Extends Button Base	2.75	1.65
X2	Extends Shell Base	2.75	1.65
X3	Extends standard Duo-Decal	2.75	1.65
X4	24 in. for 70° Color CRT	4.07	2.44
X5	24 in. for 23EP4 CRT	2.75	1.65
X6	36 inch for 70° Color CRT	4.51	2.71
X7	36 inch for 90° Color CRT	4.51	2.71

**W** **COILS** **W**

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# WARD LEONARD

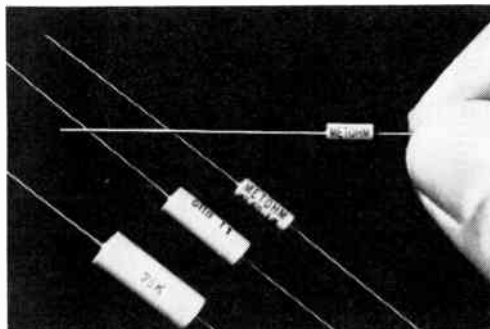
## Metohm<sup>®</sup> RESISTORS Metal Film Precision Type

### THE STANDARD OF QUALITY FOR MILITARY AND INDUSTRIAL PURPOSES

#### FEATURES

- High stability and reliability
- Designed to exceed MIL-R-10509F
- Close resistance tolerance
- Wide range of resistance values
- Stock or made-to-order types
- 1/20, 1/10, 1/8, 1/4 and 1/2 watt sizes

*Exceeds*  
MIL-R-10509F



In critical space-age electronic circuitry, METOHM metal film precision resistors guarantee high reliability, high stability, close accuracy, low TC and miniature size. Metohms are precision made under "white-room" conditions in the industry's most modern plant.

MIL SPECS. — All Metohm precision resistors are designed to exceed MIL-R-10509F char. C, D and E.

POWER RATING — is based on full rated load in an ambient of 125°C.

WELDABLE LEADS — gold plated Dumet leads and nickel "270" leads are available for weldable applications.

STOCK METOHMS — RN50, 55, 60, 65 and 70 Metohm resistors, char .C, TC Code T2 ( $\pm 50$ PPM) are stocked in MIL standard values listed below. Standard tolerance is  $\pm 1\%$ .

MADE-TO-ORDER TYPES — see data in accompanying tables for non-stock resistors available in production order quantities.

CONFORMAL COATED TYPES — also available in 1/20, 1/10, 1/8, 1/4 and 1/2 w. sizes. Durable solvent resistant coating allows smaller size. Ideal for micro module circuitry where space is at a premium.

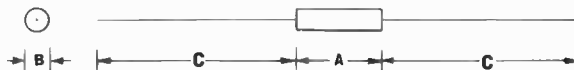
#### RATINGS AND SIZES — METOHM Metal Film Precision Resistors

Designations		Watt Rating		Resistance Range Ohms		Max. Voltage Rating (Continuous)	Standard Resistance Tolerance	Temperature Coefficient	A Length	B Diameter	C Axial Lead	
MIL	Industrial	@ 125°C	@ 70°C	Min.	Max.						Length	Diameter
RN 55†	.....	1/20	1/10	30.1	100K	200v	1% *	..	.150±0.10	.065±.005	1 ±1/8	.016±.002 (#26 AWG)
.....	WLC 50†	1/20	1/10	30	100K							
RN 55	.....	1/10	1/5	49.9	100K	200v	1% *	..	.260±0.10	.120 +.005 - .015	1½±1/8	.025±.002 (#22 AWG)
.....	††WL 55	1/10	1/5	10	301K							
RN 60	.....	1/8	1/4	49.9	499K	250v	1% *	..	.406±.015	.130±.015	1½±1/8	.025±.002 (#22 AWG)
.....	††WL 60	1/8	1/4	10	500K							
RN 65	.....	1/4	1/2	49.9	1 meg.	300v	1% *	..	.594±.015	.203+.015	1½±1/8	.025±.002 (#22 AWG)
.....	WL 65	1/4	1/2	10	1 meg.							
RN 70	.....	1/2	1	24.9	1.5 meg.	350v	1% *	..	.719±.020	.261±.020	1½±1/8	.025±.002 (#22 AWG)
.....	WL 70	1/2	1	10	1.5 meg.							

\* Closer tolerances to order. See MIL Resistance Tolerance table below.

\*\* See Temperature Coefficient Code Table below.

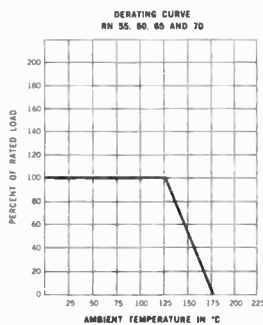
† Conformal coated. †† Also available conformal coated.



#### TEMPERATURE COEFFICIENT CODE

T.C. Code**	MIL Char.	Temperature Coefficient Range***	Temperature Range
T-0	D	$\pm 100$ PPM/°C	-55°C to +175°C
T-2	C	$\pm 50$ PPM/°C	-55°C to +175°C
T-3	—	0 to + 100 PPM/°C	-55°C to +175°C
T-4	—	0 to - 100 PPM/°C	-55°C to +175°C
T-5	—	$\pm 25$ PPM/°C	+25°C to +145°C
T-6	—	0 to + 50 PPM/°C	-55°C to +175°C
T-7	—	0 to - 50 PPM/°C	-55°C to +175°C
T-8	—	$\pm 35$ PPM/°C	-55°C to + 25°C
T-9	E	$\pm 25$ PPM/°C	+25°C to +175°C

\*\* For other temperature coefficients consult Home Office for price.  
\*\*\* Parts per Million Per Degree Centigrade (100 PPM equals 0.01%)



#### RESISTANCE TOLERANCE

MIL Designation	Tolerance
F	$\pm 1\%$
D	$\pm 0.5\%$
C	$\pm 0.25\%$
B	$\pm 0.1\%$
—	$\pm 0.05\%$

#### MIL STANDARD RESISTANCE VALUES FOR STOCK METOHM RESISTORS

24.9	36.5	53.6	78.7	115	169	249	365	536	768	1100	1580	2260	3240	4640	6810	9760	14.0K	20.0K	28.7K	41.2K	59.0K	84.5K	121K	174K	249K	357K	511K	732K
25.5	37.4	54.9	80.6	118	174	255	374	549	787	1130	1620	2320	3320	4750	6980	10.0K	14.3K	20.5K	29.4K	42.2K	60.4K	86.6K	124K	178K	255K	365K	523K	750K
26.1	38.3	56.2	82.5	121	178	261	383	562	806	1150	1650	2370	3400	4870	7150	10.2K	14.7K	21.0K	30.1K	43.2K	61.9K	88.7K	127K	182K	261K	374K	536K	768K
26.7	39.2	57.6	84.5	124	182	267	392	576	825	1180	1690	2430	3480	4990	7320	10.5K	15.0K	21.5K	30.9K	44.2K	63.4K	90.9K	130K	187K	267K	383K	549K	787K
27.4	40.2	59.0	86.6	127	187	274	402	590	845	1210	1740	2490	3570	5110	7500	10.7K	15.4K	22.1K	31.6K	45.3K	64.9K	93.1K	133K	191K	274K	392K	562K	806K
28.0	41.2	60.4	88.7	130	191	280	412	604	866	1240	1780	2550	3650	5230	7680	11.0K	15.8K	22.6K	32.4K	46.4K	66.5K	95.3K	137K	196K	280K	402K	576K	825K
28.7	42.2	61.9	90.9	133	196	287	422	619	887	1270	1820	2610	3740	5360	7870	11.3K	16.2K	23.2K	33.2K	47.5K	68.1K	97.6K	140K	200K	287K	412K	590K	845K
29.4	43.2	63.4	93.1	137	200	294	432	634	909	1300	1870	2670	3830	5490	8060	11.5K	16.5K	23.7K	34.0K	48.7K	69.8K	100K	143K	205K	294K	422K	604K	866K
30.1	44.2	64.9	95.5	140	205	301	442	649	931	1330	1910	2740	3920	5620	8250	11.8K	16.9K	24.3K	34.8K	49.9K	71.5K	102K	147K	210K	301K	432K	619K	887K
30.9	45.3	66.5	97.6	143	210	309	453	665	953	1370	1960	2800	4020	5760	8450	12.1K	17.4K	24.9K	35.7K	51.1K	73.2K	105K	150K	215K	309K	442K	634K	909K
31.6	46.4	68.1	100	147	215	316	464	681	976	1400	2000	2870	4120	5900	8660	12.4K	17.8K	25.5K	36.5K	52.3K	75.0K	107K	154K	221K	316K	453K	649K	931K
32.4	47.5	69.8	102	150	221	324	475	698	1000	1430	2050	2940	4220	6040	8870	12.7K	18.2K	26.1K	37.4K	53.6K	76.8K	110K	158K	226K	324K	464K	665K	953K
33.2	48.7	71.5	105	154	226	332	487	716	1020	1470	2100	3010	4320	6190	9090	13.0K	18.7K	26.7K	38.3K	54.9K	78.7K	113K	162K	232K	332K	475K	681K	976K
34.0	49.9	73.2	107	158	232	340	499	732	1050	1500	2150	3090	4420	6340	9310	13.3K	19.1K	27.4K	39.2K	56.2K	80.6K	115K	165K	237K	340K	487K	698K	1 Meg.
34.8	51.1	75.0	110	162	237	348	511	750	1070	1540	2210	3160	4530	6490	9530	13.7K	19.6K	28.0K	40.2K	57.6K	82.5K	118K	169K	243K	348K	499K	715K	1.5 Meg.
35.7	52.3	76.8	113	165	243	357	523							6650														

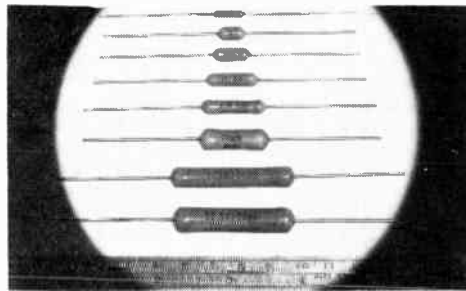


# WARD LEONARD

## Axiom<sup>®</sup> RESISTORS Vitreous Enamel Wire-Wound Power Type

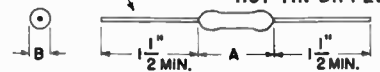
### AXIOHM FEATURES

- Vitrohm enamel construction
- Space saving design
- 5 stock sizes; 8 made-to-order sizes
- Wide range of resistance values
- Standard tolerance  $\pm 5\%$



Axiom, the miniaturized, space-saving power resistor line is designed for automation, printed circuits and advanced miniaturization use. Recommended for electronic and industrial use where high O.L. capacity and high stability are a "must". Four stock sizes and seven made-to-order sizes. Order by Stock Type and Ohms.

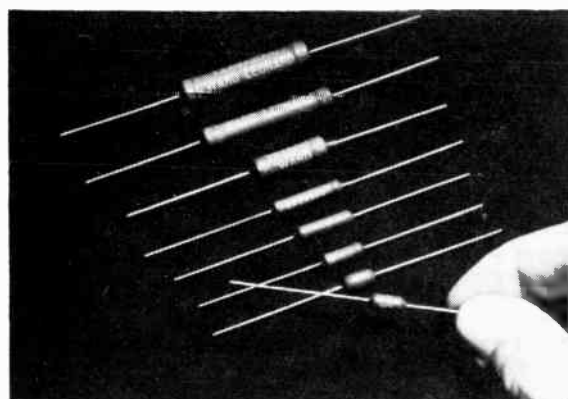
1 WATT #24 B & S GAGE WIRE  
2, 3, 4 AND 5 WATT #20 B & S GAGE WIRE  
7, 10 AND 12.3 WATT #18 B & S GAGE WIRE  
HOT TIN DIPPED



1 WATT TYPE 1X		2 WATTS TYPE 2X		3 WATTS TYPE 3X	
Dims. A = $\frac{1}{32}$ ; B = $\frac{3}{32}$		Dims. A = $\frac{3}{8}$ ; B = $\frac{3}{16}$		Dims. A = $\frac{1}{2}$ ; B = $\frac{3}{16}$	
Ohms	m.a.	Ohms	m.a.	Ohms	n.i.a.
1	1000	1	1414	1	1732
1.5	817	1.5	1155	1.5	1414
2	707	2	1000	2	1225
3	577	3	816	3	1000
4	500	4	707	4	866
5	447	5	632	5	775
7.5	361	7.5	517	7.5	632
10	316	10	447	10	548
11	302	11	426	12	500
12	289	12	408	15	447
13	277	13	392	18	408
15	258	15	365	20	387
16	250	16	354	22	369
18	236	18	333	25	346
20	224	20	316	27	333
22	213	22	302	30	316
24	204	24	289	33	301
27	192	27	272	35	293
30	182	30	258	40	274
33	174	33	246	47	252
36	167	36	235	50	245
39	160	39	228	56	231
43	153	43	216	68	210
47	146	47	206	75	200
51	140	51	198	82	191
56	134	56	189	100	173
62	127	62	179	120	158
68	121	68	172	125	155
75	115	75	163	150	141
82	110	82	156	180	129
91	105	91	148	200	122
100	100	100	141	220	117
110	95	110	135	225	115
120	91	120	129	250	110
130	87	130	124	270	105
150	82	150	116	300	100
160	79	160	112	330	95
180	75			350	93
200	71			390	88
				400	87
				450	82

5 WATTS TYPE 5XM			10 WATTS TYPE 10XM		
Dims. A = $\frac{15}{16}$ ; B = $\frac{3}{16}$			Dims. A = $1\frac{3}{4}$ ; B = $\frac{5}{16}$		
Ohms	m.a.	Ohms	m.a.	Ohms	
1	2230	200	158	2500	45
1.5	1820	220	151	2700	43
2	1580	225	148	3000	40
3	1290	250	141	3300	39
4	1117	270	136	3500	37
5	1000	300	129	3900	36
7.5	811	330	123	4000	35
10	707	350	119	4500	33
12	644	390	113	4700	32
15	577	400	112	5000	31
18	527	450	105	5600	30
20	500	470	103	6000	28
22	477	500	100	6800	27
25	450	560	94	7000	26
27	430	600	91	7500	25
30	408	680	86	8000	25
33	389	700	84	8200	24
35	378	750	81	9000	23
39	358	800	79	10000	22
40	353	820	78	11000	21
47	326	900	74	12000	20
50	316	1000	70	12500	20
56	299	1100	67	13500	19
68	271	1200	64	15000	18
75	257	1250	63	16000	18
82	247	1500	57	17500	17
100	223	1750	53	18000	17
120	204	1800	52	20000	16
125	200	2000	50	22000	15
150	182	2200	48	25000	14
180	167	2250	47	27000	13

Order by Type Number and Resistance Value.



### S-COAT RESISTORS Silicone Precision Power Type

S-Coat resistor line represents the latest advance in silicone coated wire-wound power resistor design. S-Coat resistors are precision-made for precision applications requiring characteristics such as low TC, close tolerance, no noise, low drift, high O.L. capacity, vibration resistant and zero voltage coefficient. Order by Type Designation, Ohms and Accuracy if other than  $\pm 1\%$ .

### S-COAT FEATURES

- Low TC:  $\pm 20$ PPM
- Close accuracy:  $\pm 1\%$  standard, to  $\pm 0.5\%$  special
- 1000 volt dielectric — "V" block test • Wide resistance ranges • 16 space-saving sizes



ratings and sizes standard tolerance = 1%

Rating In Watts	W. L. Type	Max. Body Dimensions (in inches)				Resistance Values and Tolerances							
		A	B	C	D	Minimum Ohms			Max. Ohms				
275°C*	350°C*					$\pm 5\%$	$\pm 3\%$	$\pm 2\%$	$\pm 1\%$	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$
.8**	1**	15X	3/8	7/16	7/32	#20	.25	.7	1.7	16	140	10K	
	1.25	1.25S	7/16	1/2	1/8	#24	.25	.3	.48	5.8	36	7.5K	
1.2	1.5	1.5S	9/16	5/8	1/8	#24	.26	.31	.44	1.36	20	11K	
1.5	2	2SX	3/8	7/16	7/32	#20	.25	.7	1.7	16	140	10K	
2.25	3	3SX	1/2	9/16	7/32	#20	.25	.36	.8	7.2	56	20K	
2.5	3.3	3.3S	9/16	5/8	1/4	#20	.29	.52	1.7	16.6	102	25K	
3	3.75	3.75S	5/8	11/16	7/32	#20	.25	.39	.53	3.2	36	25K	
3	4	4S	7/8	15/16	7/32	#20	.37	.40	.57	2.3	19.6	50K	
3.1	4	4SX	11/16	3/4	7/32	#20	.29	.37	.52	2.7	34	31K	
3.5	4.5	4.5S	11/16	3/4	9/32	#20	.37	.58	1.	5.2	57	40K	
4	5	5SX	7/8	1	7/32	#20	.41	.41	.56	1.4	15	44K	
5	7	7SX	61/64	1-1/16	11/32	#18	.65	.71	.95	2.3	27	80K	
7	9	9S	1-1/4	1-5/16	11/32	#18	.79	.79	.94	1.8	11	100K	
8	10	10SX	1-11/16	1-3/4	11/32	#18	1.2	1.2	1.2	1.8	5.8	135K	
9.75	12.5	12.5SX	1-11/16	1-3/4	13/32	#18	1.6	1.6	1.6	2.3	7.4	200K	
10	13	13S	1-53/64	1-57/64	13/32	#18	1.7	1.7	1.7	2.4	7.5	225K	

\*Hot spot temperature. \*\*125°C Ambient.

Temperature Coefficients: Below 5 ohms  $\pm 100$  PPM.

5 to 20 ohms  $\pm 50$  PPM.

above 20 ohms  $\pm 20$  PPM.

Standard Leads: Types-1.25S and 1.5S tinned Dumet; all others copper hot tin dipped

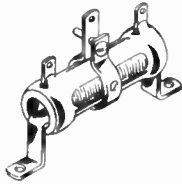


# WARD LEONARD

## Vitrohm<sup>®</sup> RESISTORS Vitreous Enamel Wire-Wound Power Type



Types 5F, 10F, and 20F. Furnished with wire terminal leads. Brackets supplied on request.



Types 10A, 25A, 50A, 80A, 100A, 160A, 200A. Furnished with mounting brackets and one adjustable band.

Vitrohm fixed and adjustable power type resistors from 5 to 200 watts are designed and produced for high reliability. All cores, terminals and vitreous enamels are manufactured by W/L to guarantee top quality.

**5 WATT**

**TYPE 5F**

Size—1" x 5/16"		
Ohms	m.a.	m.a.
1	2230	100
1.5	1820	125
2	1580	150
3	1290	200
4	1117	225
5	1000	250
7.5	811	300
10	707	350
12	644	400
15	577	450
20	500	500
25	450	600
30	408	700
35	378	750
40	353	800
50	316	900
75	257	1000

**10 WATT**

Type 10F—Fixed			Type 10A—Adj.		
Size—1 3/4" x 5/16" Mtg. Centers—2 1/8"			Size—1 3/4" x 5/16" Mtg. Centers—2 1/8"		
Ohms	Adj.	m.a.	Fixed	Adj.	m.a.
1	1	3160	1200		91
1.5	2	2580	1250	1250	89
2	2	2235	1500	1500	81
3	3	1825	1750		75
4	4	1580	2000	2000	70
5	5	1415	2250		66
7.5	5	1155	2500	2500	63
10	10	1000	3000	3000	58
12	10	913	3500	3500	53
15	15	815	4000	4000	50
20	20	707	4500	4500	47
25	25	630	5000	5000	45
30	30	577	6000	6000	41
35	35	534	7000	7000	38
40	40	500	7500	7500	36
50	50	450	8000	8000	35
75	75	365	8500	8500	34
100	100	316	9000	9000	33
125	125	283	10000	10000	32
150	150	258	11000		30
200	200	224	12000		29
225	225	211	12500		28
250	250	200	13500		27
300	300	182	15000		25.5
350	350	169	16000		25
400	400	158	17500		24
450	450	149	18000		23
500	500	142	20000		22
600	600	129	22500		21
700	700	120	25000		20
750	750	115	30000		18
800	800	112	35000		17
900	900	105	40000		16
1000	1000	100	45000		15
1100	1100	95	50000		14

**20 WATT**

**TYPE 20F**

Size—2" x 5/8" Mtg. Centers—2 5/8"		
Ohms	m.a.	m.a.
1	4480	850
3	2580	1000
5	2000	1200
10	1410	1250
15	1150	1500
25	900	1750
50	630	1850
75	517	2000
100	450	2250
150	365	2400
175	340	2500
200	320	2750
250	285	3000
300	258	3500
350	240	4000
400	224	4500
500	200	5000
650	175	6000
700	169	7000
750	163	7500
800	155	8000

**25 WATT**

Type 25F—Fixed			Type 25A—Adj.		
Size—2" x 5/8" Mtg. Centers—2 5/8"			Size—2" x 5/8" Mtg. Centers—2 5/8"		
Fixed	Adj.	m.a.	Fixed	Adj.	m.a.
1	1	5000	2500	2500	100
2	2	3535	3000	3000	90
3	3	2890	3500	3500	85
4	4	2500	4000	4000	80
5	5	2230	4500	4500	74
		7.5	5000	5000	70
10	10	1580	6000	6000	65
15	15	1290	7000	7000	60
		20	7500	7500	58
25	25	1000	8000	8000	56
50	50	710	8500	8500	54
75	75	580	9000	9000	52
100	100	500	10000	10000	50
150	150	410	12000	12000	46
200	200	354	15000	15000	41
250	250	315	20000	20000	34
300	300	289	25000	25000	32
400	400	250	30000		29
500	500	224	35000		27
750	750	182	40000		25
800	800	177	50000		20
850	850	170	60000		17
1000	1000	158	70000		14
1250	1250	140	75000		13
1500	1500	129	80000		12
2000	2000	112	100000		10
		2250			105

**50 WATT**

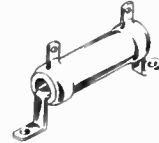
Type 50F—Fixed			Type 50A—Adj.		
Size—4 1/2" x 3/4" Mtg. Centers—5 1/4"			Size—4 1/2" x 3/4" Mtg. Centers—5 1/4"		
Fixed	Adj.	m.a.	Fixed	Adj.	m.a.
1	1	7070	5000	5000	100
2	2	5000	6000	6000	91
3	3	4080	7000	7000	85
4	4	3535	7500	7500	82
5	5	3160	8000	8000	79
10	10	2235	9000	9000	75
25	25	1415	10000	10000	71
50	50	1000	12000	12000	65
75	75	815	12500		63
100	100	707	15000	15000	58
150	150	575	20000	20000	50
200	200	500	25000	25000	45
250	250	445	30000	30000	41
300	300	408	35000		38
400	400	353	40000	40000	35
500	500	316	45000		33
750	750	258	50000	50000	32
800	800	250	60000	60000	29
1000	1000	224	75000	75000	23
		1250	80000		21
1500	1500	180	100000	100000	17
2000	2000	160	125000		14
		2250	150000		12
2500	2500	141	175000		10
3000	3000	130	200000		9
		3500	225000		8
4000	4000	110	250000		7
		4500			105

**80 WATTS • TYPE 80A**

Size—6 1/2" x 3/4" Mtg. Centers—7 1/4"		
Ohms	m.a.	m.a.
1	8940	750
2	6320	800
3	5160	1000
4	4470	1250
5	4000	1500
10	2830	2000
15	2310	2250
25	1790	2500
50	1260	3000
75	1030	3500
100	894	4000
200	632	4500
250	565	5000
300	515	6000
400	447	7000
500	400	10000
		103
		100
		94
		89
		73
		63
		57
		51
		48
		45
		41
		40
		36
		33
		31
		28

**HEAVY DUTY RESISTORS**

Types 25F, 50F, 100F, 160F, 200F Furnished with lug terminals and mounting brackets.



**100 WATT**

Type 100F—Fixed			Type 100A—Adj.		
Size—6 1/2" x 1 1/8" Mtg. Centers—7 1/4"			Size—6 1/2" x 1 1/8" Mtg. Centers—7 1/4"		
Fixed	Adj.	m.a.	Fixed	Adj.	m.a.
1	1	10000	2000	2000	225
2	2	7070	2500	2500	200
3	3	5770	3000	3000	180
4	4	5000	3500		170
5	5	4470	4000	4000	158
10	10	3160	4500	4500	150
25	25	2000	5000	5000	141
50	50	1410	6000	6000	130
75	75	1150	7500	7500	115
100	100	1000	10000	10000	100
125	125	895	15000	15000	80
150	150	815	20000	20000	70
		200	25000	25000	63
250	250	630	30000	30000	58
		400	35000		54
500	500	500	40000	40000	50
750	750	447	50000	50000	45
1000	1000	365	60000	60000	41
1250	1250	316	70000		38
1500	1500	285	75000	75000	36
		260	100000	100000	32

**ADJUSTABLE BANDS**

Screw Driver Type	
Size of Resistor	Cat. No.
10 Watts	609Z
25 Watts	612A
50 Watts	612B
80 Watts	612B
100 Watts	615D
160 Watts	615D
200 Watts	615D

Bakelite Knob Type	
Size of Resistor	Cat. No.
25 Watts	610A
50 Watts	610B
80 Watts	610B
100 Watts	619D
160 Watts	619D
200 Watts	619D

**160 WATT**

Type 160F—Fixed			Type 160A—Adj.		
Size—8 1/2" x 1 1/8" Mtg. Centers—9 1/4"			Size—8 1/2" x 1 1/8" Mtg. Centers—9 1/4"		
Fixed	Adj.	m.a.	Fixed	Adj.	m.a.
1	1	12650	2500	2500	252
2	2	8940	3000	3000	230
3	3	7300	3500	3500	215
4	4	6320	4000	4000	200
5	5	5650	4500	4500	185
10	10	4000	5000	5000	178
15	15	3265	7500	7500	146
25	25	2525	10000	10000	126
50	50	1785	15000	15000	105
75	75	1460	20000	20000	90
100	100	1265	25000	25000	80
150	150	1035	30000	30000	73
200	200	894	35000		68
250	250	800	40000	40000	64
500	500	565	50000	50000	57
750	750	460	60000	60000	52
1000	1000	400	75000	75000	46
1500	1500	326	80000	80000	45
2000	2000	280	100000	100000	40

**200 WATT**

Type 200F—Fixed			Type 200A—Adj.		
Size—10 1/2" x 1 1/8" Mtg. Centers—11 1/4"			Size—10 1/2" x 1 1/8" Mtg. Centers—11 1/4"		
Fixed	Adj.	m.a.	Fixed	Adj.	m.a.
1	1	14140	3500	3500	240
2	2	10000	4000	4000	225
3	3	8162	4500	4500	210
4	4	7070	5000	5000	200
5	5	6320	7500	7500	163
10					





# WARD LEONARD

## Vitrohm RESISTORS

Vitreous Enamel Wire-Wound Power Type

**20 WATTS • TYPE 20S**

2" Long—Mtg. Centers 2 3/4"  
Width 3/4"

Ohms m.a.	Ohms m.a.
1 4480	1500 115
3 2580	2000 100
5 2000	2500 90
10 1410	3000 81
15 1150	3500 76
25 900	4000 70
50 630	5000 63
100 450	7500 51
150 365	10000 45
200 320	15000 36
250 285	20000 32
400 224	25000 28
500 200	30000 26
750 163	35000 24
1000 141	40000 22
1250 125	50000 20



The 20 watt Ministrip resistor is smaller in size than the standard Strip-ohms. They may be stacked by using 1/32" washers.

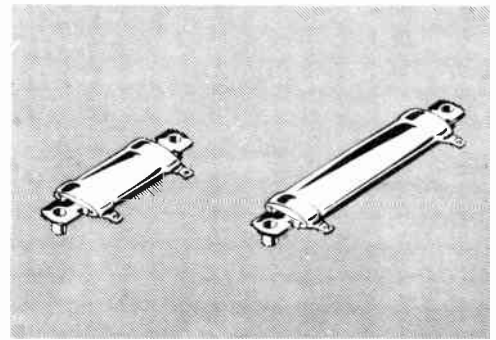
### STRIPOHMS

Order by Type Number and Resistance Value

#### features

- 6 space-saving sizes
- low mounting brackets
- strong flatted cores
- suitable for multiple stacking
- Vitrohm construction

Vitreous enameled wire-wound resistors built on a strong refractory core, and provided with low mounting brackets. Particularly suited for applications where space is limited. Specially adapted to stacking for networks.



**30 WATTS • TYPE 30S**

1 1/4" Long—Mtg. Centers 2"

Ohms m.a.	Ohms m.a.
1 5480	500 244
3 3160	750 200
5 2450	1000 173
10 1730	1250 154
15 1420	1500 142
25 1095	2000 122
50 774	2500 109
100 547	3000 100
150 447	3500 92
200 387	4000 86
250 346	5000 77
400 273	

**40 WATTS • TYPE 40S**

2" Long—Mtg. Centers 2 3/4"

Ohms m.a.	Ohms m.a.
1 6320	750 230
3 3650	1000 200
5 2830	1250 180
10 2000	1500 163
15 1630	2000 141
25 1270	2500 126
50 894	3000 114
100 632	3500 106
150 510	4000 100
200 447	5000 88
250 400	7500 73
400 315	10000 63
500 283	15000 51

**55 WATTS • TYPE 55S**

3 1/2" Long—Mtg. Centers 4 1/4"

Ohms m.a.	Ohms m.a.
1 7420	1250 209
3 4280	1500 191
5 3320	2000 165
10 2350	2500 148
15 1910	3000 135
25 1480	3500 129
50 1050	4000 117
100 741	5000 104
150 604	7500 84
200 522	10000 74
250 469	15000 60
400 370	20000 52
500 331	25000 47
750 270	30000 42
1000 234	

**65 WATTS • TYPE 65S**

4 3/4" Long—Mtg. Centers 5 1/2"

Ohms m.a.	Ohms m.a.
1 8060	1500 208
3 4650	2000 180
5 3610	2500 161
10 2550	3000 146
15 2080	3500 136
25 1610	4000 127
50 1140	5000 114
100 806	7500 92
150 658	10000 80
200 570	15000 65
250 509	20000 57
400 403	25000 51
500 360	30000 46
750 294	35000 43
1000 254	40000 40
1250 228	50000 36

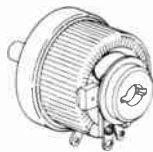
**75 WATTS TYPE 75S**

6" Long—Mtg. Centers 6 3/4"

Ohms m.a.	Ohms m.a.
1 8660	2500 173
3 5000	3000 158
5 3870	3500 146
10 2740	4000 137
15 2235	5000 122
25 1730	7500 100
50 1220	10000 87
100 866	15000 71
150 707	20000 61
200 612	25000 55
250 550	30000 50
400 433	35000 46
500 387	40000 43
750 315	50000 37
1000 274	60000 35
1250 245	65000 33
1500 224	
2000 193	

## Vitrohm®

### RING RHEOSTATS

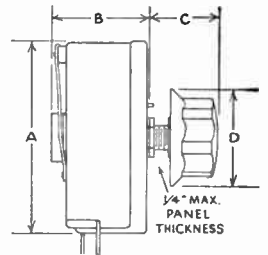


TYPE MP10

Ward Leonard Ring Rheostats are especially suited for use in electronic and electrical circuits where gradual and positive resistance change is essential. Balanced contact arms, self-lubricating metal graphite contact shoes, and no backlash in the drive shaft combine to assure uniform contact pressure and smooth operation.

Standard shaft length for back-of-board mounting on 1/4" panel.

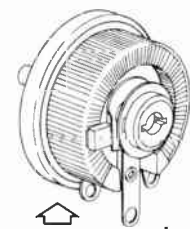
Standard Resistance Tolerance ±10%.



Ohms	25 WATTS		50 WATTS	
	Current M.A.	Approx. No. of Steps	Current M.A.	Approx. No. of Steps
0.5	—	—	10000	25
1	5000	30	7070	44
2	3540	29	5000	44
3	2889	51	—	—
4	—	—	3530	44
6	2040	50	2880	74
8	1770	52	2500	82
10	1580	52	—	—
12	—	—	2040	85
15	1290	74	—	—
16	—	—	1760	89
22	—	—	1500	98
25	1000	95	—	—
35	845	107	1190	126
50	707	97	1000	111
75	575	117	—	—
80	—	—	790	143
100	500	123	—	—
125	445	155	630	177
150	—	—	575	175
175	375	171	—	—
225	—	—	470	203
250	316	195	—	—
300	—	—	408	215
350	267	210	—	—
500	222	245	316	286
750	182	286	—	—
800	—	—	250	286
1000	155	305	224	360
1500	129	380	—	—
1600	—	—	176	368
2500	100	300	141	463
3500	84	335	119	510
5000	70	380	100	442
8000	—	—	79	560
10000	—	—	70	567

TYPE MP10

TYPE MP15



TYPE MP15

**100 WATTS**

Dimensions: A-3 3/8" B-1 1/2" C-1" D-1 1/2"

Ohms	Current M.A.	Approx. No. of Steps
1	10000	30
2	7070	56
3	5740	66
5	4470	56
7.5	3640	66
10	3160	104
15	2580	113
25	2000	144
50	1415	180
75	1150	180
100	1000	216
200	707	252
300	574	252
400	500	252
500	447	324
750	364	396
1000	316	410
2000	223	410
2500	200	410
5000	141	685
7500	115	820
10000	100	820

TYPE 100R

**150 WATTS**

Dimensions: A-4" B-1 3/4" C-1" D-1 1/2"

Ohms	Current M.A.	Approx. No. of Steps
1	12240	39
1.5	8660	39
2	7070	70
2.5	5470	73
3	4470	70
4	3870	70
5	3160	120
7.5	2440	152
10	1730	190
15	1415	228
25	1224	228
35	866	265
50	707	303
75	612	342
100	547	342
150	447	418
200	387	432
300	273	575
500	244	456
750	173	865
1000	141	1000
1500	122	1000

TYPE 150R














**300 WATTS**

Dimensions A-6" B-2 1/4" Shaft 3/4" x 2"

Ohms	Current m.a.	Approx. No. of Steps
1	17.320	40
1.5	14.142	58
2	12.247	78
2.5	10.954	78
3	10.000	73
4	8.660	78
5	7.745	78
7.5	6.324	148
10	5.477	154
15	4.472	147
25	3.464	155
35	2.927	231
50	2.449	267
75	2.000	308
100	1.732	326
150	1.414	270
200	1.224	308
300	1.000	340
500	.774	455
750	.632	514
1000	.547	578
1500	.447	675
2500	.346	720





TYPE 300R

# Atohm Trimming Potentiometers

DESCRIPTION	Distance between mounting holes	Series or Model Number	Resistance <sup>a</sup> (Ohms)	Lead Configuration (See next pg.)	End Resistance	Total Resistance	Power Rating (Watts)	Operating Temperature Range °C	Turns Nominal	Moisture Resistant	Physical Dimensions (Inches)			Standard Resistance Range, Ohms			Price			
											H	W	L	10-24	10-24	25-49	1-9	10-24	25-49	
MIL-STYLE, WIREWOUND	3/4"	 ART10	10-100K	L, P, S, W, E	1% or 1 Ohm	±5%	1 @ 85°C	-65°C to 200°C	18	Yes	.312	.18	1.00	10Ω-10K 20K-30K 50K 100K	8.62 10.26 11.88 13.23	7.98 9.50 11.00 12.25	7.18 8.55 9.90 11.03			
MIL-STYLE, WIREWOUND	1"	 ART11	10-150K	L, P, S, H	1% or 1 Ohm	±5%	1 @ 85°C	-65°C to 200°C	25	Yes	.312	.28	1.25	10Ω-10K 20K-25K 50K 100K 150K	7.00 8.62 9.15 11.34 12.69	6.48 7.98 8.47 10.50 11.75	5.83 7.18 7.62 9.45 10.58			
MIL-STYLE, WIREWOUND	1"	 ART12	10-150K	L, P, S, W	1% or 1 Ohm	±5%	1 @ 85°C	-65°C to 200°C	25	Yes	.312	.19	1.25	10Ω-10K 20K & 25K 50K 100K 150K	7.00 8.62 9.15 11.34 12.69	6.48 7.98 8.47 10.50 11.75	5.83 7.18 7.62 9.45 10.58			
MIL-STYLE, GENERAL PURPOSE, WIREWOUND	1"	 170	10-150K	L, P, S, W	1% or 1 Ohm	±10%	1 @ 70°C	-65°C to 175°C	25	Yes	.312	.19	1.25	10Ω-10K 20K & 25K 50K 100K 150K	6.32 7.88 8.42 10.31 11.61	5.85 7.30 7.80 9.55 10.75	5.27 6.57 7.02 8.60 9.68			
MIL-STYLE, GENERAL PURPOSE, WIREWOUND	1"	 190	10-150K	L, P, S, H	1% or 1 Ohm	±10%	1 @ 70°C	65°C to 175°C	25	Yes	.312	.28	1.25	10Ω-10K 20K & 25K 50K 100K 150K	6.32 7.88 8.42 10.31 11.61	5.85 7.30 7.80 9.55 10.75	5.27 6.57 7.02 8.60 9.68			
MIL-STYLE, GENERAL PURPOSE, WIREWOUND	3/4"	 270	10-100K	L, P, S, W, E	1% or 1 Ohm	±10%	1 @ 70°C	65°C to 175°C	18	Yes	.312	.18	1.00	10Ω-10K 20K & 30K 50K 100K	7.83 8.83 10.77 12.23	7.25 8.18 9.97 11.33	6.53 7.36 8.98 10.19			
MIL-QUALITY, WIREWOUND	1"	 121 122 123 124 125	10-150K	S L W P—staggered P—in line	.1% or .5 Ohms	-5%	2 @ 70°C	-65°C to 200°C	25	Yes	.312	.19	1.19	10Ω-10K 20K & 25K 50K 100K 150K	6.89 8.42 9.02 11.07 12.42	6.38 7.80 8.35 10.25 11.50	5.74 7.02 7.52 9.23 10.35			
MINIATURE, MIL-QUALITY, WIREWOUND		 323 325 326	10-50K		1% or 1 Ohm 1% or 1 Ohm 1% or 1 Ohm	±5% ±5% ±5%	1 @ 70°C 1 @ 70°C 1 @ 70°C	-65°C to 200°C -65°C to 200°C -65°C to 200°C	8 8 8	Yes Yes Yes	.25 .25 .25	.15 .15 .15	.435 .435 .435	10Ω-2.5K 5K & 10K 20K 25K-50K	8.64 9.99 11.61 12.96	8.00 9.25 10.75 12.00	7.20 8.33 9.68 10.80			
MINIATURE, GENERAL PURPOSE, WIREWOUND		 313 315 316	10-50K		2% or 2 Ohms 2% or 2 Ohms 2% or 2 Ohms	±10% ±10% ±10%	1/2 @ 70°C 1/2 @ 70°C 1/2 @ 70°C	-55°C to 175°C -55°C to 175°C -55°C to 175°C	8 8 8	No No No	.25 .25 .25	.15 .15 .15	.435 .435 .435	10Ω-2.5K 5K & 10K 20K 25K-50K	7.78 9.00 10.45 11.66	7.20 8.33 9.68 10.80	6.48 7.50 8.71 9.72			
GENERAL PURPOSE, WIREWOUND	3/4"	 T10	10-100K	L, P, S, W, E	2% or 2 Ohms	±10%	1 @ 70°C	-55°C to 175°C	18	No	.312	.18	1.00	10Ω-10K 20K & 30K 50K 100K	7.34 9.99 11.61	6.80 9.25 10.75	6.12 8.33 9.68			
GENERAL PURPOSE, WIREWOUND	1"	 T11	10-150K	L, P, S, H	2% or 2 Ohms	±10%	1 @ 70°C	-55°C to 175°C	25	No	.312	.28	1.25	10Ω-10K 20K & 25K 50K 100K 150K	5.72 7.34 7.88 9.55 10.91	5.30 6.80 7.30 8.85 10.10	4.77 6.12 6.57 7.97 9.09			
GENERAL PURPOSE, WIREWOUND	1"	 T12	10-150K	L, P, S, W	2% or 2 Ohms	±10%	1 @ 70°C	-55°C to 175°C	25	No	.312	.19	1.25	10Ω-10K 20K & 25K 50K 100K 150K	5.72 7.34 7.88 9.55 10.91	5.30 6.80 7.30 8.85 10.10	4.77 6.12 6.57 7.97 9.09			
GENERAL PURPOSE, WIREWOUND	1"	 111 112 113 114 115	10-150K	S L W P—staggered P—in line	.5% or 1 Ohm	±10%	2 @ 70°C	-55°C to 175°C	25	No	.312	.19	1.19	10Ω-10K 20K & 25K 50K 100K 150K	5.72 7.34 7.88 9.55 10.91	5.30 6.80 7.30 8.85 10.10	4.77 6.12 6.57 7.97 9.09			

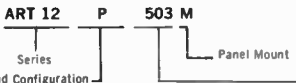
# Military and Commercial



DESCRIPTION	Distance between mounting holes	Series or Model Number	Resistance <sup>o</sup> (Ohms)	Lead Configuration (See below)**	End Resistance	Total Resistance	Power Rating (Watts)	Operating Temperature Range °C	Turns Nominal	Moisture Resistant	Physical Dimensions (Inches)			Standard Resistance Range, Ohms	Price		
											H	W	L		1-9	10-24	25-49
LOWEST COST MIL-QUALITY WIREWOUND	1"	 800	10-100K	L S P	0 to .7% or 0 to .5 ohm whichever is greater	±10%	0.5 @ 70°C	-65°C to 125°C	25	No	5/16	1/4	1-1/4	100-10K 20K & 25K 50K 100K	4.64 6.21 7.29 8.91	4.30 5.75 6.75 8.25	3.87 5.18 6.08 7.43
HIGH TEMPERATURE WIREWOUND	1"	 860	10-100K	L S P	0 to .2% or 0 to .5 ohm whichever is greater	±10%	1 @ 70°C	-65°C to 175°C	25	No	5/16	1/4	1-1/4	10-10K 20K & 25K 50K 100K	5.72 7.34 7.83 9.45	5.30 6.80 7.25 8.75	4.77 6.12 6.53 7.88
LOW COST COMMERCIAL WIREWOUND	1"	 871 873 875	10-100K	L S P	2%	±10%	.5 @ 25°C	-55°C to 115°C	25	No	5/16	1/4	1-1/4	100-10K 20K & 25K 50K 100K	3.11 4.19 4.72 6.59	2.88 3.88 4.37 6.10	2.59 3.49 3.93 5.49
LOW COST COMMERCIAL WIREWOUND	.830"	 5067	10-50K	P, H	2%	±10%	.5 @ 25°C	-55°C to 85°C	18	No	.36	.28	1.00	100-20K 25K 50K	1.79 2.70 4.19	1.66 2.50 3.88	1.49 2.25 3.49



Indicate series, lead configuration, resistance value and accessory, if any.  
For example:



Resistance Value (First two digits are significant, the third digit indicates number of zeros to be added. For example, 503 represents 50,000 ohms.)

TO ORDER ATOHM POTENTIOMETERS:

(This letter not required when ordering 110, 120, 300 and 870 Series units because model numbers indicate lead configurations.)

\*Special resistances available on order.  
\*\*Lead Configurations: L=Flexible Leads; P=Printed Circuit Pins (on ART10P model pins are located on side); S=Solder Lugs; W=Solid Wire Leads; E=Edge Mounted Printed Circuit Terminals (on ART10E model pins are located on edge); H=Solder Hooks.  
\*\*\*When ordering to MIL-R-27208 use the mil-spec part numbers.  
Atohm Style ART10 L complies with MIL-R-27208 Style RT 10C2L XXX.  
Atohm Style ART10 P complies with MIL-R-27208 Style RT 10C2P XXX.  
Atohm Style ART11 L complies with MIL-R-27208 Style RT 11C2L XXX.  
Atohm Style ART11 P complies with MIL-R-27208 Style RT 11C2P XXX.  
Atohm Style ART12 L complies with MIL-R-27208 Style RT 12C2L XXX.  
Atohm Style ART12 P complies with MIL-R-27208 Style RT 12C2P XXX.

## ATOHM ELECTRONICS

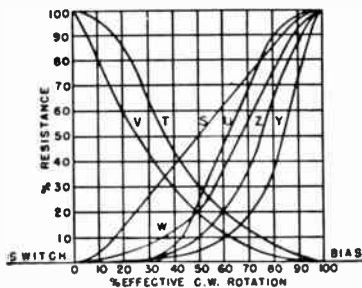


PRODUCTS OF  
**THE HOUSE OF RESISTORS®**



**RESISTORS • CONTROLS**  
**RESISTANCE DEVICES**

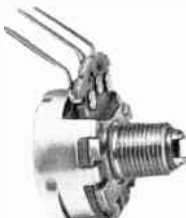
**COMPOSITION-ELEMENT CONTROLS**



**Graph Explanation:**  
Taper S—Straight or uniform resistance change with rotation.  
Taper T—Right-hand 30% resistance at 50% of C.W. rotation.  
Taper U—Left-hand 1% resistance at 33 1/3% of C.W. rotation.  
Taper V—Right-hand 20% resistance at 50% of C.W. rotation.  
Taper W—Left-hand 20% resistance at 50% of C.W. rotation.  
Taper X—Left-hand (Log. audio) 10% resistance at 50% of C.W. rotation.  
Taper Y—Left-hand 5% resistance at 50% of C.W. rotation.

**SERIES "A47" 1/2-WATT CONTROLS**

Composition-element controls in the popular 1 5/16" dia. size. Series "A47" controls are field-assembled with the selected "Pick-A-Shaft" and "Ad-A-Switch". These controls are also available with factory-assembled shafts at no extra charge, by omitting prefix "A" from catalog number and designating the type shaft desired when ordering. Example: 47-100K-S with FKS-1/4 shaft.



CAT No.	OHMS	TAPER	CAT No.	OHMS	TAPER
A47-500-S	500	S	A47-75K-V	75K	V
A47-750-S	750	S	A47-100K-S	100K	S
A47-1000-S	1000	S	A47-100K-Z	100K	Z
A47-1500-S	1500	S	A47-150K-S	150K	S
A47-2000-S	2000	S	A47-200K-S	200K	S
A47-2500-S	2500	S	A47-250K-S	250K	S
A47-3000-S	3000	S	A47-250K-Z	250K	Z
A47-4000-S	4000	S	A47-300K-S	300K	S
A47-5000-S	5000	S	A47-500K-S	500K	S
A47-7500-S	7500	S	A47-500K-Z	500K	Z
A47-10K-S	10K	S	A47-750K-S	750K	S
A47-10K-V	10K	V	A47-750K-Z	750K	Z
A47-10K-W	10K	W	A47-1 Meg-S	1 Meg.	S
A47-10K-Z	10K	Z	A47-1.5 Meg-Z	1.5 Meg.	Z
A47-15K-S	15K	S	A47-2 Meg-Z	2 Meg.	Z
A47-15K-V	15K	V	A47-2.5 Meg-S	2.5 Meg.	S
A47-15K-W	15K	W	A47-3 Meg-S	3 Meg.	S
A47-20K-S	20K	S	A47-3-Meg-Z	3 Meg.	Z
A47-25K-S	25K	S	A47-4 Meg-S	4 Meg.	S
A47-25K-W	25K	W	A47-4-Meg-Z	4 Meg.	Z
A47-25K-V	25K	V	A47-5 Meg-Z	5 Meg.	Z
A47-30K-S	30K	S	A47-5 Meg-S	5 Meg.	S
A47-40K-S	40K	S	A47-7.5 Meg-S	7.5 Meg.	S
A47-50K-S	50K	S	A47-10 Meg-S	10 Meg.	S
A47-50K-W	50K	W			
A47-50K-Z	50K	Z			
A47-75K-S	75K	S			

NET PRICE \$1.08

**SERIES "AD47" 1/2-WATT DUAL CONTROLS**

These are the same as "A47" except that they are dual controls.

Cat. No.	Panel	Taper	Rear	Taper
AD47-50K-S	50K	S	50K	S
AD47-100K-S	100K	S	100K	S
AD47-250K-S	250K	S	250K	S
AD47-250K-Z	250K	Z	250K	Z
AD47-500K-S	500K	S	500K	S
AD47-500K-Z	500K	Z	500K	Z
AD47-1 Meg-S	1 Meg.	S	1 Meg.	S
AD47-1 Meg-Z	1 Meg.	Z	1 Meg.	Z
AD47-2 Meg-S	2 Meg.	S	2 Meg.	S
AD47-2 Meg-V	2 Meg.	V	2 Meg.	V
AD47-5 Meg-S	5 Meg.	S	5 Meg.	S

NET PRICE \$2.25

**SERIES "C47S" 1/2-WATT CONTROLS WITH PUSH-PULL SWITCH**

Cat. No.	Cat. No.
C47S-1000-V	C47S-750K-Z
C47S-2500-V	C47S-1MEG-S
C47S-250K-S	C47S-1MEG-Z
C47S-250K-Z	C47S-2MEG-S
C47S-500K-S	C47S-2MEG-Z
C47S-500K-Z	C47S-3MEG-Z

NET PRICE \$1.68

**SERIES "C47SF" (TAPPED)**

Cat. No.	Tap
C47SF-500K	Tap 250K
C47SF1-500K	Tap 150K
C47SF-1MEG	Tap 500K
C47SF1-1MEG	Tap 250K
C47SF-2MEG	Tap 1MEG
C47SF-3MEG	Tap 1.5MEG

NET PRICE \$2.15

**SERIES "A47F"**



Series "A47F" controls are field-assembled with the selected "Pick-A-Shaft" and "Ad-A-Switch". "A47F" controls have taps 1, 2, 3 located at 40%, 50% and 60% of rotation, double taps at 35 and 65% of electrical position. These controls are also available with factory-assembled shafts at no extra charge, by omitting prefix "A" from catalog number and designating the type of shaft desired when ordering. Example: 47F-200K with FS-3 shaft.

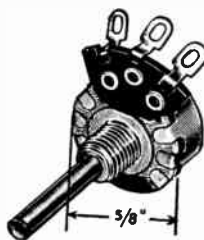
Cat. No.	Res. Ohms.	Tap No. 1 30%	Tap No. 2 50%	Tap No. 3 70%
A47F-15K	15K	5K		
A47F-30K	30K	10K		
A47F-50K	50K		25K	
A47F-200K	200K			100K
A47F-250K	250K			50K
A47F1-250K	250K		125K	
A47F2-250K	250K	60K		125K
A47F-350K	350K	75K		
A47F1-350K	350K		75K	
A47F-500K	500K			100K
A47F1-500K	500K	25K		200K
A47F2-500K	500K			200K
A47F3-500K	500K		100K	
A47F4-500K	500K		50K	
A47F5-500K	500K		250K	
A47F6-500K	500K			300K
A47F-1 Meg.	1 Meg.	100K		200K
A47F-1.5 Meg.	1.5 Meg.	250K		
A47F2-1 Meg.	1 Meg.		50K	
A47F3-1 Meg.	1 Meg.		100K	
A47F4-1 Meg.	1 Meg.		225K	
A47F5-1 Meg.	1 Meg.		500K	
A47F-1.5 Meg.	1.5 Meg.	250K		500K
A47F-2 Meg.	2 Meg.	20K		
A47F1-2 Meg.	2 Meg.	5000		
A47F2-2 Meg.	2 Meg.	15K		
A47F3-2 Meg.	2 Meg.		1 Meg.	
A47F4-2 Meg.	2 Meg.		200K	
A47F5-2 Meg.	2 Meg.		400K	
A47F6-2 Meg.	2 Meg.		500K	
A47F7-2 Meg.	2 Meg.	250K		1 Meg.
A47F-2.5 Meg.	2.5 Meg.	250K		500K
A47F-3 Meg.	3 Meg.		250K	

NET PRICE \$1.49

\*Reg. U.S. Pat. Off.

**SERIES 44 — 0.02 WATT CONTROLS**

Composition Element Controls rated at 0.2 watt, designed specifically for miniaturized applications such as transistorized circuits, pocket radios, hearing aids, etc. Stocked controls have Clarostat "W" taper (20% log audio). Other tapers available on special order. Series 44 is without switch, while Series 44S has factory-attached 0.5 am. 25 v.d.c. DPST switch. Other ohmages available on special order. 200 ohms to 5 meg. linear; 1500 to 2.5 meg. tapered. Also available on special order, controls with 0.5 a. 25 v.d.c. SPST switch. Items not listed are special. Prices and information on request.



Without Switch		With SPST Switch	
Cat. No.	Cat. No.	Cat. No.	Cat. No.
44-500-W	44-50K-W	44S-500-W	44S-50K-W
44-1K-W	44-100K-W	44S-1K-W	44S-100K-W
44-5K-W	44-250K-W	44S-5K-W	44S-250K-W
44-10K-W	44-500K-W	44S-10K-W	44S-500K-W
44-15K-W	44-1 Meg-W	44S-15K-W	44S-1 Meg-W
44-25K-W		44S-25K-W	

NET PRICE \$1.08

NET PRICE \$1.68

**SERIES B47 1/2-WATT TAB-MOUNT**

Composition element controls designed for radio and TV applications, where bushingless controls are required. Phenolic shaft insures insulation if control is used on a "hot" chassis. Items not listed are special, for which information and prices will be supplied on request.

Cat. No.	Cat. No.	Cat. No.	Cat. No.
B47-500-S	B47-10K-S	B47-250K-S	B47-1.5 Meg-S
B47-750-S	B47-25K-S	B47-330K-Z	B47-2 Meg-S
B47-1500-S	B47-50K-S	B47-500K-S	B47-2.5 Meg-S
B47-2500-S	B47-100K-S	B47-500K-Z	B47-3 Meg-S
B47-3000-S	B47-150K-S	B47-1 Meg-S	B47-5 Meg-S
B47-5000-S	B47-200K-S	B47-1 Meg-Z	B47-5 Meg-Z
			B47-7.5 Meg-S

NET PRICE \$.75



**SERIES B47S 1/2-WATT TAB MOUNT WITH SWITCH**

Cat. No.	Cat. No.
B47S-250K-S	B47S-1 Meg-S
B47S-250K-Z	B47S-1 Meg-Z
B47S-500K-S	B47S-2 Meg-S
B47S-500K-Z	B47S-2 Meg-Z

NET PRICE \$1.35

PRODUCTS OF  
**THE HOUSE OF RESISTORS®**



**RESISTORS • CONTROLS**  
**RESISTANCE DEVICES**

**SERIES 53 — 2 WATT**  
**MOLDED COMPOSITION ELEMENT POTENTIOMETERS**



A 2-watt molded composition element potentiometer totally enclosed and sealed against moisture and other environmental conditions. Meets the need for a high quality resistance device incorporating high-stability under extreme climatic and operational conditions. For use in critical applications, such as, test equipment, military requirements, computers, servo systems and industrial metering devices.

1 1/16" diameter and 9/16" deep, wiper assembly of one piece construction; carbon to carbon contact insures exceptionally low noise level; brass nickel plated, gold plated terminals. Electrical tolerances are plus/minus 10% for all values up to 1 meg. 1 meg. and above plus/minus 20%.

Fabricated in accordance with MIL-R-94 Style RV4.

Items not listed are special, prices and information supplied upon request.

The C1 designation indicates a 1 5/8" round shaft beyond bushing; 3/8" long bushing with 3/8-32-NEF-2 thread. The C2 designation is a 1/8" screwdriver slotted shaft with a 1/2" split locking bushing. The C3 designation is a 7/8" round shaft FMS, 3/8" long bushing with 3/8-32-NEF-2 thread.

**TAPERED POTENTIOMETERS**

"Z" TAPER	REVERSED "Z" TAPER
53C1-100K-Z	53C1-10K-RZ
53C1-250K-Z	53C1-25K-RZ
53C1-500K-Z	53C1-50K-RZ
53C1-1 Meg-Z	
53C1-2.5 Meg-Z	

**DUAL POTENTIOMETERS**

Cat. No.	Cat. No.
D53C1-10K-S	D53C1-100K-S
D53C1-25K-S	D53C1-250K-S
D53C1-50K-S	D53C1-500K-S
	D53C1-1 Meg-S

Cat. No.	Cat. No.	Cat. No.	Res. Ohms	Taper
53C1-50-S	53C2-50-S	53C3-50-S	50	S
53C1-100-S	53C2-100-S	53C3-100-S	100	S
53C1-150-S	53C2-150-S	53C3-150-S	150	S
53C1-250-S	53C2-250-S	53C3-250-S	250	S
53C1-350-S	53C2-350-S	53C3-350-S	350	S
53C1-500-S	53C2-500-S	53C3-500-S	500	S
53C1-750-S	53C2-750-S	53C3-750-S	750	S
53C1-1000-S	53C2-1000-S	53C3-1000-S	1000	S
53C1-1500-S	53C2-1500-S	53C3-1500-S	1500	S
53C1-2000-S	53C2-2000-S	53C3-2000-S	2000	S
53C1-2500-S	53C2-2500-S	53C3-2500-S	2500	S
53C1-3500-S	53C2-3500-S	53C3-3500-S	3500	S
53C1-5000-S	53C2-5000-S	53C3-5000-S	5000	S
53C1-7500-S	53C2-7500-S	53C3-7500-S	7500	S
53C1-10K-S	53C2-10K-S	53C3-10K-S	10K	S
53C1-15K-S	53C2-15K-S	53C3-15K-S	15K	S
53C1-20K-S	53C2-20K-S	53C3-20K-S	20K	S
53C1-25K-S	53C2-25K-S	53C3-25K-S	25K	S
53C1-35K-S	53C2-35K-S	53C3-35K-S	35K	S
53C1-50K-S	53C2-50K-S	53C3-50K-S	50K	S
53C1-75K-S	53C2-75K-S	53C3-75K-S	75K	S
53C1-100K-S	53C2-100K-S	53C3-100K-S	100K	S
53C1-150K-S	53C2-150K-S	53C3-150K-S	150K	S
53C1-200K-S	53C2-200K-S	53C3-200K-S	200K	S
53C1-250K-S	53C2-250K-S	53C3-250K-S	250K	S
53C1-350K-S	53C2-350K-S	53C3-350K-S	350K	S
53C1-500K-S	53C2-500K-S	53C3-500K-S	500K	S
53C1-750K-S	53C2-750K-S	53C3-750K-S	750K	S
53C1-1 Meg-S	53C2-1 Meg-S	53C3-1 Meg-S	1 Meg	S
53C1-1.5 Meg-S	53C2-1.5 Meg-S	53C3-1.5 Meg-S	1.5 Meg	S
53C1-2 Meg-S	53C2-2 Meg-S	53C3-2 Meg-S	2 Meg	S
53C1-2.5 Meg-S	53C2-2.5 Meg-S	53C3-2.5 Meg-S	2.5 Meg	S
53C1-3 Meg-S	53C2-3 Meg-S	53C3-3 Meg-S	3 Meg	S
53C1-3.5 Meg-S	53C2-3.5 Meg-S	53C3-3.5 Meg-S	3.5 Meg	S
53C1-4 Meg-S	53C2-4 Meg-S	53C3-4 Meg-S	4 Meg	S
53C1-5 Meg-S	53C2-5 Meg-S	53C3-5 Meg-S	5 Meg	S
53C1-7.5 Meg-S	53C2-7.5 Meg-S	53C3-7.5 Meg-S	7.5 Meg	S
53C1-10 Meg-S	53C2-10 Meg-S	53C3-10 Meg-S	10 Meg	S

Field-attached switches are available for the Series 53. The switch is easily and quickly installed on the control, taking less than a minute to install.

Cat. No.	Description
53-12	SPST — 5A-125V. A.C.
53-20	DPST — 3A-125V. A.C.
53-21	(Mod.) DPST — 3A-125V. A.C./D.C.

**SERIES "43C1" and "43C2" 2-WATT CONTROLS**

Electrical tolerance is plus/minus 5% for all ohmage. Independent linearity is to plus/minus 2%. All controls rated 2 watts.

43C1 Cat. No.	43C2 Cat. No.	Res. Ohms	43C1 Cat. No.	43C2 Cat. No.	Res. Ohms	43C1 Cat. No.	43C2 Cat. No.	Res. Ohms	43C1 Cat. No.	43C2 Cat. No.	Res. Ohms
43C1-5	43C2-5	5	43C1-100	43C2-100	100	43C1-1000	43C2-1000	1000	43C1-10K	43C2-10K	10K
43C1-10	43C2-10	10	43C1-150	43C2-150	150	43C1-1500	43C2-1500	1500	43C1-15K	43C2-15K	15K
43C1-20	43C2-20	20	43C1-200	43C2-200	200	43C1-2000	43C2-2000	2000	43C1-20K	43C2-20K	20K
43C1-25	43C2-25	25	43C1-250	43C2-250	250	43C1-2500	43C2-2500	2500	43C1-25K	43C2-25K	25K
43C1-30	43C2-30	30	43C1-300	43C2-300	300	43C1-3000	43C2-3000	3000	43C1-30K	43C2-30K	30K
43C1-40	43C2-40	40	43C1-400	43C2-400	400	43C1-4000	43C2-4000	4000	43C1-40K	43C2-40K	40K
43C1-50	43C2-50	50	43C1-500	43C2-500	500	43C1-5000	43C2-5000	5000	43C1-50K	43C2-50K	50K
43C1-75	43C2-75	75	43C1-750	43C2-750	750	43C1-7500	43C2-7500	7500			

**NET PRICES**

43C1-5 to 43C1-10K	\$2.25	43C1-30K to 43C1-50K	\$3.00	43C2-15K to 43C2-25K	\$2.81
43C1-15K to 43C1-25K	2.55	43C2-5 to 43C2-10K	2.50	43C2-30K to 43C2-50K	3.30

**SERIES 58C1 AND 58C2 4-WATT CONTROLS**



Electrical tolerance is plus/minus 5% for all ohmage. Independent linearity is to plus/minus 1% All controls rated 3 watts.

58C1 Cat. No.	58C2 Cat. No.	Res. Ohms	58C1 Cat. No.	58C2 Cat. No.	Res. Ohms
58C1-1	58C2-1	1	58C1-500	58C2-500	500
58C1-2	58C2-2	2	58C1-750	58C2-750	750
58C1-4	58C2-4	4	58C1-1000	58C2-1000	1000
58C1-6	58C2-6	6	58C1-1500	58C2-1500	1500
58C1-10	58C2-10	10	58C1-2000	58C2-2000	2000
58C1-15	58C2-15	15	58C1-2500	58C2-2500	2500
58C1-20	58C2-20	20	58C1-3000	58C2-3000	3000
58C1-25	58C2-25	25	58C1-5000	58C2-5000	5000
58C1-30	58C2-30	30	58C1-7500	58C2-7500	7500
58C1-40	58C2-40	40	58C1-10K	58C2-10K	10K
58C1-50	58C2-50	50	58C1-15K	58C2-15K	15K
58C1-60	58C2-60	60	58C1-20K	58C2-20K	20K
58C1-75	58C2-75	75	58C1-25K	58C2-25K	25K
58C1-100	58C2-100	100	58C1-30K	58C2-30K	30K
58C1-200	58C2-200	200	58C1-40K	58C2-40K	40K
58C1-300	58C2-300	300	58C1-50K	58C2-50K	50K
58C1-400	58C2-400	400			

**NET PRICES**

58C1-1 to 58C1-10K	\$2.25	58C2-1 to 58C2-10K	\$2.50
58C1-15K to 58C1-25K	2.55	58C2-15K to 58C2-25K	2.81
58C1-30K to 58C1-50K	3.00	58C2-30K to 58C2-50K	3.30

**SERIES "10C1" and "10C2" 4-WATT CONTROLS**

Electrical tolerance is plus/minus 5% for all ohmage. All controls rated 4 watts.

1 to 50K ohms available on special order. Prices and information on request.

10C1 Cat. No.	10C2 Cat. No.	Res. Ohms
10C1-75K	10C2-75K	75K
10C1-100K	10C2-100K	100K

**Net Prices**

10C1	\$2.85	10C2	\$3.60
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**WIRE-WOUND CONTROLS**

These are "Pick-A-Shaft" controls which take any one of 12 shafts listed on page R-24 including High Voltage Coupler and insulated shaft. Your choice of any one of the 12 shafts listed (this does not include insulated shaft) with each control. Tolerances of these controls are in accordance with EIA standards. Overall resistance

tolerance of plus/minus 10% for all values. All controls are linear. Available with factory-assembled shafts at no extra charge, by omitting the prefix "A" from the catalog number and designating the type of shaft desired when ordering. Example: 43-500 with FKS-1/4 shaft, or 43S-10K with FS-3 shaft and SPST switch.

**SERIES "A43" and "A43S" 2-WATT CONTROLS**



SERIES A43  
(INDUSTRIAL)  
SERIES 43



SERIES A43S  
(INDUSTRIAL)  
SERIES 43S

"A43" is without switch, while "A43S" has factory-attached SPST switch. When ordering "A43S" controls, specify type of switch. Controls with other than SPST switch are special. Prices and information on request.

Without Switch Cat. No.	With SPST Switch Cat. No.	Res. Ohms	Without Switch Cat. No.	With SPST Switch Cat. No.	Res. Ohms
A43-5	A43S-5	5	A43-1,000	A43S-1,000	1,000
A43-10	A43S-10	10	A43-1,500	A43S-1,500	1,500
A43-20	A43S-20	20	A43-2,000	A43S-2,000	2,000
A43-25	A43S-25	25	A43-2,500	A43S-2,500	2,500
A43-30	A43S-30	30	A43-3,000	A43S-3,000	3,000
A43-40	A43S-40	40	A43-4,000	A43S-4,000	4,000
A43-50	A43S-50	50	A43-5,000	A43S-5,000	5,000
A43-75	A43S-75	75	A43-7,500	A43S-7,500	7,500
A43-100	A43S-100	100	A43-10K	A43S-10K	10K
A43-150	A43S-150	150	A43-15K		
A43-200	A43S-200	200	A43-20K		
A43-250	A43S-250	250	A43-25K		
A43-300	A43S-300	300	A43-30K		
A43-400	A43S-400	400	A43-40K		
A43-500	A43S-500	500	A43-50K		
A43-750	A43S-750	750			

**NET PRICES: (Without Switch)**

5 to 10KΩ	\$1.25
15K to 25KΩ	1.52
30K to 50KΩ	1.95

**(With Switch)**

5 to 10KΩ	\$1.80
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**SERIES "A58" and "A58S" 3- WATT CONTROLS**

"A58" is without switch, while "A58S" has factory-attached SPST switch. Available with factory-assembled shafts, at no extra charge, by omitting prefix "A" from catalog number, and designating type of shaft desired when ordering. Example: 58-50K with KSS-3 shaft, or 58S-25K with RS-3 shaft and SPST switch. Controls with other than SPST switch are special. Prices and information on request.

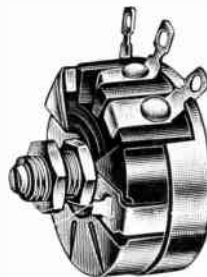
Without Switch Cat. No.	Res. Ohms	Without Switch Cat. No.	Res. Ohms
A58-1	1	A58-5,000	5,000
A58-2	2	A58-7,500	7,500
A58-4	4	A58-10K	10K
A58-6	6	A58-15K	15K
A58-10	10	A58-20K	20K
A58-15	15	A58-25K	25K
A58-20	20	A58-30K	30K
A58-25	25	A58-40K	40K
A58-30	30	A58-50K	50K
A58-40	40		
A58-50	50		
A58-60	60		
A58-75	75		
A58-100	100		
A58-200	200		
A58-250	250		
A58-300	300		
A58-400	400		
A58-500	500		
A58-750	750		
A58-1,000	1,000		
A58-1,500	1,500		
A58-2,000	2,000		
A58-2,250	2,250		
A58-2,500	2,500		
A58-3,000	3,000		
A58-4,000	4,000		

**NET PRICES:**

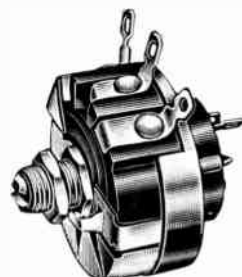
1 to 10KΩ	\$1.25
15K to 25KΩ	1.52
30K to 50KΩ	1.95

**With SPST Switch Res.**

Cat. No.	Ohms
A58S-1	1
A58S-2	2
A58S-4	4
A58S-6	6
A58S-10	10
A58S-15	15
A58S-20	20
A58S-25	25
A58S-30	30
A58S-40	40



SERIES A58  
(INDUSTRIAL)  
SERIES 58



SERIES A58S  
(INDUSTRIAL)  
SERIES 58S

**With SPST Switch Res.**

Cat. No.	Ohms
A58S-50	50
A58S-60	60
A58S-75	75
A58S-100	100
A58S-200	200
A58S-300	300
A58S-400	400
A58S-500	500
A58S-750	750
A58S-1,000	1,000
A58S-1,500	1,500
A58S-2,000	2,000
A58S-2,500	2,500
A58S-3,000	3,000

A58S-4,000	4,000
A58S-5,000	5,000
A58S-7,500	7,000
A58S-10K	10K
A58S-15K	15K
A58S-20K	20K
A58S-25K	25K
A58S-30K	30K
A58S-40K	40K
A58S-50K	50K

**NET PRICES:**

1 to 10KΩ	\$1.80
15K to 25KΩ	1.91
30K to 50KΩ	2.35

**SERIES A10 — 4 WATTS**

Cat. No.	Ohms	Net
A10-75K	75K	\$2.46
A10-100K	100K	2.97

**SERIES BHM ROTARY SWITCHES**



Series BHM switches are rated at 50 ma. at 300 V. a.c. or d.c., and 500 ma. at 30 V. a.c. or d.c. All moving parts and contact mechanism are totally enclosed, and the switch assembly is sealed for protection from dust and atmospheric conditions. They are particularly adapted to portable radios, receivers and transmitters, X-ray and medical instruments, calculating machines and computers.

**Current:** 50 Milliamps. at 300 volts a.c. or d.c.  
**Rating:** 500 Milliamps. at 30 volts a.c. or d.c.  
**Protection:** All moving parts and contact mechanisms are totally enclosed and switch is sealed, which protects it from dust and atmospheric conditions.  
**Shaft:** 1/4" diameter round 1" beyond bushing.  
**Finish:** Nickel Plating.  
**Bushing:** 3/8" x 32 NEF-2 Thread. 3/8" Long.  
**Torque:** 30 to 50 oz. in.

BHM-SP12P-S	Single Pole 12 Positions — Shorting
BHM-SP12P-NS	Single Pole 12 Positions — Non Shorting
BHM-2P6P-S	2 Pole 6 Positions — Shorting
BHM-2P6P-NS	2 Pole 6 Positions — Non-Shorting
BHM-3P4P-S	3 Pole 4 Positions — Shorting
BHM-3P4P-NS	3 Pole 4 Positions — Non-Shorting
BHM-4P3P-S	4 Pole 3 Positions — Shorting
BHM-4P3P-NS	4 Pole 3 Positions — Non-Shorting

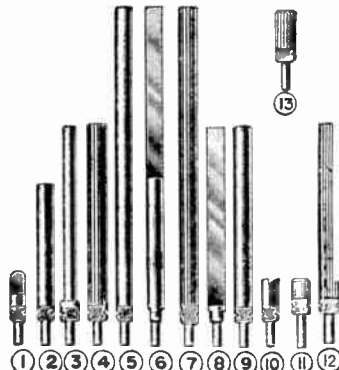
Meets or exceeds test paragraph 4.5.3 thru 4.5.13 of MIL-S-3786.



**SHAFTS FOR "PICK-A-SHAFT" CONTROLS**

For use with all Clarostat "Pick-A-Shaft" controls, either carbon or wirewound. Your choice of shaft furnish with each control.

- (1) SS-3/8" length—(Male) to take female fitting.
- (2) RS-2 — Round shaft, 2" long.
- (3) RS-3/16" — Round slotted shaft 3/16" dia., 3" long.
- (4) KSS-3 — Knurled, split shaft, 3" long.
- (5) RS-5 — Round shaft, 5" long.
- (6) FS-5 — Flatted, 5" long.
- (7) KSS-5 — Knurled, split shaft, 5" long.
- (8) FS-3 — Flatted shaft, 3" long.
- (9) RS-3 — Round shaft, 3" long.
- (10) DFS-1/2" — Double flatted Philco Type, 1/2" long.
- (11) FKS-1/4" — Fine knurled slotted shaft, 1/4" long.
- (12) KFS-3 — Knurled flatted shaft, 3" long.
- (13) FKS-1/2" — Fine knurled slotted shaft, 1/2" long.



Net Price, Each Shaft \$0.33



**SERIES "SWE" SWITCHES FOR "AD-A-SWITCH" CONTROLS**

For use with "A47" and "A47F" controls. Underwriters' Laboratories Inc. approved.

U.S. PAT. 2,642,506

Cat. No.	Wiring	Net Price
SWE-12	S.P.S.T. — Single Pole Single Throw, 5A.-125V. A.C.	\$0.50
SWE-13	S.P.S.T. — Single Pole Single Throw, 15A.-10V. D.C.	.73
SWE-20	D.P.S.T. — Double Pole Single Throw, 3A.-125V. A.C.	.56
SWE-21	Mod. D.P.S.T. one pole on, one off or with Jumper S.P.D.T., 3A.-125V. A.C./D.C.	.56
SWE-23	D.P.S.T., 15A.-10V. D.C.	.73

(Mod. DPST has one pole "on", one pole "off" or with jumper it is SPDT.)

**SERIES "AE" SWITCH**

Cat. No.	Wiring
AE-30	SPDT Single Pole Double Throw, 1-A250V., 3A-125V. (AC or DC)

Other "AE" Switches available on request. Net Price \$0.75

**SERIES "BE" ROTARY SWITCH**

Underwriters' Laboratories Inc. approved.

Cat. No.	Wiring	Net Price
BE-12	SPST Single Pole Single Throw, 5A-125V, A.C.	\$0.75
BE-20	DPST Double Pole Single Throw, 3A-125V. A.C.	.81
BE-21 (Mod.)	DPST 3A-125V. A.C./D.C.	.81

(Mod. DPST has one pole "on", one pole "off" or with jumper it is SPDT.)

**POWER RHEOSTATS**

Clarostat Power Rheostats maintain their full power rating at settings as low as one-third rotation without excessive temperature rise. Standard overall resistance tolerance plus/minus 10%. Closer tolerances are available upon special order.

AN Types (aircraft type) are basically the same units mechanically and electrically except that they are encased in a metal housing (versus ceramic). Terminals are screw type lugs to prevent corrosion. Approved under MIL-R-6749.

Units mount through a single hole, a locking pin is provided for rear panel mounting.



**SERIES 25 — 25-WATT**

Cat. No.	Total Res. Ohms	Net Price
25-1	1	\$3.87
25-2	2	3.42
25-3	3	3.42
25-6	6	3.42
25-8	8	3.42
25-10	10	3.42
25-15	15	3.42
25-25	25	3.42
25-35	35	3.42
25-50	50	3.42
25-75	75	3.42
25-100	100	3.42
25-125	125	3.42
25-175	175	3.42
25-250	250	3.42
25-350	350	3.42
25-500	500	3.42
25-750	750	3.42
25-1,000	1,000	3.87
25-1,500	1,500	3.87
25-2,500	2,500	3.87
25-3,500	3,500	4.08
25-5,000	5,000	4.29

**SERIES 50 — 50-WATT**

Cat. No.	Total Res. Ohms	Net Price
50-0.5	0.5	\$4.29
50-1	1	4.29
50-2	2	4.29
50-4	4	3.87
50-6	6	3.87
50-8	8	3.87
50-12	12	3.87
50-16	16	3.87
50-22	22	3.87
50-35	35	3.87
50-50	50	3.87
50-80	80	3.87
50-125	125	3.87
50-150	150	3.87
50-225	225	3.87
50-300	300	3.87
50-500	500	3.87
50-800	800	4.08
50-1,000	1,000	4.08
50-1,600	1,600	4.08
50-2,500	2,500	4.08
50-3,500	3,500	4.29
50-5,000	5,000	4.29
50-8,000	8,000	5.16
50-10K	10K	5.16

**AN-3155-25\*\* — 25 WATTS**

Cat. No.	Total Res. Ohms	Net Price
AN-3155-25-10	10	\$4.80
AN-3155-25-11	11	4.80
AN-3155-25-15	15	4.80
AN-3155-25-25	25	4.80
AN-3155-25-50	50	4.80
AN-3155-25-75	75	4.80
AN-3155-25-100	100	4.80
AN-3155-25-200	200	5.61

**AN-3155-50\*\* — 50 WATTS**

Cat. No.	Total Res. Ohms	Net Price
AN-3155-50-5	5	5.61
AN-3155-50-8	8	5.61
AN-3155-50-10	10	5.61
AN-3155-50-25	25	5.46
AN-3155-50-30	30	5.46
AN-3155-50-50	50	5.46
AN-3155-50-75	75	5.46
AN-3155-50-100	100	5.46
AN-3155-50-150	150	6.16
AN-3155-50-200	200	6.16

Prices include AN-3220 — 2 knob

\*\*25 and 50 watt Power Rheostats when encased in metal housing are derated 50%.

PRODUCTS OF  
**THE HOUSE OF RESISTORS®**



**RESISTORS • CONTROLS**  
**RESISTANCE DEVICES**

## SOUND-SYSTEM CONTROLS

For proper control of volume and tone alike, Clarostat offers a choice of several controls, such as L- and T-pads, output attenuators, and individual-speaker volume controls as used for drive-in theatre instal-

lations. These are not ordinary radio controls but rather sound-system controls designed and built for critical requirements.

### CONSTANT-IMPEDANCE CONTROLS

Self-compensating volume controls known as L-pads and T-pads for use in sound systems. Rated at 2½ watts DC, but will handle up to 10 watts audio. Continuous range from 0.5 to 30 decibels attenuation in 90% rotation. Last 10% affords infinite attenuation. With Clarostat constant-impedance L-pads and T-pads the input and output impedances of associated circuits can be kept within the limits of a constant required value. Knob and dial plate furnished with each control.



CIT Cat. No.	CIL Cat. No.	Res. Ohms	CIT Cat. No.	CIL Cat. No.	Res. Ohms
CIT-4	CIL-4	4	CIT-500	CIL-500	500
CIT-6	CIL-6	6	CIT-600	CIL-600	600
CIT-8	CIL-8	8	CIT-1,000	CIL-1,000	1,000
CIT-15	CIL-15	15	CIT-2,000	CIL-2,000	2,000
CIT-50	CIL-50	50	CIT-3,000	CIL-3,000	3,000
CIT-100	CIL-100	100		CIL-4,000	4,000
CIT-200	CIL-200	200		CIL-5,000	5,000
CIT-250	CIL-250	250			

U. S. Pat. 2,434,248

CIT — NET PRICE \$3.15

CIL — NET PRICE \$2.79

### CONSTANT IMPEDANCE OUTPUT ATTENUATORS

Series "CIB" rated at 10 watts, but will handle up to 30 watts in audio circuit. Linear attenuation provided in 3 decibel steps up to 24db, then 30db followed by infinity. Equipped with dial plate and bar knob. One-hole mounting, ⅜" bushing diameter. 1" shaft. This control has been developed to meet the need for a constant-impedance attenuator capable of handling considerable power without measurable insertion loss. Recommended as an output level control for power amplifiers, or as an input attenuator for individual or for a group of speakers in a public address system.



Cat. No.	Res. Ohms	Cat. No.	Res. Ohms
CIB-6	6	CIB-200	200
CIB-8	8	CIB-250	250
CIB-15	15	CIB-500	500
CIB-50	50	CIB-600	600

NET PRICE \$7.70

### SPECIAL DRIVE-IN THEATRE L-PAD

To meet the needs of theater sound systems, more especially those of drive-in theaters, a special 8 ohm L-Pad is now available, containing two separate windings of 5 ohms and 40 ohms. Also 50 ohm linear rheostat and 35 ohm tapered rheostat, as listed. Units have ⅜-32 bushing ¾" long, and 1½" round shaft. (Knob furnished with each control).



Cat. No. CM8727-1 8 ohm L-Pad  
Net Price \$1.80

## SPACE-SAVER CONSTANT-IMPEDANCE ATTENUATORS

Characterized by reduced depth and diameter, these attenuators are ideal for use in remote control of speakers since they are small enough to be installed in standard electrical boxes in the home, office, stockroom, etc.

These controls are rated 2 watts D.C., but will handle up to 4 watts of audio, depending upon the type signal being handled. (As the frequency becomes constant, wattage reduces to 2 watts or the same as the D.C. rating).

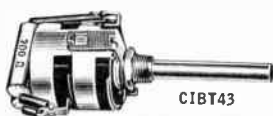
- Attenuation range of 0 to 30 db over 90% of rotation, 60 db in remaining 10% of rotation. Attenuation will increase approximately linearly to 30 db with counter-clockwise rotation.
- Insertion loss less than 0.5 db.
- Input impedance within plus/ minus 20%.
- The CIT43 and CIBT43 (Bridged T Pad) have constant input and output impedances, while the CIL43 has constant impedance in the input only.
- Shafts and bushings are insulated from the circuit elements.
- Pads have ⅜-32 x ⅜" long bushing.
- ¼" dia. round shafts 1½" long beyond bushing.
- All pads supplied with bar knob and dial plates, as shown above.
- Dia. 1½". Depth of body from mounting surface: CIL43 — 1½"; CIT43 — 1¾"; CIBT43 — 1½".



CIL43



CIT43



CIBT43

Cat. No. CIL43 (L-Pad)	Cat. No. CIT43 (T-Pad)	Cat. No. CIBT43 (Bridged T-Pad)	Impedance
CIL43-4	CIT43-4	CIBT43-4	4 ohms
CIL43-6	CIT43-6	CIBT43-6	6 ohms
CIL43-8	CIT43-8	CIBT43-8	8 ohms
CIL43-15	CIT43-15	CIBT43-15	15 ohms
CIL43-50	CIT43-50	CIBT43-50	50 ohms
CIL43-100	CIT43-100	CIBT43-100	100 ohms
CIL43-200	CIT43-200	CIBT43-200	200 ohms
CIL43-250	CIT43-250	CIBT43-250	250 ohms
CIL43-500	CIT43-500	CIBT43-500	500 ohms
		CIBT43-600	600 ohms

NET PRICE CIL43 \$2.79

NET PRICE CIT43 \$3.15

NET PRICE CIBT43 \$3.63

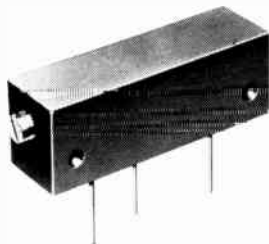






**SERIES 76JA**

Multi-turn Trimming Potentiometer

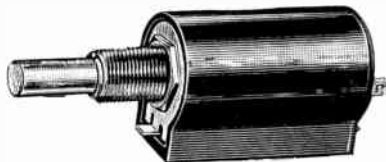


A miniature, 10-turn trimming potentiometer that offers up to 15 times the winding length available in comparable units. This feature results in set-ability and resolution exceeding that of trimming potentiometers several times the size. Brief specifications include a power rating of 3/4 watt at 85°C derated to zero power at 150°C, resistances from 100 ohms to 20K ohms standard with other values offered on special order, standard resistance tolerance of ±5%, printed circuit or solder lug mounting, overall dimensions of only 1.250" x 0.437" x 0.328".

Stock Values	Resolution %
100	0.1
200	0.09
500	0.08
1,000	0.075
2,000	0.06
5,000	0.05
10,000	0.04
20,000	0.036

**SERIES 62JA**

Commercial Multi-turn Potentiometer



A 10-turn potentiometer offering electrical operating characteristics comparable to units costing far more. Designed specifically for the industrial instrumentation market, the Series 62JA has the inherent advantages of far greater resolution in trimming, better instrument control and settings for all types of electronic equipment. Brief specifications include: 7/8" diameter, 1 1/4" deep behind panel, bushing and shaft or split-locking bushing with screwdriver slot, 2 watts @ 25°C, derated to zero @ 85°C, 1000 to 100K ohms standard — others available, absolute linearity of ±0.25% standard, closer on order.

Stock Values	Resolution %	Stock Values	Resolution %
100,000	.012	2,500	.022
50,000	.013	2,000	.029
30,000	.016	1,000	.030
25,000	.017	500	.036
20,000	.019	250	.038
10,000	.024	200	.048
5,000	.026	100	.062

**CLARODIALS**

Ten-Turn Concentric Scale Dials



Calibrated dials designed for multi-turn potentiometers up to 10 turns or other rotary devices. CLARODIALS require only one inch of panel space. The knob attaches directly to the shaft, and the body of the dial is mounted rigidly to the panel. As a result, accurate readings with a ratio 1000:1 for ten turns are provided with zero backlash and no reading error. CLARODIALS are made of anodized aluminum for years of attractive use. Mounting requirements are 1/4" shaft and 3/8"-32 NEF-2A bushing. Adapters for 1/8" dia. shafts are available.

Cat. No.	Description
411	Commercial 10 turn, black anodize 1/4" shaft, no lock
412	Commercial 10 turn, black anodize 1/4" shaft, with lock
461	Commercial 10 turn, clear anodize 1/4" shaft, no lock
462	Commercial 10 turn, clear anodize 1/4" shaft, with lock

**SERIES 54-48JA**

3" Dia. Vari/Phase Single Turn Potentiometer

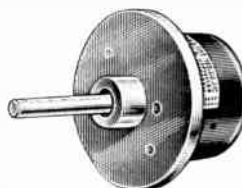


Permits external phasing of electrical rotation to mechanical rotation. Ultra precise unit for professional use. Exclusive Clarostat design eliminates bulky, hard-to-adjust clamping rings. Anodized aluminum housings for minimum weight. Widely used in aircraft instrumentation.

Stock Values	Resolution 100/Total Turns
250,000	.023%
100,000	.031%
50,000	.040%
10,000	.061%
1,000	.083%

**SERIES SC42-970 SINE-COSINE**

Single-Turn Potentiometer



Used in radar, computer and servomechanisms, or any application requiring two output voltages accurately proportioned to the sine and cosine rotation angle. Due to functional use, units are designed and built for exceptionally long rotational life.

**SPECIFICATIONS**

- FUNCTION: Sine-Cosine.
- TOTAL RESISTANCE: 16,000 Ω ± 10%.
- POWER RATING: 2.46 watts @ 40°C. (198 volts R.M.S.)
- ROTATION: (Eff., Elec., Mech) 360° (Cont.)
- MAXIMUM SPEED
- RECOMMENDED: 30 RPM (20 gm. contact pressure)
- EXPECTED LIFE: 500,000 Cycles.
- RESOLUTION: 0.14% maximum of peak to peak voltage.
- CONFORMITY: Standard, ±1% peak to peak voltage (Available, ±1/2% peak to peak voltage. Not stocked — must be ordered special price and information on request.)
- SHAFT TORQUE: 1 oz. in.
- WEIGHT: 6 oz.

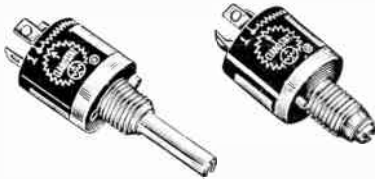
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**RESISTORS • CONTROLS**  
**RESISTANCE DEVICES**

**SERIES 57M & 57EJ**

**1/2" Single Turn Potentiometers**

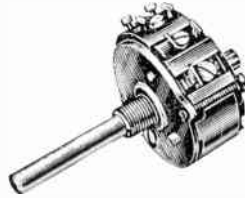


High performance potentiometer packaged in a 1/2" diameter housing. Quality construction throughout. Available in two models; Series 57M rated at 1.5 watts at 40°C and Series 57EJ rated at 2 watts at 70°C. The high-temperature Series 57EJ features glass-sealed terminals. Both units are corrosion resistant.

SERIES	SERIES	Resistance Ohms	Resolution 100/Total Turns
57M & 57M9 Stock Values	57EJA & 57EJB Stock Values		
50 Ω	50 Ω	50	0.91%
100 Ω	100 Ω	100	0.70%
200 Ω	200 Ω	200	0.58%
500 Ω	500 Ω	500	0.45%
1000 Ω	1000 Ω	1,000	0.35%
5000 Ω	5000 Ω	5,000	0.30%
10,000 Ω	10,000 Ω	10,000	0.26%
20,000 Ω	20,000 Ω	20,000	0.19%
50,000 Ω	50,000 Ω	50,000	0.16%

**SERIES 42-900**

**High Versatility  
Single-Turn Potentiometer**



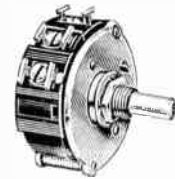
Used and approved by the millions in all types of applications ranging from ultra-critical military systems to ultra-dependable hard-working industrial equipment. Extra tap affords greater electrical versatility. Shaft extension through rear of unit permits addition of switching or other functions actuated by single shaft.

Stock Values	***Terminal Linearity	Resolution 100/Total Turns	Temp. Coefficient of Wire
100,000	±0.25%	.053%	±.00002 Ω/Ω/°C
50,000	±0.25%	.056%	±.00002 Ω/Ω/°C
20,000	±0.25%	.105%	±.00002 Ω/Ω/°C
10,000	±0.25%	.125%	±.00002 Ω/Ω/°C
5,000	±0.25%	.167%	±.00002 Ω/Ω/°C
2,500	±0.25%	.148%	±.00002 Ω/Ω/°C
1,000	±0.25%	.191%	±.00002 Ω/Ω/°C
500	±0.50%	.174%	.00017 Ω/Ω/°C
100	±0.50%	.351%	.00017 Ω/Ω/°C
50	±0.50%	.435%	.00017 Ω/Ω/°C

\*\*\*Terminal Linearity: The maximum deviation of the actual output characteristic from a straight reference line extending between zero and the total applied voltage over the actual effective rotation.

**SERIES 42JA**

**Single Turn Potentiometer**



All the same fine qualities and performance tolerances of the Series 42-900, with the exception of the additional tap, and shaft extension. The ideal unit for extra-dependable potentiometer requirements.

Stock Values	***Absolute Linearity	Resolution 100/Total Turns	Temp. Coefficient of Wire
100,000	±0.5%	.051%	±.00002 Ω/Ω/°C
50,000	±0.5%	.074%	±.00002 Ω/Ω/°C
20,000	±0.5%	.10%	±.00002 Ω/Ω/°C
10,000	±0.5%	.12%	±.00002 Ω/Ω/°C
5,000	±0.5%	.17%	±.00002 Ω/Ω/°C
2,500	±0.5%	.14%	±.00002 Ω/Ω/°C
1,000	±0.5%	.19%	±.00002 Ω/Ω/°C
500	±0.5%	.18%	.00017 Ω/Ω/°C
100	±1.0%	.28%	.00017 Ω/Ω/°C
50	±1.0%	.35%	.00017 Ω/Ω/°C

\*\*\*Absolute Linearity: The maximum deviation of the actual output characteristic from a straight reference line extending between zero and the total applied voltage over the theoretical effective rotation.

**MINIATURIZED POTENTIOMETERS**

Consistent with miniaturization in Military and Commercial equipment, such as; Guided Missiles, Aircraft Electronics, Mobile Radio and Radar, Computers, Range Finders, Pocket Radios and Hearing Aids: Clarostat offers miniaturized composition element Series 48M and wire-wound

Series 49M Potentiometers, and a Rotary Selector Switch designated as Series BHM to meet the switching requirements of the above mentioned and other applications.

**SERIES 48M — 0.3 WATT  
COMPOSITION ELEMENT**



Available in single or dual, standard or shaft locking bushing. Standard bushing potentiometers have 1/4" x 32 NEF-2A x 1/4" long bushing and 1/8" dia. x 1/2" long shaft beyond bushing.

Shaft locking bushing potentiometers have 1/4" x 32 NEF-2A x 3/8" long bushing and 1/8" dia. x 1/4" long screwdriver slotted shaft.

All potentiometers furnished with mounting nut 1/8" thick x 3/16" across flats, and one internal tooth lockwasher. Potentiometers with split locking bushings furnished with jam nut also.

Insulation: Breakdown test between terminals and ground for 1 minute 1000v.a.c.; 350v.a.c. @ 3.4" Hg.

Resistance Range (Ohms): Linear 200 to 5 Meg. Tapered 1.500 to 2.5 Meg.

Resistance Tolerance: Linear ±10%. Above 100,000 ohms ±20%. Tapered ±20% all values.

Tapers: Linear. Left hand — 10% resistance at 50% rotation. "Z"

Mechanical and Electrical Rotation: 300° ±3°

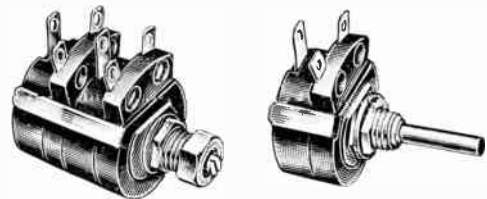
Effective Rotation: 300° ±3°

Torque (oz.-in.): 0.5 to 6

Dual Construction: Available

STOCK VALUES	200	1500	7500	50K	1 Meg.
48M & 48M-9	250	2K	10K	100K	2.5 Meg.
	500	2500	15K	250K	5 Meg.
	1000	5K	25K	500K	

**SERIES 49M — 1.5 WATT  
WIRE-WOUND**



Available in single or dual, standard or shaft locking bushing. Standard bushing potentiometers have 1/4" x 32 NEF-2A x 1/4" long bushing and 1/8" dia. x 1/2" long shaft beyond bushing.

Shaft locking bushing potentiometers have 1/4" x 32 NEF-2A x 3/8" long bushing and 1/8" dia. x 1/4" long screwdriver slotted shaft. All potentiometers furnished with mounting nut 1/8" thick x 3/16" across flats, and one internal tooth lock-washer. Potentiometers with shaft locking bushings furnished with jam nut also.

Fabricated in accordance with MIL-R-19

Insulation: Breakdown test between terminals and ground for 1 minute. 1000v.a.c.; 500v.a.c. @ 3.4" Hg.

Resistance Range (Ohms): Linear 1 to 20,000

Resistance Tolerance: Linear ±5%. Tapered Linear only.

Mechanical and Electrical Rotation: 300° ±3°

Effective Rotation: 300° ±3°

Torque (oz.-in.): 0.3 to 6

Dual Construction: Available

STOCK VALUES	5	50	250	2K	10K
49M & 49M-9	10	100	500	2500	15K
	20	150	1K	5K	20K
	25	200	1500	7500	

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## MILITARY POTENTIOMETERS

ITEMS IN STOCK FOR IMMEDIATE DELIVERY

### RA10 per MIL-R-19 1 WATT WIRE-WOUND POTENTIOMETERS — Commercial Equivalent — Series 49M

RA10NASD150A	RA10NASD152A	RA10NASL501A	RA10LASD201A	RA10LASM750A
RA10NASD250A	RA10NASD202A	RA10NASL751A	RA10LASD251A	RA10LASM101A
RA10NASD500A	RA10NASD252A	RA10NASL102A	RA10LAD351A	RA10LASM151A
RA10NASD750A	RA10NASL150A	RA10NASL152A	RA10LAD501A	RA10LASM201A
RA10NASD101A	RA10NASL250A	RA10NASL202A	RA10LAD751A	RA10LASM251A
RA10NASD151A	RA10NASL500A	RA10NASL252A	RA10LAD102A	RA10LASM351A
RA10NASD201A	RA10NASL750A	RA10LAD150A	RA10LAD152A	RA10LASM501A
RA10NASD251A	RA10NASL101A	RA10LAD250A	RA10LAD202A	RA10LASM751A
RA10NASD351A	RA10NASL151A	RA10LAD500A	RA10LAD252A	RA10LASM102A
RA10NASD501A	RA10NASL201A	RA10LAD750A	RA10LASM150A	RA10LASM152A
RA10NASD751A	RA10NASL251A	RA10LAD101A	RA10LASM250A	RA10LASM202A
RA10NASD102A	RA10NASL351A	RA10LAD151A	RA10LASM500A	RA10LASM252A

### RA20 per MIL-R-19 2 WATT WIRE-WOUND POTENTIOMETERS — Commercial Equivalent — Series 43M

RA20NASA3R0A	RA20NASA352A	RA20NASD751A	RA20LASB151A	RA20LASD250A
RA20NASA6R0A	RA20NASA502A	RA20NASD102A	RA20LASB201A	RA20LASD350A
RA20NASA8R0A	RA20NASA752A	RA20NASD152A	RA20LASB251A	RA20LASD500A
RA20NASA100A	RA20NASA103A	RA20NASD202A	RA20LASB351A	RA20LASD750A
RA20NASA150A	RA20NASA153A	RA20NASD252A	RA20LASB501A	RA20LASD101A
RA20NASA200A	RA20NASD3R0A	RA20NASD352A	RA20LASB751A	RA20LASD151A
RA20NASA250A	RA20NASD6R0A	RA20NASD502A	RA20LASB102A	RA20LASD201A
RA20NASA350A	RA20NASD8R0A	RA20NASD752A	RA20LASB152A	RA20LASD251A
RA20NASA500A	RA20NASD100A	RA20NASD103A	RA20LASB202A	RA20LASD351A
RA20NASA750A	RA20NASD150A	RA20NASD153A	RA20LASB252A	RA20LASD501A
RA20NASA101A	RA20NASD200A	RA20LASB3R0A	RA20LASB352A	RA20LASD751A
RA20NASA151A	RA20NASD250A	RA20LASB6R0A	RA20LASB502A	RA20LASD102A
RA20NASA201A	RA20NASD350A	RA20LASB8R0A	RA20LASB752A	RA20LASD152A
RA20NASA251A	RA20NASD500A	RA20LASB100A	RA20LASB103A	RA20LASD202A
RA20NASA351A	RA20NASD750A	RA20LASB150A	RA20LASB153A	RA20LASD352A
RA20NASA501A	RA20NASD101A	RA20LASB200A	RA20LASD3R0A	RA20LASD502A
RA20NASA751A	RA20NASD151A	RA20LASB250A	RA20LASD6R0A	RA20LASD752A
RA20NASA102A	RA20NASD201A	RA20LASB350A	RA20LASD8R0A	RA20LASD103A
RA20NASA152A	RA20NASD251A	RA20LASB500A	RA20LASD100A	RA20LASD153A
RA20NASA202A	RA20NASD351A	RA20LASB750A	RA20LASD150A	
RA20NASA252A	RA20NASD501A	RA20LASB101A	RA20LASD200A	

### RA30 per MIL-R-19 4 WATT WIRE-WOUND POTENTIOMETERS — Commercial Equivalent — Series 58M

RA30NASA3R0A	RA30NASA102A	RA30NASD250A	RA30NASD752A	RA30LASB201A
RA30NASA6R0A	RA30NASA152A	RA30NASD350A	RA30NASD103A	RA30LASB251A
RA30NASA8R0A	RA30NASA202A	RA30NASD500A	RA30NASD153A	RA30LASB351A
RA30NASA100A	RA30NASA252A	RA30NASD750A	RA30NASD203A	RA30LASB501A
RA30NASA150A	RA30NASA352A	RA30NASD101A	RA30NASD253A	RA30LASB751A
RA30NASA200A	RA30NASA502A	RA30NASD151A	RA30LASB3R0A	RA30LASB102A
RA30NASA250A	RA30NASA752A	RA30NASD201A	RA30LASB6R0A	RA30LASB152A
RA30NASA350A	RA30NASA103A	RA30NASD251A	RA30LASB8R0A	RA30LASB202A
RA30NASA500A	RA30NASA153A	RA30NASD351A	RA30LASB100A	RA30LASB252A
RA30NASA750A	RA30NASA203A	RA30NASD501A	RA30LASB150A	RA30LASB352A
RA30NASA101A	RA30NASA253A	RA30NASD751A	RA30LASB200A	RA30LASB502A
RA30NASA151A	RA30NASD3R0A	RA30NASD102A	RA30LASB250A	RA30LASB752A
RA30NASA201A	RA30NASD6R0A	RA30NASD152A	RA30LASB350A	RA30LASB103A
RA30NASA251A	RA30NASD8R0A	RA30NASD202A	RA30LASB500A	RA30LASB153A
RA30NASA351A	RA30NASD100A	RA30NASD252A	RA30LASB750A	RA30LASB203A
RA30NASA501A	RA30NASD150A	RA30NASD352A	RA30LASB101A	RA30LASB253A
RA30NASA751A	RA30NASD200A	RA30NASD502A	RA30LASB151A	

### RV4 per MIL-R-94 2 WATT CARBON POTENTIOMETERS — Commercial Equivalent — Series 53M — Series 53C

RV4NAYSB101A	RV4NAYS102A	RV4NAYS0355B	RV4LAYS501A	RV4LAYS205B
RV4NAYSB251A	RV4NAYS152A	RV4NAYS0505B	RV4LAYS751A	RV4LAYS255B
RV4NAYSB501A	RV4NAYS252A	RV4NAYS1010A	RV4LAYS102A	RV4LAYS355B
RV4NAYSB102A	RV4NAYS352A	RV4NAYS1251A	RV4LAYS152A	RV4LAYS505B
RV4NAYSB252A	RV4NAYS502A	RV4NAYS1501A	RV4LAYS252A	RV4LAYS101A
RV4NAYSB502A	RV4NAYS752A	RV4NAYS102A	RV4LAYS352A	RV4LAYS501A
RV4NAYSB103A	RV4NAYS103A	RV4NAYS1252A	RV4LAYS502A	RV4LAYS251A
RV4NAYSB253A	RV4NAYS153A	RV4NAYS1502A	RV4LAYS752A	RV4LAYS102A
RV4NAYSB503A	RV4NAYS253A	RV4NAYS103A	RV4LAYS103A	RV4LAYS252A
RV4NAYSB104A	RV4NAYS353A	RV4NAYS1253A	RV4LAYS153A	RV4LAYS502A
RV4NAYSB254A	RV4NAYS503A	RV4NAYS1504A	RV4LAYS253A	RV4LAYS103A
RV4NAYSB504A	RV4NAYS753A	RV4NAYS104A	RV4LAYS353A	RV4LAYS253A
RV4NAYSB105A	RV4NAYS104A	RV4NAYS1254A	RV4LAYS503A	RV4LAYS503A
RV4NAYSB255B	RV4NAYS154A	RV4NAYS1504A	RV4LAYS753A	RV4LAYS104A
RV4NAYSB505B	RV4NAYS254A	RV4NAYS105A	RV4LAYS104A	RV4LAYS254A
RV4NAYS0500A	RV4NAYS354A	RV4NAYS1255B	RV4LAYS154A	RV4LAYS504A
RV4NAYS101A	RV4NAYS504A	RV4NAYS1505B	RV4LAYS254A	RV4LAYSR504A
RVNAYS0151A	RV4NAYS754A	RV4LAYS5000A	RV4LAYS354A	RV4LAYS105A
RV4NAYS0251A	RV4NAYS105A	RV4LAYS101A	RV4LAYS504A	RV4LAYS255B
RV4NAYS0351A	RV4NAYS155B	RV4LAYS151A	RV4LAYS754A	RV4LAYS505B
RV4NAYS0501A	RV4NAYS205B	RV4LAYS104A	RV4LAYS105A	
RV4NAYS0751A	RV4NAYS255B	RV4LAYS154A	RV4LAYS155B	

### RV6 per MIL-R-94 0.5 WATT CARBON POTENTIOMETERS — Commercial Equivalent — Series 63C

RV6NAYS0101A	RV6NAYS254A	RV6NAYS1503A	RV6LAYS103A	RV6LAYS102A
RV6NAYS0251A	RV6NAYS504A	RV6NAYS1040A	RV6LAYS153A	RV6LAYS252A
RV6NAYS0501A	RV6NAYS104A	RV6NAYS154A	RV6LAYS253A	RV6LAYS502A
RV6NAYS0102A	RV6NAYS151A	RV6NAYS1254A	RV6LAYS503A	RV6LAYS103A
RV6NAYS0252A	RV6NAYS251A	RV6NAYS1504A	RV6LAYS104A	RV6LAYS153A
RV6NAYS0502A	RV6NAYS501A	RV6NAYS105A	RV6LAYS154A	RV6LAYS253A
RV6NAYS0103A	RV6NAYS102A	RV6NAYS1255A	RV6LAYS254A	RV6LAYS503A
RV6NAYS0153A	RV6NAYS152A	RV6LAYS101A	RV6LAYS504A	RV6LAYS104A
RV6NAYS0253A	RV6NAYS252A	RV6LAYS151A	RV6LAYS105A	RV6LAYS254A
RV6NAYS0503A	RV6NAYS502A	RV6LAYS102A	RV6LAYS152A	RV6LAYS504A
RV6NAYS0104A	RV6NAYS103A	RV6LAYS152A	RV6LAYS255A	RV6LAYS105A
RV6NAYS0154A	RV6NAYS153A	RV6LAYS103A	RV6LAYS505A	
	RV6NAYS253A	RV6LAYS153A		

PRODUCTS OF  
**THE HOUSE OF RESISTORS®**

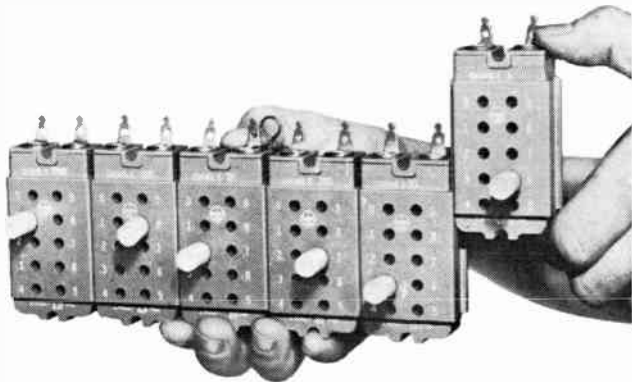


**RESISTORS • CONTROLS**  
**RESISTANCE DEVICES**

## CLARO-DEC PRECISION RESISTANCE DECADE BOX

The most flexible innovation yet in precision resistance decade boxes, the Claro-Dec serves many applications with all the versatility needed for the job. Claro-Decs (within established parameters of current) are used whenever accurate steps of resistance values between .1 ohms and 900K ohms,  $\pm 1\%$ \* are required. Selection of desired steps of resistance is accomplished by in-

sertion of a banana plug into the proper, marked front panel hole on the unit. Individual or multiple Claro-Dec units are flush panel or breadboard mounted with equal ease. Units may be physically ganged by sliding the molded-in tongue-and-groove together and electrically series connected with a supplied wire jumper or accessory banana plug.



Net Each: \$3.95

MODEL	TOTAL RES. OF DECADE	RESISTANCE PER STEP	ACCURACY (+C)*	MAXIMUM CURRENT
260-1	0.9 $\Omega$	0.1 $\Omega$	$\pm 5\%$	1 Amp.
260-2	9 $\Omega$	1.0 $\Omega$	$\pm 1\%$	350 Ma
260-3	90 $\Omega$	10 $\Omega$	$\pm 1\%$	100 Ma
260-4	900 $\Omega$	100 $\Omega$	$\pm 1\%$	35 Ma
260-5	9K $\Omega$	1K $\Omega$	$\pm 1\%$	10 Ma
260-6	90K $\Omega$	10K $\Omega$	$\pm 1\%$	3.5 Ma
260-7	900K $\Omega$	100K $\Omega$	$\pm 1\%$	1.0 Ma

\* C — Contact Resistance, .005 - .03 ohms, typical, .01 ohms.

### CONSTRUCTION

Housing — Two piece molded housing, color — grey.

Marking — Permanently marked with resistance multiplier, current rating, schematic and model number.

Resistors — Plastic coated wirewound for Models 260-1 and 260-2. Plastic coated metal film for all other models. Temperature coefficient less than 100 ppm.

Temperature — 40°C. max. at rated current, de-rated to zero at 85°C.

Weight — 2 oz. (approximate) per individual unit.

## SERIES 63M TRIMMING POTENTIOMETERS

Designed specifically for application on printed circuit boards, this new configuration permits extremely close board-to-board spacing. Both metal and plastic shafts and faceplates with wire or solder terminal leads provide mounting facilities to meet virtually every application.

### SPECIFICATIONS

Power Rating — .25 watt @ 70°C. Rerated to zero power @ 120°C.

Working Voltage — 350 V.D.C. across end terminals, but power not to exceed rating.



Resistance Range — 100 $\Omega$  to 1 megohm, linear.

Resistance Tolerance —  $\pm 20\%$

Mechanical & Electrical Rotation — 295°,  $\pm 3^\circ$

Voltage Breakdown — 750 V.A.C. between terminals and ground for 1 minute.

Torque — 0.5 to 3 oz. in.

STYLE	DESCRIPTION	TERMINALS
63M1	Plastic Shaft & Faceplate	Solder Lug
63M2	Metal Shaft & Faceplate	Solder Lug
63M4	Plastic Shaft & Faceplate	Wire Leads
63M5	Metal Shaft & Faceplate	Wire Leads

### STOCK VALUES

100	2.5K	25K	200K
250	5K	50K	250K
500	10K	100K	500K
1K	15K	150K	1 Meg.

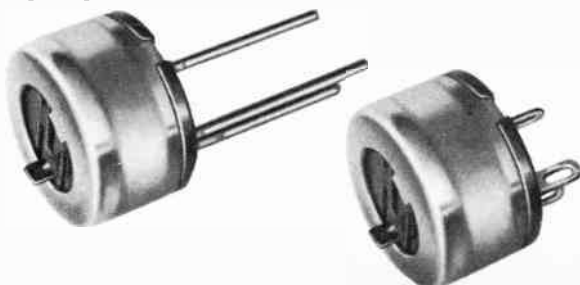
## SERIES 371 HOT MOLDED, LOW COST, TRIMMING POTENTIOMETERS

Construction consists of a hot molded carbon element, carbon contact brush, pressure spring and cover. Series 371-5 have standoffs to insulate metal cover from printed circuit board and a screwdriver adjustment slot.

### SPECIFICATIONS

Power Rating —  $\frac{3}{8}$  watt @ 70°C derated linearly to zero watts @ 120°C.

Working Voltage — 350 V.A.C.



Resistance Range — 100  $\Omega$  to 1 megohm.

Resistance Tolerance —  $\pm 20\%$

Tapers — Linear and audio.

Mechanical & Electrical Rotation — 290°  $\pm 5^\circ$ .

Dielectric Strength — Variable arm hot to case. Case to mounting plane — 750 volts R.M.S. @ atmospheric pressure.

Torque — Operating: 6.0 oz. in. max. Stop: 1 lb. in.

Style	Terminals
371-2	Solder Lugs
371-5	Wire Leads

### STOCK VALUE

100	2.5K	25K	200K
250	5K	50K	250K
500	10K	100K	500K
1K	15K	150K	1 Meg.

# AMPHENOL TRIMMERS, POTENTIOMETERS, DIALS & MOTORS



**AMPHENOL  
DISTRIBUTOR  
DIVISION**

For Immediate Service Contact Your Local Amphenol Sales Office



## MICROPOT® TRIMMING POTENTIOMETERS

Amphenol produces 13 complete series of trimmers—from subminiature square trimmers to standard sizes. Amphenol trimmers are offered in general purpose, humidity-proof, high temperature, or humidity-and-high-temperature models, in a wide choice of resistance ranges and end terminals. Amphenol trimmers have an adjustment screw for an extremely fine degree of selectivity. Wire-wound resistance elements are up to 50% longer than competitive types.



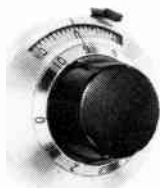
## MICROPOT® METAL FILM TRIMMERS

Amphenol metal film trimmers provide infinite resolution with ultra-low 50 ppm/°C temperature coefficient and zero noise at terminal position. Resistance values from 5° to 10,000 ohms.



## MICROPOT® PRECISION POTENTIOMETERS

Amphenol offers a complete line of potentiometers for precision applications—military and commercial—ranging from ½-inch to 3-inches. They are available in single-turn or multi-turn models with high resolution and a wide range of resistance values.



## MICRODIAL® CONCENTRIC DIALS

Engineers consider the Amphenol counting dial the most comprehensive in the industry. Concentric scale dials are available in three basic series. Each features epicyclic gearing to eliminate ambiguity, and large numerals for high readability. Each dial is available with or without brake. Most dial models are offered in a choice of color combinations for coding.



## MICRODIAL® DIGITAL READOUT DIALS

Amphenol's digital dial line includes three, four, or five digit models. The 1309 Series has optional 10, 100, 1000 turns. The 10-turn 1330 Microdial has internal illumination, convex lens, and is available with or without brake. Amphenol dials offer 1000:1 indexing accuracy, and are virtually free from accidental setting changes.

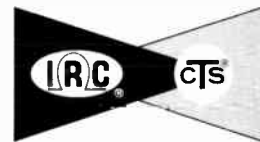


## SUB FRACTIONAL H.P. MOTORS

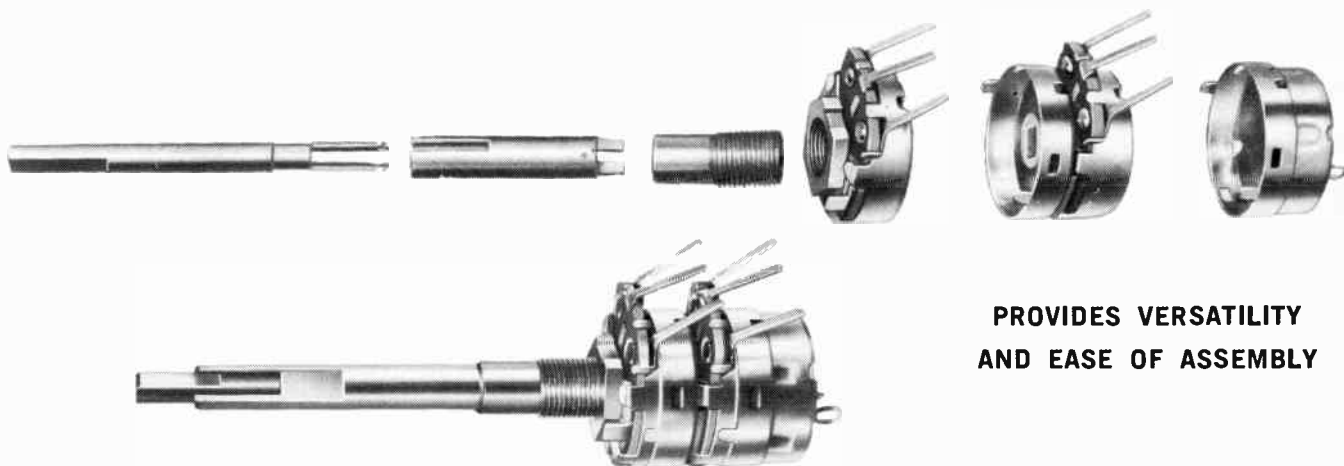
Amphenol's line of sub-fractional h.p. motors includes synchronous, induction, servo, hysteresis synchronous, or low inertia models. Each has modernized epoxy stator insulation, 20 standard gear trains for speeds from 67 to 1800 rpm; dual, bearing shaft support for heavy overhung loads. Perfect for strip chart recorders, electronic scales, servo systems and sound reproduction systems.

FOR COMPLETE TECHNICAL INFORMATION . . . CONSULT AMPHENOL'S 44 PAGES OF PRODUCT AND ORDERING SPECIFICATIONS APPEARING IN THE ELECTRONIC ENGINEERS MASTER (eem).

## IRC-CTS SNAPTROL



IRC, Inc.



**PROVIDES VERSATILITY  
AND EASE OF ASSEMBLY**

**SNAPTROL.** Newest of three IRC replacement systems designed to provide servicing technicians with satisfactory replacements for comprehensive coverage of single controls, tandem dual controls, stereo controls and concentric dual controls for television, radio, auto sets and high fidelity equipment.

SNAPTROL provides a broad variety of basic, factory assembled control sections, shafts and switches which snap together to provide a wide selection of replacement controls. Literally, it is a "snap" to assemble nearly any standard or special control.

**SERIES 45 INDUSTRIAL CONTROLS.** With a variety of five basic control components, the Series 45 line permits quick assembly of 12,631,500 different control specifications. These include single, double, triple and quadruple section controls, with or without power switches, in all popular styles and ranges needed for industrial electronic equipment.

Series 45 components are completely compatible and interchangeable with SNAPTROL. Together, these two snap-together systems provide an almost unlimited means to furnish unusual and special controls for industrial applications.

**EASY TO USE.** Parts assemble into exact duplicate control in 15 to 30 seconds. Sections completely factory assembled. No shaft cutting or modification needed.

**GREATER VERSATILITY.** SNAPTROL provides new and unique designs which provide for better utility and adaptability of component parts:

**1—Interchangeable Control Mountings.**  $\frac{3}{8}$ ",  $\frac{7}{16}$ " and  $\frac{1}{2}$ " diameter bushings of varying lengths and bores, quickly thread into front control sections. Accommodates thick panel requirements *without* extra bushing or adjuster. Specially designed tab mounting plates or printed circuit brackets easily attached in place of bushings. This exclusive new design feature reduces the number of front sections needed and extends their use in a greater variety of replacement needs.

**2—Printed Circuit Terminals.** All carbon control sections are equipped with terminals that will handle both conventional and printed circuit wiring. This original IRC-CTS terminal design doubles the adaptability of control sections.

**3—Rotary or Pull-Push Power Switches.** Either type of power switch snaps onto either carbon Front or Rear Sections. Another exclusive IRC-CTS design feature which very considerably increases the utility of control components.

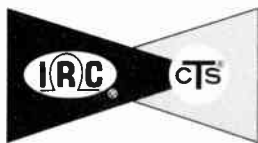
**4—Uniform Diameter Rear Section Shafts.** New design of rear section (inner) shafts provide uniform diameter — permits use of heavy-walled front section (outer) shaft contributing better concentric shaft operation and superior knob retention. Simple compression type adapter fits rear section shaft to knobs normally requiring larger diameter. No drilling or modification of knobs needed. Shafts are flatted or slotted as required — no shaft insert or line needed! This new design reduces the number of exact length shafts required for broad replacement coverage.

**5—Front Sections Serve for Single Controls.** Without modification or adapters, all SNAPTROL front sections may be used for single control replacements. Provides practical use of single front section for special bushings, tab mountings, printed circuits, special shaft needs and a variety of power switches. No other section-type control system provides such broad versatility.

**FEWER COMPONENT PARTS.** Because of the realistic design features provided, SNAPTROL requires far fewer items of components than any other section-type exact duplicate control system which offers so broad a replacement coverage. (Over 2300 exact duplicate concentric dual controls and many thousands of single controls.)

**BEST SELLING CONTROLS.** SNAPTROL is a special replacement design of the world's most frequently specified and most widely sold CTS Series 45 control. Over 300,000,000 in current use — a strong testimony to the quality and performance of these outstanding controls.

(See Page 1220 for Dealer Stock of this Product)



# IRC-CTS SNAPTROL

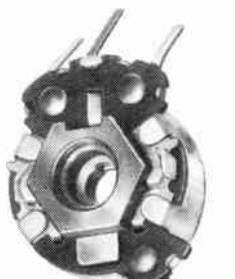
IRC, Inc.

## SNAPTROL CARBON AND WIREWOUND FRONT SECTIONS

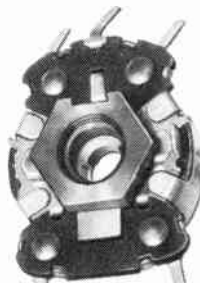
Type CF Carbon Front Sections and Type WF Wirewound Front Sections are factory-assembled controls supplied without control mounting, shaft or dust cover. Bushing, tab mounting plate or printed circuit bracket thread into front section as required. Carbon or wirewound rear sections snap onto either style front section for concentric or tandem dual controls. A variety of single or concentric outer shafts snap into front sections. Either rotary or pull-push switches will snap onto CF Front Sections. (WF Front Sections will not operate switches.) Printed Circuit Terminals are employed



Type CF—no tap



Type CF—one tap



Type CF two taps



Type WF

on CF sections while standard hole-type terminals are supplied on WF sections. Diameter of either front section is  $1\frac{3}{16}$ ". Wattage rating: CF Sections — ½ watt, WF Sections — 5 watts (*linear tapered sections*).

### LISTING BY STOCK NUMBER

Stock No.	Ohms	Taps	Taper*	Stock No.	Ohms	Taps	Taper*	Stock No.	Ohms	Taps	Taper*
CF1	100	—	1	CF32	2500	—	4	CF63	50 K	—	3
CF2	250	—	1	CF33	3000	—	4	CF64	750 K	—	2
CF3	300	—	1	CF34	5000	—	4	CF65	1.0 Meg	—	4
CF4	500	—	1	CF35	10 K	—	4	CF66	1.5 Meg	—	3
CF5	750	—	1	CF36	750	—	5	CF67TT	2.0 Meg	500 K & 1.0 M	49
CF6	1000	—	1	CF37	1000	—	5	CF68TT	2.0 Meg	300 K & 600 K	50
CF7	1500	—	2	CF38	5.0 Meg	—	6	CF69	7.5 Meg	—	2
CF8	5000	—	2	CF39	5.0 Meg**	—	7	CF70	10 Meg	—	2
CF9	10 K	—	2	CF40T	750	250	8	CF71T	1.0 Meg	100K	3
CF10	15 K	—	2	CF41T	3000	150	9	CF72	150 K	—	1
CF11	25 K	—	2	CF42T	15 K	10 K	10	CF73TT	3.0 Meg	1.0 & 2.0 Meg	1
CF12	50 K	—	2	CF43T	500 K	125 K	11	WF1	200	—	U
CF13	100 K	—	2	CF44T	1.0 Meg	250 K	11	WF2	750	—	U
CF14	200 K	—	2	CF45T	2.0 Meg	500 K	11	WF3	1000	—	U
CF15	250 K	—	2	CF46T	500 K	250 K	12	WF4	1500	—	U
CF16	500 K	—	2	CF47T	1.0 Meg	500 K	12	WF5	2000	—	U
CF17	1.0 Meg	—	2	CF48T	500	60	14	WF6	2500	—	U
CF18	1.5 Meg	—	2	CF49T	30 K	10 K	8	WF7	3000	—	U
CF19	2.0 Meg	—	2	CF50	500	—	5	WF8	5000	—	U
CF20	2.5 Meg	—	2	CF51	200 K	—	4	WF9	10 K	—	U
CF21	3.0 Meg	—	2	CF52	100 K	—	3	WF10	15 K	—	U
CF22	5.0 Meg	—	2	CF53	1200	—	4	WF11	750	—	R
CF23	250 K	—	2	CF55	75 K	—	2	WF12	2500	—	R
CF24	350 K	—	2	CF56	2.0 Meg	—	4	WF13	3000	—	R
CF25	500 K	—	2	CF54	5.0 Meg	—	4	WF14	5000	—	R
CF26	1.0 Meg	—	2	CF57T	2.0 Meg	1.0 Meg	12	WF15T	750	250	R
CF27	2.0 Meg	—	2	CF58T	3.0 Meg	1.5 Meg	12	WF16	10	—	S
CF28	3.0 Meg	—	2	CF59	3000	—	2	WF17	20	—	S
CF29	5.0 Meg	—	2	CF60	5000	—	3	WF18	50	—	S
CF30	1500	—	4	CF61	10 K	—	3	WF19	100	—	U
CF31	2000	—	4	CF62	20 K	—	2	WF20	500	—	U

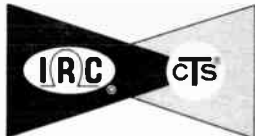
### LISTING BY RESISTANCE VALUE

Ohms	Taps	Taper*	Stock No.	Ohms	Taps	Taper*	Stock No.	Ohms	Taps	Taper*	Stock No.
100	—	1	CF1	50 K	—	3	CF63	3.0 Meg	—	2	CF21
250	—	1	CF2	75 K	—	2	CF54	3.0 Meg	—	3	CF28
300	—	1	CF3	100 K	—	2	CF13	3.0 Meg	1.5 Meg	12	CF58T
500	—	1	CF4	100 K	—	3	CF52	3.0 Meg	1.0 & 2.0 Meg	1	CF73TT
500	—	5	CF50	150 K	—	1	CF72	5.0 Meg	—	2	CF22
500	60	14	CF48T	200 K	—	4	CF51	5.0 Meg	—	3	CF29
750	—	1	CF5	200 K	—	2	CF14	5.0 Meg	—	4	CF56
750	—	5	CF36	250 K	—	2	CF15	5.0 Meg	—	6	CF38
750	250	8	CF40T	250 K	—	3	CF23	5.0 Meg**	—	7	CF39
1000	—	1	CF6	350 K	—	3	CF24	7.5 Meg	—	2	CF69
1000	—	5	CF37	500 K	—	2	CF16	10 Meg	—	2	CF70
1200	—	4	CF53	500 K	—	3	CF25	10	—	U	WF16
1500	—	2	CF7	500 K	125 K	11	CF43T	20	—	U	WF17
1500	—	4	CF30	500 K	250 K	12	CF46T	50	—	U	WF18
2000	—	4	CF31	750 K	—	2	CF64	100	—	U	WF19
2500	—	4	CF32	1.0 Meg	—	2	CF17	200	—	U	WF1
3000	—	2	CF59	1.0 Meg	—	3	CF26	500	—	U	WF20
3000	—	4	CF33	1.0 Meg	—	4	CF65	750	—	R	WF11
3000	150	9	CF41T	1.0 Meg	250 K	11	CF44T	750	250	S	WF15T
5000	—	2	CF8	1.0 Meg	500 K	12	CF47T	750	—	U	WF2
5000	—	4	CF60	1.0 Meg	100 K	1	CF71T	1000	—	U	WF3
5000	—	4	CF34	1.5 Meg	—	2	CF18	1500	—	U	WF4
10 K	—	3	CF9	1.5 Meg	—	3	CF66	2000	—	U	WF5
10 K	—	4	CF61	2.0 Meg	—	2	CF19	2500	—	R	WF12
10 K	—	2	CF35	2.0 Meg	—	3	CF27	2500	—	R	WF6
15 K	—	4	CF10	2.0 Meg	—	4	CF55	3000	—	U	WF13
15 K	10 K	10	CF42T	2.0 Meg	500 K	11	CF45T	3000	—	U	WF7
20 K	—	2	CF62	2.0 Meg	1.0 Meg	12	CF57T	5000	—	R	WF14
25 K	—	2	CF11	2.0 Meg	500 K & 1.0 M	49	CF67TT	5000	—	U	WF8
30 K	10 K	8	CF49T	2.0 Meg	300 K & 600 K	50	CF68TT	10 K	—	U	WF9
50 K	—	2	CF12	2.5 Meg	—	2	CF20	15 K	—	U	WF10

\* See Taper explanation chart, page 1226 \*\* Element open at center



# IRC-CTS SNAPTRON



IRC, Inc.



## CONTROL MOUNTINGS FOR FRONT SECTIONS

A variety of control mountings permit the use of SNAPTRON Front Sections for many different replacement controls. Bushings of varying diameters and inside bores thread into front sections. Tab mounting plates and printed circuit brackets attach to front section with special male nut supplied with each.

This exclusive design feature of selectable control mountings actually reduces inventory investment for distributors and servicing technicians. For a specific resistance value and taper, only one SNAPTRON Front Section is needed—in contrast to other systems where an additional front section is needed for each different control mounting.

Stock No.	Description	Stock No.	Description
BU1	Bushing $\frac{3}{8}$ "—32 x $\frac{1}{4}$ " FMS— for single controls	BU9	Bushing $\frac{3}{8}$ "—28 x $2\frac{1}{4}$ " FMS— for concentric controls. Double flat.
BU2	Bushing $\frac{3}{8}$ "—32 x $\frac{3}{8}$ " FMS— for single controls	BU10	Bushing $\frac{1}{2}$ "—28 x $2\frac{1}{4}$ " FMS— for concentric controls. Single flat.
BU3	Bushing $\frac{3}{8}$ "—32 x $\frac{1}{8}$ " FMS— for single controls	BU11	Tab mounting with nut— for single controls
BU4	Bushing $\frac{3}{8}$ "—32 x $\frac{1}{4}$ " FMS— for concentric controls	BU12	Printed circuit bracket with nut— for single controls
BU5	Bushing $\frac{3}{8}$ "—32 x $\frac{3}{8}$ " FMS— for concentric controls	BU13	Printed circuit bracket with nut— for concentric controls
BU6	Bushing $\frac{3}{8}$ "—32 x $\frac{3}{4}$ " FMS— for concentric controls	BU14	Bushing $\frac{3}{8}$ "—32 x $1\frac{1}{8}$ " FMS— for single controls
BU7	Tab mounting with nut— for concentric controls	BU15	Bushing $\frac{3}{8}$ "—32 x 2" FMS— for concentric dual controls.
BU8	Bushing $\frac{3}{8}$ "—28 x $1\frac{7}{8}$ " FMS— for concentric controls		

## CARBON & WIREWOUND REAR SECTIONS

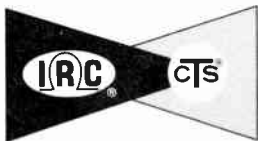
Type CR Carbon Rear Sections and Type WR Wirewound Rear Sections snap onto SNAPTRON Front Sections for use as either concentric dual or tandem dual controls. Rotary or pull-push power switches snap onto CR sections. (WR sections do not accept switches.) Rear or inner concentric shafts snap into either type of rear sections for concentric dual operation. SS7A Intersection Insert provides tandem dual operation. Additional tandem sections may be snapped on by use of SS13 Multisection Couplers.



Stock No.	Ohms	Taps	Taper*
CR1	100	—	1
CR2	1000	—	1
CR3	2000	—	2
CR4	5000	—	2
CR5	10 K	—	2
CR6	25 K	—	2
CR7	50 K	—	2
CR8	100 K	—	2
CR9	200 K	—	2
CR10	250 K	—	2
CR11	500 K	—	2
CR12	1.0 Meg	—	2
CR13	1.5 Meg	—	2
CR14	2.0 Meg	—	2
CR15	2.5 Meg	—	2
CR16	3.0 Meg	—	2
CR17	5.0 Meg	—	2
CR18	250 K	—	3
CR19	350 K	—	3
CR20	500 K	—	3
CR21	1.0 Meg	—	3
CR22	2.0 Meg	—	3
CR23	3.0 Meg	—	3
CR24	5.0 Meg	—	3
CR25	2000	—	4
CR26	10 K	—	4
CR27	750	—	5
CR28	1000	—	5
CR29T	250 K	60 K	11
CR30T	350 K	75 K	11
CR31T	500 K	125 K	11
CR32T	1.0 Meg	250 K	11
CR33T	2.0 Meg	500 K	11
CR34T	250 K	125 K	12
CR35T	500 K	250 K	12
CR36T	1.0 Meg	500 K	12
CR37T	2.0 Meg	1.0 Meg	12
CR38T	3.0 Meg	1.5 Meg	12
CR39T	500 K	50 K	13
CR40T	1.0 Meg	100 K	13
CR41	500	—	1
CR42	125 K	—	2
CR43	500 K	—	4
CR44	1.0 Meg	—	4
CR45	2.0 Meg	—	4
CR46	3.0 Meg	—	4
CR47	5.0 Meg	—	4
CR48T	7.5 K	3750	12
CR49T	10 K	5000	12
CR50T	20 K	6000	11
CR51	5000	—	3
CR52	10 K	—	3
CR53	100 K	—	4
CR54TT	3.0 Meg	1.0 & 2.0 Meg	1
WR1	10 K	—	U
WR2	15 K	—	U

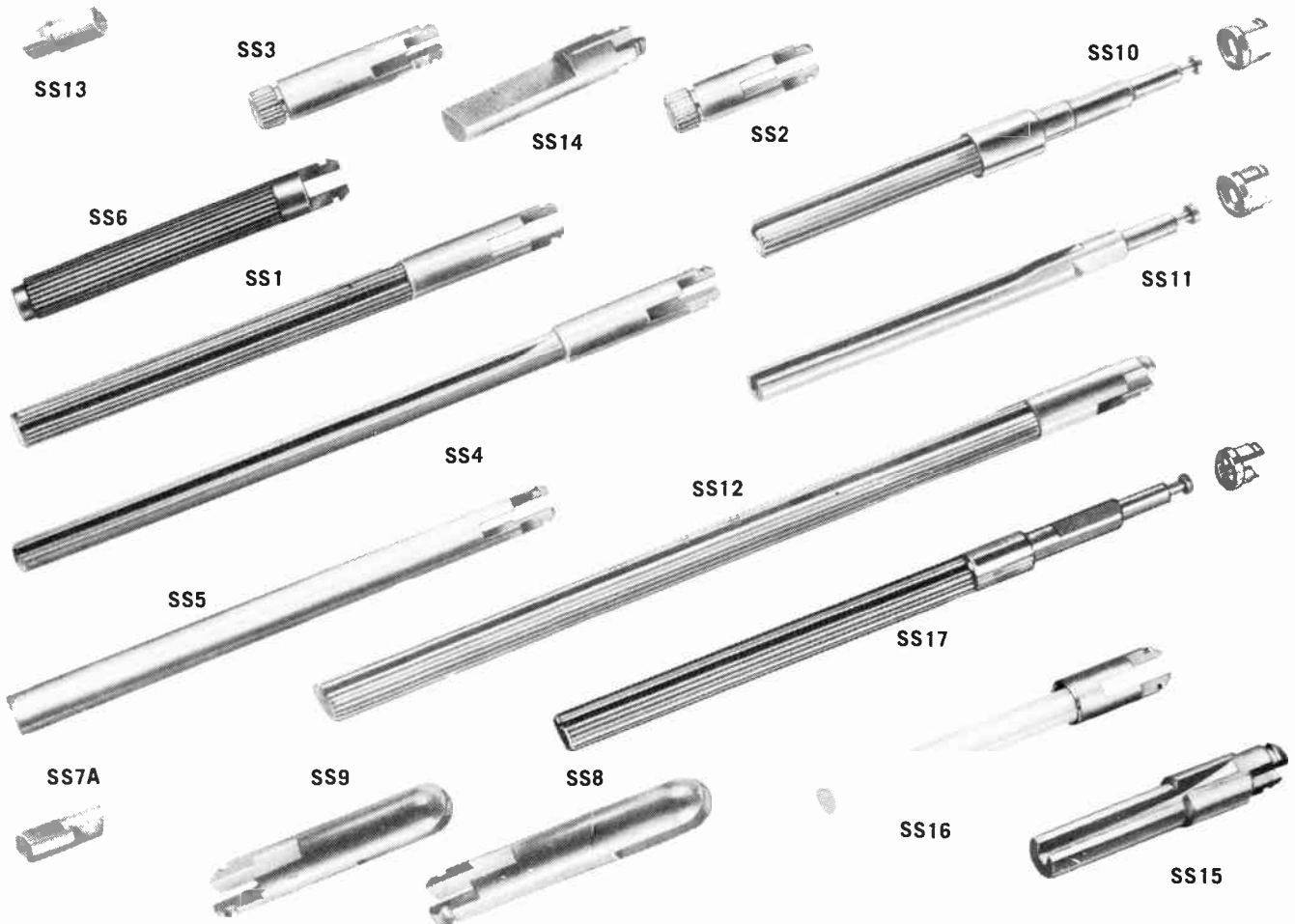
Ohms	Taps	Taper*	Stock No.
100	—	1	CR1
500	—	1	CR41
750	—	5	CR27
1000	—	1	CR2
1000	—	5	CR28
2000	—	2	CR3
2000	—	4	CR25
5000	—	2	CR4
5000	—	3	CR51
7500	3750	12	CR48T
10 K	—	2	CR5
10 K	—	4	CR26
10 K	5000	12	CR49T
10 K	—	3	CR52
20 K	6000	11	CR50T
25 K	—	2	CR6
50 K	—	2	CR7
100 K	—	2	CR8
100 K	—	4	CR53
125 K	—	2	CR42
200 K	—	2	CR9
250 K	—	2	CR10
250 K	—	3	CR18
250 K	60 K	11	CR29T
250 K	125 K	12	CR34T
350 K	—	3	CR19
350 K	75 K	11	CR30T
500 K	—	2	CR11
500 K	—	3	CR20
500 K	—	4	CR43
500 K	125 K	11	CR31T
500 K	250 K	12	CR35T
500 K	50 K	13	CR39T
1.0 Meg	—	2	CR12
1.0 Meg	—	3	CR21
1.0 Meg	—	4	CR44
1.0 Meg	250 K	11	CR32T
1.0 Meg	500 K	12	CR36T
1.0 Meg	100 K	13	CR40T
1.5 Meg	—	2	CR13
2.0 Meg	—	2	CR14
2.0 Meg	—	3	CR22
2.0 Meg	—	4	CR45
2.0 Meg	500 K	11	CR33T
2.0 Meg	1.0 Meg	12	CR37T
2.5 Meg	—	2	CR15
3.0 Meg	—	2	CR16
3.0 Meg	—	3	CR23
3.0 Meg	—	4	CR46
3.0 Meg	1.5 Meg	12	CR38T
3.0 Meg	1.0 & 2.0 Meg	1	CR54TT
5.0 Meg	—	2	CR17
5.0 Meg	—	3	CR24
5.0 Meg	—	4	CR47
10 K	—	U	WR1
15 K	—	U	WR2

\* See Taper explanation chart, page 1226



# IRC-CTS SNAPTROL

IRC, Inc.



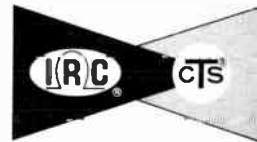
## SINGLE CONTROL SHAFTS

Universal single control shafts for SNAPTROL permit front sections to be used as universal single control replacements.

STOCK NO.	DESCRIPTION
SS1	KNOBMASTER Shaft. Knurled, grooved and slotted for universal use. 3" long F.M.S.
SS2	Short, screw-driver slotted shaft. 1/2" long, F.M.S.
SS3	Short knurled and screw-driver slotted shaft. 3/4" long, F.M.S.
SS4	3/16" diameter shaft. Flatted and grooved. 4" long F.M.S.
SS5	Full round 1/4" diameter shaft. 3" long F.M.S.
SS6	Insulated Shaft. 1/4" diameter x 1 1/2" long. Screw-driver slot and knurled full length.
SS7A	Intersection insert. Converts concentric rear section to tandem rear section with single shaft.
SS8	Special rounded end and slotted shaft for G.E. controls—79" long F.M.S.
SS9	Special rounded end and slotted shaft for G.E. controls—60" long F.M.S.

STOCK NO.	DESCRIPTION
SS10	For K switch (push-pull) operation with single Front Section. 3" Knobmaster Shaft (same as SS1) with insert.
SS11	For K switch (pull-push) operation with single Front Section. 2" long flatted and grooved 3/16" diameter shaft (similar to SS4) with insert.
SS12	Long Knobmaster Shaft. Same as SS1 but 5" long.
SS13	Multisection Insert. For use between second and third or successive tandem sections. (Note SS7A used between first and second sections).
SS14	Short flatted shaft. 1/4" diameter by 3/4" long F.M.S., flatted full length. Provided for short, flatted tab mounted controls.
SS15	3/16" diameter shaft, flatted and grooved full length. 3/4" long F.M.S.
SS16	Insulated shaft, 3/16" diameter flatted full length. 1 1/2" long F.M.S.
SS17	KNOBMASTER Shaft. Knurled, grooved and slotted for universal use. 3" long F.M.S. with insert converting concentric rear section to tandem rear section with single shaft. For K switch (push-pull) operation.

# IRC-CTS SNAPTROL



IRC, Inc.

## POWER SWITCHES

SNAPTROL rotary and pull-push power switches snap on to carbon front or rear sections.

Stock No.	Description
GC	Rotary Power Switch, S.P.S.T.
K	Pull-push Power Switch, S.P.S.T., 5 Amp
VF	Rotary Power Switch, S.P.D.T.
WF	Rotary Power Switch, D.P.S.T.

## DUST COVER

Stock No.	Description
DC1	Dust Cover. For use on either front or rear section when switch is not used.
DC2	Reverse Tab mount dust cover.



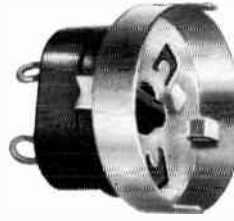
Type DC1



Type DC2



Type GC



Type K



Types VF/WF

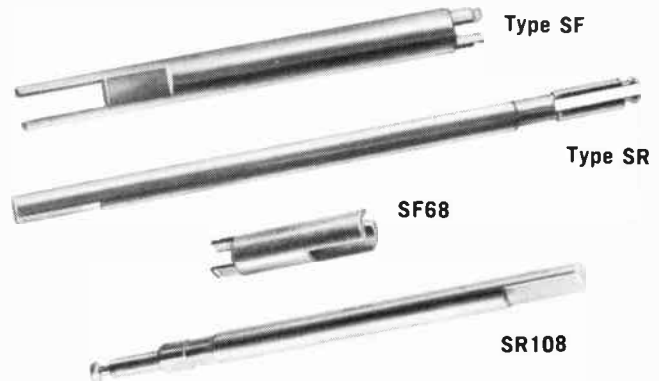
## EXACT DUPLICATE SHAFTS

SNAPTROL Exact Duplicate Shafts are supplied to close tolerances against original control specifications. Easily snap into molded nylon rotors of front or rear sections. Uniform diameter of rear section (inner) shafts permit use of heavier wall on front section (outer) shafts providing better concentric rotation and superior knob fit. Knob Adapter (Stock No. KA1) fits rear (inner) shaft to knobs normally requiring larger diameter shafts. No drilling or modification of knobs is required. No cutting of shafts is needed with SNAPTROL Exact Duplicate Shafts! Easy to install!

**Knob Adapter.** Fits rear section shaft to knob requirements of over-size shaft. Converts .187" diameter shaft to .202" diameter shaft.



Type KA1



Type SF

Type SR

SF68

SR108

## REAR SECTION (INNER) SHAFTS

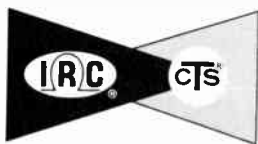
## FRONT SECTION (OUTER) SHAFTS

STOCK NO.	SHAFT LENGTH FMS*	SHAFT END*	STOCK NO.	SHAFT LENGTH FMS*	SHAFT END*
SFA	3"	U	SF35	3 1/2"	FS
SF1	3 1/16"	S	SF36	3 3/32"	FS
SF2	2 1/2"	S	SF37	4"	FS
SF3	3 3/4"	FS	SF38	4 3/4"	FS
SF4	2 1/2"	FS	SF39	4 3/4"	FS
SF5	1 1/16"	FS	SF40	1 5/16"	S
SF6	1"	FS	SF41	1"	S
SF7	1 1/2"	FS	SF42	1 1/32"	S
SF8	1 3/4"	FS	SF43	1 1/8"	S
SF9	1 5/8"	FS	SF44	1 7/32"	S
SF10	1 3/8"	FS	SF45	2"	S
SF11	1 1/2"	FS	SF46	2 1/2"	S
SF12	1 1/4"	FS	SF47	2 1/32"	S
SF13	1 1/2"	FS	SF48	2 1/2"	S
SF14	1 3/4"	FS	SF49	2 21/32"	S
SF15	1 7/8"	FS	SF50	2 27/32"	S
SF16	1 11/16"	FS	SF51	1 5/32"	K
SF17	2"	FS	SF52	2 1/32"	K
SF18	2 1/2"	FS	SF53	1"	K
SF19	2 3/4"	FS	SF54	1 1/2"	K
SF20	2 1/2"	FS	SF55	1 3/4"	K
SF21	2 3/8"	FS	SF56	3 1/2"	SD
SF22	2 1/2"	FS	SF57	1 1/2"	SD
SF23	2 3/4"	FS	SF58	3 1/8"	SD
SF24	2 1/2"	FS	SF59	3 3/4"	SD
SF25	2 3/4"	FS	SF60	1"	S
SF26	2 1/2"	FS	SF61	1 1/8"	S
SF27	2 1/4"	FS	SF62	1 5/16"	SP
SF28	3"	FS	SF63	1 21/32"	SP
SF29	3 3/32"	FS	SF64	1 3/8"	SP
SF30	3 1/4"	FS	SF65	1 1/2"	SP
SF31	3 5/8"	FS	SF66	1 21/32"	SP
SF32	3 3/8"	FS	SF67	1 1/2"	FS
SF33	3 1/2"	FS	SF68	1 21/32"	FS
SF34	3 1/4"	FS			

STOCK NO.	SHAFT LENGTH FMS*	SHAFT END*	STOCK NO.	SHAFT LENGTH FMS*	SHAFT END*	STOCK NO.	SHAFT LENGTH FMS*	SHAFT END*
SRA	3 1/2"	U	SR37	4 3/8"	F	SR74	3/4"	SD
SRB**	4 1/2"	U	SR38	4 21/32"	F	SR75	27/32"	SD
SR1	1 3/4"	F	SR39	1 3/8"	S	SR76	2 3/8"	SD
SR2	1 3/32"	F	SR40	1 3/8"	S	SR77	2"	SP
SR3	1 3/4"	F	SR41	1 1/2"	S	SR78	3 3/16"	SP
SR4	1 3/32"	F	SR42	1 1/8"	S	SR79	3 1/2"	SP
SR5	1 3/8"	F	SR43	1 1/2"	S	SR80	4"	SP
SR6	1 1/32"	F	SR44	1 3/4"	S	SR81**	1 1/32"	F
SR7	1 1/8"	F	SR45	1 27/32"	S	SR82**	1 1/8"	F
SR8	1 21/32"	F	SR46	1 1/4"	S	SR83**	1 21/32"	F
SR9	1 3/4"	F	SR47	2"	S	SR84**	1 3/4"	F
SR10	1 27/32"	F	SR48	2 1/2"	S	SR85**	1 27/32"	F
SR11	1 11/16"	F	SR49	2 3/8"	S	SR86**	1 11/16"	F
SR12	2"	F	SR50	2 1/2"	S	SR87**	2"	F
SR13	2 1/2"	F	SR51	2 3/8"	S	SR88**	2 1/2"	F
SR14	2 3/4"	F	SR52	2 1/2"	S	SR89**	2 1/2"	F
SR15	2 1/2"	F	SR53	2 3/8"	S	SR90**	2 3/8"	F
SR16	2 3/8"	F	SR54	2 1/2"	S	SR91**	2 1/2"	F
SR17	2 1/2"	F	SR55	2 3/4"	S	SR92**	2 3/4"	F
SR18	2 1/2"	F	SR56	2 27/32"	S	SR93**	2 27/32"	F
SR19	2 1/2"	F	SR57	2 1/8"	S	SR94**	2 1/8"	F
SR20	2 3/4"	F	SR58	3"	S	SR95	1 1/8"	S
SR21	2 27/32"	F	SR59	3 1/2"	S	SR96	1 3/4"	S
SR22	2 1/8"	F	SR60	3 3/8"	S	SR97	1 1/2"	S
SR23	3"	F	SR61	3 1/2"	S	SR98	3 1/2"	S
SR24	3 1/2"	F	SR62	3 1/2"	S	SR99	1 1/4"	S
SR25	3 1/2"	F	SR63	3 3/2"	S	SR100	3 1/2"	SD
SR26	3 3/8"	F	SR64	3 1/4"	K	SR101	1 1/2"	S
SR27	3 3/8"	F	SR65	1 1/2"	K	SR102**	2 1/2"	S
SR28	3 1/2"	F	SR66	1"	K	SR103**	2 1/2"	S
SR29	3 1/2"	F	SR67	1 1/2"	K	SR104**	2 1/2"	S
SR30	3 1/2"	F	SR68	1 3/8"	K	SR105**	2 3/4"	S
SR31	3 3/4"	F	SR69	1 1/2"	K	SR106**	3 27/32"	S
SR32	3 27/32"	F	SR70	1 1/2"	K	SR107	1 1/2"	S
SR33	3 1/8"	F	SR71	3/8"	SD	SR108**	2"	F
SR34	4 1/2"	F	SR72	1 5/8"	SD	SR109	2 1/2"	F
SR35	4 3/2"	F	SR73	2 1/2"	SD	SR110**	3 3/8"	F
SR36	4 1/2"	F						

\* FMS—Measured from mounting surface. F—Flat. FS—Flat & Slot. K—Knurled. S—Slot. SD—Screw-driver Slot. SP—Special. U—Universal Shaft

\*\* Used with pull-push switch only.



# IRC-CTS SNAPTRON DEALER STOCKS

## IRC, Inc.

**WIDE COVERAGE OF CONTROL TYPES**—SNAPTROL Dealer Control Stocks provide unusually wide variety of single, tandem and concentric dual control types. Included are nearly endless combinations of control mountings, shafts and power switches with both carbon ( $\frac{1}{2}$  watt) and wirewound (5 watts) front and rear sections. Control mountings include  $\frac{3}{8}$ ",  $\frac{7}{16}$ " and  $\frac{1}{2}$ " diameter bushings, tab mountings and printed circuit brackets. Shaft styles encompass  $\frac{1}{4}$ " and  $\frac{3}{16}$ " universal types, screw-driver slotted and insulated styles, rear adjustment feature, and a broad selection of exact duplicate shafts which require no cutting or modification.

Rotary and pull-push power switches attach to either single or concentric control styles. Concentric dual controls include carbon front end and rear sections, wirewound front and rear sections and wirewound front sections with carbon rear sections. Carbon units are equipped with printed circuit terminals for universal use. Broad selection of resistance values and tapers. Replacement data, pricing information and full instructions included.



No. 89 STOCK

### SPACIOUS STOCK CABINET

The same handsome stock cabinet is provided with either No. 87 or No. 89 stocks. Permits ready conversion of Basic Stock to Expanded Stock. Sturdy two-shelf metal cabinet measures 17 $\frac{7}{8}$ " wide, 11 $\frac{1}{16}$ " deep and 9" high. Provides twelve large "see-thru" plastic drawers with new locking divider feature. Drawers measure 11" deep, 4" wide and 2" high—956 cubic inches of stock space! All needed dividers are included. Both drawer front and bottom labels provide full location and identification data.

### SNAPTROL DEALER CONTROL STOCKS

Geared to the real replacement control needs of servicing technicians, these SNAPTROL stocks combine fast, snap-together assembly with unique, inventory-saving versatility. Carefully studied selections of SNAPTROL components assure broadest needed replacement coverage per dollar invested. Special attention has been given to actual component combinations needed for exact duplicate TV and Auto Set concentric dual controls.

Two carefully planned stocks are available. No. 87 is a Basic Stock. No. 89 is an Expanded Stock with nearly three times the replacement coverage. Both stocks are housed in a large metal cabinet with twelve "see-thru" drawers. Full identification of parts with unique labelling system. Basic stock may be changed to the expanded stock with No. 88 Conversion Stock.

### CONTENTS OF SNAPTRON DEALER STOCKS

Description	Basic Stock No. 87	Conversion Stock No. 88	Expanded Stock No. 89
Carbon Front Sections	16	16	32
Wire Front Sections	—	7	7
Carbon Rear Sections	11	10	21
Wire Rear Section	—	1	1
Control Mountings	30	19	49
Single Control Shafts	13	23	36
Exact Duplicate Shafts	101	14	115
Power Switches (Rotary and Pull-Push)	18	—	18
Hardware Items	17	—	17
Replacement Manual	1	—	1
Instruction Package	1	—	1

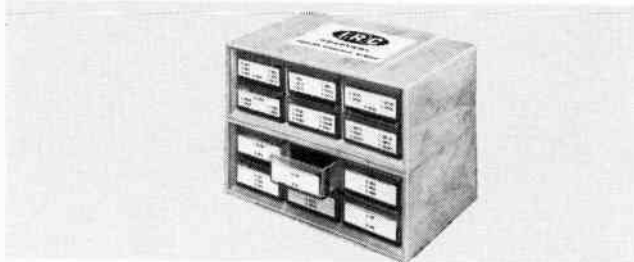
### NEW! LOW-PRICED SNAPTRON DEALER STOCKS

The same careful planning and features as the larger stocks to provide the broadest coverage per dollar invested. Universal front and rear shafts in the expanded stock offer unlimited shaft matching.

Two carefully planned stocks are available. No. 95 is a basic, single control stock. No. 97 is an expanded stock with the additional coverage of concentric dual controls. Both stocks are housed in sturdy, convenient stock cabinets, with easy-to-read drawer-front labels. The basic stock may be changed to the expanded stock with conversion stock No. 96.

### CONTENTS OF NEW SNAPTRON DEALER STOCKS

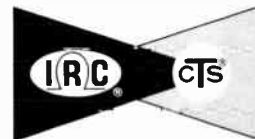
Description	Basic Stock No. 95	Conversion Stock No. 96	Expanded Stock No. 97
Carbon Front Sections	15	9	24
Carbon Rear Sections	—	7	7
Control Mountings	16	12	28
Single Control Shafts	24	—	24
Front Universal Shafts	—	5	5
Rear Universal Shafts	—	7	7
Power Switches (Rotary and Pull-Push)	13	—	13
Hardware Items	3	—	3
Replacement Manual	1	—	1
Instruction Package	1	1	1



No. 97 STOCK

These new Snaptron Dealer Stocks provide an unusually wide variety of control types. Included are countless combinations of control mountings, shafts and power switches with  $\frac{1}{2}$  Watt carbon sections. Control mountings include a variety of bushings, tab mountings, and printed circuit brackets. Shafts include a variety of universal types. Rotary and push-pull power switches attach to either single or concentric control styles. All elements are equipped with printed circuit terminals for universal use. Broad selection of resistance values and tapers. Replacement data, pricing information and full instructions are included.

# IRC-CTS SNAPTRONL/SERIES 45 INDUSTRIAL CONTROLS



## IRC, Inc.

### IRC-CTS SERIES 45 CONTROLS

Designed to provide a wide variety of 1/2 watt controls for industrial applications, the Series 45 is a snap-together system in which selected values and sizes of five basic components will quickly assemble any of 12,631,500 specifications. Included are 25 values and tapers of single control or panel sections, 20 popular values of multi-sections or rear control sections, 20 most used shafts in length increments of 1/8" from 1/2" to 2" plus a 3" length, 2 rotary power switches and a control dust cover. Completely compatible and interchangeable with SNAPTRONL, the Series 45 affords an extremely broad selection of mechanical and electrical specifications for industrial applications. **See Page 1223 for Model Shop Stock of this Product**



Single  
W/Switch

### SERIES 45 SNAP-IN SHAFTS

20 most often needed shafts for industrial applications. Provide screwdriver slot, flat, knurl or full round types in 1/8" increments from 1/2" to 2" in length, 3" length included. Broad shaft selection generally eliminates need for cutting or modification. All shafts 1/4" diameter.

STOCK NO.	LENGTH FMS	KNOB TRIM
01	1/2"	Screwdriver Slot
02	5/8"	Screwdriver Slot
03	3/4"	Screwdriver Slot
04	7/8"	Screwdriver Slot
05	1"	Screwdriver Slot
06	7/8"	.156 x 7/16" Flat
07	1"	.156 x 9/16" Flat
08	1 1/8"	.156 x 5/8" Flat
09	1 1/4"	.156 x 5/8" Flat
10	1 3/8"	.156 x 5/8" Flat
11	1 1/2"	.156 x 5/8" Flat
12	1 5/8"	.156 x 5/8" Flat
13	1 3/4"	.156 x 5/8" Flat
14	1 7/8"	.156 x 5/8" Flat
15	2"	.156 x 5/8" Flat
16	2"	Full Round
17	3"	Full Round
18	1"	Split Knurl
19	1 1/4"	Split Knurl
20	1 1/2"	Split Knurl

### POWER SWITCHES AND DUST COVER

Snap on to either panel or rear sections. Dust cover used where switch is not required.



Type D/S



Type 45C

STOCK NO.	DESCRIPTION
D	DPST Power Switch (Snaptron WF)
S	SPST Power Switch (Snaptron GC)
45C	Dust Cover (Snaptron DC1)

**SINGLE CONTROL OR FRONT SECTIONS.** 25 most used resistance values in two resistance tapers: 45A logarithmic taper and 45D linear taper. Rated at 1/2 watt (linear taper). Equipped with 3/8—32x3/8" long bushing for 1/4" diameter shafts. Mounting nut included. Resistance tolerance +20%.

### LISTING BY STOCK NUMBER

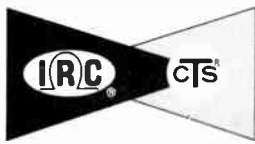
Stock No.	Ohms	CTS Taper	Similar To Snaptron No.
45A103	10 K	A	CF61
45A104	100 K	A	CF52
45A105	1.0 Meg	A	CF26
45A205	2.0 Meg	A	CF27
45A254	250 K	A	CF23
45A305	3.0 Meg	A	CF28
45A503	50 K	A	CF63
45A504	500 K	A	CF25
45D102	1000	D	CF6
45D103	10 K	D	CF9
45D104	100 K	D	CF13
45D105	1.0 Meg	D	CF17
45D106	10.0 Meg	D	CF70
45D202	2000	D	—
45D203	20 K	D	CF62
45D204	200 K	D	CF14
45D205	2.0 Meg	D	CF19
45D253	25 K	D	CF11
45D254	250 K	D	CF15
45D302	3000	D	CF59
45D501	500	D	CF4
45D502	5000	D	CF8
45D503	50 K	D	CF12
45D504	500 K	D	CF16
45D505	5.0 Meg	D	CF22

### LISTING BY RESISTANCE VALUE

Stock No.	Ohms	CTS Taper	Similar To Snaptron No.
45D501	500	D	CF4
45D102	1000	D	CF6
45D202	2000	D	—
45D302	3000	D	CF59
45D502	5000	D	CF8
45A103	10 K	A	CF61
45D103	10 K	D	CF9
45D203	20 K	D	CF62
45D253	25 K	D	CF11
45A503	50 K	A	CF63
45D503	50 K	D	CF12
45A104	100 K	A	CF52
45D104	100 K	D	CF13
45D204	200 K	D	CF14
45A254	250 K	A	CF23
45D254	250 K	D	CF15
45A504	500 K	A	CF25
45D504	500 K	D	CF16
45A105	1.0 Meg	A	CF26
45D105	1.0 Meg	D	CF17
45A205	2.0 Meg	A	CF27
45D205	2.0 Meg	D	CF19
45A305	3.0 Meg	A	CF28
45D505	5.0 Meg	D	CF22
45D106	10.0 Meg	D	CF70

\* See Taper explanation chart, page 1226

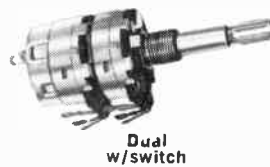
# IRC-CTS SNAPTRON/SERIES 45 INDUSTRIAL CONTROLS



IRC, Inc.

## IRC-CTS SERIES 45 MULTISECTIONS

20 rear sections snap on to panel section or to successive rear sections. Provide dual, triple or quadruple section controls. May be used with or without switch. M45A is logarithmic taper; M45D is linear taper. Resistance tolerance  $\pm 20\%$ . Power rating  $\frac{1}{2}$  watt (linear taper).



Dual w/switch



Triple

LISTING BY STOCK NUMBER			
STOCK NO.	OHMS	CTS TAPER*	SIMILAR TO SNAPTRON NO. PLUS SS7A
M45A104	100 K	A	—
M45A105	1.0 Meg	A	CR21
M45A205	2.0 Meg	A	CR22
M45A254	250 K	A	CR18
M45A504	500 K	A	CR20
M45D102	1000	D	CR2
M45D103	10 K	D	CR5
M45D104	100 K	D	CR8
M45D105	1.0 Meg	D	CR12
M45D106	10.0 Meg	D	—
M45D202	2000	D	CR3
M45D205	2.0 Meg	D	CR14
M45D253	25 K	D	CR6
M45D254	250 K	D	CR10
M45D302	3000	D	—
M45D501	500	D	CR41
M45D502	5000	D	CR4
M45D503	50 K	D	CR7
M45D504	500 K	D	CR11
M45D505	5.0 Meg	D	CR17

LISTING BY RESISTANCE VALUE			
OHMS	CTS TAPER*	STOCK NO.	SIMILAR TO SNAPTRON NO. PLUS SS7A
500	D	M45D501	CR41
1000	D	M45D102	CR2
2000	D	M45D202	CR3
3000	D	M45D302	—
5000	D	M45D502	CR4
10 K	D	M45D103	CR5
25 K	D	M45D253	CR6
50 K	D	M45D503	CR7
100 K	A	M45A104	—
100 K	D	M45D104	CR8
250 K	A	M45A254	CR18
250 K	D	M45D254	CR10
500 K	A	M45A504	CR20
500 K	D	M45D504	CR11
1.0 Meg	A	M45A105	CR21
1.0 Meg	D	M45D105	CR12
2.0 Meg	A	M45A205	CR22
2.0 Meg	D	M45D205	CR14
5.0 Meg	D	M45D505	CR17
10.0 Meg	D	M45D106	—

\* See Taper explanation chart, page 20

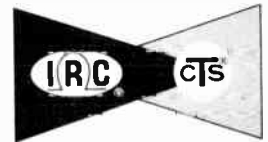
## IDENTIFY ANY OF 12,631,500 SERIES 45 CONTROLS WITH THIS SPECIFICATION NUMBER SELECTION CHART

Ohms	Type	Single Control or Panel Section		Second Section		Third Section		Fourth Section		Switch	Shaft	Shaft Detail	
		Log. Taper	Linear Taper	Log. Taper	Linear Taper	Log. Taper	Linear Taper	Log. Taper	Linear Taper			Length FMS	End Trim
500	45	—	D501	—	D501	—	D501	—	D501	↑ D (DPST) S (SPST) — OMIT FOR NO SWITCH ↓	01	1/2"	SD SLOT
1000		—	D102	—	D102	—	D102	—	D102		02	5/8"	SD SLOT
2000		—	D202	—	D202	—	D202	—	D202		03	3/4"	SD SLOT
3000		—	D302	—	D302	—	D302	—	D302		04	7/8"	SD SLOT
5000		—	D502	—	D502	—	D502	—	D502		05	1"	SD SLOT
10 K		A103	D103	—	D103	—	D103	—	D103		06	7/8"	FLAT
20 K		—	D203	—	—	—	—	—	—		07	1"	FLAT
25 K		—	D253	—	D253	—	D253	—	D253		08	1 1/8"	FLAT
50 K		A503	D503	—	D503	—	D503	—	D503		09	1 1/4"	FLAT
100 K		A104	D104	A104	D104	A104	D104	A104	D104		10	1 3/8"	FLAT
200 K		—	D204	—	—	—	—	—	—		11	1 1/2"	FLAT
250 K		A254	D254	A254	D254	A254	D254	A254	D254		12	1 5/8"	FLAT
500 K		A504	D504	A504	D504	A504	D504	A504	D504		13	1 3/4"	FLAT
1 MEG		A105	D105	A105	D105	A105	D105	A105	D105		14	1 7/8"	FLAT
2 MEG		A205	D205	A205	D205	A205	D205	A205	D205		15	2"	FLAT
3 MEG		A305	—	—	—	—	—	—	—		16	2"	ROUND
5 MEG	—	D505	—	D505	—	D505	—	D505	17	3"	ROUND		
10 MEG	—	D106	—	D106	—	D106	—	D106	18	1"	KNURL		
									19	1 1/4"	KNURL		
									20	1 1/2"	KNURL		

See Page 1223 for Series 45 Engineering Laboratory Stocks

IRC, INC. • CONSUMER AND DISTRIBUTOR PRODUCTS DIVISION

# IRC-CTS ENGINEERING LABORATORY STOCKS



IRC, Inc.

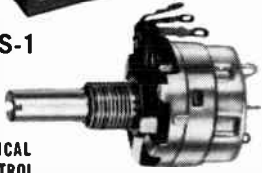
See Pages 1221 and 1222 for details of components

## 15/16" diameter Variable Resistors CTS SERIES 45

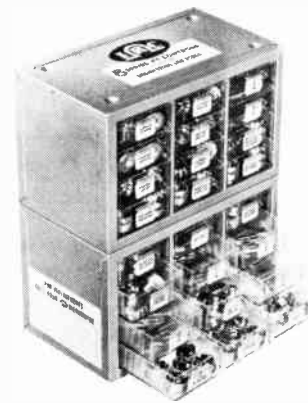
The most often used variable resistor, "ELS-1" gives you the 15 most frequently used values for single composition controls. Each panel section has a factory installed bushing 3/8" — 32 x 3/8". 19 shafts styles and lengths included. Installed Shafts are permanent. Power switches may be snapped on easily. Assembly is fast, easy, and permanent. "ELS-2" is an expanded stock of Series 45 control components. Permits fast assembly not only of single section controls but also dual, triple and quadruple section tandem operated controls.



ELS-1



TYPICAL CONTROL



ELS-2

### SHAFTS

Quantity	ELS-1	ELS-2	Item	Length	End Trim
2	5	01	1/2"	SD Slot	
2	2	02	5/8"	SD Slot	
3	5	03	3/4"	SD Slot	
3	5	04	7/8"	SD Slot	
3	5	05	1"	SD Slot	
2	5	06	7/8"	Flat	
2	2	07	1"	Flat	
2	5	08	1 1/8"	Flat	
3	2	09	1 1/4"	Flat	
2	2	10	1 3/8"	Flat	
2	2	11	1 1/2"	Flat	
2	2	12	1 3/8"	Flat	
2	2	13	1 3/4"	Flat	
2	2	14	1 7/8"	Flat	
2	2	15	2"	Flat	
2	5	16	2"	Round	
3	5	17	3"	Round	
2	2	18	1"	Knurl	
2	2	19	1 1/4"	Knurl	
—	2	20	1 1/2"	Knurl	

## ENGINEERING LAB STOCKS ELS-1 AND ELS-2

### CONTROL SECTIONS

Quantity		Item	Ohms	Type Taper	Description
ELS-1	ELS-2				
2	4	45A103	10K	Log Taper	Front Section
2	4	45A104	100K	Log Taper	Front Section
2	4	45A105	1 Meg	Log Taper	Front Section
2	4	45A254	250K	Log Taper	Front Section
2	4	45A503	50K	Log Taper	Front Section
2	4	45A504	500K	Log Taper	Front Section
3	4	45D102	1000	Linear Taper	Front Section
3	4	45D103	10K	Linear Taper	Front Section
3	4	45D104	100K	Linear Taper	Front Section
3	4	45D105	1 Meg	Linear Taper	Front Section
3	4	45D253	25K	Linear Taper	Front Section
3	4	45D254	250K	Linear Taper	Front Section
—	4	45D502	5000	Linear Taper	Front Section
3	4	45D503	50K	Linear Taper	Front Section
3	4	45D504	500K	Linear Taper	Front Section
3	4	45D505	5 Meg	Linear Taper	Front Section
—	2	M45A104	100K	Log Taper	Rear Section
—	2	M45A105	1 Meg	Log Taper	Rear Section
—	2	M45A254	250K	Log Taper	Rear Section
—	2	M45A504	500K	Log Taper	Rear Section
—	2	M45D102	1000	Linear Taper	Rear Section
—	4	M45D103	10K	Linear Taper	Rear Section
—	4	M45D104	100K	Linear Taper	Rear Section
—	4	M45D105	1 Meg	Linear Taper	Rear Section
—	2	M45D253	25K	Linear Taper	Rear Section
—	2	M45D254	250K	Linear Taper	Rear Section
—	2	M45D502	5000	Linear Taper	Rear Section
—	4	M45D503	50K	Linear Taper	Rear Section
—	4	M45D504	500K	Linear Taper	Rear Section
—	2	M45D505	5 Meg	Linear Taper	Rear Section

### SWITCHES AND COVERS

ELS-1	ELS-2	Item	Description
3	5	DPST	Rotary type, 3 amps at 125 volts, 1 amp at 250 volts, 5 amps at 20 volts, AC. UL approved.
9	15	SPST	Rotary type, 3 amps at 125 volts, 1 amp at 250 volts, AC. UL approved.
42	44	45C	Snap-on cover.

See Pages 1304 thru 1307 for details of components

## Rotary Selector Switches CTS TYPE 212

A handy engineering stock of standard switch sections and shaft/detent assemblies to provide means of putting together standard and special rotary switches. Includes unique dust-proof kits, section shields and AC power switches.

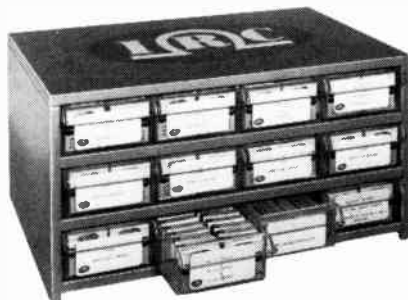
## ENGINEERING LAB STOCK ELS-8

The ELS-8 Rotary Selector Switch Lab Stock affords you the versatility of a combination for every application.

### Contents:

- |                     |                        |
|---------------------|------------------------|
| 10 T1 Wafers        | 5 T81 Shaft/Detent     |
| 10 T2 Wafers        | 5 T82 Shaft/Detent     |
| 10 T3 Wafers        | 1 SSK-1 Sealing Kit    |
| 5 T4 Wafers         | 1 DSWK-1 Sealing Kit   |
| 10 T5 Wafers        | 5 SSS-1 Shields        |
| 10 T6 Wafers        | 5 SSS-2 Shields        |
| 10 T7 Wafers        | 5 SSS-3 Shield/Bracket |
| 5 T8 Wafers         | 1 GC-21 Switch         |
| 5 T9 Wafers         | 1 VF-21 Switch         |
| 10 T99 Shaft/Detent | 1 WF-21 Switch         |

Packed in sturdy, steel cabinet with 12 labeled drawers.



ELS-8



TYPICAL ASSEMBLED SWITCH



IRC, Inc.

# IRC-CTS ENGINEERING LABORATORY STOCKS

## Low Cost Trimming Potentiometers

CTS Type U201 — Parallel Mounting

ELS-9 See Page 1237

for details of components

A fully reliable but inexpensive trimming potentiometer with printed circuit terminals and mounting ears for positioning parallel to circuit board. Slotted for front or rear adjustment or finger-tip knob setting. Rated at ¼ watts. Linear carbon composition carbon resistance element.



Contents:

Quantity	Ohms	Quantity	Ohms
5	100	10	25K
10	250	10	50K
10	500	20	100K
10	1000	5	250K
10	2500	10	500K
15	5000	5	1.0 meg.
25	10K		



Each IRC-CTS Engineering Laboratory stock on this page is packed in sturdy, steel cabinet with 12 labeled drawers.

## Low Cost Trimming Potentiometers

CTS Type X201 — Perpendicular Mounting

ELS-10

See Page 1237

for details of components

Same as U201 described on left except printed circuit terminals oriented for perpendicular mounting. The more popular type of mounting.

Contents:

Quantity	Ohms	Quantity	Ohms
10	100	20	25K
5	250	15	50K
15	500	20	100K
25	1000	5	250K
25	2500	10	500K
20	5000	15	1.0 meg.
20	10K		



## Miniature 5/8" diameter Variable Resistors

CTS Series 200

ELS-11 See Page 1238

for details of components

Versatile, miniature-sized carbon composition variable resistors with printed circuit terminals perpendicular to mounting board. Bushing ¼" — 32x¼" long. Shaft ⅛" diameter x 1" long F.M.S.

screwdriver slotted. ¼ watt rating through 100K ohms; 2/10 watt rating above 100K.

Contents:

Quantity	Ohms	Quantity	Ohms
5	1000	10	100K
10	2500*	5	250K
5	5000*	5	500K*
10	5000	5	500K
10	10K	5	1.0 meg.*
5	25K	5	1.0 meg.
5	50K		

\* Audio taper (balance linear taper)



## 15/16" diameter 5 watt Variable Resistors

CTS Type AW — 3" Long Shaft

ELS-12 See Page 1238

for details of components

Compact sized wire wound controls rated at 5 watts @ 25°C. Bushing ⅜" — 32 x ⅜" long. Shaft ¼" diameter x 3" long. Enclosed construction. Linear taper.

Contents:

5 each following values

10Ω	100Ω	2000Ω
20Ω	250Ω	3000Ω
25Ω	500Ω	5000Ω
50Ω	1000Ω	10KΩ



## 15/16" diameter 5 watt Variable Resistors

CTS Type AWRL —  
½" Long Shaft, Locking Bushing

ELS-13

See Page 1238

for details of components

Versatile 5 watt wire wound controls with ⅜" — 32 x ⅜" long locking bushing with ½" long F.M.S. screwdriver slotted shaft. Linear taper. Enclosed construction.

Contents:

Quan.	Ohms	Quan.	Ohms	Quan.	Ohms
5	10	10	100	10	2000
5	15	5	200	5	2500
5	20	5	250	5	3000
5	25	10	500	15	5000
5	50	5	1000	5	10K



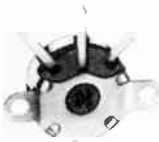
## ¾" diameter 2 watt Variable Resistors

CTS Type 117 — Rivet Ear Mounting

ELS-14 See Page 1237

for details of components

Wire wound trimming potentiometer. Element and rotor insulated from case. Enclosed construction. Linear resistance taper. Cross slot adjustment. Plug-in nylon shaft included.



Contents:

Quan.	Ohms	Quan.	Ohms	Quan.	Ohms
5	5	5	100	5	2500
5	10	5	250	5	5000
5	25	5	500	5	10K
5	50	10	1000	20	Shafts

## ¾" diameter 2 watt Variable Resistors

CTS Type P115 — Twist Tab Mounting

ELS-15

See Page 1237

for details of components

Wire wound trimming potentiometer. Element and rotor insulated from case. Enclosed construction. Linear resistance taper. Cross slot adjustment. Plug-in nylon shaft included.



Contents:

Quan.	Ohms	Quan.	Ohms	Quan.	Ohms
5	5	5	100	10	2500
5	10	10	250	10	5000
5	25	20	500	15	10K
15	50	5	1000	20	Shafts

## Military Miniature ¾ watt Variable Resistors

RV6NAYS — CTS Series 300 —  
½" Diameter

ELS-16

See Page 1240

for details of components

Reliable CTS carbon ceramic resistance element. ¼" — 32 x ¼" long bushing. Slotted shaft ⅛" diameter x ⅞" long F.M.S. Excellent stability. High resolution. Tolerance: ±10% thru 500K ohms; ±20% above 500K ohms.

Contents:

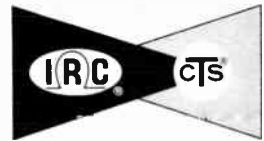
Quantity	Ohms	Quantity	Ohms
3	100	3	25K
3	250	3	50K
3	500	3	100K
3	1000	3	500K
3	2500	3	1.0 meg.
3	5000	3	2.0 meg.
3	10K	3	2.5 meg.



IRC INC. • CONSUMER AND DISTRIBUTOR PRODUCTS DIVISION



# IRC-CTS ENGINEERING LABORATORY STOCKS



## IRC, Inc.

### Military Miniature 3/4 watt Variable Resistors RV6LAYSA — CTS SERIES 300 — LOCKING BUSHING

**ELS-17** See Page 1240 for details of components

Reliable CTS carbon ceramic resistance element. 1/4" — 32 x 1/2" long locking bushing. Slotted shaft 1/8" diameter x 5/8" long F.M.S. High resolution. Tolerance: ±10% thru 1000 500K ohms; ±20% above 500K ohms. Packed in sturdy, steel cabinet with 12 labeled plastic drawers.

Contents: 3 each of following values	
Ohms	Ohms
100	50K
250	100K
500	250K
1000	500K
2500	1.0 meg.
5000	2.0 meg.
10K	2.5 meg.
25K	



TYPICAL CONTROL

### Military 3 watt Variable Resistors RV4NAYSD — CTS SERIES 96/320/321

**ELS-18** See Page 1241 for details of components



TYPICAL CONTROL

Carbon ceramic element. Completely enclosed construction. 1-1/16" diameter. 3/8" — 32 x 3/8" long bushing. Slotted shaft 1/4" diameter x 7/8" long F.M.S. Resistance tolerance: ±10% thru 500K ohms; ±20% 1 megohm and over. Packed in sturdy, steel cabinet with 12 labeled plastic drawers.

Contents: 3 each of following values	
Ohms	Ohms
100	50K
250	100K
500	250K
1000	500K
2500	1.0 meg.
5000	2.5 meg.
10K	5.0 meg.
25K	

### Military 3 watt Variable Resistors RV4LAYSA — CTS SERIES 96/320/321

**ELS-19** See Page 1241 for details of components



TYPICAL CONTROL

Carbon ceramic element. Completely enclosed construction. 1-1/16" diameter. 3/8" — 32 x 1/2" long locking bushing. Slotted shaft 1/4" diameter x 5/8" long F.M.S. Resistance tolerance: ±10% thru 500K ohms; ±20% 1.0 megohm and above. Packed in sturdy, steel cabinet with 12 labeled plastic drawers.

Contents: 3 each of following values	
Ohms	Ohms
100	25K
250	50K
500	100K
1000	250K
2500	500K
5000	1.0 meg.
10K	5.0 meg.

### 1-1/16" diameter 3 watt Variable Resistors RV4NAY — CTS SERIES 96/320/321 — 2" SHAFT

**ELS-20** See Page 1241 for details of components

Reliable carbon ceramic element. Enclosed construction. Military grade control. 3/8" — 32 x 3/8" long bushing. 1/4" diameter full round shaft 2" long F.M.S. Resistance tolerance: ±10% thru 500K ohms; ±20% 1.0 megohm and above. Packed in sturdy, steel cabinet with 12 labeled plastic drawers.

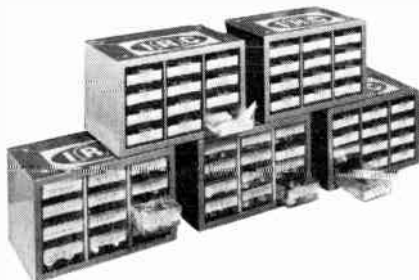
Contents: 3 each of following values	
Ohms	Ohms
250	25K
500	50K
1000	100K
2500	250K
5000	500K
10K	1.0 meg.



TYPICAL CONTROL

**ELS-21**

### Series 45 Model Shop Stock See Pages 1221 and 1222 for component details



TYPICAL CONTROL

This ELS-21 Model Shop Stock provides you with a carefully selected assortment of control components which snap-together to provide an especially wide variety of types, mountings and resistance values of controls or variable resistors. These components are arranged in module-type cabinets in alpha-numerical order.

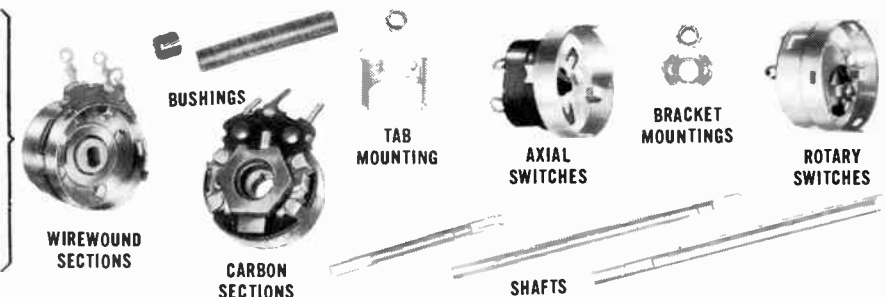
The components included are those which will generally be needed for engineering, laboratory and prototype use. Many additional components are available.

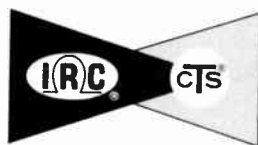
**SNAP-TOGETHER COMPONENTS.** Here is a quick, easy way to fill your engineering and prototype needs for reliable controls, variable resistors and potentiometers. CTS basic Series 45 SNAPROL system, pioneered for practical, dependable replacements for TV, radio and automobile controls, provides snap-together components for literally millions of variations. This ELS-21 Model Shop Stock will assist you in expediting important development projects, giving you a carefully selected assortment of control components which snap-together to provide an especially wide variety of types, mountings and resistance values. Ask for Booklet S-607 for complete details.

### Nearly Endless Combinations of:

- Single section controls
- Tandem dual section controls
- Concentric dual controls
- Combinations of concentric and tandem controls
- Tandem triple controls
- Tandem quadruple controls
- Custom and special controls

FROM THESE BASIC PARTS





# AUTO RADIO BUSHINGS & TAPER CHART

## IRC, Inc.

### EXACT DUPLICATE BUSHINGS FOR AUTO RADIOS

Stock No.	Dimensions	Type
S6	$\frac{3}{16}$ " x $1\frac{15}{16}$ "	Double-flat
S7	$\frac{3}{16}$ " x $1\frac{1}{32}$ "	Double-flat
S8	$\frac{3}{16}$ " x $1\frac{5}{8}$ "	Double-flat
S9	$\frac{3}{16}$ " x $1\frac{7}{8}$ "	Double-flat
S10	$\frac{1}{2}$ " x 0.2"	Single-flat
S11	$\frac{1}{2}$ " x $\frac{3}{16}$ "	Single-flat
S12	$\frac{1}{2}$ " x $1\frac{1}{16}$ "	Single-flat
S13	$\frac{1}{2}$ " x 1"	Single-flat
S14	$\frac{1}{2}$ " x $1\frac{1}{4}$ "	Single-flat
S15	$\frac{1}{2}$ " x $1\frac{1}{2}$ "	Single-flat
S16	$\frac{1}{2}$ " x $1\frac{5}{8}$ "	Single-flat
S17	$\frac{1}{2}$ " x $1\frac{7}{8}$ "	Single-flat
S18	$\frac{1}{2}$ " x 2"	Single-flat
S19	$\frac{1}{2}$ " x $2\frac{1}{8}$ "	Single-flat
S20	$\frac{1}{2}$ " x $2\frac{1}{4}$ "	Single-flat
S21	$\frac{1}{2}$ " x $1\frac{1}{8}$ "	Notched
S22	$\frac{1}{2}$ " x $1\frac{3}{16}$ "	Notched
S23	$\frac{1}{2}$ " x $1\frac{1}{32}$ "	Notched
S24	$\frac{1}{2}$ " x $1\frac{3}{8}$ "	Notched
S25	$\frac{1}{2}$ " x $1\frac{7}{16}$ "	Notched
S26	$\frac{1}{2}$ " x $1\frac{17}{32}$ "	Notched
S27	$\frac{1}{2}$ " x $1\frac{21}{32}$ "	Notched
S28	$\frac{1}{2}$ " x $1\frac{3}{4}$ "	Notched
S29	$\frac{1}{2}$ " x $1\frac{13}{16}$ "	Notched
S30	$\frac{1}{2}$ " x $1\frac{7}{8}$ "	Notched
S31	$\frac{1}{2}$ " x 2"	Notched
S32	$\frac{1}{2}$ " x $2\frac{1}{8}$ "	Notched
S33	$\frac{3}{8}$ " x $\frac{1}{4}$ "	—
S34	$\frac{3}{8}$ " x $\frac{3}{8}$ "	—
S35	$\frac{1}{2}$ " x $1\frac{3}{32}$ "	Single-flat
S36	$\frac{1}{2}$ " x $\frac{5}{8}$ "	Single-flat
S37	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S38	$\frac{1}{2}$ " x $\frac{27}{32}$ "	Single-flat
S39	$\frac{1}{2}$ " x $\frac{3}{4}$ "	Single-flat
S40	$\frac{1}{2}$ " x $1\frac{1}{16}$ "	Single-flat
S41	$\frac{1}{2}$ " x $1\frac{1}{16}$ "	Notched
S42	$\frac{1}{2}$ " x $1\frac{1}{16}$ "	Single-flat
S43	$\frac{1}{2}$ " x $1\frac{1}{8}$ "	Single-flat
S44	$\frac{3}{8}$ " x .590"	—
S45	$\frac{3}{8}$ " x $1\frac{1}{16}$ "	—
S46	$\frac{3}{16}$ " x $\frac{5}{8}$ "	Double-flat
S47	$\frac{3}{16}$ " x $\frac{13}{32}$ "	Double-flat
S48	$\frac{1}{2}$ " x $\frac{5}{16}$ "	Single-flat
S49	$\frac{1}{2}$ " x 1"	Notched
S50	$\frac{1}{2}$ " x $1\frac{11}{16}$ "	Single-flat
S51	$\frac{3}{16}$ " x $1\frac{1}{4}$ "	Double-flat
S52	$\frac{3}{8}$ " x $\frac{7}{8}$ "	—

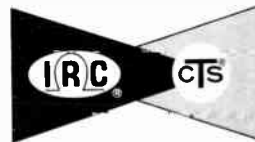
### TAPERS

New numerical taper system assigns specific identification for each Control. Listing below shows new taper number and old taper designation.

NEW TAPER DESIGNATION	OLD TAPER DESIGNATION	USE
1, 2	A	For potentiometer or rheostat where uniform resistance change is required.
3, 23, 45	B, C	Left-hand logarithmic taper for audio circuit control.
4, 5,	D, Q, P	Right-hand semi-logarithmic taper for use in audio circuit controls, contrast, and picture control circuits in television. Taper 4 is also used for stereo tone and balance control.
6	S	Bass and treble tone control. Open circuited at mid-point.
7, 39, 41	S	Bass and treble tone control. Open circuited at mid-point.
8, 9, 20, 38	S	Tapped right-hand taper for contrast and picture control circuits in television.
10, 25, 27, 29	S	Tapped left-hand taper for contrast and picture control circuits in television. Also used for audio compensation.
11, 22, 24, 26, 30, 31, 37, 40, 44, 47	H, S	Tapped left-hand logarithmic taper for audio level control for treble, bass, or audio compensation.
12	S	Left-hand taper tapped at 50% of total resistance for audio compensation.
13	S	Left-hand taper tapped at 10% of total resistance for audio compensation, for transistor circuits.
14, 21, 28	S	Right-hand logarithmic taper tapped for contrast and picture control circuits in television.
15, 16, 17, 18, 19, 35, 36, 43, 46, 49, 50	S	Left-hand logarithmic taper with double taps for tone and loudness compensation.
32	S	Fader and balance controls.
33	S	Left-hand taper with two taps for contrast and picture control circuits in television.
34, 48	S	Right-hand taper with two taps for contrast and picture control circuits in television.
—	L	Left-hand taper for use in focus circuits in television.
—	R	Right-hand logarithmic taper for use in contrast and picture control circuits in television.
—	S	Tapped right-hand taper for contrast and picture control circuits in television.
—	U	For potentiometer or rheostat where uniform resistance change is required.

# IRC-CTS CONCENTRIKIT<sup>®</sup>

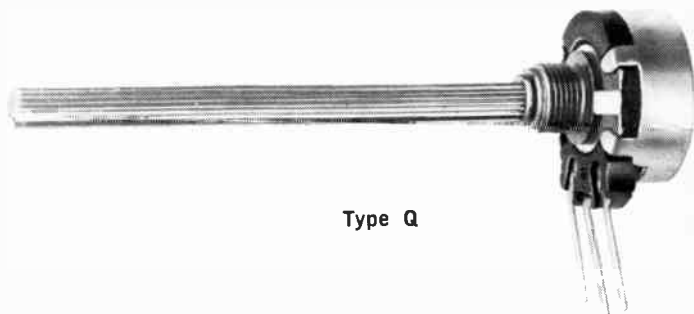
## TYPE Q



### IRC, Inc.

### IRC-CTS TYPE Q CONTROLS AND BASE ELEMENTS

Type Q Replacement Controls and the versatile Type Q Base-Element provide the broadest selection of resistance values and tapers. Type Q is equipped with 3" long Knobmaster Shaft—flatted, grooved and knurled for universal knob fit. Bushing  $\frac{3}{8}$ —32 by  $\frac{1}{4}$ " long FMS. Stock numbers in parentheses ( ) may be assembled with Base-Element indicated and SK1 Kit. PPQ items may be assembled with Base-Element listed and either SK7 or SK8 as required.



Type Q

## LISTING BY RESISTANCE VALUE

OHMS	TAP	TAPER*	Q CONTROL STOCK NO.**	Q BASE-ELEMENT STOCK NO.
100	—	1 (A)	(Q11-084)	B11-084
250	—	2 (A)	Q11-201	B11-201
300	—	1 (A)	(Q11-102)	B11-102
500	—	1 (A)	Q11-103	B11-103
500	—	5 (P)	(Q17-103)	B17-103
500	60	14 (S)	(Q17-103X)	B17-103X
750	—	1 (A)	Q11-105	B11-105
750	—	5 (P)	(Q17-105)	B17-105
750	250	8 (S)	Q17-105X	B17-105X
1000	—	2 (A)	Q11-108	B11-108
1000	—	5 (P)	(Q17-108)	B17-108
1000	150	20 (S)	(Q17-108X)	B17-108X
1200	—	4 (Q)	(Q17-208)	B17-208
1500	—	2 (A)	Q11-109	B11-109
1500	—	4 (Q)	(Q17-109)	B17-109
1500	180	27 (S)	(Q15-109X)	B15-109X
1500	185 & 375	34 (S)	(Q17-109XX)	B17-109XX
2000	—	2 (A)	Q11-110	B11-110
2000	—	4 (Q)	(Q17-110)	B17-110
2000	550	38 (S)	(Q17-110X)	B17-110X
2000	250 & 500	34 (S)	Q17-110XX	B17-110XX
2500	—	2 (A)	(Q11-111)	B11-111
2500	—	3 (C)	Q13-111	B13-111
2500	—	4 (Q)	Q17-111	B17-111
2500	250	13 (S)	(Q15-111X)	B15-111X
2500	500	21 (S)	(Q17-111X)	B17-111X
2500	625	28 (S)	(Q27-111X)	B27-111X
3000	—	2 (A)	Q11-112	B11-112
3000	—	4 (Q)	Q17-112	B17-112
3000	150	9 (S)	(Q17-112X)	B17-112X
5000	—	2 (A)	Q11-114	B11-114
5000	—	3 (C)	Q13-114	B13-114
5000	—	4 (Q)	Q17-114	B17-114
5000	500	13 (S)	(Q15-114X)	B15-114X
5000	1000	21 (S)	(Q17-114X)	B17-114X
7500	—	2 (A)	Q11-115	B11-115
7500	3750	12	(Q21-115X)	B21-115X
10 K	—	2 (A)	Q11-116***	B11-116
10 K	—	3 (C)	Q13-116	B13-116
10 K	—	23 (D)	Q14-116***	B14-116
10 K	—	4 (Q)	(Q17-116)	B17-116
10 K	300	22 (S)	(Q15-116X)	B15-116X
10 K	5000	12	(Q19-116X)	B19-116X

## LISTING BY RESISTANCE VALUE

OHMS	TAP	TAPER*	Q CONTROL STOCK NO.**	Q BASE-ELEMENT STOCK NO.
11.5 K	—	5 (Q)	(Q17-117)	B17-117
15 K	—	2 (A)	(Q11-118)	B11-118
15 K	5000	29 (S)	Q17-118X	B17-118X
15 K	10 K	8 (S)	(Q13-118X)	B13-118X
15 K	5000 & 10 K	33 (S)	(Q13-118XX)	B13-118XX
15 K	5000 & 10 K	48 (S)	Q17-118XX	B17-118XX
20 K	—	24(A)	Q11-119	B11-119
20 K	—	4 (Q)	(Q17-119)	B17-119
20 K	—	45 (S)	Q16-119***	B16-119
20 K	6000	11	(Q19-119X)	B19-119X
25 K	—	2 (A)	Q11-120	B11-120
25 K	—	3 (C)	Q13-120	B13-120
25 K	—	23 (D)	Q14-120	B14-120
25 K	—	4 (Q)	(Q17-120)	B17-120
30 K	—	2 (A)	(Q11-121)	B11-121
30 K	10 K	8 (S)	(Q20-121X)	B20-121X
35 K	—	2 (A)	(Q11-122)	B11-122
50 K	—	2 (A)	Q11-123	B11-123
50 K	—	3 (C)	Q13-123	B13-123
50 K	—	23 (D)	Q14-123***	B14-123
50 K	—	4 (Q)	(Q17-123)	B17-123
75 K	—	2 (A)	Q11-125	B11-125
100 K	—	2 (A)	Q11-128	B11-128
100 K	—	3 (C)	Q13-128	B13-128
100 K	—	4 (Q)	(Q17-128)	B17-128
125 K	—	2 (A)	Q11-228	B11-228
150 K	—	2 (A)	Q11-328	B11-328
150 K	—	3 (C)	(Q13-328)	B13-328
150 K	19 K & 38 K	34 (S)	Q17-328XX	B17-328XX
200 K	—	2 (A)	Q11-129	B11-129
200 K	—	4 (Q)	(Q17-129)	B17-129
250 K	—	2 (A)	Q11-130	B11-130
250 K	—	3 (C)	Q13-130*	B13-130
250 K	60 K	44 (H)	Q18-130X	B18-130X
250 K	125 K	12 (S)	(Q13-130X)	B13-130X
250 K	60 K & 120 K	46 (S)	Q18-130XX	B18-130XX
300 K	—	2 (A)	(Q11-131)	B11-131
350 K	—	2 (A)	(Q11-132)	B11-132
350 K	—	3 (C)	Q13-132	B13-132
350 K	35 K	13 (S)	Q17-132X	B17-132X
350 K	75 K	30 (H)	Q18-132X	B18-132X
400 K	—	2 (A)	(Q11-232)	B11-232

\* Taper listing shows both new (numerical) Taper and old (alphabetical) Taper. See Taper explanation chart, page 1226

\*\* Stock numbers listed in parentheses ( ) are not available as factory-assembled controls. Use Q Base-Element shown with SK1 Kit for field assembly of such items.

\*\*\* Supplied with 270Ω bias resistor.

LISTING CONTINUED ON NEXT PAGE



# IRC-CTS CONCENTRIKIT<sup>®</sup> TYPE Q

IRC, Inc.



PLAIN BASE ELEMENT



SINGLE TAPPED  
BASE ELEMENT



DOUBLE TAPPED  
BASE ELEMENT

LISTING BY RESISTANCE VALUE

OHMS	TAP	TAPER*	Q CONTROL STOCK NO.**	Q BASE-ELEMENT STOCK NO.
500 K	—	2 (A)	Q11-133	B11-133
500 K	—	3 (C)	Q13-133	B13-133
500 K	—	23 (D)	Q14-133	B14-133
500 K	—	4 (Q)	Q17-133	B17-133
500 K	25 K	40 (S)	Q17-133X	B17-133X
500 K	50 K	13 (S)	Q18-133X	B18-133X
500 K	75 K	24 (S)	(Q15-133X)	B15-133X
500 K	125 K	44 (H)	Q13-133X	B13-133X
500 K	180 K	31 (S)	(Q20-133X)	B20-133X
500 K	250 K	12 (S)	Q19-133X	B19-133X
500 K	100 K & 200 K	35 (S)	Q18-133XX	B18-133XX
500 K	167 K & 330 K	17 (S)	(Q20-133XX)	B20-133XX
600 K	—	2 (A)	Q11-134	B11-134
750 K	—	2 (A)	(Q11-136)	B11-136
1.0 M	—	2 (A)	Q11-137	B11-137
1.0 M	—	3 (C)	Q13-137	B13-137
1.0 M	—	23 (D)	(Q14-137)	B14-137
1.0 M	—	4 (Q)	(Q17-137)	B17-137
1.0 M	35 K	22 (S)	Q17-137X	B17-137X
1.0 M	100 K	13 (S)	Q18-137X	B18-137X
1.0 M	250 K	44 (H)	Q13-137X	B13-137X
1.0 M	500 K	12 (S)	(Q19-137X)	B19-137X
1.0 M	500 K	32 (S)	QVC-539X	BVC-539X
1.0 M	50 K & 100 K	36 (S)	Q17-137XX	B17-137XX
1.0 M	250 K & 500 K	18 (S)	(Q18-137XX)	B18-137XX
1.25 M	—	4 (Q)	(Q17-237)	B17-237
1.25 M	750 K	10 (S)	(Q18-237X)	B18-237X
1.5 M	—	2 (A)	Q11-138	B11-138
1.5 M	—	3 (C)	(Q13-138)	B13-138
1.5 M	—	4 (Q)	(Q17-138)	B17-138
1.5 M	250 K	26 (S)	(Q13-138X)	B13-138X
2.0 M	—	2 (A)	Q11-139	B11-139
2.0 M	—	3 (C)	Q13-139	B13-139
2.0 M	—	4 (Q)	(Q17-139)	B17-139
2.0 M	50 K	22 (S)	Q19-139X	B19-139X
2.0 M	150 K	37 (S)	Q17-139X	B17-139X
2.0 M	500 K	44 (H)	Q13-139X	B13-139X
2.0 M	1.0 M	12 (S)	Q18-139X	B18-139X
2.0 M	250 K & 500 K	43 (S)	Q18-139XX	B18-139XX
2.0 M	500 K & 1.0 M	18 (S)	(Q13-139XX)	B13-139XX
2.5 M	—	2 (A)	Q11-239	B11-239
2.5 M	—	4 (Q)	(Q17-239)	B17-239
3.0 M	—	2 (A)	Q11-140	B11-140

LISTING BY RESISTANCE VALUE

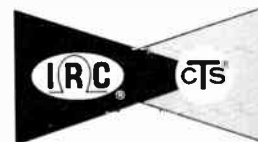
OHMS	TAP	TAPER*	Q CONTROL STOCK NO.**	Q BASE-ELEMENT STOCK NO.
3.0 M	—	3 (C)	Q13-140	B13-140
3.0 M	—	4 (Q)	Q17-140	B17-140
3.0 M	900 K	47 (S)	Q13-140X	B13-140X
3.0 M	1.5 M	12 (S)	Q18-140X	B18-140X
4.0 M	—	2 (A)	(Q11-240)	B11-240
4.0 M	open at 25 K	39 (S)	(Q-12-240)	B12-240
5.0 M	—	2 (A)	Q11-141	B11-141
5.0 M	—	6 (S)	Q12-141	B12-141
5.0 M	—	3 (C)	(Q13-141)	B13-141
5.0 M	—	4 (Q)	(Q17-141)	B17-141
5.0 M	—	7 (S)	(Q12-241)	B12-241
5.0 M	open at 500 K	41 (S)	(Q12-341)	B12-341
5.0 M	1.0 M	30 (S)	(Q13-141X)	B13-141X
5.0 M	2.5 M	12 (S)	(Q18-141X)	B18-141X
7.5 M	—	2 (A)	Q11-142	B11-142
10.0 M	—	2 (A)	Q11-143	B11-143

FACTORY-ASSEMBLED TYPE Q CONTROL  
WITH PULL-PUSH SWITCH

OHMS	TAP	TAPER*	Q CONTROL STOCK NO.	Q BASE-ELEMENT STOCK NO.
500	—	2 (A)	PPQ11-103-SK7	B11-103
200 K	—	2 (A)	PPQ11-129-SK7	B11-129
250 K	—	3 (C)	PPQ13-130-SK7	B13-130
500 K	—	3 (C)	PPQ13-133-SK7	B13-133
500 K	125 K	44 (H)	PPQ13-133X-SK8	B13-133X
1.0 M	—	2 (A)	PPQ11-137-SK7	B11-137
1.0 M	—	2 (A)	PPQ11-137-SK8	B11-137
1.0 M	—	3 (C)	PPQ13-137-SK7	B13-137
1.0 M	—	3 (C)	PPQ13-137-SK8	B13-137
1.0 M	100 K	13 (S)	PPQ18-137X-SK8	B18-137X
1.0 M	250 K	44 (H)	PPQ13-137X-SK7	B13-137X
1.0 M	250 K	44 (H)	PPQ13-137X-SK8	B13-137X
1.0 M	500 K	12 (S)	PPQ19-137X-SK8	B19-137X
2.0 M	—	3 (C)	PPQ13-139-SK8	B13-139
2.0 M	1.0 M	12 (S)	PPQ18-139X-SK7	B18-139X
2.0 M	1.0 M	12 (S)	PPQ18-139X-SK8	B18-139X
3.0 M	1.5 M	12 (S)	PPQ18-140X-SK8	B18-140X

\* Taper listing shows both new (numerical) Taper and old (alphabetical) Taper. See Taper explanation chart, page 1226  
 \*\* Stock numbers listed in parentheses ( ) are not available as factory-assembled controls. Use Q Base-Element shown with SK1 Kit for field assembly of such items.

# IRC-CTS TYPE 4W CONTROLS AND BASE ELEMENTS

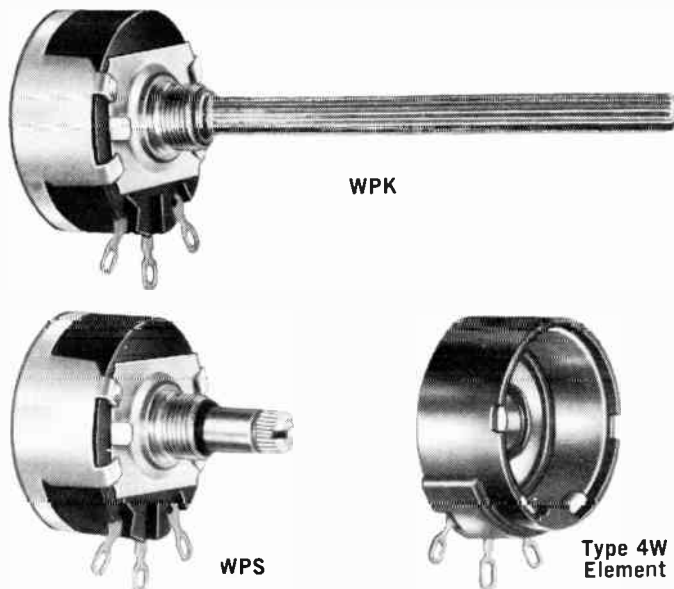


IRC, Inc.

Types WPK and WPS are compact, 1¼" diameter wire wound controls available for replacement use in two popular shaft styles and an extensive variety of resistance values and tapers. Many stock numbers can be supplied as factory-assembled units. All stock numbers may be assembled in field using Base-Element with SK4 or SK5 Kit as desired.

Resistance elements are uniformly wound with highest grade alloy resistance wire on special form that withstands high temperature without shrinking. Pressure molded plastic housing is designed for maximum heat dissipation and accurate location of terminals. Contactor and collector are of long-wearing alloy that makes direct contact.

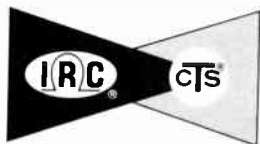
Resistance tolerance is  $\pm 10\%$ .



LISTING BY RESISTANCE VALUE					
OHMS	TAP	TYPE WPK TAPER STOCK NO.*		TYPE WPS STOCK NO.*	4W BASE- ELEMENT STOCK NO.
10	—	U	WPK10	(WPS10)	W11-010
10	5	U	(WPK10X5)	WPS10X5	W11-010X
15	7.5	U	(WPK15X7.5)	WPS15X7.5	W11-015X
20	—	U	WPK20	(WPS20)	W11-020
20	10	U	(WPK20X10)	WPS20X10	W11-020X
25	—	U	(WPK25)	WPS25	W11-025
25	12.5	U	(WPK25X12.5)	WPS25X12.5	W11-025X
30	—	U	WPK30	(WPS30)	W11-030
30	15	U	(WPK30X15)	(WPS30X15)	W11-030X
40	—	U	(WPK40)	(WPS40)	W11-040
40	20	U	(WPK40X20)	WPS40X20	W11-040X
50	—	U	WPK50	(WPS50)	W11-050
50	25	U	(WPK50X25)	(WPS50X25)	W11-050X
60	—	U	(WPK60)	WPS60	W11-060
80	40	U	(WPK80X40)	WPS80X40	W11-080X
100	—	U	WPK100	(WPS100)	W11-084
100	50	U	(WPK100X50)	WPS100X50	W11-084X
140	70	U	(WPK140X70)	(WPS140X70)	W11-092X
150	75	U	(WPK150X75)	WPS150X75	W11-094X
200	—	U	WPK200	(WPS200)	W11-100
200	100	U	(WPK200X100)	WPS200X100	W11-100X
250	—	U	WPK250	WPS250	W11-201
300	—	U	WPK300	(WPS300)	W11-102
400	—	U	WPK400	(WPS400)	W11-202
500	—	U	WPK500	WPS500	W11-103
500	—	L	(WPK500L)	(WPS500L)	W13-103
600	—	U	WPK600	(WPS600)	W11-104
650	—	U	WPK650	(WPS650)	W11-204
750	—	U	WPK750	(WPS750)	W11-105
750	—	L	(WPK750L)	(WPS750L)	W13-105
750	—	R	(WP750R)	(WPS750R)	W17-105
750	250	S	(WPK750X250)	(WPS750X250)	W17-105X

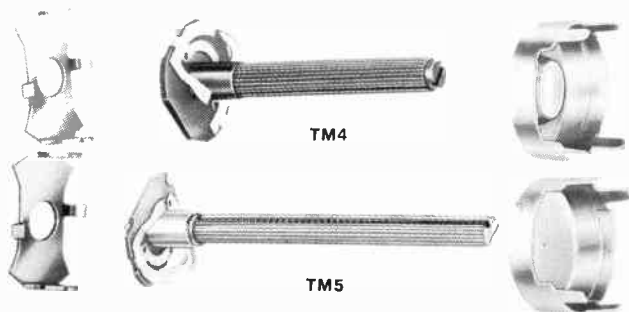
LISTING BY RESISTANCE VALUE					
OHMS	TAP	TYPE WPK TAPER STOCK NO.*		TYPE WPS STOCK NO.	4W BASE- ELEMENT STOCK NO.
1000	—	U	WPK1000	WPS1000	W11-108
1350	—	U	(WPK1350)	(WPS1350)	W11-308
1350	—	R	WPK1350R	(WPS1350R)	W17-308
1500	—	U	WPK1500	(WPS1500)	W11-109
1500	—	L	(WPK1500L)	(WPS1500L)	W13-109
1500	500	S	(WPK1500X500)	(WPS1500X500)	W17-109X
2000	—	U	WPK2000	WPS2000	W11-110
2000	—	L	WPK2000L	(WPS2000L)	W13-110
2250	—	U	(WPK2250)	WPS2250	W11-210
2250	—	L	WPK2250L	(WPS2250L)	W13-210
2500	—	U	WPK2500	WPS2500	W11-111
2500	—	R	WPK2500R	(WPS2500R)	W17-111
3000	—	U	WPK3000	WPS3000	W11-112
3000	—	R	(WPK3000R)	(WPS3000R)	W17-112
3300	—	L	(WPK3300L)	(WPS3300L)	W13-212
4000	—	U	(WPK4000)	WPS4000	W11-113
4000	—	L	(WPK4000L)	WPS4000L	W13-113
5000	—	U	WPK5000	WPS5000	W11-114
5000	—	L	WPK5000L	(WPS5000L)	W13-114
5000	—	R	(WPK5000R)	(WPS5000R)	W17-114
6000	—	U	(WPK6000)	(WPS6000)	W11-214
6000	—	L	WPK6000L	(WPS6000L)	W13-214
7500	—	U	WPK7500	(WPS7500)	W11-115
7500	—	L	WPK7500L	(WPS7500L)	W13-115
10 K	—	U	WPK10000	WPS10000	W11-116
12.5 K	—	U	(WPK12500)	(WPS12500)	W11-217
15 K	—	U	WPK15000	(WPS15000)	W11-118
20 K	—	U	(WPK20000)	(WPS20000)	W11-119
25 K	—	U	WPK25000	(WPS25000)	W11-120
30 K	—	U	WPK30000	(WPS30000)	W11-121
40 K	—	U	WPK40000	(WPS40000)	W11-222
50 K	—	U	WPK50000	(WPS50000)	W11-123

\* Stock numbers listed in parentheses ( ) are not available as factory-assembled controls. Use 4W Base-Element shown with SK4 Kit (for WPK) or SK5 Kit (for WPS). See Taper explanation chart, page 1226.



# IRC-CTS CONCENTRIKIT® TYPE Q & 4W PARTS

IRC, Inc.



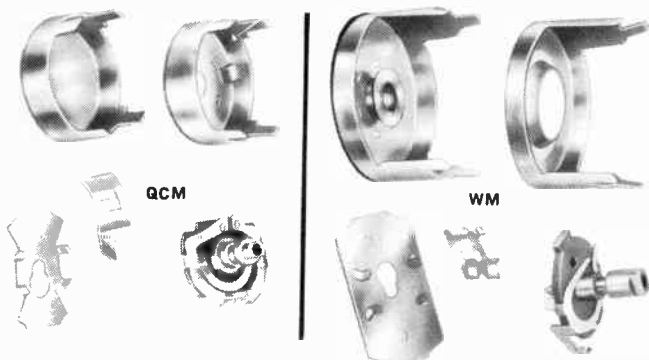
TM4

TM5

## SHAFT KITS FOR TAB-MOUNTED CONTROLS

Similar to SK Kits, the TM series provide tab-mounting plate instead of bushing. Metal-cased 76-1, 76-2 and 76-4 may be used with this series. Kits include shaft, tab-mount plate and cover.

Stock No.	Description
TM1	1/4" diameter shaft, 1/4" long FMS. Screwdriver slot and short knurl.
TM2	1/4" diameter shaft, 5/8" long FMS. Screwdriver slot and short knurl.
TM3	1/4" diameter shaft, 1" long FMS. Screwdriver slot and short knurl.
TM4	1/4" diameter insulated shaft, 1 1/2" long FMS. Slotted and knurled full length. Not used with switches.
TM5	Knobmaster shaft, 2" long FMS. Knurled, grooved and flatted.
TM6	Special rounded and slotted shaft for G.E. 3/32" long FMS.
TM7	Special rounded and slotted shaft for G.E. 1/32" long FMS.
TM8	3/16" diameter shaft 2" long FMS. Flatted and grooved.
TM9	Reverse tab mount kit nylon shaft, 1 1/2" FMS. 1/4" dia., slotted and knurled.
TM10	Tab mount kit nylon shaft, 1 1/2" FMS. 3/16" dia., flatted full length.



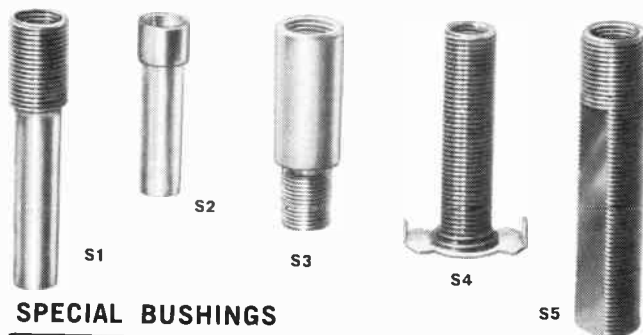
QCM

WM

## MULTISECTION KITS

These kits provide parts needed to assemble desired Base-Element into a Multisection or rear control section. Permits assembly of dual, triple or quadruple section controls. Each kit contains internal shaft contactor assembly, front and rear covers, coupling plate and section coupler. Close-coupled construction provides minimum depth behind panel.

Stock No.	Description
QCM	Multisection Kit for Type Q. Specially designed for critical requirements of stereo controls. Will operate rotary power switches.
WM	Multisection Kit for Type 4W. Will not operate power switches.



S1

S2

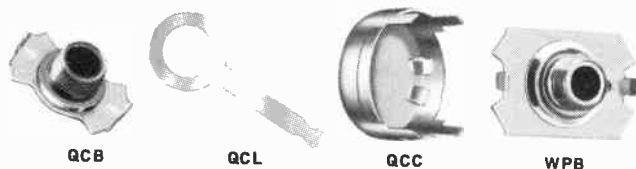
S3

S4

S5

## SPECIAL BUSHINGS

Stock No.	Description
S1	Sleeve Bushing—attaches to 3/8"—32 Bushing.
S2	Bearing Bushing—attaches to 3/8"—32 Bushing.
S3	Spacer Bushing—attaches to 3/8"—32 Bushing. Sets control 1" behind panel.
S4	Universal 3/16" diameter Bushing—Type Q only. 1 1/2" FMS.
S5	Universal 1/2" diameter Bushing—attaches to 3/8"—32 Bushing. 2 1/4" FMS.



QCB

QCL

QCC

WPB

## Q/4W CONTROL PARTS

These parts facilitate assembly of many varied controls using desired shafts and base elements.

Stock No.	Description
QCB	Type Q Bushing. 3/8"—32 thread. 1/4" long FMS. For single controls.
QCB-1	Type Q Bushing. 3/8"—32 thread. 3/8" long FMS. For single controls.
QCB-2	Type Q Bushing. 3/8"—32 thread. 1/2" long FMS. For single controls.
QCB-3	Type Q Locking Bushing. 3/8"—32 thread. 3/8" FMS.
QCB-4	Type Q Bushing. 3/8"—32 thread. 1 3/4" FMS. For single controls.
QCB-5A	Type Q Bushing. 3/8"—32 thread. 2" FMS. For concentric dual controls.
QCB-6	Universal 3/16" Diameter Bushing. 1" FMS, attaches to 3/8"—32 Bushings. Can be used as L and T Pad Bushing extender.
QCC	Type Q Cover. For plain or tapped controls.
QCL	Grounding Lug for 3/8"—32 Bushing. Lug length 1 3/4" from hole center.
QCN	Mounting Nut for 3/8"—32 thread.
QCP	Printed circuit bracket w/nut.
WPB	Type 4W Bushing. 3/8"—32 thread. 1/4" long FMS.
WPC	Type 4W Cover.



442

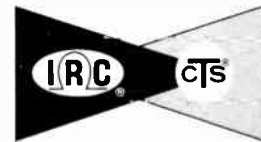
C3

## EXTENSION SHAFTS & COUPLERS

Stock No.	Description
441	Extension Shaft—4" x 1/4" with 1/32" flat.
442	Extension Shaft—4" x 1/4" with 3/32" flat.
443	Extension Shaft—4" x 3/8" with 1/4" flat.
444	Extension Shaft—8" x 1/4" with 3/32" flat for 4".
C3	Shaft Coupler—couples 1/4" shafts; insert allows coupling of 1/4" shaft to 3/16" shaft.

# IRC-CTS CONCENTRIKIT<sup>®</sup>

## TYPE Q & 4W PARTS



IRC, Inc.



R7



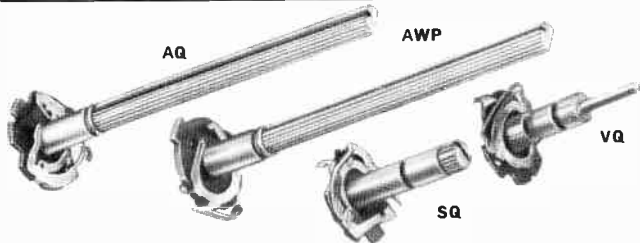
N



KA1

### HARDWARE FOR CONCENTRIKIT<sup>®</sup>

Stock No.	Description
KA1	Knob Adapter. Fits rear section shaft to knob requirements of over-size shaft. Converts .187" diameter shaft to .202" diameter.
N1	Mounting Nut for 3/16" Bushings (5/8" across flats).
N2	Mounting Nut for 1/2" Bushings (5/8" across flats).
N3	Mounting Nut for 1/2" Bushings (3/4" across flats).
N4	Mounting Nut for 3/16" Bushings (1/2" across flats).
R2	Concentrikit.
R3	Q Concentric Duals.
R4	WP Concentric Duals.
R5	Ground Plate Tab Concentric Dual.
R6	Retainers as supplied in K16, K17 and K18 Kits.
R7	Shaft retainer for 1/4" diameter shafts. Replaces R1.



### SINGLE CONTROL SHAFTS

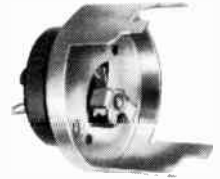
Using control parts listed on the previous page, these shafts will assemble many variations of Types Q and 4W controls. Individually boxed with R7 retainer (except TQ).

Stock No.	Description
AQ	Knobmaster shaft, 1/4" diameter, 3" long FMS. Flatted, grooved and knurled full length. Fits knobs requiring flatted or knurled shaft. Uses QCB Bushing. For Type Q.
AQ-5	Same as AQ but 5" long FMS. For Type Q. (Bushing included.)
AWP	Same as AQ but for Type WPK control.
AWP-5	Same as AWP but 5" long FMS.
JQ	1/8" diameter shaft, 4 1/8" long FMS. Flatted .105" full length. Uses QCB Bushing. For Type Q.
NQ	3/16" diameter shaft, 4" long FMS. Flatted and grooved full length. Uses QCB Bushing. For Type Q.
PQ	1/4" diameter shaft, 3" long FMS. Full round. May be used with 1/4" or 3/8" long bushings. (3/8" long bushing included.) For Type Q.
PWP	Same as PQ but for Type WP control.
RQ	1/4" diameter shaft, 1/2" long FMS. Screwdriver slotted. Used with 3/8" long bushing only (included). For Type RQ.
SQ	1/4" diameter shaft, 3/4" long FMS. Screwdriver slotted with short knurl. Uses QCB Bushing. For Type Q.
SWP	Same as SQ but for Type WPS. Uses WPB Bushing.
TQ	1/4" diameter shaft, 3" long FMS. Insulated, full round. Cannot be used with switch. Uses QCB, QCB-1, QCB-2. For Type Q.
VQ	1/4" diameter shaft, 1 1/8" long FMS. Tongued end 3/16" wide by 3/16" long by .050" thick. Uses QCB Bushing. For Type Q.
WQ	1/4" diameter shaft, 1" long FMS. Tongued end 1/4" wide by 1/2" long by .062" thick. Uses QCB Bushing. For Type Q.

76-1



76-11



### POWER SWITCHES

Easily attached to Type Q or Type 4W controls. Stock No. 76-5 supplied for replacement only. For attachment of this pull-push switch to controls, use SK7 or SK8 Kit below with desired Base-Element.

Stock No.	Description
76-1	S.P.S.T.—Rotary type for Type Q.
76-2	D.P.S.T.—Rotary type for Type Q
76-4	S.P.D.T.—Rotary type for Type Q. Used also as "make-one, break-one" for spot-killer switch in TV.
76-5	S.P.S.T.—Pull-push type for Type Q.
76-11	S.P.S.T.—Rotary type for Types WP, WPK, WPRL, WPS.
76-12	D.P.S.T.—Rotary type for Types WP, WPK, WPRL, WPS.



SK-6



SK-7

### SHAFT KITS FOR BUSHING MOUNTED CONTROLS

Package of parts for assembly of specific standard or special control type. Includes shaft, bushing and cover. Add desired Base-Element.

Stock No.	Description
SK1	Assembles Q Control with Knobmaster Shaft.
SK2	Assembles Q Control with RQ Shaft.
SK3	Assembles Q Control with SQ Shaft.
SK4	Assembles WPK Control.
SK5	Assembles WPS Control.
SK6	Assembles Q Control with Insulated Shaft.
SK7	Assembles Q Control with Knobmaster Shaft and 76-5 Pull-push Switch (Switch included). Shaft is 3" FMS.
SK8	Assembles Q Control with 3/16" diameter universal shaft and 76-5 Pull-push Switch (Switch included). Shaft is 3 1/2" FMS.
SK9	Assembles Q Control with 3/16" diameter universal shaft. 3 1/2" FMS.



IRC, Inc.

# IRC-CTS CONCENTRIKIT® FOR CONCENTRIC DUALS

## CONCENTRIKITS® FOR CONCENTRIC DUALS

Broadest replacement coverage of concentric dual controls for TV, radio and auto sets is provided by CONCENTRIKIT®—the unique control parts system. Wide selection of exact duplicate shafts and bushings eliminates cutting, filing and slotting. The CONCENTRIKITS® are packaged groups of parts common to specific control types. Base-Elements are listed on pages 1227, 1228 and 1229. Specifications for over 2300 Exact Duplicate Controls included in Howard W. Sams "REPLACEMENT GUIDE FOR TV AND AUTO RADIO CONTROLS."

### TONE SWITCHES

Special tone switch Base-Elements for use in panel section of auto radio controls. Packed with detent-type panel cover.

Stock No.	Description
BS1	4 Position Tone Switch for Ford.
BS2	4 Position Tone Switch for Delco.
BS3	3 Position Tone Switch for Philco.
BS4	4 Position Tone Switch for Delco.
BS5	4 Position Tone Switch for Lincoln and Mercury.

### CONCENTRIKITS®

Common parts for various types of concentric dual controls. Used with specific exact duplicate shafts and Base-Elements as specified in Howard W. Sams Replacement Control Guide, RGC.



K-2



K-16

Concentrikit	Panel Section	Rear Section	Bushing Size
K2*	C	C	3/8" x 3/8"
K3	W	C	3/8" x 3/8"
K4*	C	C	3/8" x 3/4"
K5*	C	C	3/8" x 1/4"
K6	C	C	3/8" x 3/8"
K7	C	C	3/8" x 3/4"
K8	C	C	None
K9	TS	C	None
K10	W	W	3/8" x 3/8"
K11	W	C	3/8" x 1/4"
K12	C	W	3/8" x 3/8"
K13	W	W	3/8" x 1/4"
K14	W	W	3/8" x 3/4"
K15	C	C	3/8" x 1/4"
K16**	C	C	3/8" x 3/8"
K17**	C	C	3/8" x 3/4"
K18**	C	C	3/8" x 1/4"

\* Spaced construction. All others close-coupled.

\*\* 76-5 Pull-push Switch included.

C—Carbon. W—Wire. TS—Tone Switch.

## EXACT DUPLICATE SHAFTS

### OUTER SHAFT SPECIFICATIONS

Shaft Type	Slot Width-Depth	Flat Length	Base-Element
P1**	1/8" x 3/8"	17/32"	Q
P2**	1/8" x 1/2"	17/32"	Q
P3	1/8" x 3/8"	17/32"	W
P4	1/8" x 3/8"	3/4"	W
P5	1/8" x 3/8"	17/32"	W
P6**	1/8" x 3/8"	17/32"	Q
P7**	.120" x 3/8"	17/32"	Q
P8	*	*	W
P9**	*	*	Q
P10**	1/8" x 3/16"	17/32"	Q
P11**	3/64" x 1/16"	—	Q
P12**	1/8" x 3/16"	—	Q
P13	1/8" x 1/4"	—	Q
P14	1/8" x 3/16"	—	Q
P15	1/8" x 1/4"	—	TS
P16	.132" x 3/16"	—	Q
P17	1/8" x 3/8"	5/8"	Q
P18	3/64" x 1/16"	—	Q
P19	3/64" x 1/16"	—	W
P20	*	*	Q
P21	1/8" x 3/16"	5/8"	Q
P22	1/8" x 1/2"	7/8"	Q
P23	1/8" x 19/32"	—	Q
P24***	—	17/32"	Q
P25***	—	17/32"	Q

\* Knurled Band 1/8" wide.

\*\* Spaced construction. All others close-coupled.

\*\*\* .250" diameter.

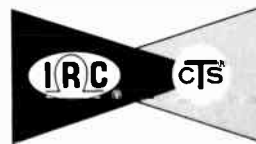
### INNER SHAFT SPECIFICATIONS

Shaft Type	Dia.	Slot Width-Depth	Flat Length	Base-Element
R1	.187"	1/16" x 1/2"	1/2"	Q
R2	.202"	1/16" x 1/2"	1/2"	Q
R3	.190"	Split Knurl	—	Q
R4	.180"	Round and Slotted	—	Q
R5	.187"	Rear Extension	—	Q
R6	.202"	Rear Extension	—	Q
R7	.189"	Split Knurl	—	Q
R8	.187"	1/16" x 1/2"	1/2"	W
R9	.187"	1/16" x 1/2"	5/8"	Q
R10	.187"	1/8" Wide Knurl	—	W
R11	.187"	1/8" Wide Knurl	—	Q
R12	.202"	3/32" Wide Knurl	—	Q
R13	.180"	5/8" Deep Slot	—	Q
R14	.202"	1/16" x 1/2"	5/8"	Q
R15	.202"	3/64" x 1/16"	—	Q
R16	.187"	1/16" x 1/2"	25/32"	Q
R17	.202"	1/16" x 1/2"	17/16"	Q
R18	.202"	1/16" x 1/2"	1/2"	W
R19	.202"	3/64" x 1/16"	—	W
R20	.187"	3/64" x 1/16"	—	Q
R21	.180"	1/16" x 5/8"	—	Q
R22	.202"	Rear Extension	—	W
R23*	.187"	—	17/32"	Q
R24*	.187"	1/16" x 1/2"	—	Q
R25*	.187"	—	1/2"	Q
R26	.187"	1/16" x 5/8"	25/32"	Q

\* Used with Pull-push Switch.



# IRC-CTS CONCENTRIKIT<sup>®</sup> EXACT DUPLICATE SHAFT SPECIFICATIONS

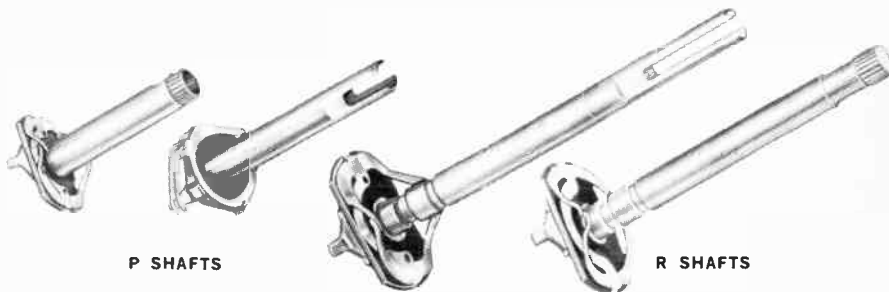


IRC, Inc.

### EXACT DUPLICATE SHAFTS

Stock numbers and corresponding lengths are listed on these pages. In general, the last three numbers of the stock number indicates shaft length from control mounting face (not end of bushing) to end of shaft. Of the last three numbers, the first indicates number of inches and the second and third number indicates the number of 32nds. For Stock No. P1-210, length is 2<sup>10</sup>/<sub>32</sub>" or 2<sup>5</sup>/<sub>16</sub>". For inner shafts employed with K3 CONCENTRIKIT, subtract <sup>1</sup>/<sub>32</sub>" from dimension indicated by stock number.

There is an IRC-CTS Exact Duplicate Shaft available for nearly every concentric dual control. These Outer and Inner Shafts require no modification. Shaft lengths are held within close limits to original shaft lengths. Careful attention is given to end trims for fit to original knobs. The specifications on this page provide dimensions and use.



P SHAFTS

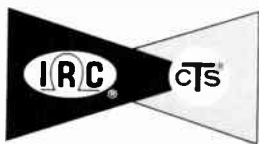
R SHAFTS

### OUTER SHAFTS

Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock Stock	Shft. Lgth.
P1-017	1 <sup>1</sup> / <sub>2</sub> "	P1-306	3 <sup>1</sup> / <sub>16</sub> "	P3-129	1 <sup>2</sup> / <sub>32</sub> "	P7-222	2 <sup>1</sup> / <sub>16</sub> "	P13-122	1 <sup>1</sup> / <sub>16</sub> "	P15-114	1 <sup>1</sup> / <sub>2</sub> "	P18-015	1 <sup>5</sup> / <sub>32</sub> "
P1-020	5 <sup>8</sup> / <sub>16</sub> "	P1-308	3 <sup>1</sup> / <sub>4</sub> "	P3-131	1 <sup>3</sup> / <sub>32</sub> "	P8-016	1 <sup>1</sup> / <sub>2</sub> "	P13-128	1 <sup>7</sup> / <sub>8</sub> "	P15-120	1 <sup>5</sup> / <sub>8</sub> "	P18-018	3 <sup>1</sup> / <sub>8</sub> "
P1-024	3 <sup>4</sup> / <sub>8</sub> "	P1-310	3 <sup>3</sup> / <sub>16</sub> "	P3-203	2 <sup>5</sup> / <sub>32</sub> "	P8-020	5 <sup>8</sup> / <sub>16</sub> "	P13-200	2"	P15-122	1 <sup>1</sup> / <sub>16</sub> "	P19-012	3 <sup>8</sup> / <sub>16</sub> "
P1-028	7 <sup>8</sup> / <sub>16</sub> "	P1-314	3 <sup>7</sup> / <sub>16</sub> "	P3-208	2 <sup>1</sup> / <sub>4</sub> "	P8-100	1"	P13-210	2 <sup>3</sup> / <sub>16</sub> "	P15-130	1 <sup>1</sup> / <sub>16</sub> "	P19-016	1 <sup>1</sup> / <sub>2</sub> "
P1-030	1 <sup>1</sup> / <sub>8</sub> "	P1-317	3 <sup>1</sup> / <sub>2</sub> "	P3-210	2 <sup>3</sup> / <sub>16</sub> "	P8-106	1 <sup>3</sup> / <sub>16</sub> "	P13-214	2 <sup>1</sup> / <sub>2</sub> "	P15-200	2"	P20-101	1 <sup>1</sup> / <sub>2</sub> "
P1-102	1 <sup>1</sup> / <sub>16</sub> "	P1-320	3 <sup>5</sup> / <sub>8</sub> "	P3-212	2 <sup>3</sup> / <sub>8</sub> "	P8-424	4 <sup>3</sup> / <sub>8</sub> "	P13-217	2 <sup>1</sup> / <sub>32</sub> "	P15-204	2 <sup>3</sup> / <sub>8</sub> "	P20-104	1 <sup>1</sup> / <sub>8</sub> "
P1-106	1 <sup>1</sup> / <sub>8</sub> "	P1-325	3 <sup>2</sup> / <sub>16</sub> "	P3-214	2 <sup>1</sup> / <sub>8</sub> "	P9-018	3 <sup>1</sup> / <sub>8</sub> "	P14-014	3 <sup>1</sup> / <sub>8</sub> "	P15-206	2 <sup>3</sup> / <sub>16</sub> "	P20-212	2 <sup>3</sup> / <sub>8</sub> "
P1-109	1 <sup>3</sup> / <sub>8</sub> "	P1-400	4"	P3-217	2 <sup>1</sup> / <sub>32</sub> "	P9-021	2 <sup>1</sup> / <sub>32</sub> "	P14-016	1 <sup>1</sup> / <sub>2</sub> "	P15-218	2 <sup>1</sup> / <sub>16</sub> "	P21-029	2 <sup>9</sup> / <sub>32</sub> "
P1-112	3 <sup>8</sup> / <sub>16</sub> "	P1-405	4 <sup>3</sup> / <sub>32</sub> "	P3-223	2 <sup>2</sup> / <sub>32</sub> "	P9-101	1 <sup>1</sup> / <sub>32</sub> "	P14-019	3 <sup>1</sup> / <sub>32</sub> "	P16-023	2 <sup>3</sup> / <sub>32</sub> "	P22-015	1 <sup>5</sup> / <sub>32</sub> "
P1-114	1 <sup>1</sup> / <sub>4</sub> "	P2-031	1 <sup>3</sup> / <sub>32</sub> "	P3-226	2 <sup>1</sup> / <sub>16</sub> "	P9-104	1 <sup>1</sup> / <sub>8</sub> "	P14-024	3 <sup>3</sup> / <sub>32</sub> "	P16-027	2 <sup>7</sup> / <sub>32</sub> "	P22-021	2 <sup>1</sup> / <sub>32</sub> "
P1-116	1 <sup>1</sup> / <sub>2</sub> "	P2-116	1 <sup>1</sup> / <sub>2</sub> "	P3-400	4"	P9-112	1 <sup>3</sup> / <sub>8</sub> "	P14-026	1 <sup>3</sup> / <sub>8</sub> "	P17-024	3 <sup>4</sup> / <sub>8</sub> "	P22-027	2 <sup>7</sup> / <sub>32</sub> "
P1-118	1 <sup>1</sup> / <sub>8</sub> "	P2-118	1 <sup>1</sup> / <sub>8</sub> "	P3-405	4 <sup>5</sup> / <sub>32</sub> "	P9-116	1 <sup>1</sup> / <sub>2</sub> "	P14-029	2 <sup>1</sup> / <sub>32</sub> "	P17-028	7 <sup>8</sup> / <sub>16</sub> "	P22-100	1"
P1-121	1 <sup>2</sup> / <sub>32</sub> "	P2-128	1 <sup>7</sup> / <sub>8</sub> "	P4-115	1 <sup>1</sup> / <sub>32</sub> "	P9-124	1 <sup>3</sup> / <sub>8</sub> "	P14-102	1 <sup>1</sup> / <sub>8</sub> "	P17-031	3 <sup>1</sup> / <sub>32</sub> "	P22-103	1 <sup>1</sup> / <sub>32</sub> "
P1-123	1 <sup>4</sup> / <sub>32</sub> "	P2-200	2"	P4-121	1 <sup>2</sup> / <sub>32</sub> "	P9-128	1 <sup>7</sup> / <sub>8</sub> "	P14-112	1 <sup>3</sup> / <sub>8</sub> "	P17-102	1 <sup>1</sup> / <sub>8</sub> "	P22-109	1 <sup>1</sup> / <sub>32</sub> "
P1-126	1 <sup>1</sup> / <sub>2</sub> "	P2-209	2 <sup>1</sup> / <sub>32</sub> "	P4-124	1 <sup>3</sup> / <sub>4</sub> "	P9-209	2 <sup>3</sup> / <sub>8</sub> "	P14-118	1 <sup>1</sup> / <sub>8</sub> "	P17-105	1 <sup>3</sup> / <sub>32</sub> "	P22-115	1 <sup>1</sup> / <sub>32</sub> "
P1-128	1 <sup>7</sup> / <sub>8</sub> "	P2-214	2 <sup>1</sup> / <sub>4</sub> "	P5-206	2 <sup>3</sup> / <sub>16</sub> "	P9-212	2 <sup>3</sup> / <sub>8</sub> "	P14-121	1 <sup>1</sup> / <sub>32</sub> "	P17-108	1 <sup>1</sup> / <sub>4</sub> "	P22-121	1 <sup>2</sup> / <sub>32</sub> "
P1-200	2"	P2-218	2 <sup>1</sup> / <sub>8</sub> "	P6-028	7 <sup>8</sup> / <sub>16</sub> "	P10-110	1 <sup>1</sup> / <sub>8</sub> "	P14-125	1 <sup>2</sup> / <sub>32</sub> "	P17-112	1 <sup>3</sup> / <sub>8</sub> "	P22-203	2 <sup>2</sup> / <sub>32</sub> "
P1-204	2 <sup>1</sup> / <sub>8</sub> "	P2-222	2 <sup>1</sup> / <sub>16</sub> "	P6-102	1 <sup>1</sup> / <sub>8</sub> "	P10-225	2 <sup>2</sup> / <sub>32</sub> "	P14-130	1 <sup>1</sup> / <sub>32</sub> "	P17-115	1 <sup>1</sup> / <sub>32</sub> "	P22-312	3 <sup>3</sup> / <sub>8</sub> "
P1-206	2 <sup>3</sup> / <sub>8</sub> "	P2-226	2 <sup>1</sup> / <sub>32</sub> "	P6-112	1 <sup>3</sup> / <sub>8</sub> "	P10-227	2 <sup>2</sup> / <sub>32</sub> "	P14-202	2 <sup>1</sup> / <sub>8</sub> "	P17-118	1 <sup>1</sup> / <sub>8</sub> "	P22-315	3 <sup>1</sup> / <sub>32</sub> "
P1-210	2 <sup>3</sup> / <sub>8</sub> "	P3-028	7 <sup>8</sup> / <sub>16</sub> "	P6-122	1 <sup>1</sup> / <sub>16</sub> "	P10-308	3 <sup>1</sup> / <sub>4</sub> "	P14-204	2 <sup>1</sup> / <sub>8</sub> "	P17-120	1 <sup>5</sup> / <sub>8</sub> "	P23-100	1"
P1-212	2 <sup>3</sup> / <sub>8</sub> "	P3-100	1"	P6-125	1 <sup>5</sup> / <sub>32</sub> "	P11-018	3 <sup>1</sup> / <sub>8</sub> "	P14-206	2 <sup>3</sup> / <sub>8</sub> "	P17-123	1 <sup>2</sup> / <sub>32</sub> "	P23-103	1 <sup>1</sup> / <sub>8</sub> "
P1-216	2 <sup>1</sup> / <sub>2</sub> "	P3-104	1 <sup>1</sup> / <sub>16</sub> "	P6-130	1 <sup>1</sup> / <sub>16</sub> "	P11-024	3 <sup>1</sup> / <sub>8</sub> "	P14-208	2 <sup>1</sup> / <sub>4</sub> "	P17-126	1 <sup>1</sup> / <sub>32</sub> "	P23-112	1 <sup>3</sup> / <sub>8</sub> "
P1-220	2 <sup>5</sup> / <sub>8</sub> "	P3-106	1 <sup>3</sup> / <sub>8</sub> "	P6-200	2 <sup>1</sup> / <sub>16</sub> "	P11-102	1 <sup>1</sup> / <sub>2</sub> "	P14-211	2 <sup>1</sup> / <sub>32</sub> "	P17-129	1 <sup>2</sup> / <sub>32</sub> "	P23-130	1 <sup>5</sup> / <sub>32</sub> "
P1-222	2 <sup>1</sup> / <sub>16</sub> "	P3-111	1 <sup>1</sup> / <sub>32</sub> "	P6-202	2"	P12-122	1 <sup>1</sup> / <sub>8</sub> "	P14-214	2 <sup>1</sup> / <sub>8</sub> "	P17-204	2 <sup>1</sup> / <sub>8</sub> "	P24-030	1 <sup>5</sup> / <sub>8</sub> "
P1-224	2 <sup>3</sup> / <sub>8</sub> "	P3-114	1 <sup>1</sup> / <sub>8</sub> "	P6-211	2 <sup>1</sup> / <sub>16</sub> "	P12-204	2 <sup>1</sup> / <sub>8</sub> "	P14-303	3 <sup>3</sup> / <sub>8</sub> "	P17-208	2 <sup>1</sup> / <sub>4</sub> "	P24-103	1 <sup>1</sup> / <sub>8</sub> "
P1-226	2 <sup>1</sup> / <sub>4</sub> "	P3-116	1 <sup>1</sup> / <sub>16</sub> "	P6-218	2 <sup>1</sup> / <sub>8</sub> "	P13-022	1 <sup>1</sup> / <sub>16</sub> "	P15-019	1 <sup>1</sup> / <sub>32</sub> "	P17-214	2 <sup>1</sup> / <sub>4</sub> "	P25-121	1 <sup>2</sup> / <sub>32</sub> "
P1-229	2 <sup>2</sup> / <sub>32</sub> "	P3-118	1 <sup>3</sup> / <sub>8</sub> "	P6-224	2 <sup>3</sup> / <sub>8</sub> "	P13-104	1 <sup>1</sup> / <sub>8</sub> "	P15-026	1 <sup>1</sup> / <sub>32</sub> "	P17-224	2 <sup>3</sup> / <sub>8</sub> "		
P1-300	3 <sup>1</sup> / <sub>32</sub> "	P3-121	1 <sup>2</sup> / <sub>32</sub> "	P6-302	3 <sup>1</sup> / <sub>32</sub> "	P13-113	1 <sup>1</sup> / <sub>32</sub> "	P15-102	1 <sup>1</sup> / <sub>8</sub> "	P17-300	3"		
P1-302	3 <sup>1</sup> / <sub>8</sub> "	P3-123	1 <sup>2</sup> / <sub>32</sub> "	P7-109	1 <sup>5</sup> / <sub>32</sub> "	P13-116	1 <sup>1</sup> / <sub>2</sub> "	P15-106	1 <sup>3</sup> / <sub>8</sub> "	P17-310	3 <sup>3</sup> / <sub>8</sub> "		
P1-304	3 <sup>5</sup> / <sub>8</sub> "	P3-127	1 <sup>1</sup> / <sub>32</sub> "	P7-206	2 <sup>1</sup> / <sub>8</sub> "	P13-118	1 <sup>1</sup> / <sub>8</sub> "	P15-112	1 <sup>3</sup> / <sub>8</sub> "	P17-316	3 <sup>1</sup> / <sub>2</sub> "		

### INNER SHAFTS

Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	No. No.	Lgth. Lgth.
R1-024	3 <sup>4</sup> / <sub>8</sub> "	R1-304	3 <sup>1</sup> / <sub>8</sub> "	R2-230	2 <sup>1</sup> / <sub>16</sub> "	R7-212	2 <sup>3</sup> / <sub>8</sub> "	R12-119	1 <sup>1</sup> / <sub>32</sub> "	R16-313	3 <sup>1</sup> / <sub>32</sub> "	R23-312	3 <sup>3</sup> / <sub>8</sub> "
R1-028	7 <sup>8</sup> / <sub>16</sub> "	R1-308	3 <sup>1</sup> / <sub>4</sub> "	R2-300	3"	R7-229	2 <sup>2</sup> / <sub>8</sub> "	R12-122	1 <sup>1</sup> / <sub>16</sub> "	R17-203	2 <sup>3</sup> / <sub>32</sub> "	R24-109	1 <sup>1</sup> / <sub>8</sub> "
R1-100	1"	R1-312	3 <sup>3</sup> / <sub>8</sub> "	R2-306	3 <sup>1</sup> / <sub>8</sub> "	R8-213	2 <sup>1</sup> / <sub>32</sub> "	R12-129	1 <sup>2</sup> / <sub>32</sub> "	R17-206	2 <sup>3</sup> / <sub>8</sub> "	R24-115	1 <sup>1</sup> / <sub>32</sub> "
R1-103	1 <sup>1</sup> / <sub>32</sub> "	R1-316	3 <sup>1</sup> / <sub>2</sub> "	R2-308	3 <sup>1</sup> / <sub>8</sub> "	R9-110	1 <sup>3</sup> / <sub>8</sub> "	R12-131	1 <sup>1</sup> / <sub>32</sub> "	R17-216	2 <sup>1</sup> / <sub>2</sub> "	R24-124	1 <sup>3</sup> / <sub>4</sub> "
R1-105	1 <sup>1</sup> / <sub>16</sub> "	R1-323	3 <sup>2</sup> / <sub>32</sub> "	R2-310	3 <sup>5</sup> / <sub>32</sub> "	R9-112	1 <sup>3</sup> / <sub>8</sub> "	R12-206	2 <sup>3</sup> / <sub>8</sub> "	R18-200	2"	R24-127	1 <sup>2</sup> / <sub>32</sub> "
R1-108	1 <sup>1</sup> / <sub>8</sub> "	R1-326	3 <sup>1</sup> / <sub>32</sub> "	R2-312	3 <sup>3</sup> / <sub>8</sub> "	R9-115	1 <sup>1</sup> / <sub>32</sub> "	R13-316	3 <sup>1</sup> / <sub>2</sub> "	R19-011	1 <sup>1</sup> / <sub>8</sub> "	R24-204	2 <sup>1</sup> / <sub>8</sub> "
R1-111	1 <sup>1</sup> / <sub>32</sub> "	R1-417	4 <sup>1</sup> / <sub>32</sub> "	R2-314	3 <sup>1</sup> / <sub>8</sub> "	R9-202	2 <sup>1</sup> / <sub>32</sub> "	R13-331	3 <sup>1</sup> / <sub>32</sub> "	R19-014	3 <sup>1</sup> / <sub>8</sub> "	R24-208	2 <sup>1</sup> / <sub>4</sub> "
R1-113	1 <sup>1</sup> / <sub>32</sub> "	R1-420	4 <sup>5</sup> / <sub>32</sub> "	R2-318	3 <sup>1</sup> / <sub>8</sub> "	R9-205	2 <sup>5</sup> / <sub>32</sub> "	R14-116	1 <sup>1</sup> / <sub>2</sub> "	R20-208	2 <sup>1</sup> / <sub>4</sub> "	R24-216	2 <sup>1</sup> / <sub>2</sub> "
R1-115	1 <sup>1</sup> / <sub>32</sub> "	R2-028	7 <sup>8</sup> / <sub>16</sub> "	R2-322	3 <sup>1</sup> / <sub>16</sub> "	R9-208	2 <sup>1</sup> / <sub>8</sub> "	R14-128	1 <sup>7</sup> / <sub>8</sub> "	R20-213	2 <sup>1</sup> / <sub>32</sub> "	R24-224	2 <sup>3</sup> / <sub>4</sub> "
R1-118	1 <sup>1</sup> / <sub>8</sub> "	R2-103	1 <sup>3</sup> / <sub>32</sub> "	R2-329	3 <sup>2</sup> / <sub>32</sub> "	R9-211	2 <sup>1</sup> / <sub>16</sub> "	R14-204	2 <sup>1</sup> / <sub>8</sub> "	R21-201	2 <sup>1</sup> / <sub>2</sub> "	R24-306	3 <sup>3</sup> / <sub>8</sub> "
R1-122	1 <sup>1</sup> / <sub>16</sub> "	R2-105	1 <sup>5</sup> / <sub>32</sub> "	R2-401	4 <sup>1</sup> / <sub>32</sub> "	R9-214	2 <sup>1</sup> / <sub>32</sub> "	R14-211	2 <sup>1</sup> / <sub>32</sub> "	R21-220	2 <sup>5</sup> / <sub>8</sub> "	R24-328	3 <sup>7</sup> / <sub>8</sub> "
R1-126	1 <sup>1</sup> / <sub>16</sub> "	R2-110	1 <sup>1</sup> / <sub>16</sub> "	R2-420	4 <sup>5</sup> / <sub>8</sub> "	R9-222	2 <sup>1</sup> / <sub>16</sub> "	R14-214	2 <sup>1</sup> / <sub>8</sub> "	R22-200	2"	R25-118	1 <sup>1</sup> / <sub>8</sub> "
R1-130	1 <sup>1</sup> / <sub>16</sub> "	R2-115	1 <sup>1</sup> / <sub>32</sub> "	R2-426	4 <sup>2</sup> / <sub>32</sub> "	R9-314	3 <sup>1</sup> / <sub>16</sub> "	R14-229	2 <sup>2</sup> / <sub>32</sub> "	R23-107	2 <sup>1</sup> / <sub>32</sub> "	R25-200	2"
R1-200	2"	R2-117	1 <sup>1</sup> / <sub>32</sub> "	R2-429	4 <sup>2</sup> / <sub>32</sub> "	R9-324	3 <sup>3</sup> / <sub>16</sub> "	R14-302	3 <sup>1</sup> / <sub>32</sub> "	R23-114	1 <sup>1</sup> / <sub>32</sub> "	R26-112	1 <sup>3</sup> / <sub>8</sub> "
R1-202	2 <sup>1</sup> / <sub>16</sub> "	R2-119	1 <sup>1</sup> / <sub>32</sub> "	R3-204	2 <sup>1</sup> / <sub>8</sub> "	R10-028	7 <sup>8</sup> / <sub>16</sub> "	R14-308	3 <sup>1</sup> / <sub>8</sub> "	R23-119	1 <sup>1</sup> / <sub>8</sub> "	R26-121	1 <sup>1</sup> / <sub>32</sub> "
R1-205	2 <sup>2</sup> / <sub>32</sub> "	R2-124	1 <sup>3</sup> / <sub>4</sub> "	R3-223	2 <sup>1</sup> / <sub>32</sub> "	R10-431	4 <sup>1</sup> / <sub>32</sub> "	R14-409	4 <sup>3</sup> / <sub>32</sub> "	R23-122	1 <sup>1</sup> / <sub>16</sub> "	R26-124	1 <sup>1</sup> / <sub>32</sub> "
R1-207	2 <sup>2</sup> / <sub>32</sub> "	R2-127	1 <sup>2</sup> / <sub>32</sub> "	R3-331	3 <sup>1</sup> / <sub>32</sub> "	R11-028	7 <sup>8</sup> / <sub>16</sub> "	R14-414	4 <sup>1</sup> / <sub>16</sub> "	R23-125	1 <sup>2</sup> / <sub>32</sub> "	R26-206	2 <sup>3</sup> / <sub>8</sub> "
R1-209	2 <sup>2</sup> / <sub>32</sub> "	R2-131	1 <sup>1</sup> / <sub>32</sub> "	R4-106	1 <sup>1</sup> / <sub>8</sub> "	R11-031	3 <sup>1</sup> / <sub>32</sub> "	R14-426	4 <sup>1</sup> / <sub>32</sub> "	R23-128	1 <sup>7</sup> / <sub>8</sub> "	R26-215	2 <sup>1</sup> / <sub>32</sub> "
R1-210	2 <sup>2</sup> / <sub>32</sub> "	R2-200	2"	R4-210	2 <sup>3</sup> / <sub>8</sub> "	R11-108	1 <sup>1</sup> / <sub>4</sub> "	R15-005	5 <sup>3</sup> / <sub>32</sub> "	R23-200	2"	R26-230	2 <sup>1</sup> / <sub>8</sub> "
R1-212	2 <sup>3</sup> / <sub>8</sub> "	R2-204	2 <sup>1</sup> / <sub>8</sub> "	R4-212	2 <sup>3</sup> / <sub>8</sub> "	R11-112	1 <sup>3</sup> / <sub>8</sub> "	R15-009	5 <sup>3</sup> / <sub>32</sub> "	R23-202	2 <sup>1</sup> / <sub>8</sub> "	R26-303	3 <sup>3</sup> / <sub>32</sub> "
R1-214	2 <sup>1</sup> / <sub>4</sub> "	R2-206	2 <sup>3</sup> / <sub>16</sub> "	R4-221	2 <sup>2</sup> / <sub>32</sub> "	R11-118	1 <sup>1</sup> / <sub>8</sub> "	R15-014	5 <sup>3</sup> / <sub>32</sub> "	R23-205	2 <sup>3</sup> / <sub>32</sub> "	R26-309	3 <sup>3</sup> / <sub>32</sub> "
R1-216	2 <sup>1</sup> / <sub>2</sub> "	R2-209	2 <sup>1</sup> / <sub>32</sub> "	R4-226	2 <sup>1</sup> / <sub>32</sub> "	R11-124	1 <sup>3</sup> / <sub>4</sub> "	R15-017	1 <sup>1</sup> / <sub>32</sub> "	R23-208	2 <sup>1</sup> / <sub>4</sub> "	R26-312	3 <sup>3</sup> / <sub>8</sub> "
R1-218	2 <sup>1</sup> / <sub>8</sub> "	R2-212	2 <sup>3</sup> / <sub>8</sub> "	R4-228	2 <sup>7</sup> / <sub>8</sub> "	R11-200	2"	R15-028	7 <sup>8</sup> / <sub>16</sub> "	R23-211	2 <sup>1</sup> / <sub>32</sub> "	R26-315	3 <sup>1</sup> / <sub>32</sub> "
R1-220	2 <sup>5</sup> / <sub>8</sub> "	R2-216	2 <sup>1</sup> / <sub>2</sub> "	R4-306	3 <sup>3</sup> / <sub>16</sub> "	R11-216	2 <sup>1</sup> / <sub>2</sub> "	R16-106	1 <sup>3</sup> / <sub>8</sub> "	R23-216	2 <sup>1</sup> / <sub>2</sub> "		
R1-223	2 <sup>2</sup> / <sub>32</sub> "	R2-21											



IRC, Inc.

# IRC-CTS CONCENTRIKIT<sup>®</sup> DEALER STOCKS



## HANDSOME STOCK CABINET

The same spacious stock cabinet is provided with either the No. 90 or No. 92 stocks. Permits ready conversion of Basic Stock to Expanded Stock. Sturdy two-shelf metal cabinet measures 17 $\frac{3}{8}$ " wide, 11 $\frac{1}{16}$ " deep and 9" high. Provides twelve large "see-thru" drawers with new locking divider feature. Drawers measure 11" deep, 4" wide and 2" high—956 cubic inches of stock space! All needed dividers are included. Both drawer front and bottom labels provide full location and identification data.

## EXTENSIVE VARIATION OF CONTROL TYPES

CONCENTRIKIT Dealer Control Stocks provide an extensive variation of single and concentric dual control types. Included are a wide selection of control mountings, shafts, and power switches with both carbon ( $\frac{1}{2}$  watt) and wire-wound (4 watts) front and rear sections. Control mountings include  $\frac{3}{8}$ ",  $\frac{7}{16}$ " and  $\frac{1}{2}$ " diameter bushings, tab mounting plates and printed circuit brackets. Shaft styles include  $\frac{1}{4}$ " and  $\frac{3}{16}$ " diameter universal shafts, screw-driver slotted and insulated shafts, rear adjustment feature and a large selection of exact duplicate shafts which require no cutting or modification.

Rotary and pull-push power switches attach to either single or concentric dual styles. Concentric dual controls include carbon front and rear sections, wirewound front and rear sections and wirewound front sections with carbon rear sections. Carbon units are equipped with printed circuit terminals for universal use. Broad selection of resistance values and tapers. Replacement data, pricing information and full instructions included.

## CONCENTRIKIT DEALER CONTROL STOCKS

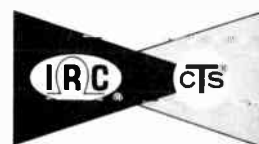
Most widely used control replacement system, the new CONCENTRIKIT stocks employ the unique adaptability of this true control parts system to provide top coverage of needed replacement controls. Parts included have been carefully selected for broadest combinations for TV, radio, auto sets and high-fidelity equipment. The exclusive features of CONCENTRIKIT afford a nearly endless variety of single and concentric dual controls.

Two specially planned dealer stocks are available. No. 90 is a Basic Stock of Concentrikits parts. No. 92 is an Expanded Stock providing over three times the replacement coverage. Both stocks are housed in the same large metal cabinet with twelve "see-thru" drawers. Special labelling supplies quick location and identification of parts. No. 91 Conversion Stock changes the Basic Stock into the Expanded Stock.

## CONTENTS OF NEW DEALER CONCENTRIKIT STOCKS

DESCRIPTION	BASIC STOCK No. 90	CON- VERSION STOCK No. 91	EXPANDED STOCK No. 92
Carbon Base-Elements	25	22	47
Wirewound Base-Elements	—	6	6
Exact Duplicate Concentric Shafts	86	29	115
CONCENTRIKITS	9	5	14
Single Control Shaft Kits	14	8	22
Separate Insulated Shafts	—	2	2
Printed Circuit Bracket	1	—	1
Special Bushings	—	3	3
Power Switches (Rotary and Pull-Push)	8	8	16
Hardware Items	4	—	4
Replacement Manual	1	—	1
Instruction Package	1	—	1

# IRC-CTS INDUSTRIAL Q CONTROLS



IRC, Inc.

IRC 1/2 watt controls for industrial and commercial applications provide a wide selection of resistance values, tapers and shaft styles. Types PQ, RQ and RQL may be combined with Type M Multisections to provide broad variety of multiple-section controls.

### TYPE PQ

Control has full round 1/4" shaft, extending approximately 3" from mounting face, and with 3/8" long bushing. 1/2 watt power rating, 500 volts maximum. It is available in 33 stock values.

### TYPE RQ

Control has a very short screwdriver slot shaft of 1/4" diameter and approximately 1/2" long from mounting face, with 3/8" long bushing. 1/2 watt power rating. Supplied in 33 stock values.

Electrical rotation of these controls is the same with

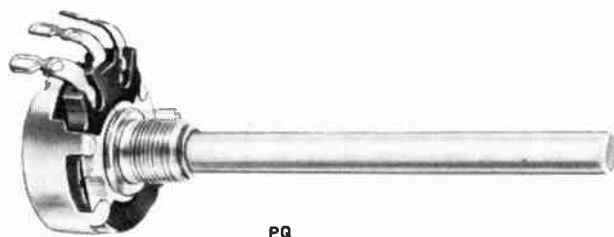
or without power switches (See Type Q Accessories, pages 6 and 7). Special platings of metal parts provide excellent appearance. Resistance tolerance of all units is ± 10%.

### TYPE RQL

A 10% tolerance control with locking type bushing. Screwdriver slot shaft is 1/4" diameter and approximately 1/2" long from mounting face, with a 3/8" split type bushing, and locking nut. Supplied in 26 stock values. 1/2 watt power rating.

### TYPE M MULTISECTIONS

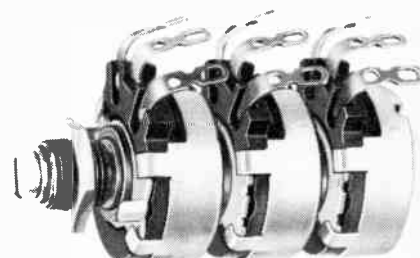
IRC Type M Multisections are rear control sections which add to Types PQ, RQ, RQL or any Type Q control to provide multiple-section tandem controls. Supplied in 25 stock numbers as listed on opposite page. Resistance tolerance is ± 10%. See pages and for power switches and other accessories.



PQ



M



RQ with Multisections



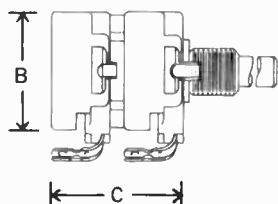
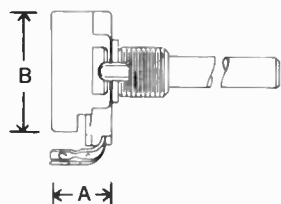
RQ



RQL

### DIMENSIONS OF TYPE Q INDUSTRIAL CONTROLS

Dimension	PQ	RQ	RQL
A	33/64	33/64	33/64
B	15/16	15/16	15/16
C	13/64	13/64	13/64

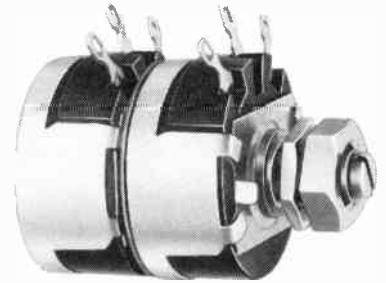
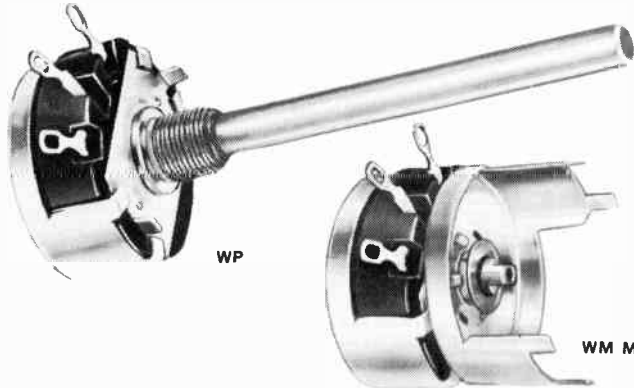


Ohms	Taper*	Type PQ	Type RQ	Type RQL	Multisections
500	1(A)	PQ11-103	RQ11-103	RQL11-103	M11-103
1,000	2(A)	PQ11-108	RQ11-108	RQL11-108	M11-108
2,000	2(A)	PQ11-110	RQ11-110	RQL11-110	M11-110
3,000	2(A)	PQ11-112	RQ11-112	RQL11-112	M11-112
5,000	2(A)	PQ11-114	RQ11-114	RQL11-114	M11-114
7,500	2(A)	PQ11-115	RQ11-115	—	—
10K	2(A)	PQ11-116	RQ11-116	RQL11-116	M11-116
10K	3(C)	PQ13-116	RQ13-116	—	—
10K	23(D)	PQ14-116	RQ14-116	—	—
10K	4(Q)	—	—	—	M17-116
20K	2(A)	PQ11-119	RQ11-119	RQL11-119	—
25K	2(A)	PQ11-120	RQ11-120	RQL11-120	M11-120
25K	23(D)	PQ14-120	RQ14-120	—	—
30K	2(A)	PQ11-121	RQ11-121	RQL11-121	M11-121
50K	2(A)	RQ11-123	RQ11-123	RQL11-123	M11-123
50K	3(C)	PQ13-123	RQ13-123	RQL13-123	—
50K	23(D)	PQ14-123	RQ14-123	—	—
100K	2(A)	PQ11-128	RQ11-128	RQL11-128	M11-128
100K	3(C)	PQ13-128	RQ13-128	—	M13-128
200K	2(A)	PQ11-129	RQ11-129	RQL11-129	—
250K	2(A)	PQ11-130	RQ11-130	RQL11-130	M11-130
250K	3(C)	PQ13-130	RQ13-130	RQL13-130	M13-130
500K	2(A)	PQ11-133	RQ11-133	RQL11-133	M11-133
500K	3(C)	PQ13-133	RQ13-133	RQL13-133	M13-133
1.0 Meg.	2(A)	PQ11-137	RQ11-137	RQL11-137	M11-137
1.0 Meg.	3(C)	PQ13-137	RQ13-137	RQL13-137	M13-137
1.5 Meg.	2(A)	PQ11-138	RQ11-138	RQL11-138	—
1.5 Meg.	3(C)	—	—	—	M13-138
2.0 Meg.	2(A)	—	RQ11-139	RQL11-139	M11-139
2.0 Meg.	3(C)	PQ13-139	RQ13-139	RQL13-139	M13-139
2.5 Meg.	2(A)	PQ11-239	RQ11-239	RQL11-239	—
3.0 Meg.	2(A)	PQ11-140	RQ11-140	RQL11-140	—
3.0 Meg.	3(C)	PQ13-140	RQ13-140	—	M13-140
3.0 Meg.	4(Q)	—	—	—	M17-140
5.0 Meg.	2(A)	PQ11-141	RQ11-141	RQL11-141	M11-141
10.0 Meg.	2(A)	PQ11-143	RQ11-143	RQL11-143	M11-143



# IRC-CTS INDUSTRIAL 4W CONTROLS

IRC, Inc.



## TYPE 4/W INDUSTRIAL CONTROLS

IRC-CTS Type 4W Controls for industry provide 4 watt (linear) rating in conventional 2 watt size. Available in wide assortment of resistance values. Types WP and WPRL may be combined with Type WM Multisections to provide broad selection of tandem dual controls.

Special platings of metal parts provide outstanding appearance. Resistance tolerance of all units is  $\pm 10\%$ .

### TYPE WP

A wirewound industrial control with  $\frac{3}{8}$ -32 x  $\frac{3}{8}$ " bushing and a full round shaft of  $\frac{1}{4}$ " diameter, approximately 3" long from mounting face. For 2, 3 and 4 watt requirements — 10% tolerance; linear taper; in 36 stock values as listed on the opposite page.

### TYPE WM MULTISECTIONS

These 4 watt Multisections are rear control sections which add to Types WP and WPRL to supply a wide selection of tandem dual controls. Available in 13 factory-assembled stock numbers. WM Multisections do not operate power switches.

### TYPE WPRL

A wirewound industrial control with a short, screwdriver slot shaft of  $\frac{1}{4}$ " diameter and approximately  $\frac{1}{2}$ " long from mounting face, with  $\frac{3}{8}$ " locking type bushing, and locking nut. For 2, 3 and 4 watt requirements — 10% tolerance; linear taper; 36 stock values.

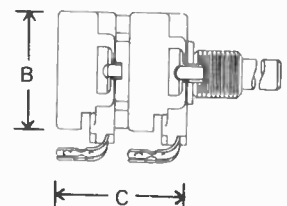
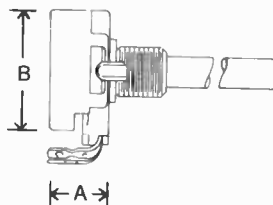
## IRC-CTS TYPE 4/W INDUSTRIAL CONTROLS STOCK LIST

STOCK VALUES OF TYPE WP AND WPRL CONTROLS AND MULTISECTIONS 10% TOLERANCE				
Ohms	Taper*	Type WP	Type WPRL	Multisections
2	U (Lin.)	WP2	WPRL2	—
3	U	WP3	—	—
5	U	WP5	WPRL5	—
6	U	WP6	WPRL6	—
8	U	WP8	WPRL8	—
10	U	WP10	WPRL10	—
15	U	WP15	WPRL15	—
20	U	WP20	WPRL20	—
25	U	WP25	WPRL25	—
30	U	WP30	WPRL30	—
40	U	—	WPRL40	—
50	U	WP50	WPRL50	WM50
60	U	WP60	WPRL60	—
75	U	WP75	WPRL75	—
100	U	WP100	WPRL100	WM100
200	U	WP200	WPRL200	WM200
250	U	WP250	WPRL250	WM250
300	U	WP300	WPRL300	—
400	U	WP400	WPRL400	—
500	U	WP500	WPRL500	WM500
750	U	WP750	WPRL750	—
1,000	U	WP1000	WPRL1000	WM1000
1,500	U	WP1500	WPRL1500	WM1500
2,000	U	WP2000	WPRL2000	WM2000
2,500	U	WP2500	WPRL2500	WM2500
3,000	U	WP3000	WPRL3000	WM3000
4,000	U	WP4000	WPRL4000	—
5,000	U	WP5000	WPRL5000	WM5000
7,500	U	WP7500	WPRL7500	—
7,500	L	—	—	WM7500L
	(L.H. Log.)			
10,000	U	WP10000	WPRL10000	WM10000
15,000	U	WP15000	WPRL15000	—
20,000	U	WP20000	WPRL20000	—
25,000	U	WP25000	WPRL25000	—
30,000	U	WP30000	WPRL30000	—
40,000	U	WP40000	—	—
50,000	U	WP50000	WPRL50000	—

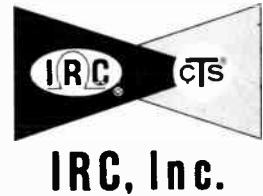
\*See Taper Explanation Chart.

## DIMENSIONS OF TYPE 4/W INDUSTRIAL CONTROLS

Dimension	WP	WPRL
A	$\frac{23}{32}$	$\frac{23}{32}$
B	$1\frac{1}{4}$	$1\frac{1}{4}$
C	$1\frac{1}{32}$	$1\frac{1}{32}$



# IRC-CTS CARBON & WIREWOUND TRIMMERS



TYPE U-201



TYPE X-201

- Miniature Size — Knob 19/32" Diameter
- Knob Slotted for Front or Rear Screwdriver Adjustment
- Snap-in Self-supporting Bracket Mounted
- Low Cost

## Electrical Specifications

Tolerance:  $\pm 20\%$   
 Power Rating: 1/4 Watt  
 Taper: Linear Only  
 Voltage Rating: 500 VDC Operating Maximum  
 Switches: Not Available  
 Taps: Not Available

## Mechanical Specifications

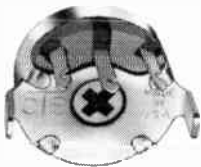
Mounting: U-201 Mounts with Knob Parallel to Printed Circuit Board  
 X-201 Mounts with Knob Perpendicular to Printed Circuit Board  
 Angle of Rotation:  $260^\circ \pm 5^\circ$   
 Terminals: Printed Circuit Type  
 Adjustment: Blue Nylon Knob 19/32" Diameter. Slotted for Front and Rear Adjustment.

## U-201 AND X-201 CARBON TRIMMERS

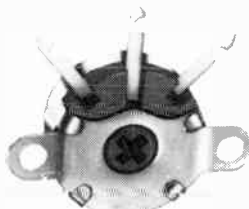
### STANDARD RESISTANCE RANGES

STOCK NO.		RESISTANCE VALUE
TYPE U-201	TYPE X-201	
U201R101B	X201R101B	100 $\Omega$
U201R251B	X201R251B	250 $\Omega$
U201R501B	X201R501B	500 $\Omega$
U201R102B	X201R102B	1000 $\Omega$
U201R252B	X201R252B	2500 $\Omega$
U202R502B	X201R502B	5000 $\Omega$
U201R103B	X201R103B	10K $\Omega$
U201R253B	X201R253B	25K $\Omega$
U201R503B	X201R503B	50K $\Omega$
U201R104B	X201R104B	100K $\Omega$
U201R254B	X201R254B	250K $\Omega$
U201R504B	X201R504B	500K $\Omega$
U201R105B	X201R105B	1.0M $\Omega$

See Page 1224 for Engineering Laboratory Stocks of this Product



TYPE P-115



TYPE 117

- Fully Enclosed Construction
- Long Rotational Life
- Insulated Rotor
- Wide Resistance Range

## Electrical Specifications

Tolerance:  $\pm 10\%$   
 Power Rating: 2 Watts  
 Taper: Linear Only  
 Voltage Rating: 500 VDC Operating Maximum  
 Shafts: 1 9/16" Delrin Plastic Shaft available, Stock #P115-117-1  
 Switches: Not Available  
 Taps: Not Available

## Mechanical Specifications

Mounting: P-115 Twist Tab Mounted  
 117 Rivet Ear Mounted  
 Angle of Rotation:  $270^\circ \pm 5^\circ$   
 Terminals: Printed Circuit Type  
 Adjustment: Cross Slot in Nylon Rotor



P115-117-1

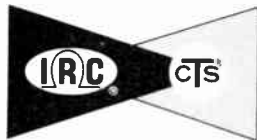
## TYPE P115 AND 117 WIREWOUND TRIMMERS

### STANDARD RESISTANCE RANGES

STOCK NO.		RESISTANCE
P115R5R0A	117R5R0A	5 $\Omega$
P115R100A	117R100A	10 $\Omega$
P115R250A	117R250A	25 $\Omega$
P115R500A	117R500A	50 $\Omega$
P115R101A	117R101A	100 $\Omega$
P115R251A	117R251A	250 $\Omega$
P115R501A	117R501A	500 $\Omega$
P115R102A	117R102A	1000 $\Omega$
P115R252A	117R252A	2500 $\Omega$
P115R502A	117R502A	5000 $\Omega$
P115R103A	117R103A	10K $\Omega$

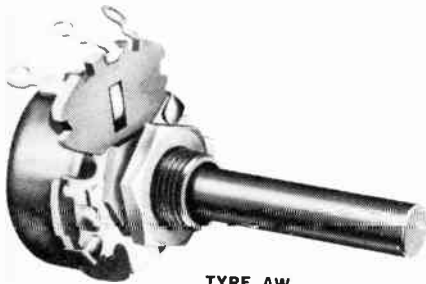
See Page 1224 for Engineering Laboratory Stocks of this Product

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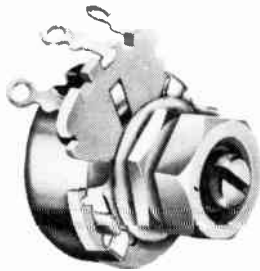


IRC, Inc.

# IRC-CTS CARBON & WIREWOUND CONTROLS



TYPE AW



TYPE AWRL

- Compact Size — 15/16" Diameter
- Full 5 Watt Rating
- Economical
- Fully Enclosed Construction

## Electrical Specifications

Tolerance:  $\pm 10\%$

Power Rating: 5 Watts

Taper: Linear Only

Voltage Rating: 500 VDC Operating Maximum

Switches: Not Available

Taps: Not Available

## AW SERIES INDUSTRIAL WIREWOUND CONTROLS

### Mechanical Specifications

Mounting Bushing Dimensions

Diameter:  $\frac{3}{8}$ " — 32 NEF Thread

Length: AW—Non-Lock —  $\frac{3}{4}$ " long

AWRL—Locking —  $\frac{3}{8}$ " long

Angle of Rotation:  $300^\circ \pm 5^\circ$

Shaft Diameter: .1250"

Shaft Length: Type AW — 3" F.M.S.

Type AWRL —  $\frac{1}{2}$ " F.M.S.

Shaft Trim: Type AW — Full Round

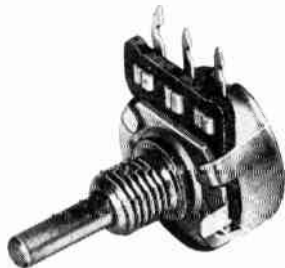
Type AWRL — Screwdriver Slot

Locating Lugs: Both Sides

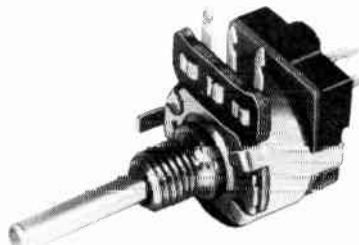
### STANDARD RESISTANCE RANGES

AW STOCK NO.	AWRL STOCK NO.	RESISTANCE
AW10	AWRL10	10 $\Omega$
AW15	AWRL15	15 $\Omega$
AW20	AWRL20	20 $\Omega$
AW25	AWRL25	25 $\Omega$
AW50	AWRL50	50 $\Omega$
AW100	AWRL100	100 $\Omega$
AW200	AWRL200	200 $\Omega$
AW250	AWRL250	250 $\Omega$
AW500	AWRL500	500 $\Omega$
AW1000	AWRL1000	1000 $\Omega$
AW2000	AWRL2000	2000 $\Omega$
AW2500	AWRL2500	2500 $\Omega$
AW3000	AWRL3000	3000 $\Omega$
AW5000	AWRL5000	5000 $\Omega$
AW10000	AWRL10000	10K $\Omega$

See Page 1224 for Engineering Laboratory Stocks of this Product



TYPE MC



TYPE MCS

- Miniature Size —  $\frac{5}{8}$ " Diameter
- Wide Resistance Range
- Selection of Tapers
- Suitable for Commercial and Replacement Applications

## SERIES 200 MINIATURE CARBON CONTROLS

### Mechanical Specifications

Mounting Bushing Dimensions

Diameter:  $\frac{1}{4}$ " — 32 NEF-2A

Length:  $\frac{1}{4}$ "

Angle of Rotation

Without Switch —  $300^\circ \pm 5^\circ$

With Switch —  $315^\circ \pm 5^\circ$

Shaft Diameter: .125"

Shaft Length: 1" F.M.S.

Shaft Trim: Screwdriver Slotted

Terminals: Printed Circuit Type

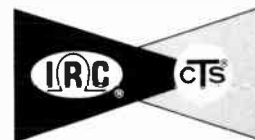
### STANDARD RESISTANCE RANGES

TYPE MC—WITHOUT SWITCH			TYPE MCS—WITH SWITCH		
STOCK NO.	OHMS	TAPER	STOCK NO.	OHMS	TAPER
MC102D	1000 $\Omega$	Linear	MC252AS	2500 $\Omega$	Audio
MC252A	2500 $\Omega$	Audio	MC502AS	5000 $\Omega$	Audio
MC502A	5000 $\Omega$	Audio	MC502DS	5000 $\Omega$	Linear
MC502D	5000 $\Omega$	Linear	MC103AS	10K $\Omega$	Audio
MC103D	10K $\Omega$	Linear	MC504AS	500K $\Omega$	Audio
MC253D	25K $\Omega$	Linear	MC105AS	1.0M $\Omega$	Audio
MC503D	50K $\Omega$	Linear			
MC104D	100K $\Omega$	Linear			
MC254D	250K $\Omega$	Linear			
MC504A	500K $\Omega$	Audio			
MC504D	500K $\Omega$	Linear			
MC105A	1.0M $\Omega$	Audio			
MC105D	1.0M $\Omega$	Linear			

See Page 1224 for Engineering Laboratory Stocks of this Product

IRC, INC. • CONSUMER AND DISTRIBUTOR PRODUCTS DIVISION

# IRC-CTS MILITARY CONTROLS



IRC, Inc.

## IRC-CTS MILITARY VARIABLE RESISTORS TO MIL-R-19A AND MIL-R-94B

### GENERAL SPECIFICATIONS

	MIL-R-19A		Char.	MIL-R-94B			
	RA20	RA30		RV2	RV4	RV5	RV6
Resistance Range (ohms)	3-15K	10-25K	X & Y	100-2.5 megs	100-5 megs	250-2.5 megs	1000-1.0 megs
Rotational Life	5% max, 25,000 cycles		X Y	10% max, 15,000 cycles 10% max, 25,000 cycles			
Load Life	3% max, 1,000 hours, rated load, 40°C		X Y	12% max, 1,000 hours, rated load, 70°C 10% max, 1,000 hours, rated load, 70°C			
Moisture Resistance	10% max, Method 106, MIL-STD-202, 3.5 megs min insulation resistance		X Y	10% average, 14% max, Method 106, MIL-STD-202, 50 megs min insulation resistance 6% average, 10% max, Method 106, MIL-STD-202, 100 megs min insulation resistance			
Low Temp. Storage	4% max		X Y	4% max 2% max			
Low Temp. Operation	4% max		X Y	4% max 3% max			
Thermal Cycling	4% max		X Y	10% max 6% max			
Acceleration	3% max		X & Y	3% max			
Shock	2% max		X & Y	2% max			
High Freq. Vibration	2% max		X & Y	2% max			
Temp. Range	-63°C to +105°C		X & Y	-63°C to 150°C			

Fast, local delivery from Distributors' stock is now available for IRC-CTS military controls. A total of 255 variable resistors is included in this new, local service. The 6 styles illustrated cover the latest MIL-R-94B composition and MIL-R-19A wire wound specifications.

## IRC-CTS WIRE WOUND VARIABLE RESISTORS TO MIL-R-19A

### STYLE RA20 2 WATT WIRE WOUND

Type 252, style RA20, 1 1/4" diameter wirewound variable resistor.



STYLE RA20

- 2 watt rating
- Compact size
- Meets MIL-R-19
- 15 resistance values
- Insulated housing
- Built-in high torque

Choice of 2 shaft styles, plain or locking bushings.

Resistance

3 ± 10%
10 ± 10%
25 ± 10%
50 ± 10%
75 ± 10%
100 ± 10%
200 ± 10%
250 ± 10%
500 ± 10%
1,000 ± 10%
2,500 ± 10%
5,000 ± 10%
7,500 ± 10%
10,000 ± 10%
15,000 ± 10%

### IRC-CTS TYPE 252

7/8" Slotted Shaft  
3/8" Long Bushing  
Linear Resistance Taper

RA20NASD3R0A
RA20NASD100A
RA20NASD250A
RA20NASD500A
RA20NASD750A
RA20NASD101A
RA20NASD201A
RA20NASD251A
RA20NASD501A
RA20NASD102A
RA20NASD252A
RA20NASD502A
RA20NASD752A
RA20NASD103A
RA20NASD153A

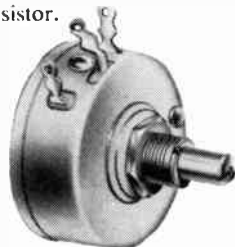
### CTS TYPE 252LT

5/8" Slotted Shaft 7/8" Slotted Shaft  
1/2" Long 1/2" Long  
Locking Bushing Locking Bushing  
Linear Resistance Linear Resistance  
Taper Taper

RA20LASB3R0A	RA20LASD3R0A
RA20LASB100A	—
RA20LASB250A	RA20LASD250A
RA20LASB500A	RA20LASD500A
RA20LASB750A	—
RA20LASB101A	RA20LASD101A
RA20LASB201A	—
RA20LASB251A	RA20LASD251A
RA20LASB501A	RA20LASD501A
RA20LASB102A	RA20LASD102A
RA20LASB252A	RA20LASD252A
RA20LASB502A	RA20LASD502A
RA20LASB752A	RA20LASD752A
RA20LASB103A	RA20LASD103A
RA20LASB153A	RA20LASD153A

### STYLE RA30 4 WATT WIRE WOUND

Type 25, style RA30, 1 1/2" diameter wirewound variable resistor.



STYLE RA30

- 4 watt rating
- Reliable CTS wirewound element
- Meets all MIL-R-19 requirements
- 15 resistance values
- Built-in high torque

Choice of 2 shaft styles, plain or locking bushings.

Resistance

10 · 10%
25 · 10%
50 · 10%
100 · 10%
200 · 10%
250 · 10%
500 · 10%
750 · 10%
1,000 · 10%
2,500 · 10%
5,000 · 10%
7,500 · 10%
10,000 · 10%
15,000 · 10%
25,000 · 10%

### IRC-CTS TYPE 25

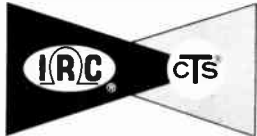
7/8" Slotted Shaft  
3/8" Long Bushing  
Linear Resistance Taper

RA30NASD100A
RA30NASD250A
RA30NASD500A
RA30NASD101A
RA30NASD201A
RA30NASD251A
RA30NASD501A
RA30NASD751A
RA30NASD102A
RA30NASD252A
RA30NASD502A
RA30NASD752A
RA30NASD103A
RA30NASD153A
RA30NASD253A

### CTS TYPE 25LT

5/8" Slotted Shaft  
1/2" Long Locking Bushing  
Linear Resistance Taper

RA30LASB100A
RA30LASB250A
RA30LASB500A
RA30LASB101A
RA30LASB201A
RA30LASB251A
RA30LASB501A
RA30LASB751A
RA30LASB102A
RA30LASB252A
RA30LASB502A
RA30LASB752A
RA30LASB103A
RA30LASB153A
RA30LASB253A



# IRC-CTS MILITARY CONTROLS

## IRC, Inc.

### IRC-CTS COMPOSITION VARIABLE RESISTORS TO MIL-R-94B

#### STYLE RV2 1 WATT COMPOSITION

Type 90, style RV2, 1 $\frac{1}{16}$ " diameter composition variable resistor.



- 1 watt rating
- Operational up to 150°C
- 14 resistance values
- Meets characteristics X and Y
- Designed for high temperature and humidity military applications

Choice of 2 shaft styles, plain or locking bushings.

STYLE RV2

#### IRC-CTS TYPE 90 7/8" Slotted Shaft 3/8" Long Bushing Linear Resistance Taper

Resistance
100 ± 10%
250 ± 10%
500 ± 10%
1,000 ± 10%
2,500 ± 10%
5,000 ± 10%
10,000 ± 10%
25,000 ± 10%
50,000 ± 10%
100,000 ± 10%
250,000 ± 10%
500,000 ± 10%
1.0 Meg. ± 20%
2.5 Meg. ± 20%

RV2NAYS101A
RV2NAYS251A
RV2NAYS501A
RV2NAYS102A
RV2NAYS252A
RV2NAYS502A
RV2NAYS103A
RV2NAYS253A
RV2NAYS503A
RV2NAYS104A
RV2NAYS254A
RV2NAYS504A
RV2NAYS105B
RV2NAYS255B

#### CTS TYPE 90LT 5/8" Slotted Shaft 1/2" Long Locking Bushing Linear Resistance Taper

RV2LAYS101A
RV2LAYS251A
RV2LAYS501A
RV2LAYS102A
RV2LAYS252A
RV2LAYS502A
RV2LAYS103A
RV2LAYS253A
RV2LAYS503A
RV2LAYS104A
RV2LAYS254A
RV2LAYS504A
RV2LAYS105B
RV2LAYS255B

#### STYLE RV4 3 WATT COMPOSITION

Type 320/321, style RV4, 1 $\frac{1}{16}$ " diameter composition variable resistor.



- 3 watt rating
- Completely enclosed construction
- Excellent heat sink qualities
- 15 resistance values
- Long life, no noise
- Reliable carbon-ceramic element

Choice of 2 shaft styles, plain or locking bushings.

STYLE RV4

See Page 1225 for Engineering Laboratory Stocks of this Product

#### IRC-CTS TYPE 320/321

##### 7/8" Slotted Shaft 3/8" Long Bushing Linear Resistance Taper

Resistance
100 ± 10%
250 ± 10%
500 ± 10%
1,000 ± 10%
2,500 ± 10%
5,000 ± 10%
10,000 ± 10%
25,000 ± 10%
50,000 ± 10%
100,000 ± 10%
250,000 ± 10%
500,000 ± 10%
1.0 Meg. ± 20%
2.5 Meg. ± 20%
5.0 Meg. ± 20%

RV4NAYS101A
RV4NAYS251A
RV4NAYS501A
RV4NAYS102A
RV4NAYS252A
RV4NAYS502A
RV4NAYS103A
RV4NAYS253A
RV4NAYS503A
RV4NAYS104A
RV4NAYS254A
RV4NAYS504A
RV4NAYS105A
RV4NAYS105B
RV4NAYS255B
RV4NAYS505B

##### CTS TYPE 320LT/321LT 5/8" Slotted Shaft 1/2" Long Locking Bushing Linear Resistance Taper

RV4LAYS101A
RV4LAYS251A
RV4LAYS501A
RV4LAYS102A
RV4LAYS252A
RV4LAYS502A
RV4LAYS103A
RV4LAYS253A
RV4LAYS503A
RV4LAYS104A
RV4LAYS254A
RV4LAYS504A
RV4LAYS105A
RV4LAYS105B
RV4LAYS255B
RV4LAYS505B

#### STYLE RV5 1/2 WATT MINIATURE COMPOSITION

Type 65, style RV5, 3/4" diameter composition register.



- 1/2 watt rating
- Small size
- 13 resistance values
- Operational up to 150°C
- Designed for high temperature and humidity applications

Choice of 2 shaft styles, plain or locking bushings.

STYLE RV5

#### IRC-CTS TYPE 65 7/8" Slotted Shaft 1/4" Long Bushing Linear Resistance Taper

Resistance
250 ± 10%
500 ± 10%
1,000 ± 10%
2,500 ± 10%
5,000 ± 10%
10,000 ± 10%
25,000 ± 10%
50,000 ± 10%
100,000 ± 10%
250,000 ± 10%
500,000 ± 10%
1.0 Meg. ± 20%
2.5 Meg. ± 20%
5.0 Meg. ± 20%

RV5NAYS251A
RV5NAYS501A
RV5NAYS102A
RV5NAYS252A
RV5NAYS502A
RV5NAYS103A
RV5NAYS253A
RV5NAYS503A
RV5NAYS104A
RV5NAYS254A
RV5NAYS504A
RV5NAYS105B
RV5NAYS255B

#### CTS TYPE 65LT 1/2" Slotted Shaft 3/8" Long Locking Bushing Linear Resistance Taper

RV5LAYS251A
RV5LAYS501A
RV5LAYS102A
RV5LAYS252A
RV5LAYS502A
RV5LAYS103A
RV5LAYS253A
RV5LAYS503A
RV5LAYS104A
RV5LAYS254A
RV5LAYS504A
RV5LAYS105B
RV5LAYS255B

#### STYLE RV6 1/2 WATT MINIATURE COMPOSITION

Type 300, style RV6, 1/2" diameter composition resistor.



- 3/4 watt rating
- Miniature size
- Excellent stability
- 14 resistance values
- Reliable carbon-ceramic element
- High resolution

Choice of 2 shaft styles, plain or locking bushings.

STYLE RV6

See Page 1224 for Engineering Laboratory Stocks of this Product

#### IRC-CTS TYPE 300 7/8" Slotted Shaft 1/4" Long Bushing Linear Resistance Taper

Resistance
100 ± 10%
250 ± 10%
500 ± 10%
1,000 ± 10%
2,500 ± 10%
5,000 ± 10%
10,000 ± 10%
25,000 ± 10%
50,000 ± 10%
100,000 ± 10%
250,000 ± 10%
500,000 ± 10%
1.0 Meg. ± 20%
2.0 Meg. ± 20%
2.5 Meg. ± 20%

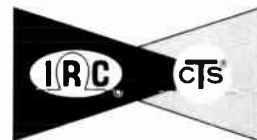
RV6NAYS101A
RV6NAYS251A
RV6NAYS501A
RV6NAYS102A
RV6NAYS252A
RV6NAYS502A
RV6NAYS103A
RV6NAYS253A
RV6NAYS503A
RV6NAYS104A
RV6NAYS254A
RV6NAYS504A
RV6NAYS105B
RV6NAYS205B
RV6NAYS255B

#### CTS TYPE 300LT 5/8" Slotted Shaft 1/2" Long Locking Bushing Linear Resistance Taper

RV6LAYS101A
RV6LAYS251A
RV6LAYS501A
RV6LAYS102A
RV6LAYS252A
RV6LAYS502A
RV6LAYS103A
RV6LAYS253A
RV6LAYS503A
RV6LAYS104A
RV6LAYS254A
RV6LAYS504A
RV6LAYS105B
RV6LAYS205B
RV6LAYS255B



# IRC-CTS INDUSTRIAL VARIABLE RESISTORS


**IRC, Inc.**

## IRC-CTS TYPE 321 THREE-WATT INDUSTRIAL CONTROL (MILITARY GRADE)

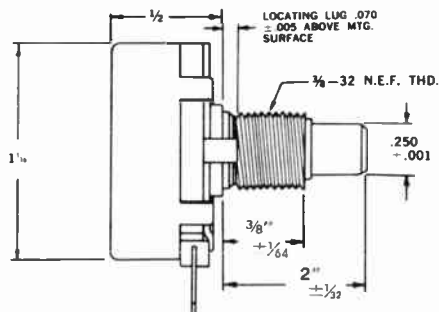
See Page 1225 for Engineering Laboratory Stocks of this Product

### FEATURES

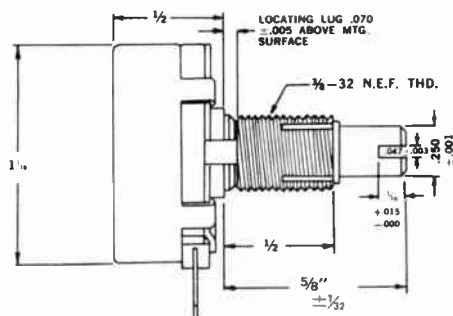
- COMPLETELY ENCLOSED CONSTRUCTION
- CARBON-CERAMIC ELEMENT
- EXCELLENT HEAT SINK QUALITIES
- MEETS MIL-R-94B, STYLE RV4
- HIGH INSULATION RESISTANCE OF CERAMIC
- LONG LIFE, LOW NOISE
- LARGE SAFETY FACTOR

### ELECTRICAL AND MECHANICAL SPECIFICATIONS

- **RESISTANCE RANGE**  
250 ohms through 2.5 megohms (linear taper).
- **TOLERANCE**  
 $\pm 10\%$  standard,  $\pm 20\%$  standard for values 1 megohm and above.
- **TAPERS** . . . Linear.
- **WATTAGE AND TEMPERATURE RATING**  
3 watts at 70°C or 2 watts at 95°C derated to no load at 150°C.  
500 volts DC maximum safe operating voltage across resistance element.
- **MOUNTING BUSHING DIMENSIONS**  
Diameter:  $\frac{3}{8}$ " — 32 N.E.F. thread  
Length: Non-Lock —  $\frac{3}{8}$ " standard  
Locking —  $\frac{1}{2}$ " standard
- **ANGLE OF ROTATION** . . .  $315^\circ \pm 5^\circ$
- **SHAFT DIAMETER** . . .  $.250" \pm .001"$
- **SHAFT LENGTH**  
As shown under Ordering Information below.
- **SHAFT TRIM**  
Screwdriver slot (Type LT) standard.
- **LOCATING LUGS.**  
Standard position is left side (terminals down) as illustrated.
- **TAPS** . . . None.

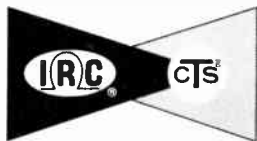


SIDE VIEW OF TYPE 321S CONTROL


 SIDE VIEW OF TYPE 321LT CONTROL  
WITH LOCKING BUSHING

### RANGES

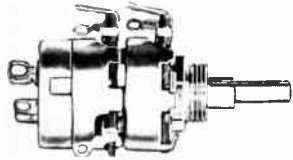
TYPE 321S/RV4 2" plain shaft $\frac{3}{8}$ " long bushing	TOTAL RESISTANCE	TYPE 321LT/RV4 LAYSA $\frac{5}{8}$ " slotted shaft $\frac{1}{2}$ " long locking bushing
<b>PART NUMBER</b>	(Ohms $\pm 10\%$ )	<b>PART NUMBER</b>
321S251A/RV4 NAY251A	250	321LT251A/RV4 LAYSA251A
321S501A/RV4 NAY501A	500	321LT501A/RV4 LAYSA501A
321S102A/RV4 NAY102A	1,000	321LT102A/RV4 LAYSA102A
321S252A/RV4 NAY252A	2,500	321LT252A/RV4 LAYSA252A
321S502A/RV4 NAY502A	5,000	321LT502A/RV4 LAYSA502A
321S103A/RV4 NAY103A	10,000	RV4 LAYSA103A
321S253A/RV4 NAY253A	25,000	321LT253A/RV4 LAYSA253A
321S503A/RV4 NAY503A	50,000	RV4 LAYSA503A
321S104A/RV4 NAY104A	100,000	321LT104A/RV4 LAYSA104A
321S254A/RV4 NAY254A	250,000	321LT254A/RV4 LAYSA254A
321S504A/RV4 NAY504A	500,000	321LT504A/RV4 LAYSA504A
	(Ohms $\pm 20\%$ )	
321S105B/RV4 NAY105B	1 Megohm	RV4 LAYSA105B
321S255B/RV4 NAY255B	2.5 Megohms	321LT255B/RV4 LAYSA255B



# IRC, Inc.

# IRC-CTS AUTO RADIO CONTROLS

**EXACT DUPLICATE CONTROLS** For over 280 different makes and models. IRC-CTS's line of exact duplicate controls includes 118 individual types. Faster servicing results from these top-quality controls because of IRC-CTS's strict adherence to manufacturer's specifications.



IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>AMERICAN MOTORS</b>				
5563	1959	Motorola	94MA	18B561728

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>BUICK</b>				
5346	1946-53	Motorola	BK2A, BK3A6	18B512084
5359	1957	Motorola		18B540768
5411	1950-53	Delco	980868, 980899, 980979, 980980, 981111, 981320, 981321, 981322, 981323	7263119
5412	1954	Delco	981550, 981551	7264309
5414	1956	Delco	981707, 981708	7266996
5415	1957	Delco	981813, 981814	7268944
5553	1958	Delco	981902	7271329
5558	1959	Delco	988822	7271446
6001	1960	Delco		7276365
6104	1961	Delco	980134/5	7277155

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>CADILLAC</b>				
5423	1950-52	Delco	7258865, 7260405, 7259825, 7260905, 7260705	7259240
5424	1953	Delco	7262645, 7262695, 7263525, 7263545, 7263835	7263321
5425	1954-55	Delco	7264165, 7264185, 7264195, 7265825, 7265845, 7265855	7264638
5426	1956	Delco	7266505, 7266535, 7266565	7266982
5427	1957	Delco	7268005, 7268035, 7268065	7269443

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>CHEVROLET</b>				
5342	1949-50	Delco	986240, 986388	7258084
5346	1951-52	Motorola	CT2A, CT2M	18B512084
5348	1953-54	Delco	986771	7264211
5349	1953-54	Delco	986668	7264210
5353	1955-57	Delco	987086, 987364, 3725156	7265302
5354	1955-58	Delco	987187	7266193
5356	1957	Delco	987577	7269211
5359	1957	Motorola		18B540768
5360	1957	Motorola	CTA7X, CTM7X	18K541128
5362	1957	Delco		7270202
5551	1958	Delco	987727	7270479
5555	1959	Delco	987888	7273302
5556	1959	Delco	987891	7273367
6002	1960	Delco	988276	7275710
6101	1961	Delco	985036	7278528
6201	1962	Delco	985264	7279855
6302	1963	Delco	985431	7282088
6401	1964	Delco	985877	7287414
6402	1964	Delco	985875	7287355

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>CHEVROLET TRUCKS</b>				
5346	1948-53	Motorola	GMT2A, GMT2M	18B512084
5361	1950-52	Delco	986067, 986443	7256188

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>CHRYSLER</b>				
5378	1955	Philco	C-5509, Mopar 835	33-5557-15
			C-5609	
5435	1953	Philco	C-5109, Mopar 812	33-5557-10
			C-5209, Mopar 817	
			C-5110, Mopar 813	
			C-5211	
			C-5111, Mopar 815	
			C-5212	

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>CHRYSLER (Cont.)</b>				
5436	1953-54	Philco	C-5112, Mopar 816	
			C-5409, Mopar 824	33-5557-13
			C-5410, Mopar 830	
			C-5411	
5437	1955	Philco	C-5595, Mopar 902	33-5557-16
			C-5596, Mopar 903	
5437	1956	Philco	C-5696, Mopar 912	33-5557-16
5438	1957	Philco	C-5705, Mopar 847	33-5580-16
5439	1957	Philco	C-5707	33-5580-13
5559	1959	Motorola	Mopar 861	18B561364

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>CONTINENTAL</b>				
5398	1956	Bendix	6BC	L219660-2
<b>CORVAIR</b>				
6004	1960	Delco	988062	7274920
6102	1961	Delco	988460	7278058

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>DESOTO</b>				
5449	1954	Motorola	Mopar 829	18A530623
5450	1955-56	Motorola	Mopar 911	18B532633
5451	1957	Motorola	Mopar 846	18B539819
			919, 919HR	
5451	1958	Motorola	Mopar 923	18B539819

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>DODGE</b>				
5459	1953	Motorola	Mopar 609	18B521099
5460	1954-55	Motorola	Mopar 833	18K533013
5461	1955	Motorola	Mopar 614, 621	18B532519
5462	1955-56	Motorola	Mopar 900	18K532955
			901, 910	
5464	1958	Motorola	Mopar 502	18B561317
5564	1959	Motorola	Mopar 856	18B561732
6007	1960	Motorola		18B563115

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>EDSEL</b>				
5562	1959	Bendix	94BE	2090035-3
<b>FORD</b>				
5308	1948-50	Bendix	M1, M1A, M1A1	L222808
5309	1950	Motorola	OMF	18B591266
5310	1951	Bendix	M2	L219586-2
5311	1951	Motorola	1MF	18B501153
5312	1952-53	Bendix	M4, M4A	L219586-3
5313	1952-53	Motorola	2MF, 3MF	18K511635
5315	1954	Motorola	4MF	18B530018
5316	1955	Bendix	5BF, R5BF	L219656-1
5317	1955	Motorola	5MF, 5MF8	18B531299
5318	1956	Bendix	R6BF	L219681-1
5319	1956	Motorola	66MF, 66MFP	18B534483
			69MF	
5320	1957	Bendix	R75BF	2090035-1
5322	1957	Motorola	78MF	18B539379
5323	1957-58	Bendix	R74BF, R84BF	2090035-2
5324	1957-58	Motorola	74MF, 84MF	18B541819
5325	1957-58	Motorola	76MF(SR), 86MF	18B542373
5560	1959	Motorola	94MF, 94MFM	
5561	1959	Motorola	95MF	18B561599
5562	1959	Bendix	94BF	
6005	1960	Bendix	04BF	2090405-1
6008	1960	Motorola	14MD, 14MF	18C562768
			14MFM	
6106	1961	Bendix	14BF	2090405-8
6202	1962	Motorola	2TMF	18C41341A01
6304	1963-64	Bendix	3TBO	2092097-4
6305	1963	Bendix	3TBD	2091619-3
6403	1964	Bendix	4TBD	2092097-6

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>GMC TRUCKS</b>				
5346	1948-53	Motorola	GMT2A, GMT2M	18B512084
5348	1954-58	Delco	2233396, 2233398, 2233399	7264211
5354	1955-56	Delco	2233478, 2233480	7266193
5361	1947-52	Delco	2233029, 2233297	7256188

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>KAISER</b>				
5346	1951-53	Motorola	KR2A, KR2M	18B512084

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>LINCOLN</b>				
5398	1955-56	Bendix		L219660-2

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>MERCURY</b>				
5398	1955-56	Bendix	R6BM	L219660-2
5399	1957	Philco	M-5841, M-5741	33-5570-2
5400	1958	Bendix	R84BM, R85BM-5	N219689-4
6106	1961	Bendix	14BF	2090405-8

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>OLDSMOBILE</b>				
5346	1951-52	Motorola	OE2A, OE2M	18B512084
5473	1949	Delco	982420	1219582
5474	1951	Delco	982700	7260294
5475	1953	Delco	983004	7263540
5476	1954-55	Delco	983090, 983204	7264242
5477	1954-56	Delco	983091, 983205	7264128
			983336	
5478	1956	Delco	98334	7266887
5479	1957	Delco	989002	7268847
5480	1957	Delco	989001	7269055
5552	1958	Delco	989127, 989129	7270679

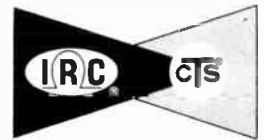
IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>PACKARD</b>				
5346	1951-53	Motorola	PD2A, PD2M	18B512084
5494	1956	Delco	480487, 6480487	7267632

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>PLYMOUTH</b>				
5373	1952	Motorola	Mopar 606	18A501616
5374	1953	Motorola	Mopar 608	18B521635
			P-5206,	33-5557-11
5375	1953	Philco	Mopar 819	
5376	1954-55	Motorola	Mopar 836	18A533014
5377	1955	Motorola	Mopar 613	18K532909
5378	1955	Philco	P-5506,	33-5557-15
			Mopar 832	
5379	1956	Motorola	Mopar 841	18K536152
5380	1956	Motorola	Mopar 916	18B536704
5381	1956	Philco	P-5606,	33-5580-4
			Mopar 840	
5382	1957	Motorola	Mopar 849	18B540376
5384	1958	Motorola	Mopar 854	18B560415
5385	1958	Philco	P-5801	33-5580-21
5386	1955	Philco		33-5557-14
5559	1959	Motorola	Mopar 860	
6006	1960	Motorola	101, 104, 110	18B563140

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>PONTIAC</b>				
5359	1957	Motorola		18B540768
5501	1949-50	Delco	984296, 984570	7257708
5502	1951-52	Delco	984592, 984688	7260043
5504	1955-56	Delco	984961, 988568	7265495
5505	1956	Delco	988623	7268308
5506	1957	Delco	988672	7269149
5507	1957	Delco	988671	7269638
5554	1958	Delco	988823	7271446
5557	1959	Delco	988976, 988977	7273623
6003	1960	Delco	989614/615	7275708
6103	1961	Delco	989692	7277542

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
<b>STUDEBAKER</b>				
5359	1957	Motorola	7MX	

# IRC-CTS SPECIAL PURPOSE CONTROLS



## IRC, Inc.

### USES:

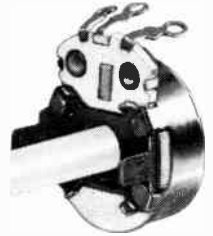
This control is supplied for reliable replacement of TV Height Controls and other controls in B+C CIRCUITS — such as AGC, NOISE GATE, FOCUS, FRINGE LOCK and SYNC controls — which have become unsatisfactory because of element etching due to voltages present in the particular circuitry.

#### TYPE HLC TV HEIGHT CONTROLS

IRC Stock No.	Resistance Value	IRC Stock No.	Resistance Value
HLC-1	2.0 Meg. ±30%	HLC-4	4.0 Meg. ±30%
HLC-2	2.5 Meg. ±30%	HLC-5	5.0 Meg. ±30%
HLC-3	3.0 Meg. ±30%	HLC-6	7.5 Meg. ±30%

### FEATURES:

- Premium quality control (originally designed for rugged service in military gear)
- 1 watt rating, 750 V. max. between outer terminals
- Small size  $1\frac{1}{16}$ " diameter — same as most original controls
- Nylon shaft — slotted and knurled — easily shortened where required.



## 2 WATT, $\frac{3}{4}$ " DIAMETER WIREWOUND CONTROLS

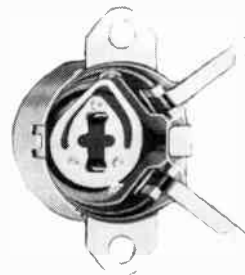
### TYPE 110—TAB-MOUNT UNIT



TYPES 110 & 110D

IRC STOCK NO.	RESISTANCE
110-1.5	1.5 Ω
110-5	5 Ω
110-15	15 Ω
110-60	60 Ω
110-100	100 Ω
110-300	300 Ω
110-600	600 Ω
110-1000	1000 Ω
110-3000	3000 Ω
110-3000-350	3000 Stops at 350 Ω

### TYPE 112—FLANGE MOUNT UNITS



TYPE 112

IRC-CTS buzz-bias controls are 2 watt preset type wirewound resistors. They are designed for hum-balancing, sensitivity, bias-adjust. AGC, holding, locking, and other radio and TV applications. All units are ±20% tolerance, linear taper, and have contact arm grounded to housing.

### TYPE 110D—TAB-MOUNT SPECIAL TEMPERATURE COMPENSATED UNITS

IRC STOCK NO.	RESISTANCE
110D175-60	175 Ω Stops at 60 Ω Replaces Delco #7275554
110D260-90	260 Ω Stops at 90 Ω Replaces Delco #7275474

IRC STOCK NO.	RESISTANCE
112-50	50Ω!
112-100	100Ω!
112-150	150Ω!
112-200	200Ω!
112-300	300Ω!
112-500	500Ω!
112-500-100	500Ω! Stops at 100Ω!
112-600	600Ω!
112-650	650Ω!
112-800	800Ω!
112-800-50	850Ω! Stops at 50Ω!
112-1000	1000Ω!
112-1000-100	1000Ω! Stops at 100Ω!
112-1500	1500Ω!
112-2000	2000Ω!
112-2000-100	2000Ω! Stops at 100Ω!
112-2500-700	2500Ω! Stops at 700Ω!
112-3000	3000Ω!
112-4000	4000Ω!
112-4000-350	4000Ω! Stops at 350Ω!
112-4000-1000	4000Ω! Stops at 1000Ω!
112-5000	5000Ω!
112-10K	10KΩ!

### TYPE 110C—TAB-MOUNT TV COLOR CONVERGENCE CONTROLS WITH INTEGRAL NYLON KNOBS



TYPE 110C

IRC STOCK NO.	RESISTANCE
110C-10	10 Ω
110C-30	30 Ω
110C-60	60 Ω
110C-120	120 Ω
110C-150	150 Ω

## L & T ATTENUATOR PADS



IRC-CTS L and T pads provide constant impedance for use in sound systems and for speaker controls. Both types handle up to 15 watts audio power (5 watts DC). L pads provide a constant input impedance and T pads provide constant input and output impedances.

#### ELECTRICAL SPECIFICATIONS:

Continuous D.C. Rating:	5 watts
Peak Audio Rating	15 watts
Dielectric Strength	1000 V.A.C. RMS to Ground
Attenuation Range	4, 8 and 16!! IMPEDANCES: 0 to 30 db
	500!! IMPEDANCE: 0 to 40 db
Insertion Loss	Negligible (less than .5 db)
Input Impedance	Constant within +30% -20%

#### MECHANICAL SPECIFICATIONS:

Size	$1\frac{3}{16}$ " diameter
Shaft Dimensions	
Diameter	.250"
Length	2" from mounting surface
Bushing	$\frac{3}{8}$ "-32 x $\frac{3}{8}$ " long bushing
Angle of Rotation	300° ± 5°

IRC Stock No.	IMPEDANCE
<b>L PADS</b>	
LP4A	4Ω!
LP8A	8Ω!
LP15A	15Ω!
LP500A	500Ω!
<b>T PADS</b>	
TP4A	4Ω!
TP8A	8Ω!
TP15A	15Ω!
TP500A	500Ω!

# MALLORY Carbon Controls

## MIDGETROLS

Mallory Midgetrols are used in both replacement and industrial applications. Rated 1 watt linear, 1/2 watt audio taper. 1/8" dia. Tapers: 1, left hand audio; 2, reverse audio; 4, linear.

**BUSHING MOUNT—METAL SHAFT**  
3/8"-32 x 3/8" bushing; shaft 1/4" dia. x 2 3/4" FMS (Front Mounting Surface). Furnished with two knob adapters and hex nut.  
**Mallory U Midgetrols**—Without **\$1.02** taps. Net Each.....  
**Mallory U Midgetrols**—Single or **\$1.26** double taps. Net Each.....

### WITHOUT TAPS

Mall. No.	Resis., Ohms	Tap per	Mall. No.	Resis., Ohms	Tap per
U1	100	4	U35	50K	4
U2	500	4	U36	75K	1
U52R	500	2	U39	100K	1
U751R	750	2	U40	100K	2
U3	1K	2	U41	100K	2
U4	1K	4	U415	125K	4
U5	1500	2	U42	150K	1
U5L	1500	4	U43	200K	4
U6	2K	4	U44	250K	4
U7	2500	2	U45	250K	2
U8	3K	4	U46	250K	4
U9	3K	2	U48	500K	4
U12	5K	1	U50	500K	1
U14	5K	4	U51	750K	1
U18	10K	1	U52	1 meg	2
U19	10K	2	U53	1 meg	4
U20	10K	4	U54	1 meg	1
U21	15K	1	U155	1.5 megs	4
U22	15K	2	U55	2 megs	1
U24	20K	1	U56	2 megs	4
U26	20K	4	U255	2.5 megs	4
U28	25K	2	U57	3 megs	1
U28A	25K	1	U59	3 megs	4
U29	25K	4	U63	5 megs	2
U30	30K	4	U65	5 megs	1
U33	50K	1	U67	5 megs	4
U34	50K	2	U82	10 megs	4

### SINGLE TAPPED

Mall. No.	Resis., Ohms	Tap At	Mall. No.	Resis., Megs	Tap At
UT153	15K	10K	UT440	1	200K
UT415	30K	25K	UT443	1	450K
UT420	250K	50K	UT450	2	125K
UT421	250K	150K	UT448	2	250K
UT425	350K	70K	UT449	2	600K
UT427	500K	100K	UT454	2	400K
UT429	500K	50K	UT451	2	900K
UT430	500K	150K	UT457	3	900K
UT431	500K	225K	UT461	3 1/4	300K
UT438	1 meg	300K			

### DOUBLE TAPPED

Mallory No.	Resistance, Ohms	Taps at	
		Tap 1	Tap 2
UDT283	500K	100K	200K
UDT289	1 meg	250K	500K
UDT291	1.5 megs	225K	500K
UDT295	2.25 megs	250K	500K
UDT296	2.25 megs	500K	1 meg
UDT303	3.3 megs	300K	1.5 megs

**BUSHING MOUNT—NYLON SHAFT**  
Same bushing as U type. Shaft 1/4" dia. x 3" FMS nylon.  
**Mallory SU Midgetrols**—Net Each... **93c**

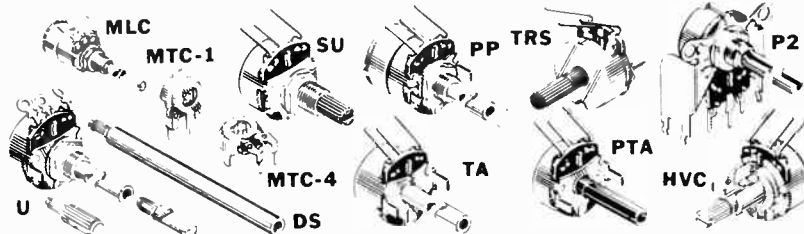
Mallory No.	Resis., Ohms	Tap per	Mallory No.	Resis., Ohms	Tap per
SU6	1500	4	SU50	500K	4
SU8	3K	4	SU54	1 meg	4
SU14	10K	4	SU56	2 megs	4
SU20	10K	4	SU565	2.5 megs	4
SU29	25K	4	SU59	3 megs	4
SU35	50K	4	SU67	5 megs	4
SU41	100K	4	SU69	7.5 megs	4
SU46	250K	4			

### TAB MOUNT—METAL SHAFT

Mounts on two twist-tab lugs. Shaft 1/4" dia. x 2 3/4" FMS. Furnished with two knob adapters.  
**Mallory TA Midgetrols**—Net Ea... **75c**

Mallory No.	Resis., Ohms	Tap per	Mallory No.	Resis., Ohms	Tap per
TA52L	500	4	TA334A	330K	1
TA751L	750	4	TA55R	500K	2
TA13L	1000	4	TA55A	500K	1
TA152L	1500	4	TA55L	500K	4
TA352L	3500	4	TA16A	1 meg	1
TA53L	5000	4	TA16L	1 meg	4
TA14L	10K	4	TA155L	1.5 megs	4
TA153L	15K	4	TA26A	2 megs	1
TA253L	25K	4	TA26L	2 megs	4
TA54A	50K	1	TA26T16	2 megs*	4
TA54L	50K	4	TA255L	2.5 megs	4
TA15L	100K	4	TA36L	3 megs	4
TA184L	180K	4	TA56R	5 megs	4
TA254L	250K	4	TA56L	5 megs	2

\*Tap at 1 meg.—Net Each..... **99c**



### TAB MOUNT—NYLON SHAFT

Same as TA except has 1/4" dia. x 1" FMS nylon shaft. Furn. with 2" shaft extender.  
**Mallory PTA Midgetrols**—Net Ea... **60c**

Mall. No.	Ohms	†	Mall. No.	Megs.	†
PTA52L	500	4	PTA754L	750K	4
PTA751L	750	4	PTA16L	1	4
PTA152L	1500	4	PTA1254L	1.25	4
PTA252L	2500	4	PTA26L	2	4
PTA352L	3500	4	PTA355L	3.5	4
PTA53L	5000	4	PTA46A	4	1
PTA54L	50K	4	PTA56R	5	2
PTA15L	100K	4	PTA56L	5	4
PTA35L	300K	4	PTA755L	7.5	4
PTA55R	500K	2	PTA855L	8.5	4
PTA55L	500K	4			

\*Ohms. †Taper.

### SWITCHES, SHAFT EXTENDERS

Switches for U, U/L, UDT or TA controls.

Mall. No.	Description	Net
US26	SPST, 6 amps at 125 VAC	42c
US26T	SPST, w/dummy terminal	51c
US27	DPST, 6 amps at 125 VAC	51c
US28	SPDT, 3 amps at 125 VAC	51c
DS36	1/4" dia. x 2 1/4"	33c
DS37	3/8" dia. x 2 1/4"	33c

**BUSHING MOUNT WITH P-P SWITCH**  
Standard U control with SPST 6 amps at 125 VAC push-pull switch, U/L Approved. Shaft 1/4" dia. x 2" FMS. Furnished with knob adapters and hex nut.

Mallory Number	Resis., Ohms	Tap, Ohms	Tap per	Net Each
PP13R	1K		2	\$1.35
PP252R	2.5K		2	1.35
PP253R	2.5K		2	1.35
PP15A	100K		1	1.35
PP25L	200K		4	1.35
PP254A	250K		1	1.35
PP254DT154	250K	100K-150K	4	1.59
PP55A	500K		1	1.35
PP55L	500K		4	1.35
PP55DT1683	500K	78K-168K	4	1.59
PP55T25	300K	200K	4	1.59
PP55T254	500K	250K	1	1.59
PP16A	1 meg		4	1.35
PP16L	1 meg		4	1.35
PP16T15	1 meg	100K	1	1.59
PP16T25	1 meg	200K	1	1.59
PP16DT55	1 meg	250K-500K	4	1.59
PP16T55	1 meg	500K	2	1.59
PP155L	1.5 megs		4	1.35
PP26A	2 megs		1	1.35
PP26DT16	2 megs	500K-1 meg	1	1.59
PP26T16	2 megs	1 meg	4	1.59
PP36DT26	3 megs	1 & 2 megs	4	1.59
PP36L	3 megs		4	1.35
PP46T26	4 megs	2 megs	4	1.59
PP56L	5 megs		4	1.35

### PRINTED CIRCUIT MOUNTING

Universal printed circuit control with "doghouse" and 3/8"-32 x 3/8" bushing and 1/4" dia. x 3" FMS universal shaft. Switches rated 6 amps at 125 VAC. U/L Approved.  
**Mallory P2 Midgetrols**—Without **\$1.11** taps. Net Each.....  
**Mallory P2 Midgetrols**—Single or double tapped. Net Each... **\$1.35**  
**Mallory P2**—SPST switch. Net... **1.53**  
**Mallory P2**—DPST switch. Net... **1.62**

Mallory No.	Resis., Ohms	Tap #1	Tap #2	Tap per	Switch
P2-252As	2.5K			1	SPST
P2-53Ls	5K			4	SPST
P2-14AD	10K			1	DPST
P2-153AD	15K			1	DPST
P2-55A	500K			1	SPST
P2-55As	500K			1	SPST
P2-55T254	500K	250K		1	SPST
P2-55Ls	500K			4	SPST
P2-16A	1 meg			1	SPST
P2-16As	1 meg			1	SPST
P2-16AD	1 meg			1	DPST
P2-16T35	1 meg	300K		1	DPST
P2-16LD	1 meg			4	DPST
P2-26A	2 megs			1	SPST
P2-26As	2 megs			1	SPST
P2-26DT65	2 megs	300K	600K	1	
P2-36L	3 megs			4	

**TAB MOUNT—REVERSE NYLON SHAFT**  
Same as PTA except 1/4" dia. nylon shaft projects 3/4" out REAR of control. Screwdriver slot in mounting end of shaft.  
**Mallory TRS Midgetrols**—Net Ea... **54c**

Mall. No.	Ohms	T'p'r	Mall. No.	Ohms	T'p'r
TRS12L	100	4	TRS15L	100K	4
TRS25L	250	4	TRS25L	200K	4
TRS51L	750	4	TRS254L	250K	4
TRS53L	5K	4	TRS55L	500K	4
TRS153L	15K	4	TRS754L	750K	4
TRS153			TRS16L	1 meg	4
DT14	15K*	4	TRS26A	2megs	1
TRS253L	25K	4	TRS26L	2megs	4
TRS44L	40K	4	TRS36L	3megs	4
TRS74L	70K	4	TRS46A	4megs	1
TRS15A	100K	1	TRS56L	5megs	4

\*Taps at 5K and 10K ohms.

**HIGH VOLTAGE MIDGETROL**  
To isolate control mounting from up to 4000 volts rms. Snap mount of nylon and 1/4" dia. x 3/4" FMS nylon shaft.  
**Mallory HVC Midgetrols**—Net Ea... **\$1.02**

Mallory No.	Resistance	Taper
HVC63L	6000 ohms	4
HVC155L	1.5 megs	4
HVC355L	3.5 megs	4

### SUBMINIATURE MINITROLS

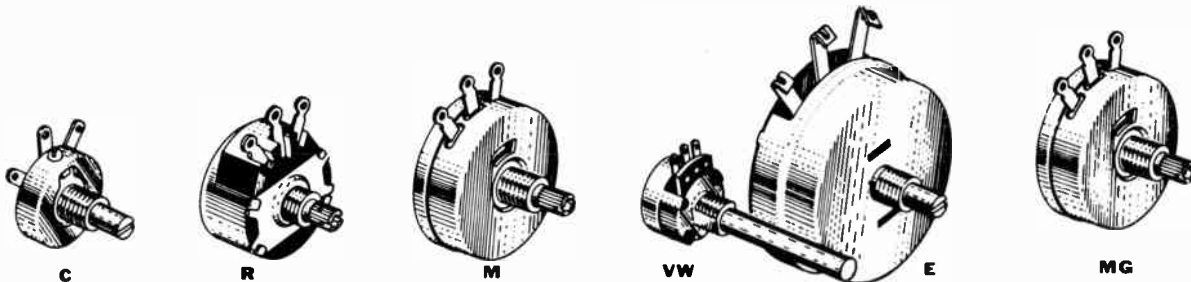
Only 1/2" dia. Rated 1/2 watt linear, 1/4 watt audio. 1/8"-32 x 1/4" bushing with nut. Shaft: 1/8" dia. x 1" FMS. MLC (steel); MLCN (nylon). SPST switch rated 3 amps at 125 VAC. U/L Approved. MTC has open screwdriver slot. Type MLC Bush. Mt.

Mallory No.	Ohms	Taper	Switch	Net
MLC13L	1000	4		\$1.14
MLC222LS	2200	4	SPST	1.86
MLC252A	2500	1		1.14
MLC252AS	2500	1	SPST	1.86
MLC53A	5000	1		1.14
MLC53AS	5000	1	SPST	1.86
MLC53L	5000	4		1.14
MLC53LS	5000	4	SPST	1.86
MLC144S	10K	1	SPST	1.86
MLC14L	10K	4		1.14
MLC54L	50K	4		1.14
MLC15A	100K	1		1.14
MLC15L	100K	4		1.14
MLC25L	200K	4		1.14
MLC254L	250K	4		1.14
MLC55A	500K	1		1.14
MLC55AS	500K	1	SPST	1.86
MLC55L	500K	4	SPST	1.86
MLC55LS	500K	4	SPST	1.86
MLC16AS	1 meg	1	SPST	1.86
MLC16L	1 meg	4	SPST	1.86
MLC16A	1 meg	1		1.14
MLC16L	1 meg	4		1.14

Type MTC PC Mt. Linear taper. Net. **39c**

Mallory Number	Resis., Ohms	
	Vert. Mtg.	Horiz. Mtg.
MTC12L1	MTC12L4	100
MTC22L1	MTC22L4	200
MTC25L1L1	MTC25L1L4	250
MTC32L1	MTC32L4	300
MTC52L1	MTC52L4	500
MTC75L1L1	MTC75L1L4	750
MTC13L1	MTC13L4	1000
MTC152L1L1	MTC152L1L4	1500
MTC23L1	MTC23L4	2000
MTC252L1	MTC252L4	2500
MTC33L1	MTC33L4	3000
MTC53L1	MTC53L4	5000
MTC63L1	MTC63L4	6000
MTC682L1	MTC682L4	6800
MTC14L1	MTC14L4	10K
MTC153L1L1	MTC153L1L4	15K
MTC24L1	MTC24L4	20K
MTC253L1	MTC253L4	25K
MTC54L1	MTC54L4	50K
MTC15L1	MTC15L4	100K
MTC124L1	MTC124L4	120K
MTC184L1	MTC184L4	180K
MTC254L1	MTC254L4	250K
MTC3253L1	MTC3253L4	325K
MTC454L1	MTC454L4	450K
MTC55L1	MTC55L4	500K
MTC16L1	MTC16L4	1 meg
MTC26L1	MTC26L4	2 megs
MTC355L1	MTC355L4	3.5 megs

# MALLORY Wire-wound Controls



## 2 WATT TYPE C

Rated 2 watts at 40° C. 1 1/4" diameter. Mech. Rotation: 280°. Elec. Rotation: 255°. Resis. Tolerance: ±10%. Contact arm grounded. Bushing: 3/8"-32 x 3/8". Shaft: 1/8" dia. x 1/8" FMS with screwdriver slot. Furn. with nut.

### POTENTIOMETERS

Mallory No.	Ohms Resis.	Carrying Capacity In Amps	Net Each
C6P	6	.58	\$1.08
C10P	10	.45	1.08
C15P	15	.37	1.08
C20P	20	.32	1.08
C30P	30	.26	1.08
C40P	40	.22	1.08
C50P	50	.2	1.08
C100P	100	.14	1.08
C200P	200	.1	1.08
C400P	400	.07	1.08
C1MP	1K	.045	1.20
C3MP	3K	.025	1.20
C5MP	5K	.02	1.47
C6MP	6K	.018	1.47
C10MP	10K	.014	1.47
C15MP	15K	.011	1.47

### RHEOSTATS\*

Mallory No.	Ohms Resis.	Carrying Capacity In Amps	Net Each
C6R	6	.58	93c
C10R	10	.45	93c
C15R	15	.37	93c
C20R	20	.32	93c
C30R	30	.26	93c
C40R	40	.22	93c
C50R	50	.2	93c
C100R	100	.14	93c

\*\*Open" or "off" position counter-clockwise.

## 3 WATT TYPE R

Standard TV wire-wound control rated 3 watts at 40° C. 1 1/4" diameter. Mech. Rotation: 297°. Elec. Rotation: 290°. Voltage Breakdown: 900 VAC rms. Bushing: 3/8"-32 x 3/8". Shaft: 1/8" dia. x 1/8" FMS, knurled with screwdriver slot. Furn. with nut. See listing below for switches for R controls.

Mallory No.	Ohms Resis.	Net Each	Mallory No.	Ohms Resis.	Net Each
R2L	2	\$0.93	R500L†	50	\$1.32
R3L	3	.93	R100L	100	.93
R5L	5	.93	R250L	250	.93
R6L	6	.93	R500L	500	.93
R8L	8	.93	R750L	750	.93
R10L	10	.93	R1000L	1000	.93
R10CT†	10	1.32	R1500L	1500	.93
R15L	15	.93	R2500L	2500	.93
R20L	20	.93	R3000L	3000	.93
R20CT†	20	1.32	R5000L	5000	.93
R25L	25	.93	R7500L	7500	1.08
R30L	30	.93	R10ML	10000	1.08
R30CT†	30	1.32	R15ML	15000	1.08
R50L	50	.93	R20ML	20000	1.08

†Center-tapped controls.

### SWITCHES FOR TYPE R POTS

Mall. No.	Description	Net
US30	Single Pole, Single Throw	42c
US32	Double Pole, Single Throw	54c

### TV FOCUS CONTROLS

Mallory No.	Resis., Ohms	Shaft	Net Each
TVF140	1500	1/8" dia. x 2 1/2" lg.	\$1.35
TVF143	2500	1/8" dia. x 2 lg.	1.35

## 4 WATT TYPE M

Rated 4 watts at 40° C. 1 1/2" diameter. Mech. Rotation: 294°. Elec. Rotation: 275°. Resis. Tolerance: ±10%. Voltage Breakdown: 900 VAC rms. Bushing: 3/8"-32 x 3/8" FMS. Shaft: 1/4" dia. x 1/4" FMS, knurled with screwdriver slot. Furn. with nut.

### POTENTIOMETERS

Mallory Number	Ohms Resis.	Capacity In Amps	Net Each
M1PK	1	2.00	\$1.32
M3PK	3	1.15	1.32
M6PK	6	.82	1.32
M10PK	10	.63	1.32
M15PK	15	.52	1.32
M20PK	20	.45	1.32
M25PK	25	.40	1.32
M30PK	30	.37	1.32
M40PK	40	.32	1.32
M50PK	50	.28	1.32
M60PK	60	.26	1.32
M75PK	75	.23	1.32
M100PK	100	.20	1.32
M200PK	200	.14	1.32
M300PK	300	.116	1.32
M400PK	400	.10	1.32
M500PK	500	.09	1.32
M600PK	600	.082	1.32
M1MPK	1K	.083	1.36
M15MPK	1.5K	.052	1.36
M2MPK	2K	.045	1.36
M25MPK	2.5K	.04	1.36
M3MPK	3K	.037	1.36
M4MPK	4K	.032	1.36
M5MPK	5K	.028	1.36
M10MPK	10K	.02	1.35
M15MPK	15K	.016	1.47
M20MPK	20K	.014	1.47
M25MPK	25K	.013	1.47
M50MPK	50K	.009	1.74
M70MPK	70K	.0075	1.74
M75MPK	75K	.0073	2.46
M100MPK	100K	.0063	2.46

### CENTER-TAPPED POTENTIOMETERS

Mallory Number	Ohms Resis.	Capacity In Amps	Net Each
MT10PK	10	.63	\$1.32
MT20PK	20	.45	1.32
MT30PK	30	.37	1.32

### RHEOSTATS\*

Mallory Number	Ohms Resis.	Capacity In Amps	Net Each
M05RK	0.5	2.80	93c
M1RK	1	2.00	93c
M2RK	2	1.40	93c
M3RK	3	1.15	93c
M4RK	4	1.00	93c
M6RK	6	.82	93c
M10RK	10	.63	93c
M15RK	15	.52	93c
M20RK	20	.45	93c
M25RK	25	.40	93c
M30RK	30	.37	93c
M40RK	40	.32	93c
M50RK	50	.28	93c
M60RK	60	.26	93c
M75RK	75	.23	93c
M100RK	100	.20	93c

\*\*Open" or "Off" position counter-clockwise.

## 5 WATT TYPE VW SUBMINIATURE

Rated 5 watts at 35° C. 1/2" diameter. Mech. Rotation: 305°. Elec. Rotation: 275°. Resis. Tolerance: ±10%. Voltage Breakdown: 900 VAC rms. Bushing: 3/8"-32 x 3/8". Shaft: 1/4" dia. x 2 1/2" FMS. Furn. with nut and lug.

Mallory No.	Ohms Resis.	Net Each	Mallory No.	Ohms Resis.	Net Each
VW1	1	\$1.38	VW300	300	\$1.38
VW2	2	1.38	VW400	400	1.38
VW3	3	1.38	VW500	500	1.38
VW5	5	1.38	VW600	600	1.38
VW6	6	1.38	VW750	750	1.38
VW8	8	1.38	VW1K	1000	1.38
VW10	10	1.38	VW1P5K	1500	1.44
VW15	15	1.38	VW2K	2000	1.44
VW20	20	1.38	VW2P5K	2500	1.44
VW25	25	1.38	VW3K	3000	1.44
VW30	30	1.38	VW4K	4000	1.44
VW40	40	1.38	VW5K	5000	1.44
VW50	50	1.38	VW7P5K	7500	1.50
VW60	60	1.38	VW10K	10000	1.50
VW75	75	1.38	VW15K	15000	1.56
VW100	100	1.38	VW20K	20000	1.56
VW200	200	1.38	VW25K	25000	1.65
VW250	250	1.38			

## 7 WATT TYPE E

Rated 7 watts at 40° C. 2 1/4" diameter. Mech. Rotation: 307°. Elec. Rotation: 295°. Resis. Tolerance: ±10%. Contact arm grounded. Bushing: 3/8"-32 x 3/8". Shaft: 1/4" dia. x 1/4" FMS with screwdriver slot. Furnished with nut.

Mallory Number	Ohms Resis.	Capacity In Amps	Net Each
E5MP	5K	.042	\$2.76
E10MP	10K	.03	2.94
E20MP	20K	.021	3.00
E25MP	25K	.019	3.09
E50MP	50K	.0135	3.15
E75MP	75K	.011	3.24
E100MP	100K	.0095	3.30
E125MP	125K	.0085	3.30
E150MP	150K	.0078	3.38

## 12 1/2 WATT TYPE MG

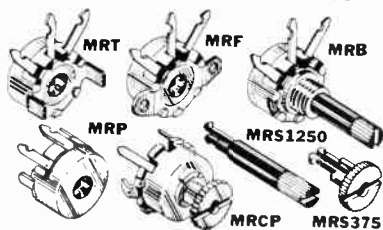
Rated 12 1/2 watts at 35° C. 1 1/2" diameter. Mech. Rotation: 294°. Elec. Rotation: 275°. Resis. Tolerance: ±10%. Voltage Breakdown: 900 VAC rms. Bushing: 3/8"-32 x 3/8" FMS. Shaft: 1/4" dia. x 1/4" FMS, knurled with screwdriver slot. Furn. with nut.

Mallory No.	Ohms Resis.	Net Each	Mallory No.	Ohms Resis.	Net Each
MG1	1	\$2.18	MG600	600	\$2.18
MG3	3	2.18	MG1000	1000	2.22
MG6	6	2.18	MG1500	1500	2.22
MG10	10	2.18	MG2000	2000	2.22
MG15	15	2.18	MG2500	2500	2.22
MG20	20	2.18	MG3000	3000	2.22
MG25	25	2.18	MG4000	4000	2.22
MG30	30	2.18	MG5000	5000	2.22
MG50	50	2.18	MG10K	10K	2.32
MG100	100	2.18	MG15K	15K	2.32
MG200	200	2.18	MG20K	20K	2.32
MG300	300	2.18	MG25K	25K	2.32
MG400	400	2.18	MG50K	50K	2.50
MG500	500	2.18	MG100K	100K	2.72

STANDARD TAPER FOR MALLORY WIRE-WOUND CONTROLS IS NORMAL LINEAR TAPER. OTHER TAPERS MAY BE SPECIFIED ON SPECIAL ORDER.

# MALLORY Wire-wound Controls

## 3-WATT TYPE MR WIRE-WOUND CONTROLS



Only 3/8" diameter, MR controls are used for applications in AGC, convergence, hum-balance, etc. Case is fully enclosed; MR, all metal; MRC, metal mounting plate with molded nylon body and knob. Types MR and MRC directly replace older FL and PFL types as shown in cross-reference. Five mounting configurations available. Conversion from cross-slot adjustment to shaft may be made using plug-in shafts listed. **Wattage Rating at 40° C:** MR, 3 watts; MRC, 1 1/2 watts. **Rotation:** 250° mechanical; 248° electrical. **Resistance Tolerance:** MR, ±20%; MRC, ±10%. **Voltage Breakdown:** MR, 900 VAC rms; MRC has grounded contact arm.

### MR-B 3-WATT BUSHING MOUNT

Bushing 3/8"-32 x 1". Shaft 1/4" dia. x 1 1/2" lg., FMS knurled and slotted nylon. With nut.

Mallory No.	Res. Ω	Net Each	Mallory No.	Res. Ω	Net Each
MR10B	10	\$0.93	MR1000B	1000	\$0.93
MR50B	50	.93	MR2500B	2500	.93
MR100B	100	.93	MR5000B	5000	.93
MR250B	250	.93	MR10KB	10K	1.08
MR500B	500	.93	MR15KB	15K	1.08

### MR-T 3-WATT TAB MOUNT

Furnished with twist-tabs for mounting on PC board or chassis. Cross-slot adjustment.

MR	Res. Ω	Net Each	MR	Res. Ω	Net Each
MR10T	10	\$0.66	MR2500T	2500	\$0.70
MR50T	50	.66	MR3000T	3000	.70
MR100T	100	.66	MR4000T	4000	.70
MR250T	250	.66	MR5000T	5000	.76
MR500T	500	.66	MR8000T	8000	.76
MR850T	850	.66	MR10KT	10K	.83
MR1000T	1000	.66	MR15KT	15K	.93

### MR-F 3-WATT FLANGE MOUNT

Mounting ears with .130" dia. holes on 1" center. Cross-slot adjustment, front and rear.

MR	Res. Ω	Net Each	MR	Res. Ω	Net Each
MR6F	6	\$0.66	MR600F	600	\$0.66
MR15F	15	.66	MR750F	750	.66
MR40F	40	.66	MR1000F	1000	.66
MR75F	75	.66	MR1500F	1500	.66
MR100F	100	.66	MR2000F	2000	.66
MR150F	150	.66	MR2500F	2500	.66
MR200F	200	.66	MR3000F	3000	.66
MR250F	250	.66	MR4000F	4000	.66
MR500F	500	.66	MR5000F	5000	.66

### MR-P 3-WATT PC MOUNT

Printed circuit board mounting with cross-slot adjustment, front and rear.

MR	Res. Ω	Net Each	MR	Res. Ω	Net Each
MR15P	15	\$0.66	MR1000P	1000	\$0.66
MR100P	100	.66	MR1500P	1500	.66
MR175SP	175*	.66	MR3000P	3000	.66
MR250SP	250†	.66	MR4000P	4000	.66
MR600P	600	.66	MR5000P	5000	.66

\*Stop at 60 ohms. †Stop at 100 ohms.

### MRC-P 1 1/2-WATT PC MOUNT

Convergence controls with printed circuit board mounting and permanent knob.

MRC	Res. Ω	Net Each	MRC	Res. Ω	Net Each
MRC10P	10	\$0.66	MRC100P	100	\$0.66
MRC30P	30	.66	MRC120P	120	.66
MRC60P	60	.66	MRC150P	150	.66

### SHAFTS FOR MR CONTROLS

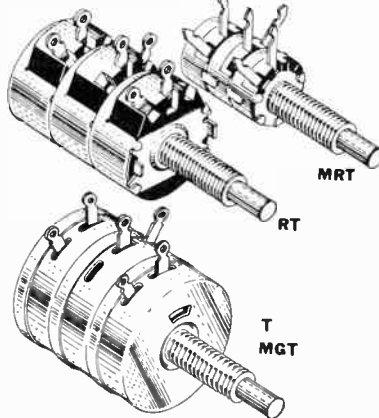
Mallory No. MRS1250—1/4" dia. x 1 1/2" FMS knurled and slotted nylon. Plugs into either end of MR control. Net Ea. . . . 12c  
Mallory No. MRS1563—1/4" dia. x 1 1/2" FMS, knurled, slotted nylon. Net Ea. 12c  
Mallory No. MRS375—1/2" dia. knurled nylon knob/shaft with slot. Projects 3/4" FMS. For MR-F, P or T controls. Net Each. . . . 12c

### TANDEM COUPLER FOR MR CONTROLS

Mallory No. MRS100—Couples MRP type to MRB, MRT, MRF or MRP to make tandem control. Net Each. . . . 3c

## AUDIO ATTENUATORS

Mallory audio attenuators are available in three wattage ratings: 10 watts, MR, R and RR; 15 watts, T, L, LL and BAL; and 50 watts, MGL and MGT. All are made to critical audio standards; come complete with mounting hardware. Three case diameters: 3/4", MR; 1 1/4", R; and 1 3/4" for T, L, LL, BAL, MGL and MGT.



### T PAD ATTENUATORS

Present constant impedance to both source (amplifier) and output (speaker).

### T PAD STOCK VALUES

Imped., Ohms	Mallory No. for Audio Rating of			
	10 W	10 W	15 W	50 W
2				
4	MRT4	RT4	T4	MGT4
6			T6	
8	MRT8	RT8	T8	MGT8
15-16	MRT16	RT16	T15	MGT16
50	MRT50	RT50	T50	MGT50
100			T100	
200			T200	
250		RT250	T250	
500		RT500	T500	
600			T600	
1000			T1000	
2000			T2000	
3000			T3000	

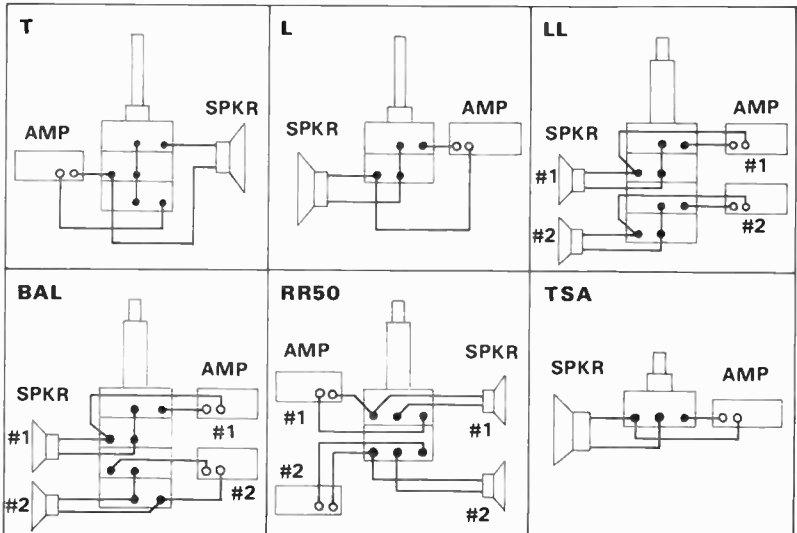
### T PAD NET PRICES

With nuts, washers, knob and dial.

Type	Bushing	Shaft (FMS)	Net Each
MRT	3/8"-32 x 1"	1/4" x 1 1/2"	\$3.33
RT	3/8"-32 x 1"	1/4" x 1 1/2"	3.33
T	3/8"-32 x 3/8"	1/4" x 2"	3.54
MGT	3/8"-32 x 1"	1/4" x 1 1/2"	6.48

### STEREO LEVEL CONTROL

Level control for low-priced 4- and 8-ohm stereo speakers. Rated 10 watts, audio. Supplied with nuts, washers, dial and knob. Bushing 3/8"-32 x 1". Shaft 1/4" dia. x 1 1/2" lg. Mallory No. RR50—Net Each. . . . \$2.10



### L PAD ATTENUATORS

Present constant impedance to source (amplifier), used in audio circuits where output (speaker) impedance is not critical.

### L PAD STOCK VALUES

Imped., Ohms	Mallory No. for Audio Rating of			
	10 W	10 W	15 W	50 W
2			L2	
4	MRL4	RL4	L4	MGL4
6			L6	
8			L8	
8	MRL8	RL8	L8A	MGL8
15			L15	
16	MRL16	RL16	L16A	MGL16
50	MRL50	RL50	L50	MGL50
100			L100	
200			L200	
250		RL250	L250	
500		RL500	L500	
600			L600	
1000			L1000	
2000			L2000	
3000			L3000	
4000			L4000	

### L PAD NET PRICES

With nut, washer, knob and dial.

Type	Bushing	Shaft (FMS)	Net Each
MRL	3/8"-32 x 1"	1/4" x 1 1/2"	\$2.50
RL	3/8"-32 x 1"	1/4" x 1 1/2"	2.50
L	3/8"-32 x 3/8"	1/4" x 2"	2.73
L-A	3/8"-32 x 1"	1/4" x 1 1/2"	2.85
MGL	3/8"-32 x 1"	1/4" x 1 1/2"	4.26

### LL PAD ATTENUATORS

Two L pads in tandem for stereo level control. Bushing 3/8"-32 x 1". Shaft 1/4" dia. x 1 1/2" lg. With nuts, washers and deluxe "Level" dial supplied.

Mallory No.	Imped., Ohms	Audio Watts	Net Each
MRL4L	4	10	\$5.40
MRL8L	8	10	5.40
MRL16L	16	10	5.40
MRL50L	50	10	5.40
LL8	8	15	5.70
LL16	16	15	5.70
LL50	50	15	5.70
MGLL8	8	50	8.10
MGLL16	16	50	8.10

### STEREO BALANCE ATTENUATOR

Back-to-back tandem L pads for true stereo balancing. Rated 15 watts, audio. Comes with nuts, washers, knob and "Balance" dial. Bushing 3/8"-32 x 1". Shaft 1/4" dia. x 1 1/2" lg.

Mallory No. BAL8 (8 ohms) or BAL16 (16 ohms)—Net Each. . . . \$5.70

### THEATRE SPEAKER CONTROLS

Engineered for outdoor movie speakers. Rated 8 watts, audio. Bushing 3/8"-32 x 3/8". Shaft 1/4" dia. x 3/4" lg. With nut.

Mallory No.	Description	Net Each
TSA6	6-ohm pot	\$1.14
TSA10	4-ohm L pad	1.35
TSA35	35-ohm pot	1.35



# Power Rheostats and Potentiometers



**TYPE 25K 25 WATTS**  
1 1/8" O.D. 295° angle of rotation.

Mallory No.	Ohms	Max. Amps	Steps	Net Each
25K1P	1	5.000	28	\$4.40
25K2P	2	3.540	28	3.90
25K3P	3	2.880	53	3.90
25K6P	6	2.040	51	3.90
25K8P	8	1.770	56	3.90
25K10P	10	1.580	54	3.90
25K15P	15	1.290	88	3.90
25K25P	25	1.000	117	3.90
25K35P	35	.845	129	3.90
25K50P	50	.707	149	3.90
25K75P	75	.575	174	3.90
25K100P	100	.500	184	3.90
25K125P	125	.447	187	3.90
25K175P	175	.378	178	3.90
25K250P	250	.316	200	3.90
25K350P	350	.267	227	3.90
25K500P	500	.222	256	3.90
25K750P	750	.182	303	3.90
25K1000P	1000	.155	318	4.40
25K1500P	1500	.129	310	4.40
25K2500P	2500	.100	405	4.40
25K3500P	3500	.084	432	4.66
25K5000P	5000	.070	471	4.66

**TYPE 50K 50 WATTS**  
2 1/8" O.D. 300° angle of rotation.

Mallory No.	Ohms	Max. Amps	Steps	Net Each
50K.5P	.5	10.00	25	\$4.89
50K1P	1	7.07	37	4.89
50K2P	2	5.00	42	4.89
50K4P	4	3.54	66	4.40
50K6P	6	2.89	79	4.40
50K8P	8	2.50	84	4.40
50K12P	12	2.04	100	4.40
50K16P	16	1.76	106	4.49
50K22P	22	1.50	145	4.40
50K35P	35	1.19	145	4.40
50K50P	50	1.00	163	4.40
50K80P	80	.79	210	4.40
50K125P	125	.63	204	4.40
50K150P	150	.58	244	4.40
50K225P	225	.47	298	4.40
50K300P	300	.41	268	4.40
50K500P	500	.32	205	4.40
50K800P	800	.25	363	4.66
50K1000P	1000	.22	354	4.66
50K1600P	1600	.176	449	4.66
50K2500P	2500	.14	455	4.66
50K3500P	3500	.12	500	4.89
50K5000P	5000	.10	550	4.89
50K8000P	8000	.08	690	4.89
50K10000P	10000	.07	870	4.89

**TYPE 75K 75 WATTS**  
2 3/8" O.D. 300° angle of rotation.

Mallory No.	Ohms	Max. Amps	Steps	Net Each
75K.5P	.5	12.20	26	\$6.61
75K1P	1	8.66	35	6.61
75K2P	2	6.12	42	6.61
75K4P	4	4.34	64	6.61
75K6P	6	3.54	77	6.09
75K8P	8	3.06	81	6.09
75K12P	12	2.50	97	6.09
75K25P	25	1.73	126	6.09
75K50P	50	1.22	159	6.09
75K75P	75	1.00	188	6.09
75K100P	100	.87	200	6.09
75K200P	200	.61	249	6.09
75K250P	250	.55	252	6.09
75K350P	350	.46	277	6.09
75K500P	500	.39	312	6.09
75K750P	750	.32	330	6.61
75K1MP	1000	.27	365	6.61
75K1500P	1500	.22	407	6.61
75K2500P	2500	.17	428	6.61
75K5MP	5000	.12	550	7.08
75K8MP	8000	.10	670	7.08
75K10MP	10000	.09	660	7.60

**TYPE 100K 100 WATTS**  
3 1/8" O.D. 300° angle of rotation.

Mallory No.	Ohms	Max. Amps	Steps	Net Each
100K.5P	.5	14.20	30	\$7.32
100K1P	1	10.00	40	7.32
100K2P	2	7.07	42	7.32
100K3P	3	5.77	56	7.32
100K5P	5	4.47	59	7.32
100K7.5P	7.5	3.65	96	6.66
100K10P	10	3.16	101	6.66
100K16P	16	2.50	128	6.66
100K25P	25	2.00	160	6.66
100K50P	50	1.41	200	6.66
100K75P	75	1.15	240	6.66
100K100P	100	1.00	250	6.66
100K200P	200	.71	315	6.66
100K300P	300	.58	302	6.66
100K400P	400	.50	316	6.66
100K500P	500	.45	342	6.66
100K750P	750	.37	406	6.66
100K1000P	1000	.32	435	7.32
100K1500P	1500	.26	520	7.32
100K2000P	2000	.22	544	7.32
100K2500P	2500	.20	535	7.32
100K5000P	5000	.14	692	8.80
100K7500P	7500	.12	820	8.80
100K10000P	10000	.10	840	8.80

**TYPE 150K 150 WATTS**  
4 1/8" O.D. 305° angle of rotation.

Mallory No.	Ohms	Max. Amps	Steps	Net Each
150K.5P	.5	17.30	31	\$9.28
150K1P	1	12.30	38	9.28
150K2P	2	8.66	51	9.28
150K3P	3	7.07	73	9.28
150K5P	5	5.48	77	9.28
150K7.5P	7.5	4.47	70	9.28
150K10P	10	3.87	145	8.80
150K15P	15	3.16	138	8.80
150K25P	25	2.45	142	8.80
150K35P	35	2.07	198	8.80
150K50P	50	1.73	182	8.80
150K75P	75	1.41	218	8.80
150K100P	100	1.22	229	8.80
150K150P	150	1.00	276	8.80
150K200P	200	.87	289	8.80
150K250P	250	.77	360	8.80
150K350P	350	.66	350	8.80
150K500P	500	.55	400	8.80
150K750P	750	.45	460	9.80
150K1250P	1250	.35	490	9.80
150K1800P	1800	.290	555	9.80
150K2250P	2250	.26	547	9.80
150K3000P	3000	.22	729	9.80
150K4500P	4500	.18	689	10.27
150K7500P	7500	.14	930	10.76
150K10000P	10000	.12	980	11.73

**TYPE 225K 225 WATTS**  
5" O.D. 310° angle of rotation.

Mallory No.	Ohms	Max. Amps	Steps	Net Each
225K1P	1	15.00	62	\$13.40
225K2P	2	10.60	69	13.40
225K3P	3	8.66	73	13.40
225K4P	4	7.50	91	13.40
225K5P	5	6.71	91	13.40
225K7.5P	7.5	5.48	96	13.40
225K10P	10	4.74	101	13.40
225K15P	15	3.87	147	13.40
225K25P	25	3.00	192	13.40
225K50P	50	2.12	242	13.40
225K100P	75	1.73	290	13.40
225K150P	100	1.50	304	13.40
225K200P	150	1.22	364	13.40
225K250P	200	1.06	382	13.40
225K350P	300	.80	421	13.40
225K500P	500	.67	475	13.40
225K750P	750	.55	577	13.40
225K1MP	1000	.47	605	13.40
225K1500P	1500	.39	715	13.40
225K2500P	2500	.30	660	13.40

**TYPE 300K 300 WATTS**  
6 1/8" O.D. 315° angle of rotation.

Mallory No.	Ohms	Max. Amps	Steps	Net Each
300K1P	1	17.30	48	\$14.90
300K2P	2	12.25	60	14.90
300K3P	3	10.00	64	14.90
300K4P	4	8.66	80	14.90
300K5P	5	7.75	80	14.90
300K7.5P	7.5	6.32	100	14.90
300K10P	10	5.48	139	14.90
300K15P	15	4.47	128	14.90
300K25P	25	3.46	182	14.90
300K50P	50	2.45	228	14.90
300K75P	75	2.00	271	14.90
300K100P	100	1.73	287	14.90
300K150P	150	1.41	338	14.90
300K200P	200	1.22	361	14.90
300K300P	300	1.00	427	14.90
300K400P	400	.87	460	14.90
300K700P	700	.66	555	14.90
300K900P	900	.58	564	14.90
300K1200P	1200	.50	605	14.90
300K1500P	1500	.45	755	14.90
300K1750P	1750	.41	691	14.90
300K2500P	2500	.35	785	14.90

**TYPE 500K 500 WATTS**  
8" O.D. 325° angle of rotation.

Mallory No.	Ohms	Max. Amps	Steps	Net Each
500K1P	1	22.40	73	\$20.99
500K2P	2	15.80	68	20.99
500K3P	3	12.90	91	20.99
500K4P	4	11.20	96	20.99
500K5P	5	10.00	127	20.99
500K7.5P	7.5	8.16	134	20.99
500K10P	10	7.07	169	20.99
500K15P	15	5.79	180	20.99
500K25P	25	4.47	230	20.99
500K50P	50	3.16	285	20.99
500K75P	75	2.58	342	20.99
500K100P	100	2.24	362	20.99
500K150P	150	1.82	430	20.99
500K200P	200	1.58	452	20.99
500K250P	250	1.41	563	20.99
500K350P	350	1.20	630	20.99
500K500P	500	1.00	708	20.99
500K750P	750	.82	670	20.99
500K1MP	1000	.71	705	20.99
500K1500P	1500	.58	862	20.99
500K2500P	2500	.45	975	20.99

**TYPE "K" RHEOSTAT ACCESSORIES**  
(Not Illustrated)

Mallory No.	Description	Dia.	Net Each
365-1	Bar knob	2 1/4"	\$0.21
366-1	Bar knob	1 1/4"	.15
367-1	Knurled rd. knob	1 1/2"	.21
368-1	Knurled rd. knob	1 3/8"	.20
364	368 w/pointer		.09
363†	Handwheel*	3 1/4"	2.49
363-1†	Handwheel**	3 1/4"	2.03
362	Handwheel*	3 1/4"	2.49
362-1	Handwheel**	3 1/4"	2.03
361	Finger grip*	1 3/8"	.70
361-1	Finger grip**	1 3/8"	.55
360	Finger grip*	1 3/8"	.99
360-1	Finger grip**	1 3/8"	.89
359†	Finger grip*	2 3/8"	.64
359-1†	Finger grip**	2 3/8"	.50
369	Dial plate, 0-100		.21
370	Dial plate, 0-100		.85
391	Dial plate, vol.		.21

\*With pointer, \*\*Without pointer, † 1/8" hole dia., others, 1/4".

A DIVISION OF LTV ELECTROSYSTEMS, INC.

**MEMCOR COMPONENTS**

12½ thru 225 WATT

Originators of TRU-OHM & HARDWICK, HINDLE Products

**RHEOSTATS**

POWER  
VITREOUS ENAMELED

MEMCOR power vitreous enameled rheostats are exceptionally rugged and are "made better than they need be." They exhibit characteristics that meet the most exacting specifications. Special design features assure long life and protection under extremes of humidity and abnormal atmospheric conditions.

In the 225, 500, 750 and 1000 watt sizes the "buss bar" contact arm automatically adjusts for complete, continuous contact, and smooth, flexible control. MEMCOR high temperature enamel gives increased service life with an extreme factor of safety.

MEMCOR rheostats are stocked in eleven sizes; 12½ through 1000 watts resistance from 0.5 to 10,000 ohms with diameters from 7/8" through 12". All standard stock units are identified by stock number.

TYPE	Ohms				Ohms				Ohms				
	Max. Amps.	Approx. Steps	Stock No.		Max. Amps.	Approx. Steps	Stock No.		Max. Amps.	Approx. Steps	Stock No.		
<b>TYPE R-12½ (12½ WATTS)</b> DIAM.: 7/8" WEIGHT: .035 LBS.	1.	3.53	27	600	25	.71	65	607	250	.22	124	614	
	2.	2.5	38	601	35	.6	78	608	350	.19	150	615	
	2.5	2.23	40	601A	50	.5	81	609	500	.16	164	616	
	3.	2.04	36	602	75	.41	98	610	750	.13	188	617	
	5.	1.58	55	602A	100	.35	102	611	1000	.11	196	618	
	6.	1.44	45	603	125	.32	102	612	1500	.091	235	619	
	8.	1.25	49	604	150	.29	96	612A	2500	.071	260	620	
	10	1.18	42	605	175	.27	112	613	3500	.06	285	621	
	15	.91	49	606	200	.25	128	613A	5000	.05	315	622	
	<b>TYPE R-25 (25 WATTS)</b> DIAM.: 1 1/8" WEIGHT: .23 LBS.	1.	5.0	26	100	35	.845	100	108	500	.222	215	116
		2.	3.54	28	101	50	.707	105	109	750	.182	230	117
		3.	2.88	44	102	75	.575	120	110	1000	.155	270	118
		6.	2.04	50	103	100	.5	140	111	1500	.129	325	119
		8.	1.77	54	104	125	.445	145	112	2500	.1	410	120
		10	1.58	60	105	175	.375	153	113	3500	.084	440	121
15		1.29	78	106	250	.316	170	114	5000	.07	480	122	
25		1.0	80	107	350	.267	180	115					
<b>TYPE R-50 (50 WATTS)</b> DIAM.: 2 1/8" WEIGHT: .45 LBS.		.5	10.0	22	200	35	1.19	120	209	1000	.223	375	218
		1.	7.07	36	201	50	1.0	120	210	1600	.176	465	219
		2.	5.0	38	202	80	.79	135	211	2500	.141	560	220
		4.	3.54	38	203	125	.63	185	212	3500	.119	585	221
		6.	2.88	75	204	150	.574	175	213	5000	.1	600	222
		8.	2.5	70	205	225	.47	215	214	8000	.079	710	223
		12	2.04	80	206	300	.408	225	215	10K	.07	720	224
	16	1.76	90	207	500	.316	295	216					
	22	1.5	95	208	800	.25	360	217					
	<b>TYPE R-75 (75 WATTS)</b> DIAM.: 2 3/8" WEIGHT: .60 LBS.	.5	12.3	27	300	25	1.73	92	308	750	.316	260	316
		1.	8.66	18	301	50	1.23	118	309	1000	.274	290	317
		2.	6.12	30	302	75	1.0	135	310	1500	.224	350	318
		3.	5.0	30	303	100	.866	147	311	2000	.194	380	319
		5.	3.8	45	304	200	.612	180	312	2500	.173	425	320
		7.5	3.16	47	305	300	.5	227	313	5000	.123	630	321
10		2.74	50	306	400	.433	232	314	7500	.1	715	322	
16		2.17	87	307	500	.388	250	315	10K	.087	820	323	
<b>TYPE R-100 (100 WATTS)</b> DIAM.: 3 1/8" WEIGHT: .72 LBS.		.5	14.1	30	400	25	2.0	105	408	750	.365	280	416
		1.	10.0	20	401	50	1.41	140	409	1000	.316	316	417
		2.	7.07	32	402	75	1.15	155	410	1500	.258	370	418
		3.	5.75	32	403	100	1.0	168	411	2000	.224	420	419
		5.	4.47	50	404	200	.707	190	412	500	.2	460	420
		7.5	3.65	52	405	300	.575	260	413	5000	.141	650	421
		10	3.16	58	406	400	.500	262	414	7500	.115	740	422
	16	2.5	97	407	500	.447	270	415	10K	.1	850	423	
	<b>TYPE R-150 (150 WATTS)</b> DIAM.: 4" WEIGHT: 1.50 LBS.	.5	17.3	28	500	35	2.07	133	509	750	.447	370	518
		1.	12.3	37	501	50	1.735	160	510	1250	.346	460	519
		2.	8.65	38	502	75	1.415	185	511	1800	.288	550	520
		3.	7.07	67	503	100	1.225	190	512	2250	.259	570	521
		5.	5.48	68	504	150	1.0	230	513	3000	.224	600	522
		7.5	4.47	71	505	200	.865	242	514	4500	.182	680	523
		10	3.88	70	506	250	.775	250	515	7500	.141	980	524
15		3.163	138	507	350	.655	280	516	10K	.122	990	525	
25		2.45	140	508	500	.548	330	517					
<b>TYPE R-225 (225 WATTS)</b> DIAM.: 5" WEIGHT: 2.18 LBS.		1.	15.0	55	4001	25	3.0	117	4009	700	.567	495	4017
		2.	10.61	54	4002	50	2.12	250	4010	900	.5	498	4018
		3.	8.66	56	4003	75	1.73	306	4011	1200	.43	523	4019
		4.	7.5	52	4004	100	1.5	322	4012	1500	.39	630	4020
		5.	6.71	52	4005	150	1.22	385	4013	1750	.358	605	4021
		7.5	5.48	113	4006	200	1.06	355	4014	2000	.33	710	4022
	10	4.74	107	4007	300	.866	336	4015	2500	.3	700	4023	
	15	3.87	111	4008	400	.75	352	4016					



A DIVISION OF LTV ELECTROSYSTEMS, INC.

**MEMCOR COMPONENTS**

**300 thru 1000 WATT**

Originators of TRU-OHM & HARDWICK, HINDLE Products

**RHEOSTATS**

**POWER  
VITREOUS ENAMELED**

MEMCOR rheostats are made in a wide assortment of variations, among which are included tapers, off-positions, ventilated enclosures, dust-proof enclosures, tandems, toggle switches, micro switches, switching lugs and many variations of shaft and panel mountings. Extra length flattened, round or screw driver shaft assemblies and special length bushings or other special requirements per customer drawing are available.

TYPE	R-300 (300 WATTS)				R-500 (500 WATTS)				R-750 (750 WATTS)				R-1000 (1000 WATTS)																							
	Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.																				
DIAM.: 6" WEIGHT: 3 LBS.	1.	17.32	49	700	25	3.46	117	708	700	.66	492	716	1.	27.4	85	4201	12.5	7.75	115	4210	400	1.37	573	4219	1.	31.6	87	4301	10	10.0	103	4309	225	2.11	585	4317
	2.	12.25	48	701	50	2.45	259	709	600	1.12	680	4220	1.5	22.3	85	4202	16	6.82	120	4211	300	1.83	750	4318	1.5	25.8	84	4302	12.5	8.95	160	4310	400	1.58	631	4319
	3.	10.0	72	702	75	2.0	308	710	750	1.0	670	4221	2.	19.36	80	4203	25	5.48	216	4212	500	1.41	635	4320	2.	22.36	109	4303	16	7.9	164	4311	400	1.58	631	4319
	4.	8.66	76	703	100	1.73	317	711	1200	.79	657	4222	2.5	17.32	87	4204	50	3.87	238	4213	1200	.79	657	4222	2.5	20.0	96	4304	25	6.32	160	4312	500	1.41	635	4320
	5.	7.75	67	704	150	1.41	268	712	1800	.646	792	4223	3.	15.81	80	4205	80	3.06	240	4214	1800	.646	792	4223	3.	18.26	100	4305	50	4.47	290	4313	750	1.15	800	4321
	7.5	6.32	70	705	200	1.22	284	713	2000	.61	906	4224	4.	11.18	96	4106	100	2.74	283	4215	2000	.61	906	4224	4.	15.81	94	4306	160	2.17	496	4216	1000	1.0	1090	4322
	10	5.48	75	706	300	1.0	336	714	2500	.55	1085	4225	5.	10.0	95	4107	200	1.94	520	4217	2500	.55	1085	4225	5.	14.14	152	4307	200	1.94	520	4217	1500	.82	1000	4323
	15	4.47	129	707	400	.87	357	715					8.	7.9	93	4108	300	1.58	440	4218					8.	11.2	113	4308	160	2.5	328	4316	2000	.63	1080	4324

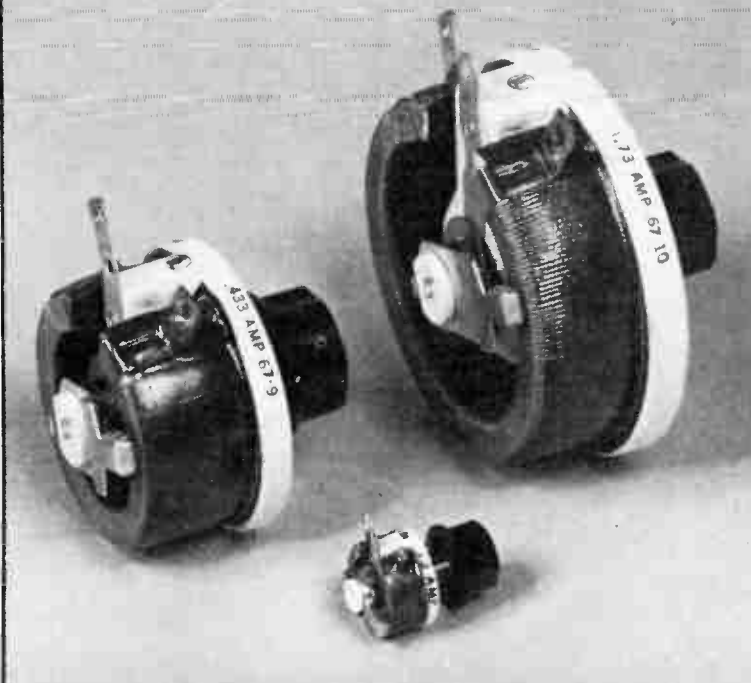
Specify on order if knob and/or dial is required.

**HARDWARE**

**RHEOSTAT - KNOBS**

**RHEOSTAT - DIALS**

Type	Stock No.	Type	Stock No.
R12½	2400	R12½	3501
R25 to R150	2500	R25	3500
R25 to R150	2502	R50	3500
R25 to R150	2503	R75	3500
R25 to R150	2504	R100	3500
R25 to R150	2505	R150	3500
R25 to R150	2506	R225	3502
R25 to R150	2507	R300	3502
R25 to R150	2508	R500	3502
R25 to R150	2510-1	R750	3502
R25 to R150	2510-2	R1000	3502
R25 to R150	2511		
R25 to R150	2512		
R225 to R1000	2520		
R225 to R1000	2521		
R25 to R225	2514		
R225 to R1000	2518		
R225 to R1000	2519		



# OHMITE

resistors • rheostats • tap switches • relays  
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## VITREOUS ENAMELED RHEOSTATS

Twelve sizes in wirewound, vitreous enameled rheostats are stocked by Ohmite distributors all over the country and at the Ohmite factory. This selection, the most extensive available to industry, covers ratings that meet the major portion of design, production and emergency needs. Ratings of 7½, 12½, 25, 50, 75, 100, 150, 225, 300, 500, 750 and 1000 watts are standard.

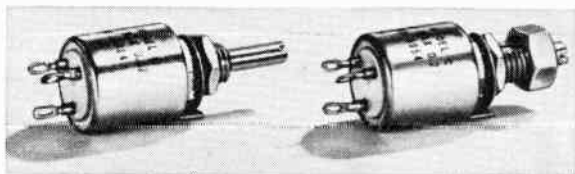
**FEATURES OF CONSTRUCTION:** Ohmite rheostats are designed to produce permanently smooth, close control. The construction is all ceramic and metal; there is nothing to smoke, char, shrink, or shift. All models have insulated shafts with provision to keep the rheostat from turning on the panel. The resistance wire is wound over a solid ceramic core. Each turn is a separate resistance step and is locked against shifting by vitreous enamel. The core and base are also bonded by vitreous enamel. The pivoted universal-action-mounted contact brush is of copper-graphite or silver-graphite on the heavier current rheostats. It rides upon a large flat surface and assures perfect contact without wear on the wire. Pressure at the contact and at the center lead are independent. Ohmite Rheostat Models H, J, G, K, L, P, and N, all marked Series A, are listed under the Underwriters' Laboratories Reexamination Service.

**RATING:** The current carrying capacities shown in the tables are for use in *free air*; when units are enclosed, these currents should be reduced possibly as much as 30% to 50%, depending upon the degree of ventilation. The rated current will cause the rheostat to dissipate its rated wattage when the full resistance is in the circuit.

### MODEL "C" — MINIATURE RHEOSTAT

In this era of miniaturization and transistorization, the Model C enlarges the horizons of designers by providing greater design flexibility. In addition to its small size, its versatile solder terminals will also plug into common transistor sockets or circuit boards. It is stocked with both standard and locking type bushings.

Actual Size



### MODEL "C" — 7½ WATT\* Standard & Locking Bushings

Diameter .515" max. — Depth behind panel 7/8" — Shaft 1/8" diameter, slotted for both types; Std. shaft accommodates knob — Rotation 300° — Mounting for panels up to 1/8" by means of 1/4"-32 bushing and hex nut — Non-turn lug requires 1/8" hole 1/4" below center of shaft — No. 5151 knob recommended — Solder terminals will fit EIA type TS-E3R100 transistor socket — Wt. 0.27 oz.

Ohms	Amps.	Standard Shaft		Locking Shaft	
		Stock No.	Net 1-4	Stock No.	Net 1-4
10	.86	4908	\$ 8.59	4948	\$10.48
15	.71	4909	8.59	4949	10.48
25	.55	4910	8.59	4950	10.48
35	.46	4911	8.59	4951	10.48
50	.39	4912	8.59	4952	10.48
75	.32	4913	8.59	4953	10.48
100	.27	4914	8.59	4954	10.48
150	.22	4915	8.59	4955	10.48
200	.19	4916	8.59	4956	10.48
250	.17	4917	8.59	4957	10.48
350	.15	4918	8.59	4958	10.48
500	.12	4919	8.59	4959	10.48
750	.10	4920	8.59	4960	10.48
1000	.086	4921	9.72	4961	11.61
1500	.071	4922	9.72	4962	11.61
2500	.055	4923	9.72	4963	11.61
3500	.046	4924	10.15	4964	12.04
5000	.039	4925	10.15	4965	12.04

\*Rating on metal panel.

### MODEL "E" — 12.5 WATT\*

Unenclosed and Enclosed

Diameter 7/8" — Depth behind panel 1 1/8" — Shaft 1/8" Diameter. Rotation 300° — Mounting for panels up to 1/8" by means of 1/4"-32 Bushing and Hex. Nut — Non-turn lug requires 1/8" hole 1/4" below center of shaft — Stock No. 5151 Knob Recommended. Enclosure including terminals 1 3/8" long by 1 3/8" diameter.

Total Ohms	Max. Amps.	Unenclosed		Enclosed	
		Stock No.	Net 1-4	Stock No.	Net 1-4
1	3.53	0101	\$5.05	W0101	\$6.95
2	2.50	0102	5.05	W0102	6.95
2.5	2.24	0102A	5.05	W0102A	6.95
3	2.04	0103	5.05	W0103	6.95
5	1.58	0103A	5.05	W0103A	6.95
6	1.44	0104	5.05	W0104	6.95
8	1.25	0105	5.05	W0105	6.95
10	1.12	0106	5.05	W0106	6.95
15	.91	0107	4.55	W0107	6.35
25	.71	0108	4.55	W0108	6.35
35	.60	0109	4.55	W0109	6.35
50	.50	0110	4.55	W0110	6.35
75	.41	0111	4.55	W0111	6.35
100	.35	0112	4.55	W0112	6.35
125	.32	0113	4.55	W0113	6.35
150	.29	0113A	4.55	W0113A	6.35
175	.27	0114	4.55	W0114	6.35
200	.25	0114A	4.55	W0114A	6.35
250	.22	0115	4.55	W0115	6.35
350	.19	0116	4.55	W0116	6.35
500	.16	0117	4.55	W0117	6.35
750	.13	0118	4.55	W0118	6.35
1,000	.11	0119	5.05	W0119	6.95
1,500	.091	0120	5.05	W0120	6.95
2,500	.071	0121	5.05	W0121	6.95
3,500	.060	0122	5.35	W0122	7.25
5,000	.050	0123	5.35	W0123	7.25
7,500	.041	4190†	5.55	W4190†	7.45
10,000	.035	4191†	5.55	W4191†	7.45
12,500	.031	4192†	6.05	W4192†	7.95
15,000	.029	4193†	6.05	W4193†	7.95

†Silicone-ceramic coating, 350 V. max. \*Rating on metal panel.

### MODEL "H", Series A — 25 WATT

Diameter 1 1/8" — Depth behind panel 1 3/8" — Shaft 1/4" diameter. Rotation 300° — Mounting for panels up to 1/4" by means of 3/8"-32 Bushing and Hex. Nut — Non-turn lug requires 3/8" hole 1/2" below center of shaft — Stock No. 5150 Knob Recommended.

Stock No.	Total Ohms	Max. Amps.	Net 1-4	Stock No.	Total Ohms	Max. Amps.	Net 1-4
0140	1	5.000	\$5.05	0154	250	.316	\$4.55
0141	2	3.540	5.05	0155	350	.267	4.55
0142	3	2.880	5.05	0156	500	.222	4.55
0143	6	2.040	5.05	0157	750	.182	4.55
0144	8	1.770	5.05	0158	1,000	.155	5.05
0145	10	1.580	5.05	0159	1,500	.129	5.05
0146	15	1.290	4.55	0160	2,500	.100	5.05
0147	25	1.000	4.55	0161	3,500	.084	5.35
0148	35	.845	4.55	0162	5,000	.070	5.35
0149	50	.707	4.55	4200†	7,500	.058	5.55
0150	75	.575	4.55	4201†	10,000	.050	5.55
0151	100	.500	4.55	4202†	15,000	.040	6.05
0152	125	.445	4.55	4203†	20,000	.035	6.80
0153	175	.375	4.55	4204†	25,000	.032	7.50

†Silicone-ceramic coating, 500 V. max. Not listed UL Ser. A.

### MODEL "J", Series A — 50 WATT

Diameter 2 1/8" — Depth behind panel 1 3/8" — Shaft 1/4" Diameter. Rotation 300° — Mounting for panels up to 1/4" by means of 3/8"-32 Bushing and Hex Nut — Non-turn lug requires 3/8" hole 1/2" below center of shaft — Stock No. 5150 Knob Recommended.

Stock No.	Total Ohms	Max. Amps.	Net 1-4	Stock No.	Total Ohms	Max. Amps.	Net 1-4
0308	0.5	10.000	\$5.65	0324	500	.316	\$5.05
0309	1	7.070	5.65	0325	800	.250	5.35
0310	2	5.000	5.65	0326	1,000	.224	5.35
0311	4	3.530	5.65	0327	1,600	.176	5.35
0312	6	2.880	5.65	0328	2,500	.141	5.35
0313	8	2.500	5.05	0329	3,500	.119	5.65
0314	12	2.040	5.05	0330	5,000	.100	5.65
0315	16	1.760	5.05	0331	8,000	.079	5.65
0316	22	1.500	5.05	0332	10,000	.070	5.65
0317	35	1.190	5.05	4210†	15,000	.058	6.40
0318	50	1.000	5.05	4211†	20,000	.050	7.25
0319	80	.790	5.05	4212†	25,000	.045	8.00
0320	125	.630	5.05	4213†	30,000	.041	8.85
0321	150	.575	5.05	4214†	40,000	.035	10.30
0322	225	.470	5.05	4215†	50,000	.032	11.25
0323	300	.408	5.05				

†Silicone-ceramic coating, 750 V. max. Not listed UL Ser. A.

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Rotation 300°—Mounting for panels up to 1/4" by means of 3/8"-32  
Bushing and Hex. Nut—Non-turn lug requires 7/8" hole 1/2" below  
center of shaft—Stock No. 5150 Knob Recommended.

Stock No.	Total Ohms	Max. Amps	Net 1-4	Stock No.	Total Ohms	Max. Amps.	Net 1-4
1100	0.5	12.300	\$7.65	1112	200	.612	\$7.05
1101	1	8.660	7.65	1113	300	.500	7.05
1102	2	6.120	7.65	1114	400	.433	7.05
1103	3	5.000	7.65	1115	500	.388	7.05
1104	5	3.880	7.65	1116	750	.316	7.65
1105	7.5	3.160	7.65	1117	1,000	.274	7.65
1106	10	2.740	7.65	1118	1,500	.224	7.65
1107	16	2.170	7.05	1119	2,000	.194	7.65
1108	25	1.730	7.05	1120	2,500	.173	7.65
1109	50	1.230	7.05	1121	5,000	.123	8.20
1110	75	1.000	7.05	1122	7,500	.100	8.85
1111	100	.866	7.05	1123	10,000	.087	8.85

**MODEL "K", Series A — 100 WATT**Diameter 3 1/8"—Depth behind panel 1 3/4"—Shaft 1/4" Diameter.  
Rotation 300°—Mounting for panels up to 1/4" by means of 3/8"-32  
Bushing and Hex. Nut—Non-turn lug requires 7/8" hole 1/2" below  
center of shaft—Stock No. 5150 Knob Recommended.

Stock No.	Total Ohms	Max. Amps.	Net 1-4	Stock No.	Total Ohms	Max. Amps.	Net 1-4
0440	0.5	14.100	\$8.45	0452	200	.707	\$ 7.95
0441	1	10.000	8.45	0453	300	.575	7.95
0442	2	7.070	8.45	0454	400	.500	7.95
0443	3	5.750	8.45	0455	500	.447	7.95
0444	5	4.470	8.45	0456	750	.365	7.95
0445	7.5	3.650	8.45	0457	1,000	.316	8.45
0446	10	3.160	8.45	0458	1,500	.258	8.45
0447	16	2.500	7.95	0459	2,000	.224	8.45
0448	25	2.000	7.95	0460	2,500	.200	8.45
0449	50	1.410	7.95	0461	5,000	.141	9.05
0450	75	1.150	7.95	0462	7,500	.115	9.65
0451	100	1.000	7.95	0463	10,000	.100	10.20

**MODEL "L", Series A — 150 WATT**Diameter 4"—Depth behind panel 2"—Shaft 1/4" Diameter. Rotation  
300°—Mounting for panels up to 1/4", 3/8"-32 Bushing and  
Hex. Nut or two 10-32 x 3/4" flat head screws, mounting centers  
7/8" each side of center of shaft on line perpendicular to center termi-  
nal.—Stock No. 5150 Knob Recommended.

Stock No.	Total Ohms	Max. Amps.	Net 1-4	Stock No.	Total Ohms	Max. Amps.	Net 1-4
0524	0.5	17.300	\$10.75	0537	150	1.000	\$10.15
0525	1	12.300	10.75	0538	200	.865	10.15
0526	2	8.650	10.75	0539	250	.775	10.15
0527	3	7.070	10.75	0540	350	.655	10.15
0528	5	5.480	10.75	0541	500	.548	10.15
0529	7.5	4.470	10.75	0542	750	.447	10.75
0530	10	3.880	10.75	0543	1,250	.346	10.75
0531	15	3.613	10.75	0544	1,800	.288	11.35
0532	25	2.450	10.15	0545	2,250	.259	11.35
0533	35	2.070	10.15	0546	3,000	.224	11.35
0534	50	1.735	10.15	0547	4,500	.182	11.90
0535	75	1.415	10.15	0548	7,500	.141	12.45
0536	100	1.225	10.15	0549	10,000	.122	13.60

**MODEL "P" — 225 WATT**Diameter 5"—Depth behind panel 2 1/2"—Shaft 3/8" Diameter.  
Rotation 310°—Mounting for panels up to 1 1/4", two 1/4"-20 x  
1 1/2" flat head screws, mounting centers 7/8" each side of center of  
shaft on center line of cross-bar.—Stock No. 5105 Knob Recom'd.  
Three 8-32 Terminal Screws, Nuts and Washers are supplied.

Stock No.	Total Ohms	Max. Amps.	Net 1-2	Stock No.	Total Ohms	Max. Amps.	Net 1-2
1250	1	15.000	\$15.50	1261	100	1.500	\$15.50
1251	2	10.600	15.50	1262	150	1.220	15.50
1252	3	8.660	15.50	1263	200	1.060	15.50
1253	4	7.500	15.50	1264	300	.866	15.50
1254	5	6.710	15.50	1265	400	.750	15.50
1255	7.5	5.490	15.50	1266	700	.567	15.50
1256	10	4.740	15.50	1267	900	.500	15.50
1257	15	3.870	15.50	1268	1,200	.433	15.50
1258	25	3.000	15.50	1269	1,500	.387	15.50
1259	50	2.120	15.50	1270	1,750	.358	15.50
1260	75	1.730	15.50	1270A	2,000	.336	15.50
				1271	2,500	.300	15.50

**MODEL "N", Series A — 300 WATT**Diameter 6"—Depth behind panel 2 3/8"—Shaft 3/8" Diameter.  
Rotation 320°—Mounting for panels up to 1 1/4", two 1/4"-20 x  
1 1/2" flat head screws, mounting centers 1 1/8" each side of center of  
shaft on center line of cross-bar.—Stock No. 5105 Knob Recom'd.  
Three 8-32 Terminal Screws, Nuts and Washers are supplied.

Stock No.	Total Ohms	Max. Amps.	Net 1-2	Stock No.	Total Ohms	Max. Amps.	Net 1-2
0650	1	17.320	\$16.80	0661	100	1.730	\$16.80
0651	2	12.240	16.80	0662	150	1.410	16.80
0652	3	10.000	16.80	0663	200	1.220	16.80
0653	4	8.660	16.80	0664	300	1.000	16.80
0654	5	7.750	16.80	0665	400	.866	16.80
0655	7.5	6.320	16.80	0666	700	.655	16.80
0656	10	5.480	16.80	0667	900	.578	16.80
0657	15	4.470	16.80	0668	1,200	.500	16.80
0658	25	3.460	16.80	0669	1,500	.447	16.80
0659	50	2.450	16.80	0670	1,750	.414	16.80
0660	75	2.000	16.80	0670A	2,000	.387	16.80
				0671	2,500	.346	16.80

**MODEL "R" — 500 WATT**Diameter 8"—Depth behind panel 2 1/2"—Shaft 3/8" Diameter.  
Rotation 325°—Mounting for panels up to 1 1/4", two 1/4"-20 x 1 1/2"  
flat head screws, mounting centers 1 1/2" each side of center of  
shaft on center line of cross-bar.—Stock No. 5105 Knob Recom'd.  
Three 8-32 Terminal Screws, Nuts and Washers are supplied.

Stock No.	Total Ohms	Max. Amps.	Net 1-2	Stock No.	Total Ohms	Max. Amps.	Net 1-2
0849	1.0	22.300	\$24.30	0872	50	3.160	\$24.30
0850	1.5	18.200	24.30	0861	80	2.520	24.30
0851	2	15.800	24.30	0862	125	2.000	24.30
0852	2.5	14.100	24.30	0863	175	1.690	24.30
0853	3	12.900	24.30	0864	250	1.410	24.30
0854	4	11.200	24.30	0865	325	1.240	24.30
0855	5	10.000	24.30	0866	500	1.000	24.30
0856	8	7.900	24.30	0867	750	.817	24.30
0857	12.5	6.300	24.30	0868	1,000	.707	24.30
0858	16	5.600	24.30	0869	1,500	.577	24.30
0859	25	4.470	24.30	0870	2,000	.500	24.30
0860	40	3.540	24.30	0871	2,500	.447	24.30

**MODEL "T" — 750 WATT**Diameter 10"—Depth behind panel 3"—Shaft 3/8" Diameter.  
Rotation 330°—Mounting for panels up to 1 1/4", two 1/4"-20 x  
1 1/2" flat head screws, mounting centers 1 7/8" each side of center of  
shaft on center line of cross-bar.—Stock No. 5105 Knob Recom'd.  
Three 8-32 Terminal Screws, Nuts and Washers are supplied.

Stock No.	Total Ohms	Max. Amps.	Net 1-2	Stock No.	Total Ohms	Max. Amps.	Net 1-2
1300	1	27.400	\$34.30	1312	50	3.870	\$34.30
1301	1.5	22.300	34.30	1313	80	3.060	34.30
1302	2	19.400	34.30	1314	100	2.740	34.30
1303	2.5	17.300	34.30	1315	160	2.170	34.30
1304	3	15.800	34.30	1316	200	1.940	34.30
1305	4	13.600	34.30	1317	300	1.580	34.30
1306	5	12.200	34.30	1318	400	1.370	34.30
1307	8	9.650	34.30	1319	600	1.117	34.30
1308	10	8.650	34.30	1320	750	1.000	34.30
1309	12.5	7.750	34.30	1321	1,200	.791	34.30
1310	16	6.820	34.30	1322	1,800	.646	34.30
1311	25	5.470	34.30	1322A	2,000	.610	34.30
				1323	2,500	.547	34.30

**MODEL "U" — 1000 WATT**Diameter 12"—Depth behind panel 3"—Shaft 3/8" Diameter.  
Rotation 335°—Mounting for panels up to 1 1/4", two 1/4"-20 x  
1 1/2" flat head screws, mounting centers 3" each side of center of  
shaft on center line of cross-bar.—Stock No. 5105 Knob Recom'd.  
Three 8-32 Terminal Screws, Nuts and Washers are supplied.

Stock No.	Total Ohms	Max. Amps.	Net 1-2	Stock No.	Total Ohms	Max. Amps.	Net 1-2
1450	1	31.600	\$40.10	1462	50	4.470	\$40.10
1451	1.5	25.800	40.10	1463	75	3.650	40.10
1452	2	22.400	40.10	1464	100	3.160	40.10
1453	2.5	20.000	40.10	1465	175	2.390	40.10
1454	3	18.300	40.10	1466	225	2.110	40.10
1455	4	15.800	40.10	1467	300	1.830	40.10
1456	5	14.100	40.10	1468	400	1.580	40.10
1457	8	11.200	40.10	1469	500	1.410	40.10
1458	10	10.000	40.10	1470	750	1.150	40.10
1459	12.5	8.950	40.10	1471	1,000	1.000	40.10
1460	16	7.900	40.10	1472	1,500	.816	40.10
1461	25	6.330	40.10	1473	2,500	.633	40.10

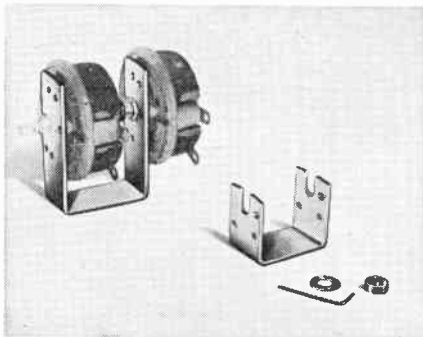
CATALOG 50 LISTS ALL RHEOSTATS TO MEET MILITARY SPECIFICATION MIL-R-22B

# OHMITE

resistors • rheostats • tap switches • relays  
variable transformers • tantalum capacitors  
semiconductor devices • r.f. chokes



## RHEOSTAT TANDEM COUPLING KITS



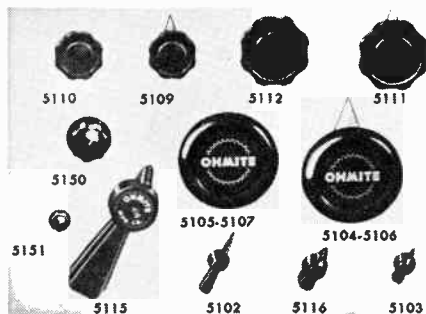
Inexpensive kits assemble standard Ohmite Model G, H, J, K, L or E (miniature) rheostats. Each kit consists of a steel "U" frame, a coupling with set screw, mica washer, Allen wrench and assembly instructions. Rheostat shafts are joined by the coupling which is fastened to the shaft of the rear unit. Projections on the coupling fit a recess in the rear hub of the front unit. Stock No. 6533 kit, mounts Model G, K or L units but accommodates Models H or J in the rear position. Stock No. 6532 unit mounts Models H or J but accommodates Models G, K or L in the rear position. Stock No. 6591 kit assembles only Model E (miniature) rheostats.

Stock No. 6532 — Max Panel 1/8" ..... Net Each (1-4) \$2.20  
Stock No. 6533 — Max Panel 5/32" ..... Net Each (1-4) 2.75  
Stock No. 6591 — Max Panel 1/16" ..... Net Each (1-4) 2.20

## BLACK BAKELITE KNOBS

Stock No.	Description	Knob Dia.	Hole Dia.	Net Ea. 1-4
5102	Bar Knob, 2 1/4" long		1/4"	\$.53
5103	Bar Knob, 1 1/4" long		1/4"	.22
5104	Handwheel with Pointer	3 1/4"	1/4"	1.45
5105	Handwheel without Pointer	3 1/4"	1/4"	1.22
5106	Handwheel with Pointer	3 1/4"	1/4"	1.45
5107	Handwheel without Pointer	3 1/4"	1/4"	1.22
5109	Finger-Grip with Pointer	1 1/2"	1/4"	.93
5110	Finger-Grip without Pointer	1 1/2"	1/4"	.86
5111	Finger-Grip with Pointer	2 3/8"	1/4"	1.39
5112	Finger-Grip without Pointer	2 3/8"	1/4"	1.27
*5115	Bar Knob, 4 3/4" long		1/4"	3.15
5116	Bar Knob, 1 1/2" long		1/4"	.53
5150	Skirted Finger-Grip	1 1/2"	1/4"	.30
5151	Finger-Grip	3 1/4"	1/4"	.30
5152A	Like 5104 but shorter pointer	3 1/4"	1/4"	1.68

\*Requires pin and tapped hole in shaft.



## MOLDED COMPOSITION POTENTIOMETERS, 1/2 and 2 WATTS

Used in commercial and military electronic applications where high quality and dependable performance are important. Type AB, 1 1/2" dia., is rated 2 watts at 70°C ambient and is available with 7/8" slotted shaft (CMU), 2" unslotted shaft (CU, CA, CB, CCU dual unit) and locking type slotted shaft (CLU). Type AS, a miniature unit 1/2" dia. rated 1/2 watt,

is available with locking type shaft (Style AS) or 7/8" slotted shaft for knob control (Style ASM).

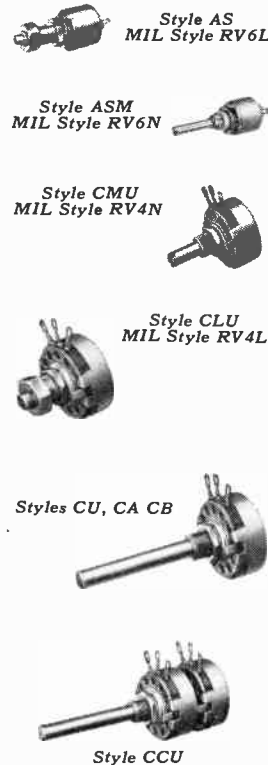
Because of their molded composition elements, these units outlast and outperform film type units. Noise level is exceedingly low. Single control Type AB units extend 5/8" behind panel; dual con-

trol 1 1/4". Type AS miniature unit extends 1 1/16" behind panel. An SPST switch for single Type AB units is available. Units are dust and splash proof, fungus and corrosion resistant and meet the latest requirements of MIL-R-94. Styles CMU, CLU, Styles AS and ASM conform respectively to MIL-R-94 Styles RV4N, RV4L, RV6L, and RV6N.

## STOCK "POTS" — MIL Units are Stamped with MIL and Commercial Designations

Resistance Ohms Except As Noted Tol. ±10% except ±20%	TYPE AB (1 1/2" Dia.)								TYPE AS (1/2" Dia.)				
	Single Unit 7/8" Shaft		Single Unit 2" Shaft		Locking		Dual		Miniature Locking		Miniature 7/8" Shaft		
	Style CMU Linear	MIL Designation	Style CU Linear	Style CA CW log	Style CB CCW log	Style CLU Linear	MIL Designation	Style CCU Linear	Style AS Linear	MIL Designation	Style ASM Linear	MIL Designation	
50	CMU5001	500A	CU5001			CLU5001	500A						
100	CMU1011	101A	CU1011			CLU1011	101A		AS3601	101A	ASM6661	101A	
150	CMU1511	151A	CU1511			CLU1511	151A						
250	CMU2511	251A	CU2511			CLU2511	251A		AS3602	251A	ASM6662	251A	
350	CMU3511	351A	CU3511			CLU3511	351A						
500	CMU5011	501A	CU5011			CLU5011	501A	Resistance Shown is for Each Unit	AS3603	501A	ASM6663	501A	
750	CMU7511	751A	CU7511			CLU7511	751A		AS3604	102A	ASM6664	102A	
1,000	CMU1021	102A	CU1021			CLU1021	102A		AS3605	252A	ASM6665	252A	
1,500	CMU1521	152A	CU1521			CLU1521	152A						
2,500	CMU2521	252A	CU2521			CLU2521	252A						
3,500	CMU3521	352A	CU3521			CLU3521	352A	RV4LAYSA	AS3606	502A	ASM6666	502A	
5,000	CMU5021	502A	CU5021			CLU5021	502A						
7,500	CMU7521	752A	CU7521			CLU7521	752A						
10,000	CMU1031	103A	CU1031	CB1031		CLU1031	103A		CCU1031	AS3607	103A	ASM6667	103A
15,000	CMU1531	153A	CU1531			CLU1531	153A						
25,000	CMU2531	253A	CU2531		CB2531	CLU2531	253A	CCU2531	AS3608	253A	ASM6668	253A	
35,000	CMU3531	353A	CU3531			CLU3531	353A						
50,000	CMU5031	503A	CU5031		CB5031	CLU5031	503A	CCU5031	AS3609	503A	ASM6669	503A	
75,000	CMU7531	753A	CU7531			CLU7531	753A						
1 meg.	CMU1041	104A	CU1041	CA1041		CLU1041	104A	CCU1041	AS3610	104A	ASM6670	104A	
.15 meg.	CMU1541	154A	CU1541			CLU1541	154A						
.25 meg.	CMU2541	254A	CU2541	CA2541		CLU2541	254A	CCU2541	AS3611	254A	ASM6671	254A	
.35 meg.	CMU3541	354A	CU3541			CLU3541	354A						
.5 meg.	CMU5041	504A	CU5041	CA5041		CLU5041	504A	CCU5041	AS3612	504A	ASM6672	504A	
.75 meg.*	CMU7542	754B	CU7542			CLU7542	754B						
1.0 meg.*	CMU1052	105B	CU1052	CA1052		CLU1052	105B	CCU1052	AS3613	105B	ASM6673	105B	
1.5 meg.*	CMU1552	155B	CU1552			CLU1552	155B						
2.0 meg.*	CMU2052	205B	CU2052			CLU2052	205B		AS3684	205B	ASM6674	205B	
2.5 meg.*	CMU2552	255B	CU2552	CA2552		CLU2552	255B		AS3614	255B	ASM6675	255B	
3.5 meg.*	CMU3552	355B	CU3552			CLU3552	355B						
5.0 meg.*	CMU5052	505B	CU5052			CLU5052	505B		AS3615	505B	ASM6676	505B	
Weight	.064 lb.		.084 lb.				.070 lb.		.123 lb.		.017 lb.		
Net Price 1-9	\$1.95		\$1.95   \$2.25   \$2.25				\$2.55		\$5.85		\$5.10		

Switch CS-1 (Unmounted) for CMU, CU, CA, CB, CLU ..... Net \$66





# Amperex Semiconductors

TYPE NO. (See Notes Below)			TYPE NO. (See Notes Below)			TYPE NO. (See Notes Below)			TYPE NO. (See Notes Below)			TYPE NO. (See Notes Below)		
(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
A23	M	Si	BCZ12	A	Si	OC22	A	Ge	1N3483	GB	Ge	2N2217	P	Si
A130	P	Si	BY100	DJ	Si	OC23	A	Ge	1N3484	GB	Ge	2N2218	P	Si
A151	PE	Si	BY100S	DJ	Si	OC24	A	Ge	1N3944	GB	Ge	2N2219	P	Si
A152	PE	Si	BY122	DJ	Si	OC26	A	Ge	1N4095	A	Si	2N2220	P	Si
A153	PE	Si	BY123	DJ	Si	OC30	A	Ge	1N4885 H4A	A	Si	2N2221	P	Si
A306	P	Si	BY126	-	Si	OC44	A	Ge	1N4886	A	Si	2N2222	P	Si
A307	P	Si	BY127	-	Si	OC45	A	Ge	2N279	A	Ge	2N2368	PE	Si
A310	P	Si	BYX10	DJ	Si	OC58	A	Ge	2N280	A	Ge	2N2369	PE	Si
A311	P	Si	BYX11	DJ	Si	OC59	A	Ge	2N284	A	Ge	2N2428	UL	Ge
A321	P	Si	BZY56	AJ	Si	OC60	A	Ge	2N284A	A	Ge	2N2429	UL	Ge
A322	P	Si	BZY57	AJ	Si	OC71N	A	Ge	2N404	A	Ge	2N2430	UL	Ge
A323	P	Si	BZY58	AJ	Si	OC74	A	Ge	2N404A	A	Ge	2N2431	UL	Ge
A324	P	Si	BZY59	AJ	Si	OC75N	A	Ge	2N696	P	Si	2N2431MP	UL	Ge
A344	P	Si	BZY60	AJ	Si	OC79	A	Ge	2N696 (JAN)	P	Si	2N2453	P	Si
A345	P	Si	BZY61	AJ	Si	OC80	A	Ge	2N697	P	Si	2N2483	P	Si
A345	P	Si	BZY62	AJ	Si	OC70	A	Ge	2N697 (JAN)	P	Si	2N2484	P	Si
A346	P	Si	BZY63	AJ	Si	OC71	A	Ge	2N706	PE	Si	2N2494	PA	Ge
A415 (2N4433)	PE	Si	BZY64	AJ	Si	OC72	A	Ge	2N706 (JAN)	PE	Si	2N2495	PA	Ge
A466	P	Si	BZY65	AJ	Si	OC73	A	Ge	2N708	PE	Si	2N2496	PA	Ge
A467	P	Si	BZY66	AJ	Si	PADT50	AD	Ge	2N743	-	Si	2N2512	PA	Ge
A472	PE	Si	BZY67	AJ	Si	PADT51	-	Ge	2N744	-	Si	2N2569	PE	Si
A473	PE	Si	BZY68	AJ	Si	S100	A	Si	2N753	P	Si	2N2570	PE	Si
A485	PE	Si	BZY69	AJ	Si	S262	PC	Ge	2N783	P	Si	2N2586	P	Si
A490	PE	Si	BZZ10	AJ	Si				2N834	P	Si	2N2617	A	Si
A492	PE	Si	BZZ11	AJ	Si				2N835	P	Si	2N2654	PA	Ge
A569	PE	Si	BZZ12	AJ	Si				2N914	-	Si	2N2671	PA	Ge
A570	PE	Si	BZZ13	AJ	Si	1N34 OA85	PC	Ge	2N918	PE	Si	2N2672	PA	Ge
A600	P	Si	BZZ14	AJ	Si	1N38	PC	Ge	2N929	P	Si	2N2706	UL	Ge
A601	P	Si	BZZ15	AJ	Si	1N38A	PC	Ge	2N930	P	Si	2N2706MP	UL	Ge
A602	P	Si	BZZ16	AJ	Si	1N54	PC	Ge	2N987	PA	Ge	2N2707	UL	Ge
A603	P	Si	BZZ17	AJ	Si	1N54A	PC	Ge	USA 2N987	PA	Ge	2N2708	PE	Si
A604	P	Si	BZZ18	AJ	Si	1N58A	PC	Cc	2N990	PA	Ge	2N2786	PA	Ge
A605	P	Si	BZZ19	AJ	Si	1N60	PC	Ge	2N993	PA	Ge	2N2786A	PA	Ge
A606	P	Si	H4A 1N4885	-	Si	1N63	PC	Ge	2N1066	PA	Ge	2N2835	A	Ge
A607	P	Si	LDA400	P	Si	1N67A	PC	Ge	2N1170	P	Ge	2N2836	A	Ge
A608	P	Si	LDA401	P	Si	1N68A	PC	Ge	2N1224	PA	Ge	2N2836MP	A	Ge
A640	P	Si	LDA402	P	Si	1N87	PC	Ge	USA2N1224	PA	Ge	2N2857	PE	Si
A641	P	Si	LDA403	P	Si	1N87A	PC	Ge	2N1225	PA	Ge	2N2903	P	Si
A642	P	Si	LDS200	P	Si	1N88	PC	Ge	USA2N1225	PA	Ge	2N2913	DD	Si
A643	P	Si	LDS201	P	Si	1N89	PC	Ge	2N1226	PA	Ge	2N2914	DD	Si
A644	P	Si	ME209	PE	Si	1N90	PC	Ge	2N1302	A	Ge	2N2915	DD	Si
A645	P	Si	ME213	P	Si	1N95	PC	Ge	2N1303	A	Ge	2N2916	DD	Si
A646	P	Si	ME213A	PE	Si	1N126	PC	Ge	2N1304	A	Ge	2N2917	DD	Si
A1381	P	Si	ME214	PE	Si	1N126A	PE	Ge	2N1305	A	Ge	2N2918	DD	Si
A1383	A	Ge	ME216	P	Si	1N191	PC	Ge	2N1306	A	Ge	2N2919	DD	Si
A1480	PE	Si	ME217	P	Si	1N192	PC	Ge	2N1307	A	Ge	2N2920	DD	Si
A1518	P	Si	ME900	P	Si	1N198	PC	Ge	2N1308	A	Ge	2N2936	P	Si
A1519	P	Si	ME901	P	Si	1N270	GB	Ge	2N1309	A	Ge	2N2937	P	Si
A1520	P	Si	OA5	GB	Ge	1N277	GB	Ge	2N1314	A	Ge	2N3074	PA	Ge
A1521	P	Si	OA7	GB	Ge	1N295	PC	Ge	2N1395	PA	Ge	2N3075	PA	Ge
AA119	A	Ge	OA9	GB	Ge	1N456	A	Si	2N1396	PA	Ge	2N3077	P	Si
AA119MP	A	Ge	OA31	J	Si	1N457	A	Si	2N1397	PA	Ge	2N3078	P	Si
AC107	A	Ge	QA200	A	Si	1N458	A	Si	2N1420	P	Si	2N3252	PE	Si
AC107M	A	Ge	QA202	A	Si	1N459	A	Si	2N1515	PA	Ge	2N3253	PE	Si
ADZ12	P	Ge	OAP12	A	Ge	1N461	A	Si	2N1516	PA	Ge	2N3399	M	Ge
AMC101	P	Si	OAZ200	AJ	Si	1N462	A	Si	2N1517	PA	Ge	2N3588	P	Ge
AS226	A	Ge	OAZ201	AJ	Si	1N463	A	Si	2N1613	P	Si	2N3600	PE	Si
AS227	A	Ge	OAZ202	AJ	Si	1N464	A	Si	2N1613 (JAN)	P	Si	2N4078	UL	Ge
AS229	A	Ge	OAZ203	AJ	Si	1N476	PC	Ge	2N1666 OC28	A	Ge	2N4078MP	UL	Ge
BA114	A	Si	OAZ204	AJ	Si	1N478	PC	Ge	2N1667 OC29	A	Ge	2N4079	P	Ge
BCY10	A	Si	OAZ205	AJ	Si	1N541	PC	Ge	2N1668 OC35	A	Ge	2N4106	UL	Ge
BCY11	A	Si	OAZ206	AJ	Si	1N542	PC	Ge	2N1669 OC36	A	Ge	2N4107	UL	Ge
BCY12	A	Si	OAZ207	AJ	Si	1N616	PC	Ge	2N1711	P	Si	2N4136	UL	Ge
BCY30	A	Si	OAZ208	AJ	Si	1N617	PC	Ge	2N1990	P	Si	2N4241	A	Ge
BCY31	A	Si	OAZ209	AJ	Si	1N618	PC	Ge	2N2084	PA	Ge	2N4241MP	A	Ge
BCY32	A	Si	OAZ210	AJ	Si	1N698	GB	Ge	USN2N2084	PA	Ge	2N4315	P	Si
BCY33	A	Si	OAZ211	AJ	Si	1N3121	GB	Ge	2N2089	PA	Ge	2N4433 (A415)	PE	Si
BCY34	A	Si	OAZ212	AJ	Si	1N3122	GB	Ge	2N2902	PA	Ge	40809	UL	Ge
BCZ10	A	Si	OAZ213	AJ	Si	1N3182	A	Si	2N2207	PA	Ge	40812	-	Ge

Note (1): A—alloy  
AD—alloy diffused  
DD—double diffused  
DJ—diffused junction  
E—epitaxial  
GB—gold bonded  
J—junction

M—Mesa  
P—planar  
PA—PADT  
PC—point contact  
UL—ULT

Note (2): AF—Audio unit  
CS—Cadmium sulfide  
Ge—Germanium  
RF—RF unit  
Si—Silicon

Note (3): A—amplifier  
BR—bridge rectifier  
D—diode  
IC—integrated circuit  
P—photosensitive device  
R—rectifier  
T—transistor  
V—varactor diode  
Z—zener diode

### SOLID STATE PRINTED CIRCUIT ASSEMBLIES

Model	Description	Model	Description
PCA-1-9	1W, 9V D.C. 4 Transistor Amplifier	PCA-6A-25	8-10W/Channel Stereo Amp. with pre-amp for ceramic
PCA-1-14	2W, 14V D.C. 4 Transistor Amplifier	PCA-6A-25SCS	Same as PCA-6A-25 with separate control assembly
PCA-2-9	¾W, 9V D.C. 3 Transistor Amplifier	PCA-6B-18	Same as PCA-3B-18-1 with pre-amp for ceramic cartridge
PCA-2-14	1W, 14V D.C. 3 Transistor Amplifier	PCA-7B-18	Tape cartridge pre-amp (stereo) with level-set controls (6 Transistors)
PCA-3B-18-1	4W/Channel Stereo Amp. W/Base, Treble, Volume and Balance Controls, Hi-Gain	PCA-7C-18	Same as PCA-7B-18, except lower output, no level-sets (4 Transistors)
PCA-4-9	1W, 9V D.C. Hi-Gain 4 Transistor Amp. for radio, ceramic or crystal, etc.	PCA-8-36	20W Mono Basic Amplifier
PCA-4-9A	Same as PCA-4-9 with tone control circuit	PCR-1-9	9V -2 Transistor AM tuner
PCA-4-14	2W, 14V D.C. Hi-Gain 4 Transistor amplifier for radio ceramic crystal		
PCA-4-14A	Same as PCA-4-14 with tone control circuit		
PCA-5A-14	2W/Channel 14V D.C. Stereo Amp. with Balance, Tone and Volume Controls		

# DELCO RADIO POWER SEMICONDUCTORS



Type	Ic	Vcbo	Vceo	hFE @ Ic Amps	Vce(sat) @ Ic Volts @ Amps
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### SILICON TO-36 (ROUND BASE)

2N2580	5	400	400	10/40 4 min	5	0.7	5.0
2N2580M†	5	400	400	10/40	5	0.7	5.0
2N2581	10	400	400	25/65 10 min	5	1.0	10.0
2N2582	5	500	500	10/40 4 min	5	0.7	5.0
2N2583	10	500	500	25/65 10 min	5	1.0	10.0
2N3079	10	200	200	10/50	5	.14Ω*	5.0
2N3080	10	300	300	10/50	5	.14Ω*	5.0

### SILICON TO-3 (DIAMOND BASE)

DTS-401	3.5	400	400	30/90	1.0	.8	1.0
DTS-402	3.5	400	400	30/90	1.0	.8	1.0
DTS-410	3.5	200	200	30/90	1.0	0.8	1.0
DTS-411	3.5	300	300	30/90	1.0	0.8	1.0
DTS 413	2.0	400	400	20/80	0.5	0.8	0.5
DTS 423	3.5	400	400	30/90	1.0	0.8	1.0
DTS-423M†	3.5	400	400	30/90	1.0	0.8	1.0
DTS-424	3.5	500	500	30/90	1.0	.8	1.0
DTS-425	3.5	500	500	30/90	1.0	.8	1.0
DTS-430	5	400	400	15/45	2.5	0.9	2.5
DTS-431	5	400	400	15/35	2.5	0.7	2.5
DTS-431M†	5	400	400	15/35	2.5	0.7	2.5
2N3902	3.5	400	400	20/100	1.0	.8	1.0

### GERMANIUM TO-36 (ROUND BASE)

2N173	15	60	45	35/70	5.0	1.0	12.0
2N174	15	80	55	25/50	5.0	0.9	12.0
JAN 2N174A	15	80	40	40/80	1.2	0.7	12.0
2N277	15	40	25	35/70	5.0	0.3②	12.0
2N278	15	50	30	35/70	5.0	1.0	12.0
2N441	15	40	25	20/40	5.0	0.3②	12.0
2N442	15	50	30	20/40	5.0	0.3②	12.0
2N443	15	60	45	20/40	5.0	1.0	12.0
2N1099	15	80	55	35/70	5.0	0.7	12.0
2N1100	15	100	65	25/50	5.0	0.7	12.0
2N1358	15	80	40	40/80	1.2	0.7	12.0
2N1358A	15	100	60	25/50	5.0	0.7	12.0
JAN 2N1358	15	80	40	25/50	5.0	0.7	12.0
2N1412	15	100	65	25/50	5.0	0.7	12.0
JAN 2N1412	15	100	60	25/50	5.0	0.7	12.0
2N1518	25	50	40	15/60	15	0.7	25
2N1519	25	80	60	15/60	15	0.7	25
2N1520	35	50	40	17/68	15	0.6	35
2N1521	35	80	60	17/68	15	0.6	35
2N1522	50	50	40	25/100	15	0.5	50
2N1523	50	80	60	25/100	15	0.5	50
2N1970	15	100	50	17/40	5.0	1.0	12.0
2N2075	15	80	65	20/40	5.0	0.7	12.0
2N2076	15	70	55	20/40	5.0	0.7	12.0
2N2077	15	50	45	20/40	5.0	0.9	12.0
2N2078	15	40	25	20/40	5.0	0.9	12.0
2N2079	15	80	65	35/70	5.0	0.7	12.0
2N2080	15	70	55	35/70	5.0	0.7	12.0
2N2081	15	50	45	35/70	5.0	0.9	12.0
2N2082	15	40	25	35/70	5.0	0.9	12.0
JAN 2N2210	15	100	65	25/50	5.0	0.6	12.0
2N2490	15	70	50	20/40	5.0	0.7	12.0
2N2491	15	60	40	35/70	5.0	0.7	12.0
2N2492	15	80	65	25/50	5.0	0.5	12.0
2N2493	15	100	75	25/50	5.0	0.5	12.0

### GERMANIUM TO-37 MEDIUM POWER NU-BASE

2N3212	5	100⑥	80	30/90	3.0	0.5	5.0
2N3213	5	80⑥	60	30/90	3.0	0.5	5.0
2N3214	5	60⑥	40	30/90	3.0	0.5	5.0
2N3215	5	40⑥	30	25/100	3.0	0.5	5.0

### GERMANIUM TO-41 HIGH POWER NU-BASE

2N1073	10	40②	40②	20/60	5.0	0.6	5.0
2N1073A	10	80②	80②	20/60	5.0	0.6	5.0
2N1073B	10	120②	120②	20/60	5.0	0.6	5.0

Type	Ic	Vcbo	Vceo	hFE @ Ic Amps	Vce(sat) @ Ic Volts @ Amps
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### GERMANIUM TO-3 (DIAMOND BASE)

2N176	7	30	30①	25/90	.500	1.0	3.0
2N255A	5	15	15②	25③	.450		
2N297A	4	60	40	40/100	.500	1.0	2.0
2N301	3	40	32	62.5	.700		
2N301A	3	60	32	62.5	.700		
2N379	7	80⑧	40	20/90	2.0	1.0	2.0
2N380	7	60⑧	30	20/90	2.0	1.0	2.0
2N392	5	60	45	60/150	3.0	0.5	3.0
2N456A	7	40	20	30/90	5.0	0.5	5.0
2N456B	7	40	30	30/90	5.0	0.5	5.0
2N457A	7	60	30	30/90	5.0	0.5	5.0
2N457B	7	60	40	30/90	5.0	0.5	5.0
2N458A	7	80	40	30/90	5.0	0.5	5.0
2N458B	7	80	45	30/90	5.0	0.5	5.0
2N554	5	15	30	30	1.0		
2N669	3	30⑧	30①	250④	.500	0.4⑤	3.0
2N1011	5	80	40	30/75	3.0	1.5	3.0
2N1021	7	100	50	30/90	5.0	0.5	5.0
2N1021A	7	100	50	30/90	5.0	0.5	5.0
2N1022	7	120	50	30/90	5.0	0.5	5.0
2N1022A	7	120	55	30/90	5.0	0.5	5.0
2N1159	5	80	60	30/75	3.0	1.0	3.0
2N1160	7	80	60	20/50	5.0	1.0	5.0
2N1168	5	50	30	60⑤	3.0	.25⑤	3.0
2N1534	5	40	20	35/70	3.0	1.2	3.0
2N1535	5	60	30	35/70	3.0	1.2	3.0
2N1536	5	80	40	35/75	3.0	1.2	3.0
2N1539	5	25	20	50/100	3.0	0.3	.300
2N1540	5	40	30	50/100	3.0	0.3	.300
2N1541	5	55	40	50/100	3.0	0.3	.300
2N1542	5	65	50	50/100	3.0	0.3	.300
2N1543	5	80	60	50/100	3.0	0.3	.300
2N1544	5	25	20	75/150	3.0	0.2	.300
2N1545	5	40	30	75/150	3.0	0.2	.300
2N1546	5	55	40	75/150	3.0	0.2	.300
2N1547	5	65	50	75/150	3.0	0.2	.300
2N1553	15	40	20	30/60	10	0.5	10
2N1554	15	60	30	30/60	10	0.5	10
2N1555	15	80	40	30/60	10	0.5	10
2N1556	15	100	50	30/60	10	0.5	10
2N1557	15	40	20	50/100	10	0.4	10
2N1558	15	60	30	50/100	10	0.4	10
2N1559	15	80	40	50/100	10	0.4	10
2N1560	15	100	50	50/100	10	0.4	10
DTG-110	7	40	40②	74/250	1.0	0.5	2.0
DTG-110A	25	110⑥	70	50/300	1.0		
DTG-110B	25	90⑥	40⑦	65/300	1.0	0.5	5.0
DTG-600	25	90⑥	50⑦	50/115⑤	5.0	0.75	25
DTG-601	25	90⑥	60⑦	50/115⑤	5.0	0.75	25
DTG-602	25	100⑥	70⑦	50/115⑤	5.0	0.75	25
DTG-603	25	90⑥	80⑦	50/	5.0	0.75	25.0
DTG-603M†	25	90⑥	80⑦	50/	5.0	0.75	25.0
DTG-1200	15	120②	120⑦	20	8.0	0.5	12
DTG-1010	15	325⑥	110⑦	100⑤	8.0	0.5	12
DTG-1110	15	200⑥	80⑦		8.0	0.5	10
DTG-2000	25	60⑥	30⑦	25	8.0	0.9	25
DTG-2100	25	80⑥	60⑦	25	8.0	0.9	25
DTG-2200	25	100⑥	80⑦	25	8.0	0.9	25
DTG-2300	25	120⑥	100⑦	25	8.0	0.9	25
DTG-2400	25	140⑥	120⑦	25	8.0	0.9	25
DTG-2400M†	25	140⑥	120	25/125	10.0	0.9	25

① Vces ② Vcer ③ Power gain db ④ Max. ⑤ Typical  
 ⑥ Vcex ⑦ Vce Sus ⑧ @ 90° C-R<sub>EB</sub> = 100 ohm  
 ⑨ Vcbx \*R<sub>SAT</sub> † Military Type Spec.

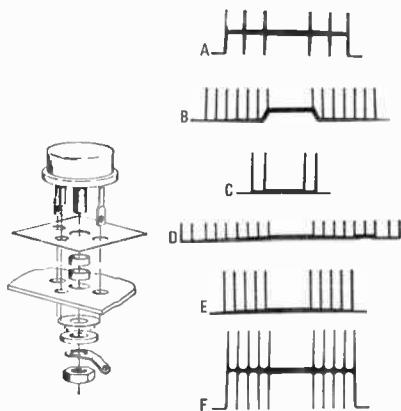
SILICON POWER RECTIFIERS



TYPE	DC CURRENT	PRV	MAXIMUM FORWARD DROP	MAX. REVERSE CURRENT (175°C)	MAX. JUNCTION TEMP.
<b>AXIAL LEAD</b>					
DRS-102	.5A	200V	0.9V	200µA	
DRS-104	.5A	400V	0.9V	200µA	
DRS-106	.5A	600V	0.9V	200µA	
DRS-107	.5A	700V	0.9V	200µA	
<b>PRESS FIT*</b>					
1N3491	25A	50V	0.7V	10 MA	175°C
1N3492	25A	100V	0.7V	10 MA	175°C
1N3493	25A	200V	0.7V	8 MA	175°C
<b>STUD BASE*</b>					
1N3208	15A	50V	1.5V	10 MA	175°C
1N3209	15A	100V	1.5V	10 MA	175°C
1N3210	15A	200V	1.5V	10 MA	175°C
DRS-250	250	800	.55V	10 MA	175°C
DRS-251	250	1000	.55V	10 MA	175°C
DRS-252	250	1200	.55V	10 MA	175°C
DRS-253	250	1400	.55V	10 MA	175°C
DRS-254	250	1600	.55V	10 MA	175°C

\*All rectifiers available with reverse polarity (Anode connected to base). To order, add "R" to type number.

HEAT SINKS AND ACCESSORIES



PART NUMBER	OUT-LINE	DESCRIPTION	† THERMAL RESIS.	MAX. WIDTH	MAX. DEPTH	MAX. LENGTH
7270725	A	Single Punch, Universal Mount	2.3° C/watt	3.125"	1.370"	4.690"
7281352	A	Double Punched, Universal Mount	2.3° C/watt	3.125"	1.370"	4.690"
7270606	A	Unpunched, Unpainted	2.3° C/watt	3.125"	1.370"	4.690"
7300811	A	Double punched for 2 Press Fit Rectifiers	2.3° C/Watt	3.125"	1.370"	4.690"
7281361	B	Double Punched, Universal Mount	1.6° C/watt	3.125"	1.080"	6.135"
7281364	B	Unpunched, Unpainted	1.6° C/watt	3.125"	1.080"	6.135"
7281357	C	Punched for Diamond Base Only	5.0° C/watt	1.625"	1.330"	2.930"
7281360	C	Unpunched, Unpainted	5.0° C/watt	1.625"	1.330"	2.930"
7281351	D	Double Punched, Universal Mount	2.2° C/watt	3.125"	.750"	.750"
7281354	D	Unpunched, Unpainted	2.2° C/watt	3.125"	.750"	.750"
7281355	E	Double Punched, Universal Mount	2.2° C/watt	3.125"	1.330"	4.850"
7281353	E	Unpunched, Unpainted	2.2° C/watt	3.125"	1.330"	4.850"
7276040	E	Punched for Round Base Only	3.5° C/watt	1.531"	1.330"	4.850"
7277151	E	Punched for Diamond Base Only	3.5° C/watt	1.531"	1.330"	4.850"
7278482	E	Unpunched, Unpainted	3.5° C/watt	1.531"	1.330"	4.850"
7281366	F	Double Punched, Universal Mount	1.3° C/watt	3.125"	2.475"	4.850"
7281369	F	Unpunched, Unpainted	1.3° C/watt	3.125"	2.475"	4.850"
7269634	F	Insulating Spacer				
7274633	F	TO 36 (Round Base) Mtg. Kit				
7274775	F	TO 3 (Diamond Base) Mtg. Kit				
7276383	F	TO 4 (Min. Dia. Base) Mtg. Kit				
7276396	F	DO 5 (6 Rectifier) Mtg. Kit				
7305209	F	TO-41 (Diamond base) Mtg. Kit.				
7305210	F	TO-3 (Silicon) Mtg. Kit.				

†Typical value with length of fin positioned vertically.

**DELCO RADIO**



DIVISION OF GENERAL MOTORS

**SILICON RECTIFIERS**

**FULL WAVE BRIDGE**

Type	AC Input Volts up to	Volts up to DC Output	Max. Amps Self Cooled	Max. Amps fan Cooled	User Net Price
1φ Bridge	140	125	1	—	\$ 5.50
1φ Bridge	280	250	1	—	\$ 5.75
1φ Bridge	140	125	2	—	\$ 8.50
1φ Bridge	280	250	2	—	\$ 10.50
1φ Bridge	36	32	6	12	\$ 10.50
1φ Bridge	140	125	6	12	\$ 27.50
1φ Bridge	280	250	6	12	\$ 36.50
1φ Bridge	36	32	10	20	\$ 5.50
1φ Bridge	140	125	10	20	\$ 35.50
1φ Bridge	280	250	10	20	\$ 43.50
1φ Bridge	36	32	20	40	\$ 23.50
1φ Bridge	140	125	20	40	\$ 39.50
1φ Bridge	280	250	20	40	\$ 47.50
1φ Bridge	36	32	50	100	\$ 30.00
1φ Bridge	72	64	50	100	\$ 34.00
1φ Bridge	140	125	50	100	\$ 64.00
1φ Bridge	280	250	50	100	\$ 95.00
1φ Bridge	36	32	70	140	\$ 35.00
1φ Bridge	72	64	70	140	\$ 45.00
1φ Bridge	140	125	70	140	\$ 70.00
1φ Bridge	280	250	70	140	\$110.00

Type	AC Input Volts up to	Volts up to DC Output	Max. Amps Self Cooled	Max. Amps fan Cooled	User Net Price
1φ Bridge	36	32	40	80	\$ 28.00
1φ Bridge	72	64	40	80	\$ 33.00
1φ Bridge	140	125	40	80	\$ 58.00
1φ Bridge	280	250	40	80	\$ 85.00
1φ Bridge	36	32	100	200	\$ 55.00
1φ Bridge	72	64	100	200	\$ 61.00
1φ Bridge	140	125	100	200	\$ 80.00
1φ Bridge	280	250	100	200	\$135.00
1φ Bridge	36	32	200	400	\$ 95.00
1φ Bridge	72	64	200	400	\$105.00
1φ Bridge	140	125	200	400	\$160.00
1φ Bridge	280	250	200	400	\$240.00
1φ Bridge	72	64	400	800	\$250.00
1φ Bridge	28	250	400	800	\$545.00
1φ Bridge	36	48	75	150	\$ 55.00
1φ Bridge	72	96	95	150	\$ 80.00
1φ Bridge	105	144	75	150	\$110.00
1φ Bridge	140	188	75	150	\$165.00
1φ Bridge	220	220	75	150	\$205.00
1φ Bridge	220	220	100	200	\$225.00
1φ Bridge	220	220	200	400	\$270.00
1φ Bridge	220	220	400	800	\$340.00

**SELENIUM RECTIFIERS**

**FULL WAVE, HIGH DENSITY, SMALL SIZE**

Max. Amps.	18v In 14v Out	36v In 28v Out	54v In 42v Out	130v In 100v Out
1/2	\$ .75	\$ 1.15	\$ 2.05	\$ 3.45
1	.85	1.75	2.75	7.25
2	1.75	2.35	3.75	8.75
3	2.25	3.45	5.25	12.75
4	3.15	5.75	8.25	21.75
6	3.65	7.30	9.75	29.00
10	5.85	11.45	14.75	36.00

Max. Amps.	18v In 14v Out	36v In 28v Out	54v In 42v Out	130v In 100v Out
12	\$ 7.75	\$14.00	\$19.00	\$40.00
15	8.00	17.00	23.00	51.00
20	11.00	20.00	33.00	66.00
24	14.00	28.00	39.00	73.00
30	18.00	35.00	50.00	—
36	19.00	43.00	—	—

**DURALYTIC CAPACITORS**

MFD.	WVDC	PRICE	MFD.	WVDC	PRICE	MFD.	WVDC	PRICE
2,000	40	\$ 3.75	2,000	100	\$12.90	750	300	\$16.75
4,000	40	4.68	4,000	100	15.50	1,000	300	17.75
12,000	50	10.44	1,000	200	14.25	250	350	13.25
1,000	75	\$ 9.80	2,000	200	\$18.75	500	350	\$14.75
2,000	75	10.50	250	300	12.25	1,000	350	19.00
7,000	75	16.25	500	300	14.75			

**TRANSFORMERS**

\* Primary 115 vac 60C, tapped to deliver 36, 38 and 40 vac. \*\* Provide two 18V secondary windings. (taps 9, 18, 27, 36 V.) Primary tapped for 100, 105, 110, and 115 V on 12, 24, 30, and 50 amp models. \*\*\* Center tapped secondary.

36, 38 and 40 VOLTS*			36V. CENTER TAPPED**			56V. CENTER TAPPED***		
Model No.	Amps	Price	Model No.	Amps	Price	Model No.	Amps	Price
GT 36-2	2	6.00	XF 36-1	1	4.75	AM 56-2	2	7.50
GT 36-5	5	7.60	XF 36-2	2	6.45	AH 56-4	4	11.50
GT 36-8	8	13.00	XF 36-4	4	7.75	AH 56-6	6	21.50
GT 36-10	10	14.75	XF 36-8	8	14.10	AH 56-12	12	29.00
GT 36-12	12	15.00	XF 36-12	12	15.50	SEC 165, 160, 150, 125V @ 5A		\$ 50.
GT 36-15	15	21.50	XF 36-24	24	34.05	SEC 165, 160, 150, 125V @ 10A		\$ 80.
GT 36-20	20	28.50	XF 36-30	30	42.50	SEC 330, 320, 300, 250V @ 5A		\$ 70.
GT 36-30	30	41.00	XF 36-50	50	56.75	SEC 330, 320, 300, 250C @ 10A		\$115.
GT 36-50	50	55.00						

**CHOKES**

Model No.	Amps	Hy	Ohms	Price	Model No.	Amps	Hy	Ohms	Price	Model No.	Amps	Hy	Ohms	Price
GH-1	1	.1	1.5	4.75	GH-10	10	.015	.05	12.50	GH-24	24	.004	.025	25.00
GH-2	2	.04	.9	5.50	GH-12	12	.01	.1	14.20	GH-30	30	.003	.01	35.00
GH-4	4	.07	.6	6.45	GH-15	15	.006	.01	14.75	GH-50	50	.001	.001	43.00
GH-5	5	.03	.02	6.60	GH-20	20	.004	.05	15.00	GH-100	100	.0005	.005	53.00
GH-8	8	.03	.3	11.00										

**GATES**

24 hour service on custom built stacks  
 Many other components available. Write for low prices  
 See Section 4000 for complete power supply line

**ELECTRONIC CO., INC.**





# SERVICE-DESIGNED ENTERTAINMENT SEMICONDUCTORS

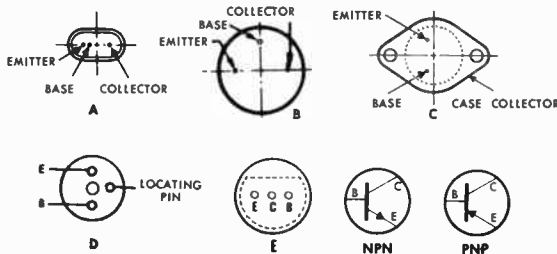


## UNIVERSAL REPLACEMENT TRANSISTORS

Highly dependable low-cost transistors especially designed as general replacements for most types of transistors used in Radio and TV Sets and other home entertainment devices.

Catalog No.	Outline Drawing	Use	Application	Sugg. List Price
GE-1	B	PNP	Mixer/Oscillator Converter • RF and IF Amplifier	\$2.00
GE-2	B	PNP	AF Amplifier	1.70
GE-3	C	PNP	AF Power Amplifier	3.90
GE-4	D	PNP	AF High Power Amplifier	7.40
GE-5	B	NPN	Mixer/Oscillator Converter • RF and AF Amplifier	2.80
GE-6	A	NPN	Mixer/Oscillator Converter • RF Amplifier	3.05
GE-7	A	NPN	IF Amplifier	2.95
GE-8	B	NPN	AF Amplifier	2.15
GE-9	*B	PNP	Mixer/Oscillator Converter • RF and IF Amplifier	2.10
GE-10	E	NPN	AF Amplifier-Driver-Output	2.00
GE-11	E	NPN	FM and RF Amplifier, FM Converter, UHF Oscillator	2.55

\* GE-9 Smaller size than GE-1 (GE-9 .209 diameter — GE-1 .335 diameter)



## REGISTERED JEDEC TRANSISTORS

These supplement the Universal Line above. Characteristics conform to JEDEC specifications.

Type or JEDEC No.	Type	Use	Sugg. List Price
2N107	PNP	AF	\$1.25
2N170	NPN	IF	1.70
2N188A	PNP	AF OUT	3.05
2N190	PNP	AF	1.40
2N324	PNP	AF	1.20
2N404	PNP	SW	.90
2N508	PNP	AF OUT	1.30
2N1415	PNP	AF SW	1.70
2N2160	{ SILICON UNIJUNCTION }	OSC	2.75
2N2868	NPN	SW	3.15

## NEW GE GE-504A UNIVERSAL RECTIFIER

A silicon rectifier with a 60-amp surge rating. Recommended as a replacement for all selenium, germanium and silicon rectifiers used in TV receivers. The 60-amp surge rating eliminates the need for the urge limiting resistors normally required when silicon rectifiers are used.

PIV is 600 volts; max.  $I_{DC}$ , 1 amp. Shipping weight: 2 oz. Suggested List Price \$1.10.

## GE TYPE 1N91 GERMANIUM RECTIFIER

This top hat, hermetically sealed rectifier is designed for general-purpose applications requiring maximum economy.

PRV is 100 volts; maximum  $I_{DC}$  is 150 mA. Suggested List Price \$1.55.

## GE VAC-U-SEL® DOUBLE/DIODES

Miniature double diodes for TV horizontal phase detector, replacement and other applications.  $\frac{7}{16} \times \frac{9}{16} \times \frac{3}{16}$ ". Shipping weight: 2 oz.

Type No.	Ifwd	Imr	Description	Max. Case Temp.	Sugg. List Price
6GC1	1.1 @ 2.5V	4 @ 20V	Common cathode	85°C	\$0.99
6GD1	1.1 @ 2.5V	4 @ 20V	Series connected	85°C	.99
6GX1	1.1 @ 2.5V	4 @ 20V	Common anode	85°C	.99

## GE CRYSTAL DIODES

Type	Description	Average Forward Current (ma)	Peak Reverse Voltage (volts)	Sugg. List Price
1N34AS	General Purpose	50	75	\$0.55
1N60	Video Detector	50	30	.55
1N82A	Silicon UHF Mixer	—	5	1.45
1N295	50 MC Detector	30	50	.55

## RECTIFIERS AND CRYSTALS FOR COLOR TV

### GE Selenium Rectifiers

Cat. No.	Type	Sugg. List Price
GECR-1	Focus Rect.	\$6.20
GECR-2	Boosted Boost	2.45
GECR-3	Convergence	1.43

### GE Quartz Crystals†

Cat. No.	Type	Sugg. List Price
GE-41	Color burst filter	\$5.60
GE-42	Color subcarrier oscillators	3.80

†Resonant frequency 3579.545 kc.

## GE EXPERIMENTER/HOBBYIST COMPONENTS

Each electronic component in this series is blister packaged with circuit diagrams showing how educational, practical, and interesting electronic devices can be built. They can also be used in many other applications mentioned in hobby magazines and articles such as are found in the General Electric Components Hobby Manual.

Component	Application	Sugg. User Price
SILICON CONTROLLED RECTIFIER GE-X1	For Plug-in speed control for general-purpose applications	\$5.00
LIGHT-ACTIVATED SILICON CONTROLLED RECTIFIER GE-X2A	For "Slave" photoflash for flashbulbs	2.80
GE-X3	For 12-volt regulated battery charger	4.80
SILICON CONTROLLED RECTIFIER SILICON RECTIFIER GE-X4	For HIGH-LOW-OFF control for heater, lamp, motor, etc.	1.60
SILICON CONTROLLED RECTIFIER GE-X5	For enlarger phototimer	3.55
PHOTOCELL GE-X6	For light flasher, night control	1.40
REED SWITCH GE-X7	For light flasher, burglar alarm	.80
TRANSISTOR GE-X8	For light flasher, light target, triggered light source	.70
TRANSISTOR GE-X9	For light flasher, light target, triggered light source	.70
UNIUNION TRANSISTOR GE-X10	For high-precision tachometer for automotive-type ignition systems with 12-volt negative ground	3.95
ZENER DIODE GE-X11	For high-precision tachometer for automotive-type ignition systems with 12-volt negative ground	1.80
TRIAC GE-X12	For remote control for lamp in appliance	5.30
DIAC GE-X13	For combination full-wave lamp dimmer, lamp sentinel, and a-c motor control	1.60
THYRECTOR GE-X14	For dual-voltage power supply	1.15
THERMISTOR GE-X15	For adjustable temperature alarm	3.45
SILICON CONTROLLED RECTIFIER GE-X16	For battery-operated fluorescent light	3.45
TRANSISTOR GE-M100	For citizens band receiver and control unit (27MC)	1.20

## ELECTRONIC EXPERIMENTER

Hobbyist Manual, ETR-3960

Every engineer, experimenter, hobbyist, student, and technician can learn new applications for electronic components with the simple but interesting and useful circuits in this manual. Price \$1.50.





# Semiconductor Heat Dissipators

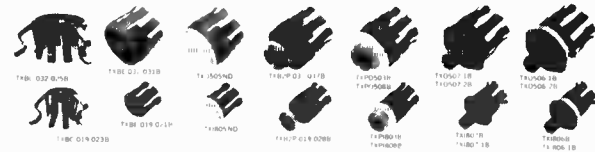
## THERMA-LINK RETAINERS—FOR TO-5, TO-18 TYPE TRANSISTORS

These devices are designed as efficient retainers and heat sinks when mounted to P-C boards due to their excellent conductivity and extra mass. They also provide an efficient thermal link between transistor and chassis or heat sink. Beryllium copper spring fingers firmly retain transistors, yet fit wide case diameter variations and make transistor insertion easy. Available with Beryllium Oxide when a reduction in capacity between transistor and ground is needed in high frequency applications. Send for Bulletins 141 and 144.

IERC PART NO THERMA-LINK W/BEO	TRAN- SISTOR CASE SIZE	MOUNTING METHOD	QUANTITY PRICES					
			1-9	10-24	25-49	50-99	100-249	250-499
TXP1803B*	ALL TO-18	2-56 SCREW†	\$2.05	\$1.75	\$1.64	\$1.54	\$1.34	\$1.23
TXP1808B**	ALL TO-18	2-56 SCREW†	2.95	2.51	2.36	2.22	1.92	1.77
TXP0503B*	ALL TO-5	4-40 SCREW†	2.15	1.83	1.72	1.62	1.40	1.29
TXP0508B**	ALL TO-5	4-40 SCREW†	3.15	2.68	2.52	2.38	2.05	1.89
TX1805 ND**	ALL TO-18	SOLDER	2.75	2.34	2.20	2.07	1.79	1.65
TX0505 ND**	ALL TO-5	SOLDER	2.95	2.51	2.36	2.22	1.92	1.77
TX1806 B***	ALL TO-18	4-40 STUD	3.10	2.64	2.48	2.33	2.02	1.86
TX1806 1B***	ALL TO-18	6-32 STUD	3.10	2.64	2.48	2.33	2.02	1.86
TX0506 1B***	ALL TO-5	6-32 STUD	3.30	2.81	2.64	2.48	2.15	1.98
TX0506 2B***	ALL TO-5	10-32 STUD	3.30	2.81	2.64	2.48	2.15	1.98

For dimensions of Thermo-Link retainers with BeO add .060" to dimensions of standard Thermo-Link retainers

IERC PART NO STANDARD THERMA-LINK	DIA	HEIGHT	TRAN- SISTOR CASE SIZE	MOUNTING METHOD	QUANTITY PRICES				
					1-24	25-49	50-99	100-249	250-499
TXBC-018-023B	.43"	.23"	ALL TO-18	SPRING CLIP	\$3.30	\$2.6	\$2.4	\$2.3	\$2.1
TXBC-032-025B	.58"	.25"	ALL TO-5	SPRING CLIP	30	26	24	23	21
TXBE-019-021B	.22"	.21"	ALL TO-18	RIVET OR SOLDER	25	22	20	19	18
TXBE-032-031B	.37"	.31"	ALL TO-5	RIVET OR SOLDER	25	22	20	19	18
TXB2P-019-028B	.22"	.28"	ALL TO-18	2-56 SCREW†	55	47	44	42	39
TXB2P-032-037B	.37"	.37"	ALL TO-5	4-40 SCREW†	55	47	44	42	39
TX1807B	.25"	.50"	ALL TO-18	4-40 STUD	75	64	60	57	53
TX1807-1B	.25"	.50"	ALL TO-18	6-32 STUD	75	64	60	57	53
TX0507-1B	.37"	.58"	ALL TO-5	6-32 STUD	85	73	68	64	60
TX0507-2B	.37"	.58"	ALL TO-5	10-32 STUD	85	73	68	64	60
TXBP-050-037B	.54"	.37"	ALL TO-8	4-40 SCREW†	1.60	1.36	1.28	1.20	1.12

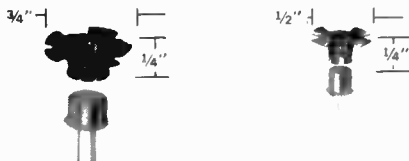


\*Separate BeO washer. \*\*BeO washer brazed to dissipator. \*\*\*BeO washer brazed between stud and dissipator. †Screw and shouldered nylon washer included. Letter "B" at end of part number denotes black cadmium finish; delete letter "B" for Insulube 448 finish, for gold finish, substitute letter "G", for dull nickel, substitute letters "ND". Contact your IERC representative or the factory regarding other transistor case sizes or finishes.

## "FAN TOP" SERIES—FOR TO-5, TO-18 TYPE TRANSISTORS

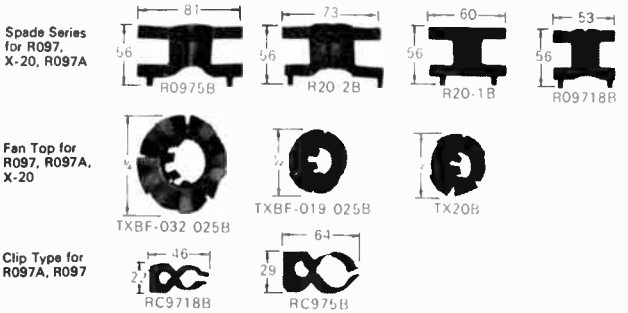
The exclusive "Fan Top" design gives unbelievable case temperature reduction in natural or forced convection. It allows location of other components close to transistors, yet adds virtually nothing to board height. Beryllium copper spring fingers firmly retain transistors, yet fit wider range of case diameters than any other configuration. Low-cost "Fan Tops" are designed for fast, economical press-fit installation without tools. Send for Bulletin 131.

IERC PART NO	TRANSISTOR CASE SIZE	QUANTITY PRICES				
		1-24	25-49	50-99	100-249	250-499
TXBF-032-025B	All 305" to 335" cases (TO-5, TO-9, etc.)	\$20	\$17	\$13	\$12	\$115
TXBF-019-025B	All 178" to 198" cases (TO-18, etc.)	20	17	13	12	115



## DISSIPATORS / RETAINERS FOR PLASTIC AND CERAMIC TRANSISTORS

These new IERC designs help you get maximum efficiency from plastic semiconductors. Permit power ratings to be increased from 10% to 33%. Provide additional operating safety margins. Reduce harmful effects of heat during production soldering. Send for Bulletin 148.



**SPADE-TYPE**—Excellent dissipator and retainer. "Stand-off" legs provide positive 0.1" grid location for automatic insertion in p-c board; hold transistor above solder, eliminating possible thermal damage.

**FAN TOP**—Provides excellent dissipation with no loss in board area of vertical clearance space.

**CLIP-TYPE**—Highly efficient dissipator retainer; also used as thermal link or radiating device.

Spade and clip types for RF shielding available. Write for data

SPADE SERIES	QUANTITY PRICES				
	1-24	25-49	50-99	100-249	250-499
R0975B	10	0925	085	08	0725
R0971BB	09	0825	075	07	065
R20 1B	09	0825	075	07	065
R20 2B	10	0925	085	08	0725

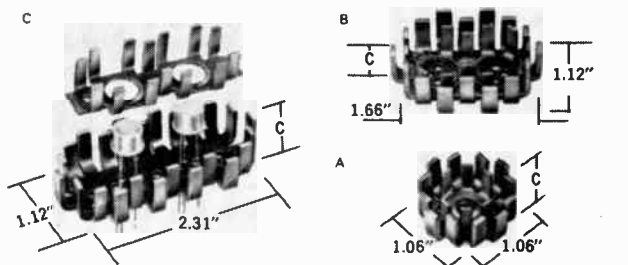
NOTES (1) For quantities over 10,000 pieces, factory bid only  
(2) Above pricing are manufactured from Beryllium copper black Cadmium Plated. Parts also available made from hard brass. Brass units are factory bio-uni.

## LP SERIES—FOR TO-5, TO-18 TYPE TRANSISTORS

Versatile transistor cooling devices provide excellent heat dissipation in applications of low to high power transistors of TO-5 and TO-18 configuration. Employing the efficient staggered-finger configuration—IERC's exclusive design to optimize convection currents and radiating surface area—they are available for single and multiple transistor mounting. Send for Bulletin 135.

IERC PART NO	DIMENSION 'C'	NUMBER OF TRAN-SISTORS	JEDEC OUTLINE NO	PRICES				
				1-24	25-49	50-99	100-249	250-499
LP 5A 1B	1/2"	1	TO-5 TO-9	\$80	\$68	\$64	\$60	\$56
LP 5A 2B	5/16"	1	TO-5 TO-9	80	68	64	60	56
LP 18A 1B	1/2"	1	TO-18	80	68	64	60	56
LP 18A 2B	5/16"	1	TO-18	80	68	64	60	56
LP 18A 3B	1/2"	2	TO-18	80	68	64	60	56
LP 18A 4B	5/16"	2	TO-18	80	68	64	60	56
LP 5B 1B	1/2"	1	TO 5 TO 9	90	77	72	68	63
LP 5B 2B	5/16"	1	TO 5 TO 9	90	77	72	68	63
LP 5B 3B	1/2"	2	TO 5 TO 9	90	77	72	68	63
LP 5B 4B	5/16"	2	TO 5 TO 9	90	77	72	68	63
LP 5C 1B	1/2"	1	TO 5 TO 9	100	85	80	75	70
LP 5C 2B	5/16"	1	TO 5 TO 9	100	85	80	75	70
LP 5C 3B	1/2"	2	TO 5 TO 9	100	85	80	75	70
LP 5C 4B	5/16"	2	TO 5 TO 9	100	85	80	75	70

Note: Clamp sections may be used separately as retaining devices; change first two letters of the part number to "LC". Base section LB5A1B or LB5A2B may be used separately for TO-37 transistors such as 2N1172 and 2N1609. Delete letter "B" from part number for Insulube 448 finish. Consult your IERC representative or factory for special orders.



Prices subject to change without notice.

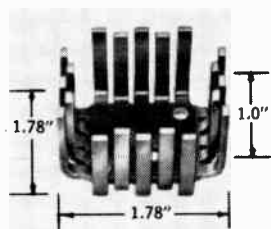


# Semiconductor Heat Dissipators

## UP SERIES—FOR POWER TYPE TRANSISTORS AND DIODES

UP Series design gives maximum dissipation in medium power applications at lower cost than comparable finned extrusions. Staggered-finger configuration—a design exclusive with IERC—allows maximum efficiency in both natural convection and forced air at less weight and volume. Increased dissipation can be achieved by mounting dissipators back-to-back on a bracket. Standard finish is black anodize. Send for Bulletin 134.

IERC PART NO	JEDEC OUTLINE NO	QUANTITY PRICES				
		1-24	25-49	50-99	100-249	250-499
UP-T03-B	TO-3	\$88	\$58	\$53	\$50	\$47
UP-T06-B	TO-6 or TO-36	88	58	53	50	47
UP-T066-B	TO-66	88	58	53	50	47
UP-T015-B	TO-15 or TO-13 (M <sup>2</sup> stud)	88	58	53	50	47
UP-T0V-7B	Universal*	88	58	53	50	47
UP-TE2-B	TE-2	88	58	53	50	47



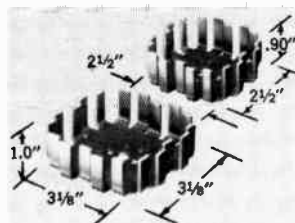
Delete letter "B" from part number for Insulube 448 finish. Above parts are 1" high; for 1/2", add numeral "2" after first two letters of part number; for 3/4", add numeral "1" after first two letters; example: UP2-T03B describes a dissipator 3/4" high, with TO-3 hole pattern and black anodize finish. For other hole patterns, see your IERC representative or consult the factory.

## HP SERIES—FOR POWER TYPE TRANSISTORS AND DIODES

Due to the staggered-finger design, heat dissipation performance is comparable to conventional extrusions up to 3 times as heavy and 30% larger. The two sizes may be used separately or with the smaller unit nested in the larger unit. Standard finish is black anodize. Send for Bulletin 139.

IERC PART NO	JEDEC OUTLINE NO	QUANTITY PRICES				
		1-24	25-49	50-99	100-249	250-499
HP1-T03D	TO-3	\$130	\$111	\$104	\$98	\$91
HP1-T06B	TO-6	130	111	104	98	91
HP1-T015B	TO-15, 1/4" STUO	130	111	104	98	91
HP1-TOV-2B	UNIVERSAL*	130	111	104	98	91
HP1-TE6B	TO-10, TU-31 or 32 or TO-32 STUO	130	111	104	98	91
HP3-T03B	TO-3	140	119	112	105	98
HP3-T06B	TO-6	140	119	112	105	98
HP3-T015B	TO-15, 1/8" STUO	140	119	112	105	98
HP3-TOV-2B	UNIVERSAL*	140	119	112	105	98

\*Combination hole pattern for TO-3, TO-6, TO-36 or studs up to 1/2" dia



Note: Delete letter "B" from part number; for Insulube 448 finish. For other hole patterns, insert JEDEC Outline Number after the "dash" in the part number; or, contact your IERC representative or the factory for assistance with special orders.

## INSULUBE 448 FINISH FOR HEAT DISSIPATORS

The Insulube 448 finish is the only proven finish for positive electrical insulation in electronic equipment that meets the most stringent environmental requirements. □ Non-hygroscopic □ High emissivity surface □ Salt spray resistant □ Low thermal resistance □ Unaffected by elevated temperature □ High dielectric strength. □ High insulation resistance. Send for Bulletin 123.

## EXTRUSIONS—E1, E2 and E3 SERIES

These units provide an optimized fin design giving the most power dissipation for volume and weight. Standard finish is black anodize. Standard units supplied with mounting notches and choice of six popular semiconductor mounting hole patterns. Send for Bulletins 142 (E1 and E2) and 145 (E3).

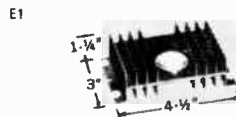
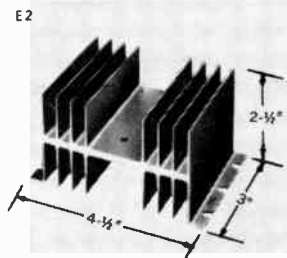
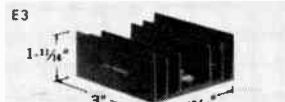
**THERMAL RESISTANCE, MOUNTING SURFACE TO AIR**  
**E1 (3"L): 2.05°C/W natural convection; 0.80°C/W in 1000 fpm air flow**  
**E2 (3"L): 1.89°C/W natural convection; 0.43°C/W in 1000 fpm air flow**  
**E3 (3"L): 2.05°C/W natural convection; 0.85°C/W in 1000 fpm air flow**

EXTRUSION TYPE	IERC PART NO	TRANSISTOR MOUNTING HOLE PATTERN	QUANTITY PRICES				
			1-24	25-49	50-99	100-249	250-499
E1 and E3**	E1000-0600B	BLANK	\$152	\$128	\$120	\$104	\$ 89
	E1003-0600B	TO-3	162	138	130	112	97
	E1006-0600B	TO-6	162	138	130	112	97
	E1015-0600B	TO-15	162	138	130	112	97
	E10E2-0600B	LIKE 2N1015	162	138	130	112	97
	E100V-0600B	UNIVERSAL*	162	138	130	112	97
E2	E1066-0600B	TO-66	162	138	130	112	97
	E2000-0600B	BLANK	204	174	167	140	120
	E2003-0600B	TO-3	228	194	186	157	135
	E2006-0600B	TO-6	228	194	186	157	135
	E2015-0600B	TO-15	228	194	186	157	135
	E20E2-0600B	LIKE 2N1015	228	194	186	157	135
	E200V-0600B	UNIVERSAL*	228	194	186	157	135
	E2066-0600B	TO-66	228	194	186	157	135

\*For E3 configuration change first numeral of part no. to 3. For example E3000-0600B.

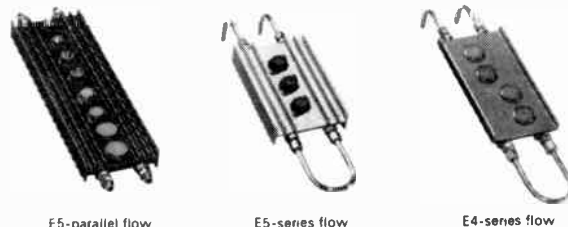
\*\*Combination hole pattern for TO-3, TO-6, TO-36 or studs up to 1/2" dia.

Note: Other lengths, in 1/2" increments are available. Specify non-standard hole patterns by JEDEC Outline Number, or by transistor type. For unplated, or Insulube 448 finishes, consult your nearest IERC representative or the factory.



## FLUID COOLED HEAT SINKS

Compact, highly efficient aluminum heat sinks for power transistors and diodes. 1000 watts dissipation in less than 45 cu. in. Parallel or series flow; open or closed loop systems. Standard lengths from 6" to 4' in 1/2" increments. All standard transistor hole patterns available. Standard 1/4" tube fittings. Various finishes. Send for Bulletin 147.



Prices listed below include material, saw cutoff, deburring, fluid passage holes tapped, and with clear anodize finish

IERC PART NO	QUANTITY PRICES—PER FOOT		
	1-9	10-49	50 Over
E-4 Series	15.50	13.10	11.25
E-5 Series	17.00	14.35	12.25
Mounting Hole Pattern Per Pattern (See Note)	25	20	15



International Electronic Research Corporation  
 A CORPORATE DIVISION OF DYNAMICS CORPORATION OF AMERICA

Prices subject to change without notice.



# DUAL DIODES

IRC, Inc.



Attractive new SNAP PAK style package. Back of card contains complete replacement information.

**DIODES.** Universal selenium dual diodes for horizontal phase detectors and remote control in TV receivers. Also used in radio control devices for model planes, and other circuits. Available in four basic types.

The small size, economy, ease of installation and reliable construction of the IRC dual selenium diodes make them ideal for many low-voltage, low-frequency applications. To suit them to various circuits, these dual diodes have either common-anode, common-cathode, or series form of internal connection. The cells in each unit are matched to assure electrical balance.

Alloy-plated leads facilitate soldering. No clamp or other mounting device is needed, since the three leads readily support this flyweight unit.

## Designed for Long Life

Construction features include an integral heatsink and a "floating" spring that gives proper pre-load over the full operating temperature range. No paper, laminates or other material that might absorb moisture are used. Moisture-excluding materials cushion the active elements and isolate them from encapsulant.

## Electrically Balanced and Noise Free

IRC processes each selenium cell to give it a smooth, uncontaminated surface and periphery with no fractures. This technique insures uniform current density over the entire cell area and prevents noisy, unreliable operation.

To indicate polarity, one corner of the case has a diagonal cutoff. This assures correct orientation of units in automated assembly, and allows use of both sight and touch to get proper polarity at manual assembly and inspection.

## DUAL DIODE ASSORTMENTS

**D4 ASSORTMENT No. 32A** — 5 SNAP PAK style display strips totaling 25 diodes, packaged one diode to a card, 5 cards to a strip.

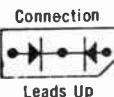
**D5 ASSORTMENT No. 33A** — 5 SNAP PAK style display strips totaling 25 diodes, packaged one diode to a card, 5 cards to a strip.

## TV DUAL DIODES

### REPLACEMENT INFORMATION

#### TYPE D4 COMMON CATHODE

Manufacturer	Part No.	Manufacturer	Part No.
Admiral	93B5-6, 9 93C26-7, 9	Magnavox	M109474 530093-1
Airline	66X21, 25 296V004H01	Motorola	48C751656 48K741255
Coronado	66X21, 25	Muntz	SR004
Curtis Mathes	9LR2-S 21A2	Olympic	RF5465-1 RF5794-1
Dominion Electrohme	702-810 14-501-01 109474	Packard Bell	72053
Dumont	109474 R109328 817074	Philco	34-8034 34-8037-1, 2, 3
Emerson	817062 817074 817126 R109474	RCA	109328, 109474 1107832-7, 9, 10, 11
Federal I.T.T.	K1615 P15	Setchell-Carlson	9LR2
GE	6GC1 CT16X7 ET16X10 K115J510-1, 2 K117J460-1, 2 WT16X7 RER023	Silvertone	86-9-1 86-18-1 624-0007 D51 109328
Hallicrafters	27C226 027-300-226	Sylvania	624-0006 624-0007 13-85943-1, 2, 3
Hoffman	10031 744002 744006	Tel-Rad	TRC-P4
International Rectifier	DD04	Travler	SR6 SR13 SR20
		Truetone	66X21, 25
		Wells-Gardner	66X21, 25
		Westinghouse	296V004H01
		Workman	SD4
		Zenith	103-20 103-32



#### TYPE D5 SERIES CONNECTED

Manufacturer	Part No.	Manufacturer	Part No.
Admiral	93A5-2 93B5-3, 4, 5	Olympic	RF5794
Airline	SR15 530045-3	Packard Bell	72030
Citizenship Radio	34-8037	Silvertone	B-45-110 B-48-110 386-4-1A D76 86-3-1 86-4-1A
Coronado	SR15	Sonora	SR15
Dominion Electrohme	14-503-01	Sylvania	13-93889
Emerson	817062 817962	Tel-Rad	TRC-55
Federal I.T.T.	K1616 P16	Travler	SR10 SR15
GE	6GD1 K118J966-1	Truetone	SR10 SR15
Hotpoint International Rectifier	WT16X9 DD05	Webcor	65P113 G9P17741 65P124-1
Magnavox	5330045-1, 2, 3 530093-1, 2, 3	Workman	SD5
Motorola	48B742698 48K741752 48K742698 48K754153 65K744238	Zenith	633977



# LOOK TO LANSDALE

FOR QUALITY CONTROL - TESTED TRANSISTORS

**LOOK TO LANSDALE**

**MILITARY - INDUSTRIAL TYPES**

2N109	2N501A	2N722	2N935	2N1132B	2N1608	2N1986	2N2217	2N2540	2N3020
2N128	2N502	2N722A	2N936	2N1135	2N1613	2N1987	2N2217A	2N2586	2N3072
2N207	2N502A	2N743	2N937	2N1135A	2N1623	2N1988	2N2218	2N2616	2N3073
2N207A	2N502B	2N744	2N938	2N1158	2N1639	2N1989	2N2218A	2N2645	2N3107
2N207B	2N503	2N753	2N939	2N1158A	2N1643	2N1990	2N2219	2N2651	2N3108
2N217	2N504	2N768	2N940	2N1177	2N1654	2N1991	2N2219A	2N2696	2N3109
2N223	2N534	2N770	2N941	2N1178	2N1655	2N2008	2N2220A	2N2697	2N3110
2N224	2N535	2N771	2N942	2N1179	2N1656	2N2048	2N2221	2N2710	2N3114
2N225	2N535A	2N772	2N943	2N1180	2N1663	2N2049	2N2221A	2N2784	2N3117
2N226	2N535B	2N773	2N944	2N1199	2N1676	2N2083	2N2222	2N2785	2N3120
2N227	2N536	2N774	2N945	2N1199A	2N1677	2N2086	2N2222A	2N2786	2N3121
2N231	2N581	2N775	2N946	2N1200	2N1708	2N2087	2N2274	2N2787	2N3133
2N232	2N582	2N776	2N947	2N1201	2N1711	2N2088	2N2275	2N2788	2N3134
2N240	2N583	2N777	2N956	2N1204	2N1726	2N2147	2N2276	2N2789	2N3135
2N269	2N584	2N778	2N960	2N1219	2N1727	2N2148	2N2277	2N2790	2N3136
2N300	2N588	2N779	2N961	2N1221	2N1728	2N2162	2N2280	2N2791	2N3137
2N301	2N589	2N783	2N962	2N1222	2N1742	2N2163	2N2281	2N2792	2N3209
2N301A	2N597	2N785	2N963	2N1223	2N1743	2N2164	2N2282	2N2801	2N3244
2N317A	2N598	2N794	2N964	2N1228	2N1744	2N2165	2N2297	2N2837	2N3245
2N327A	2N599	2N795	2N965	2N1229	2N1745	2N2166	2N2303	2N2838	2N3250
2N327B	2N600	2N796	2N966	2N1230	2N1746	2N2167	2N2360	2N2845	2N3251
2N328A	2N601	2N828	2N977	2N1231	2N1747	2N2168	2N2361	2N2846	2N3252
2N328B	2N647	2N834	2N978	2N1232	2N1748	2N2169	2N2362	2N2847	2N3253
2N329A	2N649	2N835	2N995	2N1233	2N1749	2N2170	2N2368	2N2848	2N3254
2N329B	2N656	2N846	2N1010	2N1252	2N1750	2N2175	2N2369	2N2868	2N3299
2N344	2N657	2N846A	2N1024	2N1253	2N1752	2N2176	2N2374	2N2869	2N3301
2N345	2N670	2N858	2N1025	2N1267	2N1753	2N2177	2N2374	2N2870	2N3302
2N346	2N671	2N859	2N1026	2N1268	2N1754	2N2178	2N2375	2N2883	2N3304
2N352	2N672	2N860	2N1027	2N1269	2N1785	2N2180	2N2376	2N2884	2N3337
2N353	2N673	2N861	2N1028	2N1270	2N1786	2N2181	2N2380	2N2894	2N3338
2N386	2N696	2N862	2N1034	2N1271	2N1787	2N2182	2N2380A	2N2904	2N3339
2N387	2N697	2N863	2N1035	2N1272	2N1788	2N2183	2N2398	2N2904A	2N3342
2N393	2N698	2N864	2N1036	2N1275	2N1790	2N2184	2N2399	2N2905	2N3343
2N395	2N699	2N865	2N1037	2N1411	2N1864	2N2185	2N2410	2N2905A	2N3344
2N396	2N699A	2N869	2N869	2N1118	2N1865	2N2186	2N2443	2N2906	2N3345
2N396A	2N699B	2N869A	2N869A	2N1118A	2N1866	2N2187	2N2475	2N2906A	2N3346
2N404	2N703	2N870	2N870	2N1119	2N1867	2N2192	2N2476	2N2907	2N3370
2N406	2N706	2N871	2N871	2N1122	2N1868	2N2192A	2N2477	2N2907A	2N3731
2N408	2N706A	2N910	2N910	2N1122A	2N1869	2N2192B	2N2478	2N2930	2N3732
2N410	2N706B	2N911	2N911	2N1123	2N1890	2N2193	2N2479	2N2954	
2N412	2N708	2N912	2N912	2N1124	2N1467	2N2193A	2N2480	2N2966	
2N414	2N709	2N914	2N914	2N1125	2N1472	2N2193B	2N2481	2N2967	
2N428	2N717	2N915	2N915	2N1128	2N1478	2N2194	2N2483	2N3009	
2N495	2N718	2N916	2N916	2N1129	2N1494	2N2194A	2N2484	2N3010	
2N496	2N719	2N918	2N918	2N1130	2N1494A	2N2194B	2N2509	2N3011	
2N497	2N719A	2N926	2N926	2N1131	2N1499	2N2195	2N2510	2N3012	
2N498	2N720	2N927	2N927	2N1131A	2N1499A	2N2195A	2N2511	2N3013	
2N499	2N720A	2N928	2N928	2N1131B	2N1500	2N2195B	2N2537	2N3014	
2N499A	2N721	2N929	2N929	2N1132	2N1606	2N2198	2N2538	2N3015	
2N501	2N721A	2N930	2N930	2N1132A	2N1607	2N21985	2N2539	2N3019	

**LOOK TO LANSDALE**

**CONSUMER - ENTERTAINMENT TYPES**

2N501A	2N1499A	2N1754	2N2400	2N393	2N1411	2N1118	2N861	2N865	2N2274
2N1500	2N2048	2N779A	2N2401	2N1122	2N495	2N859	2N863	2N2280	2N2275

**LOOK TO LANSDALE**

**LINEAR INTEGRATED CIRCUITS**

MIL 702 709 710 711 COMMERCIAL 702C 709C 710C 711C

WRITE FOR COMPLETE CATALOG — AND LINEAR INTEGRATED CIRCUITS DATA SHEETS

PRICES AVAILABLE UPON REQUEST

*Custom Specifications and Custom Service are our Specialties!*



# LANSDALE

## TRANSISTOR & ELECTRONICS INC.

**DIRECTRON**

## Industrial Selenium Rectifiers, Transformers, Chokes and Power Supplies

### FULL WAVE BRIDGE RECTIFIERS, SINGLE PHASE, RESISTIVE-INDUCTIVE LOADS ALL PRICES SHOWN ARE USER NET PRICES

Max. Amps.	18v. in— 14v. out		36v. in— 28v. out		54v. in— 42v. out		130v. in— 100v. out	
	No.	Price	No.	Price	No.	Price	No.	Price
1/2	A 18	\$ 1.05	A 36	\$ 1.50	A 54	\$ 2.50	A 130	\$ 5.00
1	B 18	1.20	B 36	2.20	B 54	3.20	B 130	8.00
2	C 18	2.10	C 36	3.00	C 54	4.50	C 130	10.00
3	D 18	2.70	D 36	4.00	D 54	6.00	D 130	14.00
4	E 18	3.60	E 36	7.50	E 54	10.00	E 130	24.00
6	F 18	4.50	F 36	9.00	F 54	12.00	F 130	32.00
10	G 18	6.60	G 36	12.00	G 54	18.00	G 130	39.00
12	H 18	8.20	H 36	16.00	H 54	22.00	H 130	44.00
15	J 18	10.50	J 36	20.00	J 54	27.00	J 130	54.00
20	K 18	12.50	K 36	25.00	K 54	36.00	K 130	77.00
24	L 18	15.00	L 36	30.00	L 54	42.00	L 130	82.00
30	M 18	19.10	M 36	37.00	M 54	55.00		
36	P 18	24.00	P 36	48.00				
50	R 18	30.00	R 36	60.00				



C36

220 v. Single Phase available . . . up to 1000 amps.

HALF-WAVE, CENTER-TAP, DOUBLER,

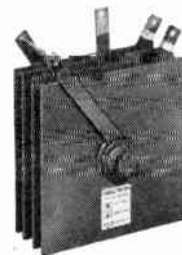
TRIPLER or 3-PHASE

Quotations on request



E130

## 24 HOUR SERVICE on Custom Built Stacks



F18

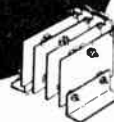
SEE OUR AD UNDER "TRANSFORMERS" IN SECTION 5600 FOR RECTIFIER TRANSFORMERS AND HIGH CURRENT CHOKES



## Mfd. by SANFORD MILLER CORP.

# SILICON POWER RECTIFIERS

**HY-A-SIL**  
High - Ampere - Silicon



## FEATURES

- High operating temperature, 190°C (Up to 120°C ambient)
- High operating voltage (Up to 600 p.i.v.)
- High efficiency (99% compared to about 75% for selenium)
- Excellent regulation (4% compared to about 15% for selenium)

Stock No.	Type	AC Input Volts up to	DC Output Volts up to	Max. Amps Self Cooled	Max. Amps Fan Cooled	Size And Weight	User Net Price
SI-CT-A	Center-Tap	18-0-18	16	40	80	B	\$ 15.00
SI-CT-B	Center-Tap	36-0-36	32	40	80	B	20.00
SL-CT-A	Center-Tap	18-0-18	16	50	100	B	17.50
SL-CT-B	Center-Tap	36-0-36	32	50	100	B	22.50
SL-CT-D	Center-Tap	72-0-72	64	50	100	B	36.00
SL-CT-F	Center-Tap	140-0-140	125	50	100	B	44.00
SK-CT-A	Center-Tap	18-0-18	16	100	200	C	30.00
SK-CT-B	Center-Tap	36-0-36	32	100	200	C	34.00
SK-CT-D	Center-Tap	72-0-72	64	100	200	C	37.00
SK-CT-F	Center-Tap	140-0-140	125	100	200	C	48.00
SM-CT-A	Center-Tap	18-0-18	16	200	400	D	45.00
SM-CT-B	Center-Tap	36-0-36	32	200	400	D	60.00
SM-CT-D	Center-Tap	72-0-72	64	200	400	D	62.00
SM-CT-F	Center-Tap	140-0-140	125	200	400	D	76.00
SO-CT-B	Center-Tap	36-0-36	32	400	800	E	100.00
SA-BR-D	1φ Bridge	140	125	1	*	—	9.00
SA-BR-F	1φ Bridge	280	250	1	*	—	10.50
SC-BR-D	1φ Bridge	140	125	2	*	—	10.50
SC-BR-F	1φ Bridge	280	250	2	*	—	12.00
SD-BR-A	1φ Bridge	36	32	6	12	F	18.00
SD-BR-D	1φ Bridge	140	125	6	12	F	30.00
SD-BR-F	1φ Bridge	280	250	6	12	F	39.00
SE-BR-A	1φ Bridge	36	32	10	20	G	21.00
SE-BR-D	1φ Bridge	140	125	10	20	G	36.00
SE-BR-F	1φ Bridge	280	250	10	20	G	44.00
SF-BR-A	1φ Bridge	36	32	20	40	H	24.00
SF-BR-D	1φ Bridge	140	125	20	40	H	40.00
SF-BR-F	1φ Bridge	280	250	20	40	H	48.00
SI-BR-A	1φ Bridge	36	32	40	80	J	30.00
SI-BR-B	1φ Bridge	72	64	40	80	J	36.00
SI-BR-D	1φ Bridge	140	125	40	80	J	63.00
SI-BR-F	1φ Bridge	280	250	40	80	J	95.00
SL-BR-A	1φ Bridge	36	32	50	100	J	33.00
SL-BR-B	1φ Bridge	72	64	50	100	J	39.00
SL-BR-D	1φ Bridge	140	125	50	100	J	70.00
SL-BR-F	1φ Bridge	280	250	50	100	J	110.00
SG-BR-A	1φ Bridge	36	32	70	140	J	40.00
SG-BR-B	1φ Bridge	72	64	70	140	J	50.00
SG-BR-D	1φ Bridge	140	125	70	140	J	80.00
SG-BR-F	1φ Bridge	280	250	70	140	J	130.00
SK-BR-A	1φ Bridge	36	32	100	200	K	60.00
SK-BR-B	1φ Bridge	72	64	100	200	K	68.00
SK-BR-D	1φ Bridge	140	125	100	200	K	90.00
SK-BR-F	1φ Bridge	280	250	100	200	K	150.00
SM-BR-A	1φ Bridge	36	32	200	400	L	100.00
SM-BR-B	1φ Bridge	72	64	200	400	L	120.00
SM-BR-D	1φ Bridge	140	125	200	400	L	180.00
SM-BR-F	1φ Bridge	280	250	200	400	L	260.00
SO-BR-B	1φ Bridge	72	64	400	800	M	270.00
SO-BR-F	1φ Bridge	280	250	400	800	M	480.00
SL-PH-A	3φ Bridge	36	48	75	150	N	60.00
SL-PH-B	3φ Bridge	72	96	75	150	N	85.00
SL-PH-C	3φ Bridge	105	144	75	150	N	120.00
SL-PH-D	3φ Bridge	140	188	75	150	N	180.00
SL-PH-E	3φ Bridge	220	290	75	150	M	220.00
SK-PH-E	3φ Bridge	220	290	100	200	M	240.00
SM-PH-E	3φ Bridge	220	290	200	400	M	300.00
SO-PH-E	3φ Bridge	220	290	400	800	M	375.00

All above ratings based on 30°C ambient. Fan-cooled ratings based on air velocity of 1000 linear ft/minute. For resistive or inductive loads, as rated. For capacitive or battery loads, derate amperage 20%. Doubblers, triplers, 3 phase half wave and 3 phase center-tap also available. Custom-built stacks, 24 hour service.

### DIMENSIONS WITH BRACKETS

Size	Length	Height	Width	Weight
B	3"	6"	5"	12 oz.
C	3"	6"	6"	1 lb.
D	4"	8"	7"	2 lbs.
E	4"	9"	8"	6 lbs.
F	6"	5"	5"	1¼ lbs.
G	6"	6"	5"	1½ lbs.
H	6"	6"	6"	2 lbs.
J	6"	6"	5"	1½ lbs.
K	7"	8"	7"	4 lbs.
L	8"	9"	8"	6 lbs.
M	8"	11"	10"	6 lbs.
N	8"	6"	5"	4 lbs.

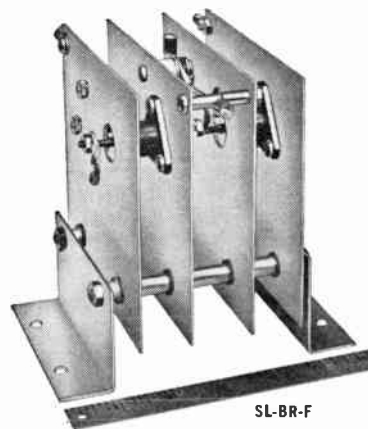
\*Not suitable for fan-cooling



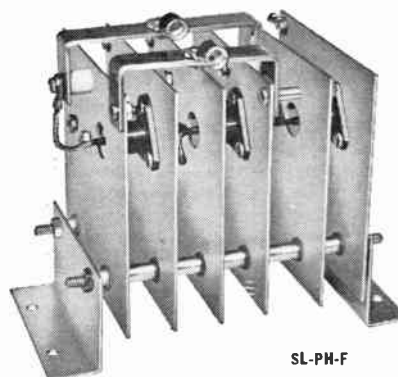
SC-BR-F



SA-BR-D



SL-BR-F



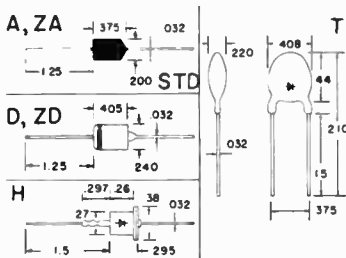
SL-PH-F



Mfd. by **SANFORD MILLER CORP.**

**MALLORY**

**Semiconductors**

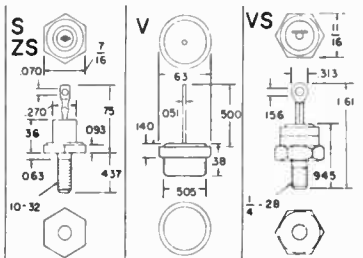


**SILICON RECTIFIERS**

Diffused junction. Types A and T have molded cases; all others, hermetically sealed.

Mallory No.	Type	PIV Volts	Amps	*	Net Each
A50	A	50	.75	1	.45
A100	A	100	.75	1	.50
1N2069	A	200	.75	1	.50
A300	A	300	.75	1	.60
1N2070	A	400	.75	1	.67
A500	A	500	.75	1	.72
1N2071	A	600	.75	1	.77
A800	A	800	.75	1	1.20
A1000	A	1000	.75	1	2.00
1N2090	T	50	.75	1	.46
1N2091	T	100	.75	1	.48
1N2092	T	200	.75	1	.52
1N2093	T	300	.75	1	.56
1N2094	T	400	.75	1	.58
1N2095	T	500	.75	1	.63
1N2096	T	500	.75	1	.66
T800X	T	800	.75	1	1.50
T1000X	T	1000	.75	1	2.18
1N536	H	50	.75	2	.67
1N537	H	100	.75	2	.74
1N538	H	200	.75	2	.78
1N539	H	300	.75	2	.84
1N540	H	400	.75	2	.88
1N1095	H	500	.75	2	1.10
1N547	H	600	.75	2	1.10
1N1096	H	600	.75	2	1.10
D50	D	50	.75	3	.63
D100	D	100	.75	3	.65
1N3193	D	200	.75	3	.69
D300	D	300	.75	3	.76
1N3194	D	400	.75	3	.80
D500	D	500	.75	3	.85
1N3195	D	600	.75	3	.93
A50	A	50	1	4	.40
A100	A	100	1	4	.45
1N2069	A	200	1	4	.50
A300	A	300	1	4	.60
1N2070	A	400	1	4	.67
A500	A	500	1	4	.72
1N2071	A	600	1	4	.77
A800	A	800	1	4	1.20
A1000	A	1000	1	4	2.00
S50†	S†	50	3	5	1.60
S100†	S†	100	3	5	1.67
1N1124A†	S†	200	3	5	1.82
1N1125†	S†	300	3	5	2.66
1N1126A†	S†	400	3	5	3.15
1N1127†	S†	500	3	5	3.88
1N1128A†	S†	600	3	5	4.45
1N3208†	VS†	50	15	6	1.15
1N3209†	VS†	100	15	6	1.30
1N3210†	VS†	200	15	6	1.70
1N3211†	VS†	300	15	6	2.00
1N3212†	VS†	400	15	6	2.48
1N3213†	VS†	500	15	6	2.86
1N3214†	VS†	600	15	6	3.56
1N3491†	V	50	18	7	.63
1N3492†	V	100	18	7	.68
1N3493†	V	200	18	7	1.03
1N3494†	V	300	18	7	1.31
1N3495†	V	400	18	7	1.65
V500†	V	500	18	7	1.88
V600†	V	600	18	7	1.98
1N3659†	V	50	25	8	1.26
1N3660†	V	100	25	8	1.36
1N3661†	V	200	25	8	2.06
1N3662†	V	300	25	8	2.62
1N3663†	V	400	25	8	3.30
1N3664†	V	500	25	8	3.76
1N3665†	V	600	25	8	3.96

\*Rated: 1—15 amps peak 1-cycle surge at 50° C; max. case temp., 100° C. 2—Same, but max. case temp., 150° C. 3—35 amps peak 1-cycle surge at 75° C; max. case temp., 100° C. 4—15 amps peak 1-cycle surge at 25° C; max. case temp., 100° C. 5—Same, but max. case temp., 150° C. 6—250 amps peak 1-cycle surge at 150° C; max. case temp., 175° C. 7—Same, but 300 amps. 8—Same, but 400 amps. †Standard polarity is cathode to stud; ‡anode to stud, add suffix R (e.g., 1N3208R), same price. †Mounting hardware supplied.



**PRE-PACKAGED RECTIFIER CIRCUITS**

Rated at +50° C. Max. case temp. 100° C. Ratings shown are for total circuit. Peak 1-cycle surge, 15 A. Furnished in epoxy case. Prefix Shows Use: VB, Voltage Doubler; CT, Full Wave, Center Tap (Neg. or Pos.); FW, Full Wave bridge.

Mallory No.	Type	PIV Volts	Amps	Net Each
VB50	VB	50	.75	\$0.78
VB100	VB	100	.75	.86
VB200	VB	200	.75	.96
VB300	VB	300	.75	1.00
VB400	VB	400	.75	1.06
VB500	VB	500	.75	1.20
VB600	VB	600	.75	1.34
CT(*).50	CT*	50	1.5	.78
CT(*).100	CT*	100	1.5	.86
CT(*).200	CT*	200	1.5	.96
CT(*).300	CT*	300	1.5	1.00
CT(*).400	CT*	400	1.5	1.06
CT(*).500	CT*	500	1.5	1.20
CT(*).600	CT*	600	1.5	1.34
FW50	FW	50	1.5	1.53
FW100	FW	100	1.5	1.63
FW200	FW	200	1.5	1.70
FW300	FW	300	1.5	1.90
FW400	FW	400	1.5	2.05
FW500	FW	500	1.5	2.20
FW600	FW	600	1.5	2.50
FW800	FW	800	1.5	3.50
FW1000	FW	1000	1.5	3.93

\*Insert N for negative center tap; P, for positive center tap (e.g., CTN50).

**SILICON ZENER DIODES**

Diffused junction type in three case styles and two wattages. All types rated at 25° C. Type ZA: "Cold case" design. Type ZS: Hermetically sealed and furnished with HD04 mounting hardware. Type ZD: Hermetically sealed. Tolerance: All types shown are ±20%. Add suffix A for ±10%; B for ±5%.

**STOCK 1-WATT TYPES**

Nom. Zener Volts	IZT Test mA	ZZT at IZT Ohms	Mallory Number	
			ZA	ZD
6.8	37	3.5	ZA6.8	1N3016
7.5	34	4.0	ZA7.5	1N3017
8.2	31	4.5	ZA8.2	1N3018
9.1	28	5.0	ZA9.1	1N3019
10	25	7	ZA10	1N3020
11	23	8	ZA11	1N3021
12	21	9	ZA12	1N3022
13	19	10	ZA13	1N3023
15	17	14	ZA15	1N3024
16	15.5	16	ZA16	1N3025
18	14	20	ZA18	1N3026
20	12.5	22	ZA20	1N3027
22	11.5	23	ZA22	1N3028
24	10.5	25	ZA24	1N3029
27	9.5	35	ZA27	1N3030
30	8.5	40	ZA30	1N3031
33	7.5	45	ZA33	1N3032
36	7.0	50	ZA36	1N3033
39	6.5	60	ZA39	1N3034
43	6.0	70	ZA43	1N3035
47	5.5	80	ZA47	1N3036
51	5.0	95	ZA51	1N3037
56	4.5	110	ZA56	1N3038
62	4.0	125	ZA62	1N3039
68	3.7	150	ZA68	1N3040
75	3.3	175	ZA75	1N3041
82	3.1	200	ZA82	1N3042
91	2.8	250	ZA91	1N3043
100	2.5	350	ZA100	1N3044
110	2.3	450	ZA110	1N3045
120	2.0	550	ZA120	1N3046
130	1.9	700	ZA130	1N3047
150	1.7	1000	ZA150	1N3048
160	1.6	1100	ZA160	1N3049
180	1.4	1200	ZA180	1N3050
200	1.2	1500	ZA200	1N3051

**ZENER DIODES (CONT'D) STOCK 10-WATT TYPE ZS**

Nom. Zener Volts	IZT Test mA	ZZT at IZT Ohms	Mallory Number ZS
6.8	370	1.2	1N2970
7.5	340	1.3	1N2971
8.2	310	1.5	1N2972
9.1	280	2	1N2973
10	250	3	1N2974
11	230	3	1N2975
12	210	3	1N2976
13	190	3	1N2977
15	170	3	1N2979
16	155	4	1N2980
18	140	4	1N2982
20	125	4	1N2984
22	115	5	1N2985
24	105	5	1N2986
27	95	7	1N2988
30	85	8	1N2989
33	75	9	1N2990
36	70	10	1N2991
39	65	11	1N2992
43	60	12	1N2993
47	55	14	1N2995
51	50	15	1N2997
56	45	16	1N2999
62	40	17	1N3000
68	37	18	1N3001
75	33	22	1N3002
82	31	25	1N3003
91	28	35	1N3004
100	25	40	1N3005
110	23	55	1N3007
120	20	75	1N3008
130	19	100	1N3009
150	17	175	1N3011
160	16	200	1N3012
180	14	260	1N3014
200	12	300	1N3015

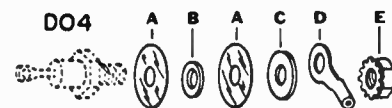
**ZENER DIODE NET PRICES**

Nom. Zener Volts	Tol. (Suffix)	Mallory Type, Net Each		
		ZA	ZD	ZS
6.8	±20%	\$0.85	\$1.27	\$2.42
to	±10% (A)	1.00	1.70	2.50
100	±5% (B)	1.40	2.49	3.23
110	±20%	.95	1.42	2.68
to	±10% (A)	1.11	1.89	2.78
200	±5% (B)	1.55	2.76	3.59

**DUAL TRIGGER DIODE**

Symmetrical three-layer device used to control a "Bi-switch" or SCR. Primary use is in dimmer circuits or motor control. Rated at 1 watt at 50° C. Pulse current, 20 μsec, 0.5% duty cycle, 1 amp. Breakover voltage, 32 V, ±10%. Breakover current, 150 μA max. Breakover at 2 mA, 5 V min. Symmetry within 5%. Cold case design (Fig. A, above). Ask for Bulletin 9-405 for light dimmer use. Mallory STD32A—Net Each... \$1.07

**SEMICONDUCTOR HARDWARE**



Mallory No.	Description	Net Each
HD04	Complete DO4 kit	\$0.08
HD04A	Mica washer (2 reqd.)	.007
HD04B	Brass washer	.01
HD04C	Teflon® washer	.01
HD04D	Solder lug	.012
HD04E	#10-32 locknut	.015
HD05	Complete DO5 kit	.14
HD05A	Mica washer	.012
HD05B	Brass washer	.012
HD05C	Teflon washer	.05
HD05D	Solder lug	.04
HD05E	¼"-20 locknut	.018

®Registered DuPont trademark.



# NATIONAL®

## ELECTRONIC CONTROL DEVICES FOR INDUSTRY

### Ignitrons, Rectifier Tubes, Thyratrons, Silicon Devices and Readout Tubes

#### SCR's Stud Mounted

PRV	16 Amp r.m.s.		35 Amp r.m.s.		55 Amp r.m.s.		110 Amp r.m.s.		35 Amp r.m.s.		235 Amp r.m.s.		
	Type Number	Net Sell. Price	Type Number	Net Sell. Price	Type Number	Net Sell. Price	Type Number	Net Sell. Price	Type Number	Net Sell. Price	Type Number	Net Sell. Price	
25	NL-C36U/2N1842	\$2.70	NL-C35U/2N681	\$3.30	NL-C45U— NL-C46U \$9.36		NL-C50U/2N1909	NL-C52U \$12.08		NL-C40U	\$9.40		
50	NL-C36F/2N1843	3.45	NL-C35F/2N682	4.10	NL-C45F— NL-C46F 11.86	NL-555F— NL-556F \$12.85	NL-C50F/2N1910	NL-C52F/2N1792 15.36		NL-C40F	9.85		
100	NL-C36A/2N1844	4.95	NL-C35A/2N683	5.60	NL-C45A— NL-S46A 13.44	NL-555A— NL-556A 14.80	NL-C50A/2N1911	NL-C52A/2N1793 17.84		NL-C40A	10.75	NL-C180A \$82.50	
150	NL-C36G/2N1845	5.65	NL-C35G/2N684	6.30	NL-C45G— NL-C46G 15.68		NL-C50G/2N1912	NL-C52G/2N1794 20.64		NL-C40G	12.95		
200	NL-C36B/2N1846	5.78	NL-C35B/2N685	6.60	NL-C45B— NL-C46B 17.84	NL-555B— NL-556B 19.60	NL-C50B/2N1913	NL-C52B/2N1795 23.52		NL-C40B	15.30	NL-C180B 99.00	
250	NL-C36H/2N1847	6.15	NL-C35H/2N686	6.95	NL-C45H— NL-C46H 20.00		NL-C50H/2N1914	NL-C52H/2N1796 25.00		NL-C40H	19.05		
300	NL-C36C/2N1848	11.65	NL-C35C/2N687	14.60	NL-C45C— NL-C46C 23.76	NL-555C— NL-556C 26.15	NL-C50C/2N1915	NL-C52C/2N1797 28.75		NL-C40C	23.10	NL-C180C 120.00	
400	NL-C36D/2N1849	13.85	NL-C35D/2N688	15.75	NL-C45D— NL-C46D 31.40	NL-555D— NL-556D 34.55	NL-C50D/2N1916	NL-C52D/2N1798 36.60		NL-C40D	28.05	NL-C180D 145.00	
500	NL-C36E/2N1850	16.00	NL-C35E/2N689	16.95	NL-C45E— NL-C46E 37.72	NL-555E— NL-556E 41.50	NL-C50E/2N1805	NL-C52E/2N1799 46.35	NL-C150E— NL-C152E \$60.48		NL-C40E	33.10	NL-C180E 176.00
600	NL-C36M/516M	19.10	NL-C35M/2N690	20.65	NL-C45M— NL-C46M 45.80	NL-555M— NL-556M 50.40	NL-C50M/2N1806	NL-C52M/2N1800 56.50	NL-C150M— NL-C152M 73.44				NL-C180M 197.00
700	NL-C36S/516S	20.50	NL-C35S/2N691	23.40	NL-C45S— NL-C46S 56.16	NL-555S— NL-556S 61.75	NL-C50S	NL-C52S/2N1801 66.90	NL-C150S— NL-C152S 89.60				NL-C180S 239.00
800	NL-C36N/516N	24.05	NL-C35N/2N692	26.25	NL-C45N— NL-C46N 68.04	NL-555N— NL-556N 74.85	NL-C50N	NL-C52N/2N1802 78.50	NL-C150N— NL-C152N 108.80				NL-C180N 292.00
800	NL-511-3	25.00											
900			NL-C35T	31.90	NL-C45T— NL-C46T 79.50	NL-555T— NL-556T 87.45	NL-C50T	NL-C52T/2N1803 94.20	NL-150T— NL-C152T 129.60				NL-C180T 325.00
1000	NL-511-4	32.50	NL-C35P	37.50		NL-555P— NL-556P 103.65			NL-C150P— NL-C152P 152.80				NL-C180P 364.00
1100						NL-555PA— NL-556PA 121.10			NL-C150PA— NL-C152PA 178.40				NL-C180PA 405.00
1200	NL-511-6	56.25				NL-555PB— NL-556PB 140.65			NL-C150PB— NL-C152PB 207.20				NL-C180PB 450.00
1300						NL-555PC— NL-556PC 158.75			NL-C150PC— NL-C152PC 233.60				NL-C180PC 535.00

### READOUT TUBES

0.3 Character Size		0.6 Character Size		Larger Character Sizes	
Type Number	Net Selling Price	Type Number	Net Selling Price	Type Number	Net Selling Price
NL-4022	\$19.00	NL-803	\$ 8.00	NL-5030	\$10.50
NL-4026	33.00	NL-809	16.25	NL-5032	15.75
NL-4031	33.00	NL-811	8.00	NL-5992	15.75
NL-7009	19.00	NL-812	8.75	NL-6844A	11.00
NL-7009A	20.90	NL-840	8.00	NL-8037/5031	15.75
NL-7977/4032	33.00	NL-841	8.75	NL-8421/5092	15.75
NL-7977A	36.30	NL-842	8.75	NL-8422/5991	15.75
NL-8502/4021	33.00	NL-843	8.00	NL-50911	15.75
		NL-5016	11.00		
				NL-807	\$10.00
				NL-821	10.50
				NL-6012	14.50
				NL-6034	20.00
				NL-7037	26.50
				NL-7094	30.00
				NL-7153	14.50
				NL-8091	22.50
				NL-8423/4021	19.00

WRITE FOR INDIVIDUAL DATA SHEETS FOR DETAILED RATINGS

#### READOUT TUBE DRIVERS AND BEZELS

TTL Monolithic integrated circuit drivers for all tube types.  
 NL-M100 Series — Decoder/Driver.  
 NL-M200 Series — Decoder/Driver with Decimal Counter.  
 NL-M300 Series — Decoder/Driver with Decimal Counter and Latching Memory.  
 NL-M400 Series — Decoder/Driver with Latching Memory.  
 BEZEL — Bezel assemblies including amber circularly polarized filter and sockets, for all types.

Write for specifications and prices.

#### IGNITRONS, RECTIFIER TUBES, & THYRATRONS

National's complete line of industrial control ignitrons, rectifier tubes, and thyratrons are available for prompt shipment. Write for individual data sheets and prices.

# NATIONAL ELECTRONICS INC.

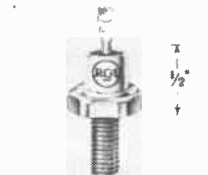
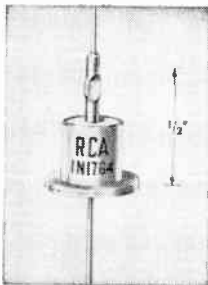
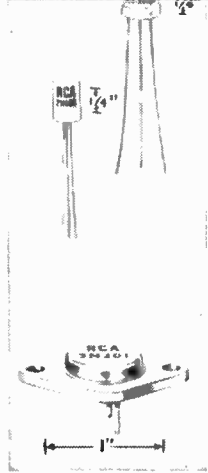
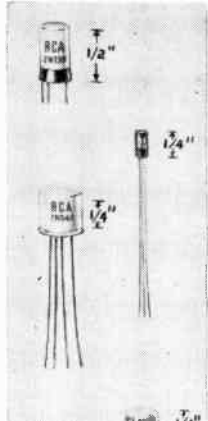
a varian subsidiary



# SEMICONDUCTOR PRODUCTS

JUNE, 1967

## TRANSISTORS, THYRISTORS, GERMANIUM DIODES & TUNNEL DIODES



Type	RCA Equipment Manufacturers Price	
	1-99	100-999
1N2326	\$ .50	\$.35
1N3128	6.35	4.39
1N3129	7.59	5.24
1N3130	8.17	5.64
1N3847	4.95	3.42
1N3848	4.95	3.42
1N3849	4.95	3.42
1N3850	4.95	3.42
1N3851	4.95	3.42
1N3852	6.35	4.39
1N3853	5.94	4.10
1N3854	7.59	5.24
1N3855	8.17	5.64
1N3856	8.17	5.64
1N3857	8.58	5.95
1N3858	6.52	4.50
1N3859	8.17	5.64
1N3860	10.73	7.40
1N3861	6.19	4.28
1N3862	7.67	5.30
1N3863	9.41	6.50
1N4785	1.08	.75
2N104	1.65	1.14
2N109	.60	.41
2N139	1.16	.80
2N140	1.24	.86
2N175	1.64	1.13
2N176	1.31	.90
2N215	1.73	1.20
2N217	.52	.36
2N218	1.16	.80
2N219	1.24	.86
2N220	1.52	1.05
JAN2N220	2.06	1.43
2N270	.70	.48
2N307	1.49	1.03
2N351	1.73	1.20
2N370	.81	.56
2N372	.80	.55
2N376	1.88	1.30
2N388	.50	.35
JAN2N388	.52	.36
2N388A	1.04	.72
2N395	.50	.33
2N396	.61	.41
2N397	1.11	.74
2N398	.99	.69
JAN2N398	1.08	.75
2N398A	1.08	.75
JAN2N398A	1.16	.80
2N398B	1.24	.86
2N404	.42	.28
JAN2N404	.43	.30
2N404A	.58	.39
JAN2N404A	.78	.54
2N405	.37	.25
2N406	.33	.23
2N407	.42	.29
2N408	.38	.27
2N409	.43	.30
2N410	.40	.28
2N411	.47	.32
2N412	.43	.30
2N414	.42	.28
2N581	.50	.35
2N582	.91	.63
2N585	.99	.69
2N586	1.73	1.20
2N591	.48	.34
2N647	1.08	.75
2N649	.86	.60
2N697	.63	.42
2N699	1.44	.94
2N706	.99	.66
2N706A	1.19	.80
2N709	1.65	1.14
2N718A	1.08	.72

Type	RCA Equipment Manufacturers Price	
	1-99	100-999
2N720A	\$1.32	\$.88
2N834	3.05	2.04
2N917	1.16	.77
2N918	3.30	2.20
JAN2N918	4.13	2.75
JANTX2N918	6.42	4.46
2N1010	2.89	2.00
2N1066	1.98	1.37
2N1090	1.11	.77
2N1091	1.41	.97
2N1177	.83	.57
2N1178	.81	.56
2N1179	.81	.56
2N1180	.68	.47
2N1183	1.82	1.25
JAN2N1183	2.64	1.82
2N1183A	2.31	1.60
JAN2N1183A	3.30	2.28
2N1183B	2.89	2.00
JAN2N1183B	3.88	2.68
2N1184	2.48	1.71
JAN2N1184	3.71	2.57
2N1184A	2.81	1.94
JAN2N1184A	4.04	2.79
2N1184B	4.13	2.85
JAN2N1184B	5.36	3.71
2N1300	.91	.63
2N1301	1.04	.72
2N1302	.45	.31
JAN2N1302	.47	.32
2N1303	.45	.30
JAN2N1303	.47	.31
2N1304	.53	.37
JAN2N1304	.57	.39
2N1305	.53	.36
JAN2N1305	.57	.38
2N1306	.75	.52
JAN2N1306	.81	.56
2N1307	.75	.50
JAN2N1307	.81	.54
2N1308	1.08	.75
JAN2N1308	1.16	.80
2N1309	1.08	.75
JAN2N1309	1.16	.80
2N1479	2.15	1.48
JAN2N1479	2.56	1.77
2N1480	2.31	1.60
JAN2N1480	2.72	1.88
2N1481	2.48	1.71
JAN2N1481	2.89	2.00
2N1482	3.30	2.28
JAN2N1482	3.71	2.57
2N1483	2.89	2.00
JAN2N1483	3.71	2.57
2N1484	3.63	2.51
JAN2N1484	4.46	3.08
2N1485	4.46	3.08
JAN2N1485	5.28	3.65
2N1486	6.77	4.67
JAN2N1486	7.59	5.24
2N1487	4.54	3.14
JAN2N1487	5.36	3.71
2N1488	4.95	3.42
JAN2N1488	5.78	3.99
2N1489	7.43	5.13
JAN2N1489	8.25	5.70
2N1490	8.25	5.70
JAN2N1490	9.08	6.25
2N1491	1.82	1.25
2N1492	4.29	2.96
2N1493	7.01	4.85
JAN2N1493	7.43	5.13
2N1524	.40	.28
2N1525	.43	.30
2N1526	.41	.28
2N1527	.47	.32
2N1605	.99	.69
2N1605A	1.26	.87
2N1613	.75	.50
2N1631	.53	.37

Type	RCA Equipment Manufacturers Price	
	1-99	100-999
2N1632	\$.49	\$.34
2N1637	.52	.36
2N1638	.45	.31
2N1639	.48	.34
2N1683	1.65	1.14
2N1700	1.90	1.31
2N1701	2.31	1.60
2N1702	4.54	3.14
2N1711	.99	.66
2N1853	1.32	.92
JAN2N1853	1.32	.92
2N1854	1.65	1.14
2N1893	1.16	.77
2N1905	4.13	2.85
2N1906	6.60	4.56
2N2015	9.08	6.25
JAN2N2015	9.90	6.85
2N2016	9.90	6.85
JAN2N2016	10.73	7.40
2N2102	1.24	.86
*S2N2102	18.94	13.10
2N2147	1.57	1.09
2N2148	1.07	.74
2N2270	.99	.69
2N2304	4.29	2.96
2N2305	6.44	4.45
2N2338	6.60	4.56
2N2369A	1.65	1.14
2N2405	1.82	1.25
2N2475	2.56	1.71
2N2476	1.65	1.14
2N2477	2.05	1.43
2N2594	1.62	1.12
2N2613	.55	.38
2N2614	.50	.35
2N2631	4.79	3.31
2N2708	3.71	2.57
JAN2N2708	4.95	3.42
2N2857	4.95	3.42
JAN2N2857	5.78	3.99
JANTX2N2857	12.20	8.45
2N2869/2N301	1.52	1.05
2N2870/2N301A	3.15	2.18
2N2876	14.50	10.05
2N2895	1.41	.97
2N2896	2.06	1.43
2N2897	1.16	.80
2N3011	1.25	.86
2N3053	.83	.57
2N3054	1.41	.97
2N3055	2.48	1.71
2N3118	4.95	3.42
2N3119	5.36	3.71
2N3229	46.20	31.90
2N3241A	.73	.51
2N3242A	.83	.57
2N3261	1.82	1.25
2N3262	9.90	6.85
2N3263	99.00	68.40
2N3264	66.00	45.60
2N3265	99.00	68.40
2N3266	66.00	45.60
2N3375	14.52	10.02
2N3435	7.43	5.13
2N3439	3.71	2.57
2N3440	1.82	1.25
2N3441	2.48	1.71
2N3442	4.54	3.14
2N3478	1.90	1.31
2N3512	1.82	1.25
2N3553	4.37	3.02
2N3583	2.48	1.71
2N3584	4.95	3.42
2N3585	13.20	9.10
2N3600	4.13	2.85
2N3632	19.64	13.58
2N3730	1.24	.86
2N3731	1.62	1.12
2N3732	1.08	.75
2N3733	33.00	22.80
2N3771	4.95	3.42
2N3772	4.95	3.42
2N3773	7.84	5.42
2N3839	16.50	11.40

Prices shown do not include any state or local taxes. All prices are subject to change or withdrawal without notice.



## SEMICONDUCTOR PRODUCTS

RCA Equipment  
Manufacturers Price

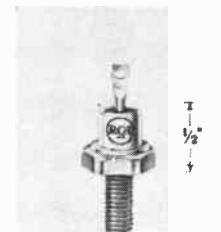
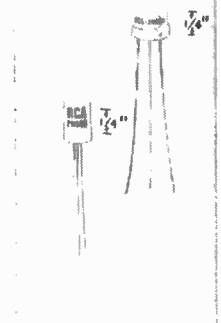
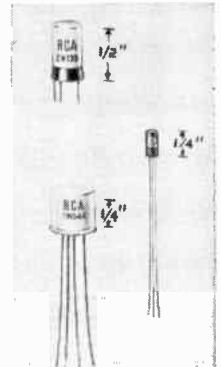
Type	1-99	100-999
2N3866	\$4.13	\$2.85
2N3878	6.60	4.56
2N3879	8.25	5.10
2N3932	2.06	1.43
2N3933	2.31	1.60
2N4012	23.95	16.55
2N4036	1.62	1.12
2N4037	1.31	.91
2N4063	3.80	2.62
2N4064	1.90	1.31
2N4068	1.57	1.09
2N4069	1.64	1.13
2N4074	.73	.51
2N4081	1.62	1.12
2N4240	2.89	2.00
2N4259	2.64	1.82
2N4296	2.48	1.71
2N4297	2.89	2.00
2N4298	3.71	2.57
2N4299	4.13	2.85
2N4314	1.41	.97
2N4346	2.31	1.60
2N4347	2.97	2.05
2N4348	4.54	3.14
2N4390	.75	.52
2N4395	2.06	1.43
2N4396	2.48	1.71
2N4397	1.90	1.31
2N4427	3.14	2.17
2N4440	20.65	14.25
2N4932	33.00	22.80
2N4933	33.00	22.80
2N4934	1.40	.97
2N4935	1.62	1.12
2N4936	1.90	1.31
2N5016	66.00	45.60
2N5017	66.00	45.60
2N5034	1.34	.93
2N5035	1.32	.92
2N5036	1.42	.99
2N5037	1.41	.97
2N5070	33.00	22.80
2N5071	33.00	22.80
2N5090	16.10	11.10
3N129	7.01	4.85
40004	1.65	1.14
40022	.83	.57
40050	.99	.69
40051	1.21	.84
40080	1.08	.75
40081	1.41	.97
40082	5.03	3.48
40084	.99	.69
40231	.47	.32
40232	.53	.37
40233	.60	.42
40234	.42	.29
40235	.79	.55
40236	.71	.49
40237	.54	.38
40238	.64	.44
40239	.63	.43
40240	.61	.42
40242	.74	.51
40243	.68	.47
40244	.53	.36
40245	.63	.43
40246	.61	.42
40250	1.24	.86
40250V1	1.32	.92
40251	2.48	1.71
40253	.53	.37
40254	.78	.54
40255	Order 2N4063	
40256	Order 2N4064	
40258	.78	.54
*40259	14.10	9.75
40261	.43	.30
40262	.40	.28
40263	.42	.29
40264V1	Order 40424	
40265	.35	.24
40266	.29	.20
40267	.33	.23
40269	.52	.36
40273	.50	.35

RCA Equipment  
Manufacturers Price

Type	1-99	100-999
*40279	\$125.00	Use 1-99
40280	4.62	3.19
40281	14.69	10.13
40282	19.64	13.58
40283	3.71	2.57
*40285	42.90	29.65
40287	24.75	17.10
40290	4.79	3.31
40291	14.85	10.25
40292	20.13	13.93
40294	33.40	23.10
40295	14.85	10.25
40296	48.70	33.65
*40305	17.16	11.86
*40306	30.55	21.10
*40307	32.84	22.68
40309	.70	.48
40309V1; V2	.78	.54
40310	.99	.69
40310V1	1.08	.75
40311	.73	.51
40311V1; V2	.81	.56
40312	1.03	.71
40313	2.23	1.54
40314	.78	.54
40314V1; V2	.86	.60
40315	.75	.52
40315V1; V2	.83	.57
40316	.99	.69
40317	.78	.54
40317V1; V2	.86	.60
40318	2.10	1.45
40319	1.32	.92
40319V1; V2	1.41	.97
40320	.78	.54
40320V1; V2	.86	.60
40321	1.24	.86
40321V1; V2	1.32	.92
40322	2.15	1.48
40323	.70	.48
40323V1; V2	.78	.54
40324	.99	.69
40325	2.31	1.60
40326	.78	.54
40326V1; V2	.86	.60
40327	1.24	.86
40327V1; V2	1.32	.92
40328	2.19	1.52
40329	.38	.27
40340	33.00	22.80
40341	33.00	22.80
40344	.48	.34
40345	.52	.36
40346	1.14	.79
40346V1	1.23	.85
40346V2	1.23	.85
40347	.66	.46
40347V1	.75	.52
40347V2	.75	.52
40348	1.06	.73
40348V1	1.14	.79
40348V2	1.14	.79
40349	1.56	1.08
40349V1	1.64	1.13
40349V2	1.64	1.13
40354	1.18	.81
40355	1.24	.86
40359	.32	.22
40360	1.03	.71
40360V1; V2	1.11	.77
40361	1.04	.72
40361V1; V2	1.13	.78
40362	1.46	1.01
40362V1; V2	1.54	1.07
40363	2.31	1.60
40364	6.44	4.45
*40366	8.25	5.70
*40366V1; V2	8.35	5.75
*40367	8.25	5.70
*40367V1; V2	8.35	5.75
*40368	14.85	10.25
*40369	18.15	12.55
40370	.53	.37
40372	1.49	1.03

RCA Equipment  
Manufacturers Price

Type	1-99	100-999
40373	\$2.56	\$1.77
40374	2.97	2.05
40375	6.68	4.62
40377	.38	.26
40380	1.49	1.03
40381	1.21	.84
*40385	9.50	6.55
*40385V1; V2	9.57	6.62
40389	.91	.63
40390	2.15	1.48
40391	1.39	.96
40392	.91	.63
40393	Order 2N4064	
40394	1.39	.96
40395	.38	.27
40396	.83	.57
40397	.66	.46
40398	.60	.42
40399	.55	.38
40400	.50	.35
40403	.62	.43
40405	2.06	1.43
40406	1.36	.94
40407	.81	.56
40408	1.08	.75
40409	1.14	.79
40410	1.64	1.13
40411	4.79	3.31
40412	1.06	.73
40412V1; V2	1.14	.79
40413	3.88	2.68
40414	6.77	4.67
40417	.91	.63
40418	.76	.53
40419	.75	.52
40421	1.28	.88
40422	1.03	.71
40423	1.11	.77
40424	.98	.68
40425	1.06	.73
40426	.93	.64
40427	1.01	.70
40428	.29	.20
40431	2.97	2.05
40432	3.77	2.60
40433	2.97	2.05
40437	1.19	.83
40438	1.19	.83
40439	1.98	1.37
40440	1.32	.92
40442	.83	.57
40444	14.55	10.05
40445	63.00	Use 1-99
40446	5.94	4.10
40447	.52	.36
40450	.80	.55
40451	.90	.62
40452	.80	.55
40453	.73	.51
40454	.66	.46
40455	.62	.43
40456	.57	.39
40457	.58	.40
40458	.78	.54
40459	.85	.59
40460	10.75	7.40
40461	11.55	8.00
40462	1.16	.80
40464	1.40	.97
40465	1.65	1.14
40466	2.06	1.43
40467	1.98	1.37
40468	1.62	1.12
40469	.94	.65
40470	.79	.55
40471	.78	.54
40472	.91	.63
40473	.83	.57
40474	.66	.46
40475	.76	.52
40476	.74	.51
40477	.73	.50
40478	.86	.59
40479	.79	.55



## SEMICONDUCTOR PRODUCTS

RCA Equipment  
Manufacturers Price

Type	1-99	100-999
40480	\$ .66	\$ .46
40481	.74	.51
40482	.73	.50
40483	.73	.50
40487	.26	.18
40488	.20	.14
40489	.25	.17
40490	.25	.17
40491	.84	.58
40500	.50	.34
40501	.56	.39
40513	1.24	.86
40514	1.26	.87

\*NOTED — GROUP 1 PRODUCTS CAN ONLY BE SHIPPED DIRECT TO THE END USER DUE TO TECHNICAL SPECIFICATIONS OF THE UNIT.

## SILICON RECTIFIER ASSEMBLIES

Type	1-29	30 & Up
CR101	\$5.75	\$5.47
CR102	7.20	6.85
CR103	8.15	7.75
CR104	9.60	9.10
CR105	10.55	10.05
CR106	12.00	11.40
CR107	12.95	12.30
CR108	13.90	13.20
CR109	15.35	14.60
CR110	16.30	15.50
CR201	3.10	2.96
CR203	4.80	4.56
CR204	5.75	5.47
CR206	6.95	6.60
CR208	8.40	8.00
CR210	10.10	9.60
CR212	12.00	11.40
CR301	28.00	26.55
CR302	40.00	37.95
CR303	51.00	48.45
CR304	\$62.00	\$58.90
CR305	73.00	69.35
CR306	83.00	78.85
CR307	93.00	88.35
CR311	30.00	28.50
CR312	42.00	39.90
CR313	53.00	50.35
CR314	64.00	60.75
CR315	75.00	71.25
CR316	85.00	80.75
CR317	95.00	90.25
CR321	35.00	33.25
CR322	49.00	46.55
CR323	62.00	58.90
CR324	76.00	72.20
CR325	90.00	85.50
CR331	37.00	35.15
CR332	52.00	49.40
CR333	65.00	61.75
CR334	79.00	75.05
CR335	93.00	88.35
CR341	44.00	41.80
CR342	61.00	57.95
CR343	78.00	74.10
CR344	94.00	89.30
CR351	46.00	43.70
CR352	64.00	60.80
CR353	82.00	72.90
CR354	98.00	93.10
CR401	28.00	26.60
CR402	32.00	30.40
CR403	44.00	41.80
CR404	30.00	28.50
CR405	36.00	34.20
CR406	54.00	51.30
CR407	40.00	38.00
CR408	48.00	45.60
CR409	64.00	60.80
CR501	40.00	38.00
CR502	48.00	45.60
CR503	50.00	47.50
CR504	62.00	58.90
CR505	64.00	60.80
CR506	84.00	79.80

RCA Equipment  
Manufacturers Price

Type	1-99	100-999
<b>SILICON RECTIFIERS</b>		
1N248C; RC	\$1.65	\$1.10
JAN1N249B; RB	2.89	2.00
1N249C; RC	2.06	1.38
JAN1N250B; RB	3.55	2.45
1N250C; RC	2.72	1.82
1N440B	.66	.44
1N441B	.70	.47
1N442B	.80	.53
1N443B	.98	.65
1N444B	1.06	.71
1N445B	1.42	.95
1N536	.45	.30
1N537	.50	.33
1N538	.53	.36
1N539	.60	.40
1N540	.68	.46
1N547	.96	.64
1N1095	.88	.59
1N1183A; RA	2.15	1.43
JAN1N1184; R	3.75	2.50
1N1184A; RA	2.48	1.65
JAN1N1186; R	5.20	3.47
1N1186A; RA	3.55	2.37
1N1187A; RA	4.95	3.30
JAN1N1188	7.84	5.23
1N1188A; RA	6.19	4.13
1N1189A; RA	7.43	4.95
JAN1N1190; R	11.55	8.00
1N1190A; RA	8.65	5.80
1N1195A; RA	3.88	2.59
1N1196A; RA	4.95	3.30
1N1197A; RA	5.94	3.96
1N1198A; RA	7.01	4.68
JAN1N1198A; RA	7.84	5.42
1N1199A; RA	1.24	.83
1N1200A; RA	1.41	.94
JAN1N1202; R	3.30	2.28
1N1202A; RA	2.48	1.65
1N1203A; RA	3.47	2.31
1N1204A; RA	4.46	2.97
JAN1N1204; R	5.28	3.52
1N1205A; RA	5.36	3.58
1N1206A; RA	6.19	4.13
1N1341B; RB	1.16	.77
1N1342B; RB	1.32	.88
1N1344B; RB	2.15	1.43
1N1345B; RB	3.05	2.04
1N1346B; RB	3.96	2.64
1N1347B; RB	4.79	3.19
1N1348B; RB	5.78	3.85
1N1612; R	1.07	.72
1N1613; R	1.24	.83
1N1614; R	1.90	1.27
1N1615; R	3.71	2.48
1N1616; R	5.36	3.58
1N1763A	.42	.29
1N1764A	.51	.35
JAN1N2135A; RA	6.11	4.22
1N2858A	.33	.23
1N2859A	.36	.25
1N2860A	.40	.28
1N2861A	.41	.29
1N2862A	.48	.33
1N2863A	.58	.40
1N2864A	.69	.48
1N3193	.35	.24
1N3194	.38	.27
1N3195	.53	.36
1N3196	.74	.51
1N3253	.38	.26
1N3254	.41	.29
1N3255	.56	.39
1N3256	.78	.54
1N3563	.94	.65
1N3754	.32	.22
1N3755	.33	.23
1N3756	.35	.24
1N5211	.38	.26
1N5212	.41	.29
1N5213	.56	.39

RCA Equipment  
Manufacturers Price

Type	1-99	100-999
1N5214	\$ .81	\$ .56
1N5215	.41	.29
1N5216	.45	.31
1N5217	.59	.41
1N5218	.84	.58
40108; R	.99	.69
40109; R	1.16	.80
40110; R	1.57	1.09
40111; R	2.15	1.48
40112; R	2.48	1.71
40113; R	3.14	2.17
40114; R	3.71	2.57
40115; R	6.60	4.56
40208	.99	.69
40208; R	1.19	.83
40209; R	1.32	.92
40210; R	1.78	1.23
40211; R	2.39	1.65
40212; R	2.89	2.00
40213; R	3.63	2.51
40214; R	4.21	2.91
40495	.30	.21

SILICON CONTROLLED  
RECTIFIERS

2N681	3.30	2.20
2N682	4.13	2.75
2N683	6.19	4.13
2N684	6.35	4.24
2N685	6.60	4.40
2N686	7.01	4.68
2N687	7.43	4.95
2N688	8.65	5.80
2N689	10.30	6.90
2N690	11.95	8.00
2N1842A	2.89	1.93
2N1843A	3.71	2.48
2N1844A	5.78	3.85
2N1845A	5.94	3.96
2N1846A	6.19	4.13
2N1847A	6.60	4.40
2N1848A	7.01	4.68
2N1849A	8.25	5.50
2N1850A	9.90	6.60
2N3228	1.62	1.12
2N3525	2.31	1.60
2N3528	1.63	1.12
2N3529	2.31	1.60
2N3668	2.89	2.00
2N3669	3.27	2.26
2N3670	4.92	3.40
2N3870	4.70	3.25
2N3871	5.12	3.53
2N3872	7.18	4.96
2N3873	10.50	7.25
2N3896	4.95	3.42
2N3897	5.36	3.71
2N3898	7.43	5.13
2N3899	10.75	7.40
2N4101	3.05	2.11
2N4102	3.05	2.11
2N4103	9.90	6.85
40216	48.00	33.15
40378	1.62	1.12
40379	2.31	1.60
40429	2.48	1.71
40430	3.27	2.26
40485	2.48	1.71
40486	3.28	2.26
40502	2.64	1.82
40503	3.43	2.37
40504	1.78	1.23
40505	2.48	1.71
40506	3.22	2.22
40507	1.78	1.23
40508	2.48	1.71
40509	2.64	1.82
40510	3.43	2.37

RCA Equipment  
Manufacturers Price

Type	1-99	100-999
40511	\$3.14	\$2.17
40512	3.93	2.71
40525	1.57	1.08
40526	1.62	1.12
40527	2.31	1.60
40528	1.57	1.08
40529	1.62	1.12
40530	2.31	1.60
40531	1.73	1.20
40532	1.78	1.23
40533	2.48	1.71
40534	1.73	1.20
40535	1.78	1.23
40536	2.48	1.71

## INTEGRATED CIRCUITS

RCA Equipment  
Manufacturers Price

Type	1-24	25-99	100-999
CA3000	\$4.70	\$3.85	\$3.25
CA3001	6.40	5.20	4.40
CA3002	4.40	3.60	3.05
CA3004	4.40	3.60	3.05
CA3005	2.80	2.30	1.95
CA3006	6.80	5.55	4.70
CA3007	6.00	4.90	4.15
CA3008	13.60	11.05	9.35
CA3010	12.00	9.75	8.25
CA3011	1.55	1.25	1.10
CA3012	2.25	1.85	1.55
CA3013	2.65	2.15	1.85
CA3014	3.15	2.55	2.15
CA3015	12.00	9.75	8.25
CA3016	13.60	11.05	9.35
CA3018	2.40	1.95	1.65
CA3019	2.40	1.95	1.65
CA3020	2.80	2.30	1.95
CA3021	3.60	2.95	2.50
CA3022	3.15	2.55	2.15
CA3023	2.95	2.40	2.05
CA3028	1.55	1.25	1.10
CA3029	8.00	6.50	5.50
CA3030	9.20	7.50	6.35
CA3031/ 702A	12.00	9.75	8.25
CA3032/ 702C	10.80	8.80	7.45
CA3034	2.80	2.30	1.95
CA3035	2.40	1.95	1.65
CA3036	1.55	1.25	1.10
CD2100	6.00	4.90	4.15
CD2101	6.35	5.15	4.35
CD2150	5.20	4.25	3.60
CD2151	5.20	4.25	3.60
CD2152	5.20	4.25	3.60
CD2200	6.00	4.90	4.15
CD2201	6.35	5.15	4.35
CD2202	6.35	5.15	4.35
CD2203	8.00	6.50	5.50
CD2204	4.70	3.85	3.25
CD2205	6.00	4.90	4.15

**OHMITE**resistors • rheostats • tap switches • relays  
variable transformers • tantalum capacitors  
semiconductor devices • r.f. chokes

# STOCK DIODES

## Germanium and Silicon

*Also "Meter Saver" Meter Protector*

SILICON DIODE



GERMANIUM DIODE

### STOCK GERMANIUM DIODES

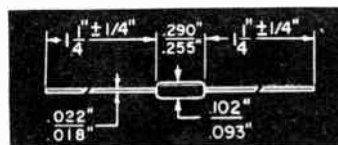
Stock No.	PIV	Max. Rev. $\mu\text{a}$ at 25°C	Min. Fwd. ma at 1V	Net 1/99
1N34	100	800@ 50V	8.5	\$ .22
1N34A	75	500@ 50V	5	.24
1N38A	120	500@100V	4	.50
1N48	85	833@ 50V	4	.28
1N51	50	1677@ 50V	4	.30
1N54A	75	100@ 50V	5	.42
1N56	40	300@ 30V	15	.38
1N56A	50	300@ 30V	15	.38
1N58A	120	600@100V	4	.55
1N60	30	67@ 10V	—	.29
1N63	125	50@ 50V	4	.52
1N64	20	100@ 10V	—	.27
1N66	60	800@ 50V	5	.36
1N67	100	50@ 50V	4	.49
1N67A	100	50@ 50V	4	.28
1N68A	130	625@100V	3	.63
1N69	75	850@ 50V	5	.34
1N69A	75	500@ 50V	5	.62
1N87	23	30@ 1.5V	.1⑥	.39
1N90	75	800@ 50V	5	.32
1N95	75	800@ 50V	10	.40
1N96	75	800@ 50V	20	.53
1N98	100	100@ 50V	20	.31
1N99	100	50@ 50V	10	.45
1N99A	100	50@ 50V	20	.45
1N100	100	50@ 50V	20	.31
1N191①	90	25@ 10V⑤	5	.34
1N198	100	250@ 50V③	4	.34
1N270	100	100@ 50V	200④	.31
1N273	40	200@ 20V	100	.46
1N276	100	100@ 50V	40	.31
1N277	120	250@ 50V③	100	.34
1N279	40	200@ 20V	100	.29
1N281	75	500@ 50V	100	.31
1N294	70	10@ 10V	5	.34
1N295	50	200@ 10V	—	.32
1N295A	40	200@ 10V	—	.32
1N497	30	20@ 20V	100	.38
1N695②	20	20@ 10V③	100	.29

A wide choice of popular characteristics in low power germanium and silicon diodes is available immediately from Ohmite stock. Both the germanium and silicon types are supplied in the subminiature, hermetically sealed glass envelope (see diagram). The silicon envelope is light-shielded.

High stability is achieved through temperature cycling and aging. All units must meet severe environmental, electrical and mechanical requirements with a liberal safety factor.

**GERMANIUM DIODES** — Ohmite supplies the gold-bonded variety. Power rating is 80 mw at 25°C except where otherwise indicated. Operating temperature range is -65°C to +90°C.

**SILICON DIODES** — Employ either the alloy or diffusion method of junction formation. Power rating is 400 milliwatts at 25°C except where otherwise indicated. Operating temperature range is -65°C to +150°C.



### STOCK SILICON DIODES

Stock No.	PIV	Max. Rev. $\mu\text{a}$ at 25°C	Min. Fwd. ma at 1V	Net 1/99
1N456	25	.025@ 25V	40	\$ .35
1N456A	25	.025@ 25V	100	.35
1N457	60	.025@ 60V	20	.35
1N457A	60	.025@ 60V	100	.35
1N458	125	.025@ 125V	7	.45
1N458A	125	.025@ 125V	100	.45
1N459	175	.025@ 175V	3	.50
1N460A	175	.5 @ 175V	100	.50
1N461	25	.5 @ 25V	15	.35
1N462A	60	.5 @ 60V	100	.35
1N463	175	.5 @ 175V	1	.45
1N645	225	.2 @ 225V	400	1.30

### FOOTNOTES FOR ALL DIODE TABLES

- ① 0.5  $\mu\text{sec}$ .
- ② 0.3  $\mu\text{sec}$ .
- ③ 75°C.
- ④ Duty cycle must be adjusted in testing at these high forward currents so that average power dissipated does not exceed 80 mw.
- ⑤ 55°C.
- ⑥ At 0.25 volts.

### DIODE METERSAVER PROTECTS METERS



Designed to protect sensitive (high internal resistance) meters against burnout due to overload even where potential is reversed. Introduces negligible error. Consists of 2 silicon diodes in compact case with leads and lugs. Connects across meter terminals without regard for polarity. Shunts excess current around meters—for example, can convert 200 times overload to 3 times overload. Allows use of less expensive meter fuses. Can be used with meters of low internal resistance but use of series resistor is then recommended.


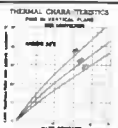

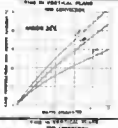

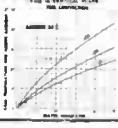

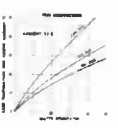



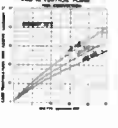

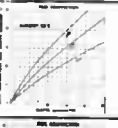

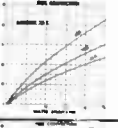

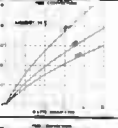

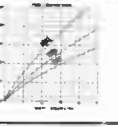

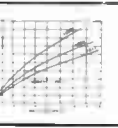

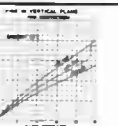
Stock No. OMC7111...Net (1-99) \$1.98



GEORGE RISK INDUSTRIES

# SEMICONDUCTOR COOLERS

## NATURAL CONVECTION COOLERS

		Inches				Each				
		Model No.	H	W	D	1-49	50-99	100-249	250-499	
	Model 10		100310	1½"	2.94	1.31	1.02	.82	.69	.59
			100610	3"	2.94	1.31	1.20	.97	.82	.69
			101110	5½"	2.94	1.31	1.49	1.19	1.00	.86
	Model 11		110310	1½"	4.81	1.31	1.23	.98	.83	.71
			110610	3"	4.81	1.31	1.58	1.26	1.06	.91
			111110	5½"	4.81	1.31	2.07	1.65	1.40	1.19
	Model 12		120310	1½"	6.09	1.06	1.36	1.08	.92	.78
			120610	3"	6.09	1.06	1.83	1.47	1.24	1.05
			121110	5½"	6.09	1.06	2.44	1.95	1.65	1.40
	Model 13		13A0310	1½"	4.50	1.25	1.27	1.03	.86	.71
			13A0610	3"	4.50	1.25	1.49	1.20	1.00	.84
			13A1110	5½"	4.50	1.25	2.40	1.97	1.64	1.40
			13B0310	1½"	4.75	1.25	1.27	1.03	.86	.71
			13B0610	3"	4.75	1.25	1.49	1.20	1.00	.84
	Model 13		13B1110	5½"	4.75	1.25	2.40	1.97	1.64	1.40
			14A0310	1½"	4.50	2.50	1.65	1.25	1.10	.95
			14A0610	3"	4.50	2.50	2.21	1.80	1.49	1.26
			14A1110	5½"	4.50	2.50	3.35	2.71	2.26	1.90
			14B0310	1½"	4.75	2.50	1.65	1.25	1.10	.95
	Model 14		14B0610	3"	4.75	2.50	2.21	1.80	1.49	1.26
			14B1110	5½"	4.75	2.50	3.35	2.71	2.26	1.90
			150310	1½"	4.62	1.31	1.27	1.03	.86	.71
			150610	3"	4.62	1.31	1.49	1.20	1.00	.84
			151110	5½"	4.62	1.31	2.40	1.97	1.64	1.40
	Model 15		160310	1½"	5.12	1.25	1.65	1.25	1.10	.95
			160610	3"	5.12	1.25	2.21	1.80	1.49	1.26
			161110	5½"	5.12	1.25	3.35	2.71	2.26	1.90
	Model 16		170310	1½"	4.51	1.03	1.27	1.03	.86	.71
			170610	3"	4.51	1.03	1.49	1.20	1.00	.84
			171110	5½"	4.51	1.03	2.40	1.97	1.64	1.40
	Model 17		180310	¾"	2.00	2.00	1.23	1.02	.82	.66
			180610	1½"	2.00	2.00	1.33	1.12	.91	.76
			181210	3"	2.00	2.00	1.58	1.32	1.06	.91
	Model 18		190310	1½"	4.82	.460	1.30	1.05	.86	.71
			190610	3"	4.82	.460	1.45	1.22	.96	.81
			191110	5½"	4.82	.460	2.07	1.72	1.31	1.16
	Model 19		410310	1½"	4.75	1.88	1.65	1.25	1.10	.95
			410610	3"	4.75	1.88	2.21	1.80	1.49	1.26
			411110	5½"	4.75	1.88	3.35	2.71	2.26	1.90
	Model 41		410310	1½"	4.75	1.88	1.65	1.25	1.10	.95
			410610	3"	4.75	1.88	2.21	1.80	1.49	1.26
			411110	5½"	4.75	1.88	3.35	2.71	2.26	1.90

NOTES: Material: Aluminum Alloy 6063-T6 per QQ-A-8625

Finish: Standard Black Anodized to MIL-A-8625 Type II



GEORGE RISK INDUSTRIES

# SEMICONDUCTOR COOLERS

## MILLIWATT TRANSISTOR & DIODE COOLERS

Models 20, 21, 22, 23 & 24

### SPECIFICATIONS AND ORDERING INFORMATION

#### HOW TO ORDER

##### PART NUMBER



XX  
Model Number  
20. 1/2 in. sq.  
21. 3/8 in. sq. See Figure 1  
22. 3/4 in. sq.  
23. 1 in. sq.  
24. 1 in. sq. See Figure 2

X  
Length of Heat Sink  
1. 1/4 in.  
2. 3/8 in.  
3. 3/4 in.

See Figure 1

X  
Hole for mounting heat sink  
A. None  
B. 104 Drill  
C. 4-40 Tap  
D. 6-32 Tap

XXX  
Diameter of mounting hole in thousands of inch

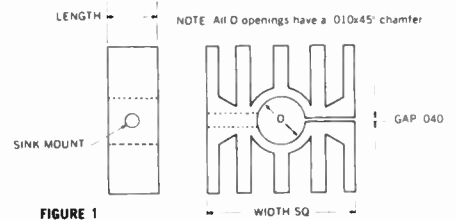


FIGURE 1

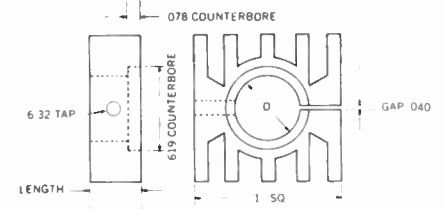


FIGURE 2

#### EXAMPLE:

223A318 = GRI Milliwatt Coolers 3/4" square, 3/8" long, no heat sink mounting hole, .318" dia. (TO-5) transistor mounting hole.

242D480 = GRI Milliwatt Coolers 1" square, 3/4" long, 6-32 tap for heat sink mounting hole, .480" dia. (TO-8) transistor mounting hole with counterbore as shown in Figure 2.

## STANDARD GRI UNITS

#### EXTRUSION 20

201A177 through 318  
201B177 through 318  
201C177 through 318  
202A177 through 318  
202B177 through 318  
202C177 through 318  
203A177 through 318  
203B177 through 318  
203C177 through 318

#### EXTRUSION 21

211A177 through 318  
211B177 through 318  
211C177 through 318  
212A177 through 353  
212B177 through 353  
212C177 through 353  
213A177 through 353  
213B177 through 353  
213C177 through 353

#### EXTRUSION 22

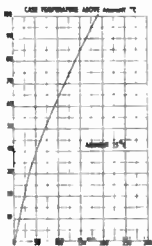
221A318 through 370  
221B318 through 370  
221C318 through 370  
222A318 through 370  
222B318 through 370  
222C318 through 370  
223A318 through 370  
223B318 through 370  
223C318 through 370

#### EXTRUSION 23

231A318 through 370  
231B318 through 370  
231C318 through 370  
232A318 through 370  
232B318 through 370  
232C318 through 370  
233A318 through 370  
233B318 through 370  
233C318 through 370

#### EXTRUSION 24

242A318 through 370  
242C318 through 370  
242D318 through 370  
243A318 through 370  
243C318 through 370  
243D318 through 370  
242A480 Counterbore  
242C480 Counterbore  
242D480 Counterbore  
243A480 Counterbore  
243C480 Counterbore  
243D480 Counterbore

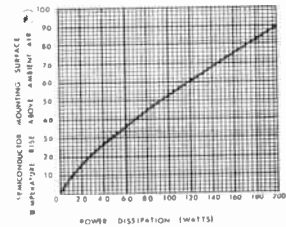


## HIGH POWER MULTI-FIN HEAT SINKS

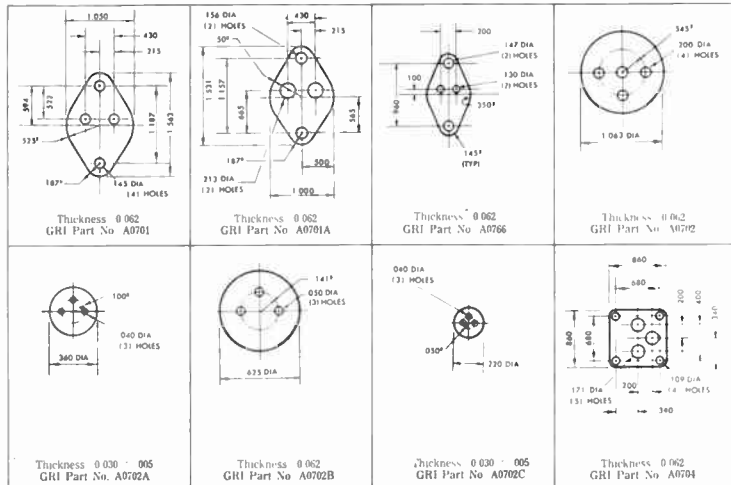
Model No.	H	W	D	1-49	50-99	100-249	250-499
441010	4"	5"	4"	4.40	3.70	3.30	3.05
451010	4 3/4"	5 1/2"	4 1/2"	5.80	4.70	3.90	3.40

Model 44

Model 45



## GRI BERYLLIUM OXIDE WAFERS & WASHERS



#### WASHERS

GRI Part No.	Outside Diameter	Inside Diameter	Thickness
A07-80-41-67	0.080±.001	0.041±.001	0.067±.001
A07-105-66-58	0.105±.002	0.066±.002	0.058±.002
A07-155-101-25	0.155±.003	0.101±.005	0.025±.003
A07-175-109-95	0.175±.005	0.109±.003	0.095±.005
A07-250-130-62	0.250±.005	0.130±.005	0.062±.010
A07-260-190-30	0.260±.005	0.190±.005	0.030±.005
A07-375-120-30	0.375±.005	0.120±.005	0.030±.005
A07-375-120-62	0.375±.005	0.120±.005	0.062±.010
A07-470-235-40	0.470±.005	0.235±.005	0.040±.005
A07-510-200-40	0.510±.005	0.200±.005	0.040±.005
A07-800-260-62	0.800±.010	0.260±.005	0.062±.005
A07-800-320-62	0.800±.010	0.320±.005	0.062±.005
A07-900-260-62	0.900±.010	0.260±.005	0.062±.005
A07-900-260-125	0.900±.010	0.260±.005	0.125±.003
A07-900-320-62	0.900±.010	0.320±.005	0.062±.005



**SARKES  
TARZIAN**

# JEDEC Silicon Avalanche Rectifiers

All of the silicon rectifiers listed below are supplied with avalanche characteristics as standard. They are direct replacements, electrically and physically, for ordinary silicon rectifiers, yet they provide important benefits to you and your products, at no extra cost.

**Overvoltage protection** is built into the rectifier. Transient voltage induced failures are virtually eliminated because these units avalanche at voltages well below the destruction point. The overvoltage spike is dissipated through the junction at a point below the critical voltage stress across the edge of the junction.

Lower circuit costs are readily achieved. When avalanche rectifiers are

used suppressor and balancing devices, such as resistors, capacitors, R-C networks, etc., are no longer needed. In addition, their elimination improves circuit reliability, due to a reduction in number of components and interconnections.

**Dependable performance** is assured. Over 20,000,000 of these devices already have been delivered and are in actual use in the field. They are now routinely available from high volume production lines.

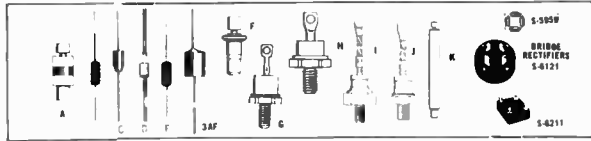
All Tarzian Silicon Rectifiers are supplied with avalanche protection at no extra cost. For additional types, not necessarily covered by JEDEC numbers, see the following pages.

Net Each, Lots of				Net Each, Lots of				Net Each, Lots of				Net Each, Lots of				Net Each, Lots of			
JeDEC No.	1-24	25-99	100 up	JeDEC No.	1-24	25-99	100 up	JeDEC No.	1-24	25-99	100 up	JeDEC No.	1-24	25-99	100 up	JeDEC No.	1-24	25-99	100 up
1N248	1.55	1.33	1.24	1N610	1.20	1.03	.96	1N191A	1.75	1.50	1.39	1N1692	.35	.30	.28	1N2634	12.00	10.30	9.60
1N248A	1.75	1.50	1.39	1N610A	1.20	1.03	.96	1N192	1.55	1.33	1.24	1N1693	.37	.32	.29	1N2635	12.00	10.30	9.60
1N248B	1.75	1.50	1.39	1N611	1.29	1.10	1.02	1N192A	1.75	1.50	1.39	1N1694	.42	.36	.33	1N2637	22.50	19.30	18.00
1N248C	1.75	1.50	1.39	1N611A	1.29	1.10	1.02	1N193	2.14	1.83	1.70	1N1695	.43	.37	.35	1N2858	.35	.30	.28
1N249	1.55	1.33	1.24	1N612	1.50	1.29	1.20	1N193A	2.44	2.09	1.94	1N1696	.45	.39	.36	1N2859	.35	.30	.28
1N249A	1.75	1.50	1.39	1N612A	1.50	1.29	1.20	1N194	2.14	1.83	1.70	1N1697	.47	.40	.37	1N2860	.47	.42	.39
1N249B	1.75	1.50	1.39	1N613	1.67	1.43	1.33	1N194A	2.44	2.09	1.94	1N1701	.35	.30	.28	1N2861	.37	.32	.33
1N249C	2.44	2.09	1.94	1N613A	1.67	1.43	1.33	1N195	2.84	2.43	2.26	1N1702	.35	.30	.28	1N2862	.43	.37	.35
1N250	2.14	1.83	1.70	1N614	2.12	1.82	1.69	1N195A	3.72	3.19	2.97	1N1703	.37	.32	.29	1N2863	.45	.39	.36
1N250A	2.44	2.09	1.94	1N614A	2.12	1.82	1.69	1N196	3.16	2.70	2.52	1N1704	.37	.32	.29	1N2864	.47	.40	.37
1N250B	2.44	2.09	1.94	1N1081	.60	.55	.51	1N196A	4.14	3.55	3.30	1N1705	.43	.37	.35	1N3161	14.20	12.19	11.36
1N250C	2.44	2.09	1.94	1N1082	.65	.57	.53	1N197	3.44	2.95	2.74	1N1706	.45	.39	.36	1N3162	14.20	12.19	11.36
1N253	1.19	.96	.89	1N1083	.70	.61	.57	1N197A	4.41	3.78	3.51	1N1707	.35	.30	.28	1N3163	15.80	13.50	12.60
1N254	1.20	1.03	.96	1N1084	.75	.63	.59	1N198	3.80	3.28	3.06	1N1708	.35	.30	.28	1N3164	15.80	13.50	12.60
1N255	1.50	1.29	1.20	1N1085A	3.34	2.86	2.66	1N198A	4.89	4.19	3.90	1N1709	.37	.32	.29	1N3165	17.10	15.00	14.00
1N256	2.12	1.82	1.69	1N1086A	4.00	3.43	3.20	1N199	1.19	1.02	.94	1N1710	.42	.36	.33	1N3166	17.10	15.00	14.00
1N332	1.50	1.29	1.20	1N1087A	4.67	4.00	3.75	1N199A	1.19	1.02	.94	1N1711	.43	.37	.35	1N3167	24.40	20.95	19.52
1N333	1.50	1.29	1.20	1N1088A	5.35	4.67	4.27	1N200	1.19	1.02	.94	1N1712	.45	.39	.36	1N3168	24.40	20.95	19.52
1N334	1.29	1.10	1.02	1N1095	.45	.39	.36	1N200A	1.19	1.02	.94	1N1730	2.10	1.79	1.67	1N3169	32.60	27.95	26.10
1N335	1.29	1.10	1.02	1N1096	.47	.40	.37	1N201	1.25	1.07	1.00	1N1731	2.10	1.79	1.67	1N3170	42.40	36.20	33.80
1N336	1.20	1.03	.96	1N1100	.35	.30	.28	1N201A	1.25	1.07	1.00	1N1732	2.90	2.50	2.33	1N3189	.37	.32	.29
1N337	1.20	1.03	.96	1N1101	.37	.32	.29	1N202	1.25	1.07	1.00	1N1733	4.15	3.57	3.34	1N3190	.43	.37	.35
1N338	1.19	.96	.89	1N1102	.42	.36	.33	1N202A	1.25	1.07	1.00	1N1734	5.00	4.29	4.00	1N3191	.47	.40	.37
1N339	1.19	.96	.89	1N1103	.43	.37	.35	1N203	1.25	1.07	1.00	1N1763	.43	.37	.35	1N3208	1.19	1.02	.94
1N340	1.19	.96	.89	1N1104	.45	.39	.36	1N203A	1.25	1.07	1.00	1N1764	.45	.39	.36	1N3209	1.19	1.02	.94
1N341	1.50	1.29	1.20	1N1105	.47	.40	.37	1N204	1.34	1.14	1.06	1N2054	14.20	12.19	11.36	1N3210	1.25	1.07	1.00
1N342	1.50	1.29	1.20	1N1108	3.15	2.71	2.54	1N204A	1.67	1.43	1.33	1N2055	14.20	12.19	11.36	1N3211	1.34	1.14	1.06
1N343	1.29	1.10	1.02	1N1109	4.00	3.43	3.20	1N205	1.67	1.43	1.33	1N2056	15.80	13.50	12.60	1N3212	1.67	1.43	1.33
1N344	1.29	1.10	1.02	1N1110	4.75	4.15	3.86	1N205A	1.67	1.43	1.33	1N2057	15.80	13.50	12.60	1N3213	1.87	1.60	1.49
1N345	1.20	1.03	.96	1N1111	5.65	4.86	4.53	1N205B	1.67	1.43	1.33	1N2058	15.80	13.50	12.60	1N3214	2.34	2.00	1.86
1N346	1.20	1.03	.96	1N1112	6.50	5.57	5.20	1N205C	1.67	1.43	1.33	1N2059	17.10	15.00	14.00	1N3215	3.33	2.9	.27
1N347	1.19	.96	.89	1N1113	7.35	6.30	5.87	1N206	1.87	1.60	1.49	1N2060	24.40	20.95	19.52	1N3260	12.90	11.09	10.32
1N348	1.19	.96	.89	1N1115	1.19	.96	.89	1N206A	2.34	2.00	1.86	1N2061	24.40	20.95	19.52	1N3261	12.90	11.09	10.32
1N349	1.19	.96	.89	1N1116	1.20	1.03	.96	1N206B	2.34	2.00	1.86	1N2062	32.60	27.95	26.10	1N3262	14.50	12.40	11.58
1N440	.35	.30	.28	1N1117	1.29	1.10	1.02	1N206C	32.60	27.95	26.10	1N2063	42.40	36.20	33.80	1N3263	14.50	12.40	11.58
1N440B	.35	.30	.28	1N1118	1.50	1.29	1.20	1N207	12.00	10.30	9.60	1N2069	.33	.29	.27	1N3264	15.80	13.50	12.60
1N441	.37	.32	.29	1N1119	1.67	1.43	1.33	1N207A	18.10	15.50	14.45	1N2070	.35	.30	.28	1N3265	15.80	13.50	12.60
1N441B	.37	.32	.29	1N1120	2.12	1.82	1.69	1N207B	18.10	15.50	14.45	1N2071	.37	.32	.29	1N3266	20.80	17.80	16.60
1N442	.42	.36	.33	1N1121	2.12	1.82	1.69	1N2103	1.19	.96	.89	1N2103	.35	.30	.28	1N3267	20.80	17.80	16.60
1N442B	.42	.36	.33	1N1122	1.67	1.43	1.33	1N2104	1.19	.96	.89	1N2104	.35	.30	.28	1N3268	24.40	20.95	19.52
1N443	.43	.37	.35	1N1124A	1.20	1.03	.96	1N2105	.37	.32	.29	1N2105	.37	.32	.29	1N3269	34.60	29.60	27.65
1N443B	.43	.37	.35	1N1125	1.29	1.10	1.02	1N2106	.42	.36	.33	1N2106	.42	.36	.33	1N3289	12.90	10.45	9.79
1N444	.45	.39	.36	1N1125A	1.29	1.10	1.02	1N2107	.45	.39	.36	1N2107	.45	.39	.36	1N3290	13.40	11.76	10.95
1N444A	.45	.39	.36	1N1126	1.50	1.29	1.20	1N2108	.47	.40	.37	1N2108	1.55	1.33	1.24	1N3291	18.80	16.07	15.00
1N444B	.45	.39	.36	1N1126A	1.50	1.29	1.20	1N2155	1.55	1.33	1.24	1N2155	1.55	1.33	1.24	1N3292	24.25	20.78	19.40
1N445	.47	.40	.31	1N1127	1.67	1.43	1.33	1N2156	2.14	1.83	1.70	1N2156	2.14	1.83	1.70	1N3293	28.50	24.40	22.80
1N445B	.47	.40	.31	1N1127A	1.67	1.43	1.33	1N2157	2.84	2.43	2.26	1N2157	2.84	2.43	2.26	1N3570	1.20	1.03	.96
1N532	.42	.36	.33	1N1128	2.12	1.82	1.69	1N2158	3.16	2.70	2.52	1N2158	3.16	2.70	2.52	1N3571	1.29	1.10	1.02
1N533	.43	.37	.35	1N1128A	2.12	1.82	1.69	1N2159	3.44	2.95	2.74	1N2159	3.44	2.95	2.74	1N3572	1.50	1.29	1.20
1N534	.45	.39	.36	1N1133	3.35	2.86	2.67	1N2160	3.80	3.28	3.06	1N2160	3.80	3.28	3.06	1N3573	1.67	1.43	1.33
1N535	.47	.40	.37	1N1134	3.35	2.86	2.67	1N2161	1.67	1.43	1.33	1N2161	1.67	1.43	1.33	1N3574	2.12	1.82	1.69
1N536	.35	.30	.28	1N1135	3.75	3.22	3.00	1N2162	1.67	1.43	1.33	1N2162	1.67	1.43	1.33	1N3615	1.19	1.02	.94
1N537	.35	.30	.28	1N1136	3.75	3.22	3.00	1N2163	2.12	1.82	1.69	1N2163	2.12	1.82	1.69	1N3616	1.19	1.02	.94
1N538	.37	.32	.29	1N1137	4.15	3.58	3.34	1N2164	2.12	1.82	1.69	1N2164	2.12	1.82	1.69	1N3617	1.25	1.07	1.00
1N539	.42	.36	.33	1N1138	4.15	3.58	3.34	1N2165	2.12	1.82	1.69	1N2165	2.12	1.82	1.69	1N3618	1.25	1.07	1.00
1N540	.43	.37	.35	1N1139	5.40	4.64	4.33	1N2166	2.12	1.82	1.69	1N2166	2.12	1.82	1.69	1N3619	1.34	1.14	1.06
1N541	.47	.40	.37	1N1140	5.40	4.64	4.33	1N2167	1.67	1.43	1.33	1N2167	1.67	1.43	1.33	1N3620	1.67	1.43	1.33
1N550	1.20	1.03	.96	1N1141	7.50	6.43	6.00	1N2168	1.67	1.43	1.33	1N2168	1.67	1.43	1.33	1N3621	1.87	1.60	1.49
1N551	1.25	1.07	1.00	1N1142	7.50	6.43	6.00	1N2169	1.67	1.43	1.33	1N2169	1.67	1.43	1.33	1N3622	2.34	2.00	1.86
1N552	1.55	1.33	1.24	1N1143	8.75	7.50	7.00	1N2170	1.67	1.43	1.33	1N2170	1.67	1.43	1.33	1N3639	.37	.32	.29
1N553	1.95	1.67	1.56	1N1143A	8.75	7.50	7.00	1N2171	1.67	1.43	1.33	1N2171	1.67	1.43	1.33	1N3640	.43	.37	.35
1N554																			



SARKES  
TARZIAN

## Silicon Avalanche Rectifiers

LOW CURRENT AVALANCHE RECTIFIERS  
M SERIES 1.0 AMP (FIG. A)

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	Max. Cur., Amps at 100° C*		Net Each, Lots of		
				DC Load	4MS Surge	1-24	25-99	100 Up
10M	1N1081	100	70	1.0	60	\$0.60	\$0.55	\$0.51
20M	1N1082	200	140	1.0	60	.85	.77	.73
30M	1N1083	300	210	1.0	60	.75	.68	.64
40M	1N1084	400	280	1.0	60	.75	.63	.59
M-500	1N1084	400	280	1.0	60	.75	.63	.59
50M	.....	500	350	1.0	60	.80	.69	.64
60M	.....	600	420	1.0	60	.85	.70	.66

## E SERIES 1.0 AMP (FIG. B, .125" DIA.)

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load	4MS Surge	1-24	25-99	100 Up
E1	1N4001	100	70	1.0	70	\$0.33	\$0.29	\$0.27
E1	1N4002	100	70	1.0	70	.33	.29	.27
E2	1N4003	200	140	1.0	70	.33	.29	.27
E4	1N4004	400	280	1.0	70	.35	.30	.28
E6	1N4005	600	420	1.0	70	.37	.32	.29
E8	1N4006	800	560	1.0	70	.52	.44	.41
E10	1N4008	1000	700	1.0	70	.79	.67	.63

## F SERIES 1.0 AMP (FIG. C, .195" DIA.)

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load	4MS Surge	1-24	25-99	100 Up
F2	1N2482	200	140	1.0	60	\$0.33	\$0.29	\$0.27
F2	1N2089	200	140	1.0	60	.33	.29	.27
F4	1N2483	400	280	1.0	60	.35	.30	.28
F4	1N2070	400	280	1.0	60	.35	.30	.28
F6	1N2484	600	420	1.0	60	.37	.32	.29
F6	1N2071	600	420	1.0	60	.37	.32	.29
F8	.....	800	560	1.0	60	.52	.44	.41
F10	.....	1000	700	1.0	60	.79	.67	.63

## G SERIES 1.0 AMP (FIG. E, .125" DIA. GLASS)

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load	4MS Surge	1-24	25-99	100 Up
G1	.....	100	70	1.0	50	\$0.35	\$0.30	\$0.28
G2	.....	200	140	1.0	50	.37	.32	.29
G4	.....	400	280	1.0	50	.43	.37	.35
G6	.....	600	420	1.0	50	.47	.40	.37
G8	.....	800	560	1.0	50	.62	.53	.49
G10	.....	1000	700	1.0	50	.95	.82	.76

## C SERIES 1.0 AMP (FIG. D)

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load	4MS Surge	1-24	25-99	100 Up
10C	1N2610	100	70	1.0	60	\$0.35	\$0.30	\$0.28
20C	1N2611	200	140	1.0	60	.37	.32	.29
30C	1N2612	300	210	1.0	60	.42	.36	.33
40C	1N2613	400	280	1.0	60	.43	.37	.35
50C	1N2614	500	350	1.0	60	.45	.39	.36
60C	1N2615	600	420	1.0	60	.47	.40	.37
80C	1N2616	800	560	1.0	60	.62	.53	.49
100C	1N2617	1000	700	1.0	60	.95	.82	.76

MEDIUM CURRENT AVALANCHE RECTIFIERS  
LA SERIES 2 AMPS (FIG. F)

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load, Amps	4MS Surge	Net Each, Lots of		
						1-24	25-99	100 Up
10LA	1N1085A	100	70	2.0	100	\$3.34	\$2.86	\$2.66
20LA	1N1086A	200	140	2.0	100	4.00	3.43	3.20
30LA	1N1087A	300	210	2.0	100	4.67	4.00	3.73
40LA	1N1088A	400	280	2.0	100	5.35	4.67	4.27
50LA	.....	500	350	2.0	100	5.87	5.03	4.70
60LA	.....	600	420	2.0	100	6.45	5.52	5.15

## 3AF SERIES 3 AMPS

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load, Amps	4MS Surge	1-24	25-99	100 Up
3AF2	.....	200	140	3.0	150	\$0.66	\$0.57	\$0.52
3AF4	.....	400	280	3.0	150	.85	.72	.67
3AF6	.....	600	420	3.0	150	1.25	1.07	1.00
3AF8	.....	800	560	3.0	150	1.60	1.36	1.27

## H3 SERIES 6 AMPS (FIG. G)

Add suffix N for negative or P for positive base. Add R to JEDEC type for negative base.

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load, Amps	Recur. Peak, Amps	1-24	25-99	100 Up
10H3	1N1342	100	70	6	150	\$1.19	\$0.96	\$0.89
20H3	1N1344	200	140	6	150	1.20	1.03	.96
30H3	1N1345	300	210	6	150	1.29	1.10	1.02
40H3	1N1346	400	280	6	150	1.50	1.29	1.20
50H3	1N1347	500	350	6	150	1.67	1.43	1.33
60H3	1N1348	600	420	6	150	2.12	1.82	1.69
80H3	.....	800	560	6	150	2.54	2.17	2.02

## ST2 SERIES 12 AMP (FIG. G)

Add suffix N for negative base or P for positive base.

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load, Amps	Recur. Peak, Amps	1-24	25-99	100 Up
ST210	1N1200	100	70	12	260	\$1.19	\$1.02	\$0.94
ST220	1N1202	200	140	12	260	1.25	1.07	1.00
ST230	1N1203	300	210	12	260	1.34	1.14	1.06
ST240	1N1204	400	280	12	260	1.67	1.43	1.33
ST250	1N1205	500	350	12	260	1.87	1.60	1.49
ST260	1N1206	600	420	12	260	2.34	2.00	1.86
ST280	.....	800	560	12	260	2.82	2.42	2.25

## HIGH VOLTAGE SM SERIES (FIG. K)

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load, Amps	Recur. Peak, Amps	Net Each, Lots of		
						1-24	25-99	100 Up
80SM	1N1108	800	560	.45	4.5	\$3.15	\$2.71	\$2.54
120SM	1N1109	1200	840	.425	4.25	4.00	3.43	3.20
160SM	1N1110	1600	1120	.4	4.0	4.75	4.15	3.86
200SM	1N1111	2000	1400	.375	3.75	5.65	4.86	4.53
240SM	1N1112	2400	1680	.35	3.5	6.50	5.57	5.20
280SM	1N1113	2800	1960	.325	3.25	7.35	6.30	5.87

HIGH CURRENT, HERMETICALLY SEALED  
AVALANCHE RECTIFIERS

Stud base, rectifiers. Add suffix N for neg. base (anode), P for pos. base (cathode).

## ST3A SERIES 25 AMP (FIG. H)

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load, Amps	4MS Surge	1-24	25-99	100 Up
ST3A10	1N1191, 1N1192	100	70	25	400	\$1.55	\$1.33	\$1.24
ST3A20	1N1193, 1N1194	200	140	25	400	1.25	1.07	1.00
ST3A30	1N1195	300	210	25	400	2.14	1.83	1.70
ST3A40	1N1196	400	280	25	400	2.84	2.43	2.26
ST3A50	1N1197	500	350	25	400	3.16	2.70	2.52
ST3A60	1N1198	600	420	25	400	3.44	2.95	2.74
						3.80	3.28	3.06

## ST4 SERIES 35 AMP (FIG. H)

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load, Amps	4MS Surge	1-24	25-99	100 Up
ST410	1N1183, 1N1184	100	70	35	500	\$1.75	\$1.50	\$1.39
ST420	1N1185, 1N1186	200	140	35	500	1.70	1.46	1.36
ST430	1N1187	300	210	35	500	2.44	2.09	1.94
ST440	1N1188	400	280	35	500	2.44	2.09	1.94
ST450	1N1189	500	350	35	500	3.72	3.19	2.97
ST460	1N1190	600	420	35	500	4.14	3.55	3.36
						4.41	3.78	3.51
						4.89	4.19	3.90

## ST5A SERIES 50 AMP (FIG. I)

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load, Amps	4MS Surge	1-24	25-99	100 Up
ST510	.....	100	70	50	1000	\$ 9.00	\$ 7.71	\$ 7.20
ST520	.....	200	140	50	1000	9.95	8.54	7.97
ST530	.....	300	210	50	1000	13.35	11.42	10.68
ST540	.....	400	280	50	1000	15.80	13.50	12.60
ST550	.....	500	350	50	1000	18.30	15.70	14.65
ST560	.....	600	420	50	1000	20.20	17.31	16.19

## ST6 SERIES 100 AMP (FIG. I)

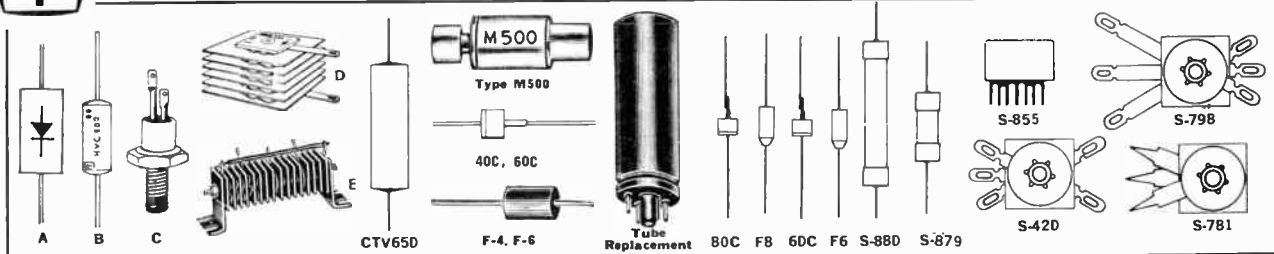
S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load, Amps	4MS Surge	1-24	25-99	100 Up
ST610	.....	100	70	100	1600	\$11.20	\$ 9.60	\$ 8.96
ST620	.....	200	140	100	1600	12.20	10.45	9.79
ST630	.....	300	210	100	1600	13.40	11.76	10.95
ST640	.....	400	280	100	1600	18.80	16.07	15.00
ST650	.....	500	350	100	1600	24.25	20.78	19.40
ST660	.....	600	420	100	1600	28.50	24.40	22.80

## ST7 SERIES 160 AMP (FIG. J)

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load, Amps	4MS Surge	1-24	25-99	100 Up
ST710	1N3261	100	70	160	3000	\$12.90	\$11.09	\$10.32
ST720	1N3263	200	140	160	3000	14.50	12.40	11.58
ST730	1N3265	300	210	160	3000	15.80	13.50	12.60
ST740	1N3267	400	280	160	3000	20.20	17.80	16.60
ST750	1N3268	500	350	160	3000	28.45	24.38	22.75
ST760	1N3269	600	420	160	3000	34.60	29.60	



# Silicon & Selenium Rectifiers



**HIGH VOLTAGE, AXIAL LEAD SILICON CARTRIDGE RECTIFIERS (FIG. A)**

JEOEC No.	S-T No.	PIV	Max. RMS Volts*	Max. Avg. Rect. Current, Ma at		Size, In. Lgth. x Oia.	Lead Lgth., In.	Net Each, Lots of		
				25°C	100°C			1-24	25-99	100 Up
1N1730	S-551B	1000	700	200	100	.5 x .375	2 1/2	\$2.10	\$1.79	\$1.67
1N1731	S-551B	1500	1050	200	100	.5 x .375	2 1/2	2.10	1.79	1.67
1N1732	S-5520	2000	1400	200	100	1 x .375	2 1/2	2.90	2.50	2.33
1N1733	S-5521	3000	2100	150	75	1 x .375	2 1/2	4.15	3.57	3.34
1N1734	S-5522	5000	3500	100	50	1 x .375	2 1/2	5.00	4.29	4.00
1N2373	S-5523	600	420	250	100	.5 x .375	2 1/2	1.25	1.07	1.00
1N2374	S-5524	1000	700	250	100	.5 x .375	2 1/2	2.10	1.79	1.67
1N2375	S-5525	1500	1050	200	100	.5 x .375	2 1/2	2.90	2.50	2.33
1N2376	S-5526	2000	1400	200	100	.5 x .375	2 1/2	3.35	2.86	2.66
1N2377	S-5527	2400	1680	150	75	.9 x .375	2 1/2	4.20	3.58	3.34
1N2378	S-5528	3000	2100	150	75	1 x .375	2 1/2	5.00	4.30	4.00
1N2379	S-5529	4000	2800	100	50	1.25 x .375	2 1/2	7.10	6.08	5.66
1N2380	S-5530	6000	4200	100	50	2.5 x .375	2 1/2	11.40	9.65	9.00
1N2381	S-5531†	10000	7000	75	25	2.5 x .375	2 1/2	5.00	4.29	4.00
1N2382	S-5532	4000	2800	150	75	1 x .375	2 1/2	7.10	6.08	5.66
1N2383	S-5533†	6000	4200	100	50	1.5 x .375	2 1/2	7.50	6.43	6.00
1N2384	S-5534†	8000	5600	70	35	1.5 x .375	2 1/2	9.15	7.86	6.00
1N2385	S-5535†	10000	7000	70	35	2 x .375	2 1/2			

\*Derate 50% for capacitive load in half-wave circuits. †Ferrule mounting.

**HVC SERIES HIGH VOLTAGE, AXIAL LEAD SILICON CARTRIDGE RECTIFIERS (FIG. B)**

Epoxy-sealed phenolic tube construction with 2" lg. (min.) axial leads.

S-T No.	Max. PIV	Max. Avg. Rect. Cur. (55°C), mA	Max. Fwd. V Drop at Rtd. Cur.	Body Size, In. Oia. x Lgth.	Net Each, Lots of		
					1-24	25-99	100 Up
HVC180	1800	250	4 VDC	.375 x 3/8	\$ 3.35	\$ 2.86	\$ 2.66
HVC240	2400	250	5 VDC	.375 x 1/2	3.60	3.08	2.87
HVC300	3000	200	6 VDC	.375 x 3/4	3.85	3.28	3.07
HVC400	4000	200	8 VDC	.375 x 1	4.00	3.44	3.20
HVC500	5000	200	10 VDC	.375 x 1 1/4	4.15	3.67	3.44
HVC600	6000	150	12 VDC	.375 x 1 1/2	4.55	3.92	3.66
HVC650	6500	150	13 VDC	.375 x 1 3/4	5.00	4.29	4.00
HVC750	7500	150	15 VDC	.375 x 1 3/4	5.40	4.64	4.34
HVC840	8400	100	16 VDC	.375 x 1 3/4	5.85	5.00	4.66
HVC960	9600	100	18 VDC	.375 x 1 3/4	6.65	5.72	5.34
HVC1000	10000	100	20 VDC	.375 x 1 3/4	7.10	6.07	5.66
HVC1200	12000	75	22 VDC	.375 x 1 3/4	8.35	7.15	6.66
HVC1500	15000	75	25 VDC	.375 x 2 1/4	10.40	8.94	8.34
HVC1800	18000	75	30 VDC	.375 x 2 1/4	12.50	10.70	10.00
HVC2100	21000	50	35 VDC	.375 x 3	14.60	12.50	11.67
HVC2500	25000	50	40 VDC	.375 x 3 1/2	17.50	15.00	14.00
HVC3000	30000	50	50 VDC	.375 x 4 1/4	20.80	17.90	16.70

**SILICON CONTROLLED RECTIFIERS (FIG. C)**  
Four-layer, three-junction devices for switching and power control. Size, 1 1/4" overall 1. Series 3TCR, 3 amps DC; Series 5TCR, 5 amps DC.

S-T No.	Max. PIV	Net Each, Lots of			S-T No.	Max. PIV	Net Each, Lots of		
		1-24	25-99	100 Up			1-24	25-99	100 Up
3TCRA	25	\$2.80	\$2.39	\$2.22	5TCRA	25	\$4.00	\$3.43	\$3.20
3TCRB	50	2.90	2.46	2.30	5TCRB	50	4.70	4.05	3.77
3TCRC	100	3.00	2.55	2.39	5TCRC	100	4.85	4.15	3.86
3TCRD	150	3.05	2.62	2.44	5TCRD	150	4.95	4.23	3.94
3TCRE	200	3.25	2.80	2.60	5TCRE	200	5.10	4.38	4.08
3TCRF	250	4.05	3.50	3.25	5TCRF	250	5.95	5.10	4.24
3TCRG	300	4.20	3.58	3.33	5TCRG	300	6.05	5.16	4.81
3TCRH	400	4.65	3.98	3.70	5TCRH	400	6.50	5.57	5.18
3TCRI	500	6.95	5.97	5.55	5TCRI	500	8.80	7.55	7.03

Class X and Y prices available on request.

3GCRGZ	100	\$ 7.35	\$ 6.27	\$ 5.86	3GCRFZ	250	\$17.90	\$15.36	\$14.35
3GCRDZ	150	10.10	8.63	8.07	3GCRGZ	300	24.60	21.10	19.69
3GCRGZ	200	13.75	11.79	11.00	3GCRHZ	400	31.50	27.00	25.20

## SELENIUM RECTIFIERS

**"CONDENSED-STACK" SELENIUM RECTIFIERS (FIG. D)**

Approximate rectifier drop, 5 V. Max. plate temperature, 85°C operating. Resistance, shown, 16 series.

Sarkes Model	Max. Volts		Max. Current		Min. Series Resist.*	Plate Size, Inches W. x H. x O.	Max. Hole Ctr.	Net Each
	Input Rms	PIV	Peak mA	Rms mA				
50-75	130	380	750	187	75	22	1 1/4 sq. x 3/8	\$.048
100-150	130	380	1500	375	150	22	1 sq. x 3/8	.72
200-250	130	380	2500	625	250	15	1 1/4 sq. x 1 1/4	1.08
300-500	130	380	5000	1250	500	5	1.6 sq. x 1 1/4	1.32

\*Ohms

## SELENIUM "CENTER COOLED" RECTIFIERS

These standard power type rectifier stacks are used in a broad range of power supply applications, such as DC filament supplies, electro-plating equipment, etc.

Sarkes Tarzian "Centre-Seal" rectifiers have high thermal stability. They will operate efficiently at temperatures from -55°C to +100°C.

Sarkes Tarzian No.	OC Output†		Max. AC Input Volts	Dimensions			Net Each
	Volts	Max. Amps		Plate Height	Stack Length	Plate Width	
0-10*	6-10	2	13	3"	2 1/2"	3"	\$ 4.31
0-11*	6-10	4	13	4"	2 1/2"	4"	5.21
0-12*	6-10	6	13	4"	2 1/2"	4"	5.21
0-13*	6-10	8	13	5"	2 1/2"	6"	6.38
0-14*	6-10	12	13	5"	2 1/2"	6"	6.38
0-15*	6-10	15	13	4 1/4"	2 1/2"	12"	11.00
0-16*	6-10	22.5	13	4 1/4"	2 1/2"	12"	11.00
0-21†	6-20	1.5	26	2"	1 1/2"	2"	4.46
0-17†	6-20	2	26	3"	3 3/4"	3"	5.94
0-18†	6-20	4	26	4"	3 3/4"	4"	7.36
0-19†	6-20	6	26	4"	3 3/4"	4"	7.36
0-20†	6-20	8	26	5"	3 3/4"	6"	9.25

## REPLACEMENT KITS See Standard Replacement Types, below, for full specifications.

Sarkes Tarzian Type M500 Kit—Two Type M rectifiers in volt. doubler circuit dual mounting clip, base and hardware. Net Each. \$2.12  
 Sarkes Tarzian Model F-4 Kit—Two F-4 rectifiers in volt. doubler circuit kit. Net Ea. .93  
 Sarkes Tarzian Model 40C Kit—Two 40C rectifiers in volt. doubler circuit kit. Net Ea. \$1.11  
 Sarkes Tarzian Model 60C Kit—Two 60C rectifiers in volt. doubler circuit kit. Net Ea. \$1.20

## COLOR TV "DIRECT REPLACEMENT" RECTIFIERS SILICONS

CTV650—Focus Rectifier. Net Ea. \$5.00  
 80C—Voltage Boost Rectifier. Net Ea. .81  
 F8—Voltage Boost Rectifier. Net Ea. .69  
 60C—B+ Rectifier. Net Ea. .63  
 F6—B+ Rectifier. Net Ea. .51

## SELENIUMS

S-880—Focus Rectifier. Net Ea. \$2.95  
 S-879—Voltage Boost Rectifier. Net Ea. 1.20  
 S-855—Convergence Rectifier. Replaces: Emerson 817149; General Electric M1281753; Hoffman SR-37; Motorola 48D66653A; Muntz; Packard Bell; RCA 1470990; Philco 34-8058; Setchell Carlson; Sylvania 13-17569; Warwick (Sears) 86-55-3; Wells Gardner 41-001; Westinghouse. Net Ea. .84  
 S-420—Convergence Rectifier. Replaces: Zenith 212-25. Net Ea. .84  
 S-798—Convergence Rectifier. Replaces: Zenith 212-6. Net Ea. .96  
 S-781—Convergence Rectifier. Replaces: Admiral 93C-21 and 93C1-21. Net Ea. .84

## VACUUM TUBE REPLACEMENT SERIES

These silicon rectifier tube replacements are the preferred way to reduce tube replacement costs. Although more expensive than rectifier tubes, they will outlast many times their cost in rectifier tubes.

S-T No.	JEOEC No.	Max. PIV	Max. VRms	Replaces Tube Type	Net Each
S-5011A	1N1150A	1600	1100	80, 82, 83, 83V, 523	\$12.00
S-5017	1N1237	1600	1100	OZ4, 5X4, 5Y4, 6AX5, 6X5	12.00
S-5018	1N1238	1600	1100	5AU4, 5AW4, 5AZ4, 5T4, 5U4, 5Y3	12.00
S-5019†	1N1239	2800	1950	5R4	18.10
S-5033†	1N1262	4500	3200S	6AU4, 6AX4, 6BL4, 6W4, 12AX4, 25W4	18.10
S-5130†	.....	10400	7400S	866, 866A, 3B28	22.50
S-5162	.....	2800	1950	5R4	16.10
S-5207†	1N2490	1600	1100	6X4	12.00
S-5251	1N2389	1600	1100	5AU4, 5AW4, 5AZ4, 5T4, 5U4, 5Y3	12.00
S-5343†	.....	7000	5000S	816, 836, 3B28*	6.10
S-5344	.....	10000	7000S	872A	31.70
S-5347†	.....	1600	1100	12BW4, 6BW4	8.65
S-5367	.....	19000	13300S	8020	31.70
S-5373	.....	10000	7000S	8008	42.00
S-5448	.....	15000	10500S	575A	58.30
S-5451	.....	7200	5040S	872A*	31.70
S-5991	.....	1600	1100	5AU4, 5AW4, 5AZ4, 5T4, 5U4, 5Y3	3.50

\*At reduced voltage. †Hermetically sealed. ‡Half-wave circuit; all others full wave. §Derate input voltage 50% for capacitive load.

## STANDARD SILICON REPLACEMENT TYPES

Approximate voltage drop for all types listed below is 2 volts. Minimum series resistance required is 5 ohms for F-4, F-6, 40H and 60H; 10 ohms for M150 and 7.5 ohms for M500.

S-T Number	JEOEC Number	Max. PIV	Max. Current, Amps	OC at 100°C	Recur. Peak	AMS Surge	Size, Inches Lgth. x Dia.	Min. Lead Lgth., In.	Net Each†
F-4	1N2483	400	280	1.0 Amp.	7.5	75	.250 x .200	1 1/4	\$0.51
F-6	1N2484	600	420	1.0 Amp.	7.5	75	.250 x .200	1 1/4	.51
40C	1N2487	400	280	1.0 Amp.	7.5	75	.687 x .375	1	.60
60C	1N2488	600	420	1.0 Amp.	7.5	75	.687 x .375	1	.60
M500	1N1084	400	280	1.0 Amp.	5	30	1 x 1 1/2	1/4 D.D.	.96

\*Hermetically sealed. †Available bulk packed or in handy 10-pak, same price. ‡Derate 50% for 1/2-wave cap. load. §At 85°C.

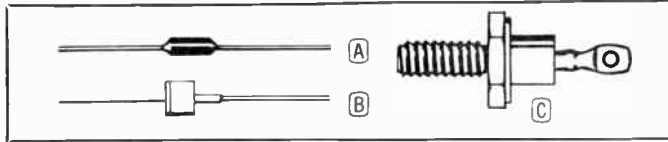
Sarkes Tarzian No.	OC Output†		Max. AC Input Volts	Dimensions			Net Each
	Volts	Max. Amps		Plate Height	Stack Length	Plate Width	
0-21†	6-20	12	26	5"	3"	6"	\$ 9.25
0-22†	6-20	15	26	4 1/2"	3 1/2"	12"	16.75
0-23†	6-20	22.5	26	4 1/2"	4"	12"	16.75
0-24†	20-40	2	52	3"	4 1/2"	3"	9.19
0-25†	20-40	4	52	4"	4 1/2"	4"	11.66
0-26†	20-40	6	52	4"	6 1/2"	4"	11.66
0-27†	20-40	8	52	5"	6 1/2"	6"	15.00
0-28†	20-40	12	52	5"	6 1/2"	6"	15.00
0-29†	20-40	15	52	4 1/2"	4 1/2"	12"	28.25
0-30†	20-40	22.5	52	4 1/2"	6 1/2"	12"	28.25
0-31†	40-60	2	78	3"	6"	3"	12.44
0-32†	40-60	4	78	4"	6"	4"	15.96
0-33†	40-60	6	78	4"	8 1/2"	4"	15.96
0-34†	40-60	8	78	5"	5 1/2"	6"	20.75
0-35†	40-60	12	78	5"	8 1/2"	6"	20.75
0-36†	40-60	15	78	4 1/2"	6"	12"	39.75
0-37†	40-60	22.5	78	4 1/2"	6"	12"	39.75
0-38†	60-100	5	130	1 1/2"	5 1/2"	1 1/2"	9.50
0-39†	60-100	1					



**SARKES  
TARZIAN**

# Silicon Regulators, Suppressors

## SILICON ZENER VOLTAGE REGULATORS



One series covers many JEDEC types. Meet or exceed all JEDEC requirements. Tolerance  $\pm 5\%$ ; available in  $\pm 10\%$  and  $\pm 20\%$ . To order, add voltage and tolerance letter to S-T No. (i.e.: .25T5.6A).

S-T Series	Fig.	Tol. $\pm 5\%$	Watts	Net Each, Lots of		
				1-24	25-99	100 Up
.25T	A	A	.25	\$2.25	\$1.93	\$1.80
.4T	A	A, B	.4	2.50	2.15	2.00
1TA	B	A, B	1	1.67	1.43	1.33
10T	C	A, B	10	3.76	3.22	2.99

### JEDEC NUMBERS AND VOLTAGES AVAILABLE

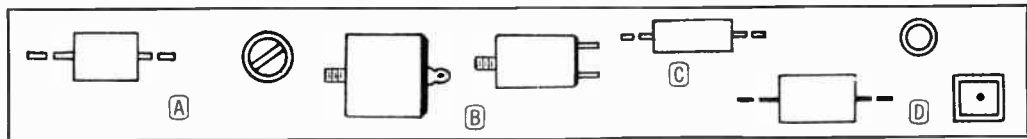
.25T (250 Mw)		.4T (400 Mw)		1TA Series (1 Watt)				10T Series (10 Watt)							
JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts
1N708A	5.6	1N769A	23.5	1N3016B	6.8	1N1774A	13	1N1351A	10	1N1823A	27	1N2993B	43		
1N709A	6.2	1N752A	5.6	1N3017B	7.5	1N1775A	15	1N1352A	11	1N1824A	30	1N2994B	45		
1N710A	6.8	1N753A	6.2	1N3018B	8.2	1N1776A	16	1N1353A	12	1N1825A	33	1N2995B	47		
1N711A	7.5	1N754A	6.8	1N3019B	9.1	1N1777A	20	1N1354A	13	1N1826A	36	1N2996B	50		
1N712A	8.2	1N755A	7.5	1N3020B	10	1N1778A	22	1N1355A	15	1N1827A	39	1N2997B	51		
1N713A	9.1	1N756A	8.2	1N3021B	11	1N1779A	24	1N1356A	16	1N1828A	43	1N2998B	52		
1N714A	10	1N757A	9.1	1N3022B	12	1N1781A	27	1N1357A	18	1N1829A	47	1N2999B	56		
1N715A	11	1N758A	10	1N3023B	13	1N1782A	30	1N1358A	20	1N1830A	51	1N3000B	62		
1N716A	12	1N759A	12	1N3024B	15	1N1783A	33	1N1359A	22	1N1831A	56	1N3001B	68		
1N717A	13	1N957B	6.8	1N3025B	16	1N1784A	36	1N1360A	24	1N1832A	62	1N3002B	75		
1N718A	15	1N958B	7.5	1N3026B	18	1N1785A	39	1N1361A	27	1N1833A	68	1N3003B	82		
1N719A	16	1N959B	8.2	1N3027B	20	1N1786A	43	1N1362A	30	1N1834A	75	1N3004B	91		
1N720A	18	1N960B	9.1	1N3028B	22	1N1787A	47	1N1363A	33	1N1835A	82	1N3005B	100		
1N721A	20	1N961B	10	1N3029B	24	1N1788A	51	1N1364A	36	1N1836A	91	1N3006B	105		
1N722A	22	1N962B	11	1N3030B	27	1N1789A	56	1N1365A	39	1N2008A	100	1N3007B	110		
1N723A	24	1N963B	12	1N3031B	30	1N1790A	62	1N1366A	43	1N2009A	110	1N3008B	120		
1N724A	27	1N964B	13	1N3032B	33	1N1791A	68	1N1367A	47	1N2010A	120	1N3009B	130		
1N725A	30	1N965B	15	1N3033B	36	1N1792A	75	1N1368A	51	1N2011A	130	1N3010B	140		
1N726A	33	1N966B	16	1N3034B	39	1N1793A	82	1N1369A	56	1N2012A	150	1N3011B	150		
1N727A	36	1N967B	18	1N3035B	43	1N1794A	91	1N1370A	62	1N2498A	10	1N3012B	160		
1N728A	39	1N968B	20	1N3036B	47	1N1795A	100	1N1371A	68	1N2499A	11	1N3013B	175		
1N729A	43	1N969B	22	1N3037B	51	1N1796A	110	1N1372A	75	1N2500A	12	1N3014B	180		
1N730A	47	1N970B	24	1N3038B	56	1N1797A	120	1N1373A	82	1N2970B	6.8	1N3015B	200		
1N731A	51	1N971B	27	1N3039B	62	1N1798A	130	1N1374A	91	1N2971B	7.5				
1N732A	56	1N972B	30	1N3040B	68	1N1799A	150	1N1375A	91	1N2972B	8.2				
1N733A	62	1N973B	33	1N3041B	75	1N1800A	160	1N1803A	5.6	1N2973B	9.1				
1N734A	68	1N974B	36	1N3042B	82	1N1801A	180	1N1804A	6.2	1N2974B	10				
1N735A	75	1N975B	39	1N3043B	91	1N1802A	200	1N1805A	6.8	1N2975B	11				
1N736A	82	1N976B	43	1N3044B	100			1N1806A	7.5	1N2976B	12				
1N737A	91	1N977B	47	1N3045B	110			1N1807A	8.2	1N2977B	13				
1N738A	100	1N978B	51	1N3046B	120			1N1808A	9.1	1N2978B	14				
1N739A	110	1N979B	56	1N3047B	130			1N1809A	110	1N2979B	15				
1N740A	120	1N980B	62	1N3048B	150			1N1810A	120	1N2980B	16				
1N741A	130	1N981B	68	1N3049B	160			1N1811A	130	1N2981B	17				
1N742A	150	1N982B	75	1N3050B	180			1N1812A	150	1N2982B	18				
1N743A	160	1N983B	82	1N3051B	200			1N1813A	160	1N2983B	19				
1N744A	180	1N984B	91	1N1765A	5.6			1N1814A	180	1N2984B	20				
1N745A	200	1N985B	100	1N1766A	6.2			1N1815A	200	1N2985B	22				
1N762A	5.8	1N986B	110	1N1767A	6.8			1N1816A	13	1N2986B	24				
1N763A	7.1	1N987B	120	1N1768A	7.5			1N1817A	15	1N2987B	25				
1N764A	8.8	1N988B	130	1N1769A	8.2			1N1818A	16	1N2988B	27				
1N765A	10.5	1N989B	150	1N1770A	9.1			1N1819A	18	1N2989B	30				
1N766A	12.8	1N990B	160	1N1771A	10			1N1820A	20	1N2990B	33				
1N767A	15.8	1N991B	180	1N1772A	11			1N1821A	22	1N2991B	36				
1N768A	19	1N992B	200	1N1773A	12			1N1822A	24	1N2992B	39				

## VR SERIES ECONOMY ZENER REGULATORS

One watt zener regulators in rugged plastic case, recommended for use in all 1/4, 0.4, 1/2 and 1 watt applications. Add suffix A for  $\pm 5\%$  tolerance, B for  $\pm 20\%$  ( $\pm 10\%$  standard).

S-T No.	Zener Volts*	S-T No.	Zener Volts*	S-T No.	Zener Volts*	S-T No.	Zener Volts*	S-T No.	Zener Volts*
VR6	6	VR14	14	VR33	33	VR80	80	VR130	130
VR7	7	VR18	18	VR39	39	VR90	90	VR150	150
VR8.5	8.5	VR20	20	VR47	47	VR105	105	VR160	160
VR10	10	VR24	24	VR56	56	VR110	110	VR180	180
VR12	12	VR28	28	VR67	67	VR120	120	VR200	200

\*Avalanche volts.



## KLIPVOLT TRANSIENT VOLTAGE SUPPRESSORS

### POLARIZED TYPE

A—Max. DC Blocking Volts, B—Max. Discharge Current (Amps), C—Min. DC Volts, D—Figure.

A	B	C	S-T No.	D	Net Each, Lots of			S-T No.	D	Net Each, Lots of		
					1-9	10-99	100 Up			1-9	10-99	100 Up
22	.250	15	S-235	A	\$0.45	\$0.33	\$0.29	S-235C	C	\$1.01	\$0.73	\$0.65
22	.850	15	S-236	B	.56	.40	.36	S-236C	D	1.87	1.35	1.20
44	.250	23	S-237	A	.49	.36	.31	S-237C	C	1.05	.76	.67
44	.850	23	S-238	B	.62	.45	.40	S-238C	D	1.94	1.40	1.24
66	.250	45	S-239	A	.56	.40	.36	S-239C	C	1.12	.81	.72
66	.850	45	S-240	B	.75	.54	.48	S-240C	D	2.06	1.48	1.32
88	.250	67	S-241	A	.60	.43	.38	S-241C	C	1.16	.82	.74
88	.850	67	S-242	B	.81	.58	.52	S-242C	D	2.12	1.53	1.36
110	.250	89	S-243	A	.64	.46	.41	S-243C	C	1.40	.89	.77
110	.850	89	S-244	B	.88	.63	.56	S-244C	D	2.19	1.57	1.40
132	.250	111	S-245	A	.67	.49	.43	S-245C	C	1.24	.90	.79
132	.850	111	S-246	B	.94	.68	.60	S-246C	D	2.25	1.62	1.44
154	.250	133	S-247	A	.71	.51	.46	S-247C	C	1.27	.92	.80
154	.850	133	S-248	B	1.00	.72	.64	S-248C	D	2.21	1.66	1.48

### NON-POLARIZED TYPE

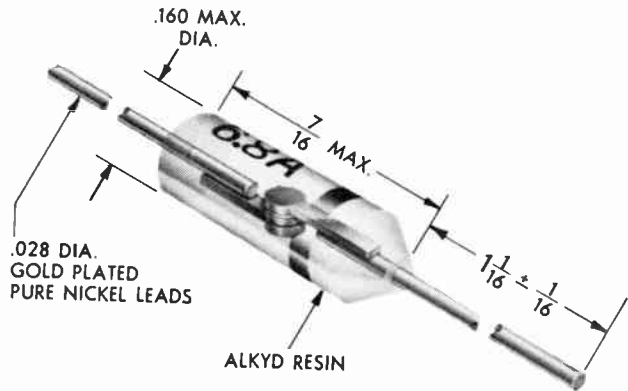
A—Max. rms Volts, B—Max. Discharge Current (Amps), C—Min. rms Volts, D—Figure.

S-T No.	A	B	C	D	Net Each, Lots of		
					1-9	10-99	100 Up
S-249	52	.200	27	A	\$0.52	\$0.38	\$0.34
S-249C	52	.200	27	C	1.09	.78	.70
S-250	52	.700	27	B	.69	.50	.44
S-250C	52	.700	27	D	2.12	1.53	1.36
S-251	78	.200	53	A	.60	.43	.38
S-251C	78	.200	53	C	1.16	.82	.74
S-252	78	.700	53	B	.81	.58	.52
S-252C	78	.700	53	D	2.12	1.53	1.36
S-253	104	.200	79	A	.67	.49	.43
S-253C	104	.200	79	C	1.24	.89	.79

# Schauer Heavy Duty Type SZ ZENER Diodes

## NEW!

- Smaller Package
- Higher Voltages
- Gold Plated Leads
- Heavy Tantalum Heat Sinks
- Banded and Tapered Cathode
- All Welded and Brazed Assembly
- Power Rating Increased To 1 Watt
- Prices as Low as 27¢ Each in Lots of 1000



A mass-produced, large alloyed silicon junction has been placed into a small, rugged package to produce a zener diode with maximum surge capacity and stability. The low dynamic impedance assures superior performance in voltage regulators, clippers, surge protectors, and numerous other applications. An inner epoxy seal, long leakage paths, and high-pressure molding permits reliable operation in all environments.

### Conservative 1 WATT RATING

Large 10 watt junction in a small package.

Cool Operation. Insulated case.

Mass-produced for LOW COST.

### CHARACTERISTICS AND MAXIMUM RATINGS:

Storage temperature:  $-65^{\circ}$  to  $150^{\circ}\text{C}$ .

Operating temperature:  $-65^{\circ}$  to  $150^{\circ}\text{C}$ .

Maximum junction temperature:  $175^{\circ}\text{C}$ .

Thermal resistance from junction to ambient:  $10^{\circ}\text{C}/\text{mw}$  (still air).

Forward drop at .5 amp.: 1.0V max.

### RATING TABLE

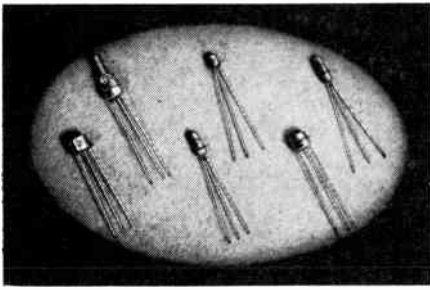
Schauer Type No. 10% Tolerance (Note 1)	Nominal Zener Voltage $I_{Z/T} = 20 \text{ ma}$ $T_A = 25^{\circ}\text{C}$ .	Dynamic Impedance				Maximum Recommended Zener Current	Typical Temperature Coefficient of Voltage (%/ $^{\circ}\text{C}$ .)
		Maximum $I_{Z/T} = 20 \text{ ma}$	Typical $I_{Z/T} = 20 \text{ ma}$	Typical $I_{Z/T} = 50 \text{ ma}$	Typical $I_{Z/T} = 100 \text{ ma}$		
SZ 2.4	2.4 volts	27 ohms	14 ohms	6.2 ohms	3.2 ohms	420 ma	-.054
SZ 2.7	2.7	27	16	7.0	3.7	370	-.055
SZ 3.0	3.0	27	17	7.5	3.9	340	-.055
SZ 3.3	3.3	27	17	7.5	3.9	300	-.054
SZ 3.6	3.6	25	17	7.5	3.9	280	-.050
SZ 3.9	3.9	23	17	7.5	3.9	260	-.045
SZ 4.3	4.3	21	17	7.5	3.9	240	-.037
SZ 4.7	4.7	20	12	5.3	2.8	220	-.029
SZ 5.1	5.1	16	10	4.3	2.3	200	-.019
SZ 5.6	5.6	12	6.0	2.6	1.4	180	-.009
SZ 6.2	6.2	6	2.0	0.86	0.5	160	+.018
SZ 6.8	6.8	4	1.5	0.66	0.4	150	+.035
SZ 7.5	7.5	4	1.5	0.66	0.4	140	+.044
SZ 8.2	8.2	5	2.0	0.86	0.5	120	+.049
SZ 9.1	9.1	6	4.0	1.8	0.9	110	+.053
SZ 10.0	10.0	6	5.0	2.6	1.4	100	+.055
SZ 11.0	11.0	8	6.0	3.0	1.6	91	+.057
SZ 12.0	12.0	8	7.0	3.5	1.8	83	+.059
SZ 13.0	13.0	10	7.0	3.7	1.9	77	+.061
SZ 15.0	15.0	10	8.0	4.0	2.1	66	+.065
SZ 16.0	16.0	10	8.0	4.2	2.3	62	+.066

Note 1: Add suffix "A" for 5% tolerance (i.e., SZ 4.7A for  $4.7 \pm 5\%$  volts). 1.0% and 2.0% units available from factory.

Semiconductor Division

## SCHAUER MANUFACTURING CORP.

# SPRAGUE SEMICONDUCTORS



## GERMANIUM AND SILICON TRANSISTORS

- Sprague Transistors are Produced by Advanced Equipment and the Latest Manufacturing Techniques.
- Excellent Design Flexibility and Electrical Properties Meet the Most Rigid Performance and Reliability Standards.
- Highest Quality and Outstanding Economy.
- For Complete Technical Data, Refer to Latest Issue of the Applicable Engineering Bulletin.
- Call your Sprague Industrial Distributor for current quantity prices.

Type Number	Case Code	Description	Type Number	Case Code	Description	Type Number	Case Code	Description
2N128	TO-24	Ge Switch SBT	2N860	TO-18	Si Switch SPAT	2N1411	TO-24	Ge Switch MAT
JAN-2N128	TO-24	Ge Switch SBT	2N861	TO-18	Si Switch SPAT	JAN-2N1411	TO-24	Ge Switch MAT
2N231	TO-24	Ge Switch SBT	2N862	TO-18	Si Switch SPAT	2N1427	TO-24	Ge Switch MAT
2N240	TO-24	Ge Switch SBT	2N863	TO-18	Si Switch SPAT			
JAN-2N240	TO-24	Ge Switch SBT	2N864	TO-18	Si Switch SPAT	2N1429	TO-5	Si Switch SPAT
			2N865	TO-18	Si Switch SPAT			
2N328A	TO-5	PNP Planar Alloy Replacement	2N924	TO-18	PNP Planar Alloy Replacement	2N1469	TO-5	PNP Planar Alloy Replacement
JAN-2N328A	TO-5	PNP Planar Alloy Replacement	2N926	TO-18	PNP Planar Alloy Replacement	JAN-2N1469**	TO-5	PNP Planar Alloy Replacement
2N328B	TO-5	PNP Planar Alloy Replacement	2N936	TO-18	PNP Planar Alloy Replacement	2N1474	TO-5	PNP Planar Alloy Replacement
2N329A	TO-5	PNP Planar Alloy Replacement	2N937	TO-18	PNP Planar Alloy Replacement	2N1475	TO-5	PNP Planar Alloy Replacement
JAN-2N329A	TO-5	PNP Planar Alloy Replacement	2N939	TO-18	PNP Planar Alloy Replacement	2N1499A	TO-9	Ge Switch ECDC
2N329B	TO-5	PNP Planar Alloy Replacement	2N940	TO-18	PNP Planar Alloy Replacement	JAN-2N1499A	TO-9	Ge Switch ECDC
2N330A	TO-5	PNP Planar Alloy Replacement	2N941	TO-18	PNP Planar Alloy Replacement	2N1499B	TO-9	Ge Switch ECDC
			2N942	TO-18	PNP Planar Alloy Replacement			
2N344	TO-24	Ge Amplifier SBT	2N943	TO-18	PNP Planar Alloy Replacement	2N1500	TO-9	Ge Switch MADT
2N345	TO-24	Ge Amplifier SBT	2N944	TO-18	PNP Planar Alloy Replacement	JAN-2N1500	TO-9	Ge Switch MADT
2N346	TO-24	Ge Amplifier SBT				2N1623	TO-5	PNP Planar Alloy Replacement
			2N976	TO-18	Ge Switch MADT	2N1676	TO-5	Si Chopper SPAT
2N393	TO-24	Ge Switch MAT*	2N979	TO-18	Ge Switch MADT	2N1677	TO-5	Si Chopper SPAT
JAN-2N393	TO-24	MIL-S-19500/77A	2N980	TO-18	Ge Switch MADT	2N1683	TO-5	ECDC Switch
JAN-2N393	TO-24	MIL-S-19500/77B	2N982	TO-18	Ge Switch MADT			
			2N983	TO-18	Ge Switch MADT	2N1726	TO-9	MADT Communication
2N495	TO-1	Si Switch SPAT*	2N984	TO-18	Ge Switch MADT	2N1727	TO-9	MADT Communication
2N496	TO-1	Si Switch SPAT				2N1728	TO-9	MADT Communication
			2N997	TO-18	NPN Si Darlington Amp.	2N1742	TO-9	MADT Communication
2N499	TO-1	Ge Amplifier MADT*				2N1743	TO-9	MADT Communication
JAN-2N499	TO-1	Ge Amplifier MADT	2N1024	TO-5	PNP Planar Alloy Replacement	2N1744	TO-9	MADT Communication
2N499A	TO-1	Ge Amplifier MADT	2N1026	TO-5	PNP Planar Alloy Replacement	2N1745	TO-9	MADT Amplifier
JAN-2N499A	TO-1	Ge Amplifier MADT	JAN-2N1026**	TO-5	PNP Planar Alloy Replacement	2N1746	TO-9	MADT Amplifier
			2N1027	TO-5	PNP Planar Alloy Replacement	2N1747	TO-9	MADT Amplifier
2N501	TO-1	Ge Switch MADT	2N1028	TO-5	PNP Planar Alloy Replacement			
2N501A	TO-1	Ge Switch MADT	2N1035	TO-5	PNP Planar Alloy Replacement	2N1748	TO-9	MADT Amplifier
JAN-2N501A	TO-1	MIL-S-19500/62	2N1036	TO-5	PNP Planar Alloy Replacement	2N1748A	TO-9	MADT Amplifier
JAN-2N501A	TO-1	MIL-S-19500/62A	2N1037	TO-5	PNP Planar Alloy Replacement	2N1749	TO-9	MADT Amplifier
			2N1118	TO-5	Si Ampl. SPAT	2N1752	TO-9	MADT Amplifier
2N502	TO-9	Ge Amplifier MADT	JAN-2N1118	TO-5	MIL-S-19500/138A			
2N502A	TO-9	Ge Amplifier MADT				2N1754	TO-9	ECDC Switch
JAN-2N502A	TO-9	Ge Amplifier MADT	JAN-2N1118	TO-5	MIL-S-19500/138B			
2N502B	TO-9	Ge Amplifier MADT	2N1118A	TO-5	Si Ampl. SPAT	2N1785	TO-9	MADT Amplifier
JAN-2N502B	TO-9	Ge Amplifier MADT	2N1119	TO-5	Si Switch SPAT	2N1786	TO-9	MADT Amplifier
2N503	TO-9	Ge Amplifier MADT	JAN-2N1119	TO-5	MIL-S-19500/139A	2N1787	TO-9	MADT Amplifier
2N504	TO-1	Ge Amplifier MADT	JAN-2N1119	TO-5	MIL-S-19500/139B	2N1788	TO-9	MADT Amplifier
2N583	TO-1	Ge Amplifier MADT				2N1789	TO-9	MADT Communication
			2N1122	TO-24	Ge Switch MAT	2N1790	TO-9	MADT Communication
2N768	TO-18	Ge Switch MADT	2N1122A	TO-24	Ge Switch MAT	2N1799	TO-9	MADT Communication
2N769	TO-18	Ge Switch MADT				2N1864	TO-9	MADT Communication
2N779A	TO-18	Ge Switch MADT	2N1219	TO-5	PNP Planar Alloy Replacement	2N1865	TO-9	MADT Communication
			2N1220	TO-5	PNP Planar Alloy Replacement	2N1866	TO-9	MADT Communication
2N794	TO-18	Ge Switch ECDC®	2N1221	TO-5	PNP Planar Alloy Replacement	2N1867	TO-9	MADT Communication
2N795	TO-18	Ge Switch ECDC	2N1222	TO-5	PNP Planar Alloy Replacement	2N1868	TO-9	MADT Communication
2N796	TO-18	Ge Switch ECDC	2N1223	TO-5	PNP Planar Alloy Replacement			
2N846A	TO-18	Ge Switch ECDC				2N1917	TO-5	PNP Planar Alloy Replacement
			2N1300	TO-5	Ge Switch ECDC	2N1918	TO-5	PNP Planar Alloy Replacement
2N858	TO-18	Si Switch SPAT	2N1301	TO-5	Ge Switch ECDC	2N1919	TO-5	PNP Planar Alloy Replacement
2N859	TO-18	Si Switch SPAT				2N1920	TO-5	PNP Planar Alloy Replacement

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\*\* Certified to comply.



TO-1



TO-5



TO-9



TO-12



TO-18

# SPRAGUE SEMICONDUCTORS

## SEMICONDUCTORS, continued

Type Number	Case Code	Description	Type Number	Case Code	Description	Type Number	Case Code	Description
2N2002	TO-5	PNP Planar Alloy Replacement	2N2332	TO-18	PNP Planar Alloy Replacement	2N2903	TO-5	NPN Si Diff. Amp.
2N2003	TO-5	PNP Planar Alloy Replacement	2N2333	TO-18	PNP Planar Alloy Replacement	2N2903A	TO-5	NPN Si Diff. Amp.
2N2004	TO-5	PNP Planar Alloy Replacement	2N2334	TO-18	PNP Planar Alloy Replacement	2N2904	TO-5	PNP Si Switch SEPT
2N2005	TO-5	PNP Planar Alloy Replacement	2N2335	TO-18	PNP Planar Alloy Replacement	JAN-2N2904	TO-5	PNP Si Switch SEPT
2N2006	TO-5	PNP Planar Alloy Replacement	2N2336	TO-18	PNP Planar Alloy Replacement	2N2904A	TO-5	PNP Si Switch SEPT
2N2007	TO-5	PNP Planar Alloy Replacement	2N2337	TO-18	PNP Planar Alloy Replacement	JAN-2N2904A	TO-5	PNP Si Switch SEPT
2N2048	TO-9	ECDC Switch	2N2360	TO-12	Ge Amplifier MADT	2N2905	TO-5	PNP Si Switch SEPT
2N2095	TO-31	Ge Amplifier ECDC	2N2361	TO-12	Ge Amplifier MADT	JAN-2N2905	TO-5	PNP Si Switch SEPT
2N2098	TO-9	Ge Amplifier ECDC	2N2362	TO-12	Ge Amplifier MADT	2N2905A	TO-5	PNP Si Switch SEPT
2N2162	TO-5	Si Chopper SPAT	2N2370	TO-5	PNP Planar Alloy Replacement	JAN-2N2905A	TO-5	PNP Si Switch SEPT
2N2163	TO-5	Si Chopper SPAT	2N2371	TO-5	PNP Planar Alloy Replacement	2N2906	TO-18	PNP Si Switch SEPT
2N2164	TO-5	Si Chopper SPAT	2N2372	TO-18	PNP Planar Alloy Replacement	JAN-2N2906	TO-18	PNP Si Switch SEPT
2N2165	TO-5	Si Chopper SPAT	2N2373	TO-18	PNP Planar Alloy Replacement	2N2906A	TO-18	PNP Si Switch SEPT
2N2166	TO-5	Si Chopper SPAT	2N2377	TO-18	Si Amplifier SPAT	JAN-2N2906A	TO-18	PNP Si Switch SEPT
2N2167	TO-5	Si Chopper SPAT	JAN-2N2377	TO-18	Si Amplifier SPAT	2N2907	TO-18	PNP Si Switch SEPT
2N2168	TO-9	Ge Switch MADT	2N2378	TO-18	Si Switch SPAT	JAN-2N2907	TO-18	PNP Si Switch SEPT
2N2169	TO-9	Ge Switch MADT	JAN-2N2378	TO-18	Si Switch SPAT	2N2907A	TO-18	PNP Si Switch SEPT
2N2170	TO-9	Ge Switch MADT	2N2398	TO-12	Ge Amplifier MADT	JAN-2N2907A	TO-18	PNP Si Switch SEPT
2N2175	TO-5	PNP Planar Alloy Replacement	2N2399	TO-12	Ge Amplifier MADT	2N2910	TO-5	NPN Si Diff. Amp.
2N2176	TO-18	PNP Planar Alloy Replacement	2N2400	TO-18	Ge Switch ECDC	2N2913	TO-5	NPN Si Diff. Amp.
2N2177	TO-5	PNP Planar Alloy Replacement	2N2401	TO-18	Ge Switch ECDC	2N2914	TO-5	NPN Si Diff. Amp.
2N2178	TO-18	PNP Planar Alloy Replacement	2N2402	TO-18	Ge Switch ECDC	2N2915	TO-5	NPN Si Diff. Amp.
2N2185	TO-18	Si Chopper SPAT	2N2451	TO-24	Ge Switch MAT	2N2916	TO-5	NPN Si Diff. Amp.
2N2186	TO-18	Si Matched Pair SPAT	2N2453	TO-5	NPN Si Diff. Amp.	2N2917	TO-5	NPN Si Diff. Amp.
2N2187	TO-18	Si Matched Pair SPAT	2N2476	TO-5	NPN Si Switch SEPT	2N2918	TO-5	NPN Si Diff. Amp.
2N2217	TO-5	NPN Si Switch SEPT	2N2477	TO-18	NPN Si Switch SEPT	2N2919	TO-5	NPN Si Diff. Amp.
2N2218	TO-5	NPN Si Switch SEPT	2N2480	TO-5	NPN Si Diff. Amp.	2N2920	TO-5	NPN Si Diff. Amp.
JAN-2N2218	TO-5	MIL-S-19500/251D	2N2487	TO-18	Ge Switch MADT	2N2936	TO-5	NPN Si Diff. Amp.
2N2218A	TO-5	NPN Si Switch SEPT	2N2488	TO-18	Ge Switch MADT	2N2937	TO-5	NPN Si Diff. Amp.
JAN-2N2218A	TO-5	MIL-S-19500/251D	2N2489	TO-18	Ge Switch MADT	2N2944	TO-46	PNP SEPT Switch, Amp., Chopper
2N2219	TO-5	NPN Si Switch SEPT	2N2537	TO-5	NPN Si Switch SEPT	2N2945	TO-46	PNP SEPT Switch, Amp., Chopper
JAN-2N2219	TO-5	MIL-S-19500/251D	2N2538	TO-5	NPN Si Switch SEPT	2N2946	TO-46	PNP SEPT Switch, Amp., Chopper
2N2219A	TO-5	NPN Si Switch SEPT	2N2539	TO-18	NPN Si Switch SEPT	2N2951	TO-5	NPN Si Amplifier SEPT
JAN-2N2219A	TO-5	MIL-S-19500/251D	2N2540	TO-18	NPN Si Switch SEPT	2N2952	TO-18	NPN Si Amplifier SEPT
2N2220	TO-18	NPN Si Switch SEPT	2N2639	TO-5	NPN Si Diff. Amp.	2N2958	TO-5	NPN Si Switch SEPT
2N2221	TO-18	NPN Si Switch SEPT	2N2640	TO-5	NPN Si Diff. Amp.	2N2959	TO-5	NPN Si Switch SEPT
JAN-2N2221	TO-18	MIL-S-19500/225D	2N2641	TO-5	NPN Si Diff. Amp.	2N2962	S-31	ECDC VHF Pwr. Ampl.
2N2221A	TO-18	NPN Si Switch SEPT	2N2642	TO-5	NPN Si Diff. Amp.	2N2963	S-31	ECDC, VHF Amplifier
JAN-2N2221A	TO-18	MIL-S-19500/255D	2N2643	TO-5	NPN Si Diff. Amp.	2N2964	S-31	ECDC VHF Pwr. Ampl.
2N2222	TO-18	NPN Si Switch SEPT	2N2644	TO-5	NPN Si Diff. Amp.	2N2965	S-31	ECDC VHF Pwr. Ampl.
JAN-2N2222	TO-18	MIL-S-19500/225D	2N2795	TO-18	Ge Switch ECDC	2N2968	TO-5	Si Symmetrical SPAT
2N2222A	TO-18	NPN Si Switch SEPT	2N2796	TO-18	Ge Switch ECDC	2N2969	TO-18	Si Symmetrical SPAT
JAN-2N2222A	TO-18	MIL-S-19500/255D	2N2802	TO-5	PNP Si Diff. Amp.	2N2970	TO-5	Si Symmetrical SPAT
2N2274	TO-18	Si Chopper SPAT	2N2803	TO-5	PNP Si Diff. Amp.	2N2971	TO-18	Si Symmetrical SPAT
2N2275	TO-18	Si Matched Pair SPAT	2N2804	TO-5	PNP Si Diff. Amp.	2N3058	TO-46	PNP Si Amplifier SEPT
2N2276	TO-18	Si Chopper SPAT	2N2805	TO-5	PNP Si Diff. Amp.	2N3059	TO-46	PNP Si Amplifier SEPT
2N2277	TO-18	Si Matched Pair SPAT	2N2806	TO-5	PNP Si Diff. Amp.	2N3060	TO-46	PNP Si Amplifier SEPT
2N2278	TO-18	Si Chopper SPAT	2N2807	TO-5	PNP Si Diff. Amp.	2N3061	TO-46	PNP Si Amplifier SEPT
2N2279	TO-18	Si Matched Pair SPAT	2N2845	TO-5	NPN Si Switch SEPT	2N3115	TO-18	NPN Si Switch SEPT
2N2280	TO-18	Si Chopper SPAT	2N2846	TO-18	NPN Si Switch SEPT	2N3116	TO-18	NPN Si Switch SEPT
2N2281	TO-18	Si Matched Pair SPAT	2N2847	TO-5	NPN Si Switch SEPT	2N3133	TO-5	PNP Si Switch SEPT
2N2330	TO-5	NPN Si Chopper SEPT	2N2848	TO-18	NPN Si Switch SEPT	2N3134	TO-5	PNP Si Switch SEPT
2N2331	TO-18	NPN Si Chopper SEPT				2N3135	TO-18	PNP Si Switch SEPT
						2N3136	TO-18	PNP Si Switch SEPT



TO-24



TO-31



TO-46



TO-72



S-31

# SPRAGUE SEMICONDUCTORS

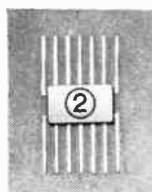
## SEMICONDUCTORS, continued

Type Number	Case Code	Description	Type Number	Case Code	Description	Type Number	Case Code	Description
2N3217	TO-46	PNP Si Switch, Amplifier, Chopper SEPT	3N90	TO-18	PNP Si Dual Emitter Chopper DUET	SA-412	TO-18	Si Symmetrical SPAT
2N3218	TO-46	PNP Si Switch, Amplifier, Chopper SEPT	3N91	TO-18	PNP Si Dual Emitter Chopper DUET	SA-413	TO-18	Si Symmetrical SPAT
2N3219	TO-46	PNP Si Switch, Amplifier, Chopper SEPT	3N92	TO-18	PNP Si Dual Emitter Chopper DUET	SA-414	TO-18	Si Symmetrical SPAT
			3N93	TO-18	PNP Si Dual Emitter Chopper DUET	SA-415	TO-18	Si Symmetrical SPAT
			3N94	TO-18	PNP Si Dual Emitter Chopper DUET	SA-416	TO-18	Si Symmetrical SPAT
			3N95	TO-18	PNP Si Dual Emitter Chopper DUET			
2N3317	TO-18	Si Chopper SPAT	3N100	TO-72	PNP Si Dual Emitter Chopper DUET	TN-53	TO-5	NPN Si Switch, Amp. SEPT
2N3318	TO-18	Si Chopper SPAT	3N101	TO-72	PNP Si Dual Emitter Chopper DUET	TN-54	TO-18	NPN Si Switch, Amp. SEPT
2N3319	TO-18	Si Chopper SPAT	3N102	TO-72	PNP Si Dual Emitter Chopper DUET	TN-59	TO-5	NPN Si Switch, Amp. SEPT
2N3320	TO-18	Ge Switch MADT	3N103	TO-72	PNP Si Dual Emitter Chopper DUET	TN-60	TO-18	NPN Si Switch, Amp. SEPT
2N3321	TO-18	Ge Switch MADT	3N104	TO-72	PNP Si Dual Emitter Chopper DUET	TN-61	TO-5	NPN Si Switch, Amp. SEPT
2N3322	TO-18	Ge Switch MADT	3N105	TO-72	PNP Si Dual Emitter Chopper DUET	TN-62	TO-18	NPN Si Switch, Amp. SEPT
						TN-63	TO-5	NPN Si Switch, Amp. SEPT
2N3342	TO-5	PNP Planar Alloy Replacement	3N106	TO-72	PNP Si Dual Emitter Chopper DUET	TN-64	TO-18	NPN Si Switch, Amp. SEPT
2N3343	TO-5	PNP Planar Alloy Replacement	3N107	TO-72	PNP Si Dual Emitter Chopper DUET	TN-79	TO-5	NPN Si SEPT Chopper
2N3344	TO-5	PNP Planar Alloy Replacement	3N103	TO-72	PNP Si Dual Emitter Chopper DUET	TN-80	TO-18	NPN Si SEPT Chopper
2N3345	TO-5	PNP Planar Alloy Replacement	3N109	TO-72	PNP Si Dual Emitter Chopper DUET	TN-81	TO-5	NPN Si SEPT Switch
2N3346	TO-5	PNP Planar Alloy Replacement	3N110	TO-72	PNP Si Dual Emitter Chopper DUET	TN-237	TO-5	NPN Si SEPT Core Driver
			3N111	TO-72	PNP Si Dual Emitter Chopper DUET	TN-238	TO-18	NPN Si SEPT Core Driver
2N3409	TO-5	NPN Si Diff. Amp.				TQ-53	TO-5	PNP Si SEPT
2N3410	TO-5	NPN Si Diff. Amp.	3N114	TO-72	PNP Si Dual Emitter Chopper DUET	TQ-53A	TO-5	PNP Si SEPT
2N3411	TO-5	NPN Si Diff. Amp.	3N115	TO-72	PNP Si Dual Emitter Chopper DUET	TQ-54	TO-18	PNP Si SEPT
2N3587	TO-5	NPN Si Diff. Amp.				TQ-54A	TO-18	PNP Si SEPT
						TQ-55A	TO-5	PNP Si SEPT
2N3838	TO-89	NPN/PNP Complementary Pair	3N116	TO-72	PNP Si Dual Emitter Chopper DUET	TQ-56A	TO-18	PNP Si SEPT
2N3840	TO-46	PNP Si Switch, Amp., Chopper	3N117	TO-72	PNP Si Dual Emitter Chopper DUET	TQ-57A	TO-5	PNP Si SEPT
			3N118	TO-72	PNP Si Dual Emitter Chopper DUET	TQ-58A	TO-18	PNP Si SEPT
2N3977	TO-46	PNP Si Switch, Amp., Chopper				TQ-59	TO-5	PNP Si Switch, Amp. SEPT
2N3978	TO-46	PNP Si Switch, Amp., Chopper	3N119	TO-72	PNP Si Dual Emitter Chopper DUET	TQ-59A	TO-5	PNP Si SEPT
2N3979	TO-46	PNP Si Switch, Amp., Chopper	3N123	TO-72	PNP Si Dual Emitter Chopper DUET	TQ-60	TO-18	PNP Si Switch, Amp. SEPT
						TQ-60A	TO-18	PNP Si SEPT
2N4383	TO-5	NPN Si SEPT Low-Level Amplifier	MA-95	TO-24	Ge Switch MAT	TQ-61	TO-5	PNP Si Switch, Amp. SEPT
2N4384	TO-18	NPN Si SEPT Low-Level Amplifier	MA-96	TO-24	Ge Switch MAT	TQ-61A	TO-5	PNP Si SEPT
2N4385	TO-5	NPN Si SEPT Low-Level Amplifier	MA-97	TO-24	Ge Switch MAT	TQ-62	TO-18	PNP Si Switch, Amp. SEPT
2N4386	TO-18	NPN Si SEPT Low-Level Amplifier	SA-310	TO-5	Si Symmetrical SPAT	TQ-62A	TO-18	PNP Si SEPT
2N4412	TO-5	PNP Si SEPT Low-Level Amplifier	SA-311	TO-5	Si Symmetrical SPAT	TQ-63	TO-5	PNP Si Switch, Amp. SEPT
2N4412A	TO-5	PNP Si SEPT Low-Level Amplifier	SA-312	TO-5	Si Symmetrical SPAT	TQ-63A	TO-5	PNP Si SEPT
2N4413	TO-18	PNP Si SEPT Low-Level Amplifier	SA-313	TO-5	Si Symmetrical SPAT	TQ-64	TO-18	PNP Si Switch, Amp. SEPT
2N4413A	TO-18	PNP Si SEPT Low-Level Amplifier	SA-314	TO-5	Si Symmetrical SPAT	TQ-64A	TO-18	PNP Si SEPT
2N4414	TO-5	PNP Si SEPT Low-Level Amplifier	SA-315	TO-5	Si Symmetrical SPAT			
2N4414A	TO-5	PNP Si SEPT Low-Level Amplifier	SA-316	TO-5	Si Symmetrical SPAT	TW-135	TO-18	NPN Si SEPT Switch
2N4415	TO-18	PNP Si SEPT Low-Level Amplifier	SA-410	TO-18	Si Symmetrical SPAT	UD-3005	TO-85	NPN QUAD
2N4415A	TO-18	PNP Si SEPT Low-Level Amplifier	SA-411	TO-18	Si Symmetrical SPAT	UD-3006	TO-85	PNP QUAD
						UD-3007	TO-85	NPN/PNP Complementary Pair
						UD-3008	TO-85	PNP Quod

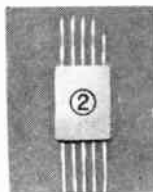
## ECONOLINE MOLDED PLASTIC SILICON PLANAR TRANSISTORS

Type Number	Case Code	Description	Type Number	Case Code	Description	Type Number	Case Code	Description
2N2711	TO-98	NPN Epoxy	2N3403	*TO-98	NPN Epoxy	2N3858	TO-98	NPN Epoxy
2N2712	TO-98	NPN Epoxy	2N3404	*TO-98	NPN Epoxy	2N3858A	TO-98	NPN Epoxy
2N2713	TO-98	NPN Epoxy	2N3405	*TO-98	NPN Epoxy	2N3859	TO-98	NPN Epoxy
2N2714	TO-98	NPN Epoxy	2N3414	TO-98	NPN Epoxy	2N3859A	TO-98	NPN Epoxy
2N2723	TO-98	NPN Epoxy	2N3415	TO-98	NPN Epoxy	2N3860	TO-98	NPN Epoxy
2N2923	TO-98	NPN Epoxy	2N3416	TO-98	NPN Epoxy	2N3877	TO-98	NPN Epoxy
2N2924	TO-98	NPN Epoxy	2N3417	TO-98	NPN Epoxy	2N3877A	TO-98	NPN Epoxy
2N2925	TO-98	NPN Epoxy	2N3721	TO-98	NPN Epoxy	2N3900	TO-98	NPN Epoxy
2N2926	TO-98	NPN Epoxy	2N3843	TO-98	NPN Epoxy	2N3900A	TO-98	NPN Epoxy
2N3391	TO-98	NPN Epoxy	2N3844	TO-98	NPN Epoxy	2N3901	TO-98	NPN Epoxy
2N3391A	TO-98	NPN Epoxy	2N3845	TO-98	NPN Epoxy	2N3975	TO-98	NPN Epoxy
2N3392	TO-98	NPN Epoxy	2N3845A	TO-98	NPN Epoxy	2N3976	TO-98	NPN Epoxy
2N3393	TO-98	NPN Epoxy	2N3845A	TO-98	NPN Epoxy	2N4256	TO-98	NPN Epoxy
2N3394	TO-98	NPN Epoxy	2N3854	TO-98	NPN Epoxy	2N4424	TO-98	NPN Epoxy
2N3395	TO-98	NPN Epoxy	2N3854A	TO-98	NPN Epoxy	2N4425	TO-98	NPN Epoxy
2N3396	TO-98	NPN Epoxy	2N3855	TO-98	NPN Epoxy	2N4951	TO-98	NPN Epoxy
2N3397	TO-98	NPN Epoxy	2N3855A	TO-98	NPN Epoxy	2N4952	TO-98	NPN Epoxy
2N3398	TO-98	NPN Epoxy	2N3856	TO-98	NPN Epoxy	2N4953	TO-98	NPN Epoxy
2N3402	*TO-98	NPN Epoxy	2N3856A	TO-98	NPN Epoxy	2N4954	TO-98	NPN Epoxy

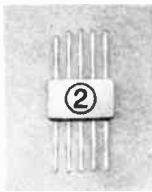
\*with heat sink



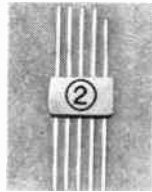
TO-85



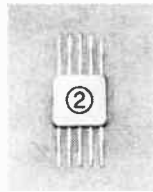
TO-87



TO-89



TO-90



TO-91

# PRICES

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# DELIVERY

Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.



# HEAT SINKS

FOR HIGH POWER SEMICONDUCTORS



For E. I. A. Jeduc Outlines TO-3, TO-6, TO-10, TO-14, TO-15, TO-26, TO-27, TO-31, TO-32, TO-36, Special Hole Patterns Available

<p><b>HS5030</b> AS LOW AS 0.60° C/WATT</p>	<p><b>HS6030</b> AS LOW AS 0.90° C/WATT</p>	<p><b>HS7030</b> AS LOW AS 1.90° C/WATT</p>	<p><b>HS8030</b> AS LOW AS 0.50° C/WATT</p>
<p><b>HS8061</b> AS LOW AS 0.30° C/WATT</p>	<p><b>HS6071</b> AS LOW AS 0.6° C/WATT</p>	<p><b>HS6029</b> AS LOW AS 0.9° C/WATT</p>	<p><b>HS8040</b> AS LOW AS 0.80° C/WATT</p>

	HS5030	HS6030	HS7030	HS8030	HS8061	HS 6071	HS6029	HS8040
WEIGHT (per inch of length)	5 oz.	2 oz.	1¼ oz.	2¼ oz.	3¼ oz.	2¼ oz.	1¼ oz.	1½ oz.
SURFACE AREA (per inch of length)	35 sq. in.	28 sq. in.	15 sq. in.	32 sq. in.	55 sq. in.	50 sq. in.	28 sq. in.	20 sq. in.
FINISH	Dull Black Anodize (MIL-A-8625a) unless otherwise specified.							
MATERIAL	Aluminum							
MOUNTING	SEE ORDERING INFORMATION BELOW							

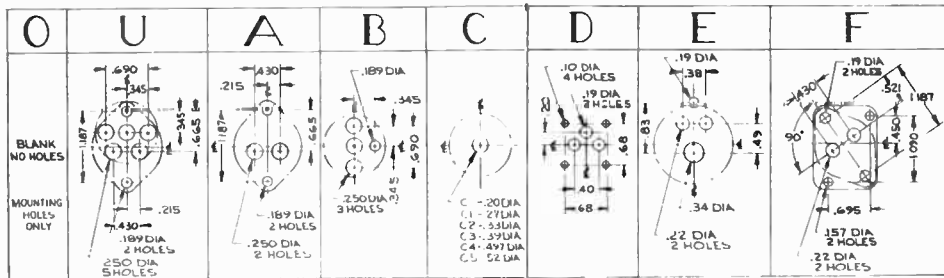
## HOW TO ORDER FINISH

- 1—Unfinished Aluminum
- 2—Chromate Conversion (MIL-C-5541)
- 3—Black Anodize (MIL-A-8625a) Standard Finish
- 4—Hardcoat Anodize (MIL-F-14072) Insulating

Many others available. Ask for catalog.

## HOLE PATTERNS

Special hole patterns and lengths available.



Many others available.

## LENGTH AND MOUNTING SLOT LOCATIONS

Suffix Number	A Length	B	C	D
2	2	1		
3	3	½	2½	
4	4	½	3½	
5	5	½	4½	
6	6	¾	3	5¼

### EXAMPLE:

HS 7030 - 3 - B - 3

STYLE—FINISH—HOLE—LENGTH  
PATTERN

All tests made with 30 CFM measurements.

All specifications for reference only, and are subject to modification.

# VEMALINE PRODUCTS COMPANY

SECTION 4800

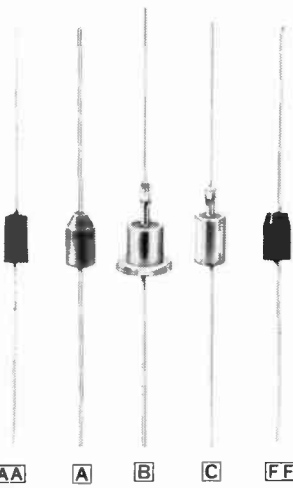


**RECTIFIERS**

are grouped by half wave average current ratings. Ratings shown apply at case temperatures indicated. All surge ratings are peak one-half cycle currents at 60 cps. Surge ratings apply from full load. Voltage ratings

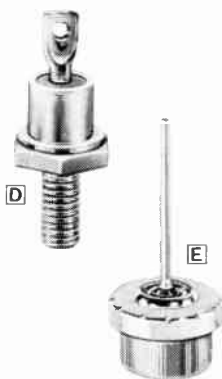
shown are repetitive peak reverse maximum values. Most units have somewhat higher transient ratings. Reverse polarity JEDEC types are designated "R". On non-JEDEC types, the second listing designates reverse polarity where available.

**LOW POWER**



	AA 1.5 AMPS	A 1.5 AMPS	B .75 AMPS	B 1.6 AMPS	C 1.0 AMPS	FF 3.0 AMPS
	@ 40°C Amb. 50A surge	@ 40°C Amb. 50A surge	@ 50°C Amb. *35°C, †30°C •.6A @ 30°C 15A surge	@ 140°C case 25A surge	50°C Amb. 35A surge T <sub>rr</sub> = 120ns	@ 50°C Amb. 200A surge
Ⓜ Type	384	359	380	380	386	398
VOLTS						
50	384A	1N4816	1N536	1N1217B	386-1AY	398A
100	384B	1N4817	1N537	1N1218B	1N5004	398B
150	384C	.....	.....	1N1219B	386-1CY	398C
200	384D	1N4818	1N538	1N1220B	1N5005	398D
300	384F	1N4819	1N539	1N1221B	386-1FY	398F
400	384H	1N4820	1N540	1N1222B	1N5006	398H
500	384K	1N4821	*1N1095	1N1223B	386-1KY	398K
600	384M	1N4822	†1N1096	1N1224B	1N5007	398M
600	.....	.....	1N547	.....	.....	.....
700	384P	1N5052	.....	1N1225B	.....	398P
800	384S	1N5053	•1N560	1N1226B	.....	398S
1000	384Z	1N5054	•1N561	1N1443B	.....	398Z
DATA SHEET REFERENCE	T.D. 54-171 pg. 1-2	T.D. 54-161 pg. 3-4	T.D. 54-161 pg. 5-6	T.D. 54-161 pg. 1-2	T.D. 54-161 pg. 9-10	T.D. 54-171 pg. 3-4

**MEDIUM POWER**



	D 5 AMPS	D 6 AMPS	D 12 AMPS	D 15 AMPS	E 15 AMPS
@ T <sub>case</sub> I <sub>surge</sub>	150°C 25A	150°C 150A	150°C 240A	125°C 200A	150°C 250A
Ⓜ Type	.....	441, 446	404, 437	368	703
VOLTS					
50	1N1612	1N1341A, AR	1N1199A, B, AR, BR	368A	703A, AR
100	1N1613	1N1342A, AR	1N1200A, B, AR, BR	368B	703B, BR
150	.....	1N1343A, AR	1N1201A, B, AR, BR	368C	703C, CR
200	<b>1N1614</b>	1N1344A, AR	1N1202A, B, AR, BR	368D	703D, DR
300	.....	1N1345A, AR	1N1203A, B, AR, BR	368F	703F, FR
400	<b>1N1615</b>	1N1346A, AR	1N1204A, B, AR, BR	368H	.....
500	.....	1N1347A, AR	1N1205A, B, AR, BR	368K	.....
600	<b>1N1616</b>	1N1348A, AR	1N1206A, B, AR, BR	368M	.....
700	.....	1N3987, R	1N3670, R	.....	.....
800	.....	1N3988, R	1N3671, R	.....	.....
900	.....	1N3989, R	1N3762, R	.....	.....
1000	.....	1N3990, R	1N3673, R	.....	.....
DATA SHEET REFERENCE	.....	T.D. 54-162 pg. 9-10	T.D. 54-162 pg. 11-12	T.D. 54-172 pg. 5-6	T.D. 54-163 pg. 5-6

**MEDIUM POWER**



	G 18 AMPS	G 20 AMPS	G 25 AMPS	G 35 AMPS	G 40 AMPS	G 70 AMPS
@ T <sub>case</sub> I <sub>surge</sub>	145°C 220A	150°C 250A	150°C 400A	140°C 500A	150°C 1000A	100°C 1000A
Ⓜ Type	303,336	.....	.....	302, 335	402, 435	416
VOLTS						
50	1N1191, R	1N248, A, B	1N2154, R	1N1183, R	1N1183A, AR	416A, AR
100	1N1192, R	<b>1N249, A, B</b>	1N2155, R	<b>1N1184, R</b>	1N1184A, AR	416B, BR
150	1N1193, R	.....	.....	1N1185, R	1N1185A, AR	416C, CR
200	1N1194, R	<b>1N250, A, B</b>	1N2156, R	<b>1N1186, R</b>	1N1186A, AR	1N4136, R
300	1N1195, R	.....	1N2157, R	1N1187, R	1N1187A, AR	416F, FR
400	1N1196, R	<b>1N2135A</b>	1N2158, R	<b>1N1188, R</b>	1N1188A, AR	1N4137, R
500	1N1197, R	.....	1N2159, R	1N1189, R	1N1189A, AR	416K, KR
600	<b>1N1198, R</b>	.....	1N2160, R	<b>1N1190, R</b>	1N1190A, AR	1N4138, R
700	.....	.....	.....	.....	1N3765	416P, PR
800	.....	.....	.....	.....	1N3766	416S, SR
900	.....	.....	.....	.....	1N3767	416V, VR
1000	.....	.....	.....	.....	1N3768	416Z, ZR
DATA SHEET REFERENCE	T.D. 54-163 pg. 1-2	.....	.....	T.D. 54-164 pg. 1-2	T.D. 54-164 pg. 3-4	.....

BOLD FACE LISTINGS MILITARY TYPES AVAILABLE.



**RECTIFIERS**

continued

**HIGH POWER**

	<b>H</b> 70 AMPS	<b>I</b> 100 AMPS	<b>I</b> 125 AMPS	<b>I</b> 150 AMPS	<b>J</b> 160 AMPS	<b>K</b> 240 AMPS	<b>K</b> 275 AMPS	<b>L</b> 500 AMPS
@ T <sub>case</sub> I <sub>surge</sub>	150°C 1200A	130°C 2300A	130°C 3000A	110°C 3000A	125°C 2000A	125°C 3000A	120°C 5000A	120°C 9000A
Ⓜ Type	300	400	400	400	429	439	770	551
<b>VOLTS</b>								
50	1N1396	.....	400A, 401A	.....	1N3260, R	1N3161, R	1N4044, R	551A
100	1N1397	1N3288, AR	400B, 401B	1N4587	1N3261, R	1N3162, R	1N4045, R	551B
150	1N1398	.....	400C, 401C	.....	1N3262, R	1N3163, R	1N4046, R	551C
200	1N1399	<b>1N3289, AR</b>	400D, 401D	1N4588	<b>1N3263, R</b>	<b>1N3164, R</b>	1N4047, R	551D
250	.....	.....	.....	.....	1N3264, R	1N3165, R	1N4048, R	.....
300	1N1400	1N3290, AR	400F, 401F	1N4589	1N3265, R	1N3166, R	1N4049, R	551F
350	.....	.....	.....	.....	1N3266, R	1N3167, R	.....	.....
400	1N1401	<b>1N3291, AR</b>	400H, 401H	1N4590	<b>1N3267, R</b>	<b>1N3168, R</b>	1N4050, R	551H
500	1N1402	1N3292, AR	400K, 401K	1N4591	1N3268, R	1N3169, R	1N4051, R	551K
600	1N1403	<b>1N3293, AR</b>	400M, 401M	1N4592	<b>1N3269, R</b>	<b>1N3170, R</b>	1N4052, R	551M
700	.....	.....	400P, 401P	.....	1N3270, R	1N3171A, AR	1N4053, R	551P
800	.....	<b>1N3294, AR</b>	400S, 401S	1N4593	1N3271, R	1N3172A, AR	1N4054, R	551S
900	.....	.....	400V, 401V	.....	1N3272, R	1N3173A, AR	1N4055, R	551V
1000	.....	1N3295, AR	400Z, 401Z	1N4594	1N3273, R	1N3174A, AR	1N4056, R	551Z
1200	.....	.....	.....	1N4595	1NC274, R	.....	770ZD, R	.....
1400	.....	.....	.....	1N4596	1N3275, R	.....	760ZH, R*	.....
1600	.....	.....	.....	.....	1N3276, R	.....	760ZM, R*	.....
DATA SHEET REFERENCE	T.D. 54-165 pg. 1-2	T.D. 54-166 pg. 1-2	T.D. 54-166 pg. 1-2	T.D. 54-166 pg. 3-4	T.D. 54-167 pg. 1-2	T.D. 54-168 pg. 5-8	T.D. 54-168 pg. 1-2	.....

\*240A @ 100°C

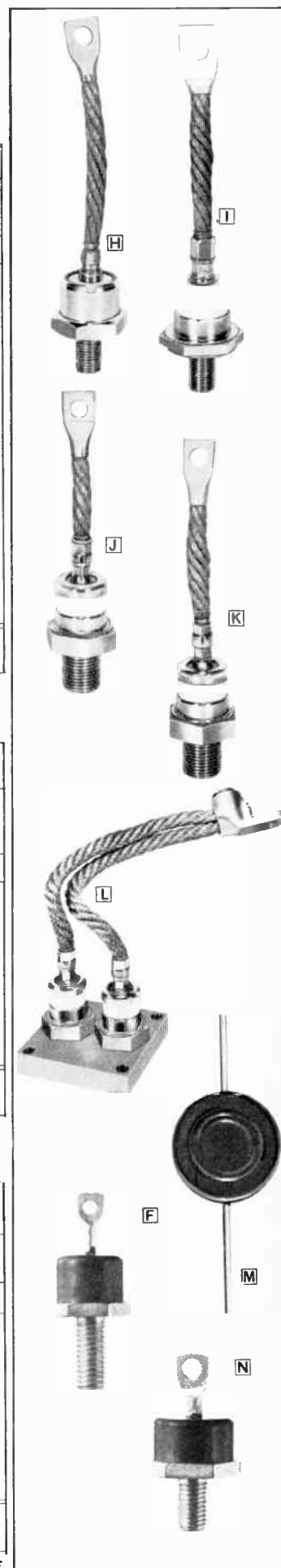
**HIGH SPEED**

	<b>M</b> 6 AMPS	<b>D</b> 6 AMPS	<b>D</b> 12 AMPS	<b>M</b> 12 AMPS	<b>G</b> 20 AMPS	<b>G</b> 35 AMPS
@ T <sub>case</sub> I <sub>surge</sub>	125°C 150A	140°C 200A	140°C 300A	130°C 200A	100°C 300A	100°C 500A
RECOVERY TIME	100 ns	200 ns	200 ns	100 ns	200 ns	200 ns
Ⓜ Type	378	478	479	379	387	389
<b>VOLTS</b>						
50	378A	1N3879	1N3889	379A	1N3899	1N3909
100	378B	1N3880	1N3890	379B	1N3900	1N3910
150	378C	478C	479C	379C	387C	389C
200	378D	1N3881	1N3891	379D	1N3901	1N3911
300	378F	1N3882	1N3892	379F	1N3902	1N3912
400	378H	1N3883	1N3893	379H	1N3903	1N3913
500	.....	.....	479K	.....	.....	.....
600	.....	.....	479M	.....	.....	.....
DATA SHEET REFERENCE	T.D. 54-162 pg. 23-24	T.D. 54-162 pg. 21-22	T.D. 54-162 pg. 19-20	T.D. 54-162 pg. 17-18	T.D. 54-164 pg. 9-10	T.D. 54-164 pg. 7-8

**LOW COST PLASTIC ENCAPSULATED**

	<b>F</b> 5 AMPS	<b>F</b> 10 AMPS	<b>F</b> 15 AMPS	<b>N</b> 20 AMPS	<b>N</b> 25 AMPS	<b>N</b> 40 AMPS
@ T <sub>case</sub> I <sub>surge</sub>	150°C 125A	150°C 175A	125°C 250A	150°C 350A	145°C 400A	120°C 500A
Ⓜ Type	407	408	409	417	418	419
<b>VOLTS</b>						
50	407A	408A	409A	417A	418A	419A
100	407B	408B	409B	417B	418B	419B
150	407C	408C	409C	417C	418C	419C
200	407D	408D	409D	417D	418D	419D
300	407F	408F	409F	417F	419F	419F
400	407H	408H	409H	417H	418H	419H
500	407K	408K	409K	417K	418K	419K
600	407M	408M	409M	417M	419M	419M
DATA SHEET REFERENCE	T.D. 54-172 pg. 3-4	T.D. 54-173 pg. 5-6	T.D. 54-172 pg. 7-8	T.D. 54-174 pg. 3-4	T.D. 54-174 pg. 5-6	T.D. 54-174 pg. 7-8

BOLD FACE LISTINGS MILITARY TYPES AVAILABLE.





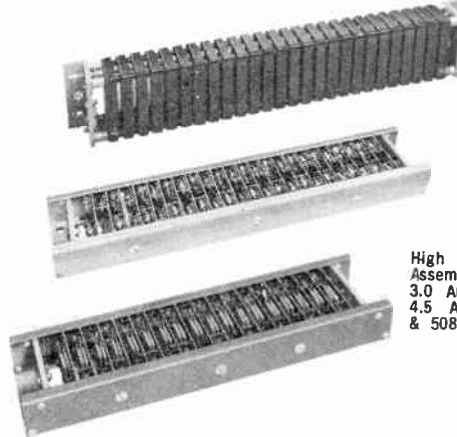
# HIGH VOLTAGE SILICON RECTIFIER ASSEMBLIES

Voltage Ratings to 208 KV in a single channel. Three Phase Current Ratings to 510 Amperes. Westinghouse Silicon Rectifier Stacks have proven their outstanding reliability in over 50 million stack hours of failure free operation. Each cell is shunted with a capacitor and resistor which provide the optimum in steady state and transient voltage division. The design of the stack provides for cooling by oil, free or

forced air convection and vapor atmospheres. Where required, assemblies can be supplied with mil-type capacitors and resistors which combined with the high temperature characteristics of the hermetically sealed silicon rectifier cells, allows operation in ambients up to 110°C. Use of these stacks in place of vacuum tubes will increase equipment efficiency by as much as 25%.

Listed are maximum voltage and currents for single assemblies. Stacks can be combined in series or parallel.		
PRV	1 $\phi$ FW $I_{DC}$	3 $\phi$ FW $I_{DC}$
208K	3.0	4.5
83.2K	12.0	18.0
83.2K	19.0	28.5
41.6K	31.0	46.5
14K	112.0	168.0
21K	210.0	315.0

Ratings are based on forced air cooling of 1000 fpm at 25°C ambient.  
Oil cooling will increase ratings.  
Assemblies are designed to meet most standard military environmental conditions.  
For very high voltage applications, corona shielding is available. Where voltage will allow, entire rectifier assemblies can be packaged in one channel.



Encapsulated Silicon Rectifier Assembly Single phase up to 3.0 Amps, three phase up to 4.5 Amps, 208 KV. 5090915 Series.

High Voltage Rectifier Assembly, Single phase up to 22 Amps, three phase up to 33 Amps, 83.2 KV. 508C686 Series.

High Voltage Silicon Rectifier Assembly, Single phase up to 3.0 Amps, three phase up to 4.5 Amps. 208 KV. 508C686 & 508C695 Series.

## TRANSISTORS

### ALLOY "OEM" TRANSISTORS

The Westinghouse "OEM Line" of economically priced transistors are designed expressly to meet the needs of original equipment manufacturers of commercial, electronic and control apparatus. Their low saturation resistance, high collector voltage and high temperature characteristics make them ideally suited for use in regulators, power supplies, inverters and ignition systems.

Type	6 AMPS "OEM"		7.5 AMPS "OEM"		20 AMPS "OEM"	
	151	152	153	154	163	164
@ $I_C =$	1.5A	1.5A	1.5A	1.5A	5A	5A
$h_{FE} \text{ min}$	11	18	15	25	15	25
$R_{SAT} \text{ max}$	0.86 $\Omega$	0.83 $\Omega$	0.86 $\Omega$	0.83 $\Omega$	0.22 $\Omega$	0.20 $\Omega$
$f_{rkc} \text{ (typ)}$	250	250	250	250	200	200
$V_{CE}$						
40	151-04	152-04	153-04	154-04	163-04	164-04
60	151-06	152-06	153-06	154-06	163-06	164-06
80	151-08	152-08	153-08	154-08	163-08	164-08
100	151-10	152-10	153-10	154-10	163-10	164-10
120	151-12	152-12	153-12	154-12	163-12	164-12
140	151-14	152-14	153-14	154-14	163-14	164-14
160	151-16	152-16	153-16	154-16	163-16	164-16
180	151-18	152-18	153-18	154-18	163-18	164-18
200	151-20	152-20	153-20	154-20	163-20	164-20
220	151-22	152-22	153-22	154-22	163-22	164-22
240	151-24	152-24	153-24	154-24	163-24	164-24
260	151-26	152-26	153-26	154-26	163-26	164-26
280	151-28	152-28	153-28	154-28	163-28	164-28
300	151-30	152-30	153-30	154-30	163-30	164-30
MAXIMUM RATINGS	$V_{EB} = 25V, I_B = 3A$ $T_j = -65^\circ \text{ to } +150^\circ$ $PD = 100W @ 80^\circ \text{ case}$ $R_{THERMAL} = 0.7^\circ C/Watt$		$V_{EB} = 15V, I_B = 3A$ $T_j = -65^\circ \text{ to } +175^\circ$ $PD = 200W @ 25^\circ \text{ case}$ $R_{THERMAL} = 0.75^\circ C/Watt$		$V_{EB} = 15V, I_B = 7.5A$ $T_j = -65^\circ \text{ to } +175^\circ$ $PD = 200W @ 75^\circ \text{ case}$ $R_{THERMAL} = 0.5^\circ C/Watt$	
DATA SHEET REFERENCE	T.D. 54-672 pg. 1-2		T.D. 54-672 pg. 3-4		T.D. 54-672 pg. 5-6	

### SILICON DIFFUSED "OEM" TRANSISTORS

Type 156						
JEDEC	$I_{C,max}$	$V_{CE}$	$P_C @ T_c = 25^\circ C$	$h_{FE} @ I_C$	$R_{CE} @ I_C$	
2N3055	15A	60V	115W	20@ 4A	.275 $\Omega$ @ 4A	
2N3232	7.5A	60V	117W	18@ 3A	.83 $\Omega$ @ 3A	
2N3233	7.5A	100V	117W	18@ 3A	.83 $\Omega$ @ 3A	
2N3234	7.5A	160V	117W	18@ 3A	.83 $\Omega$ @ 3A	
2N3235	15A	55V	117W	20@ 4A	.275 $\Omega$ @ 4A	
2N3442	10A	140V	117W	20@ 3A	.33 $\Omega$ @ 3A	
Type 158						
2N3236	15A	90V	150W	17@ 5A	.22 $\Omega$ @ 5A	
2N3237	20A	75V	200W	12@ 10A	.20 $\Omega$ @10A	
2N3238	15A	80V	150W	8.5@ 10A	.33 $\Omega$ @10A	
2N3239	15A	80V	150W	8.5@ 10A	.1 $\Omega$ @10A	
2N3240	15A	160V	150W	8.5@ 10A	.1 $\Omega$ @10A	
2N3771	30A	40V	150W	15@15A	.13 $\Omega$ @15A	
2N3772	30A	60V	150W	15@10A	.14 $\Omega$ @10A	
2N3773	30A	140V	150W	15@ 8A	.175 $\Omega$ @ 8A	

# BUSS Fuses

## FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

for Protection of TV, Radios, Instruments and Electronic Equipment

### FAST ACTING FUSES for PROTECTION OF INSTRUMENTS, Etc.



Formerly called 8AG.  
Dimension 1/4 x 1 inch, Glass tube.

Provide high speed action necessary to protect sensitive instruments.

Listed by Underwriters' Laboratories Inc.  
Test specification—carry 100%, open at 200% in 5 seconds.

Voltage	Symbol	Amperes	List Price
250 or less	AGX	1/500	\$1.72
"	AGX	1/200	.72
"	AGX	1/100	.64
"	AGX	1/32	.56
250 or less	AGX	1/16	.35
"	AGX	1/10, 1/8, 3/16, 2/10	.25
"	AGX	1/4, 3/8, 1/2 or 3/4	.17
"	AGX	1	.10
"	MKB	1/16 or 1/8	.56
125 or less	AGX	1 1/2 or 2	.10



Formerly called 8AG.  
Dimension 1/4 x 1 inch, Glass tube.

Test specification—carry 110%, open at 135% within 1 hour.  
125 volt sizes are listed by Underwriters' Laboratories Inc.

Voltage	Symbol	Amperes	List Price
125 or less	AGX	3, or 4	\$0.10
"	AGX	5	.066
32 or less	AGX	8, 10, 15 or 20	.066
"	AGX	25 or 30	.075

**MJB & MJW FUSES NOW CALLED AGX**

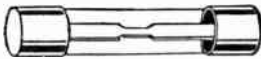
### BUSS GLASS TUBE FUSES, 1/4 x 1 1/4 inch



Formerly called 3AG

Test specification—carry 110%, open at 135% within 1 hour.  
Listed by Underwriters' Laboratories Inc. for 250 volts or less.

Symbol	Amperes	List Price	Net Price	Symbol	Amperes	List Price
AGC	1/500	\$1.72	\$1.03	AGC	1 1/2, 1000	\$0.25
AGC	1/200	.72	.43	AGC	3/16, 2/10	.25
AGC	1/100	.64	.38	AGC	1/4, 3/10, 3/8	.17
AGC	1/32	.56	.34	AGC	5/16, 1/2, 3/4	.17
AGC	1/16	.25	.15	AGC	1, 1 1/4, 1 1/2, 2	.10
AGC	1/8	.25	.15	MGB	1/16 or 1/8	.56
AGC	15/100	.25	.15	AGC	3	.094
				MTH	4, 5 or 6	.13



Formerly called 3AG

Test specification—carry 110%, open at 135% within 1 hour.

Voltage	Symbol	Amperes	List Price
125 or less	GLH	8 or 10	\$0.20
32 or less	AGC	4	.094
"	AGC	5, 6, 7 1/2, 8, 10 or 15	.066
"	AGC	20	.059
"	AGC	25 or 30	.075

20 ampere size is an SFE 20 fuse.  
Sizes larger than 30 ampere are not recommended as clips or fuse holders would not permit fuse to carry such high currents. If surges or starting currents make heavier fuse necessary, use MDL Fuse-tron dual-element fuses.

**MBW & MBB FUSES NOW CALLED AGC**

### BUSS PIG-TAIL FUSES

1/4 x 1 1/4 inch Glass tube fuse with 1 1/2 inch leads of No. 20 tinned copper wire.  
Test specifications—carry 110%, open at 135% within 1 hour  
Listed by Underwriters' Laboratories Inc.

Voltage	Symbol	Amperes	List Price
250 or less	GJV	1/16	\$0.44
"	GJV	1/8	.33
"	GJV	1/4, 3/10, 3/8, 1/2 or 3/4	.25
"	GJV	1, 1 1/2, 2 or 3	.20
"	GJV	4, 5 or 6	.21

### FUSETRON FUSES, 1/4 x 1 1/4 inch



**DUAL-ELEMENT SLOW BLOWING TYPE**

Stop needless blows from starting currents or surges. Fuse link operates only on very high overloads or short-circuits. Thermal cutout functions on low overloads—cannot operate quickly at any load, so long time-lag is obtained. Yet protection is afforded against short-circuits or continued overloads.

Test specification—carry 110%, open at 135% within 1 hour.  
Approximate blowing time: at 200% load MDL 25 sec. MDX 12 sec.  
at 300% " " 8 " " 3 "  
at 500% " " 3 " " 1/2 "

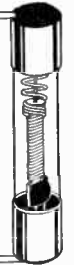
125 and 250 volt sizes listed by Underwriters' Laboratories Inc.

Voltage	Symbol	Amperes	List Price
250 or less	MDL	1/100 or 1/32	\$0.48
250 or less	MDL	1/16, 1/10, 1/8, 1 1/2, 1/100, 17 1/2, 1000, 3/16, 2/10, 1/4, 3/10, 3/8, 1/10, 1/2, 6/10, 7/10, 3/4, 8/10 or 1	.35
"	MDX	1 1/4, 1 1/2, 1 3/4 or 2	.39
125 or less	MDL	1 1/10, 1 1/4, 1 1/2, 1 9/10 or 2	.33
"	MDL	2 1/2 or 2 3/10	.25
"	MDX	3, 3 1/2, 4 or 5	.25
"	MDX	6 1/4 or 7	.30
32 or less	MDL	3, 3 1/2, 4, 5, 6 1/4, 8, 10, 15, 20, 25 or 30	.25

### FUSETRON PIG-TAIL FUSES

Leads are No. 20 tinned wire 1 1/2 inch long. Listed by Underwriters' Laboratories Inc. Test specifications and performance, MDV 1/100 to 2 3/10 amps. same as MDL fuses. 3 to 7 amps. same as MDX fuses.

Voltage	Symbol	Amperes	List Price
250 or less	MDV	1/100 or 1/32	\$0.59
"	MDV	1/16, 1/10, 1/8, 1 1/2, 1/100, 17 1/2, 1000, 3/16, 2/10, 1/4, 3/10, 3/8, 1/10, 1/2, 6/10, 7/10, 3/4, 8/10 or 1	.43
125 or less	MDV	1 1/4, 1 1/2, 1 3/4 or 2	.41
"	MDV	2 1/2, 2 3/10, 3, 3 1/2, 4, 5, 6 1/4 or 7	.35



### BUSS INDICATING FUSES, 1/4 x 1 1/4 inch



Fibre Tube. Silverplated indicating pin extends from end of fuse when fuse is blown.

This pin can also be used to actuate a signal by using fuses in BUSS HKA Fuseholders or BUSS Signal Fuse Blocks. GLD fuses in sizes larger than 5 amperes have dual tube construction. They can be used in BUSS Signal Fuse Blocks but not in HKA Fuseholders.

125 volt sizes listed by Underwriters' Laboratories Inc.  
Test specifications—carry 110%, open at 135% in one hour or less.

Voltage	Symbol	Amperes	List Price
125 or less	GLD	3/4	\$0.72
"	GLD	1, 2, 3, or 5	.56
32 or less	GLD	8, 10, 12 or 15	.78

### GBA FUSES

GBA fuses are the same as BUSS GLD fuses EXCEPT that the indicating pin is RED. This results in a more vivid indication of an open fuse when the fuses are used in BUSS HLD fuseholders.

GBA fuses have same electrical and physical characteristics as BUSS GLD fuses. They are made in the same ampere sizes up to 5 ampere, and are also priced the same.

To specify; give symbol GBA and amperes.

# BUSS Fuses

## FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

for Protection of TV, Radios, Instruments and Electronic Equipment

### FUSETRON FIBRE TUBE FUSES

**1 13/32 x 1 1/2 inch**



Dual-Element — Slow Blowing Type. Avoid needless blows from starting currents or surges. Have fuse link that operates only on very high overloads or short-circuits, and thermal cutout on low overloads. Thermal cutout cannot operate quickly at any load, hence long time-lag is obtained. Yet protection is provided against short-circuits or continued overloads.

Test specification—carry 110%, open at 135% within 1 hour.  
Approximate blowing time: at 200% load 25 seconds.  
at 300% load 8 seconds.  
at 500% load 5 seconds.

125 and 250 volt sizes listed by Underwriters' Labs., Inc.

Voltage	Symbol	Amperes	List Price			
250 or less	FNM	1/10, 1 1/100, 2/10, 3/10, 4/10, 1/2,	\$0.41			
		6/10, 8/10, 1, 1 1/8, 1 1/4, 1 1/2, 1 5/8,				
		1 3/4, 2, 2 1/4, 2 1/2, 2 3/4, 3, 3 1/4,				
		3 1/2, 4, 4 1/2, 5, 5 1/2, 6, 6 1/4, 7, 8, 9 or 10				
		12 or 15				
		20, 25 or 30				
		125 or less		FNM	12 or 15	.41
					20, 25 or 30	.41
					<b>SIGNAL OR VISUAL INDICATING TYPE</b>	

FNA are FNM Fusetron fuses with silverplated indicating pin that extends from fuse when fuse blows. Pin can also be used to actuate a signal by using fuse in BUSS Signal Fuse Block. Fuses in sizes larger than 10 ampere have a dual tube construction. They can be used in BUSS Signal fuse blocks but not in the HPC-C fuseholder.

Voltage	Symbol	Amperes	List Price
250 or less	FNA	1/10, 1 1/100, 2/10, 3/10, 4/10, 1/2,	\$0.77
		6/10, 8/10, 1, 1 1/8, 1 1/4, 1 1/2, 1 5/8, 1 3/4, 2, 2 1/4, 2 1/2, 2 3/4, 3, 3 1/4, 3 1/2, 4, 4 1/2, 5, 5 1/2, 6, 6 1/4, 7, 8, 10	
125 or less	FNA	1, 1 1/8, 1 1/4, 1 1/2, 1 5/8, 1 3/4, 2, 2 1/4, 2 1/2, 2 3/4, 3, 3 1/4, 3 1/2, 4, 4 1/2, 5, 5 1/2, 6, 6 1/4, 7, 8, 10	.77
32 or less	FNA	12 or 15	.85
		20, 25 or 30	.85

### BUSS FUSES 600 Volt. UL Listed. 1 3/32 x 1 3/8 inch.

Fibre tube. For protection of control circuits or wherever a fuse with "quick-blowing" characteristics is desirable. Listed by Underwriters' Laboratories Inc.

Voltage	Symbol	Amperes	List Price
600 or less	BBS	4/10, 3/4 or 8/10	\$0.27
600 or less	BBS	1, 2, 3, 4 or 5	.25

Fuseholder for BBS fuses. Use HPC-L fuseholder or No. 3845 single pole, side barrier porcelain fuse block. Only BBS fuses (or others with exact same dimensions) will fit these holders. This assures replacement of proper size fuse.

### BUSS Insulated TWIN-CLIPS

For 1/4 inch FUSES.



Make it easy to replace blown pigtail fuses without cutting or unsoldering pigtails. Just snap Twin-Clips on blown fuse and insert ordinary or Fusetron fuse of same amperage as blown fuse. Strong spring clip pressure assures good contact.

No: 3434 BUSS Insulated Twin Clips One pair \$0.24

### HIGH INTERRUPTING CAPACITY FUSES



**1 13/32 x 1 1/2 inch**

Glass fibre melamine tube with sand filler surrounding a silver fuse element. For use on circuits capable of delivering currents as high as 100,000 amperes at voltages of 600 or less. AC only.

Test specification—carry 110%, open at 135% in 1 hour or less.

Voltage	Symbol	Amperes	List Price
600 or less	KTK	1/10, 1/8, 2/10, 1/4, 3/10, 1/2, 3/4, 1, 1 1/2, 2, 3, 4, 5, 6, 8, 10, 15, 20, 25, 30	\$1.42

### BUSS GLASS TUBE FUSES

**9/32 x 1 1/4 inch**



Formerly called 4 AG.

Test specifications — carry 110%, open at 135% within 1 hour except 35 and 40 ampere which open at 300% in 2 to 4 seconds when tested in a standard 30 ampere test circuit.

Voltage	Symbol	Amperes	List Price
250 or less	AGS	1 1/16	\$0.54
	AGS	1/8	.38
	AGS	1/4, or 1/2	.18
	AGS	1, 2, 2 1/2 or 3	.17
32 or less	AGS	5, 10, 15, 20, 25, 30	.14
	AGS	35, 40 or 50	.17

### BUSS HIGH VOLTAGE FUSES



HVA and HVB



HVJ and HVL

Designed for protection of circuits up to 20 KW on DC and 30 KVA on AC.

Test specification—carry 110%, open at 135% within 1 hour.

Voltage	Symbol	Amperes	Diameter of caps inches	Length inches	List Price
1000 or less	HVA	3/8, 1/2, 3/4, 1, 1 1/2, 2	1 3/32	3	\$0.34
2500 or less	HVB	1/2, 3/4, 1, 1 1/2 or 2	1 3/32	4 1/2	.45
5000 or less	HVJ	1/16, 1/8, 1/4, 3/8, 1/2, 3/4, 1, 1 1/2 or 2	1 3/16	5	.83
		1/2, 3/4, 1, 1 1/2 or 2			
10000 or less	HVL	1/16, 1/8, 1/4, 3/8, 1/2, 3/4, 1, 1 1/2 or 2	1 3/16	10	1.66

### 1 13/32 x 1 1/2 inch INDICATING FUSES

Has silver plated indicating pin that extends from fuse when open — gives visual indication or can actuate signal.

Voltage	Symbol	Amperes	List Price
250 or less	MIC	1, 2, 3, 5, 10 or 15	\$0.69
32 or less	MIC	20, 25 or 30	.69

250 volt sizes listed by Underwriters' Laboratories Inc.

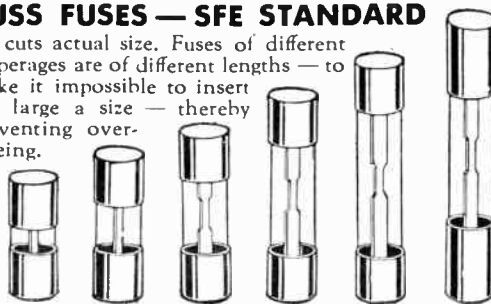
### Fuses made in accordance with Military Specifications.

Red button on indicating pin extends from end of fuse when fuse opens.

Voltage	Symbol	Amperes	List Price
250 or less	MIN	1, 2, 3, 5, 10 or 15	\$0.60
125 or less	MIN	20, 25 or 30	.60

### BUSS FUSES — SFE STANDARD

All cuts actual size. Fuses of different amperages are of different lengths — to make it impossible to insert too large a size — thereby preventing over-fusing.



SFE 4 SFE 6 SFE 7 1/2 & SFE 9 SFE 14 SFE 20 SFE 30

Glass tube — diameter 1/4 inch. Length as per table below. Test specification—carry 110%, open at 135% within 1 hour.

Listed by Underwriters' Laboratories Inc. Made according to specifications of Society of Automotive Engineers.

Voltage	Symbol & Amperes	Length inches	Pounds per 100	List Price
32 or less	SFE 4	5/8	.73	\$0.075
"	SFE 6	3/4	.75	.075
"	SFE 7 1/2	7/8	.80	.066
"	SFE 9	7/8	.80	.066
"	SFE 14	1 1/16	.82	.059
"	SFE 20	1 1/4	.87	.059
"	SFE 30	1 1/16	1.60	.075

# BUSS Fuses

## FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

for Protection of TV, Radios, Instruments and Electronic Equipment

### TRON PIGTAIL FUSES

**Sub-miniature — hermetically sealed — visual indicating**  
Tron fuses can easily be incorporated into miniaturized devices or components without sacrifice of space. Designed for installation in high shock and vibration ambients.


They may be potted or encapsulated. Are self-protecting and operate without exterior flash or venting. Glass tube construction permits visual inspection of element.

Available in ratings from 1/100 to 15 amperes — for use on circuits of 125 volts or less where available fault current is not over 50 amperes. Color coded to indicate ampere rating.

Made with 1½ inch axial pigtailed or with 1 inch right angle pigtailed. Leads are of No. 24 tinned copper wire for ratings 1/100 thru 5 amp. — No. 18 tinned copper wire for ratings 7 thru 15 amp.

Test specifications —  
Characteristic A — Carry 100% load, open within 10 seconds at 200% load.  
Characteristic B — Carry 100% load, open within 10 seconds at 150% load.


**GFA TRON Fuses** Body size only .145 x .300 inches



Symbol & Amperes	Test Specification	Color Code		List Price
		One End	Other End	
GFA 1/100	A	Red - Orange		\$0.71
GFA 1/32	A	Red - Brown		.71
GFA 1/20	A	Yellow - Yellow		.71
GFA 1/16	A	Brown - Brown		.71
GFA 1/10	A	Red - Red		.71
GFA 1/8	A	Orange - Orange		.71
GFA 15/100	B	Red - Yellow		.71
GFA 3/10	B	Red - Blue		.71
GFA 1/4	B	Red - Purple		.71
GFA 3/10	A	Green - Green		.71
GFA 4/10	A	Blue - Blue		.71
GFA 1/2	B	Orange - Green		.71
GFA 6/10	B	Orange - Blue		.71
GFA 3/4	B	Orange - Purple		.62
GFA 1	B	Yellow - Green		.62
GFA 1 1/2	B	Yellow - Purple		.62
GFA 2	B	Green - Blue		.62
GFA 3	B	Blue - Purple		.62
GFA 4	B	Purple - Brown		.62
GFA 5	B	Brown - Black		.62
GFA 7	A	Purple - Green		.62
GFA 8	A	Green - Black		.62
GFA 15	A	Black - Purple		.62

### GLN and GLX TRON Fuses

Body size only .140 x .300 inches

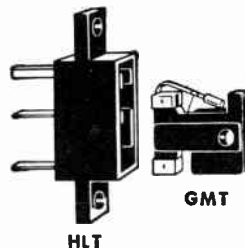


Symbol & Amperes	Test Specification	Color Code		List Price
		One End	Other End	
GLN 1/100	A	Red - Orange		\$1.97
GLN 1/32	A	Red - Brown		1.66
GLN 1/20	A	Yellow - Yellow		1.66
GLN 1/16	A	Brown - Brown		1.66
GLN 1/10	A	Red - Red		1.66
GLN 1/8	A	Orange - Orange		1.66
GLN 3/10	A	Green - Green		1.66
GLN 4/10	A	Blue - Blue		1.66
GLN 7	A	Purple - Green		1.66
GLN 8	A	Green - Black		1.66
GLN 15	A	Black - Purple		1.66
GLX 15/100	B	Red - Yellow		2.16
GLX 3/10	B	Red - Blue		2.16
GLX 1/4	B	Red - Purple		2.16
GLX 1/2	B	Orange - Green		2.16
GLX 9/10	B	Orange - Blue		2.16
GLX 3/4	B	Orange - Purple		2.16
GLX 1	B	Yellow - Green		2.16
GLX 1 1/2	B	Yellow - Purple		2.16
GLX 2	B	Green - Blue		2.16
GLX 3	B	Blue - Purple		2.16
GLX 4	B	Purple - Brown		2.16
GLX 5	B	Brown - Black		2.16

Other ratings are available with a nominal test charge. Approximate Unit weight 0.33 grams. Shipping weight 0.116 lbs. per 100.

### BUSS GMT Fuses — HLT Fuseholders

#### Signal Indicating Alarm Activating



**For multiple circuit apparatus where space is at a premium**

GMT fuses and HLT fuseholders permit multiple mounting of fuses in limited space, for protection of communication equipment, business machines, computers, control circuits or any equipment operating at 300 volts or less.

Holders take panel mounting space of only ¼ inch horizontal by 1 13/32 inches vertical.

Fuses give visual indication when blown by release of a spring indicator. The spring carries a colored plastic flag, in a different color for each fuse ampere rating.

The indicator spring when released makes contact with an alarm terminal in the fuseholder, which can be connected to activate a signal circuit.

Blown fuses are readily replaced without use of insulated tools. When mounted on minimum centers, removal of fuse is easy by use of a wire hook.

#### Buss GMT Fuses

Available Ratings and Color Code

300 volts or less

Test specification — carry 100% for 10 minutes; open at 150% within 5 minutes.

Symbol & Amperes	Color of Indicator	Symbol & Amperes	Color of Indicator
GMT 15/100	YELLOW	GMT 1 1/3	WHITE
GMT 1/4	VIOLET	GMT 2	ORANGE
GMT 1/2	RED	GMT 3	BLUE
GMT 6 5/100	BLACK	GMT 5	GREEN
GMT 3/4	BROWN	GMT 7 1/2	BLACK-WHITE
GMT 1	GRAY	GMT 10	RED-WHITE

Symbol  
GMT (All Sizes)

List Price \$0.66

#### Buss HLT Fuseholders

Buss HLT fuseholders take all sizes of GMT fuses:

HLT

List Price \$0.69

### GMW Fuse and HWA Fuseholder

Sub-miniature fuseholder combination



Body size only .270 x .250 inches

Offering a light weight, space-saving protective device for space-tight applications in multiple circuit apparatus. GMW fuse has transparent window for visual inspection of element. Fuse may be used alone for mounting into printed circuit boards.

HWA holder can be panel mounted easily — or soldered on printed circuit boards.

AF knob for holder makes holder water-proof from front of panel.

Test specifications — carry 100%, open at 200% within 10 seconds or less.

Interrupting rating — 300 ampere at 125 volts

Symbol	Ampere	List Price
GMW 1/200, 1/100, 1/64, 1/32 and 1/16		\$1.12
GMW 1/10, 2/10, 1/4, 3/10, 4/10, 1/2, 6/10; 3/4, 1, 1 1/2, 2, 3, 4, and 5		.86
HWA fuseholder only, takes all sizes of GMW fuses		.94
AF knob for HWA fuseholder		.13

# BUSS Fuses

## FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

for Protection of TV, Radios, Instruments and Electronic Equipment

### BUSS GRASSHOPPER FUSES

Give a visible signal or activate an alarm circuit when blown. Color coded to indicate type and amperage.



Symbol	Amps	Volts	Color Code	List Price
35A	1 1/8	90 or less	White	\$0.41
35B	1 1/8	90 or less	White	.41
35B	2	90 or less	Orange	.41
35C	2	90 or less	Orange	.41
35D	1 1/8	90 or less	White	.82
35E	3	90 or less	White	.44
35F	1/2	90 or less	Red	.41
35G	3	90 or less	Blue	.41
35H	5	90 or less	Green	.41
35R	1 3/4/100	90 or less	Yellow	.52
35T	6 1/2/100	90 or less	Tan	.60
35J	1/2	160 or less	Red	.60
35K	1 1/8	160 or less	White	.82
35L	2	160 or less	Orange	.82
35M	3	160 or less	Blue	.73
35N	5	160 or less	Green	.73
35P	3/4	160 or less	Tan	.52
35S	1/4	160 or less	Pink	.60

### BUSS FUSE TV Service Kit Assortment

Contains 101 of the most popular fuses — 20 slide-cover boxes — and five pairs of BUSS No. 4121 Twin Clips for use in replacing blown pigtail fuses. All packed in a clear plastic box. Symbol, TV-STD



List Price \$24.00

### BUSS SHIELDED FUSEHOLDERS

#### Prevent Radio Frequency Interference

Installs quickly as an ordinary fuseholder. For use where fuse and fuseholder could pick up radio frequency radiation and interfere with circuit containing fuseholder — or other nearby circuits. Fuseholder accomplishes both shielding and grounding. Eliminates need for placing grounded metal shield around fuseholder.



Fuseholder meets MIL-1-6181D for interference control and MIL-F-19207A covering such environments as salt spray, humidity, shock and vibration.

Current carrying capacity; 30 amperes at any voltage up to 250.

HMR for 1/4 x 1 1/4 inch fuses.....	List Price \$7.06
HMS for 1/4 x 1 inch fuses.....	7.06

### PANEL MOUNTED VISUAL INDICATING FUSEHOLDER for 1/4 x 1/4 inch GBA Fuse (or GLD fuse)



Has transparent, bayonet type knob



that permits indicating pin of open fuse to be readily seen. Gives positive identification of open circuit even if power is off.

Vibration cannot cause failure because terminals are held mechanically and by solder.

Neoprene washer and steel locking nut furnished with each holder.

Body is molded phenolic, can be used on panels up to 5/8 inch thick.

HLD takes any size GBA fuse (or GLD fuse).....	List Price \$0.69
No. 5487 Knob Only — will fit HKP holder, makes it visual indicating when used with GBA fuse.....	.31

### PANEL MOUNTED HOLDERS for 1 3/32 x 1 1/2 inch Fuses



Screw type knob. Molded phenolic body. Holder attached to panel by screws or rivets. Strong coil spring provides contact pressure on ends of fuse. Normal current carrying capacity 30 amperes. Listed by Underwriters' Laboratories for 15

ampere rating for any voltage up to 250.

HPC (for FNM and KTK fuses) ..... List Price \$0.94

HPC-C (Same as above, but has transparent knob) ..... List Price \$1.18

HPC-L Holder for 1 3/32 x 1 3/8 inch Fuses.

Like HPC Holder. Has Underwriters' Laboratories approved listing for 5 ampere rating and any voltage up to 600.

HPC-L (for BBS fuses) ..... List Price \$0.94

### PANEL MOUNTED HOLDERS for 1/4 inch Fuses



Can be used on panels up to 5/16 inch thick.



Bayonet type knob. No screw driver is needed.

Side terminal is held mechanically as well as by solder. Heat of soldering wire to it will not cause it to loosen.

Vibration will not cause failure of terminals as they are designed to stand severe service.

Neoprene washer and steel locking nut furnished with each holder.

Wire hole in terminals; .115 inch.

Normal current carrying capacity; 30 amperes.

Listed by Underwriters' Laboratories Inc.

HJM for 1/4 x 1 inch fuses (AGX, SFE 14)	List Price \$0.62
HJM-CC (Same as HJM but projects shorter distance behind panel).....	.62
HKP for 1/4 x 1 1/4 inch fuses (ABC, AGC, SFE20, MDL, MDX, MTH)	.62
HKP-CC (Same as HKP but projects shorter distance behind panel)	.62

Above holders also available with quick-connect terminals

### PANEL MOUNTED, LAMP INDICATING FUSEHOLDERS for 1/4 x 1/4 and 1 3/32 x 1 1/2 inch fuses

Made to Military Specifications.

Available as single or two pole units. Transparent knob permits neon indicating light to be readily seen. Body of molded alkyd.



Type	Pole	Fuse Size Inches	Circuit Voltage	Max. Amp. Rating	List Prices
HGB-C	Single	1/4 x 1 1/4	90 to 250	30	Prices
HGA-C	Two	1/4 x 1 1/4	90 to 250	30	on
HGC	Single	1 3/32 x 1 1/2	90 to 500	30	Request

### LAMP INDICATING FUSEHOLDERS



For panel mounting 1/4 x 1 and 1/4 x 1 1/4 inch fuses. Bayonet type knob. Molded phenolic body. Strong coil spring provides contact pressure at ends of fuse. Transparent

knob permits indicating light to be readily seen.

Type	Fuse Size Inches	Circuit Voltage	Max. Amp. Rating	Type Lamp	List Price
HKL	1/4 x 1 1/4	90 to 250	20	Neon	\$2.54
HKL-X	1/4 x 1 1/4	90 to 250	20	Neon	2.54
HKR	1/4 x 1 1/4	22 to 33	20	Incand.	4.16
HKX	1/4 x 1 1/4	22 to 33	20	Incand.	4.16
HKT	1/4 x 1 1/4	13 to 22	20	Incand.	4.16
HKU	1/4 x 1 1/4	4 to 6	20	Incand.	4.16
HJL	1/4 x 1	90 to 250	20	Neon	2.53

BUSSMANN MFG. DIVISION McGraw-Edison Co.



# BUSS Fuses

## FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

*for Protection of TV, Radios, Instruments and Electronic Equipment*

### BUSS MINIATURE GLASS TUBE FUSES

5 mm x 20 mm (.197 x .769 inches)



Designed for protection of miniaturized circuits or equipment. Commonly used in equipment of foreign make.

Test specifications — Carry 100% load indefinitely.  
Open at 200% load within 10 seconds.

Voltage	Symbol	Amperes	List Price
125 volts or less if available fault current is not over 50 amps.	GMA	1/8	\$0.53
	GMA	1/4, 1/2, or 3/10	.40
	GMA	1, 1 1/10, 1 1/2, or 2	.33
	GMA	3, 4, 5, 6, or 10	.33

GJU fuses now called GMA.



### HKA SERIES

Lamp Indicating, Signal Activating holders for 1/4 x 1 1/4 inch BUSS type GLD fuses

Used on circuits of 125 volts or less. Flashes a light, rings a bell, trips a relay or gives other signals to tell you when and where a fuse blows.

Symbol	List Price
HKA for 1/4 x 1 1/4 inch GLD fuses, 3/4 to 5 amps.	\$5.53

GLD fuses listed under Indicating fuses.

### IN-THE-LINE HOLDERS for 1/4 inch fuses

For mounting fuse in wire. Holders consist of body and bayonet type knob — two contacts ready to be staked on ends of wire — and a contact pressure spring.



Holders can also be mounted in panel up to 5/16 inch thick by means of a No. 9969 Spring nut (Nut not furnished). Flat area on holder permits locking against rotation.

Normal current carrying capacity: 15 amperes. Maximum Voltage: 250.

Contacts designed to take different size wire. For 18 to 22 wire add "-A" to symbol. For 14 to 16 wire add "-B" to symbol. (Example HHJ-A).

Symbol	Fuse Size Inches	List Price
HHJ	1/4 x 1 1/4	\$0.31
HHI	1/4 x 1 or 1 1/16	.31
HHH	1/4 x 7/8	.31
HIG	1/4 x 3/4	.31
HIF	1/4 x 5/8	.31

### SERIES HD and HA

These holders are the same in all details and dimensions as the HH and HI series — EXCEPT that the holding ears in the bayonet knob are of molded phenolic instead of being of metal.

Symbol	Fuse Size Inches	List Price
HDJ	1/4 x 1 1/4	\$0.23
HDI	1/4 x 1 or 1 1/16	.23
HDH	1/4 x 7/8	.23
HAG	1/4 x 3/4	.23
HAF	1/4 x 5/8	.23

No. 9969 Spring nut for panel mounting above holders .044

### FUSETRON and BUSS MATCHED FUSES and FUSEHOLDERS



Safeguard against use of wrong size and type of fuse. FUSETRON Type N are "slow-blowing" fuses for use where harmless surges or starting currents might cause ordinary fuses to open needlessly. Use in Type HN fuseholder.



BUSS Type C are "quick-blowing" fuses for fast interruption of fault current. Use in Type HC fuseholder. Listed by Underwriters' Laboratories Inc.

FUSETRON FUSE			FUSEHOLDER	
Symbol & Amperes	List Price	Net Price	Symbol & Range	List Price
N 1/100	\$0.51	\$0.31		
N 1/32	.51	.31		
N 1/16	.37	.22		
N 1/10	.37	.22	HN	
N 1 5/100	.37	.22	0 to 3/10	\$0.24
N 2/10	.37	.22		
N 1/4	.37	.22		
N 3/10	.37	.22		
N 4/10	.37	.22	HN	
N 1/2	.37	.22	3/10 to 1/2	.24
N 6/10	.37	.22		
N 7/10	.37	.22	HN	
N 3/4	.37	.22	1/2 to 3/4	.24
N 8/10	.37	.22		
N 1	.37	.22	HN	
N 1 1/4	.33	.20	3/4 to 1 1/4	.24
N 1 5/10	.33	.20	HN	
N 1 3/4	.33	.20	1 3/10 to 1 3/4	.24
N 2	.33	.20	HN	
N 2 1/2	.31	.19	1 3/4 to 2 1/2	.24
N 2 5/10	.31	.19		
N 3 2/10	.31	.19	HN	
N 3 1/2	.31	.19	2 1/2 to 3 1/2	.24
N 4	.31	.19	HN	
N 5	.31	.19	3 1/2 to 5	.24
N 6 1/4	.31	.19	HN	
N 7	.31	.19	5 to 7	.24

BUSS FUSE			FUSEHOLDER	
Symbol & Amperes	List Price	Net Price	Symbol & Range	List Price
C 1/32	\$0.54	\$0.32		
C 1/16	.35	.21		
C 1/8	.27	.16	HC	
C 3/16	.27	.16	0 to 3/10	\$0.24
C 1/4	.21	.13		
C 3/10	.21	.13		
C 3/8	.21	.13	HC	
C 1/2	.21	.13	3/10 to 1/2	.24
C 3/4	.21	.13	HC 1/2 to 3/4	.24
C 1	.12	.072	HC	
C 1 1/4	.12	.072	3/4 to 1 1/4	.24
C 1 1/2	.12	.072	HC	
C 1 3/4	.12	.072	1 1/4 to 1 3/4	.24
C 2	.12	.072	HC	
C 2 1/2	.12	.072	1 3/4 to 2 1/2	.24
C 3	.12	.072	HC	
C 3 1/2	.15	.09	2 1/2 to 3 1/2	.24
C 4	.15	.09	HC	
C 5	.15	.09	3 1/10 to 5	.24
C 6	.15	.09	HC	
C 7	.15	.09	5 to 7	.24
C 8	.22	.13	HC	
C 10	.23	.14	7 to 10	.24

BUSSMANN MFG. DIVISION McGraw-Edison Co.

# BUSS Fuses

## FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

*for Protection of TV, Radios, Instruments and Electronic Equipment*

### BUSS In-the-Line or Panel Mounted FUSE and HOLDER COMBINATIONS

For voltages up to 300

Safeguards against use of wrong type and size of fuse. Fuse and knob are in one piece — when fuse opens, entire fuse-knob assembly is replaced.

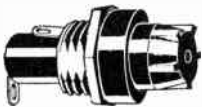


Fuseholder can be mounted in-the-line — or panel mounted for which a snap-in steel clip is available for mounting on any panel  $\frac{1}{32}$  to  $\frac{1}{16}$  inch thick.

Holders come with 6 inch leads of No. 18 solid copper insulated wire, unless specified otherwise.

<b>HLR</b> holder safeguards against use of wrong type of fuse — (takes all ampere sizes of GLR and GMF fuses).....	List Price
<b>HLQ</b> holder is size limiting type and is made in 6 fuse ranges. Takes either GLQ or GMQ fuses up to the largest ampere size marked in holder .....	\$.25
	.28

### SPACE SAVER Panel Mounted FUSEHOLDER For $\frac{1}{4}$ x $1\frac{1}{4}$ inch fuses or $\frac{3}{32}$ x $1\frac{1}{4}$ inch fuses



A compact, space saver fuseholder only  $1\frac{1}{8}$  inches long — extends just  $2\frac{9}{32}$  inches behind front of panel.

Takes  $\frac{1}{4}$  x  $1\frac{1}{4}$  inch fuses and can easily be converted to take  $\frac{3}{32}$  x  $1\frac{1}{4}$  inch fuses simply by changing the screw type knob.

Knob is designed for easy gripping even with gloves.

Fuseholder is of molded phenolic and will withstand sever vibration, shock and other environmental conditions.

Neoprene washer and zinc plated, chromate dipped steel fastening nut furnished with each holder.

Normal current carrying capacity; 15 amperes for any voltage up to 250. U/L listed.

Symbol	List Price
<b>HLF</b> for $\frac{1}{4}$ x $1\frac{1}{4}$ inch fuses.....	\$0.62
<b>HCL</b> for $\frac{3}{32}$ x $1\frac{1}{4}$ inch fuses.....	.62

### BUSS Add-On Fuse Blocks for $1\frac{3}{32}$ x $1\frac{1}{2}$ inch Fuses

Single-pole fuseblock and separate end barrier assemble into unit of one or more poles. Units lock together. New poles can be added to either end of existing block. Made of molded phenolic. Marking strips to identify each circuit available.

Type	Description	List Price
<b>3742</b>	End-Barrier Only	\$0.18
<b>3743</b>	One-Pole Block Only	1.25
	Marking Strip in 50 inch length	.61

When ordering, specify number of end barriers and one-pole blocks desired. Only one end barrier needed for each assembled fuse block of any number of poles.

### BUSS STANDARD FUSE BLOCKS

Available from 1 to 12 poles. Have laminated black phenolic base. Clips of strong spring, Albaloy plated, highly resistant to corrosion with great gripping strength. Types 3823 and 3828 have solder terminals firmly seated in small base. Type 3833 has screw terminals on full base that provides ample insulation around terminals.

Cat. No.	Type	Base Dim.	No. Poles	List Each
<b>For <math>\frac{1}{4}</math> x <math>1\frac{1}{4}</math>" Fuses — Solder Terminals</b>				
3823-1		$\frac{1}{2}$ x $1\frac{3}{8}$	1	\$0.27
3823-2		$1\frac{1}{8}$ x $1\frac{3}{8}$	2	.54
3823-3		$1\frac{3}{4}$ x $1\frac{3}{8}$	3	.81
3823-4		$2\frac{3}{8}$ x $1\frac{3}{8}$	4	1.08
3823-5		3 x $1\frac{3}{8}$	5	1.35
3823-6		$3\frac{3}{8}$ x $1\frac{3}{8}$	6	1.62
3823-7		$4\frac{1}{4}$ x $1\frac{3}{8}$	7	1.89
3823-8		$4\frac{7}{8}$ x $1\frac{3}{8}$	8	2.16
3823-9		$5\frac{1}{2}$ x $1\frac{3}{8}$	9	2.43
3823-10		$6\frac{1}{8}$ x $1\frac{3}{8}$	10	2.70
3823-11		$6\frac{3}{4}$ x $1\frac{3}{8}$	11	2.97
3823-12		$7\frac{3}{8}$ x $1\frac{3}{8}$	12	3.24

Cat. No.	Type	Base Dim.	No. Poles	List Each
<b>For <math>\frac{1}{4}</math> x 1" Fuses — Solder Terminals</b>				
3828-1		$\frac{1}{2}$ x $1\frac{3}{8}$	1	\$0.27
3828-2		$1\frac{1}{8}$ x $1\frac{3}{8}$	2	.54
3828-3		$1\frac{3}{4}$ x $1\frac{3}{8}$	3	.81
3828-4		$2\frac{3}{8}$ x $1\frac{3}{8}$	4	1.08
3828-5		3 x $1\frac{3}{8}$	5	1.35
3828-6		$3\frac{3}{8}$ x $1\frac{3}{8}$	6	1.62
3828-7		$4\frac{1}{4}$ x $1\frac{3}{8}$	7	1.89
3828-8		$4\frac{7}{8}$ x $1\frac{3}{8}$	8	2.16
3828-9		$5\frac{1}{2}$ x $1\frac{3}{8}$	9	2.43
3828-10		$6\frac{1}{8}$ x $1\frac{3}{8}$	10	2.70
3828-11		$6\frac{3}{4}$ x $1\frac{3}{8}$	11	2.97
3828-12		$7\frac{3}{8}$ x $1\frac{3}{8}$	12	3.24

Cat. No.	Type	Base Dim.	No. Poles	List Each
<b>For <math>\frac{1}{4}</math> x <math>1\frac{1}{4}</math>" Fuses — Screw Terminals</b>				
3833-1		$2\frac{5}{32}$ x $2\frac{3}{8}$	1	\$0.57
3833-2		$1\frac{1}{16}$ x $2\frac{3}{8}$	2	1.14
3833-3		$2\frac{19}{32}$ x $2\frac{3}{8}$	3	1.71
3833-4		$3\frac{1}{8}$ x $2\frac{3}{8}$	4	2.28
3833-5		$4\frac{13}{16}$ x $2\frac{3}{8}$	5	2.85
3833-6		$5\frac{1}{16}$ x $2\frac{3}{8}$	6	3.42
3833-7		$6\frac{7}{32}$ x $2\frac{3}{8}$	7	3.99
3833-8		$7\frac{1}{8}$ x $2\frac{3}{8}$	8	4.56
3833-9		$8\frac{1}{8}$ x $2\frac{3}{8}$	9	5.13
3833-10		$8\frac{15}{16}$ x $2\frac{3}{8}$	10	5.70
3833-11		$9\frac{27}{32}$ x $2\frac{3}{8}$	11	6.27
3833-12		$10\frac{3}{4}$ x $2\frac{3}{8}$	12	6.84

### Other standard and special fuses, fuse blocks, fuse clips and fuse holders

If the fuses, fuse blocks, fuse clips and holders shown do not fit your requirements ask for information on other types.

Fuses and fuse mountings to meet JAN and Military

specifications also are available.

If you have a special problem in protection send description or sketch giving number of circuits, type of fuse, terminals, etc., desired. We welcome such inquiries.

BUSSMANN MFG. DIVISION McGraw-Edison Co.

## TRON RECTIFIER FUSES

For Protection of Semi-Conductor Rectifiers and Like Applications

Another Outstanding Development by the Makers of BUSS Fuses

These TRON fuses are especially designed for the protection of semi-conductor rectifiers, SCR's, Thrusters, Solid State Devices or wherever a very fast acting fuse is needed. They provide extremely fast opening on overload and fault currents, with a high degree of restriction of the let-thru current.

If each diode is protected by a TRON fuse, the fuse will open very quickly when the current drawn exceeds the rating of the diode.

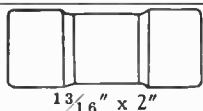
Thus when a short-circuit occurs in a diode the fuse opens and takes that diode out of the circuit. This protects other good diodes in the rectifier which might otherwise be damaged.

For time-current characteristic charts ask for BUSS bulletin HLS.

Test specification for all types of TRON rectifier fuses — carry 100% of rating; open at 1000 seconds on overloads between 120% and 180% of rating; open within 1 second at 250% of rating.

Symbol & Ampere	Volts	Price Each	Symbol & Ampere	Volts	Price Each
GBB 1	130	\$0.60	GBB 9	130	\$0.60
GBB 1 1/4	"	.60	GBB 10	"	.60
GBB 2	"	.60	GBB 12	65	.60
GBB 3	"	.60	GBB 15	"	.60
GBB 5	"	.60	GBB 20	"	.60
GBB 6	"	.60	GBB 25	"	.60
GBB 7	"	.60	GBB 30	"	.60
GBB 8	"	.60			

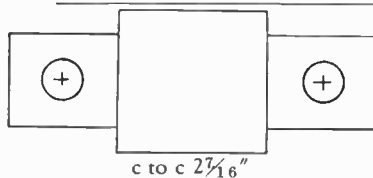
Symbol & Ampere	Volts	Price Each	Symbol & Ampere	Volts	Price Each
KA A 1	130	\$0.80	KA A 9	130	.80
KA A 2	"	.80	KA A 10	"	.80
KA A 3	"	.80	KA A 12	"	.80
KA A 4	"	.80	KA A 15	"	.80
KA A 5	"	.80	KA A 20	"	.80
KA A 6	"	.80	KA A 25	"	.80
KA A 7	"	.80	KA A 30	"	.80
KA A 8	"	.80			



1 3/16" x 2"



c to c 2 3/16" — 1 29/32"



c to c 2 7/16"



1 3/32" x 1 1/2"

Symbol & Ampere	Volts	Price Each
KA H 35	130	\$1.97
KA H 40	"	1.97
KA H 45	"	1.97
KA H 50	"	1.97
KA H 60	"	1.97

Symbol & Ampere	Volts	Price Each
KA A 70	130	\$3.70
KA A 80	"	3.70
KA A 100	"	3.70
KA A 150	"	3.70
KA A 200	"	3.70
KA A 225	"	3.70
KA A 250	"	3.70
KA A 300	"	3.70
KA A 350	"	3.70
KA A 400	"	3.70

Symbol & Ampere	Volts	Price Each
KA A 450	130	\$7.50
KA A 500	"	7.50
KA A 600	"	7.50
KA A 650	"	7.50
KA A 800	"	7.50
KA A 1000	"	7.50

Symbol & Ampere	Volts	Price Each
KA W 1	130	\$0.80
KA W 2	"	.80
KA W 4	"	.80
KA W 5	"	.80
KA W 7	"	.80
KA W 10	"	.80
KA W 15	"	.80
KA W 20	"	.80
KA W 30	"	.80

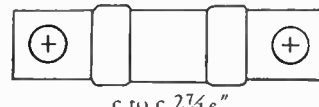
Symbol & Ampere	Volts	Price Each	Symbol & Ampere	Volts	Price Each
KAC 1	600	\$1.20	KAC 60	600	\$ 3.45
KAC 2	"	1.20	KAC 70	"	4.25
KAC 3	"	1.20	KAC 80	"	4.25
KAC 4	"	1.20	KAC 90	"	4.25
KAC 5	"	1.20	KAC 100	"	4.25
KAC 6	"	1.20	KAC 110	"	6.45
KAC 7	"	1.20	KAC 125	"	6.45
KAC 8	"	1.20	KAC 150	"	6.45
KAC 9	"	1.20	KAC 175	"	6.45
KAC 10	"	1.20	KAC 200	"	6.45
KAC 12	"	1.20	KAC 225	"	9.20
KAC 15	"	1.20	KAC 250	"	9.20
KAC 17 1/2	"	1.20	KAC 300	"	9.20
KAC 20	"	1.20	KAC 350	"	9.20
KAC 25	"	1.20	KAC 400	"	9.20
KAC 30	"	1.20	KAC 425	"	13.10
KAC 35	"	3.45	KAC 450	"	13.10
KAC 40	"	3.45	KAC 500	"	13.10
KAC 45	"	3.45	KAC 600	"	13.10
KAC 50	"	3.45	KAC 800	"	13.10

Symbol & Ampere	Volts	Price Each
KAB 1 1/2	250	\$0.90
KAB 1	"	.90
KAB 2	"	.90
KAB 3	"	.90
KAB 4	"	.90
KAB 5	"	.90
KAB 6	"	.90
KAB 7	"	.90
KAB 8	"	.90
KAB 9	"	.90
KAB 10	"	.90
KAB 12	"	.90
KAB 15	"	.90
KAB 17 1/2	"	.90
KAB 20	"	.90
KAB 25	"	.90
KAB 30	"	.90



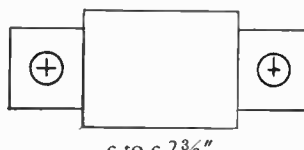
9/16" x 2"

Symbol & Ampere	Volts	Price Each
KAB 35	250	\$3.60
KAB 40	"	3.60
KAB 45	"	3.60
KAB 50	"	3.60
KAB 60	"	3.60



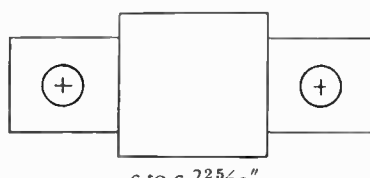
c to c 2 7/16"

Symbol & Ampere	Volts	Price Each
KAB 70	250	\$5.50
KAB 80	"	5.50
KAB 90	"	5.50
KAB 100	"	5.50
KAB 150	"	5.50
KAB 175	"	5.50
KAB 200	"	5.50



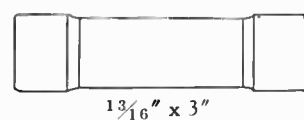
c to c 2 3/8"

Symbol & Ampere	Volts	Price Each
KAB 225	250	\$7.10
KAB 250	"	7.10
KAB 300	"	7.10
KAB 350	"	7.10
KAB 400	"	7.10
KAB 500	"	7.10
KAB 600	"	7.10
KAB 800	"	7.10

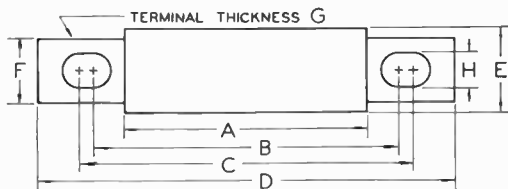


c to c 2 2 5/32"

Symbol & Ampere	Volts	Price Each
KA J 35	600	\$2.20
KA J 40	"	2.20
KA J 45	"	2.20
KA J 50	"	2.20
KA J 60	"	2.20



1 3/16" x 3"



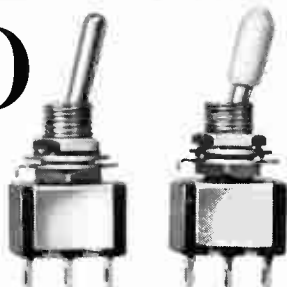
Ampere Rating	Dimensions are in inches							H Mounting Holes	
	A	B	C	D	E	F	G	Round	Elongated
0-30	1 7/8		2 1/2	2 7/8	9/16	1 3/32	1/16	1/4	
35-60	2 3/4		3 3/8	4 3/8	1 3/16	5/8	3/32	1 1/32	
65-100	2 29/32	3 2 1/32	4 1/16	5	1	3/4	1/8		1 3/32
110-200	2 29/32	3 2 1/32	4 3/8	5 1/2	1 1/2	1 1/8	3/16		1 3/32
225-400	2 29/32	4 1/16	4 3/4	6 1/4	1 1/2	1 1/8	1/4		9/16
425-600	3 1/16		4 3/4	6 3/4	2 1/2	2	1/4	9/16	



### SUBMINIATURE TOGGLE SWITCHES

Designed to meet the highest standards of quality and reliability, C&K's subminiature toggle switches successfully combine maximum performance with minimum weight and small size. All of the switches shown below feature rugged construction, simple mounting, excellent appearance, and long, trouble-free operation! These new subminiature toggle switches adapt to virtually any manual switching requirement in a very wide range of aerospace ground/undersea applications where space is at a premium!

## SERIES 7100 SPDT

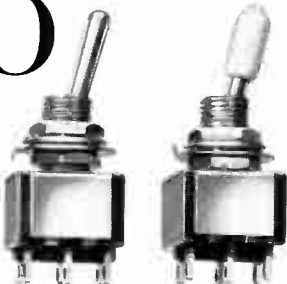


Bat Handle Toggle Color-Capped Toggle\*

MODEL NO.	AVAILABLE TOGGLE LEVER POSITIONS AND CIRCUITS			INDUSTRIAL NET PRICE SCHEDULE	
			KEY-WAY	LESS THAN 25 (each)	25 TO 99 (each)
7101	ON	NONE	ON	\$1.65	\$1.10
7103	ON	OFF	ON	1.95	1.30
7105	(ON)	OFF	(ON)	1.95	1.30
7107	ON	OFF	(ON)	1.95	1.30
7109	NONE	ON	(ON)	1.95	1.30

Circuitry with toggle lever positioned as shown. ( ) Parenthesis indicates momentary position. See printed circuit terminal configuration section below right.

## SERIES 7200 DPDT



MODEL NO.	AVAILABLE TOGGLE LEVER POSITIONS AND CIRCUITS			INDUSTRIAL NET PRICE SCHEDULE	
			KEY-WAY	LESS THAN 25 (each)	25 TO 99 (each)
7201	ON	NONE	ON	\$2.15	\$1.43
7203	ON	OFF	ON	2.55	1.70
7205	(ON)	OFF	(ON)	2.55	1.70
7207	ON	OFF	(ON)	2.55	1.70
7209	NONE	ON	(ON)	2.55	1.70
** 7211	ON	ON	ON	2.85	1.90
	2-3	2-3	1-2		
** 7213	ON	4-5	4-5	3.15	2.10
	5-6	ON	1-2 (MOM)		
	2-3	2-3	4-5		

Circuitry with toggle lever positioned as shown. ( ) Parenthesis indicates momentary position. See printed circuit terminal configuration section below right. \*\* See Series 7200 outline drawing for terminal designations.

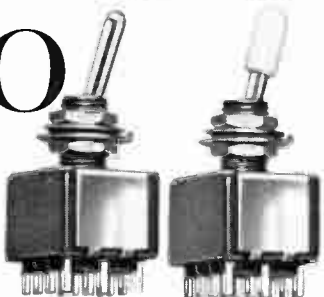
## SERIES 7300 3PDT



MODEL NO.	AVAILABLE TOGGLE LEVER POSITIONS AND CIRCUITS			INDUSTRIAL NET PRICE SCHEDULE	
			KEY-WAY	LESS THAN 25 (each)	25 TO 99 (each)
7301	ON	NONE	ON	\$3.85	\$2.57
7303	ON	OFF	ON	\$4.80	\$3.20

Circuitry with toggle lever positioned as shown. ( ) Parenthesis indicates momentary position. See printed circuit terminal configuration section below right.

## SERIES 7400 4PDT



MODEL NO.	AVAILABLE TOGGLE LEVER POSITIONS AND CIRCUITS			INDUSTRIAL NET PRICE SCHEDULE	
			KEY-WAY	LESS THAN 25 (each)	25 TO 99 (each)
7401	ON	NONE	ON	\$4.85	\$3.29
7403	ON	OFF	ON	\$6.05	\$4.10

Circuitry with toggle lever positioned as shown. ( ) Parenthesis indicates momentary position. See printed circuit terminal configuration section below right.



quality electro-mechanical products

**GENERAL SPECIFICATIONS**

**CONTACT RATING:**  
5 Amperes resistance load @ 115 VAC — 28 VDC

**INSULATION RESISTANCE:**  
1000 megohms minimum

**DIELECTRIC STRENGTH:**  
1000 volts rms at sea level

**ELECTRIC LIFE:**  
100,000 make-and-break cycles minimum on all models ending in 01 only; all other models provide 40,000 cycles. 115 V — 60~, 28 VDC resistive load.

**INITIAL CONTACT RESISTANCE:**  
20 milliohms maximum at 2-4 VDC, 1 amp.

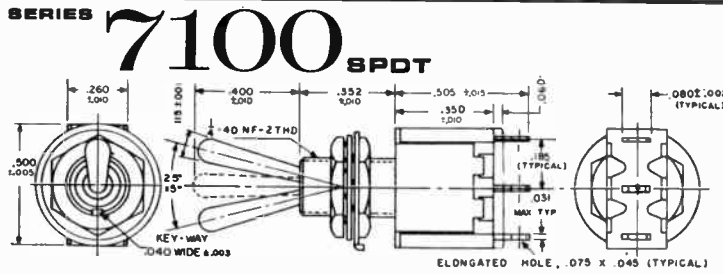
**CONTACTS AND TERMINALS:**  
Coin Silver (90% Ag — 10% Cu) standard; switches with all contacts copper flash and .0001" of gold plate are available at an additional charge of \$.25 per pole up to quantities of 1000 switches.

**OPERATING LEVER:**  
Bright chrome plated brass bat handle toggle is standard; plastic color caps supplied on request.\*

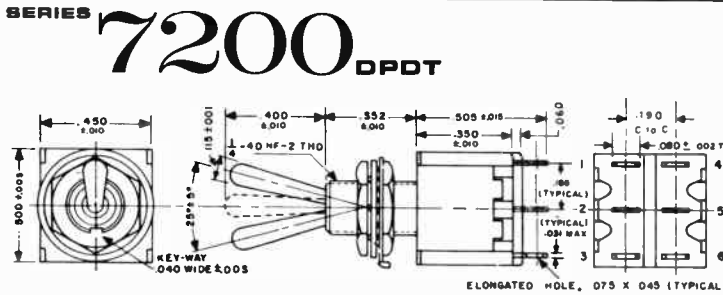
**CASE MATERIAL:**  
General purpose phenolic.

**STANDARD HARDWARE SUPPLIED:**  
2 Hex mounting nuts\*\*\*  
1 Internal tooth lockwasher  
1 Keyed positioning ring

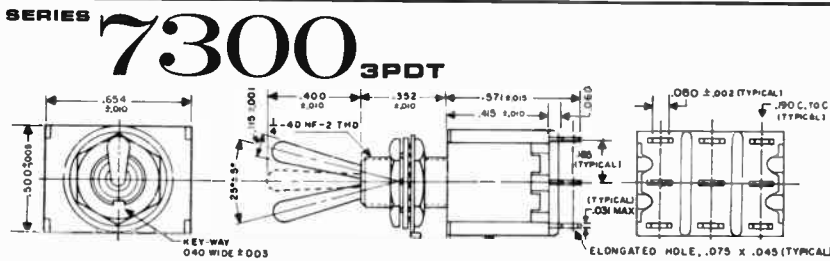
**A  
COMPETITIVELY-PRICED  
MADE-IN-AMERICA  
PRODUCT**



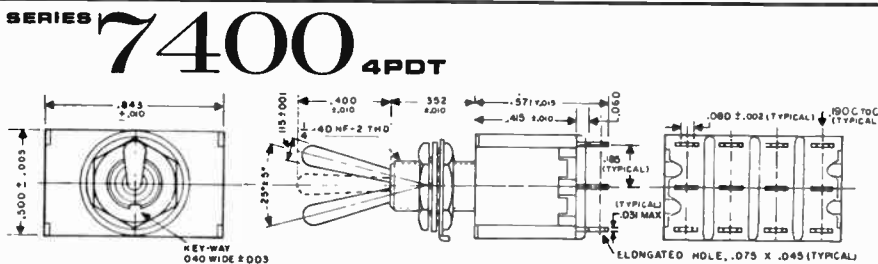
SERIES 7100/TYPICAL OUTLINE DRAWING



SERIES 7200/TYPICAL OUTLINE DRAWING

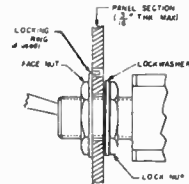


SERIES 7300/TYPICAL OUTLINE DRAWING



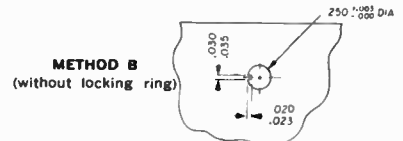
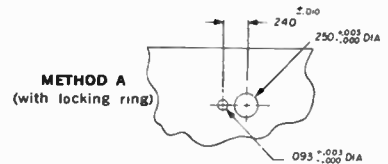
SERIES 7400/TYPICAL OUTLINE DRAWING

**MOUNTING INFORMATION**

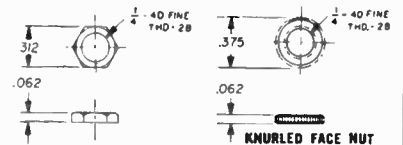


**WARNING:**  
Do not torque face nut when lock nut is not in place. For use with panels up to 3/16" thk!

**RECOMMENDED PANEL LAYOUTS**



**MOUNTING NUTS FINISH BRIGHT NICKEL PLATE**

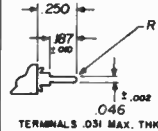


**\*\*\*HEX NUT**  
This is a standard nut. Two are supplied free with each switch.

**PANEL DRESS NUT**

**SPECIAL NUTS**  
(See note at left)

**PRINTED CIRCUIT TERMINAL CONFIGURATION**



Terminals for printed circuit applications are available on request on any Model at slight additional cost.

To specify — add PC to Model Number. EXAMPLE: 7101PC

**\*COLOR CAPS** COLOR-CAPS (VINYL PLASTISOL) are available for standard bat handle toggles at no extra cost! Please specify: BROWN, BLACK, RED, DRANGE, YELLOW, GREEN, BLUE, VIOLET, GRAY, or WHITE.



quality electro-mechanical products

**CUTLER-HAMMER SWITCHES**

See your local C-H representative for prices and accessory information.



**"Commercial Application"**

**ONE HOLE MOUNTING**

**QUICK MAKE, QUICK BREAK A-C, D-C SWITCHES**

**UTILITY TYPE**

They have a quick make and quick break over center arrangement on the movable contact which permits exceptionally fast contact action minimizing pitting and erosion of the contact surfaces.

Available with screw terminals, solder lug terminals or with 6" lead wires stripped 3/4". Bushing dia. 15/32", bushing length 15/32". Also available with bushing lengths of 1/4", 11/32", 3/4" and 1" — 3/4" and 1" bushings furnished with ball type lever only.



Cat. Nos. 8363, 8373  
With Nylon Paddle Operator

Nominal Ratings (Amps.)		Poles and Throws	Catalog No.—15/32" Bushing Length		
250 V. A-c, D-c	125 V. A-c, D-c		Screw Terminals	Solder Lug Terminals	Wire Lead Terminals
1	3	SPDT (3 Way)	8297K8	8282K14	8292K14
3	...		8295K8	8280K16	8290K16
3	...		8362K7	8360K7	8361K7
3	...		8365K7	8363K7	8364K7
3	6		8396K8	8381K8	8391K8
3	6		8372K7	8370K7	8371K7
3	6		8375K7	8373K7	8374K7

**HEAVY DUTY TYPE**

Screw terminals or plug-in terminals (connection made by plugging wire into switch body) are available. Plug-in type switches have 3/32" square hole to accept #14, 16 or 18 ga., stranded, tin dipped wire leads skinned 1/32".



Bushing dia. 15/32", bushing length 15/32". Also available with 11/32" bushing length.



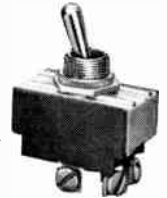
Nominal Ratings (Amperes)		Max Hp Ratings (250 V.)		Poles and Throws	Catalog Number 15/32" Bushing Length		
250 V. A-c, D-c	125 V. A-c, D-c	A-c	D-c		Screw Terminals	Plug-in Terminals	
5	...	...	...	DPDT w/o Center Off	8680K2	.....	
5	10	1/2	1/2		SPST	.....	7347K3
5	10	1/2	1/2		DPST	.....	7343K2
8	16	1	1	SPST	7321K3	.....	
8	16	1	1		DPST	7320K3	7443K3
10	15	1	1/2		DPST	.....	7354K3
10	15	1	1 1/2	SPST	7361K5	.....	
10	15	1	1 1/2		DPST	7360K8	.....
10	15	...	...		DPDT	.....	.....
20	..	2	2	w/o Center Off	8690K2	.....	
20	....	2	2		SPST	7403K2	.....
20	....	2	2		DPST	7402K4	.....

**SLOW MAKE, SLOW BREAK A-C ONLY SWITCHES**  
3-6, 10-15 AMP. A-c LINE

Features include: heavy duty independent springs for positive contact pressure, solid silver to silver contacts and strong substantial terminal construction.

Bushing dia. 15/32", bushing length 15/32". Also available with 11/32" bushing length.

Screw terminals except 7516 and 7517 which have plug-in type terminals. All switches listed except 7516 and 7517 also available with solder lug or spade type terminals.



Cat. No. 7516, 7517  
Plastic Superstructure



Circuit Arrangement				Throws	Catalog Number Screw Terminals $\Delta$ and 15/32" Bushing Length	
A	B	C	Keyway on "C" Side of Switch		1 Pole	2 Pole
<b>3 AMP. — 250 V. A-C, 6 AMP. — 125 V. A-C</b>						
ON	OFF	ON	DT	7581K4	7591K4	
ON	OFF	ON*	DT	7586K4	7596K4	
ON*	OFF	ON*	DT	7587K4	7597K4	
ON	NONE	ON	DT	7582K4	7592K4	
ON	NONE	ON*	DT	7585K4	7595K4	
ON	NONE	OFF	ST	7516K5 $\Delta$	.....	
ON	NONE	OFF	ST	7580K4	7590K4	
ON	NONE	OFF*	ST	7584K4	7594K4	
OFF	NONE	ON*	ST	7583K4	7593K4	
<b>10 AMP. — 250 V. A-C, 1/2 MAX. H.P. — 250 V. A-C</b>						
ON	OFF	ON*	DT	7508K6	7568K2	
ON*	OFF	ON*	DT	7509K5	7569K2	
ON	NONE	ON*	DT	7510K7	7570K5	
ON	NONE	OFF	ST	7517K5 $\Delta$	.....	
ON	NONE	OFF*	ST	7507K4	7567K5	
OFF	NONE	ON*	ST	7506K4	7566K5	
<b>10 AMP. — 250 V. A-C, 15 AMP. — 125 V. A-C, 3/4 MAX. H.P. — 250 V. A-C</b>						
ON	OFF	ON	DT	7502K13	7562K4	
ON	NONE	ON	DT	7504K4	7564K6	
ON	NONE	OFF	ST	7500K14	7560K5	

\*Momentary contact  $\Delta$ 7516 and 7517 supplied with plug-in terminals only.

**10-15 AMP, LINE — THREE OR FOUR POLE**

Bushing dia. 15/32". Bushing length — 15/32" (7610 and 7615 also available with 11/32" bushing).

Ratings — Three pole switches — 10 amp. — 250 V. A-c, 15 Amp. — 125 V. A-c, 1 hp poly-phase — 115-575 V. A-c. Four pole switches — 10 Amp. — 250 V. A-c, 1/2 hp — 230 V. A-c.



Cat. Nos. 7610, 7618

Circuit Arrangement				Throws	Catalog Number—15/32" Bushing Length			
A	B	C	Keyway on "C" Side of Switch		3 Pole		4 Pole	
					Screw Terminals	Solder Lug Terminals	Screw Terminals	Solder Lug Terminals
ON	OFF	ON	DT	7612K2	7613K2	7692K13	7693K2	
ON*	OFF	ON	DT	7613K2	7615K2	7694K4	7695K5	
ON	NONE	ON	DT	7614K2	7615K2	7694K4	7695K5	
ON*	NONE	ON	DT	7618K2	.....	.....	.....	
ON	NONE	OFF	ST	7610K2	7611K2	7690K8	7691K14	
ON*	NONE	OFF	ST	7616K2	.....	.....	.....	
ON*	NONE	OFF	ST	.....	.....	7696K6	7697K6	

\*Momentary contact.

See your local C-H representative for prices and accessory information.

# CUTLER-HAMMER SWITCHES



## "Commercial Application"

### SLIDE BUTTON SWITCHES FLUSH MOUNTING

SPST and SPDT, flush mounting slide switches. Mounting centers — 2<sup>9</sup>/<sub>16</sub>"—8303, 1<sup>1</sup>/<sub>2</sub>"—8746 and 8477, 1<sup>1</sup>/<sub>8</sub>" on all others. Operating buttons are red plastic on 8476-77, black phenolic on all others.



Cat. No. 8631



Cat. No. 8303



Cat. Nos. 8476 and 8477



Cat. No. 8486

Ampere Rating		Maximum Hp Ratings A-c Only		Poles and Throw	Circuit Arrangement			Catalog Numbers			
A-c		A-c Only			A	B	C	Screw Term.	.250" Spade Term.	Solder Lug Term.	Plug-In Term.
125 V.	250 V.	125 V.	250 V.								
6	3	...	...	SPST	On	None	Off	.....	.....	.....	8476K1
6*	3*	...	...	SPST	On	None	Off	8303K1	.....	.....	.....
7	3	...	...	SPST	On	None	Off	.....	8486K1	8486K2	.....
7	3	...	1/4	SPDT	On	Off	On	.....	8487K1	8487K2	.....
7	3	...	1/4	SPDT	On	None	On	.....	8488K1	8488K2	.....
10	5	1/2	1/2	SPST	On	None	Off	.....	.....	.....	8477K1

\*A-c and d-c rating.

### PUSHBUTTON SWITCHES

#### ONE HOLE MOUNTING—A-C, D-C AND A-C ONLY TYPES

Bushing dia. 1<sup>5</sup>/<sub>32</sub>". Bushing length; 8411—1/4", 7190 and 7196—1/2", all others 1<sup>1</sup>/<sub>16</sub>".

All switches are momentary contact type except 7208 and 7206 which are push push type.

8442 and 8444 have standard 1<sup>7</sup>/<sub>32</sub>" button. Also available with short 1/4" button.



Cat. No. 7207

Ratings (Amperes)		Poles and Throws	Contacts	Catalog Numbers			
125 V.	250 V.			Screw Term.	Solder Lug Term.	Spade Term.	Wire Leads
<b>A-C, D-C SWITCHES</b>							
.075	.025	SPST	N. O.	8411K12	.....	8411K11	....
.075	.025	SPST	N. C.	8411K7	8411K8	8411K10	....
6	3	SPST	N. O.	7196K1	7190K1	.....	7193K1
6	3	SPST	N. O., N. C.	7208K4	7206K4	.....	7207K4
<b>A-C ONLY SWITCHES</b>							
6	3	SPST	N. O.	8442K2	.....	8442K2	....
15	10	SPST	N. O.	8444K3	.....	8444K2	....
15†	10†	SPDT	N. O., N. C.	8446K2	.....	8446K2	....
15	10	DPST	N. O.	8448K2	.....	8448K1	....

†Applies to N. O. circuit only. Rated 10 A. @ 125 V. and 5 A. @ 250 V. on N. C. circuit.

### ROCKETTE SWITCHES — A-C ONLY

#### 3-6, 10-15 AMP., A-C LINE

Rockers can be furnished on special order in any color to harmonize with the appliance color. Standard color of rocker is white.

Switches are flush mounting.

Spade terminals available in sizes .250", .205" and .187".



Cat. No's. 8134 & 8144



Cat. No's. 8326, 8329



Double actuator, double pole. Cat. No's. 8133 and 8143



Triple actuator, four pole. Cat. No's. 8131 and 8141

Circuit Arrangement			Poles and Throws	Number of Rockers	Catalog Numbers	
A	B	C			3 Amp. 250 V. A-c 6 Amp. 125 V. A-c	10 Amp. 250 V. A-c 15 Amp. 125 V. A-c 3/4 Hp. 250 V. A-c
ON	OFF	ON	SPDT	One	8134	8144
ON*	OFF	ON*	SPDT	One	8136	8146
ON	NONE	OFF	SPST	One	8134	8144
ON	NONE	OFF	SPST	One	8326	8329△
ON*	NONE	OFF	SPST	One	8135	8135
ON	OFF	ON	DPDT	One	8132	8142
ON	OFF	ON	DPDT	Two	8133	8143
ON*	OFF	ON*	DPDT	One	8138	8148
ON	NONE	OFF	DPST	One	8132	8132
ON	NONE	OFF	DPST	Two	8133	8133
ON*	NONE	OFF	DPST	One	8137	8147
ON	OFF	ON	4PDT	Two	8130	8140
ON	OFF	ON	4PDT	Three	8131	8141
ON	NONE	OFF	4PST	Two	8130	8140
ON	NONE	OFF	4PST	Three	8131	8141

\*Momentary contact.

△Rated 1/2 hp — 250 V. A-c. Both 8326 and 8329 are nest mounted.

When ordering, specify (1) catalog number, (2) width of spade terminals and (3) poles and throws.

### ILLUMINATED COMPUTER TYPE

Switches are of the snap in variety requiring a panel opening of 1<sup>1</sup>/<sub>8</sub>" high by 1<sup>29</sup>/<sub>64</sub>" wide (add 1<sup>1</sup>/<sub>2</sub>" to width per switch for ganged installation).

Indicating lamp unit (8457K2) is a 10 V. bulb. Other voltage bulbs on special order.

Tab type (.110") terminals for solder or spade connection.



Cat. Nos. 8455 & 8456K2

Nominal Ratings (Amperes)		Poles and Throws	Operation	Catalog Number	
250 V. A-c, D-c	125 V. A-c, D-c			Silver Contacts	Gold Pltd. Silver Contacts
3	5	DPDT	Maintained Contact—N.O.	8455K2	8456K2*
3	5	DPDT	Momentary Contact—N.O.	8455K3	8456K3*
.....	.....	.....	Lamp unit only	8457K2	.....

\*Switches having gold plated silver contacts are rated at 5 millivolts — 25 microamps on dry circuit applications.

### ILLUMINATED PUSHBUTTON TYPE

SPST momentary action.

Available with removable lamp or with an integral non-removable type lamp. Removable lamp types supplied with 14 V. bulbs. Integral lamp types furnished with 28 V. bulbs.

Tab type (.110") terminals for solder or spade connection.

One hole mounting — bushing dia. 1<sup>5</sup>/<sub>32</sub>", bushing length 1/4". Rated 3 Amp. — 250 V. A-c, 6 Amp. — 125 V. A-c.



Unit with Legend Plate and Cap Assembly.

Contacts	Removable Lamp Type	Integral Lamp Type	Terminals
N. O.	8452K6	8452K4	.110 tab or solder lug
N. C.	8453K6	8453K5	.110 tab or solder lug
Lamp Only	8454K7	8454K5	.110 tab or solder lug

86 Local Sales Offices and over 150 Distributors across the nation to serve you.

CUTLER-HAMMER, Inc.,

CUTLER-HAMMER SWITCHES

See your local C-H representative for prices and accessory information

"Military Application"



MIL-S-8834B

Positive Action — Environment Sealed — Screw Terminals

Standard Bat Lever

	Circuit with lever in			C-H Part No.	MS-Part No.
	UP Position	CENTER Position	DOWN Position (Keyway)		
<b>1 POLE</b>	ON	OFF	ON	8836K1	MS25306-212
	ON	NONE	OFF	8836K9	MS25306-222
	ON	NONE	ON	8836K4	MS25306-232
	ON	OFF	NONE	8836K6	MS25306-242
	ON	NONE	ON	8836K5	MS25306-262
	ON	OFF	ON	8836K2	MS25306-272
	NONE	OFF	ON	8836K7	MS25306-282
	OFF	NONE	OFF	8836K10	MS25306-292
	OFF	NONE	ON	8836K11	MS25306-302
<b>2 POLE</b>	ON	OFF	ON	8837K1	MS25307-212
	ON	NONE	OFF	8837K9	MS25307-222
	ON	NONE	ON	8837K4	MS25307-232
	ON	OFF	NONE	8837K6	MS25307-242
	ON	NONE	ON	8837K5	MS25307-262
	ON	OFF	ON	8837K2	MS25307-272
	NONE	OFF	ON	8837K7	MS25307-282
	OFF	NONE	OFF	8837K10	MS25307-292
	OFF	NONE	ON	8837K11	MS25307-302
<b>4 POLE</b>	ON	OFF	ON	8838K1	MS25308-212
	ON	NONE	OFF	8838K9	MS25308-222
	ON	NONE	ON	8838K4	MS25308-232
	ON	OFF	NONE	8838K6	MS25308-242
	ON	NONE	ON	8838K5	MS25308-262
	ON	OFF	ON	8838K2	MS25308-272
	NONE	OFF	ON	8838K7	MS25308-282
	OFF	NONE	OFF	8838K10	MS25308-292
	OFF	NONE	ON	8838K11	MS25308-302

Lever Lock Type

<b>1 POLE</b>	ON	<OFF>	<ON	8843K1	MS24612-A212
	ON	<OFF>	ON	8843K2	MS24612-B212
	ON	OFF	<ON	8843K3	MS24612-B212
	ON	<OFF>	ON	8843K4	MS24612-C212
	ON	OFF	<ON	8843K5	MS24612-E212
	ON	NONE	<OFF	8843K9	MS24612-C222
	ON	NONE	<OFF	8843K10	MS24612-E222
	ON	NONE	<ON	8843K7	MS24612-C232
	ON	NONE	<ON	8843K6	MS24612-E232
	ON	<OFF	NONE	8843K16	MS24612-B242
	ON	<OFF	NONE	8843K11	MS24612-D242
	ON	NONE	ON	8843K20	MS24612-L262
	ON	<OFF>	ON	8843K12	MS24612-F272
	ON	<OFF>	ON	8843K14	MS24612-H272
	NONE	OFF	ON	8843K15	MS24612-K282
	OFF	NONE	OFF	8843K21	MS24612-L292
	OFF	NONE	ON	8843K19	MS24612-L302
	ON	<OFF>	ON	8843K13	MS24612-C312
ON	<OFF>	ON	8843K18	MS24612-K312	
ON	<OFF>	ON	8843K8	MS24612-M312	
ON	<OFF>	ON	8843K17	MS24612-N312	
<b>2 POLE</b>	ON	<OFF>	<ON	8844K1	MS24613-A212
	ON	<OFF>	ON	8844K2	MS24613-B212
	ON	OFF	<ON	8844K3	MS24613-C212
	ON	<OFF>	ON	8844K4	MS24613-D212
	ON	OFF	<ON	8844K5	MS24613-E212
	ON	NONE	<OFF	8844K9	MS24613-C222
	ON	NONE	<OFF	8844K10	MS24613-E222
	ON	NONE	<ON	8844K7	MS24613-C232
	ON	NONE	<ON	8844K6	MS24613-E232
	ON	<OFF	NONE	8844K16	MS24613-B242
	ON	<OFF	NONE	8844K11	MS24613-D242
	ON	NONE	ON	8844K20	MS24613-L262
	ON	<OFF>	ON	8844K12	MS24613-F272
	ON	<OFF>	ON	8844K14	MS24613-H272
	NONE	OFF	ON	8844K15	MS24613-K282
	OFF	NONE	OFF	8844K21	MS24613-L292
	OFF	NONE	ON	8844K19	MS24613-L302
	ON	<OFF>	ON	8844K13	MS24613-C312
ON	<OFF>	ON	8844K18	MS24613-K312	
ON	<OFF>	ON	8844K8	MS24613-M312	
ON	<OFF>	ON	8844K17	MS24613-N312	
<b>4 POLE</b>	ON	<OFF>	<ON	8845K1	MS24614-A212
	ON	<OFF>	ON	8845K2	MS24614-B212
	ON	OFF	<ON	8845K3	MS24614-C212
	ON	<OFF>	ON	8845K4	MS24614-D212
	ON	OFF	<ON	8845K5	MS24614-E212
	ON	NONE	<OFF	8845K9	MS24614-C222
	ON	NONE	<OFF	8845K10	MS24614-E222
	ON	NONE	<ON	8845K7	MS24614-C232
	ON	NONE	<ON	8845K6	MS24614-E232
	ON	<OFF	NONE	8845K16	MS24614-B242
	ON	<OFF	NONE	8845K11	MS24614-D242
	ON	NONE	ON	8845K20	MS24614-L262
	ON	<OFF>	ON	8845K12	MS24614-F272
	ON	<OFF	ON	8845K14	MS24614-H272
	NONE	OFF	ON	8845K15	MS24614-K282
	OFF	NONE	OFF	8845K21	MS24614-L292
	OFF	NONE	ON	8845K19	MS24614-L302
	ON	<OFF>	ON	8845K13	MS24614-C312
ON	<OFF>	ON	8845K18	MS24614-K312	
ON	<OFF>	ON	8845K8	MS24614-M312	
ON	<OFF>	ON	8845K17	MS24614-N312	

Arrow indicates direction of movement against which lever is locked  
 \*Accessory contact.  
 <Screw terminals are hot dipped. By removing the screws from the terminals, a switch with solder lugs is formed

MIL-S-3950B

Sealed Lever — Screw Terminals

Standard Bat Lever

	Circuit with lever in			C-H Part No.	MS-Part No.
	UP Position	CENTER Position	DOWN Position (Keyway)		
<b>1 POLE</b>	ON	OFF	ON	8800K16	MS35058-21
	ON	NONE	OFF	8801K22	MS35058-22
	ON	NONE	ON	8810K15	MS35058-23
	ON	OFF	NONE	8801K23	MS35058-24
	ON	OFF	ON	8813K18	MS35058-25
	ON	NONE	ON	8804K13	MS35058-26
	ON	OFF	ON	8812K14	MS35058-27
	ON	OFF	ON	8811K18	MS35058-28
	ON	NONE	OFF	8813K17	MS35058-29
<b>2 POLE</b>	ON	OFF	ON	8820K16	MS35059-21
	ON	NONE	OFF	8822K20	MS35059-22
	ON	NONE	ON	8824K14	MS35059-23
	ON	OFF	NONE	8822K21	MS35059-24
	ON	OFF	ON	8828K12	MS35059-25
	ON	NONE	ON	8830K13	MS35059-26
	ON	OFF	ON	8834K5	MS35059-27
	ON	OFF	ON	8826K14	MS35059-28
	ON	NONE	OFF	8828K13	MS35059-29
<b>4 POLE</b>	ON	OFF	ON	7662K7	MS25068-21
	ON	NONE	OFF	7664K5	MS25068-23
	ON	OFF	NONE	7660K13	MS25068-24
	ON	<OFF	ON	7668K7	MS25068-25
	ON	NONE	<ON	7674K5	MS25068-26
	ON	OFF	<ON	7672K5	MS25068-27
	ON	OFF	<ON	7666K9	MS25068-28
	ON	OFF	<ON	7670K6	MS25068-31
	ON	OFF	ON	8828K13	MS35059-30

Lever Lock Type

<b>1 POLE</b>	ON	<OFF>	<ON	8857K39	MS25125-A1
	ON	<OFF>	ON	8857K40	MS25125-B1
	ON	OFF	<ON	8857K4	MS25125-B4
	ON	<OFF>	ON	8857K41	MS25125-C1
	ON	OFF	<ON	8857K47	MS25125-C2
	ON	NONE	<OFF	8857K45	MS25125-C3
	ON	<OFF	ON	8857K42	MS25125-D1
	ON	OFF	<ON	8857K43	MS25125-E1
	ON	NONE	<OFF	8857K48	MS25125-E2
	ON	NONE	<OFF	8857K44	MS25125-E3
	ON	<OFF>	ON	8857K50	MS25125-F7
	ON	<OFF>	ON	8857K51	MS25125-G11
	ON	<OFF>	ON	8857K52	MS25125-H7
	ON	<OFF	NONE	8857K49	MS25125-J4
	NONE	OFF	ON	8857K53	MS25125-K8
	ON	<OFF>	ON	8857K56	MS25125-L11
	ON	OFF	NONE	8857K78	MS25125-L5
	ON	NONE	ON	8857K79	MS25125-L6
ON	OFF	ON	8857K80	MS25125-L9	
OFF	NONE	ON	8857K81	MS25125-L10	
ON	<OFF	ON	8857K46	MS25125-M11	
ON	<OFF	ON	8857K55	MS25125-N11	
<b>2 POLE</b>	ON	<OFF>	<ON	8858K39	MS25126-A1
	ON	<OFF>	ON	8858K40	MS25126-B1
	ON	OFF	<ON	8858K54	MS25126-B4
	ON	<OFF>	ON	8858K41	MS25126-C1
	ON	OFF	<ON	8858K47	MS25126-C2
	ON	NONE	<OFF	8858K45	MS25126-C3
	ON	<OFF	ON	8858K42	MS25126-D1
	ON	OFF	<ON	8858K43	MS25126-E1
	ON	NONE	<OFF	8858K48	MS25126-E2
	ON	NONE	<OFF	8858K44	MS25126-E3
	ON	<OFF>	ON	8858K50	MS25126-F7
	ON	<OFF>	ON	8858K51	MS25126-G11
	ON	<OFF>	ON	8858K52	MS25126-H7
	ON	<OFF	NONE	8858K49	MS25126-J4
	NONE	OFF	ON	8858K53	MS25126-K8
	ON	<OFF>	ON	8858K56	MS25126-K11
	ON	OFF	NONE	8858K78	MS25126-L5
	ON	NONE	ON	8858K79	MS25126-L6
ON	OFF	ON	8858K80	MS25126-L9	
OFF	NONE	ON	8858K81	MS25126-L10	
ON	<OFF	ON	8858K46	MS25126-M11	
ON	<OFF	ON	8858K55	MS25126-N11	
<b>4 POLE</b>	ON	<OFF>	<ON	8859K39	MS25127-A1
	ON	<OFF>	ON	8859K40	MS25127-B1
	ON	OFF	<ON	8859K54	MS25127-B4
	ON	<OFF>	ON	8859K41	MS25127-C1
	ON	OFF	<ON	8859K47	MS25127-C2
	ON	NONE	<OFF	8859K45	MS25127-C3
	ON	<OFF	ON	8859K42	MS25127-D1
	ON	OFF	<ON	8859K43	MS25127-E1
	ON	NONE	<OFF	8859K48	MS25127-E2
	ON	NONE	<OFF	8859K44	MS25127-E3
	ON	<OFF>	ON	8859K50	MS25127-F7
	ON	<OFF>	ON	8859K51	MS25127-G11
	ON	<OFF>	ON	8859K52	MS25127-H7
	ON	<OFF	NONE	8859K49	MS25127-J4
	NONE	OFF	ON	8859K53	MS25127-K8
	ON	<OFF>	ON	8859K56	MS25127-K11
	ON	OFF	NONE	8859K78	MS25127-L5
	ON	NONE	ON	8859K79	MS25127-L6
ON	OFF	ON	8859K80	MS25127-L9	
OFF	NONE	ON	8859K81	MS25127-L10	
ON	<OFF	ON	8859K46	MS25127-M11	
ON	<OFF	ON	8859K55	MS25127-N11	



See your local C-H representative for prices and accessory information.

# CUTLER-HAMMER SWITCHES

## "Military Application"



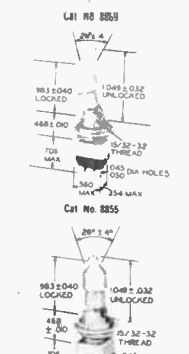
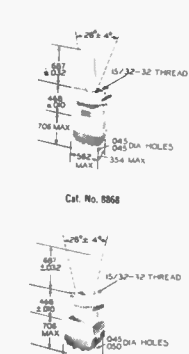
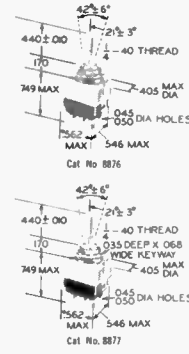
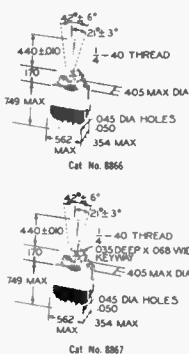
### Miniature — MIL-S-8834B

Positive Action — Solder Lug Terminals — Sealed Lever

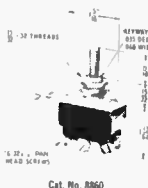
### Special Service Devices

### Special Circuit — MIL-S-3950B

2 Pole — Double Throw  
Sealed Lever — Screw Terminals — With Keyway



Circuit with lever in	Circuit with lever in			C-H Part No.	MS-Part No.	Navy (See Notes ① & ②)
	UP Position	CENTER Position	DOWN Position			
1 POLE	ON	OFF	ON	8866K1	MS24655-211	1402.15-1
	ON	NONE	OFF	8866K7	MS24655-221	1402.15-2
	ON	OFF	NONE	8866K4	MS24655-231	1402.15-3
	ON	NONE	ON	8866K5	MS24655-241	1402.15-4
2 POLE	ON	OFF	ON	8866K2	MS24655-271	1405.15-5
	ON	NONE	OFF	8866K6	MS24655-281	1402.15-6
	ON	OFF	NONE	8866K3	MS24655-311	1402.15-7
	ON	NONE	ON	8866K8	None	None



Circuit, with lever in	Circuit, with lever in			C-H Part No.	MS-Part No.	Former MS Part No.
	UP Position	CENTER Position	DOWN Position			
1 POLE	ON	OFF	ON	8860K4	MS25201-4	MS25201-1
	ON	NONE	OFF	8860K5	MS25201-5	MS25201-2
	ON	OFF	NONE	8860K6	MS25201-6	MS25201-3
	ON	NONE	ON	8860K7	MS25201-7	None
2 POLE	ON	OFF	ON	8860K8	MS25201-8	None
	ON	NONE	OFF	8860K9	MS25201-9	None
	ON	OFF	NONE	None	None	None
	ON	NONE	ON	None	None	None

①Screw terminals are hot tin dipped. By removing the screws from the terminals, a switch with solder lugs is formed.  
②Across terminals 2-3 & 5-6  
③Across terminals 1-2 & 5-6  
④Across terminals 2-3 & 4-5  
⑤Across terminals 1-2 & 4-5

### Small Lever With Keyway

Circuit with lever in	Circuit with lever in			C-H Part No.	MS-Part No.
	UP Position	CENTER Position	DOWN Position (Keyway)		
1 POLE	ON	OFF	ON	8876K11	None
	ON	NONE	OFF	8876K12	None
	ON	OFF	NONE	8876K13	None
	ON	NONE	ON	8876K14	None
2 POLE	ON	OFF	ON	8876K15	None
	ON	NONE	OFF	8876K16	None
	ON	OFF	NONE	8876K17	None
	ON	NONE	ON	8876K18	None

### Large Bat Lever

Circuit with lever in	Circuit with lever in			C-H Part No.	MS-Part No.
	UP Position	CENTER Position	DOWN Position (Keyway)		
1 POLE	ON	OFF	ON	8868K1	MS90310-211
	ON	NONE	OFF	8868K7	MS90310-221
	ON	OFF	NONE	8868K4	MS90310-231
	ON	NONE	ON	8868K5	MS90310-241
2 POLE	ON	OFF	ON	8868K2	MS90310-271
	ON	NONE	OFF	8868K6	MS90310-281
	ON	OFF	NONE	8868K3	MS90310-311
	ON	NONE	ON	8868K8	MS90310-321

### Lever Lock Type

Circuit with lever in	Circuit with lever in			C-H Part No.	MS Part No.
	UP Position	CENTER Position	DOWN Position (Keyway)		
1 POLE	ON	←OFF	ON	8855K10	MS21026-D211
	ON	←OFF	ON	8855K12	MS21026-G311
	ON	←OFF	ON	8855K5	MS21026-B211
	ON	←OFF	ON	8855K15	MS21026-F271
	ON	←NONE	ON	8855K7	MS21026-C231
	ON	NONE	←ON	8855K8	MS21026-E231
	ON	NONE	←ON	8855K13	MS21026-G221
	ON	←OFF	←OFF	8855K14	MS21026-E221
	ON	←OFF	←NONE	8855K16	MS21026-B241
	ON	←OFF	←ON	8855K16	MS21026-G311
	ON	←OFF	←ON	8855K17	MS21026-H271
	ON	←OFF	←ON	8855K18	MS21026-K281
2 POLE	ON	←OFF	ON	8855K10	MS21027-D211
	ON	←OFF	ON	8855K12	MS21027-G311
	ON	←OFF	ON	8855K5	MS21027-B211
	ON	←OFF	ON	8855K15	MS21027-F271
	ON	←NONE	ON	8855K7	MS21027-C231
	ON	NONE	←ON	8855K8	MS21027-E231
	ON	NONE	←ON	8855K13	MS21027-G221
	ON	←OFF	←OFF	8855K14	MS21027-E221
	ON	←OFF	←NONE	8855K16	MS21027-B241
	ON	←OFF	←ON	8855K16	MS21027-G311
	ON	←OFF	←ON	8855K17	MS21027-H271
	ON	←OFF	←ON	8855K18	MS21027-K281

### INDEX TO RATING TABLE

C-H Cat. No.	Rating Column
7660 to 7664	22
7666 to 7674	23
8800 to 8804	3
8809	4
8810	3
8811 to 8813	4
8820 to 8824	16
8826 to 8834	17
8836 to 8845	25
8855-8856	24
8857	3
8857	4
8858	16
8858	17
8859	22
8859	23
8866 to 8877	24

### Military Switch Rating Table

CURRENT CAPACITY	AMPERE VALUE										
	2	4	15	17	22	23	24	25	30	30	30
Lamp Load	15 V. D.c.	8	6	10	7.5	10	7.5	7	7	7	7
	30 V. D.c.	6	4	7	5	7	5	4	4	4	4
	125 V. A.c.	3	2	4	2	4	2	2	2	2	2
Resistance Load	15 V. D.c.	45	30	30	30	30	30	30	30	30	25
	30 V. D.c.	25	20	25	20	20	20	20	20	20	15
	125 V. A.c.	11	11	20	11	20	11	20	11	3	25
	200 V. A.c.	6.9	6.9	12.5	6.9	12.5	6.9	12.5	6.9	3	25
Inductive Load	250 V. A.c.	5.5	5.5	10	5.5	10	5.5	10	5.5	3	25
	440 V. A.c.	3	3	5.5	3	5.5	3	5.5	3	3	25
	15 V. D.c.	25	20	25	15	25	15	25	15	1	15
	30 V. D.c.	15	10	20	10	20	10	20	10	1	15
Motor Load	50 V. D.c.	11	7.5	15	8	15	8	15	8	1	15
	200 V. A.c.	6.9	4.7	9.4	5.0	9.4	5.0	9.4	5.0	1	15
	250 V. A.c.	5.5	3.5	7.5	4.0	7.5	4.0	7.5	4.0	1	15
	440 V. A.c.	3	2	4	2.2	4	2.2	4	2.2	1	15
CURRENT CARRYING CAPACITY (Any Value)	Continuous	50	50	30	30	30	30	30	30	30	30
	15 Min. of Each Hour	55	55	39	30	30	30	30	30	30	30
	5 Min. of Each 1/2 Hour	75	75	42	40	40	40	40	40	40	40
	1 Min. of Each 1/2 Hour	90	90	60	60	60	60	60	60	60	60
	5 Sec. of Each 1/2 Hour	200	200	150	150	150	150	150	150	150	150
CURRENT-MAKING CAPACITY	15 V. D.c.	80	60	100	75	100	75	100	75	100	75
	30 V. D.c.	60	40	70	50	70	50	70	50	70	50
	125 V. A.c.	30	20	40	20	40	20	40	20	40	20
	200 V. A.c.	18.5	9.4	25	9.4	25	9.4	25	9.4	25	9.4
EMERGENCY CURRENT BREAKING CAPACITY	15 V. D.c.	175	150	100	50	100	50	100	50	100	50
	30 V. D.c.	150	75	75	45	75	45	75	45	75	45
	125 V. A.c.	40	40	40	26	40	26	40	26	40	26
	200 V. A.c.	24	24	24	16	24	16	24	16	24	16
Notes	Opening CKT under emerg ency conditions for 50 opera tions only	15 V. D.c.	18	18	18	12	18	12	18	12	18
	200 V. A.c.	18	18	18	12	18	12	18	12	18	12
	250 V. A.c.	15	15	15	10	15	10	15	10	15	10
	440 V. A.c.	10	10	10	6	10	6	10	6	10	6

Note The values shown for multi-pole switches are amperes per pole except for motor load. See below.  
Note Current ratings are established at 77° F.  
Note All current ratings good to 50,000 ft. altitude. For higher altitude check local C-H office.  
Note AC current values good for frequencies from 50 to 400 cycles (except "▲" in Col 25 is 20 amp at 50-60 cycles).  
▲ = alternate voltage  
④ These figures are maximum current ratings for 10,000 operations. Longer life (more operations) can be expected when operated at less than rating of switch.  
● Motor load values for multi-pole switches are held on all poles of switches being connected in motor circuit and motor stalled current not exceeding 300% of normal running current.

Experience has shown that for voltages not in excess of 250, the current rating of aircraft switches is inversely proportional to the voltage. If the voltage is doubled, the rating is halved. Therefore, if the 125 volt a-c rating of a switch is known, it follows that on 200 volt ac, the current rating is 125/200 of 62.5% of its 125 volt ac rating.

This rule also applies to two or four pole switches used on polyphase systems. Cutler-Hammer aircraft switches carry per pole ratings and if the current and voltage handled by each pole is known, different rating combinations can be worked out. A double switch, with at least twice the rupturing capacity of one of its poles because there are twice the number of breaks in the circuit. Its life is only slightly more than that of one pole because breaks are not simultaneous. The first pole or break handles twice its normal rating resulting in rapid erosion of contact material.

- ▲ Momentary Contact.
- Indicates direction against which "lever lock" switch is locked. (Other locking combinations on request).
- ▲ Part numbers listed in Navy MIL Std. 242E (Navy).
- ④ These switches are listed in NAV SHIPS HANDBOOK of miniature parts for Electronic Equipment. Nav. Ships 0967-031-1000.
- ⑤ Small lever switch with keyway is built to MIL-S-8834 requirements, except "without lever seal".

The switches listed on these pages represent only a small fraction of the total number of small motor and appliance switches manufactured by C-H. Contact your local Sales Office or Distributor for more complete listings.

CUTLER-HAMMER, Inc.,

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**ARROW H & H SWITCHES**

PUSH-BUTTON, TOGGLE, ROTARY, POWER



**1 BALL LEVER TOGGLE SWITCHES**

**1 POSITIVE ACTION — 3 AMP.**

UL approved. Laminated bakelite base. Nickel plated. Ring and mounting nuts.

**15/32" SLEEVE LENGTH**

DABURN No.	Description	Current 125V	Rating 250V
5200	SPST		3 Amp.
5202	SPDT	3 Amp.	1 Amp.
5202A	2 circ.	3 Amp.	1 Amp.
5204	DPST	3 Amp.	1 Amp.
5206	DPDT	3 Amp.	1 Amp.

**3/4" SLEEVE LENGTH — 3 AMP.**

5201	SPST		3 Amp.
5203	SPDT	3 Amp.	1 Amp.
5205	DPST	3 Amp.	1 Amp.
5207	DPDT	3 Amp.	1 Amp.

Std. Pkg. 25

**1 BAT LEVER TOGGLE SWITCHES**

**1 POSITIVE ACTION — 3 AMP.**

UL approved. Laminated, nickel finish.

**15/32" SLEEVE LENGTH**

5220	SPST		3 Amp.
5221	SPDT	3 Amp.	1 Amp.
5221A	2 circ.	3 Amp.	1 Amp.
5222	DPST	3 Amp.	1 Amp.
5223	DPDT	3 Amp.	1 Amp.

Std. Pkg. 25

**1 BAT LEVER TOGGLE SWITCHES**

**1 MOMENTARY ACTION — 3 AMP.**

UL approved. Laminated type, nickel plated finish.

Supplied with ring and mounting nut; solder term.

SPST rated at 3 Amp.-250V, AC-DC. Others: 1 Amp.-250V, 3 Amp.-125V AC-DC.

**15/32" SLEEVE LENGTH**

5190	SPST	Normally closed (on)
5191	SPST	Normally open (off)
5192	SPDT	Normally closed (on)
5193	DPST	Normally closed (on)
5194	DPST	Normally open (off)
5195	DPDT	Normally closed (on)

Std. Pkg. 25

**2 INTERMEDIATE SIZE TOGGLE SWITCHES**

**BAT HANDLE**

UL approved. Molded phenolic base. Back connected solder lugs silver plated.

SPST 1 Amp.-250V, 6 Amp.-125V AC-DC. Others: 3 Amp.-250V, 6 Amp.-125V AC-DC.

**15/32" SLEEVE LENGTH — 6 AMP.**

DABURN No.	Description	Type Action
5280	SPST	Positive
5280A	SPST	Mom.-Norm. Off
5281	SPDT	Positive
5281A	SPDT	Momentary
5284	2 circ.	Positive
5282	DPST	Positive
5282A	DPST	Mom.-Norm. Off
5283	DPDT	Positive
5283A	DPDT	Momentary

Std. Pkg. 25

**3 THREE POSITION — CENTER OFF**

**3 Amp.-250V; 6 Amp.-125V AC-DC**

5261	SPDT	—
5262	2 circ.	—
5263	DPDT	—

Std. Pkg. 25

**4 NEW COMPACT TOGGLE SWITCH**

**BAT LEVER**

UL approved. 1 Amp.-250V, 3 Amp.-125V AC-DC. Molded bakelite case, nickel finish. Suitable for missile, aircraft, electronic application. Solder lugs.

**15/32" SLEEVE LENGTH — 3 AMP.**

DABURN No.	Description	BASE DIMENSIONS		
		L	W	H
5130	SPST	1 1/8"	3/4"	1 3/8"
5131	SPDT	1 1/8"	3/4"	1 3/8"
5232	DPST	1 1/8"	3/4"	1 3/8"
5133	DPDT	1 1/8"	3/4"	1 3/8"

Std. Pkg. 25

**3 MOMENTARY CONTACT SWITCHES**

UL approved. SPST normally off. 3 Amp.-250V, 6 Amp.-125V.

**BAT HANDLE 15/32" SLEEVE LENGTH**

DABURN No.	Description	Std. Pkg.
5241	SPST	25
5240	SPDT	25
5242	DPDT	25

Std. Pkg. 25

**5 STANDARD DUTY TOGGLE SWITCHES**

**PUSH BUTTON**

**Quick Make and Break**

Molded phenolic base 15/32 x 7/16" long slotted sleeve; Nickel finish; screw term. Complete with two hex nuts. Accept snap-on button; supplied less ins. button. 125V-12 Amp., 250V-6 Amp.

**15/32" SLEEVE LENGTH — 12 AMP.**

DABURN No.	Descr.	Type
5238	SPST	Norm. Closed (on)
5238B	SPDT	Norm. Closed (on)
5238C	2 circ.**	Norm. Closed (on)
5226	DPST*	Norm. Open (off)
5238D	DPST*	Norm. Closed (on)

\*\*Current Rating 1/2 Std. Pkg. 10

\*1 H.P. 250V/AC-DC

**6 EXTRA HEAVY DUTY POWER SWITCHES**

**3 POSITION — POSITIVE — CENTER OFF**

UL approved. Molded base, screw terminals, slotted sleeve 3/4-32, nickel finish. Supplied with two hex nuts.

DABURN No.	Descr.	Circuit
5227	DPDT	3/4 H.P. 250V AC-DC
5228.	3PDT	1/2 H.P. 115/230V AC 3 Phase
5229	4PDT	1/2 H.P. 115/230V AC 2 Phase

Std. Pkg. 10

**7 MIDGET SIZE TOGGLE SWITCHES**

**POSITIVE ACTION**

UL approved. SPST 3 Amp.-250V., 6 Amp.-125V. Others rated 1 Amp.-250V., 6 Amp.-125V. Molded phenolic base. Nickel finish; solder lugs.

DABURN No.	Description	Type
5244	SPST	Ball Handle
5244A	SPST	Ball Handle
5244B	SPDT	Ball Handle
5244C	SPDT	Bat Handle
5244D	2 circ.	Ball Handle
5244E	2 circ.	Bat Handle

Std. Pkg. 10

**8 MOMENTARY PUSH BUTTON SWITCHES**

UL approved, laminated type. 15/32 x 9/16" slotted sleeve, nickel finish. Complete with hex and knurled nut. Nickel plated. All accept snap-on button. Supplied less ins. button (order separately No. 5132).

SPST 3 Amp.-250V AC-DC. Others: 1 Amp.-250V., 3 Amp.-125V AC-DC.

**Quick Make and Break**

DABURN No.	Descr.	Type
5184	SPST	Norm. Closed (on)
5184A	SPST	Norm. Open (off)
5185A	SPDT	Norm. Closed (on)
5185	SPDT	Norm. Open (off)
5186	2 circ.	Norm. Closed (on)
5231A	DPST	Norm. Closed (on)
5231	DPST	Norm Open (off)
5131B	DPDT	Norm. Closed (on)

Std. Pkg. 25

**Slow Make and Break**

5180	SPST	Norm. Closed (on)
5230	SPST	Norm. Open (off)
5224	2 circ.	Norm. Closed (on)

Std. Pkg. 25

Std. Pkg. 25

Std. Pkg. 25

Std. Pkg. 25

Std. Pkg. 25

**9 MOMENTARY PUSH BUTTON SWITCHES**

UL approved. Molded phenolic base, solder lugs, normally off — push to make. Nickel plated. Supplied with nuts. 1 Amp.-125V.

DABURN No.	Description	Std. Pkg.
5233	SPST	25
5234	SPDT	25
5235	DPST	25
5236	DPDT	25

**10 ROTARY SWITCHES**

**CANOPY TYPE**

UL approved. Laminated type, solder lugs, 11/32-32 x 15/32" sleeve, nickel plated. Supplied with hex and dress nut. Key type has key removable in off position only on SPST and DPST — Key removable in both positions on all others. SPST 3 Amp.-250V AC-DC. Others: 1 Amp.-250V, 3 Amp.-125V AC-DC.

**ROTARY TYPE 1 1/8" SHAFT**

DABURN No.	Description
5210	SPST
5212	SPDT
5214	DPST
5216	DPDT

**KEY TYPE**

5110	SPST
5111	SPDT
5112	DPST
5113	DPDT

Std. Pkg. 12 — Key Not Included

**SWITCH ACCESSORIES**

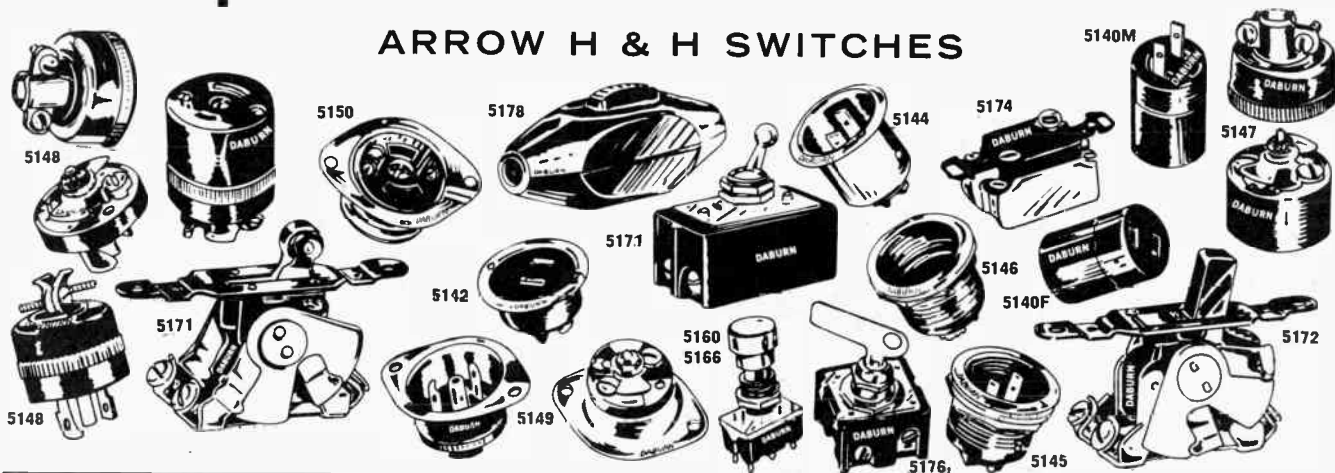
DABURN No.	Description	Std. Pkg.
5208	—Name Plate—On-Off— Fits 15/32" Sleeve	100
5208A	—Name Plate—Hi-Lo— Fits 15/32" Sleeve	100
5132	—Snap Button (Red or Black).....	100
5114	—Key—Rem. Off Position	100
5115	—Key—Rem. Both Positions	100

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**ARROW H & H SWITCHES**



**DOUBLE ACTION COMPACT  
PUSH-PUSH SHALLOW  
QUICK MAKE AND BREAK**

1/2" sleeve diameter, 3 amp., UL approved. Molded phenolic base. Complete with hex and knurled nut; nickel plated. All accept snap button; supplied less insulating button (#5132). (Order separately, red or black.) 1 amp., 250V 3 amp. 125V AC-DC. Solder lug terminals with double wiping blades.

Daburn No.	Description	Sleeve	Width	Lgth.	Hgt.
5160	SPST	9/16"	41/64"	1-1/32"	13/16"
5161	SPDT	9/16"	41/64"	1-1/32"	13/16"
5162	DPST	9/16"	41/64"	1-1/32"	13/16"
5163	DPDT	9/16"	41/64"	1-1/32"	13/16"

Std. Pkg. 25

**MOMENTARY ACTION COMPACT  
PUSH SWITCH**

**QUICK MAKE AND BREAK**

1/2" Sleeve Diameter — 3 Amp.

UL approved. Molded base. Complete with hex and knurled nut; nickel plated. All accept snap button; supplied less insulating button (#5132). (Order separately, red or black.) Solder lug terminals with double wiping blades.

Daburn No.	Description	Sleeve	Width	Lgth.	Hgt.
*5166	SPST	9/16"	41/64"	1-1/32"	13/16"
5167	SPDT	9/16"	41/64"	1-1/32"	13/16"
*5168	DPST	9/16"	41/64"	1-1/32"	13/16"
5169	DPDT	9/16"	41/64"	1-1/32"	13/16"

\*SPST and DPST — normally off.  
Std. Pkg. 25

**HEAVY DUTY SWITCHES**

**TOGGLE TYPE 30 AMP**

UL approved. 30 Amp, 250 Volts, AC-DC, 2HP, 115V-230V AC; 1 HP, 460V AC. Used on machine tools, pumps, food machines, sanders, grinders, etc.

DABURN No.	Description	Std. Pkg.
5171	DPST	5
5172	DPST	5

**METAL PUSH BUTTON TYPE  
NORMALLY OPEN — 20 AMP**

UL approved. 20 Amp.-250V, 2 HP 230V AC, 2 HP 250V DC. Used on floor sander, foot switch etc.

DABURN No.	Description	Std. Pkg.
5174	DPST	5

**ROTO-LOCK SWITCH**

**20 AMP.**

UL approved. 20 Amp., 120V, 240V AC.  
1 1/2 HP — 120V AC  
2 HP — 120V AC

Key removable in off position only.

DABURN No.	Description	Sleeve	Std. Pkg.
5176	DPST	9/16"	5
5176K0	Key only for above		5

**FEED-THRU CORD SWITCH**

**10 AMP.**

UL approved, sliding lever, black case. 10 Amp.-125V, 5 Amp.-250V. Cord hole—3/8".

DABURN No.	Description	Std. Pkg.
5178	SP	6

**FEED-THRU CORD SWITCH**

**15 AMP.**

UL approved for appliance use only. 10 Amp-250V, 15 Amp.-125V.

DABURN No.	Description	Std. Pkg.
5179	DP (3rd Wire Gd.)	5

**CORD CONNECTORS**

**10 AMP.**

Complete brown bakelite cord connector. 10 Amp.-250 Volts, end opening for wire size up to 3/8" O.D.

DABURN No.	Description	Std. Pkg.
5140	Complete	10
5140F	Female Part Only	10
5140M	Male Part Only	10

**DABURN H & H RECEPTACLES**

**10 AMP.**

**SHORT, FEMALE FLUSH RECEPTACLE**

UL approved. 10 Amp.-250 Volts AC.

DABURN No.	Description	Std. Pkg.
5143	Lock Nut Mounting	5
5142	2 Screw Mounting	5

**RECESSED MALE RECEPTACLE  
10 AMP.**

DABURN No.	Description	Std. Pkg.
5144	2 Screw Mounting	5
5145	Lock Nut Mounting	5

**RECESSED FEMALE RECEPTACLE  
10 AMP.**

DABURN No.	Description	Std. Pkg.
5146	Lock Nut Mounting	5

**COMPACT RECEPTACLES —  
TURN TO LOCK**

**3 WIRE GROUNDING TYPE**

**FEMALE CONNECTOR — 15 AMP.-125 VOLT**  
Brass metal casings, corrosion resistant finish. Black bakelite.

DABURN No.	Description	Std. Pkg.
5147	Female Connector	5

**MALE CONNECTOR**

**15 AMP.-125 VOLT**

DABURN No.	Description	Std. Pkg.
5148	Male Connector	5

**MALE RECEPTACLES**

**MALE RECEPTACLES  
15 AMP.-125 VOLT**

DABURN No.	Description	Std. Pkg.
5149	Male Receptacle	5

**FEMALE RECEPTACLE**

**15 AMP.-125 VOLT**

DABURN No.	Description	Std. Pkg.
5150	Female Receptacle	5

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**CUTLER-HAMMER SWITCHES**

COMMERCIAL, INDUSTRIAL, AIRCRAFT AND GOVERNMENT SPEC SWITCHES  
AVAILABLE FROM OUR COMPLETE WAREHOUSE STOCKS.



**STANDARD DUTY —  
TOGGLE SWITCHES**

**BACK CONNECTED LUG TERMINALS**

UL approved. Slow make and break. AC rated for long life and greater capacity. 15/32 shank length. Bakelite case 15 Amp.-125 Volt, 10 Amp.-250 Volt.

DABURN No.	CH No.	Description
4314	7501K13	SPST
4315	7505K4	SPDT
4316	7561K4	DPST
4317	7565K5	DPDT
4318	7611K2	3PST
4319	7615K2	3PDT

Std. Pkg. 25

**BACK CONNECTED SCREW TERMINALS**

DABURN No.	CH No.	Description
4320	7500K14	SPST
4321	7504K4	SPDT
4322	7560K5	DPST
4323	7564K6	DPDT
4324	7610K2	3PST
4325	7614K2	3PDT

Std. Pkg. 25

**CENTER OFF STANDARD DUTY  
SWITCHES**

**BACK CONNECTED LUG TERMINALS**

DABURN No.	CH No.	Description
4329	7503K13	SPDT
4330	7563K4	DPDT
4331	7613K2	3PDT

Std. Pkg. 25

**BACK CONNECTED SCREW TERMINALS**

DABURN No.	CH No.	Description
4332	7502K13	SPDT
4333	7562K4	DPDT
4334	7612K2	3PDT

Std. Pkg. 25

**LIGHT DUTY —  
TOGGLE SWITCHES**

**BACK CONNECTED LUG TERMINALS**

UL approved. Quick make-Quick break. Bakelite case. Small compact. 15/32" shank length.

DABURN No.	C-H No.	Descr.	Current Rating 125V	Current Rating 250V
4300	8280K16	SPST	3 amp	
4301	8381K8	SPST	6 amp	3 amp
4302	8282K14	SPDT	3 amp	1 amp
4303	8284K14	2 circ.	3 amp	1 amp
4304	8360K7	DPST	3 amp	
4305	8370K7	DPST	6 amp	3 amp
4306	8363K7	DPDT	3 amp	
4307	8373K7	DPDT	6 amp	3 amp

Std. Pkg. 25

**SIDE CONNECTED SCREW TERMINALS**

DABURN No.	C-H No.	Descr.	Current Rating 125V	Current Rating 250V
4308	8295K8	SPST	3 amp	
4309	8396K8	SPST	6 amp	3 amp
4310	8297K8	SPDT	3 amp	1 amp
4311	8372K7	DPST	6 amp	3 amp
4312	8365K7	DPDT	3 amp	
4313	8375K7	DPDT	6 amp	3 amp

Std. Pkg. 25

**WIRE LEADS — SIX INCH LONG**

DABURN No.	C-H No.	Descr.	Current Rating 125V	Current Rating 250V
4335	8290K16	SPST	3 amp	
4336	8391K8	SPST	6 amp	3 amp

**PUSH BUTTON SWITCHES  
PUSH TO MAKE — PUSH TO BREAK**

UL approved AC-DC. Bakelite case. Pushing the button once closes the contacts; pushing it again opens the contacts. 11/16" shank.

DABURN No.	C-H No.	Descr.	Term.
4326	7206K4	SPST	Lug
4327	7208K4	SPST	Screw
4328	7207K4	SPST	Wire

Std. Pkg. 25

**HEAVY DUTY —  
TOGGLE SWITCHES**

UL approved. Quick make-quick break. Bakelite case, screw term. 15/32" shank (except #4346 11/32" shank).

Daburn No.	C-H No.	Descr.	Current Rating 125V	Current Rating 250V
4341	@7321K3	SPST	12 amp	6 amp
4342	@7320K3	DPST	12 amp	6 amp
4343	*7361K5	SPST	15 amp	10 amp
4344	*7360K8	DPST	15 amp	10 amp
4345	**7402K4	DPST	20 amp	
4346	8680K1	DPDT	10 amp	5 amp
4347	8690K2	DPDT	15 amp	10 amp

@ 1 HP—125/250V. \* 1 1/2 HP—125/250V  
\*\* 1 1/2 HP—125V, 2 HP—250V  
Std. Pkg. 12

**PUSH BUTTON MOMENTARY  
SWITCHES**

UL approved. 15/32" shank AC-DC. Rated at 3/4 Amp.-125V, 1/4 Amp.-250V. Door operated switches.

Daburn No.	C-H No.	Description	Term.
4337	8411K4	SP norm open	Lug
4338	8411K3	SP norm open	Screw
4339	8411K8	SP norm closed	Lug
4340	8411K7	SP norm closed	Screw

Std. Pkg. 25

Additional numbers in Cutler-Hammer Equip. Available.

(A) **MISCELLANEOUS AIRCRAFT**

Pistol grip trigger movement switches C-H numbers 8895, 8896, 8897.

(B) **AIRCRAFT SWITCH GUARDS**

Used to prevent inadvertent operation of the lever. Specify exact switch number required.

(C) **BUSHING SEAL NO. 32-341**

Boots for water and dust applications

(D) **LEVER EXTENSIONS AND  
ATTACHABLE TIPS**

Tips snap over standard levers and are held in place by a cup shaped spring member.

(E) **MANUAL TYPE CIRCUIT  
BREAKERS**

(F) **ROTARY SWITCHES  
per MIL-S-6807 spec**





# CHEMICAL FUSES

Engineered to the Original Manufacturer's rigid specifications, GC Chemical Fuses are exact replacements for RCA, Emerson, Zenith, etc. All GC Chemical Fuses are visual packed for quick identification. U.L. Approved.

Illustration	GC Part No.	Color	Orig. Mfrs. Part No.	Mfrs. Stock No.	Bel Fuse No.	SP	Net	Illustration	GC Part No.	Color	Orig. Mfrs. Part No.	Mfrs. Stock No.	Bel Fuse No.	SP	Net
	25-929-S	Yellow	Emerson 808238		1700-1	10	.45		25-995-S	Maroon	Zenith 136-66		2000-1	10	.45
	25-935-S	Pink	RCA 945392-4		450-1	10	.45		25-997-S	Gray	Emerson 808241		1400-1	10	.45
	25-937-S	Green	Emerson 808238		1200-1	10	.45		25-939-S		RCA 105042	RCA 105042	LC-200	10	.60
	25-954-S	Black	RCA 945392-1	RCA 109079	500-1	10	.45		25-950-S		RCA 945309-1	RCA 104295	200-10	10	.49
	25-956-S	Blue	RCA 945392-2	RCA 109588	400-1	10	.45		25-952-S		RCA 105041	RCA 105041	KF-200	10	.60
	25-958-S	Red	RCA 945392-3	RCA 109860	3-1	10	.45		25-976-S	White	Zenith 136-71		3000-1	10	.45
Illustration			GC Part No.	Color	Orig. Mfrs. Part No.	Mfrs. Stock No.	Bel Fuse No.	SP	Net						
			25-948-S		RCA Fuse Wire			10	.16						

## COLOR TV REPLACEMENT RESISTORS

NEW . . . IN POPULAR DEMAND

6000 Volt No. 25-1018 Replacement Information:

66 meg.	Manufacturer	Mfrs. Part No.	Manufacturer	Mfrs. Part No.
	Admiral	60A30-5	RCA	942925-3
	Emerson	397176	Sylvania	35-97961-3
	GE	K134J23-16	Warwick	61-73-1
	Magnavox	230161-1	Wells-Gardner	A43X0451-001
	Muntz	PR-9040	Workman	66M
	Philco	33-1352-10		

ORDER No. 25-1018 66 meg. List Sugg. Net  
2.75 1.65

6000 Volt No. 25-1019 Replacement Information:

47 meg.	Manufacturer	Mfrs. Part No.	Manufacturer	Mfrs. Part No.
	Admiral	60A30-4	Philco	33-1352-9
	GE	K134J23-15	RCA	942925-4
	Magnavox	230161-2	Warwick	61-70-1
	Motorola	6C67326A01	Workman	47M

ORDER No. 25-1019 47 meg. List Sugg. Net  
2.20 1.32

**1/4, 1/2, 1 & 2 watt resistors (10% Tol.)**  
in **MOISTURE-PROOF** packages EIA approved MIL-R-11E

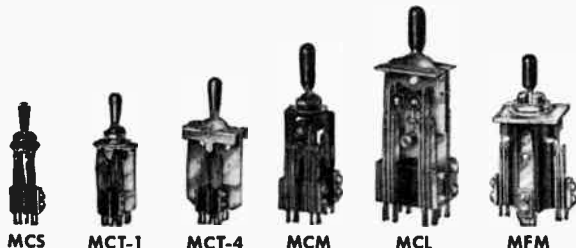
**RESISTORS**

**BULK RESISTOR PRICES**

WATTAGE	EA. 1-9	10-49	50-99	100-UP
1/4 WATT	.13	.09	.06	\$4.32/C
1/2 WATT	.12	.085	.05	\$4.15/C
1 WATT	.17	.10	.07	\$6.47/C
2 WATT	.22	.19	.14	\$12.28/C

1/4 WATT		1/2 WATT		1 WATT		2 WATT		1/4 WATT		1/2 WATT		1 WATT		2 WATT	
OHM VALUE	BULK PART NO.	BULK IBM CODE NO.	BULK PART NO.	BULK IBM CODE NO.	BULK PART NO.	BULK IBM CODE NO.	BULK PART NO.	BULK IBM CODE NO.	OHM VALUE	BULK PART NO.	BULK IBM CODE NO.	BULK PART NO.	BULK IBM CODE NO.	BULK PART NO.	BULK IBM CODE NO.
10000	GG10000	26-672-BU	BB10000	26-072-BU	BA10000	26-272-BU	BB10000	26-472-BU	10000	GG10000	26-672-BU	BB10000	26-072-BU	BA10000	26-272-BU
12000	GG12000	26-678-BU	BB12000	26-078-BU	BA12000	26-278-BU	BB12000	26-478-BU	12000	GG12000	26-678-BU	BB12000	26-078-BU	BA12000	26-278-BU
15000	GG15000	26-684-BU	BB15000	26-084-BU	BA15000	26-284-BU	BB15000	26-484-BU	15000	GG15000	26-684-BU	BB15000	26-084-BU	BA15000	26-284-BU
18000	GG18000	26-690-BU	BB18000	26-090-BU	BA18000	26-290-BU	BB18000	26-490-BU	18000	GG18000	26-690-BU	BB18000	26-090-BU	BA18000	26-290-BU
20000	GG20000	26-696-BU	BB20000	26-096-BU	BA20000	26-296-BU	BB20000	26-496-BU	20000	GG20000	26-696-BU	BB20000	26-096-BU	BA20000	26-296-BU
22000	GG22000	26-702-BU	BB22000	26-102-BU	BA20000	26-302-BU	BB22000	26-502-BU	22000	GG22000	26-702-BU	BB22000	26-102-BU	BA20000	26-302-BU
25000	GG25000	26-708-BU	BB25000	26-108-BU	BA20000	26-308-BU	BB25000	26-508-BU	25000	GG25000	26-708-BU	BB25000	26-108-BU	BA20000	26-308-BU
27000	GG27000	26-714-BU	BB27000	26-114-BU	BA20000	26-314-BU	BB27000	26-514-BU	27000	GG27000	26-714-BU	BB27000	26-114-BU	BA20000	26-314-BU
30000	GG30000	26-720-BU	BB30000	26-120-BU	BA20000	26-320-BU	BB30000	26-520-BU	30000	GG30000	26-720-BU	BB30000	26-120-BU	BA20000	26-320-BU
40000	GG40000	26-726-BU	BB40000	26-126-BU	BA20000	26-326-BU	BB40000	26-526-BU	40000	GG40000	26-726-BU	BB40000	26-126-BU	BA20000	26-326-BU
47000	GG47000	26-732-BU	BB47000	26-132-BU	BA20000	26-332-BU	BB47000	26-532-BU	47000	GG47000	26-732-BU	BB47000	26-132-BU	BA20000	26-332-BU
50000	GG50000	26-738-BU	BB50000	26-138-BU	BA20000	26-338-BU	BB50000	26-538-BU	50000	GG50000	26-738-BU	BB50000	26-138-BU	BA20000	26-338-BU
56000	GG56000	26-744-BU	BB56000	26-144-BU	BA20000	26-344-BU	BB56000	26-544-BU	56000	GG56000	26-744-BU	BB56000	26-144-BU	BA20000	26-344-BU
60000	GG60000	26-750-BU	BB60000	26-150-BU	BA20000	26-350-BU	BB60000	26-550-BU	60000	GG60000	26-750-BU	BB60000	26-150-BU	BA20000	26-350-BU
66000	GG66000	26-756-BU	BB66000	26-156-BU	BA20000	26-356-BU	BB66000	26-556-BU	66000	GG66000	26-756-BU	BB66000	26-156-BU	BA20000	26-356-BU
70000	GG70000	26-762-BU	BB70000	26-162-BU	BA20000	26-362-BU	BB70000	26-562-BU	70000	GG70000	26-762-BU	BB70000	26-162-BU	BA20000	26-362-BU
75000	GG75000	26-768-BU	BB75000	26-168-BU	BA20000	26-368-BU	BB75000	26-568-BU	75000	GG75000	26-768-BU	BB75000	26-168-BU	BA20000	26-368-BU
80000	GG80000	26-774-BU	BB80000	26-174-BU	BA20000	26-374-BU	BB80000	26-574-BU	80000	GG80000	26-774-BU	BB80000	26-174-BU	BA20000	26-374-BU
82000	GG82000	26-780-BU	BB82000	26-180-BU	BA20000	26-380-BU	BB82000	26-580-BU	82000	GG82000	26-780-BU	BB82000	26-180-BU	BA20000	26-380-BU
85000	GG85000	26-786-BU	BB85000	26-186-BU	BA20000	26-386-BU	BB85000	26-586-BU	85000	GG85000	26-786-BU	BB85000	26-186-BU	BA20000	26-386-BU
90000	GG90000	26-792-BU	BB90000	26-192-BU	BA20000	26-392-BU	BB90000	26-592-BU	90000	GG90000	26-792-BU	BB90000	26-192-BU	BA20000	26-392-BU
95000	GG95000	26-798-BU	BB95000	26-198-BU	BA20000	26-398-BU	BB95000	26-598-BU	95000	GG95000	26-798-BU	BB95000	26-198-BU	BA20000	26-398-BU
100000	GG100000	26-804-BU	BB100000	26-204-BU	BA20000	26-404-BU	BB100000	26-604-BU	100000	GG100000	26-804-BU	BB100000	26-204-BU	BA20000	26-404-BU
10000	GG10000	26-672-BU	BB10000	26-072-BU	BA10000	26-272-BU	BB10000	26-472-BU	10000	GG10000	26-672-BU	BB10000	26-072-BU	BA10000	26-272-BU
12000	GG12000	26-678-BU	BB12000	26-078-BU	BA12000	26-278-BU	BB12000	26-478-BU	12000	GG12000	26-678-BU	BB12000	26-078-BU	BA12000	26-278-BU
15000	GG15000	26-684-BU	BB15000	26-084-BU	BA15000	26-284-BU	BB15000	26-484-BU	15000	GG15000	26-684-BU	BB15000	26-084-BU	BA15000	26-284-BU
18000	GG18000	26-690-BU	BB18000	26-090-BU	BA18000	26-290-BU	BB18000	26-490-BU	18000	GG18000	26-690-BU	BB18000	26-090-BU	BA18000	26-290-BU
20000	GG20000	26-696-BU	BB20000	26-096-BU	BA20000	26-296-BU	BB20000	26-496-BU	20000	GG20000	26-696-BU	BB20000	26-096-BU	BA20000	26-296-BU
22000	GG22000	26-702-BU	BB22000	26-102-BU	BA20000	26-302-BU	BB22000	26-502-BU	22000	GG22000	26-702-BU	BB22000	26-102-BU	BA20000	26-302-BU
25000	GG25000	26-708-BU	BB25000	26-108-BU	BA20000	26-308-BU	BB25000	26-508-BU	25000	GG25000	26-708-BU	BB25000	26-108-BU	BA20000	26-308-BU
27000	GG27000	26-714-BU	BB27000	26-114-BU	BA20000	26-314-BU	BB27000	26-514-BU	27000	GG27000	26-714-BU	BB27000	26-114-BU	BA20000	26-314-BU
30000	GG30000	26-720-BU	BB30000	26-120-BU	BA20000	26-320-BU	BB30000	26-520-BU	30000	GG30000	26-720-BU	BB30000	26-120-BU	BA20000	26-320-BU
40000	GG40000	26-726-BU	BB40000	26-126-BU	BA20000	26-326-BU	BB40000	26-526-BU	40000	GG40000	26-726-BU	BB40000	26-126-BU	BA20000	26-326-BU
47000	GG47000	26-732-BU	BB47000	26-132-BU	BA20000	26-332-BU	BB47000	26-532-BU	47000	GG47000	26-732-BU	BB47000	26-132-BU	BA20000	26-332-BU
50000	GG50000	26-738-BU	BB50000	26-138-BU	BA20000	26-338-BU	BB50000	26-538-BU	50000	GG50000	26-738-BU	BB50000	26-138-BU	BA20000	26-338-BU
56000	GG56000	26-744-BU	BB56000	26-144-BU	BA20000	26-344-BU	BB56000	26-544-BU	56000	GG56000	26-744-BU	BB56000	26-144-BU	BA20000	26-344-BU
60000	GG60000	26-750-BU	BB60000	26-150-BU	BA20000	26-350-BU	BB60000	26-550-BU	60000	GG60000	26-750-BU	BB60000	26-150-BU	BA20000	26-350-BU
66000	GG66000	26-756-BU	BB66000	26-156-BU	BA20000	26-356-BU	BB66000	26-556-BU	66000	GG66000	26-756-BU	BB66000	26-156-BU	BA20000	26-356-BU
70000	GG70000	26-762-BU	BB70000	26-162-BU	BA20000	26-362-BU	BB70000	26-562-BU	70000	GG70000	26-762-BU	BB70000	26-162-BU	BA20000	26-362-BU
75000	GG75000	26-768-BU	BB75000	26-168-BU	BA20000	26-368-BU	BB75000	26-568-BU	75000	GG75000	26-768-BU	BB75000	26-168-BU	BA20000	26-368-BU
80000	GG80000	26-774-BU	BB80000	26-174-BU	BA20000	26-374-BU	BB80000	26-574-BU	80000	GG80000	26-774-BU	BB80000	26-174-BU	BA20000	26-374-BU
82000	GG82000	26-780-BU	BB82000	26-180-BU	BA20000	26-380-BU	BB82000	26-5							

A complete line of LEVER SWITCHES by GENERAL CONTROL COMPANY



Type	Amps.*	High	Wide	Long**
MCS	1 or 3	7/8"	7/8"	2-1/16"
MCT-1	1 or 3	1 1/4"	3/4"	2-5/16"
MCT-4	1 or 3	1 1/2"	5/8"	2-17/32"
MCM	5	1 1/4"	1 1/4"	2-25/32"
MCL	10	1 3/4"	1 3/4"	3-15/16"
MFM	5	1 3/4"	1 3/4"	3"

\*125 volts, 60 cycles, non-inductive.  
\*\*From back panel to end of terminals.

Write for data Sheet CLRM

LEVER OPERATION

Symbol	Lock (Stays pushed)	Non-lock Spring return	Three-Position	Two-Position	Half-Throw	Two-Position	Full-Throw
Designation	MCS	S1	*S2 S3	*S4	*S5		
	MCT-1 MCT-4	T1	*T2 T3	*T4	*T5		
	MCM	M1	*M2 M3	*M4	*M5	M6	*M7
	MCL	L1	*L2 L3	*L4	*L5		

\*Lock and non-lock positions may be reversed. To reverse designate as R12, R14, R15, etc.



SPECIAL MCM LEVER

(A) waterproof lever  
\$4.45 EACH, LBT

M F M

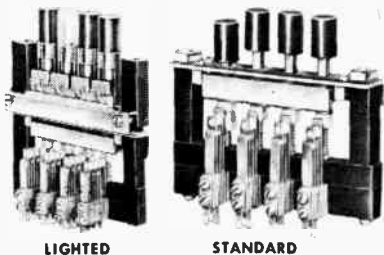
DESCRIPTION	LOCK	NON-LOCK	FOR 3-POSITION
SYMBOL			
OPERATION			
OPERATION NO.	M8	M9	M10

CONTACTS

To obtain list price—  
add  
contact prices  
to frame price.

FRAME TYPES AND PRICES	CONTACT FORMS	A	B	C	D	E	F	G	H	O
MS \$ 1.80	MCS 1 amp.	0.55	0.55	0.65	*	—	0.65	—	0.65	—
MCT-4 \$ 2.15	MCS 3 amp.	.65	.65	.80	*	—	.80	—	.80	—
MCT-1 \$ 2.70	MCT-4 1 amp.	.55	.55	.85	.95	.65	.65	—	.65	—
MCM \$ 4.00	MCT-4 3 amp.	.65	.65	.80	1.00	1.12	.80	—	.80	—
MFM \$18.50	MCT-1 1 amp.	.55	.55	.65	.85	.95	.65	—	.65	—
MCL \$ 5.40	MCT-1 3 amp.	.65	.65	.80	1.00	1.12	.80	—	.80	—
	MCM 5 amp.	.85	.85	1.00	1.25	1.60	1.00	1.00	1.00	—
	MFM 5 amp.	.85	.85	1.00	1.25	1.60	1.00	1.00	1.00	—
	MCL 10 amp.	1.25	1.25	1.45	1.75	2.70	1.45	1.45	1.45	—

PUSH-BUTTON SWITCHES by GENERAL CONTROL COMPANY



SPS-LPS FRAME PRICES 5/8" or 3/4" Button Centers

BUTTONS	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B12 SPS	\$12.00	\$14.15	\$16.50	\$19.40	\$22.35	\$25.25	\$28.15	\$31.10	\$34.25	\$37.45	\$40.65	\$43.85	\$47.00	\$50.20	\$53.40
B12 LPS	26.50	31.80	38.00	44.20	50.45	56.65	62.85	69.05	75.25	81.45	87.65	93.85	100.00	106.20	112.40
B13 SPS	10.95	13.10	15.25	18.15	21.05	24.00	26.90	29.80	32.75	35.65	38.55	41.45	44.35	47.25	50.15
B13 LPS	20.25	25.45	30.50	36.75	42.95	49.15	55.40	61.60	67.75	73.95	80.10	86.25	92.40	98.55	104.70
B14 SPS	10.35	11.65	13.20	15.30	17.40	19.50	21.55	23.65	25.70	27.80	29.85	31.90	33.95	36.00	38.05
B14 LPS	19.45	24.85	29.50	35.90	39.25	44.65	50.05	55.45	60.85	66.25	71.65	77.05	82.45	87.85	93.25
B15 SPS	9.20	10.60	11.95	14.00	16.10	18.20	20.30	22.40	24.50	26.65	28.75	30.85	32.95	35.05	37.15
B15 LPS	18.60	23.00	27.25	32.60	38.00	43.40	48.80	54.20	59.60	65.00	70.40	75.80	81.20	86.60	92.00
B16 SPS	8.20	9.25	10.30	12.30	14.35	16.40	18.45	20.45	22.50	24.55	26.60	28.65	30.70	32.75	34.80
B16 LPS	17.50	21.60	25.65	30.90	36.25	41.60	46.95	52.30	57.65	63.00	68.35	73.70	79.05	84.40	89.75
B17 SPS	9.25	10.30	11.55	13.60	15.60	17.65	19.70	21.75	23.80	25.85	27.90	30.00	32.05	34.10	36.15
B17 LPS	18.55	22.65	26.85	32.20	37.50	42.85	48.20	53.50	58.85	64.20	69.55	74.90	80.25	85.60	90.95
B18 SPS	11.60	14.35	17.10	20.85	24.60	28.35	32.05	35.80	39.55	43.30	47.05	50.80	54.55	58.30	62.05
B18 LPS	20.90	26.75	32.40	39.45	46.50	53.55	60.55	67.60	74.65	81.70	88.75	95.80	102.85	109.90	116.95
B19 SPS	12.45	15.40	18.40	22.10	25.85	29.60	33.35	37.10	40.85	44.60	48.35	52.10	55.85	59.60	63.35
B19 LPS	21.95	27.80	33.65	40.70	47.75	54.80	61.85	68.90	75.95	83.00	90.05	97.10	104.15	111.20	118.25

Note: Additional frame operations available. Contact General Control.

OPERATIONS

**B12 POSITIVE LOCK-IN LOCK-OUT**  
Only one button can be depressed at a time. The Momentary Release button must be actuated to release any previously depressed button before any other button can be actuated.

**B13 ACCUMULATIVE LOCK**  
Buttons pushed in remain locked in position until released by pushing, reset button.

**B14 NO-TWO-INTERLOCK**  
Only one button can be pushed in at one time, and releases any other button.

**B15 LOCK-RELEASE**  
Any button pushed in releases any previously pushed in button.

**B16 NON-LOCK**  
Has no locking action; returns to normal position on release of finger pressure.

**B17 NON-LOCK, NO-TWO-OPERATIVE**  
The same as B16 except that no two buttons can be operated simultaneously.

**B18 PUSH-LOCK, PUSH-RELEASE**  
Any button depressed remains locked in until that button is depressed again.

**B19 PUSH-LOCK, PUSH-RELEASE, (WITH LOCK-OUT)**  
This is the same as B18 except that only one button can be depressed at a time.

CONTACTS

CONTACT FORMS	A	B	C	D	H
1 amp silver	\$0.55	\$0.55	\$0.65	\$0.90	\$0.65
3 amps palladium alloy	.65	.65	.80	1.05	.80

Direction of Throw

Ratings of 125 volts A. C. n.i. \* In place of a "D" contact we can offer a "C" contact adjusted to provide make before break operation.

WRITE FOR DATA SHEET SLRM

ORDERING INFORMATION

1. Frame Type SPS4 \$13.20
2. Operation B14 —
3. Contacts A-C-2A-2C .65+.80+1.30+1.60
4. Contact Location TOP Mounted
5. Rating 3 amps.
6. Button Centers 5/8" = \$17.55

"Footrol" FOOT SWITCHES



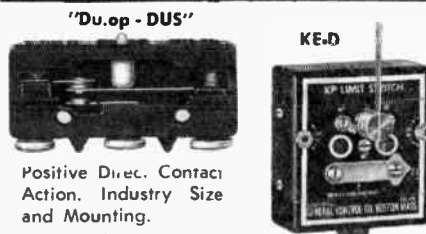
MA - \$8.00

MI - \$14.00

MC - \$14.00

WRITE FOR BULLETIN FSRM

LIMIT SWITCHES



Positive Direc. Contact Action. Industry Size and Mounting.

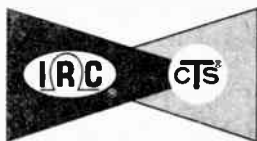
\$1.80

Adjustable contacts open and close in 360°. 73° pre or overtravel clock or counter wise. Quick conversion to rotary switch. Adjustable sensitivity.

Standard Model \$17.00

Write for Bulletin KDRM

# IRC-CTS ROTARY SELECTOR SWITCHES



IRC, Inc.

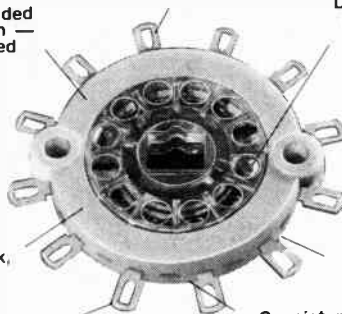


Switch Wafers Assembled  
Without Spacers

1 Piece Molded  
Construction —  
Not Riveted

Soldering Heat Or  
Handling Cannot  
Loosen Terminals

Delicate Parts Are  
Not Exposed To  
Handling



Molded Glass Alkyd  
Insulation Won't Break,  
Even If Dropped

Natural Barrier Prevents  
Solder From Flowing  
Into Circuit

Terminals Merged Into  
Exact Permanent Position

Consistent Insulation Barrier  
Due To Exact Terminal Spacing  
and Molded Glass Alkyd Material

## SELECTOR SWITCH UNIQUE 1-PIECE MOLDED WAFER PROVIDES HIGH RELIABILITY

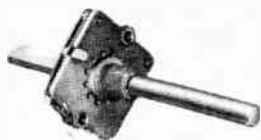
The new IRC-CTS design goes right to the heart of selector switch reliability . . . the wafer. Automated manufacture provides unprecedented uniformity. One-piece *molded* construction of the wafer virtually eliminates drift. In each production run, all switches are identical, terminal placement is exact and permanent. Machine exactness replaces human error and variation, eliminating wide tolerances and assuring high reliability.

- Compact 1 $\frac{1}{6}$ " size design allows more circuitry per unit of depth behind panel.
- Rivet-free construction permits closer stacking.
- Superior insulation due to repetitive exactness in terminal spacing, and molded glass alkyd material.
- 1000% more silver than used by most commercial switches—evenly applied at point of contact.
- Rotor contacts are double-wiping and self-cleaning.
- Stator contacts are integral with terminals.
- Molded stator will not break or crush during ordinary handling, or if it is dropped.

## GENERAL SPECIFICATIONS

INSULATION:	COMMERCIAL TYPE 212 SERIES Stator—Glass Alkyd Resin Rotor—Polycarbonate (Lexan)	INDUSTRIAL-MILITARY TYPE M-212 SERIES Stator—Type MAI-30 per MIL-M-21699 Rotor—IL grade glass-filled nylon
STATOR CONTACTS AND TERMINAL LUG MATERIAL	Laminated silver movable contacts. Terminals and stator are brass, silver plated.	Military grade laminated silver. Silver plated movable contacts. Terminals and stator are brass, silver plated.
OPERATING TEMPERATURE:	85° C.	125° C.
DETENTS:	Index plate 30° between positions with one fixed and one adjustable stop.	Index plate 30° between positions with one fixed and one adjustable stop.
FINISH:	50-hour salt spray.	50-hour salt spray.
MOUNTING DETAILS:	Bushing— $\frac{3}{8}$ "-32 thread, $\frac{3}{8}$ " long. Shaft— $\frac{1}{4}$ " diameter round shaft. $1\frac{1}{8}$ " beyond end of bushing. Hardware furnished.	Bushing— $\frac{3}{8}$ "-32 thread, $\frac{3}{8}$ " long. Shaft— $\frac{1}{4}$ " diameter round shaft, $1\frac{1}{8}$ " beyond end of bushing. Hardware furnished.
MILITARY APPLICATIONS	Both types 212 and M-212 meet requirements of MIL-S-3786A, type SRO-3.	

### EXCLUSIVE MILITARY GRADE CTS-IRC STARWHEEL SHAFT AND 30° DETENT ASSEMBLY



T-180

T-181

T-182

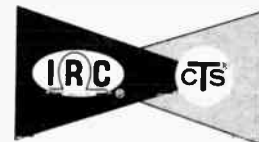
See Page 1223 for Engineering Laboratory Stocks of this Product

A balanced lever arm and star wheel detent assembly free from end and side thrust is available for precision military and instrumentation applications. Star wheel detent provides extremely long life and minimum turning torque variation. Double lever arm construction controls torque in both directions of rotation with practically no change in torque during 100,000 cycles of operation through 12 switch positions.

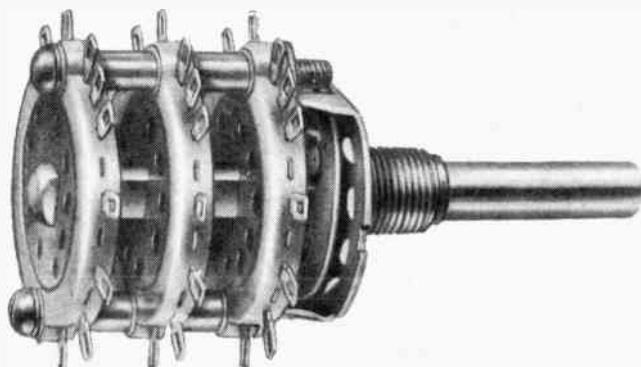
IRC, INC. • CONSUMER AND DISTRIBUTOR PRODUCTS DIVISION



# IRC-CTS ROTARY SELECTOR SWITCHES



**IRC, Inc.**



## 212 Wafer Assembly

The wafer assembly of the IRC-CTS selector switch can be separated into three basic elements, the rotor insulator, the rotor contacts and the stator. The stator consists of the stator insulator, terminal lugs, contacts, contact ring, which is made as a single unit.

## Stator Insulator

The stator insulator is a circular molding which encloses the mid portion of each contact and serves as a container for the rotor. The stator insulator also serves as a natural solder and flux barrier, thus protecting the contact areas.

## Contact Resistance

Circuit resistance ranges from .003 to .004 ohms on standard switches when measured from one terminal to an adjacent terminal. When measured terminals are not adjacent, up to 180° apart, the resistance will measure higher due to the extra metal in the stator circuits. It is to be noted

## Contact Life:

Standard sterling silver laminated rotor contacts and brass silver plated stator provide reliable life for a minimum of

## Detent Rotational Life:

The standard 212 detent assembly (T79, T80, T81 & T82) has a rated life of 25,000 cycles through 12 positions and return.

## LONGER LIFE CONTACTS

- After 1,100,000 index operations, life tests reveal virtually no change in rotor contact resistance.
- 1,000% **more** silver than used by most commercial switches has been **evenly** applied at actual point of contact by exclusive process. (See Sketch.)
- Rotor contacts are double-wiping and self-cleaning.
- Stator contacts are integral with terminals.

## ELECTRICAL RATING

### Voltage and Current Ratings:

- 1 amp at 28 volts DC
- 1½ amps at 115 volts AC

### High Pot Test:

Between adjacent 30° terminals or terminals to ground: 1,750 volts AC RMS for one minute, Between adjacent 15° terminals: 750 volts AC RMS for one minute.

## The Stator

The Stator is the heart of the IRC-CTS selector switch, and determines the circuitry of the switch in conjunction with the location of the selected rotor contacts. The stator is actually a circuit pattern cut out of metal which forms the terminal lugs, center contact ring and the stator contact.

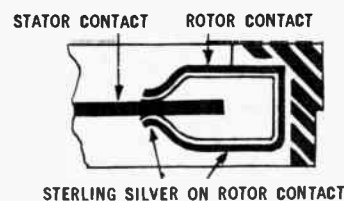
## Rotor

The rotor of the IRC-CTS selector switch holds the rotor contacts in place and carries the contacts from one position to another, providing controlled float which prevents open circuiting during severe shock or vibration.

that the circuit resistance check measures all the metal in the circuit. Thus actual resistance at the point of contact is considerably less than the measured resistance. In IRC-CTS assemblies, contact resistance is unusually stable throughout the switch life.

50,000 cycles through 12 positions and return without appreciable increase in contact resistance. (See detent life.)

The star wheel detent mechanism (T180, T181, & T182) has a rated life of 100,000 cycles through 12 positions and return.



See Page 1223 for Engineering Laboratory Stocks of this Product

IRC, INC. • CONSUMER AND DISTRIBUTOR PRODUCTS DIVISION



# IRC-CTS ROTARY SELECTOR SWITCHES

IRC, Inc.

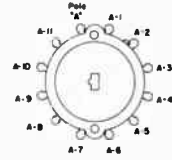
IRC-CTS COMMERCIAL TYPE 212						
Total Poles	Number of Positions		Poles per Section	Number of Sections	Stock Number	
	Shorting	Non-Shorting			Shorting	Non-Shorting
1	2-11	2-12	1	1	T201	T205
2	2-5	2-6	2	1	T202	T206
3	2-3	2-4	3	1	T203	T207
4	2	2-3	4	1	T204	T208
6	2	2	6	1		T209
2	2-11	2-12	1	2	T211	T215
4	2-5	2-6	2	2	T212	T216
6	2-3	2-4	3	2	T213	T217
8	2	2-3	4	2	T214	T218
12	2	2	6	2		T219
3	2-11	2-12	1	3	T221	T225
6	2-5	2-6	2	3	T222	T226
9	2-3	2-4	3	3	T223	T227
12	2	2-3	4	3	T224	T228
18	2	2	6	3		T229
4	2-11	2-12	1	4	T231	T235
8	2-5	2-6	2	4	T232	T236
12	2-3	2-4	3	4	T233	T237
16	2	2-3	4	4	T234	T238
24	2	2	6	4		T239

IRC-CTS INDUSTRIAL-MILITARY TYPE M-212						
Total Poles	Number of Positions		Poles per Section	Number of Sections	Stock Number	
	Shorting	Non-Shorting			Shorting	Non-Shorting
1	2-11	2-12	1	1	T301	T305
2	2-5	2-6	2	1	T302	T306
3	2-3	2-4	3	1	T303	T307
4	2	2-3	4	1	T304	T308
6	2	2	6	1		T309
2	2-11	2-12	1	2	T311	T315
4	2-5	2-6	2	2	T312	T316
6	2-3	2-4	3	2	T313	T317
8	2	2-3	4	2	T314	T318
12	2	2	6	2		T319
3	2-11	2-12	1	3	T321	T325
6	2-5	2-6	2	3	T322	T326
9	2-3	2-4	3	3	T323	T327
12	2	2-3	4	3	T324	T328
18	2	2	6	3		T329
4	2-11	2-12	1	4	T331	T335
8	2-5	2-6	2	4	T332	T336
12	2-3	2-4	3	4	T333	T337
16	2	2-3	4	4	T334	T338
24	2	2	6	4		T339

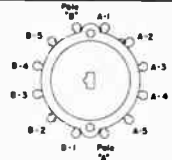
WAFER SECTIONS	Total Poles	Number of Positions		Stock Number	
		Shorting	Non-Shorting	Shorting	Non-Shorting
COMMERCIAL WAFER SECTIONS	1	2-11	2-12	T1	T5
	2	2-5	2-6	T2	T6
	3	2-3	2-4	T3	T7
	4	2	2-3	T4	T8
	6	2	2		T9
INDUSTRIAL MILITARY WAFER SECTIONS	1	2-11	2-12	T101	T105
DETENT ASSEMBLIES	2	2-5	2-6	T102	T106
	3	2-3	2-4	T103	T107
	4	2	2-3	T104	T108
	6	2	2		T109
DETENT ASSEMBLIES	Total Positions	Rear Shaft Length	Suggested Number of Sections	Stock Number	
STANDARD SHAFT & 30° DETENT ASSEMBLIES	2-12	7/32"	1	T79	
	2-12	1- 9/32"	1-3	T80	
	2-12	2-15/16"	4-6	T81	
	2-12	5- 9/64"	7-10	T82	
STARWHEEL SHAFT & 30° DETENT ASSEMBLIES	2-12	1- 9/32"	1-3	T180	
	2-12	2-15/16"	4-6	T181	
	2-12	5- 9/64"	7-10	T182	

## TERMINAL SPECIFICATIONS

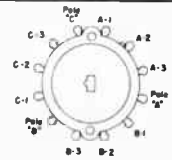
1 Pole  
11 Position  
Shorting Type  
**T1 and T101**



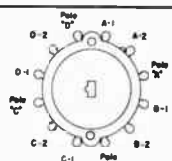
2 Pole  
5 Position  
Shorting Type  
**T2 and T102**



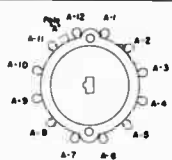
3 Pole  
3 Position  
Shorting Type  
**T3 and T103**



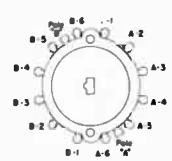
4 Pole  
2 Position  
Shorting Type  
**T4 and T104**



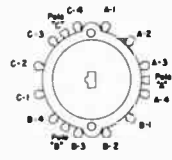
1 Pole  
12 Position  
Non-Shorting Type  
**T5 and T105**



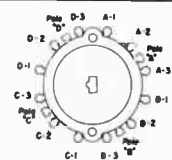
2 Pole  
6 Position  
Non-Shorting Type  
**T6 and T106**



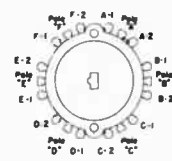
3 Pole  
4 Position  
Non-Shorting Type  
**T7 and T107**



4 Pole  
3 Position  
Non-Shorting Type  
**T8 and T108**



6 Pole  
2 Position  
Non-Shorting Type  
**T9 and T109**

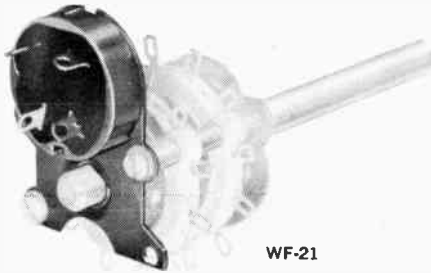


# IRC-CTS ROTARY SELECTOR SWITCH ACCESSORIES



IRC, Inc.

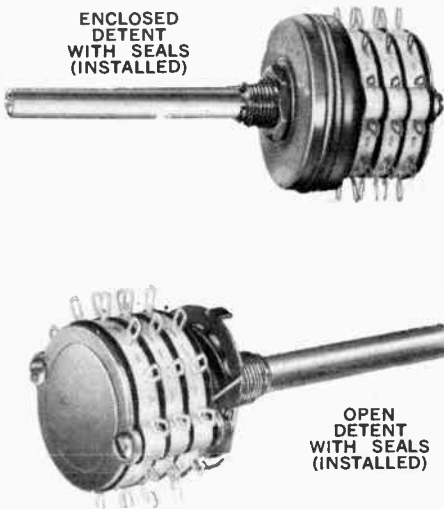
## IRC-CTS ATTACHABLE POWER SWITCHES



WF-21

A selection of reliable AC power switches is available for use with selector switches, giving an original source for both the selector switch and attached switches. These power switches can be mounted on the rear frame of the selector switch or between wafers by means of a specially designed bracket.

STOCK NO.	DESCRIPTION	VOLTAGE	CURRENT
GC-21	SPST	125	3 Amps
VF-21	SPDT	125	3 Amps
WF-21	DPST	125	3 Amps



ENCLOSED  
DETENT  
WITH SEALS  
(INSTALLED)

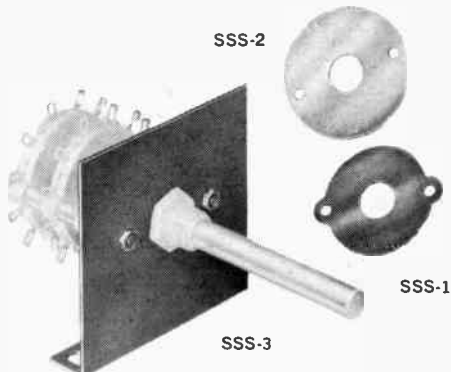
OPEN  
DETENT  
WITH SEALS  
(INSTALLED)

## SEALED SWITCH KITS

STOCK NO.	DESCRIPTION
SSK-1	Enclosed detent construction seals both the wafer sections and the detent mechanism of the switch against dust, dirt, and moisture.
DSWK-1	Open detent construction protects and seals the wafer sections of the selector switch against dust and dirt.

## SHIELDS AND MOUNTING BRACKETS

Shielding of switch sections from each other may be accomplished with these Switch Shields.



SSS-2

SSS-1

SSS-3

STOCK NO.	DESCRIPTION
SSS-1	Standard Shields
SSS-2	Brass, Silver Plated Shields
SSS-3	Combination Shields and Mounting Brackets

## HARDWARE

STOCK NO.	DESCRIPTION
SSS-4	50 1/4" Spacers
SSS-5	50 3/8" Spacers
SSS-6	50 1/2" Spacers
SSS-7	50 3/4" Spacers
SSS-8	50 1" Spacers

See Page 1223 for Engineering Laboratory Stocks of this Product



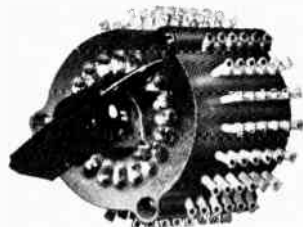
# MULTI-POLE AND LEVER TYPE SWITCHES

J-B-T INSTRUMENTS, INC.

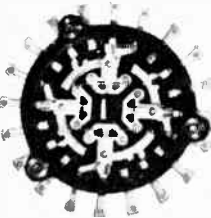
29th Year

## NEW MULTI-POLE MOLDED ROTARY SWITCHES, SERIES 20M.

- Superior Molded Material
- All Models Bonded & Ruggedized
- Panel Seal Available



Front View Showing Panel Locator which is Normally at 3 o'clock Position.



Rear View with Back Cover Cut Away to Show 4-Pole Construction with 4 Live Switching Contacts.

Although the new 20M-Series is 1/4" longer behind the panel than the 20-position molded switches described on the preceding page, the two styles are otherwise interchangeable in dimensions. Providing 19 live positions and off, the 20M- offers these additional features:

1. **Increased Versatility of Circuitry** — up to and including four poles per deck;
2. **Upgraded Insulation Resistance and Dielectric Qualities** — by use of melamine stators and rotors (or other MIL-M-14 molded materials when specially ordered);
3. **Built-in Panel Locator or Non-Turn Device;**
4. **Extended Switch Life** — new contact design with rotor brushes of phosphor bronze heavily silver-plated;
5. **All 20M- Models are Bonded and Ruggedized Construction;**
6. **Radial Alignment of Multi-Pole Contact Surfaces** — by means of newly-designed double-ball detent with diaphragm-type springs.

**VARIATIONS OF 20M-** Please request SK-142, Revision of March, 1967, or later for full dimensions and circuit diagrams. Besides the condensed listing in the accompanying table, various combinations of **shorting and non-shorting contacts for each deck** may be made. **Fixed stops** are built-in but may be altered for single-pole switches when specially ordered. **Over six decks** can be supplied for a reasonable number of poles; extra decks add 5/16" per deck and 5/16" per switch for rear support SU-3. **Ring-contact (suffix R)** may be specially ordered.

**PANEL SEAL PS20M-SERIES** — Sealed shaft and bushing meet the requirements of MIL-S-3786B for sealing. For details ask for SK-143, Revision of March, 1967, or later. The seal (prefix PS) adds \$1.75 per switch to catalog price.

**SPECIFICATIONS AND TEST DATA** — Available on request.

No. of Decks	Depth Behind Panel	Poles per Deck	Model Number	Circuitry Per Pole	Rotation Positions*	Boxed Incl. Knob
1	1-3/16"	1	20M-1201N	19 live, 1 off	Continuous	\$3.75
		1	20M-1191NF	19 live, no off	1 thru 19	4.10
		1	20M-1161N	15 live, 1 off	20 thru 15	3.75
		2	20M-2101N	9 live, 1 off	20 thru 9	4.15
2	1-1/2"	3	20M-3051N	1 live, 1 off	20 thru 4	4.30
		4	20M-4051N	4 live, 1 off	20 thru 4	4.85
		1	20M-1202N	19 live, 1 off	Continuous	5.00
		2	20M-2102N	9 live, 1 off	20 thru 9	5.80
3	1-13/16"	3	20M-3052N	4 live, 1 off	20 thru 4	6.50
		4	20M-4052N	4 live, 1 off	20 thru 4	7.20
		1	20M-1203N	19 live, 1 off	Continuous	6.25
		2	20M-2103N	9 live, 1 off	20 thru 9	7.45
4	2-3/16"	3	20M-3053N	4 live, 1 off	20 thru 4	8.50
		4	20M-4053N	4 live, 1 off	20 thru 4	9.55
		1	20M-1204N	19 live, 1 off	Continuous	7.70
		2	20M-2140N	9 live, 1 off	20 thru 9	9.30
6	2-13/16"	3	20M-3054N	4 live, 1 off	20 thru 4	10.70
		4	20M-4054N	4 live, 1 off	20 thru 4	12.10
		4	20M-4044N	3 live, 1 off	20 thru 3	12.10
		1	20M-1206N	19 live, 1 off	Continuous	10.80
6	2-13/16"	1	20M-1166N	15 live, 1 off	20 thru 15	10.80
		2	20M-2106N	9 live, 1 off	20 thru 9	13.20

\* See MS-20 drawing on following page for location of positions.

- Notes: (1) For standard switches, knob pointer (active position) is 180° opposite flat on shaft, and off is at position 20.  
 (2) **NON-shorting (N)** type — (break-before-make) — is shown. For shorting type (S), add \$.05 per pole per deck to catalog price. Example: 3 pole, 3 deck 20M-3053S is \$8.95.  
 (3) All models have 18° angular indexing.  
 (4) Maximum **LIVE** positions per single pole, 19; per 2-pole, 9; per 3- and 4-pole, 4.  
 (5) Switches (such as 15 or 18 position) with all live or less than maximum live positions can be provided by fixed stops.  
 (6) Maximum of 9 decks for 1 pole per deck  
 6 decks for 2 poles per deck  
 4 decks for 4 poles per deck.  
 (7) †Suffix-F denotes all rotation positions shown are live with no off.

## LEVER ACTION SWITCHES — 6, 5, 4, 3, and 2-Position — LAMINATED, MOLDED, & SUB-MINIATURE

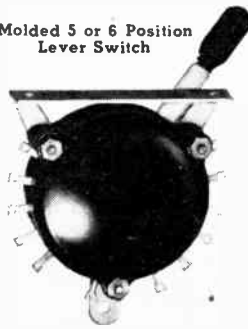
**LAMINATED 3- AND 4-POSITION, POSITIVE INDEXING.** These lever switches are derived from the J-B-T SS-14 instrument-type rotaries. Specified for tube checkers, inspection equipment, communications systems, control consoles, and other uses where quality is important. 4-position types are interchangeable with 3-position except in length of throw (1" slot for 3-position, 1 3/8" for 4-position) — mounting holes for boxed switches come with mounting hardware and KN-17 knob as illustrated; bulk shipments, without knobs. **SINGLE DECK** — spacing between centers: recommended, 3/4"; minimum, 9/16". **TWO DECK** — spacing: recommended, 15/16"; minimum, 13/16". 3/8" between decks matches TV twinlead wires. **SPRING RETURN TYPE** — single deck, 3-position switches may be ordered with spring return. Lever returns to position 11°, giving momentary action at positions 9° and 10°. For dimensions on all SS-14-IL series switches, ask for drawing SK-138.

Two-Deck Lever-Action Switch



SS-14-1L4F-2

Molded 5 or 6 Position Lever Switch



**MOLDED 5- and 6-POSITION, POSITIVE-INDEXING.** 5 or 6 live positions, two circuits per deck, in enclosed lustrous black molded construction; adapted from the MS-20 series with electrical characteristics as shown on the next page. These models can simplify circuitry for sound systems, control, inspection, test, experimental, and hobby purposes. Individually-boxed switches come with KN-20 threaded black molded knob; bulk shipments, without knobs. For mounting data see SK-64, Rev. H on 5-position and SK-119, Rev. B on 6-position.

MS-20-1L5A-1, 5-position, 2-circuit (1 deck)	\$3.25
MS-20-1L6A-1, 6-position, 2-circuits (1 deck)	3.50

### 2 AND 3 POSITION, 1 TO 4 DECKS, 2 TO 8 POLES PER DECK.

**SUB-MINIATURE LEVER SWITCHES** — Derived from the high-performance sub-miniature switches described on another page, the VL-7000 and the VL-5000 positive indexing series and the VSRL-7000 and VSRL-5000 spring return types provide excellence in lever switches. MIL materials throughout; crisp 30° indexing. Max. depth behind panel 1.250"; panel slot .962" x .062"; other details to SK-139, Rev. A and Catalog SM-32D. Typical switches are:

VL-71031N, single-pole, 3-position, one-deck, non-shorting	\$4.80
VSRL-71031N, same as above, with spring return to center position from either side	5.80
VL-71032N, single-pole, 3-position, two-deck, non-shorting	7.05



Sub-Miniature 1 Dual Duty Deck

Positions Per Circuit	Circ. (Poles) Per Deck	Decks or Gangs	Short. Non-Short	Stand. Contact Pos.	Model	Boxed Incl. Knob
3, no "off"	1	1	N-S	A	SS-14-1L3	\$1.00
3, no "off"	2	1	N-S	B	SS-14-1L3A	1.15
3, no "off"	1	1	S	A	SS-14-1L3S	1.05
3, no "off"	1	1	N-S	A	SS-14-1L3R**	1.15
3, no "off"	1	1	S	A	SS-14-1L3S-R**	1.20
3, no "off"	1	2	N-S	A	SS-14-1L3-2	1.70
3, & "off"	1	1	N-S	C	SS-14-1L4	1.10
4, no "off"	1	1	N-S	D	SS-14-1L4F	1.10
4, no "off"	1	2	N-S	D	SS-14-1L4F-2	1.90

\* Numbers correspond to contact positions in MS-14-2 drawing on next page. A—common at 12, contacts at 9, 10, 11; B—common at 9, 10, contacts at 6, 7, 8, 12, 13, 14; C—common and off at 12, contacts at 9, 10, 11; D—common at 12, contacts at 8, 9, 10, 11. \*\*—Spring Return.



### LEVER KNOBS

KN-17, black pointed with metal insert	\$0.19
KN-18, walnut, same as KN-19	0.06
KN-19, black, round, flat-type, push-on	0.06
KN-20, black, threaded, for MS-20-IL	0.14

Prices Net, F.O.B. Factory; Individually Boxed, Domestic Packed Effective June 1, 1967, subject to change.

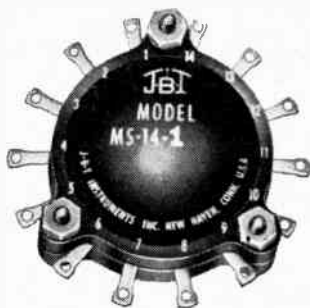
ROTARY SWITCHES — LAMINATED AND MOLDED



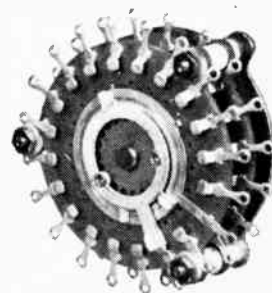
29th Year

J-B-T INSTRUMENTS, INC.

- INSTRUMENT AND TESTER TYPE • 14- AND 20-POSITION
- SINGLE AND MULTI-DECK • MILITARY OR COMMERCIAL



MS-14-1 Molded



SS-20-2 Laminated

**USES** — J-B-T Rotary Selector Switches are extensively used in quality test equipment, portable instruments, inspection setups, and other military aerospace and commercial applications where trouble-free, dependable performance is of major importance.

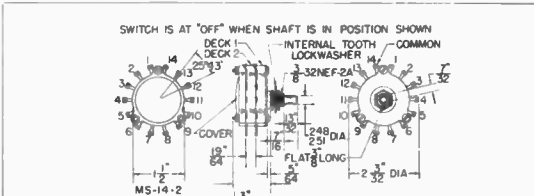
**FEATURES** — **Extra Contacts** — 14- and 20-position designs provide extra switching capability. **Dependability** — Sturdy rotors and decks with rigid 3-post deck suspension; current-carrying parts heavily silverplated to meet 100 hour salt spray test; sharp detent mechanism to assure positive indexing; insulation resistance above 50,000 megohms. **Low Contact Loss** — Double-grip collector arms, and large area contacts, silver to silver; average contact resistance, .007 ohms or less. **Ample Dielectric** — Conservatively rated at 1 amp., 125 VAC, inductive load; maximum momentary capacity (not make-and-break), 5 amp. AC or DC; maximum voltage between contacts, 1500 VAC, R.M.S.; between decks and ground, 2000 VAC, R.M.S.

**Enclosed** — Molded models have all moving contacts enclosed to minimize dirt and corrosion.

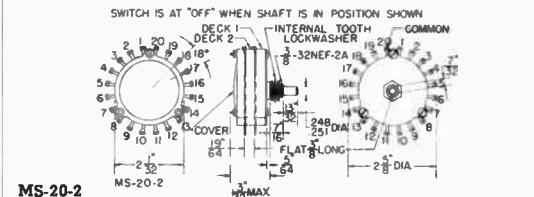
**Basic 14-Position:** 13 circuits and "off" per deck in 2" circle (SS-14) or 2-3/32" circle (MS-14) with 25° 43' angular indexing. Supplied individually boxed with 1-1/4" Bar Knob, (KN-14), not on bulk orders unless specified. For details, SS-14, 1 to 6 decks, see Print SK-42 Rev. B. MS-14 1 to 6 decks, Print SK-111 Rev. D, 7 decks and over, Print SK-112 Rev. C.

**Basic 20-Position:** 19 circuits and "off" per deck in 2-23/32" circle (SS-20) or 2 5/8" circle (MS-20) with 18° angular indexing. Supplied individually boxed with 2" Bar Knob (KN-16), not on bulk orders unless specified. For details, SS-20 1 to 6 decks, see Print SK-116 Rev. A. MS-20, 1 to 6 decks, Print SK-113 Rev. D, 7 decks and over, Print SK-114 Rev. C.

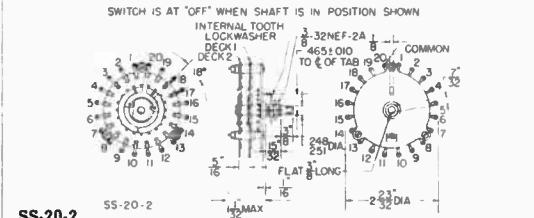
**Military or Commercial Variations:** Special switches too numerous to list now are being made. Typical are: laminated models with 14 or 20 live positions, no off, designated by suffix F as in SS-14-2F or SS-20-1F. Inquiries are invited.



MS-14-2



MS-20-2



SS-20-2

**\*\*\*BONDED RUGGEDIZED TYPES** As indicated in the table, all molded rotary switches may be ordered with bonded construction as MS-14B or MS-20B types using cured laminations for ruggedization, shockproofing and further enclosure. This additional dependability factor adds only approx. 1/64" and 35c catalog price per deck.

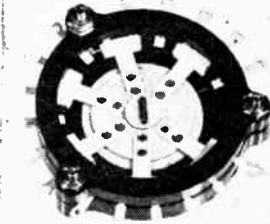
**6-POLE DOUBLE-THROW PER DECK —**

**1 or 2 DECKS (DT Series).** Widely used for simultaneous double-throw switching of 6 circuits per deck (18° throw). Fully enclosed — illustration shows protective cover cut-away. Circuit arrangement printed on switch front. If DTS Shorting Type, 1500 VAC R.M.S. between contacts and ground, 1000 VAC R.M.S. between contacts. See MS-20-1-6DT, MS-20-1-6DTS, and MS-20-2-6DT in table.

**ETCHED DIAL PLATES**

For switches below, also 20M Series. Dull black finish, raised bright numerals, 2 3/4" dia.

- EP-13 off thru 13 ..... \$2.20
- EP-14 1 thru 14 ..... .23
- EP-19 off thru 19 ..... .23
- EP-20 1 thru 20 ..... .23



MS-20-1-6DT Double-throw Switching of 6 circuits per deck

14-POSITION ROTARY SWITCHES — 25° 43' INDEXING SERIES SS-14, MS-14, MS-14B, MAS-14, and MAS-14B

Cir. Pos. (Poles) Per Circ.	Decks or Gangs	Short'g or Non-Sh.	LAMINATED (SS)			MOLDED (MS)												
			Standard Model	Max(d) Depth Behind Panel	Boxed Inc. Knob	Standard Model	Max. Depth Behind Panel	Boxed Inc. Knob	Bonded Model	Max. Depth Behind Panel	Boxed Inc. Knob	Adjustable Stop Model	Max. Depth Behind Panel	Boxed Inc. Knob	Bonded Adjustable Stop Model	Max. Depth Behind Panel	Boxed Inc. Knob	
14	1	1	N-S	SS-14-1	2 3/32"	\$2.30	MS-14-1	2 3/32"	\$2.45	MS-14B-1	7/8"	\$2.80	MAS-14-1	3 1/32"	\$3.10	MAS-14B-1*	1"	\$3.45
5(a)	2	1	N-S	SS-14-1A*	2 3/32"	2.45	—	—	—	—	—	—	—	—	—	—	—	—
14	1	1	S	SS-14-1S*	2 3/32"	2.35	MS-14-1S*	2 3/32"	2.50	MS-14B-1S*	7/8"	2.85	MAS-14-1S	3 1/32"	3.20	MAS-14B-1S*	1"	3.55
14	1	1	C-S(c)	SS-14-1CS*	2 3/32"	2.80	—	—	—	—	—	—	—	—	—	—	—	—
14	1	2	N-S	SS-14-2	1 3/32"	2.90	MS-14-2	1 3/32"	3.10	MS-14B-2	1 1/8"	3.80	MAS-14-2	1 3/32"	3.80	MAS-14B-2	1 1/4"	4.50
5(a)	2	2	N-S	SS-14-2A*	1 3/32"	3.20	—	—	—	—	—	—	—	—	—	—	—	—
14	1	2	S	SS-14-2S*	1 3/32"	3.00	MS-14-2S*	1 3/32"	3.20	MS-14B-2S*	1 1/8"	3.90	MAS-14-2S*	1 3/32"	3.95	MAS-14B-2S*	1 1/4"	4.65
14	1	3	N-S	SS-14-3	1 1/16"	3.50	MS-14-3	1 1/32"	3.75	MS-14B-3	1 1/32"	4.80	MAS-14-3	1 1/32"	4.60	MAS-14B-3*	1 1/32"	5.65
14	1	4	N-S	SS-14-4	1 3/32"	4.40	MS-14-4	1 3/32"	4.85	MS-14B-4	1 3/32"	6.25	MAS-14-4	1 3/32"	5.70	MAS-14B-4*	1 1/16"	7.10
14	1	6	N-S	SS-14-6	2 1/32"	6.30	MS-14-6	2 1/32"	7.05	MS-14B-6	2 1/2"	9.15	MAS-14-6	2 1/32"	8.00	MAS-14B-6*	2 1/32"	10.10

20-POSITION ROTARY SWITCHES — 18° INDEXING SERIES SS-20, MS-20, and MS-20B

Cir. Pos. (Poles) Per Circ.	Decks or Gangs	Short'g or Non-Sh.	LAMINATED (SS)			MOLDED (MS)			NOTES TO TABLES															
			Standard Model	Max(d) Depth Behind Panel	Boxed Inc. Knob	Standard Model	Max. Depth Behind Panel	Boxed Inc. Knob	MS-20-1-6DT	Max. Depth Behind Panel	Boxed Inc. Knob	MS-20B-1-6DT*	Max. Depth Behind Panel	Boxed Inc. Knob	MS-20B-1S*	Max. Depth Behind Panel	Boxed Inc. Knob	MS-20B-2	Max. Depth Behind Panel	Boxed Inc. Knob	MS-20B-2-6DT*	Max. Depth Behind Panel	Boxed Inc. Knob	
20	1	1	N-S	SS-20-1	2 3/32"	4.00	MS-20-1	2 3/32"	3.10	MS-20B-1	7/8"	3.45	—	—	—	—	—	—	—	—	—	—	—	—
6(b)	2	1	N-S	SS-20-1A*	2 3/32"	4.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	6	1	N-S	—	—	—	MS-20-1-6DT	2 3/32"	3.90	MS-20B-1-6DT*	7/8"	4.25	—	—	—	—	—	—	—	—	—	—	—	—
2	6	1	S	—	—	—	MS-20-1-6DTS	2 3/32"	4.00	MS-20B-1-6DTS*	7/8"	4.35	—	—	—	—	—	—	—	—	—	—	—	—
20	1	1	S	SS-20-1S*	2 3/32"	4.05	MS-20-1S	2 3/32"	3.15	MS-20B-1S*	7/8"	3.50	—	—	—	—	—	—	—	—	—	—	—	—
20	1	2	N-S	SS-20-2	1 3/32"	4.75	MS-20-2	1 3/32"	3.90	MS-20B-2	1 1/8"	4.60	—	—	—	—	—	—	—	—	—	—	—	—
2	6	2	N-S	—	—	—	MS-20-2-6DT	1 3/32"	5.50	MS-20B-2-6DT*	1 1/8"	6.20	—	—	—	—	—	—	—	—	—	—	—	—
20	1	2	S	SS-20-2S*	1 3/32"	4.85	MS-20-2S	1 3/32"	4.00	MS-20B-2S*	1 1/8"	4.70	—	—	—	—	—	—	—	—	—	—	—	—
20	1	3	N-S	SS-20-3	1 1/32"	5.85	MS-20-3	1 1/32"	5.00	MS-20B-3*	1 1/32"	6.05	—	—	—	—	—	—	—	—	—	—	—	—
20	1	4	N-S	SS-20-4	1 3/32"	7.10	MS-20-4	1 3/32"	6.20	MS-20B-4	1 3/32"	7.60	—	—	—	—	—	—	—	—	—	—	—	—
20	1	6	N-S	SS-20-6	2 1/32"	9.40	MAS-20-6	2 1/32"	8.60	MS-20B-6	2 1/2"	10.70	—	—	—	—	—	—	—	—	—	—	—	—

Non-Shorting — Break before make      Shorting — Make before break

Prices Net, F.O.B. Factory; Individually Boxed, Domestic Packed, Effective January 1, 1966, subject to change.



**SUB-MINIATURE ROTARY AND LEVER SWITCHES**

J-B-T INSTRUMENTS, INC.

29th Year

**SUB-MINIATURE SWITCHES MADE TO MANY PERFORMANCE LEVELS OF MIL-S-3786B, TYPE SR05; ALSO NON-MILITARY X AND V VERSIONS.**

SERIES 7000, FULL 12 LIVE SWITCHING CONTACTS PER DECK; SERIES 5000, UP TO 8 POLES PER DUAL-DUTY DECK.



NOMINAL 1 INCH

6 DECKS  
Series 7000  
Model Number  
V-72066N-SR05N30C3MGC

Military type illustrated: Terminals have hole to accept two 0.032" dia. wires, and supersede solid "T" terminals formerly supplied.

- Precision built for Low-Current Usage where Size, Weight, Reliability are Important
- Unusual Versatility — More Contacts per Deck
- Accelerated Snap-Action Detent
- MIL Materials Throughout for Military & Non-Military Applications

**CAUTION**— MIL-S-3786B, a sophisticated specification, spells out more than one performance level in each of several categories such as Temperature-Life, Vibration, Shock, and Altitude. Each level is designated by its own symbol. J-B-T SR05 models meet an exceptional number of levels.

• **USES** — For test equipment, airborne and transistorized equipment, geophysical apparatus, and other miniaturized electrical and electronic devices.

**TWO BASIC SERIES** — Full 12 live switching contacts per deck are available in Series 7000 using a patented wafer design feature where rotor contacts are on the front, and switching contacts are on the rear of the same deck. 1 to 4 poles per deck 1 to 6 decks, standard.

Up to 8 poles per dual-duty deck are available in Series 5000 which has up to 12 contacts including common on the front, and up to 12 contacts including common on the rear of the same deck. 1 to 4 poles on each side of dual-duty decks; 1 to 4 decks, standard.

**THREE ROTARY TYPES** — Both Basic Series are made in 3 types: **MILITARY STYLE SR05**, numbered for specific performance levels of MIL-S-3786B; **V TYPE**, of similar construction to SR05, but not ordinarily subjected to full military test procedures; and **X TYPE**, using the same materials as V type switches, but intended as replacements for previous models or as original components for non-military devices where requirements are similarly exacting.

**LEVER SERIES (L Types)** — Outstanding design known as VL-7000 or VL-5000 Series, 1 to 4 decks. Illustrated on a preceding page.

**KNOBS** — Supplied with individually boxed switches on V and X types; not supplied on SR05 because separate military specification applies.

**DIFFERENCES BETWEEN SR05 MILITARY, V, and X** — Switches other than X types use extra rugged index mechanisms and rotor construction.

ITEM	X-7000 X-5000	V-7000 V-5000	MIL-S-3786B V-7000 SR05 V-5000 SR05
Terminals	Hole-type not bent	Hole-type not bent	Hole-type; normally not bent
Shaft	1/8" dia.	1/4" dia.	1/4" dia. only
Bushing	1/4" .32NEF-2A, 1/4" long	3/8" .32NEF-2A, 3/8" long	3/8" .32NEF-2A, 3/8" long
Rear Bridge	Black Identification	Red Identification	Stainless steel, full number
Non-Turn Device	Normally supplied	Normally supplied	Supplied - Spec. requires

FOR ADDITIONAL MODELS AND FULL SPECIFICATIONS, ASK FOR BULLETINS SM-32E AND LAYOUT SHEETS WITH CONTACT ARRANGEMENTS.

**MOST FREQUENTLY ORDERED MODELS**

DECKS	Circ. (Poles) per Deck	Pos. per Pole	Shorting, Non-Shorting	SHAFT DIA.	V-TYPE OR X-TYPE		SR05-TYPE	
					Model	Price	Model	Price
ONE DECK	1	12	N-S	1/4"	V-71121N	\$4.90	V-71121N-SR05*	\$5.25
	1	12	S	1/4"	V-71121S	4.90	V-71121S-SR05*	5.25
	1	12	N-S	1/8"	X-71121N	4.70	—	—
	1	12	S	1/8"	X-71121S	4.70	—	—
	2	6	N-S	1/4"	V-72061N	5.00	V-72061N-SR05*	5.35
	4	3	N-S	1/4"	V-74031N	5.20	V-74031N-SR05*	5.50
ONE DUAL DUTY DECK	2	11	N-S	1/4"	V-52111N	5.25	V-52111N-SR05*	5.60
	2	11	S	1/4"	V-52111S	5.25	V-52111S-SR05*	5.60
	4	5	N-S	1/4"	V-54051N	5.35	V-54051N-SR05*	5.70
	4	5	S	1/4"	V-54051S	5.35	V-54051S-SR05*	5.70
	8	2	N-S	1/4"	V-58021N	5.55	V-58021N-SR05*	5.90
TWO DECKS	1	12	N-S	1/4"	V-71122N	6.75	V-71122N-SR05*	7.20
	1	12	S	1/4"	V-71122S	6.75	V-71122S-SR05*	7.20
	1	12	N-S	1/8"	X-71122N	6.45	—	—
	2	6	N-S	1/4"	V-72062N	6.95	V-72062N-SR05*	7.40
	4	3	N-S	1/4"	V-74032N	7.40	V-74032N-SR05*	7.90
TWO DUAL DUTY DECKS	2	11	N-S	1/4"	V-52112N	8.10	V-52112N-SR05*	8.65
	2	11	N-S	1/8"	X-52112N	7.75	—	—
	4	5	N-S	1/4"	V-54052N	8.30	V-54052N-SR05*	8.85
THREE DECKS	1	12	N-S	1/4"	V-71123N	8.85	V-71123N-SR05*	9.45
	2	6	N-S	1/4"	V-72063N	9.15	V-72063N-SR05*	9.70
	4	3	N-S	1/4"	V-74033N	9.85	V-74033N-SR05*	10.45
FOUR DECKS	1	12	N-S	1/4"	V-71124N	11.95	V-71124N-SR05*	12.70
	1	12	N-S	1/8"	X-71124N	11.40	—	—
SIX DECKS	1	12	N-S	1/4"	V-71126N	16.05	V-71126N-SR05*	17.10
ONE DECK LEVER	4	3	N-S	—	VL-74031N	\$5.15	Levers not in Specs.	
	2	3	N-S	—	VL-72031N	5.05	" " " "	"
	8	2	N-S	—	VL-58021N	5.35	" " " "	"

\* Typical MIL-S-3786B complete number is V-71121N-SR05N30C3MGC. Unless otherwise ordered, switches will be furnished according to suffix N30C3MGC. Temperature-Life Characteristic C also qualifies for Characteristics A and B; Vibration Grade Symbol 3 also qualifies for Symbols 1 and 2; Shock Type M, medium impact, normally supplied. Shock Type H available at extra cost on some models when so ordered. Altitude C covers up to 70,000 ft., also meets Characteristic O (up to 10,000 ft.)

**SPECIFICATIONS & TEST DATA ON SR05 MILITARY STYLE**

**NOTE:** Most of the values shown here are given in the Specification and do not indicate the extent to which the test results of J-B-T switches were more favorable.

**Current-carrying capacity:** 5 amps at standard ambient conditions.  
**Current-breaking capacity:** 750 MA at 30 VDC; 300 MA at 120 VDC; 1 AMP at 115 VAC Non-Inductive.

**Initial Contact Resistance:** .005 ohms max.  
**Contact Resistance:** To MIL-STD-202C, Method 307, which requires Initial — 10 milliohms; After Moisture Resistance Test — 15 milliohms; After Life Test — 20 milliohms.

**Materials: Terminals (double-wiping):** gold-plated 90% silver alloy. **Rotor Contact:** J-B-T #1800 Silver Alloy. **Shaft & Frame:** Stainless steel, passivated.

**Insulation:** Water, glass epoxy laminate to MIL-P-18177C Type GEB, NEMA G-11; Rotor, ceramic to MIL-I-10A, Grade L-623.

**Life Rotational; Temperature-Life Characteristic C,** 25,000 rotational cycles at 10 cpm, Temperature — 65°C to +125°C; 25,000 cycles at 70,000', room ambient temperature. **Vibration:** Grade 3 of Table III MIL-S-3786B, 10 to 2000 cps. Tested in accordance with MIL-STD-202C, Method 204, Test Condition B.

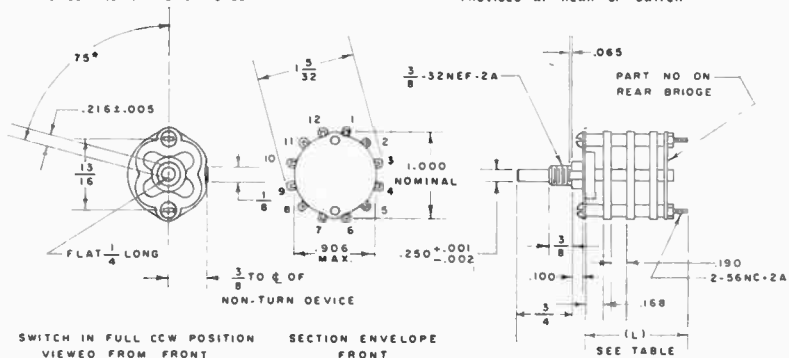
**SHOCK:** Shock Type M, Medium Impact per Table IV, MIL-S-3786B. Tested in accordance with MIL-STD-202C, Method 205. Mating contacts did not open for more than 10 microseconds. Shock Type H, High Impact, Method 207, specifies not more than 5 milliseconds and does not automatically cover Type M Impact.

**MAXIMUM DEPTH (L) BEHIND PANEL, INCHES**

	1-Deck	2-Decks	3-Decks	4-Decks	5-Decks	6-Decks
Series V-7000-SR05 or X-7000	0.640	0.918	1.196	1.474	1.752	2.030
Series V-5000-SR05 or X-5000	0.640	0.918	1.196	1.474	—	—

THIS SKETCH APPLIES ONLY TO SR05 AND V-TYPE SWITCHES

FOR SR05, WHEN SPECIFIED, TERMINAL MARKING PLATE PROVIDED AT REAR OF SWITCH



STYLE SR05, V-7000 AND V-5000

Prices Net, F.O.B. Factory; Individually Boxed, Domestic Packed, Effective January 1, 1966.

SUB-MINIATURE TOGGLE SWITCHES



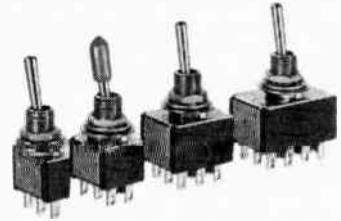
29th Year

J-B-T INSTRUMENTS, INC.

**Group IV** NEW SUB-MINIATURE TOGGLE SWITCHES  
SERIES JMT, MADE IN AMERICA BY J-B-T

MANUFACTURED IN CONNECTICUT by J-B-T, the sub-miniature types illustrated on this page make up the firm's fourth and newest group of toggle switches. Series JMT combines drastic reduction in size and weight with the trouble-free construction built into standard-size J-B-T switches. Widely used in manually controlled, low-current, solid-state devices and miniaturized circuitry of computers, instruments, space, geophysical, and test apparatus, these tiny switches also have application in aircraft, communications, and electronic equipment, and portable products.

Made with a distinctive GREEN BODY (bright color on some models, forest green on others) single-pole types are 1/4" thin, double-pole types less than 1/2" square, 3-pole and 4-pole types correspondingly small. All use single-hole mounting with 1/4" threaded bushing which will not turn or work loose in the J-B-T surface plate. Stringent in-plant controls assure terminals that are firmly staked and will withstand repeated soldering. Terminal holes accept up to three #22 wires.



JMT-123 SPDT    JMT-223 DPDT    JMT-323 3-Pole    JMT-423 4-Pole

**SPECIFICATIONS**

**Nominal Rating:** 5 Amp. resistive load, 125 VAC and 24 VDC. **Initial Contact Resistance:** 5 Milliohms max. 3 VDC, 100 Milliamps. **Insulation Resistance:** 10,000 Megohms, min. **Dielectric Strength:** 1,000 volts rms at sea level. **Life Under Load:** 100,000 make-and-break cycles minimum for all suffix-23 models; 60,000 for others. **Weight, Including Hardware:** SP, 0.19 oz.; DP, 0.23 oz.; 3-pole, 0.28 oz., 4-pole, 0.32 oz.

**MATERIALS:** Switching contacts and rockers are coin silver; center terminal silver-plated. Bat handle is bright chrome-plated brass. Case and cradle are molded of colored phenolic; models with forest green bodies use glass-filled phenolic selected for extra mechanical strength and arc resistance. Bushing, locking ring, and hex nuts are brass nickel-plated. Clamp and lockwasher are made of steel nickel-plated.

**HARDWARE AND MOUNTING**

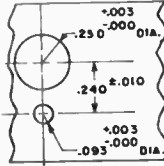
Mounting hardware supplied consists of one locking ring W-RI-12, two hex nuts, W-NU-11, one internal tooth lockwasher, W-WA-16, Knurled nut, W-NU-12 also available.

**DIRECTION OF MOVEMENT** — All JMT switches make continuity to terminal OPPOSITE throw of lever.

**MOUNTING INFORMATION** — When mounting switch with locking ring, use drill procedure illustrated.

**COLOR CAPS** — Switches are normally supplied with bat handles. For color coding, tight-grip insulator caps are available for easy attachment before or after switches are mounted. Price, \$10.00 per thousand in bulk; 2c per switch if attached. Specify color and part number:

- |                   |                    |                    |
|-------------------|--------------------|--------------------|
| White — W-CAP-10A | Black — W-CAP-10D  | Green — W-CAP-10H  |
| Blue — W-CAP-10B  | Brown — W-CAP-10E  | Violet — W-CAP-10I |
| Red — W-CAP-10C   | Orange — W-CAP-10F | Gray — W-CAP-10J   |
|                   | Yellow — W-CAP-10G |                    |



**J-B-T PUSH-BUTTON SUB-MINIATURE TOGGLES**

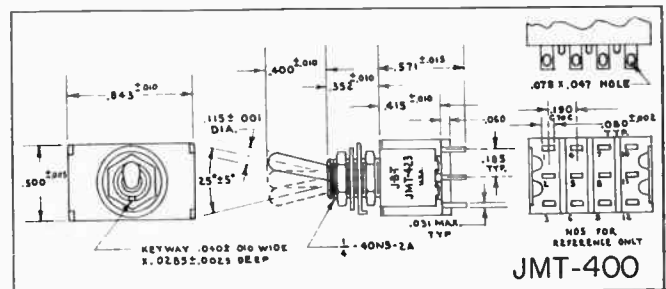
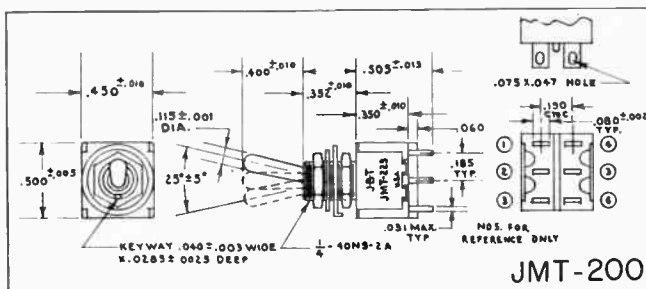
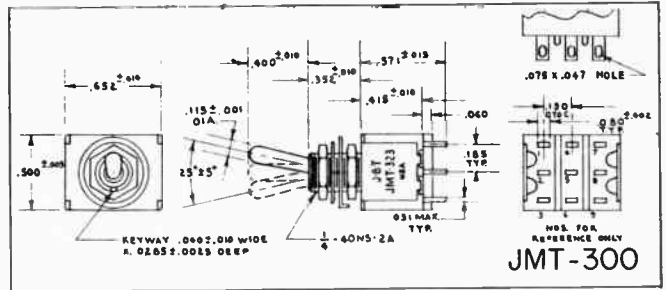
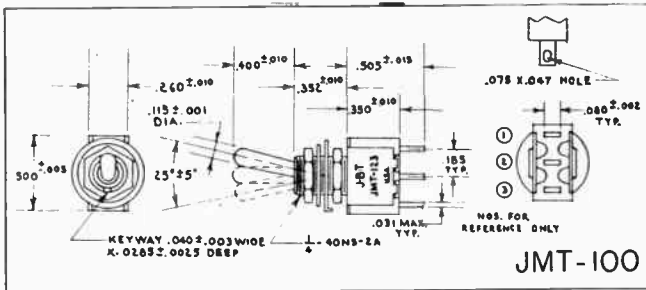
In the life of this catalog, it is expected that the JMT Series will be expanded to include models activated by a push-button in place of the standard bat handle. Your inquiries are invited.

**NOTES**

†These DT switches may also be used as ST by wiring only to applicable terminals. Example: JMT-123 can be connected as an "on and off" switch by using center terminals and terminals on one end only.

‡On orders for single switches, add 50c.

\*Momentary position.



Prices Net, F.O.B. Factory, Domestic Packed. Effective June 1, 1967, subject to change.



**TOGGLE SWITCHES — HEAVY DUTY**

J-B-T INSTRUMENTS, INC.

29th Year

**WHY IT PAYS TO SPECIFY J-B-T TOGGLE SWITCHES**

• **J-B-T** concentrates on trouble-free switches. Among the four groups of toggle switches J-B-T produces more than 170 models made to Government Specifications. Market studies indicate that while these switches are a must in military applications, almost half are produced for non-military use where the principal requirement is dependability. J-B-T apparently is specified because:

1. **Materials are good.** For instance, in MIL and AN heavy duty models, J-B-T uses generous proportions of selected silver alloys in integral construction for contact surface areas — to add overload protection, dissipate heat, and keep contact resistance under .005 ohms.
2. **The design is good.** All MS models have silicone rubber bushing seal for sand, dust and 15-foot head of water submersion tests. Medium-duty types MS25098 and MS25100 also feature case-to-terminal sealing and a new design which provides fast break and wider gap to surpass the 125 VDC endurance tests of MIL-S-3950C.
3. **The value is good.** The many features required to meet Government standards, and J-B-T's rigid in-plant testing pay off in long, useful life. Nevertheless, because J-B-T makes **only** quality switches, quantity production permits a surprisingly small price differential over run-of-the-mill brands.
4. **Deliveries are comparatively good.** See your distributor. Production is scheduled to back up his stocks with factory inventory of finished switches and work in process to meet predictable demand.



Cut-away view showing heavy duty MIL construction

**Group 1**

**HEAVY DUTY SINGLE- AND DOUBLE-POLE — MIL, AN, AND JAN TYPES**  
 Series MS35058, and MS35059 to MIL-S-3950C;  
 Series ST40A-H, ST42A-H, ST50K-T, ST52K-T to  
 JAN-S-23, MIL-S-21195A (Ships), or DDAX Drawings

• **MIL-S-3950C SERIES** — Single-pole MS35058 with suffix —21 and above, and double-pole MS35059 types with suffix —21 and above are recommended when maximum reliability is required. Temperature, endurance, and altitude requirements exceed earlier MS types (suffix —1 to —19), AN3021 and AN3027 switches to MIL-S-6745, and ST styles to JAN-S-23 and MIL-S-21195A (Ships). All MS switches contain a silicone rubber bushing seal to meet sand and dust and 15-foot head of water submersion tests.

**NOMINAL RATINGS:** 20 Amp. at 125 VAC, 10 Amp. at 250 VAC.

**SIZE:** Single-hole; bushing 15/32" — 32NS-2A by 15/32" high; toggle lever, 11/16" long. Bodies including terminals: **SP:** 1 1/8" x 5/8" x 1-1/16" deep; **DP:** 1-21/64" x 3/4" x 1-1/32" or 1-13/64" deep.

**TERMINALS:** MIL-S-3950C switches have solderable 6-32 screw terminals; ST40's and ST50's, screw terminals; ST42's and ST52's, solder lugs.



MS35058-21 SPDT Lever Seal



MS35059-27 DPDT Lever Seal

SINGLE AND DOUBLE POLE HEAVY DUTY WITH LEVER SEAL					
MIL-S-3950C	Model No.	2-9☆	10-29	30-99	100-249
<b>SPST — 2 term.</b>					
On-X-Off	MS35058-22	\$1.76	\$1.32	\$1.08	\$.88
On-Off-X	MS35058-24	1.83	1.37	1.12	.92
On-Off*-X	MS35058-25	2.09	1.57	1.28	1.04
X-Off-On*	MS35058-28	2.10	1.57	1.28	1.05
On-X-Off*	MS35058-29	2.01	1.51	1.23	1.00
Off-X-On*	MS35058-30	2.01	1.51	1.23	1.00
<b>SPDT — 3 term.</b>					
On-Off-On	MS35058-21	2.09	1.57	1.28	1.04
On-X-On*	MS35058-23	2.09	1.57	1.28	1.04
On-X-On*	MS35058-26	2.25	1.69	1.38	1.12
On*-Off-On*	MS35058-27	2.25	1.69	1.38	1.12
On-Off-On*	MS35058-31	2.30	1.72	1.41	1.15
<b>DPST — 4 term.</b>					
On-X-Off	MS35059-22	1.98	1.81	1.44	1.16
On-Off-X	MS35059-24	1.98	1.81	1.44	1.16
On-Off*-X	MS35059-25	2.62	2.39	1.90	1.53
X-Off-On*	MS35059-28	2.45	2.24	1.78	1.44
On-X-Off*	MS35059-29	2.45	2.24	1.78	1.44
Off-X-On*	MS35059-30	2.30	2.10	1.67	1.35
<b>DPDT — 6 term.</b>					
On-Off-On	MS35059-21	2.30	2.10	1.67	1.35
On-X-On*	MS35059-23	2.30	2.10	1.67	1.35
On-X-On*	MS35059-26	2.62	2.39	1.90	1.53
On*-Off-On*	MS35059-27	2.62	2.39	1.90	1.53
On-Off-On*	MS35059-31	2.62	2.39	1.90	1.53

SINGLE AND DOUBLE POLE HEAVY DUTY§					
JAN-S-23	Model No.	2-9☆	10-29	30-99	100-249
<b>SPST — 2 term.</b>					
On-X-Off	ST40A	\$1.44	\$1.08	\$.93	\$.75
On-X-Off*	ST40B	1.61	1.21	1.04	.83
Off-X-On*	ST40C	1.61	1.21	1.04	.83
<b>SPDT — 3 term.</b>					
On-X-On	ST40D	1.73	1.30	1.11	.90
On-Off-On	ST40E	1.73	1.30	1.11	.90
On-X-On*	ST40F	1.90	1.43	1.23	.99
On*-Off-On*	ST40G	1.90	1.43	1.23	.99
On-Off-On*	ST40H	1.90	1.43	1.23	.99
<b>SPST — 2 term.</b>					
On-X-Off	ST42A	1.35	1.01	.81	.66
On-X-Off*	ST42B	1.50	1.13	.90	.73
Off-X-On*	ST42C	1.50	1.13	.90	.73
<b>SPDT — 3 term.</b>					
On-X-On	ST42D	1.60	1.20	.96	.78
On-Off-On	ST42E	1.60	1.20	.96	.78
On-X-On*	ST42F	1.79	1.34	1.08	.87
On*-Off-On*	ST42G	1.79	1.34	1.08	.87
On-Off-On*	ST42H	1.79	1.34	1.08	.87
<b>DPST — 4 term.</b>					
On-X-Off	ST50K	1.82	1.36	1.14	.91
On-X-Off*	ST50L	2.13	1.60	1.33	1.06
Off-X-On*	ST50M	2.13	1.60	1.33	1.06
<b>DPDT — 6 term.</b>					
On-X-On	ST50N	2.13	1.60	1.33	1.06
On-Off-On	ST50P	2.13	1.60	1.33	1.06
On-X-On*	ST50R	2.42	1.82	1.52	1.21
On*-Off-On*	ST50S	2.42	1.82	1.52	1.21
On-Off-On*	ST50T	2.42	1.82	1.52	1.21
<b>DPST — 4 term.</b>					
On-X-Off	ST52K	1.66	1.24	1.04	.83
On-X-Off*	ST52L	1.85	1.39	1.16	.92
Off-X-On*	ST52M	1.85	1.39	1.16	.92
<b>DPDT — 6 term.</b>					
On-X-On	ST52N	1.85	1.39	1.16	.92
On-Off-On	ST52P	1.85	1.39	1.16	.92
On-X-On*	ST52R	2.15	1.61	1.35	1.08
On*-Off-On*	ST52S	2.15	1.61	1.35	1.08
On-Off-On*	ST52T	2.15	1.61	1.35	1.08

§ For UL Identification and ratings on Models ST40A through ST52T, see Table on Page 1314 in 5100.

Prices shown are NET, F.O.B. New Haven, Conn. Domestic Packing. Revised April 15, 1967, subject to change.



Group II

SINGLE & DOUBLE POLE — GOVERNMENT QUALITY

Series MS25098 and MS25100 to MIL-S-3950C; Series ST12-27 to JAN-S-23, MIL-S-21195A (Ships), or DDAX Drawings



Cut-away view showing self-wiping double-grip contacts



MS25100-23 DPDT Rear Connected; Lever Seal



ST27N, DPDT Side and Rear Connected 1/4" Bushing

• **MEDIUM DUTY** describes the current-carrying capacity — nominally 6 amp. at 125 VAC, 3 amp, at 250 VAC — rather than the life characteristics. Self-wiping heavily silver plated double grip contacts provide exceptional reliability. Typical uses: instruments, data processing, and communications circuits.

**NEW DESIGN FOR MS25098 & MS25100**

— Significant internal changes now provide fast break, wide gap, and increased insulation values, to surpass the severe endurance tests of MIL-S-3950C. For example, after 20,000 cycles of operation at 65,000' altitude with resistive load of 5 amps. at 125 VDC, contact resistance was well within the permissible limits. This development is especially important for the double-throw models MS25098-23 and MS25100-23. All MS medium-duty models contain: (a) silicone rubber bushing seal for sand, dust, and 15-foot head of water submersion tests, and (b) case-to-terminal sealing.

**SINGLE AND DOUBLE POLE MEDIUM DUTY WITH LEVER SEAL**

MIL-S-3950C	Model No.	2-9*	10-29	30-99	100-249
<b>SPST — 2 term.</b>					
On-X-Off*	MS25098-22	\$1.48	\$1.18	\$1.11	\$1.03
On-X-Off*	MS25098-29	1.90	1.52	1.43	1.33
Off-X-On*	MS25098-30	1.90	1.52	1.43	1.33
<b>SPDT — 3 term.</b>					
On-X-On	MS25098-23	1.69	1.35	1.27	1.18
<b>DPST — 4 term.</b>					
On-X-Off	MS25100-22	2.12	1.69	1.59	1.48
On-X-Off*	MS25100-29	2.47	1.97	1.85	1.73
Off-X-On*	MS25100-30	2.47	1.97	1.85	1.73
<b>DPDT — 6 term.</b>					
On-X-On	MS25100-23	2.30	1.84	1.72	1.61

NOTES TO TABLES: \* On orders for single switches, add 50c; X No position; \* Momentary position; † Bushing 1/4" high; ‡ Side connected terminals only, except ST16D, -17D, -26N have both side and rear connected terminals; § For UL identification and ratings on models ST12A thru ST27N, see table on page 0000.

**SIZE AND TERMINALS** — Whether MS series to latest MIL-S-3950C or ST series to Specification JAN-S-23 and MIL-S-21195A (Ships), all have solder terminals. Medium-duty types use 11/16" long, toggle lever, bushing 15/32"-32NS-2A by 15/32" (or 1/4"). Bodies including terminals are: 1 1/4" long, 11/16" wide, 29/32" deep, except ST16A, -16B, -16C, -17A, and -27K are 1 3/4" long by 21/32" deep, while ST16D, -17D, -26N are 1 3/4" long by 29/32" deep.

**SINGLE AND DOUBLE POLE MEDIUM DUTY§**

JAN-S-23	Model No.	2-9*	10-29	30-99	100-249
<b>SPST — 2 term.</b>					
On-X-Off	ST12A	\$ .98	\$ .78	\$ .73	\$ .68
On-X-Off*	ST12B	1.11	.89	.83	.78
Off-X-On*	ST12C	1.11	.89	.83	.78
On-X-Off	ST13A †	.98	.78	.73	.68
On-X-Off	ST16A ‡	.98	.78	.73	.68
On-X-Off*	ST16B ‡	1.11	.89	.83	.78
Off-X-On*	ST16C ‡	1.11	.89	.83	.78
On-X-Off	ST17A † ‡	.98	.78	.73	.68
<b>SPDT — 3 term.</b>					
On-X-On	ST12D	1.11	.89	.83	.78
On-X-On	ST13D †	1.11	.89	.83	.78
On-X-On	ST16D ‡	1.11	.89	.83	.78
On-X-On	ST17D † ‡	1.11	.89	.83	.78
<b>DPST — 4 term.</b>					
On-X-Off	ST22K	1.34	1.08	1.01	.95
On-X-Off*	ST22L	1.48	1.19	1.11	1.04
Off-X-On*	ST22M	1.48	1.19	1.11	1.04
On-X-Off	ST23K †	1.34	1.08	1.01	.95
On-X-Off	ST26K ‡	1.34	1.08	1.01	.95
On-X-Off*	ST26L ‡	1.48	1.19	1.11	1.04
Off-X-On*	ST26M ‡	1.48	1.19	1.11	1.04
On-X-Off	ST27K † ‡	1.34	1.08	1.01	.95
<b>DPDT — 6 term.</b>					
On-X-On	ST22N	1.48	1.19	1.11	1.04
On-X-On	ST23N †	1.48	1.19	1.11	1.04
On-X-On	ST26N ‡	1.48	1.19	1.11	1.04
On-X-On	ST27N † ‡	1.48	1.19	1.11	1.04

**CROSS REFERENCE: AN, MS, AND ST MODEL NUMBERS WITH SIMILAR CIRCUITRY**

SCREW TERMINAL				SOLDER LUG		SCREW TERMINAL				SOLDER LUG	
MIL-S-3950B See Notes A & B	JAN-S-23 & MIL-S-21195A	MIL-S-6745 See Note A	MIL-S-3950 See Notes A & B	JAN-S-23 & MIL-S-21195A (Ships)	MIL-S-3950 See Note A	MIL-S-3950B See Notes A & B	JAN-S-23 & MIL-S-21195A	MIL-S-6745 See Note A	MIL-S-3950 See Notes A & B	JAN-S-23 & MIL-S-21195A (Ships)	MIL-S-3950 See Note A
<b>SPST</b>						<b>DPST</b>					
MS35058-22	ST40A	AN3021-2	#	ST42A	MS35058-9	MS35059-22	ST50K	AN3027-2	#	ST52K	MS35059-9
MS35058-29	ST40B	AN3021-9	#	ST42B	MS35058-10	MS35059-29§	ST50L	AN3027-4§	#	ST52L	MS35059-10§
MS35058-30	ST40C	AN3021-8	#	ST42C	MS35058-11	MS35059-30§	ST50M	AN3027-5§	#	ST52M	MS35059-11§
MS35058-24	#	AN3021-10	MS35058-1	#	MS35058-12	MS35059-24	#	AN3027-9	MS35059-1	#	MS35059-12
MS35058-28	#	AN3021-11	MS35058-2	#	MS35058-13	MS35059-28	#	AN3027-11	MS35059-2	#	MS35059-13
MS35058-25	#	AN3021-12	MS35058-3	#	MS35058-14	MS35059-25§	#	AN3027-10§	MS35059-3§	#	MS35059-14§
<b>SPDT</b>						<b>DPDT</b>					
MS35058-23	ST40D	AN3021-3	MS35058-4	ST42D	MS35058-15	MS35059-23	ST50N	AN3027-3	MS35059-4	ST52N	MS35059-15
MS35058-21	ST40E	AN3021-1	MS35058-5	ST42E	MS35058-16	MS35059-21	ST50P	AN3027-1	MS35059-5	ST52P	MS35059-16
MS35058-26	ST40F	#	MS35058-6	ST42F	MS35058-17	MS35059-26§	ST50R	AN3027-6§	MS35059-6§	ST52R	MS35059-17§
MS35058-27	ST40G	AN3021-7	MS35058-7	ST42G	MS35058-18	MS35059-27	ST50S	AN3027-7§	MS35059-7§	ST52S	MS35059-18§
MS35058-31	ST40H	AN3021-5	MS35058-8	ST42H	MS35058-19	MS35059-31§	ST50T	AN3027-8§	MS35059-8§	ST52T	MS35059-19§

# Not included in this specification.

† AN3021-6 same as AN3021-5 with jumper.

§ Same dimensions as MS35059-27.

NOTE A: MS and AN types use internal sand and dust toggle seal and other high performance features involving extra cost over ST types. MS types to MIL-S-3950B have internal toggle seal to meet 15 ft. water submersion test. MIL-S-3950 models are superseded by MIL-S-3950B models.  
NOTE B: For heavy duty switches in the MS25068, MS35058, and MS35059 Series, MIL-S-3950C calls for SCREW TERMINALS ONLY. These terminals have SOLDERABLE FINISH and may be soldered after removal of screw.

Prices shown are NET, F.O.B. New Haven, Conn. Domestic Packing. Revised April 15, 1967, subject to change.

### OUTSTANDING 4-POLE SWITCHES TO MS25068 REQUIREMENTS



MS25068-27  
4-pole D7  
Lever Seal

• There is no mistaking the light brown color and silver printing of these distinctive J-B-T 4-pole heavy-duty switches. The superior molded body, chosen after extensive tests, features high arc resistance and low shrinkage. As a result the switches exceed the rigorous electrical endurance requirements of MS25068.

Equally important, the internal construction uses rocker arms and contacts made of solid coin silver (not clad or brazed). The 8 models listed here have silicone rubber bushing seals and solderable 6-32 screw terminals, the same as other heavy-duty J-B-T MS switches. Dimensions same as MS35059 above except bodies including terminals: 1-11/32" long, 1-9/16" wide, 1-9/32" deep.

4-POLE HEAVY DUTY WITH LEVER SEAL						
MIL-S-3950C	Model No.	2-9*	10-29	30-99	100-249	
4PST — 8 term.						
On-Off-X	MS25068-24	\$4.50	\$3.54	\$2.98	\$2.47	
On-Off*-X	MS25068-25	5.30	4.18	3.51	2.92	
X-Off-On*	MS25068-28	5.30	4.18	3.51	2.92	
4PDT — 12 term.						
On-Off-On	MS25068-21	5.22	4.11	3.46	2.87	
On-X-On	MS25068-23	5.30	4.18	3.51	2.92	
On-X-On*	MS25068-26	5.63	4.44	3.73	3.10	
On*-Off-On*	MS25068-27	5.63	4.44	3.73	3.10	
On-Off-On*	MS25068-31	5.63	4.44	3.73	3.10	

\* On orders for single switches, add \$1.00  
X No position \* Momentary position

**Other MS25068 Numbers:** Models with suffix -1 through -13 as set forth in MIL-S-3950 are superseded by MIL-S-3950 Revision C Types. The latter are interchangeable electrically and mechanically but meet additional performance standards above the former types. Specifically, MS25068-1 has become MS25068-21; -3 now -23; -5 now -31; -7 now -27; -10 now -26; -11 now -24; -12 now -28; 13 now -25.

### UL IDENTIFICATION AND RATINGS: SINGLE AND DOUBLE-POLE; HEAVY DUTY AND MEDIUM DUTY

Underwriters' Laboratories, Inc. lists under "Switches, Special Use" (File E26557) models marked with the J-B-T part number shown below. In some instances, there are minor construction differences from ST

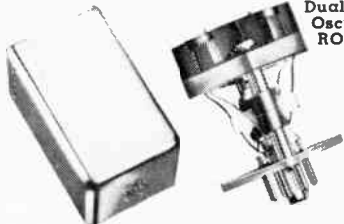
switches, but the ratings and external dimensions are the same. UL-marked types are not regularly stocked but only are manufactured in substantial production runs.

Heavy Duty — Single Pole			Heavy Duty — Double Pole			Medium Duty — Single Pole			Medium Duty — Double Pole			*Ratings
JBT/UL Part No.**	ST Circuit Equivalent	Rating*	JBT/UL Part No.**	ST Circuit Equivalent	Rating*	JBT/UL Part No.**	ST Circuit Equivalent	Rating*	JBT/UL Part No.**	ST Circuit Equivalent	Rating*	
401	ST40A	A	501	ST50K	A	121	ST12A	B	221	ST22K	B	Rating A 10 amps, 250 VAC 20 amps, 125 VAC ¾ H.P., 250 VAC ½ H.P., 125 VAC
402	ST40B	A	502	ST50L	A	122	ST12B	B	222	ST22L	B	
403	ST40C	A	503	ST50M	A	123	ST12C	B	223	ST22M	B	
404	ST40D	A	504	ST50N	A	124	ST12D	C	224	ST22N	B	
405	ST40E	A	505	ST50P	A	131	ST13A	B	231	ST23K	B	
406	ST40F	A	506	ST50R	A	134	ST13D	C	234	ST23N	B	
407	ST40G	A	507	ST50S	A	161	ST16A	B	261	ST26K	B	
408	ST40H	A	508	ST50T	A	162	ST16B	B	262	ST26L	B	
421	ST42A	A	521	ST52K	A	163	ST16C	B	263	ST26M	B	
422	ST42B	A	522	ST52L	A	164	ST16D	C	264	ST26N	B	
423	ST42C	A	523	ST52M	A	171	ST17A	B	271	ST27K	B	
424	ST42D	A	524	ST52N	A	174	ST17D	C	274	ST27N	B	
425	ST42E	A	525	ST52P	A	**NOTE: Above model numbers are basic ones for any given type and circuit. Variations, such as length of lever, have a suffix letter "J" and added suffix numbers.						
426	ST42F	A	526	ST52R	A							
427	ST42G	A	527	ST52S	A							
428	ST42H	A	528	ST52T	A							
												Rating B 3 amps, 250 VAC-DC 6 amps, 125 VAC-DC
												Rating C 1 amp, 250 VAC-DC 3 amps, 125 VAC-DC

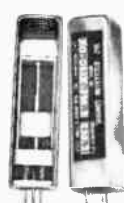
### RESONANT REED RELAYS AND OSCILLATOR CONTROLS



Relay with Clamp  
RR-A10A-123.0



Dual-Reed  
Oscillator Control  
RO-B10B-188.0



Single-Reed  
Oscillator Control  
RO-D62E-250.3  
(Vibration-Isolated  
in All Planes)

Relay  
RR-DO2E-250.3  
(Vibration-Isolated  
in All Planes)



**Applications:** selective-calling mobile communication equipment, remote data transmission, and simultaneous or sequential coding and decoding.

For further data, ask for Bulletins 162-R and D664A. Inquiries are invited on newly-developed miniature combination relay-oscillator types.

J-B-T frequency-sensitive electro-mechanical relays (decoders) are highly stable control devices. They intermittently make and break contacts when a signal of the same frequency as the tuned reed is received. Although the reed has a high Q, the bandwidth at which the relay responds will be proportional to the input signal level.

RR-A11- and RR-A10 types are round, 4-pin plug-in relays, used primarily on existing mobile equipment.

RO-B Oscillator Controls (sometimes known as tone generators or encoders) are dual-reed units internally shock mounted and of sealed construction. These units control the frequency of oscillation in vacuum tube or transistor oscillator circuits. The RO-B type oscillator control is recommended where accurate and stable AC signals are required.

RR-D types are internally shock-mounted resonant reed relays, which are square, sealed units with 7-pin miniature plug. They now are the most widely used J-B-T relays.

RO-D types are single-reed, internally shock mounted oscillator controls for applications where space saving is of importance. Dimensionally they are identical to RR-D relays.

#### TYPICAL REED RELAY AND OSCILLATOR CONTROL SPECIFICATIONS

Model	Enclosure	Mounting & Connections	Frequency Range CPS	DC Coil Resistance (Standard)	Accuracy to	Change per °C —40° to +100°C	Individually Boxed
RR-A-10A-Reed Relay	1" round x 2" long	Clamp & Harness* 4 Pin Fits Cinch Socket #9804	67 to 600	200 ohms	±0.3%	±0.005 %	\$15.00**
RR-A11A-Reed Relay	1" round x 2" long	Plug In 4 Pin Fits Cinch Socket # 9804	67 to 600	200 ohms	±0.3%	±0.005 %	14.50**
RR-DO2E-Reed Relay	¾" sq. x 3½" lg sealed	7 Pin Miniature Plug In	67 to 1600	600 ohms	±0.1%	±0.0025%	19.00**
RO-B10B-Oscillator Control†	1¾" sq x 2¼" long sealed	Octal Plug In	67 to 600	2200 ohms/coil	±0.1%	±0.003 %	26.00**
RO-D62E-Oscillator Control	¾" sq. x 3½" lg sealed	7 Pin Miniature Plug In	67 to 1600	600 ohms	±0.1%	±0.0025%	18.00**

\* Supplied with 2-piece clamp and 4-wire cable terminated in a 4-pin base.

\*\* Specify frequency with order.

† Dual reed construction.

Prices Net, F.O.B. Factory; Domestic Packed, Effective April 15, 1967, subject to change.

**It's so easy to order  
from this catalog . . .**

When ordering products shown in this book  
or writing for additional information, please  
be sure to specify:

- 1. Manufacturer's Catalog Numbers  
and Page Numbers.**
- 2. The Year and Edition of This  
MASTER.**

This will avoid confusion and expedite delivery.

**Thank you!**



**BASIC  
SWITCHES  
FROM**

# LICON

**FASTEST  
GROWING FULL-LINE  
SWITCH SUPPLIER**

**BUTTERFLY®  
DOUBLE-BREAK  
SWITCHES**

The unique Licon® Butterfly double-break switch design is built around two blades that flex simultaneously, then actuate with a positive snap. A full line of 2, 4 and 6-circuit miniature, sub-miniature and heavy-duty Butterfly switches meet every basic switch need.

**TYPE 11**

High electrical rating and long mechanical life in one compact package. Ideal for a wide range of applications.

**ELECTRICAL RATING**

125/250 v AC: 10 Amps

125 v AC: ½ HP

250 v AC: ¼ HP

30 v DC:

Form X or Y—15 Amps Res.

Form X or Y—10 Amps Ind.

Form Z— 10 Amps Res.

Form Z— 7 Amps Ind.

**TYPE 18**

Big switch rating in the smallest double-break switch—.200" x .500" x .350".

**ELECTRICAL RATING**

125/250 v. AC: 8 Amps

28 v DC:

Form X or Y—8 Amps Res.

Form X or Y—5 Amps Ind.

**TYPE 26**

Provides simultaneous operation of two Licon Butterfly double-break mechanisms in one case. Eliminates the need for dual components and complicated actuators.

**ELECTRICAL RATING**

125/250 v AC: 8 Amps

28 v DC: Form XX or YY—10 Amps Res.

Form XX or YY—7.5 Amps Ind.

Form ZZ— 10 Amps Res.

Form ZZ— 5 Amps Ind.

**TYPE 25 THIN SWITCH**

The thin switch is designed for commercial applications which require utmost reliability at low price. Typical applications include coin and vending machines, timers and counters.

**ELECTRICAL RATING**

**On-Center**      **Off-Center**

12 Amps Res.      6 Amps Res.

7 Amps Ind.      3 Amps Ind.

**TYPE 16**

Features two circuit control, direct cam operation with double bearing guided button plus high shock and vibration resistance.

**ELECTRICAL RATING**

125/250 v AC: 10 Amps

28 v DC:

Form X or Y—10 Amps Res.

Form X or Y—7.5 Amps Ind.

Form Z— 10 Amps Res.

Form Z— 5 Amps Ind.

**TYPE 22**

Insures exacting double-break switch performance for 3-phase motors, permits simplified controls for multiple circuits.

**ELECTRICAL RATING**

125/250 v AC: 10 Amps

125 v AC: ½ HP

250 v AC: ¼ HP

30 v DC: Form XX or YY—15 Amps Res.

Form XX or YY—10 Amps Ind.

Form ZZ— 10 Amps Res.

Form ZZ— 7 Amps Ind.

**TYPE 36**

Simultaneous operation of three poles through a special linkage between mechanisms. Eliminates the need for three components and complementing actuators.

**ELECTRICAL RATING**

125/250 v AC: 8 Amps Res.

28 v DC: Form XXX or YYY—10 Amps Res.

Form XXX or YYY—7.5 Amps Ind.

Form ZZZ— 10 Amps Res.

Form ZZZ— 5 Amps Ind.

**LICON® LIGHTED  
SWITCHES**

Widely used on computers, machine tools, office machines, guidance control and a wide variety of applications. Heart of Licon lighted switches are the ultra-reliable Butterfly® Double-breaks for long life and dependable performance. Wide selection of colors, sizes, mounts and actuators.


**TYPE 04-590**

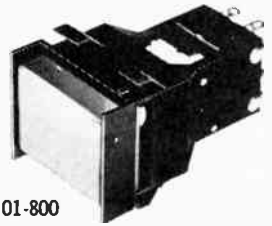
Dressy panel appearance with four bulb illumination. Simple snap-on switch module, front-of-panel bulb service. Standard in black or clear anodizing.


**TYPE 04 BARRIER MOUNT**

Remove one or more switches without disturbing other units. Serves as safety separator between ganged switches. Also aluminum matrix barriers.

**TYPE 01-700**

Low cost momentary 1-lite stationary bulb in one-piece molded housing. Cylindrical, square or round lens caps. Front-of-panel bulb servicing.


**TYPE 01-800**

Styled for maximum in function/appearance criteria. Has integral plastic housing that snaps in from front panel. Available in one and two pole, momentary and alternate action.

**LICON®  
INDUSTRIAL SWITCHES**

The most dependable machine tool and industrial switches on the market. Meet all OEM and replacement needs, and provide compatibility and interchangeability at the lowest possible cost. Wide selection of models, mountings, actuators.

**TYPE 30-100 OVERTRAVEL PLUNGER SWITCH**

General purpose limit or push button switch for circuit controls of heavy duty applications. The overtravel plunger provides added switch protection and also permits greater flexibility of application. Other models feature roller arm, roller plunger, sealed plunger, sealed roller arm, sealed palm button for a wide variety of applications.

Operating force.....10 oz.±4 oz.

Release force.....3 oz. min.

Pretravel......030 max.

Overtravel......7/32 min.

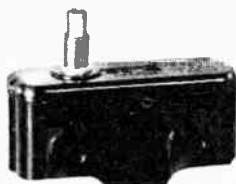
Movement differential......002 max.



## LICON TYPE 10 BASIC SWITCHES



Type 10-122  
Basic Switch



Type 10-222  
Overtravel Plunger



Type 10-322  
Panel Mounting



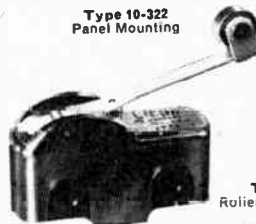
Type 10-422  
Leaf Spring Actuator



Type 10-522  
Roller Leaf Actuator



Type 10-622  
Hinge-Type Lever



Type 10-722  
Roller Lever Actuator



Type 10-822  
Cam Actuation



Type 10-922  
In-Line Roller Actuator

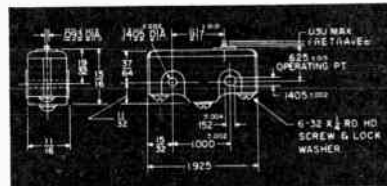


Type 10-12237  
One Way Actuator

### CHARACTERISTICS

Electrical Rating 15A, 125/250 V a-c,  
460 V a-c  
15A Res 5A Ind. 5A motor, 30 V d-c  
UL APPROVED CSA APPROVED

Splash-proof sealing against moisture, dirt, dust and other harmful elements can be provided for most models. Preloaded reverse action actuator available.

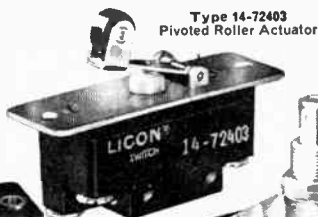


Type 10-122

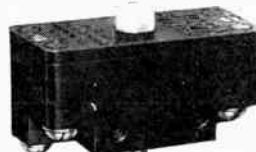
## LICON TYPE 14 HEAVY DUTY BASIC SWITCHES



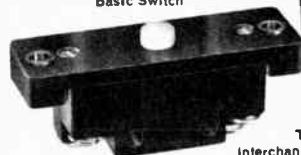
Type 14-124  
Basic Switch



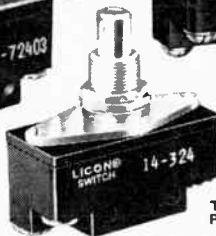
Type 14-72403  
Pivoted Roller Actuator



Type 14-1241 Main-tained Contact, Reset.



Type 14-128048  
Interchangeable and economical



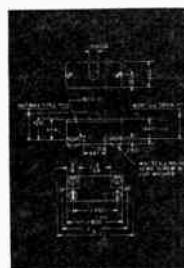
Type 14-324  
Panel Mount

Movement differential available from .101" to over .040". 100 gram to 2 lb. operation force available. Terminals available with a No. 6 screw and cup washer, No. 6 screw and lockwasher or No. 8 screw with these same fastener choices. Custom terminal designs available. Auxiliary mounting plate available for panel mount.

### ELECTRICAL RATING

Volts	A.C.		D.C.	
	Steady	In-Rush	D.T.	S.T.
30	20	80	10	25
110	20	80	.5	2.0
220	20	80	.2	.5
440	15	50		
600	5	10		

UL APPROVED



Type 14-124

Get the full story behind the switches you need from the fastest growing full-line switch supplier . . . LICON

**be victorious with LICON...the fastest growing line of DOUBLE BREAK SWITCHES**

### BUTTERFLY® DOUBLE-BREAK SWITCHES

The theory behind the unique Licon Butterfly® Double-Break switch design, switch characteristics and ratings, and a catalog of the complete line.

**strike hard with LICON...the fastest growing line of ENVIRONMENT-FREE SEALED SWITCHES**

### LICON® INDUSTRIAL SWITCHES

Complete details about compatible and interchangeable industrial switches that can increase reliability and lower your switch costs. Cost comparison and performance charts.

**join forces with LICON...the fastest growing line of LIGHTED PUSH BUTTON SWITCHES**

### LICON® LIGHTED SWITCHES

A complete description of the Licon Lighted switch line, physical and electrical properties, design considerations and a catalog of the 1-lite, 2-lite, and 4-lite series.

**attack application problems with LICON...the fastest growing line of INDUSTRIAL SNAP-ACTION SWITCHES**

### LICON® SEALED SWITCHES

Specialized switches for military, aviation, aerospace and critical industrial applications are described in detail. The full line is cataloged.

For complete information about the full line of Licon switches, write for G104A catalog.

**itw LICON**  
DIVISION ILLINOIS TOOL WORKS INC.

# LINEMASTER

*America's Footswitch Leader*

<p><b>TREADLITE</b></p>  <p>3½x2½x1</p>	<p>T-51-S T-51-D T-52-S T-51-SC *T-51-SC3 **T-51-SC36 T-51-S TWIN</p>	<p>SINGLE STAGE MOMENTARY SINGLE STAGE MAINTAINED TWO STAGE MOMENTARY T-51-S COMPLETE WITH 6' CORD SET &amp; SERIES PLUG TWO MOMENTARY SWITCHES ON ONE BASE</p>	<p>SPDT  SPDT  BOTH STAGES SPDT  BOTH SPDT </p>	<p>7 AMP 125-250 VAC 1/6 H.P. 125 VAC</p>	<p>Lowest Cost Foot Switch Formed Steel Housing. Wt.—7 ozs. *Similar to T-51-SC Except Grounded 3 Conductor Cord and 3 Prong Series Plug. **With Grounded 3 Conductor Cord, No Plug.</p>
<p><b>COMPACT</b></p>  <p>27/8x2½x1½</p>	<p>491-S 491-D 492-S 494-S 491-SC *491-SC3 **491-SC36 491-S TWIN 3B-20A2-S</p>	<p>MOMENTARY MAINTAINED MOMENTARY MOMENTARY 491-S COMPLETE WITH 6' CORD SET &amp; SERIES PLUG TWO MOMENTARY SWITCHES ON ONE BASE MOMENTARY FOOT OPERATED AIR VALVE</p>	<p>SPDT  SPST  SPDT  DPDT  BOTH SPDT </p>	<p>10A 125 VAC 10A 125 VAC 20A 125-250 VAC 10A 125 VAC 5A 250 VAC 3-WAY AIR VALVE</p>	<p>Completely Enclosed Interior Switch. Formed Steel Housing. Wt.—7 oz. *Similar to 491-SC Except Grounded 8 Ft. 3 Conductor Cord and 3 Prong Series Plug. **With 6 Ft. Grounded 3 Conductor Cord, No Plug. 20 CFM @ 100 PSI.</p>
<p><b>CLIPPER</b></p>  <p>4½x3½x1½</p>	<p>632-S 632-D 635-S 634-D 636-S 632-S TWIN 3C-20A2-S</p>	<p>MOMENTARY MAINTAINED MOMENTARY MAINTAINED TWO STAGE MOMENTARY TWO MOMENTARY SWITCHES ON ONE BASE MOMENTARY FOOT OPERATED AIR VALVE</p>	<p>SPDT  SPDT  DPDT  DPDT  BOTH STAGES SPDT  BOTH SPDT </p>	<p>20A 125-250 VAC 20A 125-250 VAC 15A 125-250 VAC 10A 125 VAC 5A 250 VAC 15A 125-250 VAC 20A 125-250 VAC 3-WAY AIR VALVE</p>	<p>Cast Iron Housing. Also Available with Safety Guard or 7" Wide Treadle. Wt.—2¼ lbs. Twin Has Connecting Interwiring Tube So That Only One Cable Is Used. 20 CFM @ 100 PSI.</p>
<p><b>JUNIOR</b></p>  <p>5½x3¼x1¼</p>	<p>121-S 122-S</p>	<p>MOMENTARY MOMENTARY</p>	<p>SPDT  SPDT </p>	<p>15A 125-250 VAC 20A 125-250 VAC</p>	<p>Cast Aluminum Housing. Low Tapered Treadle Permits Easy Operation. Wt.—1 lb.</p>
<p><b>CADET</b></p>  <p>39/8x1½</p>	<p>HB-2 *HB-3</p>	<p>MOMENTARY</p>	<p>SPDT </p>	<p>7A 125 VAC 1/6 H.P. 125 VAC</p>	<p>Round Switch Operates From Any Position. Switch Comes Complete With Cord set. Wt.—11 ozs. *Similar To HB-2 Except Grounded 6 Ft. 3 Conductor Cord and 3 Prong Series Plug.</p>

MANY OTHER STANDARD MODELS ARE AVAILABLE—WRITE FOR CATALOG



















**"When awkward jobs hold you up—a LINEMASTER FOOT SWITCH is your third hand!"**

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## LINEMASTER SWITCH CORPORATION

# A Modern **FOOTSWITCH** for Every Use

**PRECISION-BUILT • DEPENDABLE • RUGGED • ECONOMICAL • OVER 1000 APPLICATIONS**

<b>NAUTILUS</b>  8x4x2¼	WP-541-S	MOMENTARY		SPDT		20A 125-250 VAC	Completely Waterproof. Can Be submerged.		
	WP-541-D	MAINTAINED		SPDT		12A 125 VAC 6A 250 VAC			
<b>SENIOR</b>  7x4x3¼	MOMENTARY	MAINTAINED					Cast Iron Housing. Also Available With Complete Safety Guard. Wt.—5¼ lbs.		
	4141-S	4141-D		DPST		20A 125-250 VAC&DC			
	4142-S	4142-D		DPDT		10A 125 VAC&DC 5A 250 VAC&DC			
	4143-S	4143-D		SPDT		15A 125 VAC&DC 10A 250 VAC&DC			
	4351-S	4351-D		TPST		15A 125-230 VAC 5A 575 VAC			
<b>HERCULES</b>  8½x4½x4½	531-SW*	571-DW*	SINGLE STAGE	SPDT		20 AMPS 125-480 VAC 1 H.P. 115-230 VAC	Cast Iron Housing. Wt.—7¼ lbs. Also Available With No Guard or Complete Hood. All Models Available in Explosion Proof Version.  *Add Letter "N" For Model Without Guard; Add Letter "H", For Model With Full Side Shields.		
	532-SW*	572-DW*	SINGLE STAGE	DPDT					
	533-SW*	573-DW*	SINGLE STAGE	TPDT					
	534-SW*	574-DW*	TWO STAGE	SPDT					
	535-SW*	575-DW*	THREE STAGE	SPDT					
<b>POTENTIOMETER</b>  8¼x4¼x4½	2 WATT		5 WATT		SPECIFY MAXIMUM RESISTANCE REQUIRED			Standard Model Wt. Approx. 7¼ lbs.  Details on request	
					2 WATT		5 WATT		
	500 thru 500-AH		505 thru 505-AH		Ohms 50 thru 1500	Megohms .1 thru 5.0	Ohms 2 thru 40		Ohms 50 thru 1000 1500 thru 25000
<b>LEKTRO-LOK</b>  5x2½x1½	L-2-S	TWO MOMENTARY SWITCHES SIDE BY SIDE		BOTH SIDES SPDT		15A 125-250 VAC		Stamped Metal Housing. Wt.—10 oz.	
	L-4-S			BOTH SIDES DPDT		10A 125 VAC 5A 250 VAC			
<b>EXECUTIVE</b>  4½x4x1½	B-2-S	TWO MOMENTARY SWITCHES SIDE BY SIDE		BOTH SIDES SPDT		15A 125-250 VAC		Stamped Metal Housing. Wt.—14 oz.	
	B-4-S			BOTH SIDES DPDT		10A 125 VAC 5A 250 VAC			
<b>OUPLEX</b>  8½x3½x2	475-S	MOMENTARY HEAVY SPRING		BOTH SIDES SPDT		15A 125-250 VAC		Cast Aluminum Housing. Wt.—1¼ lbs.	
	476-S	MOMENTARY LIGHT SPRING							

Linemaster also manufactures many other types of foot controls with electronic impulse circuits, gear driven potentiometers, air valves, special cordsets, finishes, etc.

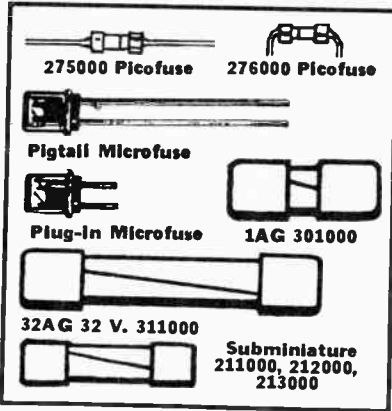
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## LINEMASTER SWITCH CORPORATION

Printed in U.S.A.

# LITTELFUSE

# Quality Fuses



**MICROFUSE SUBMINIATURE FUSES**  
 For printed circuits and other minimum space uses. Ultra-fast blowing. Plug-in types use holder (listed on another page); pigtail types for soldering. Short circuit interrupting capacity 125 V, 10,000 amps DC. Blow Specs: 100%, 4-hour min.; 200%, 5-sec. max. Size: 1/8" dia. x 1/4" (fuse body). Plug-in, transparent cap type listed. Use prefix 272 for plug-in, metal cap; prefix 279 for pigtail, transparent cap; prefix 278 for pigtail, metal cap.

### 1AG FUSES (32 V. OR LESS)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 20-sec. max. Lg. 1/4", dia. 3/16".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
301001	1	\$0.30	\$5.00	\$4.00
301002	2	.30	5.00	4.00
30102.5	2-1/2	.30	5.00	4.00
301003	3	.28	4.70	3.76
301005	5	.23	3.75	3.00
301006	6	.23	3.75	3.00
30107.5	7-1/2	.23	3.75	3.00
301010	10	.23	3.75	3.00
301015	15	.23	3.75	3.00
301020	20	.23	3.75	3.00
301025	25	.23	3.75	3.00
301030	30	.23	3.75	3.00

### JAG FUSES (32 V. OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 20-sec. max. Length 1 1/4", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
311004	4	\$0.28	\$4.70	\$3.76
311005	5	.20	3.30	2.64
311006	6	.20	3.30	2.64
31107.5	7-1/2	.20	3.30	2.64
311008	8	.20	3.30	2.64
311010	10	.20	3.30	2.64
311015	15	.20	3.30	2.64
311025	25	.23	3.75	3.00
311030	30	.23	3.75	3.00
311035	35	.28	4.70	3.76

### JAG FUSES (250 V. OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1 1/4", dia. 1/4". U/L Approved.

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
312.010	1/100	\$1.92	\$32.00	\$25.60
312.031	1/32	1.68	28.00	22.40
312.062	1/16	.75	12.50	10.00
312.100	1/10	.75	12.50	10.00
312.125	1/8	.75	12.50	10.00
312.150	15/100	.75	12.50	10.00
312.175	.175	.75	12.50	10.00
312.187	3/16	.75	12.50	10.00
312.200	2/10	.75	12.50	10.00
312.250	1/4	.51	8.50	6.80
312.300	3/10	.51	8.50	6.80
312.375	3/8	.51	8.50	6.80
312.500	1/2	.51	8.50	6.80
312.600	6/10	.51	8.50	6.80
312.750	3/4	.51	8.50	6.80
312001	1	.30	5.00	4.00
3121.25	1-1/4	.30	5.00	4.00
31201.5	1-1/2	.30	5.00	4.00
31201.6	1-6/10	.30	5.00	4.00
312002	2	.30	5.00	4.00
31202.5	2-1/2	.28	4.70	3.76
312003	3	.28	4.70	3.76
312004	4	.39	6.50	5.20
312005	5	.39	6.50	5.20
312006	6	.39	6.50	5.20
312007	7	.39	6.50	5.20
312008	8	.60	10.00	8.00

### JAG SLO BLO FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. min. Length 1 1/4", dia. 1/4". U/L Approved thru 5 amps.

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
313.010	1/100	\$1.44	\$24.00	\$19.20
313.031	1/32	1.44	24.00	19.20
313.062	1/16	1.05	17.50	14.00
313.100	1/10	1.05	17.50	14.00
313.125	1/8	1.05	17.50	14.00
313.150	15/100	1.05	17.50	14.00
313.175	.175	1.05	17.50	14.00
313.187	3/16	1.05	17.50	14.00
313.200	2/10	1.05	17.50	14.00
313.250	1/4	1.05	17.50	14.00
313.300	3/10	1.05	17.50	14.00
313.375	3/8	1.05	17.50	14.00
313.400	4/10	1.05	17.50	14.00
313.500	1/2	1.05	17.50	14.00
313.600	6/10	1.05	17.50	14.00
313.700	7/10	1.05	17.50	14.00
313.750	3/4	1.05	17.50	14.00
313.800	8/10	1.05	17.50	14.00
313001	1	1.05	17.50	14.00
31301.2	1-2/10	.99	16.50	13.20
3131.25	1-1/4	.99	16.50	13.20
31301.5	1-1/2	.99	16.50	13.20
31301.6	1-6/10	.99	16.50	13.20
313002	2	.99	16.50	13.20
31302.5	2-1/2	.75	12.50	10.00
31302.8	2-8/10	.75	12.50	10.00
313003	3	.75	12.50	10.00
31303.2	3-2/10	.75	12.50	10.00
313004	4	.75	12.50	10.00
313005	5	.75	12.50	10.00
3136.25	6-1/4	.75	12.50	10.00
313007	7	.75	12.50	10.00
313008	8	.75	12.50	10.00
313010	10	.75	12.50	10.00
313015	15	.75	12.50	10.00
313020	20	.75	12.50	10.00
313025	25	.75	12.50	10.00
313030	30	.75	12.50	10.00

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
273.002	1/500	\$5.13	\$85.50	\$68.40
273.005	1/200	5.13	85.50	68.40
273.010	1/100	5.13	85.50	68.40
273.015	1/64	5.13	85.50	68.40
273.031	1/32	5.13	85.50	68.40
273.050	1/20	4.29	71.50	57.20
273.062	1/16	4.29	71.50	57.20
273.100	1/10	4.29	71.50	57.20
273.125	1/8	4.29	71.50	57.20
273.200	2/10	4.29	71.50	57.20
273.250	1/4	4.29	71.50	57.20
273.300	3/10	4.29	71.50	57.20
273.400	4/10	4.29	71.50	57.20
273.500	1/2	4.29	71.50	57.20
273.600	6/10	4.29	71.50	57.20
273.700	7/10	4.29	71.50	57.20
273.750	3/4	4.29	71.50	57.20
273.800	8/10	4.29	71.50	57.20
273001		4.29	71.50	57.20
27301.5	1-1/2	4.29	71.50	57.20
273002	2	4.29	71.50	57.20
273003	3	4.29	71.50	57.20
273004	4	4.29	71.50	57.20
273005	5	4.29	71.50	57.20

### HIGH RELIABILITY MICROFUSES

For zero defect programs. Hermetically sealed; gold-plated terminals for soldered or plug-in connections. Fuse rating identified on each fuse. Test data and traceability records are supplied and maintained. Proven performance in the Gemini "critical parts" manned space program. Voltage rating 125 V, blow time same as 273 series; time/current characteristics certified to 1% AQL per MIL-Std-105, Inspection Level II. Short circuit interrupting capacity at 125 V, 10,000 amps DC. Size: Fuse cap and body, .290" lg. leads for 262 "plug-in" series .170". Pigtail on 268 series 1.0". Use prefix 268 for pigtail type (e.g., 268.002).

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
262.002	1/500	\$15.00	\$250.00	\$200.00
262.005	1/200	15.00	250.00	200.00
262.010	1/100	15.00	250.00	200.00
262.015	1/64	15.00	250.00	200.00
262.031	1/32	15.00	250.00	200.00
262.050	1/20	15.00	250.00	200.00
262.062	1/16	15.00	250.00	200.00
262.100	1/10	15.00	250.00	200.00
262.125	1/8	15.00	250.00	200.00
262.200	2/10	15.00	250.00	200.00
262.250	1/4	15.00	250.00	200.00
262.300	3/10	15.00	250.00	200.00

### HIGH RELIABILITY PICOFUSES

For soldering into circuits or insertion into diode type clips and mtgs. Fuses rated at 125 V or less and will interrupt short circuit currents to 300 amps at 125 VDC. Non-hydroscopic ceramic bodies. Withstands 5-lb. axial pull test. Blow time 4 hours min., 100% rating; 5 secs. max., 200% rating. Insulation resistance is 1 meg min. measured with 100 V supply. Size: Body 1/8" lg., .078" dia. Leads are .025" dia., 1 1/2" lg., gold-plated copper.

L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
265.250	1/4	265002	2
265.375	3/8	265003	3
265.500	1/2	265004	4
265.750	3/4	265005	5
265001.	1		

### JAG FUSES (32 V. OR LESS)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 20-sec. max. Lg. 1/4", dia. 3/16".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
303001	1	\$0.30	\$5.00	\$4.00
30302.5	2-1/2	.20	3.30	2.64
303004	4	.20	3.30	2.64
303006	6	.20	3.30	2.64
303015	15	.23	3.75	3.00
303020	20	.23	3.75	3.00
303030	30	.23	3.75	3.00

### SUBMINIATURE FUSES

A must for servicing European electronic equipment. Size: 20 mm x 5 mm (.8" x .2").

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
212.100	1/10	1.59	26.50	21.20
212.125	1/8	1.59	26.50	21.20
212.200	2/10	1.23	20.50	16.40
212.250	1/4	1.23	20.50	16.40
212.300	3/10	1.23	20.50	16.40
212.400	4/10	1.23	20.50	16.40
212.500	1/2	1.23	20.50	16.40
212.600	6/10	1.23	20.50	16.40
212.700	7/10	1.23	20.50	16.40
212.800	8/10	1.23	20.50	16.40
212001	1	.99	16.50	13.20
2121.25	1-1/4	.99	16.50	13.20
21201.6	1-6/10	.99	16.50	13.20
212002	2	.99	16.50	13.20
21202.5	2-1/2	.99	16.50	13.20
212003	3	.99	16.50	13.20
212004	4	.99	16.50	13.20
212005	5	.99	16.50	13.20
212006	6	.99	16.50	13.20

### MEDIUM ACTING (250 V.) TYPE M

Net per 5: . . . . . \$ 1.23

Net per 100: 100 . . . \$20.50; 500 . . . 16.40

L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
211.100	1/10	211.500	1/2	211002	2
211.200	2/10	211.600	6/10	211003	3
211.250	1/4	211.800	8/10	211005	5
211.300	3/10	211001	1		
211.400	4/10	21101.6	1-6/10		

### SLO BLO FUSES (250 V.) TYPE T

Net per 5: . . . . . \$ 1.23

Net per 100: 100 . . . \$20.50; 500 . . . 16.40

L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
213.100	1/10	213.600	6/10	21302.5	2-1/2
213.125	1/8	213.700	7/10	213003	3
213.200	2/10	213.800	8/10	213004	4
213.250	1/4	213001	1	213005	5
213.300	3/10	2131.25	1-1/4	213006	6
213.400	4/10	21301.6	1-6/10		
213.500	1/2	213002	2		

### SUBMINIATURE (125 V. MAX.)

L.F. No.	Amp Rating	Net per 5	Net per 100
27			



# LITTELFUSE Quality Fuses

**9AG FUSES (32 V. OR LESS)**  
 Blow Time: 100%, 4-hour min.; 125%, 0-1 hour; 200%, 0-25 seconds. Lg. 1 1/4", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
306050	50	\$0.45	\$7.50	\$6.00

**3AG SLO BLO PIGTAIL FUSES (125 V.)**  
 Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 5-sec. min. Lg. 1 1/4", dia. 1/4", 1 1/2" pigtails. U/L App. thru 3.2 amps.

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
315.010	1/100	\$1.77	\$29.50	\$23.60
315.031	1/32	1.77	29.50	23.60
315.062	1/16	1.29	21.50	17.20
315.100	1/10	1.29	21.50	17.20
315.125	1/8	1.29	21.50	17.20
315.150	.15	1.29	21.50	17.20
315.175	.175	1.29	21.50	17.20
315.187	3/16	1.29	21.50	17.20
315.200	2/10	1.29	21.50	17.20
315.250	1/4	1.29	21.50	17.20
315.300	3/10	1.29	21.50	17.20
315.375	3/8	1.29	21.50	17.20
315.400	4/10	1.29	21.50	17.20
315.500	1/2	1.29	21.50	17.20
315.600	6/10	1.29	21.50	17.20
315.700	7/10	1.29	21.50	17.20
315.750	3/4	1.29	21.50	17.20
315.800	8/10	1.29	21.50	17.20
315001	1	1.29	21.50	17.20
31501.2	1-2/10	1.23	20.50	16.40
3151.25	1-1/4	1.23	20.50	16.40
31501.5	1-1/2	1.23	20.50	16.40
31501.6	1-6/10	1.23	20.50	16.40
315002	2	1.23	20.50	16.40
31602.6	2-1/2	1.05	17.50	14.60
31502.8	2-8/10	1.05	17.50	14.60
315003	3	1.05	17.50	14.60
31503.2	3-2/10	1.05	17.50	14.60
315004	4	1.05	17.50	14.60
315005	5	1.05	17.50	14.60

**3AG PIGTAIL FUSES (250 V.)**  
 Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1 1/4", dia. 1/4", 1 1/2" pigtails.

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
318.010	1/100	\$1.32	\$22.00	\$17.60
318.031	1/32	1.32	22.00	17.60
318.062	1/16	1.32	22.00	17.60
318.125	1/8	.99	16.50	13.20
318.150	15/100	.99	16.50	13.20
318.187	3/16	.99	16.50	13.20
318.200	2/10	.99	16.50	13.20
318.250	1/4	.75	12.50	10.00
318.375	3/8	.75	12.50	10.00
318.500	1/2	.75	12.50	10.00
318.750	3/4	.75	12.50	10.00
318001	1	.60	10.00	8.00
31801.5	1-1/2	.60	10.00	8.00
318002	2	.60	10.00	8.00
31802.5	2-1/2	.60	10.00	8.00
318003	3	.60	10.00	8.00
318004	4	.63	10.50	8.40
318005	5	.63	10.50	8.40
318006	6	.63	10.50	8.40
318007	7	.63	10.50	8.40
318008	8	.75	12.50	10.00

**3AG INDICATING FUSES (125 V.)**  
 Blow Time: 110%, 4-hour min.; 135%, 1 hour max. Length 1 1/4", dia. 1/4".

L.F. No.	Amp Rating	Lgth. in.	Net per 5	Net per 100	
				100	500
334.750	3/4		\$2.16	\$36.00	\$28.80
334001	1		1.68	28.00	22.40
33401.5	1-1/2		1.68	28.00	22.40
334002	2		1.68	28.00	22.40
334003	3		1.68	28.00	22.40
334004	4		1.68	28.00	22.40
334005	5		1.68	28.00	22.40
334006	6*		2.34	39.00	31.20
334008	8*		2.34	39.00	31.20
334010	10*		2.34	39.00	31.20
334012	12*		2.34	39.00	31.20
334015	15*		2.34	39.00	31.20
334020	20*		2.34	39.00	31.20

**3AB TINY MIGHTY (250 V. OR LESS)**  
 Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 30-sec. max. Length 1 1/4", dia. 1/4". U/L Approved thru 15 amps.

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
314.125	1/8	\$0.69	\$11.50	\$ 9.20
314.250	1/4	.69	11.50	9.20
314.375	3/8	.69	11.50	9.20
314.500	1/2	.69	11.50	9.20
314.750	3/4	.69	11.50	9.20
314001	1	.66	11.00	8.80
314002	2	.66	11.00	8.80
314003	3	.66	11.00	8.80
314005	5	.63	10.50	8.40
314006	6	.63	10.50	8.40
314007	7	.63	10.50	8.40
314008	8	.63	10.50	8.40
314010	10	.63	10.50	8.40
314012	12	.66*	11.00	8.80
314015	15	.66	11.00	8.80
314020	20	.66	11.00	8.80
314025	25	.81	13.50	10.80
314030	30	.81	13.50	10.80

**LIMITED CURRENT (250 V.) TYPE C**  
 Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Prices for applicable fuse holders available upon request.

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
332.031	1/32	\$1.62	\$27.00	\$21.60
332.062	1/16	1.05	17.50	14.00
332.125	1/8	.81	13.50	10.80
332.187	3/16	.63	10.50	8.40
332.250	1/4	.63	10.50	8.40
332.300	3/10	.63	10.50	8.40
332.375	3/8	.63	10.50	8.40
332.400	4/10	.63	10.50	8.40
332.500	1/2	.63	10.50	8.40
332.700	7/10	.63	10.50	8.40
332.750	3/4	.63	10.50	8.40
332001	1	.36	6.00	4.80
3321.25	1-1/4	.36	6.00	4.80
33201.5	1-1/2	.36	6.00	4.80
3321.75	1-3/4	.36	6.00	4.80
332002	2	.36	6.00	4.80
33202.5	2-1/2	.36	6.00	4.80
332003	3	.36	6.00	4.80
33203.5	3-1/2	.45	7.50	6.00
332004	4	.45	7.50	6.00
332005	5	.45	7.50	6.00
332006	6	.45	7.50	6.00
332007	7*	.45	7.50	6.00
332008	8*	.66	11.00	8.80
332010	10*	.69	11.50	9.20

\*125 volt.  
**LC SLO BLO (125 V.) TYPE N**  
 Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. max. Prices for applicable fuse holders upon request.

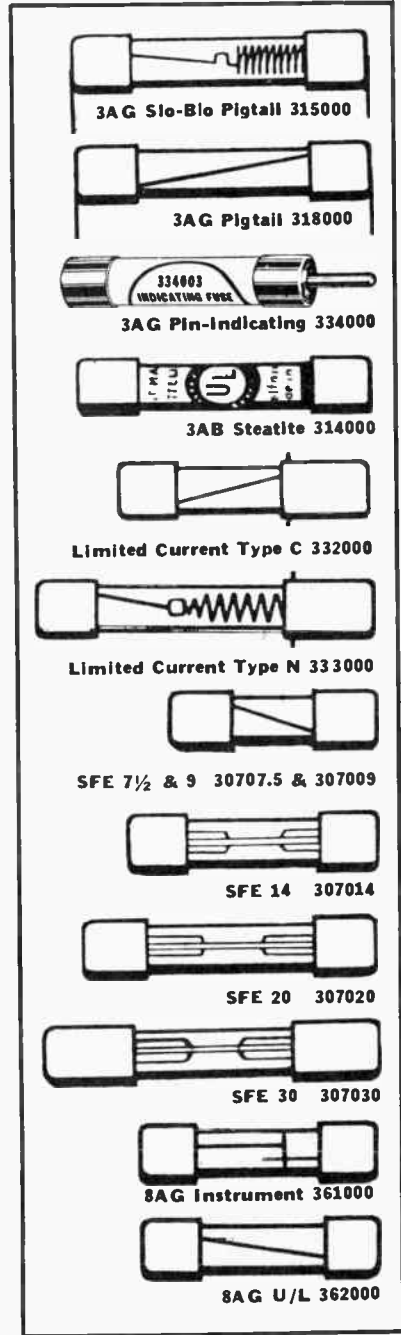
L.F. No.	Amp Rating	Lgth. in.	Net per 5	Net per 100	
				100	500
333.010	1/100		\$1.53	\$25.50	\$20.40
333.031	1/32		1.53	25.50	20.40
333.062	1/16		1.11	18.50	14.80
333.100	1/10		1.11	18.50	14.80
333.150	15/100		1.11	18.50	14.80
333.200	2/10		1.11	18.50	14.80
333.250	1/4		1.11	18.50	14.80
333.300	3/10		1.11	18.50	14.80
333.400	4/10		1.11	18.50	14.80
333.500	1/2		1.11	18.50	14.80
333.600	6/10		1.11	18.50	14.80
333.700	7/10		1.11	18.50	14.80
333.750	3/4		1.11	18.50	14.80
333.800	8/10		1.11	18.50	14.80
333001	1		1.11	18.50	14.80
3331.25	1-1/4		.99	16.50	13.20
33301.6	1-6/10		.99	16.50	13.20
3331.75	1-3/4		.99	16.50	13.20
333002	2		.99	16.50	13.20
33302.5	2-1/2		.93	15.50	12.40
33302.8	2-8/10		.93	15.50	12.40
333003	3		.93	15.50	12.40
33303.2	3-2/10		.93	15.50	12.40
33303.5	3-1/2		.93	15.50	12.40
333004	4		.93	15.50	12.40
333005	5		.93	15.50	12.40
3336.25	6-1/4*		.93	15.50	12.40
333007	7*		.93	15.50	12.40

\*32 volt.  
**SFE AUTO FUSES (32 V. OR LESS)**  
 Blow Time: 110%, 4-hour min.; 135%, 0-1 hour; 150%, 20 amps or less 0-15 sec., 30 amps or less 0-30 sec. Dia. 1/4".

L.F. No.	Amp Rating	Lgth. in.	Net per 5	Net per 100	
				100	500
307004	4	3/8	\$0.23	\$3.75	\$3.00
307006	6	3/8	.23	3.75	3.00
30707.5	7-1/2	7/8	.20	3.30	2.64
307009	9	7/8	.20	3.30	2.64
307014	14	1 1/4	.18	2.95	2.36
307020	20	1 1/4	.18	2.95	2.36
307030	30	1 1/4	.23	3.75	3.00

**SAG FUSES**  
 Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1", dia. 1/4". U/L Approved.

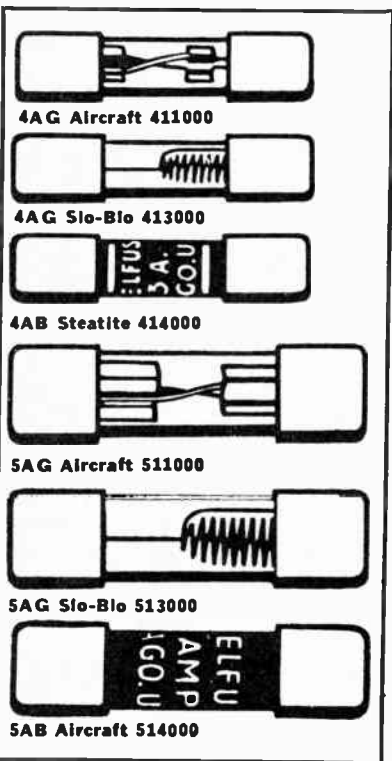
L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
362.125	1/8	\$0.75	\$12.50	\$10.00
362.250	1/4	.51	8.50	6.80
362.375	3/8	.51	8.50	6.80
362.500	1/2	.51	8.50	6.80
362.750	3/4	.51	8.50	6.80
362001	1	.30	5.00	4.00
36201.5	1-1/2	.30	5.00	4.00
362002	2	.30	5.00	4.00
362003	3	.30	5.00	4.00
362005	5	.20	3.30	2.64
362006	6	.20	3.30	2.64
362008	8	.20	3.30	2.64
362010	10	.20	3.30	2.64
362012	12	.20	3.30	2.64
362015	15	.20	3.30	2.64
362020	20	.20	3.30	2.64
362025	25	.23	3.75	3.00
362030	30	.23	3.75	3.00



**SAG INSTRUMENT FUSES**  
 Blow Time: 100%, 4-hour min.; 200%, 5-sec. max. Length 1", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
361.002	1/500	\$5.16	\$86.00	\$68.80
361.005	1/200	2.16	36.00	28.80
361.010	1/100	1.92	32.00	25.60
361.031	1/32	1.68	28.00	22.40
361.062	1/16	1.05	17.50	14.00
361.100	1/10	.75	12.50	10.00
361.125	1/8	.75	12.50	10.00
361.187	3/16	.75	12.50	10.00
361.200	2/10	.75	12.50	10.00
361.250	1/4	.51	8.50	6.80
361.375	3/8	.51	8.50	6.80
361.400	4/10	.51	8.50	6.80
361.500	1/2	.51	8.50	6.80
361.750	3/4	.51	8.50	6.80
361001	1	.33	5.50	4.40
36101.5	1-1/2	.33	5.50	4.40
361002	2	.33	5.50	4.40
361003	3	.33	5.50	4.40
361004	4	.33	5.50	4.40
361005	5			

# LITTELFUSE Fuses, Fuse Puller



### 4AG AIRCRAFT FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1 1/2", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
411010	10	\$0.42	\$7.00	\$5.60
411015	15	.42	7.00	5.60
411020	20	.42	7.00	5.60
411025	25	.42	7.00	5.60
411030	30	.42	7.00	5.60
411035	35	.51	8.50	6.80
411040	40	.51	8.50	6.80

### 4AB FUSES (STEATITE)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 30-sec. max. Length 1 1/2", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
414001	1	\$1.02	\$17.00	\$13.60
414002	2	1.02	17.00	13.60
414003	3	1.02	17.00	13.60
414005	5	.96	16.00	12.80
414006	6	.96	16.00	12.80
414008	8	.96	16.00	12.80
414010	10	.96	16.00	12.80
414015	15	.96	16.00	12.80
414020	20	.96	16.00	12.80
414025	25	.96	16.00	12.80
414030	30	.96	16.00	12.80
414035	35	1.02	17.00	13.60
414040	40	1.02	17.00	13.60

### 5AG AIRCRAFT FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 20-sec. max. Length 1 1/2", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
511010	10	\$0.60	\$10.00	\$8.00
511015	15	.60	10.00	8.00
511020	20	.60	10.00	8.00
511025	25	.60	10.00	8.00
511030	30	.60	10.00	8.00
511035	35	.63	10.50	8.40
511040	40	.63	10.50	8.40
511050	50	.63	10.50	8.40
511060	60	.63	10.50	8.40

### 5AG QUICK-ACTING FUSES (250 V. OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1 1/2", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
512001	1	\$0.63	\$10.50	\$8.40
512002	2	.63	10.50	8.40
512003	3	.63	10.50	8.40
512004	4	.63	10.50	8.40
512005	5	.60	10.00	8.00
512008	8*	.60	10.00	8.00

\*125 volts.

### 5AG SLO BLO FUSES (250 V. OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. min. Length 1 1/2", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
513001	1/2	\$1.77	\$29.50	\$23.60
513001	1	1.77	29.50	23.60
513002	2	1.77	29.50	23.60
513003	3	1.38	23.00	18.40
513005	5	1.38	23.00	18.40
513010	10	1.38	23.00	18.40
513015	15	1.38	23.00	18.40
513020	20	1.38	23.00	18.40
513025	25	1.56	26.00	20.80
513030	30	1.56	26.00	20.80

### 5AB AIRCRAFT FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 30-sec. max. Length 1 1/2", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
514001	1	\$1.17	\$19.50	\$15.60
514002	2	1.17	19.50	15.60
514003	3	1.17	19.50	15.60
51403.5	3-1/2	1.17	19.50	15.60
514005	5	1.11	18.50	14.80
514006	6	1.11	18.50	14.80
5146.25	6-1/4	1.11	18.50	14.80
514007	7	1.11	18.50	14.80
514008	8	1.11	18.50	14.80
514010	10	1.11	18.50	14.80
514015	15	1.11	18.50	14.80
514020	20	1.11	18.50	14.80
514025	25	1.11	18.50	14.80
514030	30	1.11	18.50	14.80
514035	35	1.17	19.50	15.60
514040	40	1.17	19.50	15.60

### HIGH VOLTAGE FUSES

Designed for use in aircraft radio equipment, transmitting equipment, X-ray apparatus, high voltage rectifiers, etc., for circuits up to 20 KW DC or 30 KVA AC. Fuses are fiber enclosed with cadmium plated end caps. Two principles of arc suppression are employed: (1) Multi-break fuse wire which blows at each half inch of its length; (2) Ceramic baffles break the arc into several parts and quench it. Blow Time: 110%, 4-hour min.; 135%, 0-1 hour; 200% 0-2 minutes.

#### 1000-VOLT (3" x 1 1/4")

L.F. No.	Amp Rating	Net Each	Net per 100	
			100	500
621.375	3/8	\$0.31	\$25.50	\$20.40
621.500	1/2	.31	25.50	20.40
621.750	3/4	.31	25.50	20.40
621001	1	.31	25.50	20.40
62101.5	1-1/2	.31	25.50	20.40
621002	2	.31	25.50	20.40

#### 2500-VOLT (4 1/2" x 1 1/4")

L.F. No.	Amp Rating	Net Each	Net per 100	
			100	500
622.500	1/2	\$0.40	\$33.50	\$26.80
622.750	3/4	.40	33.50	26.80
622001	1	.40	33.50	26.80
62201.5	1-1/2	.40	33.50	26.80
622002	2	.40	33.50	26.80

#### 3000-VOLT (5 1/2" x 1 1/4")

L.F. No.	Amp Rating	Net Each	Net per 100	
			100	500
623.500	1/2	\$0.59	\$49.50	\$39.60
623.750	3/4	.59	49.50	39.60
623001	1	.59	49.50	39.60
62301.5	1-1/2	.59	49.50	39.60
623002	2	.59	49.50	39.60

#### 1000-VOLT (3" x 1 1/4")

L.F. No.	Amp Rating	Net Each	Net per 100	
			100	500
701.062	1/16	\$0.72	\$60.00	\$48.00
701.125	1/8	.72	60.00	48.00
701.250	1/4	.72	60.00	48.00
701.375	3/8	.72	60.00	48.00
701.500	1/2	.72	60.00	48.00
701.750	3/4	.72	60.00	48.00
701001	1	.72	60.00	48.00
70101.5	1-1/2	.72	60.00	48.00
701002	2	.72	60.00	48.00

#### 5000-VOLT (5" x 1 1/4")

L.F. No.	Amp Rating	Net Each	Net per 100	
			100	500
702.062	1/16	\$0.75	\$62.50	\$50.00
702.125	1/8	.75	62.50	50.00
702.250	1/4	.75	62.50	50.00
702.375	3/8	.75	62.50	50.00
702.500	1/2	.75	62.50	50.00
702.750	3/4	.75	62.50	50.00
702001	1	.75	62.50	50.00
70201.5	1-1/2	.75	62.50	50.00
702002	2	.75	62.50	50.00
70202.5	2-1/2	.75	62.50	50.00
702003	3	.75	62.50	50.00

#### 10,000-VOLT (10" x 1 1/4")

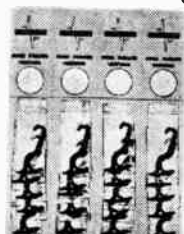
L.F. No.	Amp Rating	Net Each	Net per 100	
			100	500
703.062	1/16	\$1.55	\$129.50	\$103.60
703.125	1/8	1.55	129.50	103.60
703.250	1/4	1.55	129.50	103.60
703.175	3/8	1.55	129.50	103.60
703.500	1/2	1.55	129.50	103.60
703.750	3/4	1.55	129.50	103.60
703001	1	1.55	129.50	103.60
70301.5	1-1/2	1.55	129.50	103.60
703002	2	1.55	129.50	103.60
703003	3	1.55	129.50	103.60

### FUSE PULLER AND ASSORTMENT

Handy tool provides safe, easy method of extracting any blown fuse. Hooks around fuse permitting easy jerk-out. Available singly (097006) or in card-mounted assortment of 20 pullers, pressure sensitively attached on a card (094066).



L.F. No.	Net Ea.	Lots
097006	\$0.18	\$0.12
094066	5.00	4.17



# LITTELFUSE

# CIRCUIT BREAKERS, MOUNTINGS AND CLIPS

### MOUNTINGS FOR SARKE'S TARZIAN AND INTERNATIONAL RECTIFIERS

L.F. No.	Description	Net Each, Lots of 5	Net per 100	
			100	500
099062	Single pole, 1/4" base	\$0.16	\$13.50	\$10.80
099063	Double pole, 1/4" base	.32	27.00	21.60
099065	Double pole, 1/4" base	.217	17.50	14.00
099065-3	1/4" Bakelite insulator	.017	1.68	1.40
099067	Single pole 1/4" base	.09	7.50	6.00
099067-3	1/4" Bakelite insulator	.01	.85	.68

### STANDARD FUSE CLIPS (PHOSPHOR BRONZE, NICKEL PLATED)

L.F. No.	Fuse Adaptation	Type	Net Each, Lots of 5	Net per 100	
				100	500
101001	SFE, 3AG, 8AG, 3AB	Ear	\$0.0228	\$ 1.90	\$ 1.50
101002	SFE, 3AG, 8AG, 3AB	Earless	.0228	1.90	1.50
101003*	SFE, 3AG, 8AG, 3AB	Lug	.0318	2.65	2.12
103001	4AG, 4AB	Ear	.0396	3.26	2.61
104002	4AG, 4AB	Earless	.0396	3.26	2.61
105001	5AG	Ear	.0486	4.05	3.24
105002	5AG	Earless	.0486	4.05	3.24
107001	5/16" dia.	Ear	.078	6.50	5.20
107002	5/16" dia.	Earless	.078	6.50	5.20
109001	11/16" dia.	Ear	.204	17.00	13.60
109002	11/16" dia.	Earless	.204	17.00	13.60

\*Unplated, bright dip.

### STANDARD FUSE CLIPS (BERYLLIUM COPPER, SILVER PLATED)

L.F. No.	Description	Type	Net Each, Lots of 5	Net per 100	
				100	500
121001	SFE, 3AG, 8AG, 3AB	Ear	\$0.0486	\$ 4.05	\$ 3.24
121002	SFE, 3AG, 8AG, 3AB	Earless	.0486	4.05	3.24
121004	SFE, 3AG, 8AG, 3AB	Lug	.114	9.50	7.60
123001	4AG, 4AB	Ear	.078	6.50	5.20
123002	4AG, 4AB	Earless	.078	6.50	5.20
125001	5AG, hi-volt	Ear	.12	10.00	8.00
125002	5AG, hi-volt	Earless	.12	10.00	8.00
127001	5/16" dia.	Ear	.258	21.50	17.20
127002	5/16" dia.	Earless	.258	21.50	17.20
129001	11/16" dia.	Ear	.60	50.00	40.00
129002	11/16" dia.	Earless	.60	50.00	40.00

### 3AG MOUNTINGS

L.F. No.	Description	Net Each, Lots of 5	Net per 100	
			100	500
351009	Hinged can cover, 2 pole	\$1.82	\$98.50	\$78.80
351010	Spare, 1 pole	.162	13.50	10.80
352001	Through panel, 1 pole	.27	22.50	18.00
353001	Panel, 1 pole	.48	40.00	32.00

### 3AG MOUNTINGS WITH SCREW TERMINALS—TYPE T

L.F. No.	Description	Net Ea. Lots of 5	Net per 100	
			100	500
356001	1 pole	\$0.34	\$ 28.50	\$ 22.80
356002	2 pole	.66	55.00	44.00
356003	3 pole	1.00	83.00	66.40
356004	4 pole	1.70	142.00	113.60
356005	5 pole	2.12	176.50	141.20
356006	6 pole	2.50	208.00	166.40
356007	7 pole	2.94	245.00	196.00
356008	8 pole	3.35	279.00	223.20
356009	9 pole	3.75	312.50	250.00
356010	10 pole	4.13	344.00	275.20
356011	11 pole	4.52	377.00	301.60
356012	12 pole	4.85	404.00	323.20

### 3AG MOUNTINGS WITH SOLDER TERMINALS—TYPE S

L.F. No.	Description	Net Ea. Lots of 5	Net per 100	
			100	500
357001	1 pole	\$0.16	\$ 13.50	\$ 10.80
357002	2 pole	.32	27.00	21.60
357003	3 pole	.49	41.00	32.80
357004	4 pole	.62	51.50	41.20
357005	5 pole	.76	63.00	50.40
357006	6 pole	.89	74.00	59.20
357007	7 pole	1.01	84.00	67.20
357008	8 pole	1.15	96.00	76.80
357009	9 pole	1.30	108.00	86.40
357010	10 pole	1.44	120.00	96.00
357011	11 pole	1.58	132.00	105.60
357012	12 pole	1.73	144.00	115.20

### 8AG MOUNTINGS

L.F. No.	Description	Net Ea. Lots of 5	100	500
383001	1 pole*	\$0.48	\$40.00	\$32.00
383002	1 pole†	.32	27.00	21.60

\*Thru-panel. †Meter back.

### 8AG MOUNTINGS WITH SOLDER TERMINALS—TYPE S

L.F. No.	Description	Net Ea. Lots of 5	Net per 100	
			100	500
387001	1 pole	\$0.16	\$ 13.50	\$ 10.80
387002	2 pole	.32	27.00	21.60
387003	3 pole	.49	41.00	32.80
387004	4 pole	.62	51.50	41.20
387005	5 pole	.76	63.00	50.40
387006	6 pole	.89	74.00	59.20
387007	7 pole	1.01	84.00	67.20
387008	8 pole	1.15	96.00	76.80
387009	9 pole	1.30	108.00	86.40
387010	10 pole	1.44	120.00	96.00
387011	11 pole	1.58	132.00	105.60
387012	12 pole	1.73	144.00	115.20

### 4AG FUSE MOUNTINGS WITH SCREW TERMINALS—TYPE T

L.F. No.	Description	Net Ea. Lots of 5	Net per 100	
			100	500
456001	1 pole	\$0.44	\$ 36.50	\$ 29.20
456002	2 pole	.85	70.50	56.40
456003	3 pole	1.25	104.50	83.60
456004	4 pole	2.26	188.50	150.80
456005	5 pole	2.84	236.50	189.20
456006	6 pole	3.35	279.50	223.60
456007	7 pole	3.95	329.00	263.20
456008	8 pole	4.49	374.50	299.60
456009	9 pole	5.04	420.00	336.00
456010	10 pole	5.59	466.00	372.80
456011	11 pole	6.14	511.50	409.20
456012	12 pole	6.60	550.00	440.00

### 5AG MOUNTINGS WITH SCREW TERMINALS—TYPE T

L.F. No.	Description	Net Ea. Lots of 5	Net per 100	
			100	500
556001	1 pole	\$0.50	\$ 41.50	\$ 33.20
556002	2 pole	.98	81.50	65.20
556003	3 pole	1.45	120.50	96.40
556004	4 pole	2.76	230.00	184.00
556005	5 pole	3.44	286.50	229.20
556006	6 pole	4.07	339.50	271.60
556007	7 pole	4.79	399.00	319.20
556008	8 pole	5.45	454.50	363.60
556009	9 pole	6.12	510.00	408.00
556010	10 pole	6.76	563.00	450.40
556011	11 pole	7.42	618.00	494.40
556012	12 pole	7.97	664.50	531.60

### HIGH VOLTAGE FUSE HOLDERS For 70100 Series Fuses.

L.F. No.	Size, In. L. x H.	Net Each	Net per 100	
			100	500
711001	2 1/2 x 1 3/8	\$1.67	\$139.00	\$111.20

For 70200 Series Fuses.

711002	1 1/2 x 1 1/8	\$1.80	\$166.60	\$126.20
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For 70300 Series Fuses.

711003	12 x 3	\$4.46	\$371.50	\$297.20
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For 62100 Series Fuses.

631001	4 x 1 1/4	\$0.94	\$78.00	\$62.40
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For 62200 Series Fuses.

631002	1 5/8 x 1 1/4	\$1.33	\$111.00	\$88.80
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For 62300 Series Fuses.

631003	6 1/4 x 1 1/4	\$1.44	\$120.00	\$96.00
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### TV SNAP-ON FUSE HOLDERS

094025	10-holders*	\$1.90		
350130	Holder†	.19	\$15.00	\$10.00

\*In plastic box. †Bulk.

### MANUAL RESET CIRCUIT BREAKERS

Exact replacement protector for TV circuits. Ideal for current overload protection for model railroads, toy transformers, hair dryers, small appliances, tools, wiring, etc. For 125 VAC operation. Size, 1 3/4" x 1 3/4" x 1/2".

L.F. No.*	Trip Rating Amps	Skin Pack Net Ea.*	Bulk Pkg. Box of 5
815.650	.650	\$0.84	\$3.90
815.800	.800	.84	3.90
815001	1	.84	3.90
8151.25	1.25	.84	3.90
81501.5	1.5	.84	3.90
8151.75†	1.75	.84	3.90
815002†	2	.84	3.90
8152.25†	2.25	.84	3.90
81502.5†	2.5	.84	3.90
8152.75†	2.75	.84	3.90
815003†	3	.84	3.90
8153.25†	3.25	.84	3.90
815004†	4	.84	3.90
81504.5†	4.5	.84	3.90
815005	5	.84	3.90
815006	6	.84	3.90
815007†	7	.84	3.90

\*Add C when ordering (i.e., 815002C).

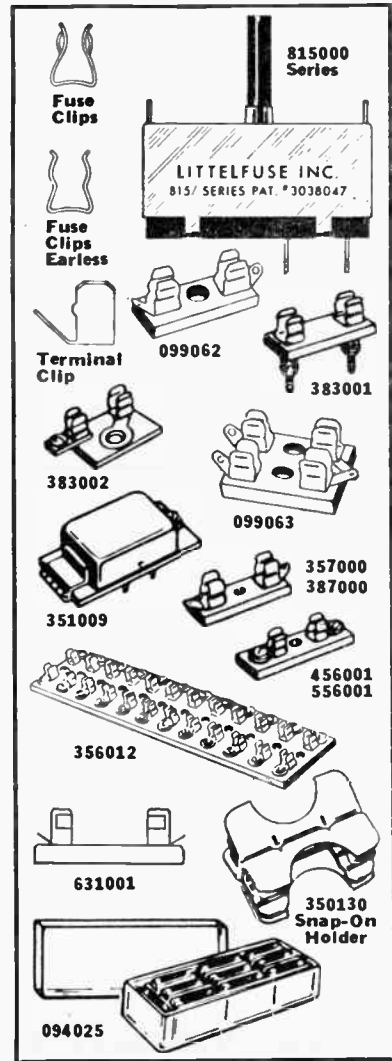
L.F. No. 094084 Bulk Assortment—Ten circuit breakers from the above listing as indicated by (†). Net Each . . . . . \$7.80

L.F. No. 094085 Card Assortment—Same, but card packaging. Net Each . . . . . \$8.40

L.F. No. 094073 Card Assortment for Color TV—One each 8151.75, 8152.25, 8152.75, 815003, 815007; two 81504.5, three 8153.25. Net Each . . . . . \$8.40

L.F. No. 094074 Bulk Assortment for Color TV—Same, but bulk packaging. Net Each . . . . . \$7.80

L.F. No. 815(000) PA-Circuit Breaker Adapter Plate—Net Each \$0.18; 100 Net: \$15.00 (\$100 lots); \$12.00 (\$500 lots).



# LITTELFUSE Fuses and Holders

## FUSES AND ASSORTMENTS

### ECON TIME-DELAY PLUG FUSES

Dual-element plug type fuses provide additional protection against blowing during motor starting cycle. U/L Approved. For 125-volt operation.

L.F. No.	Amp Rating	Net per Box of 4	Net per 100
TE3/10	3/10	\$0.70	\$15.00
TE4/10	4/10	.70	15.00
TE8/10	8/10	.70	15.00
TE1	1	.70	15.00
TE1-1/8	1-1/8	.70	15.00
TE1-1/4	1-1/4	.70	15.00
TE1-4/10	1-4/10	.70	15.00
TE1-6/10	1-6/10	.70	15.00
TE1-8/10	1-8/10	.70	15.00
TE2	2	.70	15.00
TE2-1/4	2-1/4	.70	15.00
TE2-1/2	2-1/2	.70	15.00
TE3-2/10	3-2/10	.70	15.00
TE3-1/2	3-1/2	.70	15.00
TE4	4	.70	15.00
TE4-1/2	4-1/2	.70	15.00
TE5	5	.70	15.00
TE5-6/10	5-6/10	.70	15.00
TE6-1/4	6-1/4	.70	15.00
TE7	7	.70	15.00
TE8	8	.70	15.00
TE9	9	.70	15.00
TE10	10	.70	15.00
TE12	12	.70	15.00
TE14	14	.70	15.00
TE15	15	.38	8.10
TE20	20	.38	8.10
TE25	25	.38	8.10
TE30	30	.38	8.10

### CLEARSITE ONE-TIME PLUG HOUSE FUSES

Full visibility design for positive, clear indication of fuse condition. For 125 v. AC or DC. U/L Approved. Use with standard Edison base fuse holders.

L.F. No.	Amp Rating	Net per Box of 5	Net per 100
CP10	10	\$0.38	\$6.80
CP15	15	.34	6.10
CP20	20	.34	6.10
CP25	25	.34	6.10
CP30	30	.34	6.10

### UNIVERSAL AUTO FUSE ASSORTMENT

Emergency fuse kit with ten popular replacement fuses for any car.

Littelfuse No. 094080—Net Each... 71c

### FUSE CADDY

Standard fuse caddy for servicemen to carry in tube caddy. Fifteen compartments for 75 fuses; three spare compartments. See thru plastic top for easy identification.

Littelfuse No. 094037—Net Each... \$8.28

### LIMITED-CURRENT FUSE CADDY

Handy, all-inclusive limited-current fuse caddy complete with 75 fuses of 15 different types. Three extra (spare) compartments.

Littelfuse No. 094041—Net Each... \$11.21

### FUSEMASTER DISPLAY

Fuse wall rack with 60 individual compartments for easy, instant self-service. Holds index card on back of rack. Ideal for servicemen, laboratories, etc.

Littelfuse No. 094047—Complete with 100 assorted fuses. Net Each... \$13.67

Littelfuse No. 094048—Empty rack. Net Each... 85c

### FUSE HOLDERS, RETAINERS MICROFUSE HOLDERS

For mounting of 273000 Series Microfuse. Type 281002 is front panel mounting; 281001 ideal for printed circuit board mtg.; 284000 Series front panel mtg. with indicator bulb.

L.F. No.	Voltage Range	Net Each	Net per 100	
			100	500
281001	.....	\$0.26	\$ 21.50	\$ 17.20
281002	.....	.58	48.50	38.80
282001	.....	1.31	109.00	87.00
282002	.....	1.24	103.00	82.00
284004	2 1/2-7	2.21	184.00	147.20
284005	7-16	2.21	184.00	147.20
284006	16-32	2.21	184.00	147.20
284003	100-125	1.55	129.00	103.20

### 3AG FUSE EXTRACTOR POSTS

L.F. No.	Type	Net Each	Net per 100	
			100	500
340255A	R/F shld'd (FHN26G)	\$4.20	\$350.00	\$280.00
340256A	R/F shld'd (FHN20G)	4.20	350.00	280.00
341001	Screw	.50	42.00	33.60
342001	Finger	.50	42.00	33.60
342004	Miniature	.42	35.00	28.00
342005	Miniature*	.50	42.00	33.60
342006	Watertight	3.23	269.90	215.20
342007	Non-water	2.29	190.50	152.40
342012	Miniature	.37	31.00	24.80
342013	Miniature*	.44	36.50	29.20
342014	Miniature	.37	31.00	24.80
342015	Miniature*	.44	36.50	29.20
342020	Miniature	.77	64.00	51.20
342021	FHN 26W	4.10	342.00	273.60
342022	Miniature	.42	35.00	28.00
342023	Miniature*	.50	42.00	33.60
342024	FHN 26G	1.24	103.50	82.80
342025	FHN 20G	1.28	107.00	85.60

\*Dust-proof.

### 8AG FUSE EXTRACTOR POSTS

L.F. No.	Type	Net Each	Net per 100	
			100	500
371001	Screw	\$0.50	\$ 42.00	\$ 33.60
372001	Finger	.50	42.00	33.60
372003	FHN31G	2.50	208.50	166.80

### 4AG FUSE EXTRACTOR POSTS

L.F. No.	Type	Net Each	\$ 88.00	\$ 70.40
442001	Finger	\$1.06	\$ 88.00	\$ 70.40
442006	Watertight	3.23	269.90	215.20
442007	Non-water	2.29	190.50	152.40
442008	Watertight	4.10	342.00	273.60

### 5AG FUSE EXTRACTOR POSTS

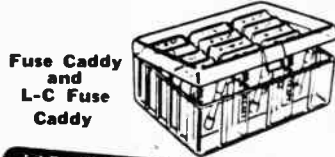
L.F. No.	Type	Net Each	Net per 100	
			100	500
570001	Non-watertight	\$2.90	\$241.50	\$193.20
571004	Watertight	3.51	292.50	234.00



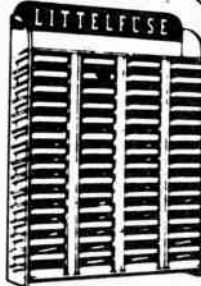
Econ Plug Fuse



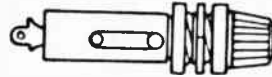
Clearsite Fuse



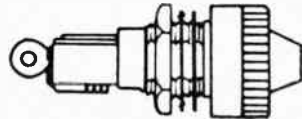
Fuse Caddy and L-C Fuse Caddy



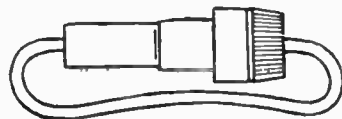
Fusomaster Display



4AG Fuse Extractor Post 442001



Indicating Fuse Post 344000



Bakelite In-Line Fuse Retainer Assembled with Lead

### 3AG INDICATING FUSE POSTS

L.F. No.	Voltage	Net Each	Net per 100	
			100	500
344006	2 1/2-7 V	\$2.50	\$208.00	\$166.40
344012	7-16 V	2.50	208.00	166.40
344024	16-32 V	2.50	208.00	166.40
344125	100-125 V	1.52	127.00	101.60
344250	200-250 V	1.52	127.00	101.60

### SERIES 346000 LIMITED CURRENT FUSE HOLDERS

For use with regular and Slo-Blo Type C and N limited current fuses. Specify amperage when ordering.

Net per 100... \$12.00  
Net per 500... \$48.00

### UNIVERSAL FUSE RETAINER

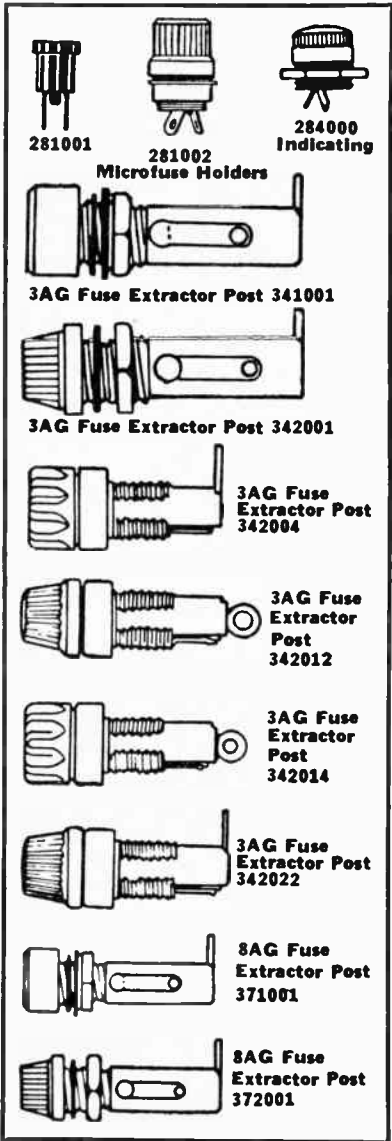
Comes with three different length springs for fuse sizes 7 1/2 SFE thru 3AG.

L.F. No. 150145—Net Each... 39c  
Net 100... \$32.50. Lots 500, Net 100... \$26.00

### BAKELITE® IN-LINE FUSE RETAINERS ASSEMBLED WITH 19" LEAD

L.F. No.	Use with Fuses	Net Ea. Lots of \$	Net per 100	
			100	500
155004A	SFE 4, 1AG	\$0.37	\$31.00	\$24.80
155006A	SFE 6	.37	31.00	24.80
155075A	SFE 7 1/2	.37	31.00	24.80
155009A	SFE 9, 7AG	.37	31.00	24.80
155014A	SFE 14	.37	31.00	24.80
155020A	SFE 20, 3AG	.37	31.00	24.80
150069-SA-2*		.25	20.50	16.40

@Bakelite Corp. \*Knob sub-assembly.



# MILITARY FUSES, MICROFUSES and FUSEHOLDERS

Cross Reference of Littelfuse Part Number vs. Military Type Designation as per Specification MIL-F-15160D (Qualified Product Listing-Fuses), MIL-F-23419/2F (Microfuses), MIL-F-19207A (Fuse Holders).

New Type Designation (MIL-F-15160D)	Series	Littelfuse Cat. No.						New Type Designation (MIL-F-15160D)	Series	Littelfuse Cat. No.					
		Nickel Plated Caps	Silver Plated Caps	List Each	1-99	100-499	500-999			Nickel Plated Caps	Silver Plated Caps	List Each	1-99	100-499	500-999
FO1A250V 1/200A	361000 Series	364.005	366.005	\$0.72	\$432.00	\$380.00	\$288.00	FO2B250V 1/8A	313000 Series (Cont'd)	393.125	398.125	\$0.35	\$210.00	\$175.00	\$140.00
FO1A250V 1/100A		364.010	366.010	.64	384.00	320.00	258.00	FO2B250V 1/4A		393.250	398.250	.35	210.00	175.00	140.00
FO1A250V 1/32A		364.031	366.031	.56	336.00	280.00	224.00	FO2B250V 3/8A		393.375	398.375	.35	210.00	175.00	140.00
FO1A250V 1/16A		364.062	366.062	.35	210.00	175.00	140.00	FO2B250V 1/2A		393.500	398.500	.35	210.00	175.00	140.00
FO1A250V 1/8A	362000 Series	364.125	366.125	.25	160.00	125.00	100.00	FO2B250V 3/4A	393.750	398.750	.35	210.00	175.00	140.00	
FO1A250V 1/4A		364.250	366.250	.17	102.00	85.00	68.00	FO2B250V 1A	393001	398001	.35	210.00	175.00	140.00	
FO1A250V 3/8A		364.375	366.375	.17	102.00	85.00	68.00	FO3A250V 1A	394001	399001	.22	132.00	110.00	88.00	
FO1A250V 1/2A		364.500	366.500	.17	102.00	85.00	68.00	FO3A250V 3A	394003	399003	.22	132.00	110.00	88.00	
FO1A125V 3/4A		364.750	366.750	.17	102.00	85.00	68.00	FO3A250V 5A	394005	399005	.21	128.00	105.00	84.00	
FO1A125V 1A		364001	366001	.10	60.00	50.00	40.00	FO3A250V 8A	394008	399008	.21	128.00	105.00	84.00	
FO1A125V 1-1/2A		36401.5	36601.5	.10	60.00	50.00	40.00	FO3A250V 10A	394010	399010	.21	128.00	105.00	84.00	
FO1A125V 2A		364002	366002	.10	60.00	50.00	40.00	FO3A250V 12A	394012	399012	.22	132.00	110.00	88.00	
FO2A250V 1/100A	312000 Series	392.010	397.010	.64	384.00	320.00	258.00	FO3A250V 15A	394015	399015	.22	132.00	110.00	88.00	
FO2A250V 1/32A		392.031	397.031	.56	336.00	280.00	224.00	FO3A125V 20A	394020	399020	.22	132.00	110.00	88.00	
FO2A250V 1/16A		392.062	397.062	.25	150.00	125.00	100.00	FO3A125V 30A	394030	399030	.27	162.00	135.00	108.00	
FO2A250V 1/8A		392.125	397.125	.25	150.00	125.00	100.00	FO3B250V 1/16A	390.062	395.062	.54	324.00	270.00	216.00	
FO2A250V 1/4A		392.250	397.250	.17	102.00	85.00	68.00	FO3B250V 1/8A	390.125	395.125	.54	324.00	270.00	216.00	
FO2A250V 3/8A		392.375	397.375	.17	102.00	85.00	68.00	FO3B250V 15/100A	390.150	395.150	.54	324.00	270.00	216.00	
FO2A250V 1/2A		392.500	397.500	.17	102.00	85.00	68.00	FO3B250V 3/16A	390.187	395.187	.54	324.00	270.00	216.00	
FO2A250V 3/4A		392.750	397.750	.17	102.00	85.00	68.00	FO3B250V 1/4A	390.250	395.250	.54	324.00	270.00	216.00	
FO2A250V 1A		392001	397001	.10	60.00	50.00	40.00	FO3B250V 3/8A	390.375	395.375	.54	324.00	270.00	216.00	
FO2A250V 1-1/2A		39201.5	39701.5	.10	60.00	50.00	40.00	FO3B250V 1/2A	390.500	395.500	.54	324.00	270.00	216.00	
FO2A250V 2A		392002	397002	.10	60.00	50.00	40.00	FO3B250V 3/4A	390.750	395.750	.54	324.00	270.00	216.00	
FO2A250V 3A		392003	397003	.094	56.40	47.00	37.80	FO3B250V 1A	390001	395001	.54	324.00	270.00	216.00	
FO2A250V 4A		392004	397004	.13	78.00	65.00	52.00	FO6A250V 1A	494001	499001	.34	204.00	170.00	138.00	
FO2A250V 5A		392005	397005	.13	78.00	65.00	52.00	FO6A250V 2A	494002	499002	.34	204.00	170.00	138.00	
FO2A250V 6A		392006	397006	.13	78.00	65.00	52.00	FO6A250V 3A	494003	499003	.34	204.00	170.00	138.00	
FO2A32V 10A		(311000) 307000 for 20 ampere	392010	397010	.066	39.80	33.00	26.40	FO6A250V 5A	494005	499005	.32	192.00	160.00	128.00
FO2A32V 15A	392015		397015	.066	39.80	33.00	26.40	FO6A250V 10A	494010	499010	.32	192.00	160.00	128.00	
FO2A32V 20A	392020		397020	.059	35.40	29.50	23.60	FO6A250V 15A	494015	499015	.32	192.00	160.00	128.00	
FO2B250V 1/100A	313000 Series	393.010	398.010	.48	288.00	240.00	192.00	FO7A250V 1A	512000 Series	590001	595001	.21	128.00	105.00	84.00
FO2B250V 1/32A		393.031	398.031	.48	288.00	240.00	192.00	FO7A250V 2A		590002	595002	.21	128.00	105.00	84.00
FO2B250V 1/16A		393.062	398.062	.35	210.00	175.00	140.00	FO7A250V 3A		590003	595003	.21	128.00	105.00	84.00

## MICROFUSES TO MILITARY SPECIFICATION MIL-F-23419/2F

Mil. Std. Designation (MIL-F-23419/2F)	Type	Littelfuse Catalog No.	List Each	1-99	100-499	500-999
M23419/2-001	FM02 125V 2MA (1/500A)	274.002	\$2.50	\$1500.00	\$1250.00	\$1000.00
M23419/2-002	FM02 125V 5MA (1/200A)	274.005	2.50	1500.00	1250.00	1000.00
M23419/2-003	FM02 125V 10MA (1/100A)	274.010	2.50	1500.00	1250.00	1000.00
M23419/2-004	FM02 125V 15MA (1/64A)	274.015	2.50	1500.00	1250.00	1000.00
M23419/2-005	FM02 125V 31MA (1/32A)	274.031	2.50	1500.00	1250.00	1000.00
M23419/2-006	FM02 125V 62MA (1/16A)	274.062	2.15	1290.00	1080.00	860.00
M23419/2-007	FM02 125V 1/10A	274.100	2.15	1290.00	1080.00	860.00
M23419/2-008	FM02 125V 1/8A	274.125	2.15	1290.00	1080.00	860.00
M23419/2-009	FM02 125V 2/10A	274.200	2.15	1290.00	1080.00	860.00
M23419/2-010	FM02 125V 1/4A	274.250	2.15	1290.00	1080.00	860.00
M23419/2-011	FM02 125V 3/10A	274.300	2.15	1290.00	1080.00	860.00
M23419/2-012	FM02 125V 4/10A	274.400	2.15	1290.00	1080.00	860.00
M23419/2-013	FM02 125V 1/2A	274.500	2.15	1290.00	1080.00	860.00
M23419/2-014	FM02 125V 6/10A	274.600	2.15	1290.00	1080.00	860.00
M23419/2-015	FM02 125V 3/4A	274.750	2.15	1290.00	1080.00	860.00
M23419/2-016	FM02 125V 1A	274001	2.15	1290.00	1080.00	860.00
M23419/2-017	FM02 125V 1 1/2 A	27401.5	2.15	1290.00	1080.00	860.00
M23419/2-018	FM02 125V 2A	274002	2.15	1290.00	1080.00	860.00
M23419/2-019	FM02 125V 3A	274003	2.15	1290.00	1080.00	860.00
M23419/2-020	FM02 125V 4A	274004	2.15	1290.00	1080.00	860.00
M23419/2-021	FM02 125V 5A	274005	2.15	1290.00	1080.00	860.00

NOTE: Add \$9.00 Stamping Charge per item, per order, and \$3.00 Silver Plating Charge per item, per order when required. The suffix "S" to the type designation indicates that Silver Plated fuse caps are required, for example: FO2A250V 3/4A "S".

(Continued on next page)

**SECTION 5100**

**FUSEHOLDERS TO MILITARY SPECIFICATION MIL-F-19207A**

Type Designation (MIL-F-19207A)	Description	Catalog No.	Littelfuse		List Each	Price per M		
			Commercial Equivalent			1-99	100-499	500-999
FHL 17G	90-300V INDICATING	349250	.....		\$3.31	\$1,986.00	\$1,655.00	\$1,324.00
FHL 18G-1	12- 22V INDICATING	349012	.....		5.12	3,072.00	2,560.00	2,046.00
FHL 18G-2	23- 33V INDICATING	349023	.....		5.00	3,000.00	2,500.00	2,000.00
FHL 18G-3	34- 45V INDICATING	349034	.....		5.00	3,000.00	2,500.00	2,000.00
FHL 18G-4	46- 60V INDICATING	349046	.....		5.00	3,000.00	2,500.00	2,000.00
FHL 18G-5	61- 80V INDICATING	349061	.....		5.00	3,000.00	2,500.00	2,000.00
FHL 18G-6	81- 90V INDICATING	349081	.....		5.00	3,000.00	2,500.00	2,000.00
FHL 44G-1	Microfuse-Indicating	284007	.....		5.35	3,210.00	2,675.00	2,140.00
FHL 44G-2	Microfuse-Indicating	284008	.....		6.07	3,642.00	3,035.00	2,428.00
FHL 44G-3	Microfuse-Indicating	284009	.....		6.07	3,642.00	3,035.00	2,428.00
FHL 44G-4	Microfuse-Indicating	284010	.....		6.10	3,660.00	3,050.00	2,440.00
FHL 44G-5	Microfuse-Indicating	284011	.....		6.10	3,660.00	3,050.00	2,440.00
FHL 44G-6	Microfuse-Indicating	284012	.....		6.10	3,660.00	3,050.00	2,440.00
FHL 45G	Microfuse-Indicating	284013	.....		4.17	2,502.00	2,085.00	1,668.00
FHN 20G	3AG MINIATURE	342025	342004		2.14	1,284.00	1,070.00	856.00
FHN 26G	3AG MINIATURE	342024	342012		2.07	1,242.00	1,035.00	828.00
FHN 31G	8AG EXTRACTOR	372003	372001		4.17	2,502.00	2,085.00	1,668.00
FHN 19W	4AG WATERPROOF	442008	442006		6.84	4,104.00	3,420.00	2,736.00
FHN 26W	3AG WATERPROOF	342021	342006		6.84	4,104.00	3,420.00	2,736.00
FHN 26G	R/F SHIELDED	340255A	.....		7.00	4,200.00	3,500.00	2,800.00
FHN 20G	R/F SHIELDED	340256A	.....		7.00	4,200.00	3,500.00	2,800.00

NOTE: The Suffixes "W" and "G" to the Type Designation Denote Waterproof and Drip-proof, Respectively.

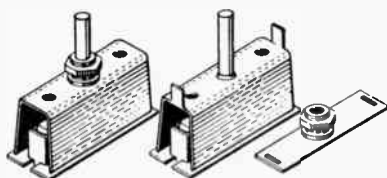
**MICROFUSE INDICATING FUSEHOLDERS—RF SHIELDED**

Littelfuse Catalog No.	List Each	Price Per M		
		1-99	100-499	500-999
284107	\$13.03	\$7,818.00	\$8,515.00	\$5,212.00
284108	14.71	8,828.00	7,355.00	5,884.00
284109	14.71	8,828.00	7,355.00	5,884.00
284110	14.71	8,826.00	7,355.00	5,884.00
284111	14.71	8,826.00	7,355.00	5,884.00
284112	14.71	8,828.00	7,355.00	5,884.00
284113	10.11	6,068.00	5,055.00	4,044.00
370011 (FHN31G Type)	9.03	5,418.00	4,515.00	3,612.00

**LITTELFUSE**

# MALLORY Circuit Breakers and Switches

## CIRCUIT BREAKERS



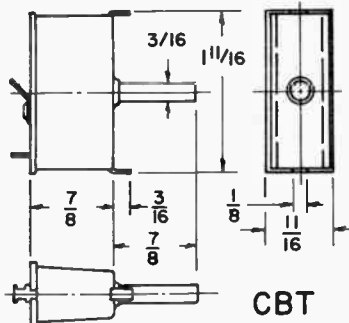
**CBB Type CBT Type CBB Adapter**

Exact replacement circuit breakers for television and industrial applications. These circuit breakers are manufactured by Mel-Rain Corp. for Mallory to the same specifications as original equipment. "Anti-cheat" reset action is non-cycling. Button must be pressed to reset. Tripping mechanism is temperature compensating for constant protection. Normal tripping time is ten seconds or less. All values above 3.1 amps have special heavy-duty contacts to withstand heavy surge currents. CBT types have twist tab mounting lugs. CBB types have  $\frac{3}{8}$ "-32 x  $\frac{3}{4}$ " bushing and hex nut. CBT types may be converted to bushing mount by using CBB adapter. Ask for free television circuit breaker cross-reference. Lists all popular TV sets.

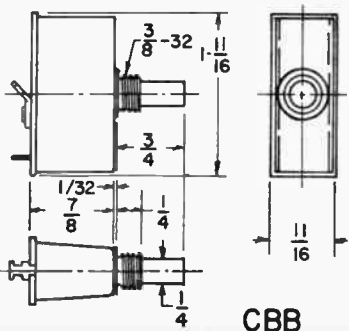
Mallory Number	Break Curr. Amps	Oper. Curr. Amps	Surge Curr. Amps
CBT050	0.5	0.325	2
CBT075	0.75	0.49	3
CBT100	1.0	0.65	5
CBT150	1.5	0.975	12
CBT175	1.75	1.14	12
CBT200	2.0	1.3	12
CBT225	2.25	1.46	12
CBT250	2.5	1.63	12
CBT275	2.75	1.79	12
CBT300	3.0	1.95	12
CBT310	3.1	2.1	25
CBT325	3.25	2.11	25
CBT350	3.5	2.2	25
CBT375	3.75	2.44	25
CBT400	4.0	2.6	25
CBT450	4.5	2.92	25
CBT500	5.0	3.25	25
CBT600	6.0	3.9	25
CBT700	7.0	4.14	25

### NET PRICES, EACH

CBT050 to CBT300—Net Each... \$0.81  
 CBT310 to CBT700—Net Each... .88  
 CBB050 to CBB300—Net Each... .95  
 CBB310 to CBB700—Net Each... 1.02  
 Mallory No. CBB Adapter Bushing—Adapts CBT types to bushing mounting. Bushing:  $\frac{3}{8}$ "-32 x  $\frac{3}{4}$ " with nut. Net... 16c

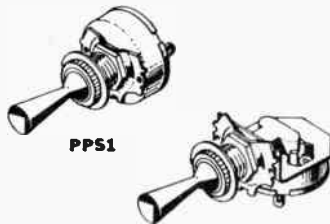


**CBT**



**CBB**

## PUSH-PULL AC SWITCH



**PPS1**

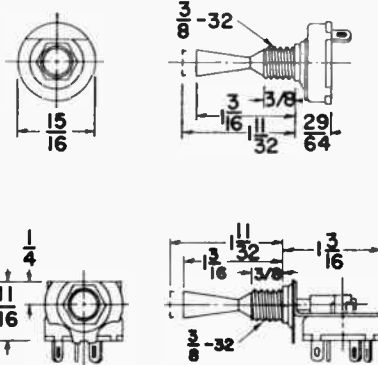
**PPS2, PPS3**

Attractive push-pull AC line switches are furnished with integral aluminum alloy handle to compliment the finest electronic equipment. Heavy duty, U.L. Approved. PPS1, PPS2 rated 6 amps at 125 VAC. PPS3 rated 3 amps 125 VAC. Furnished with a nickel-plated knurled ring nut.

**Mallory No. PPS1 (SPST)—Net... \$0.85**

**Mallory No. PPS2 (DPST)—Net... 1.00**

**Mallory No. PPS3 (SPDT)—Net... 1.00**



## ROTARY AC SWITCH

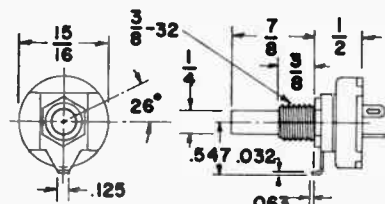


Heavy-duty AC line switch with integral  $\frac{3}{8}$ "-32 x  $\frac{3}{4}$ " bushing and  $\frac{1}{4}$ " dia. shaft. For use in equipment carrying up to 6 amps (SPST) or 3 amps (SPDT and DPST). Switch action is 26°. U.L. Approved. Furnished with hex nuts, washer and 366-1 knob.

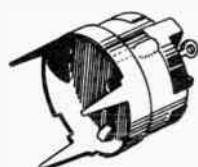
**Mallory No. RAC10 (SPST)—Net \$0.85**

**Mallory No. RAC12 (DPST)—Net 1.00**

**Mallory No. RAC14 (SPDT)—Net 1.00**

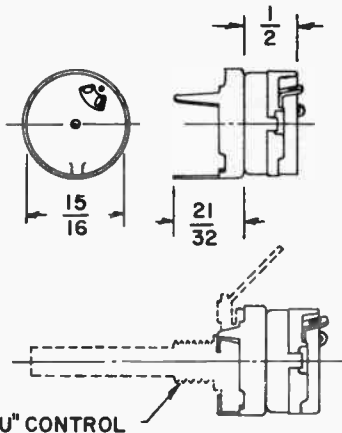


## AC SWITCH/CIRCUIT BREAKER



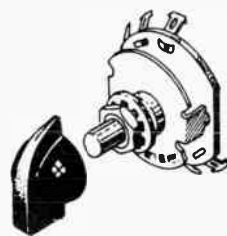
The Mallory USB switch/circuit breaker combines the functions of the standard AC line switch on a carbon control with a non-cycling circuit breaker. Carrying current is 1.8 amps and breaking current is 2.5 amps. In the event of a current overload, the circuit breaker may be reset by simply turning the control knob to the "Off" position. Fits all Mallory U and TA controls.

**Mallory No. USB29—Net Each... 98c**



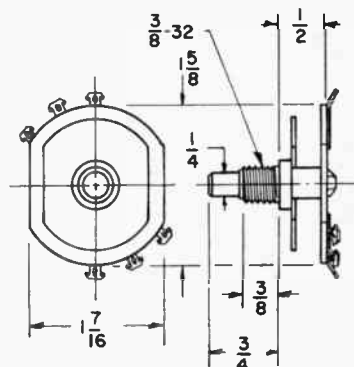
**"U" CONTROL**

## STEREO SPEAKER SWITCH

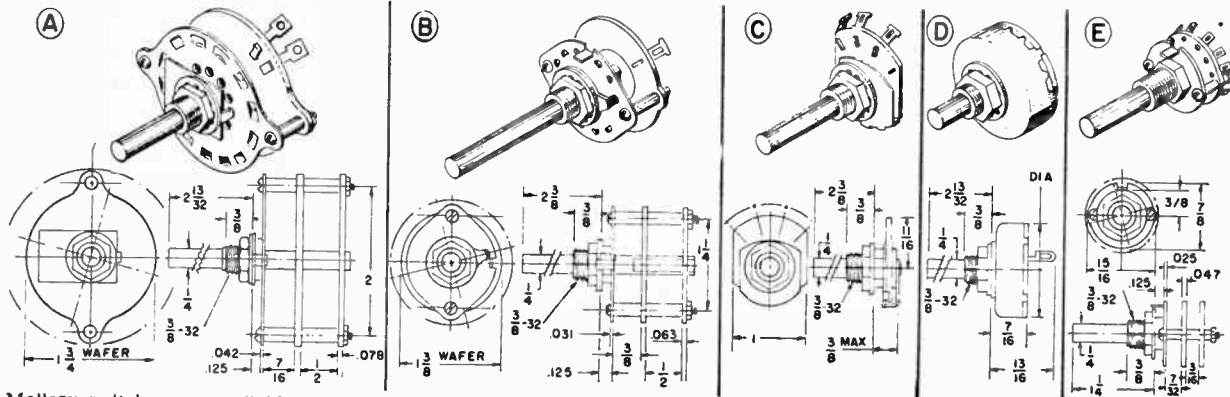


The RSA1213 stereo speaker switch is designed to allow stereo speakers to be switched from "Main" to "Remote" or "Both". Furnished with heavy-duty silver contacts for long trouble-free operation. Supplied with gold-color dial, knob, washer, nut and complete installation.

**Mallory No. RSA1213—Net Ea... \$1.08**



# MALLORY Switches



Mallory switches are available in three general styles: Rotary, lever-action and pushbutton. Most styles are supplied in both shorting and non-shorting contacts. Shorting switches have contacts with "make" before "breaking" and are widely used in audio circuits. Contacts in non-shorting switches "break" before "making". These switches may be chosen with phenolic, ceramic or glass-epoxy wafer materials. Ceramic is usually selected for high voltage circuits as in switching RF equipment. All switches are supplied with normal mounting hardware. Dial plates are not included (except for Type 13124L).

### PHENOLIC WAFER ROTARY SWITCHES

Mallory phenolic wafer rotary switches come in several sizes and contact arrangements. Supplied with nut, washer and 366-1 black knob. Phenolic is MIL grade Richardson T725.

#### STANDARD 1 3/4" DIAMETER (FIG. A)

Rated 1 amp at 300 VDC; 4 amps, 50 VDC; 2 amps, 300 VAC rms; 12 amps, 6 VAC rms. Maximum non-breaking resistive load, 12 amps. Breakdown, 1000 VAC/DC. Contact resistance less than 0.01 ohm. Supplied with adjustment pin and stop plate.

Mallory Number		Index	Circuits per Section	No. of Sections	Max. Positions	Net Each
Shorting	Non-Shorting					
1211L	1311L	30°	1	1	11	\$2.10
1215L	1315L	30°	2	1	5*	2.10
1213L	1313L	30°	3	1	3*	2.10
1212L	1312L	30°	4	1	2*	2.10
1221L	1321L	30°	1	2	11	2.58
1225L	1325L	30°	2	2	5*	2.58
1223L	1323L	30°	3	2	3*	2.58
1222L	1322L	30°	4	2	2*	2.58
1231L	1331L	30°	1	3	11	3.24
1235L	1335L	30°	2	3	5*	3.24
1233L	1333L	30°	3	3	3*	3.24
1232L	1332L	30°	4	3	2*	3.24
1241L	1341L	30°	1	4	11	3.81
1245L	1345L	30°	2	4	5*	3.81
1243L	1343L	30°	3	4	3*	3.81
1242L	1342L	30°	4	4	2*	3.81
1251L	1351L	30°	1	5	11	4.11
1256L	1356L	30°	2	5	5*	4.53
1261L	1361L	30°	1	6	11	4.83
1266L	1366L	30°	2	6	5*	5.52

\*Plus "off" position.

#### 24-POSITION TAP SWITCH (FIG. A)

Includes Mallory No. 394 dial.

.....	13124L	15°	1	1	24	\$2.76
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#### 5-POSITION HAMS SWITCH® (FIG. A)

For measuring up to 5 circuits with a single switch.

.....	151L	60°	1	1	5*	\$2.70
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\*Plus "off" position.

#### CIRCUIT OPENING SWITCH (FIG. A)

For meter switching or inserting resistors, capacitors, etc. Adjustable stop.

1400L	.....	30°	1	1	11	\$4.68
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#### DECADE SWITCHES (FIG. A)

Use four resistors or capacitors for full decade. Type 153L for capacitors; 154L for resistors. Connect in series for multiple decades. Complete with instructions.

.....	153L	36°	Spec.	1	10	\$2.70
.....	154L	36°	Spec.	1	10	2.94

#### MINIATURE 1 3/4" DIAMETER (FIG. B)

Rated 350 mA at 500 VAC rms resistive. Breakdown 1700 VAC rms, 60 cps. Contact resistance 0.005 ohm. Supplied with adjustable stop, 366-1 knob and hex nut.

Mallory Number		Index	Circuits per Section	No. of Sections	Max. Positions	Net Each
Shorting	Non-Shorting					
4M1111	4M2111	30°	1	1	11	\$1.80
4M1215	4M2215	30°	2	1	5	1.80
4M1313	4M2313	30°	3	1	3	1.80
4M1412	4M2412	30°	4	1	2	1.80
4M1121	4M2121	30°	1	2	11	2.58
4M1225	4M2225	30°	2	2	5	2.58
4M1323	4M2323	30°	3	2	3	2.58
4M1422	4M2422	30°	4	2	2	2.58
4M1131	4M2131	30°	1	3	11	3.24
4M1235	4M2235	30°	2	3	5	3.24
4M1333	4M2333	30°	3	3	3	3.24
4M1432	4M2432	30°	4	3	2	3.24

### MINIATURE SWITCHES (CONT'D.)

Mallory Number		Index	Circuits per Section	No. of Sections	Max. Positions	Net Each
Shorting	Non-Shorting					
4M1141	4M2141	30°	1	4	11	\$3.81
4M1245	4M2245	30°	2	4	5	3.81
4M1343	4M2343	30°	3	4	3	3.81
4M1442	4M2442	30°	4	4	2	3.81
4M1151	4M2151	30°	1	5	11	4.47
4M1255	4M2255	30°	2	5	5	4.47
4M1353	4M2353	30°	3	5	3	4.47
4M1452	4M2452	30°	4	5	2	4.47
4M1161	4M2161	30°	1	6	11	5.04
4M1265	4M2265	30°	2	6	5	5.04
4M1363	4M2363	30°	3	6	3	5.04
4M1462	4M2462	30°	4	6	2	5.04

### MINIATURE SPECIAL PURPOSE (FIG. C)

For tone control, radio-phon use, etc. Suffix indicates: D, AC line switch; S, spring return; K, knurled shaft (no knob supplied).

Mallory Number	Index	Circuits	No. of Sections	Max. Positions	Net Each	
5M1112	30°	1	1	2	\$1.08	
5M1113	30°	1	1	3	1.08	
5M1113K	30°	1	1	3	.75	
4M1114D	30°	1	1	4	1.80	
.....	42L2212S	30°	2	1	2	1.08
5M1213	30°	2	1	3	1.08	
.....	5M2213	30°	2	1	3	1.80
.....	4M2412S	30°	4	1	2	1.08

### STEREO SPEAKER SWITCH (FIG. C)

For switching stereo speakers. Has "Main", "Both" and "Remote" positions. Phenolic wafer 1 3/8" dia.; bushing 3/8"-32 x 3/8" lg.

RSA1213	.....	30°	2	1	3	\$1.08
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### GENERAL PURPOSE ROTARY SWITCHES (FIG. D)

Single section with formed cup enclosing contacts. Rated 0.2 amp at 300VDC; 5 amps, 6 VDC; 0.25 amp, 300VAC; 6 amps, 6 VAC. Maximum non-breaking resistive load, 5 amps. Breakdown 500 VAC/DC. Contact resistance 0.01 ohm or less. Comes with 366-1 knob and nut.

Mallory Number		Index	Circuits	Max. Positions	Base Dia., In.	Net Each
Shorting	Non-Shorting					
3115J	3215J	30°	1	5	1 1/2	\$1.02
31112J	32112J	30°	1	12	1 1/2	1.02
3122J	3222J	30°	2	2	1 1/2	1.02
3123J	3223J	30°	2	3	1 1/2	1.02
3126J	3226J	30°	2	6	1 1/2	1.02
3134J	3234J	30°	3	4	1 1/2	1.05
3142J	3242J	30°	4	2	1 1/2	1.05
3143J	3243J	30°	4	3	1 1/2	1.05
31117J	32117J	20°	1	17*	1 1/2	1.56
3129J	3229J	20°	2	9*	1 1/2	1.56
3136J	3236J	20°	3	6*	1 1/2	1.65
3163J	3263J	20°	6	3*	1 1/2	1.65

\*Furnished with adjustable stop.

### ANTENNA SWITCH

For selecting from two TV or FM antennas. Comes with all mounting hardware.

3122TV	.....	30°	2	2	1 1/2	\$1.31
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### GLASS-EPOXY WAFER ROTARY SWITCHES (FIG. E)

Subminiature size employs wafers 7/8" dia. Glass-epoxy per MIL-P-18177. Rated 150 mA at 150 V rms. Max. voltage, 225 V rms. Max. current, 2.5 amps at 6 VAC rms. (All specifications at resistive load.) Supplied with nut, washer and 366-1 knob.

Mallory Number		Index	Circuits per Section	No. of Sections	Max. Positions	Net Each
Shorting	Non-Shorting					
12M1111G	12M2111G	30°	1	1	11	\$4.52
12M1215G	12M2215G	30°	2	1	5	4.52
12M1313G	12M2313G	30°	3	1	3	4.52
12M1412G	12M2412G	30°	4	1	2	4.52
12M1121G	12M2121G	30°	1	2	11	5.58
12M1225G	12M2225G	30°	2	2	5	5.58
12M1323G	12M2323G	30°	3	2	3	5.58
12M1422G	12M2422G	30°	4	2	2	5.58
12M1131G	12M2131G	30°	1	3	11	6.64
12M1235G	12M2235G	30°	2	3	5	6.64
12M1333G	12M2333G	30°	3	3	3	6.64
12M1432G	12M2432G	30°	4	3	2	6.64







## OHMITE Power Tap Switches



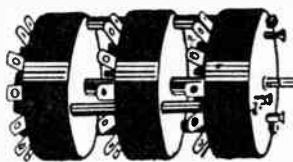
711



111



212



Tandem Assembly



T-10012



Dial

### NEW MODEL 711 MINIATURE SWITCH

Single pole, non-shorting selector switch with stationary and movable solid silver alloy contacts. Slow-break, quick-make action achieved with cam and cam follower. Breaks 7 amps at 125 VAC (or 20 VDC); carries 15 amps at 125 VAC/DC. Molded melamine phenolic body  $1\frac{1}{4}$ " dia. x  $1\frac{3}{8}$ " depth behind panel;  $\frac{1}{2}$ " flatted shaft. Mounts by  $\frac{3}{8}$ "-32 bushing and hex nut. Model number suffix indicates taps (711-3, 3 taps). Use No. 5103 knob.

Ohmite No.	Net Each			Ohmite No.	Net Each		
	1-4	5-9	10-24		1-4	5-9	10-24
711-3	\$3.44	\$2.92	\$2.06	711-8	\$3.98	\$3.37	\$2.38
711-4	3.55	3.02	2.12	711-9	4.08	3.46	2.44
711-5	3.65	3.10	2.19	711-10	4.19	3.55	2.50
711-6	3.76	3.19	2.25	711-11	4.30	3.64	2.56
711-7	3.87	3.28	2.31				

### MODEL 312 TAP SWITCHES

No. of Taps	Single Unit			2 in Tandem			3 in Tandem		
	No.	Net Each		No.	Net Each		No.	Net Each	
	312	1-4	5-9*	312	1-2	3-4	312	1	2-3
3	-3	\$10.50	\$ 8.93	3-T2	\$25.60	\$22.02	3-T3	\$38.45	\$33.45
4	-4	10.70	9.10	4-T2	26.00	22.36	4-T3	39.00	33.93
5	-5	10.90	9.27	5-T2	26.40	22.70	5-T3	39.55	34.41
6	-6	11.05	9.39	6-T2	26.75	23.01	6-T3	40.15	34.93
7	-7	11.25	9.56	7-T2	27.15	23.35	7-T3	40.70	35.41
8	-8	11.45	9.73	8-T2	27.50	23.65	8-T3	41.25	35.89
9	-9	11.65	9.90	9-T2	27.90	23.95	9-T3	41.85	36.41
10	-10	11.85	10.03	10-T2	28.25	24.30	10-T3	42.40	36.89
11	-11	12.00	10.20	11-T2	28.65	24.64	11-T3	42.95	37.37
12	-12	12.20	10.37	12-T2	29.00	24.94	12-T3	43.55	37.89

Knob No. 5109 or 5110 No. 5111 or 5112 No. 5111 or 5112

### CERAMIC HIGH-ROTARY SWITCHES

Non-shorting, single pole, rotary, multi-position unit with 2 or 3 in tandem available. Bodies: High grade, arc proof ceramic bodies. Contacts: Large, solid, silver alloy contacts. Action: Positive cam and roller mechanism provides slow-break, quick make action. Shaft: Insulated by strong ceramic hubs. Enclosed Mechanism: Contacts and mechanism are entirely enclosed and protected except Model 111. Applications: Switchboards, arc welders, spot welders, battery chargers, motor controls, tapped transformers, X-ray equipment, diathermy equipment, radio transmitters, electrical machine tools, etc. U/L Approved except Model 608. Many variations from the basic switch design to meet your special switch requirements are available on request.

Model	AC Rating	Dia. In.	Shaft Dia.	Depth Behind Panel			Single Unit Wt., Lbs.
				Single	Double	Triples	
111	15 A, 125 V	$1\frac{1}{4}$ "	$\frac{3}{16}$ "	$1\frac{1}{2}$ "	$2\frac{3}{8}$ "	.....	.16
212	20 A, 150 V	$2\frac{3}{16}$ "	$\frac{1}{8}$ "	$1\frac{3}{8}$ "	$4\frac{1}{8}$ "	$6\frac{3}{8}$ "	.4
312	30 A, 300 V*	$3\frac{1}{16}$ "	$\frac{1}{8}$ "	$2\frac{1}{2}$ "	$4\frac{3}{8}$ "	$7\frac{3}{8}$ "	.75
412	50 A, 300 V*	$4\frac{1}{16}$ "	$\frac{1}{8}$ "	$3\frac{1}{8}$ "	$5\frac{1}{8}$ "	$7\frac{7}{8}$ "	1.4
608	100 A, 300 V	$6\frac{3}{16}$ "	$\frac{3}{8}$ "	$3\frac{3}{8}$ "	$6\frac{1}{4}$ "	$10\frac{3}{8}$ "	5

\*150 V between taps.

### TOTAL ROTATION

No. of Taps	3	4	5	6	7	8	9	10	11	12
Total Rotation*	80°	90°	120°	150°	180°	210°	240°	270°	300°	330°

\*For Model 608: 3 taps, 80°; 4 taps, 120°; 5 taps, 160°; 6 taps, 200°; 7 taps, 240°; 8 taps, 280°.

### MODEL 111 TAP SWITCHES

No. of Taps	Total Rotation	Single Unit			2 in Tandem		
		No.	1-4	5-9*	No.	1-2	3-4
3	60°	111-3	\$4.00	\$3.40	111-3-T2	\$11.50	\$ 9.89
4	90°	111-4	4.15	3.53	111-4-T2	11.75	10.11
5	120°	111-5	4.25	3.61	111-5-T2	12.00	10.32
6	150°	111-6	4.40	3.74	111-6-T2	12.25	10.54
7	180°	111-7	4.50	3.83	111-7-T2	12.50	10.75
8	210°	111-8	4.65	3.95	111-8-T2	12.75	10.97
9	240°	111-9	4.75	4.04	111-9-T2	13.00	11.18
10	270°	111-10	4.90	4.17	111-10-T2	13.25	11.40
11	300°	111-11	5.00	4.25	111-11-T2	13.50	11.61

Use knob No. 5150 or 5116 No. 5109 or 5110

### MODEL 212 TAP SWITCHES

No. of Taps	Single Unit			2 in Tandem			3 in Tandem		
	No.	Net Each		No.	Net Each		No.	Net Each	
	212	1-4	5-9*	212	1-2	3-4	212	1	2-3
3	-3	\$7.80	\$6.63	-3-T2	\$19.05	\$16.38	-3-T3	\$28.60	\$24.88
4	-4	8.00	6.80	-4-T2	19.45	16.73	-4-T3	29.20	25.40
5	-5	8.15	6.93	-5-T2	19.80	17.03	-5-T3	29.75	25.88
6	-6	8.35	7.10	-6-T2	20.20	17.37	-6-T3	30.30	26.36
7	-7	8.55	7.27	-7-T2	20.55	17.67	-7-T3	30.90	26.88
8	-8	8.75	7.44	-8-T2	20.95	18.02	-8-T3	31.45	27.36
9	-9	8.95	7.61	-9-T2	21.30	18.32	-9-T3	32.05	27.88
10	-10	9.10	7.74	-10-T2	21.70	18.66	-10-T3	32.60	28.36
11	-11	9.30	7.91	-11-T2	22.05	18.96	-11-T3	33.15	28.84
12	-12	9.50	8.08	-12-T2	22.45	19.31	-12-T3	33.75	29.36

Knob No. 5104 or 5116 No. 5111 or 5112 No. 5111 or 5112

### MODEL 608 TAP SWITCHES

No. of Taps	Single Unit			2 in Tandem			3 in Tandem		
	No.	Net Each		No.	Net Each		No.	Net Each	
	608	1-4	5-9	608	1-2	3-4	608	1	2-3
3	-3	\$25.05	\$21.29	-3-T2	\$57.00	\$49.02	-3-T3	\$84.35	\$73.38
4	-4	25.40	21.59	-4-T2	57.70	49.62	-4-T3	85.40	74.30
5	-5	25.75	21.89	-5-T2	58.40	50.22	-5-T3	86.50	75.26
6	-6	26.10	22.19	-6-T2	59.15	50.87	-6-T3	87.55	76.17
7	-7	26.45	22.48	-7-T2	59.85	51.47	-7-T3	88.60	77.08
8	-8	26.80	22.78	-8-T2	60.55	52.07	-8-T3	89.70	78.04

Knob No. 5104 or 5105 5104, 5105 or 5115 No. 5111

### MODEL 412 TAP SWITCHES

No. of Taps	Single Unit			2 in Tandem			3 in Tandem		
	No.	Net Each		No.	Net Each		No.	Net Each	
	412	1-4	5-9*	412	1-2	3-4	412	1	2-3
3	-3	\$13.80	\$11.73	3-T2	\$32.15	\$27.65	3-T3	\$48.25	\$41.98
4	-4	14.05	11.94	4-T2	32.70	28.12	4-T3	49.10	42.72
5	-5	14.30	12.16	5-T2	33.25	28.60	5-T3	49.90	43.41
6	-6	14.60	12.41	6-T2	33.80	29.07	6-T3	50.70	44.11
7	-7	14.85	12.62	7-T2	34.35	29.54	7-T3	51.55	44.85
8	-8	15.15	12.88	8-T2	34.90	30.01	8-T3	52.35	45.54
9	-9	15.40	13.09	9-T2	35.45	30.49	9-T3	53.15	46.24
10	-10	15.70	13.35	10-T2	36.00	30.96	10-T3	54.00	46.98
11	-11	15.95	13.56	11-T2	36.55	31.43	11-T3	54.80	47.68
12	-12	16.25	13.81	12-T2	37.10	31.91	12-T3	55.65	48.42

Knob No. 5111 or 5112 No. 5111 or 5112 No. 5111 or 5112

### ALL CERAMIC OPEN TYPE TAP SWITCHES

Rated 7 amps max., 3 amps interrupted, at 120 VAC. Less for all DC circuits above 20 V for inductive circuits and high voltages. Body  $3\frac{1}{4}$ " dia. (up to 8 taps, 9-12 taps are  $4\frac{1}{2}$ " dia.) including lugs. Shaft,  $\frac{1}{4}$ " dia. Knob: No. 5150 knob recommended. Shorting Type: Moving contact bridges closely spaced taps completing a new circuit before breaking the previous one. Switch arm is not indexed and can be left in any position. Non-Shorting Type: Positively indexed, moving contact completely disconnects from one tap before contacting succeeding tap.

No. of Contacts	Shorting Type				Non-Shorting Type			
	No.	Net Each			No.	Net Each		
		1-4	5-9	10-24		1-4	5-9	10-24
3	T-504-S	\$4.15	\$3.53	\$2.78	T-503	\$4.40	\$3.74	\$2.95
4	T-505-S	4.40	3.74	2.95	T-504	4.65	3.95	3.12
5	T-506-S	4.65	3.95	3.12	T-505	4.90	4.17	3.28
6	T-507-S	4.90	4.17	3.28	T-506	5.15	4.38	3.45
7	T-508-S	5.15	4.38	3.45	T-507	5.40	4.59	3.62
8	T-1009-S	5.40	4.59	3.62	T-508	5.65	4.80	3.79
9	T-1010-S	5.65	4.80	3.79	T-1009	5.90	5.12	3.95
10	T-1011-S	5.90	5.00	3.95	T-1010	6.10	5.29	4.10
11	T-1012-S	6.10	5.29	4.10	T-1011	6.30	5.43	4.20
12		6.30	5.43	4.20	T-1012	6.50	5.58	4.30

### TAP SWITCH DIALS

Made of aluminum, etched and enameled black. Bright aluminum dial markings agree with actual number of positions on switch.

No.*	Dial Dia.	For Model		Net Each	
		For Knob	1-4	5-9	1-4
5002*	$2\frac{3}{8}$ "	111	5109	46c	39c
5003*	$3\frac{1}{8}$ "	212 (Single)	5116	69c	59c
		312 (Single)	5150		
		212 (Tandem)	5111		
5004*	$5\frac{1}{8}$ "	312 (Tandem)	5152A	77c	65c
		412	5104		
			5115		

\*Specify number of positions as a suffix.

### TAP SWITCH KNOBS

No.	Description	Dia., in.	Net Each					
			Hole Knob	1-4	5-9	10-24	25-49	
5103	Bar knob, $1\frac{1}{4}$ " long	$\frac{1}{2}$ "	.....	\$0.22	\$0.19	\$0.15	\$0.13	
5104	Handwheel with pointer	$\frac{3}{8}$ "	3%	1.45	1.23	.97	.97	
5105	5104 without pointer	$\frac{3}{8}$ "	3%	1.22	1.04	.82	.82	
5106	Handwheel with pointer	$\frac{3}{4}$ "	3%	1.45	1.23	.97	.97	
5107	5106 without pointer	$\frac{3}{4}$ "	3%	1.22	1.04	.82	.82	
5109	Finger-grip with pointer	$\frac{1}{4}$ "	1%	.93	.79	.62	.55	
5110	5109 without pointer	$\frac{1}{4}$ "	1%	.86	.73	.58	.51	

# NEW! A FULL LINE OF PRECISION SWITCHES BY POTTER & BRUMFIELD



IN STOCK AT LEADING ELECTRICAL AND ELECTRONIC DISTRIBUTORS

## P&B'S EXPERIENCE ASSURES RELIABILITY AND PRECISION

For more than a third of a century, we have been designing and manufacturing reliable relays. This engineering and production knowhow is now being devoted to our new line of precision snap switches. These are quality switches designed to meet or exceed industry standards for electrical ratings and life characteristics. Operating forces, actuating characteristics and mounting dimensions make these switches directly interchangeable with many competitive types. P&B precision snap action switches meet Underwriters' Laboratories and Canadian Standards Association requirements.



## WIDE VARIETY OF STOCK SWITCHES FOR NEW APPLICATIONS AND DIRECT REPLACEMENTS

The snap switches in this catalog cover a variety of the most commonly used types and include three categories: Precision general purpose, precision miniature, and precision subminiature. All three basic types are available with various auxiliary actuators, terminals, and contact arrangements. They can be used for both AC and DC voltages.

Mounting holes, terminals, operating and release forces, pretravel, overtravel, differential travel and pertinent dimensions meet established industry standards.

## BASIC SNAP ACTION SWITCHES



### PRECISION GENERAL PURPOSE

Compact, reliable, with precise mechanical and conservatively rated electrical characteristics, P&B general purpose snap action switches are for use in applications where loads may be heavy and space is not the primary consideration. They are available with a broad variety of actuators, such as pin plungers, overtravel plungers, rigid lever, roller lever, panel mount plunger, and others, as illustrated and listed on the following pages.

### PRECISION MINIATURE

Sturdily constructed but light in weight and small in size, P&B precision miniature snap action switches are highly sensitive and especially suited for compact installations where precision is a primary factor. Their small size and high electrical capacity recommends them for applications of multiple installations in limited space. Basic types are available in various contact and terminal arrangements shown on the following pages.



### PRECISION SUBMINIATURE

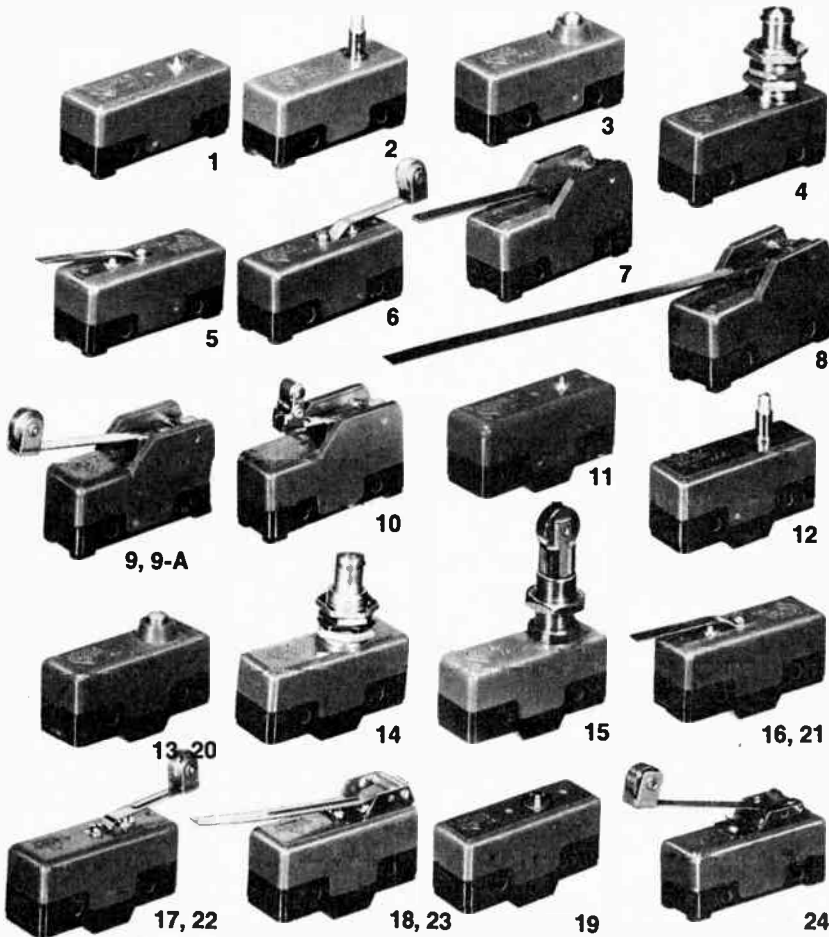
Designed for applications requiring exceptionally small size and low operating forces, P&B precision subminiature switches are especially suited for electronic equipment, business machines, military apparatus and other precision electrical equipment. They are used where space and weight are primary considerations. These types are available for either direct operation by pushers, cams, or lever actuators with or without rollers. Solder, turret and quick-connect terminals are available.



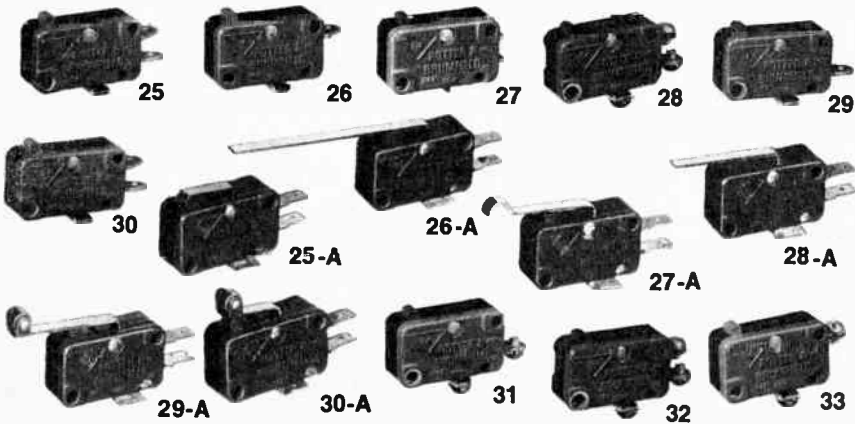
# POTTER & BRUMFIELD PRECISION SWITCHES

## PRECISION GENERAL PURPOSE SWITCHES—TYPES A1 G

Illustration Fig. Nos.—See back page for Drawing Fig. Nos.



## PRECISION MINIATURE SWITCHES—TYPES A1 M



## PRECISION SUBMINIATURE SWITCHES—TYPES A1 S



## SPECIFICATIONS

### PRECISION GENERAL PURPOSE SWITCHES—TYPES A1 G

Meet Underwriters' Laboratories and Canadian Standards Association Requirements

**For Types A1 G1**—Contact arrangement: SPDT. Ratings: 15 amps, 125, 250, or 480 volts AC; ½ amp 125 volts DC; ¼ amp 250 volts DC; ½ HP 125 volts AC; ¼ HP 250 volts AC.

**For Types A1 G2**—Contact arrangement: SPDT. Ratings: 20 amps, 125, 250, or 480 volts AC; 1 HP 125 volts AC; 2 HP 250 volts AC; 10 amps 125 volts when controlling tungsten filament lamp loads on AC circuits.

### PRECISION MINIATURE SWITCHES TYPES A1 M

**For Types A1 M1**—Contact arrangements: SPDT. Ratings: 30 volts DC; inductive: 10 amps at sea level, 6 amps at 50,000 feet; resistive: 10 amps; motor load: 6 amps.

Meet Underwriters' Laboratories requirements for 15 amps, 125, or 250 volts AC; ½ HP 125/250 volts AC; ¼ amp 125 volts DC; ¼ amp 250 volts DC.

**For Types A1 M2 (low operating force)**—Contact arrangements: SPDT. Rating: 30 volts DC; inductive: 5 amps at sea level, 5 amps at 50,000 feet; resistive: 5 amps; motor load: 5 amps.

Meet Underwriters' Laboratories requirements for 10 amps, 125 or 250 volts AC; ½ amp 125 volts DC; ¼ amp 250 volts DC; ½ HP 125 volts AC.

**For Type A1 M4 (low differential)**—Contact arrangement: SPDT. Ratings: 30 volts DC; inductive: 1 amp at sea level, 1 amp at 50,000 feet; resistive: 2 amps; motor load: 1 amp.

Meet Underwriters' Laboratories requirements for 10 amps, 125 or 250 volts AC.

**For Type A1 M5 (gold contacts)**—Contact arrangement: SPDT. Rating: 28 volts DC; inductive: ½ amp; resistive: 1 amp; inrush: 2 amps.

### PRECISION SUBMINIATURE SWITCHES TYPES A1 S

**For Types A1 S1**—Contact arrangement: SPDT. Rating:

Meet Underwriters' Laboratories requirements for 5 amps, 125 or 250 volts AC. The 30 volt DC rating is as follows: inductive: 3 amps at sea level and 2.5 amps at 50,000 feet; resistive: 5 amps at sea level and 50,000 feet; maximum inrush: 24 amps.

**For Types A1 S5 (gold contacts)**—Contact arrangement: SPDT. Rating: 28 volts DC; inductive: ½ amp; resistive: 1 amp; inrush: 2 amps.

**POTTER & BRUMFIELD PRECISION SWITCHES****PRECISION GENERAL PURPOSE SWITCHES—TYPES A1 G1**

POTTER & BRUMFIELD TYPE	MICRO SWITCH EQUIVALENT	PRE-TRAVEL IN. MAX.	OVER-TRAVEL IN. MIN.	MOVEMENT DIFFERENTIAL INCHES	OPER. FORCE OZS.	RELEASE FORCE OZS. MIN.	Fig. No. Pages 2 & 4	SUGG. RESALE PRICE
A1 G1 111-1	BZ-2R	.016	.005	.0004-.002	9-13	4	1	\$1.57
A1 G1 112-1	BZ-2RS	.016	.062	.0004-.002	9-13	4	2	1.95
A1 G1 113-1	BZ-2RD	.016	.062	.0004-.002	9-13	4	3	1.95
A1 G1 114-1	BZ-2RQ1	.015	.219	.0004-.002	9-13	4	4	3.55
A1 G1 115-1	BZ-2RL	.156	.062	.050	5 Max.	0.5	5	1.73
A1 G1 116-1	BZ-2RL2	.141	.062	.050	5 Max.	0.5	6	2.22
A1 G1 117-1	BZ-2RW80	.359	.219	.007 -.050	2½ Max.	0.5	7	2.00
A1 G1 117-1-3	BZ-2RW863	.907	.578	.018 -.140	1 Max.	—	8	2.11
A1 G1 177-1	BZ-2RW84	.203	.219	.007 -.050	1 Max.	.125	7	2.00
A1 G1 119-1	BZ-2RW822	.109	.094	.003 -.020	6 Max.	1.5	9	2.54
A1 G1 117-1-2	BZ-2RW825	.141	.109	.015	8 Max.	1.5	10	3.03
A1 G1 118-1	BZ-2RW82	.249	.156	.004 -.040	3½ Max.	.75	9-A	2.54
A1 G1 111-8	BZ-2R-A2	.016	.005	.0004-.002	9-13	4	11	1.71
A1 G1 112-8	BZ-2RS-A2	.016	.062	.0004-.002	9-13	4	12	2.03
A1 G1 113-8	BZ-2RD-A2	.016	.062	.0004-.002	9-13	4	13	2.03
A1 G1 114-8	BZ-2RQ1-A2	.015	.219	.0004-.002	9-13	4	14	3.64
A1 G1 114-8-1	BZ-2RQ18-A2	.015	.140	.0004-.002	9-13	4	15	6.34
A1 G1 115-8	BZ-2RL-A2	.156	.062	.050	5 Max.	0.5	16	1.87
A1 G1 116-8	BZ-2RL2-A2	.141	.062	.050	5 Max.	0.5	17	2.35
A1 G1 117-8	BZ-2RW80-A2	.359	.219	.007 -.050	2½ Max.	0.5	18	2.09
A1 G1 119-8	BZ-2RW822-A2	.109	.094	.003 -.020	6 Max.	1.5	9	2.62

**PRECISION GENERAL PURPOSE SWITCHES—TYPES A1 G2**

A1 G2 111-8	BA-2R-A2	.050	.010	.002 -.0075	14-22	10	19	\$1.71
A1 G2 113-8	BA-2RB-A2	.050	.093	.002 -.0075	14-22	10	20	2.03
A1 G2 114-1	BA-2RQ1	.050	.219	.002 -.0075	14-22	10	4	3.87
A1 G2 114-8	BA-2RQ1-A2	.050	.219	.002 -.0075	14-22	10	14	3.64
A1 G2 115-1	BA-2RL	.344	.062	.065	9 Max.	1	5	2.00
A1 G2 115-8	BA-2RL-A2	.344	.062	.065	9 Max.	1	21	1.87
A1 G2 116-8	BA-2RL2-A2	.344	.062	.065	9 Max.	1	22	2.35
A1 G2 117-8	BA-2RV-A2	.625	.078	.109	2½ Max.	0.5	23	2.14
A1 G2 118-1	BA-2RV2	.469	.062	.085	2½ Max.	0.5	24	2.86
A1 G2 118-8	BA-2RV2-A2	.469	.062	.085	2½ Max.	0.5	24	2.68

**PRECISION MINIATURE SWITCHES—TYPES A1 M**

A1 M1 111-B	V3-1	.047	.031	.006 -.016	6-14	4	25	\$1.10
A1 M1 111-1	V3-19	.047	.031	.006 -.016	6-14	4	25	1.04
A1 M1 211-1	V3-7	.047	.031	.006 -.016	6-14	4	26	.96
A1 M1 111-2	V3-15	.047	.031	.006 -.016	6-14	4	27	1.04
A1 M1 121-B	V3-29	.047	.031	.006 -.016	6-14	4	28	1.15
A1 M1 311-1	V3-32	.047	.031	.006 -.016	6-14	4	29	.96
A1 M1 181-1	V3-419	.047	.031	.006 -.016	6-14	4	30	2.04
A1 M1 117-6	V3L-1-D8	.060	.031	.016	14 Max.	3	25-A	1.05
A1 M1 117-6-1	V3L-2-D8	.125	.062	.050	8 Max.	1	26-A	1.05
A1 M1 117-6-2	V3L-5-D8	.125	.062	.050	8 Max.	1	27-A	1.05
A1 M1 117-6-3	V3L-6-D8	.260	.100	.090	4 Max.	0.5	28-A	1.05
A1 M1 118-6	V3L-4-D8	.125	.062	.050	8 Max.	1	29-A	1.25
A1 M1 119-6	V3L-3-D8	.060	.031	.016	14 Max.	3	30-A	1.25
A1 M1 311-B	V3-23	.047	.031	.006 -.016	6-14	4	31	1.00
A1 M4 191-B	V3-26	.047	.031	.002 -.006	7-12	5	28	1.65
A1 M1 131-B	V3-601	.047	.010-.024	.006 -.016	6-14	4	32	1.50
A1 M2 171-B	V3-101	.047	.031	.006 -.016	8 Max.	2	28	1.10
A1 M2 271-B	V3-121	.047	.031	.006 -.016	8 Max.	2	33	1.00
A1 M2 371-B	V3-123	.047	.031	.006 -.016	8 Max.	2	31	1.00
A1 M2 171-1	V3-119	.047	.031	.006 -.016	8 Max.	2	25	1.04
A1 M5 151-B	V3-75	.047	.031	.006 -.016	6-14	4	28	3.75

**PRECISION SUBMINIATURE SWITCHES—TYPES A1 S**

A1 S1 111-1	1SM1	.030	.005	.004	3-5	1	34	\$1.20
A1 S1 111-3	1SM1-T	.030	.005	.004	3-5	1	35	1.20
A1 S1 131-1	11SM1	.020	.003	.004	3-5	1	36	1.25
A1 S5 151-1	1SM23	.030	.005	.004	3-5	1	34	2.25
A1 S5 161-1	11SM23	.020	.003	.004	3-5	1	36	2.30
A1 S1 131-3	11SM1-T	.020	.003	.004	3-5	1	37	1.25
A1 S1 115-1	111SM1	.219	.030	.030	7 Max.	2	38	1.65
A1 S1 116-1-1	111SM2	.219	.030	.025	7 Max.	2	39	2.00
A1 S1 116-3	111SM2-T	.219	.030	.025	7 Max.	2	39-A	2.00
A1 S1 121-1	1SM3	.030	.005	.004	3-5	1	34	1.20
A1 S1 141-1	11SM3	.020	.003	.004	3-5	1	36	1.25

# POTTER & BRUMFIELD PRECISION SWITCHES

OUTLINE DIMENSION DRAWINGS (Figure Nos. of Drawings correspond with Figure Nos. of Illustrations)

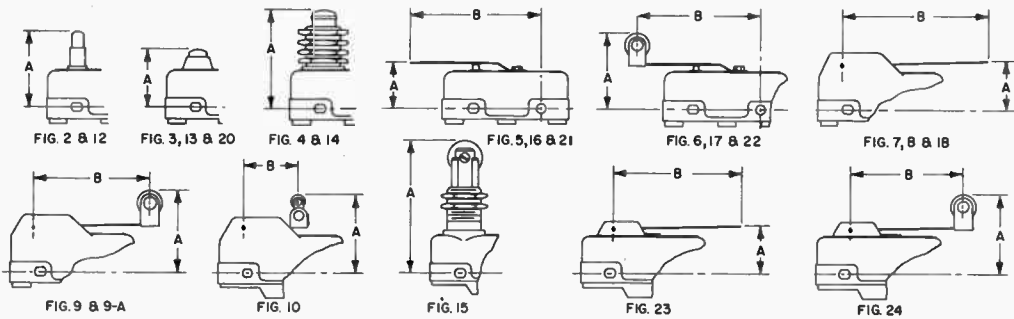
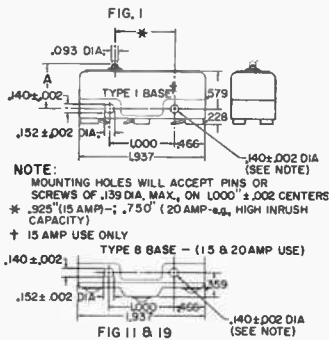


FIG. NO.	1	2	3	4	5	6	7	8	9	9-A	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
DIM. A	.625	1.110	.835	1.500	.687	1.125	.750	.750	1.188	1.188	1.140	.625	1.110	.835	1.500	1.942	.687	1.125	.750	.640	1.031	.687	1.125	.750	1.188
DIM. B					1.953	1.812	2.500	6.000	1.050	1.900	.868						1.953	1.812	2.500			1.781	1.640	2.500	1.900

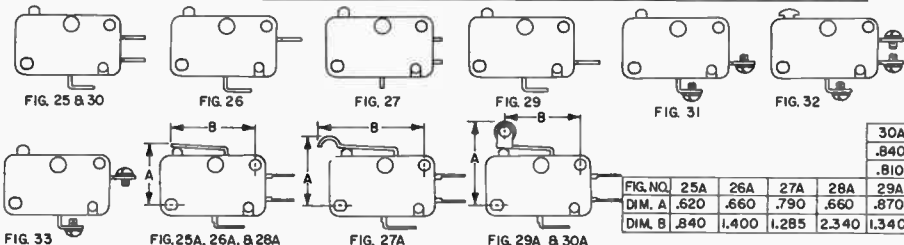
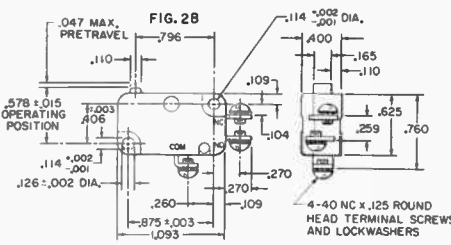
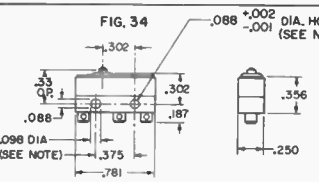


FIG. NO.	25A	26A	27A	28A	29A
DIM. A	.620	.660	.790	.660	.870
DIM. B	.840	1.400	1.285	2.340	1.340



NOTE:  
MOUNTING HOLES WILL ACCEPT .087 MAX. DIA. PINS OR SCREWS ON .375 ± .002 CENTERS





GEORGE RISK INDUSTRIES

# Dry Reed Type PUSH BUTTON SWITCHES



LENGTH OF ALL  
TERMINALS .300" MAX.

## FEATURES

- Hermetically sealed contacts
- Exceeds Mil Specs.
- Low closed contact resistance
- Ideal for dry circuits or higher current application
- Life expectancy in the millions
- Explosion proof
- Low bounce characteristics
- Terminals weldable and solderable

Fig. & Dimensions (L x D)	Mfg. Type*	Switch Form**	Re-sistive Current	Re-sistive Watts	Volts	1-9	10-24	25-49	50-99	100-249
<b>1 — Series T</b> 1.75 x .890 Momentary Action	TI-HA4	4PST-NO	3	50	250	17.44	15.70	13.95	12.20	11.35
	TI-HA3	3PST-NO	3	50	250	14.78	13.30	11.80	10.30	9.65
	TI-HA2	2PST-NO	3	50	250	12.32	11.00	9.90	8.70	8.05
	TE-HA4	4PST-NO	1	15	250	15.60	14.05	12.50	10.90	10.15
	TE-HA3	3PST-NO	1	15	250	13.40	12.00	10.70	9.40	8.70
	TE-HA2	2PST-NO	1	15	250	10.35	9.30	8.30	7.25	6.70
	TB-HC4	4PDT-BM	.250	10	250	19.44	17.50	15.50	13.60	12.60
	TB-HC3	3PDT-BM	.250	10	250					
TB-HC2	2PDT-BM	.250	10	250	12.32	11.10	9.85	8.65	8.00	
<b>2 — Series W</b> 1.75 x .625 Momentary Action	WI-HA	SPST-NO	3	50	250	6.96	6.30	5.60	4.90	4.55
	WE-HA	SPST-NO	1	15	250	6.50	5.85	5.20	4.55	4.20
	WB-HC	SPDT-BM	.250	10	250	8.96	8.10	7.15	6.30	5.75
<b>3 — Series G</b> .975 x .625 Momentary Action	GC-HA4	4PST-NO	.5	12	125	13.30	12.00	10.60	9.30	8.65
	GC-HA3	3PST-NO	.5	12	125	11.06	10.00	8.90	7.75	7.20
	GC-HA2	2PST-NO	.5	12	125	8.82	7.95	7.05	6.15	5.75
	GC-HA	SPST-NO	.5	12	125	6.58	5.90	5.25	4.60	4.30
	GB-HC2	2PDT-BM	.250	4	125	14.64	13.20	11.70	10.20	9.55
	GB-HC	SPDT-BM	.250	4	125	10.04	9.10	8.05	7.05	6.55
<b>4 — Series D</b> .850 x .330 Momentary Action	DC-HA	SPDT-NO	.5	12	125	6.66	6.05	5.35	4.70	4.35
	DB-HC	SPDT-BM	.250	3	125	10.12	9.15	8.15	7.10	6.70
<b>5 — Series R</b> .625 x .375 Momentary Action	RB-HA	SPST-NO	.250	3	125	7.28	6.55	5.80	5.10	4.73
	RB-HC	SPDT-BM	.250	3	125	10.14	9.10	8.10	7.10	6.60
<b>6 — Series J</b> 1.0 x .375 Momentary Action	JC-HA	SPST-NO	.5	12	250	6.78	6.10	5.45	4.75	4.40
	JB-HC	SPDT-BM	.250	3	250	10.24	9.25	8.20	7.20	6.70
<b>7 — Series B</b> 1"L x .4W x .170 Thick Momentary Action Nylon Actuating Roller available upon request	BC-HA	SPST-NO	.5	12	125	1.68	1.52	1.35	1.18	1.11
<b>8 — Series MV</b> .975 x .625 Mercury-Wetted Reed Momentary Action	MVI-HA	A-SPST-NO	3	50	100	6.60	6.30	6.00	5.70	5.40
<b>9 — Series MH</b> Mercury-Wetted Reed .750 x 1.225 Momentary Action	MHI-HA	A-SPST-NO	3	50	100	8.30	7.90	7.55	7.15	6.70
<b>10 — Series C</b> 1.50 x .625 Alternate Action	CC-HA4	4PST-NO	.5	12	125	14.30	13.00	11.60	10.30	9.65
	CC-HA3	3PST-NO	.5	12	125	12.06	11.00	9.90	8.75	8.20
	CC-HA2	2PST-NO	.5	12	125	9.82	8.95	8.05	7.15	6.75
	CC-HA	SPST-NO	.5	12	125	7.58	6.90	6.25	5.60	5.30
	CB-HC2	2PDT-BM	.250	4	125	15.64	14.20	12.70	11.20	10.55
	CB-HC	SPDT-BM	.250	4	125	11.04	10.10	9.05	8.05	7.55
<b>11 — Series KB-1</b> Keyboard 1.375 x .675 Momentary Action	KB-1A	SPST-NO	.5	12	250	6.58	5.90	5.25	4.60	4.30
	KB-1B	SPST-NC	.5	12	250	6.58	5.90	5.25	4.60	4.30

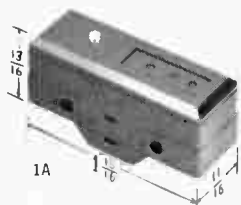
\*NOTE: Button operating force = 8 oz. — all momentary action. Button operating force of 17 grams can be supplied, if needed. To specify, change letter "H" in "Mfg. Type"; (Example: TI-HA4) to "F" (Example: TI-FA4). \*\*To obtain GRI switches in "normally closed" form, use the letter "B" in suffix of "Mfg. Type." (Example: TI-HB4, WI-HB, etc.)

# Robertshaw



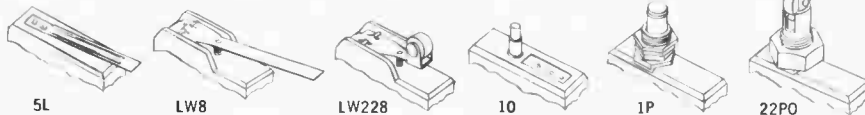
## PRECISION SNAP SWITCHES WITH PATENTED ROLLING SPRING

### MODEL B — Long Life



**ELECTRICAL**  
15 amps, 120-240-480 volts A.C.  
1/2 amp, 120 VDC  
1/4 amp, 240 VDC  
Listed by U.L. and C.S.A.

**MECHANICAL LIFE**  
20 Million cycles.

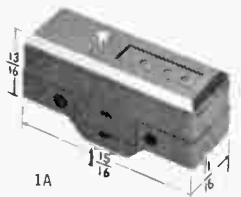


MODEL No.	OPERATING FORCE	RELEASE FORCE	PRETRAVEL	OVERTRAVEL	MOVEMENT DIFFERENTIAL	TERMINAL
BRD2-1A-1S	9-13 oz.	4 oz. Min.	.020 in. Max.	.005 in. Min.	.003 in. Max.	Screw
BRD2-5L-1S	5 oz. Max.	1/2 oz. Min.	.156 in. Max.	1/32 in. Min.	.050 in. Max.	Screw
BRD2-LW8-1S	2 1/2 oz. Max.	1/2 oz. Min.	3/32-1/32 in.	.187 in. Min.	.016-.078 in.	Screw
BRD2-LW228-1S	6 oz. Max.	1 1/2 oz. Min.	.045-.140 in.	.080 in. Min.	.006-.031 in.	Screw
BRD2-10-1S	9-13 oz.	4 oz. Min.	.010-.025 in.	1/16 in. Min.	.003 in. Max.	Screw
BRD2-1P-1S	9-13 oz.	4 oz. Min.	.010-.025 in.	1/12 in. Min.	.003 in. Max.	Screw
BRD2-22PO-1S	9-13 oz.	4 oz. Min.	.010-.025 in.	.140 in. Min.	.003 in. Max.	Screw

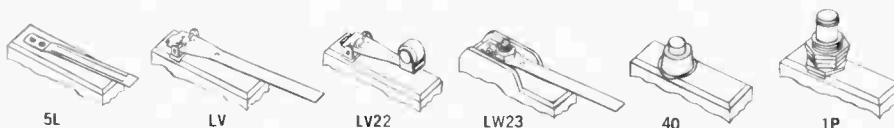
**TOTAL OF 18 ACTUATORS AVAILABLE.**

To order solder terminal, drop "1S" from Model number.

### MODEL F — Horsepower Rated



**ELECTRICAL**  
21 amps, 120-240 480 VAC  
1 Hp, 120 VAC  
2 Hp, 240 VAC  
Listed by U.L. and C.S.A.

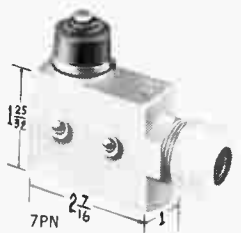


MODEL No.	OPERATING FORCE	RELEASE FORCE	PRETRAVEL	OVERTRAVEL	MOVEMENT DIFFERENTIAL	TERMINAL
FAD2-1A-1S	10-18 oz.	6 oz. Min.	.050 in. Max.	.005 in. Min.	.0075 in. Max.	Screw
FAD2-5L-1S	9 oz. Max.	1 oz. Min.	1/32 in. Max.	1/32 in. Min.	.065 in. Max.	Screw
FAD2-LV-1S	2 1/2 oz. Max.	1/2 oz. Min.	5/8 in. Max.	.078 in. Min.	.109 in. Max.	Screw
FAD2-LV22-1S	6 oz. Max.	1 oz. Min.	1/4 in. Max.	1/2 in. Min.	3/4 in. Max.	Screw
FAD2-LW23-1S	2 1/2 oz. Max.	1/2 oz. Min.	.375 in. Max.	.093 in. Min.	.007-.050 in.	Screw
FAD2-40-1S	10-18 oz.	6 oz. Min.	.050 in. Max.	1/2 in. Min.	.0075 in. Max.	Screw
FAD2-1P-1S	10-18 oz.	6 oz. Min.	.050 in. Max.	.219 in. Min.	.0075 in. Max.	Screw

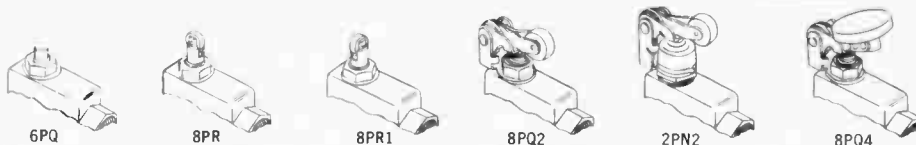
**TOTAL OF 13 ACTUATORS AVAILABLE.**

To order solder terminal, drop "1S" from Model number.

### MODEL BH — Split Housing



**ELECTRICAL**  
15 amp, 120-240 480 VAC  
The combination of metal enclosure and switch is U.L. and C.S.A. listed.

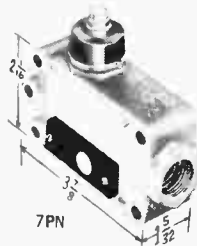


MODEL No.	OPERATING FORCE	RELEASE FORCE	PRETRAVEL	OVERTRAVEL	MOVEMENT DIFFERENTIAL
SBHT-7PN	9-24 ozs.	4 ozs. Min.	.078 in. Max.	.219 in. Min.	.003 in. Max.
SBH-6PQ	9-13 ozs.	4 ozs. Min.	.020 in. Max.	.219 in. Min.	.003 in. Max.
SBH-8PR	9-13 ozs.	4 ozs. Min.	.020 in. Max.	.140 in. Min.	.003 in. Max.
SBH-8PR1	9-13 ozs.	4 ozs. Min.	.020 in. Max.	.140 in. Min.	.003 in. Max.
SBH-8PQ2	10-18 ozs.	6 ozs. Min.	3/16 in. Max.	.219 in. Max.	.006 in. Max.
SBH-2PN2	10-20 ozs.	6 ozs. Min.	.188 in. Max.	.219 in. Min.	.006 in. Max.
SBH-8PQ4	10-18 ozs.	6 ozs. Min.	3/16 in. Max.	.219 in. Max.	.006 in. Max.

**10 ACTUATORS AVAILABLE**

"T" designates externally threaded housing. These are available with 7PN, 2PN2, 2PN28, and 2PN4 actuators. Split-housing is available with internally threaded housing. One-piece externally threaded housing models are available with same 10 actuators.

### MODEL FH — Mounts Either Side



**ELECTRICAL**  
21 amps at 120-240 480 VAC  
1 Hp — 120 VAC  
2 Hp — 240 VAC



MODEL No.	OPERATING FORCE	RELEASE FORCE	PRETRAVEL	OVERTRAVEL	MOVEMENT DIFFERENTIAL
• L-FHD2-7PN	2 1/2 lbs. Max.	8 oz. Min.	.094 in. Max.	.219 in. Min.	.010 in. Max.
FHD2-2PN2	2 lbs. Max.	8 oz. Min.	.219 in. Max.	.218 in. Min.	.020 in. Max.
FHD2-2PN4	2 lbs. Max.	8 oz. Min.			
FHD2-8PR	2 1/2 lbs. Max.	8 oz. Min.	.094 in. Max.	.156 in. Min.	.010 in. Max.
FHD2-8PN	8 lbs. Max.	2 lbs. Min.	.125 in. Max.	.175 in. Max.	.0075 in. Max.
≡ FHD2-2PN18					

Above characteristics do not apply to this model switch.

**6 ACTUATORS AVAILABLE.**

• Switch with one Acrolite. Silicone boot for 0 F to 200 F range is available.  
≡ Switch operates by moving flexible actuator 15° or more in any direction, except a direct pull.

**WRITE FOR CATALOG D**

— Robertshaw Controls Company, Acro Division



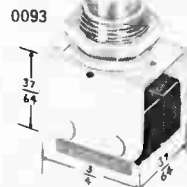
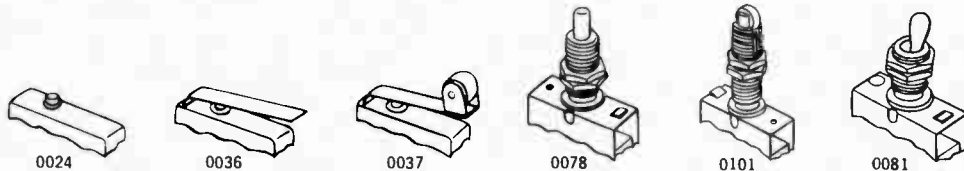
# 21 MODELS

- SUBMINIATURE
- MINIATURE
- GENERAL PURPOSE
- METAL CLAD

# Robertshaw



## MODEL Z — Subminiature



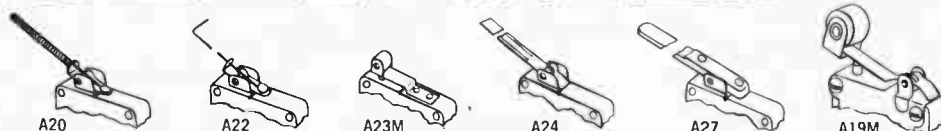
MODEL No.	OPERATING FORCE	RELEASE FORCE	PRETRAVEL	OVERTRAVEL	MOVEMENT DIFFERENTIAL
ZD-0024	85-140 gms.	1 oz. Min.	.008-.020 in.	.010 in. Min.	.001-.004 in.
ZLD-0036	2 oz. Max.	1/2 oz. Min.	3/32 in. Max.	.045 in. Min.	.015 in. Max.
ZLD-0037	2 oz. Max.	1/2 oz. Min.	3/32 in. Max.	.045 in. Min.	.015 in. Max.
ZPD-0078	10 oz. Max.	2 oz. Min.	.050 in. Max.	.125 in. Min.	.030 in. Max.
ZPD-0101	10 oz. Max.	2 oz. Min.	.050 in. Max.	.125 in. Min.	.030 in. Max.
ZTD-0081					
ZPD-0093	20 oz. Max.	5 oz. Min.	.010 in. Max.	.010 in. Min.	.010 in. Max.

**ELECTRICAL**  
 5 amp, 120-240 VAC  
 3 amp sea level and 2.5 amp  
 50,000 ft., 30 VDC inductive  
 4 amp sea level and 4 amp  
 50,000 ft., 30 VDC resistive  
 U.L. listing, 5 amp., 120-240 VAC

**MECHANICAL LIFE**  
 One million cycles with .010 gap  
 and .005 overtravel

### 13 ACTUATORS AVAILABLE.

Available with these terminals: Turret, Double Turret, Post, Baton, and Tab.



MODEL No.	OPERATING FORCE	RELEASE FORCE	PRETRAVEL	OVERTRAVEL	MOVEMENT DIFFERENTIAL
1CMD1-2AXX	20-27 gms.	12 gms. Min.	.040 in. Max.	.050 in. Max.	.030 in. Max.
1CMD1-18AXX-A20	8 gms. Max.		.400 in. Max.		.500 in. Max.
1CMD1-2AXX-A22	2.5 gms. Max.				.500 in. Max.
1CMD1-1AXX-A23M	5-8 oz.	2 oz. Min.	.040 in. Max.	.050 in. Max.	.030 in. Max.
1CMD1-2AXX-A24	2.5 gms. Max.				.500 in. Max.
*1CMD1-18AXX-A27	6 gms. Max.				.233 in. Max.
1CMD1-2AXX-A19M	20-27 gms.	12 gms. Min.	.040 in. Max.		.030 in. Max.

### 8 ACTUATORS AVAILABLE

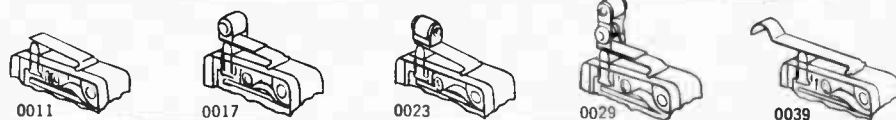
\*Actuator bracket and switch are shipped separately.

## MODEL CM — Low Force



**ELECTRICAL**  
 3 amp, 125-250 VAC  
 3 amp, 28 VDC  
 U.L. listing, 3 amp, 125-250 VAC

**MECHANICAL LIFE**  
 50 Million cycles.

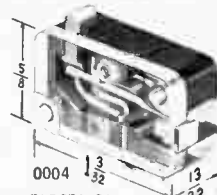


MODEL No.	OPERATING FORCE	RELEASE FORCE	PRETRAVEL	OVERTRAVEL	MOVEMENT DIFFERENTIAL
VD-0004	14 oz. Max.	4 oz. Min.	.047 in. Max.	.031 in. Min.	.014 in. Max.
VLD-0011	14 oz. Max.	2 oz. Min.	.062 in. Max.	.031 in. Min.	.016 in. Max.
VLD-0017	14 oz. Max.	2 oz. Min.	.062 in. Max.	.031 in. Min.	.016 in. Max.
VLD-0023	14 oz. Max.	2 oz. Min.	.062 in. Max.	.031 in. Min.	.016 in. Max.
VLD-0029	14 oz. Max.	2 oz. Min.	.062 in. Max.	.031 in. Min.	.016 in. Max.
VLD-0039	8 oz. Max.	1 oz. Min.	.125 in. Max.	.062 in. Min.	.050 in. Max.

### 10 ACTUATORS AVAILABLE.

Available with these terminals: Quick Connect, Solder and Screw.  
 Actuators are also available with 8 oz. operating force on pin plunger.

## MODEL V — Economical



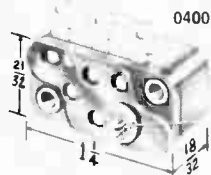
**ELECTRICAL**  
 15 amps, 125-250 volts A.C.  
 10 amps, 30 VDC  
 Listed by U.L. and C.S.A.

**MECHANICAL LIFE**  
 20 Million cycles.

## MODEL H — Rotary

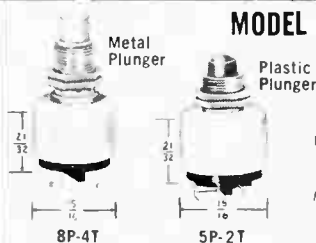
**ELECTRICAL**  
 5 amp. — 120-240 VAC  
 U.L. and C.S.A. listed  
 Hi-pot tested 1250 VAC terminal to exposed rivet head.

**MECHANICAL LIFE**  
 Minimum operating life of one million cycles. Static load of 15 inch ounces will not change switch characteristics when applied at full travel or start positions and in a direction opposite to normal movement.  
 Axial movement of shaft will not exceed .010 inch.



MODEL No.	ROTATION	OPERATING FORCE	OPERATING LIMITS DOWN STROKE	AFTER TRAVEL	MOVEMENT DIFFERENTIAL	TERMINAL
HD-0200	CW	3 gms. in. Max.	15-21°	5° Min.	8° Min.	Solder
HD-0300	CW	3 gms. in. Max.	15-21°	5° Min.	8° Min.	Tab .187
HD-0400	CW	3 gms. in. Max.	15-21°	5° Min.	8° Min.	Tab .205
HD-0500	CCW	4 gms. in. Max.	15-21°	5° Min.	8° Min.	Solder
HD-0600	CCW	4 gms. in. Max.	15-21°	5° Min.	8° Min.	Tab .187
HD-0700	CCW	4 gms. in. Max.	15-21°	5° Min.	8° Min.	Tab .205

## MODEL D — Panel Mounted



**U.L. ELECTRICAL RATING**  
 12 amps — 125 VAC  
 6 amps — 230 VAC

**MECHANICAL LIFE**  
 250,000 cycles

MODEL No.	CIRCUIT	PRETRAVEL	OPERATING FORCE
3D05-5P	N.O.	.100 in. Max.	10-15 oz.
3D05-5P-4T	N.O.	.100 in. Max.	10-15 oz.
3DC5-5P	N.C.	.070 in. Max.	10-15 oz.
3DC5-5P-4T	N.C.	.070 in. Max.	10-15 oz.
3D05-8P	N.O.	.100 in. Max.	10-15 oz.
3D05-8P-4T	N.O.	.100 in. Max.	10-15 oz.
3DC5-8P	N.C.	.070 in. Max.	10-15 oz.
3DC5-8P-4T	N.C.	.070 in. Max.	10-15 oz.

4T Tab.

NATIONWIDE SALES ASSISTANCE THROUGH LOCAL DISTRIBUTOR OR FACTORY ENGINEER

# SPEMCO® H & H SWITCHES

## BALL LEVER TOGGLE SWITCHES

Underwriters' approved, 1 amp. 250 V 3 amp. 125 volts. AC/DC. Laminated bakelite base. Nickel plated finish, except 1120 and 1121.

3 Amp.



No.	Description	Sleeve	Base Dimensions			Net Price
			L.	W.	H.	
*1120	SPST	1 5/32"	1 3/16"	1/4"	3/16"	.66 ea.
1122	SPDT	1 5/32"	1 3/16"	1/2"	3/16"	.84 ea.
1124	DPST	1 5/32"	1 3/16"	21/32"	3/16"	1.20 ea.
1126	DPDT	1 5/32"	1 3/16"	21/32"	29/32"	1.38 ea.
*1121	SPST	1"	1 3/16"	1/4"	3/16"	.90 ea.
1123	SPDT	1"	1 3/16"	1/2"	3/16"	1.05 ea.
1125	DPST	1"	1 3/16"	21/32"	3/16"	1.44 ea.
1127	DPDT	1"	1 3/16"	21/32"	29/32"	1.62 ea.

Sleeve Diameter—1 5/32"  
\*3 amp. 250 V AC/DC.

## BAT LEVER TOGGLE SWITCHES

3 Amp.

Underwriters' approved, 1 amp. 250 V 3 amp. 125 volts. AC/DC. Laminated bakelite base. Nickel plated finish, except 1135 and 1121B.



No.	Description	Sleeve	Base Dimensions			Net Price
			L.	W.	H.	
*1135	SPST	1 5/32"	1 3/16"	1/4"	3/16"	.66 ea.
1136	SPDT	1 5/32"	1 3/16"	1/2"	3/16"	.84 ea.
1137	DPST	1 5/32"	1 3/16"	21/32"	3/16"	1.20 ea.
1138	DPDT	1 5/32"	1 3/16"	21/32"	29/32"	1.38 ea.
*1121-B	SPST	1"	1 3/16"	1/4"	3/16"	.90 ea.
1123-B	SPDT	1"	1 3/16"	1/2"	3/16"	1.05 ea.
1125-B	DPST	1"	1 3/16"	21/32"	3/16"	1.44 ea.
1127-B	DPDT	1"	1 3/16"	21/32"	29/32"	1.62 ea.

Sleeve Diameter—1 5/32"  
\*3 amp. 250 V AC/DC.

## "COMPACT" SWITCH



3 Amp.

Ideal for aircraft, missile, and electronic applications. Underwriter's approved 1 amp. 250 v., 3 amp. 125 v., AC-DC. Bakelite base. Bright nickel finish.

No.	Description	Sleeve	Base Dimensions			Net Price
			L.	W.	H.	
1205	SPST	1 5/32"	1 3/16"	41/64"	1 3/16"	.90 ea.
1206	SPDT	1 5/32"	1 3/16"	41/64"	1 3/16"	1.05 ea.
1207	DPST	1 5/32"	1 3/16"	41/64"	1 3/16"	1.32 ea.
1208	DPDT	1 5/32"	1 3/16"	41/64"	1 3/16"	1.50 ea.

Sleeve Diameter—1 5/32"

## MOLDED BAKELITE SWITCH, BAT LEVER

U.L. approved for 6 amp. 125 volts, 3 amp. 250 volts. \*Except for 1143 which is rated at 1 amp. 250 volts, 6 amp. 125 volts. All back connected, slotted sleeve. Positive action

6 Amp.



No.	Description	Sleeve	Base Dimensions			Net Price
			L.	W.	H.	
1142	SPST	1 5/32"	1 1/4"	1 1/4"	1 3/16"	.90 ea.
*1143	SPDT	1 5/32"	1 1/4"	1 1/4"	1 3/16"	1.05 ea.
1144	DPST	1 5/32"	1 1/4"	1 1/4"	1 3/16"	1.32 ea.
1145	DPDT	1 5/32"	1 1/4"	1 1/4"	1 3/16"	1.50 ea.

Sleeve Diameter—1 5/32"  
\*1 amp. 250 volts, 6 amp. 125 volts

## BALL or BAT\* LEVER TOGGLE SWITCH

6 Amp.



Underwriters' approved 3A 250V, 6A 125V, molded bakelite base. Nickel plated finished. WITH 6" WIRE LEADS

No.	Description	Sleeve	Base Dimensions			Net Price
			L.	W.	H.	
1154	SPST	3/8"	7/8"	1/2"	3/16"	.93 ea.
*1154B	SPST	3/8"	7/8"	1/2"	3/16"	.93 ea.

## UTILITY SWITCHES—Toggle Type For AC Uses

1185 15 Amp. 1186



Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

No.	Description	Sleeve	Base Dimensions			Net Price
			L.	W.	H.	
1185	SPST	1 5/32"	1 1/4"	3/8"	1 1/16"	.75 ea.
1186	SPDT	1 5/32"	1 1/4"	3/8"	1 1/16"	.90 ea.
1188	DPST	1 5/32"	1 3/16"	3/4"	1 1/16"	1.20 ea.
1194	DPDT	1 5/32"	1 3/16"	3/4"	1 1/16"	1.47 ea.

Sleeve Diameter—1 5/32"

## MOMENTARY BAT LEVER TOGGLE SWITCHES

3 Amp.

Underwriters' approved, 3 amp. 125 volts, laminated bakelite base. Nickel plated finished.



No.	Description	Sleeve	Base Dimensions			Net Price
			L.	W.	H.	
*1166	SPST	1 5/32"	1 3/16"	1/2"	3/16"	1.11 ea.
1167	SPDT	1 5/32"	1 3/16"	1/2"	3/16"	1.23 ea.
*1165	DPST	1 5/32"	1 3/16"	21/32"	3/16"	1.56 ea.
1150	DPDT	1 5/32"	1 3/16"	21/32"	29/32"	1.77 ea.

Sleeve Diameter—1 5/32"  
\*1166 Normally Off \*1155 Normally Off  
\*3 Amp 250V

15 Amp.



Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

No.	Description	Sleeve	Base Dimensions			Net Price
			L.	W.	H.	
*1196	SPST	1 5/32"	1 1/8"	5/8"	1 1/16"	1.02 ea.
*1197	DPST	1 5/32"	1 1/8"	3/4"	1 1/16"	1.62 ea.

\*Normally Off Sleeve Diameter—1 5/32"

## NEUTRAL CENTER MOMENTARY BOTH ENDS

15 Amp.



Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

No.	Description	Sleeve	Base Dimensions			Net Price
			L.	W.	H.	
1193	DPDT	1 5/32"	1 3/16"	3/4"	1 1/16"	1.92 ea.
1195	SPDT	1 5/32"	1 3/16"	5/8"	1 1/16"	1.17 ea.

Sleeve Diameter—1 5/32"

## NEUTRAL CENTER

15 Amp.



Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

No.	Description	Sleeve	Base Dimensions			Net Price
			L.	W.	H.	
1187	SPDT	1 5/32"	1 1/8"	3/4"	1 1/16"	.90 ea.
1189	DPDT	1 5/32"	1 1/8"	3/4"	1 1/16"	1.47 ea.

Sleeve Diameter—1 5/32"

## BAT LEVER TOGGLE SWITCH 6 Amp. Neutral Center

Underwriters' approved, 6 amp. 125 volts, either AC or DC. A 3 position switch, on-off-on. Black bakelite case.



No.	Description	Sleeve	Base Dimensions			Net Price
			L.	W.	H.	
1175	SPDT	1 5/32"	1 1/8"	1 1/16"	1 1/16"	1.62 ea.
1176	DPDT	1 5/32"	1 1/8"	1 1/16"	1 1/16"	1.95 ea.

Sleeve Diameter—1 5/32"

## BAT AND PADDLE LEVER TOGGLE SWITCH 5 Amp.



1232 1232-P 1232-DF  
1233 1233-P

This series is unique and used where other switches cannot be reliably used or have no counterpart. Smallest two and three position wiping blade toggle switches at their ratings on the market. Bat lever is nickel-plated brass; paddle lever is black Nylon standard.

Mechanical life expectancy, 100,000 cycles min. Electrical life expectancy, 50,000 cycles min. at full load. Terminals: combination solder lug and quick-connect push on type terminals. Quick-connect accepts .110" AMP type connector or equal. When wires are soldered, up to two #18 wires or three #20 wires. Weight: double pole, 22.5 grams. Bat lever is 3/4" long; paddle lever is 1 1/8" long, both with a 28 degree throw. 5 amp. 225 volts, 2 amp. 250 volts AC. 4 amps. 125 volts, 1 amp. 250 volts DC.

No.	Description	Sleeve	Base Dimensions			Net Price Each
			L.	W.	H.	
1232	DPDT (on-off-on)	3/8"	1 3/8"	4/8"	1/2"	\$2.55
1232-P	DPDT (on-off-on)	3/8"	1 3/8"	4/8"	1/2"	2.67
1233	SPDT (on-off-on)	3/8"	1 3/8"	4/8"	1/2"	2.04
1233-P	SPDT (on-off-on)	3/8"	1 3/8"	4/8"	1/2"	2.25
1232-DF	Dress face nut (optional)	.178"	thick			.15

Sleeve Diameter—1 5/32"

## SPECIALTIES MANUFACTURING CO.

# SPEMCO® H & H SWITCHES

## PUSH BUTTON DOUBLE ACTION 6 Amp. SWITCH



Underwriters' approved, 6 amp. 125 volts. Press lever to make contact, press lever to break contact. Nickel plated finish or snap-on plastic button, in red or black.

No.	Description	Sleeve	L.	W.	H.	Net Price
1156	Nickel Plated	3/16"	1 1/8"	1/2"	3/16"	.93 ea.
1156-A	Red	3/16"	1 1/8"	1/2"	3/16"	1.20 ea.
1156-B	Black	3/16"	1 1/8"	1/2"	3/16"	1.20 ea.

Sleeve Diameter—1 1/32"

## "COMPACT" DOUBLE ACTION (PUSH-PUSH) SWITCH QUICK MAKE AND BREAK ACTION 3 Amp.

Rated at 1 Amp. 250 Volts and 3 Amps. 125 Volts, A.C. and D.C.  
Solder lug terminals with double wiping blade mechanism.



No.	Description	Sleeve	L.	W.	H.	Net Price Each
1215	SPST	3/16"	1 1/2"	3/8"	1 1/4"	1.17
1215-B	SPST	3/16"	1 1/2"	3/8"	1 1/4"	1.41
1215-R	SPST	3/16"	1 1/2"	3/8"	1 1/4"	1.41
1216	SPDT	3/16"	1 1/2"	3/8"	1 1/4"	1.35
1216-B	SPDT	3/16"	1 1/2"	3/8"	1 1/4"	1.62
1216-R	SPDT	3/16"	1 1/2"	3/8"	1 1/4"	1.62
1217	DPST	3/16"	1 1/2"	3/8"	1 1/4"	1.71
1217-B	DPST	3/16"	1 1/2"	3/8"	1 1/4"	1.89
1217-R	DPST	3/16"	1 1/2"	3/8"	1 1/4"	1.89
1218	DPDT	3/16"	1 1/2"	3/8"	1 1/4"	1.83
1218-B	DPDT	3/16"	1 1/2"	3/8"	1 1/4"	2.04
1218-R	DPDT	3/16"	1 1/2"	3/8"	1 1/4"	2.04

(B, means black button, R, means Red button and just the number, nickel.)  
Sleeve Diameter — 1 1/32"

## "COMPACT" MOMENTARY ACTION PUSH SWITCH QUICK MAKE AND BREAK ACTION

3 Amp.

Rated at 1 Amp. 250 Volts  
3 Amps. 125 Volts A.C.-D.C.



Solder lug terminals with double wiping blade mechanism

No.	Description	Sleeve	L.	W.	H.	Net Price Each
*1219	SPST	3/16"	1 1/2"	3/8"	1 1/4"	1.44
*1219-B	SPST	3/16"	1 1/2"	3/8"	1 1/4"	1.65
*1219-R	SPST	3/16"	1 1/2"	3/8"	1 1/4"	1.65
1220	SPDT	3/16"	1 1/2"	3/8"	1 1/4"	1.71
1220-B	SPDT	3/16"	1 1/2"	3/8"	1 1/4"	1.95
1220-R	SPDT	3/16"	1 1/2"	3/8"	1 1/4"	1.95
*1221	DPST	3/16"	1 1/2"	3/8"	1 1/4"	1.98
*1221-B	DPST	3/16"	1 1/2"	3/8"	1 1/4"	2.19
*1221-R	DPST	3/16"	1 1/2"	3/8"	1 1/4"	2.19
1222	DPDT	3/16"	1 1/2"	3/8"	1 1/4"	2.13
1222-B	DPDT	3/16"	1 1/2"	3/8"	1 1/4"	2.31
1222-R	DPDT	3/16"	1 1/2"	3/8"	1 1/4"	2.31

Sleeve Diameter—1 1/32"

(B, means black button, R, means Red button and just the number, nickel.)

\*SPST & DPST—Normally Off.

## MIDGET MOMENTARY PUSH BUTTON SWITCHES

3 Amp.

Underwriters' approved, 3 amp. 120 volts, AC. Molded bakelite base, nickel plated finish.



No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1141	SP Norm. Closed	3/16"	1 1/2"	3/16"	2 3/4"	.57 ea.
1141-A	SP Norm. Open	3/16"	1 1/2"	3/16"	2 3/4"	.57 ea.

Sleeve Diameter—1 1/32"

3 Amp.

Underwriters' approved, 3 Amp. 120v, AC, Nickel plated finish. Molded bakelite base, Single Pole, slow make and slow break with bakelite snap-on button in red or black. Also white button on request.



No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1157-A	Open—Red	3/16"	1 1/2"	3/16"	2 3/4"	.96 ea.
1157-B	Open—Black	3/16"	1 1/2"	3/16"	2 3/4"	.96 ea.
1157-C	Closed—Red	3/16"	1 1/2"	3/16"	2 3/4"	.96 ea.
1157-D	Closed—Black	3/16"	1 1/2"	3/16"	2 3/4"	.96 ea.

Sleeve Diameter—1 1/32"

## INTERMEDIATE MOMENTARY PUSH SWITCH 6 Amp.

U.L. approved for 6 amp. 125 volts, 3 amp. 250 volts. \*Except for 1147 which is rated at 1 amp. 250 volts, 6 amp. 125 volts. All back connected, slotted sleeve.



No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
*1146	SPST	1/2"	1 1/4"	1 1/8"	1 1/4"	1.50 ea.
*1147	SPDT	1/2"	1 1/4"	1 1/8"	1 1/4"	1.71 ea.
*1148	DPST	1/2"	1 1/4"	1 1/8"	1 1/4"	1.95 ea.
1149	DPDT	1/2"	1 1/4"	1 1/8"	1 1/4"	2.13 ea.

\*1 amp. 250 volts, 6 amp 125 volts  
\*\*1146 & 1148 Normally off. Sleeve Diameter—1 1/32"

## MOMENTARY PUSH BUTTON SWITCH

16 Amp.



Underwriters' approved, 16 amp. 125 V., 8 amp. 250 V., 1 H.P. 125-250 V. AC-DC.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1160	DPST Normally Off	1 1/2"	1 3/4"	1 1/8"	2 1/2"	1.95 ea.
1160-A	DPST Normally On	1 1/2"	1 3/4"	1 1/8"	2 1/2"	1.95 ea.

Sleeve Diameter—1 1/32"

20 Amp.



Underwriters Approved: 20 Amp. 125 V., 10 Amp. 250 V., AC-DC. 1 1/2 H.P. 125-250 V., AC-DC.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1230	DPST (Normally Open)	1 1/2"	1 3/4"	1"	7/8"	3.06 ea.
1231	DPST (Normally Closed)	1 1/2"	1 3/4"	1"	7/8"	3.06 ea.

Sleeve Diameter—1 1/32"

1 Amp.

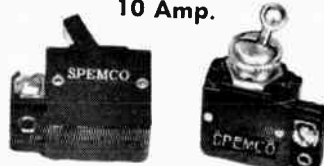
Two circuit, slow make and slow break, momentary switch. One circuit normally on, the other off, with snap-on plastic button, in red or black. (Pushing the button reverses the contact.) 1 Amp. 125 Volts AC. White button on request. Underwriters' Approved.



No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1158-A	Red	3/16"	1 1/2"	1 1/2"	1 1/2"	1.17 ea.
1158-B	Black	3/16"	1 1/2"	1 1/2"	1 1/2"	1.17 ea.

Sleeve Diameter—1 1/32"

## POWER SWITCHES 10 Amp.

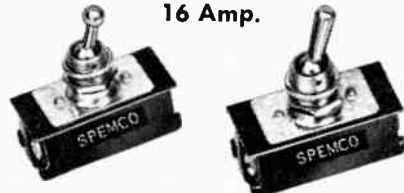


Underwriters' approved, 10 amp. 125 volts. 5 amp. 250 A.C., 3/4 H.P. 250V. A.C. 1/2 H.P. 250V. A.C.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
*1133	SPST lever	1 1/2"	1 3/4"	1 3/8"	1 1/2"	1.14 ea.
1133-B	Bakelite lever	1 1/2"	1 3/4"	1 3/8"	1 1/2"	.75 ea.

\*1 1/2" sleeve diameter

16 Amp.



Underwriters' approved, 16 amp. 125V., 8 amp. 250V. A.C.-D.C.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1159	DPST	1 1/2"	1 3/4"	1 3/8"	1 1/2"	1.35 ea.
1159-B	DPST	1 1/2"	1 3/4"	1 3/8"	1 1/2"	1.35 ea.
1159-C	SPDT	1 1/2"	1 3/4"	1 3/8"	1 1/2"	1.55 ea.

1159—Ball Lever 1159-B—Bat Lever  
Sleeve Diameter—1 1/32"

20 Amp.



Underwriters' approved 20 amp. 125 V., 10 amp. 250 V. 1 1/2 H.P. 125-250 V. AC-DC.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1134	DPST	1 1/2"	2"	1"	7/8"	2.28 ea.
1134-B	DPST	1 1/2"	2"	1"	7/8"	2.28 ea.

1134—Ball Lever 1134-B Bat Lever  
Sleeve Diameter—1 1/32"

20 Amp.



Fully enclosed tumbler switch, 20 amp. 250V., 1 1/2 H.P. 125V., 2 H.P. 250V.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1170-S	DPST	1 1/2"	2 1/4"	1 1/8"	1 1/2"	3.15 ea.

Sleeve Diameter—1 1/2"

20 Amp.

Fully enclosed tumbler switch, 20 amp. 250V., 1 1/2 H.P. 125V., 2 H.P. 250V.



No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1170	DPST	1 1/2"	2 1/4"	1 1/8"	1 1/2"	3.15 ea.

Sleeve Diameter—1 1/2"

# SPEMCO® H & H SWITCHES

## EXTRA HEAVY DUTY SWITCH NEUTRAL CENTER 10 Amp.

Used in heavy current circuits, such as transmitters, power amplifiers, motors, etc. Contacts have fast "break" which reduces the tendency to arc. Rated at 10 amp. 125 volts, 5 amp, 250 volts, 3/4" HP 250 volts.



Positive off in center.

No.	Description	Sleeve	Base L.	Dimensions W. H.	Net Price
*1161-A	DPDT	1 1/2"	2"	1 3/4" 1"	4.95 ea.
1161	DPDT	1 1/2"	2"	1 3/4" 1"	4.95 ea.
Straight thru, no off-center*					Sleeve Diameter—3/4"

## 20 Amp. & 30 Amp.

3 3/32" mounting centers

- 1161-B & 1161-D  
10 Amp. 250 Volts
- 20 Amp. 125 Volts
- 1161-C  
20 Amp. 250 Volts
- 30 Amp. 125 Volts
- Both AC-DC



No.	Description	Sleeve	Base L.	Dimensions W. H.	Net Price
1161-B	DPDT	2 1/2"	1 1/2"	1 1/2" 2"	7.80 ea.
1161-C	DPDT	2 7/8"	1 1/2"	2"	10.65 ea.
*1161-D	DPDT	2 1/2"	1 1/2"	1 1/2" 2"	7.80 ea.
*20 Amp. Straight thru-no off center.					

## 10 Amp.

Rated 10 amp. 125 volts, 1/2 HP, 115-230 volts AC. 5 amp. 250 volts.



No.	Description	Sleeve	Base L.	Dimensions W. H.	Net Price
1177	3 PDT	1 1/2"	2 3/4"	2" 1 1/8"	7.50 ea.
1178	4 PDT	1 1/2"	2 3/4"	2" 1 1/8"	9.45 ea.
Sleeve Diameter—3/4"					

## THREE & FOUR POLE AC UTILITY SWITCHES

### 15 Amp. AC



15 amp. 125V., 10 amp. 250V. AC., except Nos. 1200, 1201 and 1228 which are 10 amp. 250V. AC.

No.	Description	Sleeve	Base L.	Dimensions W. H.	Net Price
1198	3PST	1 1/2"	1 3/4"	1 3/4" 1 1/8"	2.70 ea.
1199	On-None-Off 3PDT	1 1/2"	1 3/4"	1 3/4" 1 1/8"	3.30 ea.
1227	On-Off-On 3PDT	1 1/2"	1 3/4"	1 3/4" 1 1/8"	3.30 ea.
1235	On-Off-Mom. on 3PDT	1 1/2"	1 3/4"	1 3/4" 1 1/8"	3.60 ea.
1236	Mom. on-off-Mom. on 3PDT	1 1/2"	1 3/4"	1 3/4" 1 1/8"	3.60 ea.
*1200	4PST	1 1/2"	1 3/4"	1 3/4" 1 1/8"	3.75 ea.
*1201	On-None-Off 4PDT	1 1/2"	1 3/4"	1 3/4" 1 1/8"	4.50 ea.
*1228	On-Off-On 4PDT	1 1/2"	1 3/4"	1 3/4" 1 1/8"	4.50 ea.
Sleeve Diameter—1 1/2"					
*10 amp. 250 V. A.C.      *1/2 H.P. 115-230 V. A.C.					

## TOOL HANDLE SWITCH 4 Amp.

Direct Pull Trigger with Latch.  
Plug-in Terminal  
2 amp., 250 volts.  
4 amp., 125 volts.



### SPST Momentary Contact

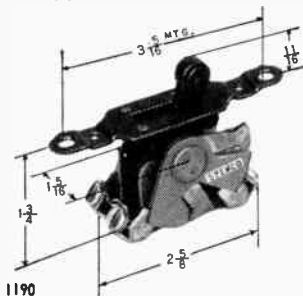
No.	L.	W.	H.	Net Price
1169	1 3/4"	2 1/2"	1 3/4"	1.14 ea.

## HEAVY DUTY SWITCHES Toggle Type

Underwriters' approved, 30 amp. 250 volts, AC DC. 2 H.P., 115V-230V AC; 1 H.P., 460V AC  
For use on Food Machines, Grinders, Sanders, Machine Tools, Gasoline Pumps, etc.

### Roller Type Lever

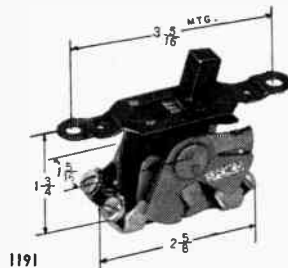
### 30 Amp.



No.	Description	Net Price
1190	DPST	2.85 ea.

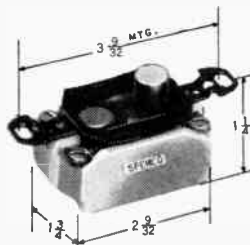
### Square Bakelite Lever

### 30 Amp.



No.	Description	Net Price
1191	DPST	2.85 ea.

## METAL PUSH BUTTON TYPE NORMALLY OPEN 20 Amp.



No.	Description	Net Price
1192	DPST	3.10 ea.

Underwriters' approved, 20 amp. 250 volts, 2 H.P. 230V AC, 2 H.P. 250V DC.  
For use on Floor Sander, as a foot switch, etc.

## PORTABLE TOOL HANDLE SWITCHES 16 Amp.



Tool handle switch, fully enclosed, normally OFF with locking latches. Rated and approved by the Underwriters' for 8 amp. 250 volts, 16 amp. 125 volts, 1 H.P. 250 volts, 1 3/4" long, 1 3/8" wide, 7/8" high.

No.	Description	Net Price
1168	DPST	2.10 ea.

## INDICATING SLIDE LEVER SWITCH



### 6 Amp.

Rated at  
3 Amp.—250 volts  
6 Amp.—125 volts

### SINGLE POLE Screw Terminal

No.	L.	W.	H.	Net Price
1174	7/8"	1/2"	1 1/4"	1.35 ea.

## ROTARY CANOPY SWITCH With Fixed Plastic Handle



### 3 Amp.

Underwriters' approved, 3 amp. 125 volts. 1 amp. 250 volts.

No.	Stem	Wire Lead	Net Price
1179	3/16"	6"	.54 ea.

## ROTARY SWITCHES



### 3 Amp.

Underwriters' approved, 1 amp. 250 V., 3 amp. 125 V. AC-DC (Except #1128). Nickel plated finish. Laminated bakelite base.

No.	Description	Shaft Sleeve L.	Base Dimensions W. H.	Net Price
*1128	SPST	1 1/8" 3/8"	1 1/4" 3/4"	.87 ea.
1129	SPDT	1 1/8" 3/8"	1 1/4" 3/4"	1.08 ea.
1130	DPST	1 1/8" 3/8"	1 1/2" 3/4"	1.41 ea.
1131	DPDT	1 1/8" 3/8"	1 1/2" 3/4"	1.74 ea.
*1128 rated 3 amp. 250 V. AC-DC. Sleeve Diameter—1 1/2"				

## 3 Amp. ROTO-LOCK SWITCH



Underwriters' Approved,  
3 amp. 250 volts.  
Except #1129-K & 1131-K

No.	Description	Sleeve L.	Base Dimensions W. H.	Net Price
1128-K	SPST (With Key)	1 1/2"	1 3/16" 3/4"	1.56 ea.
(above key removable in off position only)				
1128-KA	Key only for above			.228 ea.
1128-KE	SPST (With Key)	1 1/2"	1 3/16" 3/4"	1.56 ea.
(above key removable in either position)				
*1129-K	SPDT (With Key)	1 1/2"	1 3/16" 1/2"	1.65 ea.
(above key removable in either position)				
*1131-K	DPDT (With Key)	1 1/2"	1 3/16" 3/4"	2.19 ea.
(above key removable in either position)				
1128-KEA	Key-fits 1128-KE, 1129-K, and 1131-K			.228 ea.
*1129-K & 1131-K—U.L. approved, 1 amp. 250 V., 3 amp. 125V., AC-DC. Sleeve Diameter—1 1/2"				

## ROTO-LOCK SWITCH

### 20 Amp.

Underwriters' approved.  
20 amp. 120 volts,  
240 volts AC.



1 1/2 H.P.—120 volts AC  
2 H.P.—240 volts AC

(with key)  
(above key removable in off position only)

No.	Description	Sleeve	Net Price
1130-K	(With Key) DPST	3/16"	2.75 ea.
1130-KA	Key Only for above		.30 ea.

# SPEMCO® H & H SWITCHES

## MILITARY TYPE TOGGLE SWITCHES

Manufactured of materials and in accordance with specification Mil-S-3950  
MS-25098 and MS-35058—Single Pole MS-25100 and MS-35059—Double Pole



MS Part No.	Up Position	Center Position	Down Position	Net Price
MS-25098-22	On	None	Off	\$234.00C
MS-25098-23	On	None	On	252.00C
MS-25100-22	On	None	Off	287.25C
MS-25100-23	On	None	On	306.00C
MS-35058-21	On	Off	On	211.50C
MS-35058-22	On	None	Off	175.50C
MS-35058-23	On	None	On	211.50C
MS-35058-24	On	Off	None	175.50C
MS-35058-25	On	Mom. Off	None	193.50C
MS-35058-26	On	None	Mom. On	229.50C
MS-35058-27	Mom. On	Off	Mom. On	229.50C
MS-35058-28	None	Off	Mom. On	193.50C
MS-35058-29	On	None	Mom. Off	193.50C
MS-35058-30	Off	None	Mom. On	193.50C
MS-35058-31	Off	None	Mom. On	229.50C
MS-35059-21	On	Off	On	282.75C
MS-35059-22	On	None	Off	234.75C
MS-35059-23	On	None	On	282.75C
MS-35059-24	On	None	None	234.75C
MS-35059-25	On	Mom. Off	None	282.75C
MS-35059-26	On	None	Mom. On	306.00C
MS-35059-27	Mom. On	Off	Mom. On	306.00C
MS-35059-28	None	Off	Mom. On	282.75C
MS-35059-29	On	None	Mom. Off	282.75C
MS-35059-30	Off	None	Mom. On	282.75C
MS-35059-31	On	Off	Mom. On	306.00C

### LOCKING BRACKET

For all bat handle toggle or momentary switches. Any Amp.



No. 1226  
Net Price  
Fits over 1 1/2" sleeve diameter. 1.83 ea.  
1226-A Key Only .30 ea.  
Sleeve diameter 1 1/2"

### FEED-THROUGH CORD SWITCH

Underwriters approved, black bakelite case, sliding lever, 10 Amp. 125 V., 5 Amp. 250 V.



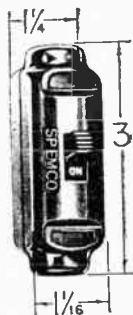
No. 1163  
Description SP  
Net Price 1.50 ea.

### FEED THROUGH CORD SWITCH 15 Amp.

1 1/2 (.406) Inch Cord Hole

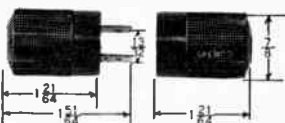
For Appliance Use Only:

Rated at 10 Amp.—250 volts  
15 Amp.—125 volts



No. 1164  
Description DP (with 3rd wire ground)  
Net Price 4.95 ea.

### CORD CONNECTORS 10 Amp.



Brown Bakelite Cord Connector Complete, 7/8" O.D. x 2 1/2" long. 10 amps. 250 volts. End opening for wire size up to 3/8" O.D.

No.	Description	Net Price
1162	Complete	1.89 ea.
1162-F	Female Part	1.02 ea.
1162-M	Male Part	1.02 ea.

### RECEPTACLES

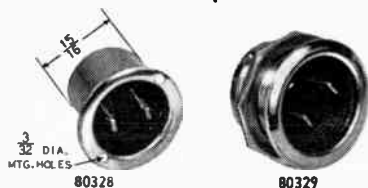
Underwriters' approved, 10 amp. 250 volts A.C.

#### Short Female Flush Receptacle 10 Amp.



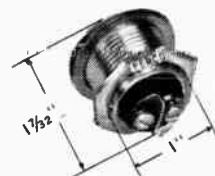
No. 80326 2 Screw Mounting  
No. 80327 Lock Nut Mounting  
Net Price 1.14 ea.  
1.86 ea.

#### Recessed Male Receptacle 10 Amp.

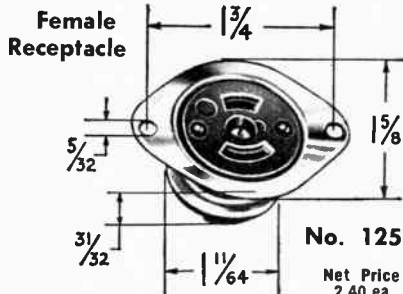


No. 80328 2 Screw Mounting  
No. 80329 Lock Nut Mounting  
Net Price 1.32 ea.  
1.86 ea.

#### Recessed Female Receptacle 10 Amp.



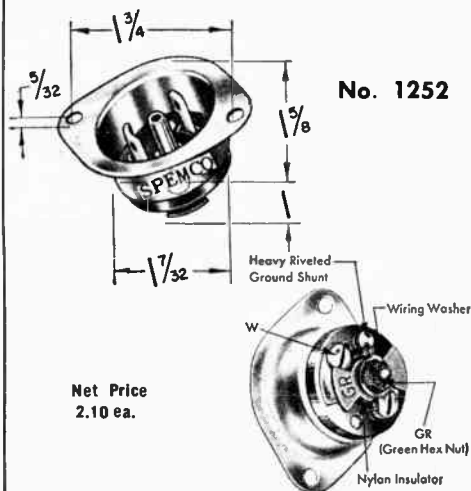
No. 80331  
Description Lock Nut Mounting  
Net Price 1.86 ea.



No. 1253  
Net Price 2.40 ea.



### Male Receptacle



No. 1252

Net Price 2.10 ea.

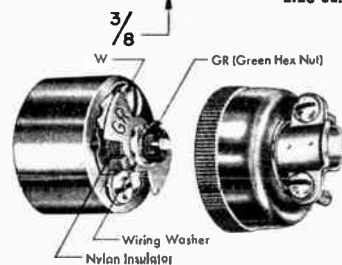
### TURN TO LOCK COMPACT RECEPTACLES 3-WIRE GROUNDING TYPE 15 Amp. 125 Volt

Brass metal casings, finished to resist corrosion. Black bakelite is standard.

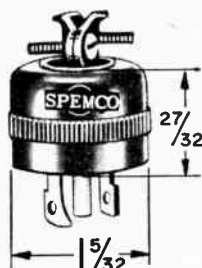


Female Connector No. 1250

Net Price 2.25 ea.

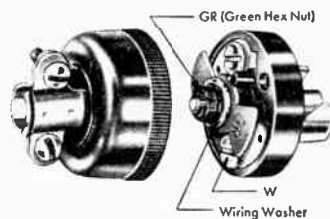


### Male Connector



No. 1251

Net Price 1.80 ea.



# SPEMCO® H & H SUBMINIATURE SWITCHES

## SUBMINIATURE TOGGLE SWITCHES



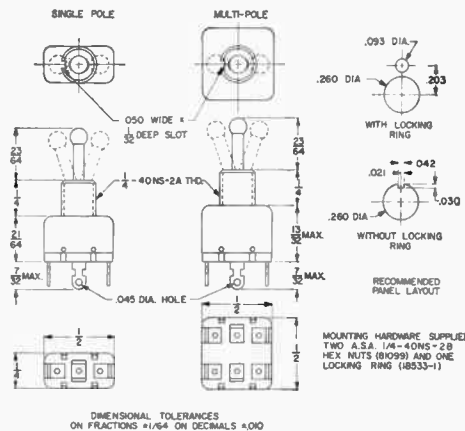
Spemco Subminiature Switches are 1/10 the volume of the standard switch.

Photos are actual size of switches.

Meeting requirements of MIL-S-3950 as applicable to SCL-6305

### OPERATING CHARACTERISTICS

**CONTACT RATINGS:** Low level to 5 amp. resistive at 29 volts DC or 115 volts AC.  
**INITIAL CONTACT RESISTANCE:** 0.01 ohms maximum.  
**DIELECTRIC STRENGTH:** 1000 volts RMS at sea level.  
**VIBRATION:** 5-28 CPS at 0.5 inches double amplitude, 28-2000 CPS at 20 G.  
**SHOCK:** 50G for 11 milliseconds.  
**ELECTRICAL LIFE (minimum):** 20,000 make-and-break cycles.  
**SEAL:** Low temperature rubber boot for panel is available.  
**WEIGHT:** From 3.0 to 5.0 grams maximum.  
**TERMINALS:** Solder lugs.



DIMENSIONAL TOLERANCES ON FRACTIONS ±1/64 ON DECIMALS ±.010

MOUNTING HARDWARE SUPPLIED: TWO A.S.A. 1/4-40NS-2B HEX NUTS (81099) AND ONE LOCKING RING (8833-1)

### SPEMCO®

Number	(MS Part No.)	Circuit	Action	Net Price Each	Number	(MS Part No.)	Circuit	Action	Net Price Each
TC-3		SPDT	On-Off-On	3.00	TS-3		SPDT	On-None-On	3.00
TC-3-M	(MS-75028-21)	SPDT	On-Off-On	3.20	TS-3-M	(MS-75028-23)	SPDT	On-None-On	3.20
TE-3		SPDT	On*-Off-On	3.20	TC-6		DPDT	On-Off-On	3.90
TE-3-M	(MS-75028-31)	SPDT	On*-Off-On	3.40	TC-6-M	(MS-75029-21)	DPDT	On-Off-On	4.10
TG-3		SPDT	On*-Off-On*	3.20	TE-6		DPDT	On*-Off-On	5.00
TG-3-M	(MS-75028-27)	SPDT	On*-Off-On*	3.40	TE-6-M	(MS-75029-31)	DPDT	On*-Off-On	5.20
TM-3		SPDT	On*-None-On	3.20	TG-6		DPDT	On*-Off-On*	5.00
TM-3-M	(MS-75028-26)	SPDT	On*-None-On	3.40	TG-6-M	(MS-75029-27)	DPDT	On*-Off-On*	5.20
TS-1		SPST	Off-None-On	2.80	TM-6		DPDT	On*-None-On	5.00
TS-1-M	(MS-75028-22)	SPST	Off-None-On	3.00	TM-6-M	(MS-75029-26)	DPDT	On*-None-On	5.20
TS-2		DPST	Off-None-On	3.40	TS-6		DPDT	On-None-On	3.90
TS-2-M	(MS-75029-22)	DPST	Off-None-On	3.60	TS-6-M	(MS-75029-23)	DPDT	On-None-On	4.10
					11-B		Black Rubber Boot		1.00

Basic catalog numbers supplied with ball lever. Military type (suffix "M") supplied with bat lever — suffix "M" switches meet requirements of MIL-S-3950-B. \*Momentary action.



Spemco Subminiature Switches are 1/10 the volume of the standard switch.

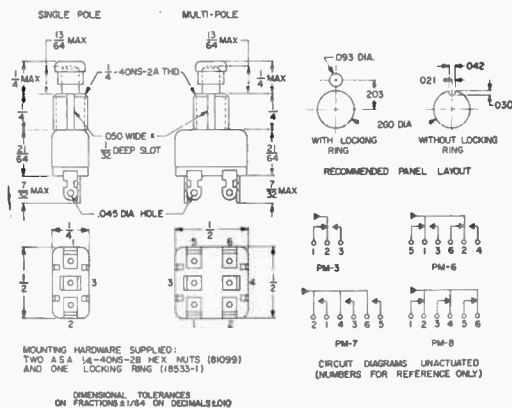
Photo is actual size of switch.

## SUBMINIATURE PUSH BUTTON SWITCHES, MOMENTARY

Featuring gold plated coin silver contacts and gold plated brass terminals. Ideal for aircraft, missile, electronic and other applications demanding small size and dependability.

### OPERATING CHARACTERISTICS

**CONTACT RATINGS:** 2 amp 29 volt. DC resistive; 1 amp 115 volts AC. Minimum rating for dry circuit application 10 micro amps at 50 MV.  
**ELECTRICAL LIFE EXPECTANCY:** At full load min. 20,000 make-and-break cycles pulsed at rate of 100 cycles per minute.  
**INITIAL CONTACT RESISTANCE:** 0.05 ohms maximum.  
**VIBRATION:** Tested per Mil-Std. -202, Method 204, Condition A.  
**DIELECTRIC STRENGTH:** 1000 volts RMS at sea level for one minute.  
**TEMPERATURE RANGE:** -87°F (-65°C to +200°F (+94°C)).  
**PRETRAVEL:** .015" maximum.  
**MOVEMENT DIFFERENTIAL:** .002" maximum.  
**OVERTRAVEL:** .010" maximum.  
**OPERATE FORCE:** 6.6 oz. maximum.  
 When colored buttons are required, specify the color and add 10c each to the list price. Colors: Black, Red, Yellow, Green, Brown.



MOUNTING HARDWARE SUPPLIED: TWO A.S.A. 1/4-40NS-2B HEX NUTS (81099) AND ONE LOCKING RING (8833-1)  
 DIMENSIONAL TOLERANCES ON FRACTIONS ±1/64 ON DECIMALS ±.010

### SPEMCO®

Number	Circuit	Action	Net Price Each
PM-3	SPDT	Leaf Contact — NO/NC	\$2.86
PM-6	DPDT	Leaf Contact — NO/NC	3.51
PM-7	3PST	Leaf Contact — 3P/NO	3.31
PM-8	3PST	Leaf Contact — 3P/NC	4.65
10-B		Black Rubber Boot	1.00

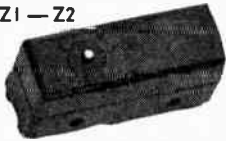
Switches supplied with standard .215" white (natural) button.

## SPECIALTIES MANUFACTURING CO.

# SPEMCO®

## H & H PRECISION SWITCHES

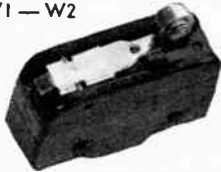
GP3-Z1 — Z2  
HD3-Z1 — Z2



GP3-T1 — T2  
HD3-T1 — T2



GP3-W1 — W2  
HD3-W1 — W2



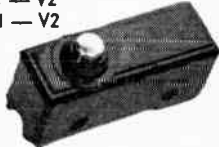
### GENERAL PURPOSE PRECISION SWITCHES SPDT

H & H General Purpose Precision Switches feature high electrical rating combined with very low operating force and long life. SPDT units may be wired normally open or normally closed. UL and CSA approved: 15 amp. 480 V AC, 1/2 amp. 125 V DC, 1/4 amp. 250 V DC.

GP3-Y1 — Y2  
HD3-Y1 — Y2



GP3-V1 — V2  
HD3-V1 — V2



GP3-U1 — U2  
HD3-U1 — U2



GP3-Q1 — Q2  
HD3-Q1 — Q2



GP3-X1 — X2  
HD3-X1 — X2



SPEMCO NUMBER		*1 ACTUATOR	OPERATING FORCE	PRETRAVEL	OVERTRAVEL	LIST PRICE	
Solder Lug	Screw Term.					Solder Lug	Screw Term.
GP3-Z1	GP3-Z2	Pin Type	9 to 13 oz.	.015" max.	.005" min.	\$155.00 C.	\$165.00 C.
GP3-T1	GP3-T2	Flexible Leaf	5 oz. max.	5/32" max.	Not over 1/16"	170.00 C.	180.00 C.
GP3-Q1	GP3-Q2	Std. Roller Leaf	5 oz. max.	5/32" max.	Not over 1/16"	215.00 C.	220.00 C.
GP3-Y1	GP3-Y2	Rigid Hinge Lever	2 1/2 oz.	3/8" max.	.219" min.	200.00 C.	205.00 C.
GP3-X1	GP3-X2	Std. Roller Lever	3 1/2 oz. max.	9/32" max.	.156" min.	250.00 C.	260.00 C.
GP3-W1	GP3-W2	Short Roller Lever	6 oz. max.	9/64" max.	3/32" min.	250.00 C.	260.00 C.
GP3-V1	GP3-V2	Short Overtravel Button	9 to 13 oz.	1/64" max.	1/16" min.	190.00 C.	195.00 C.
GP3-U1	GP3-U2	Panel Mounted Plunger	9 to 13 oz.	1/64" max.	7/32" min.	345.00 C.	350.00 C.

\*1 Switches are mounted by two .140 inch diameter holes on one inch centers. Discount: 1-9, none; 10-19, 10%; 20-49, 20%; 50 & over, 30%.

### HEAVY DUTY PRECISION SWITCHES — SPDT

H & H Heavy Duty Precision Switches provide high inrush capacity and retain similar performance and actuating characteristics found in the General Purpose units. SPDT switches can be wired normally

open or normally closed. UL and CSA approved: 20 amp. 480 V AC, 10 amp. 125 V AC "L" load, 1/2 amp. 125 V DC, 1/4 amp. 250 V DC, 1 H.P. 120 V. AC, 2 H.P. 240 V. AC.

SPEMCO NUMBER		*1 ACTUATOR	OPERATING FORCE	PRETRAVEL	OVERTRAVEL	LIST PRICE	
Solder Lug	Screw Term.					Solder Lug	Screw Term.
HD3-Z1	HD3-Z2	Pin Type	14 to 22 oz.	.050" max.	.010" min.	\$160.00 C.	\$170.00 C.
HD3-T1	HD3-T2	Flexible Leaf	9 oz. max.	11/32" max.	Not over 1/16"	180.00 C.	185.00 C.
HD3-Q1	HD3-Q2	Std. Roller Leaf	9 oz. max.	11/32" max.	Not over 1/16"	225.00 C.	230.00 C.
HD3-Y1	HD3-Y2	Rigid Hinge Lever	2 1/2 oz. max.	5/8" max.	.078" min.	205.00 C.	210.00 C.
HD3-X1	HD3-X2	Std. Roller Lever	2 1/2 oz. max.	15/32" max.	1/16" min.	260.00 C.	265.00 C.
HD3-W1	HD3-W2	Short Roller Lever	6 oz. max.	1/4" max.	1/32" min.	260.00 C.	265.00 C.
HD3-V1	HD3-V2	Short Overtravel Button	14 to 22 oz.	.050" max.	.093" min.	195.00 C.	200.00 C.
HD3-U1	HD3-U2	Panel Mounted Plunger	14 to 22 oz.	.050" max.	.219" min.	355.00 C.	360.00 C.

\*1 Switches are mounted by two .140 inch diameter holes on one inch centers. Discount: 1-9, none; 10-19, 10%; 20-49, 20%; 50 & over, 30%.

#### HARDWARE

for 1 1/2" diameter sleeves.



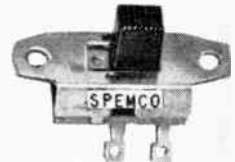
No.	Description	Price
1132-HL	Hi-Lo Plate	.042 ea.
1132	On and Off Plate	.042 ea.
1132-H	Hex Nut	.03 ea.
1132-K	Knurled Nut	.03 ea.
1210	Lockwasher	2.55C
1211	Locking Ring	4.20C

#### PHENOLIC SNAP-ON BUTTON

No.	Color	Net Price
1212-B	Black	.27 ea.
1212-R	Red	.27 ea.
1212-W	White	.27 ea.

All aforementioned switches, connectors and receptacles are manufactured by H&H for Specialties Manufacturing Company.

#### SLIDE SWITCHES



Housings are made of steel and are cadmium plated 1 1/2" long, 35/64" wide and 1/8" mounting centers.

No.	Description	Net Price
1180	SPST 3A-AC .5A-OC 125V	.156 ea.
1181	SPDT .75A AC-OC 125V	.168 ea.
1182	DPST .5A AC-DC 125V	.216 ea.
1183	DPDT 3A-AC .5A-DC 125V	.258 ea.

All aforementioned switches, connectors and receptacles are manufactured by H&H for Specialties Manufacturing Company.

## SPECIALTIES MANUFACTURING CO.

# American Beauty

# SOLDERING IRONS AND SOLDERING ACCESSORIES

Specify voltage, wattage and other options on each order. If your plug needs differ from standard — plug cap on 2-wire cords, NEMA-type plugs on 3-wire cords — specify plug manufacturer's name and catalog number.

## LITTLE DANDY



The economy-priced miniature iron that stands up to production line conditions. Steel cored heating element with non-ceramic insulator. Molded handle, aerated finger grip (impervious to oil, perspiration). Balanced, non-roll design. Plug type tips.

Cat. No.	Wattage Std.	Wattage Spec.	Tip Dia.	Shpg. Wt.	Net
3108	20	25/30	1/8"	1/2 lb.	\$4.45
3110	25	30/35	3/16"	1/2 lb.	4.45
3112	40	50/60	1/4"	1/2 lb.	5.95

**NOTES:** Three wattage options each model (3108: 20, 25, 30. 3110: 25, 30, 35. 3112: 40, 50, 60.) For 3-wire cord with NEMA plug, add "S3" to catalog number and \$0.70 to price.

## BANTAMS



Small irons of traditional American Beauty quality in various inputs and tip diameters.

Cat. No.	Wattage	Tip Dia.	Shpg. Wt.	Net
3114	60	1/4"	1 lb.	\$7.45
3118	30	1/8"	3/4 lb.	5.95
3118-X	50	1/8"	3/4 lb.	6.70
3118-XP	50	1/8"	3/4 lb.	6.70
3118-SC	30	1/8"	3/4 lb.	5.95
3118-SCP	30	1/8"	3/4 lb.	5.95
3120	30	3/16"	3/4 lb.	5.95
3120-X	50	3/16"	3/4 lb.	6.70
3120-XP	50	3/16"	3/4 lb.	6.70
3120-SC	30	3/16"	3/4 lb.	5.95
3120-SCP	30	3/16"	3/4 lb.	5.95

**NOTES:** In above catalog numbers, "X" means "extra heat for continuous duty only"; "SC" means "short casing"; "P" means "pencil type handle". For 3-wire cord with NEMA plug, add "S3" to catalog number and \$1.40 to price.

## B-SERIES IRONS



Best miniature at any price. Advanced design. Precise balance, floating element for fast heat recovery. Boxed with 3 assorted tips.

Cat. No.	Wattage	Tip Point Diameter	Shpg. Wt.	Net
B-2000L	22.5	*	1/2 lb.	\$9.30
B-2000P	22.5	1/8"	1/2 lb.	9.30

Cat. No.	Wattage	Tip Point Diameter	Shpg. Wt.	Net
B-2000PM	22.5	1/16"	1/2 lb.	\$9.30
B-2000C	22.5	1/16"	1/2 lb.	9.30
B-2000B	22.5	1/8"	1/2 lb.	9.30
B-2500-L	30	*	1/2 lb.	9.30
B-2500-C	30	3/16" Csl.	1/2 lb.	9.30
B-2500-D	30	3/16" Cone	1/2 lb.	9.30
B-2500-B	30	1/32" Cone	1/2 lb.	9.30
B-2500-PM	30	3/32" Csl.	1/2 lb.	9.30

**NOTES:** \*1 each 1/8" chisel, 1/16" chisel, 1/8" cone. For 3-wire cord with NEMA plug, add "S3" to catalog number and \$0.70 to price.

## STANDARD IRONS



Production lines around the world use hundreds of thousands of these proven American Beauties.

Cat. No.	Wattage Std.	Wattage Spec.	Tip Dia.	Shpg. Wt.	Net
3125	60	75	1/4"	1 lb.	\$7.45
3128	60	75	1/4"	1 lb.	6.70
3138	100	130/150	3/8"	2 lbs.	9.65
3138-X	175	—	3/8"	2 lbs.	10.80
3138-Y	100	130/150	1/4"	2 lbs.	9.65
3138-XY	175	—	1/4"	2 lbs.	10.80
3158	200	—	5/8"	3 lbs.	11.90
3158-X	250	300	5/8"	3 lbs.	13.05
3178	300	—	7/8"	4 lbs.	15.65
3178-X	300	400	7/8"	4 lbs.	16.75
3198	550	675	1 1/8"	5 1/4 lbs.	19.35

**NOTES:** "X" in catalog number means "extra hot, for continuous duty only." For 3-wire cord with NEMA plug, add "S3" to catalog number and \$1.40 to price.

## ANGLE TYPE IRONS

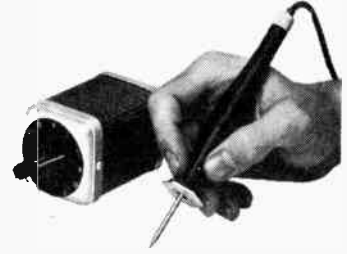


Same quality as American Beauty Standard Irons but angled for soldering hard-to-reach connections.

Cat. No.	Wattage Std.	Wattage Spec.	Tip Dia.	Shpg. Wt.	Net
3118-A	30	40	1/8"	3/4 lb.	\$6.70
3118-XA	50	40	1/8"	3/4 lb.	7.45
3120-A	30	40	3/16"	3/4 lb.	6.70
3120-XA	50	40	3/16"	3/4 lb.	7.45
3125-A	60	75	1/4"	1 lb.	8.15
3128-A	60	75	1/4"	1 lb.	7.45
3138-A	100	130/150	3/8"	1 1/4 lb.	10.45

**NOTES:** "X" in catalog number means "extra hot, for continuous duty only." For 3-wire cord with NEMA plug, add "S3" to catalog number and \$1.40 to price.

## TRANSFORMER TYPE IRONS



Use these American Beauties where isolation from line voltage is necessary. Heating elements in tips for quick tip heat changes. T-6 has variable heat dial. T-12 and T-30, non-variable.

Cat. No.	Wattage Std.	Wattage Spec.	Tip Dia.	Shpg. Wt.	Net
T-6	—	Variable	3/4"	1 1/2 lbs.	\$17.00
T-12E/W T-1216	17	20	1/16"	1 1/2 lbs.	14.90
T-12E/W T-1218	17	20	1/8"	1 1/2 lbs.	14.90
T-12E/W T-1225	17	20	1/4"	1 1/2 lbs.	14.90
T-12E/W T-1232	12	—	3/32"	1 1/2 lbs.	14.90
T-30E/W T-3016	30	25	1/16"	2 lbs.	16.40
T-30E/W T-3018	30	25	1/8"	2 lbs.	16.40
T-30E/W T-3025	30	25	1/4"	2 lbs.	16.40
T-30E/W T-3032	12	—	3/32"	2 lbs.	16.40

## V-3000 SYSTEM



New type system dependably dials and maintains any tip temperature from 350° to 750°. High reserve for fast recovery. Iron is 40-watt, uses any 3/16" plug type tip.

Cat. No.	Wattage	Shpg. Wt.	Net
V-3000	Variable	5 lbs.	\$49.00

## TEMPERATURE REGULATING STANDS



Maintain soldering iron at preset temperature during idle and intermittent use. Minimizes warmup, prevents over-



# American Beauty

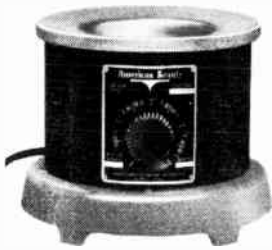
## SOLDERING IRONS AND SOLDERING ACCESSORIES

heating, saves current. Pilot light. Adjustable to length of iron.

Cat. No.	Use	Shpg. Wt.	Net
475	For 100W-600W irons	3¼ lbs.	\$9.70
476	For 30W-85W irons	3¼ lbs.	9.70

**NOTES:** For perforated guard (as shown) add "SG" to catalog number and \$1.40 to price. Standard cord is HPD; if you want either 2-wire or 3-wire SJO cord specify on order.

### GENERAL PURPOSE SOLDER POTS



Crucibles of cast iron, chemically stable to keep solder pure. Center tappod for dross skimmer or extra fixturing. Wide lipped for extra fixture mounting. Shallow; 1½" deep. Heat solder to 400° in 15 minutes — 750° in 25 minutes. Adjustable, direct reading thermostat.

Cat. No.	Solder Capacity	Shpg. Wt.	Net
300	1 lb.	6½ lbs.	\$28.40
301	(Same as NO. 300, with dross skimmer)	6½ lbs.	31.20
600	2½ lbs.	9 lbs.	29.80
601	(Same as NO. 600, with dross skimmer)	9 lbs.	32.65

**NOTES:** Standard cords are 2-wire SJO; for 3-wire cord, add "S3" to catalog number and \$1.40 to price.

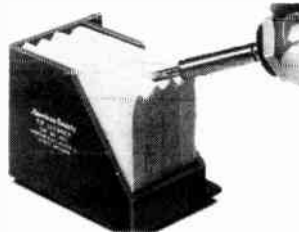
### INFINITELY VARIABLE POWER CONTROL UNIT



Dials and accurately controls soldering iron tip heat. (Also reliably controls small motor speeds.) Wattage: zero to 125W; infinitely variable, stepless. Fused. Pilot lighted.

Cat. No.	Shpg. Wt.	Net
477	3¾ lbs.	\$16.80

### ONE-PASS TIP CLEANERS



Cleans all sides of tip in one motion. Eliminates tip damage, linting, stray solder pellets. Rubberized base, bored for mounting.

Cat. No.	Descrip.	Shpg. Wt.	Net
480	Complete set	½ lb.	\$2.10
480-S	Sponges only (ea.)	3 oz.	.15

### SAFETY SOLDERING IRON STAND



Gravity controlled. Opens, closes automatically. Operator doesn't look up from work. Accommodates all miniature irons.

Cat. No.	Descrip.	Shpg. Wt.	Net
575	Soldering Stand	1 lb.	\$2.80

### PARAGON QUALITY SOLDERING TIPS

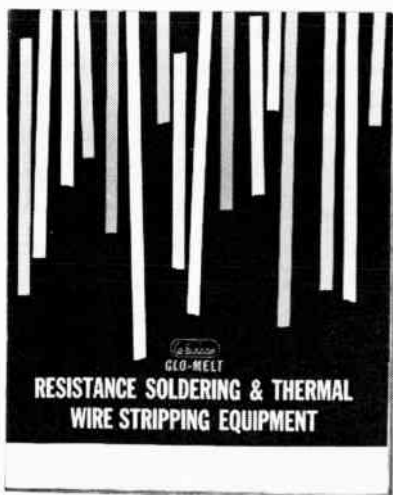


Iron clad tips. Outlast unclad tips many times. Pretinned; point retins self as it works. Clad shank does away with pitting, scaling. Overall chromecoat and minute tapering make tip drip-proof, freeze-free.

**ORDERING:** Use American Beauty Catalog No. TC-2. Or order tips by carefully specifying shank diameter, overall length, and style of point (diamond, chisel, screwdriver, cone).

PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

## RESISTANCE-TYPE SOLDERING & THERMAL WIRE STRIPPING EQUIPMENT



Complete, single source for newest equipment from simplest to most sophisticated

### RESISTANCE-TYPE SOLDERING

Power units, control consoles, handpieces, accessories . . . Basic building blocks for your automated soldering systems

### THERMAL WIRE STRIPPING

Combinations of power and control units, handpieces and accessories for fast, nick free stripping of thermoplastics and other heat strippable insulations

NEW CATALOGS AND PRICING NOW READY

Ask for "American Electrical Heater Company publication Nos. 25PSW & 37WCP"

AMERICAN ELECTRICAL HEATER COMPANY



# BEAUCHAINE

**BEAU  
TECH<sup>®</sup>  
TOOLS**

SEE SECTION 2100  
FOR BEAUPUGS

## BEAU-TECH<sup>®</sup> SOLDERING AIDS

The hallmark of quality shows in each detail. Examine the straight or angled tips for the hard-to-reach areas... you'll find they're twist-proof, hard-chrome plated to shed solder. More, both ends are insulated from one another. The practical fork-ends are a "must" for twisting or holding wires. And when you want to scrape joints, connections or ream out lug holes, just flip your Beau-Tech soldering aid to the spade end. Non-slipping, non-rolling "hex" handles. Available in standard, miniature and single ended models.

### STANDARD

BEAU-TECH SOLDERING AID SH20A

Fig. A, Beau-Tech SH-20A Straight Reamer & Forked Tips.  
Federal stock no. cross reference: FSN-5120-629-2697.  
FSN-3439-330-5075. USAF-3439-608-2392 ..... Net 98¢

BEAU-TECH SOLDERING AID SH20B

Fig. B, Beau-Tech SH-20B Angled Reamer & Forked Tips.  
FSN-3439-633-6232, USAF-3439-019-9882 ..... Net 98¢  
Fig. , Beau-Tech SH-20-A-SE Straight Tip ..... Net 87¢  
Fig. , Beau-Tech SH-20-B-SE Angled Tip ..... Net 87¢  
Fig. , Beau-Tech SH-20-F-SE Forked Tip ..... Net 87¢

BEAU-TECH SOLDERING AID SH20K

Fig. C, Beau-Tech SH-20K Brush & Scraper Tips.  
FSN-5120-767-9126 ..... Net 98¢  
Fig. , Beau-Tech SH-20KF Brush & Forked Tip ..... Net 98¢

### PRINTED CIRCUIT

BEAU-TECH SOLDERING AID SH20C

Fig. D, Beau-Tech SH-20C Printed Circuit Type.  
Straight Reamer & Forked Tip USAF-3439-562-7066 ..... Net 85¢

BEAU-TECH SOLDERING AID SH20D

Fig. E, Beau-Tech SH-20D Printed Circuit Type.  
Angled Reamer & Forked Tips USAF-3439-562-7067 ..... Net 85¢

BEAU-TECH SOLDERING AID SH20E

Fig. F, Beau-Tech SH-20E Printed Circuit Type.  
Reamer & Scraoer Tios USAF-3439-562-7068 ..... Net 85¢

BEAU-TECH SOLDERING AID SH20G

Fig. G, Beau-Tech SH-20G Printed Circuit Type.  
Brush & Scraper Tip ..... Net 92¢  
Fig. , Beau-Tech SH-20-GF Printed Circuit Type.  
Brush & Forked Tip ..... Net 92¢

Fig. H



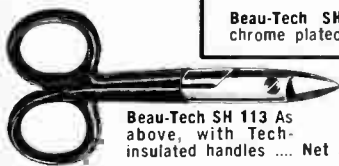
Soldering Aid Kit includes:

Fig. H, BeauTech SH-120  
SH-20E, SH-20D, SH-20C,  
SH-20K, SH-20B, SH-20A ..... Net 5.35

## SCISSORS



Beau-Tech SH-112 Filament Scissors,  
chrome plated over surgical steel ..... Net 2.75



Beau-Tech SH 113 As  
above, with Tech-  
insulated handles .... Net 3.50

Beau-Tech SH-114 Fine Filament Scis-  
sors, stainless steel, with serrated  
edges ..... Net 2.75

## BEAU-TECH<sup>®</sup> SOLDERING AID KIT

### MINIATURE

Beau-Tech SH-121, consists of 4 popu-  
lar, BEAU-TECH miniature soldering  
aids, each approx. 5½" long, with  
flexible case. Working tips of tool  
steel, heat-treated in Swedish man-  
ner, hand-ground, machined and  
polished before chrome plating. Stain-  
less brushes. Varnished New Hamp-  
shire hardwood handles. Kit in-  
cludes: SH-20-C Soldering Aid straight  
tip and forked tip, SH-20-D Soldering  
Aid angled tip and forked tip, SH-  
20-G Soldering Aid brush and scraper  
tip, SH-20-GF Soldering Aid brush and  
forked tip.



SH-121 Kit ..... Net 4.35

## BEAU-TECH<sup>®</sup>

## SPUDGERS

BEAU-TECH SPUDGER SH-80

Fig. K, Beau-Tech SH-80 Spudger. Widely used by telephone and  
electronics technicians for checking circuitry, wiring, and as a  
soldering aid. WE 709, 733; KS-1102 ..... Net 55¢

Fig. L, Beau-Tech SH-81 Spudger. Same as SH-80, meets MIL-specs  
and Federal Stock Number requirements. Both are made of red  
vulcanized fibre. FSN-5120-408-1764, FSN-5120-293-3112, ORD Dwg.  
A-7578690 ..... Net 55¢

BEAU-TECH SPUDGER SH-81

## BEAU-TECH<sup>®</sup>

## PROBERS

Fig. M

Fig. M, Beau-Tech SH-116 Prober #6, stainless steel, vinyl hang-up  
pouch ..... Net 98¢

Fig. N

Fig. N, Beau-Tech SH-117 Prober #17, stainless steel, vinyl hang-up  
pouch ..... Net 98¢

Fig. O

Fig. O, Beau-Tech SH-123 Prober #23, stainless steel, vinyl hang-up  
pouch ..... Net 98¢

Fig. P

Fig. P, Beau-Tech SH-141 Prober #1, stainless steel, vinyl hang-up  
pouch ..... Net 98¢

## BEAU-TECH<sup>®</sup>

## INSPECTION MIRRORS

### INSULATING HARWOOD HANDLES



Fig. Q

Fig. Q, Beau-Tech SH-131 Inspection Mirror, ¾", 3x magnification ..... Net 85¢

Fig. Q, Beau-Tech SH-132 Inspection Mirror, 1", 3x magnification ..... Net 85¢

Fig. Q, Beau-Tech SH-133 Inspection Mirror, ¾" plain ..... Net 85¢

Fig. Q, Beau-Tech SH-134 Inspection Mirror, 1" plain ..... Net 85¢

# BEAUCHAINE

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CORP.

SEE SECTION 2100  
FOR BEAUPUGS

**BEAU  
TECH®  
TOOLS**

**BEAUCHAINE**

BEAU-TECH®

**MICRO-MINIATURE TWEEZERS**

These tools have been specifically designed and precision-shaped for ease of handling micro-miniature parts in electronic instrumentation and related fields — where extremely sharp, strong points and delicate tension are required

Fig. A, Beau-Tech SM-380 General use, strong blades, fine points, stainless steel, non-magnetic, 4½" Net 3.50

Fig. B, Beau-Tech SM-382 General use, tapered, fine points, stainless steel, non-magnetic, 4½" Net 3.85

Fig. C, Beau-Tech SM-383 Assembly work, very fine points, stainless steel, non-magnetic, 4½" Net 3.75

Fig. D, Beau-Tech SM-384 Extra-fine work, blades taper sharply from body, stainless steel, superfine points, non-magnetic, 4½" Net 4.75

Fig. E, Beau-Tech SM-385 Assembly work, superfine points, stainless steel, non-magnetic, 4½" Net 5.00

Fig. F, Beau-Tech SM-394 Extra-fine work, blades taper sharply from body, bent points, stainless steel, non-magnetic, 4½" Net 5.00

**STANDARD TWEEZERS**

Fig. G, Beau-Tech SM-24A 7" Probing Tweezer, Plastic Net 50¢

Fig. I, Beau-Tech SM-100 Filament Holder, stainless steel. Includes vinyl hang-up pouch Net 2.00

Fig. J, Beau-Tech SM-101 Angular Filament Holder, stainless steel. Includes vinyl hang-up pouch. Redstone Arsenal Stock No. 025-29075-5 Net 2.00

Fig. K, Beau-Tech SM-102 Utility Tweezer No. 1, plated. Includes vinyl hang-up pouch Net 79¢

Fig. M, Beau-Tech SM-104 Fine Filament Holder, stainless steel. Includes vinyl hang-up pouch. Redstone Arsenal Stock No. 025-29075-5 Net 2.00

Fig. N, Beau-Tech SM-105 Lock-type Filament Holder, stainless steel Net 3.25

Fig. O, Beau-Tech SM-106 Heavy Gripper, stainless steel. Includes vinyl hang-up pouch Net 2.25

Fig. P, Beau-Tech SH-111 Filament Holder, stainless steel, tec-insulated handle. Includes vinyl hang-up pouch Net 2.25



BEAU-TECH®

**VACUUM SYSTEM**



**VACUUM HANDLING OF MINIATURE PARTS**

System normally supplied with Tip No. 11  
12, 20, 22, and 24 however, you may specify the exact tips which you require.

Tip No.	I D	O D	Style	Material of Hub	Material of Needle	All Purpose	List	Over 20 Lock No.
SH-50-11	.03	.10	E			X	.95	.85
SH-50-12	.06	.12	E			X	.95	.85
SH-50-13	.12	.18	L			X	.95	.85
SH-50-14	.03	.10	F			X	1.90	1.71
SH-50-15	.06	.12	F			X	1.90	1.71
SH-50-16	.12	.18	F			X	1.90	1.71
SH-50-17	.25	.31	F			X	1.90	1.71
SH-50-20	.007	.016	A	Material	X		1.25	1.13
SH-50-21	.010	.020	A	Material	X		1.25	1.13
SH-50-22	.013	.025	A	Material	X		1.25	1.13
SH-50-23	.016	.028	A	Material	X		1.25	1.13
SH-50-24	.020	.032	A	Material	X		1.25	1.13
SH-50-25	.025	.036	A	Material	X		1.25	1.13
SH-50-26	.033	.050	A	Material	X		1.25	1.13
SH-50-27	.035	.051	A	Material	X		1.60	1.44
SH-50-28	.045	.064	A	Material	X		1.60	1.44
SH-50-29	.052	.071	A	Material	X		1.60	1.44
SH-50-30	.070	.093	A	Material	X		1.60	1.44

Beau-Tech SH-50, consists of a small electric vacuum generator producing up to 14" Hg vacuum, an inline filter which protects the generator from foreign matter, an SH-52 Cylindrical Probe and five Probe tips from the selection listed at left, and a 4" length of vacuum tubing. The operation of the SH-50 Vacuum System is simplicity itself—plug in the generator line cord, turn on the switch and you're in business. Objects are picked up by holding the index finger over the hole in the handle, raising the finger to release. Net 36.95 ea., 10 or more 33.25 ea.

SH-52  
CYLINDRICAL  
PROBE  
(Handpiece)  
Net 6.25

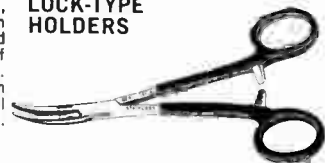
**COMPONENT LEAD  
CLEANERS**



Beau-Tech SM-66, NASA Quality Publication NPC-200-4 specifies component leads must have all oxides removed before being soldered in place. Beau-Tech SM-66 is a unique and inexpensive hand tool (Stainless Steel) and complies completely with these specs. Net \$1.50 ea., 10 or more 1.35 ea.

Beau-Tech SH-90-C and SH-90-S, Stainless Steel tools have 2-position snap-locks. Excellent clamp and heat sink for the soldering of diodes, transistors, components. Handy as a "third hand". With TEC-COATED handles, and vinyl hang-up pouch. Length, approx. 5½"

**LOCK-TYPE  
HOLDERS**



SH-90-C (Curved Jaws) Net 4.80 ea., 10 or more 4.32 ea.  
SH-90-S (Straight Jaws) Net 4.80 ea., 10 or more 4.32 ea.

**MICRO-MINIATURE TWEEZERS**

"Made in Switzerland"

STAINLESS STEEL

"DUMONT STYLE"

Fig. R, Beau-Tech SH-301 Tweezers #1 Net 3.00  
10 & up 2.70

Fig. S, Beau-Tech SH-303C Tweezers #3C Net 3.20  
10 & up 2.88

Fig. T, Beau-Tech SH-305 Tweezers #5 Net 4.00  
10 & up 3.60

Fig. U, Beau-Tech SH-307 Tweezers #7, Fine Points Net 4.30  
10 & up 3.87

**BEAUCHAINE**

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VERNITRON  
CORP.



**DESIGN** IN-DUSTRONIC tools are more streamlined, with slender jaws and fine points, to reach into the tight spots and perform the specific work required of the electronics technician.

**TEST AND INSPECTION** Individually tested for hardness, each tool must maintain highest standards for handle strength and cutting ability. To assure perfect jaw alignment, pliers must cleanly cut single bond paper strips and snip cotton-covered lamp cord without fraying. Each tool is guaranteed against defects in workmanship and materials.

**WORKMANSHIP** IN-DUSTRONIC tools are hot drop-forged from special analysis alloy steel, machined and finished with the same care and precision which have made world-famous BOKER TREE BRAND Fine Cutlery and surgical instruments for over a century. Individually fitted and adjusted, each is accurately heat-treated by HYDRIZING, which minimizes "carburation" and "decarb". Cutting blades are precision-hardened with electronic controls, and honed by hand for keen edges that retain their sharpness. **Individually Boxed** — Six is minimum quantity.

**BOKER MANUFACTURING COMPANY**  
SUBSIDIARY OF THE NEW BRITAIN MACHINE CO.

**PLIERS**

Spring In Handles

Bauer type coil spring keeps pliers in open position, ready-to-work. Specify "S" as a Suffix to tool number.



**STOCK NUMBER CODE IDENTIFICATION ON PLIERS**

First Digit in Stock Number

- 5 Polished Head. Gunmetal Handles.
- 6 Fully Nickel and Chrome Plated.
- 7 Nickel and Chrome Plated Head. Cushion Grip Handles.
- 9 Polished Head. Cushion Grip Handles.

**JEWELER'S PRECISION PLIERS**

**DIAGONAL CUTTING PLIERS**

**END CUTTING NIPPERS**

**NEEDLE NOSE PLIERS**  
Smooth Jaws\*

**FLAT NOSE PLIERS**  
Smooth Jaws\*

**ROUND NOSE PLIERS**  
Smooth Jaws\*



- 681-4 1/2"
- 781-4 1/2"
- 981-4 1/2"
- A981-4 1/2"
- Tapered Jaws. Flush Cutting. (Not Illus.)
- XA981-4 1/2"
- Thin Head. Flush Cutting. Pointed Jaws. (Not Illus.)
- XC981-4 1/2"
- Regular Jaws. Flush Cutting. Thin Head. (Not Illus.)

- 682-4 1/2"
- 782-4 1/2"
- 982-4 1/2"

- 683-4 1/2"
- 783-4 1/2"
- 983-4 1/2"

- 684-4 1/2"
- 784-4 1/2"
- 984-4 1/2"

- 685-4 1/2"
- 785-4 1/2"
- 985-4 1/2"

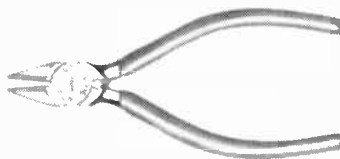
\*If milled jaws are desired suffix stock number with letter M.

**DIAGONAL CUTTING PLIERS**



- 71-4 1/2"
- 71-5"
- 71-5 1/2"
- 71-6"
- 71-7 1/2"
- 91-4 1/2"
- 91-5"
- 91-5 1/2"
- 91-6"
- 91-7 1/2"

**NEEDLE POINT DIAGONAL CUTTING PLIERS**  
Flush Cutting — Spring in Handles



- 713-5 1/2"
- 913-5 1/2"

**JEWELERS' PLIERS SETS**

Crystal Case, 5" x 7", lined to nest 4 1/2" Pliers.  
**CONTENTS** — C63 - One ea. 681, 683, 684; C64 - One ea. 681, 683, 684, 6517; C65 - One ea. 681, 682, 683, 684, 685; C73 - One ea. 781, 783, 784; C93 - One ea. 981, 983, 984; C95 - One ea. 981, 982, 983, 984, 985.

**HEAVY DUTY DIAGONAL CUTTING PLIERS**



- 791-7"
- 991-7"

**THIN, NARROW, POINTED DIAGONAL CUTTING PLIERS**  
Relief Ground Jaws



- RA71-5 1/2"
- RA91-5 1/2"

**ELECTRONIC DIAGONAL END CUTTING NIPPERS**



- XA782-4 1/2"
- XA982-4 1/2"

**TRANSVERSE END CUTTING PLIERS**  
Spring in Handles



- 732-6"
- 932-6"

**RADIO AND TV NOSE CUTTING PLIERS**



- 739-4 1/2"
- 739-6"
- 939-4 1/2"
- 939-6"

**WIRE-STRIPPING CUTTERS**  
"W" Notches, Skinning Hole, Insulation Crusher



- 717-5 1/2"
- 917-5 1/2"

**END CUTTERS AND LEAD-IN STRIPPERS**



- 702-6"
- 902-6"

**SIDE TIP NOSE CUTTING PLIERS**  
Spring in Handles



- S739-4 1/2"
- S739-6"
- S939-4 1/2"
- S939-6"

**ADJUSTABLE WRENCHES**

Thin Pattern



<b>Nickel &amp; Chrome Plated</b>	<b>Gunmetal Finish</b>
6W-4"	5W-4"
6W-6"	5W-6"
6W-8"	5W-8"
6W-10"	5W-10"
6W-12"	5W-12"
6W-15"	5W-15"
6W-18"	5W-18"

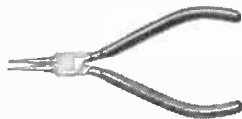
Nickel & Chrome Plated. Cushion Grip Handles

P6W-4"	P6W-10"
P6W-6"	P6W-12"
P6W-8"	P6W-15"

With Locking Device (Not Illus.)

<b>Nickel &amp; Chrome Plated</b>	<b>Nickel &amp; Chrome Plated</b>
<b>L6W-6"</b>	<b>Cushion Grip Handles</b>
L6W-8"	PL6W-6"
L6W-10"	PL6W-8"
L6W-12"	PL6W-10"
L6W-15"	PL6W-12"

**SHORT JAW,  
EXTRA FINE NEEDLE NOSE PLIERS**



703-4 1/2" Milled Jaws    903-4 1/2" Smooth Jaws

**EXTRA FINE NEEDLE NOSE PLIERS**



703-6"    903-6"

**CURVED EXTRA FINE NEEDLE NOSE PLIERS**  
Milled Jaws



708-6"    908-6"

**LONG NEEDLE NOSE PLIERS**  
Milled Jaws



733-6"    933-6"

**CURVED NEEDLE NOSE PLIERS**  
Milled Jaws



738-6"    938-6"

**"GROOVED-GRIP" PLIERS**

Milled Jaws



<b>NICKEL AND CHROME PLATED</b>	<b>NICKEL &amp; CHROME PLATED</b>
	—Cushion Grip Handles
6507-6 1/2" 5 adjustments	P6507-6 1/2" 5 adjustments
6507-8" 5 adjustments	P6507-8" 5 adjustments
6507-10" 5 adjustments	P6507-10" 5 adjustments
	P5507-14" 7 adjustments
	P6517-5" 4 adjustments

**ELECTRICIAN'S SIDE CUTTING PLIERS**



56-5"	96-5"
56-6"	96-6"
56-7 1/2"	96-7 1/2"
56-8"	96-8"
56-8 1/2"	96-8 1/2"

**SHORT CHAIN NEEDLE NOSE PLIERS**

Milled Jaws



73-5" With Side Cutters	730-5" Without Side Cutters
93-5" With Side Cutters	930-5" Without Side Cutters

**LONG CHAIN NEEDLE NOSE PLIERS**

Milled Jaws



73-6" With Side Cutters	730-6" Without Side Cutters
93-6" With Side Cutters	930-6" Without Side Cutters

**EXTRA LONG CHAIN NOSE PLIERS**

Milled Jaws



73-6" With Side Cutters	730-6" Without Side Cutters
93-6" With Side Cutters	930-6" Without Side Cutters

**COMBINATION SLIP JOINT PLIERS**

Milled Jaws



6041-6 1/2"
6041-8"
6041-10"

**THIN NOSE COMBINATION SLIP JOINT PLIERS**

Milled Jaws



6042-6 1/2"
6043-6 1/2" Bent Nose (Not Illus.)



**ELECTRICIAN'S SNIPS**



709-5" IDT

**ELECTRONIC SNIPS**



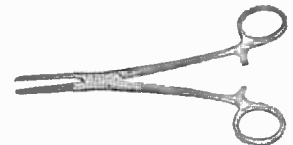
P4-7 1/8"



P4E-6 1/2"

**HOLDING FORCEPS**

Fully Polished



MF-5 1/2"
MF-6 1/4"
NFC-6 1/4" Curved (Not Illus.)

**ELECTRICIAN' UTILITY KNIFE**



9229-3 3/4"

**LEATHER TOOL HOLSTER**



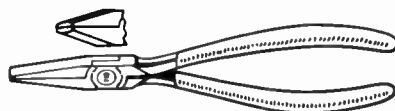
99 -5 pockets

# CHANNEL LOCK®

## Specially Designed ELECTRONICS PLIERS

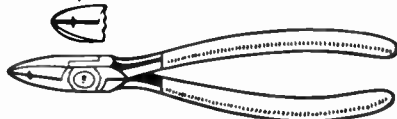
Four matched, long-reach pliers with precision matched jaws, hand honed cutting edges. Drop forged of special analysis steel, properly heat treated. Polished finish. Smooth, dipped plastic, blue grips.

No.	Size	Net
718G	8"	\$2.27
728G	7½"	2.80
738G	8"	2.27
748G	8"	2.53



### NO. 718G FLAT NOSE PLIERS

Precision-matched jaws give firm grip in hard-to-reach places.



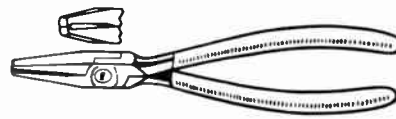
### NO. 728G DIAGONAL CUTTER

Patented wire-stripping notch that really works!



### NO. 738G ROUND NOSE PLIERS

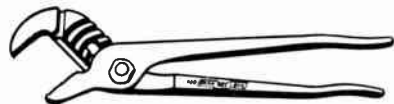
You can pick up a hair with these precision machined points.



### NO. 748G END CUTTER

Fine enough to cut a human hair, sturdy enough to cut 12 gauge copper wire.

### TONGUE AND GROOVE PLIERS



The original, genuine tongue and groove plier. Patented, non-slip undercut channels. Patented reinforcing rib for extra strength. Dipped plastic grips optional at slight extra cost.

No.	Size	Adjust	Capacity	Net
420	9½"	5	1½"	\$2.33
424	4½"	4	½"	1.73
426	6½"	5	¾"	1.73
430	10"	7	2"	2.53
440	12"	7	2¼"	2.60
460G	16"	8	4¼"	3.73

### WIREMASTER PLIER



Finest wire-cutting plier ever made. Joint rivet closer to cutting edge provides 40% more cutting power than standard design pliers. Special enclosed-joint construction holds cutter edges in perfect alignment for life of plier. Dipped plastic grips optional at slight extra cost.

No.	Size	Net
349	9"	\$4.53

### ELECTRICIAN'S WIRING PLIER



Triple-use wiring plier: Cuts, strips insulation, loops wire. Patented wire stripping notches strip insulation from 14 and 12 gauge copper wire quickly, cleanly. Dipped plastic grips optional at slight extra cost.

No.	Size	Net
337-W	7"	\$2.73

### LINEMEN'S PLIER—Bevel Nose



Polished steel finish. Knurled grips. Side cutter. Dipped plastic grips optional at slight extra cost.

No.	Size	Net
3046	6"	\$2.53
3047	7"	2.80
3048½	8½"	3.47

### LINEMEN'S PLIER—Rounded Nose



Polished steel finish. Knurled grips. Side cutter. Dipped plastic grips optional at slight extra cost.

No.	Size	Net
346	6"	\$2.53
347	7"	2.80
348½	8½"	3.47

### HEATSORB CLAMP



Specially designed "heat sink" that prevents heat damage to electronic components during soldering. Also a handy, self-gripping "third hand" that holds and retrieves small parts in close work.

No.	Size	Net
46	5"	\$1.00

### LONG NOSE PLIER



Point ½" round. Polish steel finish. Knurled grips. Dipped plastic grips optional at slight extra cost.

No.	Size	Side Cutter	Net
317½	7½"	With	\$2.87
3017½	7½"	Without	2.27
326	6"	With	2.53
3026	6"	Without	2.07

### DIAGONAL CUTTER—Box Joint



Precision honed cutting edges. Polished steel finish. Knurled grips. Dipped plastic grips optional at slight extra cost.

No.	Size	Net
435	5"	\$2.27
436	6"	2.53
437	7"	2.80

### SLIP JOINT PLIERS



Thin Nose. Polished steel. Wire cutting shear.

No.	Size	Net
516	6"	\$1.60

With Side Cutter. Polished steel. Precision tool with fine cutting edge.

No.	Size	Net
537	7"	\$2.80

Heavy Duty With Cutter. Finest quality. Polished steel.

No.	Size	Net
546	6"	\$1.80
548	8"	2.20
5410	10"	2.47

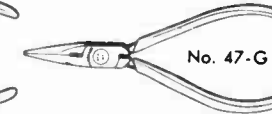
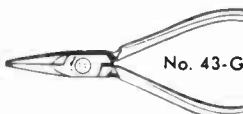
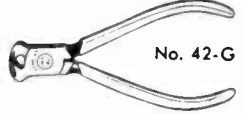
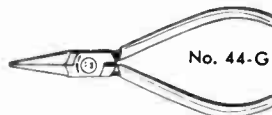
# CHANNEL LOCK®

## Little Champ

### PRECISION PLIERS

Finest quality, small precision pliers specially designed for electronic work. Drop forged from high grade steel, polished to jeweller's finish. Dipped blue plastic grip handles.

No.	Style	Length	Net
41G	Diagonal Cutter	4 1/4"	\$2.40
41GS	Diagonal Cutter, Coiled Spring	4 1/4"	2.60
42G	End Cutting Nipper	4"	2.53
43G	Needle Nose, No Side Cutter, Plain Nose	4 3/4"	2.13
43GS	Needle Nose, No Cutter, Plain Nose, Coiled Spring	4 3/4"	2.33
44G	Plain Nose	4 3/4"	2.20
45G	Round Nose	4 1/2"	2.27
47G	Needle Nose, Side Cutter, Nose Serrations	4 3/4"	2.60
47GS	Needle Nose, Side Cutter, Nose Serrations, Coiled Spring	4 3/4"	2.80
48G	Transverse End Cutter	4 3/4"	2.60
49G	Curved Needle Nose	4 1/2"	2.53



### SCREWDRIVERS AND NUTDRIVERS

Blades forged from tough chrome vanadium steel. Tips ground lengthwise for greater end strength and snug fit in screw slot. Opaque blue plastic (UL) handles are shockproof, breakproof and shaped for non-slip grip.

#### ROUND SHANK



No.	Blade Size, In.	Net	No.	Blade Size, In.	Net
181RD	1/4 x 1	\$ .27	31610RD	1/16 x 10	\$ .88
3164RD	3/16 x 4	.61	144RD	1/4 x 4	.77
3166RD	3/16 x 6	.67	146RD	1/4 x 6	.85
3168RD	3/16 x 8	.77	5166RD	3/16 x 6	.96

#### SQUARE SHANK



No.	Blade Size, In.	Net	No.	Blade Size, In.	Net
141SQ	1/4 x 1	\$ .44			
3164SQ	3/16 x 4	.64	5166SQ	3/16 x 6	\$1.01
144SQ	1/4 x 4	.80	5168SQ	3/16 x 8	1.12
146SQ	1/4 x 6	.88	388SQ	3/8 x 8	1.33
148SQ	1/4 x 8	.99	3812SQ	3/8 x 12	2.13

### PHILLIPS SCREWDRIVERS



No.	Blade Size, In.	Net
102-SP	1/4 x 1 1/16	\$ .69
101-P	3/16 x 3	.67
102-P	1/4 x 4	.83
103-P	3/16 x 6	1.12
104-P	3/8 x 8	1.41

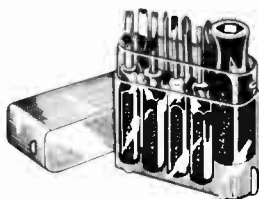
### NUTDRIVERS



Hex	Lgth.	Net	Hex	Lgth.	Net
3/16	3	\$ .69	1/32	3	\$ .69
1/32	3	.69	1/4	3	.69
1/4	3	.69	3/16	3 3/4	.88
3/32	3	.69	1/2	3 3/4	.88
1/16	3	.69			

### SCREWDRIVER KIT

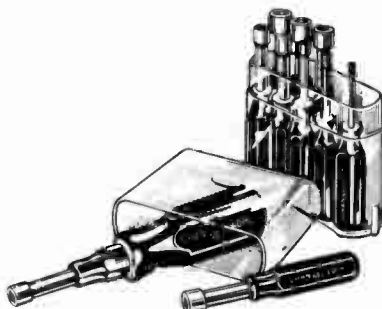
Pocket-size, handy bench sets, color coded. Special E-Z Grip handle included.



SD-5 Set Includes—  
5 Screwdrivers: 1/32", 1/16", 1/32", 3/16", 1/4"  
3 Phillips Head: No. 0, No. 1 and No. 2  
Net \$3.49

### NUTDRIVER KIT

Pocket-size, handy bench sets, color coded. Special E-Z Grip handle included.



ND-1 Set Includes—  
10 Nutdrivers: 1/32", 1/16", 1/32", 3/16", 1/32", 1/4", 1/32", 3/16", 1/2", 3/4"  
Net \$4.94

### ADJUSTABLE WRENCHES



Drop forged of special analysis steel. Chrome plated. Dipped plastic grips optional at slight extra cost.

No.	Size	Capacity	Net	No.	Size	Capacity	Net
804	4"	3/4"	\$1.97	810	10"	1 1/4"	\$2.89
806	6"	3/4"	2.00	812	12"	1 3/16"	4.20
808	8"	1 1/16"	2.27	815	15"	1 1/2"	6.33

### ELECTRICIAN'S KNIFE

2 1/2" precision-honed blade. 3" self-locking screwdriver. Unbreakable phenolic plastic handle.



No.	Closed Length	Net
11	3 3/4"	\$2.46

### SKINNING KNIFE

3" precision-honed blade. Self-locking. Unbreakable phenolic plastic handle.



No.	Closed Length	Net
10	4"	\$2.53

### TOOL HOLSTERS

Highest quality top grain leather. Stress points reinforced with rivets. Convenient knife or wrench snap.



No.	Size	Pkts.	Net
1	9 1/4" x 8 1/2"	5	\$3.53
2	9 1/4" x 10 1/2"	5	3.88

### SUPERIOR PLASTIC GRIPS

For maximum hand comfort, durable molded plastic grips. Blue color for good visibility, reduces plier loss. Easy to install. Order by desired grip size.

Plier Size	Grip Size	Net
6"	Small	\$ .43
7"	Medium	.47
8", 9 1/2", 10"	Large	.50



# CAIG LABORATORIES INC.

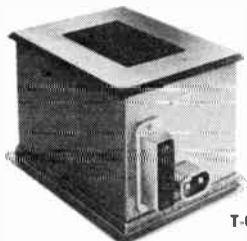
## SOLDER BATHS and GENERAL USE HEATING CONTROLS



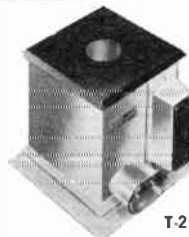
T-50



R-4A



T-6



T-2

### RECTANGULAR AND ROUND SOLDER BATHS

Catalog No.	Watts	Volts	Approx. Temperature		Internal Dimensions Approx. (Inches)			Contents Approx. (CC)	Heat Control	Weight Approx. (Lbs.)	Price
			(°C)	(°F)	Length	Width	Depth				
T-50	65	110	300	572	1.10	0.78	0.55	7	Full Heat	1.00	\$ 9.00
T-100	130	110	340	644	2.37	1.18	1.18	25	Full Heat	1.50	9.75
T-250A*	260	110	420	788	2.94	2.37	1.56	100	Full & Half	5.00	34.10
T-2*	240	110	600	1112	—	0.97 dia.	1.84	17	Full & Half	3.00	25.00
T-3*	350	110	430	806	3.94	1.18/0.59	2.14	120	Full & Half	5.50	29.00
T-4*	400	110	410	770	2.00	2.00	3.28	220	Full & Half	8.50	35.15
T-6*	1000	110	560	1040	4.69	3.13	2.39	570	Full & Half	11.25	55.15
T-9**	2800	230	650	1202	6.50	5.33	3.94	2080	3 Step Sw.	31.00	165.30
T-1212	2000	230	372	700	12.00	12.00	2.00	90 lbs.	Automatic	55.00	160.00
T-1218†	2800	230	372	700	18.00	12.00	2.00	135 lbs.	Automatic	70.00	195.00
T-1418†	3000	230	372	700	18.00	14.00	2.00	175 lbs.	Automatic	60.00	270.00
R-1.5A	200	110	288	550	—	1.50 dia.	1.50	1 lb.	Automatic	5.00	27.00
R-4A†	300	110	288	550	—	3.00 dia.	1.50	4 lbs.	Automatic	6.00	30.00
R-10A†	500	110	288	550	—	3.50 dia.	2.50	10 lbs.	Automatic	11.00	41.00
R-20A†	1100	110	372	700	—	5.00 dia.	4.00	20 lbs.	Automatic	33.00	85.00
R-40A	1500	230	372	700	—	6.00 dia.	6.00	40 lbs.	Automatic	40.00	97.00
R-80X	3000	230	538	1000	—	8.00 dia.	5.50	80 lbs.	Full Heat	45.00	140.00
R-80AXP	3000	230	538	1000	—	8.00 dia.	5.50	80 lbs.	Automatic	60.00	265.00
R-4X	800	110	538	1000	—	3.00 dia.	1.50	4 lbs.	Full Heat	6.00	34.00
R-4AX†	900	110	538	1000	—	3.00 dia.	1.50	4 lbs.	Automatic	9.00	63.00

NOTES: (\*) Can be Switched to Half Wattage Rating. (\*\*) With 3-Step Switch. (†) Non-Indicating Thermostat Bimetal Control. (‡) For Partlow Indicating Control add \$130.00 to Base Price. Otherwise non-indicating thermostat supplied, control knob.



#### MODEL 30 CONTROL TRANSFORMER

##### FOR ALL 6 VOLT SOLDERING IRONS

The R30, transformer model has a primary voltage regulator for 110, 125, 150, 220 and 240 volts. The secondary voltage is also variable within the range of 5 to 6.5 volts, thus making it possible to select a temperature range between 240 to 480°C. When not in use, a solder iron may rest on a special nozzle provided on the transformer. This protects against overheating. The R30, permits universal use of all the various 6 volt irons with their different capacities, up to 30 watts.

MODEL R30, rated 30 VA, 5.1#. Price...\$25.00

#### INPUT VOLTAGE REGULATOR

##### (SOLID STATE CONTROL)

Model RSCR-400, infinite, constant control of voltage, rated up to 400 watts @ 115 volts A.C. Control in-put voltage to any resistive load — such as soldering iron, solder pot, even control speed of small fractional HP-A.C.-D.C. motors. Amps. 3.5 max. Just plug-in load and set knob for any heat or speed requirement. Supplied with 3 wire rubber covered conductor wire, 5 feet, and standard grounding plug. Red Light Indicator. On-Off switch. Size 2 1/4 x 2 1/4 x 4. Weight approx. 1 lb. Price .....\$25.00



#### PYROMETERS INDICATING

Model IPL-500, low temperature, indicating pyrometer, range 0° to +650°F, scale 3 1/2", graduations: 50°F, Dimensions 7" H. x 6" W. x 6" L., 15 feet #20 ga. 1/C thermocouple & lead wire. Weight 4 lb. Price.....\$36.00  
Extra thermocouple. Price.....\$13.50

Model IPH-500, high temperature, indicating pyrometer, range 0° to +2000°F, scale 3 1/2", graduations: 200°F, Dimensions 7" H. x 6" W. x 6" L., #14 ga. C/A thermocouple 1/4" dia. x 12" long, protected ceramic beads, 3 feet lead wire. Weight 4 lb. Price.....\$38.50  
Extra thermocouple. Price.....\$13.50

#### INPUT VOLTAGE REGULATOR

##### (BI-METAL CONTROL)

Model R-1800, infinite control, bi-metal, proportion input voltage of any resistive load up to 15 amps, 115 volts. Just plug-in your load and set knob for any heat requirement. Behaves as a percentage timer. Supplied with 3 wire rubber covered lead wire 5 feet and standard grounding plug. On-Off switch. Red Light indicator. Size 4" x 4" x 4". Weight approx. 2 lbs. Price.....\$25.00



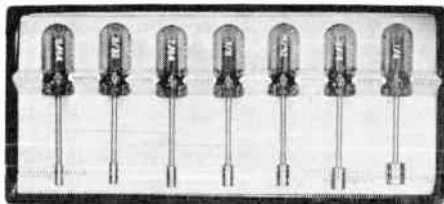




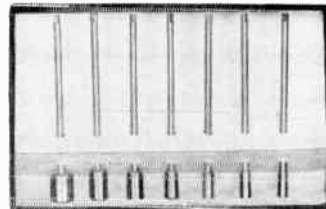
**PROPERLY PROPORTIONED MINIATURE TOOLS**

For precision instrument and model work use Desco "7" Miniature Nut Drivers. Available with Tenite handles, or for use with jewelers' screw driver handles. Also made with 5 1/2" long shanks for those hard-to-get-to places.

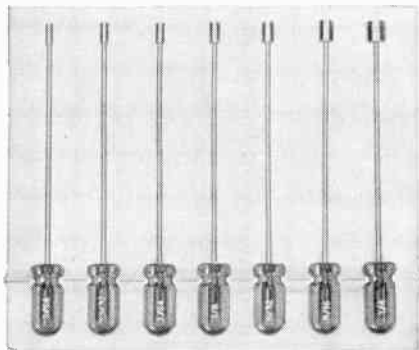
DESCO "7" Sizes across flats  
 5/64 3/32 7/64 1/8 5/32 3/16 1/4



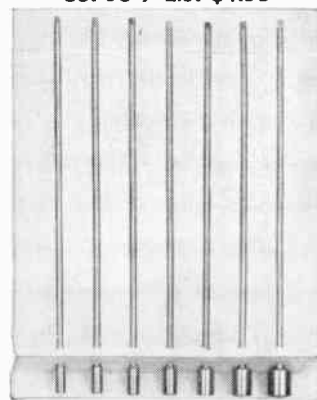
Set HS 7 List \$5.95



Set JS 7 List \$4.95



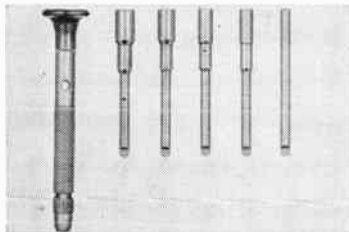
Set HL 7 List \$5.95



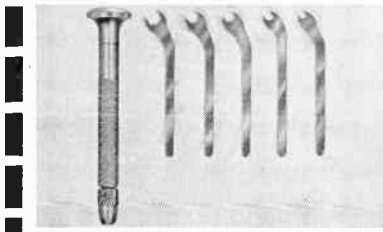
Set JL7 List \$4.95

**NON-MAGNETIC NUT DRIVERS available in HL7 and HS 7 series only. Specify "No-Mag" with the code number — same prices.**

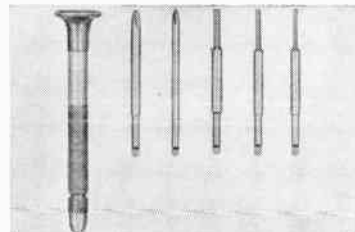
**INTRODUCING THE DESCO "5" Series of Miniature Tools**



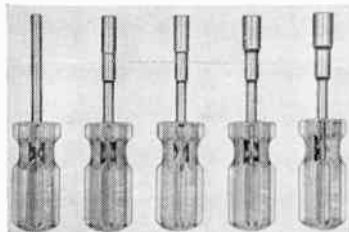
Set JD 5 List \$3.50



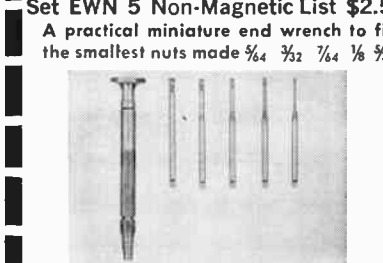
Set EW 5 Steel List \$2.50



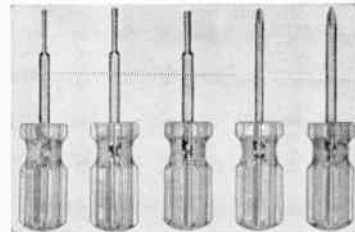
Set PA 5 List \$2.50



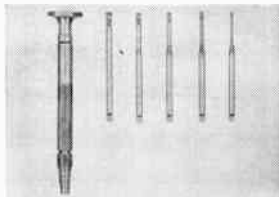
Set HD 5 List \$4.50  
 Deeper and more rugged than the "7" Series. Made only in 5/64, 3/32, 7/64, 1/8 and 5/32.



Set EWN 5 Non-Magnetic List \$2.50  
 A practical miniature end wrench to fit the smallest nuts made 5/64 3/32 7/64 1/8 5/32.



Set PAH 5 List \$3.50  
 Includes the two smallest Phillips drivers and the three smallest Allen wrenches.



Set SS 5 List \$1.98  
 Contains four screw driver blades and a fine scriber.

\* T. M.

All of the DESCO "5" and "7" Series are complete as shown.

**DESCO MFG. CO.**

**whatever electronic products  
you require...**



**...you'll find it  
faster in  
this catalog...**

**...the world's largest catalog  
of electronic  
products  
sold through  
distributors**





**SECTION 5400  
ENTERPRISE DEVELOPMENT CORPORATION**

**THE ORIGINAL VACUUM DESOLDERING/RESOLDERING IRON  
INDUSTRIAL PRICE SCHEDULE**

**DESOLDERING IRONS**

**MODEL 100-A**

117 VAC 75 W

	List	1-24	30-96	108-up
Model 100-A (with 2-wire cord)	24.95	18.75	16.65	14.95
Model 100-A-3 (with 3-wire cord)	27.95	20.95	18.75	16.75
Model 100-A-3TL (with 3-wire twist lock cord)	29.50	22.15	19.75	17.70

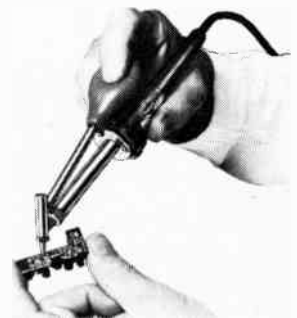
**MODEL 300**

117 VAC 40 W

	List	1-24	30-96	108-up
Model 300 (with 2-wire cord)	13.49	9.95	8.95	8.05
Model 300-3 (with 3-wire cord)	14.60	10.95	9.85	8.85



**MODEL 100-A**



**MODEL 300**

**9-Piece Desoldering Kit**

Kit Model 300K with Model 300 iron illustrated.

Military models available. Prices on request.

Kit Model 300MDK Stock No. FSN 3439-907-5806.

Kit Model 100A-MDK Stock No. FSN 3439-917-5632.

New Kit Model 100-AK with Model 100-A iron also available. Prices on request.



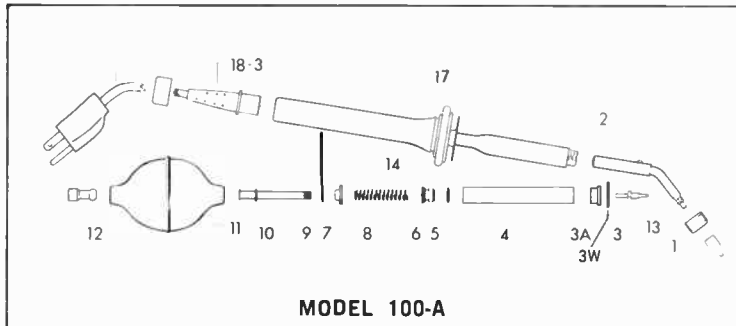
Here in one convenient lifetime package is all you need to handle almost any desoldering and resoldering job. For even though the Model 300 Endeco is only 8" long and weighs just 3½ ounces, it's a giant in performance. It removes miniature soldered components in seconds without damage . . . then resolders new connections even faster and better than regular soldering irons with its 360° "wrap-around" contact. One-hand operation . . . self-cleaning . . . 40 watts . . . 115 volts. Order from your distributor.

**KIT PRICES**

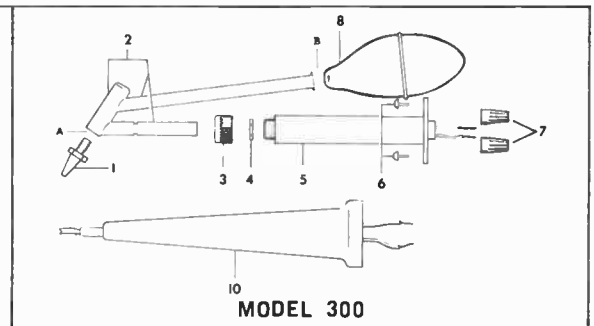
MODEL	LIST	1-11	12-49	50 Up
300K (w/2 wire cord)	\$23.64	\$17.75	\$15.75	\$14.18
300K-3 (3 wire cord)	26.04	19.55	17.35	15.63

(BOX, STAND AND CLEANING TOOL AVAILABLE SEPARATELY—WRITE FOR PRICES.)

**ONLY DESOLDERING IRON APPROVED FOR MILITARY USE**



**MODEL 100-A**



**MODEL 300**

**PARTS SCHEDULE**

**PART NOS. FOR MODEL 100-A**

Fig. No.	Part No.	Description	SUGGESTED PRICES	
			List Price	Industrial Cost
1	1-A	Replaceable Desoldering Tip	2.70/3PK	1.95/3PK
1	1-B	Replaceable Desoldering Tip	2.70/3PK	1.95/3PK
1	1-C	Replaceable Desoldering Tip	3.00/3PK	2.25/3PK
1	1-D	Replaceable Desoldering Tip	3.00/3PK	2.25/3PK
2	2A	Tip Body	2.50	1.90
3	3S	Front Connecting Tube	.60	.45
3A	3-B	Front Air Seal	.60	.45
3W	3W	Heat Baffle	.15	.10
4	4-A	Solder Collection Tube	1.20	.90
5	5-A	"O" Ring	.20	.15
6	6-A	Rear Air Seal	.90	.65
7	7-A	Knurled Sleeve	.40	.30
8	8	Tension Spring	.30	.20
9	9-A	Supporting Bracket	.60	.45
10	10-A	Rear Connecting Tube	.90	.65
11	11	Vacuum Bulb	1.00	.75
12	12	Valve	.50	.35
13	13	Female Tip Fastening Nut	.90	.65
14	14	Rubber Shock Absorber Ring	.90	.65
17	17	Iron Body (No Cord)	8.95	6.70
17-2	17-2	Iron Body with 2-Wire Cord	10.95	8.25
17-3	17-3	Iron Body with 3-Wire Cord	11.95	8.95
17-3TL	17-3TL	Iron Body with 3-Wire Twist Lock Cord	13.50	10.15
18-2	18-2	2-Wire Cord Only	1.50	1.15
18-3	18-3	3-Wire Cord Only	3.00	2.25
18-3TL	18-3TL	3-Wire Cord Twist Lock Only	4.50	3.40

**PART NOS. FOR MODEL 300**

Fig. No.	Part No.	Description	SUGGESTED PRICES	
			List Price	Industrial Cost
1	300-T.090	Replaceable Desoldering Tip	2.70/3PK	1.95/3PK
1	300-T.078	Replaceable Desoldering Tip	2.70/3PK	1.95/3PK
1	300-T.063	Replaceable Desoldering Tip (Standard)	2.70/3PK	1.95/3PK
	300CT.063	Replaceable Desoldering/Resoldering Tip—Heavy Duty—Industrial	3.30/3PK	2.50/3PK
1	300-T.059	Replaceable Desoldering Tip	2.70/3PK	1.95/3PK
1	300-T.046	Replaceable Desoldering Tip	2.70/3PK	1.95/3PK
1	300-T.038	Replaceable Desoldering Tip	2.70/3PK	1.95/3PK
2	300-BE	Sub-Assembly (Standard)	5.70	4.30
3	300-13	Sub-Assembly Fastening Nut	.35	.26
4	300-5	Sub-Assembly Retaining Ring	.10	.08
5	300-17E	Heating Element 40 Watts	3.90	2.93
6	300-17SC	Screws (3) Required	.30/3	.23/3
7	300-17TC	Terminal Connectors (2 Req'd)	.40/2	.30/2
8	300-11.100	Bulb 1 Ounce	1.00	.75
9	300-6	Sub-Assembly Retaining Pin	.10	.08
		Connector Screws & Terminal Nuts	3.20	2.40
10	300-17HA-3	Handle, 3 wire cord		
		Connector Screws & Terminal Nuts	4.30	3.23
	300-17CO-2	Endeco Pencil Body (Complete w/cord & Heating Element)	7.50	5.60
	300-17CO-3	Endeco Pencil Body (Complete w/Cord & Heating Element)	8.60	6.45
	300-BECO	Sub-Assembly (Standard) Complete with tip, fastening nut & bulb	7.80	5.85

**REPLACEABLE TIPS FOR ENDECO MODEL 100-A**

Fig. No.	Part No.	Description	Tip I.D.	Tip O.D.
1	1A	Desoldering/Resoldering Tip	.080	.156*
1	1B	Desoldering/Resoldering Tip	.097	.187
1	1C	Desoldering/Resoldering Tip	.059	.125
1	1D	Desoldering/Resoldering Tip	.035	.078

Price Subject to Change Without Notice

\* (Standard)

**REPLACEABLE TIPS FOR ENDECO MODEL 300**

Fig. No.	Part No.	Description	Tip I.D.	Tip O.D.
1	300T.090	Desoldering/Resoldering Tip	.090	.170
1	300T.078	Desoldering/Resoldering Tip	.078	.155
1	300T.063	Desoldering/Resoldering Tip	.063	.135*
1	300T.059	Desoldering/Resoldering Tip	.059	.125
1	300T.046	Desoldering/Resoldering Tip	.046	.095
1	300T.038	Desoldering/Resoldering Tip	.038	.078

\* (Standard)



# Norseman ELECTRONIC TOOLS

### STICKLE-BACK DRILSAWS

Made in Germany, this tool will drill holes in wood, plaster board, etc. and saw in any direction.



#0-5 x 5/32" dia. ....	\$ .98 net
#1-7 x 3/16" dia. ....	1.85 net
#2-10 x 1/4" dia. ....	2.45 net
#3-13 x 5/16" dia. ....	2.95 net
#4-15 x 3/8" dia. ....	3.25 net
#5-13 x 1/2" dia. ....	(saw rasp) 2.25 net

### REVERSIBLE RATCHETS

A rugged ratcheting box wrench. No buttons, no levers — just turn it over to reverse the ratchet.



1/4" x 5/16" ..... \$2.60 net	5/8" x 1 1/16" ..... \$4.25 net
3/8" x 7/16" ..... 2.90 net	5/8" x 3/4" ..... 4.25 net
1/2" x 9/16" ..... 3.90 net	3/4" x 7/8" ..... 4.80 net

### DRILL ROUTERS

Another "Stickle-back" tool, similar to the Drilsaw, but for use in electric drills.



#318-1 2 3/8" x 1/4" dia. ....	\$1.40 net
#318-2 4 1/2" x 1/4" dia. ....	1.60 net

### TIPPY STICKS

Flexible alignment tools of tenite II with a non-magnetic stainless steel tip. Permits snaking around obstructions and still turn screws and slugs.



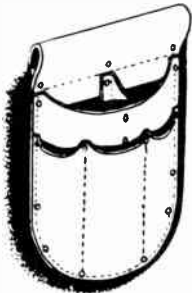
ST-186 6" long .....	.40 net
ST-1810 10" long .....	.45 net
ST-1814 14" long .....	.50 net

### TRI-TAPS

The original 3-in-1 tool with 6/32", 8/32" and 10/32" taps to clean or cut three of the most common threads used in electronic work.



T-3 .....	\$2.50 net	T-4 tap only for HT-24 .....	\$1.65 net
HT-24 with replaceable tap .....		\$3.00 net	



#14 Telephone lineman's pouch of chrome-tanned cowhide. One large separated pocket with three smaller ones in front. Riveted and stitched with linen thread. 6" x 9 1/4" ..... \$4.95 net

### TOOL POUCHES



Electrician's Pouch. Bark-tanned top grain cowhide, riveted and stitched with linen thread. 7 pockets, loop for hammer, T-chain for roll of tape #17 10" x 9" ..... \$4.95 net

**12 OTHER  
POUCHES AVAILABLE**



MADE IN ESKILSTUNA, SWEDEN, BY E. A. BERG MFG. CO. LTD. • EST. 1880

Only the best Swedish Charcoal Steel is used in the manufacture of Berg Pliers. Produced under exacting standards of control, they embody the most modern techniques of heat treatment and manufacture. Each plier is carefully engineered and designed to afford the greatest practical utility; lightness and ease of operation; and strength coupled with durability.

Special Electronic Diagonal Cutting Pliers with extra thin cutting edges, pointed nose and BOX JOINT



No. 525 - 5" ..... 4.95

ANGLE NOSE Diagonal Cutting Pliers



No. 2528 ..... 6 1/2" 4.25 7 1/2" 4.95

PIANO WIRE Diagonal Cutting Pliers



No. 1528 ..... 4 1/2" 2.95 5 1/2" 3.65 6 1/2" 4.15 7 1/2" 4.65

PIANO WIRE Side Cutting Nippers with replaceable blades



No. 1518 ..... 9" 6.50 10" 7.50  
Extra Blades ..... 9" 2.30 10" 2.55

PIANO WIRE End Cutting Nippers with replaceable blades



No. 1519 - 9" ..... 8.50  
Extra Blades ..... 2.90

PIANO WIRE End Cutting Nippers



No. 527 ..... 6" 3.50 7" 3.95  
50 OTHER SIZES AND TYPES AVAILABLE

Straight Cutting Pliers with extended jaws



No. 1529 - 6 1/2" ..... 3.95

Special Bent Nose Pliers



No. 2533-B - 8" ..... 4.95

Curved Nose Pliers



No. 1631 - 5 1/2" ..... 3.85

**ERIKSON SPECIALIZED TOOL COMPANY**

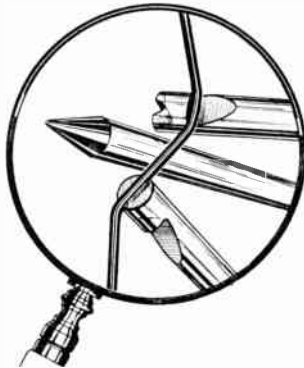


# Norseman ELECTRONIC TOOLS

### JIGGLE STICKS

Probes of Lucite, 1 end forked for pushing other end pointed for probing, notched on side for pulling wires.

PR 532-6 5/32" dia. .30 net  
PR 316-8 3/16" dia. .35 net



### NORSEMAN SOLDERING AID KIT



MTSA-4 miniature soldering aid kit with 4 tools M2T, M3T, M4T, M5T in vinyl kit complete ..... \$4.50 net

Vinyl plastic kit, packed with 4 Norseman Soldering Aids (TN-22, TN-33, TN-44, TN-55) as illustrated.

TNSA-4 complete kit ..... \$4.50 net

Kit with 4 Norseman Soldering Aids with unbreakable aluminum handles (AL-22, AL-33, AL-44 & AL-55).

ALSA-4 complete kit ..... \$4.50 net

## NORSEMEN SOLDERING AIDS



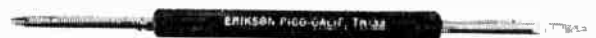
#### Red Handle

TN-22 Tenite II Handle ..... 7 7/8" Long ..... \$ .90 net  
M2T Tenite II Handle ..... 5 1/4" Long ..... \$ .90 net  
AL-22 Aluminum Handle ..... 7 7/8" Long ..... \$ .90 net



#### Black Handle

TN-44 Tenite II Handle ..... 7 1/2" Long ..... \$1.05 net  
M4T Tenite II Handle ..... 5 1/4" Long ..... \$1.05 net  
AL-44 Aluminum Handle ..... 7 1/2" Long ..... \$1.05 net



#### Green Handle

TN-33 Tenite II Handle ..... 7 7/8" Long ..... \$ .90 net  
M3T Tenite II Handle ..... 5 1/4" Long ..... \$ .90 net  
AL-33 Aluminum Handle ..... 7 7/8" Long ..... \$ .90 net



#### Blue Handle

TN-55 Tenite II Handle ..... 6 3/4" Long ..... \$1.05 net  
M5T Tenite II Handle ..... 5 1/4" Long ..... \$1.05 net  
AL-55 Aluminum Handle ..... 6 3/4" Long ..... \$1.05 net

**PLASTIC HANDLES**—(TN-22, TN-33, TN-44, TN-55) (M2T, M3T, M4T, M5T) are of Tenite II, hex and will not roll off the work bench. Shock-proof, practically unbreakable and will stand rough use on industrial production lines.

**METAL HANDLES**—(AL-22, AL-33, AL-44, AL-55) are aluminum alloy 4" x 3/8" hex and won't roll off the work bench. Being metal, are NOT SHOCK-PROOF and hence not recommended for ordinary radio-TV service work, especially on a 'live' unit. However, these handles are practically unbreakable and were designed to take rough use on industrial assembly lines and can be used as PRY BARS in lining up components.

**METAL ENDS**—(separated from each other) non-magnetic stainless steel, to which solder won't adhere. Are firmly seated in handles and are twist-proof.

**FORKED END**—straddles the wire and with a slight twist, grips it for easy unwinding and removal, or guides it into another lug for soldering. Since plastic handles act as insulation, there is no danger of shock when working on sets in operation. 1/8" forks are made especially for use on printed circuits and transistors.

**SPADE END**—is a reamer to clean lug holes of solder.

**CURVED END**—can be used as a scribe for marking chassis. As a circuit tracer when looking for loose connections. As a diol cord stringer. Hook can be bent to a 90 degree angle if desired.

**KNIFE & SCRAPER**—for cutting and repairing printed circuits.

**WIRE BRUSH**—has approx. 200 bristles of stainless wire .0035 in dia. to which solder will not adhere. For use in cleaning connections before soldering, brushing out splattered solder and in repairing printed circuits.

### STAINLESS STEEL WIRE BRUSHES

on steel shaft approximately 2" long overall. Can be used in a regular pin vise. .35 net

Packed 25 or 50 per box

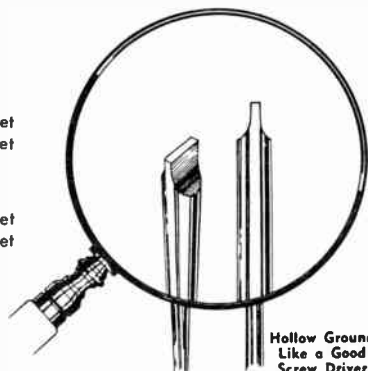
### DIDDLE STICKS

Alignment tools —  
Lucite 5/32" dia.

LU-53210 10" long ...25 net  
LU-53214 14" long ...35 net

Rigid Vinyl 3/16" dia.  
RV-31610 10" long...25 net  
RV-31614 14" long...35 net

Fibre Glass 1/8" dia.  
FG-1810 10" long...35 net  
FG-1814 14" long...50 net  
FG-1818 18" long...65 net

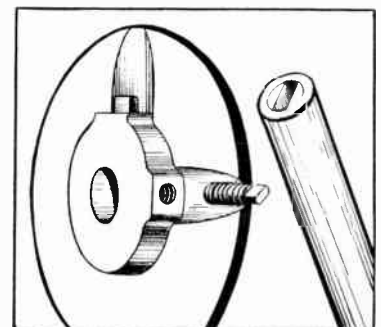


Hollow Ground Like a Good Screw Driver

### SLAB-HEAD DRIVERS

Drivers for SLAB-HEAD screws as used in Delco auto radios, Zenith & Arvin TV and 1956 models of Webcor recorders.

246-P .....\$2.00 net



Clutch Head Screw and Driver

## ERIKSON SPECIALIZED TOOL COMPANY



# GC ALIGNMENT TOOLS



**G-C SHORTY ALIGNMENT TOOL**  
A convenient tool for hard-to-get-at places. Has 3/16" shaft 2" length Over  
3/16" shaft 2" length Overall length of tool 4"  
Cat. No. 9298 ..... Net \$ .48

**G-C RCA WRENCH FOR VHF CHANNEL SELECTOR**  
Tool is made to fit square headed set screws in RCA VHF Channel Selector gear assembly without removing chassis.  
Cat. No. 6035 ..... Net \$1.20

**G-C NEW TRANSISTOR I.F. CORE ALIGNMENT TOOL**  
One end square .055 opposite end rectangle nib .047 x .078 to reach bottom slugs in iron cores.  
Cat. No. 9440 ..... 11 3/4" long ..... Net \$ .63

**G-C RCA ALIGNING TOOL**  
Made of 7/32" Butylate rod narrow screwdriver on one end and screw rig inserted on other end.  
Cat. No. 5003 ..... Net \$ .53

(A) I.F. Alligner and also double-ended. One end fits a No. 4 stud, the other end fits a No. 6 stud.  
Cat. No. 2586 Walsco Tel-A-Turn Tool ..... Net \$1.05  
8867 G.C.

(B) An alignment screwdriver with a standard metal tip at one end. The other end has a very thin 7/64" wide metal blade for small can openings.  
Cat. No. 2587 Walsco Tel-A-Turn Tool ..... Net \$1.05  
8868 G.C.

(C) A double ended Hex Aligner that turns both top and bottom slugs. One end has .100" hex, the other end is .125" hex.  
Cat. No. 2588 Walsco Tel-A-Turn Tool ..... Net \$1.05  
8869 G.C.

(D) WALSCO STRIP-ER-CLIP. A brand new precision tool with an exclusive safeguard that prevents accidental nicking or cutting wire wires are being stripped. Strips and clips all wires ranging from 12 to 26 gauge.  
Cat. No. 595X Walsco ..... Net \$1.38  
760 G.C.

**G-C NEUTRALIZING TOOL**  
Combination screw driver and 5/16" hex wrench. Approved by U.S. Army Signal Corps.  
Cat. No. 5027 ..... Net \$2.10

**G-C 4-in-1 ALIGNMENT TOOL**  
Screw driver with metal nib 1/4" hex wrench slotted and 5/16" hex wrench on either end  
Cat. No. 5014 ..... Net \$1.00

**G-C 5-in-1 ALIGNMENT TOOL**  
Consists of screw driver with metal nib 5/16" hex wrench 1/4" hex wrench slotted with metal screw driver on one end  
Cat. No. 5015 ..... Net \$1.27

**G-C 6-in-1 ALIGNMENT TOOL**  
Consists of screw driver with metal nib 5/16" hex wrench 1/4" hex side wrench and 1/4" hex end wrench slotted  
Cat. No. 5016 ..... Net \$1.57

**G-C ALIGNMENT SCREWDRIVER**  
Low inductance metal tip screwdriver made of Butylate material.  
Cat. No. 5000 GC 1/4" Dia. x 6" Tool ..... Net \$ .42  
2525 Walsco

**G-C TV ALIGNMENT TOOL**  
Very short sturdy tool with a fine metal screwdriver blade.  
Cat. No. 5066 2-1/2" long 3/16" Shaft Dia. Net \$ .40

**G-C TV ALIGNING WRENCH**  
New tool with 1/8" square socket wrench 7/32" shaft with insulated handle  
Cat. No. 5011 ..... Net \$ .60

**G-C INSPECTION MIRROR**  
Handy inspection mirror to inspect parts coils wiring etc. Made of metal shaft with glass mirror and a plastic handle.  
Cat. No. 5090 GC 7-7/8" Inspection Mirror ..... Net \$ .42  
554 Walsco

**G-C NEW ALL PLASTIC INSPECTION MIRROR**  
Use to inspect coils resistors sockets etc while the chassis is hot. No danger of shorting  
Cat. No. 5090-P 7-7/8" Plastic Mirror ..... Net \$ .38

**G-C-K-TRAN TOOL**  
Specially designed for K-Iron and I.F. transformers. Butylate material screwdriver on both ends  
Cat. No. 5097 ..... Net \$ .78  
6" long 5/32" Delrin tip 1/8" metal Tip

**G-C TV CHANNEL TUNING TOOL**  
Completely insulated, non-metallic tool with long 1/8" narrow blade. Made of bone fibre  
Cat. No. 8195 7-1/4" long 1/8" shaft dia. Net \$ .72

**G-C TV AHO FM TUNING TOOL**  
Special short tool with fine recessed screwdriver top for Television and FM adjustments. Made of Butylate  
Cat. No. 8196 ..... Net \$ .42  
2 1/2" long 7/32" shaft dia.

**G-C TV CORE ALIGNER**  
For Motorola and other sets using Stackpole or other stud type cores that are not slotted. Milled steel insert on one end thin screwdriver blade on other end.  
Cat. No. 8271 16" long 7/32" shaft dia. Net \$ .60

**G-C TV I.F. OSCILLATOR ALIGNER**  
Specially made for I.F. and oscillator adjustments. Will fit all makes of sets—RCA GE Philco Admiral and others.  
Cat. No. 8272 GC 6-1/2" long, 1/4" tip dia. Net \$1.20  
2518 Walsco

**G-C TV ALL-PURPOSE ALIGNER**  
Specially made for TV I.F. adjustments. Very thin spring steel tip is recessed so the tool will guide itself over the screws.  
Cat. No. 8273 GC 8-1/2" long, 7/32" shaft dia. Net \$ .92  
2516 Walsco

**G-C TV LONG REACH ALIGNER**  
Specially made for Admiral Zenith RCA and other sets for adjustments of nested iron cores that are hard to reach  
Cat. No. 8274 9" long 1/8" shaft dia. Net \$ .90

**5/16" HEX I.O. NEUTRALIZING WRENCH**  
Durable Lo-loss plastic gives long service life. 7 1/2" long, 7/16" D.D.  
Cat. No. 2508 ..... Net \$ .37

**WALSCO TUNING WANO**. Rod with one end made of brass the other loaded with powdered iron—for checking coils.  
Cat. No. 2540 ..... Net \$ .53

**G-C TV ZENITH UNIVERSAL ALIGNER**  
Specially designed for Zenith and other sets. Made of bone fibre and plastic handle  
Cat. No. 8275 5-1/2" long 1/8" shaft dia. 1/4" Net \$ .52

**G-C TV DUPLEX ALIGNER**  
An all-purpose TV aligner for trimmers and I.F. transformers. Made of Butylate material with extra thin spring steel tips  
Cat. No. 8276 6-1/2" long 7/32" shaft dia. Net \$ .52

**G-C TV "SHORTY" DUPLEX ALIGNER**  
Specially made for trimmer and I.F. transformers where space does not permit the use of a longer tool.  
Cat. No. 8277 2 1/2" long 7/32" shaft dia. Net \$ .52

**G-C TV TUNING WANO**  
Brass insert on end reduces inductance and iron core on other end increases the inductance.  
Cat. No. 8278 6" long 7/32" shaft dia. Net \$ .60

**G-C TV CORE ALIGNER**  
Tool has a recessed steel milled slot to fit over the Stackpole and other type stud cores that are not slotted.  
Cat. No. 8279 ..... Net \$1.00  
7-1/2" long 7/32" shaft dia.

(B) TURRET TUNER TOOL. A tool for adjusting all sets using "Standard Coil" and similar turret-type tuners.  
Cat. No. 2522 ..... Net \$ .92

**G-C NEW ZENITH TV WRENCH & ALIGNER**  
New nylon plastic molded special tool made specially for Zenith TV sets.  
Cat. No. 8262 GC ..... Net \$ .37  
2526 Walsco 5-7/16" long 100 Dia. Hex Wrench 109 Screw Driver Dia.

**G-C "SHORTY" TV ALIGNMENT SCREW DRIVER**  
Only 2" long overall to adjust hard-to-get-at places under TV tubes etc.  
Cat. No. 8289 2" long 7/32" shaft dia. Net \$ .60

**G-C UNIVERSAL SCREW DRIVER ALIGNER**  
Made of unbreakable flexible clear plastic shaft and an amber plastic handle  
Cat. No. 8290 7-1/2" long 7/32" shaft dia. Net \$ .70

**G-C ZENITH-ADMIRAL NYLON HEX WRENCH**  
New nylon hex wrench alignment tool for Zenith Admiral and other sets.  
Cat. No. 8606 ..... 5" wrench 11" long Net \$ .48  
Cat. No. 8606-L 11" wrench 11" long ..... \$ .63

## GC ALIGNMENT TOOL KITS

**MASTER DELUXE TOOL KIT**  
A super-deluxe kit in a leatherette roll type case. Contains 25 tools and includes all TV alignment tools except extra long ones (over 8")  
Cat. No. 8283 ..... Net \$15.83

**DELUXE ALIGNMENT TOOL KIT**  
Case is made of durable leatherette for long service. Steel tips are extra thin and of the best grade hardened spring steel. Kit contains one each of 16 tools  
Cat. No. 8280 ..... Net \$10.30

**COLOR TV ALIGNMENT TOOL KIT**  
Kit contains 5 different Hex alignment tools for all standard adjustments in Color TV. Tools packed in pocket sizer and includes extender to make each tool a long reach aligner when needed.  
Part No. 8454 ..... Net \$2.49

**G-C ILLUMINATED INSPECTION AND SERVICE MIRROR**  
A hinge mounted mirror fastens to a 6" transparent lucite rod which transmits light from a small sized aluminum flashlight  
Cat. No. 8725 ..... Net \$2.02  
7-7/8" Mirror, 1/8" O.D. 11 1/2"

**G-C CONTACT BURNISHING TOOL KIT**  
A complete kit for the servicing of relays, switches, etc. where critical contact points must be kept clean.  
Cat. No. 9339 ..... Net \$ .95

**STANDARD ALIGNMENT TOOL KIT**  
Made to last and wear—a quality kit contains 9 essential tools in roll type case.  
Cat. No. 8455 ..... Net \$ 6.26

**G-C SPEEDEX SLIM TYPE SOLDER IRON TIPS**  
A new high heat turned-down tip made of one piece copper. Will fit 3/8" irons. Tips 4 1/2" long  
Cat. No. 8741 ..... Net \$ .73

**G-C No. 5040 TOP 12 TOOL KIT**  
12 most popular TV alignment tools. Plastic roll-up case.  
Cat. No. 5040 ..... Net \$7.79

**CB ALIGNMENT TOOL KIT**  
Plastic pouch with nine precision tools for tuning I.F. transformers R.F. coils, Antenna and oscillator coils; countless other fine adjustments.  
Cat. No. 9210 ..... Net \$4.89

**G-C SOLOER IRON TIPS**  
Bright plated to resist corrosion. These tips are made of best grade hard-drawn copper.  
Dia. Long  
Cat. No. 724 1/4"x3" Net \$ .75  
725 5/16"x4-1/2" ..... \$2  
726 3/8"x4-1/2" ..... \$9

## GC SERVICE AIDS... WIRE STRIPPERS ... GC SERVICE AIDS... WIRE STRIPPERS

**G-C TV CHASSIS SUPPORT**  
Prop chassis to easy working position on your bench or in the home. Simply slip on the flange of chassis, tighten thumb screws and tilt chassis to position desired.  
Cat. No. 9176 Pair ..... Net \$1.80

**SPEEDEX WIRE STRIPPER KITS**  
Complete with Wire Strippers and seven different size blades in plastic box. Handy for tool box, home work shop, maintenance and production.  
Cat. No. 733-K Standard Stripper Kit Net \$10.83  
744-K Automatic Stripper Kit Net \$13.16  
766-K Speed O Matic Stripper Kit Net \$13.16

**SPEEDEX STANDARD WIRE STRIPPER**  
Popular inexpensive Speedex model for 90% of all stripping jobs. Blades are inter changeable, hardened and precision ground to razor sharp edges  
No. For Sizes Listed Below  
733 12 to 20 Wire  
733-A 14 to 30 Wire  
733-B 10 to 18 Wire  
733-C 8 to 10 Wire  
733-D 16, 18, 20, 22 Wires  
733-E 14, 16, 18 Wires  
733-F 10, 12, 14 Wires  
733-G For No. 18 PDSJ or Parallel Wire  
733-H For 300 ohm TV and FM twin transmission line  
744 I 10, 12, 14, 16, 18, 20, 22 Wire  
733-M 10 to 20 Wire  
733-N Straight Cutter Blades  
Cat. No. 733 ..... Net \$4.77

**SPEEDEX AUTOMATIC WIRE STRIPPER**  
Equipped with "Trig O-Matic" Stay-Open feature, keeps wires from being crushed.  
No. For Sizes Listed Below  
744 12 to 20 Wire  
744-A 14 to 30 Wire  
744-B 10 to 18 Wire  
744-C 8 to 10 Wire  
744-D 16, 18, 20, 22 Wires  
744-E 14, 16, 18 Wires  
744-F 10, 12, 14 Wires  
744 G For No. 18 PDSJ or Parallel Wire  
744 H For 300 ohm TV and FM twin transmission line  
744 I 10, 12, 14, 16, 18, 20, 22 Wire  
744-M 10 to 20 Wire  
744-N Straight Cutter Blades  
Cat. No. 744 ..... Net \$5.93

**SPEEDEX SPEED-O-MATIC WIRE STRIPPER**  
Fully automatic delayed return action to prevent crushing fine wires. The Speed-O-Matic combines the features of all Speedex Wire Strippers.  
No. For Sizes Listed Below  
766 12 to 20 Wire  
766-A 14 to 30 Wire  
766-B 10 to 18 Wire  
766-C 8 to 10 Wire  
766-D 16, 18, 20, 22 Wire  
766-E 14, 16, 18 Wire  
766-F 10, 12, 14 Wire  
766-G For No. 18 PDSJ or Parallel Wire  
766-H For 300 ohm TV and FM twin transmission line  
766-I 10, 12, 14, 16, 18, 20, 22 Wire  
766-M 10 to 20 Wire  
766-N Straight Cutter Blades  
Cat. No. 766 ..... Net \$5.93



# GC ALIGNMENT TOOLS & Service Aids



**GC DUO-TONGS**  
 Universal Fuse Pullers... will accommodate all types of fuses, including household screw-in plug type, industrial cartridge fuses up to 3 4/8" or 100 amp. capacity, as Automotive, Aircraft, Television and Electronic Industries. Non-conductive, non-inflammable, and virtually unbreakable thus exceeding all Military Specifications.  
 Cat. No. 9356..... Net \$ .89



**HEAT SINK**  
 Protects Transistors and Diodes when Soldering... firm grip. Aluminum will not stick to solder.  
 Cat. No. 9077 GC..... Net \$ .36  
 2577 Walsco



**ALIGNMENT TOOL FOR WESTINGHOUSE, ETC.**  
 Especially designed to fit "Westinghouse" and other sets. Very thin tip for small can openings.  
 Cat. No. 2541..... 5-3/4" long..... Net \$ .51



**1 1/4" HEX I.D. NEUTRALIZING WRENCH.**  
 Made of tough, flexible, Lo-loss plastic. If corners wear round, just trim back. 7-1/2" long. 3/8" round O.D.  
 Cat. No. 2503..... Net \$ .37



**CAPACITOR AND TUNER ADJUSTING TOOL**  
 For trimmer capacitors, sealed capacitors, and miniature L-C Tuners. White Delrin with .050" hex head one end and screwdriver tip on the other end. Overall length 5-1/8".  
 Cat. No. 8605..... Net \$ .63



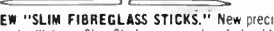
**GC CAPACITOR TAB TWIST TOOL**  
 For replacing twist lock condensers. Slotted end fits over capacitor tabs; won't slip off. A quick twist locks or unlocks the tabs. 8" long; plastic handle.  
 Cat. No. 9446..... Net \$ .89



**SHAFT EXTENSION INSULATOR**  
 Standard TV control 21 Suregrip ribs... Fits all shafts. Cut off worn ends, or to desired length.  
 Cat. No. 5150 19"..... Net \$ .36  
 5091 9"..... Net \$ .18



**HI-VOLTAGE GAUGE**  
 Measures TV Voltage Pulse... No current drain during operation. Snaps directly to plate cup of any listed tubes. Push plunger in slowly till neon light glows. Voltage read on calibrated rod.  
 Cat. No. 8840..... Net \$2.30



**NEW "SLIM FIBREGLASS STICKS."** New precision made "Walsco Slim-Sticks" are made of durable fibreglass. Completely non-metallic.  
 Cat. No. 2531-X Walsco 1/8" Dia. x 12..... Net \$ .53  
 8728 G.C. 1/8" Dia. x 12..... Net .70  
 8729 G.C. 1/8" Dia. x 16..... Net .48  
 2534-X Walsco 5/32" Dia. x 12..... Net .48  
 9293 G.C. 5/32" Dia. x 12..... Net .72  
 2535-X 5/32" Dia. x 16" Long..... Net .72



**WALSCO "GLAS-STICKS."** Precision made machined fibreglass reinforced polyester alignment screwdriver.  
 Cat. No. 2537 Walsco 5/32" Dia., 7" blade/Net \$ .85  
 9291 G.C..... Net .15  
 2538 Walsco 5/32" Dia., 14" blade..... Net .15



**SOLDERING AID TOOLS**  
 Won't stick to Solder... Heat-treated tool steel, chrome plated.  
 Cat. No. 9075..... Straight..... Net \$ .80  
 Cat. No. 9076..... Angled..... Net \$ .80



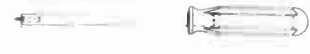
**(N) I.F. ALIGNER TOOL.** Designed for I.F. Alignment of Zenith, RCA and other similar types. Made of molded plastic 5-1/2" long.  
 Cat. No. 2521..... Net \$ .53



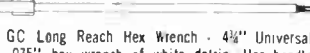
**GC MAGNAVOX TUNING TOOL**  
 Head for Magnavox chassis Nos. 201 and 202 and other sets. Hex wrench on both ends, one end undercut so it will reach bottom slugs in iron coils.  
 Cat. No. 8284..... Net \$ .48



**OSCILLOSCOPE TOOL KIT**  
 Kit contains 1 each of tools listed below:  
 No. 12-035..... Net 11.50



**GC 6 1/2" Ceramic Capacitor Alignment Tool** - 1/4" nylon shaft. Plated steel tip .030" thick by 1/8" wide fits most trimmer capacitors.  
 No. 12-020..... Net .77



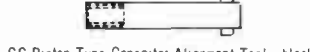
**GC Long Reach Hex Wrench** - 4 1/2" Universal .075" hex wrench of white delrin. Use handle No. 12-038..... Net .63  
 No. 12-022..... Net .60



**GC 10 1/2" Ceramic Capacitor Alignment Tool** - 1/4" nylon shaft. Plated steel tips .030" thick and 1/8" wide fits most TV trimmer capacitors.  
 No. 12-024..... Net 2.66



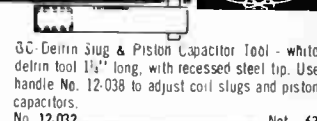
**GC 4 1/4" Ceramic Capacitor Alignment Tool** - 1/4" nylon shaft. Plated steel tip .030" thick by 1/8" wide fits most trimmer capacitors.  
 No. 12-026..... Net .82



**GC Piston-Type Capacitor Alignment Tool** - black delrin 1 1/4" long, recessed steel tip. Use handle No. 12-038 to adjust coil slugs and piston capacitors.  
 No. 12-028..... Net .53



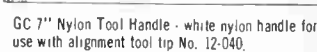
**GC Delrin Alignment Tool** - 4 1/2" long with .030" x 3/32" steel tip recessed in 9/64" shank. Use handle No. 12-038.  
 No. 12-030..... Net .60



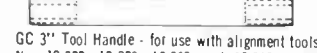
**GC Delrin Slug and Piston Capacitor Tool** - white delrin tool 1 1/4" long, with recessed steel tip. Use handle No. 12-038 to adjust coil slugs and piston capacitors.  
 No. 12-032..... Net .63



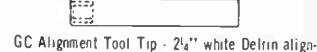
**GC Trimmer Adjustment Tool** - plastic handled tool 4 1/2" long. White Delrin tip pilots on trimmer and drives adjustment with special key.  
 No. 12-034..... Net 1.57



**GC 7" Nylon Tool Handle** - white nylon handle for use with alignment tool tip No. 12-040.  
 No. 12-036..... Net .65



**GC 3" Tool Handle** - for use with alignment tools No. 12-022, 12-028, 12-030, and 12-032. Extra diameter of handle makes adjustments easier.  
 No. 12-038..... Net .63



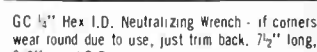
**GC Alignment Tool Tip** - 2 1/2" white Delrin alignment tip with .015" x 3/32" steel insert. Use with either 12-036 or 12-038 handle.  
 No. 12-040..... Net .53



**DUPLEX ALIGNMENT SCREWDRIVER.** Large end is 7/32" wide, small end, 5/32" wide. Tip thickness conforms to standard slug dimensions, 7" long.  
 Cat. No. 2520 Walsco..... Net \$ .62



**GC Zenith-Admiral Delrin Hex Wrench** - delrin hex wrench alignment tool for Zenith, Admiral, and other sets. .100 across flats of both hex. ICA type No. 6199.  
 No. 8606 GC..... Net .48  
 2543 Walsco



**GC 1/4" Hex I.D. Neutralizing Wrench** - if corners wear round due to use, just trim back. 7 1/2" long, 3/8" round O.D.  
 No. 9360..... Net .37

## GC ALIGNMENT TOOLS GC ALIGNMENT TOOLS GC ALIGNMENT TOOLS



**GC NEW NYLON TV LONG REACH ALIGNER**  
 Long-reach TV aligner with insulated metal shaft and nylon tip. 12-1/4" long overall. .195 Shaft Dia.  
 Cat. No. 8607 GC..... TV Tool..... Net \$1.60  
 2523 Walsco



**GC ALIGNMENT TOOL**  
 Handy to align and adjust TV sets, radio sets, etc. Made of clear plastic 5 1/2" long x 3/8" dia.  
 Cat. No. 8609..... Net \$ .63



**GC TV 2-IN-1 LONG-REACH DUPLEX ALIGNER**  
 Made of clear, unbreakable plastic material. Ends colored red and blue for size identification. Tips are made of spring steel recessed for easy location of stud.  
 Cat. No. 8721 9" long, 7/32" Shaft Dia. Net \$ .78  
 8722 7" long, 7/32" Shaft Dia. Net \$ .67  
 Walsco 2519 7" long, 7/32" Shaft Dia. Net \$ .67



**WIRE DRESSING & ALIGNMENT TOOL.** A handy dual-purpose tool with a thin 7/32" plastic handle. One end is a special tool for dressing wires in hard-to-reach places. Other end with a low capacitance metal screwdriver tip.  
 Cat. No. 2512..... Net \$ .45



**NEW GC-K-TRAN TELEVISION ALIGNER**  
 Specially made for K-Tran I.F. Transformer tuner slugs. Precision made of bone fibre.  
 Cat. No. 8727 6-1/4" long, 5/32" Tip Dia. Net \$ .65



**TV LONG REACH ALIGNMENT SCREWDRIVER**  
 Made of bone fibre, extra thin 1/8" diameter screw driver for adjustment of TV receivers. Screw driver tip on both ends--can be re-ground.  
 Cat. No. 8728A..... 1 8" x 7" long..... Net \$ .43  
 8728..... 1 8" x 12" long..... .53  
 8729..... 1 8" x 16" long..... .70



**GC LONG ARM TV TOOL PLASTIC SHAFT**  
 Extra-long-reach alignment tool for Zenith sets and others where adjustments are hard to get at. Tool is 18" long overall. 18" long, 7/32" Shaft Diameter.  
 Cat. No. 8821 TV Tool (Type A)..... Net \$3.00  
 8896..... TV Tool (Type B)..... 1.00  
 8897..... TV Tool (Type C)..... 1.00



**ZENITH-RCA ALIGNING TOOL WITH HANDLE**  
 For better grip and easier adjustments. Length is 2-1/2" with a 1-1/2" shaft length. 7/32" diameter blade with recessed slot in blade end.  
 Cat. No. 9051 GC..... Net \$ .58  
 2527 Walsco



**GC STANDARD COIL SLUG TUNER ADJUSTING TOOL**  
 A new special slug tuning tool for adjusting Standard Tuners, etc. Completely insulated. 7-1/2" long. 1/4" shaft diameter, shaft ends .170 diameter.  
 Cat. No. 9087..... Net \$ .75



**K-TRAN ALIGNMENT TOOL.** This tough, double-use tool is machined at one end to fit the slots on all K-Tran miniature I.F. transformers.  
 Cat. No. 2515..... Net \$ .60



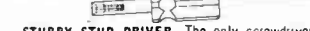
**GC ADJUSTABLE SHORTY**  
 Recessed tip TV alignment tool. Adjustable from 1-1/4" to 2" in length, for hard-to-get-at places.  
 Cat. No. 9090..... Net \$ .65



**GC DOUBLE END IRON CORE TOOL**  
 All nylon hex tool for cores with .125 hex opening. One end of tool undercut so it can reach the bottom slug in coils without turning the top slug.  
 Cat. No. 9091 GC..... 5" long..... Net \$ .48  
 Walsco 2542  
 9091-L GC..... 11" long..... Net .70



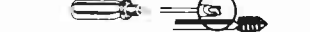
**GC PRINT KOTE SOLDER AID PROBE**  
 Handy, fine point probe specially designed to aid in probing and soldering printed circuits.  
 Cat. No. 9093 GC..... 8" Length..... Net \$1.00  
 2530 Walsco



**STUBBY STUD DRIVER.** The only screwdriver only 2" long overall. Fits No. 6 studs.  
 Cat. No. 2517..... Net \$ .60



**GC PRINT KOTE BRUSH AND SCRAPER**  
 Fine Stainless Steel brush and hardened steel scraper are required to scrape and clean the Silicone Resin from printed circuits.  
 Cat. No. 9094..... 8" Length..... Net \$ .98



**GC SLUG RETRIEVER TOOL**  
 A precision made tool with hardened steel tips made for removing lost TV tuner slugs in Standard Coil tuners. Ends ground to fit standard coils.  
 Cat. No. 9096..... 12" Retriever..... Net \$2.70  
 9097..... 15" Retriever..... 3.25



**GC MINI HOLD SCREWDRIVERS**  
 Designed with exclusive "Wedge Action" for gripping of tiny screws. (Nos. 0, 1, 2, 3 and No. 8 set screws and smaller) Special short length (2-7/8" when in use).  
 Cat. No. 9346 GC 3-1/4" long, 2-7/8" in use Net \$2.14  
 2568 Walsco  
 9347 GC 7" long, 6-3/4" in use 2.40  
 2569 Walsco



**GC RCA TV ALIGNMENT TOOL**  
 Double end nylon tool with a recessed metal tip on one end and a plastic slug on the other end.  
 Cat. No. 9150..... 6" Length..... Net \$ .93



**GC SCREW STARTER SCREW DRIVER**  
 A handy screw holding screwdriver that will start screws in hard-to-get-at places. Holds the screw securely while it starts it.  
 Cat. No. 9148..... 12"..... Net \$2.75



**GC DUAL NUT STARTER**  
 New tool that holds and starts hex nuts or hex head screws in hard-to-get-at places. Fits 1/4" and 5/16" hex nuts. Pat. 2664021.  
 Cat. No. 9147..... Net \$1.85



**(F) "SLUG SAVER" TUNER TOOL.** New patented tool for aligning "Standard Coil" front ends. Prevents "loosing" slugs, thru ingenious "step" design.  
 Cat. No. 2528..... 7-1/2" long..... Net \$ .75



**GC TV AUTO RADIO WRENCH**  
 Special female slotted wrench to remove screws and stud screws from auto radios and backs of TV sets, etc.  
 Cat. No. 9211..... Net \$1.20



**GC FIBREGLASS SCREWDRIVER**  
 Gives full protection on hot chassis when adjusting high potentials. For close-up hard-to-reach places.  
 Cat. No. 9291..... 7"..... Net \$ .85



**GC NYLON HEX TOOLS**  
 For adjusting iron cores inside mounted chassis, and tuner adjustment of iron and brass slugs with hex heads. Has .100" hex and 5/32" handle.  
 Cat. No. 9295 GC..... 11" x .100" Hex..... Net \$ .63  
 2544 Walsco  
 9296 GC..... 11" x .075" Hex..... .63  
 2545 Walsco  
 9297 GC..... 11" x .075" Hex..... .63  
 2547 Walsco



# CHASSIS PUNCHES

## & REPLACEMENT SCREWS AND NUTS

MADE OF THE FINEST QUALITY TOOL STEEL -- EASY TO USE!

Ground from hardened steel, these punches quickly and accurately cut through steel, hard rubber, plastic, etc. A wrench is the only tool needed to make clean holes with a minimum of effort. Perfect for cutting holes in chassis, cabinets, and panels.



ROUND PUNCHES

REPLACEMENT SCREWS



SQUARE PUNCHES

REPLACEMENT SCREWS

Walsco Part No.	Punch Size	Bolt Size	Pilot Hole Drill Size	Net Each	Walsco Part No.	Net Each
3050-R	1/2"	1/4"	5/16"	2.70	3304	.30
3052-R	9/16"	1/4"	5/16"	2.70	3304	.30
3062-R	5/8"	1/4"	3/8"	2.70	3304	.30
3069-R	11/16"	3/8"	7/16"	2.70	3306	.30
3075-R	3/4"	3/8"	7/16"	2.70	3306	.30
3081-R	13/16"	3/8"	7/16"	2.70	3306	.30
3087-R	7/8"	3/8"	7/16"	2.70	3306	.30
3094-R	15/16"	3/8"	7/16"	3.00	3308	.35
3100-R	1"	3/8"	7/16"	3.00	3308	.35
3106-R	1-1/16"	3/8"	7/16"	3.15	3308	.35
3112-R	1-1/8"	3/8"	7/16"	3.15	3308	.35
3116-R	1-5/32"	3/8"	7/16"	3.15	3308	.35
3119-R	1-3/16"	3/8"	7/16"	3.15	3308	.35
3125-R	1-1/4"	3/8"	7/16"	3.15	3308	.35
3131-R	1-5/16"	3/8"	7/16"	3.75	3308	.35
3137-R	1-3/8"	3/8"	7/16"	3.75	3308	.35
3150-R	1-1/2"	3/8"	7/16"	4.25	3308	.35
3162-R	1-5/8"	3/4"	7/8"	5.10	3310	.50
3175-R	1-3/4"	3/4"	7/8"	5.85	3310	.50
3187-R	1-7/8"	3/4"	7/8"	7.30	3312	.60
3200-R	2"	3/4"	7/8"	7.80	3312	.60
3212-R	2-1/8"	3/4"	7/8"	8.45	3312	.60
3225-R	2-1/4"	3/4"	7/8"	8.45	3312	.60
3250-R	2-1/2"	3/4"	7/8"	13.75	3312	.60
3275-R	2-3/4"	3/4"	7/8"	19.00	3314	3.15
3300-R	3"	3/4"	7/8"	26.50	3314	3.15

Walsco Part No.	Punch Size	Bolt Size	Pilot Hole Drill Size	Net Each	Walsco Part No.	Net
3050-S	1/2"	1/4"	3/8"	6.45	3316	1.60
3062-S	5/8"	3/8"	1/2"	6.35	3318	1.65
3075-S	3/4"	3/8"	1/2"	7.10	3320	1.90
3087-S	7/8"	3/8"	1/2"	8.30	3324	2.45
3100-S	1"	3/8"	1/2"	8.60	3326	2.55
3354	1.018x.861	3/8"	1/2"	14.30	3356	4.95



METER HOLE PUNCHES (Round) for standard meters)

Walsco Part No.	Punch Size	Bolt Size	Pilot Hole Drill Size	Net Each
3278	2-25/32"	3/4"	7/8"	13.10

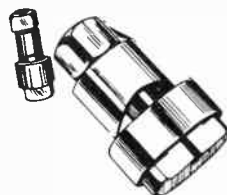


KEY PUNCHES

REPLACE-  
MENT  
SCREWS

REPLACE-  
MENT  
NUTS

Walsco Part No.	Punch Size	Bolt Size	Pilot Hole Drill Size	Net Each	Walsco Part No.	Net Each	Walsco Part No.	Net Each
3254	15/32	1/4"	5/16"	6.00	3328	1.55	3344	.70
3256	15/16	3/8"	7/16"	6.00	3330	1.70	3346	.40
3258	1-11/64	3/8"	7/16"	6.80	3332	2.20	3346	.40
3260	1-17/64	3/8"	7/16"	7.60	3334	2.85	3346	.40
3262	1-21/64	3/8"	7/16"	8.50	3336	3.05	3346	.40



RADIO "D" PUNCHES

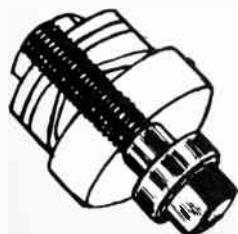
REPLACE-  
MENT  
SCREWS

REPLACE-  
MENT  
NUTS

Walsco Part No.	Punch Size	Bolt Size	Pilot Hole Drill Size	Net Each	Walsco Part No.	Net Each	Walsco Part No.	Net Each
3270	1/2"x 15/32	5/16"	11/32	4.90	3338	1.20	3348	.45
3272	5/8"x 19/32	5/16"	11/32	5.25	3340	1.35	3348	.45
3274	1-1/8x 1-3/8	1/2"	9/16"	28.00	3342	7.70	3350	.55

### BALLBEARING PUNCH DRIVES

Greatly reduce friction when used with Round Punches 11/16" & larger.

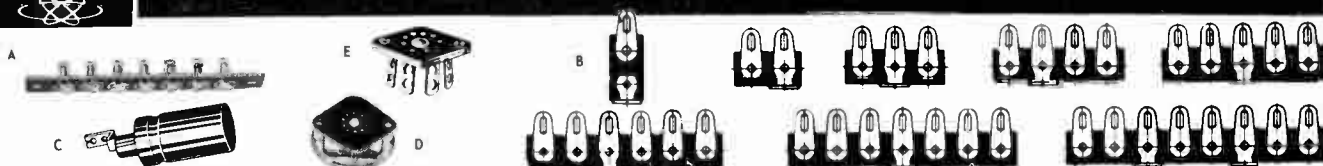


Walsco Part No.	For use with Punch Size:	Net Each
3282	11/16" thru 15/16"	1.10
3284	1" thru 1-1/2"	1.20
3286	1-5/8" thru 1-3/4"	2.75
3288	1-7/8" thru 2-1/2"	2.90
3290	2-3/4" thru 3"	5.40





# GC COMPONENTS..SERVICE AIDS



### A GC SCREW TYPE TERMINAL STRIPS

Mounted on laminated bakelite strips, rigidly constructed, terminals will not turn and short.

Cat. No. 1772	2 contacts	Net .09
Cat. No. 1772-C	100 No. 1772	Net 8.10
Cat. No. 1773	3 contacts	Net .12
Cat. No. 1773-C	100 No. 1773	Net 10.05
Cat. No. 1774	4 contacts	Net .15
Cat. No. 1774-C	100 No. 1774	Net 13.20
Cat. No. 1775	5 contacts	Net .20
Cat. No. 1775-C	100 No. 1775	Net 18.67
Cat. No. 1776	6 contacts	Net .22
Cat. No. 1776-C	100 No. 1776	Net 20.17
Cat. No. 1780	10 contacts	Net .37
Cat. No. 1780-C	100 No. 1780	Net 33.45

### B GC STANDARD TERMINAL STRIPS

Insulation 1/16" thick, 3/8" spacing.

Cat. No. 1781	1 lug	Net .04
Cat. No. 1781-C	100 No. 1781	Net 3.27
Cat. No. 1782	2 lugs	Net .04
Cat. No. 1782-C	100 No. 1782	Net 3.27
Cat. No. 1783	3 lugs	Net .05
Cat. No. 1783-C	100 No. 1783	Net 3.42
Cat. No. 1784	4 lugs	Net .06
Cat. No. 1784-C	100 No. 1784	Net 4.72
Cat. No. 1785	5 lugs	Net .07
Cat. No. 1785-C	100 No. 1785	Net 5.45
Cat. No. 1786	6 lugs	Net .08
Cat. No. 1786-C	100 No. 1786	Net 5.81
Cat. No. 1787	7 lugs	Net .13

### C GC EXTENSION JACK & CONNECTOR

Special jack used in extending radio antenna cables and phonograph attachments.

Cat. No. 1787-C	100 No. 1787	Net 10.51
Cat. No. 1788	8 lugs	Net .15
Cat. No. 1788-C	100 No. 1788	Net 11.61

**SPECIAL TERMINAL AVAILABLE IN QUANTITIES. SEND PRINTS FOR QUOTATIONS**

### D HIGH VOLTAGE ANTI-CORONA TV SOCKET

8-prong octal and 9-pin miniature sockets for use in high voltage circuits using the 1B3, 1AX2, 1AX2A, etc.

Cat. No. 9070	8-prong octal	Net .53
Cat. No. 9071	9-pin miniature	Net .53

### E GC 9-PIN MINIATURE WAFER SOCKET

High quality plastic wafer socket 9-pin type with phosphor bronze contacts. Standard 1-1/8" mounting centers.

Cat. No. 1543	9-pin wafer sockets	Net .12
Cat. No. 1544	9-pin wafer socket with grounding strap	Net .13

**GC 7-PIN MINIATURE TEST SOCKET ADAPTER**  
Cat. No. 9247 Net 1.65

**GC 9-PIN MINIATURE TEST SOCKET ADAPTER**  
Cat. No. 9249 Net 1.87

**GC 8-PIN OCTAL TEST SOCKET ADAPTER**  
Cat. No. 9248 Net 1.57

**GC DUO-DECAL TV TUBE TEST SOCKET ADAPTER**  
Designed for making measurements of voltage, resistance and video from the base of the picture tube. It is inserted between C.R. tube base and its socket.  
Cat. No. 9251 Net 1.95

**GC ANGLE ANODE LEAD**  
A better anode lead with special "Ozone Proof"  
Cat. No. 8637 Net .42

**GC CONTROL GUN KIT**  
Cleans and lubricates noisy volume controls. Solid aluminum kit includes Gun, Adaptor for 1/2 - 28 thread, and Auto Adaptor for 7/16 - 28 thread.  
Cat. No. 9285 Net 4.50  
Cat. No. 65-16 16 oz. bottle cleaner Net 2.25  
Cat. No. 65-G 1 gallon Net 9.90  
Cat. No. 9280 Control gun only Net 3.75  
Cat. No. 9281 Adaptor for 1/2 - 28 thrd. shaft Net .50  
Cat. No. 9283 Adaptor for 7/16-28 thrd. shaft Net .50  
Cat. No. 9282 Adaptor for extra long shaft Net .50

**GC MINIATURE TUBE PIN STRAIGHTENER**  
Precision-constructed steel die, for straightening pins on fragile miniature tubes of the 155, 6AK5, 9002 variety.  
For 7-pin Min. Tubes (red base) Cat. No. 5191 Net 1.00  
For 9-pin Jumbo Tubes (blue base) Cat. No. 8105 Net 1.00

**GC "QUICK-RIG" RADIO-PHONO CHASSIS REPAIR CRADLE**  
Complete 360 degree rotation to lock chassis at best working angle. Clamps securely, makeshift setups, all metal.  
Cat. No. 5212 Net 7.50

**GC HEX-KEY AND SPLINE WRENCH KIT**  
For both hex and spline type screws. 12 wrenches in leatherette case.  
Cat. No. 5026 GC 560 Walsco Net 1.35

**GC NE-O-LITE**  
Electrical circuit tester...easy to use with a Neon Glow Lamp which varies in light intensity according to voltages. Traces all types of trouble, such as grounded lines, open circuits, short circuits, etc.  
Cat. No. 5100 Net .50

**GC TV "HIGH-VOLT" SAFETY PROBE & TESTER**  
Handy tester for quickly checking TV high voltage circuits. Tester will glow when high voltage is okay.  
Cat. No. 8836 Net 2.13

**GC NO-JOLT TOOL GRIPS**  
Modernizes old tools with new safety grip handles. Grease and oil resistant.  
Cat. No. 5647 GC Small (1 pair) Net .23  
Cat. No. 521 Walsco  
Cat. No. 5648 GC Med. (1 pair) Net .27  
Cat. No. 572 Walsco  
Cat. No. 5649 GC Large (1 pair) Net .33  
Cat. No. 523 Walsco

**GC POCKET HEX KEY WRENCH SET**  
7 popular size wrenches. .050 to 3/16" fitted in a steel case-like pocket knife blades.  
Cat. No. 9124 GC 564 Walsco Net 1.83

**GC TUBE & PARTS EXTRACTOR**  
Originally designed by the U.S. Signal Corps. as standard equipment. Skillfully constructed of spring steel, cadmium plated. Has rubber cushion on the prongs.  
Cat. No. 5092 Net .98

**GC AMO MINIATURE TUBE PULLER**  
AMO makes it possible to easily remove or insert miniature tubes such as 6AG5, 50B5 etc. It works on the suction and vacuum principle.  
Cat. No. 5093 For 7-pin tubes Net 2.50  
Cat. No. 8106 For 9-pin tubes Net 2.50

**GC LONG-REACH TV AND RADIO LUBRICATOR**  
For radio and TV controls, bearings, phono motors, etc. Buy them by the pair -- one for grease and one for light oil.  
Cat. No. 8690 GC Net .53  
988 Walsco

**GC PLASTIC BOXES**  
Clear plastic boxes for small parts, screws, nuts, bolts, condensers, resistors, etc. Size 4" x 4".  
Cat. No. 8022 2 1/2" deep Net .40  
Cat. No. 8023 8" deep Net .77

**GC DANDY LITE TESTER**  
Hand touches lead to only one side of the line for extra safety. A dependable tester for tracing electrical circuits, grounded lines, shorts, etc.  
Cat. No. 8585 Net .90

**GC DUPLEX TUBE PIN STRAIGHTENER**  
The handiest tube pin straightener for both miniature and jumbo miniature tubes of the 7- and 9-pin types.  
Cat. No. 8655 Net 2.00

**GC HANDY PICK-UP TOOL**  
One of the handiest tools you can have in your home, shop, office or farm. Tool is 15 inches long.  
Cat. No. 5089 GC Net 1.15  
2563 Walsco

**GC TV RADIO KNOB PULLER**  
Simply slip the GC Puller behind the knob and pull it off. Saves time, the cabinet and the knob.  
Cat. No. 23 954 Net .30

**GC SPEEDX FUSE PULLERS**  
Inexpensive...non-slip, fuse puller. Safe and handy for cartridge fuses.  
Cat. No. 5525 Midget size for fuses 1/4" to 1/2" diameter Net .60  
Cat. No. 5526 Pocket size for fuses 1/2" to 1-1/2" dia. Voltages to 200 amps at 250 volts and 100 amps at 600 volts. Net 1.30

**GC PRY-UP TUBE LIFTER**  
Handy tool for removing light tubes. Saves the fingers and the tubes.  
Cat. No. 9213 Net .30

**SUPER PICTURE WIDENER**  
Increases over-all TV picture size by boosting low-sweep output from horizontal circuit. No soldering, no wiring. Plugs onto horizontal damper tube.  
Cat. No. 8761 Net .75

**GC TWEEZERS**  
Self-closing tweezers opens when squeezed; blunt points.  
Cat. No. 7946 GC Net .99  
570 Walsco  
6 1/2" heavy duty type, with slide lock feature; blunt points.  
Cat. No. 7947 GC Net 1.10  
571 Walsco  
4 1/2" tweezers, narrow pointed ends for delicate work.  
Cat. No. 7948 GC Net .75  
572 Walsco

**GC 4-IN-1 TUBE GADGET**  
Four tools in one. Pure rubber, will not break.  
Cat. No. 9130 Net 1.25

**GC HEXAGON KEY WRENCHES**  
Kit of 5 assorted wrenches in Leatherette case.  
Cat. No. 5029 Net .80

**GC DUAL TUBE PIN STRAIGHTENER**  
A handy, miniature pin straightener for 7-pin and 9-pin miniature tubes. Metal inserts on either end of the tool body, each of hardened metal for accuracy and long life.  
Cat. No. 9092 Net 3.20

**GC KLEER LENS**  
A superior lens cleaning fluid packaged in a handy plastic spray type container. This cleaner will make the transparent protection shield in front of the picture tube crystal clear.  
Cat. No. 9081 6 oz. Net .75

**SPLINE KEY WRENCHES**  
Kit of 6 assorted wrenches in Leatherette case.  
Cat. No. 5070 Net .80

**GC TWEEZER KIT**  
For the shop or laboratory to pick up and examine small parts, start screws and nuts, etc.  
Cat. No. 7950 GC Net 2.84  
575 Walsco

**GC PHONO TURNTABLE STAND**  
Stand raises the turntable about 15" above the bench for repairs. Easily adjusted to all sizes and types of phono turntables. Sturdily made of steel.  
Cat. No. 5205 Net 4.95



# COLOR TV SERVICE AIDS



## RCA COLOR TV HARNESSSES & SOCKETS FOR SERVICE & REPLACEMENT

Part No.	Description	Net
9453	<b>ANODE EXTENSION</b> High voltage extension cable with 48" leads for use when TV chassis is removed from set for servicing.	1.95
9445	<b>CONVERGENCE MAGNET DEFLECTION YOKE EXTENSION.</b> For RCA, Admiral, Motorola, Zenith. Extension leads for chassis removal without removing picture tube. For RCA CTC7 to CTC15 chassis. Deflection yoke extension for RCA 600 & 700 series.	4.95

Part No.	Description	Net
9436	<b>ADAPTER SOCKET</b> Converts 23" & 25" CRT Base to 21" type for use with current test equipment. RCA No. 937848; Admiral No. BP196.	3.50
9437	<b>UNIVERSAL KINESCOPE SOCKET EXTENSION CABLE</b> —fits all 21", 23" and 25" round and rectangular CRT. 48" leads. RCA No. 13B111 and 937846; Admiral No. BP191.	7.50
9438	<b>KINESCOPE EXTENSION SOCKET</b> 48" leads—converts a 23" or 25" CRT base to 21" type for use with current test equipment. RCA No. 13B111 and 937847; Admiral No. BP190.	8.95
9439	<b>KINESCOPE SOCKET EXTENSION CABLE</b> For all 21AXP or equivalent round picture tubes. Extends kinescope socket cable for chassis removal when servicing, or use with color test tube jig. Admiral No. BP192.	4.95
9441	<b>REPLACEMENT SOCKET &amp; LEADS</b> For 21" color tubes—24" leads.	2.25
9443	<b>REPLACEMENT SOCKET &amp; LEADS</b> For 23" and 25" color tubes—24" leads.	2.25
9447	<b>DEFLECTION YOKE EXTENSION CABLE</b> For 21" color tubes—48" leads. Use with all 21AXP22 or equivalent tubes. Extends yoke cable for servicing chassis without removing picture tube.	4.85
9448	<b>DEFLECTION YOKE EXTENSION CABLE</b> 48" leads extend yoke cable when chassis is removed for servicing. For 23" or 25" picture tubes. Male octal plug one end, push-on connectors on other end for connecting to deflection yoke, or test jig.	1.95




**COLOR TV RECTIFIER KIT**

Only one kit needed to service nearly all makes of color TV sets, including RCA, Zenith, General Electric, Philco, etc.  
Cat. No. 16-500 Net 4.40




**COLOR TV SERVICE MIRROR**

High quality polished glass mirror in metal frame, nickel plated. 10" x 12". Complete with adjustable, collapsible stand for easy storage.  
Cat. No. 8390 Net 5.91



**7" DEGAUSSING COIL IN-THE-HOME MODEL**

For the home or serviceman. Molded of hi-impact plastic with momentary push-button switch, this coil will easily fit into tube caddy or will hang on the back of TV set. Low cost...easy resale to TV set owner.  
Cat. No. 2592 Net 5.95



**GC DEGAUSSING COIL PROFESSIONAL MODEL**

Eliminates stray magnetic fields in color TV sets as required prior to purity adjustment. Durable, molded hi-impact case. Supplied with 9' cord, momentary push-button switch which permits de-energizing of coil without pulling plug. Safe, easy to use; will last a lifetime.  
Cat. No. 9317 Net 19.95

## GC SERVICE AIDS

 <p><b>GC TV 3-WAY ANTENNA KLIP</b></p> <p>Buy them by the bag and have clips ready to sell and ready to install on TV sets. Cat. No. 9015-X bag of 10 Net 1.63</p>	 <p><b>GC INTERCHANGEABLE HEX NUT DRIVER KIT</b></p> <p>6 assorted nut drivers in a handy plastic case. Handle is non-flammable amber plastic with a quick change chuck. Cat. No. 9206 Net 3.30</p>	 <p><b>SPRAY CAN HANDLE</b></p> <p>For all aerosol spray cans, including new 24 and 35 oz. size cans. Attaches or detaches in seconds. Converts any spray can to professional spray gun. Cat. No. 5900 Net .49</p>	 <p><b>GC STICKLEBABY</b></p> <p>Ideal for custom installations. Combination drill, saw, rasp. Use where power tools are impractical. For use on wood, plaster, plastic and masonry. Cat. No. 8870 Net 1.50</p>
 <p><b>"QUICK SNAP" ANTENNA CLIP</b></p> <p>New side clip allows fast connecting with antenna lines, ideal for the service bench. Accepts A-N-P. Pin, and flat terminal type lines. Cat. No. 9030 bag of 2 clips Net .49</p>	 <p><b>GC PLASTIC ELECTRICAL TAPE</b></p> <p>Insulates tools, electrical splices and connections. Has minimum dielectric strength of 10,000 volts. Wrap tool handles for "non-slip" grip. Cat. No. 16-890 1 2" x 12" Net .26 Cat. No. 16-892 3 4" x 20" Net .45</p>	 <p><b>GC 3-STEP TAP</b></p> <p>Three-in-1 tool for tapping or rethreading holes. 3 most popular tap sizes: 6 32, 8 32 and 10 32. Heavy plastic handle. Cat. No. 8871 G.C. Net 3.75 2574 Walsco</p>	 <p><b>SLAB TYPE CLUTCH-HEAD SCREWDRIVERS</b></p> <p>The only tools for servicing the Admiral Tilt-Out Tuner TV sets. Two sizes are available. A must for working on Color TV sets. Cat. No. 12-015 for No. 6 clutch-head screws Net 1.95 Cat. No. 12-016 for No. 8 clutch-head screws Net 1.95</p>

## WALSCO SPECIAL TOOLS

 <p><b>SOLDER-AID TOOL</b></p> <p>Wire brush makes removing old solder a snap. Flaked tool end and brush made of special stainless steel to which solder will not stick. Cat. No. 2529 Walsco 8" long plastic handle Net \$1.00 9088 GC</p>	 <p><b>WALSCO OILETTE</b></p> <p>Filled with high grade Walsco oil. Dispenses accurately one drop at a time. For use on electronic and electrical devices, clocks, office machines, sporting goods, etc. Cat. No. 986 Walsco Net \$ .83 8885 GC 986-22 Walsco Refill for Oilette .33 8886 GC</p>	 <p><b>GC NEW LOW LOSS TV LINE KLIP</b></p> <p>A new all plastic clip with metal ends only. The best for UHF or fringe areas. Made of genuine polyethylene. Cat. No. 9055 Net .15 Cat. No. 9055-X Bag of 10 Net 1.44</p>	 <p><b>GC TUBE PIN STRAIGHTENER</b></p> <p>Plastic 6" ruler; tube pin straightener for Compactors, large 7-pin, 9 and 10 pin, and 7-pin tubes. Drilled holes for bench mounting. Cat. No. 9135 Net .59</p>
 <p><b>REACH-ALL PEN OILER</b></p> <p>Precision instrument oiler. Features extending and retracting tube. Disposes a drop or fraction of a drop of high quality oil. Cat. No. 984 Net .99</p>	 <p><b>SLOTTED SCREWDRIVER.</b> Instead of a blade, this tool has a slot to fit No. 6 studs. For many of the older TV sets. Cat. No. 2524 Net \$1.00</p>	 <p><b>KNURL-TITE WRENCH</b></p> <p>Tighten or loosen knurled finish nuts quickly and easily. The knurled nut is slipped into the collet-type pressure jaws. A quarter turn of the handle results in a positive vise-like grip. Cat. No. 2542 1/2" diameter nut Net 4.83 Cat. No. 2542 3/4" diameter nut Net 4.83 Cat. No. 2542 5/8" diameter nut Net 4.83</p>	 <p><b>LONG REACH OILER</b></p> <p>Extension telescopes to over 7'. Excellent for lubricating hard-to-reach places. Contains finest quality all-purpose oil. Cat. No. 985 Net 1.07</p>
 <p><b>WALSCO SLUG RETRIEVING &amp; SCREW HOLDING TOOL</b></p> <p>Especially designed for removing fast TV Tuner slugs in Standard Color Tuners. Excellent screw holding tool. Ends are made of ground hardened steel. Cat. No. 2565 1 1/2" length Net 2.70 Cat. No. 2566 1 3/4" length Net 3.25 Cat. No. 2567 1 3/8" length Net 4.30</p>	 <p><b>ALL-PURPOSE WIRE STRIPPER</b></p> <p>Automatic cuts, strips insulation from fine stranded wires. "Stay open" feature prevents crushing fine wires. Blades are easily replaced if necessary. Cat. No. 591 00V Net 5.93</p>	 <p><b>TRIG-O-MATIC WIRE STRIPPERS</b></p> <p>Similar to 594 but has a Trig-O-Matic feature that holds jaws open until released. Especially desirable for stripping of fine stranded wire. Cat. No. 593-01 for No. 14 to 22 Net 5.93 Cat. No. 593-02 for No. 10 to 16 Net 5.93 Cat. No. 593-03 for No. 14 to 30 Net 5.93 Cat. No. 593-04 for No. 16 to 22 Net 5.93 Extra Blades for above per set Net 1.35</p>	 <p><b>SPEED-O-MATIC WIRE STRIPPERS</b></p> <p>With fully automatic delayed-action return that prevents the crushing of fine stranded wires. Completes the stripping operation with one simple squeeze of the handles. Strips all types of wire insulation. Trim No. 111 No. 31 wires by easy exchange of cutter blades. Cat. No. 594-01 for No. 6 to 22 Net 5.93 Cat. No. 594-02 for No. 14 to 18 Net 5.93 Cat. No. 594-03 for No. 14 to 30 Net 5.93 Cat. No. 594-04 for No. 16 to 22 Net 5.93 Extra Blades for above per set Net 1.43</p>
 <p><b>PROTECTO TUBE</b></p> <p>Insulate the handles of your press, wire cutters, screwdriver, shanks neatly and effectively with Walsco Protecto Tube. Cat. No. 18K Net 1.20</p>			



# CHASSIS PUNCHES

ROUND, SQUARE, "KEY," AND "D" TYPES



## NO. 730 ROUND PUNCH

Swiftly cuts clean, accurate holes in radio chassis for sockets, switches, controls and other equipment. Operates simply with an ordinary wrench for drive power . . . just insert in a small drilled hole and turn drive screw. No reaming or filing . . . hole is smooth, perfect. 29 sizes from 1/2" to 3 1/8" diameter. New Ball-Bearing Drive available for even easier, speedier operation.



## NO. 731 SQUARE PUNCH

Cuts square or oblong openings as desired. Available in five sizes for making 1/2", 5/8", 3/4", 7/8", and 1" square holes. Drive screw fits into 1/2" hole, which can be drilled or made with 1/2" No. 730 GREENLEE Round Punch. Operates with an ordinary wrench for drive power. Individually packed.



## NO. 731-R KHP RELAY PUNCH

Makes clean, accurate, finished holes in up to 16-gauge metal for Potter & Brumfield KHP miniature relay sockets. Makes 1.015" x .859" hole.



## NO. 732 "KEY" PUNCH

Quickly, easily cuts holes for keyed radio sockets. Operates on same principle as other GREENLEE Radio Chassis Punches . . . an ordinary wrench supplies the drive power. In five sizes to make openings of 15/32", 15/16", 1 1/64", 1 1/64", 1 2/64". Drive screw fits into 1/2" hole. Individually packed.



## NO. 733 "D" PUNCH

Simplifies and speeds the work of making "D"-shaped openings for high-frequency, miniature tube sockets and other equipment using this type opening. Available in 1/2" and 5/8" sizes. Operates on same principle as other GREENLEE Radio Chassis Punches with an ordinary wrench supplying the drive power. Drive screw fits into 3/8" drilled hole. Individually packed.



## NO. 734 DOUBLE "D" PUNCH

Quickly makes standard electrical receptacle openings. Cuts standard hole 1 1/8" dia. across parallel sides, 1 3/8" dia. across rounded ends. Simply insert into a 1/2" hole and turn with an ordinary wrench. Does the work in less than five minutes . . . eliminates all tedious hand filing . . . gives a smooth, perfect opening.



## No. 730 ROUND PUNCH

Size	Net User Price	Size	Net User Price
1/2"	\$2.70	1 3/4"	\$5.85
9/16"	2.70	1 7/8"	7.30
5/8"	2.70	2"	7.80
1 1/16"	2.70	2 1/8"	8.45
3/4"	2.70	2 1/4"	8.45
13/16"	2.70	2 1/2"	13.75
7/8"	2.70	2 3/4"	19.00
15/16"	3.00	2 5/32"	13.10
1"	3.00	3"	26.50
1 1/16"	3.15	3 1/8"	28.75
1 1/8"	3.15	Following sizes also available with larger drive screw for cutting thicker metals (No. 730X)	
1 5/32"	3.15	1 1/8"	6.40
1 3/16"	3.15	1 3/16"	6.40
1 7/32"	5.75	1 1/4"	6.40
1 1/4"	3.15	1 3/8"	7.35
1 5/16"	3.75	1 5/8"	8.30
1 3/8"	3.75		
1 1/2"	4.25		
1 5/8"	5.10		

## No. 731 SQUARE PUNCH

Size	Net User Price	Size	Net User Price
1/2"	\$6.45	7/8"	\$8.30
5/8"	6.35	1"	8.60
3/4"	7.10		

## No. 731-R KHP RELAY PUNCH

Size	Net User Price
1.018" x .861"	\$14.30

## No. 731-R KU & KUP RELAY PUNCH

Size	Net User Price
1 1/4" x 1 3/8"	\$19.00

## No. 732 "KEY" PUNCH

Size	Net User Price	Size	Net User Price
15/32"	\$6.00	1 1/64"	\$7.60
15/16"	6.10	1 2/64"	8.50
1 1/64"	6.80		

## No. 733 "D" PUNCH

Size	Net User Price	Size	Net User Price
1/2"	\$4.90	5/8"	\$5.25

## No. 734 DOUBLE "D" PUNCH

Size	Net User Price
1 1/8" x 1 3/8"	\$28.00



# SOLDERING IRONS









6 to 230 VOLTS 12 to 140 WATTS

A complete line of high quality soldering irons specifically designed for production-line soldering in the electronic, instrument, and communications industries—including irons for soldering miniature and subminiature components. Also ideally suited for intermittent operations such as repair, maintenance, laboratory work, and electronic kit construction. Irons up to 1250 watts are available.

## PENLINE-120 SOLDERING IRONS — 120 VOLTS; 25, 30, 40 AND 45 WATTS — UL LISTED



Lowest cost G-E iron; ideally suited for light to medium production in electronics, communications, and allied industries, for repair and maintenance operations, and by the "do-it-yourself" electronics kit builder.

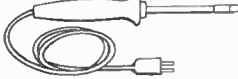
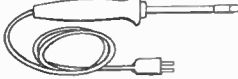
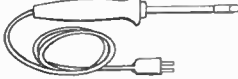







Description	Cat. No.	List Price Each ‡
<b>Handle and 6-foot Cordset</b>		
 Two-conductor	6D400	\$3.15
 Three-conductor, with NEMA standard plug	6D400G2	4.25
<b>Tip and Heater Units — Ironclad</b>		
 1/8" Chisel Tip 30 watts	6D410	\$5.00
 3/32" Chisel Tip 30 watts	6D411	5.10
 1/4" Chisel Tip 45 watts	6D412	5.20
<b>Heater for Threaded Tips</b>		
 25 watts	6D415	\$4.25
 30 watts	6D414	4.25
 40 watts	6D413	4.25

Use interchangeable threaded tips listed on next page.

## LIGHTWEIGHT SOLDERING IRONS — 120 VOLTS; 40 AND 60 WATTS — UL LISTED



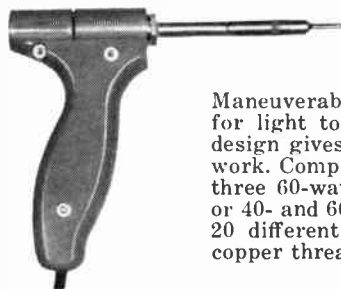
Ideal for light and medium production-line soldering and maintenance and repair operations in electronics and communications industries. Tip and heater units can be changed in seconds.

<b>Complete Iron — Includes handle and 6-foot cordset, and tip and heater unit</b>		
 3/32" Ironclad Chisel Tip	6A273	\$15.05
 3/16" Ironclad Pyramid Tip	6A283	15.05
 3/16" Ironclad Chisel Tip	6A283G23	15.05
<b>Handle and 6-foot Cordset</b>		
 Two-conductor	6A273G62	\$7.70
 Three-conductor with NEMA standard plug	6A273G63	9.00
<b>Tip and Heater Units</b>		
 3/32" Ironclad Chisel Tip	6A300	\$7.40
 3/16" Ironclad Pyramid Tip	6A301	7.40
 3/16" Ironclad Chisel Tip	6A301G4	7.40
<b>Heater Units for Threaded Tips</b>		
 40 watts	6A304	\$6.45
 60 watts	6A301G7	7.10

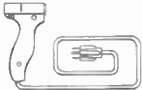
Use interchangeable threaded tips listed on next page.

‡ Manufacturer's suggested resale price.

## PISTOL-GRIP SOLDERING IRONS — 120 VOLTS; 40 AND 60 WATTS



Maneuverable and comfortable, excellent for light to medium production. Unique design gives operator a clear view of the work. Complete versatility with choice of three 60-watt tip and heater assemblies; or 40- and 60-watt heater assemblies with 20 different interchangeable ironclad or copper threaded tips.

Description	Cat. No.	List Price Each ‡
 Handle and cordset, three-wire with NEMA plug	6A303	\$9.05





Can be used with Lightweight tip and heater units, or with Lightweight heater units and interchangeable threaded tips listed on next page.

## MINIATURE SOLDERING IRONS — 6 VOLTS, 12 WATTS





Ideal for production line soldering of sub-miniature equipment, printed circuits, and instruments. Weighs only 1 1/2 ounces. Integral transformer plugs into any standard 115-volt outlet, makes iron portable for maintenance work.





**Complete Iron — Includes tip and heater unit, 6-foot cordset, and transformer with grounded plug.**

 3/64" Chisel Tip 3" Shank	6A428G3	\$16.75
 3/64" Chisel Tip 6" Shank	6A428G4	16.75
 3/64" Pyramid Tip 3" Shank	6A428G7	16.75
 3/64" Pyramid Tip 6" Shank	6A428G8	16.75

**Complete Iron Less Transformer — Includes tip and heater unit, and 6-foot cordset with terminals**

 3/64" Chisel Tip 3" Shank	6A428G5	\$10.10
 3/64" Chisel Tip 6" Shank	6A428G6	10.10


**Renewal Tip and Heater Units**

 3/64" Chisel Tip 3" Shank	6A429G3	\$6.10
 3/64" Chisel Tip 6" Shank	6A429G4	6.10
 3/64" Pyramid Tip 3" Shank	6A429G5	6.10
 3/64" Pyramid Tip 6" Shank	6A429G6	6.10

**Handle and Cordset Only**

 6-foot Cordset with Terminals	6A428G62	\$5.20
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**Renewal Transformer — Includes — 6-foot integral cordset**

 6-volt Secondary 115-volt Primary	6A430	\$8.25
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**MIDGET SOLDERING IRONS — 6 VOLTS;  
18 to 45 WATTS (with transformers) — UL LISTED**



A versatile iron for light production in electronics, and communication industries — handles like a pencil, weighs but 1 3/4 oz. Tip renewal is easy and fast — complete tip and heater unit can be changed in a few seconds. Heat output can be varied from 18 to 45 watts with standard G-E transformers.

Description	Cat. No.	List Price Each†
<b>Handle and 6-foot cordset</b>		
	6A203	\$3.90
	6A203G2	4.40

**Tip and Heater Units — All ironclad tips**

	1/2" Chisel Tip	25 watts	6A211	\$4.30
	1/8" Cone Tip	25 watts	6A213	4.30
	3/16" Pyramid Tip	25 watts	6A215	4.30
	1/8" Chisel Tip	25 watts	6A217	4.30
	3/16" Chisel Tip	45 watts	6A211G31	4.90

**Heater for Threaded Tips**

	25 watts	6A221	\$4.30
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**Transformers for Midget Iron — 115-volt Primary\***

	Single Tap 6.3-volt secondary	6A362G2	\$7.35
	Four Tap 5.4/5.7/6.0/6.3-volt secondary	6A364G2	9.75
	With Three-heat Switch 4.9/6.3/6.9-volt secondary For use only with Handle and Cordset 6A203G2.	6A434	21.00

\* Single- and four-tap transformers are available with 240-volt primary in quantities of 36 or more, specify catalog number desired and note on order, "except with 240-volt primary." Use interchangeable threaded tips.

**MIGHTY MIDGET SOLDERING IRON — 12 VOLTS;  
100 WATTS**



A lightweight iron with high heat capacity for heavy soldering where larger irons, up to 200 watts, prove unwieldy for rapid repetitive soldering, such as production soldering of tuner chassis, tinware, can seams, etc.

**Handle and Cordset — Two-conductor**

	6A210G61	\$8.45
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**Tip and Heater Unit**

	1/2" Ironclad Chisel Tip	6A211G33	\$4.80
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**Transformer for Mighty Midget — 115-volt primary**

	Four Tap — for 55/70/85/100 watts	6A364G7	\$17.00
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**6A160 SERIES SOLDERING IRONS — 115 VOLTS§,  
75 TO 140 WATTS — UL LISTED**



Ideal for medium to heavy production, and maintenance and repair operations. Available with any of 12 different tips, calorized or ironclad.

Description	Cat. No.	List Price Each†	
<b>Complete Iron Less Tip — Includes 6-foot two-conductor cordset</b>			
	75 Watts 100 Watts 110 Watts 125 Watts 140 Watts	6A161 6A162 6A162G6 6A162G3 6A162G12	\$15.85 15.85 16.40 16.40 16.40

**Tips — Fit all irons listed above**

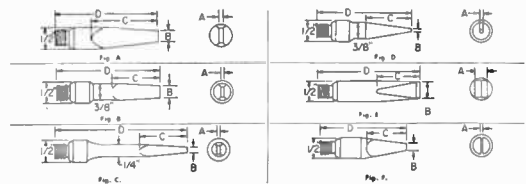


Fig.		A	B	C	D		List Price Each†
A. 1/2"-Dia. Chisel	Calorized	3/32	3/16	1 1/2	2 3/8	6D1P1	\$1.10
	Ironclad	1/16	3/32	1 1/2	2 3/8	6D1P2	1.95
	Calorized	3/32	1/4	2 3/4	4	6D1P3	1.85
	Ironclad	3/32	1/4	2 3/4	4	6D1P4	3.75
B. 3/8"-Dia. Chisel	Ironclad	1/16	3/16	1 1/8	2 3/8	6D1P8	1.95
	Calorized	3/32	3/16	1 1/8	2 3/8	6D1P6	1.10
	Ironclad	1/16	3/16	1 1/8	2 3/8	6D1P7	1.95
C. 1/4"-Dia. Chisel	Ironclad	1/16	1/8	1	3 1/8	6D1P5	1.85
D. Cone	Ironclad	1/16	1/16	1 3/16	2 3/16	6D1P12	1.95
E. Pointed Chisel	Ironclad	1/4	1 3/32	1	1 7/8	6D1P9	2.45
	Ironclad	1/4	1 3/32	1	2 3/8	6D1P10	2.90
F. Slim Chisel	Ironclad	1/16	3/32	7/8	2	6D1P19	3.15

**Renewal Heater — 115 Volts§**

	75 Watts 100 Watts 110 Watts 125 Watts 140 Watts	6A31 6A32 7C342 8A88 7C474	\$4.80 4.80 5.10 5.60 5.60
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§ Also available for 230-volt operation.  
† Manufacturer's suggested resale price.

**INTERCHANGEABLE THREADED TIPS  
For Penline-120, Pistol-grip, Lightweight, and Midget Irons**

Description (Copper Tip, Surface Plating)	Cat. No.	List Price Each†
<b>Spade Tips</b>		
	6D4P1	\$0.50
	6D4P2	1.50
	6D4P3	0.50
	6D4P4	1.50
<b>Chisel Tips</b>		
	6D4P5	0.50
	6D4P21	1.50
	6D4P6	1.50
	6D4P7	0.50
	6D4P22	1.50
	6D4P8	1.50
	6D4P9	0.50
	6D4P10	1.50
	6D4P11	0.50
	6D4P12	1.50
<b>Long Chisel Tips</b>		
	6D4P13	0.60
	6D4P14	1.60
<b>Pyramid Tips</b>		
	6D4P15	0.50
	6D4P16	1.50
	6D4P17	0.50
	6D4P18	1.50
<b>Cone Tips</b>		
	6D4P19	0.50
	6D4P20	1.50

# GENUINE PEER<sup>®</sup> HAND TOOLS

Precision tools for miniature and micro-miniature work. The exceptional quality of these tools is the result of extensive use of hand operations at all stages of production, from shaping to finishing.

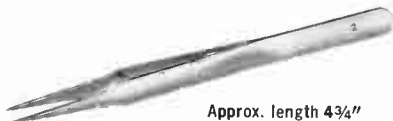
## DUMONT STYLE TWEEZERS

Finest Swiss made tweezers, with ultra-precision points, which are suitable for work under microscopes. Except for pattern 15A cutting tweezers, which are only available in carbon steel, they are available in carbon, stainless, non-magnetic stainless, Carpenter 20 and titanium metals. The most popular are listed below.



Approx. length 4 3/4"

**PATTERN 1.** For general use, this pattern has sharply honed points.  
No. 46-201 stainless steel .....\$2.65



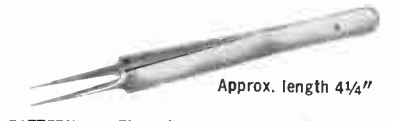
Approx. length 4 3/4"

**PATTERN 2.** General use tweezers with sturdier points than pattern 1.  
No. 46-202 stainless steel .....\$2.85



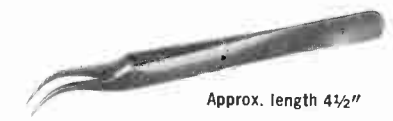
3 Approx. length 4 5/8"  
3C Approx. length 4 1/4"

**PATTERN 3 and 3C.** These tweezers have very sharply honed points. Pattern 3C is the shorter version.  
No. 46-203 stainless steel .....\$2.85  
No. 46-203C stainless steel .....\$2.85



Approx. length 4 1/4"

**PATTERN 5.** The sharpest needle-like points, which are micro-honed, make these tweezers suitable for handling the smallest objects.  
No. 46-205 stainless steel .....\$3.60



Approx. length 4 1/2"

**PATTERN 7.** The curved shape makes this pattern suitable for many jobs. Points are sharp and honed.  
No. 46-207 stainless steel .....\$3.90



Approx. length 4 1/2"

**PATTERN 15A.** Honed cutting edges give crisp, clean, close, flush cuts on many types of fine wire.  
No. 46-315A carbon steel .....\$8.25

## BOLEY STYLE TWEEZERS

Excellent general utility tweezers made in Switzerland. The sharp points have received some hand finishing at the tips, making them suitable for work under low power magnification. While available in various types and metals, only the most popular are shown below, which are made of carbon steel, which has been nickel-plated.



Approx. length 4 3/4"

**PATTERN AA.** Standard shape useful for many jobs.  
No. 46-602 nickel plated steel .....\$1.25



Approx. length 4 5/8"

**PATTERN BB.** Hollow shanks make this pattern extremely lightweight.  
No. 46-604 nickel plated steel .....\$1.15



Approx. length 4 7/8"

**PATTERN MM.** Heavier body tweezer for general use.  
No. 46-613 nickel plated steel .....\$1.35

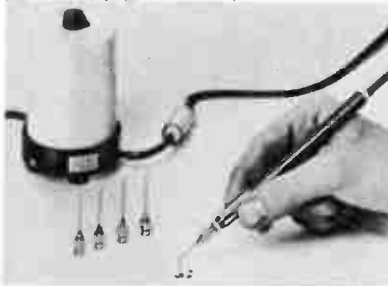


Approx. length 3 3/4"

**PATTERN D.** Flush cutting tweezer also used for stripping fine wires.  
No. 46-631 nickel plated steel .....\$2.50

## VACUUM TWEEZERS

Handles delicate miniature objects without scratching, breaking or pinching. Vacuum is controlled at tip of pencil by forefinger. Generator is only 4 1/2" high, and adjustable so exact vacuum pressure can be created (up to 14" Hg). Operates on 115 volt A.C.



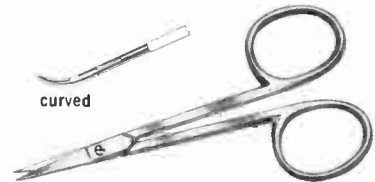
No. 47-807 Complete with 5 needle tips. \$33.50



No. 47-808 Set of 8 neoprene vacuum cups, which fit on needle tips, for picking up larger objects. Diameter 3/16" to 5/8" by 16ths.  
set \$6.50

## SCISSORS

Made in Solingen of a high quality drop forged steel which has been nickel plated. For cutting wire, ribbon and sheet metals.



curved

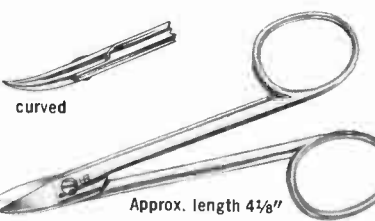
Approx. length 3 1/2"

**SHORT BLADE** — Slender blades 3/4" long for small soft wires.  
No. 41-810 straight .....\$2.70  
No. 41-811 curved .....\$2.80



Approx. length 4 1/8"

**NARROW BLADE** — Long tapered blades 1 3/8" long, for soft wire and ribbon.  
No. 41-820 straight .....\$2.90



curved

Approx. length 4 1/8"

**CROWN STYLES** — For hard wires and sheet. Stubby blades 9/16" long.  
No. 41-825 straight .....\$3.30  
No. 41-826 straight with one edge serrated for round wires .....\$3.50  
No. 41-827 curved .....\$3.65

## SEIZERS



curved

Hemostat clamps for holding wires while soldering, as a heat sink and for reaching into inaccessible areas. Stainless steel with insulated vinyl plastic covered handles. Box joint construction with 2 position locking device. Nos. 36-442 and 36-443 are "mosquito" style with jaws that are smooth on the inside.

No. 36-440 straight serrated jaws, overall 5 3/4".  
No. 36-441 curved serrated jaws, overall 5 3/4".  
No. 36-442 straight smooth jaws, overall 4 7/8".  
No. 36-443 curved smooth jaws, overall 4 7/8".  
PRICE \$4.80

Catalog showing full Peer line on request.

Prices shown are list prices, subject to change without notice. Ask your distributor for quantity prices.

## HAMMEL, RIGLANDER & COMPANY, INCORPORATED

# Lindstrom® Swedish PLIERS AND NIPPERS

MINIATURE TOOLS for use on the compact electronic circuits, assemblies and components in today's space age technology. The heads easily reach into confined spaces to perform intricate work, while their light weight, perfect balance, and comfortable grip provide fatigue-free use during continuous operations.



## FULL-FLUSH EDGES

For cutting soft wires straight and flush... leaves no wire peak

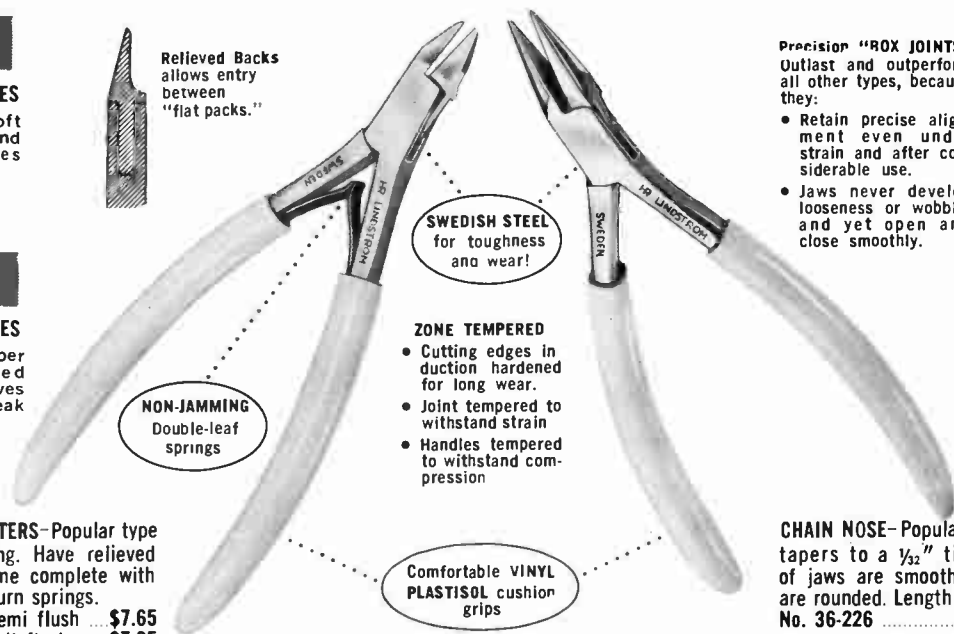


## SEMI-FLUSH EDGES

For cutting copper and insulated wires... leaves a very small peak



Relieved Backs allows entry between "flat packs."



SWEDISH STEEL for toughness and wear!

## ZONE TEMPERED

- Cutting edges in duction hardened for long wear.
- Joint tempered to withstand strain
- Handles tempered to withstand compression

NON-JAMMING Double-leaf springs

Comfortable VINYL PLASTISOL cushion grips

Precision "ROX JOINTS" Outlast and outperform all other types, because they:

- Retain precise alignment even under strain and after considerable use.
- Jaws never develop looseness or wobble, and yet open and close smoothly.

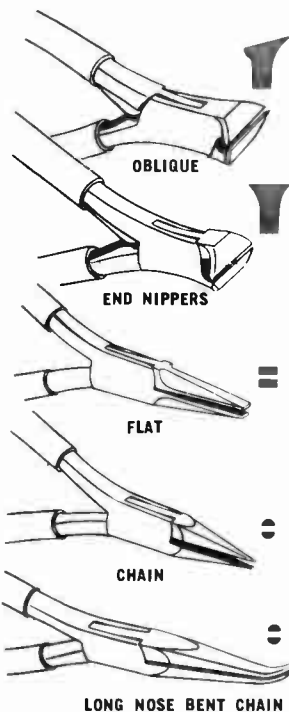


DIAGONAL CUTTERS—Popular type for side cutting. Have relieved backs, and come complete with double-leaf return springs.

No. 36-237S—semi flush .....\$7.65  
No. 36-238S—full flush .....\$7.95

CHAIN NOSE—Popular snipe nose tapers to a  $\frac{1}{32}$ " tip—Insides of jaws are smooth, and edges are rounded. Length of jaws  $\frac{3}{4}$ ".  
No. 36-226 .....\$5.50

All Supreme Tools are Approximately 4 1/2" Long.



OBLIQUE

END NIPPERS

FLAT

CHAIN

LONG NOSE BENT CHAIN

## Supreme NIPPERS

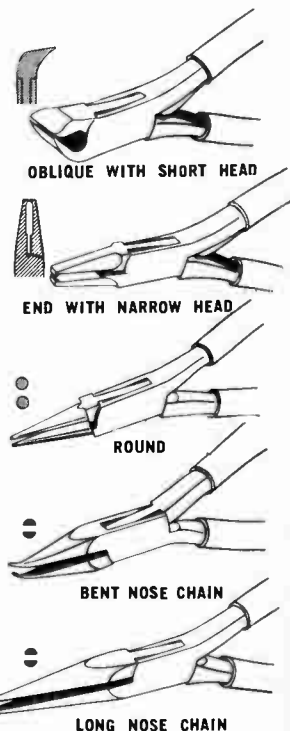
All Nippers have vinyl plastisol handles and double-leaf return springs.

- OBLIQUE—Head is angled 15°, with tip coming to a point. No. 36-234S semi-flush edges .....\$7.25  
No. 36-235S full flush edges .....\$7.65  
OBLIQUE WITH SHORT HEAD—Similar to above except back edge is ground off so head can be fitted into inaccessible areas. No. 36-242S full flush edges .....\$7.65  
END NIPPERS—Jaws are set straight across with both ends coming to a point. No. 36-231S semi-flush edges .....\$7.25  
No. 36-232S full flush edges .....\$7.85  
END WITH NARROW HEAD—Head is only  $\frac{1}{8}$ " wide at cutting edge. No. 36-246S flush edges .....\$7.65

## Supreme PLIERS

All pliers have vinyl Plastisol handles. Double-leaf return springs available at 25¢ per pair.

- FLAT— $\frac{1}{8}$ " wide at tip. Insides of jaws are smooth and edges are rounded. Length of jaws  $\frac{3}{4}$ ". No. 36-221 .....\$5.50  
ROUND—Jaws are smooth and taper to a  $\frac{1}{32}$ " tip. Insides of jaws are smooth and edges are rounded. Length of jaws  $\frac{3}{4}$ ". No. 36-224 .....\$5.85  
CHAIN—Popular snipe nose tapers to a  $\frac{1}{32}$ " diameter at the tip. Length of jaws  $\frac{3}{4}$ ". No. 36-226 .....\$5.50  
BENT NOSE CHAIN—Tips are angled at 45° for picking up and manipulating precision wires. Length of jaws  $\frac{3}{4}$ ". No. 36-227 .....\$6.25  
LONG NOSE BENT CHAIN—Tips are angled at 60° for picking up and manipulating precision wires. Length of jaws  $1\frac{1}{4}$ ". No. 36-228 .....\$6.60  
LONG NOSE CHAIN—Extra length jaws for getting into tight places. Snipe nose tapers to  $\frac{1}{32}$ ". Length of jaws  $1\frac{1}{4}$ ". No. 36-228 .....\$5.85



OBLIQUE WITH SHORT HEAD

END WITH NARROW HEAD

ROUND

BENT NOSE CHAIN

LONG NOSE CHAIN

Catalog showing full Lindstrom line on request.

Prices shown are list prices, subject to change without notice. Ask your distributor for quantity prices.

# HAMMEL, RIGLANDER & COMPANY, INCORPORATED



# ELECTRIC SOLDERING IRONS



VOLTAGE RANGE: 6 to 250 OPERATES IDENTICALLY ON A.C. OR D.C., ANY CYCLE  
STANDARD VOLTAGES 110/120, 121/130, 220/250 SPECIFY VOLTAGE ON ORDER

Equipped with flexible 6-ft. approved Neoprene rubber heater cord, which is water-proof, kink-free, and resistant to oil, abrasion and heat. Nickel-chromium replaceable heating elements, insulated with finest mica, protected by rugged outer housing. Replaceable tips.

## PLUG-TIP IRONS



Cat. No.	Watts	Tip Dia.	Ship. Wt.	Net Price	Less Tip
P70	100	3/8"	1 1/8 lbs.	8.33	7.95
P100	110	3/8"	1 3/8 lbs.	8.89	8.44
P111	125	3/8"	1 3/8 lbs.	8.89	8.44
P115	150	3/8"	1 1/2 lbs.	9.03	8.58
P150	150	3/8"	1 1/2 lbs.	9.73	9.28
P153	175	3/8"	1 1/2 lbs.	10.08	9.63
P155	200	3/8"	1 1/2 lbs.	10.08	9.63
P151	175	1/2"	1 1/2 lbs.	10.50	9.66
P152	200	1/2"	1 1/2 lbs.	10.50	9.66
P200	200	3/8"	2 3/8 lbs.	11.06	9.94
P250	250	3/8"	2 3/8 lbs.	12.60	11.48



P300	300	7/8"	3 lbs.	14.28	12.01
P550	550	1 1/8"	4 3/8 lbs.	19.32	14.95

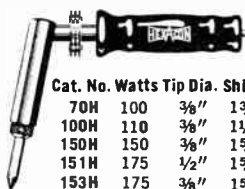
## SUPER-POWERED IRONS

HIGHER SPEED SMALLER TIPS



Cat. No.	Watts	Tip Dia.	Ship. Wt.	Net Price	Less Tip
P114	100	1/4"	1 3/8 lbs.	9.73	9.42
P154	150	1/4"	1 1/2 lbs.	10.50	10.19
P238	200	3/8"	2 1/4 lbs.	11.34	10.89
P212	200	1/2"	2 1/4 lbs.	11.69	10.85
P338	300	3/8"	2 3/4 lbs.	16.24	15.79

## HATCHET TYPE IRONS



Perfect Balance  
Less Fatigue  
See What You  
Soldier

Cat. No.	Watts	Tip Dia.	Ship. Wt.	Net Price	Less Tip
70H	100	3/8"	1 3/8 lbs.	10.50	10.12
100H	110	3/8"	1 1/2 lbs.	10.78	10.33
150H	150	3/8"	1 1/2 lbs.	11.55	11.10
151H	175	1/2"	1 1/2 lbs.	12.18	11.34
153H	175	3/8"	1 1/2 lbs.	11.97	11.52
200H	200	3/8"	2 1/4 lbs.	12.67	11.55
300H	300	7/8"	3 lbs.	16.24	14.00

## SCREW TIP IRONS



Cat. No.	Watts	Tip Dia.	Ship. Wt.	Net Price	Less Tip
85	90	1/2"	1 1/8 lbs.	9.73	9.17
120	120	5/8"	1 3/8 lbs.	10.50	9.63
170	175	1"	2 1/4 lbs.	13.37	11.52



225	250	1 1/8"	2 3/4 lbs.	15.82	13.37
350	350	1 3/8"	3 1/2 lbs.	18.49	14.81
500	500	1 5/8"	4 3/8 lbs.	20.93	15.51
700	700	1 3/4"	5 5/8 lbs.	38.15	31.15

## SUPER-PENCIL IRONS

HOT TIP

Weights only 2 oz.



COOL HANDLE

Short Reach 3"

All the advantages of a Soldering Pencil, but a full-fledged industrial soldering iron with nickel-chromium mica-wound element. Tiny tips outperform irons with larger tips and higher wattages.

Cat. No.	Watts	Tip Dia.	Ship. Wt.	Net Price	Less Tip
25S25	25	1/8"	1/2 lb.	5.39	5.22
25S20	20	1/8"	1/2 lb.	5.39	5.22
25S30	30	1/8"	1/2 lb.	5.39	5.22
25S35	35	1/8"	1/2 lb.	5.39	5.22
*25S50	50	3/8"	1/2 lb.	6.09*	5.92
26S30	30	3/8"	1/2 lb.	5.46	5.25
26S35	35	3/8"	1/2 lb.	5.46	5.25
26S40	40	3/8"	1/2 lb.	6.16*	5.95
*26S50	50	3/8"	1/2 lb.	6.16*	5.95

FASTEST AND MOST DURABLE PENCIL IRON. Weighs but 2 oz.

*24S40	50	1/4"	1/2 lb.	6.23*	5.95
*24S50	40	1/4"	1/2 lb.	6.23*	5.95
*24S60	60	1/4"	1/2 lb.	6.23*	5.95

## BANTAM HATCHET IRONS

PERFECT BALANCE

FOR INACCESSIBLE PLACES



Weights only 3 oz.

Cat. No.	Watts	Tip Dia.	Ship. Wt.	Net Price	Less Tip
25H25	25	1/8"	1/2 lb.	6.51	6.34
25H35	35	1/8"	1/2 lb.	6.51	6.34
*25H50	50	1/8"	1/2 lb.	6.51*	6.34
26H30	30	3/8"	1/2 lb.	6.58	6.37
26H35	35	3/8"	1/2 lb.	6.58	6.37
*26H50	50	3/8"	1/2 lb.	6.58*	6.37
24H40	40	1/4"	1/2 lb.	6.65*	6.37
24H50	50	1/4"	1/2 lb.	6.65*	6.37
*24H60	60	1/4"	1/2 lb.	6.65*	6.37

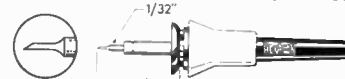


Weights only 5 oz.

30H40	40	1/4"	7/8 lb.	7.21	6.93
30H50	50	1/4"	7/8 lb.	7.21	6.93
30H60	60	1/4"	7/8 lb.	7.21	6.93
30H70	70	1/4"	7/8 lb.	7.28*	7.00
30H80	80	1/4"	7/8 lb.	7.28*	7.00

\*STANDARD EQUIPMENT DUROTHERM NON-STICKING LONG-LIFE TIPS.

## HEXACON HORNET Model H10



World's Smallest Industrial Soldering Iron for Micro-Electronic Soldering

Cat. No. H10K Kit †  
(H10 Iron, 2 Tips and Sponge)..... \*Net \$7.49

Cat. No. H11K Kit  
(H11 Iron, 2 Tips and Sponge)..... \*Net \$7.49

Cat. No. H14K Kit  
(H14 Iron, 2 Tips and Sponge)..... \*Net \$7.49  
\* Tip Cleaning Sponge in Container

Cat. No. H10 † Iron less tip, 12 Watts..... Net \$5.81  
Cat. No. H11 Iron Less tip, 17 Watts..... Net \$5.81  
Cat. No. H14 Iron less tip, 20 Watts..... Net \$5.81  
Iron with 3-wire cord and Nema plug available

Cat. No. 91 Package of 12 tip cleaning sponges in container..... Net \$2.32

- Smallest Iron — Only 5/8"
- Lowest Wattage — 12 Watts
- Hot tip Gets In and Out Fast
- No Damage to Insulation
- Lightweight
- Cool Handle †

DUROTHERM NON-FREEZING TIP — 1/2" and 3/8" diameters

XTRADUR LONG-LIFE TIPS — 1/8" diameter

† Plastic handle, cooled thru ventilated design and stainless steel mirror, reflects heat away from hand.

## PINPOINT SOLDERING IRONS



FOR PINPOINT ACCURACY ON PRECISION SOLDERING

Long Reach 4 1/2" (Weigh Only 3 oz.)

Cat. No.	Watts	Tip Dia.	Ship. Wt.	Net Price	Less Tip
P2525	25	1/8"	1/2 lb.	5.39	5.22
P2530	30	1/8"	1/2 lb.	5.39	5.22
P2535	35	1/8"	1/2 lb.	5.39	5.22
*P2550	50	1/8"	1/2 lb.	5.39*	5.22
P2630	30	3/8"	1/2 lb.	5.46	5.25
P2635	35	3/8"	1/2 lb.	5.46	5.25
*P2650	50	3/8"	1/2 lb.	5.46*	5.25
*P2440	40	1/4"	1/2 lb.	5.95*	5.67
*P2450	50	1/4"	1/2 lb.	5.95*	5.67
*P2460	60	1/4"	1/2 lb.	5.95*	5.67
P3040	40	1/4"	7/8 lb.	6.58	6.30
P3050	50	1/4"	7/8 lb.	6.58	6.30
P3060	60	1/4"	7/8 lb.	6.58	6.30
P3070	70	1/4"	7/8 lb.	6.65*	6.37
P3080	80	1/4"	7/8 lb.	6.65*	6.37

\*STANDARD EQUIPMENT DUROTHERM NON-STICKING LONG-LIFE TIPS.

## TEMPERATURE CONTROL UNITS

Solid State  
Soldering Iron Controls



Cat. No.		*Net Price
TC 870	Control Socket	14.67
TC 871	Voltmeter and Control Socket	22.37
TC 872	Voltmeter and Two Sockets	27.97

## 2 WIRE 18 GAUGE, 2 CONDUCTOR 18/2

Cord Assembled to Iron		Cord and Plug Only	
Cat. No.	Extra Net	Cat. No.	Extra Net
*SP2S	No	SP2S	1.12
*PN2S	Extra	PN2S	1.12
SJ2S	Charge	SJ2S	1.19
HD2S	.35	HD2S	1.40
*KSV2S	2.03	*KSV2S	2.73
KPN2S	.70	KPN2S	1.40

## 3 WIRE 18 GAUGE, 3 CONDUCTOR 18/3

Cord Assembled to Iron		Cord and Plug Only	
Cat. No.	Net	Cat. No.	Net
*SP3N	1.12	SP3N	1.89
SP3C	1.12	SP3C	1.89
*SJ3N	1.19	SJ3N	1.96
*HD3N	1.19	*HD3N	1.96
*KSV3N	3.29	*KSV3N	3.99

\*Standard on INSTRUMENT IRONS \*\*Standard on LARGE IRONS

## HEXACON ELECTRIC COMPANY





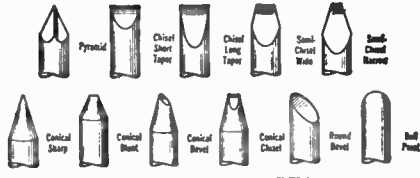
# LONG-LIFE SOLDERING TIPS

## OUTLAST COPPER TIPS UP TO 20 TO 1



**DUROTHERM NON-FREEZING TIPS:** Iron coated and Immunized. Absolutely prevents tips from sticking. Minimum loss of heat delivery.

Note: Also available; XTRADUR Iron-coated Pretinned Tips. Multi-coated for extra long wear which immunizes shank of tip from solder, thus preventing adhering of solder, except on working surface of tip—prevents creeping and spilling of solder.

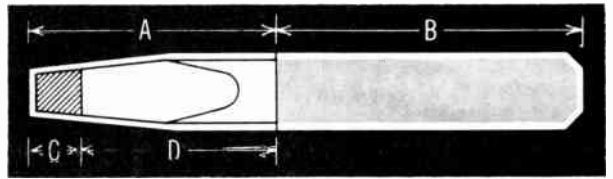


**BASIC TIP SHAPES**

**YOUR SPECIAL TIPS QUOTED ON REQUEST  
FIT ALL MAKES**

### CONSTRUCTION OF DUROTHERM NON-FREEZING TIP — U.S. Pat. No. 3,109,231

A — Heavy Iron Coating  
B — Scale-Resistant DUROTHERM COATING Bonded to Base Copper  
C — Pretinned Section  
D — Multi-coated and immunized



**LONGEST WEARING AND BEST PERFORMING TIP EVER PRODUCED**

### HEXCLAD, XTRADUR AND DUROTHERM TIPS AVAILABLE IN ALL CATALOG NUMBERS LISTED BELOW

Tip No.	Style of Point	Net Price	Tip No.	Style of Point	Net Price	Tip No.	Style of Point	Net Price	
1/8" x 2 1/4"	Fit Iron Nos. 25S, P23, 25H		HT3560	Chisel, M, TT 1/8"	2.00	HT177D	S-chisel, W, TT 1/4"	2.42	
HT248D	Pyramid	\$1.61	HT685D	Chisel, Lg, TT 1/8"	2.00	HT577D	S-chisel, N, TT 1/4"	2.42	
HT249D	Chisel, short	1.61	HT452D	Conical, TT 1/8"	2.00	HT145D	Chisel, Sh, TT 3/8"	2.42	
HT376D	Chisel, long	1.61	HT580D	Conical, TT 3/8"	2.00	HT475D	S-chisel, N, TT 3/8"	2.42	
HT560D	Semi-chisel	1.61	HT473D	Chisel, TT 3/8"	2.00	HT289D	Pyramid, TT 1/8"	2.42	
HT222D	Conical, blunt	1.61	HT130D	Round, bevel	1.93				
HT331D	Conical, sharp	1.61	1/4" x 3" Extra long for P30, 30H Also for competitive makes						
HT638D	Round, bevel	1.61	HT413D	Pyramid, long	1.93	3/8" x 4" Fit Iron Nos. P100, P150, P238, 100H, 150H; Extra long for P70, 70H; Also other makes			
HT361D	Chisel, TT 1/8"	2.00	HT468D	Chisel, long	1.93	HT566D	Pyramid	2.07	
HT693D	R. B., TT 1/8"	2.00	HT299D	Semi-chisel, W	1.93	HT198D	Chisel, short	2.07	
HT104D	R. B., TT 1/32"	2.00	HT328D	Semi-chisel, N	2.00	HT918D	S-chisel, Sh, M	2.07	
HT609	Chisel, long	1.61	HT708D	S-chisel, N, Lg	2.00	HT365D	Semi-chisel, thin	2.07	
HT610	Semi-chisel	1.61	HT453D	Conical, bevel	2.00	HT370D	S-chisel, Lg, N	2.42	
3/8" x 2 1/4"	Fit Iron Nos. 26S, P26, 26H		HT234D	Chisel, Lg, TT 3/8"	2.00	HT140D	Semi-chisel, W	2.07	
HT251D	Pyramid	1.68	HT487D	Chisel, Lg, TT 1/8"	2.00	HT430D	Round, bevel	2.07	
HT294D	Chisel, short	1.68	HT519D	Chisel, Lg, TT 1/8"	2.00	HT319D	S-chisel, N, TT 1/4"	2.42	
HT195D	Chisel, long	1.68	HT362D	Conical groove	2.21	HT481D	Chisel, N, Sh, TT 1/8"	2.42	
HT207D	Semi-chisel, N	1.68							
HT190D	Semi-chisel, W	1.68	1/4" x 3 3/4" Extra long for P30, 30H Also for competitive makes						
HT214D	Conical, blunt	1.68	HT563D	Pyramid, long	1.93	3/8" x 3 3/4" Fit Iron Nos. P70, 70H; Also fit other makes			
HT281D	Conical, sharp	1.68	HT188D	Chisel, long	1.93	HT254D	Pyramid	2.07	
HT288D	Pyramid, TT 1/8"	1.79	HT382D	Semi-chisel, W	1.93	HT488D	Chisel, short	2.07	
HT290D	Chisel, TT 1/8"	1.79	HT626D	Pyramid, TT 1/8"	2.00	HT129D	Semi-chisel, W	2.07	
HT548D	S-Chisel, N, TT 1/8"	1.79	HT698D	S-chisel, TT 1/8"	2.00	HT510D	Conical, sharp	2.07	
HT479D	Conical TT 1/8"	1.79	HT603D	Chisel, Lg, TT 1/8"	2.00	HT309D	Conical, blunt	2.07	
HT220D	R.B., TT 1/8"	2.07	HT391D	Semi-chisel, N	2.00	HT464D	Conical, chisel	2.21	
HT392D	Chisel, long	1.68	HT277D	Chisel, Lg, TT 3/8"	2.00	HT339D	S-chisel, N, TT 1/4"	2.42	
HT423D	Semi-chisel	1.68				HT581D	Chisel, Sh, TT 1/4"	2.42	
1/4" x 2 1/4"	Fit Iron Nos. 24S, P24, 24H		1/4" x 4" Fit Irons P114, P154, P214				HT498D	Chisel, Lg, TT 1/4"	2.42
HT325D	Pyramid	1.93	HT496D	Chisel, long	2.14	HT291D	S-chisel, W, TT 1/4"	2.42	
HT553D	Chisel, short	1.93	HT494D	Semi-chisel, N	2.14	HT497D	Chisel, Lg, TT 3/8"	2.42	
HT313D	Semi-chisel, W	1.93	HT495D	Chisel, Lg, TT 3/8"	2.24				
HT397D	Semi-chisel, M	1.93				1/2" x 4 1/8" Fit Iron Nos. P151, 151H, P212			
HT417D	Semi-chisel, N	1.93	1/4" x 4 1/2" Fit Irons P114, P154, P214			HT257D	Pyramid	3.26	
HT418D	Conical, blunt	1.93	HT258D	Pyramid	2.21	HT293D	Chisel, short	3.26	
HT102D	Round, bevel	1.93	HT259D	Chisel, short	2.21	HT323D	Chisel, short, blunt	3.26	
HT586D	Conical, S-chisel	2.00	HT230D	Semi-chisel, W	2.21	HT163D	S-chisel, N	3.26	
HT691D	Chisel, TT 1/8"	2.17	HT460D	Conical, bevel	2.31	HT194D	Semi-chisel, thin	3.40	
HT699D	S-chisel, L, TT 1/8"	2.00				HT440D	S-chisel, Lg, Taper	3.50	
HT451D	Chisel, L, TT 1/8"	2.00	3/8" x 4 3/4" Fit Iron Nos. P100, P150, P238, P338, 100H, 150H			HT203D	Conical, blunt	3.26	
HT324D	Chisel, S, TT 1/8"	2.00	HT255D	Pyramid	2.07	HT446D	S-chisel, Lg, Taper	3.50	
HT513D	Conical, TT 1/8"	2.00	HT493D	Chisel, short	2.07	HT123D	S-chisel, N, TT 3/8"	3.50	
HT463D	Chisel, L, TT 3/8"	2.00	HT151D	Semi-chisel, W	2.07				
HT841D	S-chisel, N, TT 1/8"	2.00	HT183D	Semi-chisel, N	2.07	3/8" x 4" Fit Iron Nos. P125, P200, 200H, P250			
HT662D	Chisel, L, TT 1/8"	2.17	HT108D	Conical, sharp	2.07	HT256D	Pyramid	3.43	
HT552D	S-chisel, 3/8" Shank	2.42	HT114D	Conical, blunt, Sm	2.07	HT891D	Chisel, long	3.43	
1/4" x 2 3/4"	Fit Iron Nos. P30, 30H		HT240D	Conical, blunt M	2.07	HT178D	Semi-chisel, W	3.43	
HT252D	Pyramid	1.93	HT374D	Semi-chisel, W	2.07				
HT253D	Chisel, short	1.93	HT265D	Pyramid, TT 1/4"	2.42	3/8" x 4 3/4" Fit Iron Nos.			
HT202D	S-chisel, Wide	1.93	HT266D	Chisel, Sh, TT 1/4"	2.42	HT260D	Pyramid	3.43	
HT426D	S-chisel, N	1.93	HT335D	Chisel, Lg, TT 1/4"	2.42	HT499D	Chisel, long	3.43	
HT131D	Conical, sharp	1.93							
HT263D	Pyramid, TT 1/8"	2.00							
HT264D	Chisel, Sh, TT 1/8"	2.00							

### SCREW TIPS

**All Conventional Semi-chisel Types**

Fits All Makes

Tip No.	Dia.	Thread	Iron No.	Net
HT267X	7/16"	1/4-20	50	1.82
HT268X	1/2"	3/8-18	60	2.35
			and 85	
HT269X	5/8"	3/8-18	120	2.94
HT270X	7/8"	1/2-13	130	4.27
HT271X	1"	1/2-13	170	4.87
HT272X	1 1/8"	5/8-11	225	6.48
HT273X	1 3/8"	5/8-11	350	9.10
HT274X	1 5/8"	5/8-11	500	12.29
HT275X	1 3/4"	5/8-11	700	14.60

### HORNET TIPS

**TIPS FOR IRONS Nos. H10 and H11**

No.	Dia.	Duotherm Net	Xtradur Net
HT866D	1/2"	.84	.84
HT867D	5/8"	.84	.84
HT868D	3/4"	.84	.84
HT869D	7/8"	.84	.84
HT864X	1/8"	.63	.63
HT870X	1/8"	.63	.63
HT871X	1/8"	.63	.63
HT873X	1/8"	.63	.63

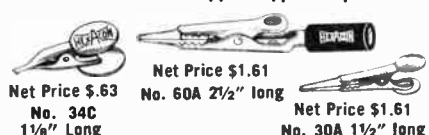
### TIPS FOR IRON No. H14

No.	Dia.	Xtradur Net
HT654X	1/8"	.84
HT655X	1/8"	.84
HT656X	3/16"	.63
HT657X	3/16"	.63
HT658X	1/8"	.84
HT659X	1/8"	.84

CATALOG NOS. shown are for DUROTHERM. For HEXCLAD drop "D"; cost approximately 30% less than DUROTHERM. For XTRADUR substitute "X" for "D"; cost approximately 10% less than DUROTHERM. ABBREVIATIONS: TT, Turned to; S-chis, Semi-chisel; W, Wide; N, Narrow; Lg, Long; Sh, Short; L, Large; M, Medium; Sm, Small; RB, Round Bevel. SAMPLE TIPS for your evaluation. Ask for new Tip Sketch Catalog with detailed sketches of 180 Standard Coated Tips.

### SOLDERING ACCESSORIES

#### HEAT SINKS — Copper Tipped Clips



Net Price \$1.61  
No. 34C 1 1/8" Long

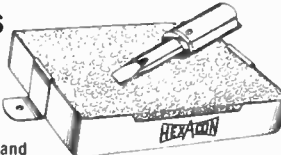
Net Price \$1.61  
No. 60A 2 1/2" long

Net Price \$1.61  
No. 30A 1 1/2" long

Protect heat sensitive components such as transistors and diodes from thermal damage.

#### TIP CLEANING SPONGE IN METAL TRAY

Insures reliability of soldered joints and extends tip life. Eliminates contamination. Pure cellulose sponge contains no harmful acids.



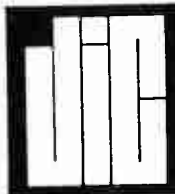
#### PRICES

Sponge in Metal Tray #810.... \$1.19 Net  
Sponge only #8101.... .46 Net  
Tray only #8102.... .77 Net

#### ANTI-WICKING TWEEZERS Solid Berillium Copper

Cat. No.	Gauge	Net Price	Cat. No.	Gauge	Net Price
817	16-18	\$5.67	820N	20"	\$5.67
821	20-22	5.67	822N	22"	5.67
825	24-26	5.67	824N	24"	5.67
830	28-30	5.67	826N	26"	5.67

Prevents harmful effects of excess capillary action of solder along stranded wire beneath insulation. Order tool number by wire size being used. \*\*N" Type Tweezers are made for one gauge wire only (not for a range of sizes). Therefore give better fit on wire for greater efficiency. Shorter tip hole provides for close inspection gap on precision soldering such as called for in current NASA specifications.



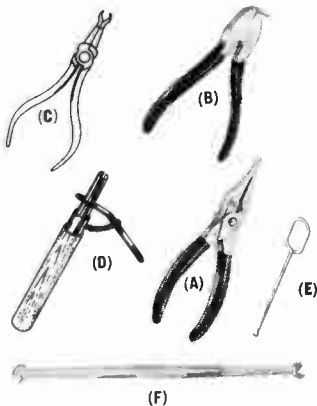
# ELECTRONIC TOOLS

FOR PRODUCTION,  
SERVICE  
& MAINTENANCE

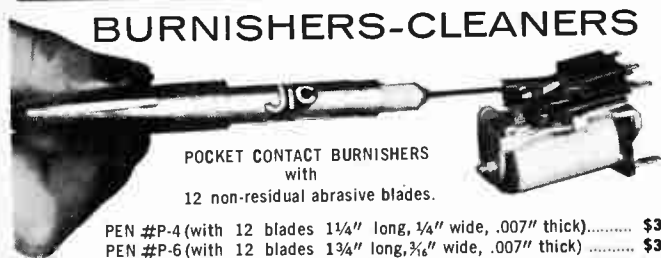
## SPECIALIZED TOOLS

A carefully selected group of tools, widely used, for maintenance and service of instruments, panel boards, relays, office and telecommunication equipment.

- (A) PLS-7 Parallel Duck bill plier, 6" long ..... \$6.98  
 (B) PLS-44 Inserting & removing plier, 5½" long ..... \$6.46  
 (C) S-42 Plier, lamp cap extractor, 5" long ..... \$4.32  
 (D) S-339 Switchboard lamp extractor ..... \$1.65  
 (E) M-120 Hook spring pull, 6" ..... \$1.19  
 M-125 Hook spring push, 6" ..... \$1.19  
 Adjustment slim open end wrenches, bent 90° one end.  
 (F) DW-4 8" long, ¼" opening ..... \$2.48  
 DW-16 8" long, ⅜" opening ..... \$2.48  
 DW-32 8" long, ½" opening ..... \$2.48



## BURNISHERS-CLEANERS



POCKET CONTACT BURNISHERS  
with  
12 non-residual abrasive blades.

- PEN #P-4 (with 12 blades 1¼" long, ¼" wide, .007" thick) ..... \$3.90  
 PEN #P-6 (with 12 blades 1¾" long, ⅜" wide, .007" thick) ..... \$3.90  
 BLADES #RB-4 (25 replacement blades for P-4) ..... \$3.75  
 BLADES #RB-6 (25 replacement blades for P-6) ..... \$3.75

## PRODUCTION TOOLS

Precision group of high-quality hand tools widely used in production and assembly of electronic components and equipment.

- (G) PL-3 DIAGONAL CUTTING PLIER, 4½" ..... \$4.15  
 (H) PL-6 CHAIN NOSE PLIER, 4½" ..... \$3.80  
 (I) PLS-9 PLIER, BENT NOSE DUCK BILL, 5½" ..... \$4.92  
 (J) PL-10 CHAIN NOSE PLIER with cutter on tip, 6" ..... \$4.96  
 (K) FS-66 FILAMENT CUTTING SCISSOR, 4" ..... \$2.98  
 (L) TW-57 TWEezer, FINE POINTS, 4½" ..... \$1.65  
 (M) TW-58 TWEezer, BRASS non-magnetic, extra fine points, 5" ..... \$1.98  
 (N) W-59 Slide lock tweezers, corrugated point 5½" ..... \$2.96  
 (O) WS-61 Wire stripper, 12 to 26 gauge ..... \$1.38  
 (P) M-140 Screwdriver, beryllium copper, 8½" long ..... \$1.38  
 (Q) M-145 Nut driver ¼", length 9" ..... \$1.90  
 (R) M-150 Nut driver ⅜", Length 3½" ..... \$1.38  
 (S) M-155 Nut driver ½", Length 3½" ..... \$1.38  
 (T) M-160 Combination reversible phillips and standard screwdriver ..... \$2.48

## ELECTRONIC TOOL KITS

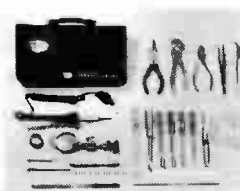
### NEW COMPACT ELECTRONIC KIT

A set of most widely used precision tools for servicing all type of electronic equipment. Packaged in sturdy roll up vinyl protective case. Kit contains: chain nose plier, wire stripper, injecting oiler, fine nose tweezer, industrial burnisher, pin vise, combination screw and ¼" nut driver. **KE-7 \$9.90.**



### MASTER 20 PIECE SERVICE TOOL KIT

Ideal kit for service and repair of radio, TV, instruments and office equipment. Comes in protective leatherette zippered case. Kit contains: Diagonal chain nose and groove grip pliers, soldering iron with solder core, pen burnisher with 12 blades, straight and bent nose tweezers, 2 jewelers screw drivers, nut drivers ¼" and ⅜", standard and phillips screwdrivers, 2 needle files, magnifier, pin vise, aligner and chisel. **K-600 \$24.75.**



## MAINTENANCE AND SERVICE TOOLS

High-quality precision-designed tools for ease in maintenance and service of delicate electronic equipment.

- (A) M-100S Retriever clamp, straight type, 5½" long ..... \$4.74  
 M-100C Retriever clamp, curved type, 5½" long ..... \$4.88  
 (B) T-720N Straight thickness gauge, 26 blades Length 3" .0015-.025" ..... \$3.90  
 (C) OS-84 Precision injecting oiler, 6" long ..... \$1.89  
 (D) S-393 Plastic 4 oz. Industrial oiler ..... \$3.90  
 (E) S-395 Spring loaded pressure type oiler 4 oz. ..... \$9.90  
 (F) S-81 Standard screw starter, nylon handle ..... \$2.40  
 (G) S-82 Phillips screw starter, nylon handle ..... \$2.50  
 (H) WB-70 Stainless steel wire brush 9" long wire .005" filament ..... \$1.85  
 (I) M-50 Reversible nylon shaft screwdriver ..... \$1.68  
 (J) M-130 Ratchet offset screwdriver ..... \$1.29  
 (K) M-135 Pin vise ..... \$1.18

### KONTACT 60 AEROSOL CONTACT CLEANER

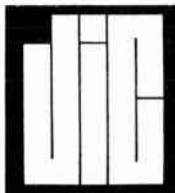
For contacts, switches, controls, tuners, all Electronic Equipment. Leaves anti-corrosion film and long-lasting lubricant.

**K-60** 6 oz. can with needle injector ..... \$1.98



WRITE FOR COMPLETE CATALOG OF J.I.C. PRECISION TOOLS

JONARD INDUSTRIES CORP., PRECISION TOOLS DIV.

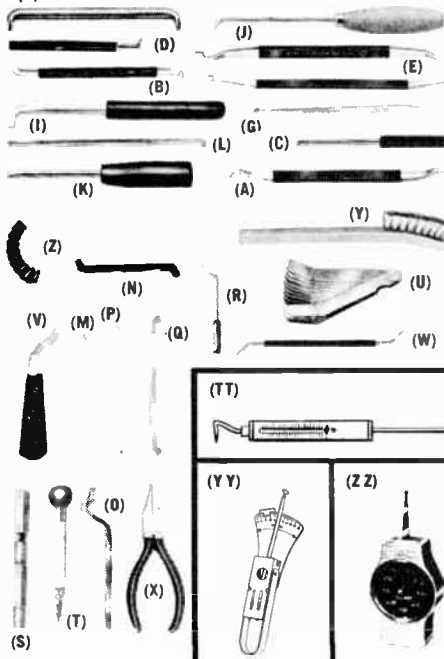


# PRECISION TOOLS

FOR RELAY,  
COMMUNICATION  
& INSTRUMENTS

## RELAY SPRING ADJUSTING TOOLS

(H) All tools made of high carbon steel, plated and polished, heat treated and tempered to exact requirements. Insulated handles for work on live equipment.



- (A) SA-2 Offset type, 6 1/2" long, saw slot both ends .032" ..... \$2.48
- (B) SA-6A Cross & lengthwise slots, 5 1/2" long, Slot .030" ..... \$2.45
- (C) SA-7 One end saw slot straight 4 1/2" long, Slot .015" ..... \$1.35
- (D) SA-8 Heavy duty, Round head, 4 1/2" long, Cross slot .045" ..... \$2.48
- (E) SA-16 Offset type 6 1/2" long, saw slot both ends .018" ..... \$2.40
- (F) SA-17 Offset slim type, Saw slot both ends .023" 8" long ..... \$2.95

- (G) SA-20 Opposite-faced thin headed slots, 7" long Slots .022" ..... \$3.50
- (H) SA-24 Crosswise slots, 5 1/2" long, Slots .040 & .028" ..... \$2.88
- (I) SA-25 Angled, 6 1/2" long, Saw slot .032" ..... \$2.48
- (J) SA-143 Bent, 8" long, Saw slot .025" ..... \$2.28
- (K) SA-163 Straight driver type, 5 1/2" long, cross slot .038" ..... \$2.19
- (L) SA-175 Closely set saw slot, 5 1/4" long, slot .031" ..... \$2.92

### RELAY & INSTRUMENT TOOLS

- (M) AB-21 Adjuster, Armature, 4" long, slot width each end .110" ..... \$1.30
- (N) AB-20 Adjuster, Armature, 3 slots .114" ..... \$1.40
- (O) SB-22 Adjuster, Armature stop, 5" long, slots .032" ..... \$1.48
- (P) S-187 Adjuster, double dog, 4" long, slot both ends, 3/32" ..... \$1.64
- (Q) S-201 Adjuster, aid spring, 4 1/4" long, slot both ends .034" ..... \$2.49
- (R) J-34 Adjuster, pole piece, 3" long, with screw ..... \$1.68
- (S) FW-24 Hex wrench, double end, with screw driver, 4 3/4" long, 7/32" and 1/4" hexagon ..... \$2.70
- (T) J-23 Screwdriver, guide pin 4 1/2" long ..... \$3.60
- (U) T-255 Angled thickness gauge, 9 blades .009" to .026" ..... \$2.24
- (V) BC-23 Bank cleaner, abrasive surface 1 1/2" dia. 6" long ..... \$2.49
- (W) S-457 Wire & spring aid, bent 30° opposite ends, 5 1/2" long ..... \$1.38
- (X) PL-8 Spring duck bill plier, 5 1/2" long ..... \$4.40
- (Y) WB-65 Nickel silver wire brush, 9" long ..... \$1.95
- (Z) HB-75 Curved hair brush, Radius 1 3/4", Length 8" ..... \$2.35

### SPRING TENSION GAUGES (YY)

Precision-made to accurately determine the setting, testing and adjusting of relay spring tension and other delicate electronic tensioned movable components.

- |                 |              |                           |              |
|-----------------|--------------|---------------------------|--------------|
| G-10 0-10 grams | ..... \$6.48 | GP-50 0-50 grams (preset) | ..... \$7.48 |
| G-30 0-30 grams | ..... \$6.48 | G-150 0-150 grams         | ..... \$6.48 |
| G-50 0-50 grams | ..... \$6.48 | G-700 0-700 grams         | ..... \$7.98 |

### PUSH-PULL TENSION GAUGES (TT)

- |                    |               |                   |               |
|--------------------|---------------|-------------------|---------------|
| GPP-1 0-1000 grams | ..... \$29.80 | GPP-2 0-110 grams | ..... \$14.50 |
|--------------------|---------------|-------------------|---------------|

### DYNAMOMETERS (ZZ)

- Dial gauges to determine force required to actuate delicate mechanisms.
- |                                   |                         |                       |               |
|-----------------------------------|-------------------------|-----------------------|---------------|
| • Spring tension indicator        | • Stylus pressure gauge | GD-5 5-50 grams       | ..... \$13.55 |
| • Verification of contact blades. |                         | GD-15 15-150 grams    | ..... \$13.55 |
|                                   |                         | GD-100 100-1000 grams | ..... \$31.25 |

## RELAY TOOL KITS

### MASTER 15-PIECE RELAY TOOL KIT

Precision-made and professionally-designed group of new tools for adjusting and maintaining relays, contactors, switches, controls, and other components for the telecommunication and electronic industries.

Kit contains: 2 spring adjusters, tension & thickness gauges, Duck Bill plier, Screw Driver, Tweezer, Mirror, 4-way Tool, Brush, Armature & Stop Benders, Contact Spray, Contact Burnisher. **KIT K-55 \$34.00**

NEW

Precision-made tools for setting, adjusting and testing most type relays. All tools highly polished and made of finest quality steel for most accurate and delicate work. Packaged in fine protective zippered case.

Kit contains: Spring adjuster, Armature bender, Arm bender, Relay spring Duck Bill Plier, Burnisher, Tension gauge 0-50 gram. **KIT KR-6 \$19.90**

### COMPACT RELAY ADJUSTING KIT



## RELAY & CONTACT BURNISHER-CLEANERS

### DIAMOND BURNISHERS

Exclusive Features:  
• Strong abrasive power  
• Long lasting

Consists of abrasive Diamond particles-Developed for any type contacts: Silver, Platinum, Gold, Palladium, Tungsten, Molybdenum - Length 5 5/8" - Diamond coated face 1" x 1/4" - Nylon Shaft - Three types to meet every application: Type 200 (coarse) for Industrial Relays - Type 300 (medium) for Intermediate and Telephone relays - Type 400 (fine) for Sensitive Relays.

K-234 Set of 3 ..... \$14.85  
Individual spatulas and Kits packaged in rigid plastic boxes.

- D-200 Shaft green .. \$4.95
- D-300 Shaft red .. \$4.95
- D-400 Shaft blue .... \$4.95

### POCKET-TYPE BURNISHERS



Used for cleaning general type relay contacts. Economical—supplied with 6 non-residual abrasive replaceable blades stored in pen barrel. Pen made of sturdy plastic for dielectric work. Length 4 1/2" Dia. 3/8" Blades 3/16" wide 1 3/4" long .007" and .0035" thick.

- PEN #PB-7 (with 6 blades .007" thick)..... \$3.48
- PEN #PB-3 (with 6 blades .0035" thick).... \$3.78
- BLADES #B-7 (25 replacement blades for PB-7) ..... \$3.55
- BLADES #B-3 (25 replacement blades for PB-3) ..... \$3.65

### ECONOMY BURNISHERS



For Industrial and general type contacts. Flexible, Non-residual. Leave no grit or dust and will not affect contact points. Plastic insulated handles for working on live contacts. Packaged in vinyl pouches for full protection.

- (Standard packages of 12, 24 or 48 pieces as noted below.)
- OB-1 (for fine contacts. Abrasive coated 3/2" long, 3/16" wide, .007" thick) Pkg. of 12.....\$3.60  
Pkg. of 48.....\$11.04
  - OB-2 (for extra sensitive points. Non-abrasive, nickel plated) 3 1/2" long, 1/4" wide, .010" thick Pkg. of 12.....\$6.00  
Pkg. of 48.....\$20.16
  - OB-3 (for general purpose contacts. Abrasive—cadmium plated. Hard molded handle. 3 1/2" long, 1/4" wide, .010" thick) Pkg. of 12.....\$9.00  
Pkg. of 24.....\$15.60
  - OB-4 (for industrial use. Abrasive—cadmium plated. Hard molded handle. 3 1/2" long, 1/4" wide, .020" thick) Pkg. of 12.....\$10.20  
Pkg. of 24.....\$18.75

WRITE FOR COMPLETE CATALOG OF J. I. C. PRECISION TOOLS  
JONARD INDUSTRIES CORP., PRECISION TOOLS DIV.

# Quick-Wedge® SCREW-HOLDING Screwdrivers

14 Different Sizes Handle  
Every Screwdriving Job!



**Hold - Start - Drive the Screw  
AND THEY'RE UNCONDITIONALLY GUARANTEED**

- One screwdriver drives many sizes of screws
- Shockproof, unbreakable Tenite II handle
- Hollow-ground bit fits any slotted screw
- Use instead of conventional screwdriver
- Tough, durable spring steel blades. Positively will not mar screw slot
- Fast, positive action — easy to use
- No pressure wedge to wear out
- Foolproof construction.



1253



1253A



No. 1253A and  
No. 1258A



1258

## MIDGET SIZES

No.	Blade Diam.	Wt. Lbs. Per Box*	Per Box*	Each Price
1253	1/8"	9 oz.	\$12.50	\$1.25
1253A	1/8"	9 oz.	14.00	1.40
1258	1/8"	15 oz.	15.00	1.50
1258A	1/8"	15 oz.	16.50	1.65

Wood Screws, Bolts—No. 0 to No. 4  
Sheet Metal Screws—No. 2 to No. 4



1732



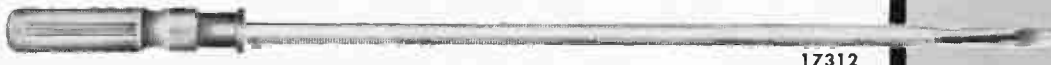
1734



1736



1738



17312

## SMALL SIZES

1732	3/16"	3/4	13.00	1.30
1734	3/16"	1	13.50	1.35
1736	3/16"	1 1/4	14.00	1.40
1738	3/16"	1 1/2	14.50	1.45
17312	3/16"	2	16.00	1.60

Wood Screws, Bolts—No. 4 to No. 7  
Sheet Metal Screws—No. 4 to No. 6



1834



1836



1838

## MEDIUM SIZES

1834	3/16"	1 3/4	18.50	1.85
1836	3/16"	2	19.00	1.90
1838	3/16"	2 1/4	19.50	1.95

Wood Screws, Bolts—No. 6 to No. 12  
Sheet Metal Screws—No. 6 to No. 12



2354



2356



2358



23514

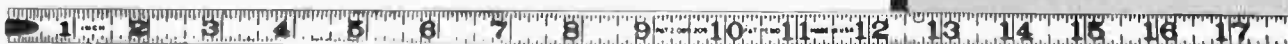
## HEAVY DUTY SIZES

2354	1/4"	2 1/4	19.50	1.95
2356	1/4"	2 1/2	20.00	2.00
2358	1/4"	3	20.50	2.05
23514	1/4"	2 3/4	28.80†	2.40

Wood Screws, Bolts—No. 8 to No. 24  
Sheet Metal Screws—No. 8 to 3/8"

\*Packaged in quantities of 10 per box.  
†Price per dozen, packaged 6 per box.  
Prices subject to change without notice.  
Net Prices effective November 1, 1966.

Quick Wedge Reg. U.S. Pat. Off.



Blade length is indicated by last digit(s) of model number.  
("17312" has a 12" blade — "23514" has a 14" blade)

# KEDMAN COMPANY

## ELECTRICAL SIZES

All but No. 1732 (above) available with shockproof, Vinyl covered tubing, 15¢ additional per screwdriver. Specify "E" after number.

© 1966 by Kedman Company

KELSEY-HAYES TOOL DIVISION •

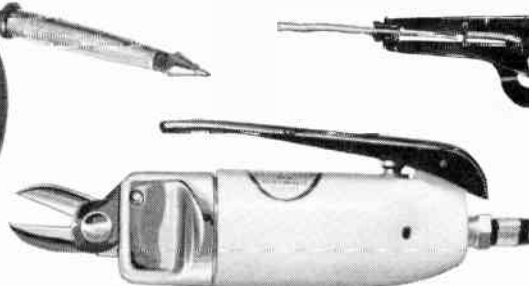


## WORLD'S MOST COMPLETE LINE OF STANDARD AND SPECIAL ELECTRONIC PLIERS!



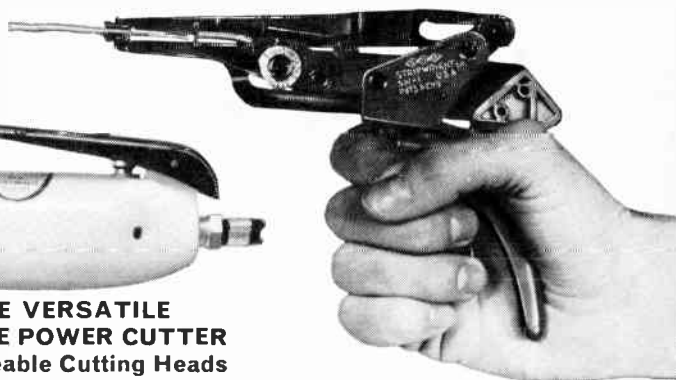
### NEW UA-300 POWER WRITER

Just as the name implies, the UA-300 Power Writer is a power writing tool. It's a pencil styled, air-activated tool for inscribing, coding, labeling or marking all types of materials such as hard and soft metals, plastics, ceramics and glass.



### NEW UA-200 THE VERSATILE MULTI-PURPOSE POWER CUTTER With Interchangeable Cutting Heads

This latest and most versatile addition to the Utica line of production tools is available with four optional, interchangeable cutting heads. Each head is designed for a specific cutting purpose and all have electronically induction hardened jaws. *Optional heads are also available with carbide edges and AC/J. Rivet.*



### A REVOLUTIONARY NEW WIRE STRIPPER

Strip fast and clean! Eliminate nicking! Reduce insulation marking! Handle any wire size from #12 to #26 . . . and do it all with Stripwright® . . . Utica's revolutionary new wire stripper.



31

#### No. 31 DUCK BILL WIRING PLIERS

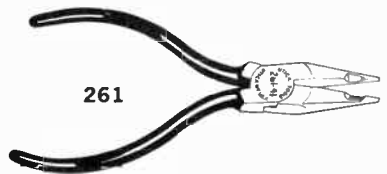
Long reach duck bill pliers. Serrated jaws. Size: 8".



896

#### No. 896 RADIO AND IGNITION CUTTING PLIERS

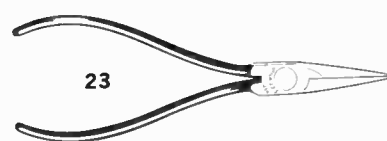
For cutting and forming wire. Center cutter near tip of jaws. Size: 6".



261

#### No. 261 SPECIAL SHORT CHAIN NOSE CUTTING PLIERS

Flush cutter near tip of jaws for close cuts. Size: 4½".



23

#### No. 23 NEW MIDGET SHORT CHAIN NOSE PLIERS

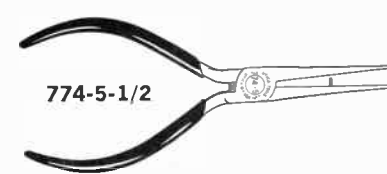
Very thin nose for delicate electronic subminiature assembly. Sizes: 4", 4½", 5".



46

#### No. 46 MIDGET DIAGONAL PLIERS

Small, light, sturdy diagonal for work on small electronic assemblies. Size: 4".



774-5-1/2

#### No. 774-5-1/2 PICK-UP AND WIRING PLIERS

Ideal for looping, twisting, bending and picking up finest wires.



#### No. 1033 LONG CHAIN NOSE PLIERS

For general wiring. 3/32" nose and deep serrated jaws. Sizes: 6", 7".



#### No. 25-5 BENT CHAIN NOSE PLIERS

Finely serrated jaws for sensitive circuit wiring. Size: 5".



#### No. 777 LONG NEEDLE NOSE PLIERS

Long, spring tempered jaws for very fine work in assembling small electronic apparatus. Size: 6".



#### No. 776 CURVED LONG NEEDLE NOSE PLIERS

Fine, spring tempered pliers with bent nose for offset work. Size: 6".



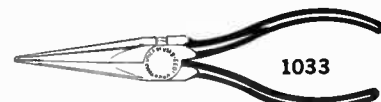
#### No. 265-5 WIRING PLIERS

Cutter designed to snap-cut, loop or twist. Size: 5".

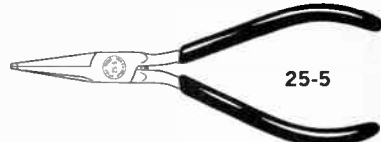


#### No. 47 MIDGET DIAGONAL PLIERS

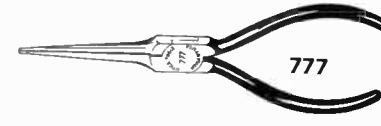
Fine tapered nose for delicate work in confined areas. Flush jaws for close cutting. Size: 4".



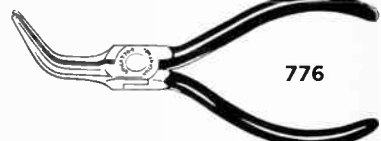
1033



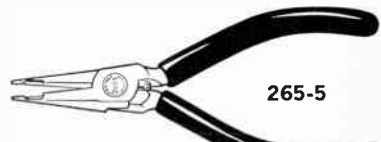
25-5



777



776



265-5



47

# Moody® PRECISION HAND TOOLS

## Screw Driver & Awl Set

Contains four interchangeable screw driver blades and an awl. Complete with swivel top, knurled chuck type handle.

Sizes .055", .070", .080",  
.100", awl

Cat. No. SC-5 Dealer Net \$1.05 ea.



## Socket Wrench Set

Five interchangeable box or socket wrenches that fit the same magnetic handle. Thread sizes #00, #0, #1.

Sizes (all hex) 5/64", 3/32",  
7/64" 1/8", 5/32"

Cat. No. BW-5 Dealer Net \$2.37 ea.

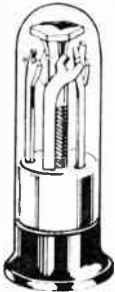


## Offset Open End Wrench Set

Contains five offset open end wrenches, interchangeable in the chuck handle.

Sizes 5/64", 3/32", 7/64",  
1/8", 5/32"

Cat. No. DE-5 Dealer Net \$1.50 ea.



## Tap Drill Set

Contains five tap drills. Handle has a solid-locking chuck-nose and swivel-top. A companion piece to the Moody TS-5 Tap Set.

Drill Sizes 3/64", #53, #50,  
#47, #43

Cat. No. 70 Dealer Net \$2.10 ea.



## Cross Recessed Driver & Allen Type Wrench Set

Contains five interchangeable tools with chuck-type, swivel top handle. A torque hole in the handle enables fastenings to be set up tight.

Cross recessed drivers #0, #1  
Allen type wrenches #4, #6, #8

Cat. No. PA-5 Dealer Net \$1.50 ea.

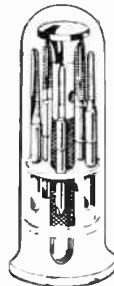


## Tap Set

Contains five interchangeable taps and handle for cutting inside threads. Torque hole in handle enables you to maintain a steady firm leverage.

Tap Sizes 0-80, 1-72, 2-56  
3-48, 4-40

Cat. No. TS-5 Dealer Net \$4.17 ea.



## Utility Screw Driver Set

Consists of a precision screw driver and six interchangeable blades. The screw driver handle is knurled for positive gripping.

Sizes .025", .040", .055",  
.070", .080", .100"

Cat. No. 52 Dealer Net \$1.50 ea.



## Machinist Scriber



Approximately 8½" overall with a right angle point and a straight point, both properly tapered and swaged into a knurled aluminum finger grip handle.

Cat. No. MS-2

Dealer Net \$.45 ea.

## Moody Master Kit



A popular compact kit of six tool sets, stored in a leatherette case. Contains Screw Driver & Awl Set, Cross Recessed Driver & Allen Type Wrench Set, Socket Wrench Set, Offset Open End Wrench Set, Tap Drill Set, Tap Set.

Cat. No. MMK-6 Dealer Net \$13.77 ea.

Send for Free Catalog  
on the complete line  
of Moody Tools

MOODY MACHINE  
PRODUCTS CO., INC.



Moody® MACHINE PRODUCTS CO., INC.

# ERSIN Multicore

## 5-core solder

Available in 1-lb.  
and 7-lb. reels



### TECHNICAL ADVANTAGES:

Ersin Flux is exclusive to Multicore and will not be found in any other solder. It is a high-grade, water-white rosin, homogeneously activated.

Ersin Flux has a vigorous fluxing action and possesses the non-corrosive and protective features of the original rosin. Soldered joints made with Ersin Flux do not corrode even after prolonged exposure to any degree of humidity. Ersin Flux reduces the surface tension of molten solder, causing it to wet metals rapidly, increasing speed of operation with resultant production economies.

Free from objectionable odor. Non-toxic in use.

Leaves nothing but pure rosin on the work after soldering, and may be used wherever plain rosin is specified.

Conforms with all pertinent federal specifications.

**Multicore construction:** Five separate cores of flux eliminate possibility of no flux in a portion of the wire, which may occur in single cored solder. Guaranteed continuity of the flux stream prevents "dry" joints, i.e., those having high electrical resistance.

Although there are five cores of flux in Multicore, the total percentage of flux to solder is less than many single cored solders.

Very rapid melting results from the multiple core construction which provides thinner walls of solder than are found in same gauge single cored solder. Multicore's unique properties make perfect joints possible on difficult metals and alloys, even if oxidized.

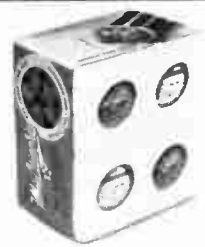
Ability to tin rapidly produces perfect joints with less solder. Greater coverage per pound.

NOTE: Multicore presents an entirely new concept in solder packaging designed to bring the solder to you in perfect condition at all times. The attractive polystyrene foam container resists damage in shipping and each individual reel is skin packed to keep the solder clean and fresh and to minimize oxidation no matter how long it may be stored.

### STANDARD TIN/LEAD ALLOYS AND GAUGES

Available from stock: 63/37; 60/40, 50/50; 45/55; 40/60; Savbit; Special Alloys—H.M.P. (High melting point, 565° F); L.M.P. (low melting point, 354° F). Other alloys upon request.  
Gauges: 14 s.w.g. (.080") through 34 s.w.g. (.009").

NOTE: Soldering iron tips should always be 108° F above melting point of alloy.



### NEEDLE FINE GAUGES

For microminiaturization, integrated circuits and other similar requirements. Off-the-shelf delivery in alloys 63/37 and 60/40, in even gauges from 24 s.w.g. (.022") through 34 s.w.g. (.009").



### COPPER-LOADED SAVBIT ALLOY

Copper-loaded SAVBIT stops the wear and erosion of copper soldering iron tips... increases tip life by 1,000%.

**Characteristics and specifications:** Savbit Alloy is available in Ersin Multicore 5-core solder containing non-corrosive extra-fast Ersin Flux in 14, 16, 18, 20 and 22 gauge. Melting point: Virtually the same as standard tin/lead alloys. Excellent conductivity, tensile and shear strength.

Available in new 1-lb. and 7-lb. reels, skin wrapped and foam packaged.

### NEW ERSIN LIQUID FLUXES

Meet the same high quality standards as Ersin Multicore Solder. Three new Fluxes: Formula No. 5380 and Formula No. 0360 meet Government MIL specifications for active and non-activated liquid fluxes, respectively. Formula No. 4370 is an activated liquid flux which is the external counterpart of the flux contained in Ersin Multicore 5-Core Solder. Conforms to the latest Federal Specification QQ-S-571d.

### NEW MULTICORE HIGH PURITY EXTRUDED SOLID BAR SOLDER

Offers higher purity achieved through greater quality control, only possible with extrusions. Available in 2 lb. skin packaging as well as cartons. Available in two alloys: 60/40 and 63/37.

### PC (PRINTED CIRCUIT) PAK 60/40—22 s.w.g. (.028")



### NEW EASY DISPENSER PAK 60/40—18 s.w.g. (.048")



Ideal for servicemen, hobbyists, lab technicians. Paks are flameproof—can be used close to the heat.

ERSIN Multicore's national network of industrial distributors, in 50 states, facilitates prompt off-the-shelf delivery at factory-low prices.

### NEW SOLDERABILITY TEST MACHINE

Designed and built by Multicore Solders Ltd., this precision machine accurately measures the degree of solderability of terminal component wires and affords positive and totally reliable results. Complies with International Specification I.E.C. Publication 68-2 Test T.; developed in association with the International Electrotechnical Commission.



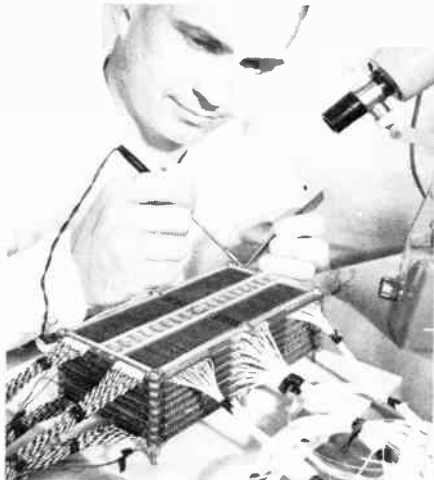
Free Evaluation Test Samples and "Modern Solders" technical booklet available. Address requests, on company letterhead to: Multicore Sales Corp.

Imported from England  
Conforms to all applicable Federal Specifications QQS-571.

**Multicore Sales Corp.**  
Div. British Industries, Corp.

# ORYX

## PRECISION SOLDERING INSTRUMENTS



### FIVE REASONS WHY PRODUCTION MANAGERS CHOOSE ORYX SOLDERING IRONS

#### 1. MINIATURE SIZE

ORYX soldering irons are small and easy to handle as pencils. Their miniature size helps to speed any precision soldering operation. Damage to adjacent components is eliminated. If you can see it, you can solder it with ORYX!

#### 2. FEATHER WEIGHT

A standard, utility-type 100 watt soldering iron weighs about 2 lbs. The so-called pencil-type irons typically weigh between 2 and 6 ounces. ORYX soldering irons, by contrast, weigh as little as 1/4 ounce. This true feather weight virtually eliminates hand fatigue. Workers can turn out many more joints per hour with fewer rejects.

#### 3. HIGH EFFICIENCY

All ORYX soldering irons utilize a unique element-in-the-tip design principle. By generating the heat within the tip, far fewer watts are needed to achieve results comparable to much larger irons. This principle also provides quicker heat recovery because the heat path between element and joint is so very short. The need for large insulating handles is eliminated.

#### 4. SAFETY

ORYX low-voltage irons are polarized, making it possible to directly ground the shaft, tip, and one side of the heating element. This provides a maximum degree of safety, both to the operator and to delicate circuitry. The ORYX line of 115 V. plug-in models includes 3-wire styles whose shafts and tips may be connected to ground for safety.

#### 5. ECONOMY

A standard ORYX low-voltage industrial iron costs only \$5.35 in production quantities.

← Photo shows ORYX soldering iron used to assemble computer memory stack from ALERT system. (Courtesy Military Products Group, Honeywell, Inc.)

## LOW-VOLTAGE, MINIATURE PRODUCTION SOLDERING IRONS

Model	Volts	Watts	Temp.	Length	Weight	Tip Type	Tip Dia.	Also Takes	Net Ea.	12 or More		
5A	6	5	600°F.	5 1/2"	1/4 oz.	S	1/16"	T, U, Z	\$5.95	\$5.35		
5S	4.5	4.5	575°F.	4 3/4"	1/5 oz.	P	1/16"	T, U, Z	5.95	5.35		
6	6	6	625°F.	6"	1/4 oz.	Fixed	1/16"	—	5.95	5.35		
6A	6	6	690°F.	6"	1/4 oz.	B	3/32"	P, V, X	5.95	5.35		
9-6	6	8.3	750°F.	6"	1/4 oz.	A	3/32"	B, V	5.95	5.35		
9-12	12	8.3	750°F.	6"	1/4 oz.	A	3/32"	B, V	5.95	5.35		
9-24	24	8.3	750°F.	6"	1/4 oz.	A	3/32"	B, V	5.95	5.35		
11-6	6	10	835°F.	6"	1/4 oz.	D	3/32"	E	7.45	6.70		
12-6	6	12	700°F.	6 1/4"	1/2 oz.	C	3/16"	—	5.95	5.35		
12-12	12	12	700°F.	6 1/4"	1/2 oz.	C	3/16"	—	5.95	5.35		
12-24	24	12	700°F.	6 1/4"	1/2 oz.	C	3/16"	—	5.95	5.35		
18-6	6	18	800°F.	7 1/4"	3/4 oz.	F	3/16"	M, Y	7.95	7.15		
25-12	12	25	1000°F.	7 1/4"	1 oz.	G	3/16"	H	8.45	7.60		

### REPLACEMENT TIPS for low-voltage soldering irons

Oryx tips are precision machined from a special copper alloy with outstanding heat conduction characteristics. Nickel plating reduces scaling. Iron-plated tips and solid nickel tips give much longer life with slightly reduced heat transfer. Gold tips recommended for microcircuits only.

Type	Material	Plating	Diameter	For Model	Net. Ea.
A	Copper alloy	Nickel	3/32"	9-6	\$.54
B	Copper alloy	Nickel	3/32"	6A, 9-6	.54
C	Copper alloy	Nickel	1/16"	12-6	.54
D	Solid nickel	—	3/32"	11-6	1.80
E	Solid nickel	—	3/32"	11-6	1.80
F	Copper alloy	Nickel	3/16"	18-6	1.25
G	Solid nickel end	Nickel	3/32"	25-12	1.85
H	Copper alloy	Nickel	1/4"	25-12	2.35
M	Solid nickel end	Nickel	3/32"	18-6	1.85
N	Copper alloy	Nickel	1/8"	TW-12	1.25

Type	Material	Plating	Diameter	For Model	Net. Ea.
P	Copper alloy	Nickel	1/16"	5A, 6A	\$.60
S	Copper alloy	Nickel	1/16" (short)	5-S	.60
T	Gold end, copper body	Nickel	1/25"	5A, 6A	2.35
U	Gold end, nickel body	—	1/25"	5A, 6A	2.35
V-PL	Copper alloy	Iron	3/32"	6A, 9-6	1.50
W	Copper alloy	Bare (NASA)	3/32"	6A, 9-6	.45
X	Copper alloy	Nickel	1/25"	6A, 9-6	.85
X-PL	Copper alloy	Iron	1/25"	6A, 9-6	1.50
Y-PL	Copper alloy	Iron	3/32"	18-6	2.25
Z	Copper alloy	Nickel	1/25"	5A, 5S	.85
Z-PL	Copper alloy	Iron	1/25"	6A, 9-6	1.50

## SOLDERING TWEEZERS

**MODEL TW-6**—Precision model for semiconductors, solid state, hairspring movements, miniature relays, thermostats, etc. Solid nickel 3/32" fixed tips. Nominal temperature 550° F. Weighs 1 oz. 6-volts, 18-watts, AC or DC.

**MODEL TW-6**, complete with 4 1/2' cord.....Net \$14.95 ea.  
(12 or more \$14.45 ea.)



Unique tools with heating elements in each arm. Speed soldering time by heating both sides of joint. Tweezer action conducts heat quickly into joint. Low-voltage operation assures safety to circuitry and to operator.

#### MODEL TW-12

Heavy duty model for regular production-line soldering of radio, TV, radar, telephone, and switchboard assemblies. Furnished with replaceable 1/8" N tips. Nominal temperature 625°F. Weighs 2 oz. 12-volts, 25-watts, AC or DC.

**MODEL TW-12**, complete with 4 1/2' cord.....Net \$16.50 ea.  
(12 or more \$14.95 ea.)



SK-12 stripper heads for TW-12 (kit of 2 heads and 2 screws).....Net \$1.35 kit

## ACCESSORIES

**6-VOLT TRANSFORMER**—Model 54203-6V. Output 6-volts, 18-watts. For use with all 6-volt Oryx tools. Operates on 115 V. AC. with 4 1/2' cord set — ready to plug in. Clip-holder on top for iron.....Net \$5.50 ea.

**12-VOLT TRANSFORMER**—Model 5420-12V. Output 12-volts, 25-watts. For all 12-volt Oryx tools. Operates on 115 V. AC. With 4 1/2' cord set—ready to plug in.....Net \$6.45 ea.

**TAPPED TRANSFORMER**—Output 4 1/2 to 6-volts in 1/2 v. steps. For exact temperature control on all Oryx 6-volt tools. Operates on 115 V. AC—ready to plug in. Model 54204-T.....Net \$6.50 ea.

**TW-6E REPLACEMENT ASSEMBLY**—Includes element, tip, and bushing (for one TW-6 tweezer arm only).....Net \$5.30 ea.

**S-1 SOLDERING IRON STANO**.....Net \$1.50 ea.

# TELVAC

INSTRUMENT  
COMPANY

Formerly ORYX CO.



# PLUG-IN 115 V. MINIATURE IRONS

- **NØ TRANSFORMER.** Standard models furnished with U/L approved 4½' cord set. Ready to plug in!
- **COMPACT DESIGN** for light production, laboratory, and service use. Irons weigh only 1 oz., plus cord.
- **HEAT QUICKLY** (about 1 minute) to 675° F. (10 W.) and 725° F. (15 W.)
- **REPLACEABLE TIPS.** 10 W. model furnished with 3/32" J tip (also takes K tip). 15 W. model furnished with 3/16" K tip (also takes other tips and solder cups listed below).

MODEL 115-10J — Complete with J tip and cord set. Ready to plug in  
 MODEL 115-15K — Complete with K tip and cord set. Ready to plug in  
 MODEL 115-10J-3 — Complete with J tip and 3-wire grounding-type cord. Less plug  
 MODEL 115-15K-3 — Complete with K tip and 3-wire grounding-type cord. Less plug

Net \$7.50 ea. (12 or more \$6.75 ea.)  
 Net \$7.75 ea. (12 or more \$6.95 ea.)  
 Net \$7.50 ea. (12 or more \$6.75 ea.)  
 Net \$7.75 ea. (12 or more \$6.95 ea.)



## REPLACEMENT TIPS AND ELEMENTS for 115 V. irons.

Type	Material	Diameter	Use with	Net ea.
J	Copper alloy	3/32"	115-10	\$1.55
J-PL	Copper, iron plated	3/32"	115-15	2.25
K	Copper alloy	3/16"	115-10, 115-15	1.70
L	Copper alloy	1/4"	115-15	2.25

Type	Material	Diameter	Use with	Net ea.
Q	Solid nickel end	3/32"	115-15	\$1.85
R	Solid nickel end	3/16"	115-15	1.85
115-10E	Replacement element for model 115-10			3.60
115-15E	Replacement element for model 115-15			3.60

## NEW! THERMAL WIRE STRIPPER for TEFLON\*



\*DuPont Trademark

Here is the tool you've been asking for — a thermal wire stripper to remove those difficult p.t.f.e. insulations. The new ORYX ST-60 has special high-temperature heads that quickly melt through tough insulation, yet will not damage those critical inner conductors. This compact 2-oz. stripper reaches easily into hard-to-get-at spots, making it ideal for repair and prototype use, as well as for production. Use the ST-60 with Telvac transformer #5024, or any other 24-volt 60-watt power source. Transformer #5024 has a 12-volt tap, allowing use of the ST-60 on PVC and other low-temperature insulations. (Transformer may also be used to power other Oryx 12-volt and 24-volt tools.)

MODEL ST-60 (Stripper only) ..... Net \$24.95 ea.  
 MODEL 5024 (Transformer only)..... Net 8.95 ea.  
 MODEL ST-60E (Spare element assembly)..... Net 11.90 ea.

## "PVC" WIRE STRIPPERS

Reach those hard-to-get-at spots. Miniature tweezer design.



Ideal for repair and prototype work where a bench stripper is unsuitable. Strips Nylon, rubber, PVC, Kel-F, Polystyrene, and similar medium-temperature insulations. Stainless steel stripping heads are abrasive-tumbled to eliminate sharp edges which might damage conductors. Operating temperature: ST-6, 400°F. ST-18-6, 475°F., ST-18-12, 500°F. Furnished with 4½' cord.

MODEL ST-6. For 6-volts, AC-DC, 12 watts..... Net \$15.95 ea.  
 MODEL ST-18.6. For 6-volts, 18 watts. MODEL ST-18-12. For 12-volts, 25 watts.  
 EITHER ST-18 MODEL ..... Net \$16.50 ea.  
 ST-6E Replacement element-head assembly for ST-6..... Net \$ 3.30 ea.

## MINIATURE SOLDER POT

Quick-heating, miniature solder pot for production, service, or laboratory use. Heats to 550°F in just 4 minutes. For tinning wires and component leads; heating waxes and potting compounds. Capacity 2.5 cc. For 115 V. AC or DC.

SP-115. With cord set ready to plug in.  
 SP-115-3. 3-wire grounding model, less plug.  
 EITHER MODEL ..... Net \$12.95 ea.  
 SPC. Replacement cup and stem..... 2.85 ea.  
 SP-115-E. Replacement element ..... 3.60 ea.  
 60-40 solder slugs for above..... .40 ea



## SOLDER CUPS

Solder cups replace tips on Oryx model 18 and 115-15 soldering irons. For tinning wires and component leads. Hold 2.5 cc. Nominal temperature 550-600°F.

SC-18 (Use with Oryx 18-6 soldering iron.)  
 SC-115 (Use with Oryx 115-15 soldering iron.)  
 EITHER MODEL ..... Net \$2.25 ea.



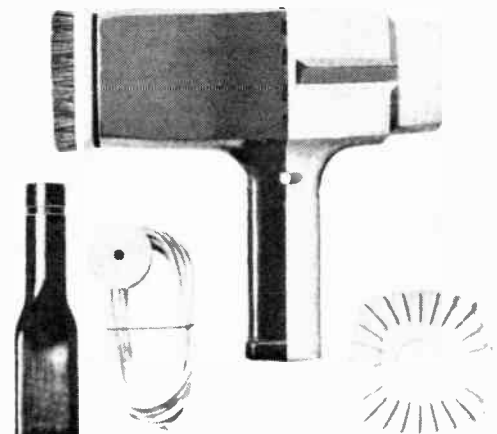
## LABORATORY VACUUM CLEANER

- **LIGHT WEIGHT** for easy handling in and around precision apparatus, prototypes, instruments, and assemblies of all kinds.
- **COMPACT DESIGN** with a 5" tapered accessory nozzle that gets into corners and tight spots with ease.

The new TELVAC Miniature Vacuum Cleaner keeps everything clean-room clean! It is ideal for use on the production line to clean inside chassis, instruments, assemblies, components, connections, and circuit boards. Use it in the lab to clean in, on, and around recorders, meters, monitors, chart drives, instruments and test equipment, racks, photographic and optical apparatus, flat surfaces, benches, and tables. It has a 5" tapered nozzle that gets into corners and tight spots, inside chassis and instruments, all around components and connections. A brush is also provided for flat surfaces and table tops. High-impact polyethylene body. For 115 volts AC.

MODEL TVM (complete)..... Net \$24.95 ea.

## NEW!



# TELVAC

INSTRUMENT COMPANY

Formerly ORYX CO.

# TELVAC

# INSTRUMENT ASSEMBLY TOOLS

## HEADBAND VIEWER

**Stereoscopic magnifier used in precision work**



A stereoscopic magnifier with large field of view. Magnification 2½x at 8". Accurately ground lenses have the required prismatic effect to prevent eye-strain. A watchmaker's glass may be switched to either eye to increase magnification to 5X at 2-3". A hood shields the eyes from glare, even under brilliant illumination. The lower side is open, allowing unrestricted downward vision for handling tools and taking notes. May be worn with glasses.

**MODEL 606** .....Net \$17.95

## INSTRUMENT REPAIR KIT

- 35 PIECES
- FINEST PRECISION TOOLS



Every instrument shop and laboratory needs the Telvac K-50 Instrument Tool Kit. A 35-piece assortment of the finest small tools used in instrument repair, precision mechanics, and fine electronic assembly.

Each kit contains a 10-watt miniature soldering iron, a 4" fine taper-jaw diagonal cutter, a 4" needle-nose plier, a 5-piece precision screwdriver set, a Phillips screwdriver with No. 0 point, a pair of stub-nosed scissors, a 10-power eye loupe, an 8-piece 4" needle-file set, an 11-piece precision knife set, a 6-piece hex wrench set, a 6-piece spline wrench set, a 3-piece miniature soldering aid set, and a #5 Dumont-type stainless precision tweezer.

**INSTRUMENT TOOL KIT, MODEL K-50** .....Net \$49.50 ea.

## NEW! ANTI-SEIZE SEALING COMPOUND

- FOR TORQUE WRENCHING
- FOR THREADED CONNECTIONS
- FOR SOLDERING IRON TIPS
- FOR SEALING



Meets MIL-A-907

Telvac "No-Stik" is an anti-seize sealing compound that provides a gas- and moisture-tight seal for threaded connections. When applied to screw threads, antenna, or conduit connections, disassembly is made much easier, even after years of use. Seizing and galling are eliminated. "No-Stik" may be used with titanium, stainless steel, iron, ordinary steel, brass, copper, alloys, die castings, plastics, or aluminum. When bolts are to be tightened with a torque wrench, "No-Stik" is first applied to the threads and shoulder of the bolt. This not only eliminates seizing, galling, and chatter, but also insures proper torque by assuring that the wrench does not trip too soon. Even though used in corrosive atmospheres, salt spray, or at extreme temperatures, the bolts can always be disassembled easily. Other important uses include aluminum connections (to prevent binding) and between soldering iron tips and their heating elements (to prevent freezing and improve heat conduction). Telvac "No-Stik" meets MIL-A-907. No on-the-job mixing is required — it is ready to use and may be applied by brush, finger, knife, or by dipping.

Cat. No. NSTK-1 (1-oz. sample tin).....Net \$ .29 ea.

Cat. No. NSTK-16 (1-lb. can).....Net 3.50 ea.

"No-Stik" is also available in 5-lb. cans, pails, and drums. Ask your distributor for prices and additional information, or write Telvac Instrument Co. directly.

## POCKET MICROSCOPE

- ADJUSTS 40 to 60 POWER
- REFLECTING MIRROR
- SUPERIOR OPTICS



An outstanding instrument that makes microscopic inspection possible wherever you may be. High magnification (x 60) reveals much more than ordinary magnifiers. Reflecting mirror almost doubles surface illumination. Model 890-M has calibrating scale that measures in both millimeters and thousandths of an inch. Both models have dustproof optics and are furnished with a case.

**MODEL 890** .....Net \$12.95 ea.

**MODEL 890-M (with calibration scale)**.....Net \$19.95 ea.

## INSTRUMENT OILER

The Telvac Reach-All pen oiler is fitted with an extending/retracting stainless tube that lets you reach a full 9½" to put oil exactly where you want it. Dispenses one drop at a time. Comes filled with highest quality instrument oil that meets MIL-L-6085. Pen size — handy pocket clip.

**MODEL TVO** .....Net \$ .99 ea.

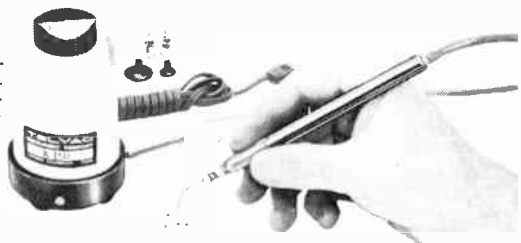
## RELAY BURNISHER

Inexpensive, non-residual contact burnisher for silver, platinum, gold, palladium, tungsten, molybdenum, and all other precious-metal contacts. This tool leaves no filings, grit, dust, or film. Plastic insulating handle. Vinyl case protects against grease and moisture.

Cat. No. 960 (Package of 3 burnishers).....Net \$1.49 ea.

## VACUUM TWEEZER SYSTEM

This new parts-handling system positively and precisely lifts parts varying in size from microscopic to those weighing several ounces. Parts are handled without damage or contamination. Defects caused by pinching, scratching, or marring are eliminated. Critical surfaces are protected. Vacuum is turned on and off with the forefinger. For 115 V. A.C. complete system, ready to plug in.



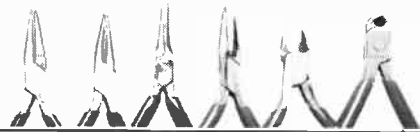
### COMPONENT PARTS OF SYSTEM

Cat. No.	Description	Net ea.	Cat. No.	Description	Net ea.
1505	Vacuum generator	\$22.50	1565	Tip, .047" i.d., #16	\$ .75
1575	Probe	5.95	1580	Cup, 0.5" dia.	.75
1550	Tip, .006" i.d., #30	.75	1585	Cup, 0.25" dia.	.75
1555	Tip, .0095" i.d., #25	.75	1510	Tubing, 4' length	1.00
1560	Tip, .0155" i.d., #22	.75	1590	Filter	.90

**Complete System K-150**  
Net ea. \$34.50

# INSTRUMENT PLIERS

Precision tools for delicate instrument and electronic work. Featuring box joints and unusually small, fine heads. Each pair of pliers accurately adjusted. All models have vinyl cushion hand grips.

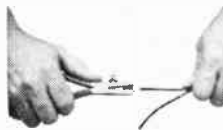


DESCRIPTION	SIZE		PRICES,	
	5 1/4" - 5 3/4"	4 1/4" - 4 3/4"	EITHER SIZE	
	Cat. No.	Cat. No.	Net ea.	10 or more
Flat nose	11B	10B	\$3.60	\$3.25
Round nose	21B	20B	3.60	3.25
Needle nose	26B	25B	3.90	3.50
Chain nose	31B	30B	3.60	3.25
Diagonal cutter	41B	40B	4.90	4.40
Diagonal cutter (hard wire)	—	46B	8.90	8.00
Flush end cutter	51B	50B	4.90	4.40

Plastic cushion-grips on all models to reduce operator fatigue. Needle-nose pliers have smooth surfaces, with radius edges for bending fine wires. Chain-nose pliers have fine serrations on tips for gripping. Diagonal cutters 41B and 40B are taper-jaw styles that give flush cut on soft wires. Diagonal cutter 46B is new Swedish-style special-steel cutter for use on nickel and other hard wires, and for extra-long life on normal wires. Cutters only are available with return spring. Add X to catalog number and 25¢ to net price.

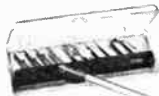
# STRIPPER

Unique wire-stripping plier. Just squeeze, twist, and pull. For wires AWG #8 to #22. Positive adjustment with lock nut is set to protect conductors. Tool-steel heads with razor sharp edges. Vinyl cushion handle grips.



MODEL T-22 .....Net \$3.90 ea.

# PRECISION KNIFE SET



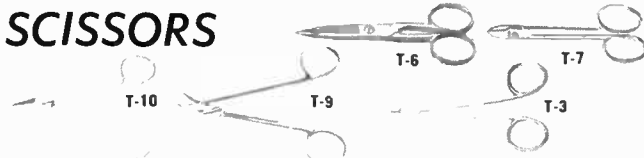
A beautifully-made set for deburring, scraping, stripping fine wires, printed-circuit repairs, etc. Kit consists of handle and an assortment of 10 tiny blades in a plastic case.

KIT, MODEL K-90.....Net \$2.95

Replacement blades for K-90 kit. Package of 10 blades (assorted — 9 styles).

EXTRA BLADES, Cat. No. 9100 .....Net \$1.98

# SCISSORS



Four models for electronic work. T-3 is box joint cutter for very fine wires. T-6 is popular "electrician's" model for all cutting jobs. T-7 has small cut length for close-quarter jobs and wire cutting. T-9 is a high-leverage cutter for very hard wires and light sheet metal. T-10 is extra-fine pointed scissor for cutting the very finest wires and materials.

Cat. No.	Description	Length	Net ea.	10 or more
T-3	Fine wire nipper	4"	\$3.55	\$3.20
T-6	Electrician's scissors	5"	2.40	2.15
T-7	Stub-nosed scissors	4"	2.40	2.15
T-9	High-leverage cutter	4 3/4"	7.49	6.75
T-10	Fine pointed scissors	4 1/2"	3.25	2.95

# PRECISION DRIVER SETS

## SCREWDRIVER SETS in plastic cases

Precision jewelers-type screwdriver sets for miniature slotted fasteners. Set 540 has 5 insulated-handle drivers from .04 to .12". Set 579 has 6 drivers from .025 to .1", with removable chrome-vanadium blades. Set 583 includes 6 fixed-blade drivers from .025 to .1".

MODEL 540 (Insulated set).....Net \$3.95 ea.

MODEL 579 (Removable-blade set).....Net 7.95 ea.

Cat. No. B-579H (Set of blades for #579).....Net 1.10 ea.

MODEL 583 (Fixed-blade set).....Net 2.35 ea.

## SPLINE- AND HEX-KEY SETS

10-piece short-arm key sets in plastic cases. Includes all small sizes used in instruments and precision electronics. Set 850 has Allen wrenches from .028" to 3/32". Set 870 includes all Bristol-type spline keys from .033-4 to .133-6.

MODEL 850 (Hex-key set).....Net \$1.10 ea.

MODEL 870 (Spline-key set).....Net 1.10 ea.

# TWEEZERS

## ASSEMBLY TWEEZERS

Industrial assembly tweezers with vinyl cushion finger grips to reduce operator fatigue. Bright nickel plated. 11 models.

Cat. No.	End Style	Configuration	Length	Net ea.	10 or more
102	Pointed	Straight	4"	\$1.10	\$1.00
112	Pointed	Angled	4"	1.35	1.22
202	Round	Straight	4"	1.10	1.00
207	Round	Straight	7"	2.75	2.35
217	Round	Angled	7"	2.75	2.35
212	Round	Angled	4"	1.35	1.22
302	Flat	Straight	4"	1.10	1.00
312	Flat	Angled	4"	1.55	1.35
402	Oblique	Straight	4"	1.10	1.00
512	Large oblong	Angled	4"	1.45	1.30
612	Medium oblong	Angled	4 1/2"	1.45	1.30

## STAINLESS STEEL

## TEFLON-COATED TWEEZERS

All models are stainless steel. All models have broad holding surfaces. 700-series are reverse-action clamping types for holding or heat-sink. Teflon coated models are used where metal cannot touch parts being handled.

Cat. No.	Style	Length	Configuration	Teflon coated?	Net ea.	10 or more
603	Semiconductor	4 1/2"	Straight	No	\$1.89	\$1.70
613	Semiconductor	4 1/2"	Angled	No	2.10	1.89
653	Semiconductor	4 1/2"	Straight	Yes	2.49	2.24
663	Semiconductor	4 1/2"	Angled	Yes	2.70	2.43
206	Heavy-duty	7"	Straight	No	3.39	3.05
216	Heavy-duty	7"	Angled	No	3.66	3.30
256	Heavy-duty	7"	Straight	Yes	4.14	3.73
266	Heavy-duty	7"	Angled	Yes	4.41	3.98
702	Small clamping	4"	Straight	No	2.76	2.48
712	Small clamping	4"	Angled	No	2.97	2.67
752	Small clamping	4"	Straight	Yes	3.36	3.02
762	Small clamping	4"	Angled	Yes	3.57	3.22
706	Large clamping	6 1/4"	Straight	No	4.23	3.81
766	Large clamping	6 1/4"	Straight	Yes	4.83	4.35

## DUMONT STYLE TWEEZERS

For extremely delicate work. Dumont-style tweezers are an order of magnitude finer than ordinary tweezers. 103, 105 and 107 are stainless steel.

Cat. No.	Style	Description	Length	Net ea.	10 or more
103	#3	Fine points	4 1/2"	\$3.90	\$3.50
105	#5	Extra-fine points	4 1/2"	4.20	3.80
107	#7	Fine points, curved	4 1/2"	4.60	4.15
10-D	D	Top flush cutter	4 1/2"	3.75	3.35

# NEEDLE FILES

Precision Swiss needle files with vinyl cushion finger grips. 8 styles in 2 sizes. For delicate work. No. 2 cut.

Cat. No. 4"	Cat. No. 6 1/4"	Style	Cut Symbol
1000	1100	Round	○ □
1001	1101	Square	□ ○
1002	1102	Triangular	△ ▽
1003	1103	Knife	△ ▽
1004	1104	Equalling	□ ○
1005	1105	Oval	○ □
1006	1106	Flat	□ ○
1007	1107	Half round	□ ○

Net ea. — 4" styles .....\$59 (10 or more, \$53)  
 — 6 1/4" styles .....\$72 (10 or more, \$65)

## FILE KITS

Set of 8 precision Telvac files in plastic case.

Cat. No. 2000 (4" styles) .....Net \$5.55 ea.

Cat. No. 2100 (6 1/4" styles) .....Net 6.55 ea.

# HEMOSTAT CLAMPS

Versatile tools with unusual holding qualities. Three-position snap lock clamps work tightly. Holds wires for soldering; acts as a heat sink; retrieves small parts. Box joint construction. Curved and straight models in two sizes.

T-20 (straight—6").....Net \$3.85 ea. T-30 (curved—6").....Net \$3.95 ea.

T-25 (straight—5").....Net 3.25 ea. T-35 (curved—5").....Net 3.35 ea.

# INSTRUMENT DRIVER SET

## 24-PIECES WITH CASE

A new 24-piece driver set for use on miniature instrument fasteners. Includes two jewelers-type handles, 6 slotted driver blades .025 to .1", markingawl, #0 and #1 Phillips driver blades, 5 nut-driver blades 3/16 to 5/16", 5 open-end wrench blades 3/16 to 5/16", and 3 Allen-type blades for #4, #6 and #8 setscrews. Plastic case.

MODEL K-200 .....Net \$11.95 ea.

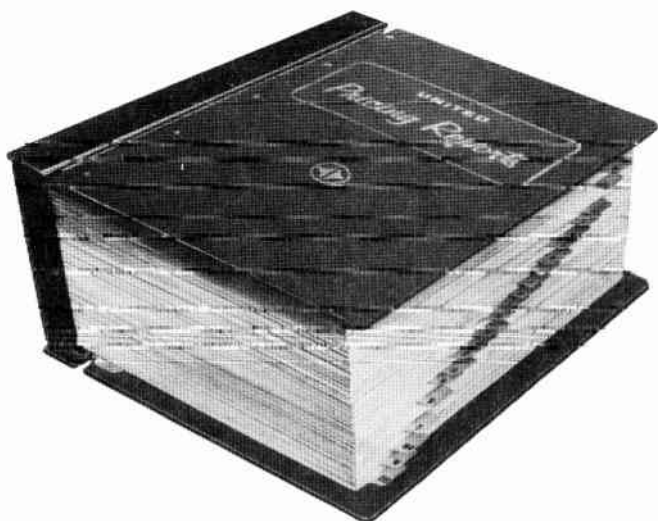
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# DELIVERY

Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.




## NEW for MICROelectronic soldering

UNGAR Electric Tools, alert to the changing profile of the electronic industry, introduces Princess, a completely new miniature soldering iron.

### HANDLES



Turquoise, molded of heat resistant ABS. Two and three conductor cords are flexible, vinyl covered. Rated 120V AC-DC.

#6902—Two wire handle. U.L. listed 1 to 9 each \$2.69

#6903—Three wire handle with molded NEMA plug. 1 to 9 each \$3.65

### HEAT CAPSULES



Rated at 120V; copper alloy heating conductor is threaded to accept 1/8" Nibs. Over-all length: 3 1/4". Extends 1 1/4" from handle. U.L. listed.

#6906—Tip temperature from 400°F to 450°F. 6W. 1 to 9 each \$3.31

#6910—Tip temperature from 550°F to 650°F. 10W. 1 to 9 each \$3.31

#6915—Tip temperature from 700°F to 800°F. 15W. 1 to 9 each \$3.31

#6918—Tip temperature from 900°F to 1000°F. 18W. 1 to 9 each \$3.31

### SOLDERING NIBS

Copper alloy; also in iron clad, gold plated (24K). Threaded (1/4") to fit PRINCESS Heat Capsules.

#6950—Pencil Nib. Cad. copper, .61" L. stepped to .080" D. x .015" P. 1 to 9 each \$.33

#6960—Iron clad, gold plated. Same as #6950. 1 to 9 each \$.59

#6951—Screwdriver Nib. Cad. copper, .68" L. stepped to .080" D. x .055" P. 1 to 9 each \$.33

#6961—Iron clad, gold plated. Same as #6951. 1 to 9 each \$.59

#6952—Spade Nib. Cad. copper, .61" L. stepped to .080" D. with 45° spade tip. 1 to 9 each \$.33

#6962—Iron clad, gold plated. Same as #6952. 1 to 9 each \$.59

#6953—Precision Point Nib. Cad. copper, .61" L. stepped to .080" D. x .005" P. 1 to 9 each \$.59

#6963—Iron clad, gold plated. Same as #6953. 1 to 9 each \$1.15

### PRINCESS HOLDER

#6990—Base and sponge holder molded of thermoset plastic. Stainless steel cage mounted on a swivel. Equipped with specially processed sponge. 1 to 9 each \$2.89



#6991—Refill sponge. 1 to 9 each \$.45

### PRE-ASSEMBLED PACKAGED COMBINATIONS

#6975—Assembled and Packaged Princess Soldering Iron. Consists of the following parts:

(1) One #6902 Handle, Two-Wire

(2) One #6910 10-Watt Heat Capsule

(3) One each of the following Princess copper Soldering Nibs:

#6950—Pencil

#6951—Screwdriver

#6952—Spade

1 to 9 each \$6.66

#6900—Princess Packaged Soldering Station. Consists of the following units: A complete assembled iron consisting of:

One #6902 Handle, Two-Wire

One #6910 10-Watt Head Capsule

One #6950 Pencil Copper Nib

One #6951 Screwdriver, Copper Nib

One #6952 Spade Copper Nib

One #6990 Princess Soldering Iron Holder, equipped with one (1) #6991 Sponge

### NEW PRINCESS de-Solderette'

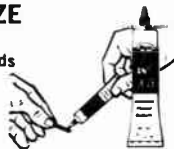
#6985 For removal of Microminiature Components... ideal for I.C. Chip re-word and repair... Fast... Safe... Efficient.

1 to 9 each \$12.95



### #8001 ANTI-SEIZE

1/2 oz. tube  
New Ungar Anti-Seize guards against "freezing."  
1 to 9 each \$.58



### #8000 SOLDERING IRON HOLDER

Exclusive Ungar double safety guard protects operator against accidental burns and protects iron against breakage. Individually boxed. 1 to 9 each \$1.85



### #6825 DE-SOLDERING ATTACHMENT

Fits 25, 30, 40 and 60-Watt Imperial Heat Cartridges. Vacuum action lifts solder from board. Coating on tip and metal parts prevents solder from sticking or clogging. See replacement tips above. 1 to 5 each \$8.58



### #7800 HOT-VAC DE-SOLDERING TOOL

Vacuum action lifts solder from board. Coating on tip and metal parts prevents solder from sticking or clogging.  
1 to 5 each \$10.95



### NEW

Replacement tips for Hot-Vac and #6825

#7812 Hole Dia. .033 ... 1 to 9 each \$.70

#7813 Hole Dia. .069 ... 1 to 9 each \$.70

#7806 Hole Dia. .057 ... 1 to 9 each \$.70

### #4025 HOT-KNIFE



Includes a 47 1/2 Watt Heating Unit with collet closure and one stainless steel blade. Individually bubble packaged. Blade temperature 500°F. Can be used in either Ungar's Red Standard Line Handle #776 or the new Clean-Room Handle #777. 1 to 9 each \$3.16

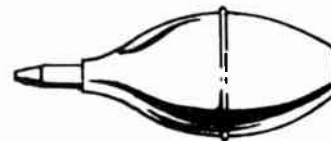
### KLEEN-TIP SPONGE

Removes oxidation, doubles life of tips.  
#400 with tray. 1 to 9 each \$1.00  
#455 refill sponges 1 to 9 each \$.40



### #7805 SOLDER-OFF

Ungar's de-soldering bulb with a TFE tip for safe, easy removal of components from printed circuit boards. 1 to 9 each \$1.10.



ALL ABOVE PRICES ARE USER NET. PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.



# STANDARD LINE SOLDERING IRON

## UNGAR fast, safe De-Soldering Tips

For use with #4045 Heating Unit.



#856 5/8" Cup Tip  
1 to 9 each \$ .76



#855 3/4" Cup Tip  
1 to 9 each \$ .76



#854 1" Cup Tip  
1 to 9 each \$ .76



#858 Bar Tip  
1 to 9 each \$ .76



#862 Offset Slotted Tip  
1 to 9 each \$ .76



#857 Slotted Tip  
1 to 9 each \$ .76



#863 Cube Tip  
1 to 9 each \$ .76



#861 Triangle Tip  
1 to 9 each \$ .76



#270 UNGAR De-Soldering Kit.  
Complete, 7 pieces including handle, Heating Unit #4045 and five De-Soldering Tips in metal case. 1 to 5 each \$7.26

### New UNGAR HEATING UNITS AND THREAD-ON TIPS for Hi-Speed Repeat Soldering



#537 Hi-Speed Heating Unit — 600° to 650°F — 23½ Watts  
1 to 9 each \$1.53

#1237 Hi-Speed Heating Unit — 750°-800°F. 37½ Watts  
1 to 9 each \$1.86

#4037 Hi-Speed Heating Unit — 850°-900°F. 47½ Watts.  
1 to 9 each \$2.83



#PL 111 PENCIL TIP. 1/8" x 3/4" iron clad. Silver Plated.  
1 to 9 each \$ .70

#111 Plain Copper 1 to 9 each \$ .34

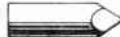


#PL 113 CHISEL TIP. 1/8" x 3/4" iron clad, Silver Plated.  
1 to 9 each \$ .70

#113 Plain Copper. 1 to 9 each \$ .34



#PL 114 Stepped Micro-Spade, Iron Clad, Silver Plated  
1 to 9 each \$ .70



#116 5/16" Pyramid, Rugged Copper Alloy 1 to 9 each \$ .34

#PL 116 5/16" Pyramid, Iron Clad, Silver Plated 1 to 9 each \$ .70

### UNGAR TIPLET Soldering Tips for Heating Units shown below

800 Series TIPLETS fits Ungar #4045 heating unit only.



#PL 331 Pencil Tip. 1/8" x 1", iron clad, Silver Plated. 1 to 9 each \$ .54



#331 Plain Copper. 1 to 9 each \$ .21



#PL 332 Pencil Offset. 1/8" x 1", iron clad, Silver Plated. 1 to 9 each \$ .54



#332 Plain Copper. 1 to 9 each \$ .21



#PL 333 Chisel, Long Taper. 1/8" x 1", iron clad, Silver Plated. 1 to 9 each \$ .54



#333 Plain Copper. 1 to 9 each \$ .21



#PL 338 Tapered Needle. 1/4" x 1 3/4", iron clad. Silver Plated. 1 to 9 each \$ .54



#PL 340 Micro-Needle. 3/4" x 3/4", for microscopic soldering, iron clad, Silver Plated—Actual size.  
1 to 9 each \$ .54



#7154 Stepped Pencil, 1/4" pencil tip. Iron clad, silver plated. Fits #535, 1235, and 4035. 1 to 9 each \$ .54



#7155 Stepped Chisel, 1/4" chisel tip. Iron clad, silver plated. Fits #535, 1235 and 4035. 1 to 9 each \$ .54



#PL 833 Chisel, Long Taper. 3/4" x 1 3/4", iron clad. Silver Plated. 1 to 9 each \$ .90



#PL 834 Chisel, Long Taper, Offset. 3/4" x 1 3/4", iron clad, Silver Plated. 1 to 9 each \$ .90



#PL 823 Pyramid, 3/4" x 1", iron clad, Silver Plated. 1 to 9 each \$ .60



#823 Plain Copper. 1 to 9 each \$ .22



#PL 824 Chisel, Long Taper. 3/4" x 1", iron clad. Silver Plated. 1 to 9 each \$ .60



#824 Plain Copper. 1 to 9 each \$ .22

## New #777 "CLEANROOM" Soldering Handle

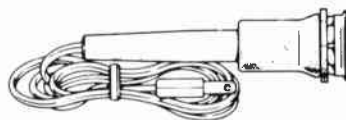


"CLEAN ROOM" GRIP • STAINLESS STEEL HEAT REFLECTOR • FULL-CONTACT SPRING SOCKET, NO TIP WOBBLE • HANDLE IN PASTEL COLOR • NEW POLY-VINYL INSULATED CORD • OCTAGON SHAPE GUARD WASHER

1 to 9 each \$1.66

## #776 SOLDERING HANDLE

Ungar's red handle with cork grip. Same features as above.



1 to 9 each \$1.43

## New... Special Purpose TipleTs



#7012 Precision Point, Cadmium Copper. .770 L. x .125 D. stepped to .090 D., ground and honed to .005 P. 1 to 9 each \$ .54

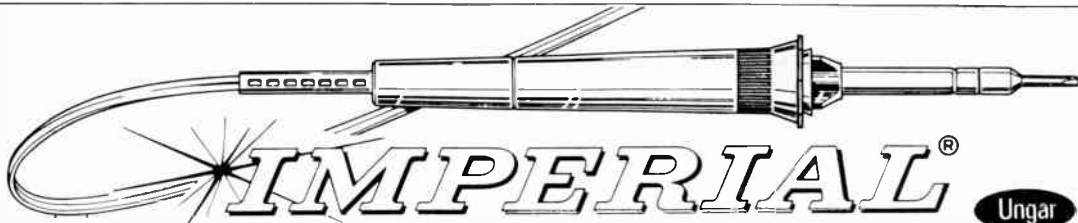
#7062 Precision Point, Cadmium Copper, Iron Clad, Silver Plated. .770 L. x .135 D. stepped to .098 D., ground and honed to .010 P. 1 to 9 each \$1.04

## Ungar Interchangeable Tips... the right tip at the right temperature.

TIP TEMPERATURES	CHISEL TIP LONG TAPER	PYRAMID TIP	CHISEL TIP SHORT TAPER	THREAD-IN HEATING UNITS
850° to 1000° F. #4000 Super Hi-Heat Series 47-1/2 Watt	#4033 Tip 1-5/8" long, 1/4" wide. New copper alloy, iron clad, silver plated. 1 to 9 each \$2.83	#4036 Tip 1-1/8" long, 3/8" diameter. Copper, iron clad, silver plated. 1 to 9 each \$2.83	#4039 Tip 1-1/8" long, 3/8" diameter. Copper, iron clad, silver plated. 1 to 9 each \$2.83	#4035 Steel body, nickel plated. For use with 300 Series TipleTs. #4045. For use with 800 Series TipleTs. ABOVE 1 to 9 each \$2.83
750° to 800° F. #1200 Hi-Heat Series 37-1/2 Watt	#1233 Tip 1-5/8" long, 1/4" wide. Copper, unplated. 1 to 9 each \$1.70	#1236 Tip 1-1/8" long, 5/16" diameter. Pure solid Armco iron, silver plated. 1 to 9 each \$1.70	#1239 Tip 1-1/8" long, 3/8" diameter. Pure solid Armco iron, silver plated. 1 to 9 each \$1.70	#1235 37½ watt. Hi-Temperature steel body specially treated for corrosion resistance. 1 to 9 each \$1.70
650° to 750° F. #500 Standard Series 23-1/2 Watt	#533 Tip 1-5/8" long, 3/16" wide. Copper, unplated. 1 to 9 each \$1.35	#536 Tip 1-1/8" long, 5/16" diameter. Copper, unplated. 1 to 9 each \$1.35	#539 Tip 1-1/8" long, 5/16" diameter. Copper, unplated. 1 to 9 each \$1.35	#535 23½ watt. Hi-Temperature steel body specially treated for corrosion resistance. 1 to 9 each \$1.35

ALL ABOVE PRICES ARE USER NET. PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

# MOST VERSATILE SOLDERING IRON EVER INVENTED



**COOL, LIGHTWEIGHT, EASY-HANDLING**

Ungar...developers of the industry's first miniature, low wattage, high temperature, pencil type iron...now brings you the ultimate in time-saving, money-saving soldering irons.



## PERMA COOL COLORED HANDLES



#6100 turquoise, beige, ivory, and black\*  
1 to 9 each \$1.38

## INTERCHANGEABLE CORD SETS 2-wire or grounded 3-wire



#6102 2-wire. 1 to 9 each \$1.97  
#6103 Grounded NEMA.  
1 to 9 each \$2.94

\*Note: Designate color for handles and cord sets by adding suffix (-1 for turquoise, -2 for beige, -3 for ivory, -5 for black).

## NEW 100 WATT

"Long Life" Interchangeable Heat Cartridges.



#6207 100 Watt (850-1150°F temp. range). 1 to 9 each \$6.22  
#6203 60 Watt (850-1050°F temp. range). 1 to 9 each \$4.29  
#6200 40 Watt (750-950°F temp. range). 1 to 9 each \$3.74  
#6201 30 Watt (650-850°F temp. range). 1 to 9 each \$3.74  
#6202 25 Watt (600-800°F temp. range). 1 to 9 each \$3.74  
#6206 15 Watt (700-750°F temp. range). 1 to 9 each \$3.74

## IMPERIAL MINI-TIP®

Thread-on soldering tips

All easy-thread tips are completely interchangeable.



#6304 Micro-Chisel, Iron Clad, Gold Plated (24 kt.)  
3/64 x 1/2 1 to 9 each \$0.96



#6305 Micro-Spade, Iron Clad, Gold Plated (24 kt.)  
3/64 x 1/2 1 to 9 each \$0.96



#6482 Micro-Spade, Stepped, Iron Clad, Gold Plated (24 kt.)  
3/64 x 1/2 1 to 9 each \$0.96



#6481 Tapered Screwdriver, Iron Clad, Gold Plated (24 kt.)  
3/4 x 3/32. 1 to 9 each \$0.96



#6312 Pencil, Rugged Copper Alloy, 1/8 x 3/4  
1 to 9 each \$0.43



#6313 Pencil, Iron Clad, Gold Plated (24 kt.) 1/8 x 3/4  
1 to 9 each \$0.96



#6316 Pencil, Offset, Iron Clad, Gold Plated (24 kt.)  
1 to 9 each \$0.96



#6318 Long Taper Chisel, Rugged Copper Alloy, 1/8 x 3/4  
1 to 9 each \$0.43



#6319 Long Taper Chisel, Iron Clad, Gold Plated (24 kt.)  
1/8 x 3/4 1 to 9 each \$0.96



#6324 Long Taper Pyramid, Rugged Copper Alloy, 1/8 x 3/4  
1 to 9 each \$0.43



#6325 Long Taper Pyramid, Iron Clad, Gold Plated (24 kt.)  
1/8 x 3/4 1 to 9 each \$0.96



#6331 Screwdriver, Iron Clad, Gold Plated (24 kt.)  
1/8 x 3/4 1 to 9 each \$0.96



#6333 Needle, Iron Clad, Gold Plated (24 kt.) 1/8 x 3/4  
1 to 9 each \$0.96



#6336 Spade, Iron Clad, Gold Plated (24 kt.) 1/8 x 3/4  
1 to 9 each \$0.96



#6366 Long Taper Chisel, Iron Clad, Gold Plated (24 kt.)  
3/16 x 3/4 1 to 9 each \$1.11



#6368 Long Taper Pyramid, Rugged Copper Alloy,  
3/16 x 3/4 1 to 9 each \$0.51



#6372 Screwdriver, Iron Clad, Gold Plated (24 kt.)  
3/16 x 3/4 1 to 9 each \$1.11



#6373 Slotted Tip, Rugged Copper Alloy, 3/16 x 3/4  
1 to 9 each \$0.96



#6390 Screwdriver, Iron Clad, Gold Plated (24 kt.)  
3/16 x 1 1/2 1 to 9 each \$1.14



#6424 Long Taper Chisel, Iron Clad, Gold Plated (24 kt.)  
1/4 x 3/4 1 to 9 each \$1.14



#6473 Long Taper Chisel, Rugged Copper Alloy, 3/8 x 3/4  
1 to 9 each \$0.51



#6474 Long Taper Chisel, Iron Clad, Gold Plated (24 kt.)  
3/8 x 3/4 1 to 9 each \$1.42



## Specially Designed IMPERIAL HOLDER

Protects iron, keeps it safely out of the way. Black with gold cage guard and heat sink. #6800.

1 to 9 each \$1.85



### New heavy duty tips.

#6500 Long taper chisel, Tellurium Copper, Iron Clad, Gold Plated.  
1 to 9 each \$2.25

#6520 Long taper chisel, Tellurium Copper.  
Use above tips only with #6207 Cartridge. 1 to 9 each \$1.14

## NEW MICRO-TIPS Thread-on soldering tips

For use with Imperial 15 watt cartridges only.



#6550 Tapered Screwdriver, Iron Clad, Gold Plated (24 kt.) .040 x .40  
1 to 9 each \$1.10



#6551 Stepped Spade, Iron Clad, Gold Plated (24 kt.)  
.050 x .40 1 to 9 each \$1.10



#6553 Stepped Chisel, Iron Clad, Gold Plated (24 kt.)  
.050 x .40 1 to 9 each \$1.10



#6554 Stepped Pencil, Iron Clad, Gold Plated (25 kt.)  
.050 x .40 1 to 9 each \$1.10

## NEW... FOR MICROSCOPIC ASSEMBLY



#6391 Precision Point, Tellurium Copper. .770 L. x .125 O. stepped to .090 O., ground and honed to .005 P. 1 to 9 each \$0.69

#6392 Precision Point, Tellurium Copper, Iron Clad, Gold Plated (24 kt.). .770 L. x .135 O. stepped to .098 O., ground and honed to .010 P. 1 to 9 each \$1.42

ALL ABOVE PRICES ARE USER NET. PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

# SCREW DRIVERS

- Precision Ground... Unconditionally Guaranteed
- Comfordome® Slo-Burn S/B AMBERYL® Handles are easy on the hands
- Nickel-Chrome Plated #6150 Steel Blades will not rust or corrode

## ROUND BLADE SCREW DRIVERS

### Pocket Clip Styles



Stock No.	Blade Diameter and Length	Overall Length	List Price
A 010	3/32" x 1 1/8"	3 1/8"	\$.30
A 230-2	1/8" x 2"	3 3/4"	.32
A 130-2	1/8" x 2"	3 7/8"	.39
A 130-3	1/8" x 3"	4 7/8"	.39
A 116-2	3/32" x 2"	4 1/2"	.47
A 116-3	3/32" x 3"	5 1/2"	.47
A 116-4	3/32" x 4"	6 1/2"	.47
A 131-2	1/8" x 2"	4 1/2"	.47
A 131-3	1/8" x 3"	5 1/2"	.47

### Electrical and Cabinet Styles

A 216-2	1/8" x 2"	4 3/4"	.67
A 216-3	1/8" x 3"	5 3/4"	.73
A 216-4	1/8" x 4"	6 3/4"	.75
A 216-6	1/8" x 6"	8 3/4"	.77
A 216-8	1/8" x 8"	10 3/4"	.84
A 216-10	1/8" x 10"	12 3/4"	.92

### General Service Styles

A 316-3	3/16" x 3"	6 1/2"	.92
A 316-4	3/16" x 4"	7 1/2"	.99
A 316-6	3/16" x 6"	9 1/2"	1.10
A 316-8	3/16" x 8"	11 1/2"	1.16
A 316-10	3/16" x 10"	13 1/2"	1.27
A 416-3	1/4" x 3"	6 3/4"	1.18
A 416-4	1/4" x 4"	7 3/8"	1.20
A 416-6	1/4" x 6"	9 3/8"	1.27
A 416-8	1/4" x 8"	11 3/8"	1.33
A 416-10	1/4" x 10"	13 3/8"	1.46

### Heavy Duty Styles (Keystone)

A 516-4	5/16" x 4"	8"	1.53
A 516-6	5/16" x 6"	10"	1.60
A 516-8	5/16" x 8"	12"	1.70

### Extra Heavy Duty Styles (Keystone)

A 616-6	3/8" x 6"	10 1/4"	1.90
A 616-8	3/8" x 8"	12 1/4"	2.04
A 616-10	3/8" x 10"	14 1/2"	2.30

### Stubby Styles



A 132	1/4" x 1 1/4"	3"	.90
A 135	3/16" x 1 1/4"	3 3/8"	1.18

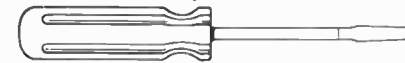
## OFFSET SCREW DRIVERS—REGULAR TYPE



Stock No.	For Screw No.	Overall Length	List Price
V0 1	2 to 6	3"	\$.52
V0 2	6 to 10	4"	.84
V0 3	8 to 12	5"	.95
V0 4	12 to 16	6"	1.20

## SQUARE BLADE SCREW DRIVERS

### General Service Styles



Stock No.	Blade Size and Length	Overall Length	List Price
C 33	3/16" x 3"	6 1/2"	\$1.16
C 34	3/16" x 4"	7 1/2"	1.20
C 36	3/16" x 6"	9 1/2"	1.25
C 38	3/16" x 8"	11 1/2"	1.33

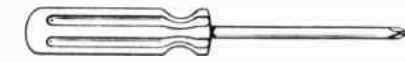
### Medium Duty Styles

C 43	1/4" x 3"	6 3/8"	1.35
C 44	1/4" x 4"	7 3/8"	1.44
C 46	1/4" x 6"	9 3/8"	1.50
C 48	1/4" x 8"	11 3/8"	1.66
C 410	1/4" x 10"	13 3/8"	1.90
C 54	5/16" x 4"	8 1/4"	1.90
C 56	5/16" x 6"	10 1/4"	1.98
C 58	5/16" x 8"	12 1/4"	2.00
C 510	5/16" x 10"	14 1/4"	2.19

### Heavy Duty Styles

C 66	3/8" x 6"	10 1/2"	2.19
C 68	3/8" x 8"	12 1/2"	2.34
C 610	3/8" x 10"	14 1/2"	2.67
C 612	3/8" x 12"	16 1/2"	2.80

## PHILLIPS SCREW DRIVERS



Stock No.	Handle Diameter and Length	Point No.	Overall Length	List Price
P 01	3/4" x 2 3/4"	0	5 1/4"	\$.80
P 1	1/2" x 3 1/2"	1	6 1/2"	1.08
P 2	1" x 3 3/4"	2	7 1/4"	1.35
P 3	1 1/8" x 4"	3	10"	1.85
P 4	1 3/8" x 4 1/2"	4	12 1/2"	2.19
P 5	1 1/4" x 2 1/2"	2	3 3/4"	1.18
P 6	1 1/8" x 1 3/4"	1	3"	1.08

### Pocket Clip Type

P 12	1/2" x 2 1/2"	0	5"	.80
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### Extra Long Blade

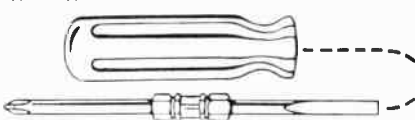
P 18	7/8" x 3 1/2"	1	11 1/2"	1.20
P 28	1" x 3 3/8"	2	11 3/4"	1.40
P 212	1" x 3 3/8"	2	15 3/4"	1.57
P 202	1 3/16" x 4 1/2"	2	24 1/2"	2.60

### Phillips Offset Type



Stock No.	Style	Point Size On End	List Price
P 111	Single End	=1 on Both Ends	\$.58
P 120	Double End	=1 and =2	.73
P 222	Single End	=2 on Both Ends	.64
P 230	Double End	=2 and =3	1.20
P 340	Double End	=3 and =4	1.40

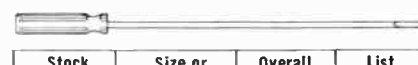
## REVERSIBLE SCREW DRIVERS



Stock No.	Type and Size of Blade	List Price
DU 2	No. 1 Phillips x 3/16" Regular	\$1.56
DUH 4	No. 2 Phillips x 1/4" Regular	1.88
DU 5	No. 2 Phillips x 1/4" Reg. (Stubby)	1.88
DU 11	No. 1 Phillips x 3/16" Reg. plus 1/4" Hex.	1.82
DUP 12	No. 1 Phillips x No. 2 Phillips	2.08
DU 34	3/4" Regular x 1/4" Regular	1.82
QU 45	1/4" Clutch Head x 3/8" Clutch Head	1.60
DU 68	3/8" Clutch Head x 1/4" Clutch Head	2.06

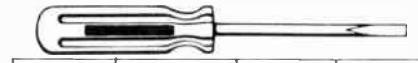
## SPECIALTY SCREW DRIVERS

### Radio & Television Aligners



Stock No.	Size or Type	Overall Length	List Price
AT 55	—	7 1/2"	\$.80
AT 510	—	12 1/2"	.93

### Neon Tester Screw Drivers



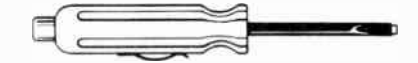
AN 2	Pocket Clip	5 1/2"	1.16
AN 44	—	7 3/8"	1.90

### Double End Nut Drivers



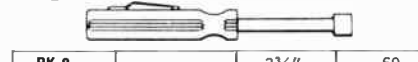
DE 810	1/4" & 5/16"	6"	1.16
DE 1210	3/16" & 3/8"	6"	1.40

### Combination Screw & Nut Drivers



ND 141	Regular	5 1/2"	1.16
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### Midget 1/4" Nut Drivers



PK 8	—	3 3/4"	.69
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### Slimline Drivers



A 86	—	5 7/8"	.86
A 99	—	8"	1.03

### Non-Magnetic Metal Tip Aligner



AT 45	—	5 1/2"	.65
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### Insulated Screw Drivers



Stock No.	Handle Size	Overall Length	Color Key	List Price
VR 241	3/4" x 3"	7"	Grey	\$1.00
VR 261	3/4" x 3"	9"	Grey	1.13
VR 281	3/4" x 3"	11"	Grey	1.18
VR 341	7/8" x 3 1/2"	7 1/4"	Black	1.27
VR 361	7/8" x 3 1/2"	9 1/2"	Black	1.30
VR 381	7/8" x 3 1/2"	11 1/2"	Black	1.38
VR 441	1" x 3 3/8"	7 3/4"	Red	1.50
VR-461	1" x 3 3/8"	9 3/4"	Red	1.59
VR 481	1" x 3 3/8"	11 3/8"	Red	1.70
VR 561	1 1/8" x 4"	10"	Yellow	2.02
VR 581	1 1/8" x 4"	12"	Yellow	2.13
VR 591	1 1/8" x 4"	14"	Yellow	2.30

### Beryllium Copper (Non-Magnetic)



Round			
Stock No.	Handle Size	Overall Length	List Price
VB 26	5/8" x 2 3/4"	8 3/4"	\$1.44
VB 210	5/8" x 2 3/4"	12 3/4"	1.59
VB 38	7/8" x 3 1/2"	11 3/4"	2.54
VB 46	1" x 3 3/8"	9 3/4"	3.16
VB 48	1" x 3 3/8"	11 3/8"	3.48

Square			
Stock No.	Handle Size	Overall Length	List Price
VB 550	1 1/4" x 4 1/4"	9 1/2"	4.58
VB 660	1 3/8" x 4 1/2"	10 1/2"	6.94

Phillips			
Stock No.	Handle Size	Overall Length	List Price
PB 14	7/8" x 3 1/2"	6 1/2"	2.37
PB 26	1" x 3 3/8"	7 3/8"	3.33





# NUT DRIVERS SCREW LAUNCHERS SPECIALTY TOOLS

## HOLLOW SHAFT NUT DRIVERS



- Extra Hard Tempered Sockets
- Beautiful Polished Nickel-Chrome Finish
- Large Colored-For-Size Handles

### Extra Small Hex Size

Stock No.	Handle Dia. and Length	Hex Size	Overall Length	Handle Color	List Price
S 4	3/8" x 3 1/2"	1/8"	6 1/2"	Amber	\$1.10
S 5	7/8" x 3 1/2"	3/32"	6 1/2"	Amber	1.10

### 3" Shaft Length

S 6	1" x 3 3/4"	3/16"	6 5/8"	Black	1.10
S 7	1" x 3 3/8"	1/32"	6 5/8"	Amber	1.10
S 8	1" x 3 3/8"	1/4"	6 5/8"	Red	1.10
S 9	1" x 3 3/8"	3/32"	6 5/8"	Amber	1.10
S 10	1" x 3 3/8"	3/16"	6 5/8"	Amber	1.10
S 11	1" x 3 3/8"	1/32"	6 5/8"	Green	1.10
S 12	1" x 3 3/8"	3/8"	6 5/8"	Blue	1.10
S 14	1 1/16" x 4"	7/16"	7"	Brown	1.35
S 16	1 1/16" x 4"	1/2"	7"	Orange	1.35

### Extra Large Hex Size 4" Shaft Length

S 18	1 1/16" x 4"	3/8"	8"	Amber	1.76
S 20	1 1/16" x 4"	3/8"	8"	Amber	2.00

### Extra Long 6" Shaft Length

S 66	1" x 3 3/8"	3/16"	9 3/4"	Black	1.42
S 86	1" x 3 3/8"	1/4"	9 3/4"	Red	1.42
S 106	1" x 3 3/8"	3/8"	9 3/4"	Amber	1.42
S 116	1" x 3 3/8"	1/32"	9 3/4"	Green	1.42
S 126	1" x 3 3/8"	3/8"	9 3/4"	Blue	1.42
S 146	1 1/16" x 4"	3/8"	10"	Brown	1.68
S 166	1 1/16" x 4"	1/2"	10"	Orange	1.68

### Stubby Style 1 1/4" Shaft Length

SS 8	1 1/4" x 2 1/8"	1/4"	3 1/2"	Amber	.99
SS 10	1 1/4" x 2 1/8"	3/8"	3 1/2"	Amber	.99
SS 12	1 1/4" x 2 1/8"	3/8"	3 1/2"	Amber	.99

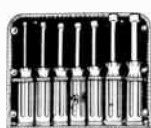
## SP-500 Plastic Boxed Set



An elegant two tone gift or storage box with hinged cover contains these five popular sizes: 3/16", 1/4", 3/8", 1/2", 3/4". Size of box is 5" wide x 7" long x 1 1/2" deep.

Price .....\$6.10

## K-7 Stand Up—Hang Up Kit



An ideal kit for the workbench or to roll up and store in the tool box. Contains the following drivers: S6, S8, S10, S11, S12, S14, S16.

Price .....\$9.70

## S-700 All Metal Stand

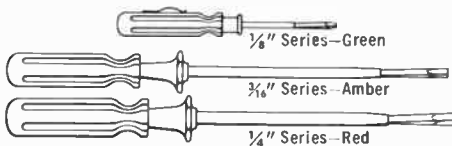


Seven of the most popular nut driver sizes are fitted into this metal stand especially designed for the workbench or for hanging on the wall. Contains one each of: S6, S8, S10, S11, S12, S14, S16.

Price .....\$9.10

## SCREW LAUNCHERS

hold...start...drive  
screws with power and comfort



Unique design, double blade bit grips screws securely while working in tight quarters or awkward places. Easy to operate.

Stock No.	Blade Size	Handle Size	Overall Length	List Price
K-21*	Mini Tip	5/8" x 2 3/4"	5 3/4"	\$1.50
K-23*	1/8" x 3"	5/8" x 2 3/4"	5 3/4"	1.25
K-28	1/8" x 8"	5/8" x 2 3/4"	10 3/4"	1.50
K-34	3/16" x 4"	7/8" x 3 1/2"	7 1/2"	1.85
K-36	3/16" x 6"	7/8" x 3 1/2"	9 1/2"	1.90
K-38	3/16" x 8"	7/8" x 3 1/2"	11 1/2"	1.95
K-44	1/4" x 4"	1" x 3 5/8"	7 5/8"	1.95
K-46	1/4" x 6"	1" x 3 5/8"	9 5/8"	2.00
K-48	1/4" x 8"	1" x 3 5/8"	11 5/8"	2.05

## Phillips Screw Launchers

Stock No.	Length	List Price
K-13	3"	\$1.75
K-14*	5"	2.30
K-15	5"	2.05
K-16	7"	2.15
K-19	9"	2.20

\*Pocket Clip Style

## SNAP DRIVERS & COMPONENTS



Interchangeable blades snap into Vaco handle... holds like one piece tool. Build your own kit of specialty blades.

Stock No.	Description	List Price
ZH-1	Medium Duty Handle	\$1.16
ZH-2	Heavy Duty Handle	1.59
ZA-1	1/4" Allen Hex Bit	.75
ZA-2	3/8" Allen Hex Bit	.77
ZA-3	1/2" Allen Hex Bit	.80
ZA-35	3/4" Allen Hex Bit	.84
ZA-4	1" Allen Hex Bit	.84
ZA-45	3/4" Allen Hex Bit	.86
ZA-5	1/2" Allen Hex Bit	.86
ZA-6	3/8" Allen Hex Bit	.90
ZB-24	1/4" Regular Bit	.58
ZB-34	3/8" Regular Bit	.73
ZB-45	1/2" Regular Bit	.73
ZP-01	No. 0 Phillips Bit	.69
ZP-14	No. 1 Phillips Bit	.73
ZP-24	No. 2 Phillips Bit	.77
ZS-6	3/16" Nut Driver Bit	.84
ZS-8	1/4" Nut Driver Bit	.84
ZS-10	3/8" Nut Driver Bit	.84
ZS-11	1/2" Nut Driver Bit	.84
ZS-12	3/4" Nut Driver Bit	.84
ZS-14	1" Nut Driver Bit	1.08
ZS-16	1 1/2" Nut Driver Bit	1.08
ZT-310	3-in-1 Tapping Tool Blade	2.45
ZX-56	5" Extension Piece	1.16

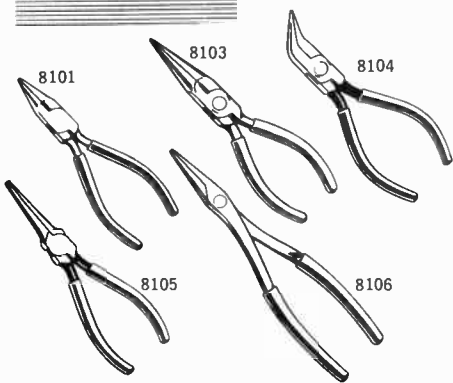
## SPECIALTY TOOLS

Stock No.	Description	List Price
WS-150	Wire Stripper & Cutter	\$1.50
ML-7	Magnetic Level & Protractor	3.25
TT-31	3-in-1 Tapping Tool	2.60
DU-1*	Mini Reversible Driver	1.25
SA-711	Adjustable Nut Driver	3.85
210	Internal Snap Ring Pliers	2.95
220	External Snap Ring Pliers	2.95
K-21*	Mini Screw Launcher	1.50
K-23*	1/8" x 3" Screw Launcher	1.25
K-14*	5" Phillips Screw Launcher	2.30
TK-500	100-500V Circuit Tester	1.00
HK-17	Hex Key Wrench Set	1.40
810	1/4" x 3/8" Ratchet Box Wrench	2.90
1214	3/8" x 3/8" Ratchet Box Wrench	3.25
1618	1/2" x 3/8" Ratchet Box Wrench	4.30
2022	5/8" x 1/2" Ratchet Box Wrench	4.50
2024	3/4" x 3/4" Ratchet Box Wrench	4.50
AL 2	3/4" x 3"	.050" 0 & 1 3 & 4 \$ .97
AL 4	3/4" x 3"	3/8" 2 5 & 6 .97
AL 5	3/4" x 3"	1/4" 3 & 4 8 .97
AL 6	7/8" x 3 1/2"	3/32" 5 & 6 10 .97
AL 7	7/8" x 3 1/2"	1/8" 7 — 1.12
AL 8	7/8" x 3 1/2"	1/4" 8 1/4 1.12
AL 9	7/8" x 3 1/2"	3/8" 9 — 1.12
AL 10	7/8" x 3 1/2"	1/2" 10 3/8 1.12
AL 12	7/8" x 3 1/2"	5/8" 1/4 3/8 1.12
AL 14	1" x 3 3/4"	3/4" 1/2 1.24
AL 16	1" x 3 3/8"	1/4" 1/2 1.24

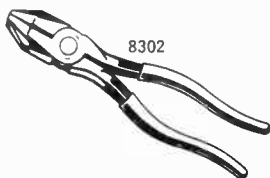
HEX KEY WRENCHES, in above sizes, are available in short, long, extra long, and 12" lengths.

# PLIERS • WRENCHES

- Precision Ground and Polished Heads
- Milled Sure Grip Jaws, Hand Honed Cutters
- Cushion Grip Handles
- Unconditionally Guaranteed



Stock No.	Description	List Price
8101	Short Ndle. Nose w/Cut. 5"	\$3.75
8102	Long Ndle. Nose w/Cut. 6"	4.00
8103	Long Ndle. Nose w/Cut. 7"	4.75
8104	Curved Nose 6"	4.20
8105	Long Nose 6"	3.85
8106	Long Needle Nose 7½"	4.10



8301	Lineman's Side Cut. 6½"	4.00
8302	Lineman's Side Cut. 7½"	4.60
8303	Lineman's Side Cut. 8¾"	5.50



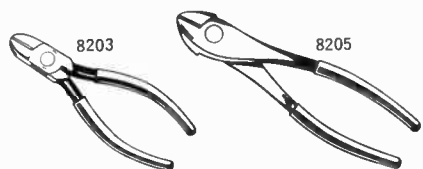
8400	Slip Joint Plier	1.30
8401	Slip Joint 6½"	1.85
8402	Slip Joint 8"	2.30
8403	6" Slip Joint w/Cutter	2.55



8602	Vacgruv Plier Wrench 6"	3.10
8604	Vacgruv Plier Wrench 10"	4.00



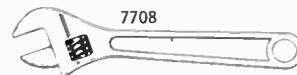
9101	Midget Long Nose 4½"	3.90
9102	Midget Round Nose 4½"	3.90
9201	Midget Diagonal 4½"	3.90
9202	Midget End Cutter 4½"	3.90
9501	Midget Flat Nose 4½"	3.90
9601	Midget Vacgruv 5"	3.90



8201	Diagonal Cutter 4½"	3.60
8202	Diagonal Cutter 5"	3.60
8203	Diagonal Cutter 6"	4.00
8204	Diagonal Cutter 7½"	4.65
8205	H. D. Diagonal Cutter 7¼"	4.20

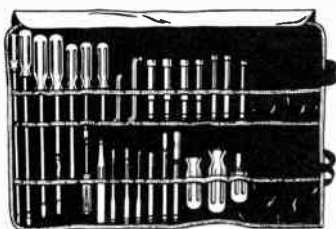


8501	Flat Nose w/ Cutter 6"	4.30
8502	Flat Nose 6"	3.65
8503	Flat Nose 7½"	4.00



7704	4" Adjustable Wrench	3.20
7706	6" Adjustable Wrench	3.20
7708	8" Adjustable Wrench	3.60
7710	10" Adjustable Wrench	4.60
7712	12" Adjustable Wrench	6.60

## VACOMBO® KITS

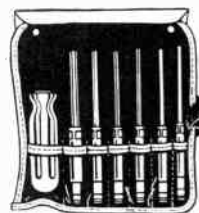


KIT NO. TV-27 Deluxe 27-piece kit contains practically every hand tool necessary for TV and radio work, plus extra pockets for pliers and other personal tools. Size, 20" x 13½". Price . . . \$28.40



KIT NO. ZB-50 A fine, all-purpose snap driver kit of interchangeable regular and Phillips blades that fit same handle. Includes durable leatherette bag. Size, 6½" x 7". Price . . . \$4.49

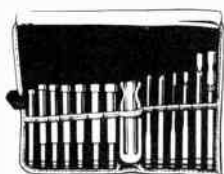
KIT NO. ZBX-51 Same as Vaco No. ZB-50 except includes 5" blade extension. Price . . . \$5.60



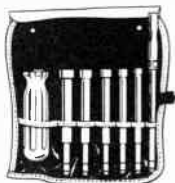
KIT NO. ZA-70 This useful snap driver kit consists of 6 Allen type hexagon blades plus handle and bag. Services screw numbers 4, 5, 6, 8, 10, ¼", ⅜", and ½". Size, 6½" x 7". Price . . . \$5.50



KIT NO. ZC-80 Specially designed snap driver kit includes socket head (Robertson), Phillips, and regular blades; particularly suited for Canadian use. Size, 6½" x 7". Price . . . \$5.98

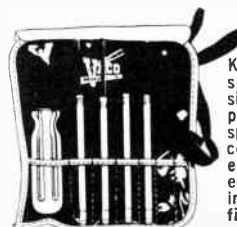


KIT NO. RT-14 Handy 14-piece snap driver kit for radio and TV service men. Contains nut drivers, Phillips and regular drivers, heavy duty handle, and 5" blade extension which doubles the usefulness of each blade. Size, 10½" x 8". Price . . . \$12.88



KIT NO. ZS-60 A most versatile and complete hexagon nut driver kit for radio, TV or any other work requiring speedy nut setting. All sockets are super hard. Size, 6½" x 7". Price . . . \$5.76

KIT NO. ZSX-61 Same as Vaco Kit No. ZS-60 except includes 5" blade extension. Price . . . \$6.77



KIT NO. ZF-40 Here is a special snap driver kit designed to take care of all popular sizes of fluted spline or Bristol type recess head screws used on electronic and electrical equipment, air conditioning, refrigeration, and office machines. Size, 6½" x 7". Price . . . \$5.18

# WALLBRAND SOLDERING PENCILS, IRONS AND GUNS

## SINCE 1864

Here are a few of the reasons why engineers choose WallBrand pencils and irons. They're Thermogram Rated for better efficiency. Cooler Handles. Feather Light. Perfect Balance. Extreme Operator Comfort.

**Production Line Model 18HD**—Thermogram Value: 300—25 watt input. Engineered for continuous precision soldering applications, the Model 18 has a total weight (less cord) of only 1½ ounces. A wide selection of tips available. Specifically engineered for the demanding applications of micro-circuitry, and high density packaging, precision work on solid state devices, printed circuits, etc. Designed with the critical temperature ranges of micro-miniature components in mind.

**Production Line Model 14HD**—Thermogram Value: 900—40 watt input. The Model 14 has the same precision components as the Model 18 and is designed for continuous production line work requiring more heat in a wide variety of tip sizes. Also 50 watt. Now, in addition to the present Wall soldering pencil irons, you can have Wall soldering pencils in a new plug type system. All heating elements for the 614-618 and sub-miniature 6116 are interchangeable with one handle and cord assembly.

**HD Type for continuous, heavy duty soldering requirements:**

- Triple-life resistance wire wound on pure mica.
- Offers constant, even tip temperature.
- Extra fast recovery.
- Excellent balance.
- 120 or 130 volts, ac or dc (other voltages on request).

TRIG-R-HEAT SOLDERING GUN SPECIFICATIONS						Model	Watt Input	Tip Size	Length W/O Tip	Therma/Gram Value
Model	Tip Size	Max. Watts	Min. Watts	Voltage AC or DC	Weight W/O Cord	18HD	25	1/8"	6 5/8"	300
214LT	1/4"	400	150	110-120	14 oz.	14HD	40	1/4"	7 1/2"	900
212LT	1/2"	500	300	110-120	24 oz.	618HD	25	1/8"	6 5/8"	300
<b>TIP AND ELEMENT ASSEMBLY</b>						614HD	40	1/4"	7 1/2"	900
						6116	11	1/8"	6 1/4"	125
214TE	1/4"	400	150	110-120		38HD	80	3/8"	10 1/4"	1500
212TE	1/2"	550	300	110-120		12HD	125	1/2"	10 1/4"	2000
<b>TechniMaster 863</b>						58HD	200	5/8"	12 1/4"	3500
						78HD	250	7/8"	12 3/8"	5400
						Model	Watt Input	Voltage	Triplet Size	Length W/O Triplet
						863	40	125	3/16"	8 3/8"

**The Wall Trig-R-Heat Soldering Gun**—Feather light, 14 oz., no heavy transformer. You can reach hard to get spots, tip will not deform. It has an insulated spot light switch, independent of trigger action. Heats instantly, recovers instantly. Rugged, precision built, made to last. One gun with two interchangeable tip and element assemblies to solve all soldering problems. This gun is made for the man who wants the best.

**Economaster 6316**—Industrial type soldering pencil at a popular price. Light weight, excellent balance, rugged construction, stable tip temperature. Ideally suited for all soldering applications.

**14DS New Wall Desoldering Tool**—Keeps solder in a molten state in reservoir, operated with one hand, fits existing Wall HD Iron. Replaceable tip (.080 opening).

**538HD Swivel Iron**—Adjustable, seven positions. From straight to 90° in 15° increments. Quick positive locking adjustment. 80W or 100W 3/8" tip size.

**2AG Heat Gun, AG Heat Gun**—Plug-type hot air guns from 200 to 600 watts, adaptable for any usage requiring up to 1000° F. 2AG pistol grip available with trigger at additional cost. Opens air and heat at same time. Apply heat only when you need it. AG handle grip. One heating element fits both guns. All five tip styles interchangeable. Special tips upon request. Three-wire cord assembly. The perfect guns for hundreds of different uses—to shape, form, weld and seal thermoplastics. Excellent heat source for shrinkable tubing. Gun includes nooprone air hose, hose fittings and pressure regulator valve.

**Soldering Tips for Pencils and Irons**—Wall has an extremely wide selection of soldering tips. Write for Bulletin I-464. These soldering tips are available in three different series, for WallBrand irons and pencils.

**Anniversary**—Industrial grade. Highest quality. Copper core. Special iron coating. Centerless-ground shaft. Non-freeze. Bright finish. Ultra long life for precision work and rigorous production line demand.

**WallKlad**—Industrial grade. Copper core, iron coating chrome plated for production applications, critical laboratory use.

**WallBrand**—Commercial grade, copper, nickel plated for some production and all commercial applications.

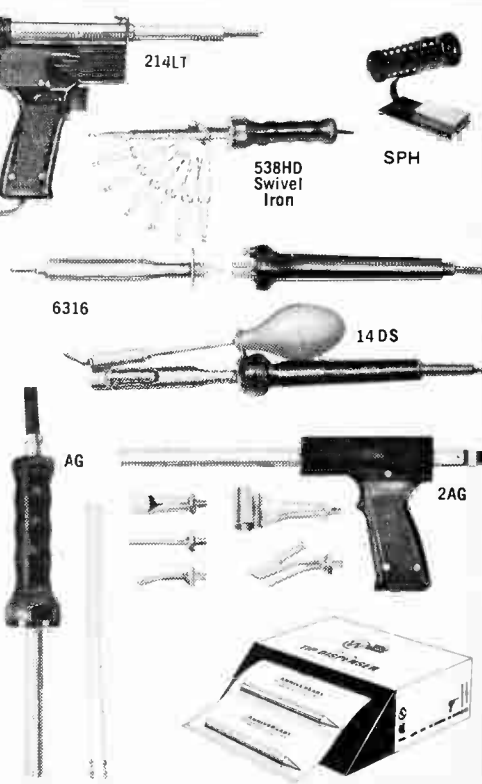
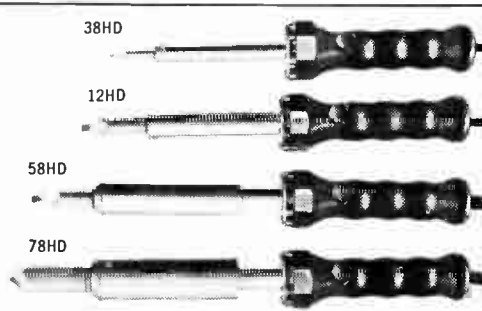
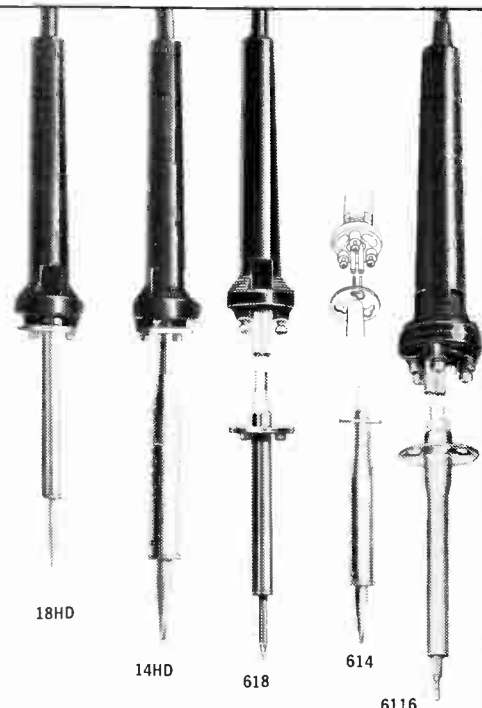
A complete selection of tips from 1/8", 3/16", 1/4", 3/8", 1/2", 5/8" and 3/4". Special tips to specification, designed upon request.

**New Soldering Tip Dispenser Pac.** WallBrand tips are available in a handy tip dispenser pac. Tip sizes 1/8" through 3/8". This unique Wall development keeps tip individually sealed in a color coded, continuous belting, plastic envelope. These envelopes are loaded in the popular Tip Dispenser Pac. The WallBrand individual Tip Dispenser Pac is ideally suited for production line station or stock distribution.



WALL MANUFACTURING CO.,

Industrial Soldering Pencils are built to exceed federal specification W-S-570a as amended. WallBrand soldering products are UL and CSA listed.



# Weller® DUAL HEAT Soldering Guns

**Dual heat.** All Weller guns offer Dual Heat—an original Weller feature that provides two tip temperatures from the same gun. Two trigger positions permit instant switching to high or low heat, whichever is best suited for the job. The use of low heat prevents damage when soldering near heat-sensitive components and prolongs tip life. High heat is instantly available when needed.

**Instant heat.** Solders in seconds. No waiting for the tip to heat. No wasted current.

**High-efficiency tip.** Made of copper for superior heat transfer and optimum soldering results. Slips easily into difficult places.

**Exclusive tip grip.** Wiping action of tip fastening nuts eliminates contact resistance and oxidation. This assures full, constant heat.

**Spotlight.** Illuminates the work and eliminates shadows.

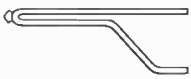


**Fingertip control.** Heat is instantly "on" when trigger is pulled, instantly "off" when trigger is released. No need to unplug the gun. No danger of damage from an idling hot tool.

**Operating comfort.** Compact design and perfect balance make precision soldering easy and eliminate fatigue.

**Guaranteed one year.** All Weller guns are UL and CSA approved and guaranteed for a full year against defects in material and workmanship.

## Accessory and Replacement Tips for Weller Dual Heat Guns



### SOLDERING

For gun models 8200 and D-440—Tip 7135N  
For gun model D-550—Tip 7250N



### SMOOTHING

For gun models D-440 and 8200—Tip 6120  
For gun model D-550—Tip 6140



### CUTTING

For gun models D-440 and 8200—Tip 6110  
For gun model D-550—Tip 6130

### 3 Dual Heat Models

MODEL 8200—100/140 watts  
MODEL D-440—145/210 watts  
MODEL D-550—240/325 watts

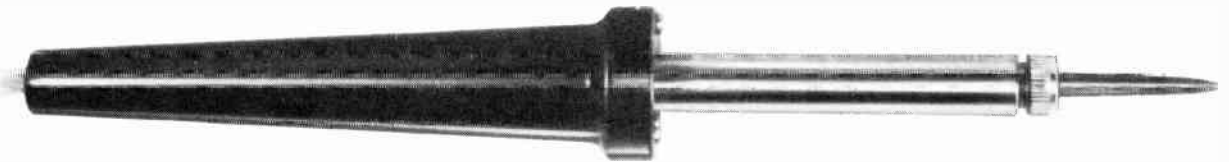
#### KITS WITH ACCESSORIES

MODEL 8200PK—Dual heat 100/140 watt gun, 3 soldering tips, tip-changing wrench, flux brush, soldering aid, solder, plastic case.

MODEL D-550PK—Heavy-duty 240/325 watt dual heat gun; soldering, cutting and smoothing tips; tip-changing wrench; solder; plastic case.

# Weller® TEMPERATURE-CONTROLLED Soldering Irons

...with Energy Reserve



Three temperature-controlled line voltage tools cover the 15 through 300-watt spectrum with Weller's exclusive Energy Reserve design. Interchangeable Weller tips triple the working capacity over conventional irons which often weigh twice as much. All sizes are available with standard 2-wire or 3-wire cords.

- Tip temperature constant to within  $\pm 3\%$  when idling
- Energy Reserve provides ample working temperature, quick recovery

### STANDARD WELLER IRONS

MODEL NO.	WATTAGE/120V	WEIGHT	TIP SUPPLIED*
W-60	60, covers 15 to 100-watt loads	2½ oz.	800°F ⅛" screwdriver
W-100	100, covers 50 to 150-watt loads	3½ oz.	800°F ¼" screwdriver
W-200	200, covers 150 to 300-watt loads	10 oz.	800°F 7/16" chisel

\*Weller "Temperature Sensing" tips are available in standard industrial configurations at 500°, 600°, 700° and 800°F for these tools.

- One tool does the work of several higher wattage irons
- Light weight and cool handles increase operator comfort

# Weller® UTILITY Soldering Irons

## THE "MARKSMAN" LINE

Five ruggedly designed general-purpose tools featuring stainless steel construction, long-reach barrels, and replaceable tips.



Model SP-23\*



Model SP-40



Model SP-80



Model SP-120

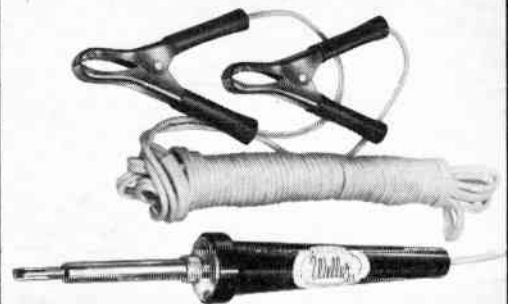


Model SP-175

MODEL NO.	WATTAGE/120V	WEIGHT
SP-23*	25	1 3/4 oz.
SP-40	40	2 oz.
SP-80	80	4 oz.
SP-120	120	10 oz.
SP-175	175	16 oz.

\*Also available as kit model SP-23K, including iron; screwdriver, cone and chisel tips; soldering aid and solder.

### NEW! . . . with Energy Reserve Weller 12 Volt Soldering Iron For field servicing requirements



A modern service tool for 12-volt battery or AC/DC power supply operation. Model TCP-12 requires only 30-41 watts, weighs only 1 1/4 oz., yet provides all the advantages of Weller's "Temperature Sensing" system. Supplied complete with 700°F 3/16" screwdriver tip, 12-ft. power cord and clips, and impact resistant handle. Also available for 24-28 volt operation (Model TCP-24).

### "INDUSTRIAL RATED" SOLDERING PENCIL



Ideal for soldering transistor sockets and other miniaturized circuit components, this low-cost 115-volt iron provides a tip temperature of 860°F with a 25-watt input. Other features include:

- High efficiency and rapid recovery
- Does the work of higher wattage irons
- Lightweight design reduces operator fatigue
- Rugged heating element for long-life service
- Readily replaceable parts

Interchangeable 1/16", 3/32", 1/8" and 3/16" screwdriver tips available—premium plated for long life. Model WPS.

# Weller® TEMPERATURE-CONTROLLED Soldering Stations

## ... with Energy Reserve

Model W-TCP is a low voltage soldering unit featuring a 2 1/2 oz. pencil that does the work of several irons. Efficient 24-volt operation with interchangeable Weller "Temperature Sensing" tips, burn-proof cord, self-contained 120 or 230-volt transformer, pencil holder and cleaning sponge. Wide selection of tip configurations provide a choice of controlled temperatures from 500° to 800°F. Also available with thermistor and SCR switching circuit for continuously variable 200°-450°F tip temperature—20-watt Model W-TCP-2.



Model W-TCP

#### SPECIFICATIONS

MODEL	WATTAGE	VOLTAGE	WT. WITH TIP, LESS POWER UNIT & CORD	OVERALL LENGTH WITH RETAINER TIP	TIP O.D.
W-TCP	60	120V,* 50-60 cycles	1 1/4 oz.	7 1/2"	5/16"
W-TCP-2	20	" " " "	" "	" "	" "

\*230/250V, 50-60 cycle version available

## WELLER ELECTRIC CORPORATION

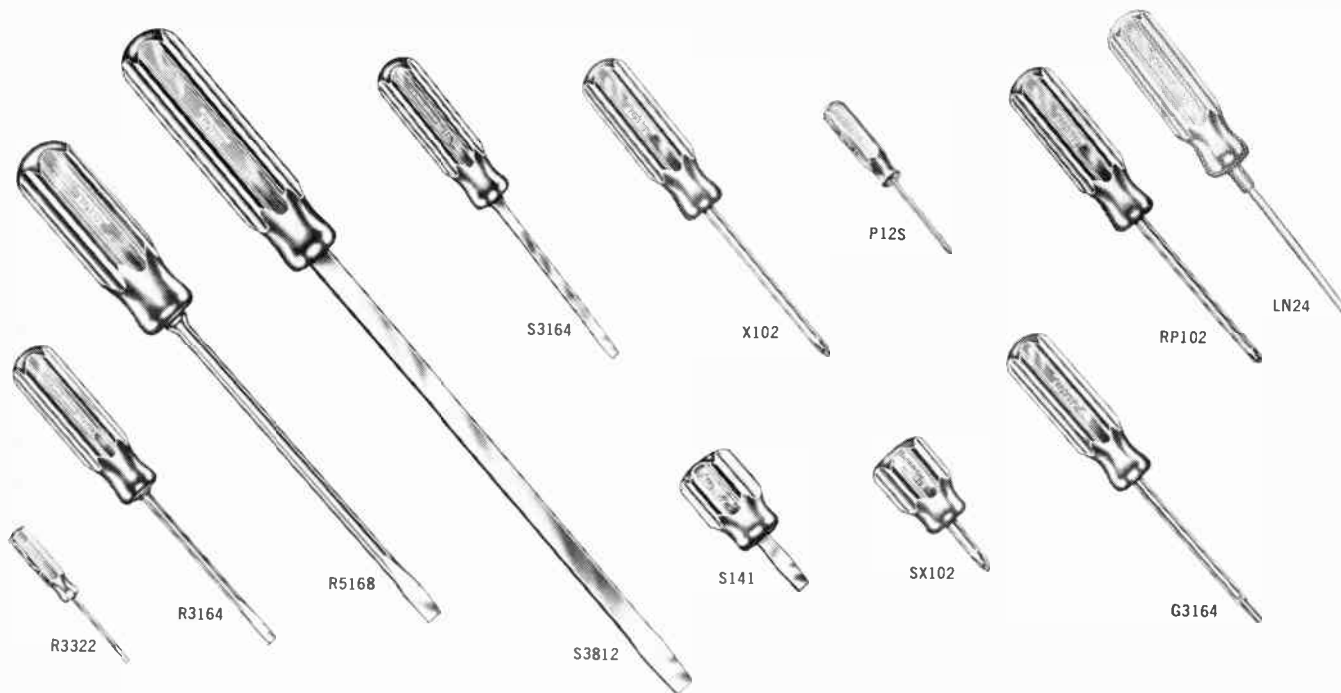
WORLD LEADER IN SOLDERING TECHNOLOGY



# QUALITY PROFESSIONAL TOOLS

## SCREWDRIVERS

AISI 6150 chrome vanadium steel blades. Shockproof, breakproof, plastic (UL) handles.



ROUND BLADE			SQUARE BLADE			PHILLIPS			FREARSON (Reed & Prince)				
Number	Size Blade	Net	Number	Size Blade	Net	Number	Point Size	Size Blade	Net	Number	Point Size	Size Blade	Net
<b>Regular</b>			<b>Regular</b>			<b>Extra Long</b>			<b>Regular</b>				
R182	1/8" x 2"	\$ .33	S3163	3/16" x 3"	\$ .66	X1010	1	3/16" x 10"	\$1.14	RP101	1	3/16" x 3"	\$ .75
R184	1/8" x 4"	.42	S3164	3/16" x 4"	.72	X1020	2	1/4" x 10"	1.29	RP102	2	1/4" x 4"	.90
R186	1/8" x 6"	.48	S3166	3/16" x 6"	.84	<b>Regular</b>			RP103	3	5/16" x 6"	1.20	
R188	1/8" x 8"	.57	S3168	3/16" x 8"	.96	X100	0	1/8" x 2"	\$ .48	RP104	4	3/8" x 8"	1.50
R1810	1/8" x 10"	.69	S31610	3/16" x 10"	1.14	X101	1	3/16" x 3"	.75	<b>CLUTCH HEAD</b>			
R5323	5/32" x 3"	.45	S142	1/4" x 2"	.75	X108	1	3/16" x 6"	.84	Type G	Tip Size	Size Blade	Net
R5324	5/32" x 4"	.45	S144	1/4" x 4"	.90	X102	2	1/4" x 4"	.93	G3324	3/32"	1/8" x 4"	\$ .78
R5325	5/32" x 5"	.48	S146	1/4" x 6"	.99	X103	3	3/16" x 6"	1.26	G183	1/8"	3/16" x 3"	.78
R5328	5/32" x 8"	.63	S148	1/4" x 8"	1.11	X104	4	3/8" x 8"	1.59	G5324	5/32"	3/16" x 4"	.93
R3163	3/16" x 3"	.60	S1424	1/4" x 24"	2.40	<b>Stubby</b>			G3164	3/16"	1/4" x 4"	.93	
R3164	3/16" x 4"	.69	S5162	5/16" x 2"	.81	SX101	1	3/16" x 1 7/16"	\$ .69	G146	1/4"	5/32" x 6"	1.17
R3166	3/16" x 6"	.75	S5164	5/16" x 4"	.99	SX102	2	1/4" x 1 3/16"	.78	G5166	5/16"	3/8" x 6"	1.44
R3168	3/16" x 8"	.87	S5166	5/16" x 6"	1.14	<b>Pocket Clip Style</b>			<b>NON-MAGNETIC BERYLLIUM —</b>				
R31610	3/16" x 10"	.99	S5168	5/16" x 8"	1.26	<b>Allen Type</b>			<b>Copper blades</b>				
R142	1/4" x 2"	.69	S51610	5/16" x 10"	1.44	Number	Hex Size	Blade Length	Net	<b>Non-sparking.</b>			
R144	1/4" x 4"	.87	S51612	5/16" x 12"	1.68	LN20	.050"	4"	\$ .69	<b>Higher fatigue resistance than steel.</b>			
R146	1/4" x 6"	.96	S388	3/8" x 8"	1.50	LN21	1/16"	4"	.69	Number	Size Blade	Net	
R148	1/4" x 8"	1.02	S3812	3/8" x 12"	2.40	LN22	3/64"	4"	.69	<b>Regular</b>			
R1410	1/4" x 10"	1.08	S3818	3/8" x 18"	2.70	LN23	3/32"	4"	.69	BR186	1/8" x 6"	\$ .84	
R5164	5/16" x 4"	.96	S7166	7/16" x 6"	1.95	LN24	7/64"	4"	.69	BR1810	1/8" x 10"	.96	
R5166	5/16" x 6"	1.08	S71612	7/16" x 12"	2.40	LN25	1/8"	6"	.75	BR3168	3/16" x 8"	1.44	
R5168	5/16" x 8"	1.17	S71618	7/16" x 18"	2.70	LN26	3/16"	6"	.75	BR146	1/4" x 6"	1.80	
R388	3/8" x 3"	1.50	<b>Stubby</b>			LN27	7/32"	6"	.84	BR148	1/4" x 8"	1.95	
<b>Pocket Clip Style</b>			S3161	3/16" x 1"	\$ .48	LN28	1/4"	6"	.87	<b>Pocket-Clip Style</b>			
R3322	3/32" x 2"	\$ .30	S141	1/4" x 1"	.51								
R3323	3/32" x 3"	.33	S5161	5/16" x 1"	.51								
R3324	3/32" x 4"	.33											
R181	1/8" x 2"	.30											
R183	1/8" x 3"	.33											
R184 1/2	1/8" x 4"	.36											

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# QUALITY PROFESSIONAL TOOLS

## COMBINATION-REVERSIBLE SCREWDRIVERS

AISI 6150 chrome vanadium steel blades. Shockproof, breakproof, plastic (UL) handles.  
Patented spring holds blades securely. 3/16" hex opening doubles as a nutdriver.

### COMPLETE UNITS

Regular Type	Net
CR1—No. 25 handle & RB1 blade	\$1.47
CR2—No. 25 handle & RB2 blade	1.47
CR3—No. 25 handle & RB3 blade	1.47

### Stubby Type

CS1—No. 26 handle & SB1 blade	1.41
CS2—No. 26 handle & SB2 blade	1.41

### HANDLES ONLY

25—Regular	.63
26—Stubby	.60

### BLADES ONLY

Regular Type	Net
RB1—No. 1 Phillips & 3/16" Slotted	.84
RB2—No. 2 Phillips & 1/4" Slotted	.84
RB3—No. 3 Phillips & 3/16" Slotted	.84
RB12—No. 1 & No. 2 Phillips	.99
GB1—3/16"G & 3/32"G Clutch	.99
GB2—3/16"G & 1/4"G Clutch	.99

### Stubby Type

SB1—No. 1 Phillips & 3/16" Slotted	\$.81
SB2—No. 2 Phillips & 1/4" Slotted	.81
GS1—3/16"G & 3/32"G Clutch	.87

### POCKET ROLL KITS

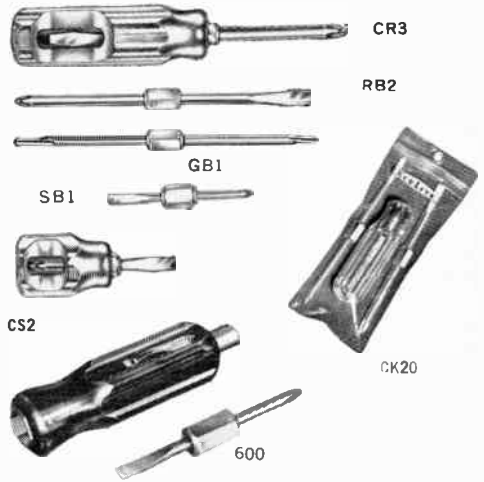
CK2—Contains RB1, RB2 blades and No. 25 handle	\$2.85
CK3—Same as CK2, plus RB3 blade	3.69
CK5—Same as CK2, plus RB3, GB1, and GB2 blades	5.67

### PLASTIC VIEW KITS

SK20—Contains SB1, SB2 blades and No. 26 handle	\$2.49
CK20—Contains RB1, RB2 blades and No. 25 handle	2.94
CK23—Same as CK20, plus RB3 blade	3.78

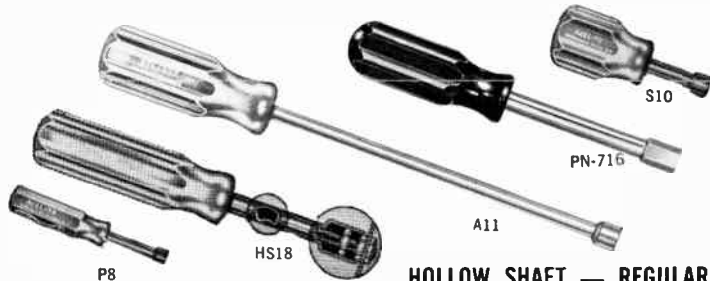
### COMBINATION SCREW AND NUTDRIVER TOOL

600—Handy 4-way tool with pocket clip. 1/4" and 3/16" hex openings. Reversible SB1 blade	Net \$1.50
------------------------------------------------------------------------------------------	------------



## NUTDRIVERS (Color-Coded Handles)

Polished-plated, steel shafts. Shockproof, breakproof, plastic (UL) handles. Precision, cold drawn, case hardened sockets.



SOLID SHAFT — REGULAR			
Number	Handle Color	Hex Opening	Net
(6 1/8" Overall Length)			
5	Amber	5/32"	\$.78
6	Black	3/16"	.78
7	Brown	7/32"	.78
8	Red	1/4"	.78
9	Orange	9/32"	.78
10	Amber	5/16"	.78
11	Green	11/32"	.78
12	Blue	3/8"	.78
(6 1/2" Overall Length)			
14	Brown	7/16"	\$.99
16	Red	1/2"	.99

STUBBY			
Number	Handle Color	Hex Opening	Net
(3 1/8" Overall Length)			
S6	Black	3/16"	\$.69
S8	Red	1/4"	.69
S10	Amber	5/16"	.69
S11	Green	11/32"	.69
S12	Blue	3/8"	.69

POCKET CLIP STYLE			
Number	Handle Color	Hex Opening	Net
(3 1/2" Overall Length)			
P3	Amber	3/32"	\$.51
P4	Red	1/8"	.51
P5	Amber	5/32"	.51
P6	Black	3/16"	.51
P7	Brown	7/32"	.51
P8	Red	1/4"	.51
P9	Orange	9/32"	.51
P10	Amber	5/16"	.51
P11	Green	11/32"	.51
P12	Blue	3/8"	.51

### HOLLOW SHAFT — REGULAR

Number	Handle Color	Hex Opening	Net
(6 1/4" Overall Length)			
HS6	Black	3/16"	\$.93
HS7	Brown	7/32"	.93
(7" Overall Length)			
HS8	Red	1/4"	\$.83
HS9	Orange	9/32"	.93
HS10	Amber	5/16"	.93
HS11	Green	11/32"	.93
HS12	Blue	3/8"	.93
(7 1/4" Overall Length)			
HS13	Amber	13/32"	\$1.05
HS14	Brown	7/16"	1.05
HS15	Amber	15/32"	1.08
HS16	Red	1/2"	1.08
HS17	Amber	17/32"	1.14
HS18	Orange	9/16"	1.14
HS19	Amber	19/32"	1.26
(7 5/8" Overall Length)			
HS20	Amber	3/8"	1.26
HS22	Amber	11/16"	1.59
HS24	Amber	3/4"	1.59

EXTRA LONG			
Number	Handle Color	Hex Opening	Net
(9" Overall Length)			
A6	Black	3/16"	\$1.11
A7	Brown	7/32"	1.11
A8	Red	1/4"	1.11
A9	Orange	9/32"	1.11
A10	Amber	5/16"	1.11
A11	Green	11/32"	1.11
A12	Blue	3/8"	1.11

EXTERNAL HEX			
Number	Handle Color	Hex Opening	Net
(For control shaft nuts on Arvin and Philco portable stereo sets. 6 1/4" Overall Length. 3/16" External Hex.)			
PN-716	Black	....	\$.93

## NUTDRIVER SETS

Nos. 77 and HS6-18 plastic cases keep tools orderly on workbench or in tool caddy. Molded plastic "Tray Bien" bench trays have fold-away stands and provision for wall mounting. Snap lock feature holds tools securely, yet permits easy removal.

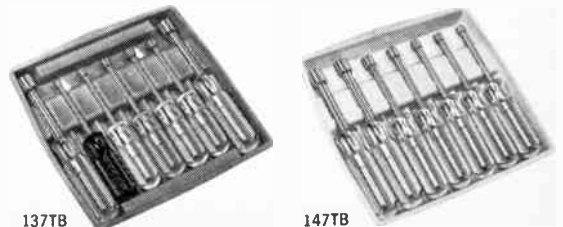
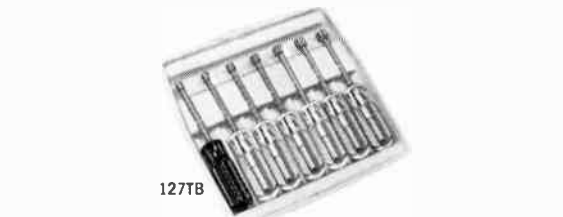
**No. 77 CARRYING CASE** Net \$6.75  
Contains solid shaft Nos. 6, 7, 8, 9, 10, 11 and 12.

**No. HS6-18 CARRYING CASE** Net \$11.10  
Contains hollow shaft Nos. HS6, HS7, HS8, HS9, HS10, HS11, HS12, HS14, HS16 and HS18.

**No. 127TB "TRAY BIEN"** Net \$6.60  
Contains solid shaft Nos. 6, 7, 8, 9, 10, 11 and 12.

**No. 137TB "TRAY BIEN"** Net \$7.35  
Contains solid shaft Nos. 6, 8, 10, 11 and 12 and hollow shaft Nos. HS16 and HS18.

**No. 147TB "TRAY BIEN"** Net \$8.70  
Contains hollow shaft Nos. HS8, HS9, HS10, HS11, HS12, HS14 and HS16.

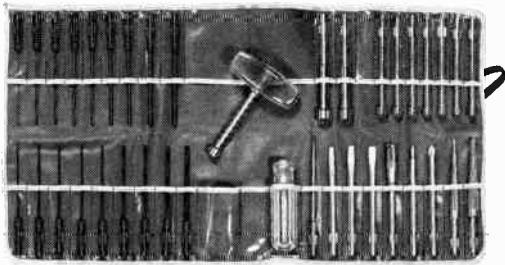


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# QUALITY PROFESSIONAL TOOLS

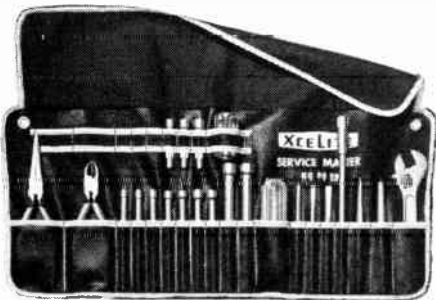
## SERIES "99" SERVICE KITS, BLADES, AND HANDLES



**No. 99MP MULTI-PURPOSE TOOL KIT** Net \$28.35

39-piece kit contains 99-1 (Regular) and 99-4 (Tee) handles, ten regular nutdrivers (99-5 thru 99-16), nine Allen Hex type screwdrivers (99-20, thru 99-26), nine Bristol Multiple Spline screwdrivers (99-61 thru 99-69), three slotted screwdrivers (99-811, 99-250, 99-312), two Phillips screwdrivers (99-821, 99-822), two reamers (99-38, 99-39), awl/scriber (99-70), extension blade (99-X5).

99MPK, Canvas case only.....Net \$3.27



**No. 99SM SERVICE MASTER** Net \$24.87

23-piece kit contains 99-1 (Regular) and 99-3 (Stubby) handles, nine regular and three stubby nutdrivers (99-6 thru 99-16), two slotted screwdrivers (99-811, 99-812), one Phillips screwdriver (99-821), two reamers (99-38, 99-39), extension blade (99-X10), 6" long nose cushion grip plier (52CG), 5" diagonal cushion grip plier (55CG), 6" adjustable wrench (46C).

99SMK, Canvas case only.....Net \$2.25

### ROLL KITS

**No. 99PR ROLL KIT** Net \$9.42

Contains nine regular nutdrivers (99-6 thru 99-16), 99-811 and 99-250 (slotted) and 99-821 and (Phillips) screwdriver blades, 99-1 handle (Regular).

99K, Kit only .....Net \$1.05



**No. 99JR ROLL KIT** Net \$8.28

Contains seven regular nutdrivers (99-6 thru 99-12) four screwdriver blades 99-811 and 99-812 (Slotted), and 99-821 and 99-822 (Phillips), 99-2 handle (Junior).

99KJR, Kit only .....Net \$1.05



**No. 99LN ROLL KIT** Net \$4.47

Contains six Allen type screwdriver blades (99-21, 22, 23, 24, 25, 26) and 99-1 handle (Regular).

**No. 99-30 CLEAR PLASTIC POUCH** Net \$3.24

Heat sealed plastic snap case with size numbers on pockets for convenient selecting and storing. Contains six Allen type screwdriver blades (99-21, 22, 23, 24, 25 and 26).

### PLASTIC VIEW KITS

**No. 99SL** Net \$3.75

Contains five Scrulox® screwdriver blades for square recess screws (SL 00, 0, 1, 2, 3), 99-1 handle (Regular).

**No. 99PV4** Net \$2.67

Contains three slotted screwdriver blades (99-811, 99-250, 99-312), 99-1 handle (Regular).

**No. 99PV6** Net \$3.75

Contains three slotted screwdriver blades (99-811, 99-250, 99-312), two Phillips screwdriver blades (99-821, 99-822), 99-1 handle (Regular).



Handles: 99-1 Regular (1 1/8" x 4 1/8") — for all blades, single-end and reversible .....**.69**  
 99-2 Junior (1" x 3 3/8") — for single-end blades only .....**.63**  
 99-3 Stubby (1 1/8" x 2") — for single-end blades only .....**.60**  
 99-4 Tee (1" x 3 3/8") — for single-end blades only .....**.90**



Nutdriver Blades: 99-5 (5/32"), 99-6 (3/16"), 99-7 (7/32"), 99-8 (1/4"), 99-9 (9/32"), 99-10 (5/16"), 99-11 (11/32"), 99-12 (3/8") .....**.60**  
 99-14 (7/16"), 99-16 (1/2") .....**.75**

Stubby Nutdriver Blades: 99-S8, 99-S10, 99-S12 .....**.48**



Allen Hex Type Screwdriver Blades: 99-20 (.050"), 99-21 (1/16"), 99-22 (3/64"), 9-23 (3/32"), 99-764 (7/64"), 99-24 (1/8"), 99-964 (9/64"), 99-25 (5/32"), 99-26 (3/16") .....**.54**



Bristol Multiple-Spline Type Screwdriver Blades: 99-61 (.048", 6-flute), 99-62 (.060", 6-flute), 99-63 (.069", 4-flute), 99-64 (.072", 6-flute), 99-65 (.076", 4-flute), 99-66 (.096", 6-flute), 99-67 (.111", 6-flute), 99-68 (.145", 6-flute), 99-69 (.183", 6-flute) .....**.54**

**Frearson and Clutch Head Reversible Screwdriver Blades:**



99-83 Frearson (3/16" and 3/32") .....**1.02**

99-84 Clutch Head (3/16" G and 3/32" G) .....**1.02**



Slotted Screwdriver Blades: Tapered tip—99-811 (3/16"), 99-250 (1/4"), 99-812 (5/32") .....**.60**  
 Flared tip — 99-312 (3/16") .....**.60**



Awl/Scriber: 99-70 (4 1/2" overall length).



Reamers: 99-38 (1/8" - 3/8") .....**1.32**  
 99-39 (1/4" - 1/2") .....**1.65**



Phillips Screwdriver Blades: 99-821 (#1), 99-822 (#2).....**.60**



Extension Blades:  
 99-X5 (adds 4" reach to single-end blades) .....**.90**  
 99-X10 (adds 7" reach to single-end blades) .....**.90**

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# QUALITY PROFESSIONAL TOOLS

## COMPACT SETS

### Series "99" Sets

Each set contains a Series "99" regular handle and various Series "99" interchangeable blades. See-thru plastic case is pocket size, has flat base that permits its use as a bench stand.

#### No. 99PS-40 ALLEN HEX TYPE SCREWDRIVER SET

Includes nine Allen Hex type screwdriver blades (99-20 thru 99-26), 99-X5 extension blade, 99-1 handle, and see-thru case.

Net \$6.75

#### No. 99-PS50 NUTDRIVER/SCREWDRIVER SET

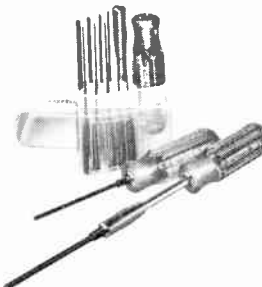
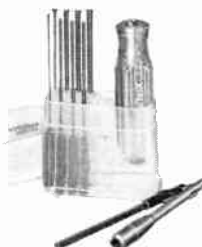
Includes seven regular nutdriver blades (99-6 thru 99-12), two slot tip screwdriver blades (99-811 and 99-812), two Phillips screwdriver blades (99-821 and 99-822), 99-X5 extension blade, 99-1 handle, and see-thru case.

Net \$8.55

#### No. 99PS-60 BRISTOL MULTIPLE-SPLINE TYPE SCREWDRIVER SET

Includes nine Bristol Multiple-Spline type screwdriver blades (99-61 thru 99-69), 99-X5 extension blade, 99-1 handle, and see-thru case.

Net \$6.75



### Convertible Nutdriver and Screwdriver Sets

Black plastic torque amplifier handle (1" x 3 1/8") slips over handles of pocket size (3 1/2") nutdrivers and screwdrivers . . . provides larger grip, extends reach and increases driving power to that of standard size tools. See-thru plastic case fits pocket, stands upright on bench.

#### No. PS7 NUTDRIVER/SCREWDRIVER SET

Contains two nutdrivers (1/4" and 5/16"), two slot tip screwdrivers (3/16" and 3/32"), two Phillips screwdrivers (#0 and #1), hollow handle, and case.

Net \$3.60

#### No. PS44 SCRULOX SCREWDRIVER SET

Includes five Scrulox screwdrivers (#1 thru #14), one nutdriver (1/4"), hollow handle, and case.

Net \$3.45

#### No. PS88 SCREWDRIVER SET

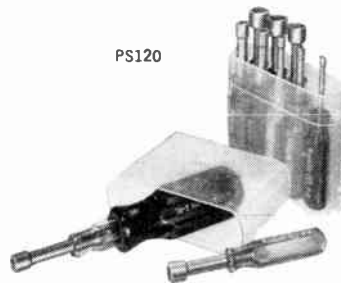
Contains five slot tip screwdrivers (3/32", 1/8", 3/32", 3/16", 1/4"), three Phillips screwdrivers (#0, #1, #2), hollow handle, and case.

Net \$3.93

#### No. PS120 NUTDRIVER SET

Contains ten color coded nutdrivers (3/32" thru 3/8"), hollow handle, and case.

Net \$5.55

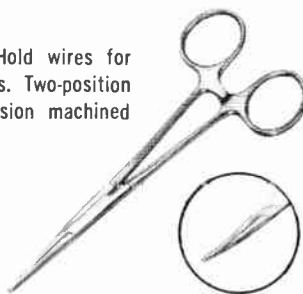


## REGULAR AND JR. SEIZERS®

Outreach, outhold needle nose pliers. Clamp tightly. Hold wires for soldering and serve as heat sinks. Retrieve small parts. Two-position snap-lock. Stainless steel, box-joint construction. Precision machined and tempered.

Regular 6" Seizers have serrated jaws. Jr. Seizers are 5" long, have smooth jaws that won't mar delicate materials.

Number		Net
42H—6"	Straight Nose .....	\$3.93
43H—6"	Curved Nose .....	4.07
32H—5"	Straight Nose .....	3.93
33H—5"	Curved Nose .....	4.07



## No. K22 ELECTRICIAN'S KNIFE

Two blades. One is combination insulation-scraper and screwdriver. Has positive lock when open

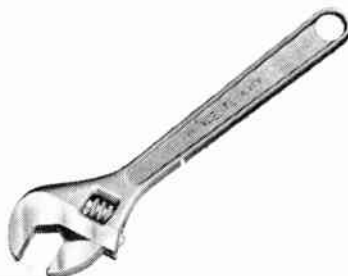
Net \$2.13



## ADJUSTABLE WRENCHES

Thin-pattern permits access to close-quarter work. Chrome-plated forged alloy steel. Polished heads.

Plain Handle		Cushion Grip		
Number	Net	Size	Number	Net
44C .....	\$2.16	4"	44CG .....	\$2.40
46C .....	2.19	6"	46CG .....	2.48
48C .....	2.48	8"	48CG .....	2.77
40-10C .....	3.20	10"	40-10CG .....	3.60
40-12C .....	4.67	12"	40-12CG .....	5.07



## No. 150 TOOL HOLSTER

Has tape holder, knife clip, and 5 tool pockets. Durably made of pliable saddle leather with natural cowhide finish. Features comfortable hip-contoured back, hot-waxed stitching, and brass rivets.

Net \$3.80





# QUALITY PROFESSIONAL TOOLS

## PLIERS

Precision-machined forged alloy steel. Perfectly aligned jaws. Hand-honed, mated cutting edges. Polished heads.



Number	Net
59CG — CHAIN NOSE ELECTRICIAN'S PLIERS (8")—Cushion Grip.....	\$3.07
75C — COMBINATION SLIP JOINT PLIER (5")—Chrome-Plated.....	1.20
76C — COMBINATION SLIP JOINT PLIER (6")—Chrome-Plated.....	1.27
76S — Satin Finish.....	.75
78C — COMBINATION SLIP JOINT PLIER (8")—Chrome-Plated.....	1.60
54 — DIAGONAL PLIER (Midget 4").....	2.64
54CG — Cushion Grip .....	2.93
55 — DIAGONAL PLIER (5").....	2.53
55CG — Cushion Grip .....	2.87
66CG — DIAGONAL PLIER (6")—Cushion Grip.....	3.20



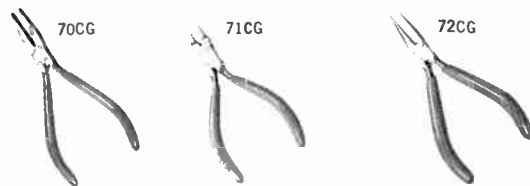
Number	Net
67 — DIAGONAL PLIER (7") .....	2.93
67CG — Cushion Grip .....	3.27
41CG — LONG NOSE PLIER (Midget 4")—Without Side Cutters— Cushion Grip .....	2.64
52 — LONG NOSE PLIER (6")—Without Side Cutters.....	2.27
52CG — Cushion Grip .....	2.53
51 — LONG NOSE PLIER (6")—With Side Cutters.....	2.85
51CG — Cushion Grip .....	3.20



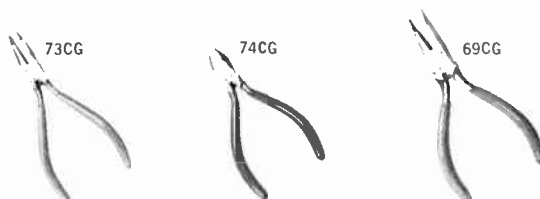
Number	Net
56CG — NEEDLE NOSE PLIER (6")—Cushion Grip.....	2.93
58CG — RADIO AND TV PLIER (6")—Cushion Grip.....	3.73
60CG — SIDE CUTTING PLIER (6")—Cushion Grip.....	3.00
68CG — SIDE CUTTING PLIER (8")—Cushion Grip .....	3.60
62CG — TRAVERSE CUTTING PLIER (6")—Cushion Grip.....	3.67
53CG — UTILITY PLIER (6")—Forged Rib-Lock—Cushion Grip.....	2.19
63 — UTILITY PLIER (10")—Forged Rib-Lock .....	2.53
63CG — Cushion Grip .....	3.07

## MINIATURE ELECTRONIC PLIERS

Small, lightweight. For handling fine wires. All cushion grip handles. Coil spring openers. Polished heads and shoulders.



Number	Net
70CG — FLAT NOSE PLIERS (4½").....	\$3.25
71CG — ROUND NOSE PLIERS (4½").....	3.27
72CG — CHAIN NOSE PLIERS (4").....	3.33



Number	Net
73CG — SPECIAL TIP CUTTING PLIERS (4½").....	4.27
74CG — DIAGONAL FLUSH CUTTING PLIERS (4").....	4.32
69CG — RADIO AND TV PLIER (5").....	5.00

## No. 86CG ELECTRONIC SNIPS

6½" size. Shearing action of pointed blades (1½" cut) prevents peaks on fine wire and filaments. Useful also for removing insulation and cutting light sheet metal. Coil spring opens blades... latch holds them closed. Cushion grip Net \$3.07



## TERMINAL WRENCHES

For spanner nuts on external antenna and earphone jacks of transistor radios and CB walkie-talkies. 3⅝" overall length.



Number	Handle Color	Spanner Nut 0.0.	Net
TW32	Green	¼"	\$ .48
TW140	Red	⅝"	.48



# ADC PRODUCTS



## "BLUE CHIP" TRANSFORMERS

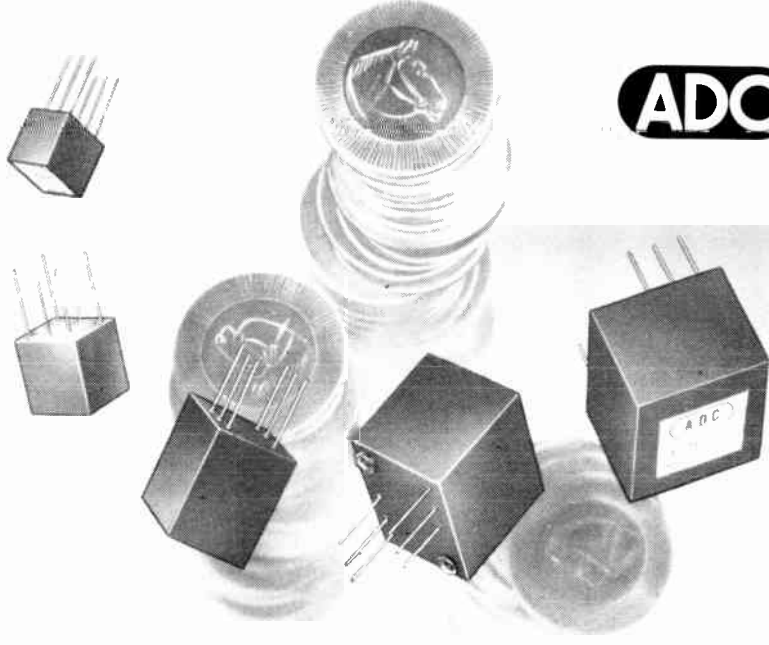
62 TYPES

5 DIFFERENT SIZES

Tiny, plastic cased, Blue Chip transformers for printed circuit applications, are available for a wide choice of power ratings.

Five different sizes, from .10 to 1.2 cubic inches with a total of 62 new ratings are listed below to indicate the available power levels for both voice frequency range and extended frequency operation. These ratings take into account not only power handling capacities at minimum frequencies, but also total harmonic distortion under stated conditions. Within the limits shown on the rating charts, variations in both power and distortion levels are possible depending upon the minimum operating frequency.

Blue Chip transformers meet Mil-T-27A, Grade 5, Class S requirements. These versatile transformers are available from ADC, or through your distributor.



Pin Diameter: .030"  
Pin Length: 1/2"  
Weight: 0.15 oz.  
**RESPONSE:** ± 2 DB 300 to 100,000 CPS.  
**DISTORTION:** 10% at 30 MW, 300 to 100,000 CPS, except as noted.

Pin Diameter: .030"  
Pin Length: 1/2"  
Weight: 0.4 oz.  
**RESPONSE:** ± 1 DB 200 to 50,000 CPS.  
**DISTORTION:** 10% at 150 MW, 200 to 50,000 CPS.

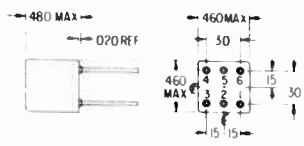
Pin Diameter: .030"  
Pin Length: 1/2"  
Weight: 0.9 oz.  
**RESPONSE:** ± 1 DB 200 to 20,000 CPS.  
**DISTORTION:** 10% at 750 MW, 200 to 20,000 CPS.

Pin Diameter: .030"  
Pin Length: 1/2"  
Weight: 1.5 oz.  
Mounting: 2-4x40 inserts, 0.6"x0.8"  
**RESPONSE:** ± 1 DB 100 to 10,000 CPS.  
**DISTORTION:** 1.5% at 60 MW, 100 to 10,000 CPS, or 10% at 3.5 W, 200 to 10,000 CPS, except as noted.

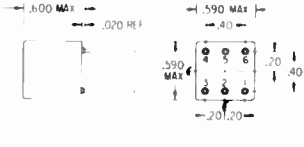
Pin Diameter: .030"  
Pin Length: 1/2"  
Weight: 2.5 oz.  
Mounting: 2-4x40 inserts, 0.8"x0.8"  
**RESPONSE:** ± 1 DB 60 to 10,000 CPS.  
**DISTORTION:** 1% at 250 MW, 60 to 10,000 CPS or 10% at 7.5 W, 200 to 10,000 CPS, except as noted.

CATALOG NUMBER	PRIMARY IMPED.— OHMS	SECONDARY IMPED.— OHMS	PRIMARY-SECONDARY DC RESISTANCE—OHMS	MAX. DC IN PRIM. MA.
324 6A	100K CT	1000 CT	3300	70
324 6B	25K CT	1000 CT	2800	150
324 6C	10K CT	10K CT	1100	1400
324 6D	10K CT	1500 CT	1100	180
324 6E	10K CT	600 CT	1100	75
324 6F	4000 CT	10K CT	440	1400
324 6G	1000 CT	600 CT	110	75
324 6H	1000 CT	4	110	0.5
324 6J	600 CT	25K CT	65	3500
324 6K	600 CT	600 CT	65	75
324 6L	600 CT	60	65	7
324 6M	600 CT	4	65	0.5
*Max. power level, 10 mw at 300 cps				
324 5A	100K CT	1000 CT	6000	60
324 5B	25K CT	1000 CT	2400	120
324 5C	10K CT	10K CT	1100	1200
324 5D	10K CT	1500 CT	1100	200
324 5E	10K CT	600 CT	1100	75
324 5F	4000 CT	10K CT	440	1200
324 5G	1000 CT	600 CT	100	60
324 5H	1000 CT	4	100	0.4
324 5J	600 CT	25K CT	65	3500
324 5K	600 CT	600 CT	65	75
324 5L	600 CT	60	65	7
324 5M	600 CT	4	65	0.5
*Max. power level, 10 mw at 300 cps				
324 4B	25K CT	1000 CT	2800	120
324 4C	10K CT	10K CT	1100	1200
324 4D	10K CT	1500 CT	1100	180
324 4E	10K CT	600 CT	1100	75
324 4F	10K CT	4	1100	0.5
324 4G	4000 CT	10K CT	440	1200
324 4H	1500 CT	15	165	2
324 4J	1000 CT	600 CT	110	75
324 4K	1000 CT	4	110	0.5
324 4L	600 CT	25K CT	65	3000
324 4M	600 CT	600 CT	65	75
324 4N	600 CT	60	65	7
324 4P	600 CT	15	65	2
324 4Q	600 CT	4	65	0.5
324 4R	250	600 CT	30	75
*Max. power level, 2.5 w.				
324 3A	10K CT	10K CT	800	1100
324 3B	10K CT	600 CT	800	65
324 3C	10K CT	4	800	0.5
324 3D	1500 CT	15	110	1.6
324 3E	1000 CT	600 CT	75	65
324 3F	1000 CT	4	75	0.5
324 3G	600 CT	25K CT	45	2800
324 3H	600 CT	600 CT	45	65
324 3J	600 CT	60	45	7
324 3K	600 CT	15	45	1.6
324 3L	600 CT	4	45	0.5
324 3M	250	600 CT	20	65
*Max. power level, 6 w.				
324 2A	10K CT	10K CT	700	900
324 2B	10K CT	600 CT	700	55
324 2C	10K CT	4	700	0.4
324 2D	1500 CT	15	100	1.5
324 2E	1000 CT	600 CT	65	55
324 2F	1000 CT	4	65	0.4
324 2H	600 CT	600 CT	40	55
324 2J	600 CT	60	40	6
324 2K	600 CT	15	40	1.5
324 2L	600 CT	4	40	0.4
324 2M	250	600-CT	16	55

### 6 SIZE CASE DATA



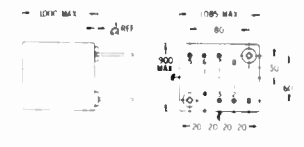
### 5 SIZE CASE DATA



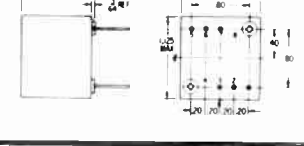
### 4 SIZE CASE DATA



### 3 SIZE CASE DATA



### 2 SIZE CASE DATA



ALL RATINGS BASED UPON MAXIMUM UNBALANCED DC IN PRIMARY AS LISTED  
ALL CASED DIMENSIONS ARE MAXIMUM



# ADC PRODUCTS

## POWER TRANSFORMERS FOR MILITARY AND INDUSTRIAL APPLICATIONS

Reliability, minimum size and long life under rugged environmental conditions are prime requisites in today's military electronic equipment. To meet these modern standards, ADC offers a complete line of hermetically sealed power transformers. Designed to meet MIL-T-27A specifications and utilizing MIL cases and mounting dimensions, these units offer our customers a ready source for prototype and produc-

tion applications. All military contractors and commercial electronic engineers with stringent environmental conditions will find these carefully rated units ideally suited. For those applications where hermetic sealing is not necessary, we offer the conservative transformer designs of our hermetically sealed line, in drawn steel cases of MIL size and mounting dimensions with phenolic terminal plates and solder lug terminals.

### POWER TRANSFORMERS—60 Cycle

ADC offers these standard power transformer designs to cover a wide range of requirements for electronic circuit application. They are available in standard MIL case sizes, hermetically sealed to meet all requirements of MIL-T-27A.

Grade 4, Class R, life expectancy X. Maximum operating altitude is 10,000 feet.

The same electrical ratings are also available as commercial grade fully enclosed units for non-military applications in the same MIL case sizes. This version is furnished with a phenolic terminal board and heavy duty solder lug terminals. Mounting screws and tapped inserts provide the same mounting centers as MIL-T-27A versions.



### COMBINATION PLATE AND FILAMENT TRANSFORMERS

PRIMARY: 105 115 125 V., 50-60 CPS

Catalog No.		Plate Winding AC Volts	DC Ma	DC Volts	Filament Windings Volts/Amps	MIL Case
Comm'l Case	Hermetic Seal					
522A	523A	250-0-250 C Input	20	300	6.3 CT 5 2	FA
522B	523B	300-0-300 C Input	60	310	5 6.3 CT 2	HA
522C	523C	350-0-350 C Input	110	355	5 6.3 CT 2	JA
		L Input		265	6.3 CT 4	
522D	523D	375-0-375 C Input	150	380	5 6.3 CT 5	LA
		L Input		280	6.3 CT 5	
522E	523E	385-0-385 C Input	200	360	5 6.3 CT 5	MA
		L Input		280	6.3 CT 5	
522F	523F	500-0-500 L Input	300	400	6.3 5 6.3 CT 6	NA

### FILAMENT TRANSFORMERS

PRIMARY: 105 115 125 V., 50-60 CPS

Catalog No.		Sec. Volts	Sec. Amps.	Insulation Volts RMS	MIL Case
Commercial Case	Hermetic Seal				
522FA	523FA	2.5 CT	5.5	3,500	FA
522FB	523FB	2.5 CT	10.0	7,500	GA
522FC	523FC	2.5 CT	15.0	10,000	JA
522FD	523FD	5.0 CT	4	3,500	GA
522FE	523FE	5.0 CT	10	5,000	HA
522FF	523FF	5.0 CT	20	10,000	MA
522FG	523FG	6.3 CT	3.0	2,500	FA
522FH	523FH	6.3 CT	5.5	2,500	GA
522FJ	523FJ	6.3 CT	10	2,500	JB
522FK	523FK	6.3 CT	20	2,500	KA
522FL	523FL	12.6 CT	2	2,500	GA

### POWER TRANSFORMERS—400 Cycle

These items are especially designed for maximum performance in 380 to 1500 CPS applications, with maximum altitude ratings of 50,000 feet. They are hermetically sealed to meet all requirements of MIL-T-27A, Grade 4, Class R. Standard MIL case sizes and construction are used.

### COMBINATION PLATE AND FILAMENT TRANSFORMERS

PRIMARY: 115 V., 380-1500 CPS

Catalog No.		Plate Winding AC Volts	DC Ma	Filament Windings Volts / Amps	MIL Case
Comm'l Case	Hermetic Seal				
512A	513A	240-0-240 C Input	20	6.3 CT 1.5	AJ
512B	513B	250-0-250 C Input	40	6.3 CT 2.5	EA
512C	513C	300-0-300 C Input	80	6.3 CT 5	GA
				6.3 5V 2	
512D	513D	350-0-350 C Input	150	6.3 CT 4	HA
				6.3 5V 3	
512E	513E	450-0-450 C Input	200	6.3 CT 8	JA
				6.3 5V 3	

### FILAMENT TRANSFORMERS

PRIMARY: 115 V., 380-1500 CPS

Catalog No.		Sec. Volts	Sec. Amps	Insulation Volts RMS	MIL Case
Commercial Case	Hermetic Seal				
512FA	513FA	6.3 CT	1	1,500	AH
512FB	513FB	6.3 CT	3	1,500	AJ
512FC	513FC	6.3 CT	5.5	2,500	EA
512FD	513FD	6.3 CT	10	2,500	FA
512FE	513FE	6.3 CT	20	2,500	GA
512FF	513FF	26 CT	1	2,500	EA
512FG	513FG	26 CT	3	2,500	FA

### MILITARY STANDARD TRANSFORMERS

These Military Standard transformers have been specified by ASES and are established by the three Military Services and the transformer industry as standards for Military transformer applications. Each item is available as either Grade 1 or Grade 4 (ruggedized) as requested. Tests have been conducted in ADC's environmental laboratory which indicate that these units will meet the requirements of MIL-T-27A, Grade 4, Class R operating temperature; life expectancy X 10,000 hours minimum).



### MILITARY STANDARD POWER TRANSFORMERS

Military Part No.	Catalog No.	Type Designation	Secondary AC Volts	±1 DC Ma	DC Volts	Sec #1 Volts/ Amps	Sec #2 Volts/ Amps	Sec #3
MS-90026	521A	TF 4RX 03HA001	200-100-0-100-200	70	140	6.3 5 2	6.3 3	
MS-90027	521B	TF 4RX 03JB002	325-0-325	70	250	6.3/5 2	6.3 4	
MS-90028	521C	TF 4RX 03KB006	325-0-325	150	240	6.3 5 5	3	
MS-90029	521D	TF 4RX 03LB003	400-0-400	175	290	5 3	6.3 8	
MS-90030	521E	TF 4RX 03MB004	450-0-450	250	320	5 3	6.3 8	
MS-90031	521F	TF 4RX 02KB001	350-0-350	250	250	...	...	
MS-90032	521G	TF 4RX 02LB002	350-0-350	250	400	...	...	
MS-90036	521H	TF 4RX 02NB003	800-0-800	250	575	...	...	

NOTE: 1. Primaries 105 115 125V., 54-66 CPS.

2. Secondary #1 DC voltage based upon inductive input filter.

3. Max. operating altitude 10,000 ft.

4. These items are also available as Grade 1 components.

### MILITARY STANDARD FILAMENT TRANSFORMERS

Military Part No.	Catalog No.	Type Designation	Secondary Volts	Amps	Insulation Volts RMS
MS-90016	521M	TF 4RX 01EB002	2.5	3.0	2500
MS-90017	521N	TF 4RX 01GB003	2.5	10	2500
MS-90018	521P	TF 4RX 01FB004	5.0	3.0	2500
MS-90019	521Q	TF 4RX 01HB005	5.0	10	2500
MS-90020	521R	TF 4RX 01FB006	6.3	2.0	2500
MS-90021	521S	TF 4RX 01GB007	6.3	5.0	2500
MS-90022	521T	TF 4RX 01JB008	6.3	10	2500
MS-90023	521U	TF 4RX 01KB009	6.3	20	2500
MS-90024	521V	TF 4RX 01JB012	2.5	10	10000
MS-90025	521W	TF 4RX 01KB013	5.0	10	10000

NOTE: 1. Primaries 105 115/125 V., 54-66 CPS.

2. Max. operating altitude 10,000 ft.

3. These items are also available as Grade 1 components.



# ADC PRODUCTS

## INDUCTORS FOR MILITARY AND INDUSTRIAL APPLICATIONS

ADC's line of inductors are circuit running mates to ADC's power transformers. They are available hermetically sealed, to meet MIL-T-27A requirements Grade 4, Class R, life expectancy X. For commercial applications, where hermetic

sealing is not necessary, these same ratings are available in MIL cases and mounting dimensions, but with phenolic terminal board and solder lug terminals.

### FOR 50-60 CYCLE POWER SUPPLIES

Catalog No.	Inductance	DC	DC	Insulation	MIL	
Commercial Case	Hermetic Seal	Henries	Current MA	Resistance Ohms	Volts RMS	Case
422A	423A	15	20	700	1000	AJ
422B	423B	20	40	475	2500	EB
422C	423C	15	60	230	2500	FA
422D	423D	12	80	175	2500	FA
422E	423E	10	110	175	2500	GA
422F	423F	8	150	100	2500	HA
422G	423G	8	200	85	2500	JA
422H	423H	8	250	85	2500	KB
422J	423J	8	325	55	2500	LA
422K	423K	4	500	30	2500	IA
422L	423L	5/25	250/25	160	2500	KB
422M	423M	5/25	325/30	110	2500	LA



### MILITARY STANDARD INDUCTORS (power)

These Military Standard inductors have been specified by ASEA and are established by the three military services and the transformer industry as standards for military inductor applications. They are hermetically sealed to meet all MIL-T-27A requirements Grade 1, Class R, life expectancy X.

Military Part No	Catalog No	Type Designation	Inductance Series	Inductance Parallel	DC Resistance Ohms	Insulation Volts RMS
MS90009	421A	TF 1RX 04FA001	16 hy .08 a	4 hy .16 a	1-2 295 3-4 350	2400
MS90010	421B	TF 1RX 04GA002	25 hy .08 a	6.25 hy .16 a	1-2 300 3-4 370	2400
MS90011	421C	TF 1RX 04HA003	40 hy .08 a	10 hy .16 a	1-2 450 3-4 570	2400
MS90013	421D	TF 1RX 04HA005	16 hy .125 a	4 hy .25 a	1-2 145 3-4 185	3800
MS90014	421E	TF 1RX 04JB006	25 hy .125 a	6.25 hy .25 a	1-2 225 3-4 235	3800
MS90037	421F	TF 1RX 04KA007	40 hy .125 a	10 hy .25 a	1-2 240 3-4 295	5900
MS75000	421G	TF 1RX 04LA009	16 hy .20 a	4 hy .40 a	1-2 80 3-4 100	5900
MS75001	421H	TF 1RX 04MA010	25 hy .20 a	6.25 hy .40 a	1-2 90 3-4 120	5900
MS75002	421J	TF 1RX 04NA012	16 hy .315 a	4 hy .63 a	1-2 45 3-4 60	5900
MS75003	421K	TF 1RX 04YY013	25 hy .315 a	6.25 hy .63 a	1-2 70 3-4 80	5900

### FOR 380-1500 CYCLE POWER SUPPLIES

Catalog No.	Inductance	DC	DC	Insulation	MIL	
Commercial Case	Hermetic Seal	Henries	Current Ma	Resistance Ohms	Volts RMS	Case
422V	423V	2.5	50	175	2500	AH
422W	423W	5	50	350	2500	AJ
422X	423X	2	80	250	2500	AJ
422Y	423Y	2	150	100	2500	EB
422Z	423Z	2	200	100	2500	FA

## NET PRICE LIST (Prices subject to change without notice)

CAT. NO.	NET PRICE	CAT. NO.	NET PRICE	CAT. NO.	NET PRICE	CAT. NO.	NET PRICE	CAT. NO.	NET PRICE		
108A	8.25	308E, F	7.50	419GL thru		423F	10.20	521V	21.30	324-3F	11.50
103A	3.15	308G, H	9.00	419G	7.50	423G	12.00	521W	22.20	324-3G	12.60
103B	3.39	314A	20.40	419HA thru		423H	12.90			324-3H	12.60
103C	3.30	314B	18.00	419I	8.25	423J	15.90	522A	13.50	324-3J	11.50
104A	8.70	320A thru F	20.85	419IJ thru		423K	14.70	522B	15.00	324-3K	11.50
104B	9.54	320Y, Z	20.85	419IJK thru		423L	12.90	522C	17.40	324-3L	11.50
114A	23.85	321A thru E	12.90	419IL thru		423M	15.90	522D	18.30	324-3M	12.10
114B	19.80	322A	11.70	419IJS	9.00	423V	7.80	522E	26.70	324-4B	14.40
114C	23.85	322B	16.80	419IJK	9.75	423W	7.50	522F	26.70	324-4C	13.25
114E	23.85	322C	15.90	419IHL	9.75	423X	7.50	522G	11.70	324-4D	13.25
114F	23.85	322D	17.40	419IHM	11.25	423Y	8.70	522H	11.70	324-4E	12.10
114G	18.00	322E	17.40	419IHN	9.75	423Z	9.00	522I	11.70	324-4F	12.10
121A	14.40	322F	19.80	419ILO	9.75	512A	11.70	522J	12.90	324-4G	13.75
121B	14.40	322G	21.00	419ILP	10.50	512B	12.60	522K	21.30	324-4H	11.00
122A	24.30	322H	20.40	419ILQ	11.25	512C	17.10	522L	10.80	324-4I	12.10
122B	25.20	322I	22.80	419ILL	11.25	512D	18.90	522M	11.70	324-4J	11.00
122C	24.30	322J	22.80	419ILM	12.00	512E	20.55	522N	14.10	324-4K	12.10
122D	16.80	322K	31.50	419ILN	12.00	512F	9.00	522O	18.30	324-4L	11.00
122E	19.80	322L	33.90	419ILO	12.45	512G	9.60	522P	11.70	324-4M	11.00
122F	15.90	322M	23.70	419ILP	12.90	512H	10.35	522Q	15.90	324-4N	11.00
122G	22.20	322N	21.60	419ILQ	12.90	512I	10.80	522R	19.80	324-4P	11.00
123A	26.40	322O	17.10	420A thru H	17.64	512J	12.90	522S	21.00	324-4R	13.25
123B	27.30	323A	13.50	421A	11.10	512K	12.90	522T	21.00	324-5A	16.00
123C	26.40	323B	20.70	421B	11.10	512L	10.65	522U	21.60	324-5B	16.00
123D	17.40	323C	17.40	421C	13.20	512M	11.25	522V	21.60	324-5C	13.25
123E	21.30	323D	21.60	421D	14.10	513A	12.60	522W	32.80	324-5D	13.75
123F	16.80	408D	6.75	421E	14.70	513B	14.25	522X	32.80	324-5E	13.25
208A thru F	7.50	419AI thru		421F	20.10	513C	21.45	522Y	12.90	324-5F	12.60
208G	9.00	419AW	6.75	421G	21.30	513D	20.10	522Z	16.20	324-5G	12.60
214A	23.70	419AY thru		421H	24.90	513E	25.65	523A	20.10	324-5H	10.50
214B	16.20	419BE	7.50	421I	36.90	513F	11.25	523B	14.70	324-5J	14.40
214C	23.70	419BG thru		421J	30.00	513G	11.25	523C	15.90	324-5K	12.60
214H	15.45	419BN	8.25	422A	5.40	513H	12.15	523D	27.60	324-5L	11.00
214J	16.80	419BQ thru		422B	6.00	513I	12.90	523E	12.60	324-5M	10.50
214L	16.80	419BS	9.00	422C	6.45	513J	12.90	523F	14.70	324-6A	13.75
220A thru D	20.85	419BT	9.00	422D	6.45	513K	13.50	523G	17.10	324-6B	13.25
221A	15.45	419BU	9.00	422E	6.90	513L	16.20	523H	21.30	324-6C	12.60
221B	13.20	419BW	10.50	422F	7.95	513M	13.20	523I	14.70	324-6D	12.10
222A	22.50	419CE thru		422G	9.60	521A	22.20	523J	14.90	324-6E	12.10
222B	22.50	419CS	8.25	422H	10.20	521B	21.30	523K	14.40	324-6F	12.10
222C	25.20	419CU thru		422I	12.90	521C	23.70	523L	13.25	324-6G	11.00
222D	19.80	419DA	8.70	422J	12.00	521D	26.70	523M	12.10	324-6H	10.50
222E	19.80	419DC thru		422K	12.00	521E	30.90	523N	13.25	324-6I	13.25
222F	17.40	419DG	9.00	422L	10.20	521F	19.80	523O	12.10	324-6J	11.50
222G	17.40	419DJ	9.75	422M	12.90	521G	24.90	523P	17.10	324-6L	10.50
223A	24.90	419DL	10.50	422N	7.05	521H	29.70	523Q	12.60	324-6M	10.50
223B	24.90	419E	6.75	422O	6.00	521I	13.80	523R	12.60	324-7A	22.90
223C	28.20	419EA thru		422P	6.00	521J	14.10	523S	12.10	324-7B	18.50
223D	21.60	419EN	6.75	422Q	6.90	521K	12.90	523T	12.60	324-7C	18.50
223E	21.60	419EQ thru		422R	7.20	521L	12.90	523U	15.60	324-7D	17.60
223F	18.30	419EY	7.50	423A	6.60	521M	15.60	523V	13.20	324-7E	16.30
223G	18.30	419FA thru		423B	7.65	521N	13.20	523W	15.60	324-7F	16.30
		419FC	8.25	423C	8.10	521O	18.00	523X	11.50	324-7G	15.50
		419FE	8.70	423D	8.10	521P	22.05	523Y	11.50	324-7K	15.50
		419FG	9.00	423E	9.15			523Z	12.60	324-7L	14.50
		419FJ	9.75								



# ADC PRODUCTS

## AUDIO TRANSFORMERS FOR MILITARY AND COMMERCIAL APPLICATIONS

ADC offers the following designs to cover a wide range of standard audio applications, from low power transistors through heavy duty output circuits. They are conservatively rated at  $\pm 1/2$  db from 30 to 15,000 cycles at the maximum rated power. Each is designed for minimum insertion loss, is fully impregnated before potting and rated for dependable continuous duty operation.



These audio transformers are available in standard MIL cases, hermetically sealed to meet all requirements of MIL-T-27A. THE SAME RATINGS ARE ALSO AVAILABLE AS COMMERCIAL GRADE COMPONENTS, featuring the lower cost construction of a phenolic terminal board with solder lug terminals in the same drawn MIL cases.

### INPUT TRANSFORMERS Response $\pm 1/2$ db, 30-15,000 cps

Catalog No. Com-Hermetical Case Seal	Application	Primary Impedance Rating (Ohms)	Secondary Impedance Rating (Ohms)	Max. Level	Hum Reduction	Case Size
222A 223A	Line to Single or Push Pull Grids.	600 <sup>1</sup>	60,000 <sup>1</sup> Split	+ 10 dbm	-65 db	AJ
222B 223B	Low Impedance Line to Grid.	12.5/50/200	80,000	+ 10 dbm	-65 db	AJ
222C 223C	Line and Bridging to Single or Push Pull Grids. 3-4	150/600/15,000	60,000 <sup>1</sup> Split	+ 10 dbm	-65 db	AJ
222D 223D	High Impedance Pickup or Plate to Push Pull Grids.	10,000 (10MA DC)	80,000 <sup>1</sup> Split	+ 22 dbm	-35 db	EA
222E 223E	Push Pull Plates to Push Pull Grids.	20,000 <sup>1</sup> Split	90,000 <sup>1</sup> Split	+ 24 dbm	-35 db	EA

### MILITARY STANDARD AUDIO TRANSFORMERS

These Military Standard audio transformers have been specified by ASES and are established by the three Military Services and the transformer industry as standards for military transformer applications. Tests have been conducted in ADC's environmental laboratory which indicate that these units will meet the requirements of MIL-T-27A, Grade 1, Class R operating temperature, life expectancy X (10,000 hours minimum).

Cat-alog No.	MIL-T-27A Classification	MIL-T-27A Part No.	Application	Impedance (Ohms)	Operating Level	Pri. DCMA Bal. Unbal.
221A	TF 1RX 15AJ001	MS-90000	Push Pull Plates to Push Pull Grids	Pri. 10,000 CT Sec. 90,000 CT 22,500 CT	15 dbm	-- 10
121A	TF 1RX 16AJ002	MS-90001	Line to Voice Coll	Pri. 600 CT (150) Sec. 4 8 16	2 W	-- --
221B	TF 1RX 10AJ001	MS-90002	Line to Push Pull Grids	Pri. 600 CT (150) Sec. 135,000 CT	15 dbm	-- --
121B	TF 1RX 16AJ001	MS-90003	Line to Line	Pri. 600 CT (150) Sec. 600 CT (150)	15 dbm	-- --
321A	TF 1RX 13AJ001	MS-90004	Plate to Line	Pri. 7600/4800 Sec. 600 CT (150)	2 W	-- 40
321B	TF 1RX 13AJ002	MS-90005	Plate to Voice Coll	Pri. 7600/4800 Sec. 4 8 16	2 W	-- 40
321C	TF 1RX 13AJ003	MS-90006	Push Pull Plates to Line	Pri. 15,000 CT Sec. 600 CT (150)	2 W	-- 10
321D	TF 1RX 13AJ004	MS-90007	Push Pull Plates to Line	Pri. 24,000 CT Sec. 600 CT (150)	1 W	20 1
321E	TF 1RX 13AJ005	MS-90008	Push Pull Plates to Line	Pri. 60,000 CT Sec. 600 CT (150)	.5 W	20 1

### OUTPUT TRANSFORMERS Response $\pm 1/2$ db, 30-15,000 cps (Power Response at Rated Output)

Catalog No. Com-Hermetical Case Seal	Application	Primary Impedance Rating (Ohms)	Secondary Impedance Rating (Ohms)	Max. Level	Case Size
322A 323A <sup>4</sup>	Plate to Line	15,000 (10 MA DC)	600 250 (150/62.5) <sup>2</sup>	+ 20 dbm (1 W)	EB
322B <sup>5</sup> 323B <sup>5</sup>	Plate to Voice Coll	5,000 (40 MA DC)	16 8 4	+ 37 dbm (5 W)	FA
322C 323C	Push Pull Plates to Line	20,000 CT	600/250 (150/62.5) <sup>2</sup>	+ 30 dbm (1 W)	EB
322D 323D	Push Pull Plates to Line and Voice Coll	10,000 CT	600 (150) <sup>2</sup> 16 8 4	+ 40 dbm (10 W)	GA
322E 323E <sup>1</sup>	Push Pull Plates to Voice Coll <sup>4</sup>	9,000 2,250 Split <sup>2</sup>	16 8 4	+ 40 dbm (10 W)	GA
322F 323F <sup>1</sup>	Push Pull Plates to Voice Coll <sup>2</sup>	10,000 Split <sup>2</sup>	16/8/4	+ 43 dbm (20 W)	JA
322G 323G <sup>1</sup>	Push Pull Plates to Voice Coll <sup>4</sup>	8,000/1,600 Split <sup>2</sup>	16/8 4	+ 42 dbm (15 W)	JB
322H 323H <sup>1</sup>	Push Pull Plates to Voice Coll <sup>4</sup>	5,000 3,000 Split <sup>2</sup>	16 8 4	+ 43 dbm (20 W)	JA
322J 323J <sup>1</sup>	Push Pull Plates to Voice Coll <sup>4</sup>	6,600/1,650 Split <sup>2</sup>	16/8/4	+ 45 dbm (30 W)	KA
322K 323K <sup>1</sup>	Push Pull Plates to Voice Coll <sup>4</sup>	3,500 700 Split <sup>2</sup>	16 8/4	+ 48 dbm (70 W)	LA
322L 323L <sup>1</sup>	Push Pull Par Plates to Voice Coll	2,500/1,500 Split <sup>2</sup>	16 8 4	+ 49 dbm (80 W)	MA
322M 323M <sup>1</sup>	Push Pull Class A Transistors to Voice Coll	48/16/8 Split <sup>2</sup>	16/8/4	+ 47 dbm (50 W)	KA
322N 323N <sup>1</sup>	Class A Transistor to Voice Coll	10 (1.25a. DC)	16 8/4	+ 38 dbm (7 W)	JB
322P 323P <sup>1</sup>	Push Pull Transistors to Voice Coll	48 32 CT	16/8/4	+ 40 dbm (10 W)	GA

#### NOTES:

- <sup>1</sup>These items are not normally carried in stock.
- <sup>2</sup>"Split" indicates 2 separate, symmetric windings. Impedances shown are for series connection. Where impedances are shown in parenthesis, they indicate the impedances resulting when windings are connected in parallel.
- <sup>3</sup>Balanced, for Williamson type circuit operation.
- <sup>4</sup>Has primary taps suitable for Screen loading.
- <sup>5</sup>Power response  $\pm 1/2$  db, 50-15,000 cps.
- <sup>6</sup>Response is +1 db, 30-15,000 cps.

All of these designs are available on special order with output impedances of other values than shown above.

### MINIATURE AUDIO TRANSFORMERS



2-56 Screws Bottom View

These transformers offer a variety of special design features on a catalog basis for particular circuit and chassis applications. They are available for plug-in and printed circuit applications as well as standard installations. The special cases shown allow the maximum of electrical performance for each type as well as the maximum of flexibility in mechanical arrangement. All electrical ratings are shown for continuous duty at full specified power levels. Dia.  $3/8"$ , Ht.  $1 3/8"$ , 2-56 Mtg. screws on  $11/16"$  centers.

### MINIATURE SERIES

Cat. No.	Type	Application	Primary Impedance (Ohms)	Secondary Impedance (Ohms)	Max. Level	Re-sponse
108A	Impedance	Line to Line	50/250/600	50/250/600	+ 8 dbm	$\pm 1$ db 30-15,000
208A	Input	Line to Single Grid	50/250/600	80,000	+ 10 dbm	$\pm 1$ db 30-15,000
208B	Input	Line to Push Pull Grids	50/250/600	80,000CT	+ 10 dbm	$\pm 1$ db 30-15,000
208C	Input	Low Impedance to Grid	7.5/30	80,000	+ 8 dbm	$\pm 1$ db 30-15,000
208D	Interstage	Plate (0 DC) to Push Pull Grids	15,000	60,000CT	+ 10 dbm	$\pm 1$ db 30-10,000
208E	Interstage	Plate (3MA DC) to Push Pull Grids	15,000	60,000CT	+ 10 dbm	$\pm 2$ db 200-10,000
208F	Input	Line to Single Grid	50/250/600	500,000	+ 10 dbm	+ 3 db 200-3000
208G	Interstage	Transistor to Transistors (20 MA DC) Split	10,000 (2500) Split	4000/1000CT	+ 10 dbm	+ 2 db 100-10,000
308E	Output	Plate to Line (0 DC)	15,000	50/250/600	+ 10 dbm	$\pm 1$ db 40-15,000
308F	Output	Plate to Line (3MA DC)	15,000	50/250/600	+ 10 dbm	$\pm 2$ db 100-15,000
308G	Output	Push Pull Plates to Line	30,000CT	50/250/6600	+ 10 dbm	+ 1 db 30-15,000
308H	Output	Class B Transistors to Voice Coll	2000/500CT	16/8/4	+ 23 dbm	$\pm 1$ db 100-10,000
408D	Inductor		200 Hy @ 0 DC; 100 Hy @ 10MA DC; 16 Hy @ 10MA DC	6000 Ohms Resistance		

- NOTE: These items are also available, on special request, as plug-in transformers with:
- Mumetal case  $1 5/16"$  dia. by  $1 5/16"$  high. 35 db shielding.
  - Mumetal case plus 1 Mumetal shield  $1 1/16"$  dia. by  $1 1/2"$  high. 65 db shielding.



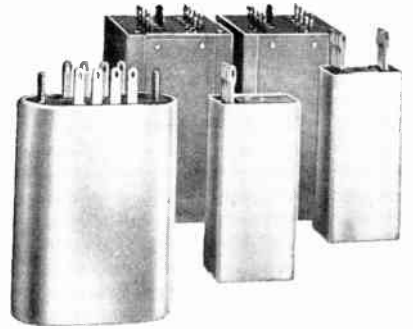
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# ADC PRODUCTS

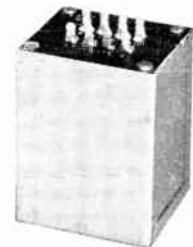
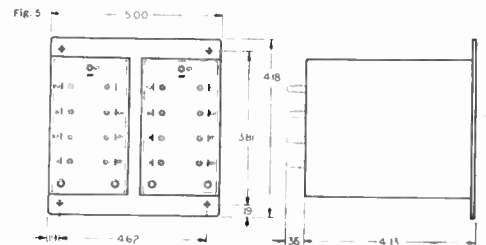
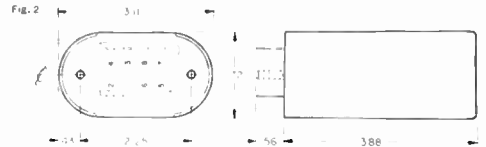
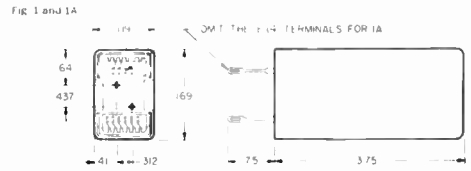
## TELEPHONE COILS

For many years, ADC has been a dependable source of transformers and filters for the telephone and telegraph industry. Recently, we have designed and tooled for additional items in a series of "coils" which are electrically and physically interchangeable with similar components made by Western Electric. These items are listed below with the equivalent Western Electric number. All items in this series can be supplied in MIL cases if desired.



ADC Inductors	W.E. Indr. or Ret.	Fig.	ADC Imped. Trans.	W.E. Repeat Coil	Fig.	ADC Imped. Trans.	W.E. Repeat Coil	Fig.
409BB	149B	2	118A	67E	•	119C	177C	•
409BC	149C	2	113A	91A	5	119D	177D	•
409BD	149D	2	113A	93A	5	112G	189A	1
409E	149E	2	113B	93B	5	112B	189D	1A
409G	149G	2	113F	93F	5	112C	189E	1A
409H	149H	2	113G	93G	5			
409J	149J	2	113H	93H	5			
409K	149K	2	113J	93J	5			
409M	149M	2	109S <sup>1</sup>	94E	2	ADC Imped. Trans.	W.E. Auto Trans.	Fig.
409N	149N	2	109T	94F	2	109A	23A	•
409P	149P	2	109J	94G	2	112A <sup>1</sup>	181B	1
409R	149R	2	109K <sup>1</sup>	93H	2	112E	181C	1
405A	152B	•	109V	94K	2	112H	D166840	1A
405H	225A	•	109W	94L	2			
405E	250C	•	109Y	94N	2			
412AC	274C	1A	109Z	94P	2			
412AD	274D	1A	109BB	94S	2			
412AG	274G	1A	109BC	94T	2			
412AH	274H	1A	109BD	94U	2			
412AJ	274J	1A	109BE	94V	2			
412AL	274L	1A	109BF	94Y	2			
412AR	274R	1A	109BG <sup>1</sup>	94AA	2			
412AS	274S	1A	118F	106A	•			
412BB	274AB	1A	118S	119C	•			
412T	307B	1A	118U	119E	•			
412C	307C	1A	109B <sup>1</sup>	120C	2			
412F	307F	1A	109C <sup>1</sup>	120D	2			
412G	307G	1A	109D <sup>1</sup>	120E	2			
412H	307H	1A	109E <sup>1</sup>	120F	2			
412J	307J	1A	109F <sup>1</sup>	120H	2			
412K	307K	1A	109G <sup>1</sup>	120J	2			
412L	307L	1A	109H <sup>1</sup>	120K	2			
412M	307M	1A	109P <sup>1</sup>	120L	2			
412B	307N	1A	109L	146A	•			
412A <sup>1</sup>	307P	1A	109M	146U	•			
412R	307R	1A	119P	170A	•			

<sup>1</sup>These represent most commonly used items and are normally carried in stock.  
 \*Space did not permit outline drawings for all types. Dimensions will be sent on your request.



## ADC REPEATING COILS

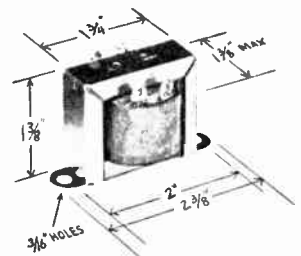
**104A**—Cord Circuit. This repeating coil is designed to have good transmission efficiency for voice frequencies. Low frequency ringing currents are attenuated and circuit will not ring through. Case is heavy steel to eliminate all crosstalk. Core will not saturate at maximum normal current.

**104B**—Phantom. The 104B Repeating Coil is a 4-winding coil, for use in phantom circuits. The phantom winding (5-6-7-8) is parallel wound. Heavy Formvar wire is used for maximum surge voltage or lightning protection. This coil has good transmission efficiency at both ringing and voice frequencies.

Type	PRI. DCR		SEC. DCR		Case	Mounting	
	1-2	3-4	5-6	7-8		Screw	Centers
104A	10.3	16.5	12.5	14.5	2 1/4 x 1 1/4 x 3 1/2 high	(4) 6-32	1 3/8 x 1 3/8
104B	16.5	20	24	24	2 3/8 x 2 3/8 x 3 1/2 high	(4) 8-32	1 3/8 x 2 1/4

## INDUCTION COILS

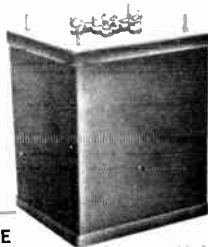
- 103A—Induction Coil is a 2-winding coil for local battery telephones.
- 103B—Anti-Sidetone Induction Coil is similar to 103A, but with an additional winding for anti-sidetone connection.
- 103C—Anti-Sidetone Induction Coil is designed for common battery telephone use.



# FREED TRANSFORMER CO., INC.

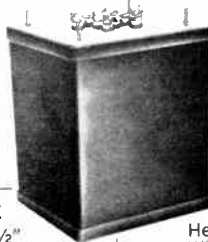
## BROADCAST QUALITY COMPONENTS

### CASE DIMENSIONS



**DC-2B CASE**  
 Height: 3 1/2"  
 Width: 2 5/8"  
 Depth: 2 1/4"  
 Mtg. Cen.: 2" x 1 3/4"  
 Studs: 4 8-32  
 Knockout: 1 1/2" dia.

**DC-4A CASE**  
 Height: 3 3/4"  
 Width: 3 1/8"  
 Depth: 3"  
 Mtg. Cen.: 2 1/2" x 2 1/2"  
 Studs: 4 8-32  
 Knockout: 2" dia.



**DC-2B CASE**  
 Height: 3 1/2"  
 Width: 2 5/8"  
 Depth: 2 1/4"  
 Mtg. Cen.: 2" x 1 3/4"  
 Studs: 4 8-32  
 Knockout: 1 1/2" dia.

**DC-4A CASE**  
 Height: 3 3/4"  
 Width: 3 1/8"  
 Depth: 3"  
 Mtg. Cen.: 2 1/2" x 2 1/2"  
 Studs: 4 8-32  
 Knockout: 2" dia.

**DC-4B CASE**  
 Same as 4A—4" high

**DC-5B CASE**  
 Height: 4 1/2"  
 Width: 4 1/8"  
 Depth: 3 1/2"  
 Mtg. Cen.: 3" x 2 5/8"  
 Studs: 4 10-32  
 Knockout: 3" dia.

**DC-6A CASE**  
 Height: 4 7/8"  
 Width: 5"  
 Depth: 4 1/8"  
 Mtg. Cen.: 3 3/4" x 3"  
 Studs: 4 10-32  
 Knockout: 3" dia.

**DC-6B CASE**  
 Height: 6"  
 Width: 5"  
 Depth: 4 1/8"  
 Mtg. Cen.: 3 3/4" x 3"  
 Studs: 4 10-32  
 Knockout: 3" dia.

**DC-7 CASE**  
 Height: 5 3/8"  
 Width: 5 1/2"  
 Depth: 5"  
 Mtg. Cen.: 4 3/8" x 3 3/4"  
 Studs: 4 1/4"-20  
 Knockout: 3" dia.

### LOW LEVEL OUTPUT, MIXING, MATCHING TRANSFORMERS

Frequency Response 20-20,000 C.P.S. ± 1.0 DB \*50-20,000 C.P.S. ± 1.0 DB

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level DBM	Ratio	Equivalent Shielding D.B.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
		Primary	Secondary						
QGA 16	Single plate or bridging line to Universal 500 ohm line. Shunt feed.	15,000	U-500	+18	5.5:1	70	0	0	DC-2B
QGA 17	Single plate to Universal 500 ohm line	15,000	U-500	+18	5.5:1	70	8	8	DC-2B
QGA 18	Push-pull triode plates to Universal 500 ohm line.	20,000 C.T.	U-500	-25	6.3:1	70	8	0.5	DC-2B
QGA 19	Mixing, low impedance microphone or line to Universal 500 ohm line.	U-500	U-500	+12	1:1	70	0	0	OC-2B
QGA 20	Line level mixing and matching	U-500	U-500	-30	1:1	70	0	0	DC-2B
QGA 21	High mu triode photo-cell to Universal 500 ohm line	100,000	U-500	+12	14.1:1	70	0	0	DC-2B

### DRIVER TRANSFORMERS

Frequency Response 20-20,000 C.P.S. ± 1.0 DB

Catalog No.	Application	Primary Impedance Ohms	Maximum Power Level DBM	Turn Ratio Pri.: Sec.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
QGA 23	Push-pull 6J5, etc. to push-pull 2A3's, 6L6's, etc.	20,000 C.T.	-30	3.2:1	8	0.5	DC-2B
QGA 24	Push-pull 2A3, 6B4 to push-pull 809, 1240, 4125A.	5,000 C.T.	+40	3.1:1	50	5	DC-4B

### INPUT TRANSFORMERS

Frequency Response 20-20,000 C.P.S. ± 1.0 DB

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level DBM	Ratio	Equivalent Shielding D.B.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
		Primary	Secondary						
QGA 1	Universal 500 ohm line to push-pull grids	U-500	100,000 split	-10	1.14:1	70	0	0	DC-2B
QGA 2	Universal 500 ohm line to push-pull grids	U-500	100,000 split	+10	1.14:1	90	0	0	DC-2B
QGA 3	Universal 500 ohm line to single or push-pull grids	U-500	60,000 split	+10	1.1:1	70	0	0	DC-2B
QGA 4	Universal 500 ohm line to single or push-pull grids	U-500	60,000 split	+10	1.1:1	90	0	0	DC-2B
QGA 5	Universal low impedance microphone, pickup or line to single or push-pull grids	U-60	60,000 split	+10	1.31:6	70	0	0	DC-2B
QGA 6	Universal low impedance microphone, pickup or line to single or push-pull grids	U-60	60,000 split	+10	1.31:6	90	0	0	DC-2B

U-60 IMPEDANCES IN OHMS: 2.5, 5, 10, 15, 20, 30, 40, 60

U-500 IMPEDANCES IN OHMS: 50, 125, 200 C.T., 250, 330, 500 C.T.

125 and 500 ohms can be used for 150 and 600 ohms

### HYBRID AND REPEAT COILS

Frequency Response 20-20,000 C.P.S. ± 1.0 DB

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level DBM	Ratio	Equivalent Shielding D.B.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
		Primary	Secondary						
QGA 7	Hybrid, Unbalanced 500/600 ohm lines to 600 ohms.	Total Pri 1200/1000 split 300/250 300/250	600/150 or 500/125 split	+10	1.41:1	70	0	0	DC-2B
QGA 8	Hybrid, Balanced 500/600 ohm lines to 600 ohms. Longitudinal balance 70 DB	Total Pri 1200/1000 split 300/250 C.T. 300/250 C.T.	600/150 or 500/125 split	+10	1.41:1	70	0	0	DC-2B
QGA 9	Hybrid, Unbalanced 500/600 ohm lines to triode plate. No. D.C. in secondary	Total Pri 1200/1000 split 300/250 300/250	15,000 or 12,500	+10	1.35:4	70	0	0	DC-2B
QGA 10	Hybrid, Balanced 500/600 ohm lines to triode plate. No. D.C. in secondary. Longitudinal balance 70 DB.	Total Pri 1200/1000 split 300/250 C.T. 300/250 C.T.	15,000 or 12,500	+10	1.35:4	70	0	0	DC-2B
QGA 11	Repeat coil for low frequency ringing. Longitudinal balance 70 DB.	600/500 split	600/500 split Balanced	1:1	1:1	90	0	0	DC-4A

### INTERSTAGE TRANSFORMERS

Frequency Response 20-20,000 C.P.S. ± 10 D.B. \*50-20,000 C.P.S. ± 1.0 D.B.

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level DBM	Ratio	Equivalent Shielding D.B.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
		Primary	Secondary						
QGA 12	Bridging line to single or push-pull grids.	10,000	60,000 split	+10	1:2.45	70	0	0	DC-2B
QGA 13	Single 6C4, 6J5 1/2 6SN7 triode to push-pull grids. Shunt feed.	15,000	60,000 split	+18	1:2	45	0	0	OC-2B
QGA 14	Single 6C4, 6J5 1/2 6SN7 triode to push-pull grids.	15,000	60,000 split	-18	1:2	45	8	8	DC-2B
QGA 15	Push-pull triode plates to push-pull class A grids.	20,000	45,000 split	-25	1:1.5	30	8	0.5	DC-4A

### HIGH LEVEL OUTPUT TRANSFORMERS

Frequency Response 20-30,000 C.P.S. ± 0.5 DB

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level DBM	Watts	Ratio	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
		Primary	Secondary						
QGA 25	PP-5881, 6B4, 6L6, 300A, 275A to Universal 500 ohm line.	5,000	U-500	+42	15	3.16:1	70	7	DC-5B
QGA 26	As above to Universal voice coil.	5,000	U-16	+42	15	17.7:1	70	7	DC-5B
QGA 27	Push-pull 6V6, 6A05, 7C5, 6N7 to Universal 500 ohm line.	8,000	U-500	-42	15	4:1	50	5	OC-5B
QGA 28	As above to Universal voice coil.	8,000	U-16	-42	5	22.4:1	50	5	OC-5B
QGA 29	P.P. 6F6, 6V6, 6A05, 7C5, 7B5, 6AR5, 6K5, 6L6 to Universal 500 ohm line.	10,000	U-500	+42	15	4.47:1	40	4	DC-5B
QGA 30	As above to Universal voice coil.	10,000	U-16	+42	15	25:1	40	4	OC-5B
QGA 31	P.P. 807, 1614, KT-66, (Williamson Amplifier) to Universal 500 ohm line.	10,000	U-500	+45.5	36	4.47:1	60	6	DC-6A
QGA 32	As above to Universal voice coil.	10,000	U-16	+45.5	36	25:1	60	6	DC-6A
QGA 33	P.P. Parallel, 6A05, 300A to Universal 500 ohm line	2,500	U-500	+45.5	36	2.24:1	100	10	DC-6A
QGA 34	As above to Universal voice coil.	2,500	U-16	-45.5	36	12.5:1	100	10	DC-6A
QGA 35	P.P. 6L6 or P.P. Parallel 6L6 to Universal 500 ohm line.	3,800	U-500	-47	50	2.75:1	140	14	DC-6B
QGA 36	As above to Universal voice coil.	3,800	U-16	-47	50	15.4:1	140	14	DC-6B
QGA 37	High level multiple line to Universal voice coil.	U-500	U-16	+42	15	5.6:1	0	0	DC-5B
QGA 38	High level multiple line to Universal voice coil.	U-500	U-16	+47	50	5.6:1	0	0	DC-6B
QGA 39	5881 or 6146 Class AB1 to Universal 500 ohm line.	6,600	U-500	+45.5	36	3.64:1	70	7	DC-6A
QGA 40	5881 or 6146 Class AB1 to Universal voice coil	6,600	U-16	-45.5	36	20:1	70	7	OC-6A
QGA 41	6550 AB1 or 6146 AB2 to Universal 500 ohm line	5,000	U-500	+50	100	3.16:1	140	14	DC-7
QGA 42	6550 AB1 or 6146 AB2 to Universal voice coil.	5,000	U-16	-50	100	17.7:1	140	14	DC-7

\*These units supplied with taps for applying screen feedback U-16 IMPEDANCES IN OHMS: 2, 4, 8, 12, 16.

U-500 IMPEDANCES IN OHMS: 50, 125, 200, C.T., 250, 330, 500 C.T. 125 and 500 ohms can be used for 150 and 600 ohms

# FREED TRANSFORMER COMPANY, INC.

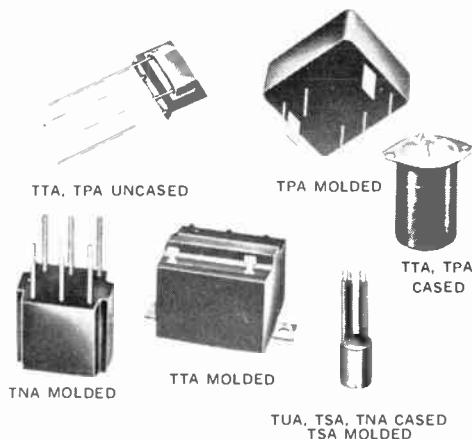


# FREED TRANSFORMER CO., INC.

## MINIATURE TRANSISTOR AUDIO TRANSFORMERS

These high quality miniature transformers are high efficiency audio components featuring hermetic sealing for maximum protection against electrolysis and subsequent corrosion of fine wires caused by moisture penetration. The units are constructed in accordance with MIL-T-27A Specifications. Transistor transformers can also be supplied in an open or encapsulated type of construction.

TYPE		TSA			TNA			TPA			TTA		
MAX. PDWER		500 MW			1 W			3 W			5 W		
FREQ. RESPONSE		.3 - 15 KC ± 2DB			.2 - 15 KC ± 2 DB			.15 - 15 KC ± 2 DB			.15 - 15 KC ± 2 DB		
CASED		UNCASED			UNCASED			UNCASED			UNCASED		
CASED MIL-T-27A-4RX		1/2" D. x 1/2" H.			1/2" D. x 1/2" H.			1/2" D. x 1/2" H.			1/2" D. x 1/2" H.		
MOLDED MIL-T-27A-SRX		1/2" D. x 1/2" H.			1/2" D. x 1/2" H.			1/2" D. x 1/2" H.			1/2" D. x 1/2" H.		
MATCHING IMP.		Cat. No.	Max. I (MA) Total Pri.	Max. I dc (MA) Unbal. 1/2 Pri.	Cat. No.	Max. I (MA) Total Pri.	Max. I dc (MA) Unbal. 1/2 Pri.	Cat. No.	Max. I (MA) Total Pri.	Max. I dc (MA) Unbal. 1/2 Pri.	Cat. No.	Max. I (MA) Total Pri.	Max. I dc (MA) Unbal. 1/2 Pri.
Pri.	Sec.												
150 (CT)	3.2	28	35	12	28	40	16	30	45	20	15	130	50
150 (CT)	12	28	35	12	28	40	16	31	45	20	17	130	50
150 (CT)	50	30	35	12	30	40	16	32	45	20	18	130	50
300 (CT)	3.2	31	30	8	31	32	14	33	35	16	20	100	35
300 (CT)	12	32	30	8	32	32	14	34	35	16	21	100	35
300 (CT)	50	33	30	8	33	32	14	35	35	16	22	100	35
500 (CT)	500	34	20	6	34	22	14	36	25	12	1	80	25
600 (SP)	3.2	1	16	6	18	8	8	1	20	10	23	65	25
600 (SP)	12	2	16	6	2	18	8	2	20	10	24	65	25
600 (SP)	50	35	16	6	35	18	8	3	20	10	25	65	25
600 (SP)	600	3	16	6	3	18	8	4	20	10	26	65	25
600 (SP)	1.2K (CT)	22	16	6	22	18	8	37	20	10	7	65	25
1K (CT)	3.2	27	14	4	27	15	6	38	16	8	19	50	20
1K (CT)	12	27	14	4	27	15	6	39	16	8	27	50	20
1K (CT)	50	26	14	4	26	15	6	40	16	8	13	50	20
1.2K (SP)	3.2	4	12	4	4	14	6	5	16	8	8	40	15
1.2K (SP)	12	5	12	4	5	14	6	6	16	8	9	40	15
1.2K (SP)	50	38	12	4	38	14	6	7	16	8	30	40	15
1.2K (SP)	600 (SP)	6	12	4	6	14	6	8	16	8	31	40	15
2K (SP)	3.2	7	9	3	7	10	5	9	14	6	10	25	12
2K (SP)	12	8	9	3	8	10	5	10	14	6	32	25	12
2K (SP)	600 (SP)	9	9	3	9	10	5	11	14	6	33	25	12
4K (SP)	3.2	10	6.5	2	10	8	3	12	9	4	11	4	10
4K (SP)	12	11	6.5	2	11	8	3	13	9	4	34	20	10
4K (SP)	600 (SP)	12	6.5	2	12	8	3	14	9	4	35	20	10
10K (SP)	3.2	13	6	1	13	6	1	15	7	3	35	15	9
10K (SP)	12	14	6	1	14	6	1	16	7	3	36	15	9
10K (CT)	50	39	5.5	1	39	6	2	17	7	3	37	9	9
10K (CT)	1.2K (SP)	10	5.5	1	10	6	1	18	7	3	38	15	9
10K	1K	40	5.5	1	40	6	1.5	19	7	1.8	39	15	5
10K	10K (SP)	16	2.5	.8	16	6	1.5	20	7	1.8	40	15	5
20K (CT)	50	25	2.5	.8	25	3	1	21	5	1	12	2	10
20K (CT)	600 (CT)	41	2.5	.8	41	3	1	22	5	1	16	8	6
25K (CT)	600 (CT)	23	2.5	.8	23	3	1	23	5	1	6	6	6
25K (CT)	1.2K (CT)	21	2.5	.8	21	3	1	24	5	1	5	5	4
50K (CT)	6 (CT)	18	6	.6	18	2.5	1	25	3.5	1	3	3	3
50K (CT)	500 (CT)	17	2	.6	17	2.5	1	26	3.5	1	6	5	3
50K (CT)	1.2K (CT)	20	2	.6	20	2	1	27	3.5	1	6	5	3
100K (CT)	1K (CT)	27	2	.4	27	2	.8	28	2	1	14	4	2
100K (CT)	1.2K (CT)	19	2	.4	19	2	.8	29	2	1	4	4	2



TYPE		TUA							
MAX. POWER		500 MW							
FREQ. RESPONSE		.4 - 15 KC ± 2 DB							
CASED		UNCASED							
CASED MIL-T-27A-4RX		1/2" D. x 1/2" H.							
MOLDED		MOLDED							
MATCHING IMP.		Cat. No.	Max. I (MA) Total Pri.	Max. I dc (MA) Unbal. 1/2 Pri.	MATCHING IMP.		Cat. No.	Max. I (MA) Total Pri.	Max. I dc (MA) Unbal. 1/2 Pri.
Pri.	Sec.				Pri.	Sec.			
150 (CT)	3.2	16	15	10	2K (CT)	3.2	28	3.5	2.5
150 (CT)	12	17	15	10	2K (CT)	12	29	3.5	2.5
150 (CT)	50	21	15	10	2K (CT)	600	30	4.5	2.5
300 (CT)	3.2	20	9	7	4K (CT)	3.2	8	3.5	1.5
300 (CT)	12	19	9	7	4K (CT)	12	9	3.5	1.5
300 (CT)	50	22	9	7	4K (CT)	600	10	3.5	1.5
500 (CT)	500	7	7	5	10K (CT)	3.2	7	1	1
600 (CT)	3.2	1	7	5	10K (CT)	12	11	1	1
600 (CT)	12	2	7	5	10K (CT)	50	11	1	1
600 (CT)	50	13	7	5	10K (CT)	600	15	1	1
600 (CT)	600	3	7	5	2K (CT)	1K	18	2	2
600 (CT)	1.2K	24	7	5	10K	10K (CT)	31	2	2
1K (CT)	3.2	4	6	3.5	20K (CT)	50	32	2	.8
1K (CT)	12	25	6	3.5	20K (CT)	600 (CT)	33	2	.8
1K (CT)	50	14	6	3.5	25K (CT)	600 (CT)	34	2	.8
1.2K (CT)	3.2	26	6	3.5	25K (CT)	1.2K (CT)	35	2	.8
1.2K (CT)	12	5	6	3.5	50K (CT)	6 (CT)	36	2	.6
1.2K (CT)	50	27	6	3.5	50K (CT)	500 (CT)	37	2	.5
1.2K (CT)	600	6	6	3.5	50K (CT)	1.2K (CT)	38	2	.5

CT = Center Tap. SP = Split Winding.

## MINIATURE AUDIO TRANSFORMERS

These high quality, miniature transformers feature hermetically sealing for maximum protection from moisture penetration with subsequent electrolysis and corrosion of fine wires. While primarily intended for non-military equipment, these units are constructed in accordance with MIL-T-27A Specifications.

Frequency response: ± 2DB 30-20,000 CPS \* ± 2DB 200-10,000 CPS.

**CASE DIMENSIONS**

**DM-20 CASE**  
 Height: 1 9/16"  
 Dia.: 1 1/8"  
 Mtg. Cen.: 1 1/8" to 1 3/32"  
 Mtg. 2 holes: 166 x .120  
 Flange Lgth.: 1 13/32"  
 Flange D.: .975"

Catalog No.	Application	MIL Type	Impedance Level Ohms		Max. Power Level DBM	Ratio	Equivalent Shielding D.B.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
			Primary	Secondary						
PMA 1	Line or microphone to single or push-pull grids.	TF4RX10YY	50/200/500	60,000 C.T.	-8	1:11		0	0	DM-20
PMA 2	Dynamic microphone or speaker voice coil to single or P.P. grid.	TF4RX10YY	4/8	60,000 C.T.	-8	1:86.6		0	0	DM-20
PMA 3	Line or microphone to single or push-pull grids. Magnetically shielded.	TF4RX10YY	50/200/500	60,000 C.T.	+8	1:11	30	0	0	DM-20
PMA 4	Single triode plate to single or push-pull grids.	TF4RX12YY	15,000	60,000 C.T.	+8	1:2		0	0	DM-20
PMA 5*	Single triode plate to push-pull grids.	TF4RX12YY	15,000	60,000 C.T.	+8	1:2		2	2	DM-20
PMA 6	Single triode plate to multiple line.	TF4RX16YY	15,000	50/200/500	+8	5.48:1		0	0	DM-20
PMA 7*	Single triode plate to multiple line.	TF4RX12YY	15,000	50/200/500	+8	5.48:1		2	2	DM-20
PMA 8	Push-pull triode plates to multiple line.	TF4RX12YY	30,000 C.T.	50/200/500	+8	7.75:1		2	0.25	DM-20
PMA 9	Crystal mike or pickup to multiple line.	TF4RX16YY	60,000 C.T.	50/200/500	+8	11:1		0	0	DM-20
PMA 10	Mixing or matching.	TF4RX16YY	50/200	50/200/500	+8	1:1.50		0	0	DM-20
PMA 11	Parallel Feed Reactor.	TF4RX20YY	40 hy. 3 ma dc.	3500 ohms d.c. resistance						DM-20
PMA 12	Microphone or line to grid.	TF4RX10YY	50/200/500	60,000 C.T.	+5	1:11		0	0	DM-20
PMA 13	Mixing and matching.	TF4RX16YY	150/600	600 C.T.	-8	1:1		0	0	DM-20
PMA 14	Single triode plate to push-pull grids.	TF4RX15YY	15,000	95,000 Split	-5	1:2.5		0	0	DM-20
PMA 15*	Single triode plate to push-pull grids.	TF4RX15YY	15,000	95,000 Split	15	1:2.5		4	4	DM-20

# FREED TRANSFORMER CO., INC.

## MINIATURE TRANSISTOR TRANSFORMERS

These high quality miniature transformers are high efficiency audio components featuring hermetically sealing for maximum protection against electrolysis and subsequent corrosion of fine wires caused by moisture penetration. The units are constructed in accordance with MIL-T-27A Specifications.

Transistor Transformers can also be supplied in an open or encapsulated type of construction

### CASE DIMENSIONS

#### DM-01 CASE

Height: 2"  
Width: 1 1/2"  
Depth: 1 1/2"  
Mtg. Cen.: 1 1/8" x 1 1/8"  
Studs: 4 6-32  
Knockout: 1 3/8" dia.

### UNCASED DIMENSIONS

#### TMO 1 TO 14



Height: 1 3/8"  
Width: 1 1/8"  
Depth: 2 1/8"  
Mtg. Cen.: 1 3/8"  
2 Mtg. Holes: .120 dia.  
Flange Lgth: 1 3/8"

#### TMO 15 TO 18

Height: 2 1/8"  
Width: 1 1/8"  
Depth: 1 3/8"

#### TMO-19

Height: 1 3/8"  
Width: 1 1/8"  
Depth: 1 3/8"  
Mtg. Cen.: 1 3/8"  
2 Mtg. Holes: 3/16" dia.  
Flange Lgth: 2 1/8"

Catalog No.	MIL Type	Impedance Ohms				Frequency Response		Unbalance Primary Current	D.C. Resistance Ohms		Max Power Output M W	Case No.
		Pri	CT	Sec	CT	DB	C.P.S.		Pri	Sec		
TMA 1*	TF:RX14:YY	500		500		1	200 to 15,000	0	18	24	250	DM-20
TMA 2*	TF:RX12:YY	50K		500		2	100 to 15,000	3	2,200	49	250	DM-2
TMA 3*	TF:RX14:YY	50K		6		2	300 to 15,000	3	2,200	55	250	DM-20
TMA 4*	TF:RX12:YY	100K		1.2K	✓	3	300 to 15,000	1	2,700	95	100	DM-20
TMA 5*	TF:RX12:YY	25K		1.2K	✓	2	200 to 15,000	3	1,750	110	250	DM-20
TMA 6*	TF:RX12:YY	50K		1.2K	✓	2	300 to 15,000	3	2,200	105	250	DM-20
TMA 7*	TF:RX12:YY	600/150		1.2K	✓	1	200 to 15,000	4	30	95	250	DM-20
TMA 8*	TF:RX12:YY	25K		600	✓	2	200 to 15,000	3	1,750	61	250	DM-20
TMA 9*	TF:RX12:YY	4K	✓	600/150	✓	1	200 to 15,000	1	274	41	250	DM-20
TMA 10*	TF:RX13:YY	2K		3.2		2	200 to 15,000	10	160	28	250	DM-20
TMA 11*	TF:RX13:YY	4K	✓	3.2		1	200 to 15,000	1	274	26	250	DM-20
TMA 12*	TF:RX13:YY	20K		50		2	10 to 15,000	4	1,340	2.9	250	DM-20
TMA 13*	TF:RX13:YY	1K		50		2	100 to 15,000	8	42.4	2.5	250	DM-20
TMA 14*	TF:RX14:YY	100K		1K		2	100 to 15,000	0	1,550	16.8	100	DM-20
TMO 15		20K		50		2	100 to 15,000	1	2,215	7.25	40	open
TMO 16		20K		600		2	100 to 15,000	1	2,215	102	40	open
TMO 17		1K		50		2	100 to 15,000	3	91	5.6	60	open
TMO 18		1.2K		1K		2	10 to 15,000	0	3,007	57.5	100	open
TMA 19*	TF:RX14:YY	1K		3.2		2	200 to 15,000	20	38	19	1000	DM-01

\* When ordering open units specify TMO when ordering encapsulated units specify TMC

## PROFESSIONAL GRADE COMPONENTS

This group of components has been designed for use in high fidelity and professional equipment and for public address service. Freed has developed this series of units employing the latest design techniques and the best commercially available materials. Except for units carrying unbalanced direct current the frequency response is  $\pm 1$  DB from 30 to 15,000 cps. All units feature excellent performance characteristics with minimum size and weight.

All units are vacuum varnished and then potted in compound to insure long life and trouble free performance.

Professional Grade components are supplied cased. Upon request these units can be supplied open or in shell type construction.

All cased Professional Grade Components supplied with terminals meet "EIA" standards.

Transformers PGA 1 through PGA 10 are supplied in hermetically sealed cases.

### INPUT TRANSFORMERS

Frequency Response 30-15,000 C.P.S.  $\pm 1.0$  DB

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level OBM	Ratio	Equivalent Shielding D.B.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
		Primary	Secondary						
PGA 1	Universal 500 ohm line to single grid.	U-500	50,000	+12	1:10	50	0	0	DM-01
PGA 2	Universal 500 ohm line to push-pull grids.	U-500	60,000 split	+12	1:11	50	0	0	DM-01
PGA 3	Universal 500 ohm line to push-pull grids.	U-500	100,000 split	+12	1:14.1	50	0	0	DM-01
PGA 4	Bridging line to single grid.	10,000	60,000	+12	1:2.45	50	0	0	DM-01
PGA 5	Bridging line to push-pull grids.	10,000	60,000 center tap	+12	1:2.45	50	0	0	DM-01
PGA 6	Low level line matching.	U-500	U-500	+18	1:1	50	0	0	DM-01

### LOW LEVEL OUTPUT AND MIXING TRANSFORMERS

Frequency Response 30-15,000 C.P.S.  $\pm 1.0$  DB

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level OBM	Ratio	Max. Pri. D.C. Per Side Ma.	D.C. Unbalance Ma.	Case Number
		Primary	Secondary					
PGA 7	Single triode plate to Universal 500 ohm line. Shunt feed.	15,000	U500	+18	5.48:1	0	0	DM-01
PGA 8	Single triode plate to Universal 500 ohm line.	15,000	U500	+18	5.48:1	8	8	DM-01
PGA 9	Push-pull triode plates to Universal 500 ohm line.	20,000 CT	U500	-30	6.32:1	8	0.5	DM-01
PGA 10	Low level line matching.	U500	U500	+18	1:1	0	0	DM-01

U-500 IMPEDANCES IN OHMS: 50, 125, 200 CT, 250, 330, 500 CT, 125 and 500 ohms can be used for 150 and 600 ohms.

### DRIVER TRANSFORMERS

Frequency Response 30-15,000 C.P.S.  $\pm 1.0$  DB

Catalog No.	Application	Primary Impedance Ohms	Turn Ratio Pri: 1/2 Sec.	Max. Level DBM	Max. Pri. O.C. Per Side Ma.	Max. O.C. Unbalance Ma.	Case Number
PGA 12	Push-pull 6C4, 6SN7 triodes to push-pull 2A3, 6L6 grids.	20,000 C.T.	3.0:1	+30	10	1	DC-1A
PGA 13	Push-pull 2A3, 6B4, 6A5G to push-pull 809, TZ-40, 4/125A	5,000 C.T.	3.2:1	-40	50	5	DC-2A

All units supplied with leads.

### CASE DIMENSIONS

**DM-01 CASE**

Height: 2 1/4"  
Width: 1 1/2"  
Depth: 1 1/2"  
Mtg. Cen.: 1 1/8" x 1 1/8"  
Studs: 2 6-32  
Knockout: 1 3/8" dia.

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**DC-1A CASE**

Height: 2 1/2"  
Width: 2 1/8"  
Depth: 1 3/8"  
Mtg. Cen.: 1 1/2" x 1 1/4"  
Studs: 4 8-32

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**DC-2A CASE**

Height: 3"  
Width: 2 5/8"  
Depth: 2 1/4"  
Mtg. Cen.: 2" x 1 3/4"  
Studs: 4 8-32

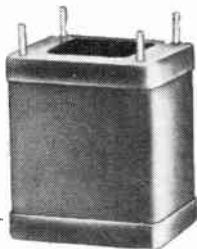
# FREED TRANSFORMER CO., INC.

## PROFESSIONAL GRADE COMPONENTS

### HIGH LEVEL OUTPUT TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ± 1.0 DB

#### CASE DIMENSIONS



<p><b>DC-1A CASE</b></p> <p>Height: 2 1/2" Width: 2 1/8" Depth: 1 3/8" Mtg. Cen.: 1 1/2" x 1 1/4" Studs: 4 8-32 Knockout: 1/4" dia.</p>	<p><b>DC-4A CASE</b></p> <p>Height: 3 3/4" Width: 3 3/8" Depth: 3" Mtg. Cen.: 2 1/2" x 2 1/2" Studs: 4 8-32 Knockout: 2" x 1 3/4"</p>
<p><b>DC-2A CASE</b></p> <p>Height: 3" Width: 2 5/8" Depth: 2 1/4" Mtg. Cen.: 2" x 1 3/4" Studs: 4 8-32 Knockout: 1 1/2" x 1 3/8"</p>	<p><b>DC-5A CASE</b></p> <p>Height: 3 7/8" Width: 4 1/8" Depth: 3 1/2" Mtg. Cen.: 3 1/8" x 2 5/8" Studs: 4 10-32 Knockout: 2 1/2" x 2"</p>
<p><b>DC-2B CASE</b></p> <p>Height: 3 1/2" Width: 2 3/4" Depth: 2 1/4" Mtg. Cen.: 2" x 1 3/4" Studs: 4 8-32 Knockout: 1 1/2" x 1 3/8"</p>	<p><b>DC-6A CASE</b></p> <p>Height: 4 7/8" Width: 5" Depth: 4 1/8" Mtg. Cen.: 3 3/8" x 3" Studs: 4 10-32 Knockout: 3" x 2 1/2"</p>

#### CASE DIMENSIONS



<p><b>DM-01 CASE</b></p> <p>Height: 2" Width: 1 1/2" Depth: 1 1/2" Mtg. Cen.: 1 1/2" x 1 1/16" Studs: 4 6-32</p>	<p><b>DC CASE STYLE</b></p> <p><b>DC-2B</b></p> <p>Height: 3 1/2" Width: 2 5/8" Depth: 2 1/4" Mtg. Cen.: 2" x 1 3/4" Studs: 4 8-32</p>
<p><b>DC-1A</b></p> <p>Height: 2 1/2" Width: 2 1/8" Depth: 1 3/8" Mtg. Cen.: 1 1/2" x 1 1/4" Studs: 4 8-32</p>	<p><b>DC-4A</b></p> <p>Height: 3 3/4" Width: 3 3/8" Depth: 3" Mtg. Cen.: 2 1/2" x 2 1/2" Studs: 4 8-32</p>
<p><b>DC-2A</b></p> <p>Height: 3" Width: 2 5/8" Depth: 2 1/4" Mtg. Cen.: 2" x 1 3/4" Studs: 4 8-32</p>	<p><b>DC-5A CASE</b></p> <p>Height: 3 7/8" Width: 4 1/8" Depth: 3 1/2" Mtg. Cen.: 3 1/8" x 2 5/8" Studs: 4 10-32</p>
<p><b>DC-5B</b></p> <p>Height: 4 1/2" Width: 4 1/8" Depth: 3 1/2" Mtg. Cen.: 3 1/8" x 2 5/8" Studs: 4 10-32</p>	

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level Watts		Ratio	Max. Pri. D.C. Per Side Ma	DC Unbalance Ma	Case Number
		Primary	Secondary	DBM	Watts				
PGA 14	P.P. 6K6, 6AR5, 7B5 Class A to Universal voice coil.	12,000 C.T.	U16	+40	10	27.4:1	40	4	DC-2B
PGA 15	P.P. 6F6 Cl. AB <sub>2</sub> , P.P. 6V6, 6A05, 7C5, Cl. AB <sub>1</sub> , 6L6 or 5881 Triode to Universal voice coil.	10,000 C.T.	U16	+43	20	25:1	50	5	DC-4A
PGA 16	P.P. 6L6 Cl. AB <sub>2</sub> , self bias to Universal 500 ohm line.	9,000	U500	+44.8	30	4.23:1	50	5	DC-4A
PGA 17	As above to Universal voice coil.	9,000	U16	+44.8	30	23.7:1	50	5	DC-4A
PGA 18	P.P. 6N7 Cl. B, P.P. 6V6, 6A05, 7C5, Cl. AB <sub>1</sub> to Universal voice coil.	8,000 C.T.	U16	+41.8	15	22.3:1	45	5	DC-4A
PGA 19*	P.P. 6L6, fixed bias, Cl. AB <sub>1</sub> , to Universal 500 ohm line.	6,600 C.T.	U500	+44.8	30	3.63:1	70	7	DC-4A
PGA 20	As above to Universal voice coil.	6,600 C.T.	U16	+44.8	30	20.3:1	70	7	DC-4A
PGA 21	P.P. 6L6 Cl. A, P.P. 2A3, 6A5G, 6B4 self bias P.P. Par. 6V6 Cl. AB <sub>1</sub> to Universal voice coil.	5,000 C.T.	U16	+43	20	17.7:1	80	8	DC-4A
PGA 22	P.P. Par 6L6 Cl. AB <sub>1</sub> , self bias P. P. 6L6 Cl. AB <sub>2</sub> fixed bias PP807 Cl. AB <sub>2</sub> to Universal 500 ohm line.	4,000 C.T.	U500	+47	50	2.83:1	100	10	DC-5A
PGA 23	As above to Universal voice coil.	4,000 C.T.	U16	+47	50	15.8:1	100	10	DC-5A
PGA 24	P.P. 6A5G, 6B4, 2A3, fixed bias Universal voice coil.	3,000 C.T.	U16	+41.8	15	13.7:1	75	7.5	DC-4A
PGA 25	P.P. Par. 807 Cl. AB <sub>2</sub> to Universal 500 ohm line.	2,100 C.T.	U500	+51.8	150	2.05:1	240	12	DC-6A
PGA 26	P.P. Par 2A3, 6A5G, fixed bias 6B4, 300A Cl. AB <sub>1</sub> , P.P. Par 6L6 Cl. A to Universal 500 ohm line.	1,500 C.T.	U500	+44.8	30	1.73:1	180	15	DC-4A
PGA 27	As above to Universal voice coil.	1,500 C.T.	U16	+44.8	30	9.7:1	150	15	DC-4A
PGA 28	Matching line to Universal voice coil.	U500	U16	+44.8	30	5.6:1	0	0	DC-4A
PGA 29	Matching line to Universal voice coil.	U500	U16	-47	50	5.6:1	0	0	DC-5A
PGA 30	Matching line to Universal voice coil.	U500	U16	+50	100	5.6:1	0	0	DC-6A

\*Available with taps to apply screen feedback.

#### U-16 IMPEADANCES IN OHMS:

2, 4, 8, 12, 16

#### U-500 IMPEADANCES IN OHMS:

50, 125, 200 C.T., 250, 330, 500 C.T., 125 and 500 ohms can be used for 150 and 600 ohms.

\*PGA 28, 29 & 30 supplied with terminals, all other units with leads.

A 70 volts level can be obtained for the following impedances:

- 500 ohms — 10 watts +40 DBM
- 330 ohms — 15 watts +42 DBM
- 250 ohms — 20 watts +43 DBM
- 200 ohms — 25 watts +44 DBM
- 125 ohms — 40 watts +46 DBM
- 50 ohms — 100 watts +50 DBM

#### FILTER REACTORS

Inductance measured at 50V, 60 cycles with rated direct current in the winding

Catalog No.	Inductance in Henries	Rated Current D.C. Ma.	D.C. Resistance Ohms	Dielectric Test Voltage VRMS	Case Number
PGC 1	40	15	2000	1000	DM-01
PGC 2	12	40	400	1000	DC-1A
PGC 3	8	50	300	1000	DC-1A
PGC 4	20	50	425	2500	DC-2A
PGC 5	10	70	250	2500	DC-2A
PGC 6	6	100	160	2500	DC-2A
PGC 7	6	130	115	2500	DC-2B
PGC 8	10	150	160	2500	DC-4A
PGC 9	5.5	200	95	2500	DC-4A
PGC 10	10	200	150	2500	DC-4A
PGC 11	10	250	135	2500	DC-5B
PGC 12	8	300	95	2500	DC-5B
PGC 13	7	400	60	2500	DC-5B
		<b>PARALLEL FEED</b>	<b>AUDIO CHOKES</b>		
PGC 14	100	10	3500	1000	DM-01
PGC 15	30	50	650	1500	DC-2A
PGC 16	400	1	6000	1000	DM-01

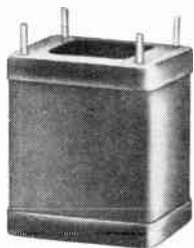
#### SWINGING INPUT REACTORS

Catalog No.	Inductance in Henries*	Rated Current D.C. Ma.	D.C. Resistance Ohms	Dielectric Test Voltage VRMS	Case Number
PGC 17	5-20	150	160	1500	DC-4A
PGC 18	5-20	250	135	1500	DC-5B
PGC 19	3-15	300	95	1500	DC-5B
PGC 20	3-15	400	60	1500	DC-5B

\*Inductance values for 100% and 10% of rated Direct Current.

# FREED TRANSFORMER CO., INC.

## PROFESSIONAL GRADE COMPONENTS



### POWER TRANSFORMERS

ALL PRIMARIES ARE FOR 115V., 50/60 c.p.s.

Temperature rises range from 45° to 50°C.

<b>DC-2B</b> Height: 3 1/2" Width: 2 5/8" Depth: 2 1/4" Mtg. Cen.: 2 1/2" x 1 3/4" Studs: 4 8-32	<b>DC-5B</b> Height: 4 1/2" Width: 4 1/2" Depth: 3 1/2" Mtg. Cen.: 3 1/8" x 2 5/8" Studs: 4 10-32
<b>DC-4A</b> Height: 3 3/8" Width: 3 1/8" Depth: 3" Mtg. Cen.: 2 1/2" x 2 1/2" Studs: 4 8-32	<b>DC-6A CASE</b> Height: 4 7/8" Width: 5" Depth: 4 1/8" Mtg. Cen.: 3 3/4" x 3" Studs: 4 10-32
<b>DC-5A CASE</b> Height: 3 7/8" Width: 4 1/8" Depth: 3 1/2" Mtg. Cen.: 3 1/8" x 2 5/8" Studs: 4 10-32	<b>DC-7B CASE</b> Height: 6 3/4" Width: 5 1/2" Depth: 5" Mtg. Cen.: 4 3/8" x 3 3/4" Studs: 4 1/2-20

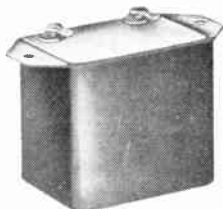
Catalog No.	Py Va	Hi Volt	Choke Input D.C.V. D.C. Ma	Con. Input D.C.V. D.C. Ma.	Bias Tap.	Rectifier	Fil. No. 1	Fil. No. 2	Fil. No. 3	Case No.
PGP 1	15	440V C.T.	Low flux density, hum-bucking. For Pre-amplifier service.	270 15		6X4	6.3VCT @ 0.6A	6.3V @ 0.3A		DC-2B
PGP 2	30	550V C.T.	Low flux density, hum-bucking. For Pre-amplifier service.	310 35		6X4	6.3VCT @ 0.6A	6.3VCT @ 0.9A		DC-4A
PGP 3	45	500V C.T.		270 40		6X4, 5Y3	5 6.3V @ 2A	6.3V @ 2A		DC-4A
PGP 4	57	600V C.T.		330 50		6X4, 5Y3	5 6.3V @ 2A	6.3V @ 2.5A		DC-4A
PGP 5	64	650V C.T.		370 50		6X4, 5Y3	5 6.3V @ 2A	6.3V @ 3A		DC-4A
PGP 6	73	600V C.T.		320 70		6X4, 5Y3	5 5.3V @ 2A	6.3V @ 3A		DC-4A
PGP 7	110	650V C.T.	225 140	330 100		5Y3, 5U4	5V @ 3A	6.3V @ 5A		DC-5B
PGP 8	76	700V C.T.	260 100	385 70		5Y3	5V @ 2A	6.3V @ 2.5A		DC-5A
PGP 9	108	700V C.T.	250 125	370 90		5Y3, 5U4	5V @ 3A	6.3V @ 5A		DC-5B
PGP 10	127	700V C.T.	260 170	350 120		5U4	5V @ 3A	6.3V @ 5A		DC-5B
PGP 11	146	700V C.T.	260 210	350 150		5U4	5V @ 3A	6.3V @ 5A	6.3V @ 1A	DC-6A
PGP 12	207	800V C.T.	295, 280	400 200		5U4, 2-5Y3	5V @ 4A	6.3V @ 6A		DC-6A
PGP 13	225	800V C.T.	295 280	400 200	80	5U4, 2-5Y3	5V @ 4A	6.3V @ 6A	5 6.3V @ 2A	DC-6A
PGP 14	268	840V C.T.	330 350	450 250	80	2-5U4	5V @ 6A	6.3V @ 6A	5 6.3V @ 2A	DC-6A
PGP 15	320	900V C.T.	340 420	490 300	80	2-5U4	5V @ 6A	6.3V @ 6A	5 6.3V @ 2A	DC-7B
PGP 16	127	900V C.T.	360 150			5U4	5V @ 3A	6.3V @ 5A		DC-6A
PGP 17	150	900V C.T.	350 200			5U4	5V @ 3A	6.3V @ 5A		DC-6A
PGP 18	203	1100V C.T.	400 250			5R4GY	5V @ 3A	6.3V @ 5A		DC-6A
PGP 19	248	1100V C.T.	420 300			2-5R4GY	5V @ 4A	6.3V @ 7A		DC-6A
PGP 20	310	1280V C.T.	480 350			2-5R4GY	5V @ 4A	6.3V @ 7A		DC-7B

All units supplied with leads.

## PQC HIGH Q REACTORS

PQC-Reactors are low-priced High Q components designed for use in selective circuits such as wave filters, wave traps, and noise suppressors.

### CASE DIMENSIONS



#### DM-02 CASE

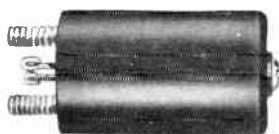
Height: 1 21/32"  
 Width: 1 21/32"  
 Depth: 1 13/32"  
 Flange L: 2 3/8"  
 Mtg. Cen.: 2"

Catalog No.	Application	Rated Ind. in Henries	Q	Tuning Capacitor (MF)	Case Size
PQC 1	60 cps resonant trap	14.00	10	.5	DM-02
PQC 2	400 cps resonant trap	1.58	15	.1	DM-02
PQC 3	1000 cps resonant trap	1.00	20	.025	DM-02
PQC 4	Dynamic noise suppression inductor	2.40	20 @ 4 KC		DM-02
PQC 5	Dynamic noise suppression inductor	2.00	15 @ 4 KC		DM-02
PQC 6	Dynamic noise suppression inductor	1.30	15 @ 4 KC		DM-02
PQC 7	Dynamic noise suppression inductor	.80	15 @ 4 KC		DM-02
PQC 8	Dynamic noise suppression inductor	.60	15 @ 4 KC		DM-02
PQC 9	Dynamic noise suppression inductor	.40	15 @ 4 KC		DM-02

## MINIATURE VARIABLE HIGH FREQUENCY INDUCTORS

- Continuous variation of inductance
- Q practically constant over whole range of variation
- Hermetically sealed
- Inductances other than those listed can be supplied to special order

### CASE DIMENSIONS



#### VI-1

Height: 1"  
 Diameter: 3/4"  
 2 Studs: 4-40  
 Mtg. Cen.: 3/8"

Catalog No.	Test Freq. (MC)	Inductance		Variations of Q		RDC (!) Nominal	Self Res. Freq. (MC) @ 1 Max.	Max. Non Destruct Current (MA)	Case Size
		Min.	Max.	@ L Min.	@ L Max.				
VHI-1	.1	1.1 MH	1.75 MH	93.5	100.5	.75	2.2	250	VI-1
VHI-2	.1	1.7 MH	2.5 MH	94.5	96.5	1.1	1.9	200	VI-1
VHI-3	.1	2.3 MH	3.7 MH	94.5	97.2	1.4	1.6	200	VI-1
VHI-4	.1	3. MH	4.5 MH	100.7	101.7	1.9	1.4	160	VI-1
VHI-5	.1	4. MH	5.7 MH	107.	108.	2.2	1.3	160	VI-1
VHI-6	.1	5.5 MH	7.5 MH	112.	119.	3.1	1.	130	VI-1
VHI-7	.1	7. MH	10.5 MH	116.	120.5	4.5	.9	100	VI-1
VHI-8	.1	10. MH	15. MH	106.	109.	6.6	.85	80	VI-1
VHI-9	.1	14.5 MH	20.5 MH	101.	101.5	9.2	.6	60	VI-1
VHI-10	.1	20. MH	30. MH	105.	115.	13.7	.55	50	VI-1
VHI-11	1.	9.50 μH	11.0 μH	104.	114.	.24	>10	150	VI-1
VHI-12	1.	14.0 μH	15.6 μH	113.	127.	.29	>10	150	VI-1
VHI-13	1.	24.5 μH	28.0 μH	145.	156.	.37	>10	150	VI-1
VHI-14	1.	47.0 μH	52.0 μH	178.	195.	.46	-10	150	VI-1
VHI-15	.5	71.0 μH	79.5 μH	162.	168.	.56	-10	150	VI-1
VHI-16	.5	94.0 μH	105.0 μH	165.	173.	.64	-10	150	VI-1
VHI-17	.5	145.0 μH	165.0 μH	200.	222.	.75	9.7	150	VI-1
VHI-18	.5	191.0 μH	218.0 μH	204.	229.	.9	9.4	150	VI-1
VHI-19	.5	234.0 μH	265.0 μH	216.	238.	1.0	8.3	150	VI-1
VHI-20	.5	279.0 μH	318.0 μH	219.	236.	1.1	7.	150	VI-1
VHI-21	.5	380.0 μH	416.0 μH	216.	230.	1.3	6.5	150	VI-1
VHI-22	.5	480.0 μH	545.0 μH	220.	237.	1.5	7.	150	VI-1

# FREED TRANSFORMER CO., INC.

## HIGH "Q" REACTORS

QGC—are hermetically sealed, MIL-T-27A, Grade 4, Class R, High Q Reactors for low audio frequency application with an excellent inductance stability with variations of A.C. and D.C. currents, frequencies and temperatures.

### SPECIAL REACTORS:

- (1) with a center tap
- (2) with a split winding
- (3) with inductances other than those listed can be supplied.

**DC-2A CASE**  
 Height: 3"  
 Width: 2 3/4"  
 Depth: 2 1/4"  
 Mtg. Cen.: 2" x 1 3/4"  
 Studs: 4 B-32  
 Knockouts: 1 1/2" x 1 3/8"

**AJ CASE**  
 Height: 2 3/8"  
 Width: 1 5/8"  
 Depth: 1 5/8"  
 Mtg. Cen.: 1 3/16" x 1 3/16"  
 Studs: 4 6-32

**AH CASE**  
 Height: 1 3/4"  
 Width: 1 5/8"  
 Depth: 1 3/4"  
 Mtg. Cen.: 1 1/8"  
 Studs: 2 6-32

**DM-20 CASE**  
 Height: 1 9/16"  
 Diameter: 1 3/16"  
 Flange L: 1 1/8"  
 Flange D: 0.975"  
 Mtg. Cen.: 1 1/8" x 1 7/32"  
 2 Slots: .166" x .120"  
 Knockouts: .875"

**DM-30 CASE**  
 Height: 2 3/32"  
 Diameter: 1 5/32"  
 Flange L: 1 1/16"  
 Flange D: 0.975"  
 Mtg. Cen.: 1 1/8" to 1 7/32"  
 2 Slots: .166" x .120"  
 Knockouts: .875"

**DM-40 CASE**  
 Height: 2 3/32"  
 Diameter: 1 5/16"  
 Pig Tails:

Catalog No.	Ind. H (+2%)	Q/H Max.	Max. Norm DC*	Max. Norm AC**	Self Res. Freq. =25%	Case	"Q" Max.	@ Freq.
QGC-1	100						40	250
QGC-2	75						48	280
QGC-3	50	20	85	0.58	F <sub>0</sub> = 22/√LH	DC-2A	51	300
QGC-4	25						53	320
QGC-5	10						58	350
QGC-6	5						59	400
QGC-7	1						60	400
QGC-8	75						32	600
QGC-9	50						37	700
QGC-10	25	55	60	0.5	F <sub>0</sub> = 7.2/√LH	AJ	39	700
QGC-11	10						43	700
QGC-12	5						46	700
QGC-13	1						53	800
QGC-14	50						29.5	500
QGC-15	25						31.5	500
QGC-16	10	70	40	0.25	F <sub>0</sub> = 35/√LH	AH	32	600
QGC-17	5						33	600
QGC-18	1						36	700
QGC-19	10						23	700
QGC-20	7.5	110	15	0.15	F <sub>0</sub> = 34/√LH	DM-20	23	730
QGC-21	5						24	730
QGC-22	2.5						24	750
QGC-23	1						25	750
QGC-24	.5						25	750
QGC-25	5						23	1500
QGC-26	2.5						23	1550
QGC-27	1						24	1600
QGC-28	.75	250	13	0.11	F <sub>0</sub> = 35/√LH	DM-30	24	1650
QGC-29	.5						24	1700
QGC-30	.2						25	1750
QGC-31	.1						25	1800
QGC-32	2						15	1500
QGC-33	1.5						15	1500
QGC-34	1						15	1800
QGC-35	.75						15	1800
QGC-36	.5						16	2000
QGC-37	.25	500	10	0.04	F <sub>0</sub> = 45/√LH	DM-40	16	2000
QGC-38	.1						17	2200
QGC-39	.075						17	2200
QGC-40	.05						17	2200
QGC-41	.025						17	2500
QGC-42	.01						17	2500

\*Max. Norm. D.C. = I D.C. (MA) √LH } at which the inductance  
 \*\*Max. Norm. A.C. = V F ~ √LH } will decrease by 20%.

## STANDARD MILITARY TRANSFORMERS

The group comprises audio and power units designed to meet MIL-T-27 A specifications.

The functional characteristics of these transformers were established by the Armed Service Standardization Program. These units are supplied in standard MIL cases.

### CASE DIMENSIONS

**AJ CASE**  
 Height: 2 3/8"  
 Width: 1 5/8"  
 Depth: 1 5/8"  
 Mtg. Cen.: 1 3/16" x 1 3/16"  
 Studs: 4 6-32  
 Cut Out: 1 1/8" D

**HA CASE**  
 Height: 4 1/4"  
 Width: 3 1/8"  
 Depth: 2 5/8"  
 Mtg. Cen.: 2 5/64" x 1 55/64"  
 Studs: 4 8-32

**LB CASE**  
 Height: 4 1/2"  
 Width: 4 5/8"  
 Depth: 3 1/16"  
 Mtg. Cen.: 3 3/16" x 2 1/16"  
 Studs: 4 10-32

**JB CASE**  
 Height: 3 7/8"  
 Width: 3 9/16"  
 Depth: 3 1/16"  
 Mtg. Cen.: 2 5/8" x 2 1/8"  
 Studs: 4 8-32

**MB CASE**  
 Height: 4 1/2"  
 Width: 4 1/16"  
 Depth: 4"  
 Mtg. Cen.: 3 1/16" x 3"  
 Studs: 4 1/4-20

**KB CASE**  
 Height: 4 5/16"  
 Width: 3 1/16"  
 Depth: 3 3/8"  
 Mtg. Cen.: 3" x 2 1/16"  
 Studs: 4 10-32

**NB CASE**  
 Height: 5 1/2"  
 Width: 5 1/16"  
 Depth: 4 1/8"  
 Mtg. Cen.: 4 1/16" x 3 5/16"  
 Studs: 4 1/4-20

Transformers meeting MIL-T-27A specifications Grade 1 through 6 with temperature characteristics of Class S, T, or U can be supplied on special order.

Encapsulated units using either Epoxy-Resins or Fosterite can be supplied for Grade 2 and 5. Class U components can be supplied molded in special high temperature Freed resin.

### STANDARD MILITARY AUDIO TRANSFORMERS

Frequency Response 300-10,000 C.P.S. ±2 DB

Catalog No.	Application	Type Designation	Impedance Level in Ohms		Ratio	Max. Power Level DBM	Pri. D.C. Per Side in Ma	Max. D.C. unbal-ance	Case
			Primary	Secondary					
MGA 1	Transformer; interstage, single or P.P. plates to single or P.P. grid	TF4RX15AJ	10,000	90,000 split and C.T.	1:3 overall	+15	10	10	AJ
MGA 2	Transformer; matching 600 ohm line to voice coil.	TF4RX16AJ	600	4, 8, 16	6.12:1 overall	+33	0	0	AJ
MGA 3	Transformer; input, 600 ohm line to single or P.P. grids.	TF4RX10AJ	600	135,000 C.T.	1:15	-15	0	0	AJ
MGA 4	Transformer; matching, 600 ohm line to 600 ohm line.	TF4RX16AJ	600	600 split	1:1	-15	0	0	AJ
MGA 5	Transformer; output, single plate 7,600 ohm, 4,800 ohm to 600 ohm line.	TF4RX13AJ	7,600 tap @ 4,800	600 split	3.56:1	-33	40	40	AJ
MGA 6	Transformer; output, single plate 7,600 ohm, 4,800 ohm to voice coil.	TF4RX13AJ	7,600 tap @ 4,800	4, 8, 16	21.8:1	-33	40	40	AJ
MGA 7	Transformer; output, single or P.P. plates to 600 ohm line.	TF4RX13AJ	15,000 C.T.	600 split	5:1	-33	10	10	AJ
MGA 8	Transformer; output, P.P. plates to 600 ohm line.	TF4RX13AJ	24,000 C.T.	600 split	6.32:1	-30	10	1	AJ
MGA 9	Transformer; output, P.P. plates to 600 ohm line.	TF4RX13AJ	60,000 C.T.	600 split	10:1	-27	10	1	AJ

### STANDARD MILITARY POWER TRANSFORMERS

Primary 105/115/125V 60~

SINGLE PHASE 40D CPS, AND THREE PHASE 60 ANO 400 CPS TRANSFORMERS CAN BE SUPPLIED ON SPECIAL ORDER.

Catalog No.	MIL-T-27 Type Designation	Hi Volt	D.C. Volts	D.C. Amps	Fil. No. 1	Fil. No. 2	Case
MGP 1	TF4RX03HA001	200 100 0 100 200	185	.070	5 6.3V @ 2A	6.3V @ 3A	AJ
MGP 2	TF4RX03JB002		260	.070	5 6.3V @ 2A	6.3V @ 4A	HB
MGP 3	TF4RX03KB003	650 C.T.	245	.150	6.3V @ 5A	5V @ 3A	KB
MGP 4	TF4RX03LB004	800 C.T.	318	.175	5V @ 3A	6.3V @ 8A	LB
MGP 5	TF4RX03MB004	900 C.T.	345	.250	5V @ 3A		MB
MGP 6	TF4RX02KB001	700 C.T.	255	.250			KB
MGP 7	TF4RX02LB002	1100 C.T.	419	.250			LB
MGP 8	TF4RX02NB003	1600 C.T.	640	.250			NB

# FREED TRANSFORMER COMPANY, INC.

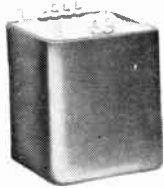
# FREED TRANSFORMER CO., INC.

## STANDARD MILITARY TRANSFORMERS

### STANDARD MILITARY FILAMENT TRANSFORMERS

Primary 105/115/125V 60~

SINGLE PHASE 400 CPS, AND THREE PHASE 60 AND 400 CPS TRANSFORMERS CAN BE SUPPLIED ON SPECIAL ORDER.



**EB CASE**

Height: 2 3/8"  
Width: 1 1/8"  
Depth: 1 1/8"  
Mtg. Cen.: 1 3/8" x 1 1/4"  
Studs: 4 6-32

**FB CASE**

Height: 2 1/2"  
Width: 2 5/8"  
Depth: 2 1/8"  
Mtg. Cen.: 1 1/8" x 1 1/8"  
Studs: 4 6-32

**GB CASE**

Height: 2 13/16"  
Width: 2 3/8"  
Depth: 2 3/8"  
Mtg. Cen.: 2 1/8" x 1 3/4"  
Studs: 4 6-32

**HB CASE**

Height: 3 3/8"  
Width: 3 3/8"  
Depth: 2 5/8"  
Mtg. Cen.: 2 19/64" x 1 55/64"  
Studs: 4 8-32

Catalog No.	MIL-T-27 Type Designation	Secondary Volts	Secondary Current Amps	Secondary Test Volts RMS	Case
MGF 1	TF4RX01EB002	2.5	3.0	2,500	EB
MGF 2	TF4RX01GB003	2.5	10.0	2,500	GB
MGF 3	TF4RX01FB004	5.0	3.0	2,500	FB
MGF 4	TF4RX01HB005	5.0	10.0	2,500	HB
MGF 5	TF4RX01FB006	6.3	2.0	2,500	FB
MGF 6	TF4RX01GB007	6.3	5.0	2,500	GB
MGF 7	TF4RX01JB008	6.3	10.0	2,500	JB
MGF 8	TF4RX01KB009	6.3	20.0	10,000	KB
MGF 9	TF4RX01JB012	2.5	10.0	10,000	JB
MGF 10	TF4RX01KB013	5.0	10.0	10,000	KB

\*Standard Military Filament and Power Transformers are also available in Grade 4.

## HERMETICALLY SEALED PULSE TRANSFORMERS

Hermetically sealed Pulse Transformers for use in blocking oscillator, low level interstage coupling, and modulator output circuits. These components meet MIL-T-27 A specifications. The pulse transformers are designed for maximum power, efficiency, and optimum pulse performance. Balanced coil structures permit series or parallel connection of windings for turn ratios other than unity. Pulse characteristics, voltages and impedance levels will depend upon the interconnections made.

### PULSE TRANSFORMERS

Catalog No.	MIL Type	Blocking Osc.	Inter-Stage Coupling	Low Power Output	Pulse Voltage Kilovolts	Pulse Duration Micro-seconds	Duty Gate	No. of Windings	Test Voltage KV. RMS	Characteristic Impedance Ohms	Case No.
MPT-1	TF4RX35YY	✓	✓	✓	0.25/0.25 0.25	0.2-1.0	.004	3	0.7	250	DM-20
MPT-2	TF4RX35YY	✓	✓	✓	0.25 0.25	0.2-1.0	.004	2	0.7	250	OM-20
MPT-3	TF4RX35YY	✓	✓	✓	0.5 0.5 0.5	0.2-1.5	.002	3	1.0	250	DM-18
MPT-4	TF4RX35YY	✓	✓	✓	0.5 0.5	0.2-1.5	.002	2	1.0	250	DM-18
MPT-5	TF4RX35YY	✓	✓	✓	0.5 0.5 0.5	0.5-2.0	.002	3	1.0	500	DM-20
MPT-6	TF4RX35YY	✓	✓	✓	0.5/0.5	0.5-2.0	.002	2	1.0	500	DM-20
MPT-7	TF4RX35YY	✓	✓	✓	0.7 0.7 0.7	0.5-1.5	.002	3	1.5	200	DM-18
MPT-8	TF4RX35YY	✓	✓	✓	0.7/0.7	0.5-1.5	.002	2	1.5	200	DM-18
MPT-9	TF4RX35YY	✓	✓	✓	1.0/1.0 1.0	0.7-3.5	.002	3	2.0	200	DM-18
MPT-10	TF4RX35YY	✓	✓	✓	1.0 1.0	0.7-3.5	.002	2	2.0	200	DM-18
MPT-11	TF4RX35YY	✓	✓	✓	1.0 1.0 1.0	1.0-5.0	.002	3	2.0	500	DM-01
MPT-12	TF4RX35YY	✓	✓	✓	0.15/0.15/0.3 0.3	0.2-1.0	.004	4	0.7	700	DM-8

### CASE DIMENSIONS

**DM-8 CASE**

Height: 1 1/2"  
Width: 1 3/32"  
Flange D.: 1 1/4"

**MM-1**

Length: 3/4"  
Diameter: 1/2"

**MM-2**

Length: 23/32"  
Width: 23/32"  
Height: 1/2"

**DM-01 CASE**

Height: 2"  
Width: 1 1/2"  
Depth: 1 1/2"  
Mtg. Cen.: 1 1/8" x 1 1/8"  
Studs: 4 6-32  
Knockout: 1 1/4" dia.

**MM-3**

Length: 1 1/4"  
Width: 1 1/4"  
Height: 1 1/2"  
Mtg. Cen.: 1 1/2"  
Mtg. Flange: 1 1/8"

**MM-4**

Length: 1 13/16"  
Depth: 1 1/4"  
Height: 1 1/2"  
Mtg. Cen.: 2 1/8"  
Mtg. Flange: 2 1/2"

**DM-20 CASE**

Height: 1 9/16"  
Diameter: 1 1/8"  
Flange L: 1 13/32"  
Flange D: 0.975"  
Mtg. Cen.: 1 1/8" x 1 1/32"  
2 Holes: .147 wide  
Knockout: .875

**MOLDED DIMENSIONS**

**MMO-1**

Diameter: 1 1/8"  
Thickness: 29/64"

**MMO-2**

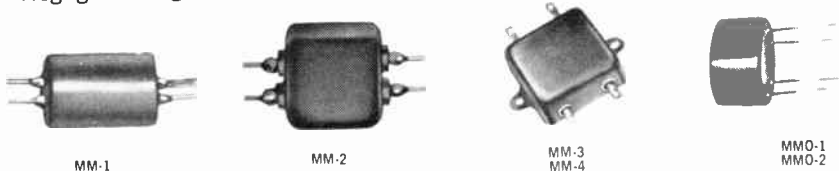
Diameter: 1 3/8"  
Thickness: 19/32"

**DM-18 CASE**

Height: 1"  
Width: 2 1/4"  
Depth: 1 1/8"  
Mtg. Cen.: 1 1/8"  
Studs: 2 6-32

## ULTRA MINIATURE PULSE TRANSFORMERS

- Meet all requirements of MIL-T-27 A.
- Exceedingly small size.
- Negligible weight.
- Encapsulated or hermetically sealed.



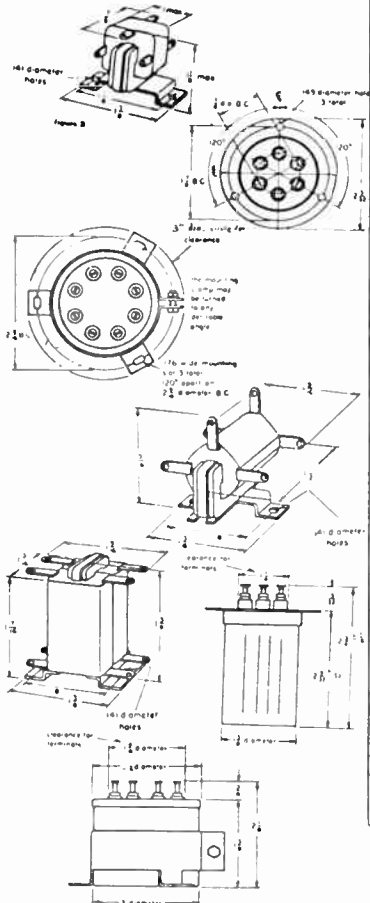
Catalog No.	MIL Type	Application	Pulse Volts	Pulse Width usec	Rise time usec	Inductance		PPS. Mcs	Turns Ratio	Zo ohms	Case Des.
						Prin. uhy	Leakage uhy				
EPT-1	TF4RX31YY	Impedance matching & interstage coupling	20	.07	.03	125	12	2	1:1	200	MM-1
EPT-2	TF4RX31YY		20	.07	.03	150	15	2	2:1	200	MM-1
EPT-3	TF4RX31YY		20	.07	.03	160	15	2	3:1	100	MM-1
EPT-4	TF4RX31YY		20	.07	.03	200	20	2	4:1	100	MM-1
EPT-5	TF4RX31YY		17	.10	.04	200	6	2	4:1	100	MM-1
EPT-6	TF4RX31YY		15	.10	.04	200	5	2	5:1	100	MM-1
EPT-7	TF4RX31YY		25	.50	.05	1,200	20	1	7:1	100	MM-1
EPT-8	TF4RX31YY		10	10	.04	12,000	70	.01	5:1	100	MM-2
EPT-9	TF4RX31YY		10	5	.04	7,500	20	.01	3:1	100	MM-2
EPT-10	TF4RX31YY		100	.25	.02	200	2	.012	1:1	100	MM-1
EPT-11	TF4RX35YY	Blocking oscillator	50	.33	.07	240	2	.002	1:1	100	MM-1
EPT-12	TF4RX35YY		40	.5	.07	6,000	15		2:1	100	MM-2
EPT-13	TF4RX35YY		15	6	.1	16,000	15	.0004	1:1.4	10	MM-2
EPT-14	TF4RX35YY		5	1.5	.25	4,000	300		5 5 1PP	10	MM-4
EPT-15	TF4RX36YY		2.5	2.4	.2	2,800	200		3.3:3.3:1PP	6	MM-4
EPT-16	TF4RX36YY		21	1.4	.22	18,000	800	.250	6:1	200	MM-3
EPT-17	TF4RX32YY		10	6	.2	90,000	200	.05	11:1	75	MM-3
EPT-18	TF4RX32YY		22	1.7	.25	55,000	300	.05	6:1.1	400	MM-3
EPT-19	TF4RX36YY										

When ordering encapsulated units add "M" to the catalog number.

# FREED TRANSFORMER COMPANY, INC.

# FREED TRANSFORMER CO., INC.

## PULSE TRANSFORMERS



Freed No.	Radiation Laboratory No.	Westinghouse No.	Dimension Figure	GUIDANCE VALUES				Test Voltage (60 Cycle RMS)
				Pulse Voltage (KV)	Pulse Duration (Microseconds)	Maximum Duty Ratio	Load Impedance (Ohms)	
<b>BLOCKING OSCILLATOR, REGENERATIVE DRIVER OR COUPLING TRANSFORMERS</b>								
MPT-13C	132AW2	1P1	1	1.0/1.0/1.0	0.3 to 1.5	0.002	250	1000
MPT-13M	132AW2F	7P1	1					
MPT-13H	132AW2P	4P101	4					
MPT-14C	132BW2	1P2	1	0.5'0.5'0.5/0.15	0.3 to 1.5	0.002	200	1000
MPT-14M	132BW2F	7P2	1					
MPT-14H	132BW2P	4P102	5					
MPT-15C	132DW2	1P3	1	0.5/0.5/0.5	0.1 to 0.5	0.002	300	1000
MPT-15M	132DW2F	7P3	1					
MPT-15H	132DW2P	4P103	4					
MPT-16C	134BW2	1P4	3	2.5/2.5; 2.5/1.25	1 to 2.5	0.002	1500	1500
MPT-16M	134BW2F	7P4	3					
MPT-16H	134BW2P	4P104	5					
MPT-17C	134CW2	1P5	1	2.0/2.0/1.0	1 to 2.5	0.002	1200	1000
MPT-17M	134CW2F	7P5	1					
MPT-17H	134CW2P	4P105	4					
MPT-18C	134EW2	1P6	2	2.0/2.0/1.0	0.3 to 1	0.002	800	750
MPT-18M	134EW2F	7P6	2					
MPT-18H	134EW2P	4P106	4					
MPT-19C	145CW2	1P7	1	0.5/0.5/0.5	1.0 to 5	0.002	500	1000
MPT-19M	145CW2F	7P7	1					
MPT-19H	145CW2P	4P107	4					
MPT-20C	145EW2	1P8	1	1.0/1.0/1.0	1.0 to 5	0.002	800	1000
MPT-20M	145EW2F	7P8	1					
MPT-20H	145EW2P	4P108	4					
MPT-21C	166AW2	1P9	1	1.0/0.67/0.67	1.0 to 5	0.002	800	1000
MPT-21M	166AW2F	7P9	1					
MPT-21H	166AW2P	4P109	4					
MPT-22C	176AW2	1P10	1	2.0/1.0/1.0	1 to 2.5	0.002	1000	1000
MPT-22M	176AW2F	7P10	1					
MPT-22H	176AW2P	4P110	4					
MPT-23C	187AW2	1P11	1	1.0/0.5/0.5	0.5 to 2	0.002	400	1000
MPT-23M	187AW2F	7P11	1					
MPT-23H	187AW2P	4P111	4					
MPT-24C	224AW2	1P12	2	1.0/1.0/1.0/0.3	0.1 to 0.5	0.002	1000	750
MPT-24M	224AW2F	7P12	2					
<b>PULSE TRIGGERING OR CURRENT TRANSFORMERS</b>								
MPT-25C	139DW2	1P13	1	0.25 to 5	0.002			1000
MPT-25M	139DW2F	7P13	1					
MPT-25H	139DW2P	4P113	4					
<b>PULSE OUTPUT TRANSFORMERS</b>								
MPT-26C	148CW2	1P14	3	0.2/2.0	0.6 to 3	0.002	1600	1500
MPT-26M	148CW2F	7P14	3					
MPT-26H	148CW2P	4P114	5					
MPT-27C	148DW2	1P15	3	0.29/2.0	0.5 to 2.5	0.002	1200	1500
MPT-27M	148DW2F	7P15	3					
MPT-27H	148DW2P	4P115	5					

C Indicates—varnish impregnated commercial construction.  
 M Indicates—encapsulated or molded construction to MIL-T-27A Grade 5 Class R.  
 H Indicates—hermetically sealed to MIL-T-27A Grade 4 Class R.

### MEET MIL-T-27A SPECIFICATIONS

## HERMETICALLY SEALED FILTER REACTORS



Case	Height	Depth	Width	Mtg. Centers	Studs
AJ	2 3/8	1 3/8	1 3/8	1 3/8 x 1 3/8	4 6-32
EB	2 1/8	1 1/8	1 1/8	1 3/8 x 1 3/8	4 6-32
FA	3 1/8	2 1/8	2 1/8	1 1/2 x 1 7/16	4 6-32
GA	3 13/16	2 3/8	2 3/8	2 1/2 x 1 3/4	4 6-32
HB	3 3/8	3 1/8	2 5/8	2 13/16 x 1 5/8	4 8-32
JA	3 1/8	3 1/8	4 7/8	2 5/8 x 2 3/8	4 8-32
JB	3 7/8	3 1/8	3 1/8	2 5/8 x 2 3/8	4 8-32
KB	4 1/8	3 3/8	3 1/8	3 x 2 3/8	4 10-32
LA	5 1/8	3 11/8	4 3/8	3 5/8 x 2 11/16	4 10-32
LB	4 1/2	3 11/8	4 3/8	3 5/8 x 2 11/16	4 10-32
MB	4 13/16	4	4 11/16	3 11/16 x 3	4 1 1/2-20



**MC-10 CASE**  
 Height: 1 5/8"  
 Width: 1 1/2"  
 Depth: 1 5/8"  
 Mtg. Cen.: 3/16" x 7/8"  
 Mtg.: 2 4-40 threaded inserts

Catalog No.	MIL Type	Inductance Henry	Rat. Current DC Ma.	DC Res. Ohms	Test Volt Kilovolts	Case No.
MGC 1	TF4RX04AJ	100	10	3,500	1.	AJ
MGC 2	TF4RX04AJ	4	50	230	1.	AJ
MGC 3	TF4RX04EB	10	50	325	1.	EB
MGC 4	TF4RX04FA	20	50	475	1.5	FA
MGC 5	TF4RX04FA	30	50	650	1.5	FA
MGC 6	TF4RX04AJ	3	75	175	1.	AJ
MGC 7	TF4RX04EB	6	75	235	1.5	EB
MGC 8	TF4RX04FA	12	75	265	1.5	FA
MGC 9	TF4RX04EB	3.5	100	145	1.	EB
MGC 10	TF4RX01FA	0	100	180	1.5	FA
MGC 11	TF4RX04GA	12	100	190	2.	GA
MGC 12	TF4RX04EB	2	150	92	1.5	EB
MGC 13	TF4RX04FA	4	150	115	1.5	FA
MGC 14	TF4RX04GA	8	150	125	2.	GA
MGC 15	TF4RX04JB	11	150	120	2.5	JB
MGC 16	TF4RX04FA	2.5	200	70	1.5	FA
MGC 17	TF4RX04GA	4	200	80	2.	GA
MGC 18	TF4RX04HB	7	200	135	2.	HB
MGC 19	TF4RX04JA	10	200	125	2.5	JA
MGC 20	TF4RX04GA	2.5	300	50	2.	GA
MGC 21*	TF4RX04HB	4	300	62	2.5	HB
MGC 22	TF4RX04JB	6	300	85	2.5	JB
MGC 23*	TF4RX04KB	8	300	65	2.5	KB
MGC 24	TF4RX04LA	10	300	100	2.5	LA
MGC 25*	TF4RX04HB	2	400	37	2.5	HB
MGC 26	TF4RX04KB	6	400	60	2.5	KB
MGC 27*	TF4RX04JA	2	500	35	2.5	JA
MGC 28	TF4RX04KB	4	500	45	2.5	KB
MGC 29*	TF4RX04MB	7	500	50	2.5	MB
MGC 30*	TF4RX04LB	2	700	20	2.5	LB
MGC 31*	TF4RX04MB	1.75	1,000	12.5	2.5	MB

\*Not stocked, available on short delivery.  
 Above units available in Grade 4.

# FREED TRANSFORMER CO., INC.

## LOW FREQUENCY TOROIDAL INDUCTORS

Freq. Range	TYPE	1 KC to 15 KC										Freq. Range	TYPE
		TI-33	TI-34	TI-16	TI-5	TI-4	TI-1	TI-1A	TI-12	TI-11	Temp. Stability		
Temp. Stability	SN	SN	SN	SN, SE SO	SN, SD, SW	SN	SN, SO SW	SN, SO SW	SN, SO SW	SN, SO SW	SN, SO SW	Temp. Stability	
Uncased Case Mold	DS13 DT6 MR11	DS14 DT6 MR11	OS1 OST1 MR1, MS1	OS3 OT1, DM2, MR3	OS5 DT2, DM11, MR4	OS8 DT3, DT5, MR6	OS9 DT4 MR7	OS9 DT4 MR8	OS9 DT4 MR8	OS11 DT4 MR10	Uncased Case Mold		
Nominal Inductance	Catalog Number										Nominal Inductance		
.25 MH	F2850	F2900										.25 MH	
.5 MH	F2851	F2901										.5 MH	
.75 MH	F2852	F2902										.75 MH	
1 MH	F2853	F2903										1 MH	
1.5 MH	F2854	F2904	F2050						F1500	F1655	F1747	1.5 MH	
2 MH	F2855	F2905							F1501	F1656	F1748	2 MH	
2.5 MH	F2856	F2906										2.5 MH	
3 MH	F2857	F2907	F2051						F1502	F1657	F1749	3 MH	
4 MH	F2858	F2908							F1503	F1658	F1750	4 MH	
5 MH	F2859	F2909	F2052	F1700	F850	F800			F1504	F1659	F1751	5 MH	
7.5 MH	F2860	F2910							F1505	F1660		7.5 MH	
10 MH	F2861	F2911	F2053	F1701	F851	F801			F1506	F1661	F1752	10 MH	
12.5 MH	F2862	F2912										12.5 MH	
15 MH	F2863	F2913	F2054	F1702	F852	F802			F1507	F1662	F1753	15 MH	
17.5 MH	F2864	F2914										17.5 MH	
20 MH	F2865	F2915										20 MH	
25 MH	F2866	F2916										25 MH	
30 MH	F2867	F2917	F2055	F1703	F853	F803			F1508	F1663	F1754	30 MH	
50 MH		F2918	F2056	F1704	F854	F804			F1509	F1664	F1755	50 MH	
75 MH		F2919	F2057	F1705	F855	F805			F1510	F1665	F1756	75 MH	
100 MH		F2920	F2058	F1706	F856	F806			F1511	F1666	F1757	100 MH	
150 MH			F2059	F1707	F857	F807			F1512	F1667	F1758	150 MH	
200 MH			F2060	F1708	F858	F808			F1513	F1668	F1759	200 MH	
300 MH			F2061	F1709	F859				F1514	F1669	F1760	300 MH	
400 MH			F2062	F1710	F860				F1515	F1670	F1761	400 MH	
500 MH			F2063	F1711	F861	F809			F1516	F1671	F1762	500 MH	
600 MH				F1712	F862				F1517	F1672		600 MH	
700 MH				F1713	F863							700 MH	
750 MH			F2064			F810			F1518	F1673	F1763	750 MH	
800 MH				F1714	F864							800 MH	
900 MH				F1715	F865							900 MH	
10 HY			F2065	F1716	F866	F811	F1519	F1674	F1764			10 HY	
1.25 HY			F2066	F1717	F867	F812						1.25 HY	
1.5 HY			F2067	F1718	F868	F813	F1520	F1675	F1765			1.5 HY	
1.75 HY			F2068	F1719	F869	F814						1.75 HY	
2 HY			F2069	F1720	F870	F815	F1521	F1676	F1766			2 HY	
2.25 HY						F816						2.25 HY	
2.5 HY						F817						2.5 HY	
2.75 HY						F818						2.75 HY	
3 HY						F819	F1522	F1677	F1767			3 HY	
3.5 HY						F820						3.5 HY	
4 HY						F821						4 HY	
4.5 HY						F822	F1523	F1678	F1768			4.5 HY	
5 HY						F823	F1524	F1679	F1769			5 HY	
6 HY						F824	F1525	F1680	F1770			6 HY	
7 HY						F825	F1526	F1681	F1771			7 HY	
7.5 HY						F826	F1527	F1682	F1772			7.5 HY	
8 HY						F827	F1528	F1683	F1773			8 HY	
9 HY						F828	F1529	F1684				9 HY	
10 HY						F829	F1530	F1685				10 HY	
12 HY							F1531	F1686	F1774			12 HY	
15 HY							F1532	F1687				15 HY	
17 HY							F1533	F1688				17 HY	
20 HY							F1534	F1689	F1775			20 HY	
25 HY							F1535	F1690				25 HY	
30 HY							F1536	F1691	F1776			30 HY	
40 HY							F1537	F1692	F1777			40 HY	
50 HY							F1538	F1693	F1778			50 HY	
									F1779			40 HY	
									F1780			50 HY	

## MEDIUM FREQUENCY TOROIDAL INDUCTORS

Freq. Range	TYPE	10 KC to 50 KC										Freq. Range	TYPE	
		TI-35	TI-36	TI-17	TI-7	TI-6	TI-2	TI-13	TI-18	TI-8	TI-10			TI-9
Temp. Stability	SN	SN	SN	SN	SN, SD SW	SD	SN	SN	SN, SO SW	SB	SN	Temp. Stability		
Uncased Case Mold	OS13 DT6 MR11	OS14 DT6 MR11	OS1 OST1 MR1, MS1	OS3 OT1, DM2 MR3	OS5 OT2, DM11 MR4	OS6 DT3, DT5 MR5	OS9 DT4 MR8	OS1 DST1 MR1, MS1	OS9 DT4 MR8	OS1 DST1 MR1, MS1	OS5 OT1, DM2 MR3	OS7 DT3, DT5 MR5	OS10 DT4 MR9	Uncased Case Mold
Nominal Inductance	Catalog Number										Nominal Inductance			
.1 MH			F2100						F2140	F1821				.1 MH
.2 MH			F2101						F2141	F1822				.2 MH
.25 MH	F2950	F3000												.25 MH
.3 MH			F2102						F2142	F1823				.3 MH
.4 MH			F2103						F2143	F1824				.4 MH
.5 MH	F2951	F3001	F2104	F1781					F2144	F1825				.5 MH
.75 MH	F2952	F3002												.75 MH
1 MH	F2953	F3003	F2105	F1782	F1726	F1800	F1629	F2145	F1826	F1579	F1554			1 MH
1.5 MH	F2954	F3004												1.5 MH
2 MH	F2955	F3005	F2106	F1783	F1727	F1801	F1630	F2146	F1827	F1580	F1555			2 MH
2.5 MH	F2956	F3006												2.5 MH
3 MH	F2957	F3007	F2107	F1784	F1728	F1802	F1631	F2147	F1828	F1581	F1556			3 MH
4 MH	F2958	F3008	F2108	F1785	F1729	F1803	F1632	F2148	F1829	F1582	F1557			4 MH
5 MH	F2959	F3009	F2109	F1786	F1730	F1804	F1633	F2149	F1830	F1583	F1558			5 MH
7.5 MH	F2960	F3010	F2110	F1787	F1731		F1634	F2150	F1831	F1584	F1559			7.5 MH
10 MH	F2961	F3011	F2111	F1788	F1732	F1805	F1635	F2151	F1832	F1585	F1560			10 MH
12.5 MH	F2962	F3012												12.5 MH
15 MH	F2963	F3013	F2112	F1789	F1733	F1806	F1636	F2152	F1833	F1586	F1561			15 MH
17.5 MH		F3014												17.5 MH
20 MH		F3015	F2113	F1790	F1734				F2153					20 MH
25 MH		F3016		F1791	F1735					F1834				25 MH
30 MH		F3017	F2114	F1792		F1807	F1637	F2154	F1835	F1587	F1562			30 MH
40 MH				F1793					F1836					40 MH
50 MH				F1794	F1736	F1808	F1638	F2155	F1837					50 MH
75 MH				F1795	F1737	F1809	F1639	F2156	F1838	F1588	F1563			75 MH
100 MH				F1796	F1738	F1810	F1640	F2157	F1839	F1589	F1564			100 MH
150 MH				F1797	F1739	F1811	F1641		F1840	F1590	F1565			150 MH
200 MH					F1740	F1812	F1642			F1591	F1566			200 MH
250 MH					F1741					F1592	F1567			250 MH
300 MH						F1813	F1643							300 MH
400 MH						F1814	F1644					F1568		400 MH
500 MH						F1815	F1645					F1569		500 MH
												F1570		500 MH



**FREED TRANSFORMER CO., INC.****HIGH FREQUENCY TOROIDAL INDUCTORS**

Freq. Range		10 KC to 100 KC		50 KC to 200 KC			20 KC to 2 MC	50 KC to 5 MC		100 KC to 10 MC	Freq. Range	
TYPE		TI-15	TI-14	TI-19	TI-3	TI-3A	TI-20	TI-22	TI-23	TI-21	TYPE	
Temp. Stability		SN	SN	SN	SD	SB	SP	SP	SP	SP	Temp. Stability	
Size	Uncased Case Mold	OS3 DT1, DM2 MR3	OS5 DT2, DM11 MR4	OS1 DST 1 MR1, MS1	OS6 DT3, DT5 MR5	OS10 DT4 MR8	OS4 DT2 MR3A	OS2 DT1 MR2	OS2 DT1 MR2	OS1 DT1 MR1, MS1	Size	Uncased Case Mold
	Nominal Inductance	Catalog Number										Nominal Inductance
.010 MH								F2270	F2301	F2240	.010 MH	
.015 MH								F2271	F2302	F2241	.015 MH	
.020 MH								F2272	F2303	F2242	.020 MH	
.030MH								F2273	F2304	F2243	.030MH	
.040 MH								F2274	F2305	F2244	.040 MH	
.050 MH							F2201	F2275	F2306	F2245	.050 MH	
.075 MH								F2276	F2307	F2246	.075 MH	
.100 MH	F1870			F2180	F1846		F2202	F2277	F2308	F2247	.100 MH	
.125 MH										F2248	.125 MH	
.150 MH								F2278	F2309	F2249	.150 MH	
.200 MH	F1871			F2181	F1847		F2203	F2279	F2310		.200 MH	
.300 MH	F1872			F2182	F1848		F2204	F2280	F2311		.300 MH	
.400 MH	F1873			F2183	F1849			F2281	F2312		.400 MH	
.500 MH	F1874			F2184	F1850		F2205	F2282	F2313		.500 MH	
.600 MH				F2185				F2283			.600 MH	
.700 MH				F2186				F2284			.700 MH	
.750 MH							F2206				.750 MH	
.800 MH				F2187							.800 MH	
.900 MH				F2188							.900 MH	
1 MH	F1875	F1920		F2189	F1851		F2207				1 MH	
1.5 MH							F2208				1.5 MH	
2 MH	F1876	F1921		F2190	F1852		F2209				2 MH	
2.5 MH							F2210				2.5 MH	
3 MH	F1877	F1922		F2191	F1853		F2211				3 MH	
3.5 MH							F2212				3.5 MH	
4 MH	F1878	F1923		F2192	F1854		F2213				4 MH	
4.5 MH							F2214				4.5 MH	
5 MH	F1879	F1924		F2193	F1855		F2215				5 MH	
7.5 MH	F1880	F1925			F1845						7.5 MH	
10 MH	F1881	F1926			F1844	F1856					10 MH	
15 MH	F1882	F1927				F1857					15 MH	
20 MH	F1883	F1928				F1858					20 MH	
25 MH	F1884										25 MH	
30 MH	F1885	F1929				F1659					30 MH	
40 MH	F1886					F1860					40 MH	
50 MH	F1887	F1930				F1861					50 MH	
75 MH	F1888	F1931				F1862					75 MH	
100 MH	F1889	F1932				F1863					100 MH	
150 MH		F1933									150 MH	
200 MH		F1934									200 MH	
250 MH		F1935									250 MH	
300 MH		F1936									300 MH	

**FREED TRANSFORMER COMPANY, INC.**

# FREED TRANSFORMER CO., INC.

## MAGNETIC AMPLIFIERS AND SATURABLE TRANSFORMERS

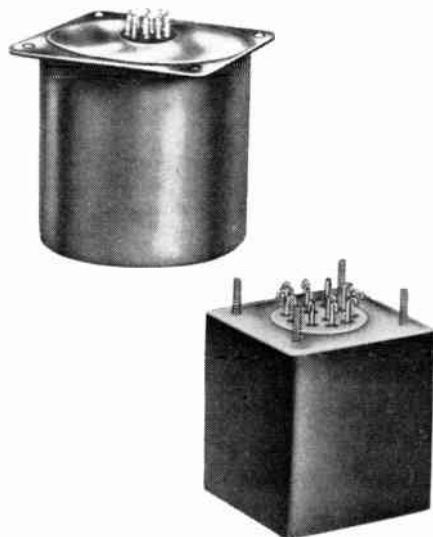
The ever increasing demand for reliability, ruggedness, miniaturization and high performance has made the magnetic amplifier an indispensable component of many military and industrial automatic control and servo systems. Recent advances in materials and techniques permit an even greater utilization of the well-known inherent advantages of magnetic amplifiers such as direct operation from line voltage, no warm-up time, long-life components, ease of signal mixing and hermetic sealing.

Freed Transformer Co. manufactures an extensive line of magnetic amplifiers, ranging from saturable transformers to half-wave type, fast-response servo amplifiers. Choice of catalog amplifiers assures standardization, lowest possible cost and rapid delivery.

All standard units are designed for continuous operation and will operate in an ambient temperature range of  $-55^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$ .

In addition to standard items, Freed Transformer Co. has extensive facilities for the design and production of special amplifiers, saturable reactors and magnetic components.

ALL ITEMS LISTED ARE AVAILABLE FROM STOCK.



## FAST RESPONSE MAGNETIC AMPLIFIERS

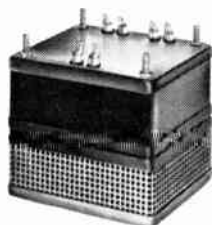
The MAF Type of fast response magnetic amplifier combines high power gain, ruggedness, and reliability with a maximum 2 cycle response. All MAF units are phase-reversible.

Freed No.	MAF-4*	MAF-5*	MAF-6	MAF-7
Power Supply	115V 400 cps	115V 400 cps	115V 400 cps	115V 400 cps
Maximum Output Wattage	10	15	10	15
Output Voltage	57.5V RMS	57.5V RMS	57.5V RMS	57.5V RMS
Typical Load	Kearfott R110-2 Kearfott R111-2	Kearfott R112-2	Kearfott R110-2 Kearfott R111-2	Kearfott R111-2 Kearfott R112-2
Input Signal Required for Full Output	8V AC	8V AC	R110-2 10K 1K 1.2V .4V R111-2 10K 1K 1.6V .6V	R111-2 10K 1K 1.2V .6V R112-2 10K 1K 2.5V 1.0V
Control Winding Resistance	60 Ohms CT 150 Ohms CT	60 Ohms CT 150 Ohms CT	AC or DC 10,000 Ohms Min. 1,000 Ohms Min.	AC or DC 10,000 Ohms Min. 1,000 Ohms Min.
Physical Dimensions	2 $\frac{3}{4}$ " O.D. x 2 $\frac{3}{4}$ " H	2 $\frac{1}{2}$ " O.D. x 2 $\frac{1}{2}$ " H	4 $\frac{3}{8}$ " x 4 $\frac{1}{4}$ " x 2 $\frac{3}{8}$ " H	4 $\frac{3}{8}$ " x 4 $\frac{1}{4}$ " x 2 $\frac{3}{8}$ " H
Weight	13 oz.	18 oz.	4 $\frac{1}{2}$ lbs.	4 $\frac{1}{2}$ lbs.

\*Designed for use with MAT-1 Transistor Preampfier.

## PUSH-PULL MAGNETIC AMPLIFIERS

The map line of push-pull magnetic amplifiers features high gain, polarity-sensitive amplification and a phase-reversible output.



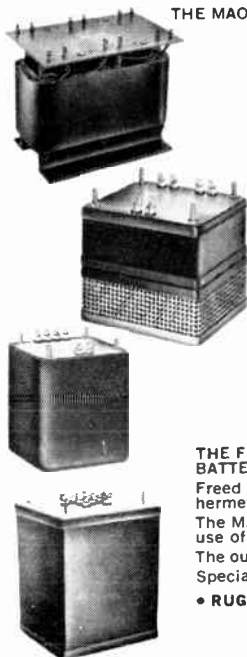
Freed No.	MAP-1	MAP-2	MAP-3	MAP-301
Power Supply	115V A.C. 60 Cycles (To MAPT-1)	115V A.C. 60 Cycles (To MAPT-2)	115V A.C. 60 Cycles (To MAPT-3)	115V A.C. 60 Cycles (To MAPT-301)
Maximum Output Wattage	2.8 Watts	15 Watts	50 Watts	50 Watts
Voltage	140V	150V	120V	140V
Typical Load	Kollsman 951-0160	Diehl FPE 25-11	Diehl FPF 49-9	Diehl FPF 49-9
Input Signal Required for Full Output	1.2 ma.	1 ma.	2 ma.	4.5 ma.
Resp. Time	ON OFF 15 cycles 60	ON OFF 5 cycles 38	ON OFF 3 cycles 15	ON OFF 5 cycles 20
Control Winding Resistance	620 ohms each	1230 ohms each	250 ohms each	1700 ohms each
Physical Dimensions	3 $\frac{3}{4}$ " x 3 $\frac{1}{2}$ " x 5 $\frac{1}{2}$ " H M.A. 2 $\frac{3}{8}$ " x 2 $\frac{1}{2}$ " x 3" H T.	3 $\frac{1}{4}$ " x 4 $\frac{5}{8}$ " x 7" H M.A. 2 $\frac{3}{8}$ " x 2 $\frac{3}{4}$ " x 3 $\frac{1}{2}$ " H T.	5 $\frac{1}{4}$ " x 6 $\frac{7}{8}$ " x 8" H M.A. 3 $\frac{3}{8}$ " x 3 $\frac{1}{2}$ " x 4 $\frac{1}{4}$ " H T.	5 $\frac{1}{2}$ " x 5" x 8" H M.A. 3 $\frac{3}{8}$ " x 4 $\frac{1}{4}$ " x 3 $\frac{1}{2}$ " H T.
Weight	6 lbs. M.A. 3 lbs. T.	11 lbs. M.A. 3 $\frac{1}{2}$ lbs. T.	26 $\frac{1}{2}$ lbs. M.A. 8 lbs. T.	20 lbs. M.A. 8 lbs. T.

Freed No.	MAP-4	MAP-7	MAP-8	MAP-11
Power Supply	115V A.C. 60 Cycles (To MAPT-4)	115V A.C. 400 Cycles	115V A.C. 100 Cycles (To MAPT-8)	115V A.C. 400 Cycles
Maximum Output Wattage	175 Watts	15 Watts	50 Watts	10 Watts
Voltage	130V	125V	115V	115V
Typical Load	Diehl FPF 85-18-1	Kearfott R112-2A	Bendix CK-3000-1-A	Kearfott R111-2A
Input Signal Required for Full Output	8 ma.	.5 ma.	1.8 ma.	.9 ma.
Resp. Time	ON OFF 17 cycles 66	ON OFF 5 cycles 15	ON OFF 45 cycles 60	ON OFF 4 cycles 75
Control Winding Resistance	3000 ohms each	4,400 ohms each	320 ohms each	3300 ohms each
Physical Dimensions	7 $\frac{1}{2}$ " x 5" x 7 $\frac{3}{4}$ " H M.A. 4" x 4 $\frac{3}{4}$ " x 5 $\frac{3}{4}$ " H T.	3 $\frac{1}{4}$ " x 3 $\frac{3}{4}$ " x 7" H	3 $\frac{3}{4}$ " x 3 $\frac{3}{4}$ " x 7 $\frac{3}{4}$ " H M.A. 2 $\frac{3}{4}$ " x 2 $\frac{3}{4}$ " x 3 $\frac{3}{4}$ " H T.	4 $\frac{1}{4}$ " x 3 $\frac{1}{2}$ " x 5 $\frac{1}{4}$ " H
Weight	35 lbs. M.A. 12 lbs. T.	7 lbs.	7 $\frac{1}{2}$ lbs. M.A. 4 lbs. T.	5 lbs.

# FREED TRANSFORMER CO., INC.

## SINGLE ENDED MAGNETIC AMPLIFIERS

THE MAO LINE OF SINGLE-ENDED MAGNETIC AMPLIFIERS PROVIDES A SINGLE STAGE OF DC CONTROLLED AMPLIFICATION, UTILIZING POSITIVE FEEDBACK TO OBTAIN MUCH HIGHER GAIN THAN THAT OF A SATURABLE REACTOR.



Freed No.	MAO-1	MAO-2	MAO-3	MAO-4	MAO-5
Power Supply	115V A.C. 60 Cycles	115V A.C. 60 Cycles	115V A.C. 60 Cycles	115V A.C. 60 Cycles	115V A.C. to the MAO-T-5 Transformer 60 Cycles
Maximum Output Wattage	4 watts	20 watts	100 watts	400 watts	575 watts
Voltage	120V	120V	100V	100V	135V
Typical Load	4000 ohms	700 ohms	100 ohms	25 ohms	25 ohms
Input Signal Req. for Full Output	3 ma.	1.8 ma.	9 ma.	9 ma.	6 ma.
Control Winding Resistance	300 ohms each	700 ohms each	5600 ohms each	4500 ohms each	4,500 ohms
Physical Dimensions	3 3/4" x 4" x 3 1/2" H	4 1/4" x 3 3/4" x 6 3/4" H	3 1/4" x 5 1/2" x 4 1/4" H	5" x 7 1/2" x 6" H	5" x 7 1/2" x 6" H Trans. 3 3/8" x 3 3/4" x 3 3/4" H
Weight	4 lbs.	7 lbs.	8 1/2 lbs.	21 lbs.	21 lbs. Trans. 7 1/4 lbs.

## TRANSISTOR CONVERTERS

THE FREED LINE OF DC TO AC AND DC TO DC TRANSISTOR CONVERTERS PROVIDE A HIGH EFFICIENCY VOLTAGE CONVERSION FROM BATTERY SOURCES TO AN AC LINE VOLTAGE OR HIGH DC VOLTAGE WITHOUT THE USE OF MOVING PARTS.

Freed Transformer Co. maintains a stock line of reliable, highly efficient static DC to DC and DC to AC converters. DC to DC converters in hermetically sealed cans. RF filters included inside case.

The MAC Line of Static DC to AC Converters provide a highly efficient voltage conversion from battery sources to AC voltage without the use of moving parts.

The output voltage and/or frequency is directly proportional to source voltage variation.

Special regulators can be supplied to compensate for this variation.

• RUGGED, QUIET, MAINTENANCE FREE, LONG LIFE OPERATION.

• HIGH POWER TO WEIGHT RATIO, ARC-FREE OPERATION.

### UNREGULATED TDC STOCK UNITS

Type No.	NOM. V in	V out	MAX 1 out MA	Case Size	Type No.	NOM. V in	V out	MAX 1 out MA	Case Size
TDC 6-15-03	6v	150	50	2 x 2 1/4 x 3 1/8	TDC 28-30-15	28v	300	150	2 3/8 x 2 1/4 x 3 1/2
TDC 12-30-15	12v	300	150	2 5/8 x 2 1/4 x 3 1/2	TDC 28-25-12	28v	250	120	2 5/8 x 2 1/4 x 3 1/2
TDC 12-25-12	12v	250	120	2 5/8 x 2 1/4 x 3 1/2	TDC 28-30-05	28v	300	50	2 x 2 1/4 x 3 1/8
TDC 12-30-05	12v	300	50	2 x 2 1/4 x 3 1/2	TDC 28-20-05	28v	200	50	2 x 2 1/4 x 3 1/8
TDC 12-20-05	12v	200	50	2 x 2 1/4 x 3 1/2	TDC 48-20-15	48v	200	150	2 5/8 x 2 1/4 x 3 1/2
					TDC 48-30-15	48v	300	150	2 5/8 x 2 1/4 x 3 1/2

### DC TO DC CONVERTERS

All TDC units are Hermetically Sealed, Oil Filled. Mtg. base plate must be mounted on a sink of sufficient area to maintain a base temperature of 70°C. Maximum output regulation 5% from half load to full load. Ripple frequency 4 to 5 KC; Ripple content 0.1%.

## DC TO AC TRANSISTOR CONVERTERS

Input Voltage—12 VDC

Output Frequency—60 CPS.—Square Wave



OPEN CASE

SEALED CASE

Freed No.	Output Voltage	Power	Type of Case	Dimensions
MAC 12-3-60	115 VRMS	30 VA	Cased	7 1/4" x 3 3/8" x 4 3/8"
MAC 12-10-1	115 VRMS	100 VA	Cased	7 1/4" x 4" x 5"
MAC 12-10-2	115 VRMS	100 VA	Herm. Sealed	7 1/4" x 4 3/8" x 4 1/8"
MAC 12-20-1	115 VRMS	180 VA	Cased	6" x 4 1/4" x 6"
MAC 12-20-2	115 VRMS	180 VA	Herm. Sealed	6" x 4 1/4" x 6"
MAC 12-30-1	115 VRMS	250 VA	Cased	5 3/4" x 6 1/4" x 7 1/8"
MAC 12-30-2	115 VRMS	250 VA	Herm. Sealed	5 3/4" x 6 1/4" x 7 1/8"

- Output Waveform — Square Wave
- Output Frequency — 60 cps (Adjustment Control)
- Frequency Stability ±3%
- Hermetically Sealed
- Maximum Ambient Temperature 50°C
- Temperature of Base Mounting Plate must not exceed 70°C.
- Output Voltage Variation — Varies Directly with Input Voltage

	Nominal Input V.D.C.	Output @ 115V VA	Case Size
TAC 6-50	6	50	4 1/8 x 3 1/2 x 4 1/2 H
TAC 12-50	12	50	4 1/8 x 3 1/2 x 4 1/2 H
TAC 12-90	12	90	4 1/8 x 3 1/2 x 4 7/8 H
TAC 12-175	12	175	5 x 4 1/8 x 6 H
TAC 28-50	28	50	4 1/8 x 3 1/2 x 4 1/2 H
TAC 28-100	28	100	4 1/8 x 3 1/2 x 4 7/8 H
TAC 28-175	28	175	5 x 4 1/8 x 6 H
TAC 28-250	28	250	5 1/2 x 5 x 6 3/4 H

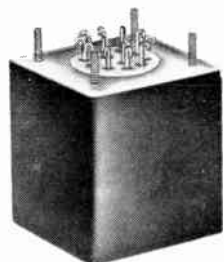
### 400 CYCLE TRANSISTOR CONVERTERS

Frequency Regulation ±2%

Type No.	Nom. Input V.D.C.	Output VA	Case Size
TAC 12-50-4	12	50	3 x 3 3/8 x 3 3/4
TAC 12-100-4	12	100	4 1/8 x 3 1/2 x 4 1/2
TAC 28-50-4	28	50	3 x 3 3/8 x 3 3/8
TAC 28-150-4	28	150	4 1/8 x 3 1/2 x 4 1/2

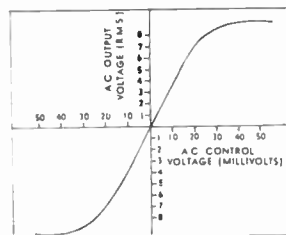
## MINIATURIZED SILICON TRANSISTOR PREAMPLIFIER

THE MAT TYPE OF TRANSISTOR PREAMPLIFIER COMBINES LOW POWER CONSUMPTION, HIGH POWER GAIN AND SMALL SIZE AND WEIGHT.



Freed No.	MAT-1-1
Power Supply	115V 400~
Voltage Gain	400
Maximum Output Voltage	10V (RL = 1.5K)
Typical Load	Freed MAF-4 and MAF-5 Magnetic Amplifiers
Input Signal Required for Full Output	50MV
Input Impedance	>10,000 OHMS
Physical Dimensions	1 1/4" x 1 1/4" x 2 3/4" H
Weight	10 oz.

### TRANSFER CHARACTERISTIC CURVE

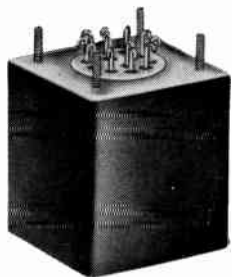


# FREED TRANSFORMER CO., INC.

## FREED SATURABLE TRANSFORMERS

### DC CONTROLLED

The MAS line of saturable transformers, commonly controlled by dual-triodes or transistors, emphasizes low cost, small size, extreme reliability (no rectifiers) and phase-reversible output.



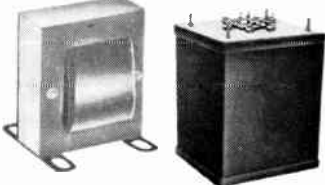
Freed No.	MAS-1	MAS-101	MAS-2	MAS-3	MAS-4	MAS-5	MAS-6	MAS-7	MAS-9
Power Supply	115V A.C. 60 Cycles	115V A.C. 60 Cycles	115V A.C. 400 Cycles	115V A.C. 60 Cycles	115V A.C. 60 Cycles	115V A.C. 400 Cycles	115V A.C. 400 Cycles	115V A.C. 400 Cycles	115V A.C. 60 Cycles
Maximum Output	15 watts	15 watts	6 watts	30 watts	60 watts	2.7 watts	30 watts	40 watts	125 watts
Wattage Voltage	130V	120V	120V	120V	120V	26V	120V	115V	115V
Typical Load	Oiehl FPE 25-11	Oiehl FPE 25-11	Kearfott R-110	Oiehl FPE 49-7	250 ohms	Kearfott R-118	Oiehl FPE 49-13-1	Bendix CK-300U-1A	110 Ω
Input Signal Required for Full Output	6 ma.	9 ma.	3 ma.	8 ma.	20 ma.	4 ma.	4 ma.	6 ma.	15 ma. D-C
Resp. Time	ON OFF 2 cycles 5	ON OFF 3 cycles 6	ON OFF 3 cycles 6	ON OFF 3 cycles 30	ON OFF 5 cycles 35	ON OFF 10 cycles 35	ON OFF 12 cycles 9	ON OFF 12 cycles 9	ON OFF 5 cycles 35
Control Winding Resistance	14 K ohms	3200 ohms	2000 ohms	6800 ohms	2000 ohms	1500 ohms	4000 ohms	4000 ohms	500 ohms
Physical Dimensions	3 1/2" x 4 1/2" x 5 1/2" H	3 1/2" x 4 1/2" x 5 1/2" H	1 3/4" x 2 1/4" x 2 3/4" H	4 3/4" x 5 3/4" x 5 1/2" H	7" x 5 1/2" x 7" H	2 1/4" x 2 1/4" x 2 1/4" H	3 3/4" x 3 1/4" x 4" H	3 3/4" x 3 1/4" x 4" H	9" x 6 3/4" x 8"
Weight	9 lbs.	9.75 lbs.	2 lbs.	18.5 lbs.	29 lbs.	1.25 lbs.	6 lbs.	6 lbs.	65 lb.

## CONSTANT VOLTAGE TRANSFORMERS

The MCV line of constant voltage transformers provides accurate regulation against line and/or load variations, without the use of tubes or moving parts.

- MILITARY SPECIFICATIONS
- NO TUBES
- COMMERCIAL
- NO MOVING PARTS
- ACCURATE REGULATIONS
- FAST RESPONSE
- FULLY AUTOMATIC

Rated output within ±2% of nominal value. Regulation automatically maintained within ±1%. Regulation from 25% to full load ±2%.



COMMERCIAL

MILITARY

Reg. Output in R.M.S. Volts	Input Range in R.M.S. Volts	Output in V.A. P.F. 1	CATALOG NUMBERS			
			60 Cycles		400 Cycles	
			Comm.	Military*	Comm.*	Military*
115	95-130	5	MCV65LC	MCV65LM	MCV45LC	MCV45LM
115	95-130	25	MCV625LC	MCV625LM	MCV425LC	MCV425LM
115	95-130	75	MCV675LC	MCV675LM	MCV475LC	MCV475LM
115	95-130	125	MCV6125LC	MCV6125LM	MCV4125LC	MCV4125LM
115	95-130	250	MCV6175LC	MCV6175LM	MCV4175LC	MCV4175LM
115	95-130	250	MCV6250LC	MCV6250LM	MCV4250LC	MCV4250LM
115	95-130	375	MCV6375LC	MCV6375LM	MCV4375LC	MCV4375LM
115	95-130	500	MCV6500LC	MCV6500LM	MCV4500LC	MCV4500LM
115	95-130	750	MCV6750LC	MCV6750LM	MCV4750LC	MCV4750LM
115	95-130	1000	MCV61000LC	MCV61000LM	MCV41000LC	MCV41000LM
26	95-130	5	MCV654FC	MCV654FM	MCV454FC	MCV454FM
26	95-130	25	MCV6254FC	MCV6254FM	MCV4254FC	MCV4254FM
26	95-130	75	MCV6754FC	MCV6754FM	MCV4754FC	MCV4754FM
26	95-130	125	MCV61254FC	MCV61254FM	MCV41254FC	MCV41254FM
6.4	95-130	5	MCV65FC	MCV65FM	MCV45FC	MCV45FM
6.4	95-130	25	MCV625FC	MCV625FM	MCV425FC	MCV425FM
6.4	95-130	75	MCV675FC	MCV675FM	MCV475FC	MCV475FM
6.4	95-130	125	MCV6125FC	MCV6125FM	MCV4125FC	MCV4125FM

\*Condensers are not provided with units. Where condensers are provided they are external to units.

## TELEMETERING COMPONENTS

A complete line of Band Pass Filters, Low Pass Filters and Discriminators is available for multi-channel telemetering applications. These components cover the frequency range from 400 cps to 70,000 cps. The filters feature exceptional phase linearity, excellent selectivity characteristics and plug-in construction. The Discriminators, either fixed or slug tuned, have exceptional linearity, high amplification, and utmost stability.

### TELEMETERING BAND PASS FILTERS

Hermetically sealed to MIL-T-27A and MIL-F-18327

These filters cover the frequencies from 400 c.p.s. to 70Kc. Narrow frequency B.P.F. have a band width of ±9 1/2% of center frequency and 45 DB (minimum) points at ±7 1/2% of center frequency of higher or lower adjacent channels. Wide frequency B.P.F. have a band width of ±19 1/2% of center frequency and 50 D.B. points at ±15% of center frequencies of higher or lower second adjacent channels.


Catalog No.	Characteristic Impedance 500 Ω			Case No.
	Center Frequency c.p.s.	3 DB Band Width % of C.F.		
FBP-10	400	± 9%	FA-10	
FBP-11	560	± 9%	FA-10	
FBP-12	730	± 9%	FA-10	
FBP-13	960	± 9%	FA-10	
FBP-14	1,300	± 9%	FA-10	
FBP-15	1,700	± 9%	FA-10	
FBP-16	2,300	± 9%	FA-15	
FBP-17	3,000	± 9%	FA-15	
FBP-18	3,900	± 9%	FA-15	
FBP-19	5,400	± 9%	FA-15	
FBP-20	7,350	± 9%	FA-15	
FBP-21	10,500	± 9%	FA-15	
FBP-22	12,300	± 9%	FA-15	
FBP-23	14,500	± 9%	FA-15	
FBP-24	22,000	± 9%	FA-15	
FBP-25	22,000	±19%	FA-15	
FBP-26	30,000	± 9%	FA-15	
FBP-27	30,000	±19%	FA-15	
FBP-28	40,000	± 9%	FA-15	
FBP-29	40,000	±19%	FA-15	
FBP-30	52,500	± 9%	FA-15	
FBP-31	52,500	±19%	FA-15	
FBP-32	70,000	± 9%	FA-15	
FBP-33	70,000	±19%	FA-15	

Catalog No.	Characteristic Impedance 2,500 Ω			Case No.
	Center Frequency c.p.s.	3 DB Band Width % of C.F.		
FBP-34	400	± 9%	FA-5	
FBP-35	560	± 9%	FA-5	
FBP-36	730	± 9%	FA-5	
FBP-37	960	± 9%	FA-5	
FBP-38	1,300	± 9%	FA-5	
FBP-39	1,700	± 9%	FA-5	
FBP-40	2,300	± 9%	FA-5	
FBP-41	3,000	± 9%	FA-5	
FBP-42	3,900	± 9%	FA-5	
FBP-43	5,400	± 9%	FA-5	
FBP-44	7,350	± 9%	FA-5	
FBP-45	10,500	± 9%	FA-5	
FBP-46	12,300	± 9%	FA-5	
FBP-47	14,500	± 9%	FA-5	
FBP-48	22,000	± 9%	FA-5	
FBP-49	22,000	±19%	FA-5	
FBP-50	30,000	± 9%	FA-5	
FBP-51	30,000	±19%	FA-5	
FBP-52	40,000	± 9%	FA-5	
FBP-53	40,000	±19%	FA-5	
FBP-54	52,500	± 9%	FA-5	
FBP-55	52,500	±19%	FA-5	
FBP-56	70,000	± 9%	FA-5	
FBP-57	70,000	±19%	FA-5	

## SUBMINIATURE TELEMETERING BAND PASS FILTERS

Manufactured to Specification MIL-F-18327A—Type FR-4RX22YY  
RBD Standard Frequency Channels


Input and Output Impedance 10K ohms							
Type No.	Center Frequency Fo - in KC	Band Width <3DB	Stop Band Attenuation	Type No.	Center Frequency Fo - in KC	Band Width <3DB	Stop Band Attenuation
MTN-4	.4	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo	MTN-14.5	14.5	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo
MTN-56	.56	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo	MTN-22	22	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo
MTN-73	.73	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo	MTN-30	30	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo
MTN-96	.96	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo	MTN-40	40	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo
MTN-1.3	1.3	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo	MTN-52.5	52.5	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo
MTN-1.7	1.7	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo	MTN-70	70	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo
MTN-2.3	2.3	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo	MTN-22	22	±15%	≧ 40 DB @ 2.5 & 4 Fo
MTN-3.0	3.0	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo	MTW-30	30	±15%	≧ 40 DB @ 2.5 & 4 Fo
MTN-3.9	3.9	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo	MTW-40	40	±15%	≧ 40 DB @ 2.5 & 4 Fo
MTN-5.4	5.4	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo	MTW-52.5	52.5	±15%	≧ 40 DB @ 2.5 & 4 Fo
MTN-7.35	7.35	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo	MTW-70	70	±15%	≧ 40 DB @ 2.5 & 4 Fo
MTN-10.5	10.5	±7 1/2%	≧ 38 DB @ 1.75 & 58 Fo				



**FA-5 CASE**

Height: 4 1/2"  
Width: 3 1/2"  
Depth: 2 1/2"  
Mtg. Cen.: 2 1/8" x 1 1/8"  
Studs: 5 8-32 x 1/2"

Octal Header



**FA-10 CASE**


Height: 4 1/2"  
Width: 3 1/2"  
Depth: 2 1/8"  
Mtg. Cen.: 1 1/8" x 1 1/8"  
Studs: 4 8-32 x 1/2"

Knockout: 1 1/2" dia.

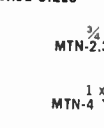
**FA-15 CASE**

Height: 4 1/2" Mtg. Cen.: 1 1/8" x 1 1/8"  
Width: 2 7/8" Studs: 4 8-32 x 1/2"  
Depth: 2 1/8" Knockout: 1 1/2" dia.

**CASE SIZES**



DF-C1  
3/4" x 3/4" x 1 1/2"  
MTN-2.3 Thru MTW-70



DF-O2  
1 x 1 x 1 1/2"  
MTN-4 Thru MTN 1.7

# FREED TRANSFORMER CO., INC.

## DISCRIMINATOR INPUT LOW PASS FILTER

HERMETICALLY SEALED TO MIL-T-27A AND MIL-F-18327 SPECIFICATIONS

### CASE DIMENSIONS



**FA-1 CASE**

Height: 4 1/2"  
Width: 1 1/2"  
Depth: 1 1/2"  
Mtg. Cen.: 3/32" sq.  
4 Inserts: 6-32  
Knockout: 1"



**FA-185 CASE**

Height: 4 1/2"  
Width: 1 7/8"  
Depth: 1 5/8"  
Mtg. Cen.: 1 15/64" x 1 1/16"  
4 Inserts: 6-32  
Knockout: 1 1/2"

Catalog No.	Fo Center Freq. in c.p.s.	Characteristic Impedance Ohms	Case No.
LPI-10	400	30,000	FA-1
LPI-11	560	30,000	FA-1
LPI-12	730	30,000	FA-1
LPI-13	960	30,000	FA-1
LPI-14	1,300	30,000	FA-1
LPI-15	1,700	30,000	FA-1
LPI-16	2,300	30,000	FA-1
LPI-17	3,000	30,000	FA-1
LPI-18	3,900	30,000	FA-1

Band Pass Attenuation: 0.05 DB · 9% of Center Frequency  
30 DB at second harmonic of Pass Band Frequencies  
50 DB at third harmonic of Pass Band Frequencies  
40 DB above third harmonic of Pass Band Frequencies

Catalog No.	Fo Center Freq. in c.p.s.	Characteristic Impedance Ohms	Case No.
LPI-19	5,400	30,000	FA-1
LPI-20	7,350	30,000	FA-1
LPI-21	10,500	30,000	FA-1
LPI-22	12,300	30,000	FA-1
LPI-23	14,500	30,000	FA-1
LPI-24	22,000	5,100	FA-1
LPI-25	30,000	5,100	FA-1
LPI-26	40,000	5,100	FA-1
LPI-27	52,500	5,100	FA-1
LPI-28	70,000	5,100	FA-1

Band Pass Attenuation: 0.05 DB · 15% of Center Frequency  
30 DB at second harmonic of Pass Band Frequencies  
50 DB at third harmonic of Pass Band Frequencies  
40 DB above third harmonic of Pass Band Frequencies

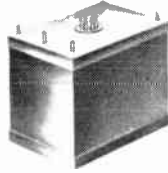
## DISCRIMINATOR OUTPUT LOW PASS FILTER

HERMETICALLY SEALED TO MIL-T-27A AND MIL-F-18327 SPECIFICATIONS



**FA-190 CASE**

Height: 4 1/2"  
Width: 2 1/4"  
Depth: 1 3/8"  
Mtg. Cen.: 1 7/32" x 1 1/16"  
4 Inserts: 6-32  
Knockout: 1 1/2"



**FA-410 CASE**

Height: 4 1/2"  
Width: 6"  
Depth: 4"  
Mtg. Cen.: 5 1/4" x 3 1/4"  
5 Studs: 10-32  
Octal Header

Catalog No.	Fo c.p.s.	Characteristic Impedance Ohms	Case No.
LPO-10	6	330	FA-410
LPO-11	8	330	FA-410
LPO-12	11	330	FA-410
LPO-13	14	330	FA-410
LPO-14	20	330	FA-410
LPO-15	25	330	FA-410
LPO-16	35	330	FA-410
LPO-17	45	330	FA-410
LPO-18	60	330	FA-410
LPO-19	81	330	FA-410
LPO-20	110	330	FA-410
LPO-21	160	330	FA-410
LPO-22	185	330	FA-410

Catalog No.	Fo c.p.s.	Characteristic Impedance Ohms	Case No.
LPO-23	220	330	FA-410
LPO-24	330	330	FA-410
LPO-25	450	330	FA-410
LPO-26	600	330	FA-410
LPO-27	660	330	FA-410
LPO-28	790	330	FA-410
LPO-29	900	330	FA-410
LPO-30	1,050	330	FA-410
LPO-31	1,200	330	FA-410
LPO-32	1,600	330	FA-410
LPO-33	2,100	330	FA-410
LPO-34	7,200	330	FA-410
LPO-35	10,000	330	FA-410

Attenuation: < 0.2 DB up to 0.5 times Fo  
< 0.7 DB from 0.5 to 1. times Fo  
> 20 DB at 2 Fo to 2.5 Fo  
> 30 DB from 2.5 times Fo to 100 Kc

## FIXED DISCRIMINATORS

HERMETICALLY SEALED TO MIL-T-27A AND MIL-F-18327 SPECIFICATIONS

Catalog No.	Center Frequency (cps)	% Deviation of Fo	Linearity	D.C. Output Volts	Case No.
DST-10	400	± 8 1/2%	± 0.5%	32.5	FA-185
DST-11	560	± 8 1/2%	± 0.5%	32.5	FA-185
DST-12	730	± 8 1/2%	± 0.5%	32.5	FA-185
DST-13	960	± 8 1/2%	± 0.5%	32.5	FA-185
DST-14	1,300	± 8 1/2%	± 0.5%	32.5	FA-185
DST-15	1,700	± 8 1/2%	± 0.5%	32.5	FA-185
DST-16	2,300	± 8 1/2%	± 0.5%	32.5	FA-185

## SLUG TUNED DISCRIMINATORS

Catalog No.	Center Frequency (Kc.)	% Deviation of Fo	Linearity	D.C. Output Volts	Case No.
DST-17	3.0	- 8 1/2%	± 0.5%	32.5	FA-190
DST-18	3.9	- 8 1/2%	± 0.5%	32.5	FA-190
DST-19	5.4	+ 8 1/2%	± 0.5%	32.5	FA-190
DST-20	7.35	+ 8 1/2%	± 0.5%	32.5	FA-190
DST-21	10.5	+ 8 1/2%	± 0.5%	32.5	FA-190
DST-22	12.3	- 8 1/2%	± 0.5%	32.5	FA-190
DST-23	14.5	- 8 1/2%	± 0.5%	32.5	FA-190
DST-24	22.0	- 8 1/2%	± 0.5%	32.5	FA-190
DST-25	30.0	± 8 1/2%	± 0.5%	32.5	FA-190

Catalog No.	Center Frequency (Kc)	% Deviation of Fo	Linearity	D.C. Output Volts	Case No.
DST-26	40.0	- 8 1/2%	± 0.5%	32.5	FA-190
DST-27	52.5	- 8 1/2%	± 0.5%	32.5	FA-190
DST-28	70.0	- 8 1/2%	± 0.5%	32.5	FA-190
DST-29	22.0	± 15%	± 1.0%	26.0	FA-190
DST-30	30.0	± 15%	± 1.0%	26.0	FA-190
DST-31	40.0	± 15%	± 1.0%	26.0	FA-190
DST-32	52.5	± 15%	± 1.0%	26.0	FA-190
DST-33	70.0	± 15%	± 1.0%	26.0	FA-190

# FREED FILTERS

To MIL-T-27A and MIL-F-18327

Freed Standard Filters are Hermetically Sealed Miniature and Sub-Miniature high performance components designed for both production and laboratory applications in the Communications and Electronic industry. In order to achieve attenuation requirements not obtainable with one single filter, one can combine several standard filters of different transmission characteristics. Wide Band Pass characteristics are obtainable by combining low and high Pass Units. The astatic construction of inductive components together with special shielding reduces the hum pick-up of the standard filters.

The standard filters are available in Low Pass, High Pass and Band Pass Filters.

**Low Pass Filters:** The attenuation characteristics of Low Pass Filters are 6db or less at cut-off frequency, 35db or more at 1.5 cut-off frequency and 40db or more at 2 cut-off frequency.

**ILP Interstage Low Pass Filter.** Characteristic Impedance 10,000 ohms, in and out.

**LLP Line Low Pass Filter.** Characteristic Impedance 500 to 600 Ω, in and out.

**High Pass Filters:** The attenuation characteristics of High Pass Filters are 6db or less at cut-off frequency, 35db and 40db or more at 0.67 and 0.5 cut-off frequency.

**IHP Interstage High Pass Filter.** Characteristic Impedance 10,000 ohms, in and out.

**LHP Line High Pass Filter.** Characteristic Impedance 500 to 600 Ω, in and out.

**Band Pass Filters:** The attenuation characteristics of Band Pass Filters are 2db or less at plus or minus 3% of center frequency 40db or more at 0.5 and 2 center frequency.

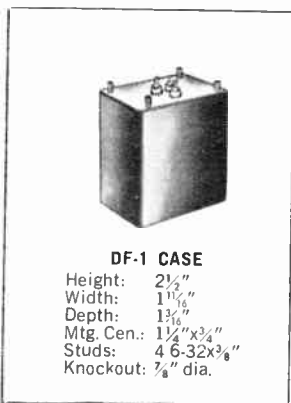
**IBP Interstage Band Pass Filter.** Nominal input impedance—10,000 ohms. Nominal output impedance 5 megohms or grid of vacuum tube. Effective voltage step-up 2:1. (Output voltage to source voltage.)

**LBP Line Band Pass Filter.** Nominal input impedance 500 to 600 ohms. Nominal output impedance 5 megohms or grid of vacuum tube. Effective voltage step-up 9:1. (Output voltage to source voltage.)

# FREED TRANSFORMER COMPANY, INC.

# FREED TRANSFORMER CO., INC.

## FREED FILTERS TO MIL-T-27A AND MIL-F-18327



**DF-1 CASE**

Height: 2 1/2"  
Width: 1 1/8"  
Depth: 1 3/8"  
Mtg. Cen.: 1 1/2" x 3/4"  
Studs: 4 6-32 x 3/8"  
Knockout: 7/8" dia.

Catalog No.	Cut-off Frequency c.p.s.
ILP- 100	100
ILP- 200	200
ILP- 300	300
ILP- 500	500
ILP- 750	750
ILP- 1,000	1,000
ILP- 1,500	1,500
ILP- 2,000	2,000
ILP- 2,500	2,500
ILP- 3,000	3,000
ILP- 5,000	5,000
ILP- 7,000	7,000
ILP- 10,000	10,000
ILP- 15,000	15,000
ILP- 20,000	20,000
ILP- 23,000	23,000
ILP- 25,000	25,000
ILP- 32,000	32,000
ILP-130,000	130,000
ILP-150,000	150,000

Special filters in all six types are available for any frequency from 100 to 20,000 cycles

Catalog No.	Cut-off Frequency c.p.s.
LLP- 500	500
LLP- 1,000	1,000
LLP- 1,500	1,500
LLP- 1,600	1,600
LLP- 2,000	2,000
LLP- 2,500	2,500
LLP- 3,000	3,000
LLP-16,000	16,000
LLP-20,000	20,000
LLP-70,000	70,000
LLP-80,000	80,000
IHP- 200	200
IHP- 250	250
IHP- 300	300
IHP- 400	400
IHP- 500	500
IHP- 1,000	1,000
IHP- 2,000	2,000
IHP- 3,000	3,000
IHP-10,000	10,000
IHP-15,000	15,000
LHP- 200	200
LHP- 300	300
LHP- 400	400
LHP- 500	500
LHP- 800	800
LHP- 1,000	1,000
LHP- 2,000	2,000
LHP- 6,000	6,000
LHP-10,000	10,000

Catalog No.	Cut-off Frequency c.p.s.
IBP- 100	100
IBP- 200	200
IBP- 250	250
IBP- 400	400
IBP- 500	500
IBP- 700	700
IBP- 800	800
IBP- 900	900
IBP- 1,000	1,000
IBP- 1,500	1,500
IBP- 2,000	2,000
IBP- 3,000	3,000
IBP- 5,000	5,000
IBP- 7,200	7,200
IBP-10,000	10,000
IBP-12,000	12,000
IBP-15,000	15,000
IBP-30,000	30,000
IBP-57,600	57,600
LBP- 100	100
LBP- 300	300
LBP- 400	400
LBP- 600	600
LBP- 800	800
LBP- 1,000	1,000
LBP- 1,500	1,500
LBP- 2,000	2,000
LBP- 3,000	3,000
LBP- 7,200	7,200
LBP-10,000	10,000
LBP-14,400	14,400
LBP-20,000	20,000
LBP-28,800	28,800

## HERMETICALLY SEALED SUB-MINIATURE FILTERS

Low Pass Filters: The attenuation characteristics of Low Pass Filters are 6db or less at cut-off frequency, 30db or more at 1.5 cut-off frequency and 40db or more at 2 cut-off frequency.

ILM Interstage Low Pass Filter. Characteristic impedance 10,000 ohms, in and out.

LLM Line Low Pass Filter. Characteristic Impedance 500 to 600 ohms, in and out.

High Pass Filters: The attenuation characteristics of High Pass Filters are 6db or less at cut-off frequency, 30db and 40db or more at 0.67 and 0.5 cut-off frequency.

IHM Interstage High Pass Filter. Characteristic Impedance 10,000 ohms, in and out.

LHM Line High Pass Filter. Characteristic Impedance 500 to 600 ohms, in and out.

Band Pass Filters: The attenuation characteristics of Band Pass Filters are 2db or less at plus or minus 3% of center frequency 35db or more at 0.5 and 2 center frequency.

IBM Interstage Band Pass Filter. Nominal input impedance—10,000 ohms. Nominal output impedance 5 megohms or grid of vacuum tube. Effective voltage step-up 2:1. (Output voltage to source voltage.)

LBM Line Band Pass Filter. Nominal input impedance 500 to 600 ohms. Nominal output impedance 5 megohms or grid of vacuum tube. Effective voltage step-up 5:1. (Output voltage to source voltage.)

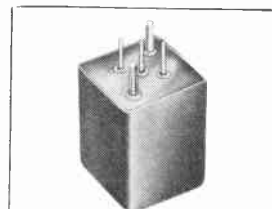
Special filters in all six types are available for any frequency from 200 to 20,000 cycles.

Catalog No.	Cut-off Freq. c.p.s.	Case No.
IBM- 400	400	DF-02
IBM- 500	500	DF-02
IBM- 700	700	DF-02
IBM- 800	800	DF-02
IBM- 900	900	DF-02
IBM- 1,000	1,000	DF-02
IBM- 1,500	1,500	DF-02
IBM- 2,000	2,000	DF-01
IBM- 3,000	3,000	DF-01
IBM- 5,000	5,000	DF-01
IBM- 7,200	7,200	DF-01
IBM-10,000	10,000	DF-01
IBM-12,000	12,000	DF-01
IBM-15,000	15,000	DF-01
IBM-30,000	30,000	DF-01
IBM-57,600	57,600	DF-01
IHM- 300	300	DF-01
IHM- 400	400	DF-01
IHM- 500	500	DF-01
IHM- 1,000	1,000	DF-01
IHM- 2,000	2,000	DF-01
IHM- 3,000	3,000	DF-01
IHM-10,000	10,000	DF-01
IHM-15,000	15,000	DF-01

Catalog No.	Cut-off Freq. c.p.s.	Case No.
ILM- 300	300	DF-01
ILM- 500	500	DF-01
ILM- 750	750	DF-01
ILM- 1,000	1,000	DF-01
ILM- 1,500	1,500	DF-01
ILM- 2,000	2,000	DF-01
ILM- 2,500	2,500	DF-01
ILM- 3,000	3,000	DF-01
ILM- 5,000	5,000	DF-01
ILM- 7,000	7,000	DF-01
ILM- 10,000	10,000	DF-01
ILM- 15,000	15,000	DF-01
ILM- 20,000	20,000	DF-01
ILM- 23,000	23,000	DF-01
ILM- 25,000	25,000	DF-01
ILM- 32,000	32,000	DF-01
ILM-130,000	130,000	DF-01
ILM-150,000	150,000	DF-01
LHM- 300	300	DF-03
LHM- 400	400	DF-03
LHM- 500	500	DF-03
LHM- 800	800	DF-03
LHM- 1,000	1,000	DF-02
LHM- 2,000	2,000	DF-02
LHM- 6,000	6,000	DF-02
LHM-10,000	10,000	DF-02

Catalog No.	Cut-off Freq. c.p.s.	Case No.
LBM- 300	300	DF-02
LBM- 400	400	DF-02
LBM- 600	600	DF-02
LBM- 800	800	DF-02
LBM- 1,000	1,000	DF-01
LBM- 1,500	1,500	DF-01
LBM- 2,000	2,000	DF-01
LBM- 3,000	3,000	DF-01
LBM- 7,200	7,200	DF-01
LBM-10,000	10,000	DF-01
LBM-14,400	14,400	DF-01
LBM-20,000	20,000	DF-01
LBM-28,800	28,800	DF-01
LLM- 500	500	DF-03
LLM- 1,000	1,000	DF-03
LLM- 1,500	1,500	DF-02
LLM- 1,600	1,600	DF-02
LLM- 2,000	2,000	DF-02
LLM- 2,500	2,500	DF-02
LLM- 3,000	3,000	DF-02
LLM-16,000	16,000	DF-02
LLM-20,000	20,000	DF-02
LLM-70,000	70,000	DF-02
LLM-80,000	80,000	DF-02

### CASE DIMENSIONS



**DF CASE STYLE**

**DF-01**

Height: 1 3/8"  
Width: 3/4"  
Depth: 1 1/8"  
Mtg. Cen.: 3/8" Diag.  
Studs: 2 + 4-40

**DF-02**

Height: 1 3/8"  
Width: 1"  
Depth: 1"  
Mtg. Cen.: 3/4" Diag.  
Studs: 2 + 4-40

**DF-03**

Height: 1 3/4"  
Width: 1"  
Depth: 1"  
Mtg. Cen.: 3/4"  
Studs: 2 + 4-40

## SERIES 1950 NULL "T" FILTERS

The Freed Series 1950 Null T networks consist of two resistance capacitance networks, whose outputs completely cancel each other at the balance frequency. They may be used as rejection networks particularly at low frequencies where LC filters become excessively large and unstable.

Standard models are available for 30, 60 and 120 cycles in a wide range of impedances. Each network will give a minimum of 50 db attenuation at the null frequency.

The null frequency is adjusted to a tolerance of ±2%.

All Null T Filters are hermetically sealed.

Prices on request.

Catalog No.	Frequency
NTF- 30	30 cps
NTF- 60	60 cps
NTF-120	120 cps

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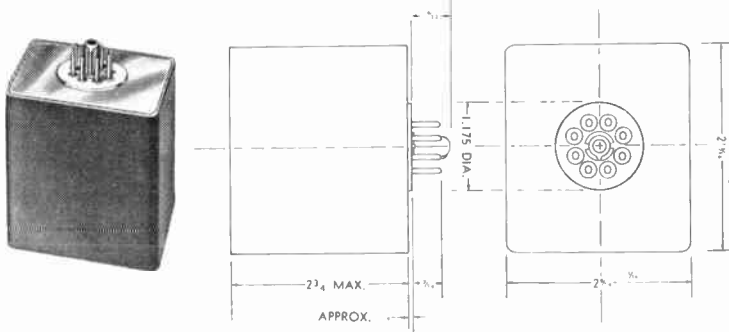
# FREED TRANSFORMER CO., INC.

## TELEGRAPH TONE CHANNEL FILTERS

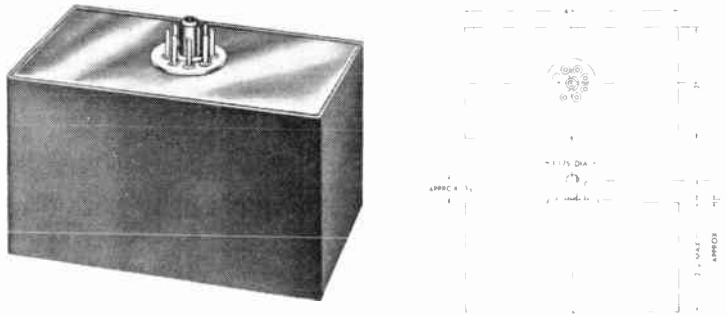
### HERMETICALLY SEALED TO MIL-T-27A AND MIL-F-18327 SPECIFICATIONS

Freed Band Pass Filters are extensively used in multiplex frequency shift transmitting and receiving. Stock filters cover all narrow and wide band channels. All units are built with a standard octal socket.

FBT Transmitting Filters are built for a 600 ohm in and out characteristic impedance. Filter configuration allows paralleling of channel outputs. 10db adjacent channel crossover attenuation.



FBR Receiving Filters are designed for a characteristic impedance of 600 ohms in and out. Filter configuration permits paralleling of channel inputs. 20db adjacent channel crossover attenuation.



### RECEIVING FILTERS

Catalog No. Case FA-950	Center Frequency (c.p.s.) Insertion Loss 6db	Pass Band (c.p.s.) Attenuation 2db	Stop Band (c.p.s.) Attenuation 33db
FBR-10	425	±42.5	±130
FBR-11	595	±42.5	±130
FBR-12	765	±42.5	±130
FBR-13	935	±42.5	±130
FBR-14	1,105	±42.5	±130
FBR-15	1,275	±42.5	±130
FBR-16	1,445	±42.5	±130
FBR-17	1,615	±42.5	±130
FBR-18	1,785	±42.5	±130
FBR-19	1,955	±42.5	±130
FBR-20	2,125	±42.5	±130
FBR-21	2,295	±42.5	±130
FBR-22	2,465	±42.5	±130
FBR-23	2,635	±42.5	±130
FBR-24	2,805	±42.5	±130
FBR-25	2,975	±42.5	±130
FBR-26	1,955	±85	±260
FBR-27	2,380	±85	±260
FBR-28	2,805	±85	±260
FBR-29	3,230	±85	±260

### TRANSMITTING FILTERS

Catalog No. Case FA-955	Center Frequency (c.p.s.) Insertion Loss 5db	Pass Band (c.p.s.) Attenuation 2db	Stop Band (c.p.s.) Attenuation 20db
FBT-10	425	±42.5	±130
FBT-11	595	±42.5	±130
FBT-12	765	±42.5	±130
FBT-13	935	±42.5	±130
FBT-14	1,105	±42.5	±130
FBT-15	1,275	±42.5	±130
FBT-16	1,445	±42.5	±130
FBT-17	1,615	±42.5	±130
FBT-18	1,785	±42.5	±130
FBT-19	1,955	±42.5	±130
FBT-20	2,125	±42.5	±130
FBT-21	2,295	±42.5	±130
FBT-22	2,465	±42.5	±130
FBT-23	2,635	±42.5	±130
FBT-24	2,805	±42.5	±130
FBT-25	2,975	±42.5	±130
FBT-26	1,955	±85	±260
FBT-27	2,380	±85	±260
FBT-28	2,805	±85	±260
FBT-29	3,230	±85	±260

## ULTRASONICS

New developments and applications of ultrasonics for industrial cleaning, soldering, welding, and mixing have created a demand for generators and components specifically designed for ultrasonic applications.

Using the latest developments in the field of special magnetic materials the FREED ultrasonic transformers are designed for greatest efficiency and maximum reliability. They feature small size excellent performance and long life under continuous duty operation.

Transformers with an extended frequency range (frequencies up to 2 MC) can be supplied upon request.

### ULTRASONIC DRIVER AND INPUT TRANSFORMERS

Frequency Response: ±1 DB 10 KC to 60 KC.

Catalog No.	Application	Primary Impedance Ohms	Ratio	Maximum Power Watts	Maximum Primary O.C. per Side Ma.	Case Size
ULI-20	Transducer to PP 811A	1, 2, 4	1:17.3	5		DM-03
ULD-20	PP 6CM6 to PP 811A	10,000	4.4:1	5	50	DM-03
ULO-50	PP 8000 to PP 8000	7,200	1.7:1	25	90	EA

### ULTRASONIC OUTPUT TRANSFORMERS

Frequency response: ±1 DB 20 KC to 60 KC.

Catalog No.	Application	Impedance in Ohms		Maximum Power Watts	Maximum Primary O.C. per Side Ma.	Case Size
		Primary	Secondary			
ULO-10	PP 6083 to transducer	7,600	1/4	100	120	DC-4B
ULO-11	Same	7,600	2/8	100	120	DC-4B
ULO-12	Same	7,600	4/16	100	120	DC-4B
ULO-13	Same	7,600	7.5/30	100	120	DC-4B
ULO-30	PP 811A to transducer	12,400	1/4	300	170	DC-4B
ULO-31	Same	12,400	2/8	300	170	DC-4B
ULO-32	Same	12,400	4/16	300	170	DC-4B
ULO-33	Same	12,400	7.5/30	300	170	DC-4B
ULO-34	Same	12,400	25	300	170	DC-4B
ULO-35	Same	12,400	125/500	300	170	DC-4B
ULO-36	Same	12,400	250/1000	300	170	DC-4B
ULO-37	Same	12,400	75/300	300	170	DC-4B
ULO-52	PP 8000 to transducer	10,800	4/16	500	230	MA-2
ULO-53	Same	10,800	7.5/30	500	230	MA-2
ULO-54	Same	10,800	25/100	500	230	MA-2
ULO-55	Same	10,800	125/500	500	320	MA-2
ULO-56	Same	10,800	250/1000	500	230	MA-2
ULO-101	PP Par. 8000 to transducer	5,400	25/100	1000	430	DC-6B
ULO-104	Same	5,400	75/300	1000	430	DC-6B
ULO-110	PP 4-250A to transducer	10,900	18.8/75/300	800	250	OL-112-1

### CASE DIMENSIONS



#### DC-4B CASE

Height: 4 3/4"  
Width: 3 1/2"  
Length: 3"  
Mounting: 4 B-32 Studs  
Mtg. Cen.: 2 1/2" x 2 1/2"  
Cutout: (2) 1 3/4" x 3/4"

#### OL-112-1 CASE

Height: 6"  
Width: 5 7/8"  
Length: 4 3/4"  
Mounting: 4 1/4-20 Studs  
Mtg. Cen.: 4 3/4" x 3 3/4"  
Cutout: 3" dia.



#### EA CASE

Height: 2 1/4"  
Width: 1 1/2"  
Length: 1 3/4"  
Mounting: 4 6-32 Studs  
Mtg. Cen.: 1 3/8" x 1 1/4"  
Cutout: 1 3/8"



#### DC-6B CASE

Height: 6"  
Width: 5"  
Length: 4 3/4"  
Mounting: 4 10-32 Studs  
Mtg. Cen.: 3 3/4" x 3"  
Cutout: 3" Dia.



#### DM-03 CASE

Height: 2 1/2"  
Width: 1 1/2"  
Length: 1 1/2"  
Mounting: 4 6-32 Studs  
Mtg. Cen.: 1 1/8" x 1 1/8"  
Cutout: 1 1/4" Dia.



#### MA-2 CASE

Height: 4"  
Width: 4 5/8"  
Length: 3 3/8"  
Mounting: 4 10-32 Studs  
Mtg. Cen.: 2 1/2" x 3 3/4"  
Cutout: (2) 2 3/4" x 3/4"

# FREED TRANSFORMER COMPANY, INC.

# FREED TRANSFORMER CO., INC.

## COMMERCIAL GRADE COMPONENTS

These components are designed to meet the demand for low-cost replacement parts for commercial electronic equipment. The best commercially available materials have been utilized in the design of these units, to insure reliability and excellent performance characteristics. Vacuum impregnation with a non-hygroscopic varnish to prevent penetration of humidity are employed to give these units long life and trouble-free performance. 230-115 V, 50-60 C.P.S. Stepdown Transformers rated from 25 V A up to 5,000 V A Rating and line booster transformers are included in this series. All units, with only a few exceptions, are uncased or of shell-type construction. Isolation transformers and Stepdown transformers are equipped with line cord and receptacle.

### CASE DIMENSIONS



Case No.	Height	Width	Depth	Mfg. Centers	Mfg. Studs
HS300	2 1/8	3	2 1/2	2 1/2 x 2	(4) 3/16 x 3/8
HS303	2 7/8	3	2 1/2	2 1/2 x 2	(4) 3/16 x 3/8
HS306	3 1/4	3	2 1/2	2 1/2 x 2	(4) 3/16 x 3/8
HS307	3 3/8	3	2 1/2	2 1/2 x 2	(4) 3/16 x 3/8
HS503	3 1/2	3 3/4	3 1/8	3 1/8 x 2 1/2	(4) 3/16 x 3/8
HS505	3 3/4	3 3/4	3 1/8	3 1/8 x 2 1/2	(4) 3/16 x 3/8
HS603	3 3/4	4 1/2	3 3/4	3 3/4 x 3	(4) 3/16 x 3/8
HS605	4	4 1/2	3 3/4	3 3/4 x 3	(4) 3/16 x 3/8
HS606	4 1/8	4 1/2	3 3/4	3 3/4 x 3	(4) 3/16 x 3/8
HS610	4 3/8	4 1/2	3 3/4	3 3/4 x 3	(4) 3/16 x 3/8
HS612	4 7/8	4 1/2	3 3/4	3 3/4 x 3	(4) 3/16 x 3/8
HS708	5 1/2	5 1/4	4 3/8	4 3/8 x 3 1/2	(4) 3/16 x 3/8
HS709	6	5 1/4	4 3/8	4 3/8 x 3 1/2	(4) 3/16 x 3/8

Case No.	Height	Width	Depth	Mfg. Centers	Mfg. Studs
OC2B	3 1/2	2 5/8	2 1/4	2 1/4 x 2	(4) 8-32
OC4A	3 3/4	3 1/8	3	2 1/2 x 2 1/2	(4) 8-32
OC5C	4 3/8	4 1/8	3 1/2	3 1/8 x 2 5/8	(4) 10-32
OC6A	4 7/8	5	4 1/8	3 1/2 x 3	(4) 10-32
CH50	1 1/8	2 1/8	1 3/4	2 3/8	(2) 3/16
CH60	2	3 1/4	1 3/4	2 1/8	(2) 3/16
CH62	2	3 1/8	2 1/8	2 1/8	(2) 3/16
CH70	2 1/8	3 1/8	2 1/4	3 1/8	(2) 3/16
CH80	2 3/8	4	2 5/8	3 1/8	(2) 3/16
FV10	3 3/8	2 1/2	2 3/8	2 x 2	(4) 1/8 x 2 1/8
FV12	3 3/8	2 1/2	2 1/8	2 x 2 1/8	(4) 1/8 x 2 1/8
FV22	3 3/8	2 1/8	2 7/8	2 1/4 x 2 1/4	(4) 1/8 x 2 1/8
FV30	4 1/2	3 3/8	3	2 1/2 x 2 1/4	(4) 1/8 x 2 1/8
HB718	6 1/4	6 1/2	8 1/2	4 3/4 x 4 1/2	(4) 3/16 x 3/8
HB728	6 1/2	6 1/2	9 1/4	4 3/4 x 5 1/4	(4) 3/16 x 3/8
HB828	6 3/4	7 1/8	9 7/8	5 1/8 x 5 1/4	(4) 3/16 x 3/8
HB920	6 5/8	7 7/8	10 1/4	6 1/2 x 7 1/8	(4) 3/16 x 3/8
VS300	3 3/8	2 3/8	3	2 x 2	(4) 3/16 x 3/8
VS401	3 3/8	2 1/8	3 1/4	2 1/4 x 1 1/2	(4) 3/16 x 3/8
VS501	3 3/8	3 1/4	3 3/8	2 1/2 x 2 1/8	(4) 3/16 x 3/8
VS503	3 3/8	3 1/4	3 3/8	2 1/2 x 2 1/8	(4) 3/16 x 3/8
VS601	4 1/2	3 7/8	3 3/8	3 x 2 1/8	(4) 3/16 x 3/8
VS604	4 1/2	3 7/8	4	3 x 2 7/8	(4) 3/16 x 3/8
VS611	4 1/2	3 7/8	4 1/4	3 x 3 1/8	(4) 3/16 x 3/8
VS612	4 1/2	3 7/8	5	3 x 3 1/8	(4) 3/16 x 3/8
VS700	5 1/8	3 7/8	5	3 1/2 x 3 1/4	(4) 3/16 x 3/8
VS706	5 1/8	4 3/8	5 1/2	3 1/2 x 3 3/4	(4) 3/16 x 3/8
VS714	5 1/8	4 1/8	6 1/2	3 1/2 x 4 1/4	(4) 3/16 x 3/8
VS718	5 1/8	4 1/8	7	3 1/2 x 5 1/4	(4) 3/16 x 3/8
VS728	5 1/8	4 1/8	8 1/4	3 1/2 x 6 1/2	(4) 3/16 x 3/8

### ISOLATION TRANSFORMERS

Electrostatic shield between primary and secondary. Equipped with standard receptacle and line cord.

Catalog Number	Primary Voltage 50/60 c.p.s.	Secondary Voltage	VA Rating	Case Size
IT 1	115	115	50	VS-401
IT 2	115	115	100	VS-503
IT 3	115	115	300	VS-700
IT 4	115	115	500	VS-714
IT 5*	220/440	110/220	250	VS-612
IT 6*	220/440	110/220	500	VS-714

\*Supplied with leads without line cords and receptacle.

### POWER TRANSFORMERS

All primaries designed for 115-volt, 50-60 cycle operation.

Catalog No.	Py Va	Hi Volt	Choke Input D.C.V. D.C.Ma.	Cond. Input D.C.V. D.C.Ma.	Bias Tap	Rectifier	Fil. No. 1	Fil. No. 2	Fil. No. 3	Case No.
RGP 1	45	500V CT		270 40		6X4 5Y3	5 6.3V @ 2A	6.3V @ 2A		VS300
RGP 2	45	500V CT		270 40		6X4 5Y3	5 6.3V @ 2A	6.3V @ 2A		HS303
RGP 3	57	600V CT		330 50		6X4 5Y3	5 6.3V @ 2A	6.3V @ 2.5A		VS303
RGP 4	57	600V CT		330 50		6X4 5Y3	5 6.3V @ 2A	6.3V @ 2.5A		HS303
RGP 5	64	650V CT		370 50		6X4 5Y3	5 6.3V @ 2A	6.3V @ 3A		VS303
RGP 6	64	650V CT		370 50		6X4 5Y3	5 6.3V @ 2A	6.3V @ 3A		HS303
RGP 7	73	600V CT		320 70		6X4 5Y3	5 6.3V @ 2A	6.3V @ 3A		VS306
RGP 8	73	600V CT		320 70		6X4 5Y3	5 6.3V @ 2A	6.3V @ 3A		HS306
RGP 9	110	650V CT	225 140	330 100		5Y3 5U4	5V @ 3A	6.3V @ 5A		VS503
RGP 10	110	650V CT	225 140	330 100		5Y3 5U4	5V @ 3A	6.3V @ 5A		HS503
RGP 11	76	700V CT	260 100	385 70		5Y3	5V @ 2A	6.3V @ 2.5A		VS307
RGP 12	76	700V CT	260 100	385 70		5Y3	5V @ 2A	6.3V @ 2.5A		HS307
RGP 13	108	700V CT	250 125	370 90		5Y3 5U4	5V @ 3A	6.3V @ 5A		VS503
RGP 14	108	700V CT	250 125	370 90		5Y3 5U4	5V @ 3A	6.3V @ 5A		HS503
RGP 15	127	700V CT	260 170	350 120		5U4	5V @ 3A	6.3V @ 5A		VS505
RGP 16	127	700V CT	260 170	350 120		5U4	5V @ 3A	6.3V @ 5A		HS505
RGP 17	146	700V CT	260 210	350 150		5U4	5V @ 3A	6.3V @ 5A	6.3V @ 1A	VS603
RGP 18	146	700V CT	260 210	350 150		5U4	5V @ 3A	6.3V @ 5A	6.3V @ 1A	HS603
RGP 19	207	800V CT	295 280	400 200		5U4 2-5Y3	5V @ 4A	6.3V @ 6A		VS606
RGP 20	207	800V CT	295 280	400 200		5U4 2-5Y3	5V @ 4A	6.3V @ 6A		HS606
RGP 21	225	800V CT	295 280	400 200		5U4 2-5Y3	5V @ 4A	6.3V @ 6A	5 6.3V @ 2A	VS606
RGP 22	225	800V CT	295 280	400 200		5U4 2-5Y3	5V @ 4A	6.3V @ 6A	5 6.3V @ 2A	HS606
RGP 23	268	840V CT	330 350	450 250		2-5U4	5V @ 6A	6.3V @ 6A	5 6.3V @ 2A	VS612
RGP 24	268	840V CT	330 350	450 250		2-5U4	5V @ 6A	6.3V @ 6A	5 6.3V @ 2A	HS612
RGP 25	320	900V CT	340 420	490 300		2-5U4	5V @ 6A	6.3V @ 6A	5 6.3V @ 2A	VS708
RGP 26	320	900V CT	340 420	490 300		2-5U4	5V @ 6A	6.3V @ 6A	5 6.3V @ 2A	HS708
RGP 27	127	900V CT	360 150	500 150		5U4	5V @ 3A	6.3V @ 5A		VS603
RGP 28	127	900V CT	360 150	500 150		5U4	5V @ 3A	6.3V @ 5A		HS603
RGP 29	150	900V CT	350 200	500 200		5U4	5V @ 3A	6.3V @ 5A		VS605
RGP 30	150	900V CT	350 200	500 200		5U4	5V @ 3A	6.3V @ 5A		HS605
RGP 31	203	1100V CT	400 250	500 250		5R4GY	5V @ 3A	6.3V @ 5A		VS610
RGP 32	203	1100V CT	400 250	500 250		5R4GY	5V @ 3A	6.3V @ 5A		HS610
RGP 33	248	1100V CT	420 300	500 300		2-5R4GY	5V @ 4A	6.3V @ 7A		VS612
RGP 34	248	1100V CT	420 300	500 300		2-5R4GY	5V @ 4A	6.3V @ 7A		HS612
RGP 35	310	1280V CT	480 350	500 350		2-5R4GY	5V @ 4A	6.3V @ 7A		VS709
RGP 36	310	1280V CT	480 350	500 350		2-5R4GY	5V @ 4A	6.3V @ 7A		HS709

### FILAMENT TRANSFORMERS

All primaries are for 115V, 50/60 c.p.s.

Catalog No.	Secondary Voltage	Secondary Current Amps	Secondary Test Voltage RMS	Case Size
TF 1	2.5 (C.T.)	7.5	1500	CH60
TF 2	2.5 (C.T.)	10	1500	CH70
TF 3	2.5 (C.T.)	5	7500	DC2B
TF 4	2.5 (C.T.)	10	7500	DC4A
TF 5	5.0 (C.T.)	4	1500	CH60
TF 6	5.0 (C.T.)	6	1500	CH70
TF 7	5.0 (C.T.)	10	1500	CH80
TF 8	5.0 (C.T.)	10	1500	FV10
TF 9	5.0 (C.T.)	20	2500	FV30
TF 10	5.0 (C.T.)	20	10,000	DC6A
TF 11	5.0 (C.T.)	1.35	1500	CH50
TF 12	6.3 (C.T.)	3	1500	CH60
TF 13	6.3 (C.T.)	7	1500	CH70
TF 14	6.3 (C.T.)	10	1500	FV12
TF 15	6.3 (C.T.)	10	1500	FV22
TF 16	10 (C.T.)	5	2500	CH80
TF 17	10 (C.T.)	5	2500	FV10
TF 18	0 (C.T.)	or 11 (C.T.)	7500	DC-5C
TF 19	(tapped primary)	12.6 (C.T.)	2	CH62

TF 3, 4, 10 & 18 supplied with terminals. All others with leads.

### AUTO TRANSFORMERS

To be used as step-down transformer. Equipped with standard receptacle and line cord.

Catalog No.	Transformation	VA Rating	Weight (lbs.)	Case Size
SDT 1*	230/115 V. 50/60 c.p.s.	25	1	CH-60
SDT 2*	230/115 V. 50/60 c.p.s.	50	1 1/4	CH-62
SDT 3	230/115 V. 50/60 c.p.s.	50	2 1/2	VS-300
SDT 4	230/115 V. 50/60 c.p.s.	100	3	VS-401
SDT 5	230/115 V. 50/60 c.p.s.	200	5	VS-501
SDT 6	230/115 V. 50/60 c.p.s.	300	6 1/2	VS-601
SDT 7	230/115 V. 50/60 c.p.s.	400	8	VS-604
SDT 8	230/115 V. 50/60 c.p.s.	500	11	VS-611
SDT 9	230/115 V. 50/60 c.p.s.	750	15	VS-706
SDT 10	230/115 V. 50/60 c.p.s.	1000	23	VS-718
SDT 11	230/115 V. 50/60 c.p.s.	1500	29 1/2	VS-728
SDT 12*	230/115 V. 50/60 c.p.s.	2000	37	HB-718
SDT 13*	230/115 V. 50/60 c.p.s.	2500	47	HB-728
SDT 14*	230/115 V. 50/60 c.p.s.	3000	58	HB-828
SDT 15*	230/115 V. 50/60 c.p.s.	5000	72	HB-920

\*Supplied with leads without line cord and receptacle.

### LINE BOOSTER TRANSFORMERS

Operates from 90 to 110 volts input to provide 10% step-up.

Catalog Number	Primary Voltage	Secondary Voltage	VA Rating	Case Size
LB-1	90-110	1.1 x input	350	VS-300
LB-2	90-110	1.1 x input	2000	VS-611



# FREED TRANSFORMER CO., INC.

## COMMERCIAL GRADE COMPONENTS

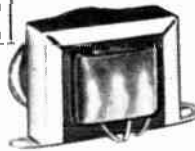
### AUDIO TRANSFORMERS

Catalog No.	Application	Impedance Level Primary Secondary	Max. Power Level Watts	Ratio	Max. Pri. R.C. per Side	D.C. Unbalance Ma.	Freq. Response C.P.S.	Case No.
RGA 1	Input; multiple line or double button mike to single or push-pull grids	500 CT 200 CT	100 000 CT	-20	1:14.1	50	±20B 200-5000	CH-40
RGA 2	Input; single button mike to single or push-pull grids	100	100 000 CT	+20	1:31.6	50	±20B 200-5000	CH-40
RGA 3	Input; voice coil to grid. Intercom	3:2	100,000	-20	1:179		±20B 200-5000	CH-40
RGA 4	Mixing and matching line to line	600 CT 500 CT 200 CT	600 CT 500 CT 200 CT	-20	1:1		±20B 100-5000	CH-40
RGA 5	Interstage; single triode plate to single or P.P. grids	10 000	90 000 CT	-30	1:3	10	±20B 200-5000	CH-40
RGA 6	Output; single plate to line or mixer	10 000	600 CT 500 CT 200 CT	-30	4:8:1	10	±20B 200-5000	CH-40
RGA 7	Output; Push-pull plate to line or mixer	20 000 CT	150/125/50	-30	6:32:1	10	±20B 200-5000	CH-40
RGA 8	Output; plate to V.C. 6A16, 6L6 6V6, 25B6, 25C6, 35A5, 35B5, 35C5, 50B5, 50C5, 50C6, 50L6, 117M7	2500	3:2	5W		70	±30B 200-10000	CH-40
RGA 9	Output; plate to V.C. 6V6, 6A05, 6AS5, 7C5, 6V6, 7B5, 14A5, 35A, 3U4, 3Q4, 3Q5, 3C5, 3M4	5000	3:2	5W		50	±30B 200-10000	CH-40
RGA 10	Output; plate to V.C. 6AR5, 6K6, 6V6, 7B5, 14A5, 35A, 3U4, 3Q4, 3Q5, 3C5, 3M4	10 000 or 7500	3:2	5W		30	±30B 200-10000	CH-40
RGA 11	Output; P.P. plates to V.C. P.P. 6V6, 6P56S	17 000 CT or 8000 CT	3:2	15W		50	±30B 200-8000	CH-60
RGA-12	Output; TP1-V.C. P.P. 6A05, 7C5, C1A8	10,000 CT	3:2	10W	5.6:1	40	±30B 700-10000	CH-60

### COMMERCIAL GRADE CHOKES

Catalog No.	Inductance in Henries	Rated Current D.C. Ma.	D.C. Resistance	Distorting Test Voltage	Case Number
REC 17	40	15	2000	1000	CH-40
REC 1	4	40	200	1000	CH-40
REC 2	9	40	400	1000	CH-40
REC 3	5	50	400	1000	CH-40
REC 10	20	50	425	1500	CH-60
REC 4	10	55	400	1500	CH-50
REC 19	3	75	200	1500	CH-40
REC 5	10	75	250	1500	CH-60
REC 6	10	75	250	1500	VS 100
REC 7	6	100	150	1500	CH-60
REC 8	6	100	150	1500	VS 100
REC 9	3.5	150	100	1500	CH-60
REC 10	3.5	150	100	1500	VS 100
REC 20	12	160	180	2500	VS 306
REC 11	2	200	60	1500	CH-60
REC 12	2	200	60	1500	VS 100
REC 13	3.7	200	65	1500	CH-80
REC 21	7	200	100	2500	VS 303
REC 14	3.7	200	65	1500	VS 300
REC 15	2.8	300	65	1500	CH-80
REC 16	2.8	300	65	1500	VS 300
REC 22	5	300	65	2500	VS 308

### CASE DIMENSIONS



CH CASE



VS CASE

#### CH-40 CASE

Height: 1 1/4"  
Width: 2 3/8"  
Depth: 1 1/8"  
Mtg. Cen.: 2"

#### CH-50 CASE

Height: 2 1/4"  
Width: 1 3/4"  
Depth: 2 1/4"  
Mtg. Cen.: 2 1/4"

#### CH-60 CASE

Height: 2"  
Width: 3 1/4"  
Depth: 1 3/8"  
Mtg. Cen.: 2 1/8"

#### CH-80 CASE

Height: 2 1/2"  
Width: 4"  
Depth: 2 1/2"  
Mtg. Cen.: 3 1/4"

#### VS-100 CASE

Height: 2 1/4"  
Width: 1 7/8"  
Depth: 2 1/4"  
Mtg. Cen.: 1 1/2" x 1 1/4"

#### VS-300 CASE

Height: 3 3/8"  
Width: 2 3/8"  
Depth: 2 1/2"  
Mtg. Cen.: 2" x 1 1/4"

#### VS-303 CASE

Height: 3 3/8"  
Width: 2 3/8"  
Depth: 3 1/8"  
Mtg. Cen.: 2x1 1/4"  
Mtg. Hole: (4) 3/16 x 3/16"

#### VS-306 CASE

Height: 3 3/8"  
Width: 2 3/8"  
Depth: 3 3/8"  
Mtg. Cen.: 2x2 3/4"  
Mtg. Hole: (4) 3/16 x 3/16"

#### VS-308 CASE

Height: 3 3/8"  
Width: 2 3/8"  
Depth: 3 3/8"  
Mtg. Cen.: 2" x 2 1/4"

## PRICE LIST

Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price
EPT-1	8.75	MAS-1	55.00	MCV-6-5FC	12.00	MGC-31	*	MPT-20C	17.00	PGC-9	8.70
EPT-2	8.75	MAS-2	37.00	MCV-6-25FC	18.00	MGC-32	7.90	MPT-20M	21.40	PGC-10	9.00
EPT-3	8.75	MAS-3	65.00	MCV-6-75FC	28.00	MGC-33	7.90	MPT-20H	27.60	PGC-11	12.30
EPT-4	8.75	MAS-4	73.00	MCV-6-125FC	35.00	MGC-34	7.90	MPT-21C	24.00	PGC-12	12.30
EPT-5	8.75	MAS-5	33.00	MCV-6-5LM	20.00	MGC-35	7.90	MPT-21M	27.60	PGC-13	13.95
EPT-6	8.75	MAS-6	60.00	MCV-6-25LM	27.00	MGC-36	7.90	MPT-21H	22.40	PGC-14	8.75
EPT-7	8.75	MAS-7	60.00	MCV-6-75LM	37.00	MGC-37	7.90	MPT-22M	26.00	PGC-15	9.45
EPT-8	11.00	MAS-8	24.00	MCV-6-125LM	45.00	*Not stocked, available on short delivery. Prices on request.					
EPT-9	11.00	MAS-9	87.50	MCV-6-175LM	53.00	MGC-1	13.50	MPT-22H	30.60	PGC-16	9.15
EPT-11	8.75	MAS-101	62.50	MCV-6-250LM	62.00	MGC-2	15.00	MPT-23C	24.00	PGC-17	8.70
EPT-12	8.75	MAT-1-1	148.50	MCV-6-375LM	76.00	MGC-3	13.50	MPT-23M	27.10	PGC-18	12.20
EPT-13	11.00	MCV-4-5LC	14.00	MCV-6-500LM	90.00	MGC-4	15.00	MPT-23H	25.00	PGC-19	12.20
EPT-14	11.00	MCV-4-25LC	20.00	MCV-6-750LM	123.00	MGC-5	15.00	MPT-24M	19.30	PGC-20	13.85
EPT-15	14.00	MCV-4-75LC	30.00	MCV-6-1000LM	150.00	MGC-6	18.00	MPT-24C	15.75	PGC-21	16.20
EPT-16	14.00	MCV-4-125LC	38.00	MCV-6-54FM	20.00	MGC-7	15.00	MPT-25C	16.10	PGC-22	18.00
EPT-17	13.50	MCV-4-175LC	45.00	MCV-6-25-4FM	26.00	MGC-8	15.00	MPT-25M	20.80	PGC-23	9.60
EPT-18	13.50	MCV-4-250LC	54.00	MCV-6-75-4FM	37.00	MGC-9	19.50	MPT-25H	26.60	PGC-24	10.08
EPT-19	13.50	MCV-4-375LC	69.00	MCV-6-125-4FM	45.00	MGC-10	24.00	MPT-26C	24.00	PGC-25	10.08
Note—Molded Units \$1.00 additional.											
IT-1	7.25	MCV-4-500LC	85.00	MCV-6-5FM	21.00	MGC-11	24.00	MPT-26M	25.30	PGC-26	10.08
IT-2	11.40	MCV-4-750LC	115.00	MCV-6-25FM	27.00	MGC-12	19.50	MPT-26H	23.50	PGC-27	12.60
IT-3	26.40	MCV-4-1000LC	143.00	MCV-6-75FM	37.00	MGC-13	28.00	MPT-27C	23.40	PGC-28	12.60
IT-4	31.95	MCV-4-5-4FC	14.00	MCV-6-125FM	46.00	MGC-14	22.20	MPT-27M	25.30	PGC-29	13.20
IT-5	26.40	MCV-4-25-4FC	20.00	MGA-1	13.75	MGP-1	24.00	MPT-27H	34.50	PGC-30	16.60
IT-6	34.95	MCV-4-75-4FC	30.00	MGA-2	13.25	MGP-2	20.40	PGA-1	16.50	PGC-31	19.80
KA-10	19.00	MCV-4-125-4FC	38.00	MGA-3	12.75	MGP-3	33.00	PGA-2	16.50	PGC-32	21.00
KP-11	10.50	MCV-4-5FC	15.00	MGA-4	12.75	MGP-5	39.00	PGA-3	16.50	PGC-33	26.15
KC-10	5.40	MCV-4-25FC	21.00	MGA-5	11.65	MGP-6	21.00	PGA-4	14.10	PGC-34	30.40
KC-11	1.90	MCV-4-75FC	31.00	MGA-6	12.00	MGP-7	21.00	PGA-5	14.85	PGC-35	15.12
LB-1	8.40	MCV-4-125FC	22.00	MGA-7	11.65	MGP-8	37.50	PGA-6	18.15	PGC-36	16.20
LB-2	23.25	MCV-4-25LM	28.00	MGA-8	12.00	MGP-9	20.20	PGA-7	12.40	PGC-37	21.80
MAC-5-2-F1	42.50	MCV-4-75LM	39.00	MGA-9	11.65	MGP-10	17.25	PGA-8	12.40	PGC-38	26.15
MAC-5-1-F2	42.50	MCV-4-125LM	48.00	MGC-1	8.65	MGP-11	23.00	PGA-9	12.40	PGC-39	32.40
MAC-5-3-F2	42.50	MCV-4-175LM	55.00	MGC-2	7.10	MGP-12	23.00	PGA-10	13.20	PGC-40	32.40
MAC-5-4-F2	42.50	MCV-4-250LM	66.00	MGC-3	7.50	MGP-13	20.20	PGA-11	14.05	PGC-41	9.40
MAC-12-3-60	29.95	MCV-4-375LM	81.00	MGC-4	8.35	MGP-14	17.25	PGA-12	14.05	PGC-42	12.58
MAC-12-10-1	36.50	MCV-4-500LM	100.00	MGC-5	8.65	MGP-15	20.20	PGA-13	16.50	PGC-43	8.93
MAC-12-10-2	44.20	MCV-4-750LM	131.00	MGC-6	7.10	MGP-16	17.25	PGA-14	16.50	PGC-44	8.93
MAC-12-20-1	46.50	MCV-4-1000LM	160.00	MGC-7	7.50	MGP-17	25.90	PGA-15	20.65	PGC-45	10.90
MAC-12-20-2	46.50	MCV-4-5-4FM	22.00	MGC-8	8.05	MGP-18	23.00	PGA-16	20.65	PGC-46	10.90
MAC-12-20-3	57.00	MCV-4-25-4FM	28.00	MGC-9	7.50	MGP-19	20.20	PGA-17	20.65	PGC-47	10.90
MAC-12-30-1	63.70	MCV-4-75-4FM	39.00	MGC-10	8.05	MGP-20	31.60	PGA-18	18.00	PGC-48	10.90
MAC-12-30-2	63.70	MCV-4-125-4FM	48.00	MGC-11	19.00	MGP-21	17.50	PGA-19	20.65	PGC-49	10.25
MAF-4	78.00	MCV-4-5FM	23.00	MGC-12	7.50	MGP-22	11.65	PGA-20	20.65	PGC-50	9.40
MAF-5	80.00	MCV-4-25FM	29.00	MGC-13	8.05	MGP-23	22.10	PGA-21	20.65	PGC-51	9.40
MAF-6	180.00	MCV-4-75FM	40.00	MGC-14	10.00	MGP-24	19.45	PGA-22	22.55	PGC-52	9.40
MAF-7	180.00	MCV-4-125FM	49.00	MGC-15	10.90	MGP-25	24.00	PGA-23	22.55	PGC-53	9.40
MAO-1	70.00	MCV-6-5LC	11.00	MGC-16	8.05	MGP-26	29.00	PGA-24	20.65	PGC-54	9.40
MAO-2	102.00	MCV-6-25LC	17.00	MGC-17	10.90	MGP-27	17.95	PGA-25	36.30	PGC-55	9.40
MAO-3	110.00	MCV-6-75LC	27.00	MGC-18	11.50	MGP-28	22.00	PGA-26	20.65	PGC-56	9.40
MAO-4	155.00	MCV-6-25LC	34.00	MGC-19	11.50	MGP-29	30.50	PGA-27	20.65	PGC-57	9.40
MAO-5	175.00	MCV-6-175LC	41.00	MGC-20	10.00	MGP-30	21.70	PGA-28	20.65	PGC-58	9.40
MAP-1	90.00	MCV-6-75LC	50.00	MGC-21	*	MGP-31	26.30	PGA-29	20.65	PGC-59	9.40
MAP-2	150.00	MCV-6-250LC	64.00	MGC-22	19.90	MGP-32	32.30	PGA-30	36.30	PGC-60	9.40
MAP-3	225.00	MCV-6-375LC	64.00	MGC-23	*	MGP-33	22.40	PGC-1	6.30	PGC-61	9.40
MAP-301	175.00	MCV-6-500LC	76.00	MGC-24	20.70	MGP-34	26.00	PGC-2	6.30	PGC-62	9.40
MAP-4	280.00	MCV-6-750LC	104.00	MGC-25	*	MGP-35	22.40	PGC-3	6.30	PGC-63	9.40
MAP-7	105.00	MCV-6-1000LC	128.00	MGC-26	18.40	MGP-36	14.70	PGC-4	7.05	PGC-64	22.30
MAP-8	133.00	MCV-6-54FC	11.00	MGC-27	*	MGP-37	17.00	PGC-5	7.05	PGC-65	27.70
MAP-8	133.00	MCV-6-25-4FC	27.00	MGC-28	18.40	MGP-38	22.40	PGC-6	7.05	PGC-66	19.80
MAP-11	95.00	MCV-6-75-4FC	27.00	MGC-29	*	MGP-39	26.00	PGC-7	7.05	PGC-67	27.70
		MCV-6-125-4FC	34.00	MGC-30	*						

# FREED TRANSFORMER CO., INC.

## PRICE LIST

Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price
QCC-25	10.50	TDC-28-25-12	54.80	TPA-38	8.03	TUA-38	7.59	DST-30	60.00	LPO-19	62.80	F-1519	8.35
QCC-26	10.50	TDC-28-30-05	45.30	TPA-39	8.03	ULD-20	12.50	DST-31	60.00	LPO-20	61.15	F-1520	8.35
QCC-27	10.50	TDC-28-20-05	42.90	TPA-40	8.03	ULD-50	19.55	DST-32	60.00	LPO-21	55.60	F-1521	8.55
QCC-28	10.50	TDC-48-20-15	72.50	TSA-1	7.15	ULI-20	12.50	DST-33	60.00	LPO-22	55.60	F-1522	8.55
QCC-29	10.50	TDC-48-30-15	75.00	TSA-2	7.15	ULO-10	31.20	FBP-10	86.00	LPO-23	48.20	F-1523	8.75
QCC-30	10.50	TF-1	3.42	TSA-3	6.93	ULO-11	31.20	FBP-11	86.00	LPO-24	47.10	F-1524	8.75
QCC-31	10.50	TF-2	4.55	TSA-4	6.93	ULO-12	31.20	FBP-12	86.00	LPO-25	47.10	F-1525	9.05
QCC-32	10.50	TF-3	11.40	TSA-5	6.93	ULO-13	31.20	FBP-13	86.00	LPO-26	47.10	F-1526	9.05
QCC-33	10.50	TF-4	14.00	TSA-6	7.70	ULO-14	35.75	FBP-14	70.80	LPO-27	48.20	F-1527	9.25
QCC-34	10.50	TF-5	3.42	TSA-7	7.15	ULO-15	35.75	FBP-15	70.80	LPO-28	47.10	F-1528	9.75
QCC-35	10.50	TF-6	4.55	TSA-8	7.15	ULO-16	35.75	FBP-16	70.80	LPO-29	47.10	F-1529	10.10
QCC-36	10.50	TF-7	5.00	TSA-9	7.15	ULO-17	35.75	FBP-17	70.80	LPO-30	47.10	F-1530	10.10
QCC-37	10.50	TF-8	7.15	TSA-10	7.70	ULO-18	35.75	FBP-18	70.80	LPO-31	48.20	F-1531	10.35
QCC-38	10.50	TF-9	8.74	TSA-11	7.70	ULO-19	35.75	FBP-19	70.80	LPO-32	47.10	F-1532	10.75
QCC-39	10.50	TF-10	18.20	TSA-12	8.25	ULO-20	35.75	FBP-20	70.80	LPO-33	47.10	F-1533	11.25
QCC-40	10.50	TF-11	2.28	TSA-13	8.25	ULO-21	35.75	FBP-21	70.80	LPO-34	47.10	F-1534	11.75
QCC-41	10.50	TF-12	3.42	TSA-14	8.25	ULO-22	93.75	FBP-22	70.80	LPO-35	47.10	F-1535	11.75
QCC-42	10.50	TF-13	4.55	TSA-15	8.80	ULO-23	93.75	FBP-23	70.80	NTF-30	25.00	F-1536	12.75
QCC-43	10.50	TF-14	5.33	TSA-16	7.70	ULO-24	93.75	FBP-24	86.00	NTF-60	25.00	F-1537	13.10
QCC-44	4.50	TF-15	6.74	TSA-17	7.70	ULO-25	93.75	FBP-25	70.80	NTF-120	25.00	F-1538	13.60
QCC-45	3.63	TF-16	5.00	TSA-18	7.70	ULO-26	93.75	FBP-26	86.00				
QCC-46	4.50	TF-17	7.15	TSA-19	8.25	ULO-101	181.00	FBP-27	86.00				
QCC-47	3.63	TF-18	18.20	TSA-20	7.70	ULO-104	181.00	FBP-28	86.00				
QCC-48	4.33	TF-19	3.80	TSA-21	7.15	ULO-110	181.00	FBP-29	86.00				
QCC-49	4.50	TMA-1	8.25	TSA-22	7.42	VHI-1	9.50	FBP-30	86.00				
QCC-50	2.06	TMA-2	10.50	TSA-23	7.15	VHI-2	9.50	FBP-31	86.00				
QCC-51	2.06	TMA-3	8.60	TSA-24	7.70	VHI-3	9.50	FBP-32	86.00				
QCC-52	2.48	TMA-4	10.90	TSA-25	6.60	VHI-4	9.50	FBP-33	86.00				
QCC-53	3.63	TMA-5	10.90	TSA-26	6.60	VHI-5	9.50	FBP-34	73.00				
QCC-54	3.63	TMA-6	10.90	TSA-27	8.25	VHI-6	9.50	FBP-35	73.00				
QCC-55	1.69	TMA-7	8.90	TSA-28	6.60	VHI-7	9.50	FBP-36	73.00				
QCC-56	1.69	TMA-8	10.56	TSA-29	6.60	VHI-8	9.50	FBP-37	73.00				
QCC-57	1.69	TMA-9	8.60	TSA-30	6.93	VHI-9	9.50	FBP-38	73.00				
QCC-58	1.90	TMA-10	8.25	TSA-31	6.60	VHI-10	9.50	FBP-39	80.00				
QCC-59	2.29	TMA-11	8.60	TSA-32	6.60	VHI-11	9.50	FBP-40	80.00				
QCC-60	3.41	TMA-12	10.90	TSA-33	6.60	VHI-12	9.50	FBP-41	88.00				
QCC-61	2.29	TMA-13	8.25	TSA-34	7.15	VHI-13	9.50	FBP-42	88.00				
QCC-62	2.29	TMA-14	10.90	TSA-35	6.60	VHI-14	9.50	FBP-43	88.00				
QCC-63	3.41	TMA-15	4.30	TSA-36	6.60	VHI-15	9.50	FBP-44	88.00				
QCC-64	3.41	TMO-16	4.30	TSA-37	7.15	VHI-16	9.50	FBP-45	88.00				
QCC-65	2.29	TMO-17	3.64	TSA-38	7.70	VHI-17	9.50	FBP-46	88.00				
QCC-66	3.41	TMO-18	4.30	TSA-39	7.15	VHI-18	9.50	FBP-47	88.00				
QCC-67	3.62	TMA-19	8.25	TSA-40	7.42	VHI-19	9.50	FBP-48	88.00				
QCC-68	5.17	TNA-1	6.95	TSA-41	8.90	VHI-20	9.50	FBP-49	88.00				
QCC-69	3.62	TNA-2	6.95	TAA-1	7.26	VHI-21	9.50	FBP-50	88.00				
QCC-70	1.69	TNA-3	7.38	TAA-2	9.46	VHI-22	9.50	FBP-51	88.00				
QCC-71	2.07	TNA-4	6.60	TAA-3	10.00			FBP-52	88.00				
QCC-72	2.60	TNA-5	6.60	TAA-4	9.46			FBP-53	88.00				
QCC-73	1.69	TNA-6	7.38	TAA-5	7.26			FBP-54	88.00				
QCC-74	5.85	TNA-7	6.95	TAA-6	9.63			FBP-55	88.00				
QCC-75	5.85	TNA-8	6.95	TAA-7	9.46			FBP-56	88.00				
QCC-76	7.60	TNA-9	8.15	TAA-8	9.76			FBP-57	88.00				
QCC-77	6.62	TNA-10	7.50	TAA-9	9.30			FBR-10	89.50				
QCC-78	7.04	TNA-11	8.15	TAA-10	9.30			FBR-11	89.50				
QCC-79	7.04	TNA-12	8.15	TAA-11	9.35			FBR-12	89.50				
QCC-80	7.04	TNA-13	8.15	TAA-12	8.90			FBR-13	89.50				
QCC-81	7.04	TNA-14	8.15	TAA-13	10.00			FBR-14	89.50				
QCC-82	7.04	TNA-15	8.25	TAA-14	8.90			FBR-15	89.50				
QCC-83	7.75	TNA-16	7.38	TAA-15	9.40			FBR-16	89.50				
QCC-84	7.75	TNA-17	7.38	TAA-16	8.90			FBR-17	89.50				
QCC-85	9.50	TNA-18	9.50	TAA-17	8.90			FBR-18	89.50				
QCC-86	9.50	TNA-19	7.93	TAA-18	8.90			FBR-19	89.50				
QCC-87	7.75	TNA-20	7.38	TAA-19	8.90			FBR-20	89.50				
QCC-88	7.75	TNA-21	6.60	TAA-20	8.90			FBR-21	89.50				
QCC-89	9.50	TNA-22	7.25	TAA-21	8.90			FBR-22	89.50				
QCC-90	9.50	TNA-23	6.95	TAA-22	9.30			FBR-23	89.50				
QCC-91	10.00	TNA-24	6.95	TAA-23	9.30			FBR-24	89.50				
QCC-92	10.00	TNA-25	6.50	TAA-24	9.30			FBR-25	89.50				
QCC-93	11.74	TNA-26	6.50	TAA-25	9.30			FBR-26	89.50				
QCC-94	11.74	TNA-27	7.93	TAA-26	9.79			FBR-27	89.50				
QCC-95	12.40	TNA-28	6.38	TAA-27	8.90			FBR-28	89.50				
QCC-96	12.40	TNA-29	6.38	TAA-28	9.30			FBR-29	89.50				
QCC-97	16.20	TNA-30	6.60	TAA-29	9.30			FBR-30	89.50				
QCC-98	16.20	TNA-31	6.38	TAA-30	9.30			FBR-31	89.50				
QCC-99	21.80	TNA-32	6.38	TAA-31	9.79			FBR-32	89.50				
QCC-100	21.80	TNA-33	6.60	TAA-32	9.30			FBR-33	89.50				
QCC-101	21.80	TNA-34	6.95	TAA-33	9.79			FBR-34	89.50				
QCC-102	26.00	TNA-35	6.95	TAA-34	9.30			FBR-35	89.50				
QCC-103	26.00	TNA-36	6.50	TAA-35	9.46			FBR-36	89.50				
QCC-104	9.65	TNA-37	6.50	TAA-36	9.46			FBR-37	89.50				
QCC-105	9.65	TNA-38	6.95	TAA-37	9.25			FBR-38	89.50				
QCC-106	11.74	TNA-39	7.50	TAA-38	10.00			FBR-39	89.50				
QCC-107	11.74	TNA-40	6.95	TAA-39	9.25			FBR-40	89.50				
QCC-108	17.30	TNA-41	7.15	TAA-40	9.46			FBR-41	89.50				
QCC-109	17.30	TPA-1	8.36	TAA-41	6.60			FBR-42	89.50				
QCC-110	21.80	TPA-2	8.36	TAA-42	6.60			FBR-43	89.50				
QCC-111	21.80	TPA-3	8.36	TAA-43	6.60			FBR-44	89.50				
QCC-112	26.00	TPA-4	8.85	TAA-44	6.60			FBR-45	89.50				
QCC-113	26.00	TPA-5	8.36	TAA-45	6.60			FBR-46	89.50				
QCC-114	2.63	TPA-6	8.36	TAA-46	6.60			FBR-47	89.50				
QCC-115	3.07	TPA-7	8.36	TAA-47	6.93			FBR-48	89.50				
QCC-116	5.39	TPA-8	8.85	TAA-48	6.93			FBR-49	89.50				
QCC-117	7.18	TPA-9	8.36	TAA-49	6.93			FBR-50	89.50				
QCC-118	8.98												

# FREED TRANSFORMER CO., INC.

## PRICE LIST

Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	
<b>Type TI-5</b>														
F-1700	5.70	F-1793	8.65	F-2053	5.85	<b>Type TI-23s</b>		F-2556	8.10	F-2711	13.60	<b>Type TI-34</b>		
F-1701	5.70	F-1794	9.65	F-2054	5.85	F-2301	6.25	F-2557	8.20	F-2712	13.75	F-2900	5.60	
F-1702	5.70	F-1795	9.00	F-2055	6.30	F-2302	6.25	F-2558	8.20	F-2713	14.10	F-2901	5.80	
F-1703	6.20	F-1796	9.45	F-2056	6.80	F-2303	6.25	F-2559	8.20	F-2714	14.20	F-2902	5.60	
F-1704	6.65	F-1797	10.00	F-2057	7.05	F-2304	6.25	F-2560	8.30	F-2715	14.30	F-2903	5.60	
F-1705	6.90			F-2058	7.25	F-2305	6.25	F-2561	8.50	F-2716	14.50	F-2904	5.60	
F-1706	7.10	<b>Type TI-2s</b>			F-2059	7.35	F-2306	6.25	F-2562	8.60	F-2717	14.70	F-2905	5.80
F-1707	7.35	F-1800	14.20	F-2060	7.70	F-2307	6.75	F-2563	8.80	F-2718	15.10	F-2906	5.80	
F-1708	7.60	F-1801	14.20	F-2061	8.00	F-2308	6.75	F-2564	8.95	F-2719	15.20	F-2907	6.00	
F-1709	7.85	F-1802	14.20	F-2062	8.20	F-2309	6.75	F-2565	9.10	F-2720	15.30	F-2908	6.00	
F-1710	8.05	F-1803	14.20	F-2063	8.45	F-2310	6.75	F-2566	9.30	F-2721	15.50	F-2909	6.00	
F-1711	8.30	F-1804	14.20	F-2064	9.75	F-2311	7.50	F-2567	9.50	F-2722	15.70	F-2910	6.30	
F-1712	9.00	F-1805	14.65	F-2065	10.80	F-2312	7.50	F-2568	9.90	F-2723	15.80	F-2911	8.60	
F-1713	9.60	F-1806	14.65	F-2066	11.00	F-2313	7.50	F-2569	10.50	F-2724	15.95	F-2912	6.60	
F-1714	9.80	F-1807	14.65	F-2067	11.40	<b>Type TI-24</b>		F-2570	10.70	F-2725	16.05	F-2913	7.30	
F-1715	10.25	F-1808	14.65	F-2068	11.65	F-2400	5.90	F-2571	11.40	F-2726	16.20	F-2914	6.30	
F-1716	10.60	F-1809	14.65	F-2069	12.00	F-2401	5.90	F-2572	11.60	F-2727	16.50	F-2915	8.30	
F-1717	10.95	F-1810	14.65	<b>Type TI-17</b>		F-2402	5.90	F-2573	11.80	F-2728	16.70	F-2916	8.40	
F-1718	11.20	F-1811	14.90	F-2100	7.90	F-2403	5.90	F-2574	12.10	F-2729	17.00	F-2917	8.60	
F-1719	11.50	F-1812	14.90	F-2101	7.90	F-2404	6.05	F-2575	12.40	F-2730	17.50	F-2918	8.60	
F-1720	11.90	F-1813	14.90	F-2102	7.90	F-2405	6.05	F-2576	12.90	F-2731	17.95	F-2919	8.80	
<b>Type TI-5s</b>														
F-1700s	7.90	<b>Type TI-8 and 8s</b>		F-2103	7.90	F-2406	6.05	F-2577	13.40	F-2732	18.90	F-2920	6.90	
F-1701s	7.90	F-1821	8.65	F-2104	7.90	F-2407	6.05	F-2578	13.70	F-2733	19.45	<b>Type TI-35</b>		
F-1702s	7.90	F-1822	8.65	F-2105	7.90	F-2408	6.30	F-2579	13.90	F-2734	20.40	F-2950	6.80	
F-1703s	7.90	F-1823	8.65	F-2106	7.90	F-2409	6.30	F-2580	14.20	F-2735	21.85	F-2951	6.90	
F-1704s	8.15	F-1824	8.65	F-2107	7.90	F-2410	6.80	F-2581	14.50	F-2736	22.50	F-2952	7.20	
F-1705s	8.15	F-1825	8.65	F-2108	7.90	F-2411	7.05	<b>Type TI-28</b>		F-2737	16.50	F-2953	7.40	
F-1706s	8.15	F-1826	8.65	F-2109	7.90	F-2412	7.25	F-2600	6.75	F-2738	16.70	F-2954	7.60	
F-1707s	8.50	F-1827	8.65	F-2110	7.90	F-2413	7.35	F-2601	6.85	F-2739	17.00	F-2955	7.80	
F-1708s	8.80	F-1828	8.65	F-2111	8.05	F-2414	7.70	F-2602	6.90	F-2740	17.50	F-2956	8.00	
F-1709s	8.95	F-1829	8.65	F-2112	8.05	F-2415	8.00	F-2603	6.95	F-2741	17.95	F-2957	8.10	
F-1710s	9.05	F-1830	8.65	F-2113	8.25	F-2416	8.20	F-2604	6.95	F-2742	18.40	F-2958	8.30	
F-1711s	9.20	F-1831	8.65	F-2114	8.25	F-2417	8.45	F-2605	7.05	F-2743	18.90	F-2959	8.50	
F-1712s	9.30	F-1832	8.65	F-2115	8.65	F-2418	9.75	F-2606	7.30	F-2744	19.45	F-2960	8.70	
F-1713s	9.60	F-1833	8.65	F-2116	8.65	F-2419	10.50	F-2607	7.40	F-2745	20.40	F-2961	8.80	
F-1714s	9.80	F-1834	9.00	F-2117	9.05	F-2420	10.80	F-2608	7.60	F-2746	21.85	F-2962	9.05	
F-1715s	10.25	F-1835	9.00	<b>Type TI-18</b>		F-2421	11.00	F-2609	7.80	F-2747	22.50	F-2963	9.20	
F-1716s	10.65	F-1836	9.00	F-2140	8.65	F-2422	11.40	F-2610	7.90	<b>Type TI-31</b>				
F-1717s	10.85	F-1837	9.10	F-2141	8.65	<b>Type TI-25</b>		F-2611	7.60	F-2751	14.40	F-2951	6.80	
F-1718s	11.20	F-1838	9.40	F-2142	8.65	F-2450	7.90	F-2612	7.60	F-2752	14.80	F-2952	6.90	
F-1719s	11.50	F-1839	9.50	F-2143	8.65	F-2451	7.90	F-2613	7.60	F-2753	14.90	F-2953	7.00	
F-1720s	11.90	F-1840	9.90	F-2144	8.65	F-2452	7.90	F-2614	8.70	F-2754	15.50	F-2954	7.20	
<b>Type TI-6 and 6s</b>														
F-1726	8.15	<b>Type TI-3s</b>		F-2145	8.65	F-2453	7.90	F-2615	8.70	F-2755	15.80	F-3000	5.90	
F-1727	8.15	F-1844	14.25	F-2146	8.65	F-2454	7.70	F-2616	8.80	F-2756	16.05	F-3001	5.90	
F-1728	8.15	F-1845	14.25	F-2147	8.65	F-2455	7.70	F-2617	9.55	F-2757	16.50	F-3002	6.00	
F-1729	8.15	F-1846	14.25	F-2148	8.65	F-2456	7.50	F-2618	9.70	F-2758	16.80	F-3003	6.00	
F-1730	8.15	F-1847	14.25	F-2149	8.65	F-2457	7.50	F-2619	9.90	F-2759	17.00	F-3004	6.15	
F-1731	8.15	F-1848	14.25	F-2150	8.65	F-2458	7.30	F-2620	10.05	F-2760	17.50	F-3005	6.30	
F-1732	8.45	F-1849	14.25	F-2151	8.75	F-2459	7.30	F-2621	10.10	F-2761	17.90	F-3006	6.30	
F-1733	8.45	F-1850	14.25	F-2152	8.85	F-2460	7.20	F-2622	10.20	F-2762	18.05	F-3007	6.60	
F-1734	8.55	F-1851	14.25	F-2153	9.00	F-2461	7.10	F-2623	10.30	F-2763	18.20	F-3008	6.60	
F-1735	8.55	F-1852	14.25	F-2154	9.20	F-2462	7.10	F-2624	10.50	F-2764	18.40	F-3009	6.80	
F-1736	8.55	F-1853	14.25	F-2155	9.50	F-2463	7.05	F-2625	11.80	F-2765	18.60	F-3010	6.80	
F-1737	9.00	F-1854	14.25	F-2156	9.70	F-2464	7.00	F-2626	11.90	F-2766	18.95	F-3011	7.20	
F-1738	10.00	F-1855	14.25	<b>Type TI-19</b>		F-2465	7.00	F-2627	12.20	F-2767	19.05	F-3012	7.40	
F-1739	10.00	<b>Type TI-3As</b>		F-2180	7.90	F-2466	7.05	F-2628	12.35	F-2768	19.15	F-3013	7.70	
F-1740	10.00	F-1856	20.00	F-2181	7.90	F-2467	7.10	F-2629	12.65	F-2769	19.50	F-3014	8.20	
F-1741	10.00	F-1857	20.50	F-2182	7.90	F-2468	7.20	F-2630	13.00	F-2770	19.80	F-3015	8.50	
F-1742	10.45	F-1858	20.50	F-2183	7.90	F-2469	7.20	F-2631	14.65	F-2771	20.05	F-3016	8.80	
F-1743	11.90	F-1859	22.30	F-2184	7.90	F-2470	7.40	F-2632	15.20	F-2772	20.30	F-3017	8.90	
<b>Type TI-11s</b>														
F-1747	14.20	F-1860	22.80	F-2185	7.90	F-2471	7.40	F-2633	16.15	F-2773	20.90	<b>Type TI-36</b>		
F-1748	14.20	F-1861	22.80	F-2186	7.90	F-2472	7.60	F-2634	16.15	F-2774	21.80	F-3000	5.90	
F-1749	14.20	F-1862	23.30	F-2187	7.90	F-2473	7.80	F-2635	16.15	F-2775	22.80	F-3001	5.90	
F-1750	14.20	F-1863	23.30	F-2188	7.90	F-2474	8.00	F-2636	16.15	F-2776	23.80	F-3002	6.00	
F-1751	14.20	<b>Type TI-15</b>		F-2189	7.90	F-2475	8.40	F-2637	16.15	F-2777	24.70	F-3003	6.00	
F-1752	15.20	F-1870	7.25	F-2190	7.90	F-2476	8.80	F-2638	16.15	F-2778	25.50	F-3004	6.15	
F-1753	15.20	F-1871	7.25	F-2201	6.40	F-2477	9.50	F-2639	16.15	F-2779	26.50	F-3005	6.30	
F-1754	15.20	F-1872	7.25	F-2202	6.40	F-2478	9.50	F-2640	16.15	F-2780	27.50	F-3006	6.30	
F-1755	15.20	F-1873	7.25	F-2203	6.95	F-2479	9.85	F-2641	16.15	F-2781	28.50	F-3007	6.60	
F-1756	15.20	F-1874	7.25	F-2204	6.95	F-2480	10.20	F-2642	16.15	F-2782	29.50	F-3008	6.60	
F-1757	14.20	F-1875	7.25	F-2205	6.95	F-2481	10.50	F-2643	16.15	F-2783	30.50	F-3009	6.80	
F-1758	14.20	F-1876	7.25	F-2206	7.15	<b>Type TI-26</b>		F-2644	16.15	F-2784	31.50	F-3010	7.20	
F-1759	14.65	F-1877	7.25	F-2207	7.45	F-2500	5.70	F-2645	16.15	F-2785	32.50	F-3011	7.40	
F-1760	14.65	F-1878	7.25	F-2208	7.45	F-2501	5.70	F-2646	16.15	F-2786	33.50	F-3012	7.60	
F-1761	15.20	F-1879	7.25	F-2209	8.10	F-2502	5.70	F-2647	16.15	F-2787	34.50	F-3013	7.70	
F-1762	15.85	F-1880	7.25	F-2210	8.10	F-2503	5.70	F-2648	16.15	F-2788	35.50	F-3014	8.20	
F-1763	16.15	F-1881	7.45	F-2211	8.10	F-2504	5.70	F-2649	16.15	F-2789	36.50	F-3015	8.50	
F-1764</														

# FREED TRANSFORMER CO., INC.



## HIGH "Q" INDUCTORS



FREQUENCY RANGE: 1 KHz to 30 KHz

MIL-T-27B: TF4(OR 5)RX

TYPE	PFL 1	PFL 2	PFL 3	PFL 4	PFL 5	PFL 6	PFL 7	PFL 8
Size	Dia. 21/32	27/32	1"	1-1/4	1-3/8	1-1/2	1-3/4	2"
	H'ght 15/32	9/16	5/8	1-1/8	1-1/4	1-5/16	1-7/16	1-1/2
Typi- cal	Ind. 1.5 MH	2.7 MH	3.9 MH	10 MH	22 MH	39 MH	68 MH	180 MH
Freq.	250 KHz	200 KHz	180 KHz	50 KHz	35 KHz	15 KHz	10 KHz	5 KHz
"Q"	"Q"	300	350	300	400	400	450	380
								300

Inductance	Catalog Number							
1.0 MH	F5000	F5050	F5100	F5150	F5200	F5250	F5300	F5400
1.2 MH	F5001	F5051	F5101	F5151	F5201	F5251	F5301	F5401
1.5 MH	F5002	F5052	F5102	F5152	F5202	F5252	F5302	F5402
1.8 MH	F5003	F5053	F5103	F5153	F5203	F5253	F5303	F5403
2.2 MH	F5004	F5054	F5104	F5154	F5204	F5254	F5304	F5404
2.7 MH	F5005	F5055	F5105	F5155	F5205	F5255	F5305	F5405
3.3 MH	F5006	F5056	F5106	F5156	F5206	F5256	F5306	F5406
3.9 MH	F5007	F5057	F5107	F5157	F5207	F5257	F5307	F5407
4.7 MH	F5008	F5058	F5108	F5158	F5208	F5258	F5308	F5408
5.6 MH	F5009	F5059	F5109	F5159	F5209	F5259	F5309	F5409
6.8 MH	F5010	F5060	F5110	F5160	F5210	F5260	F5310	F5410
8.2 MH	F5011	F5061	F5111	F5161	F5211	F5261	F5311	F5411
10 MH	F5012	F5062	F5112	F5162	F5212	F5262	F5312	F5412
12 MH	F5013	F5063	F5113	F5163	F5213	F5263	F5313	F5413
15 MH	F5014	F5064	F5114	F5164	F5214	F5264	F5314	F5414
18 MH	F5015	F5065	F5115	F5165	F5215	F5265	F5315	F5415
22 MH	F5016	F5066	F5116	F5166	F5216	F5266	F5316	F5416
27 MH	F5017	F5067	F5117	F5167	F5217	F5267	F5317	F5417
33 MH	F5018	F5068	F5118	F5168	F5218	F5268	F5318	F5418
39 MH		F5069	F5119	F5169	F5219	F5269	F5319	F5419
47 MH		F5070	F5120	F5170	F5220	F5270	F5320	F5420
56 MH		F5071	F5121	F5171	F5221	F5271	F5321	F5421
68 MH		F5072	F5122	F5172	F5222	F5272	F5322	F5422
82 MH		F5073	F5123	F5173	F5223	F5273	F5323	F5423
100 MH		F5074	F5124	F5174	F5224	F5274	F5324	F5424
120 MH		F5075	F5125	F5175	F5225	F5275	F5325	F5425
150 MH		F5076	F5126	F5176	F5226	F5276	F5326	F5426
180 MH		F5077	F5127	F5177	F5227	F5277	F5327	F5427
220 MH		F5078	F5128	F5178	F5228	F5278	F5328	F5428
270 MH		F5079	F5129	F5179	F5229	F5279	F5329	F5429
330 MH			F5130	F5180	F5230	F5280	F5330	F5430
390 MH			F5131	F5181	F5231	F5281	F5331	F5431
470 MH			F5132	F5182	F5232	F5282	F5332	F5432
560 MH			F5133	F5183	F5233	F5283	F5333	F5433
680 MH				F5184	F5234	F5284	F5334	F5434
820 MH				F5185	F5235	F5285	F5335	F5435
1.0 H				F5186	F5236	F5286	F5336	F5436
1.2 H				F5187	F5237	F5287	F5337	F5437
1.5 H				F5188	F5238	F5288	F5338	F5438
1.8 H				F5189	F5239	F5289	F5339	F5439
2.2 H				F5190	F5240	F5290	F5340	F5440
2.7 H					F5241	F5291	F5341	F5441
3.3 H					F5242	F5292	F5342	F5442
3.9 H					F5243	F5293	F5343	F5443
4.7 H					F5244	F5294	F5344	F5444
5.6 H					F5245	F5295	F5345	F5445
6.8 H						F5296	F5346	F5446
8.2 H						F5297	F5347	F5447
10 H						F5298	F5348	F5448
12 H							F5349	F5449
15 H							F5350	F5450
18 H							F5351	F5451
22 H							F5352	F5452
27 H								F5453
33 H								F5454

FREQUENCY RANGE: 200 KHz to 2,500 KHz

MIL-T-27B: TF4(OR 5)RX

TYPE	PFM 1	PFM 2	PFM 3	PFM 4	PFM 5	PFM 6	PFM 7	PFM 8
Size	Dia. 21/32	27/32	1"	1-1/4	1-3/8	1-1/2	1-3/4	
	H'ght 15/32	9/16	5/8	1-1/8	1-1/4	1-5/16	1-7/16	
Typi- cal	Ind. 56 μH	68 μH	100 μH	150 μH	270 μH	680 μH	2.2 MH	
Freq.	1 MHz	400 KHz	400 KHz	250 KHz	200 KHz	150 KHz	100 KHz	
"Q"	"Q"	300	300	400	500	700	650	750

Inductance	Catalog Number							
15 μH	F5500	F5550	F5600	F5650	F5700	F5750	F5800	
18 μH	F5501	F5551	F5601	F5651	F5701	F5751	F5801	
22 μH	F5502	F5552	F5602	F5652	F5702	F5752	F5802	
27 μH	F5503	F5553	F5603	F5653	F5703	F5753	F5803	
33 μH	F5504	F5554	F5604	F5654	F5704	F5754	F5804	
39 μH	F5505	F5555	F5605	F5655	F5705	F5755	F5805	
47 μH	F5506	F5556	F5606	F5656	F5706	F5756	F5806	
56 μH	F5507	F5557	F5607	F5657	F5707	F5757	F5807	
68 μH	F5508	F5558	F5608	F5658	F5708	F5758	F5808	
82 μH	F5509	F5559	F5609	F5659	F5709	F5759	F5809	
100 μH	F5510	F5560	F5610	F5660	F5710	F5760	F5810	
120 μH	F5511	F5561	F5611	F5661	F5711	F5761	F5811	
150 μH	F5512	F5562	F5612	F5662	F5712	F5762	F5812	
180 μH	F5513	F5563	F5613	F5663	F5713	F5763	F5813	
220 μH	F5514	F5564	F5614	F5664	F5714	F5764	F5814	
270 μH	F5515	F5565	F5615	F5665	F5715	F5765	F5815	
330 μH	F5516	F5566	F5616	F5666	F5716	F5766	F5816	
390 μH	F5517	F5567	F5617	F5667	F5717	F5767	F5817	
470 μH	F5518	F5568	F5618	F5668	F5718	F5768	F5818	
560 μH	F5519	F5569	F5619	F5669	F5719	F5769	F5819	
680 μH	F5520	F5570	F5620	F5670	F5720	F5770	F5820	
820 μH	F5521	F5571	F5621	F5671	F5721	F5771	F5821	
1.0 MH	F5522	F5572	F5622	F5672	F5722	F5772	F5822	
1.2 MH	F5523	F5573	F5623	F5673	F5723	F5773	F5823	
1.5 MH	F5524	F5574	F5624	F5674	F5724	F5774	F5824	
1.8 MH	F5525	F5575	F5625	F5675	F5725	F5775	F5825	
2.2 MH	F5526	F5576	F5626	F5676	F5726	F5776	F5826	
2.7 MH	F5527	F5577	F5627	F5677	F5727	F5777	F5827	
3.3 MH	F5528	F5578	F5628	F5678	F5728	F5778	F5828	
3.9 MH	F5529	F5579	F5629	F5679	F5729	F5779	F5829	
4.7 MH	F5530	F5580	F5630	F5680	F5730	F5780	F5830	
5.6 MH	F5531	F5581	F5631	F5681	F5731	F5781	F5831	
6.8 MH	F5532	F5582	F5632	F5682	F5732	F5782	F5832	
8.2 MH	F5533	F5583	F5633	F5683	F5733	F5783	F5833	
10.0 MH	F5534	F5584	F5634	F5684	F5734	F5784	F5834	
12.0 MH	F5535	F5585	F5635	F5685	F5735	F5785	F5835	
15.0 MH	F5536	F5586	F5636	F5686	F5736	F5786	F5836	
18.0 MH	F5537	F5587	F5637	F5687	F5737	F5787	F5837	
22.0 MH		F5588	F5638	F5688	F5738	F5788	F5838	
27.0 MH		F5589	F5639	F5689	F5739	F5789	F5839	
33.0 MH		F5590	F5640	F5690	F5740	F5790	F5840	
39.0 MH		F5591	F5641	F5691	F5741	F5791	F5841	
47.0 MH		F5592	F5642	F5692	F5742	F5792	F5842	
56.0 MH			F5643	F5693	F5743	F5793	F5843	
68.0 MH			F5644	F5694	F5744	F5794	F5844	
82.0 MH				F5695	F5745	F5795	F5845	
100.0 MH						F5796	F5846	





# volt-pac<sup>®</sup> VARIABLE TRANSFORMERS



Manual uncased unit—exposed terminals



Manual cased unit—exposed terminals



Manual cased unit—enclosed terminals

The Volt-Pac variable transformer is a control device which provides continuously adjustable output voltage from a fixed line input to vary the voltage applied to a particular electrical load. With Volt Pac units, output voltage is changed by flux transformation...in the unsaturated range of the magnetic core. The results...low cost, versatility, reliability, simplicity, and no wave form distortion.

Volt-Pac units, for surface or back-of-panel mounting, are designed for operation in ambients of -20C to +40C at full rated load, and under all load conditions have low electrical losses.

\* When Overvoltage Connection is used, rated current should not be exceeded. Output kva for Overvoltage Connection is maximum output voltage times rated current.

† When using extended tap connections, operation is for 60 cycles per second only.

‡ Output at Overvoltage Connection is 0-132 volts.

§ When operated on lower input-voltage tap, rated current must be reduced when output voltage exceeds 140 percent of input voltage.

¶ For Line-voltage Connection only—No Over-voltage Connection provided.

■ For 240-volt input, 0-240-volt output, application only.

• For 480-volt input, 0-480-volt output, application only.

♢ 60 cycles only.

Line-voltage Connection		Over-voltage Con- nection, Amp*	UNCASED MODELS Exposed Terminals		CASEO MODELS			
Rated Amp	Max Amp		Model Number	List Price	Exposed Terminals		Enclosed Terminals	
					Model Number	List Price	Model Number	List Price

## MANUAL — SINGLE-PHASE, 50/60 CYCLES

### 120 VOLT INPUT: OUTPUT — 0-120 VOLT (LINE VOLTAGE CONN.) 0-140 VOLT (OVERVOLTAGE CONN.)

2.5†	3.2	2.5	9T92Y1	\$10.00				
4.0†	5.8	4.0	9T92Y5	15.00				
7.5†	10.8	7.5	9T92Y7	19.00	9T92Y7G2	\$24.00	9T92Y7G0	\$25.00
9.0†	11.5	9.0	9T92Y9	20.00	9T92Y9G2	25.00	9T92Y9G3	26.00
10.0♢	13.0	None	9T92Y8†	20.00	9T92Y8G2†	25.00	9T92Y8G3†	26.00
11.5♢	14.5	None	9T92Y10†	24.00	9T92Y10G2†	29.00	9T92Y10G3†	30.00
15.0†	19.0	15.0	9T92Y27	37.00	9T92Y27G2	42.00	9T92Y27G3	45.00
18.0†	21.7	18.0	9T92Y28	47.00	9T92Y28G2	52.00	9T92Y28G3	55.00
30.0†	34.0	30.0	9T92Y37	89.00	9T92Y37G2	94.00	9T92Y37G3	100.00
37.0†	37.0	37.0	9T92Y38	110.00	9T92Y38G2	115.00	9T92Y38G3	121.00
50.0	55.0	50.0	9T92Y49	136.00	9T92Y49G2	142.00	9T92Y49G3	150.00
60.0	60.0	60.0	9T92Y50	205.00	9T92Y50G2	211.00	9T92Y50G3	219.00
74.0†	74.0	74.0	9T92Y41	245.00	9T92Y41G2	255.00	9T92Y41G3	267.00
100.0	110.0	100.0	9T92Y53	300.00	9T92Y53G2	312.00	9T92Y53G3	328.00
120.0	120.0	120.0	9T92Y54	440.00	9T92Y54G2	452.00	9T92Y54G3	468.00
150.0	165.0	150.0	9T92Y55	520.00	9T92Y55G2	538.00	9T92Y55G3	562.00
180.0	180.0	180.0	9T92Y56	675.00	9T92Y56G2	693.00	9T92Y56G3	717.00
240.0	240.0	240.0	9T92Y57	970.00	9T92Y57G2	994.00	9T92Y57G3	1028.00
300.0	300.0	300.0	9T92Y58	1260.00	9T92Y58G2	1290.00	9T92Y58G3	1332.00
360.0	360.0	360.0	9T92Y59	1560.00	9T92Y59G2	1596.00	9T92Y59G3	1646.00

### 120/240 VOLT INPUTS§ OUTPUT 0-240 VOLT (LINE VOLTAGE CONN.) 0-280 VOLT (OVERVOLTAGE CONN.)

3.5†	5.0	3.5	9T92Y13	\$24.00	9T92Y13G2	\$29.00	9T92Y13G3	\$30.00
4.0♢	5.8	None	9T92Y12♢	24.00	9T92Y12G2♢	29.00	9T92Y12G3♢	30.00
5.0♢	6.8	None	9T92Y14♢	26.00	9T92Y14G2♢	31.00	9T92Y14G3♢	34.00
7.0†	10.1	7.0	9T92Y29	37.00	9T92Y29G2	42.00	9T92Y29G3	45.00
8.5†	11.0	8.5	9T92Y30	47.00	9T92Y30G2	52.00	9T92Y30G3	55.00
14.0†	14.0	14.0	9T92Y39	89.00	9T92Y39G2	94.00	9T92Y39G3	100.00
16.0†	16.0	16.0	9T92Y40	108.00	9T92Y40G2	113.00	9T92Y40G3	119.00
30.0	33.0	30.0	9T92Y51	136.00	9T92Y51G2	142.00	9T92Y51G3	150.00
35.0	35.0	35.0	9T92Y52	205.00	9T92Y52G2	211.00	9T92Y52G3	219.00
60.0	66.0	60.0	9T92Y60	340.00	9T92Y60G2	352.00	9T92Y60G3	368.00
70.0	70.0	70.0	9T92Y61	440.00	9T92Y61G2	452.00	9T92Y61G3	468.00
90.0	99.0	90.0	9T92Y62	520.00	9T92Y62G2	538.00	9T92Y62G3	562.00
105.0	105.0	105.0	9T92Y63	675.00	9T92Y63G2	693.00	9T92Y63G3	717.00
120.0	132.0	120.0	9T92Y502†	790.00	9T92Y502†G2	814.00	9T92Y502†G3	848.00
140.0	140.0	140.0	9T92Y64	970.00	9T92Y64G2	994.00	9T92Y64G3	1028.00
175.0	175.0	175.0	9T92Y65	1260.00	9T92Y65G2	1290.00	9T92Y65G3	1332.00
210.0	210.0	210.0	9T92Y66	1560.00	9T92Y66G2	1596.00	9T92Y66G3	1646.00

### 240/480 VOLT INPUTS§ OUTPUT 0-480 VOLT (LINE VOLTAGE CONN.) 0-560 VOLT (OVERVOLTAGE CONN.)

3.5†	5.0	3.5	9T92Y17	\$59.00	9T92Y17G2	\$69.00	9T92Y17G3	\$71.00
4.0♢	5.8	None	9T92Y16♢	61.00	9T92Y16G2♢	71.00	9T92Y16G3♢	73.00
5.0♢	6.8	None	9T92Y18♢	63.00	9T92Y18G2♢	73.00	9T92Y18G3♢	75.00
7.0†	10.1	7.0	9T92Y31	80.00	9T92Y31G2	90.00	9T92Y31G3	96.00
8.5†	11.0	8.5	9T92Y32	113.00	9T92Y32G2	123.00	9T92Y32G3	129.00
14.0†	14.0	14.0	9T92Y42	193.00	9T92Y42G2	203.00	9T92Y42G3	215.00
16.0†	16.0	16.0	9T92Y43	225.00	9T92Y43G2	235.00	9T92Y43G3	247.00
30.0	33.0	30.0	9T92Y67	300.00	9T92Y67G2	312.00	9T92Y67G3	328.00
35.0	35.0	35.0	9T92Y68	420.00	9T92Y68G2	432.00	9T92Y68G3	448.00
60.0	66.0	60.0	9T92Y69	770.00	9T92Y69G2	794.00	9T92Y69G3	828.00
70.0	70.0	70.0	9T92Y70	950.00	9T92Y70G2	974.00	9T92Y70G3	1008.00
90.0	99.0	90.0	9T92Y71	1230.00	9T92Y71G2	1266.00	9T92Y71G3	1316.00
105.0	105.0	105.0	9T92Y72	1530.00	9T92Y72G2	1566.00	9T92Y72G3	1616.00

## MANUAL — THREE-PHASE, 50/60 CYCLES

### 240 VOLT LINE TO LINE INPUT: OUTPUT — 0-240 VOLT (LINE VOLTAGE CONN.) 0-280 VOLT (OVERVOLTAGE CONN.)

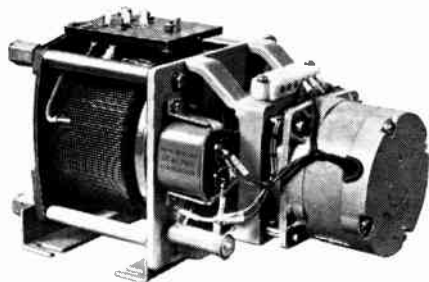
2.5♢	3.2	None	9T92Y3†	\$48.00				
4.0♢	5.8	None	9T92Y6†	65.00				
7.5	10.8	7.5	9T92Y19	68.00	9T92Y19G2	\$83.00	9T92Y19G3	\$86.00
9.0	11.5	9.0	9T92Y21	76.00	9T92Y21G2	91.00	9T92Y21G3	94.00
10.0♢	13.0	None	9T92Y20†	70.00	9T92Y20G2†	85.00	9T92Y20G3†	88.00
11.5♢	14.5	None	9T92Y22†	77.00	9T92Y22G2†	92.00	9T92Y22G3†	95.00
15.0	19.0	15.0	9T92Y33	130.00	9T92Y33G2	145.00	9T92Y33G3	154.00
18.0	21.7	18.0	9T92Y34	165.00	9T92Y34G2	180.00	9T92Y34G3	189.00
30.0	34.0	30.0	9T92Y44	300.00	9T92Y44G2	315.00	9T92Y44G3	333.00
37.0	37.0	37.0	9T92Y45	350.00	9T92Y45G2	365.00	9T92Y45G3	383.00
50.0	55.0	50.0	9T92Y74	490.00	9T92Y74G2	508.00	9T92Y74G3	532.00
60.0	60.0	60.0	9T92Y75	645.00	9T92Y75G2	663.00	9T92Y75G3	687.00
74.0	72.0	72.0	9T92Y48	790.00	9T92Y48G2	820.00	9T92Y48G3	856.00
100.0	110.0	100.0	9T92Y78	1120.00	9T92Y78G2	1156.00	9T92Y78G3	1206.00
120.0	120.0	120.0	9T92Y79	1445.00	9T92Y79G2	1481.00	9T92Y79G3	1531.00

### 240/480 VOLT LINE TO LINE INPUTS§ OUTPUT — 0-480 VOLT (LINE VOLTAGE CONN.) 0-560 VOLT (OVERVOLTAGE CONN.)

3.5	5.0	3.5	9T92Y25	\$84.00	9T92Y25G2	\$95.00	9T92Y25G3	\$98.00
4.0♢	5.8	None	9T92Y24♢	86.00	9T92Y24G2♢	101.00	9T92Y24G3♢	104.00
5.0♢	6.8	None	9T92Y26♢	90.00	9T92Y26G2♢	105.00	9T92Y26G3♢	108.00
7.0	10.1	7.0	9T92Y35	130.00	9T92Y35G2	145.00	9T92Y35G3	154.00
8.5	11.0	8.5	9T92Y36	165.00	9T92Y36G2	180.00	9T92Y36G3	189.00
14.0	14.0	14.0	9T92Y46	300.00	9T92Y46G2	315.00	9T92Y46G3	333.00
16.0	16.0	16.0	9T92Y47	350.00	9T92Y47G2	365.00	9T92Y47G3	383.00
30.0	33.0	30.0	9T92Y76	490.00	9T92Y76G2	508.00	9T92Y76G3	532.00
35.0	35.0	35.0	9T92Y77	645.00	9T92Y77G2	663.00	9T92Y77G3	687.00
60.0	66.0	60.0	9T92Y80	1120.00	9T92Y80G2	1156.00	9T92Y80G3	1206.00
70.0	70.0	70.0	9T92Y81	1530.00	9T92Y81G2	1566.00	9T92Y81G3	1616.00



# VARIABLE TRANSFORMERS



Motor uncased unit — exposed terminals

Line Voltage Connection		Over-voltage Connection Amp*	UNCASED MODELS Exposed Terminals		CASED MODELS Enclosed Terminals	
Rated Amp	Max Amp		Model Number (For 28-second Operation Only)	List Price	Model Number (For 28-second Operation Only)	List Price

### MOTOR-OPERATED — THREE-PHASE, 50/60 CYCLES†

#### 240 VOLT LINE TO LINE INPUT: OUTPUT 0-240 VOLT (LINE VOLTAGE CONN) D-28D VOLT (OVERVOLTAGE CONN)

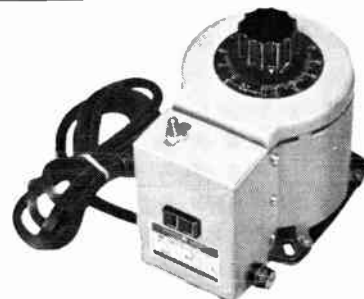
2.5φ	3.2	None	9T92Y3G51†	\$154.00	.....	
4.0φ	5.8	None	9T92Y6G51†	171.00		
7.5	10.8	7.5	9T92Y19G51	175.00	9T92Y19G54	\$192.00
9.0	11.5	9.0	9T92Y21G51	182.00	9T92Y21G54	200.00
10.0φ	13.0	None	9T92Y20G51†	176.00	9T92Y20G54†	194.00
11.5φ	14.5	None	9T92Y22G51†	183.00	9T92Y22G54†	201.00
15.0	19.0	15.0	9T92Y33G51	236.00	9T92Y33G54	260.00
18.0	21.7	18.0	9T92Y34G51	271.00	9T92Y34G54	295.00
30.0	34.0	30.0	9T92Y44G51	406.00	9T92Y44G54	439.00
37.0	37.0	37.0	9T92Y45G51	456.00	9T92Y45G54	489.00
50.0	55.0	50.0	9T92Y74G51	596.00	9T92Y74G54	638.00
60.0	60.0	60.0	9T92Y75G51	751.00	9T92Y75G54	793.00
72.0	72.0	72.0	9T92Y48G51	896.00	9T92Y48G54	962.00
100.0	110.0	100.0	9T92Y78G51	1254.00	9T92Y78G54	1340.00
120.0	120.0	120.0	9T92Y79G51	1579.00	9T92Y79G54	1665.00
150.0	165.0	150.0	9T92Y82G51	1905.00	9T92Y82G54	2035.00
180.0	180.0	180.0	9T92Y83G51	2500.00	9T92Y83G54	2630.00

#### 240/480 VOLT LINE TO LINE INPUTS: OUTPUT 0-480 VOLT (LINE VOLTAGE CONN) 0-560 VOLT (OVERVOLTAGE CONN)

3.5	5.0	3.5	9T92Y25G51	\$190.00	9T92Y25G54	\$204.00
4.0φ	5.8	None	9T92Y24G51*	192.00	9T92Y24G54*	210.00
5.0φ	6.8	None	9T92Y26G51*	196.00	9T92Y26G54*	214.00
7.0	10.1	7.0	9T92Y35G51	236.00	9T92Y35G54	260.00
8.5	11.0	8.5	9T92Y78G51	271.00	9T92Y78G54	295.00
14.0	14.0	14.0	9T92Y46G51	406.00	9T92Y46G54	439.00
16.0	16.0	16.0	9T92Y47G51	456.00	9T92Y47G54	489.00
30.0	33.0	30.0	9T92Y76G51	596.00	9T92Y76G54	638.00
35.0	35.0	35.0	9T92Y77G51	751.00	9T92Y77G54	793.00
60.0	66.0	60.0	9T92Y80G51	1254.00	9T92Y80G54	1340.00
70.0	70.0	70.0	9T92Y81G51	1664.00	9T92Y81G54	1750.00
90.0	99.0	90.0	9T92Y84G51	1905.00	9T92Y84G54	2035.00
105.0	105.0	105.0	9T92Y85G51	2500.00	9T92Y85G54	2630.00

### PLUG-IN SETS

For laboratory or shop source of adjustable a-c voltage. Provides output voltage of 0-117% of input voltage. Equipped with a line switch and a fuse for overload protection.



Cord is 6 feet long.

Line Voltage Connection		Over-voltage Connection Amp*	New Model Number	List Price	Type Plug and Rec	Receptacle Configuration Fig. No.
Rated Amp	Max Amp					

#### 120 VOLT INPUT: OUTPUT 0-120 VOLT (LINE VOLTAGE CONN) D-140 VOLT (OVERVOLTAGE CONN)

7.5	10.8	7.5	9T92Y90	\$26.00	Ungrounded	Fig. 2
7.5	10.8	7.5	9T92Y86	30.00	Grounded	Fig. 1
9.0	11.5	9.0	9T92Y91	27.00	Ungrounded	Fig. 2
9.0	11.5	9.0	9T92Y87	32.00	Grounded	Fig. 1
15.0	19.0	15.0	9T92Y88	50.00	Grounded	Fig. 1
18.0	21.7	18.0	9T92Y89	65.00	Grounded	Fig. 3

#### 120/240 VOLT INPUT: OUTPUT 0-240 (LINE CONN) 0-280 VOLT (OVERVOLTAGE CONN)

3.5	5.0	3.5	9T92Y93	\$29.00	Ungrounded	Fig. 2
3.5	5.0	3.5	9T92Y95	33.00	Grounded	Fig. 4
7.0	10.1	7.0	9T92Y96	50.00	Grounded	Fig. 4
8.5	11.0	8.5	9T92Y97	65.00	Grounded	Fig. 4

### RECEPTACLE CONFIGURATIONS



Fig. 1



Fig. 2



Fig. 3



Fig. 4

Line Voltage Connection		Over-voltage Connection Amp*	UNCASED MODELS Exposed Terminals		CASED MODELS Enclosed Terminals	
Rated Amp	Max Amp		Model Number (For 28-second Operation Only)	List Price	Model Number (For 28-second Operation Only)	List Price

### MOTOR-OPERATED — SINGLE-PHASE, 50/60 CYCLES

#### 120 VOLT INPUT: OUTPUT 0-120 VOLT (LINE VOLTAGE CONN) 0-140 VOLT (OVERVOLTAGE CONN)

2.5††	3.2	2.5	9T92Y1G51	\$116.00	.....	
4.0†	5.8	4.0	9T92Y5G51	121.00		
7.5†	10.8	7.5	9T92Y7G51	125.00	9T92Y7G54	\$131.00
9.0†	11.5	9.0	9T92Y9G51	126.00	9T92Y9G54	132.00
10.0φ	13.0	None	9T92Y8G51†	126.00	9T92Y8G54†	132.00
11.5φ	14.5	None	9T92Y10G51†	130.00	9T92Y10G54†	136.00
15.0†	19.0	15.0	9T92Y27G51	143.00	9T92Y27G54	151.00
18.0†	21.7	18.0	9T92Y28G51	153.00	9T92Y28G54	161.00
30.0†	34.0	30.0	9T92Y37G51	195.00	9T92Y37G54	206.00
37.0†	37.0	37.0	9T92Y38G51	216.00	9T92Y38G54	227.00
50.0	55.0	50.0	9T92Y49G51	242.00	9T92Y49G54	256.00
60.0	60.0	60.0	9T92Y50G51	311.00	9T92Y50G54	325.00
74.0†	74.0	74.0	9T92Y41G51	351.00	9T92Y41G54	373.00
100.0	110.0	100.0	9T92Y53G51	406.00	9T92Y53G54	434.00
120.0	120.0	120.0	9T92Y54G51	546.00	9T92Y54G54	574.00
150.0	165.0	150.0	9T92Y55G51	626.00	9T92Y55G54	668.00
180.0	180.0	180.0	9T92Y56G51	781.00	9T92Y56G54	823.00
240.0	240.0	240.0	9T92Y57G51	1076.00	9T92Y57G54	1134.00
300.0	300.0	300.0	9T92Y58G51	1366.00	9T92Y58G54	1438.00
360.0	360.0	360.0	9T92Y59G51	1666.00	9T92Y59G54	1752.00

#### 120/240 VOLT INPUTS: OUTPUT 0-240 VOLT (LINE VOLTAGE CONN) D-280 VOLT (OVERVOLTAGE CONN)

3.5†	5.0	3.5	9T92Y13G51	\$130.00	9T92Y13G54	\$136.00
4.0φ	5.8	None	9T92Y12G51■	130.00	9T92Y12G54■	136.00
5.0φ	6.8	None	9T92Y14G51■	132.00	9T92Y14G54■	140.00
7.0	10.1	7.0	9T92Y29G51	143.00	9T92Y29G54	151.00
8.5†	11.0	8.5	9T92Y30G51	153.00	9T92Y30G54	161.00
14.0†	14.0	14.0	9T92Y39G51	195.00	9T92Y39G54	206.00
16.0†	16.0	16.0	9T92Y40G51	214.00	9T92Y40G54	225.00
30.0	33.0	30.0	9T92Y51G51	242.00	9T92Y51G54	256.00
35.0	35.0	35.0	9T92Y52G51	311.00	9T92Y52G54	325.00
60.0	66.0	60.0	9T92Y60G51	446.00	9T92Y60G54	474.00
70.0	70.0	70.0	9T92Y61G51	546.00	9T92Y61G54	574.00
90.0	99.0	90.0	9T92Y62G51	626.00	9T92Y62G54	668.00
105.0	105.0	105.0	9T92Y63G51	781.00	9T92Y63G54	823.00
120.0	132.0	120.0	9T92Y5021G51	896.00	9T92Y5021G54	954.00
140.0	140.0	140.0	9T92Y64G51	1076.00	9T92Y64G54	1134.00
175.0	175.0	175.0	9T92Y65G51	1394.00	9T92Y65G54	1466.00
210.0	210.0	210.0	9T92Y66G51	1694.00	9T92Y66G54	1780.00

#### 240/480 VOLT INPUTS: OUTPUT 0-480 VOLT (LINE VOLTAGE CONN) 0-560 VOLT (OVERVOLTAGE CONN)

3.5†	5.0	3.5	9T92Y17G51	\$165.00	9T92Y17G54	\$177.00
4.0φ	5.8	None	9T92Y16G51*	167.00	9T92Y16G54*	179.00
5.0φ	6.8	None	9T92Y18G51*	169.00	9T92Y18G54*	181.00
7.0†	10.1	7.0	9T92Y31G51	186.00	9T92Y31G54	202.00
8.5†	11.0	8.5	9T92Y32G51	219.00	9T92Y32G54	235.00
14.0†	14.0	14.0	9T92Y42G51	299.00	9T92Y42G54	321.00
16.0†	16.0	16.0	9T92Y43G51	331.00	9T92Y43G54	353.00
30.0	33.0	30.0	9T92Y67G51	406.00	9T92Y67G54	434.00
35.0	35.0	35.0	9T92Y68G51	526.00	9T92Y68G54	554.00
60.0	66.0	60.0	9T92Y69G51	876.00	9T92Y69G54	934.00
70.0	70.0	70.0	9T92Y70G51	1056.00	9T92Y70G54	1114.00
90.0	99.0	90.0	9T92Y71G51	1364.00	9T92Y71G54	1450.00
105.0	105.0	105.0	9T92Y72G51	1664.00	9T92Y72G54	1750.00
140.0	140.0	140.0	9T92Y73G51	2320.00	9T92Y73G54	2435.00

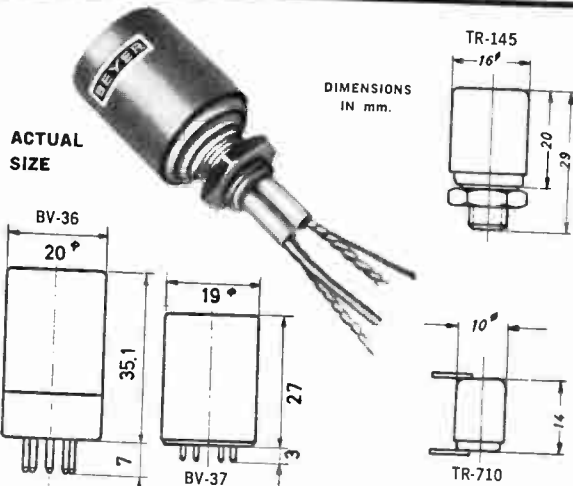
△ Time to change output from 0 to 100%. Other times, from 2.5 to 60 sec, are available.

○ When operated on 120-volt input taps, rated current must be reduced when output voltage exceeds 168 volts.

For other footnotes, see opposite page.

# GOTHAM

## BEYER TRANSFORMERS MINIATURE AUDIO



The BEYER line of miniature audio transformers distributed by GOTHAM represents over 30 years of experience in the field on the part of one of Europe's largest quality microphone manufacturers. It is for this reason that we make only one type of transformer in two sizes: A low level audio transformer suitable for microphones, tape playback heads, etc.

A special winding process permits these transformers to be made in this miniature size while maintaining studio quality frequency response, distortion, and level capability. The coil is wound on a continuous laminated core which means the elimination of the split core with its inherent losses. Result is a semi-toroidal construction with its superior resistance to hum induction.

BEYER transformers are used in professional audio equipment by such outstanding manufacturers as Ampex, Bauer, Collins, Precision Instrument, Rust, and many others. All transformers are made to special order to O.E.M. users' specifications. Samples can be supplied within 2 weeks, production usually within 4 weeks.

### FOUR PHYSICAL MOUNTINGS ARE AVAILABLE:

**Threaded Stud:** The Model TR-45 Commercial Quality and TR-145 Studio Quality units are offered in mu-metal housing with threaded stud supplied with two nuts.

**Solder Lug:** The Model TR-45L and TR-145L are same as above but have radial lugs each end of housing to permit terminal board or Vector socket mounting. Also available in sub-miniature TR-710 Model (see fig.). Primary and secondary windings brought out opposite ends of mu-metal can.

**Plug-in:** The Model BV-36 is encapsulation of TR-45 and TR-145 Models shown above in molded plastic housing with 7-pin miniature plug base. Same mu-metal shielding.

**Printed Circuit:** The Model BV-37 is encapsulation of TR-45 and TR-145 Models shown above in molded plastic housing only 1.09" high with special 7-pin, 8-pin, or 9-pin printed circuit base.

### ELECTRICAL CHARACTERISTICS:

Transformers are supplied with any turns ratio from 1:1 to 1:150, tapped and split windings, static shielding, high voltage test, vacuum impregnating or other requirements.

### TYPICAL TRANSFORMER SPECIFICATIONS:

Model TR-145/BV35570 (This Model stocked)

Turns ratio	1:15 ±10%
Impedance ratio	200/45,000 Ohms nominal
Frequency response	±0.2 dB 20 - 20,000 cps.
Maximum input level at 1% THD	370 mV at 30 cps.
Primary open circuit inductance (50 cps)	6.0 H
Primary open circuit impedance (50 cps)	1000 Ohms
Primary DC resistance	70 Ohms
Secondary DC resistance	10,000 Ohms
Hum shielding (EIA std.)	> 70 dB.
BASIC PRICE IN QUANTITY OF 1000 UNITS	\$6.48 each

## WOW & FLUTTER METERS ME 101/102



The ME-101/102 instruments are intended for the measurement of the wow and flutter content of all types of recording and reproducing devices. They are fully transistorized, simple and convenient to use. The units are particularly suited for production testing and service work in addition to laboratory testing.

An internal signal generator provides the standard frequency of 3150 Hz. For the purpose of static and dynamic recalibration of the measuring unit, the generator can be detuned in a definite manner or can be frequency modulated from the power line.

Tone fluctuations from ±0.02 to ±2.5% for the ME-101 and ±0.01 to ±0.75% for the ME-102 can be read linearly or weighted as quasi-peak values (according to CCIR and DIN). Hence the properties of high quality tape and record playing equipment, as well as those of dictating machines and home equipment come within the ranges of the instruments. The fluctuation meter ballistics conform to the CCIR standard. A second instrument, the "drift" indicator, measures the frequency deviation of the recorded tone from 3150 Hz. Both indicating instruments can be switched to "rapid" or "slow" indication, as desired.

Besides the normal measuring connections on the front of the instruments, the back is provided with a connector for testing home tape recorders and record players. Other connectors are provided for the connection of external filters, oscilloscopes and graphic recorders.

### SPECIFICATIONS

**POWER:** 110-125/220-240V, 40-60 Hz.

### OSCILLATOR UNIT:

Measuring frequency: 3150 Hz (constancy  $1 \times 10^3$  after starting up period).

Output voltage: Approx. 0.4Vrms at test output connector.

Calibrating device: +2% detuning for static and ±0.3% (60 Hz) for dynamic recalibration of measuring unit.

### MEASURING UNIT:

Input voltage: 30mV to 30V, 3150 Hz ±5%.

Input impedance: >10 kOhm.

Measuring ranges: ME-101 — ±0.02 to ±0.5% and ±0.1 to ±2.5%; ME-102 — ±0.15% and ±0.75%.

Frequency response of fluctuation indication: Linear position, 50 to 500 Hz (-3 dB points). Weighted position, according to CCIR standard with external filter as required.

Drift indication: Max. ±4.5%.

Auxiliary output: Approx. 20V peak to peak at 22 kOhm.

Dimensions: 7" x 8" x 1 1/4".

Weight: Approx. 11 lbs.

ME-101 — net price F.O.B. N.Y. \$375.

ME-102 — net price F.O.B. N.Y. \$395.



# GOTHAM AUDIO CORPORATION





# Miniaturized Transformers

## PICO MINIATURE TRANSFORMERS — PM SERIES

Frequency Response  $\pm 2$  db 300 Hz to 1000 KHz†

These units can be used as input, interstage, output, isolation and other impedance requirements. Primary and secondary windings may be interchanged to obtain required impedance matching. Note: This will result in slightly different impedance ratios than shown.

Part No.	Primary Impedance	Secondary Impedance	Unbal. Pri. DC Ma	Pri. D.C.R.	Sec. D.C.R.	Power Level MW.	†† Family	Net Each 1-9"	
								-F	-M
●PM3(*)	200,000 C.T.	1,000 C.T.	0	5300	110	10	16	10.80	
●PM5(*)	200,000	1,000	0	5300	110	10	16	10.20	
●PM7(*)	50,000 C.T.	1,000 C.T.	0	3300	75	10	16	10.35	
●PM9(*)	50,000	1000/250 Split	0	3300	75	10	16	10.50	
●PM11(*)	25,000 C.T.	1,000 C.T.	0.5	1700	110	40	12	9.75	
●PM13(*)	25,000	1000/250 Split	0.25	1700	110	40	12	10.20	
●PM15(*)	25,000	1,000	0.25	1700	110	40	12	5.10	8.85
●PM17(*)	10,000 C.T.	10,000 C.T.	1	1000	1300	50	12	9.15	
●PM19(*)	10,000 C.T.	2,000 C.T.	1	1000	300	50	12	9.00	
●PM21(*)	10,000	2000/500 Split	0.5	1000	300	50	12	9.15	
●PM23(*)	10,000 C.T.	1,200 C.T.	1	1050	280	50	12	9.00	
●PM25(*)	10,000	1200/300 Split	0.5	1050	280	50	12	9.30	
●PM27(*)	10,000	1,200	0.5	1050	280	50	12	4.80	8.10
●PM29(*)	10,000 C.T.	500 C.T.	1	1050	80	50	12	9.15	
PM31(*)	2,500	2,500 C.T.	1	250	325	50	12	6.60	8.55
PM33(*)	1,500 C.T.	600	3	170	135	50	12	4.95	8.40
PM34(*)	600 C.T.	600 C.T.	3	72	92	50	17	8.55	
PM35(*)	500	50	3	60	8	50	17	4.35	7.80
PM36(*)	500	500/125 Split	3	72	85	50	17	9.00	
PM37(*)	120 C.T.	3.2	10	16	0.75	50	17	4.65	8.10
PM38(*)	300 C.T.	600	7	41	98	50	17	4.80	8.10
PM39(*)	Audio Choke	6 Hy.	2	1800			20	4.20	7.65
PM40(*)	Audio Choke	3.5 Hy.	2	560			20	4.05	7.20
PM41(*)	Audio Choke	.3 Hy.	4	43			20	3.90	6.75
PM90	Magnetic Shield Mu-Metal slip-on can for PM-M series.							1.05	6.75

●These items not available in open frame construction.  
\*Add either -F, -M to Part No. See photos figures PM-M & PM-F.  
Power levels shown are for 15% max. distortion, PM35-20%, PM37-25%.  
Frequency response measured as stated power level above.  
†PM3 & PM5—45KHz \* See Page 1439 for quantity pricing.



### OPEN FRAME PM-F

Pico Miniature size. 4" #30 Plastic leads color coded. Thorough resin impregnation and baking assures reliable lift. To order add -F to part number, i.e. PM33-F. Weight: .05 oz. Size: .250"x.375"x.406"



Epoxy molded for long life and suitability for printed circuit applications. Gold plated high strength nickel alloy leads .020 x 3/4" for reliable soldered joints and high-density welded lead packaging. Weight: .1 oz. To order add -M to part number, i.e. PM12-M, PM29-M. Size: .465"x.310"



### PM-M MAGNETIC SHIELD

Magnetic Shield PM90 Designed To Slip On PM-M Series To be cemented in place. Overall dimensions with shield in place: .365"x.465" x.500" high.

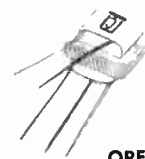
## UM SERIES — ULTRA-MINIATURE TRANSISTOR TRANSFORMERS

Frequency Response  $\pm 2$  db 300 TO 10,000 Hz Measured at level stated for 300 Hz

These units can be used as input, interstage, output, isolation and other impedance requirements. Primary and secondary windings may be interchanged to obtain required impedance matching. Note: This will result in slightly different impedance ratios than shown.

Part No.	Primary Impedance	Secondary Impedance	Unbal. Pri. DC Ma	Pri. D.C.R.	Sec. D.C.R.	Level @ 300 Hz	Level @ 1 KHz	†† Family	Net Each 1-9"	
									-F	-M
UM21(-)	100,000	1,000	0	1900	135	5mw	70mw	16	6.00	7.20
UM22(-)	20,000	1,000	0.5	1100	100	5mw	300mw	13	4.35	5.85
UM23(-)	20,000	1,200 C.T.	0.5	1100	110	5mw	300mw	13	4.66	6.60
UM24(-)	1,000	50	3	65	10	5mw	500mw	17	3.90	5.40
UM25(-)	400	50	3	35	5	15mw	500mw	17	3.90	5.40
UM26(-)	400	11	3	35	1.5	15mw	500mw	17	3.90	5.40
UM27(-)	400 C.T.	11	6	35	1.5	15mw	500mw	17	4.20	5.70
UM28(-)	Choke		10 hy	(0dc)	8hy (0.5ma)	650	20	3.75	5.70	6.30
UM29(-)	600 C.T.	600 C.T.	7	45	60	5mw	400mw	21	4.65	6.30
UM30(-)	Choke		1.5 hy	(0dc)	0.7hy (2ma)	100	20	3.60	4.80	7.20
UM31(-)	10,000 C.T.	1,200 C.T.	2	850	120	5mw	500mw	21	4.80	5.85
UM32(-)	1,500 C.T.	600	5	135	65	5mw	500mw	13	4.35	5.85
UM33(-)	1,000 C.T.	600	6	80	65	5mw	500mw	17	4.35	5.85
UM34(-)	10,000 C.T.	600 C.T.	2	850	40	5mw	500mw	13	4.50	6.90
UM35(-)	15,000 C.T.	15,000 C.T.	1	930	1210	5mw	300mw	15	4.95	7.05
UM36(-)	20,000 C.T.	800 C.T.	5	1100	80	5mw	500mw	13	4.80	6.75
UM37(-)	10,000	2,000 C.T.	1	850	200	5mw	500mw	13	4.50	6.00
UM39(-)	2,500 C.T.	600 C.T.	2	250	50	5mw	500mw	13	4.50	6.00
UM90	Magnetic Shield Mu-Metal slip-on can for UM-M Series.								1.35	20 db shieldinz.

\*Add either -F, or -M to Part Number to designate construction. See Photos.  
Power levels shown are for 7 1/2% maximum distortion. \* See Page 1439 for quantity pricing.



### OPEN FRAME UM-F

ULTRA-MINIATURE SERIES

To order add -F to Part Number, i.e. UM 22-F. Weight: .08 oz. Size: 3/8"x3/8"x1/8"



### MOLDED UM-M

ULTRA-MINIATURE SERIES

To order add -M to Part Number, i.e. UM 22-M. Weight: .14 oz. Size: 1/2"x1/2"



### MAGNETIC SHIELD UM90

Slip on Design Size: 3/8"x1/2" With can cemented in place

DESIGNED TO SLIP ON UM-M SERIES

## VM SERIES — VERI-MINIATURE TRANSISTOR TRANSFORMERS

Frequency Response  $\pm 2$  db 200 TO 10,000 Hz

Part No.	Primary Impedance	Impedance Secondary	Pri. D.C.R.	Sec. D.C.R.	Level MW.	†† Family	Net Each 1-9"	
							-FPB	-M
VM1(-)	50	600 (1.5ma)	7	90	15	21	4.2†	5.55
VM2(-)	200,000	600 (1.0ma)	3000	110	2.5	21	5.70	7.20
VM3(-)	25,000	600 (1ma)	720	45	2.5	21	4.50	6.30
VM4(-)	270,000	1200 (.72ma)	3100	165	5	21	5.70	7.20
VM5(-)	50,000	600 (1.0ma)	830	55	5	21	4.65	6.60
VM6(-)	100,000	1,200 C.T. (.72ma)	2000	150	5	21	5.85	7.35
VM7(-)	500 (3.5ma)	3.4	50	.5	15	21	4.20	5.55
VM8(-)	1250 (2.0ma)	3.4	135	.5	15	21	4.35	5.70
VM9(-)	1250 (2.0ma)	50	135	6.5	15	21	4.35	5.70
VM10(-)	2,500 (1.5ma)	2,500 C.T.	225	215	3	21	4.65	6.90
VM11(-)	Choke	20 hy. (0ma)	12 hv. (.5ma)		1000	21	4.05	5.10
VM12(-)	20,000	1,000 (.75ma)	625	85	5	21	4.50	6.30
VM13(-)	20,000	1,000 C.T. (.75ma)	625	85	5	21	4.65	6.90
VM14(-)	600 C.T. (7ma)	600 C.T.	50	65	15	17	4.50	6.75
VM15(-)	50,000 C.T.	50 000 C.T.	2000	2600	5	15	6.00	8.40
VM16(-)	500 C.T. (.75ma)	250 C.T.	40	13	15	17	4.50	6.75
VM17(-)	10,000 C.T.	5,000 C.T.	400	300	5	17	5.85	7.35
VM90	Magnetic Shield Mu-Metal slip-on can for VM-M Series.						20 db shieldinz.	1.95

\*Add either -FPB, or -M to Part Number to designate construction. See Photos.  
§ See Page 1439 for special order information. \* See Page 1439 for quantity pricing.



Send for latest complete catalog also see EEM pages for additional Transformers and list of Franchised Distributors.

## RAPID DELIVERY OF CUSTOM DESIGNS TO MEET YOUR NEEDS

MODIFICATIONS OF TRANSFORMERS SHOWN OR CUSTOM BUILT UNITS TO YOUR SPECIFIC REQUIREMENTS

Extensive design files and large specialized material stocks enable our prototype division to render rapid service. IN-PLANT TESTING assures full compliance with military requirements and often saves weeks on contract completion. Units can be supplied to meet MIL-T-27 MIL-T-9219, NASA NCP200-3, MIL-E-5400, MIL-E-16400, MIL-E-4158, MIL-E-8189A, MCREE-553, MIL-T-21200, MIL-Q-9858. Write for design request forms.

**MICROTRAN  
MILITARY**



# Miniaturized Transformers

Primary and secondary windings shown on this page may be interchanged to obtain required impedance - Note: This will result in slightly different impedance ratios than shown - These units can be used as input, interstage, output, isolation and other impedance matching requirements.



**MOLDED  
MM-M**

Designed for plug-in printed circuit applications. Cast Epoxy resin provides highest resistance to extremes of ambient. Weight 1/2 oz. To order add -M to Part Number, i.e. MM2-M, MMT2-M. Size: 1/2"x3/8"x3/8".  
**MIL Designation TF5RX†† ZZ**  
††See Family Designation in Chart



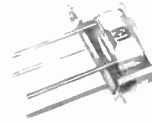
**CONTOUR  
MOLDED  
MM-CM**

**Special Order Only**  
Designed for chassis mounting with solder terminals on top of transformer. Epoxy contour molding provides greatest resistance to extremes of ambient in smallest possible package. Weight 1/2 oz. To order add -CM to Part Number, i.e. MM2-CM, MMT1-CM. Size: 7/16"x3/8"x3/8".  
**MIL Designation TF5RX†† ZZ**  
††See Family Designation in Chart



**HERMETIC  
MM-H**

Grey Enamel Finish, High Compression Glass Terminals. Weight 3/4 oz. To order add -H to Part Number, i.e. MM2-H, MMT3-H. Size: 1/2"x1/2".  
**MIL Designation TF4RX†† YY**  
††See Family Designation in Chart



**OPEN FRAME  
WITH CHANNEL  
MM-FB**

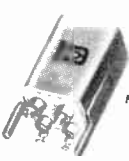
To order add -FB to Part Number, i.e. MMT3-FB, MM1-FB. Size: 1/2"x1/2"x1/2". Available with plug-in tab mounted channel as type MM-FPB. 3/32" mounting centers on Special Orders. Available without mounting channel as type MM-F 3/4"x3/8"x1/2". Weight .38 oz. on Special Orders.  
**MIL Designation TF6RX†† ZZ**  
††See Family Designation in Chart  
§See age 1439 for special order information

## MICRO-MINIATURE AUDIO AND TRANSISTOR TRANSFORMERS — MM AND MMT SERIES

Part No.	Primary Impedance	Secondary Impedance	Pri. D.C. Unbalance Ma.	Oper. Level DBM	Freq. Response ±2 db	†† Family	Net Each 1-9*			
							-CM†	-FB	-H	
MM1-(*)	200/50	250,000/62,500	0	4	200-10,000	10	11.10	4.50	7.35	8.55
MM2-(*)	10,000	90,000	3	4	150-10,000	10	11.25	4.80	7.50	8.70
MM3-(*)	10,000	200	3	20	150-10,000	13	10.95	4.20	7.20	8.40
MM4-(*)	30,000	50	1	20	150-10,000	13	10.80	4.05	7.05	8.25
MM5-(*)	Reactor 50 Hy at 1 MIL. D.C.	4,700 ohms D.C. Res.								
MM6-(*)	100,000	60	0.5	20	250-10,000	13	10.50	4.05	6.90	8.10
MM7-(*)	30,000	1,200	0.5	20	200-10,000	13	10.95	4.20	7.20	8.40
MMT1-(*)	600	600	8	22	200-15,000	17	11.10	3.90	7.35	8.55
MMT3-(*)	50,000	600	0.7	20	200-15,000	13	11.25	4.05	7.50	8.70
MMT4-(*)	50,000 C.T.	600 C.T.	1.4	20	200-15,000	13	12.75	4.80	8.55	9.75
MMT5-(*)	50,000	6	1	20	200-15,000	13	11.85	4.35	7.95	9.15
MMT7-(*)	25,000	1,200 C.T.	1	20	200-15,000	13	12.45	4.50	8.40	9.60
MMT8-(*)	50,000 C.T.	1,200 C.T.	1.4	20	200-15,000	13	12.75	4.65	8.55	9.75
MMT9-(*)	600 C.T.	1,200 C.T.	16	22	200-15,000	17	11.55	4.20	7.65	8.85
MMT10-(*)	25,000	600	1	20	200-15,000	13	10.95	4.35	7.20	8.40
MMT11-(*)	4,000 C.T.	600 C.T.	5	28	200-15,000	12	11.70	4.35	7.80	9.00
MMT12-(*)	2,000	3.4	5	28	200-15,000	13	11.10	3.90	7.35	8.55
MMT13-(*)	4,000 C.T.	3.4	5	28	200-15,000	13	11.25	4.05	7.50	8.70
MMT16-(*)	10,000	1,500 C.T.	1	20	200-15,000	13	12.45	4.50	8.40	9.60
MMT17-(*)	10,000 C.T.	200 C.T.	6	20	200-15,000	13	12.15	4.50	8.10	9.30
MMT18-(*)	25,000 C.T.	1,200 C.T.	2	20	200-15,000	13	12.75	4.65	8.55	9.75
MMT19-(*)	2,500	2,500 C.T.	2	23	200-15,000	13	12.75	4.05	7.50	8.70
MMT21-(*)	4,000 C.T.	600/150 split	5	28	200-15,000	13	12.75	4.65	8.55	9.75
MMT25-(*)	7,500 C.T.	600 C.T.	4	22	200-15,000	13	11.70	4.35	7.80	9.00
MMT26-(*)	600 C.T.	600 C.T.	2	20	200-15,000	13	11.55	4.20	7.65	8.85
MMT27-(*)	25,000 C.T.	1,500 C.T.	2	20	200-15,000	13	12.75	4.65	8.55	9.75
MMT28-(*)	10,000 C.T.	1,000 C.T.	2	20	200-15,000	13	12.75	4.65	8.55	9.75
MMT29-(*)	10,000 C.T.	1,000 C.T.	2	20	200-15,000	13	12.75	4.65	8.55	9.75
MMT30-(*)	7,500 C.T.	1,200 C.T.	2	20	200-15,000	13	12.75	4.65	8.55	9.75
MMT31-(*)	2,000 C.T.	500 C.T.	4	22	200-15,000	13	12.45	4.50	8.40	9.60
MMT32-(*)	600 C.T.	1200/300 split	10	28	200-15,000	13	12.30	4.35	8.25	9.45
MMT33-(*)	600 C.T.	600/150 split	16	22	200-15,000	17	12.75	4.65	8.55	9.75
MMT35-(*)	10,000 C.T.	150/37.5 split	2	20	200-15,000	13	12.60	4.50	8.40	9.60

\*Add either -H, -M, -CM, or -FB to Part Number to designate construction. See Photos

†† See Page 1439 for quantity pricing.



**MIL CASE  
SM-AF**

Grey Enamel Finish, Wt. 1 1/2 oz. Supplied with compression sealed ceramic terminals in MIL-T-27B-AF modified case. Size: 3/4"x3/4"x1 1/4". To order add -AF to Part Number, i.e. SM2-AF, SMT3-AF. **MIL Designation TF4RX†† YY**  
††See Family Designation in Chart



**MOLDED  
SM-M**

Designed for plug-in printed circuit applications. Cast Epoxy resin provides highest resistance to extremes of ambient. Weight 1 1/2 oz. Size: 1 1/2"x3/4"x3/4". To order add -M to Part Number, i.e. SM5-M, SMT5-M. **MIL Designation TF5RX†† ZZ**  
††See Family Designation in Chart



**CONTOUR  
MOLDED  
SM-CM**

**Special Order Only**  
Designed for chassis mounting with solder terminals on top of transformer. Epoxy contour molding provides greatest resistance to extremes of ambient in smallest possible package. Wt. 1 1/4 oz. Size: 1 1/2"x3/4"x3/4". To order add -CM to Part Number, i.e. SM5-CM, SMT5-CM. **MIL Designation TF5RX†† ZZ**  
††See Family Designation in Chart



**HERMETIC  
SM-H**

Grey Enamel Finish, Wt. 1 1/2 oz. High Compression Glass Terminals. To order add -H to Part Number, i.e. SM2-H, SMT3-H. Size: 1 1/2"x1 1/2". **MIL Designation TF4RX†† YY**  
††See Family Designation in Chart



**OPEN FRAME  
WITH CHANNEL  
SM-FB**

To order add -FB to Part Number, i.e. SMT3-FB, SM1-FB. Weight 3/4 oz. Available with plug-in tab mounted channel as type SM-FPB 3/32" mts. centers on Special Orders. Available without mounting channel as type SM-F 3/4"x3/4"x1 1/4". Weight .67 oz. on Special Orders. **MIL Designation TF6RX†† ZZ**  
††See Family Designation in Chart  
§See Page 1439 for special order information.

## SUBMINIATURE AUDIO AND TRANSISTOR TRANSFORMERS — SM, SMT and SM-CM SERIES

Part No.	Primary Impedance	Secondary Impedance	Pri. D.C. Unbalance Ma.	Oper. Level DBM	Freq. Response ±2 db	†† Family	Net Each 1-9*				
							-AF	-CM†	-FB		
SM1-(*)	200/50	250,000/62,500	0	6	80-10,000	10	9.00	4.35	7.20	9.00	
SM2-(*)	10,000	90,000	0	6	100-10,000	10	8.70	11.70	3.90	6.90	9.00
SM3-(*)	10,000	200	3	21	150-10,000	13	8.70	11.70	3.90	6.90	9.00
SM4-(*)	30,000	50	1	21	150-10,000	13	8.70	11.70	3.90	6.90	9.00
SM5-(*)	Reactor 50 Hy at 1 MIL. D.C.	3,000 ohms D.C. Res.									
SM6-(*)	100,000	60	0.5	21	150-10,000	20	7.20	10.95	3.30	6.30	8.40
SMT1-(*)	600	600	9	23	200-15,000	13	8.70	11.70	4.35	7.05	9.00
SMT3-(*)	50,000	600	1	20	200-15,000	17	6.75	9.30	3.90	6.00	7.20
SMT4-(*)	50,000 C.T.	600 C.T.	2	20	200-15,000	13	7.35	10.20	4.50	6.60	7.80
SMT5-(*)	50,000	6	1	20	200-15,000	13	10.65	4.95	7.05	8.25	
SMT7-(*)	25,000	1,200 C.T.	1.5	20	200-15,000	13	7.20	9.90	4.35	6.45	7.65
SMT8-(*)	50,000 C.T.	1,200 C.T.	2	20	200-15,000	13	7.50	10.35	4.65	6.75	7.95
SMT9-(*)	600 C.T.	1,200 C.T.	18	23	200-15,000	17	10.65	4.95	7.05	8.25	
SMT10-(*)	25,000	600	2	20	200-15,000	17	9.95	4.20	6.30	7.50	
SMT12-(*)	2,000	3.4	3	30	200-15,000	13	7.05	9.95	4.20	6.30	7.50
SMT13-(*)	4,000 C.T.	3.4	5	30	200-15,000	13	6.75	9.95	4.20	6.30	7.50
SMT16-(*)	10,000	1,500 C.T.	5	30	200-15,000	13	6.75	9.30	3.90	6.00	7.20
SMT17-(*)	10,000 C.T.	200 C.T.	1	23	200-15,000	13	6.90	9.60	4.05	6.15	7.35
SMT18-(*)	25,000 C.T.	1,200 C.T.	6	20	200-15,000	13	7.50	10.35	4.65	6.75	7.95
SMT19-(*)	2,500	2,500 C.T.	3	20	200-15,000	13	10.50	4.80	6.90	8.10	
SMT26-(*)	600 C.T.	600 C.T.	5	26	200-15,000	13	10.65	4.95	7.05	8.25	
SMT36-(*)	2,500 C.T.	2,500/625 split	18	23	200-15,000	17	10.35	4.65	6.75	7.95	
				26	200-15,000	13	10.20	4.50	6.60	7.80	
							10.80	5.10	7.20	8.40	

\*Add either -AF, -H, -M, -CM, or -FB to Part No. to designate construction. See photos.

• These items not available in -AF case.

†† See Page 1439 for quantity pricing.

**MICROTRAN  
MILITARY**



# Miniaturized Transformers

## MINIATURE TRANSISTOR AND AUDIO TRANSFORMERS — MT AND M SERIES



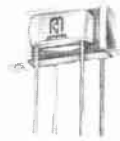
**CONTOUR MOLDED M-CM**  
Special Order Only  
Designed for chassis mounting with solder terminals on top of transformer. Epoxy contour molding provides greatest resistance to extremes of ambient in smallest possible package. Weight 1 1/2 oz. Size 1 1/2" x 1 1/2" x 1 1/2". To order add -CM to Part Number. i.e. M2-CM, MT3-CM. MIL Designation TF5RX†† ZZ ††See Family Designation in Chart



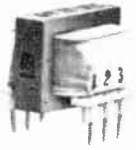
**HERMETIC M-H**  
Grey Enamel Finish. Wt. 1 1/4 oz. High Compression Glass Terminals. To order add -H to Part Number. i.e. M2-H, MT3-H, from stock. Size 1 1/4" x 1 1/4" x 1 1/4". 120 holes instead of slots, available Special Order Only. MIL Designation TF4R†† YY ††See Family Designation in Chart



**ALUMINUM CASED M-A**  
Is supplied with 2-56 Screws. Weight 1.25 oz. Size .875" x .8125". To order add -A to Part Number. i.e. M1-A, M1-A. MIL Designation TF3RX†† YY ††See Family Designation in Chart



**OPEN FRAME WITH CHANNEL M-FB**  
Weight 1.13 oz. To order add -FB to Part Number. i.e. M3-FB, M1-FB from stock. Size 1 1/2" x 1 1/2" x 1 1/2". Available with plug-in mounting centers as type M-FPB Special Order (page 5 for photo). Available without channels as type M-F. Wt 1.0z. Special Order. MIL Designation TF6RX†† ZZ ††See Family Designation in Chart



**OPEN FRAME PRINTED CIRCUIT M-PC**  
Weight 1.2 oz. To order add -PC to Part Number. i.e. M13-PC, M3-PC. Size 1 1/2" x 1 1/2" x 1 1/2". MIL Designation TF4R†† YY ††See Family Designation in Chart



**SHIELDED M-S**  
Special Order Only  
Double High Nickel Alloy Magnetic Shielded Version of M and MT Series. 65 db Shielding for Minimum Hum Pick-Up. Dia 1 1/2" Hgt 1 1/2" Mtg. Centers. 1 1/2" x 1 1/2" x 1 1/2" Mounting Studs. Weight 3 oz. MIL Designation TF6RX†† ZZ ††See Family Designation in Chart To order add -S to Part Number. i.e. M1-S.



**OCTAL PLUG-IN M-P**  
Sealed Plastic Housing. Weight 2 oz. To order add -P to Part Number. i.e. M13-P, M1-P. Diameter 1 1/2". Height above mtg. surface 1 1/2". MIL Designation TF6RX†† ZZ ††See Family Designation in Chart



**MOLDED M-M**  
Designed for plug-in printed circuit applications. Cast Epoxy resin provides highest resistance to extremes of ambient. Weight 1 1/2 oz. Size 1 1/2" x 1 1/2" x 1 1/2". To order add -M to Part Number. i.e. M2-M, M13-M. MIL Designation TF5RX†† ZZ ††See Family Designation in Chart



**MIL CASE M-AG**  
Grey Enamel Finish. Wt. 2 1/2 oz. Supplied with compression sealed ceramic terminals in MIL-27B AG case (modified). Size 1 1/2" x 1 1/2" x 1 1/2". To order add -AG to Part Number. i.e. M2-AG, M13-AG. MIL Designation TF4R†† YY ††See Family Designation in Chart



**MAGNETIC SHIELD M90**  
25 db magnetic shield. 2 clearance holes on 1/4" centers to match aluminum cased M-A can mounting.

§ See Page 1439 for special order information.

## MINIATURE AUDIO TRANSFORMERS — M SERIES

All items shown in charts below are available in any of the mechanical packages shown above. These units can be used as input, interstage, output, isolation and other impedance matching applications. Primary and secondary windings may be interchanged to obtain required impedance matching. Note: This will result in slightly different impedance ratios than shown.

Part No.*	Primary Impedance	Secondary Impedance	Pri. D.C. Unbalance Ma.	Operating Level DBM	Frequency Response ±2 db	†† Family	Net Each 1-9*							
							A	AG	CM†	FB	H	M	P	PC
MT1-(*)	600	600	10	23	200-15,000	17	7.20	8.70	11.70	3.60	7.80	9.00	7.35	3.60
●MT2-(*)	100	10 C.T./40 C.T.	100	27	200-20,000	17	8.10	9.60	12.90	4.20	8.70	9.90	8.25	
MT3-(*)	50,000	600	3	20	300-15,000	13	7.80	9.30	12.45	3.90	8.40	9.60	7.95	3.90
MT5-(*)	50,000	6	3	20	300-15,000	13	7.80	9.30	12.45	3.90	8.40	9.60	7.95	3.90
MT6-(*)	100,000	1,200 C.T.	1.4	17	200-15,000	13	7.95	9.45	12.60	4.20	8.55	9.75	8.10	4.20
●MT7-(*)	25,000	1,200 C.T.	3	20	200-15,000	13	7.95	9.45	12.60	4.20	8.55	9.75	8.10	
MT8-(*)	50,000 C.T.	1,200 C.T.	3	22	300-15,000	13	8.10	9.60	12.90	4.35	8.70	9.90	8.25	4.35
MT9-(*)	600 C.T.	1,200 C.T.	4	23	200-15,000	17	8.10	9.60	12.90	4.35	8.70	9.90	7.80	4.35
●MT10-(*)	25,000	600	3	22	200-15,000	13	7.80	9.30	12.45	3.90	8.40	9.60	7.95	
MT11-(*)	4,000 C.T.	600 C.T.	3	32	200-15,000	13	8.10	9.60	12.90	4.35	8.70	9.90	8.25	4.35
MT12-(*)	2,000	3.4	10	32	200-15,000	13	7.80	9.30	12.45	3.90	8.40	9.60	7.95	3.90
●MT13-(*)	4,000 C.T.	3.4	3	32	200-15,000	13	7.95	9.45	12.60	4.05	8.55	9.75	8.10	
MT14-(*)	400	10	50	25	200-20,000	17	7.20	8.70	11.70	3.60	7.80	9.00	7.35	3.60
●MT15-(*)	500 C.T.	210	30	22	300-20,000	17	7.80	9.30	12.45	3.90	8.40	9.60	7.95	
●MT18-(*)	25,000 C.T.	1,200 C.T.	6	22	200-15,000	13	8.40	9.90	13.20	4.65	9.00	10.20	8.55	
●MT20-(*)	50,000 C.T.	1200/300 Split	3	20	300-15,000	13	8.25	9.75	13.05	4.50	8.85	10.05	8.40	
●MT21-(*)	4,000 C.T.	600/150 Split	3	32	200-15,000	13	8.25	9.75	13.05	4.50	8.85	10.05	8.40	
●MT22-(*)	600/150 Split	1,200 C.T.	4	23	200-15,000	17	8.25	9.75	13.05	4.50	8.85	10.05	8.40	
●MT23-(*)	250 C.T.	1000	10	30	200-15,000	17	7.80	9.30	12.45	3.90	8.40	9.60	7.95	3.90
●MT24-(*)	2,500	600 C.T.	10	32	200-15,000	13	7.80	9.30	12.45	3.90	8.40	9.60	7.95	
●MT25-(*)	7,500 C.T.	600 C.T.	8	32	200-15,000	12	8.10	9.60	12.90	4.35	8.70	9.90	8.25	4.35
MT26-(*)	600 C.T.	600 C.T.	20	23	200-15,000	17	7.95	9.45	12.60	4.20	8.55	9.75	8.10	4.20
MT29-(*)	1600 C.T.	450	15	30	200-15,000	13	7.80	9.30	12.45	3.90	8.40	9.60	7.95	3.90
MT30-(*)	250 C.T.	500	10	30	200-15,000	17	7.80	9.30	12.45	3.90	8.40	9.60	7.95	3.90
●MT33-(*)	600/150 Split	600/150 Split	20	23	200-20,000	17	8.40	9.90	13.20	4.65	9.00	10.20	8.55	
●MT34-(*)	10,000/2500 Split	2000/500 Split	4	20	200-20,000	13	8.55	10.05	13.35	4.80	9.15	10.35	8.70	

\*Add either -AG, -H, -M, -CM, -P, -PC, -A, or -FB to Part No. to designate construction. See photos.  
●These items not available in -PC construction.

\* See Page 1439 for quantity pricing.

## MINIATURE TRANSISTOR TRANSFORMERS — MT SERIES

All items shown in charts below are available in any of the mechanical packages shown above. These units can be used as input, interstage, output, isolation and other impedance matching applications. Primary and secondary windings may be interchanged to obtain required impedance matching. Note: This will result in slightly different impedance ratios than shown.

Part No.*	Primary Impedance	Secondary Impedance	Pri. D.C. Unbalance Ma.	Operating Level DBM	Frequency Response ±2 db	†† Family	Net Each 1-9*							
							A	AG	CM†	FB	H	M	P	PC
●M1-(*)	50/250/600 C.T.	50,000	0	5	20-20,000	10	8.10	9.90	12.90	5.10	9.00	10.90	8.85	
●M2-(*)	50/250/600 C.T.	50,000 C.T.	0	5	20-20,000	10	8.25	10.35	13.20	5.25	9.45	10.20	8.85	
M3-(*)	7.5/30	50,000	0	5	20-20,000	10	7.80	9.90	12.60	4.95	9.00	9.75	7.40	4.95
M4-(*)	15,000	60,000	0	6	20-15,000	10	6.75	8.55	11.10	3.75	7.65	8.55	7.50	3.75
M5-(*)	15,000	60,000	4	14	200-20,000	15	6.75	8.55	11.10	3.75	7.65	8.55	7.50	3.75
M6-(*)	15,000	95,000 C.T.	0	5	20-15,000	10	7.65	9.45	10.95	4.65	8.55	9.45	8.25	4.65
M7-(*)	15,000	95,000 C.T.	4	11	200-20,000	15	7.65	9.45	12.60	3.90	8.55	9.75	8.25	3.90
●M8-(*)	15,000	50/250/600 C.T.	0	8	20-20,000	16	8.25	10.50	13.50	5.10	9.60	10.50	8.85	
●M9-(*)	15,000	50/250/600 C.T.	4	21	150-20,000	13	8.25	10.50	13.50	5.20	9.60	10.50	8.85	
●M10-(*)	30,000 P.P.	50/250/600 C.T.	0	8	30-50,000	16	8.40	10.80	13.65	5.25	9.60	10.80	9.00	
●M11-(*)	50,000	50/250/600 C.T.	0	5	20-20,000	16	8.10	10.50	13.65	5.10	9.30	10.50	8.85	
●M12-(*)	50/250 C.T.	50/250/600 C.T.	0	8	20-20,000	16	7.80	10.50	13.65	4.95	9.30	10.50	9.00	
M13-(*)	Reactor	300 hy. 0 d.c. 50 hy. @ 3 ma.	6000 !!	8 C.R.		20	6.30	8.75	10.65	3.45	7.35	8.25	7.50	3.45
M14-(*)	200	1/2 Megohm	0	9	80-3,000	10	7.50	9.90	13.20	4.65	9.00	10.20	8.85	4.65
M15-(*)	10,000	1 Megohm	0	11	100-2,500	10	7.50	9.30	12.15	4.50	8.40	9.30	8.85	4.50
M90	Magnetic Shield	Mu-Metal slip on can for M-A Series.			25 db shielding		1.35							

\*Add either -AG, -H, -M, -CM, -P, -PC, -A, or -FB to Part No. to designate construction. See photos.  
●These items not available in -PC construction.

\* See Page 1439 for quantity pricing.

**MICROTRAN  
MILITARY**



# Miniaturized Transformers

## LOW LEVEL CHOPPER INPUT TRANSFORMERS

Signal level range from .5 $\mu$ V to .5 volts, Resin impregnated to minimize mechanical vibration noise signal. Low hum pick up assured by 3 mu-metal and 2 copper shields. Accurate center taps and external electrostatic shield connection improve low-level operation.

Part Number	Full Pri. to Full Sec.	Turn Ratio 1/2 Pri. to Full Sec.	Ind. of Full Pri. @ .5V. 60 Hz	Imped. of Full Pri. @ 60 Hz	D.C. Resistance		Fig.	Net Each 1-9*
					Full Pri. Sec.	Full Pri. Sec.		
M8025	1:7.7	1:15.4	17.5 HY.	6,600	365	4140	B	13.80
M8026	1:3.2	1:6.4	60 HY.	22,500	455	3500	B	13.80
M8052	1:4.53	1:9.06	90 HY.	34,000	760	5220	B	14.25
M8053*	1:0.5	1:1	140 HY.	53,000	920	653	B	13.65
M8112	1:0.5	1:1	450 HY.	80,000	2300	1600	B	14.40
M8525	1:7.7	1:15.4	17.5 HY.	6,600	365	4140	BB	16.65
M8526	1:3.2	1:6.4	60 HY.	22,500	455	3500	BB	16.65
M8552	1:4.53	1:9.06	90 HY.	34,000	760	5220	BB	17.10
M8553*	1:0.5	1:1	140 HY.	53,000	920	653	BB	16.50

\*Secondary is center tapped.

\* See Page 1439 for quantity pricing.



Fig. B



Fig. BB

Fig. B: TRIPLE MU-METAL CASE, 6-32x 3/8" mounting studs on 1 1/2" centers. Weight 5 oz.

Fig. BB: HERMETICALLY SEALED to meet MIL-T-27B. Triple mu metal case, high compression glass terminals, 6-32x3/8" mounting studs on 1 1/2" centers; 1" dia. cut out for terminals. Weight 5 oz.

<p>Fig. A</p> <p>HERMETICALLY SEALED to MIL-T-27B MIL Designation TF4RX††XX See Page 6 for MIL Case Dimensions.</p>	<p>Fig. D</p> <p>OPEN FRAME with Channel and leads. (M8073 supplied without channel.) MIL Designation TF6RX09ZZ</p>	<p>Fig. B</p> <p>MIL CASE M-AG construction. See page 3 for details. MIL Designation TF4RX09YY</p>	<p>Fig. C</p> <p>Epoxy molded with terminals and clearance hole for mounting. MIL Designation TF5RX09ZZ</p>
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## DC TO DC CONVERTER TRANSFORMERS – SWITCHING TYPE

Laminated Series – 800 Hz Approximate Repetition Rate

Part No.	Nominal D.C. Input Volts	Total V.A. Output*	Typical** Transistors	F.W. Volts	Bridge Ma.	D.C. Output		D	Dimensions			Mounting Centers		Case xx	†† Fig.	Schematic No. ▲	Net Each 1-9*
						Volts	Ma.		L	W	H	MD	MW				
M8034	28	125	2N174	500	250	250	420	2 3/4	2 3/8	3 1/16	2 1/8	1 3/4	GA	A	1	31.50	
M8035	13.6	125	2N442	500	250	250	420	2 3/4	2 3/8	3 1/16	2 1/8	1 3/4	GA	A	1	31.50	
M8036	13.6	40	2N442	450	90	225	155	2 3/8	2 1/8	3 1/8	1 11/16	1 1/8	FA	A	1	30.00	
M8072	2.7	190mw	2N1307	480†	400 $\mu$ a	—	—	1 11/16	1 3/16	2 3/32	1 3/8	—	ZZ	D	2	7.20	
M8120	28	190mw	2N3417	480†	400 $\mu$ a	—	—	1 11/16	1 3/16	2 3/32	1 3/8	—	ZZ	D	2	7.20	

\*Full wave and C.T. loads may be simultaneously drawn, but for continuous duty operation, Total V.A. output shown should not be exceeded.

\*\*Typical transistors for reference only. User must verify that max. ratings will not be exceeded for the particular application.

†Output when used with simple 1/2 wave capacitor input rectifier.

\* See Page 1439 for quantity pricing.

## DC TO DC CONVERTER TRANSFORMER – BLOCKING OSCILLATOR TYPE

Laminated Series – 400 Hz Approximate Repetition Rate

Part No.	H.V.	Turns Ratio Collector	Feed-Back	Typical Input		Typical Output		Dimensions			Mounting Center	Fig.	Schematic No. ▲	Net Each 1-9*
				Volts D.C.	Ma D.C.	Volts D.C.	ua D.C.	L	W	H				
M8050	600:	12:	1	3	20	1000*	25	1 11/16	1 3/16	2 3/32	1 3/8	D	3	6.30
M8051	600:	12:	1	3	20	1000*	25	1	1 3/8	1	1 3/8	B	3	11.85
M8073	44:	1:	1	4	2-15†	425-500†	50 Max†	3/8	3/8	3/8	—	D	5	5.25
M8074	65.5:	33:	1	3	45	535*	90	1 11/16	1 3/16	2 3/32	1 3/8	D	6	5.10

\*Output when transformer is used in blocking oscillator circuit with single capacitor input rectifier.

†Dependent on load and bias conditions. Frequency varies from 100 to 2800 CPS.

\* See Page 1439 for quantity pricing.

## DC TO DC CONVERTER TRANSFORMERS – SWITCHING TYPE

Toroidal Series – Operating Frequencies Between 1500 to 5000 Hz

Part No.	Nominal D.C. Input Volts	Total V.A. Output	Typical Transistors	D.C. Output**		Dimensions D	Dimensions H	Clearance Hole	Fig.	Schematic No. ▲	Net Each 1-9*		
				Bridge Volts	C.T. Full Wave Ma								
M8113	13.8	50	2N278	28	1750	14	3500	2 1/4	1 1/4	.194	C	7	16.05
M8114	28	50	2N375	28	1750	14	3500	2 1/4	1 1/4	.194	C	7	16.05
M8115	13.8	5	2N376	500	10	250	20	1 1/2	3/4	.140	C	7	12.30
M8116	13.8	50	2N278	70	700	35	1400	2 1/4	1 1/4	.194	C	7	16.15
M8117	28	5	2N375	500	10	250	20	1 1/4	3/4	.140	C	7	12.30
M8118	28	50	2N375	70	700	35	1400	2 3/8	1 1/4	.194	C	7	16.05

\*\*Based on 1 Volt drop per rectifier. ▲ Send for Engineering Bulletin for Schematics, Component Values & Terminal Arrangements. \* See Page 1439 for quantity pricing.

**MICROTRAN  
MILITARY**



# Miniaturized Transformers



Fig. A

**HERMETICALLY SEALED**

Per MIL-T-27B  
MIL Designation:  
TF4RX01XX  
See Page 1432 for MIL  
Case Dimensions.



Fig. B

**HERMETIC**

Round steel can  $\frac{1}{8}$ " Dia.  
 $1\frac{1}{2}$ " mounting centers.  
High compression glass/  
terminals. M8063 see  
fig. MM-H Page 1428 and  
M8069 see fig. SM-H  
Page 1428 for detailed  
information. M8058,  
M8075, M8081, and  
M8082 see fig. M-H Page  
1429 for detailed infor-  
mation.  
MIL Designation:  
TF4RX01YY



Fig. C

**EPOXY MOLDED**

Molded with pins for  
printed circuit applica-  
tions.  
MIL Designation:  
TF5SX01XX

**400 Hz POWER SUPPLY TRANSFORMERS**  
For Silicon Rectifier Circuitry, and Filament Applications  
Primary 105/115/125 Volts MIL Designation: TF4RX01XX

Part No.	A.C. Volts	Secondary	RMS Amperes	Rectifier Circuit		Fig. A Mil Case XX	Net Each 1-9*
				C.T. Full Wave D.C. Volts**	F.W. Bridge D.C. Volts**		
M8063†	2.85 2.85		.045 .045	1.5 (series)	3	YY Fig. B	10.50
M8064†	6.3 C.T.		.6	1.9	3.8	AH	11.10
M8075†	6.3 C.T.		.3	1.9	3.8	YY Fig. B	9.75
M8076†	12.6 C.T.		.3	4.7	9.4	AH	11.70
M8039	12.6 12.6 C.T.		.8 .8	10.5 (series)	21 (series)	AJ	18.00
M8077	12.6 12.6 C.T.		2 2	10.5 (series)	21 (series)	FA	19.05
M8038	12.6 12.6 12.6		.3 .3 .3	16 (series)	32 (series)	AJ	18.60
M8018	18.5 C.T.		1	7.4	14.8	EA	16.50
M8019	18.5 C.T.		3	7.4	14.8	FA	18.00
M8065	26 C.T.		1.5	10.8	21.6	EA	16.35
M8066	26 C.T.		3	10.7	21.5	FA	25.50
M8079	26 C.T.		4	10.8	21.6	HA	26.85
M8067	30 C.T.		1.5	12.5	25	FB	21.90
M8020	35 C.T.		3	14.5	29	GA	24.00
M8068	40 C.T.		.2	17	34	AJ	13.20
M8041†	50 C.T.		.25	21.5	43	AH	11.10
M8080	50 C.T.		.20	21.5	43	AJ	13.80
M8069†	60 C.T.		.003	26	52	YY Fig. B	9.75
M8070†	65 C.T.		.170	28.4	56.8	AH	11.25
M8081†	65 C.T.		.030	28.4	56.8	YY Fig. B	9.75
M8021	70 C.T.		1	30	60	FA	23.25
M8071	80 C.T.		.90	35	70	FA	27.20

\*\*DC Output V for resistive or inductive rectifier loads. Output V based on approx. 1V drop per rectifier.

\* See Page 1439 for quantity pricing.

†Primary 115 volts only.

**400 Hz TOROIDAL POWER TRANSFORMERS**

Toroidal cores permit smaller height and package and greater efficiency. Size and savings up to 30%. Epoxy molded. Printed circuit pins can be bent for chassis mounting. Low phase shift.

**For Applications Requiring Minimum Size and Weight**

Primary 115 Volts MIL Designation: TF5SX01ZZ

Part No.	Secondary Volts	Secondary Current ma	V.A.	Dimensions*		Nominal Wgt. oz.	Net Each 1-9*
				ØØ	Height		
M8106	28 C.T.	320	9	1 $\frac{3}{32}$	1 $\frac{1}{4}$	2	15.30
M8107	28 C.T.	710	20	1 $\frac{1}{2}$	1 $\frac{1}{4}$	4	15.90
M8108	56 C.T.	160	9	1 $\frac{3}{32}$	1 $\frac{1}{4}$	2	15.60
M8109	56 C.T.	356	20	1 $\frac{1}{2}$	1 $\frac{1}{4}$	4	16.20
M8110	115 C.T.	78	9	1 $\frac{3}{32}$	1 $\frac{1}{4}$	2	15.90
M8111	115 C.T.	170	20	1 $\frac{1}{2}$	1 $\frac{1}{4}$	4	16.50

.170 Clearance Hole for #8 Screw.  
\* See Page 1439 for quantity pricing.

\* See Fig. C for illustration.

**400 Hz ISOLATION POWER TRANSFORMERS**

Center Tap Permits Use In Either F.W. Bridge or  
F.W.C.T. Circuitry

Electrostatic Shielding MIL Designation: TF4RX01XX

Part No.	Input Voltage	Output Voltage	Current RMS Amps	V.A. Rating	Fig. A Mil Case xx	Net Each 1-9*
M8058	115	12.6	.15	1.9	YY (Fig. B)	9.60
		115 C.T.	.017	2		
M8083	115	115 C.T.	.030	10	AJ	18.60
		12.6 C.T.	.25	Total		
M8084	115	12.6	.25	14	AJ	13.50
		115 C.T.	.12	14		
M8059	115	115 C.T.	.35	40	EB	14.70
		115 C.T.	.7	80		
M8085	115	115 C.T.	.7	80	FA	23.55
		115 C.T.	1.3	150		
M8060	115	115 C.T.	2.6	300	JA	36.40
		115 C.T.	4.4	500		
M8061*	115	115 C.T.	2.6	300	KA	36.40
M8062*	115	115 C.T.	4.4	500	KA	43.50

\*Primary 105/115/125 volts.

\* See Page 1439 for quantity pricing.

**MICROTRAN  
INDUSTRIAL**



# Commercial Transformers

## 60 Hz CONTROL AND POWER SUPPLY TRANSFORMERS For Relays, Silicon Rectifiers Circuitry, and Filament Application Primary 105/115/125 Volts

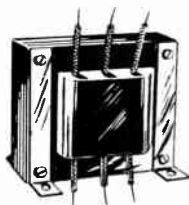
Part No.	Secondary		Rectifier Circuit		Dimensions			Mounting Centers	Figure	Net Each 1-9*
	A.C. Volts	RMS Amperes	C.T. Full Wave D.C. Volts**	F.W. Bridge D.C. Volts**	L	W	H			
M8242	6.3 C.T.	.6	1.9	3.8	2 3/8	1 3/8	1 1/2	2	FB	3.75
M8243	6.3 C.T.	2.0	1.9	3.8	2 3/8	1 3/8	1 1/2	2 1/8	FB	4.50
M8286	6.3 C.T.	6.0	1.9	3.8	3 1/8	2 1/8	2 1/4	3 1/8	FB	5.55
M8287	12.6 C.T.	3.0	4.7	9.4	3 1/8	2 1/8	2 1/4	3 1/8	FB	5.55
M8247†	12	4.0	9.9 (series)	19.8 (series)	4 1/8	3 1/8	3 3/8	3 7/8 x 2 1/2	K	12.15
M8244	12.6 C.T.	2.0	10.5 (series)	21 (series)	3 3/8	2 3/8	3 3/8	2 1/8 x 2 1/2	K	7.95
M8222	18.5 C.T.	3.0	7.4	14.8	3 3/8	2 3/8	3 3/8	2 1/8 x 2 1/2	K	7.21
M8288	26 C.T.	2.5	10.8	21.6	3	2 3/8	2 3/8	2 1/8 x 2 1/2	K	7.05
M8245	28 C.T.	.6	11.7	23.4	2 3/8	2 3/8	1 1/2	2 1/8	FB	5.55
M8255	30 C.T.	2.5	12.5	25	3 3/8	2 3/8	3 1/2	3 1/8 x 2 1/4	K	8.25
M8223	35 C.T.	3.0	14.5	29	4 1/8	3	3 3/8	3 1/8 x 2 3/8	K	12.45
M8289	40 C.T.	.1	17	34	2 3/8	1 3/8	1 1/2	2	FB	3.75
M8290	40 C.T.	.3	17	34	2 3/8	1 3/8	1 1/2	2	FB	4.50
M8291	40 C.T.	.75	17	34	3 1/8	2 1/8	2 1/4	3 1/8	FB	5.55
M8246	49 C.T.	2.5	21	42	4 1/2	3 1/4	4 1/2	3 3/8 x 2 1/2	K	8.70
M8224	70 C.T.	1.0	30	60	3 3/8	2 3/8	3 1/2	3 1/8 x 2 1/4	K	8.25
M8256	80 C.T.	.6	35	70	3	2 3/8	2 3/8	2 1/8 x 2 3/8	K	7.05

Fig. FB



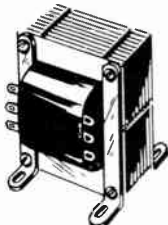
**OPEN FRAME**  
with channel

Fig. K



**BRACKET MOUNTED**  
with leads

Fig. L



**BRACKET MOUNTED**  
with leads and/or lugs  
Available on Special Order

†Secondary may be connected in series to provide 24V @ 4.0 amperes or parallel for 12V @ 8.0 amperes.

\*\*D.C. Output for resistive or inductive loads. Output volts based on approx. 1 v. drop per rectifier.

\* See Page 1439 for quantity pricing.

## 60 Hz ISOLATION AND POWER TRANSFORMERS Center Tap Permits Use In Either F.W. Bridge or F.W.C.T. Circuitry Electrostatic Shielding

Part No.	Input Voltage	Output Voltage	Current RMS Amps	V.A. Rating	Dimensions			Mounting Centers	Figure	Net Each 1-9*
					L	W	H			
M8294	115	115 C.T.	.0085	1	2 1/8	1 1/8	1 3/8	1 3/8	FB	3.90
M8295	115	115 C.T.	.030	3.5	2 1/8	1 1/8	1 3/8	2 3/8	FB	5.25
		12.6 C.T.	.25	3.15						
		12.6	.25	3.15						
M8296*	115	115 C.T.	.35	40	2 3/8	3 3/8	2 3/8	1 4/8 x 2 1/8	H	7.20
M8278*	115	115 C.T.	.9	100	3 3/8	3 1/8	3 1/2	3 1/8 x 2 3/8	K	12.45

\*Primary 105/115/125 Volts.

\* See Page 1439 for quantity pricing.

## FILTER INDUCTORS

May be connected in series or parallel for inductive requirements

Part No.	Series Connected			Parallel Connected			Test Volt	Dimensions			Mounting Centers	Figure	Net Each 1-9*	
	Inductance Henrys	DC Cur. AMPS	DCR Ohms	Inductance Henrys	DC Cur. AMPS	DCR Ohms		L	W	H				
M8198	3.5	.050	200	.875	.10	50	1500	2 1/8	1 1/8	1 3/8	1 3/8	2	FB	2.85
M8199	1.5	.15	65	.25	.30	16	1500	2 3/8	1 1/8	1 1/2	2	2	FB	3.00
M8200	.5	.3	30	.125	.6	7.5	1500	2 1/8	1 3/8	1 3/8	2 3/8	2	FB	3.30
M8201	.32	.6	16	.08	1.2	4	1500	2 3/8	1 3/8	1 1/2	2 1/8	2	FB	4.20
M8202	.2	1.0	4	.05	2.0	1	1500	3 1/8	2 3/8	3 3/8	2 1/8 x 2 1/8	2	K	9.60
M8203	.07	2.5	.84	.0175	5.0	.21	1500	3 3/8	2 3/8	3 1/2	3 1/8 x 2 1/2	2	K	11.25
M8204	.022	4.0	.4	.0055	8.0	.1	1500	3 3/8	2 3/8	3 3/8	2 1/8 x 2 1/2	2	K	10.95
M8205	.022	5.0	.2	.0055	10	.05	1500	4 1/2	3 1/8	4 3/8	3 3/8 x 2 1/2	2	K	13.20

§ See Page 1439 for special order information.

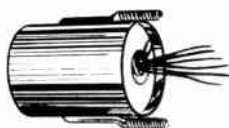
\* See Page 1439 for quantity pricing.

## TRANSISTOR DRIVER AND OUTPUT TRANSFORMERS

These units can be used as input, interstage, output, isolation and other impedance requirements. Primary and secondary windings may be interchanged to obtain required impedance matching. Note: This will result in slightly different impedance ratios than shown. See Fig. FB.

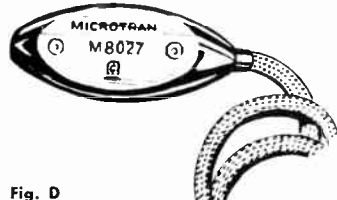
Part No.	Impedance		Pri DC Unbal. Ma	Level Watts	Freq. ±2 db Resp.	Dimensions			M.C.	Net Each 1-9
	Pri.	Sec.				H	W	D		
M8302	560	400 C.T.	18	.15	200-20000	1 3/8	2 3/8	1 3/8	2	4.20
M8303	625 C.T.	100 C.T.	20	1.5	200-20000	1 3/8	2 3/8	1 3/8	2	4.35
M8304	5400	600 C.T.	15	.075	200-20000	1 3/8	2 1/8	1 1/4	1 3/8	3.90
M8305	7000	320 C.T.	7	.040	70-15000	1 3/8	2 1/8	1 1/4	1 3/8	4.05
M8308	25	3-4	600	3.0	200-20000	1 3/8	2 3/8	1 3/8	2	3.90
M8309	48 C.T.	3.2/8.0	50	5.0	200-20000	1 3/8	2 3/8	1 3/8	2	4.05
M8310	120 C.T.	1000	40	6.0	300-15000	1 3/8	2 3/8	1 3/8	2	4.20
M8311	125 C.T.	3-4	20	1.5	200-15000	1 3/8	2 1/8	1 1/4	1 3/8	4.20
M8312	140 C.T.	500	50	6.0	300-15000	1 3/8	2 3/8	1 3/8	2	4.20
M8313	250 C.T.	3-4	20	.4	70-15000	1 3/8	2 1/8	1 1/4	1 3/8	3.75
M8315	1600 C.T.	800	5.0	2.5	150-20000	1 3/8	2 3/8	1 3/8	2	4.05
M8316	2500 C.T.	12	4.0	.10	300-15000	2 1/2	1 1/2	1 1/8	1 1/8	3.60

Fig. M-5



**SHIELDED CASED**  
Mounting Centers 1 3/8" 6/32 x 3/8" studs

Fig. D



**IN-LINE MICROPHONE**

Single Mu-Metal shield, electrostatic shield, 20" shielded cable is to be terminated with desired connector.

## LOW LEVEL/MICROPHONE INPUT TRANSFORMERS These Broadcast fidelity input transformers are double mu-metal shielded

Part No.	Pri. Imp.	Sec. Imp.	Magnetic Shielding	Level DBM	Frequency Resp. ±2 db	Height	Diameter	Weight Oz.	Figure	Net Each 1-9*
M8030*	200/50 C.T.	50,000	65	+5	20-20,000	2 1/8	1 1/8 D.	6	C	13.50
M8031	600 C.T./150	50,000	65	+5	30-20,000	2 1/8	1 1/8 D.	6	C	13.35
M8032†	250 C.T.	50,000	65	+5	20-20,000	2 1/8	1 1/8 D.	6	C	13.05
M8033†	50 C.T.	50,000	65	+5	20-20,000	2 1/8	1 1/8 D.	6	C	13.05
M1-S	50/250 C.T.	50,000	65	+5	20-20,000	1 1/2	1 1/8 D.	3	M-S	10.95

\*M8030 is designed as a replacement for Ampex No. 1733-1.

†M8032 and M8033 mates with sockets on many RCA amplifiers.

\* See Page 1439 for quantity pricing.

**MICROTRAN  
INDUSTRIAL**

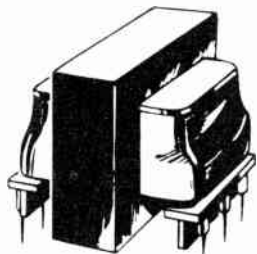


# Commercial Transformers

## DECI-MINIATURE INDUSTRIAL GRADE OPEN FRAME PRINTED CIRCUIT TRANSFORMERS — DCM SERIES

Frequency Response 200-15,000 Hz +2 db

These units can be used as input, interstage, output, isolation and other impedance requirements. Primary and secondary windings may be inter-changed to obtain required impedance matching.  
Note: This will result in slightly different impedance ratios than shown.



**DECI-MINIATURE  
DCM-SERIES**

New Industrial/Commercial grade miniature printed circuit transformer. Rigid terminals provide fixed mounting centers usually found in expensive molded transformers. Weight .5 oz. Size: 3/4" H x 1 3/8" W x 1 1/2" D 3/16" x .042 pins.

Part No.	Primary Impedance	Secondary Impedance	Pri. D.C. Unbalance Ma.	Operating Level DBM	Net Each 1-9*
DCM1-PC	25000 C.T.	1200 C.T.	2	18	4.95
DCM2-PC	15000 C.T.	15000 C.T.	3	19	5.10
DCM3-PC	15000 C.T.	600 C.T.	3	19	4.80
DCM4-PC	10000 C.T.	5000 C.T.	4	20	4.95
DCM5-PC	10000	2500/625 Split	2	20	4.95
DCM6-PC	10000 C.T.	1500 C.T.	4	20	4.65
DCM7-PC	5000 C.T.	80,000 C.T.	6	15	5.25
DCM8-PC	4000 C.T.	1200 C.T.	6	20	4.50
DCM9-PC	4000 C.T.	600 C.T.	6	20	4.35
DCM10-PC	4000	600/150 Split	3	20	4.80
DCM11-PC	2500 C.T.	2500 C.T.	8	20	4.50
DCM12-PC	2500	2500/625 Split	4	20	4.80
DCM13-PC	2500 C.T.	625 C.T.	8	20	4.35
DCM14-PC	2500 C.T.	200 C.T.	8	20	4.20
DCM18-PC	600 C.T.	50,000 C.T.	16	20	4.65
DCM19-PC	600	8000/2000 Split	8	20	4.80
DCM20-PC	600 C.T.	200 C.T.	16	20	4.05
DCM21-PC	600 C.T.	600 C.T.	16	20	4.05
DCM22-PC	250 C.T.	600 C.T.	25	20	4.05

## DECI-MINIATURE — INDUSTRIAL GRADE — OPEN FRAME PRINTED CIRCUIT CHOKES — DCM SERIES

Part No.	Inductance 0 ma d.c.	Inductance rated current conditions	DCR	Net Each 1-9*
DCM51-PC	10 hy	5 hy-3 ma	300	3.60
DCM52-PC	5 hy	2 hy-5 ma	155	3.30
DCM53-PC	2.5 hy	1 hy-7 ma	75	3.15

\*See schedule below for quantity pricing.

## STANDARD SALES POLICY INFORMATION

### STANDARD CATALOG ITEMS:

Order from Franchised Distributors for immediate delivery at factory prices through 249 pieces. For larger quantities, contact factory for quotation.

### SPECIAL MARKING OF CATALOG ITEMS

If customer Part Number is to be added to standard marking information, add to regular D.E.M. price of standard catalog item the following amount:

1 pc.	2-4 pcs.	5-9 pcs.	10-49 pcs.	50-99 pcs.	100-249 pcs.
\$5.15	\$2.65	\$1.15	\$.64	\$.23	\$.15

For any other type of special marking or larger quantities contact factory for quotation.

### SPECIAL ORDER ITEMS:

Transformers shown as "SPECIAL ORDER ONLY" are not normally stocked but may be ordered from Franchised Distributors.

The following special order types are not shown in the INDUSTRIAL D.E.M. NET PRICE LIST and are priced below:

Price of -FPB type is same as equivalent -FB type. (i.e. MT1-FPB is same price as MT1-FB).

Price of -F type (i.e. MT1-F) is price of -FB type (i.e. MT1-FB) less the following amounts: Quantity 1-9 \$.15; 10-49 \$.14; 50-99 \$.13; 100-249 \$.10

For all other "SPECIAL ORDER" items not priced contact factory for price and delivery.

### CUSTOM TRANSFORMERS:

Contact factory for Price and Delivery.

### FACTORY TERMS OF SALE:

1% 10th and 25th. Net 30. F.O.B. Factory.

### FACTORY MINIMUM BILLING:

\$15.00 net, exclusive of transportation charges.

## QUANTITY PRICING SCHEDULE

Net 1-9	10-49	50-99	100-249	Net 1-9	10-49	50-99	100-249	Net 1-9	10-49	50-99	100-249
1.05	.95	.88	.70	9.00	8.10	7.50	6.00	15.60	14.04	13.00	10.40
1.35	1.22	1.13	.90	9.15	8.24	7.63	6.10	15.75	14.18	13.13	10.50
1.65	1.49	1.38	1.10	9.30	8.37	7.75	6.20	15.90	14.31	13.25	10.60
2.85	2.57	2.38	1.90	9.45	8.51	7.88	6.30	16.05	14.45	13.38	10.70
3.00	2.70	2.50	2.00	9.60	8.64	8.00	6.40	16.20	14.58	13.50	10.80
3.15	2.84	2.63	2.10	9.75	8.78	8.13	6.50	16.35	14.72	13.63	10.90
3.30	2.97	2.75	2.20	9.90	8.91	8.25	6.60	16.50	14.85	13.75	11.00
3.45	3.11	2.88	2.30	10.05	9.05	8.38	6.70	16.65	14.98	13.88	11.10
3.60	3.24	3.00	2.40	10.20	9.18	8.50	6.80	17.10	15.39	14.25	11.40
3.75	3.38	3.13	2.50	10.35	9.32	8.63	6.90	17.25	15.53	14.38	11.50
3.90	3.51	3.25	2.60	10.50	9.45	8.75	7.00	17.40	15.66	14.50	11.60
4.05	3.65	3.38	2.70	10.65	9.59	8.88	7.10	17.55	15.80	14.63	11.70
4.20	3.78	3.50	2.80	10.80	9.72	9.00	7.20	18.00	16.20	15.00	12.00
4.35	3.92	3.63	2.90	10.95	9.86	9.13	7.30	18.30	16.47	15.25	12.20
4.50	4.05	3.75	3.00	11.10	9.99	9.25	7.40	18.45	16.61	15.38	12.30
4.65	4.19	3.88	3.10	11.25	10.13	9.38	7.50	18.60	16.74	15.50	12.40
4.80	4.32	4.00	3.20	11.40	10.26	9.50	7.60	18.90	17.01	15.75	12.60
4.95	4.46	4.13	3.30	11.55	10.40	9.63	7.70	19.05	17.15	15.88	12.70
5.10	4.59	4.25	3.40	11.70	10.53	9.75	7.80	19.50	17.55	16.25	13.00
5.25	4.73	4.38	3.50	11.85	10.67	9.88	7.90	21.60	19.44	18.00	14.40
5.40	4.86	4.50	3.60	12.00	10.80	10.00	8.00	21.90	19.71	18.25	14.60
5.55	5.00	4.63	3.70	12.15	10.94	10.13	8.10	22.20	19.98	18.50	14.80
5.70	5.13	4.75	3.80	12.30	11.07	10.25	8.20	22.80	20.52	19.00	15.20
5.85	5.27	4.88	3.90	12.45	11.21	10.38	8.30	23.25	20.93	19.38	15.50
6.00	5.40	5.00	4.00	12.60	11.34	10.50	8.40	23.55	21.20	19.63	15.70
6.15	5.54	5.13	4.10	12.75	11.48	10.63	8.50	24.00	21.60	20.00	16.00
6.30	5.67	5.25	4.20	12.90	11.61	10.75	8.60	24.15	21.74	20.13	16.10
6.45	5.81	5.38	4.30	13.05	11.75	10.88	8.70	25.20	22.68	21.00	16.80
6.60	5.94	5.50	4.40	13.20	11.88	11.00	8.80	25.50	22.95	21.25	17.00
6.75	6.08	5.63	4.50	13.35	12.02	11.13	8.90	25.65	23.09	21.38	17.10
6.90	6.21	5.75	4.60	13.50	12.15	11.25	9.00	26.10	23.49	21.75	17.40
7.05	6.35	5.88	4.70	13.65	12.29	11.38	9.10	26.40	23.76	22.00	17.60
7.20	6.48	6.00	4.80	13.80	12.42	11.50	9.20	26.85	24.17	22.38	17.90
7.35	6.62	6.13	4.90	13.95	12.56	11.63	9.30	28.50	25.65	23.75	19.00
7.50	6.75	6.25	5.00	14.10	12.69	11.75	9.40	29.10	26.19	24.25	19.40
7.67	6.89	6.38	5.10	14.25	12.83	11.88	9.50	29.40	26.46	24.50	19.60
7.80	7.02	6.50	5.20	14.40	12.96	12.00	9.60	29.70	26.73	24.75	19.80
7.95	7.16	6.63	5.30	14.55	13.10	12.13	9.70	30.00	27.00	25.00	20.00
8.10	7.29	6.75	5.40	14.70	13.23	12.25	9.80	31.50	28.35	26.25	21.00
8.25	7.43	6.88	5.50	14.85	13.37	12.38	9.90	36.00	32.40	30.00	24.00
8.40	7.56	7.00	5.60	15.00	13.50	12.50	10.00	36.30	32.67	30.25	24.20
8.55	7.70	7.13	5.70	15.15	13.64	12.63	10.10	42.00	37.80	35.00	28.00
8.70	7.83	7.25	5.80	15.30	13.77	12.75	10.20	43.50	39.15	36.25	29.00
8.85	7.97	7.38	5.90	15.45	13.91	12.88	10.30	48.00	43.20	40.00	32.00

For quantity pricing not shown, the quantity pricing schedule is as follows:

1-9 Net      10-49 Net Less 10%      50-99 Net Less 16 2/3%      100-249 Net Less 33 1/3%      Contact factory for quantities over 249 pieces

**It's so easy to order  
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When ordering products shown in this book  
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- 1. Manufacturer's Catalog Numbers  
and Page Numbers.**
- 2. The Year and Edition of This  
MASTER.**

This will avoid confusion and expedite delivery.

**Thank you!**





**DIRECTRON**

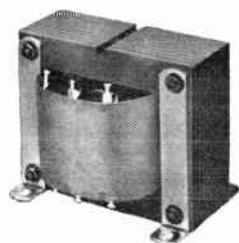
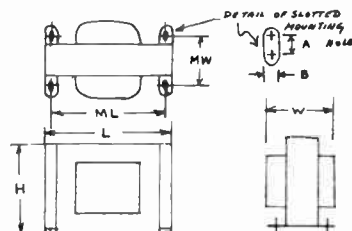


# Industrial Transformers, Selenium and Silicon Rectifiers, Chokes and Power Supplies

## RECTIFIER TRANSFORMERS

Transformers are with 2 — 18 volt center-tapped windings. Connected in series delivers 36 volts as rated. Connected in parallel — delivers 18 volts at twice rated current. (Taps 9, 18, 27, 36 V.)

Primary taps at 100, 105, 110 and 115 volts available on 12 amp, 24 amp, 30 amp and 50 amp transformers. No extra charge.



12 amp. Transformer 18T12

Part No.	Amp.	Users Net Price	L (MAX)	W (MAX)	H (MAX)	ML ±1/16	MW ±1/8	A ±1/64	B ±1/64	Weight
18 T 1	1	\$ 5.75	2 <sup>3</sup> / <sub>32</sub>	3	2 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>8</sub>	1/8	1 <sup>3</sup> / <sub>64</sub>	2.5
18 T 2	2	7.90	3 <sup>1</sup> / <sub>16</sub>	3	2 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2			3.4
18 T 4	4	9.50	4 <sup>3</sup> / <sub>16</sub>	3	3 <sup>3</sup> / <sub>4</sub>	3 <sup>7</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>8</sub>			5.5
18 T 8	8	16.50	4 <sup>3</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	4	3 <sup>3</sup> / <sub>4</sub>	3			9.5
18 T 12	12	18.00	5 <sup>3</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>2</sub>	4 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>			14.5
18 T 24	24	39.00	6 <sup>1</sup> / <sub>2</sub>	4 <sup>5</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	1/2	1/2	22
18 T 30	30	48.00	6 <sup>1</sup> / <sub>2</sub>	5	5 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>			25
18 T 50	50	58.00	6 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>8</sub>			33

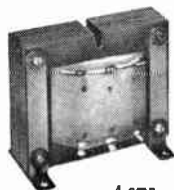
## WITH 2-28 CENTER TAP WINDINGS

28 T 2	2	\$ 9.25	3 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>8</sub>	1/8	1 <sup>3</sup> / <sub>16</sub>	5
28 T 4	4	13.75	4 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	3 <sup>7</sup> / <sub>8</sub>	3	3			8
28 T 6	6	25.50	5 <sup>3</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>2</sub>	4 <sup>3</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	3/8	3/2	14
28 T 12	12	33.00	6 <sup>1</sup> / <sub>2</sub>	5	5 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>			21
28 T 24	24	72.00	6 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>			24.5

## STEP UP TRANSFORMERS

PRIMARY WINDINGS — 100-105-110-115 VOLT			SECONDARY WINDINGS — 130-135-140 VOLT		
Part No.	Amps.	Users Net Price	Part No.	Amps.	Users Net Price
SU 10	10	\$ 70.00	SU 25	25	\$128.00
SU 15	15	85.00	SU 30	30	160.00
SU 20	20	112.50	SU 35	35	185.00

## HIGH CURRENT CHOKES



4 amp. Choke CK4

Part No.	Amps.	Hy.	Ohms	Users Net Price	L (MAX)	W (MAX)	H (MAX)	ML ±1/16	MW ±1/8	A ±1/64	B ±1/64	Weight
CK 1	1	.1	1.5	\$ 5.45	1 <sup>1</sup> / <sub>32</sub>	2 <sup>3</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	2	1/8	1 <sup>3</sup> / <sub>64</sub>	2
CK 2	2	.04	.9	6.50	3 <sup>3</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>8</sub>			3.1
CK 4	4	.07	.6	8.50	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>			5
CK 8	8	.03	.3	13.25	4 <sup>3</sup> / <sub>16</sub>	3 <sup>5</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>	3 <sup>7</sup> / <sub>16</sub>	3			8
CK 12	12	.01	.1	15.75	5 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>2</sub>	4 <sup>3</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>			11.5
CK 20	20	.004	.05	19.50	5 <sup>1</sup> / <sub>4</sub>	5	4 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>2</sub>	4	1/2		14
CK 24	24	.004	.025	28.50	5 <sup>3</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>2</sub>	4 <sup>3</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>			17.5
CK 30	30	.003	.01	39.00	6 <sup>1</sup> / <sub>2</sub>	4 <sup>5</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>			22
CK 50	50	.001	.001	49.50	6 <sup>1</sup> / <sub>2</sub>	4 <sup>7</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>			23
CK 100	100	.0005	.005	58.50	6 <sup>1</sup> / <sub>2</sub>	6	5 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>			30

CUSTOM BUILT TRANSFORMERS AND CHOKES — 48 HOUR SERVICE

POWER SUPPLIES TO YOUR SPECIFICATIONS, QUOTATIONS ON REQUEST

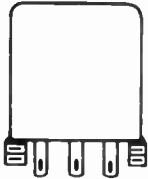
SEE OUR AD UNDER "RECTIFIERS" IN SECTION 4800 FOR SELENIUM AND SILICON STACKS



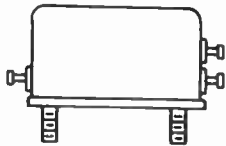
Mfd. by **SANFORD MILLER CORP.**



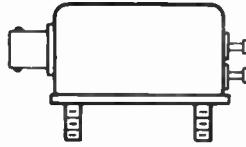
# NORTH HILLS WIDE BAND TRANSFORMERS



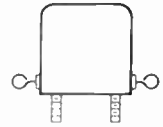
**AA** Al. Can, 1.41" Cube, BkIte Base with 6 Sldr Lugs, Mtg: 2 #6-32 Spade Bolts.



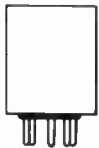
**BA** Herm. Sld., 2.32" L x 1.29" W x 1.1" H Incl Trmls., Mtg: 2 #4-40 Studs.



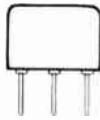
**BB** 2.6" L x 1.29" W x 1.1" H Incl Trmls., UG-625/U Connector (BNC), Mtg: 2 #4-40 Studs.



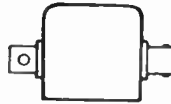
**FA** Herm. Sld., 0.88" L x 0.88" W x 0.94" H Excl. Trmls., Mtg: 2 #4-40 Studs.



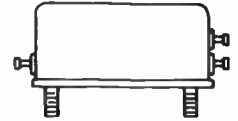
**GA** Herm. Sld., 0.88" Dia x 1.03" H. Plugs into Std. 7-pin Tube Socket.



**HB** Herm. Sld., 0.88" L x 0.88" W x 0.63" H, 5 Sldr. Trmls. for Printed Cct. Mtg.



**JA** 2" L x 0.75" Sq. Incl. Connectors (BNC).



**LA** Herm. Sld., 2.8" L x 1.65" W x 1.2" H Incl. Trmls., Mtg: 4 ±6.32 Studs.

## Radio Frequency Wide Band Transformers

Available in the following packages: AA, BA, BB, GA, HB, FA

Type No.	Impedance Ratio	Bandwidth MHz	Type No.	Impedance Ratio	Bandwidth MHz
Unbalanced to Balanced Designs. Secondaries are center-tapped and d.c. Isolated.					
0001	50:50	.1-100	1100	75:75	.1-100
0101	50:75	.1-125	1300	75:100	.1-100
0300	50:100	.1-100	1400	75:150	.1-100
0400	50:150	.1-100	1500	75:200	.1-100
0500	50:200	.1-100	1501	75:300	.1-100
0501	50:300	.1-100	1600	75:450	.1-60
0600	50:450	.1-65	1700	75:600	.1-60
0700	50:600	.1-65	1701	75:600	.3-100
0800	50:800	.1-60	1800	75:800	.2-30
0900	50:1200	.1-30	1900	75:1200	.1-30
			7700	600:600	.1-30

Unbalanced to Unbalanced Designs (No DC Isolation) in HB or FA Case

0103	50:75	.1-200	1503	75:300	.1-160
0302	25:100	.1-250	2600	90:360	.1-80
0401	37:150	.1-250			
0504	50:200	.1-250			

All North Hills wide band transformers described on this sheet have low insertion loss (less than 1 db). Those with balanced windings have a very low unbalanced voltage and a center tap. Power rating for all units is 1 watt. Applications include antenna matching, interstage coupling, impedance matching, computer drive circuits, signal distribution, pulse applications, voltage step-up, dc isolation, phase detectors, balanced modulators.

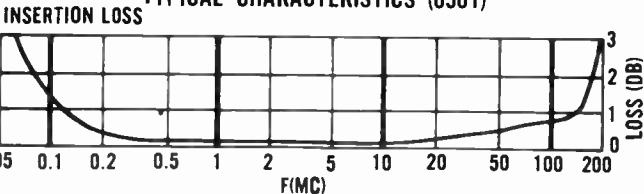
Custom units designed to your specifications include power wide band transformers, pulse transformers, filters and adjustable inductors.

See Section 4000 for Precision AC and DC Power Sources.

See Section 2900 for Insulation Testers, Shorted Turn Testers, Bridges, Transformer Turns Ratio Meter.

See Section 1800 for Variable Inductors.

### TYPICAL CHARACTERISTICS (0501)\*



## Medium Frequency Video Wide Band Transformers

All available in LA package.  
1702 and 1901 also in all case styles.

Type No.	Impedance Ratio	Bandwidth MHz	Type No.	Impedance Ratio	Bandwidth MHz
Unbalanced to Balanced Designs. Secondaries are center-tapped and d.c. Isolated.					
0306	50:124	.001-20	1504	75:300	.001-10
1301	75:124	.001-20	1902	75:1200	.001-9
1502	75:300	.001-15	1901	75:1850	.01 -10
1702	75:600	.007-8	1903	75:1850	.001-6
1704	75:600	.001-10	2300	90:124	.001-15
Unbalanced to Unbalanced Designs					
0104	50:75	.001-20	2601	90:360	.001 8
0303	25:100	.001-15	3701	125:500	.001-6
0402	37:150	.001-15	4701	150:600	.001-5
0505	50:200	.001-15			

## Video Frequency Wide Band Transformers

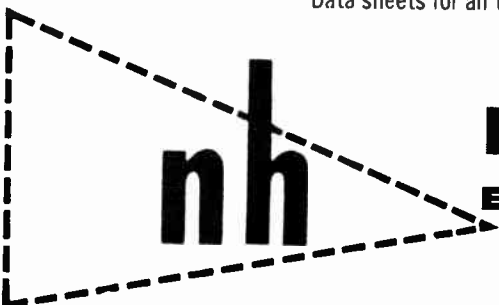
Style M cases are hermetically sealed with threaded inserts for mounting, and pin terminals.

Dimensions ("") are:

Case Style MA	1.9H x 1.6 x 1.4
Case Style MB	2.9H x 1.4 x 2.2
Case Style MC	3.6H x 2.8 x 2.7

Type No.	Level dbm	Impedance Ratio	Bandwidth
1101-MA	5	75 Unb:75 Bal	20 Hz - 6 MHz
1102-MA	5	75 Unb:75 Bal C.T.	20 Hz - 6 MHz
1401-MA	5	75 Unb:150 Bal C.T.	20 Hz - 6 MHz
1506-MA	5	75 Unb:300 Bal C.T.	20 Hz - 5 MHz
1705-MA	5	75 Unb:600 Bal C.T.	20 Hz - 5 MHz
1103-MB	15	75 Unb:75 Bal	20 Hz - 5 MHz
1104-MC	15	75 Unb:75 Bal	20 Hz - 10 MHz

SEE SECTION 1800 FOR COILS



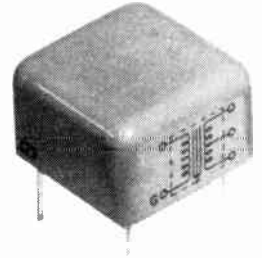
# NORTH HILLS ELECTRONICS, INCORPORATED



# NORTH HILLS WIDE BAND TRANSFORMERS FOR VHF APPLICATIONS\*

## Ideal For:

- ▶ Antenna Matching
- ▶ Voltage Step-up
- ▶ Interstage Coupling
- ▶ Phase Detectors
- ▶ Impedance Matching
- ▶ Balanced Modulators
- ▶ VHF Use\*



Type NA

\*For video, LF, and HF see other data sheets.

This series supplements the various other series of wideband transformers covering the video, low frequency and high frequency ranges. The windings do not have D.C. isolation. The insertion loss is less than 1 db and the VSWR is less than 1.3 when properly connected by means of appropriate strip-line.

The case is small, being only 0.590" L x 0.590" W x 0.375" H. The core and windings are carefully sealed with a special epoxy resin and cased in a housing designed for both commercial and military applications. The housing is molded diallylphthalate which meets military specification MIL-M-14F. The terminals are gold plated.

Type No.	Impedance Ratio	Bandwidth MHz
<b>Unbalanced to Unbalanced</b>		
0002	50:12.5	30-400
0003	50:50 phase reversed	30-400
0508	50:200	30-400
1506	75:300	30-400
3300	100:100 phase reversed	30-400
<b>Unbalanced to Balanced</b>		
0004	50:50 C.T.	30-400
0509	50:200 C.T.	30-400
1101	75:75 C.T.	30-400
1507	75:300 C.T.	30-400
<b>Balanced to Balanced</b>		
0510	50:200 C.T.	30-400
1508	75:300 C.T.	30-400

In addition to the above units, North Hills makes many special wideband components including video, low frequency, high frequency and VHF transformers, hybrids, both signal and power units up to 10 KW. Special case styles and mountings are also provided.



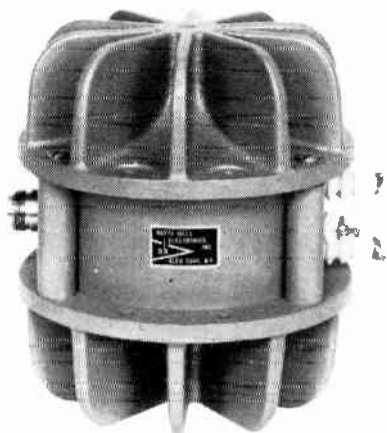
## NORTH HILLS ELECTRONICS, INCORPORATED



# NORTH HILLS WIDE BAND TRANSFORMERS

HYBRIDS, POWER UNITS, ADAPTERS

## 1KW Power Units Wide Band 2-30 MHz.

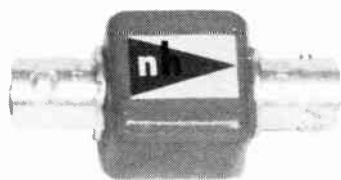


Type No.	Impedance Unb/Bal
0501 KA	50 ohms/300 ohms
0700 KA	50 ohms/600 ohms
1501 KA	75 ohms/300 ohms
1700 KA	75 ohms/600 ohms

**Special**—Specify ratio, bandwidth, power.

The above standard units have a VSWR of less than 1.3 over the band, and the insertion loss is less than 1/2 db. A data sheet including performance is available on request. Special units including hybrids, power dividers, and power adders of higher power, other ratios, and frequency bands are available on special order.

## Wide Band Adapter 0102 JA



50 ohms to 75 ohms coax transformer. Unbalanced to Unbalanced BNC Connectors 0.4-250 MHz, 0.25 db loss, VSWR 1.1.

## Hybrids-Power Dividers and Adders Wide Band 2-32 MHz



50-201 BD  
75-201 BD



50-401 MA  
75-401 MA

	2:1	4:1
Impedance at all ports (Ohms):	50 or 75	50 or 75
Frequency range (MHz):	2-32	2-32
Isolation (Minimum db):	30	30
VSWR (Maximum):	1.1	1.1
Insertion loss (db maximum):	0.2	0.2
Size of can:	1" x 1 1/4" x 1 3/8"	1" x 1 5/8" x 2 1/2"
Connectors:	BNC	BNC
Mounting:	2 #4-40 Studs	2 #4-40 Studs

## Medium Power Wide Band Units BA, BB Case Style

Type No.	Impedance Ratio (Ohms) Unbalanced/Balanced & Centertapped	Bandwidth MHz	Power
0506	50/300	.5-30	100 Watts
0304	50/100	.5-30	100 Watts
0105	50/75	.5-30	100 Watts
1505	75/300	.5-30	100 Watts
0507	50/200	30-80	20 Watts
0403	50/150	30-80	20 Watts
0305	50/100	30-80	20 Watts
0106	50/75	30-80	20 Watts
0701	50/600	.1-30	20 Watts
1703	75/600	.1-30	20 Watts

## Subminiature Wide Band R.F. Units

Case styles similar to TO-5, as well as others, available in special designs. Please send bandwidth and impedance requirements for special quote.

SEE SECTION 1800 FOR COILS



**NORTH HILLS  
ELECTRONICS, INCORPORATED**

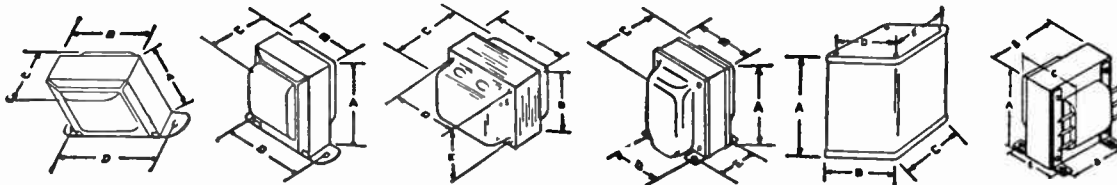


**NOTE**  
 Basic mounting types are classified as "A," "B," "C," "D," "E," "F," "G," "H," "J," and Bx.  
 Explanation of Suffix Symbols  
 L = Leads  
 T = Lugs  
 P = Card and Plug  
 SP = Switch, Card and Plug

Please write for information on any units not listed



**DIMENSIONAL ILLUSTRATIONS**



**CHOKES AND REACTORS — THE "TWO" SERIES**

**FILTER AND SWINGING CHOKES**

Type Number	D.C. Mills		Inductance				Insul. Test Voltage	D.C. Res.	Mtg. Style	Dimensions					Net Weight	Net Prices
	Nom.	Max.	0-D.C.	50% Nom.D.C.	Nom.D.C.	Max.D.C.				A	B	C	D	E		
2P132	40	50	22	13	8	6	2000	450	AL	1 3/8	1 5/8	1 1/8	2		.3	1.39
2P135	65	80	18	11	8	7	2000	300	AL	1 1/4	1 7/8	1 1/8	2 3/8		.5	1.64
SP138	85	100	30	16	8	7	2000	350	AL	1 7/8	2 1/4	1 7/8	2 1/2		1.2	2.08
2P144	150	180	26	13	8	5.5	2000	190	BL	3	2 1/2	2 1/8	3 3/8		2.1	2.80
2P147	200	250	16	10	8	6.5	2000	110	GL	3 1/2	2 7/8	3 1/8	2 1/4	2	3.2	4.94
2P148	200-20	—	—	—	3-15	—	2000	110	GL	3 1/2	2 7/8	3 1/8	2 1/4	2	3.2	4.94
2P151	300	350	18	11	8	7	3500	75	GL	4 5/8	3 3/4	3 7/8	3	2 1/4	7.5	8.44
2P152	300-30	—	—	—	3-15	—	3500	75	GL	4 5/8	3 3/4	3 7/8	3	2 1/4	7.5	8.44
2P155	500	600	16	10	8	5.5	5000	55	HT	7 1/8	5 1/2	5 1/8	4 3/8	4 1/8	22.8	23.78
2P156	500-50	—	—	—	3-15	—	5000	55	HT	7 1/8	5 1/2	5 1/8	4 3/8	4 1/8	22.8	23.78

**FILAMENT TRANSFORMERS — THE "FOUR" SERIES**

Most SNC Filament Transformers are constructed to provide two identical center tapped secondary windings and offer a minimum of three applications. They provide three-fold the number of possible applications of ordinary filament types. A few are single secondary units and are so designed. All have 117 V. 50/60 cycle primary.

Type Number	Parallel Secondaries	Applications		Independent Identical Secondaries	Test Mtg. Voltages Style	Dimensions					Net Weight	Net Prices
		Series Secondaries				A	B	C	D	E		
4P222	2.5V. C.T. @ 5 A.	5 V. C.T. @ 2.5 A.	2 of 2.5V.C.T.@ 2.5 A.	2000 BL	2 1/4	1 7/8	1 3/4	2 3/8		1.0	2.71	
4P226*	2.5V. C.T. @ 10 A.*	5 V. C.T. @ 5 A.*	2 of 2.5V.C.T.@ 5 A.	7500 BL	3	2 1/2	2 3/8	3 1/8		2.0	4.19	
4P227	2.5V. C.T. @ 10 A.	5 V. C.T. @ 5 A.	2 of 2.5V.C.T.@ 5 A.	2000 BL	2 5/8	2 1/2	2	2 1/2		1.5	3.68	
4P234	2.5V. C.T. @ 15 A.	5 V. C.T. @ 7.5 A.	2 of 2.5V.C.T.@ 7.5 A.	2000 BL	3	2 1/2	2 1/4	3 1/8		2.2	4.35	
4P239	5 V. C.T. @ 6.5A.	10 V. C.T. @ 3.25A.	2 of 5 V.C.T.@ 3.25A.	2000 BL	3	2 1/2	2 1/4	3 1/8		2.2	3.88	
4P242*	5 V. C.T. @ 20 A.*	10 V. C.T. @ 10 A.*	2 of 5 V.C.T.@ 10 A.	10000 BxL	4 1/8	3 3/8	2 3/4	2 3/4	2 1/8	4.6	7.75	
4P243	5 V. C.T. @ 20 A.	10 V. C.T. @ 10 A.	2 of 5 V.C.T.@ 10 A.	2000 BxL	3 3/4	3 1/8	2 3/4	2 1/2	2 1/4	4.3	6.87	
4P244*	6.3V. C.T. @ 0.6A.*	12.6V. C.T. @ 1.2A.*	2 of 6.3V.C.T.@ 1.2A.*	2000 BL	1 7/8	1 1/8	1 1/2	2		.6	2.68	
4P245*	6.3V. C.T. @ 1.2A.*	12.6V. C.T. @ 2.4A.*	2 of 6.3V.C.T.@ 2.4A.*	2000 BL	1 7/8	1 1/8	1 1/2	2		.7	2.90	
4P246	6.3V. C.T. @ 2 A.	12.6V. C.T. @ 4 A.	2 of 6.3V.C.T.@ 4 A.	2000 BL	2 1/4	1 7/8	1 3/4	2 3/8		1.0	3.18	
4P251	6.3V. C.T. @ 2 A.	12.6V. C.T. @ 4 A.	2 of 6.3V.C.T.@ 4 A.	2000 BL	3	2 1/2	2 1/4	3 1/8		2.0	0.72	
4P256	6.3V. C.T. @ 10 A.	12.6V. C.T. @ 5 A.	2 of 6.3V.C.T.@ 5 A.	2000 BxL	3 3/8	2 1/2	2 1/2	2 1/4	2 1/8	2.9	4.82	
4P260	7.5V. C.T. @ 3 A.	15 V. C.T. @ 1.5 A.	2 of 7.5V.C.T.@ 1.5 A.	2000 BL	2 5/8	2 3/8	2	2 1/4		1.5	3.88	
4P267	7.5V. C.T. @ 4.5A.	15 V. C.T. @ 2.3 A.	2 of 7.5V.C.T.@ 2.3 A.	2000 BL	3	2 1/2	2 1/4	3 1/8		2.0	4.82	
4P272	11 V. C.T. @ 10 A.	22 V. C.T. @ 5 A.	2 of 11 V.C.T.@ 5 A.	2000 BxL	3 3/4	3 1/8	2 3/4	2 1/2	2 1/4	4.1	6.87	

\*Single Secondary Units.

**POWER TRANSFORMERS — THE "EIGHT" SERIES**

All units conservatively rated for operation on either 50 or 60 cycles and contain an electrostatic shield between primary and all other windings.

**REPLACEMENT TYPES (6.3 Volt Heater Winding)**

Type Number	Primary Voltage	R.M.S.—High Volt. Secondary	Sec. D.C. Mills	Rectifier Filament	Heater Winding Center Tapped	Mtg. Style	Dimensions					Net Weight	Net Prices
							A	B	C	D	E		
8P040	117	265-0-265	40	5V. @ 2A.	6.3V. @ 2A.	FL	3	2 1/2	2 3/4	2 1/2	2	2.3	4.13
8P055	117	300-0-300	55	5V. @ 2A.	6.3A. @ 2.5A	FL	3	2 1/2	3 1/8	2 1/2	2	2.8	4.16
8P070	117	325-0-325	70	5V. @ 2A.	6.3V. @ 3A.	FL	3	2 1/2	3 1/2	2 1/2	2	3.2	5.26
8P199	117	400-0-400	70	5V. @ 3A.	6.3V. @ 3.5A	FL	3 3/4	3 3/8	4	3 1/8	2 1/2	5.8	8.00
8P199G	117	400-0-400	70	5V. @ 3A.	6.3V. @ 3.5A	GL	3 3/4	3 3/8	3 7/8	2 1/2	2 1/2	5.8	8.00
8P202	117	450-0-450	200	5V. @ 3A.	6.3V. @ 5A.	FL	4 1/2	3 3/4	4 3/4	3 3/4	3	10.7	11.44
8P202G	117	450-0-450	200	5V. @ 3A.	6.3V. @ 5A.	GL	4 1/2	3 3/4	4 3/8	3	3 1/8	10.7	11.44

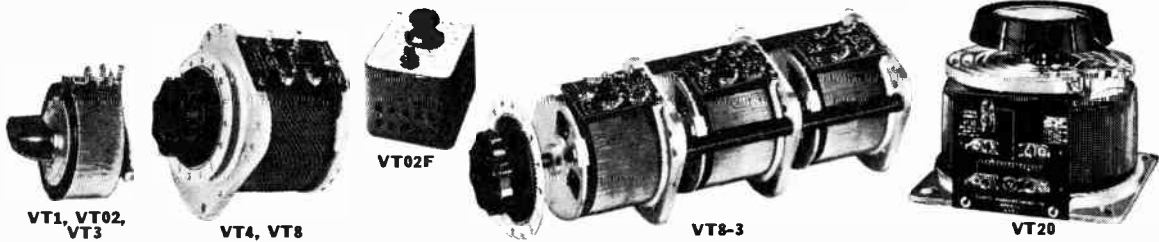
**BIAS TYPES**

8P510	117	40-0-40	25	5V. @ 2A.		CL	1 7/8	2 1/4	1 3/4	2 1/8		1.0	3.43
8P511	117	.0-90-150-200-250	50	5V. @ 2A.		GL	3 1/8	2 1/2	2 5/8	2	1 1/8	2.0	4.98





## OHMITE Variable Transformers



Seven basic physical types meet most industrial requirements with long, maintenance-free life. Excellent regulation at any point within rated load; free from wave-form distortion. Direct-reading 2-scale (1 per side) dial supplied; CW also available. New space-saving low power types VT1, VT2 and VT3 have adjustable shaft independent of brush assembly, 3-way terminals, instantly replaceable brush contacts and improved heat dissipation. **Mounting:** Easily replace other brands: VT2LN, VT1, VT02 and VT3 have ¼-32 thd. bushing; VT8 and VT20, 4-hole bolt mount; VT4, 3-hole bolt mount convertible to 4-hole with adapter plate. **Enclosed Types:** Gray wrinkle-finish cases. Units with suffix B

have exposed terminal panel and mounting base; E, fixed type for table or panel mounting; F, portable with cord, outlet socket and fuse; G, deluxe portable with handle, circuit breaker and switch for overvoltage selection. Final suffix: V indicates with voltmeter; VA, voltammeter; VW, volt/wattmeter; all come with handle except VT8NF series. **Other Options:** All types except VT2LN offer shafts, extendable from brush or base side; ganged versions have thru-shaft with same flexibility. Final suffix C types come with 3-cond. input and output with one grounded to case. **UL Listing:** Most single and tandem VT4, VT8 and VT20 units for 120 volt operation are U/L Listed. Consult factory.

### SINGLE TRANSFORMERS UNCASED, SINGLE-PHASE TRANSFORMERS

Ohmite Number	Input		Max. Output		Feature or Connection	Size, Inches W. x O. x H.	Wt., Lbs. †	Net Each, Lots of			
	Volts	cps*	Amps	Volts				1-9	10-24	25-49	50-99
VT1	120	60	1.0	0-120/132	Low power, space saver	2 1/2" dia. x 1 1/2" d.	1.5	\$ 8.00	\$ 7.20	\$ 6.80	\$ 6.40
VT1N	120	60	1.2	0-120	Same, no overvoltage	2 1/2" dia. x 1 1/2" d.	1.5	8.00	7.20	6.80	6.40
VT2	120	60	1.75	0-120/132	Low power, space saver	2 1/2" dia. x 2 1/4" d.	2.25	9.00	8.10	7.65	7.20
VT2N	120	60	2.0	0-120	Same, no overvoltage	2 1/2" dia. x 2 1/4" d.	2.25	9.00	8.10	7.65	7.20
VT2LN	40	60	5.0	0-40	High amps, low volts	2 1/2" dia. x 2 1/4" d.	2.4	11.00	9.90	9.35	8.80
VT3	120	60	2.6	0-120/132	Low power, space saver	2 1/2" dia. x 2 1/4" d.	3.0	10.50	9.45	8.93	8.40
VT3N	120	60	3.0	0-120	Same, no overvoltage	2 1/2" dia. x 2 1/4" d.	3.0	10.50	9.45	8.93	8.40
VT4	120	50	3.5	0-120/132	Basic, 3.5-amp model	4 1/4" x 4 3/4" x 4 1/2" d.	5.25	14.00	12.60	11.90	11.20
VT4N	120	50	4.75	0-120	Same, no overvoltage	4 1/4" x 4 3/4" x 4 1/2" d.	5.25	14.00	12.60	11.90	11.20
VT4LN	40	50	12.0	0-40	High amps, low volts	4 1/4" x 4 3/4" x 4 1/2" d.	5.25	16.00	14.40	13.60	12.80
VT8	120	60	7.5	0-120/140	Basic 7.5-amp model	4 1/2" x 5 3/4" x 5 1/2" d.	10.25	18.00	16.20	15.30	14.40
VT8N	120	50	10.0	0-120	Same, no overvoltage	4 1/2" x 5 3/4" x 5 1/2" d.	10.25	18.00	16.20	15.30	14.40
VT8LN	40	50	22.0	0-40	High amps, low volts	4 1/2" x 5 3/4" x 5 1/2" d.	10.25	20.00	18.00	17.00	16.00
VT8H	240	50	3.0	0-240/480	240 V input, 120 V tap	4 1/2" x 5 3/4" x 5 1/2" d.	10.25	20.00	18.00	17.00	16.00
VT8HN	240	50	4.0	0-240	Same, no overvoltage	4 1/2" x 5 3/4" x 5 1/2" d.	10.25	20.00	18.00	17.00	16.00
VT20	120	50	20.0	0-120/140	Basic 20-amp model	7 1/2" x 5 3/4" x 8 1/4" d.	22.0	50.00	45.00	42.50	40.00
VT20N	120	50	25.0	0-120	Same, no overvoltage	7 1/2" x 5 3/4" x 8 1/4" d.	22.0	50.00	45.00	42.50	40.00
VT20H	240	50	9.0	0-240/280	240 V input, 120 V tap	7 1/2" x 5 3/4" x 8 1/4" d.	22.0	52.00	46.80	44.20	41.60
VT20HN	240	50	11.0	0-240	Same, no overvoltage	7 1/2" x 5 3/4" x 8 1/4" d.	22.0	52.00	46.80	44.20	41.60

### CASED, SINGLE-PHASE TRANSFORMERS

VT1E	120	60†	.8	0-120/132	Fixed mounting	3 3/4" x 2 1/4" x 4 1/4"	1.9	\$13.00	\$11.70	\$11.05	\$10.40
VT1NE	120	60	1.0	0-120	Fixed mounting	3 3/4" x 2 1/4" x 4 1/4"	1.9	13.00	11.70	11.05	10.40
VT1F	120	60†	1.0	0-132†	Portable	3 3/4" x 2 1/4" x 4 1/4"	2.3	14.50	13.05	12.33	11.60
VT1NF	120	60	1.2	0-120	Portable	3 3/4" x 2 1/4" x 4 1/4"	2.3	14.50	13.05	12.33	11.60
VT02E	120	60†	1.4	0-120/132	Fixed mounting	3 3/4" x 2 1/4" x 4 1/4"	2.8	14.00	12.60	11.90	11.20
VT02NE	120	60	1.6	0-120	Fixed mounting	3 3/4" x 2 1/4" x 4 1/4"	2.8	14.00	12.60	11.90	11.20
VT02F	120	60†	1.75	0-132†	Portable	3 3/4" x 2 1/4" x 4 1/4"	3.2	15.50	13.95	13.18	12.40
VT02NF	120	60	2.0	0-120	Portable	3 3/4" x 2 1/4" x 4 1/4"	3.2	15.50	13.95	13.18	12.40
VT4E	120	50	2.8	0-120/140	Fixed mounting	4 1/2" x 4 3/4" x 6 1/2"	7.4	19.00	17.10	16.15	15.20
VT4NE	120	50	3.8	0-120	Fixed mounting	4 1/2" x 4 3/4" x 6 1/2"	7.4	19.00	17.10	16.15	15.20
VT4F	120	50	3.5	0-140†	Portable	4 1/2" x 4 3/4" x 6 1/2"	7.8	20.50	18.45	17.43	16.40
VT4NF	120	50	4.75	0-120	Portable	4 1/2" x 4 3/4" x 6 1/2"	7.8	20.50	18.45	17.43	16.40
VT4E	120	50	3.5	0-140†	In/out grounded VT4F	4 1/2" x 4 3/4" x 6 1/2"	7.8	23.50	21.15	19.98	18.80
VT4NFC	120	50	4.75	0-120	In/out grounded VT4NF	4 1/2" x 4 3/4" x 6 1/2"	7.8	23.50	21.15	19.98	18.80
VT8E	120	50	6.0	0-120/140	Fixed mounting	5 1/4" x 5 3/4" x 7 3/4"	13.5	23.00	20.70	19.55	18.40
VT8NE	120	50	8.0	0-120	Fixed mounting	5 1/4" x 5 3/4" x 7 3/4"	13.5	23.00	20.70	19.55	18.40
VT8F	120	50	7.5	0-140†	Portable	5 1/4" x 5 3/4" x 7 3/4"	13.8	24.50	22.05	20.83	19.60
VT8NF	120	50	10.0	0-120	Portable	5 1/4" x 5 3/4" x 7 3/4"	13.8	24.50	22.05	20.83	19.60
VT8E	120	50	7.5	0-140†	In/out grounded VT8F	5 1/4" x 5 3/4" x 7 3/4"	13.8	27.50	24.75	23.38	22.00
VT8NFC	120	50	10.0	0-120	In/out grounded VT8NF	5 1/4" x 5 3/4" x 7 3/4"	13.8	27.50	24.75	23.38	22.00
VT8G	120	50	6.0	0-120/140	Deluxe portable, handle	5 1/4" x 5 3/4" x 7 3/4"	14.2	28.00	25.20	23.80	22.40
VT8GC	120	50	6.0	0-120/140	In/out grounded VT8G	5 1/4" x 5 3/4" x 7 3/4"	14.2	31.00	27.90	26.35	24.80
VT20E	120	50	20.0	0-120/140	Basic case model	7 1/2" x 8 1/2" x 4 1/2" d.	22.5	55.00	49.50	46.75	44.00
VT20NB	120	50	25.0	0-120	No overvoltage	7 1/2" x 8 1/2" x 4 1/2" d.	22.5	55.00	49.50	46.75	44.00
VT20E	120	50	20.0	0-120/140	Fixed mounting	7 1/2" x 5 3/4" x 10 1/2"	29.0	67.50	60.75	57.38	54.00
VT20NE	120	50	25.0	0-120	No overvoltage	7 1/2" x 5 3/4" x 10 1/2"	29.0	67.50	60.75	57.38	54.00
VT20FC	120	50	20.0	0-140	Portable	8 1/4" x 5 3/4" x 11 1/4"	31.0	75.50	67.95	64.18	60.40
VT20NFC	120	50	25.0	0-120	Portable	8 1/4" x 5 3/4" x 11 1/4"	31.0	75.50	67.95	64.18	60.40
VT20GC	120	50	20.0	0-120/140	In/out grounded	7 1/2" x 6 3/4" x 11 1/4"	31.0	88.00	79.20	74.80	70.40
VT20HB	240	50	9.0	0-240/280	Basic case model	7 1/2" x 8 1/2" x 4 1/2" d.	21.5	57.00	51.30	48.45	45.60
VT20HNB	240	50	11.0	0-240	Same, no overvoltage	7 1/2" x 8 1/2" x 4 1/2" d.	21.5	57.00	51.30	48.45	45.60
VT20HE	240	50	9.0	0-240/280	Fixed mounting	7 1/2" x 5 3/4" x 10 1/2"	28.0	69.50	62.55	59.08	55.60
VT20HNE	240	50	11.0	0-240	Same, no overvoltage	7 1/2" x 5 3/4" x 10 1/2"	28.0	69.50	62.55	59.08	55.60
VT20HFC	240	50	9.0	0-240/280	Portable	8 1/4" x 5 3/4" x 11 1/4"	30.0	77.50	69.75	65.88	62.00
VT20HNFC	240	50	11.0	0-240	Portable	8 1/4" x 5 3/4" x 11 1/4"	30.0	77.50	69.75	65.88	62.00

### CASED WITH METERS, SINGLE-PHASE TRANSFORMERS

VT8GCV	120	50	6.0	0-120/140	Voltmeter, grnd. conn.	7 x 5 1/4" x 10 1/2"	15.2	\$ 58.00	\$ 52.20	\$ 49.30	\$ 46.40
VT8GCVV	120	50	6.0	0-120/140	Volt/ammeter, grounded	7 x 5 1/4" x 10 1/2"	15.5	88.00	79.20	74.80	70.40
VT8GCVW	120	50	6.0	0-120/140	Volt/wattmeter, grnd.	7 x 5 1/4" x 10 1/2"	15.5	118.00	106.20	100.30	94.40
VT8NFCV	120	50	10.0	0-120	Voltmeter, grnd. conn.	7 1/2" x 5 3/4" x 10 1/2"	14.8	54.50	49.05	46.33	43.60
VT8NFCVA	120	50	10.0	0-120	Volt/ammeter, grounded	7 1/2" x 5 3/4" x 10 1/2"	15.2	84.50	76.05	71.83	67.60
VT8NFCVW	120	50	10.0	0-120	Volt/wattmeter, grnd.	7 1/2" x 5 3/4" x 10 1/2"	15.2	114.50	103.50	97.33	91.60
VT20GCV	120	50	20.0	0-120/140	Voltmeter, grnd. conn.	8 1/4" x 5 3/4" x 14"	32.0	126.00	113.40	107.10	100.80
VT20GCVV	120	50	20.0	0-120/140	Volt/ammeter, grounded	8 1/4" x 5 3/4" x 14"	32.2	156.00	140.40	133.60	124.80
VT20GCVW	120	50	20.0	0-120/140	Volt/wattmeter, grnd.	8 1/4" x 5 3/4" x 14"	32.2	224.00	201.60	190.40	179.20
VT20NFCV	120	50	25.0	0-120	Voltmeter, grnd. conn.	8 1/4" x 5 3/4" x 14"	32.0	113.50	102.15	96.48	90.80
VT20NFCVA	120	50	25.0	0-120	Volt/ammeter, grounded	8 1/4" x 5 3/4" x 14"	32.2	143.50	129.15	121.98	114.80
VT20NFCVW	120	50	25.0	0-120	Volt/wattmeter, grnd.	8 1/4" x 5 3/4" x 14"	32.2	211.50	190.35	179.78	169.20

\*Minimum; max. of 400 cps for all models. †Use also at 60 cps if connected at no overvoltage output. ‡With 120 V input tap at which the max. current output rating applies up to 120 volts, but reduces approx. 60% at max. output voltage shown. In tandem units, the use of low voltage inputs would halve the rated input and output voltages. §User wires for desired output; dial normally calibrated for overvoltage. ¶Factory-connected for overvoltage output; easily re-connected by user for no overvoltage. \*Switch selects overvoltage or no overvoltage. \*5/8" including handle. \*Case height only, excluding handle. †Depth behind panel; add 1" for knob thickness for VT8 types; 3/4" for VT02 or VT4 types; 1 1/4" for VT20 types. ‡Including handle. ††Includes knob, dial and hardware.

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## OHMITE Variable Transformers

### MULTIPLE, IN-TANDEM TRANSFORMER ASSEMBLIES SINGLE-PHASE, TWO-IN-TANDEM ASSEMBLIES

Normally wired for series connection; when so connected, load cannot be grounded. Standard CW dial 240/280 volts except VT02 tandems where 240/264 V dial is supplied; on VT8H-2, 480/560 volt dial is standard. Other dials available as listed elsewhere on these pages.

Ohmite Number	Input		Max. Output		Feature or Connection	Size, Inches W. x D. x H.	Wt., Lbs. †	Net Each, Lots of			
	Volts	cps*	Amps	Volts				1-4	5-12	13-24	25-49
VT1-2	240	60†	1.0	0-240/264	Uncased, series conn.	2 1/2 x 4 1/2 x 4 1/2	3.5	\$ 25.00	\$ 22.50	\$ 21.25	\$20.00
VT1N-2	240	60	1.2	0-240	Same, no overvoltage	2 1/2 x 4 1/2 x 4 1/2	3.5	25.00	22.50	21.25	20.00
VT02-2	240	60†	1.75	0-240/264	Uncased, series conn.	2 1/2 x 5 1/2 x 4 1/2	5.25	27.00	24.30	22.95	21.60
VT02N-2	240	60	2.0	0-240	Same, no overvoltage	2 1/2 x 5 1/2 x 4 1/2	5.25	27.00	24.30	22.95	21.60
VT3-2	240	60†	2.6	0-240/264	Uncased, series conn.	2 1/2 x 6 1/2 x 4 1/2	6.5	30.00	27.00	25.50	24.00
VT3N-2	240	60	3.0	0-240	Same, no overvoltage	2 1/2 x 6 1/2 x 4 1/2	6.5	30.00	27.00	25.50	24.00
VT4-2	240	50	3.5	0-240/280	Uncased, series conn.	4 1/2 x 7 1/2 x 4 1/2	11.3	38.50	34.65	32.73	30.80
VT4N-2	240	50	4.75	0-240	Same, no overvoltage	4 1/2 x 7 1/2 x 4 1/2	11.3	38.50	34.65	32.73	30.80
VT8-2	240	50	7.5	0-240/280	Uncased, series conn.	4 1/2 x 9 1/2 x 5 1/2	20.6	46.50	41.85	39.53	37.20
VT8N-2	240	50	10.0	0-240	Same, no overvoltage	4 1/2 x 9 1/2 x 5 1/2	20.6	46.50	41.85	39.53	37.20
VT8H-2	480‡	50	3.0	0-480/560	480 V input VT8-2	4 1/2 x 9 1/2 x 5 1/2	20.6	50.50	45.45	42.93	40.40
VT8HN-2	480‡	50	4.0	0-480	Same, no overvoltage	4 1/2 x 9 1/2 x 5 1/2	20.6	50.50	45.45	42.93	40.40
VT20-2	240	50	20.0	0-240/280	Uncased, series conn.	7 1/2 x 10 x 8 1/2	45.0	113.00	101.70	96.05	90.40
VT20N-2	240	50	25.0	0-240	Same, no overvoltage	7 1/2 x 10 x 8 1/2	45.0	113.00	101.70	96.05	90.40
VT20-2B	240	50	20.0	0-240/280	B-cased version VT20-2	7 1/2 x 10 1/2 x 8 1/2	46.0	123.00	110.70	104.55	98.40
VT20N-2B	240	50	25.0	0-240	Same, no overvoltage	7 1/2 x 10 1/2 x 8 1/2	46.0	123.00	110.70	104.55	98.40
VT20H-2	480‡	50	9.0	0-480/560	480 V input VT20-2	7 1/2 x 10 x 8 1/2	44.0	117.00	105.30	99.45	93.60
VT20HN-2	480‡	50	11.0	0-480	Same, no overvoltage	7 1/2 x 10 x 8 1/2	44.0	117.00	105.30	99.45	93.60

### THREE-PHASE, TWO-IN-TANDEM ASSEMBLIES

Supplied with 240/280 volt CW dial, except VT02 (240/264 V). Other dials available as listed elsewhere on these pages.

Ohmite Number	Input		Max. Output		Feature or Connection	Size, Inches W. x D. x H.	Wt., Lbs. †	Net Each, Lots of			
	Volts	cps*	Amps	Volts				1-3	4-8	9-16	17-33
VT1-2	120	60	1.0	0-120/132	Uncased, open delta con.	2 1/2 x 4 1/2 x 4 1/2	3.5	\$ 24.00	\$ 21.60	\$ 20.40	\$19.20
VT1N-2	120	60	1.2	0-120	Same, no overvoltage	2 1/2 x 4 1/2 x 4 1/2	3.5	24.00	21.60	20.40	19.20
VT02-2	120	60	1.75	0-120/132	Uncased, open delta con.	2 1/2 x 5 1/2 x 4 1/2	5.25	26.00	23.40	22.10	20.80
VT02N-2	120	60	2.0	0-120	Same, no overvoltage	2 1/2 x 5 1/2 x 4 1/2	5.25	26.00	23.40	22.10	20.80
VT3-2	120	60	2.6	0-120/132	Uncased, open delta con.	2 1/2 x 6 1/2 x 4 1/2	6.5	29.00	26.10	24.70	23.20
VT3N-2	120	60	3.0	0-120	Same, no overvoltage	2 1/2 x 6 1/2 x 4 1/2	6.5	29.00	26.10	24.70	23.20
VT4-2	120	50	3.5	0-120/140	Uncased, open delta con.	4 1/2 x 7 1/2 x 4 1/2	11.3	38.50	34.65	32.73	30.80
VT4N-2	120	50	4.75	0-120	Same, no overvoltage	4 1/2 x 7 1/2 x 4 1/2	11.3	38.50	34.65	32.73	30.80
VT8-2	120	50	7.5	0-120/140	Uncased, open delta con.	4 1/2 x 9 1/2 x 5 1/2	20.6	46.50	41.85	39.53	37.20
VT8N-2	120	50	10.0	0-120	Same, no overvoltage	4 1/2 x 9 1/2 x 5 1/2	20.6	46.50	41.85	39.53	37.20
VT8H-2	240‡	50	3.0	0-240/280	240 V input VT8-2	4 1/2 x 9 1/2 x 5 1/2	20.6	50.50	45.45	42.93	40.40
VT8HN-2	240‡	50	4.0	0-240	Same, no overvoltage	4 1/2 x 9 1/2 x 5 1/2	20.6	50.50	45.45	42.93	40.40
VT20-2	120	50	20.0	0-120/140	Uncased, open delta con.	7 1/2 x 10 x 8 1/2	45.0	113.00	101.70	96.05	90.40
VT20N-2	120	60	25.0	0-120	Same, no overvoltage	7 1/2 x 10 x 8 1/2	45.0	113.00	101.70	96.05	90.40
VT20-2B	120	50	20.0	0-120/140	B-case version VT20-2	7 1/2 x 10 1/2 x 8 1/2	46.0	123.00	110.70	104.55	98.40
VT20N-2B	120	60	25.0	0-120	Same, no overvoltage	7 1/2 x 10 1/2 x 8 1/2	46.0	123.00	110.70	104.55	98.40
VT20H-2	240‡	50	9.0	0-240/280	240 V input VT20-2	7 1/2 x 10 x 8 1/2	44.0	117.00	105.30	99.45	93.60
VT20HN-2	240‡	50	11.0	0-240	Same, no overvoltage	7 1/2 x 10 x 8 1/2	44.0	117.00	105.30	99.45	93.60

### THREE-PHASE, THREE-IN-TANDEM ASSEMBLIES

Normally wired for Y-connection. Standard CW dial 240/280 volts except VT02 types where 240/264 V dial is supplied, and VT8H-3, where 480/560 volt dial is standard. Other dials available as listed elsewhere on these pages.

Ohmite Number	Input		Max. Output		Feature or Connection	Size, Inches W. x D. x H.	Wt., Lbs. †	Net Each, Lots of			
	Volts	cps*	Amps	Volts				1-3	4-8	9-16	17-33
VT1-3	240	60	1.0	0-240**	Uncased, Y-connection	2 1/2 x 6 1/2 x 4 1/2	5.3	\$ 36.50	\$ 32.85	\$ 31.03	\$ 29.20
VT02-3	240	60	1.75	0-240**	Uncased, Y-connection	2 1/2 x 8 1/2 x 4 1/2	8.0	39.50	35.55	33.58	31.60
VT3-3	240	60	2.6	0-240**	Uncased, Y-connection	2 1/2 x 9 1/2 x 4 1/2	9.8	44.00	39.60	37.40	35.20
VT4-3	240	60†	3.5	0-240/280	Uncased, Y-connection	4 1/2 x 11 1/2 x 4 1/2	17.0	56.00	50.40	47.60	44.80
VT8-3	240	60†	7.5	0-240/280	Uncased, Y-connection	4 1/2 x 14 1/2 x 5 1/2	31.0	68.00	61.20	57.80	54.40
VT8-3E	240	60†	6.0	0-240/280	E-case version VT8-3	5 1/2 x 15 1/2 x 7 1/2	40.0	83.00	74.70	70.55	66.40
VT8H-3	480‡	60†	3.0	0-480/560	Uncased, Y-connection	4 1/2 x 14 1/2 x 5 1/2	31.0	74.00	66.60	62.90	59.20
VT20-3	240	60†	20.0	0-240/280	Uncased, Y-connection	7 1/2 x 15 1/2 x 8 1/2	68.0	167.50	150.75	142.38	134.00
VT20N-3	240	60	25.0	0-240	No overvoltage VT20-3	7 1/2 x 15 1/2 x 8 1/2	68.0	167.50	150.75	142.38	134.00
VT20-3B	240	60†	20.0	0-240/280	B-cased version VT20-3	7 1/2 x 15 1/2 x 8 1/2	69.5	182.50	164.25	155.13	146.00
VT20N-3B	240	60	25.0	0-240	Same, no overvoltage	7 1/2 x 15 1/2 x 8 1/2	69.5	182.50	164.25	155.13	146.00
VT20H-3	480‡	60	9.0	0-480/560	480 V input VT20-3	7 1/2 x 15 1/2 x 8 1/2	65.0	173.50	156.15	147.48	138.80
VT20HN-3	480‡	60	11.0	0-480	Same, no overvoltage	7 1/2 x 15 1/2 x 8 1/2	65.0	173.50	156.15	147.48	138.80

\*Minimum; max. of 400 cps for all models. †Use also at 50 cps if connected at no overvoltage output. ‡With 120 V input tap at which the max. current output rating applies up to 120 volts, but reduces approx. 50% at max. output voltage shown. In tandem units, the use of low voltage inputs would have the rated input and output voltages. †Depth behind panel; add 1" for knob thickness for VT8 types; 1/2", VT02 or VT4 types; 1 1/4" for VT20 types. ‡For mounting bracket, add 1 1/4" w. x 1/2" d. \*\*Must not be connected for overvoltage. ††Includes knob, dial and hardware.

### TRANSFORMER ACCESSORIES

#### EXTRA DIALS

Ohmite No. Rotation of CW CCW	For Type	Dial Calibration	Net Each, Lots of				
			1-9	10-24	25-49	50-99	
5005	VT1, VT02, VT3	0-120, 0-132	\$0.25	\$0.23	\$0.21	\$0.20	
5006	5008	VT4, VT8	0-120, 0-140	.50	.45	.43	.40
5009	5010	VT4, VT8	0-240, 0-280	.50	.45	.43	.40
5011	VT1, VT02, VT2LN, VT3	0-100, 100-0*	.25	.23	.21	.20	
5012	VT4, VT8	0-100, 100-0*	.50	.45	.43	.40	
5013	VT20	0-120, 0-140	1.20	1.08	1.02	.96	
5015	5016	VT20	0-240, 0-280	1.20	1.08	1.02	.96
5017	VT20	0-100, 100-0	1.20	1.08	1.02	.96	
5018	VT4, VT8	0-480, 0-560	.50	.45	.43	.40	
5019	VT1, VT02, VT3	0-240, 0-264	.25	.23	.21	.20	
5025	VT20	0-480, 0-560	1.20	1.08	1.02	.96	

\*Percent-of-output dial, supplied with "LN" types.

#### ADJUSTABLE STOPS

Limit rotational arc of transformers.

Ohmite No.	For Transformer Series	Net Each, Lots of			
		1-9	10-24	25-49	50-99
6536	All VT4's	\$0.50	\$0.45	\$0.43	\$0.40
6537	All VT8's	.50	.45	.43	.40
6538	All VT20's	1.00	.90	.85	.80

#### EXTRA KNOBS FOR UNCASSED UNITS

Ohmite No.	For Transformer Series	Net Each, Lots of			
		1-9	10-24	25-49	50-99
5155	VT4 or VT8 types	\$1.00	\$0.90	\$0.85	\$0.80
5157	VT20 types	1.75	1.58	1.49	1.40
5158	VT1, VT02, VT2LN, VT3 types	.35	.32	.30	.28

#### BRUSH CONTACT ASSEMBLIES

Ohmite No.	For Transformer Type	Net Each, Lots of			
		1-9	10-24	25-49	50-99
6507	VT1, VT1N, VT02, VT02N, VT3, VT3N	\$1.00	\$0.90	\$0.85	\$0.80
6517	VT2LN	2.00	1.80	1.70	1.60
6518	VT4LN	2.00	1.80	1.70	1.60
6515	VT4 except VT4LN; VT8 except H, HN or LN	1.00	.90	.85	.80
6516H	VT8H and VT8HN	1.25	1.13	1.06	1.00
6519	VT2LN	2.50	2.25	2.13	2.00
6594	VT20 and VT20N	1.75	1.58	1.49	1.40
6596	VT20H and VT20HN	1.75	1.58	1.49	1.40

#### ADAPTER PLATE

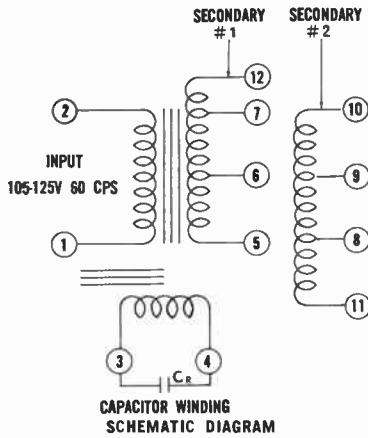
For 4-hole mounting of VT4. Matches other popular 4-hole mountings.  
Ohmite No. 6512—Net Each, Lots of: 1-9..\$1.00; 10-24..\$0.90  
Net Each, Lots of: 25-49.....\$0.85; 50-99......80

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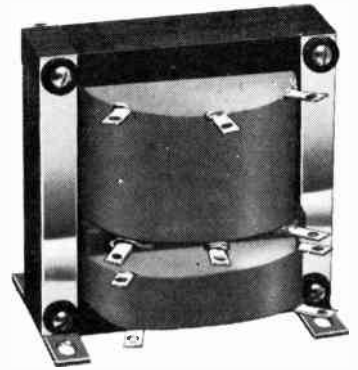
# FOR USE IN DC POWER SUPPLIES (TYPE DCV) CONSTANT VOLTAGE TRANSFORMERS



Signal DCV transformers are specifically manufactured for use in DC Power Supplies. In order to increase their versatility they are designed with two center-tapped secondaries which may be series or parallel connected. They may be used with either full wave center-tap or full wave bridge rectifiers. Therefore there are four possible outputs available from each type. These output ratings and recommended filter capacitors are listed in the "ELECTRICAL DATA" chart. It is assumed that silicon rectifiers will be used.

DCV transformers are constructed with prime raw materials and feature conservative design. All DCV's are vacuum impregnated with an epoxy varnish to assure void-free impregnation and eliminate acoustic noise.

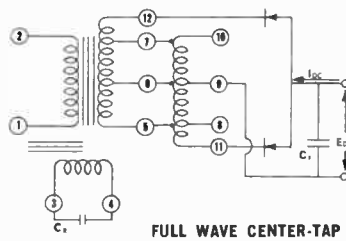
DCV transformers are operated in ferro-resonance and are used in conjunction with an AC capacitor. These capacitors are supplied with the transformers.



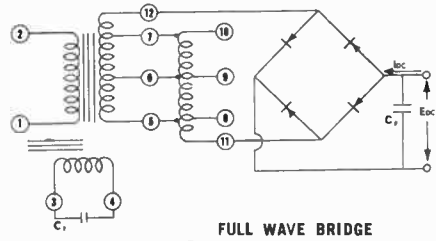
## ELECTRICAL DATA

SECONDARY CONNECTION RECTIFIER CIRCUIT Part Number	PARALLEL CONNECTED SECONDARIES						SERIES CONNECTED SECONDARIES						USER NET PRICE
	FULL WAVE CENTER-TAP			FULL WAVE BRIDGE			FULL WAVE CENTER-TAP			FULL WAVE BRIDGE			
	D.C. Volts $E_{DC}$	D.C. Amps $I_{DC}$	$C_F$ (KMFD)	D.C. Volts $E_{DC}$	D.C. Amps $I_{DC}$	$C_F$ (KMFD)	D.C. Volts $E_{DC}$	D.C. Amps $I_{DC}$	$C_F$ (KMFD)	D.C. Volts $E_{DC}$	D.C. Amps $I_{DC}$	$C_F$ (KMFD)	
25 DCV-1	6	5.0	5	13	2.5	3	13.5	2.5	3	28	1.2	1	\$18.60
25 DCV-2	9	3.5	3	19.5	1.75	2	19.5	1.75	2	41	0.9	1	18.60
25 DCV-3	14	2.5	2	30	1.26	1	30	1.25	1	62	0.6	0.5	18.60
25 DCV-4	20	1.5	1	44	0.8	1	44	0.8	1	90	0.4	0.5	18.60
50 DCV-1	6	9	10	13	4.5	4	13.5	4.5	4	28	2.4	2	22.20
50 DCV-2	9	6	6	19	3.2	3	19.5	3.2	3	40	1.75	2	22.20
50 DCV-3	14	4.5	5	29	2.5	3	29	2.5	3	62	1.1	1	22.20
50 DCV-4	20	3	3	43	1.6	2	42	1.6	2	88	0.9	1	22.20
120 DCV-1	6	19	15	13	10	10	14	10	10	29	5.5	5	28.50
120 DCV-2	9	13.5	12	19	6.5	6	20	6.5	6	40	3.5	3	28.50
120 DCV-3	14	9	10	29	5	5	30	5	5	62	2.25	2	28.50
120 DCV-4	20	6.5	5	43	3.3	3	43	3.25	3	89	1.5	1	28.50
250 DCV-1	6	42	40	13	21	20	14	21	20	29	11	10	43.20
250 DCV-2	9	30	25	19	15	15	20	15	15	42	7	5	43.20
250 DCV-3	14	18	15	29	9	10	30	10	10	61	5	5	43.20
250 DCV-4	20	14	10	43	7	5	44	7	5	90	3.5	3	43.20
500 DCV-1	6	80	80	13	40	40	14.5	40	40	30	20	20	66.00
500 DCV-2	9	56	50	19	30	25	20	30	25	42	14	10	66.00
500 DCV-3	14	36	40	29	18	20	30	18	20	61	9	10	66.00
500 DCV-4	20	25	20	43	13	10	44	13	10	89	6.5	5	66.00

### PARALLEL CONNECTED SECONDARIES

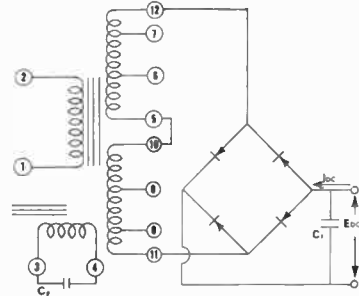
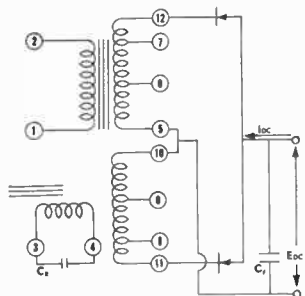


FULL WAVE CENTER-TAP



FULL WAVE BRIDGE

### SERIES-CONNECTED SECONDARIES



**IGNAL TRANSFORMER CO., INC**

ENGINEERS • DESIGNERS • MANUFACTURERS



# FOR USE IN AC APPLICATIONS (TYPE ACV) CONSTANT VOLTAGE TRANSFORMERS

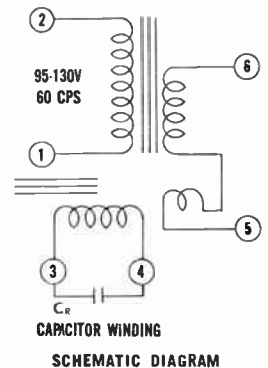
SHIPPED FROM  
STOCK IMMEDIATELY

PART NUMBER	VOLTS AC	AMPS AC	USER NET
25 ACV-6.4	6.4	4	\$16.00
25 ACV-12.8	12.8	2	16.00
25 ACV-26	26	1	16.00
25 ACV-118	118	0.25	16.00
50 ACV-6.4	6.4	8	19.00
50 ACV-12.8	12.8	4	19.00
50 ACV-26	26	2	19.00
50 ACV-118	118	0.43	19.00
120 ACV-6.4	6.4	20	27.10
120 ACV-12.8	12.8	10	27.10
120 ACV-26	26	5	27.10
120 ACV-118	118	1	27.10
250 ACV-12.8	12.8	20	41.20
250 ACV-26	26	10	41.20
250 ACV-118	118	2.2	41.20
500 ACV-118	118	4.5	63.10

Signal ACV transformers are manufactured for use with AC loads. They are simple and rugged designs and will regulate to within plus or minus 1% for input variations from 95-130V at 60 cps. If regulation of plus or minus ½% or better is desired, special units can be made to your order. ACV transformers will regulate with loads that are not unity power factor.

Full regulation is maintained at any load from about 20% to 100%. Overload current is limited to a maximum of 200% of rated current at short circuit. The 6.4 and 12.8V ratings are ideal for use with tube or lamp loads since the short circuit current rating limits the inrush current to cold filaments. Stabilization of the voltage results in longer filament life.

ACV transformers are "normal" harmonic type with approximately a square wave output.



## ADVANTAGES OF CONSTANT VOLTAGE TRANSFORMERS

**REGULATION** — output regulated to plus or minus 1% for line voltage variations of 95 to 130V at 60 cps.

**SELF-PROTECTION** — against output short circuit. Current limited to a maximum of 2 times rated current.

**MECHANICALLY RUGGED** — as resistant to mechanical shock as conventional power transformers.

**NO MOVING PARTS** — no adjustment or maintenance necessary.

**SQUARE WAVE OUTPUT** — ideal for use in rectifier circuits—little filtering needed.

**HIGH DEGREE OF ISOLATION** — between input and output circuits both physical and electrical isolation, electro-static shields not necessary.

**RESONATING CAPACITOR** — supplied with transformers.

**EPOXY IMPREGNATION** — minimizes acoustic noise.

## MECHANICAL DIMENSIONS

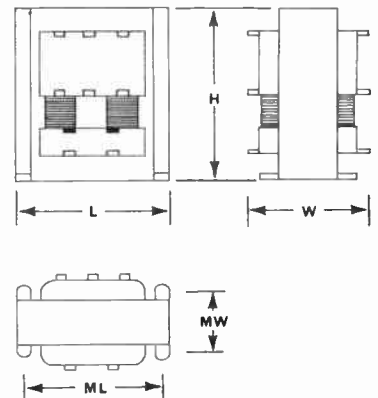
SERIES	L	W	H	ML	MW	MTG. SCREW
25 DCV or ACV	3	3¼	3⅛	2⅝	1⅝	#8
50 DCV or ACV	3	4½	3⅛	2⅝	2⅞	#8
120 DCV or ACV	4	5	4⅞	3½	2⅞	#10
250 DCV or ACV	4	7⅛	4⅞	3½	3⅝	#10
500 DCV or ACV	5	8	5⅞	4⅜	3⅝	#10

### MISCELLANEOUS NOTES

**FREQUENCIES OTHER THAN 60 cps** — units available designed for use at 50 or 400 cps on special order.

**SPECIAL FEATURES** — can be supplied on special order, such as

1. plus or minus ½ regulation or better.
2. special values of voltage or current output manufactured to your specific needs.
3. multiple output transformers.
4. special terminals, brackets or other mechanical features.



CONSULT WITH US  
FOR YOUR SPECIAL  
CV TRANSFORMERS  
PROMPT QUOTATIONS

# IGNAL TRANSFORMER CO., INC

ENGINEERS • DESIGNERS • MANUFACTURERS

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# MOST COMPLETE LINE IN THE INDUSTRY HIGH CURRENT TRANSFORMERS



## SECONDARY VOLTS

**12.8 or 6.4 C.T.**  
Series 0 - 3.2 - 6.4 - 9.6 - 12.8 V  
Parallel 0 - 3.2 - 6.4 V  
@ 2 x Current

Part No.	Primary Volts 50-500 cps	Secondary Amps		Dimensions				Apprx. Lbs.	User Net	
		Series	Parallel	L	W	H	ML			
12.8-2	115	2	4	3	2 1/2	2 1/2	2 1/2	2	2.2	\$ 5.70
12.8-4	115	4	8	3	3	2 1/2	2 1/2	2 3/8	3.0	7.30
12.8-6	115	6	12	3 3/8	3 1/4	2 1/2	2 1/2	2 1/2	4.2	8.30
12.8-8	115	8	16	3 3/4	2 5/8	3 1/8	3 1/8	2 1/4	4.5	8.70
12.8-12	115	12	24	4 1/8	3 1/4	3 1/8	3 1/8	2 3/8	6.0	10.00
12.8-25	115	25	50	5 1/4	4 1/4	4 3/8	4 3/8	2 7/8	12.0	21.40
12.8-50	105, 115, 125	50	100	5 3/4	5 3/4	4 3/8	4 3/8	4 3/8	20.0	29.00
12.8-100	105, 115, 125	100	200	6 3/8	6 3/8	5 1/8	5 1/8	4 3/8	32.0	42.50

**24 or 12 C.T.**  
Series 0 - 6 - 12 - 18 - 24 V  
Parallel 0 - 6 - 12 V  
@ 2 x Current

24-1	115	1	2	3	2 1/2	2 1/2	2 1/2	2	2.2	\$ 5.70
24-2	115	2	4	3	3	2 1/2	2 1/2	2 3/8	3.0	7.20
24-4	115	4	8	3 3/4	2 5/8	3 3/8	3 3/8	2 1/4	4.5	8.70
24-6	115	6	12	4 1/8	3 1/4	3 1/8	3 1/8	2 3/8	6.0	10.00
24-8	115	8	16	4 3/8	3 3/8	3 3/8	3 3/8	3	8.0	14.30
24-12	105, 115, 125	12	24	4 1/2	4 1/2	3 3/4	3 3/4	3 3/8	11.5	17.80
24-20	105, 115, 125	20	40	5 1/4	4 3/4	4 3/8	4 3/8	3 3/8	15.0	21.40
24-25	105, 115, 125	25	50	5 1/4	5 3/4	4 3/8	4 3/8	4 1/8	20.0	28.50
24-50	105, 115, 125	50	100	6 3/8	6 3/8	5 1/8	5 1/8	4 3/8	32.0	41.50
24-100	115/230	100	200	7 1/2	7	6 1/4	6 3/4	4 3/8	45.0	60.00

**36 or 18 C.T.**  
Series 0 - 9 - 18 - 27 - 36 V  
Parallel 0 - 9 - 18 V  
@ 2 x Current

36-1	115	1	2	3	2 3/4	2 1/2	2 1/2	2 1/4	2.5	\$ 5.80
36-2	115	2	4	3 3/8	3	2 1/2	2 1/2	2 3/8	3.8	7.60
36-4	115	4	8	4 1/8	3 3/4	3 1/8	3 1/8	2 3/8	6.7	9.50
36-6	115	6	12	4 1/2	3 3/4	3 3/4	3 3/4	2 3/8	8.6	15.30
36-8	105, 115, 125	8	16	4 1/2	4 1/8	3 3/4	3 3/4	3 3/8	11.0	16.70
36-12	105, 115, 125	12	24	5 1/4	4 7/8	4 3/8	4 3/8	3 3/8	14.5	18.50
36-20	105, 115, 125	20	40	6 3/8	5 1/2	5 1/8	5 1/8	3 3/8	23.0	32.50
36-25	105, 115, 125	25	50	6 3/8	6	5 1/8	5 1/8	3 3/4	27.0	35.00
36-30	105, 115, 125	30	60	6 3/8	6 1/2	5 1/8	5 1/8	4 3/8	32.0	42.40
36-50	115/230	50	100	6 3/8	7 3/4	5 1/8	5 1/8	4 3/8	40.0	49.50
36-100	115/230	100	200	7 1/2	8 3/8	6 1/4	6 3/4	5 1/8	62.0	98.00

**56 or 28 C.T.**  
Series 0 - 14 - 28 - 42 - 56 V  
Parallel 0 - 14 - 28 V  
@ 2 x Current

56-1	115	1	2	3 3/8	2 3/4	2 1/2	2 1/2	2 1/4	3.8	\$ 8.25
56-2	115	2	4	3 3/4	3 1/4	3 1/8	3 1/8	2 1/2	5.0	8.80
56-4	115	4	8	4 1/8	3 3/4	3 1/8	3 1/8	3	8.0	13.60
56-6	115	6	12	5 1/4	4 1/4	4 3/8	4 3/8	2 7/8	12.0	21.50
56-8	105, 115, 125	8	16	5 1/4	5	4 3/8	4 3/8	3 3/8	17.0	26.50
56-12	105, 115, 125	12	24	6 3/8	5 1/2	5 1/8	5 1/8	3 3/4	22.0	32.00
56-25	105, 115, 125	25	50	6 3/8	7 1/8	5 1/8	5 1/8	5 1/8	38.0	53.00
56-50	115/230	50	100	7 1/2	7 1/4	6 1/4	6 3/4	4 7/8	54.0	98.00
56-100	115/230	100	200	7 1/2	11	6 1/4	6 3/4	8 1/8	100.0	145.00

**68 or 34 C.T.**  
Series 0 - 17 - 34 - 51 - 68 V  
Parallel 0 - 17 - 34 V  
@ 2 x Current

68-1/2	115	1/2	1	3	2 3/4	2 1/2	2 1/2	2 1/4	2.5	\$ 6.10
68-1	115	1	2	3 3/8	3	2 1/2	2 1/2	2 3/8	3.8	7.90
68-2	115	2	4	4 1/8	3 3/4	3 1/8	3 1/8	2 5/8	6.7	9.80
68-4	115	4	8	4 1/2	4 1/8	3 3/4	3 3/4	3 3/8	11.0	17.20
68-6	105, 115, 125	6	12	5 1/4	4 7/8	4 3/8	4 3/8	3 3/8	14.5	19.00
68-8	105, 115, 125	8	16	5 1/4	5 1/2	4 3/8	4 3/8	3 7/8	19.0	27.00
68-12	105, 115, 125	12	24	6 3/8	6	5 1/8	5 1/8	3 3/4	27.0	36.00
68-25	115/230	25	50	6 3/8	7 3/4	5 1/8	5 1/8	5 1/8	40.0	52.00
68-50	115/230	50	100	7 1/2	8 3/8	6 1/4	6 3/4	5 1/8	62.0	98.00

**80 or 40 C.T.**  
Series 0 - 20 - 40 - 60 - 80 V  
Parallel 0 - 20 - 40 V  
@ 2 x Current

80-1/2	115	1/2	1	3	2 3/4	2 1/2	2 1/2	2 1/4	3.0	\$ 5.80
80-1	115	1	2	3 3/8	3 1/4	2 1/2	2 1/2	2 3/8	4.2	8.50
80-2	115	2	4	4 1/8	3 3/8	3 1/8	3 1/8	2 5/8	7.0	12.70
80-4	115	4	8	5 1/4	4 3/4	4 3/8	4 3/8	2 7/8	13.0	21.00
80-6	105, 115, 125	6	12	5 1/4	5 1/8	4 3/8	4 3/8	3 7/8	19.0	27.00
80-8	105, 115, 125	8	16	6 3/8	5 1/4	5 1/8	5 1/8	3 3/4	22.0	30.50
80-12	105, 115, 125	12	24	6 3/8	6	5 1/8	5 1/8	4 1/8	29.0	39.50
80-25	115/230	25	50	7 1/2	6 1/2	6 1/4	6 3/4	3 7/8	40.0	64.00
80-50	115/230	50	100	7 1/2	9	6 1/4	6 3/4	4 1/2	78.0	120.00

**120 or 60 C.T.**  
Series 0 - 30 - 60 - 90 - 120 V  
Parallel 0 - 30 - 60 V  
@ 2 x Current

120-1/2	115	1/2	1	3 3/8	2 3/4	2 1/2	2 1/2	2 1/4	3.5	\$ 8.20
120-1	115	1	2	3 3/4	3 1/2	3 1/8	3 1/8	2 3/4	6.0	9.80
120-2	115	2	4	4 1/2	4	3 3/4	3 3/4	2 3/4	8.5	14.70
120-4	115	4	8	5 1/4	5 1/2	4 3/8	4 3/8	3 7/8	18.0	25.60
120-6	105, 115, 125	6	12	6 3/8	6	5 1/8	5 1/8	3 7/8	27.0	32.70
120-8	105, 115, 125	8	16	6 3/8	7 1/4	5 1/8	5 1/8	4 3/8	34.0	39.50
120-12	105, 115, 125	12	24	6 3/8	7	5 1/8	5 1/8	5 3/8	42.0	48.00
120-20	105, 115, 125	20	40	7 1/2	7 1/2	6 1/4	6 3/4	5 3/8	57.0	58.00

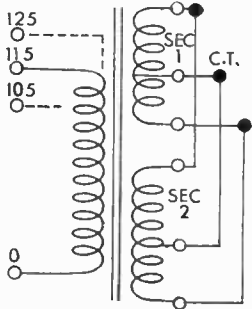
**160 or 80 C.T.**  
Series 0 - 40 - 80 - 120 - 160 V  
Parallel 0 - 40 - 80 V  
@ 2 x Current

160-1/2	115	1/2	1	3 3/8	3 1/4	2 1/2	2 1/2	2 1/4	4.2	\$ 8.70
160-1	115	1	2	4 1/8	3 3/8	3 1/8	3 1/8	2 5/8	7.0	12.90
160-2	115	2	4	4 1/2	4 3/8	3 3/4	3 3/4	3 3/8	11.0	18.00
160-4	105, 115, 125	4	8	6 3/8	5 1/4	5 1/8	5 1/8	3 1/4	19.0	31.00
160-8	105, 115, 125	8	16	6 3/8	6 3/8	5 1/8	5 1/8	4 7/8	36.0	48.50
160-12	115/230	12	24	7 1/2	6 1/2	6 1/4	6 3/4	3 7/8	40.0	65.00

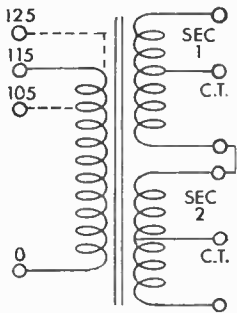
**180 or 90 C.T.**  
Series 0 - 45 - 90 - 135 - 180 V  
Parallel 0 - 45 - 90 V  
@ 2 x Current

180-1/2	115	1/2	1	3 3/4	3	3 1/8	3 1/8	2 3/4	5.7	\$ 8.40
180-1	115	1	2	4 1/8	4 1/4	3 3/8	3 3/8	3	6.7	14.20
180-2	115	2	4	5 1/4	5	4 3/8	4 3/8	3 3/8	16.5	22.80
180-4	115	4	8	6 3/8	5 1/2	5 1/8	5 1/8	3 3/4	27.0	33.00
180-6	105, 115, 125	6	12	6 3/8	7 1/8	5 1/8	5 1/8	5 1/8	35.0	42.50
180-8	105, 115, 125	8	16	6 3/8	7 1/2	5 1/8	5 1/8	5 3/8	42.0	49.00
180-12	105, 115, 125	12	24	7 1/2	8	6 1/4	6 3/4	5 3/8	62.0	69.00

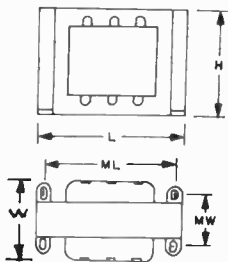
### PARALLEL CONNECTED SECONDARIES



### SERIES CONNECTED SECONDARIES



### MECHANICAL DIMENSIONS



# IGNAL TRANSFORMER CO., INC

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# MOST COMPLETE LINE IN THE INDUSTRY HIGH CURRENT TRANSFORMERS

SHIPPED FROM STOCK IMMEDIATELY

## SECONDARY VOLTS

	Part No.	Primary Volts 50-500 cps	Secondary Amps		Dimensions					Appr. Lbs.	User Net
			Series	Parallel	L	W	H	ML	MW		
<b>230 or 115 C.T.</b> Series 0 - 57½ - 115 - 172½ - 230 V Parallel 57½ - 115 V @ 2 x Current	230-½	115	½	1	3¾	4	3¼	3¼	3	6.5	\$10.50
	230-1	115	1	2	4½	4	3¾	3¾	3	9.5	15.00
	230-2	115	2	4	5¼	4¾	4¾	4¾	3¾	14.5	19.70
	230-4	105, 115, 125	4	8	6¾	6	5¼	5¼	4½	30.0	39.80
	230-6	105, 115, 125	6	12	6¾	7¼	5¾	5¾	5½	40.0	48.50
<b>300 or 150 C.T.</b> Series 0 - 75 - 150 - 225 - 300 V Parallel 0 - 75 - 150 V @ 2 x Current	300-½	115	½	1	4½	4	3¾	3¾	2½	7.0	\$11.00
	300-1	115	1	2	5¼	4¼	4¾	4¾	3	13.0	19.70
	300-2	115	2	4	5¼	6	4¾	4¾	4½	21.0	28.80
	300-4	105, 115, 125	4	8	6¾	6	5¾	5¾	3¾	28.0	35.80

### METHOD OF DETERMINING SECONDARY CURRENT RATING

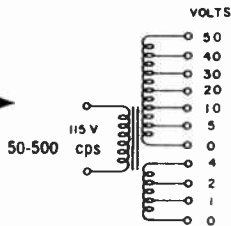
Since our transformers may be used in many possible configurations, the current shown is rms secondary winding current. Secondary current ratings are rms ac values, NOT dc values. When selecting the "Secondary Amp" rating, the conversion chart at the right should be used.

**RECTIFIER TYPE**  
Full Wave Center-Tap  
Full Wave Center-Tap  
Full Wave Bridge  
Full Wave Bridge

**FILTER TYPE**  
Choke Input  
Capacitor Input  
Choke Input  
Capacitor Input

**SECONDARY CURRENT**  
.7 times DC current  
1.2 times DC current  
Equal to DC current  
1.8 times DC current

## MULTI-VOLT 1 to 54 VOLTS in 1 VOLT STEPS



MV (multi-voltage) secondaries may be series connected for any output from 1 to 54 volts, in 1 volt steps, at rated current. This is accomplished by using the small buck-boost secondary.

Part No.	Secondary Amps	DIMENSIONS					Appr. Wt.	Users Net
		L	W	H	ML	MW		
MV-2	2	4¼	3¼	3¼	3¼	2¾	5	\$15.00
MV-4	4	5¼	3¾	4	3¾	2½	7.5	20.00

# HIGH CURRENT CHOKES

### HIGH CURRENT CHOKES

Signal's line of High Current Chokes is the most extensive available. It is designed to complement the selection of High Current Transformers so that a set may be specified for power supplies using inductive filters.

The inductance ratings given are minimum values guaranteed at full rated DC current. All resistance ratings are maximum values.

Special variations or intermediate values of inductance, current, or resistance can be supplied promptly and accurately.

PART NO.	INDUCTANCE (Milli-hy.)	CURRENT (amps)	RESIS. (ohms)	DIMENSIONS					APPR. WT.	USERS NET
				L	W	H	ML	MW		
CH-1	100	1	1.5	3¼	2½	2¾	2½	2	2.5	\$ 5.20
CH-2	70	2	0.9	3¾	2¾	3¼	2¾	2½	3.5	6.00
CH-4	70	4	0.6	3¾	3¾	3¾	3¾	2½	5.5	7.50
CH-6	40	6	0.4	3¾	3¾	3¾	3¾	3	7	10.20
CH-8	30	8	0.3	4¾	3¾	3¾	3¾	3	8	12.80
CH-12	15	12	0.1	5¾	4	4¾	4¾	3½	13	16.80
CH-20	7	20	0.05	5¾	4	4¾	4¾	3½	13	17.50
CH-25	5	25	0.025	5¾	4¾	4¾	4¾	3¾	18	25.60
CH-30	4	30	0.01	6½	5½	5¾	5¾	3¾	25	31.40
CH-50	1.4	50	0.01	6½	5¾	5¾	5¾	3¾	27	34.50
CH-100	0.5	100	0.005	6½	6½	5¾	5¾	4¾	32	39.00
CH-200	0.3	200	0.0025	7¾	7	6¾	6¾	4¾	45	58.00
CH-500	0.055	500	0.00027	7½	6½	6¼	6¾	4¾	50	88.00
CH-1000	0.015	1,000	0.00065	7½	7½	6¾	6¾	5¾	70	99.00

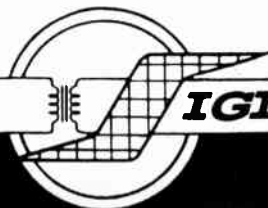
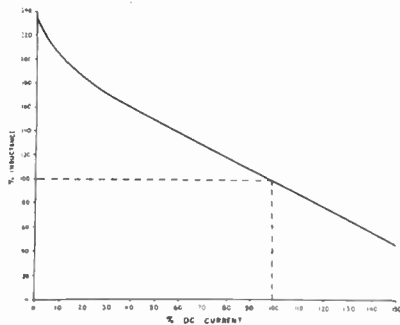
### INDUCTANCE VARIATION WITH DC CURRENT

The curve shown applies to the whole line of chokes. It allows the user to determine the value of inductance which will be obtained at intermediate and overload values of DC current. The values on the curve are stated in generalized coordinates of % inductance versus % DC current.

For example, the CH-100 at 50 amperes (50% DC Current) will have an inductance of 0.75 MHY (150% of rating), the CH-25 at 31 amperes (125% DC current) will have an inductance of 3.5 MHY (70% of rating).

It is not recommended that chokes be used at over 100% of rated current since temperature rise will then be excessive. However, if load current is intermittent, and RMS current is less than maximum rated current, it is permissible.

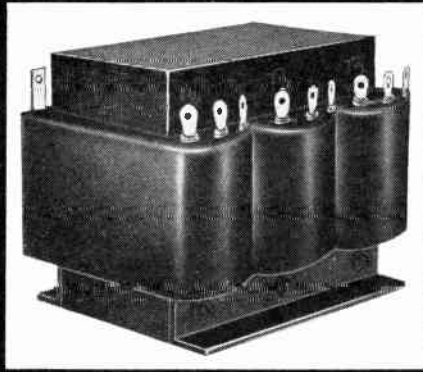
Special "swinging chokes" can be supplied where the slope of this characteristic is emphasized. Specify minimum inductance required at two current values (usually maximum and minimum current) and we will furnish prompt quotations.



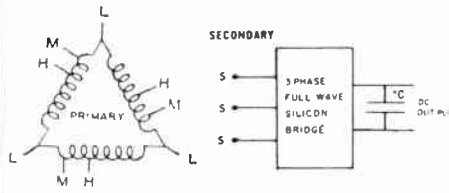
## SIGNAL TRANSFORMER CO., INC

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# 3 PHASE HIGH CURRENT RECTIFIER TRANSFORMERS

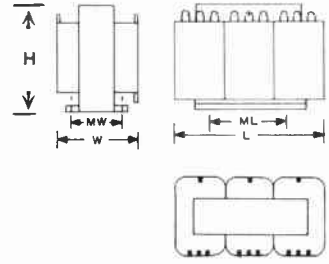


## SCHEMATIC DIAGRAM



\*C — Optional, no capacitor will give DC output shown at approx. 5% ripple.

## MECHANICAL DIMENSIONS



## DC OUTPUT VOLTAGE

PART NO.	PRI TAP "L" SUPPLY VOLTAGE		PRI TAP "M" SUPPLY VOLTAGE		PRI TAP "H" SUPPLY VOLTAGE		DC RATED AMPS	APPROX. DIMENSIONS					APX. LBS.	NET PRICE
	208	220	208	220	208	220		L	W	H	ML	MW		
3PH 24-50	24	25	26	27.5	28	30	50	7 $\frac{3}{4}$	6	5 $\frac{1}{2}$	4.8	4 $\frac{7}{8}$	35	\$85.00
3PH 24-100	24	25	26	27.5	28	30	100	11 $\frac{1}{2}$	5	8 $\frac{1}{4}$	7.2	4	42	120.00
3PH 24-200	24	25	26	27.5	28	30	200	11 $\frac{1}{2}$	8 $\frac{3}{8}$	8 $\frac{1}{4}$	7.2	6 $\frac{1}{4}$	90	195.00
3PH 48-30	42	44	47	50	52	55	30	7 $\frac{3}{4}$	6	5 $\frac{1}{2}$	4.8	4 $\frac{7}{8}$	35	85.00
3PH 48-60	42	44	47	50	52	55	60	11 $\frac{1}{2}$	5	8 $\frac{1}{4}$	7.2	4	42	120.00
3PH 48-120	42	44	47	50	52	55	120	11 $\frac{1}{2}$	8 $\frac{3}{8}$	8 $\frac{1}{4}$	7.2	6 $\frac{1}{4}$	90	195.00

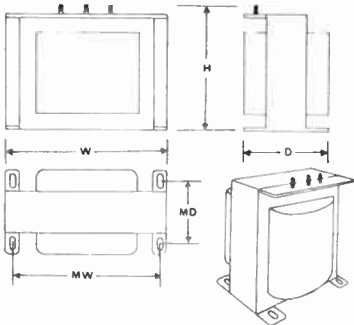
At higher power loads (above 2-3 KVA) it becomes inefficient to use single phase 115 or 230 volt standard lines. With this in mind, our engineering staff has developed a line of 3 phase transformers for use off 208 or 220V 3 phase power lines. These offer the significantly higher

conversion efficiency and lighter power line drain of 3 phase systems. Since the principal application of these items is in high power dc power supplies, output ratings are given in dc voltage and current assuming the use of a 3 phase full wave rectifier.

# STEP DOWN AUTO TRANSFORMERS

## 230 TO 115 VOLTS 50/60 CPS

PART NO.	VA (WATTAGE) RATING	W	D	H	MW	MD	MTG. SCREW	WT.	USER NET
SD-100	100	2 $\frac{5}{8}$	2 $\frac{7}{8}$	3 $\frac{1}{8}$	2	1 $\frac{1}{2}$	#8	2.3	\$7.30
SD-150	150	2 $\frac{5}{8}$	3 $\frac{1}{2}$	3 $\frac{1}{8}$	2	2 $\frac{1}{16}$	#8	3.6	8.60
SD-250	250	3 $\frac{7}{8}$	3 $\frac{1}{2}$	4 $\frac{5}{8}$	3	3 $\frac{1}{16}$	#8	6.2	10.70
SD-350	350	3 $\frac{7}{8}$	4 $\frac{1}{4}$	4 $\frac{5}{8}$	3	3 $\frac{1}{16}$	#8	8.3	14.30
SD-500	500	3 $\frac{7}{8}$	4 $\frac{3}{4}$	4 $\frac{5}{8}$	3	3 $\frac{1}{16}$	#8	10.5	16.10
SD-750	750	4 $\frac{5}{8}$	5 $\frac{3}{8}$	5 $\frac{3}{8}$	3 $\frac{1}{2}$	3 $\frac{3}{4}$	$\frac{1}{4}$	14.5	20.70
SD-1000	1000	4 $\frac{5}{8}$	5 $\frac{7}{8}$	5 $\frac{3}{8}$	3 $\frac{1}{2}$	4 $\frac{1}{4}$	$\frac{1}{4}$	18	24.00
SD-1500	1500	4 $\frac{5}{8}$	6 $\frac{5}{8}$	5 $\frac{3}{8}$	3 $\frac{1}{2}$	5	$\frac{1}{4}$	22	30.00
SD-2000	2000	4 $\frac{5}{8}$	7 $\frac{1}{8}$	5 $\frac{3}{8}$	3 $\frac{1}{2}$	5 $\frac{1}{2}$	$\frac{1}{4}$	26	36.00
HSD-3000	3000	7 $\frac{1}{2}$	6	6 $\frac{3}{4}$	6 $\frac{3}{4}$	4 $\frac{1}{8}$	$\frac{1}{4}$	40	47.00
HSD-4000	4000	7 $\frac{1}{2}$	6 $\frac{1}{2}$	6 $\frac{3}{4}$	6 $\frac{3}{4}$	4 $\frac{5}{8}$	$\frac{1}{4}$	46	55.00
HSD-5000	5000	7 $\frac{1}{2}$	7	6 $\frac{3}{4}$	6 $\frac{3}{4}$	5 $\frac{1}{8}$	$\frac{1}{4}$	52	62.00
HSD-6000	6000	7 $\frac{1}{2}$	8	6 $\frac{3}{4}$	6 $\frac{3}{4}$	6 $\frac{1}{8}$	$\frac{1}{4}$	65	76.00



TYPE HSD

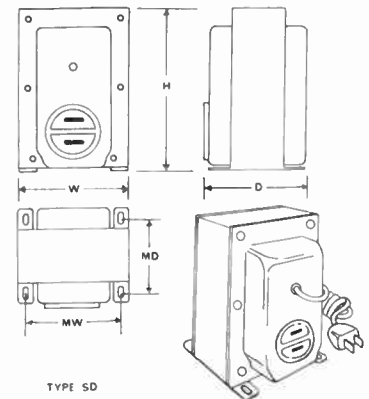
## STEP-DOWN AUTO TRANSFORMERS

(3000-6000 VA)  
TYPE HSD

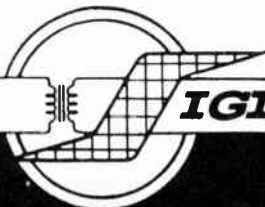
Very low Regulation • 45°C Temperature Rise • Black High Gloss Enamel Finish • Screw type terminals on phenolic board.

(100-2000 VA)  
TYPE SD

Low Regulation • Fully enclosed — Black Wrinkle Finish • 45°C Temperature Rise • U/L Approved 2 prong line cord and receptacle.



TYPE SD

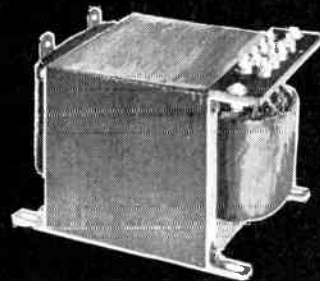


# IGNAL TRANSFORMER CO., INC

ENGINEERS • DESIGNERS • MANUFACTURERS

# VERY HIGH CURRENT TRANSFORMERS & CHOKES 500 to 1400 AMPERES NEVER AVAILABLE BEFORE

STOCKED  
FOR SAME DAY  
SHIPMENT

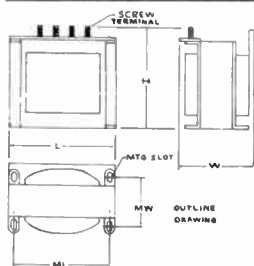


## TRANSFORMERS

Part No.	Secondary Volts	Secondary Amps.		Dimensions					Mtg. Screw	Appr. Lbs.	User Net Price
		Nominal (45°C rise)	Max. (100°C rise)	L	W	H	ML	MW			
6-500	6	500	700	7½	6	7¼	6¾	4¾	¼	40	\$94.00
9-500	9	500	700	7½	7½	7¼	6¾	6¼	¼	60	121.00
12-500	12	500	700	7½	9	7¼	6¾	7¾	¼	80	152.00
3-1000	3	1000	1400	7½	6	7¼	6¾	4¾	¼	40	99.00
6-1000	6	1000	1400	7½	9	7¼	6¾	7¾	¼	80	160.00

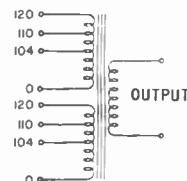
## CHOKES

Part No.	Inductance (Milli-hy)	Current (Amperes)	Resis. (Ohms)	Dimensions					Mtg. Screw	Appr. Lbs.	User Net Price
				L	W	H	ML	MW			
CH-500	.055	500	.00027	7½	6½	6¼	6¾	4½	¼	50	88.00
CH-1000	.015	1000	.000065	7½	7½	6¼	6¾	5½	¼	70	99.00



As shown on the schematic diagram dual primaries are provided. This permits parallel connection for 104, 110, or 120 volts or series connection for 208, 214, 220, 230, and 240 volts. Frequency range is 50 to 500 cps.

It is important to note that primary taps may be used to adjust the secondary voltages. Line voltages up to 125V (parallel) or 250V (series) may be used on the lowest primary tap. Nickel plated screw terminals are provided on a heavy phenolic board for easy primary connections.



# NEW DESIGN AND CONSTRUCTION SMALLER • LIGHTER • MORE EFFICIENT

### GRAIN-ORIENTED STEEL CORE

These cores permit the use of higher peak flux densities for the same core loss. This results in a lower number of turns required and therefore, a smaller, more compact transformer.

### STRIP-WOUND SECONDARIES

At the heavy current used in this line it becomes practical and desirable to use wide copper strip (as wide as the coil itself) for windings. Besides the obvious advantages of excellent winding space factor, the heat dissipation of the coil is improved. This improvement is due to the fact that the heat generated in the windings has a pure

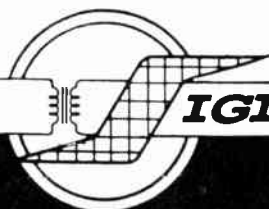
copper path to the coil ends, where it can be dissipated. In conventional windings of many turns per layer this heat flow is impeded by wire insulation and air spaces between turns. Therefore, the use of copper strip windings yields a dramatic reduction in size and weight.

### CLASS F INSULATION USED THROUGHOUT

Class F insulation is rated for unlimited life at a total temperature of 155°C (ambient plus temperature rise).

Class A insulation has a maximum temperature rating of 105°C. The "nominal" current ratings given to this series are for a temperature rise of 45°C above 55°C ambient (Class A). Since Class F insulation is

used it is permissible to increase these ratings by 40% (700 and 1400 amperes) without reducing the reliability of the transformer. The temperature rise will be 100°C over a 55°C ambient. The only limitation is not the transformer, but the temperature rating of surrounding components which may be affected by the additional heat radiated by the transformer.

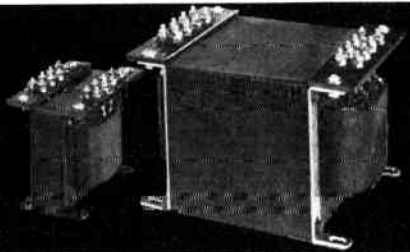


## IGNAL TRANSFORMER CO., INC

ENGINEERS • DESIGNERS • MANUFACTURERS

# INDUSTRIAL GRADE STEP-UP OR STEP-DOWN POWER ISOLATION OR AUTO-TRANSFORMERS

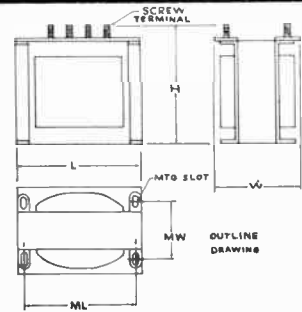
HIGH DEGREE OF VERSATILITY OFFERS MANY POSSIBLE VOLTAGE RATINGS



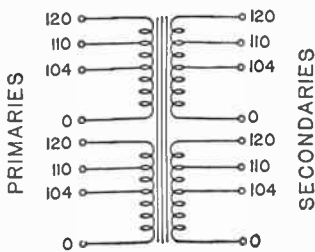
AVAILABLE FROM STOCK FOR IMMEDIATE SHIPMENT

The "DU" and "UP" lines are designed for a maximum of 55°C rise above ambient, for use on standard power lines from 50 to 500 Cps. Only prime raw materials are used. Units are thoroughly impregnated and baked with Signal's own high gloss black baking varnish. The transformers are rugged in construction, well-insulated, and have a consistently uniform appearance. All ratings are at full load current, continuous operation.

Heavy 1/4 inch phenolic terminal boards are provided with plated brass screws and flat washers. Connections can be easily made with a nut driver. It is also simple to alter the inter-connections to change transformer ratings.



## "DU SERIES" 110/220 Dual Primary To 110/220 Dual Sec.



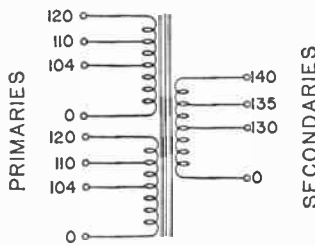
As shown on the schematic diagram the "DU" line is designed with dual primaries and secondaries. All four windings are identically rated at 0/104/110/120 volts. This permits series or parallel connections on either primary or secondary. Therefore, a nominal 110 to 110 volt, 220 to 220 volt, 110 to 220 volt, or 220 to 110 volt transformer can be set up. The winding taps permit intermediate series ratings such as

208, 214, or 230 volts.

It is also possible to make auto-transformer connections by connecting a primary group in series with a secondary group. Such nominal ratings as 440 to 220 volts or 220 to 440 volts can be set-up, in addition to the standard ratings described above. A further advantage to auto-transformer connection is the fact that the KVA rating of a particular type is doubled.

Part No.	KVA	Series Secondaries		Parallel Secondaries		Mechanical Dimensions					Mtg. Screw	Appr. Lbs.	User Net Price
		Volts	Max. Amps	Volts	Max. Amps	L (Max.)	W (Max.)	H (Max.)	ML ± 1/32	MW ± 1/16			
DU-1/4	1/4	0/208/220/240	1.1	0/104/110/120	2.2	5 1/8	4 1/4	5 1/4	4 3/8	2 1/2	#10	12	\$27.00
DU-1/2	1/2	0/208/220/240	2.3	0/104/110/120	4.6	5 1/8	5 1/8	5 1/4	4 3/8	3 3/8	#10	18	32.00
DU-1	1	0/208/220/240	4.5	0/104/110/120	9	7 1/8	6 1/4	7 1/4	6 3/4	1/4	#10	33	50.00
DU-2	2	0/208/220/240	9	0/104/110/120	18	7 1/8	8 1/4	7 1/4	6 3/4	6	1/4	56	66.00
DU-3	3	0/208/220/240	14	0/104/110/120	28	7 1/8	9 1/4	7 1/4	6 3/4	7	1/4	70	91.00
DU-5	5	0/208/220/240	23	0/104/110/120	46	7 1/8	10 3/4	7 1/4	6 3/4	8 1/2	1/4	89	138.00

## "UP SERIES" 110/220 Dual Primary To 0/130/135/140 V. Sec.



The "UP" line utilizes the same dual primary as the "DU" line. It has, however, a single secondary rated at 0/130/135/140 volts. This type is quite useful to boost low line

voltages or raise line voltages to compensate for drops in series elements. It also finds application in bridge rectifiers for DC voltage outputs of approximately 115 to 130 volts.

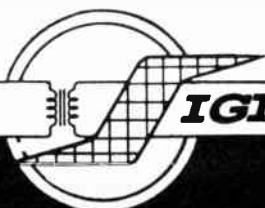
Part No.	KVA	Secondary Volts	Max. Secondary Amps	L (Max.)	W (Max.)	H (Max.)	ML ± 1/32	MW ± 1/16	Mtg. Screw	Appr. Lbs.	User Net Price
UP-4	1/2	0/130/135/140	4	5 1/8	5 1/8	5 1/4	4 3/8	3 3/8	#10	18	31.00
UP-8	1	0/130/135/140	8	7 1/8	6 1/4	7 1/4	6 3/4	4 1/8	1/4	33	47.00
UP-15	2	0/130/135/140	15	7 1/8	8 1/4	7 1/4	6 3/4	6	1/4	56	64.00
UP-25	3	0/130/135/140	25	7 1/8	9 1/4	7 1/4	6 3/4	7	1/4	70	88.00
UP-40	5	0/130/135/140	40	7 1/8	10 3/4	7 1/4	6 3/4	8 1/2	1/4	89	132.00

### SIGNALS CUSTOM SERVICE

Many of our customers do not realize that the major portion of our shipments consists of "special" or "custom" items.

Usually, the final application of one of our stock transformers does not require the full number of taps or windings provided. These naturally are part of the cost of the item. If

we are advised as to the specific taps used or as to what intermediate voltage or current is required we can begin production quickly on this variation of our stock item. If we define production quantities as roughly over 50 pieces, the customer will do better price-wise on his custom made item than on the standard.

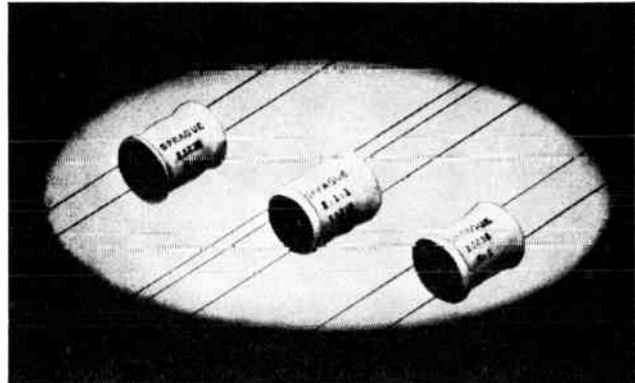


# SIGNAL TRANSFORMER CO., INC

ENGINEERS • DESIGNERS • MANUFACTURERS

**SPRAGUE****PULSE TRANSFORMERS  
AND DECADE INDUCTORS****Type 11Z****TRIGATE\* PULSE TRANSFORMERS  
FOR LOW-COST SCR CIRCUIT APPLICATIONS**

- Specifically Designed For Commercial and Industrial SCR Triggering Applications Where Low Cost and Excellent Performance Are Required
- Balanced Pulse Characteristics and Energy Transfer Between Windings
- Minimum Saturation Effect To Allow Operation Where Increased Pulse Widths Are Required
- Fast Pulse Rise Time and Increased Current Capability To Prevent SCR di/dt Failure
- Operating Temperature Range of  $-10\text{ C}$  to  $+70\text{ C}$
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 40003
- Call Your Sprague Industrial Distributor For Current Quantity Prices



DIMENSIONS	
Diameter x Length	
0.593	x 0.828

Turns Ratio	Catalog Number	Min. Lp ( $\mu\text{H}$ )	Typ. LL ( $\mu\text{H}$ )	Typ. Cc (pF)	Max. RDCP ( $\Omega$ )	Max. RDCS ( $\Omega$ )	Typ. $V_{\mu\text{sec}}$ Output Winding	60 Cycle Dielectric Test (Volts RMS)	Max. 60 Cy. A-C Line Voltage
1:1	11Z12	200	2	500	1.5	1.5	2000	1600	240
1:1:1	11Z13	200	2	500	1.5	1.5	2000	1600	240
2:1	11Z14	1300	6	1000	10.0	1.7	2000	1600	240
2:1:1	11Z15	1300	10	1000	10.0	1.7	2000	1600	240
5:1	11Z16	6000	1000	200	13.0	2.0	2000	1600	240

★ Trademark

**TYPE 850W PRECISION DECADE INDUCTORS**

- Indispensable For Design and Experimental Work on Audio Filters, Equalizers, and Tuned Circuits. Frequency Range is 150 to 20,000 Cycles per Second
- Excellent Stability With Respect to Current and Ambient Temperature Changes
- All Four Decade Inductors May Be Connected in Series to Provide 11,110 Steps of Inductance
- Housed in Blue Aluminum Case with Sloping Front to Facilitate Bench-Top Readings. Measures 3" Wide, 2 1/2" High, 5 1/2" Long. Fitted with Five-way Binding Posts.
- For Complete Technical Data, Refer to Latest Issue of Engineering Bulletin 90,500.
- Call Your Sprague Industrial Distributor for Current Quantity Prices



Cat. No.	Inductance Steps	Optimum Freq. Range in cps	Average Q Factor		Max. Milliamperes	
			at 1000 cps	at 4500 cps	D-C	A-C
850WA1	10 x 0.001H	400 to 20,000	40	75	250	700
850WA2	10 x 0.01H	400 to 20,000	60	125	79	220
850WA3	10 x 0.1H	400 to 20,000	60	125	25	70
850WA4	10 x 1.0H	400 to 5,000	60	125	8	22





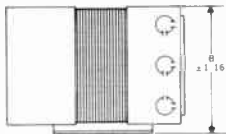
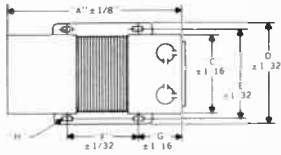
# SOLA<sup>®</sup> constant voltage transformers

## SOLA<sup>®</sup> CVN-normal harmonic type

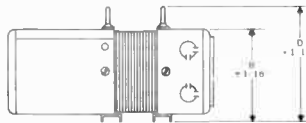
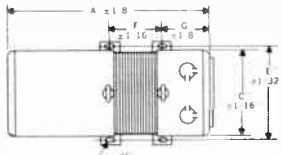
Sola CVN type transformers provide the same ±1% regulation as the sinusoidal series. CVN transformers contain an average of 20% rms harmonic content and are recommended for

electrical loads not affected by harmonics, such as solenoids, relays, filaments and where rectification is required.

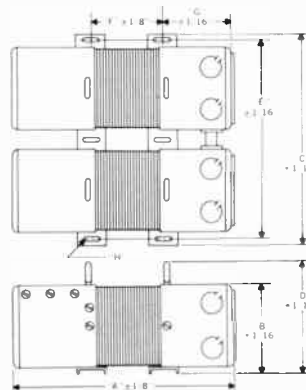
### 60 Hertz single phase



Structure Code 4



Structure Code 5



Structure Code 6

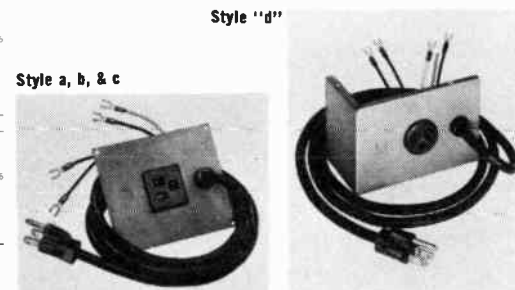
VA	Voltage Rating		Catalog Number	Structure/Adapter Code	Dimensions (inches)					Price 1-4 pcs.	Approx. Shipping Weight (Lbs.)	
	Regulated Output	Input Range			A	B	C	E	F			
15	118	95-130	20-10-015	1/-	*	*	*	*	*	\$ 16.80	4	
			20-11-015	2/-	*	*	*	*	*	23.10	4	
			20-14-015	3/-	2 1/2	4 3/8	2 3/8	1 3/4	1 7/8	15.75	3	
			20-14-030	3/-	2 1/2	4 3/8	3 3/8	2 5/8	1 7/8	17.85	5	
30	118	95-130	20-13-030-2	4/d	5 7/8	5 3/8	3 1/4	3 1/2	3	23.10	7	
			20-13-060-2	4/d	6 1/2	5 3/8	3 1/4	3 1/2	3	28.35	10	
60	118	95-130	20-14-060	3/-	3 3/8	4 1/8	3 7/8	2 1/8	2 1/2	24.15	8	
			20-14-112	3/-	3 3/8	4 1/8	4 1/8	3 7/8	2 1/2	32.55	11	
120	236	190-260	20-13-112-2	4/d	7 3/8	5 3/8	3 1/4	3 1/2	3	37.80	12	
			20-21-112-2	4/d	7 3/8	5 3/8	3 1/4	3 1/2	3	37.80	13	
150	118	95-130	20-13-115	4/b	8 3/4	7 3/8	4 1/2	4 3/4	4 1/8	45.15	22	
			20-13-125	4/c	11 1/8	6 3/8	5 23/32	6 1/8	4 1/8	55.65	25	
250	118	95-130X190-260	20-22-125	4/c	11 1/8	6 3/8	5 23/32	6 1/8	4 1/8	55.65	25	
			20-23-125	4/c	11 1/8	6 3/8	5 23/32	6 1/8	4 1/8	55.65	25	
			95-130	20-13-150	4/c	12 3/8	6 3/8	5 23/32	6 1/8	4 1/8	87.15	36
			95-130X190-260	20-22-150	4/c	12 3/8	6 3/8	5 23/32	6 1/8	4 1/8	87.15	36
500	236	190-260X380-520	20-23-150	4/c	12 3/8	6 3/8	5 23/32	6 1/8	4 1/8	87.15	36	
			190-260X380-520	20-24-150	4/c	12 1/2	6 3/8	5 23/32	6 1/8	4 1/8	87.15	38
			118x	190-260X380-520	20-26-150	4/c	12 3/8	6 3/8	5 23/32	6 1/8	93.45	37
			236	190-260X380-520	20-26-150	4/c	12 3/8	6 3/8	5 23/32	6 1/8	93.45	37
1000	118	95-130	20-13-210	4/-	15 1/8	6 3/8	5 23/32	6 1/8	4 1/8	144.90	48	
		190-260	20-20-210	4/-	15 1/8	6 3/8	5 23/32	6 1/8	4 1/8	144.90	48	
		95-130X190-260	20-22-210	4/-	15 1/8	6 3/8	5 23/32	6 1/8	4 1/8	144.90	48	
2000	118x	95-130X175-235X190-260	20-25-220	5/-	20	9 3/8	8 3/8	9 1/2	4 3/8	263.55	128	
3000			20-25-230	5/-	22	9 3/8	8 3/8	9 1/2	6 1/8	357.00	170	
5000			20-27-250	5/-	21	12 5/8	11 7/8	13	7	555.45	290	
10000	236	190-260X380-520	20-36-310	6/-	21	12 5/8	29 3/8	27 3/8	7	1048.95	590	

### 50 Hertz single phase

15	95-130	20-10-515	1/-	*	*	*	*	*	\$ 18.90	5	
30	95-130	20-13-530-2	4/d	6 3/8	5 3/8	3 1/4	3 1/2	3	26.25	6	
30	95-130	20-14-530	3/-	3 3/8	4 1/8	3 3/8	2 3/8	2 1/2	21.00	6	
60	95-130	20-13-560-2	4/d	6 3/8	5 3/8	3 1/4	3 1/2	3	32.55	11	
60	95-130	20-14-560	3/-	3 3/8	4 1/8	4 3/8	3 3/8	2 1/2	27.30	9	
120	95-130	20-13-612	4/b	8 3/8	7 3/8	4 1/2	4 3/4	4 1/8	43.05	22	
150	95-130	20-13-615	4/b	9 3/8	7 3/8	4 1/2	4 3/4	4 1/8	51.45	25	
250	95-130	20-13-625-1	4/c	11 3/8	6 3/8	5 23/32	6 1/8	4 1/8	64.05	27	
250	95-130X190-260	20-22-625	4/c	11 3/8	6 3/8	5 23/32	6 1/8	4 1/8	64.05	28	
250	190-260X380-520	20-23-625-1	4/c	11 3/8	6 3/8	5 23/32	6 1/8	4 1/8	64.05	28	
500	95-130	20-13-650-1	4/c	12 3/8	6 3/8	5 23/32	6 1/8	4 1/8	99.75	43	
500	95-130X190-260	20-22-650	4/c	12 3/8	6 3/8	5 23/32	6 1/8	4 1/8	99.75	41	
500	190-260X380-520	20-23-650-1	4/c	12 3/8	6 3/8	5 23/32	6 1/8	4 1/8	99.75	41	
500	118x	190-260X380-520	4/c	12 3/8	6 3/8	5 23/32	6 1/8	4 1/8	107.10	42	
1000	118	190-260	20-20-710	5/-	18 3/8	9 3/8	8 3/8	9 1/2	3 1/8	166.95	125
1000	118x	95-130X190-260	20-22-710	5/-	18 3/8	9 3/8	8 3/8	9 1/2	3 1/8	166.95	125
2000	118x	95-130X190-260X190-260	20-25-720	5/-	20 3/8	9 3/8	8 3/8	9 1/2	5 3/8	303.45	144

### cord/receptacle adapter kits

Adapter kits may be used when the convenience of input plug and output receptacle is preferred to the standard arrangement of terminals in the transformer housing.



Adapter Code	Adapter Kit Catalog No.	Input Cord	Output Connections	Price 1-4 pcs.
a	999-004	2-wire	2-wire receptacle	2.50
	999-018	3-wire	3-wire receptacle	3.75
	999-005	2-wire	2-wire receptacle	2.50
b	999-019	3-wire	3-wire receptacle	3.75
	999-009	2-wire	2-wire receptacle	3.25
c	999-020	3-wire	3-wire receptacle	3.75
	999-104	2-wire	2-wire receptacle	3.75
d	999-105	3-wire	3-wire receptacle	3.75

# SOLATRON® line voltage regulators

The Solatron® LVR is the first regulator to combine in one unit the qualities of fast response, "tight" voltage regulation, no moving parts, adjustable output, compactness, and high kva capacity.

The Solatron® regulator holds voltage constant within ±1% for any combination of line, load, and frequency, in the face of line variations up to +10/-20%, load variation from 0-100%, and frequency variation of ±5% or greater.

The Solatron is a solid-state device with no moving parts, requiring no adjustment, maintenance, or attention. It combines the ruggedness typical of transformers with the light weight of electronic control circuitry, resulting in a regulator of remarkable compactness. It has great versatility in location, floor or wall mounting, and installation.

## 60 cycle (57-63 Hz) single-phase

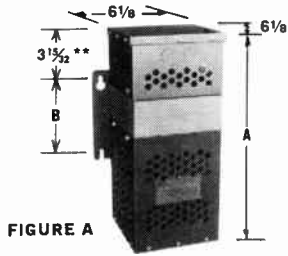


FIGURE A

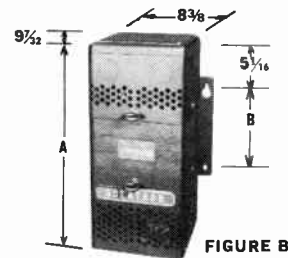


FIGURE B

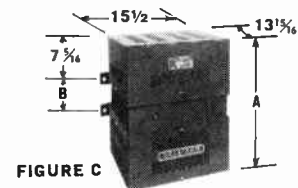


FIGURE C

ELECTRICAL SPECIFICATIONS				MECHANICAL SPECIFICATIONS			
Output KVA Rating	Nominal Output Voltage	Input Voltage Range	Catalog Number	A	B	Outline Dimensions Figure	Approx. Shipping Weight
.5	120	±10%	31-16-150	12 3/4	5 3/8	A	30
.5	120	+10/-20%	33-16-150	13 7/8	5 3/8	A	40
1	120	±10%	31-16-210	13 7/8	5 3/8	A	40
1	120	+10/-20%	33-16-210	16 3/8	5 3/8	A	58
1	240	±10%	31-26-210	13 7/8	5 3/8	A	40
2	120	±10%	31-16-220	16 3/8	5 3/8	A	55
2	120	+10/-20%	33-16-220	21	6 1/4	B	100
2	240	+10/-20%	33-26-220	21	6 1/4	B	100
3	120	±10%	31-16-230	15 1/8	4 1/2	B	78
3	120	+10/-20%	33-16-230	22 1/4	6 1/4	B	130
3	240	±10%	31-26-230	15 1/8	4 1/2	B	78
3	240	+10/-20%	33-26-230	22 1/4	6 1/4	B	130
5	120	±10%	31-16-250	16 3/4	6 1/4	B	100
5	120	+10/-20%	33-16-250	25 1/4	10 1/4	B	185
5	240	±10%	31-26-250	16 3/4	6 1/4	B	100
5	240	+10/-20%	33-26-250	25 1/4	10 1/4	B	185
7.5	120	±10%	31-16-275	18 3/8	8 1/4	B	132
7.5	120	+10/-20%	33-16-275	19 1/8	4 1/2	C	275
10	120	±10%	31-16-310	20 3/8	10 1/4	B	170
10	120	+10/-20%	33-16-310	20	5 3/8	C	310
10	240	±10%	31-26-310	20 3/8	10 1/4	B	170
10	240	+10/-20%	33-26-310	20	5 3/8	C	310
15	120	±10%	31-16-315	20	5 3/8	C	275
15	120	+10/-20%	33-16-315	23 5/8	9	C	400
25	120	±10%	31-16-325	22 3/8	7 3/4	C	400
25	120	+10/-20%	33-16-325	31 5/8	9 3/4	C	520
25	240	±10%	31-26-325	22 3/8	7 3/4	C	400
25	240	+10/-20%	33-26-325	31 5/8	9 3/4	C	520
37.5	120	±10%	31-16-337	24 3/8	9 3/4	C	525

NOTE: Output Voltage Adjustable ±5%.  
 NOTE: 7% Harmonics Max. for ±10% range; 5% Harmonics Max. for +10/-20% range.  
 \* Filter Available for 3% Harmonics Max.  
 \*\* For Catalog Number 31-16-150, dim. is 2 3/4.

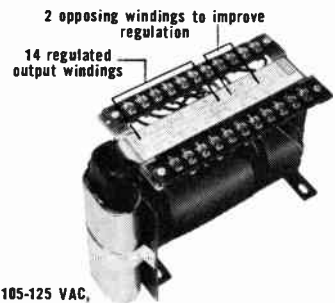
Also available in 208, 277 & 480 volt  
 Also available 50 Hz & 400 Hz  
 Also available 3φ Δ or Y up to 112.5 KVA

## SOLA® Multi-tap™ CVR regulated power supply transformer

The SOLA Multi-tap™ CVR is a constant voltage transformer with taps to provide special voltages ready for rectification with stock silicon rectifiers to complete a regulated d.c. power supply. In effect, the Multi-tap CVR is a custom SOLA CV transformer with off-the-shelf availability, at low cost, for small quantity requirements. Six models provide over 100 regulated output voltages. The relatively square

wave-shape makes the Multi-tap CVR especially suited to rectifier applications.

All CVR transformers are designed to operate in Full wave center tap or bridge type circuits with readily available stock silicon rectifiers. The regulating ability and typical characteristics of the CVR are similar to the familiar Sola constant voltage (CVN) transformer.

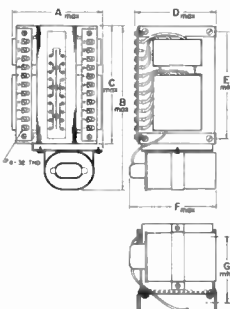


Designed for 105-125 VAC, 60-cycle input.

### applications for the Multi-tap™ CVR

- Design of a regulated d.c. power supply requiring custom output for short-run production.
- Building block systems requiring voltage adjustability for later additions of components.
- Systems requiring voltage adjustability to compensate for line drop to remote units.
- Immediate requirements when custom Sola CV is being designed and manufactured.
- Short-run production requiring low-cost, and "off-the-shelf" custom Sola CV.
- Prototypes requiring custom Sola CV transformers.
- Immediate requirements for experimentation.

### schematics for CVR series



Connection for Full-wave center tap rectification for maximum output.

Connection for Full-wave Bridge rectification, for maximum output.

Each CVR model has the winding arrangement and terminal numbering shown in the schematics at left. The primary winding is connected to the two terminals marked "line" on the capacitor side of the transformer or terminals marked #11. Write for complete hook-up tables showing output possibilities.

### DIMENSIONS

Capacity VA	Price 1 - 4 pcs.	Catalog No.	Dimensions, inches						
			A	B	C	D	E	F	G
40	27.82	73-13-040	4 1/4	6 1/8	4 7/8	3 1/8	4 3/8	3 3/8	2 1/2
75	36.38	73-13-075	4 1/4	6 1/8	4 7/8	3 1/8	4 3/8	3 3/8	3 1/4
150	50.29	73-13-115	4 3/4	8 5/8	6 7/8	4 7/8	6 3/8	5 5/8	2 5/8
225	62.06	73-13-122	5 5/8	9 5/8	6 7/8	4 7/8	6 3/8	4 1/4	3 1/4
300	72.76	73-13-130	5 1/2	9 5/8	6 7/8	4 7/8	6 3/8	5 3/8	3 1/4
450	100.58	73-13-145	6 5/8	9 5/8	6 7/8	4 7/8	6 3/8	5	4 1/4



# STACO®

## Variable Autotransformers



### 120 VOLTS SINGLE PHASE PANEL MOUNTING

Cased and unCased units designed for mounting in panels 1/8" thick to 3/8" thick. Most panel mounting units can also be bench mounted.

Mfr's Type No.	Mfr's Old Type No.	Volts	Output Amps	KVA	Size	Weight Lbs.	Price
121	100BU	*0-132	1.25	.165	2 1/16 x 2 1/16	3	9.00
171	175BU	*0-132	1.75	.23	2 1/16 x 2 1/16	3	9.25
241	T21U	0-120/140	2.4	.33	2 1/16 x 2 1/16	4	16.00
251	250BU	*0-132	2.5	.33	3 1/4 x 3 1/4 x 3 1/4	3.5	10.25
301	300BU	*0-120/140	3.0	.42	3 1/16 x 3 1/16	5	14.50
371	375BU	*0-120/140	3.75	.53	3 3/4 x 3 3/4 x 3 3/4	5	14.75
501	451	0-120/140	5.0	.70	3 3/4 x 3 3/4 x 3 1/4	5	15.00
601	T51U	0-120/140	6.0	.84	4 1/4 x 4 1/4 x 3 1/16	6	19.25
751	500BU	0-120/140	7.5	1.05	5 1/16 x 5	10	18.75
SO751	SO500BU	0-120/140	7.5	1.05	4 1/4 x 4 1/4 x 3 1/16	10	18.25
1010	1000	0-120/140	10.0	1.4	5 1/16 x 5 x 4 1/16	11	19.25
1010CT	1000CT	0-120/140	10.0	1.4	6 1/4 x 5 x 4 1/16	11.5	25.50
SO1010	T101U	0-120/140	10.0	1.4	5 1/2 x 5 1/2 x 3 3/4	14	33.00
1210	1200	**0-120	12.5	1.4	5 1/16 x 5 x 4 1/16	11	21.50
1210CT	1200CT	**0-120	12.5	1.4	6 1/4 x 5 x 4 1/16	11.5	26.75
1510	T1500U	0-120/140	15.0	2.1	6 1/4 x 6 1/4 x 4 3/4	20	36.25
R1510C	1500B	†0-140	15.0	2.1	8 x 8 1/16 x 5 1/16	20	49.00
2510	2500BU	0-120/140	25.0	3.5	8 1/16 x 7 3/4 x 4 1/4	25	53.50
2510CT	2500B	0-120/140	25.0	3.5	9 1/4 x 7 3/4 x 4 1/4	25	58.75
5010	T501U	0-140	50.0	7.0	12 1/4 x 12 1/4 x 6 1/2	60	133.75
5010CT	T501B	†0-140	50.0	7.0	15 1/2 x 14 x 6 1/2	65	137.00

\*60 cycle operation only at overvoltage. †Factory connection for line voltage output. \*\*60 cycle operation only.

### 120 VOLT SINGLE PHASE MODELS WITH CORD & RECEPTACLE

All models housed in rugged cases include pilot light, switch, fuse, line cord, plug and matching receptacle. 2PF models are equipped with 2-wire cords, plugs, and receptacles. 3PN models are equipped with 3-wire grounded cords, plugs, and receptacles. Model 2PFR1510BV is equipped with output voltmeter.

Mfr's Type No.	Mfr's Old Type No.	Volts	Output Amps	KVA	Size	Weight Lbs.	Price
2PF121	PA-1	**0-132	1.25	.165	3 3/4 x 3 3/4 x 3 3/4	3.5	17.00
2PF171	PA-175	**0-132	1.75	.23	3 3/4 x 3 3/4 x 3 3/4	3.5	17.50
3PN171	3PNPA-175	**0-132	1.75	.23	3 3/4 x 3 3/4 x 3 3/4	3.5	19.50
2PF371	PA-375	*0-120/140	3.75	.53	6 1/4 x 6 1/4 x 6 1/2	7	20.75
3PN371	3PNPA-375	*0-120/140	3.75	.53	6 1/4 x 6 1/4 x 6 1/2	7	22.50
2PF501	2PF451	0-120/140	5.0	.70	6 1/4 x 6 1/4 x 6 1/2	7	21.25
3PN501	3PN451	0-120/140	5.0	.70	6 1/4 x 6 1/4 x 6 1/2	7	23.00
3PN601	3PNT51B	0-140	6.0	.84	4 3/4 x 4 3/4 x 6 1/2	8	23.00
2PF751	500B	0-120/140	7.5	1.05	5 1/16 x 7 1/4 x 5 3/4	11	27.25
3PN751	3PN500B	0-120/140	7.5	1.05	5 1/16 x 7 1/4 x 5 3/4	11	30.50
2PF1010	2PF1000	0-120/140	10.0	1.4	6 1/4 x 5 x 4 1/16	12.5	27.75
3PN1010	3PN1000	0-120/140	10.0	1.4	6 1/4 x 5 x 4 1/16	12.5	31.00
2PF1210	2PF1200	**0-120	12.5	1.4	6 1/4 x 5 x 4 1/16	12.5	33.00
3PN1210	3PN1200	**0-120	12.5	1.4	6 1/4 x 5 x 4 1/16	12.5	37.50
2PFR1510BV	1500BD	0-140	15.0	2.1	8 1/16 x 10 x 5 1/16	22.5	80.25
3PN1710	3PN180°B	0-140	17.0	2.4	10 1/2 x 7 3/4 x 4 1/4	28	77.00

\*60 cycle operation only on overvoltage. \*\*60 cycle operation only.

### 240 VOLT SINGLE PHASE PANEL MOUNTING

Cased and unCased units designed for mounting in panels 1/8" thick to 3/8" thick. Most panel mounting units can also be bench mounted.

Mfr's Type No.	Mfr's Old Type No.	Volts	Output Amps	KVA	Size	Weight Lbs.	Price
502	452	0-240/280	2.5	.70	3 3/4 x 3 3/4 x 3 1/16	5	16.00
752	520BU	0-240/280	3.0	.84	5 1/16 x 5	10	23.00
1020	---	0-240/280	3.5	.98	5 1/16 x 5 x 4 1/16	11	23.50
1020CT	---	0-240/280	3.5	.98	6 1/4 x 5 x 4 1/16	11.5	27.75
1220	1030	0-240	5.0	1.2	5 1/16 x 5 x 4 1/16	11	24.50
1220CT	1030CT	0-240	5.0	1.2	6 1/4 x 5 x 4 1/16	11.5	30.00
1520	T1520U	0-240/280	9.5	2.7	6 1/4 x 6 1/4 x 4 1/16	23	36.25
R1520C	1520B	*0-280	9.0	2.5	8 x 8 1/16 x 5 1/16	24	49.00
2520	2520BU	0-240/280	10.0	2.8	8 1/16 x 7 3/4 x 4 1/4	25	53.50
2520CT	2520B	0-240/280	10.0	2.8	9 1/4 x 7 3/4 x 4 1/4	25	58.75
5020	T502U	0-240/280	28.0	7.8	12 1/4 x 12 1/4 x 6 1/2	60	133.75
5020CT	T502B	0-240/280	28.0	7.8	15 1/2 x 14 x 6 1/2	65	137.00

\*Factory connection for line voltage output.

### 240 VOLT SINGLE PHASE MODELS WITH CORD & RECEPTACLE

All models housed in rugged cases include pilot light, switch, fuse, line cord, plug, and matching receptacle. 2PF models are equipped with 2-wire cords, plugs, and receptacles. 3PN models are equipped with 3-wire grounded cords, plugs, and receptacles. Model 2PFR 1520BV is equipped with output voltmeter.

Mfr's Type No.	Mfr's Old Type No.	Volts	Output Amps	KVA	Size	Weight Lbs.	Price
2PF502	2PF451	0-280	2.5	.70	6 1/4 x 6 1/4 x 6 1/2	7	22.25
3PN502	3PN451	0-280	2.5	.70	6 1/4 x 6 1/4 x 7 1/2	7	24.00
2PF752	520B	0-280	3.0	.84	5 1/16 x 7 1/4 x 5 3/4	11	30.00
3PN752	3PN520B	0-280	3.0	.84	5 1/16 x 7 1/4 x 5 3/4	11	34.50
2PF1020	---	0-280	3.5	.98	6 1/4 x 5 x 4 1/16	12.5	31.00
3PN1020	---	0-280	3.5	.98	6 1/4 x 5 x 4 1/16	12.5	35.25
2PF1220	2PF1030	**0-240	5.0	1.2	6 1/4 x 5 x 4 1/16	12.5	33.00
3PN1220	3PN1030	**0-240	5.0	1.2	6 1/4 x 5 x 4 1/16	12.5	37.50
2PFR1520BV	1520BD	0-240	9.0	2.5	8 1/16 x 10 x 5 1/16	22.5	80.25
3PN2520	3PN2520B	0-240	10.0	2.8	9 1/4 x 7 3/4 x 4 1/4	28	77.00

\*\*60 cycle Operation only.

### 120 VOLT VARIABLE ISOLATION TRANSFORMERS

STACO Isolated Variable Autotransformers provide a means for smooth control of an electrically isolated AC voltage output. UnCased models offer isolated, non-isolated, voltage doubler, and series connections with proper external hook-up. Cased models feature circuit breaker (except fused type J201BV), switch, pilot light, output voltmeter, 3-wire grounded cord, plug, and matching receptacles. Cased models available in isolated connection only. Ratings shown are for isolated connections.

Mfr's Type No.	Mfr's Old Type No.	Volts	Output Amps	KVA	Size	Weight Lbs.	Price
J201	1V-1-2U	0-140	2.0	.28	4 1/2 x 4 1/2 x 4 1/16	8	32.00
J401	1V-1-4U	0-140	4.0	.56	6 1/4 x 6 1/4 x 4 1/2	15	43.75
J901	1V-1-9U	0-140	9.0	1.26	8 1/16 x 7 3/4 x 5 3/4	28	61.50
J201BV	1V-1-2M	0-140	2.0	.28	8 x 6 1/4 x 8 1/16	13	74.25
J401BV	1V-1-4M	0-140	4.0	.56	8 1/4 x 7 1/4 x 9 1/2	20	85.00
J901BV	1V-1-9M	0-140	9.0	1.26	9 1/4 x 9 1/4 x 11 1/2	32	104.25

When you specify Staco Variable Autotransformers you get all these important advantages: Variable output voltages with high efficiency, reliability and minimum maintenance; epoxy coated coils (where possible) that increase commutator stability; optimum core and coil design results in higher current ratings and greater overload capabilities; delivery of output voltages of zero to line voltage or zero to 17% above line voltage; terminals permit connection for increasing voltage in either clockwise or counter-clockwise rotation of knob; regulation is independent of load... zero wave form distortion; moderate temperature rise; precious metal plating of commutator surface eliminates oxidation and deterioration; all units designed for 50/60 cycle operation except as noted.



# STANCOR STANDARD TRANSFORMERS

When you use **STANCOR STANDARD**  
Transformers you are assured of . . .

## IMMEDIATE AVAILABILITY

Sold by Industrial Electronic Distributors in major marketing areas — AT  
FACTORY PRICES IN ANY QUANTITY.

## HIGHEST QUALITY

Millions of standard transformers, time-tested and field-proven for over  
35 years.

## COMPETITIVE PRICES

Mass production facilities — to supply its extensive distributor organization  
— enable Stancor to manufacture at lowest costs.

## STOCK IN DEPTH

Over 300,000 transformers stocked in our warehouses strategically located  
throughout the country.

## SERVICE REPLACEMENT

Available from over 1000 Industrial and Service Parts Electronic Distributors  
located in over 500 cities.



SOLD NATIONALLY THROUGH ELECTRONIC DISTRIBUTORS BY  
**ELECTRONIC PRODUCTS**  
ESSEX WIRE CORPORATION





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A-18S-150	18c	24.37	A-3876	6a	1.84	A-8062	7b	16.94	H0-161	29	17.64	H0-181	29	15.03	H0-214	29	17.50
2BC-150	18c	14.69	A-3877	6a	1.84	A-8063	7b	16.93	A-8133/			A-8233/			A-8265/		
2BS-150	18c	25.23	A-3878	6b	1.92	A-8064	7b	16.99	H0-162	29	18.50	H0-182	29	16.50	H0-215	29	18.73
A-52C	10e	2.83	A-3879	6b	1.87	A-8066	7b	14.60	A-8134/			A-8234/			*A-8266/		
A-53	10d	2.58	A-3880	7a	5.52	A-8070	6a	2.79	H0-163	29	20.23	H0-183	29	11.06	H0-216	29	12.00
A-53C	10e	3.02	A-3881	6b	2.39	A-8072	7b	21.42	A-8135/			A-8235/			A-8267/		
A-62C	10e	3.33	A-3882	8d	10.01	A-8080	8b	3.55	H0-164	29	19.03	H0-184	29	11.03	H0-217	29	15.00
A-63C	10e	3.55	A-3883	8d	4.24	A-8081	8b	3.90	A-8136/			A-8236/			*A-8268/		
A-64C	10e	3.51	A-3885	6c	10.89	A-8082	8b	4.73	H0-165	29	15.03	H0-185	29	15.03	H0-218	29	15.00
A-73C	10e	4.18	A-3890	7a	7.69	A-8083	8b	2.75	A-8137/			*A-8237/			*A-8269/		
A-2203	6a	2.92	A-3891	11d	12.92	A-8084	8b	3.64	H0-166	29	14.89	H0-186	29	13.50	H0-219	29	15.00
A-2312	6d	3.67	A-3892	11d	16.69	A-8087	8a	2.67	A-8138/			A-8238/			*A-8270/		
A-2313	6b	3.36	A-3893	11d	17.30	A-8088	8a	3.40	H0-167	29	13.53	H0-188	29	13.53	H0-220	29	15.00
A-2855	7a	5.57	A-3894	11d	22.70	A-8090	9a	2.44	*A-8139/			*A-8239/			A-8271/		
A-3250	6bd	5.09	A-3898	11d	145.75	A-8091	9a	2.63	H0-168	29	13.50	H0-189	29	15.03	H0-221	29	15.00
A-3303	6d	8.66	A-3899	11d	166.71	A-8092	6a	2.74	A-8140/			A-8240/			*A-8272/		
A-3304	6c	8.06	A-4208	10f	8.00	A-8093	6d	2.86	V0-88	32a	10.95	H0-190	29	20.31	H0-222	29	15.00
A-3307	6c	9.34	*A-4210	11a	6.96	A-8094	6c	5.45	A-8141/			A-8241/			*A-8273/		
A-3309	6a	2.41	A-4212	11b	6.87	A-8095	8a	3.19	V0-89	32a	8.80	H0-191	29	14.89	H0-223	29	10.00
A-3310	6a	7.70	A-4292	11a	3.13	A-8096	8a	4.67	A-8142/			*A-8242/			*A-8274/		
A-3311	6c	8.13	A-4350	8e	5.28	A-8097	8a	5.75	V0-90	32a	11.67	H0-192	29	12.00	H0-224	29	12.50
A-3315	6bd	11.41	A-4351	9c	6.01	A-8098	6c	10.64	A-8143/			*A-8243/			*A-8275/		
A-3327	6b	2.36	A-4352	9c	6.30	A-8099	8a	3.52	V0-91	32a	7.26	H0-193	29	9.00	H0-225	29	13.50
A-3328	6a	1.79	A-4407	8e	12.24	A-8101	8d	2.22	A-8144/			A-8244/			A-8276/		
A-3329	6b	1.86	*A-4420	10e	2.45	A-8102	8b	4.37	V0-92	32a	5.81	H0-194	29	16.50	H0-226	29	14.89
A-3330	6a	2.72	A-4431	6a	2.40	A-8103	8b	5.99	A-8145/			*A-8245/			*A-8277/		
A-3332	6a	1.73	A-4432	6c	3.60	A-8104	8d	5.25	V0-93	32b	9.05	H0-195	29	12.90	H0-227	29	9.90
A-3335	6d	3.93	*A-4701	11b	7.54	A-8105	8b	3.57	A-8146/			*A-8246/			*A-8278/		
A-3336	6a	2.53	A-4702	11a	6.49	A-8106	8c	4.45	V0-94	32b	6.73	H0-196	29	12.80	H0-228	29	12.50
A-3337	6a	2.89	A-4705	9b	4.15	A-8107	8c	6.65	A-8147/			*A-8247/			*A-8279/		
A-3496	6d	3.68	A-4706	9b	3.01	A-8108	8c	3.47	V0-95	32b	6.60	H0-197	29	18.50	H0-229	29	15.00
A-3800	6c	8.55	A-4708	9b	4.29	A-8109	8b	3.17	A-8148/			A-8248/			*A-8280/		
A-3801	6c	10.88	A-4709	9c	7.26	A-8111/	32f	4.22	V0-96	32b	7.59	H0-198	29	22.39	H0-230	29	12.50
A-3802	6c	19.75	A-4711	10f	4.24	VBO-194			A-8149/			*A-8249/			*A-8281/		
A-3806	11c	21.27	A-4713	11a	2.75	A-8112/	32a	6.36	V0-97	32b	6.12	H0-199	29	12.50	H0-231	29	12.50
A-3812	11c	3.08	A-4719	10e	6.81	V0-83			A-8150/			*A-8250/			*A-8282/		
A-3817	9a	4.17	*A-4722	11a	5.02	A-8113/	32a	7.31	V0-98	32b	9.05	H0-200	29	11.10	H0-232	29	12.50
A-3818	8d	6.13	A-4723	11a	2.81	V0-84			A-8151/			*A-8251/			*A-8283/		
*A-3820	8d	15.21	A-4742	9b	4.55	A-8114	6b	2.45	V0-99	32b	7.89	H0-201	29	13.50	H0-233	29	13.00
A-3822	7a	2.52	A-4744	9a	2.56	A-8115/	32a	12.39	A-8220/			A-8252/			A-8284/		
A-3823	7a	4.17	A-4745	10e	7.14	V0-85			H0-169	29	20.20	H0-202	29	16.39	H0-234	29	13.53
A-3824	7a	4.04	A-4747	9b	3.73	*A-8119/	29	15.00	*A-8221/			A-8253/			A-8285/		
A-3825	7a	3.35	A-4748	9a	3.55	H0-155			H0-170	29	15.00	H0-203	29	16.39	H0-235	29	16.50
A-3829	11c	25.94	A-4749	9a	8.94	A-8121/	32f	7.42	*A-8222/			A-8254/			*A-8287/		
A-3830	7a	5.38	A-4752	11a	3.90	VBO-195			H0-171	29	15.00	H0-204	29	14.89	H0-237	29	13.90
A-3831	6c	3.47	A-4761	11b	13.57	A-8122/	32f	8.50	*A-8223/			A-8255/			A-8288/		
A-3833	9a	4.64	A-4762	11b	15.67	VBO-196			H0-172	29	13.50	H0-205	29	16.39	H0-238	29	13.53
A-3836	9a	3.49	A-4765	11b	16.80	A-8123/	32a	6.20	A-8224/			*A-8256/			A-8289/		
A-3837	8d	5.33	A-4770	6b	7.09	V0-87			H0-173	29	18.31	H0-206	29	13.50	H0-239	29	12.00
A-3838	8e	6.65	A-4773	10g	7.42	A-8125/	32f	4.06	*A-8225/			*A-8257/			A-8290/		
A-3839	6d	6.37	A-4774	10g	4.04	VBO-198			H0-174	29	16.60	H0-207	29	13.50	H0-240	29	14.75
A-3841	6b	6.55	A-4778	9c	5.36	A-8126/	32f	4.53	A-8226/			*A-8258/			*A-8291/		
A-3842	6d	6.76	A-4779	9c	3.37	VBO-199			H0-175	29	18.31	H0-208	29	12.00	H0-241	29	12.00
A-3845	11c	7.58	A-4780	9c	5.93	*A-8127/	29	15.00	*A-8227/			*A-8259/			A-8292/		
A-3848	7a	3.33	A-7947	8d	3.62	H0-156			H0-176	29	13.50	H0-209	29	12.00	H0-242	29	14.89
A-3849	7a	4.02	A-7949	8d	4.24	*A-8128/	29	15.00	A-8228/			*A-8260/			A-8293/		
A-3850	7a	4.21	A-8050	7b	17.48	H0-157			H0-177	29	13.53	H0-210	29	13.50	H0-243	29	15.03
A-3851	6c	9.89	*A-8051	7b	16.55	A-8129/	29	13.53	A-8229/			A-8261/			A-8294/		
A-3852	7a	5.03	A-8052	7b	16.89	H0-158			H0-178	29	16.39	H0-211	29	13.53	H0-244	29	13.53
A-3856	7a	3.52	A-8053	7b	17.90	A-8130/	29	18.16	A-8230/			A-8262/			A-8295/		
A-3857	6d	3.05	A-8054	7b	17.93	H0-159			H0-179	29	16.53	H0-212	29	16.50	H0-245	29	18.23
A-3870	7a	5.19	A-8056	7b	17.93	A-8131/			A-8231/			A-8263/			A-8296/		
A-3871	11c	5.75	A-8060	7b	13.34	H0-160	29	13.00	H0-180	29	18.50	H0-213	29	14.89	H0-246	29	13.53

\*New part number.  
\*Available until stock is depleted.

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transformers

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A-8297/			C-2335	21c	6.51	DY-56A	31g	20.34	*HO-292	29	13.50	HO-372	29	15.00	P-5062	27a	10.01
HO-247	29	15.03	C-2340	11g	40.25	DY-57AT	31h	25.00	HO-293	29	20.00	HO-373	29	15.00	P-5063	27a	11.64
A-8298/			C-2343	21d	2.14	DY-58AT	31h	25.00	HO-294	29	12.00	HO-374	29	15.00	P-5064	27a	12.60
HO-248	29	16.09	C-2344	21a	1.55	DY-59AT	31h	22.00	HO-295	29	16.50	HO-375	29	16.50	P-5065	27a	16.25
A-8299/			C-2345	21a	4.34	DY-60AT	31h	22.03	*HO-296	29	16.50	HO-376	29	15.00	P-6007	17d	16.67
HO-249	29	15.03	C-2346	21a	2.15	DY-61AT	31h	22.03	HO-297	29	15.00	HO-377	29	16.50	*P-6008	17c	17.76
BD-1	11c	40.12	C-2347	22a	3.47	*DY-62A	31h	15.00	*HO-298	29	12.20	HO-378	29	16.50	P-6010	16c	9.71
BI-1	10a	35.47	C-2685	22c	4.35	*DY-63A	31h	21.95	HO-299	29	18.17	HO-379	29	15.00	P-6011	16d	9.18
BI-2	10a	45.24	C-2686	22c	7.59	DY-90AC	31h	49.50	*HO-300	29	15.00	HO-380	29	19.83	P-6012	16d	10.89
BI-3	10a	39.14	C-2687	22c	9.95	*DY-91AC	31h	43.65	HO-301	29	16.39	HO-381	29	16.50	P-6013	16e	11.41
BI-4	10a	39.22	C-2688	22c	11.55	*F-1	20a	19.24	*HO-302	29	13.50	HO-382	29	13.69	P-6014	17b	12.82
BI-5	10a	69.85	C-2689	22c	17.32	*F-2	20b	18.07	HO-303	29	13.20	HO-383	29	15.00	P-6123	27e	139.67
BI-6	10a	40.12	C-2690	22c	9.45	*F-3	20b	21.53	HO-304	29	15.00	HO-384	29	16.50	P-6124	27a	63.99
BI-7	10a	37.15	C-2691	22c	13.15	*F-4	20b	24.75	HO-305	29	16.50	HO-385	29	15.00	P-6125	27e	98.07
BM-1	11e	84.55	C-2704	21c	3.99	*F-5	20b	24.09	HO-306	29	24.28	HO-386	29	14.20	P-6131	33c	9.84
BO-1	7c	18.67	C-2705	21d	9.32	*F-6	20e	21.78	HO-307	29	15.03	HO-387	29	14.20	P-6133	19a	5.04
BO-2	7c	22.55	C-2706	22a	7.92	*F-7	20f	24.45	HO-308	29	16.03	HO-388	29	14.20	P-6134	19b	2.63
BO-5	7c	28.71	C-2707	21a	1.90	*F-8	20d	27.40	*HO-309	29	12.00	HO-389	29	13.50	P-6135	19a	6.62
BO-6	7c	34.64	C-2708	22a	3.84	F-25	19a	16.09	*HO-310	29	15.00	HO-390	29	13.50	P-6137	19b	11.77
BO-9	7c	36.22	C-2709	22a	5.71	F-54	19a	11.70	HO-311	29	10.25	HO-391	29	13.50	P-6138	19c	9.47
*BO-10	7c	41.08	*C1C-1	9c	17.89	F-58	19a	17.68	HO-312	29	15.03	HO-392	29	13.50	P-6139	19d	9.49
*BO-11	7c	47.47	*C1C-2	9c	8.77	F-63	19b	11.94	HO-313	29	15.03	HO-393	29	13.50	P-6141	27a	21.53
*BO-12	7c	40.59	C1S-1	9c	23.93	F-65	19c	14.69	HO-314	29	14.03	HO-394	29	13.50	P-6143	17e	15.23
*BO-13	7c	34.90	*C1S-2	9c	11.47	F-104	19c	14.52	HO-315	29	15.00	HO-395	29	13.50	P-6144	20a	11.11
*BO-15	7c	33.88	COC-1	6a	9.96	*F-106	19d	21.59	HO-316	29	15.03	HO-396	29	13.50	P-6146	15b	10.77
BR-1	11e	132.60	*COC-2	6b	10.84	F-210	19a	16.22	HO-317	29	12.00	HO-397	29	15.00	P-6160	27e	19.07
C-1001	21c	4.52	COS-1	6a	16.16	F-210H	19a	18.73	HO-318	29	14.89	HO-398	29	17.30	P-6161	27e	26.27
C-1002	21b	3.47	COS-2	6b	14.73	F-215H	19a	30.90	HO-319	29	15.00	HO-600C	29	24.00	P-6166	24d	18.80
C-1003	21b	2.62	DCT-1	24b	18.51	F-510H	19b	32.31	HO-320	29	16.50	HO-601C	29	22.50	P-6287	27a	9.30
C-1080	21a	2.01	DCT-2	24b	22.91	F-516	19b	22.36	HO-321	29	15.00	IS-50	27d	18.34	P-6298	27e	67.41
C-1215	21a	2.08	OGC-100	33	20.07	F-520HB	19b	38.79	*HO-322	29	13.53	IS-100	27d	25.12	*P-6299	27h	16.74
C-1227	21a	2.41	*DY-1A	31a	15.50	F-530	19b	32.50	HO-323	29	16.50	IS-150	27d	30.27	P-6302	19b	41.82
C-1277	21a	2.45	DY-2A	31a	17.06	F-610	19c	21.78	HO-324	29	15.03	IS-250	27d	35.30	P-6305	19b	42.37
C-1279	21a	2.04	DY-8A	31a	17.06	F-615	19b	16.06	*HO-325	29	15.00	*LPF-1	11f	33.45	P-6308	19c	8.08
C-1325	21a	2.17	DY-9A	31a	17.06	F-712	19c	24.19	*HO-326	29	11.00	NCF-1550	26a	10.56	P-6309	19c	12.31
C-1333	21a	2.25	DY-10A	31a	18.14	F-725	19c	36.66	*HO-327	29	14.03	NCF-1650	26a	8.94	P-6315	17b	18.54
C-1355	21b	3.30	DY-11A	31a	18.73	F-751	19d	64.05	*HO-328	29	13.50	NCF-2425	26a	7.47	P-6317	18c	15.78
C-1400	22b	6.46	*DY-12A	31a	15.50	F-1010	19c	23.15	*HO-329	29	13.53	NCF-2450	26a	8.83	P-6318	18c	19.39
C-1401	22b	7.81	DY-13A	31b	19.03	*HO-250	29	11.80	HO-330	29	13.20	NCF-2475	26a	9.82	P-6333	20d	13.01
C-1402	22b	8.91	DY-14A	31b	17.06	HO-251	29	13.50	HO-331	29	16.03	NCF-24100	26a	13.15	P-6338	20a	11.01
C-1403	22b	15.60	DY-15A	31b	17.06	HO-252	29	16.39	HO-332	29	13.53	NCF-24150	26a	17.63	P-6348	15d	7.32
C-1404	22b	20.85	DY-16A	31b	19.84	*HO-253	29	15.00	HO-333	29	14.87	NCF-3250	26a	9.34	P-6358	16b	7.18
C-1405	22b	62.37	*DY-17A	31b	16.50	HO-254	29	14.89	HO-334	29	13.53	NCF-3275	26a	10.56	P-6371	27e	24.33
C-1410	21c	5.93	*DY-18A	31b	15.00	HO-255	29	15.00	HO-335	29	18.17	NCF-32150	26a	16.61	P-6375	26d	4.04
C-1411	21c	7.12	*DY-19A	31b	13.50	HO-256	29	15.00	HO-336	29	18.20	P-45	28a	37.15	P-6376	26d	4.73
C-1412	21d	8.77	*DY-20A	31c	13.50	*HO-257	29	18.75	HO-337	29	10.03	P-67	28a	36.46	P-6377	26d	5.89
C-1413	22a	15.34	DY-21A	31c	17.06	*HO-258	29	12.00	HO-338	29	17.50	P-1240	28b	56.97	P-6378	26d	9.57
C-1414	22a	20.12	*DY-22A	31c	16.50	HO-259	29	13.50	HO-339	29	17.50	P-1512	28b	146.73	P-6379	26d	15.68
C-1415	22a	67.64	DY-23A	31c	18.00	*HO-260	29	15.00	HO-340	29	17.50	P-1834-3	20g	14.40	P-6383	27f	19.46
C-1420	21b	6.21	DY-24A	31c	15.00	*HO-261	29	9.90	HO-341	29	6.42	P-2126	28c	249.39	P-6385	27f	28.66
C-1421	21c	5.67	*DY-25A	31c	15.00	*HO-262	29	14.00	HO-342	29	13.53	P-2520	28c	151.64	P-6387	27f	75.98
C-1515	21a	2.86	DY-26A	31c	20.92	*HO-263	29	10.50	HO-343	29	16.50	P-3020	19d	12.70	P-6389	27f	91.49
C-1645	22b	8.63	DY-27A	31c	19.00	DY-264	29	13.50	HO-344	29	16.50	P-3024	19a	6.16	P-6390	27f	135.62
C-1646	22b	8.73	DY-28A	31d	14.87	*HO-265	29	11.50	HO-345	29	18.20	P-3025	19a	6.48	P-6410	27e	9.34
C-1702	21c	8.85	DY-29A	31d	15.00	*HO-266	29	10.00	HO-346	29	12.14	P-3060	19a	8.47	P-6415	27g	30.42
C-1703	21d	7.94	DY-30A	31d	15.00	HO-267	29	15.00	HO-347	29	16.50	P-3062	19a	6.11	P-6425	18f	4.59
C-1706	21a	1.64	DY-31A	31d	18.73	HO-268	29	13.50	HO-348	29	15.03	P-3064	19c	6.38	P-6426	18f	2.03
C-1707	21a	1.92	DY-32A	31d	18.50	*HO-269	29	10.50	HO-349	29	18.17	P-4004	17d	20.56	P-6428	20e	8.06
C-1708	21b	2.94	DY-33A	31d	15.00	*HO-270	29	15.00	HO-350	29	15.00	P-4019	19c	6.44	P-6429	20f	10.77
C-1709	21b	2.97	DY-34A	31d	18.72	HO-271	29	13.50	HO-351	29	15.00	P-4022	20c	11.36	P-6430	20e	7.14
C-1710	21c	4.65	DY-35A	31e	15.00	HO-272	29	13.50	HO-352	29	16.50	P-4026	19a	3.56	P-6431	20f	10.67
C-1718	22b	5.91	DY-37A	31e	20.62	*HO-273	29	12.00	HO-353	29	16.50	P-4062	33c	6.43	P-6432	19b	10.84
C-1720	22b	14.73	DY-38A	31e	18.73	HO-274	29	14.89	HO-354	29	15.03	P-4063	33c	7.86	P-6433	19b	9.23
C-1721	21d	9.43	DY-39A	31e	18.14	HO-275	29	13.50	HO-355								



## PART NUMBER INDEX

Stancor No.	Page	Price	Stancor No.	Page	Price	Stancor No.	Page	Price	Stancor No.	Page	Price	Stancor No.	Page	Price	Stancor No.	Page	Price
P-6477	33a	3.91	P-8343	17a	22.74	PCC-60	16b	13.94	PSO-150	6d	25.57	TA-6	13a	6.41	UME-19	12c	7.39
P-6478	33a	4.55	P-8344	17a	20.59	PCC-70	16d	14.40	PSO-200	6c	27.65	TA-7	13a	2.52	UME-20	12c	7.72
P-6480	33a	4.80	P-8345	16e	20.93	PCC-85	16d	15.62	PSR-55	18a	19.30	TA-8	13a	5.12	UME-21	12c	8.92
P-6481	33a	5.71	P-8346	17e	20.38	PCC-105	16d	16.23	PSR-70	18a	21.18	TA-9	13a	6.48	UME-22	12c	6.67
P-6482	33b	11.96	P-8347	17d	25.27	*PCC-120	17b	21.20	PSR-85	18a	23.21	TA-10	13a	6.60	UME-23	12c	7.72
P-6489	33b	5.25	P-8348	17b	19.68	PCC-150	17b	26.23	PSR-105	18a	23.13	TA-11	13a	4.98	UME-24	12c	6.77
P-6490	33a	4.44	P-8349	17a	23.53	PCC-200	17c	28.05	PSR-120	18a	30.79	TA-12	13a	2.45	UME-25	12c	6.77
P-6491	33c	4.83	P-8350	16e	22.67	PCC-250	17e	32.07	PSR-150	18a	35.69	TA-13	13a	6.82	UME-26	12c	6.77
P-6492	19b	14.74	P-8351	17a	20.34	*PCC-24100	26c	15.19	PSR-200	18a	37.65	TA-14	13a	16.04	UME-27	12d	6.77
P-6493	33b	6.95	P-8352	16a	17.94	*PCC-24150	26c	25.52	PSR-300	18a	55.33	TA-15	11h	2.20	UME-28	12d	7.92
P-6494	33b	4.97	P-8353	15d	25.85	*PCC-24250	26c	40.74	PSU-2000	27j	21.82	TA-16	11h	2.52	UME-29	12d	7.92
P-6495	33b	7.16	P-8354	15d	20.16	PCF-2025	26b	7.47	PSU-3000	27j	26.30	TA-17	11h	8.82	UME-30	12d	6.77
P-6496	24d	16.39	P-8355	15a	15.00	PCF-2050	26b	9.49	PT-8311	28d	23.24	TA-18	14a	4.57	UME-31	12d	6.77
P-6497	33b	5.00	P-8356	16e	14.01	PCF-24075	26b	10.61	PT-8312	28d	47.30	TA-19	14a	4.92	UME-32	12d	6.77
P-6499	33a	11.27	P-8357	19d	6.55	*PCF-24100	26b	13.74	PT-8313	28d	36.60	TA-20	14a	5.03	UME-33	12d	10.65
P-8025	28b	120.15	P-8358	19d	5.31	PCF-24250	26b	25.97	PT-8314	28d	44.19	TA-21	14a	4.61	UME-34	12d	8.45
P-8026	28b	120.64	P-8359	15b	9.96	PCO-150	6d	16.71	PT-8315	28d	45.52	TA-22	14a	4.89	UME-35	12d	7.92
P-8027	28b	118.29	P-8360	17e	19.63	PCO-150A	6d	16.88	PV-6441	27c	26.21	TA-23	14a	5.03	UME-36	12d	6.67
P-8028	28b	134.80	*P-8361	25b	3.73	*PCO-200	6c	21.19	PV-6442	27c	30.82	TA-24	14a	4.39	UME-37	12d	5.90
P-8029	28b	165.45	*P-8362	25b	3.85	PCR-55	18a	13.48	PV-6443	27c	33.54	TA-25	14a	4.39	UME-38	12d	5.90
P-8030	28c	131.46	*P-8363	25b	4.04	PCR-70	18a	15.10	PV-6444	27c	56.22	TA-26	14a	4.39	UME-39	12d	6.77
P-8031	28b	161.00	*P-8364	25b	4.68	PCR-85	18a	15.70	*R-63	21d	44.96	TA-27	14a	4.39	V80-200	32f	4.13
P-8032	28c	150.27	P-8365	16a	17.32	PCR-105	18a	16.36	R-65	22a	125.45	TA-28	14a	4.39	V80-201	32f	4.59
P-8033	28c	194.12	P-8366	17b	19.27	PCR-120	18a	21.12	R-103	22a	59.78	TA-29	14a	4.39	VO-100	32c	7.43
P-8034	28c	185.00	P-8367	16a	22.17	PCR-150	18a	28.32	R-105	22a	131.22	TA-30	14a	4.40	VO-101	32c	7.48
P-8035	28c	219.94	P-8369	16c	24.68	PCR-200	18a	29.09	RC-1055	21b	6.52	TA-31	14a	4.39	VO-102	32c	9.27
P-8040	28a	19.55	P-8370	16b	26.27	PCR-300	18a	38.76	RC-1085	21b	7.42	TA-32	14a	4.39	VO-103	32c	10.18
P-8041	28a	21.84	P-8371	16c	20.79	PCT-14	12a	12.62	RC-1540	21a	6.19	TA-33	14a	4.65	VO-105	32c	6.18
P-8042	28a	28.59	P-8372	15b	14.87	PCT-15	12a	11.15	RC-1555	21b	7.09	TA-34	14a	4.65	VO-106	32c	5.57
P-8043	28a	111.64	P-8373	16a	17.05	PCT-16	12a	14.79	RC-1585	21b	8.14	TA-35	14a	4.39	VO-108	32c	6.06
*P-8044	28b	52.93	P-8374	15c	17.21	PCT-17	12a	9.84	RC-8105	21b	9.60	TA-36	14a	4.39	VO-109	32c	11.49
P-8130	19d	4.35	P-8375	16a	19.69	PCT-21	12a	9.17	RC-8150	21c	12.60	TA-37	14a	4.39	VO-110	32c	6.33
P-8150	18d	10.99	P-8376	15e	17.04	PCT-23	12a	10.49	RC-8200	21d	14.27	TA-38	14a	4.39	VO-111	32c	7.42
P-8151	18d	16.27	P-8377	15e	15.18	PCT-25	12a	10.49	RC-8250	21d	25.14	TA-39	14b	4.59	VO-112	32c	7.55
*P-8154	17c	16.10	P-8378	16a	17.89	PCT-30	12a	11.09	RC-8300	21d	21.94	TA-40	14b	4.83	VO-113	32d	6.21
P-8155	15c	10.64	P-8379	15a	13.23	PCT-31	12a	11.09	RC-12105	21b	13.19	TA-41	14b	4.39	VO-114	32d	6.33
*P-8156	17a	24.85	P-8381	16a	18.15	PCT-39	12a	10.07	RC-12150	21c	15.13	TA-42	14b	4.39	VO-115	32d	7.40
*P-8157	17d	20.87	P-8382	15c	13.08	PCT-43	12a	9.60	RC-12200	21d	13.64	TA-43	14b	4.59	VO-116	32d	7.95
P-8158	15a	14.18	*P-8383	15b	15.90	PCT-54	12a	9.60	RP-400	23a	16.31	TA-44	14b	4.81	VO-117	32d	9.28
*P-8159	17a	20.55	*P-8384	19d	4.20	PCT-60	12a	8.74	RP-600	23a	16.03	TA-45	14b	4.45	VO-118	32d	7.91
*P-8160	17a	18.15	*P-8385	19b	2.37	PCT-61	12a	8.97	RP-800	23a	15.95	TA-46	14b	4.39	VO-119	32d	8.24
*P-8161	17d	21.80	P-8386	15a	15.18	PCT-62	12a	9.17	RP-1600	23a	14.85	TA-47	14b	4.39	VO-120	32d	8.34
*P-8162	17c	18.70	P-8388	19d	6.60	PCT-70	12b	8.54	RP-2000	23a	15.45	TA-48	13b	3.05	VO-122	32e	7.67
*P-8163	17b	19.44	P-8389	19b	2.79	PCT-71	12b	8.74	RP-2500	23a	18.32	TA-49	13b	4.07	VO-123	32e	8.99
P-8164	16b	20.67	*P-8390	25c	3.77	PCT-76	12b	12.62	RS-1055	21b	9.16	TA-50	13b	3.57	VO-126	32e	8.87
*P-8165	16e	22.00	*P-8391	25c	3.39	PCT-77	12b	12.32	RS-1085	21b	9.96	TA-51	13b	2.59	VO-127	32e	8.60
P-8166	16d	26.29	*P-8392	25c	3.54	PCT-116	12b	10.15	RS-1540	21a	8.66	TA-52	14b	4.12	VO-128	32e	7.95
P-8167	15e	25.79	*P-8393	25c	4.47	PCT-117	12b	8.57	RS-1555	21b	9.84	TA-53	14a	3.82	VO-129	32e	7.42
*P-8168	15c	21.67	*P-8394	25d	3.57	PCT-118	12b	7.00	RS-1585	21b	11.27	TA-54	14a	3.55	VO-700C	32e	8.59
P-8169	17c	22.93	*P-8395	25d	3.72	PCT-128	12b	7.72	RS-8105	21b	12.60	TA-55	14b	5.00	WC-1/1A	33d	2.22
P-8170	17c	21.20	*P-8396	25d	3.87	PM-8401	15c	7.45	RS-8150	21c	16.64	TA-56	13a	3.93	WC-2	33d	2.78
P-8171	17c	23.13	*P-8397	25d	4.80	PM-8402	15c	7.29	RS-8200	21d	15.27	TA-57	13a	3.93	*WC-4	33d	2.72
P-8172	15e	18.09	P-9000C	15b	20.91	PM-8403	15d	8.02	RS-8250	21d	20.97	TA-58	13a	2.86	WC-5	33e	3.28
P-8173	15d	6.26	PA-8421	15b	4.65	PM-8404	15d	9.07	RS-8300	21d	28.64	TA-59	13a	2.94	WC-6	33e	2.89
P-8174	15d	4.46	PC-8301	28e	9.73	PM-8405	15e	11.80	RS-12105	21c	13.26	TA-60	13a	6.12	*WC-9/9A	33e	2.83
P-8175	16b	10.04	PC-8302	28e	13.01	PM-8406	16c	7.51	RS-12150	21c	14.36	TA-61	13a	3.46	WC-10/10A	33e	3.89
P-8176	16e	13.44	PC-8303	28e	17.74	PM-8407	16c	7.79	RS-12200	21d	18.84	TA-62	13a	2.64	WC-11	33e	3.50
P-8177	16b	11.85	PC-8304	28e	18.62	PM-8408	16d	9.34	RT-201	24a	6.74	TA-63	14b	5.77	*WC-12	33e	3.28
P-8178	18d	12.87	PC-8305	28e	20.76	PM-8409	16d	9.98	RT-202	24a	9.19	TC-1	22c	1.60	WC-13	33f	3.28
P-8179	18d	13.96	PC-8306	28e	21.45	PM-8410	16e	11.80	RT-204	24a	11.94	TC-2	22c	1.59	WC-14	33f	2.81
P-8180	19d	4.10	PC-8401	15c	6.77	PM-8411	17b	16.91	RT-206	24a	15.67	TP-1	25a	6.16	*WC-15	33f	2.67
P-8181	15b	4.23	PC-8402	15c	6.46	PM-8412	17e	16.06	RT-208	24a	21.27	TP-2	25a	4.98	*WC-16/16A	33f	2.83
P-8190	19b	3.41	PC-8403	15d	7.73	PM-8418	15c	5.99	RT-408	24a	55.64	TP-3	25a	6.68	*WC-17	33f	2.39
P-8191	19b	4.01	PC-8404	15d	8.69	PM-8419	15d	6.92	RT-2012	24a	36.12	TP-4	25a	11.21	WC-18	33f	3.28
P-8192	33	4.94	PC-8405	15e	11.33	PM-8420	15d	8.24	RT-4012	24a	74.22	*TT-11	10c	14.39	WC-19	33f	2.78
P-8193	23e	10.97	PC-8406	16c	7.32	PM-8422	16c	12.81	RTC-8628	33d	3.59	*TT-12	10c	15.27	WC-2A	33d	2.72
P-8194	23e	18.48	PC-8407	16c	7.59	PM-8423	16b	10.20	RTC-8629	33d	4.39	*TT-13	10c	9.12	WC-4A	33d	2.72
P-8195	24c	16.39	PC-8408	16d	9.34	PS-8415	15b	2.97	SO-50	27b	9.54	*TT-14	10c	8.30	WC-5A	33d	3.28
P-8196	23e	8.42	PC-8409	16d	11.53	PS-8416	15b	3.55	SO-100	27b	11.22	*UM-110	14c	6.79	WC-6A	33e	2.97
P-8331	16b	19.44	PC-8410	16e	11.05	PSC-40	15c	17.76	SO-150	27b	16.55	*UM-111	14c	4.65	WC-7A	33e	2.97
P-8332	15e	21.20	PC-8411	17b													

# STANCOR OUTPUT TRANSFORMER CHART

SECTION 5600

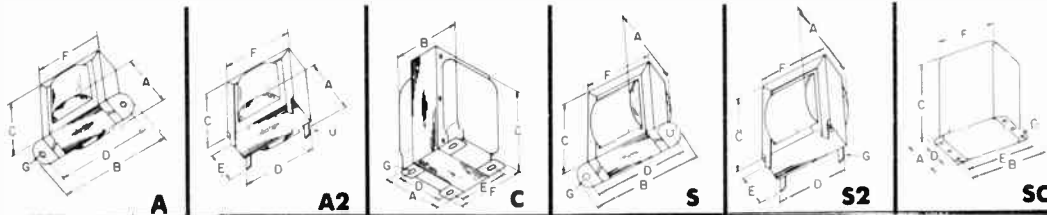
A simplified selection of the proper transformer for use as a replacement in radio receivers or in the construction of audio amplifiers. To use this chart, check the first column for the tube being used, then read across for the applicable operating characteristics and correct Stancor transformer. In most cases, two Stancor part numbers are indicated in order to give a choice of Mounting styles.

audio transformers

Tube	Use	Class	Watts	Load Res. in Ohms	Stancor Part No.	Universal Type	Tube	Use	Class	Watts	Load Res. in Ohms	Stancor Part No.	Universal Type	Tube	Use	Class	Watts	Load Res. in Ohms	Stancor Part No.	Universal Type
1A5-GT	S.	A	.10	25K	A-3327		6DZ8	S.	A	2.0	2.5K	A-3822	A-3825	25F5	S.	A	1.2	2.5K	A-3332	A-3825
1AC5	S.	A	.05	25K	A-3327		6E6	P.P.	A	1.6	14K	A-3496	A-3856		P.P.	A	2.9	4.5K	A-3872	A-3823
1AG4	S.	A	.035	12K	A-3879	A-3822	6EM5	S.	A	1.4	3K	A-3328	A-3825	25L6(GT)	S.	A	2.1	2K	A-3876	A-3849
188-GT	S.	A	.21	14K	A-3881	A-3848		P.P.	A	3.8	6K	A-3822		S.	A	4.3	3K		A-3823	
1C5-GT	S.	A	.24	8K	A-3329	A-3848	6F6(GT)	S.	A	4.8	7K	A-3878	A-3822		A	3.8	4K	A-2203	A-3823	
1D8-GT	S.	A	.20	12K	A-3879	A-3822		P.P.	AB1	18.5	10K	A-3311	A-3870	25N6-G	S.	A	3.8	4K	A-2203	A-3822
1E7-G(GT)	S.	A	.29	16K	A-3881	A-3848	6F5	S.	AB1	4	1K	A-8070		25W6-G	S.	A	3.8	4K	A-3877	A-3856
	P.P.	A	.575	24K	A-3857			P.P.	AB1	8	1.6K			26A7-GT	S.	A	1.8	1.5K	A-3332	A-3825
IF4	S.	A	.31	16K	A-3881	A-3848	6GG-G	S.	A	1.1	10K	A-3879	A-3822	26E6-G	S.	A	6.0	2.6K		A-3848
IF5-G	S.	A	.16K	16K	A-3881	A-3848	6GC5	S.	A	2	2K	A-3876	A-3856	28Q7	S.	A	4.1	4K	A-3328	A-3825
1C5-G	S.	A	.65	9K	A-3879	A-3822	6GG6	S.	A	4	4K	A-2203		32E25	S.	A	1.2	2.8K	A-3328	A-3825
1C6-GT	P.P.	B	.55	12K	A-3831	A-3856		S.	AB1	5.7	5.2K	A-3877	A-3823	32L7-GT	S.	A	1	2.6K	A-3332	A-3822
1J5-G	S.	A	.45	13.5K	A-3881	A-3848		P.P.	AB1	17	8K	A-3852		34G05A	S.	A	1.4	2.5K	A-3332	A-3856
1J6-G(GT)	P.P.	B	2.1	10K	A-3831	A-3856	6HG5	S.	AB1	4.5	5K	A-8092	A-3823	35A5	S.	A	1.5	2.5K	A-3332	A-3856
(GX)	P.P.	B	.1	25K	A-3327		6K6-GT	S.	A	4.5	9K	A-3879	A-3822	35B5	S.	A	1.5	5K	A-3332	A-3856
1LA4	S.	A	.1	25K	A-3327			P.P.	A	10.5	12K	A-2312	A-3880	35C5	S.	A	1.5	2.5K	A-3332	A-3849
1LB4	S.	A	.2	12K	A-3879	A-3822	6J10	S.	AB1	4.2	5K	A-8092	A-3823	35DZ8	S.	A	2.0	2.5K	A-3332	A-3825
1N6-G(GT)	S.	A	.1	25K	A-3327		6L6(G)(GA)	S.	A	6.5	2.5K	A-3876	A-3825	35EM5	S.	AB1	1.2	3K	A-3332	A-3856
1Q5-GT	S.	A	.27	8K	A-3329	A-3848		S.	A	10.8	4.2K	A-2203	A-3849	35L6-GT	S.	A	1.5	2.5K	A-3332	A-3856
1S4	S.	A	.27	8K	A-3329	A-3848		P.P.	AB1	17.5	5K	A-3872	A-3830		S.	A	3	5K	A-3877	A-3849
1T5-GT	S.	A	.17	14K	A-3881	A-3848		P.P.	AB1	26.5	6.6K	A-3801	A-3830	42	S.	A	4.8	7K	A-3878	A-3849
1V5	S.	A	.05	25K	A-3327			P.P.	AB1	18	3.8K	A-3877	A-3830	50A5	P.P.	A	18.5	10K	A-3311	A-3830
1W4	S.	A	.1	16K	A-3879	A-3848		P.P.	AB1	31	6K	A-3877	A-3830	50B5	S.	A	2.1	2K	A-3876	A-3856
2A3	S.	A	3.5	2.5K	A-3876	A-3825		P.P.	AB2	47	3.8K	A-3802		50B6K5	S.	A	3.8	4K	A-2203	A-3825
	P.P.	AB1	15	3K	A-3301	A-3830	6M5	S.	A	3.9	7K	A-3878	A-3824	50C5	S.	A	1.9	2.5K	A-3332	A-3825
2A5	S.	A	4.8	7K	A-3878	A-3850		P.P.	AB1	9.4	7K	A-3801	A-3880	50C6-G	S.	A	3.5	6.5K	A-3876	A-3856
	P.P.	AB2	18.5	10K	A-3311	A-3830	6N6-G	S.	A	4	7K	A-3878	A-3824	50C8	S.	A	1.9	2.5K	A-3332	A-3825
2E24	S.	A	3.9	6K	A-3878	A-3848	6N7	P.P.	B	10	8K	A-3879	A-3880	50D6-G	S.	A	3.6	2K	A-3876	A-3825
2E26	S.	A	4.0	5.5K	A-3877	A-3849	6R8	S.	A	0.3	10K	A-3879	A-3856	50E5	S.	A	1.1	3.5K	A-3328	A-3825
2E30	S.	A	4.5	4.5K	A-3877	A-3849	6SR7	S.	A	0.3	10K	A-3879	A-3856	50F5	P.P.	A	1.4	3K	A-3328	A-3825
3A4	S.	A	.7	8K	A-8114	A-3822	6U6-GT	S.	A	5.5	3K	A-3877	A-3824		P.P.	A	3.8	6K	A-3878	A-3822
3B5-GT	S.	A	.2	5K	A-3878	A-3856	6V5-GT	S.	A	4.5	5K	A-3877	A-3824		P.P.	A	1.4	3K	A-3328	A-3825
3B7/1291	P.P.	AB2	1.5	16K	A-2312	A-3880		P.P.	AB1	10	10K	A-3311	A-3880		P.P.	A	1.8	6K	A-3328	A-3825
3C5-GT	S.	A	.2	8K	A-3329	A-3848	6V6(GT)	S.	A	5.5	5K	A-3877	A-3823		P.P.	A	1	1K	A-8070	
	S.	A	.26	10K	A-3879	A-3848		P.P.	AB1	10	10K	A-3311	A-3880		P.P.	A	8	1.6K		
3D5	S.	A	.6	14K	A-3881	A-3848	6V7-G	S.	A	0.35	20K	A-3327		50FK5	S.	AB1	1.2	3K	A-3336	A-3856
3E5	S.	A	.25	8K	A-3329	A-3848	6W6-GT	S.	A	3.8	5K	A-3877	A-3849	50L6-GT	S.	A	2.1	2K	A-3876	A-3856
3LE4	S.	A	.325	6K	A-3878	A-3848	6Y6-G(GT)	S.	A	6.0	2.6K	A-3876	A-3825	60F5	S.	A	3.8	4K	A-2203	A-3825
3LF4	S.	A	.4	8K	A-3879	A-3848	6Y7-G	P.P.	B	8.0	14K	A-2312	A-3823	60FX5	S.	AB1	1.3	3K	A-3336	A-3856
3Q4	S.	A	.27	10K	A-3879	A-3822	6Z7-G	P.P.	B	4.2	12K	A-3831	A-3823	70A7-GT	S.	A	1.5	2.5K	A-3332	A-3825
3Q5-GT	S.	A	.4	8K	A-3329	A-3822	7A5	S.	A	1.5	2.5K	A-3332	A-3849	70L7-GT	S.	A	1.8	2K	A-3332	A-3825
3V4	S.	A	.18	5K	A-3877	A-3856	7B5	S.	A	4.5	9K	A-3879	A-3822	117L7 M7-GT	S.	A	.85	4K	A-2203	A-3825
3Y4	S.	A	.27	8K	A-3329	A-3848		P.P.	AB2	19	10K	A-2312	A-3880	117N7-GT	S.	A	1.2	3K	A-3332	A-3825
3W4	S.	A	0.27	10K	A-3879	A-3822	7C5	S.	A	5.5	8.5K	A-3879	A-3822	117P7-GT	S.	A	.85	4K	A-2203	A-3825
4A6-G	P.P.	B	1.0	8K	A-3879	A-3822	8BQ5	P.P.	A	8	4.5K	A-3335	A-3849	1631	P.P.	AB1	26.5	6.6K	A-3801	
5AQ5	S.	A	2.0	5.5K	A-3877	A-3849		P.P.	AB1	11.0	4.5K	A-8092	A-3849	1632	S.	A	2.1	2K	A-3332	A-3825
5C6	S.	A	4.5	5K	A-3877	A-3849	90Z8	S.	A	2.0	2.5K	A-3332	A-3825	1644	P.P.	A	1.0	10K	A-3831	A-3856
5C6M	P.P.	AB1	4.5	5K	A-3877	A-3856	10AL11	S.	AB1	4	5K	A-3877	A-3856	5640	P.P.	AB1	1.25	3K	A-3332	A-3825
5CZ5	S.	A	5.4	5K	A-3335	A-3823	11C5	S.	A	1.5	2.5K	A-3332	A-3825	5670	P.P.	AB1	1.0	20K	A-3857	
	P.P.	AB1	21.5	7.5K	A-3877	A-3849	12A5	S.	A	3.4	3.3K	A-2203	A-3825	5672	S.	A	.065	2K	A-3327	
5V6(GT)	S.	A	5.5	5K	A-3877	A-3823	12A5(GT)	S.	A	3.4	7.5K	A-8114	A-3822	5686	S.	A	2.7	9K	A-3879	A-3822
	P.P.	AB1	10	10K	A-3311	A-3880	12A7	S.	A	.55	13.5K	A-3801	A-3848	5812	S.	A	4.3	1.7K	A-3876	A-3825
6A3	S.	A	3.2	2.5K	A-3876	A-3825	12A9	S.	A	5.5	5K	A-3877	A-3823	5824	S.	A	4.3	1.7K	A-3876	A-3825
6A4/LA	P.P.	AB1	15	3K	A-3301	A-3830	12A9S	P.P.	AB1	10.0	10K	A-3335	A-3849	5871	S.	A	5.5	8.5K	A-3879	A-3825
6A5-G	S.	A	3.75	2.5K	A-8114	A-3822	12AL8	S.	A	0.02	8K	TA-9		5905	S.	A	2.0	3K	A-3328	A-3825
	P.P.	A	1.5	3K	A-3301	A-3830	12AL11	S.	AB1	4	5K	A-3877	A-3856	6005	S.	A	1.0	5.5K	A-4431	A-3856
6A6	P.P.	B	10	8K	A-3329	A-3822	12AL11S	S.	AB1	4	5K	A-3877	A-3856	6095	P.P.	AB1	10.0	10K	A-3335	A-3849
6AB8	S.	A	1.4	11K	A-3879	A-3822	12A05	S.	A	4.5	5K	A-3877	A-3823	6216	S.	A	3.8	4.5K	A-3877	A-3856
6AC5-GT	P.P.	B	8	10K	A-3335	A-3823	12B6	P.P.	AB1	10.0	10K	A-3335	A-3849	6287	P.P.	AB1	9.5	6K	A-4431	A-3823
6AC6-GT	S.	A	3.6	3.5K	A-2203	A-3825	12BK5	S.	A	4.5	6.5K	A-3878	A-3849	6360	P.P.	AB1	9.3	8K	A-3335	A-3849
6AD7-G	S.	A	3.2	7K	A-2313	A-3822	12B6G	S.	A	0.3	10K	A-3879	A-3856	6516	S.	A	1.4	16K	A-3881	A-3856
6AE7-GT	P.P.	A	9.5	10K	A-2312	A-3880	12C5	S.	A	2.3	2.5K	A-3332	A-3825	6526	S.	A	0.375	10K	A-3879	A-3856
6AG6-G	S.	A	3.8	8.4K	A-3329	A-3822	12CA5	S.	A	1.5	4.5K	A-3877	A-3856	6669	P.P.	AB1	10.0	10K	A-8093	A-3880



SECTION 5600



**STANCOR**  
COMMERCIAL  
output  
transformers

OUTPUT: SINGLE PLATE TO VOICE COIL AND/OR LINE

	Cotolog No.	Impedance in Ohms		Max Pri DCMA	Audio Watts	Termination		Style	Dimensions							WT. Lbs.
		Primary	Secondary			Pri	Sec		A	B	C	D	E	F	G	
<b>a</b>	A-8070	1000	4.0	90	4	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3332	2000	3.2	50	3	Leads	Leads	A	1 1/4	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.4
	A-3330	2000 a	3.5	60	5	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3876	2000	4.0	60	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3336	2500 b	3.5	50	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3328	4000	3.5	10	3	Leads	Leads	A	1 1/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.4
	A-2203	4000	8.0	40	5	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2 3/8	—	2	3/16	0.7
	A-3877	5000	4.0	40	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3309	5000	3-4	35	3	Leads	Leads	A	1 3/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.4
	A-8092	5000	3-4	50	8	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2 3/8	—	2	3/16	0.5
	A-3337	5000	6-8	40	10	Leads	Leads	S	1 3/4	2 3/8	2 3/8	2 3/8	—	2	3/16	1.0
	A-3310	5000	500/15/8/4	55	20	Leads	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.5
	COC-1	5000	600/150/16/8/4	55	5	Leads	Leads	SC	2 1/2	3	3 1/8	1 3/4	2 1 1/8	2 3/8	3/16	2.25
	COS-1	5000	600/150/16/8/4	55	5	Lugs	Lugs	SC	2 1/2	3	3 1/8	1 3/4	2 1 1/8	2 3/8	3/16	2.25
A-4431	6000	3-4	35	5	Leads	Leads	A2	1 1/2	—	1 3/8	1 3/4	1 1/8	2	3/32	0.8	
<b>b</b>	A-3878	7000	4.0	30	5	Leads	Leads	A	1 1/4	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-2313	7000	8.0	40	10	Leads	Leads	A	2	3 1/4	2	2 1 3/16	—	2 3/8	3/16	1.0
	A-3841	{7000/6000/5000 4000/2500}	500	60	10	Lugs	Lugs	S	2	3 1/8	2 3/4	2 1 3/16	—	2 1/4	3/16	1.5
	A-4770	{7000/6000/5000 4000/2500}	500	60	20	Leads	Lugs	S	2 1/8	3 3/8	3 3/8	3 3/8	—	2 3/8	3/16	2.4
	A-8114	7600	3.2	32	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3329	8000	3.5	10	3	Leads	Leads	A	1 1/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.4
	COC-2	8000	600/150/16/8/4	55	5	Leads	Leads	SC	2 1/2	3	3 1/8	1 3/4	2 1 1/8	2 3/8	3/16	2.25
	COS-2	8000	600/150/16/8/4	55	5	Lugs	Lugs	SC	2 1/2	3	3 1/8	1 3/4	2 1 1/8	2 3/8	3/16	2.25
	A-3879	10000	4.0	30	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3881	15000	4.0	10	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3250	{20000/10000 5000}	{500/333/200 125/50}	15	5	Lugs	Lugs	A	1 7/8	3 1/4	2	2 1 3/16	—	2 3/8	3/16	1.0
	A-3315	{20000/10000 5000}	{500/333/200 125/50}	35	20	Lugs	Lugs	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.7
	A-3327	25000	4.0	5	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4

OUTPUT: PUSH-PULL PLATES TO VOICE COIL AND/OR LINE

<b>c</b>	A-8098	2000 C.T.	32/16/8	140	15	Leads	Leads	C	2 1/2	3 1/4	3 1/8	2	2 1/4	2 3/8	3/16 x 3/8	3.3
	A-3802	3800/3300 C.T.	500/250/8/4	125	75	Leads	Leads	C	3 3/4	4	4 1 1/8	3	2 1 3/16	3 3/8	3/16 x 3/8	7.9
	A-8094	4000 C.T.	32/16/8	80	7.5	Leads	Leads	A	2 1/4	3 3/4	2 3/8	3 3/8	—	2 3/4	3/16	1.5
	A-3851	4400 C.T. c	500/250/15/8/4	70	30	Leads	Leads	C	2 1 3/16	3 1/4	3 1/2	2 1/4	2	2 3/4	3/16 x 3/8	3.6
	A-3872	5000 C.T.	15/8/4	75	18	Leads	Leads	SC	2 1/4	2 3/4	2 1 1/8	1 1/2	2 3/8	2	3/16	1.7
	A-3800	5000 C.T.	500/250/15/8/4	80	30	Leads	Leads	C	2 1 3/16	3 1/4	3 1/2	2 1/4	2	2 3/4	3/16 x 3/8	3.7
	A-3307	6000 C.T.	500/15/8/4	100	30	Leads	Leads	C	2 1 3/16	3 1/4	3 1/2	2 1/4	2	2 3/4	3/16 x 3/8	3.5
	PCO-200	6000 C.T. c	600/150/16/8/4	250	30	Leads	Leads	SC	4 7/8	3 3/4	3 3/8	2 1/2	4 3/4	4 1/8	7/32	9.0
	PSO-200	6000 C.T. c	600/150/16/8/4	250	30	Lugs	Lugs	SC	4 7/8	5 1/4	5 5/8	2 1/2	4 3/4	4 1/8	7/32	9.0
	A-3801	6600 C.T.	500/250/15/8/4	150	35	Leads	Leads	C	3 3/8	3 1/2	3 7/8	2 1/2	2 3/8	3 1/8	3/16 x 3/8	4.8
	A-3885	9000 C.T.	500/250/15/8/4	150	35	Leads	Leads	C	3 3/8	3 3/8	3 7/8	2 1/2	2 3/8	3 1/8	3/16 x 3/8	4.8
	A-4432	10000 C.T.	4.0	50	10	Leads	Leads	S2	1 3/8	—	2 3/8	1 3/8	1 1/8	2	3/32	1.0
	A-3304	10000/7000 C.T.	500/15/8/4	60	25	Leads	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.7
	A-3311	10000 C.T.	500/15/8/4	70	25	Leads	Leads	C	2 1 3/16	3 1/4	3 1/2	2 1/4	2	2 3/4	3/16 x 3/8	3.5
A-3831	10000 C.T.	8/4/2	40	5	Leads	Leads	A	1 3/4	2 7/8	1 3/8	2 3/8	—	2	3/16	0.7	
<b>d</b>	A-8093	10000 C.T.	3-4	40	10	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2 3/8	—	2	3/16	0.7
	A-3335	10000 C.T.	6-8 3.2-4	40	10	Leads	Leads	S	2	2 7/8	2 3/8	2 3/8	—	2	3/16	1.0
	PCO-150	10000 C.T. c	600/150/16/8/4	200	15	Leads	Leads	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	2 1 3/16	7/32	5.0
	PSO-150	10000 C.T. c	600/150/16/8/4	200	15	Lugs	Lugs	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	2 1 3/16	7/32	5.0
	A-3839	10000 C.T.	2000 and 15/8/4	30	10	Leads	Leads	SC	2 3/4	2 3/4	2 1 1/8	1 1/2	2 3/8	2	3/16	1.3
	PCO-150A	12000 C.T.	600/150/16/8/4	200	15	Leads	Leads	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	2 1 3/16	7/32	5.0
	A-2312	14000 C.T.	4.0	40	10	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2 3/8	—	2	3/16	1.0
	A-3496	14000 C.T.	4.0	25	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3303	14000 C.T.	500/15/8/4	55	20	Leads	Leads	C	2 1/2	2 3/4	3 1/8	2	1 1 1/8	2 3/8	3/16 x 3/8	2.7
	A-3842	{14000/12000 10000/8000 C.T.}	500	55	10	Lugs	Lugs	S	2	3 1/8	2 3/4	2 1 3/16	—	2 1/4	3/16	1.7
	A-3250	20000 C.T.	{500/333/200 125/50}	15	5	Lugs	Lugs	A	1 7/8	3 1/4	2	2 1 3/16	—	2 3/8	3/16	1.0
A-3315	20000 C.T.	{500/333/200 125/50}	35	20	Lugs	Lugs	C	2 1/2	2 3/4	3 1/8	2	1 1 1/8	2 1/2	3/16 x 3/8	2.7	
A-3857	25000 C.T.	4.0	10	5	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4	

a Has 4.5% primary Tap.

b Has 3% and 6% primary Taps.

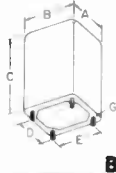
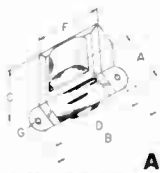
c. Has Tertiary Winding to provide 10% inverse feedback.

\* Available until stock is depleted

SECTION 5600

# STANCOR

COMMERCIAL  
output  
transformers



UNIVERSAL OUTPUT

Catalog No.	Impedance in Ohms		Max Pri DCMA	Audio Watts	Termination		Style	Dimensions							WT. Lbs.
	Primary	Secondary			Pri	Sec		A	B	C	D	E	F	G	
A-3856	S. or P.P. Plates 4000 to 14000	.05 to 122	35	4	Leads	Lugs	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/8	0.4
A-3822	S. Plate 7000 to 10000	.7 to 4	35	4	Leads	Lugs	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/8	0.4
A-3848	S. Plate 7000 to 16000	.4 to 4	10	5	Leads	Lugs	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/8	0.4
A-3823	S. or P.P. Plates 4000 to 14000	.05 to 122	40	8	Leads	Lugs	A	1 3/8	2 3/8	1 3/8	2 3/8	—	2	3/8	0.7
A-3850	S. or P.P. Plates 4000 to 14000	.05 to 122	40	8	Leads	Lugs	S	1 3/8	2 3/8	2	2	—	1 3/8	3/8	0.7
A-3825	S. Plate 1500 to 4500	.3 to 4	75	8	Leads	Lugs	A	1 3/8	3 1/4	2	2 13/16	—	2 3/8	3/8	0.9
A-3824	S. or P.P. Plates 6000 to 10000	.6 to 4	75	8	Leads	Lugs	A	2	3 1/4	2	2 13/16	—	2 3/8	3/8	1.4
A-3849	S. Plate 1500 to 10000	.02 to 21	55	10	Lugs	Lugs	A	1 1/2	2 3/8	1 3/8	2 3/8	—	2	3/8	0.7
A-3880	P.P. Plates 4000 to 14000	.05 to 122	40	15	Lugs	Lugs	A	2 3/8	3 3/8	2 3/8	3 3/8	—	2 3/4	3/8	1.7
A-2855	P.P. Plates 4000 to 14000	.05 to 122	50	15	Lugs	Lugs	L	2 3/8	—	2	1 1/2	1 3/8	1 3/8	3/8 x 1/2	1.0
A-3890	P.P. Plates 4000 to 14000	.05 to 122	50	15	Leads	Leads	SC	2 1/4	2 3/8	2 13/16	1 1/2	2 3/8	2	3/8	1.5
A-3852	P.P. Plates 4000 to 14000	.05 to 122	40	18	Leads	Lugs	S	2	2 3/8	2 3/8	2 3/8	—	2	3/8	1.3
A-3870	P.P. Plates 4000 to 14000	.05 to 122	50	18	Lugs	Lugs	A	2	3 1/4	2	2 13/16	—	2 3/8	3/8	1.3
A-3830	P.P. Plates 3000 to 10000	.04 to 122	60	20	Leads	Lugs	S	2 3/8	3 3/8	2 3/8	2 13/16	—	2 3/4	3/8	1.8

OUTPUT: HIGH FIDELITY: FREQ. RESPONSE ± 1 DB 20 TO 20,000 CYCLES

A-8050	1500 C.T.	16 8	200	50	Leads	Leads	C	3 3/8	4 1/4	4 1/4	2 3/4	3 1/8	3 3/8	3 3/8 x 3/8	6.5
A-8060	1500 C.T.	500	200	50	Leads	Leads	C	3 3/8	4 1/4	4 1/4	2 3/4	3 1/8	3 3/8	3 3/8 x 3/8	6.5
*A-8051	2500 C.T.	16 8	150	50	Leads	Leads	C	3 3/8	4 1/4	4 1/4	2 3/4	3 1/8	3 3/8	3 3/8 x 3/8	6.5
A-8061	2500 C.T.	500	150	50	Leads	Leads	C	3 3/8	4 1/4	4 1/4	2 3/4	3 1/8	3 3/8	3 3/8 x 3/8	6.5
A-8052	3000 C.T.	16 8	175	50	Leads	Leads	C	3 3/8	4 1/4	4 1/4	2 3/4	3 1/8	3 3/8	3 3/8 x 3/8	6.5
A-8062	3000 C.T.	500	175	50	Leads	Leads	C	3 3/8	4 1/4	4 1/4	2 3/4	3 1/8	3 3/8	3 3/8 x 3/8	6.5
A-8053	5000 C.T.	16 8	150	50	Leads	Leads	C	3 3/8	4 1/4	4 1/4	2 3/4	3 1/8	3 3/8	3 3/8 x 3/8	6.5
A-8063	5000 C.T.	500	150	50	Leads	Leads	C	3 3/8	4 1/4	4 1/4	2 3/4	3 1/8	3 3/8	3 3/8 x 3/8	6.5
A-8056	6600 C.T.	16 8	125	50	Leads	Leads	C	3 3/8	4 1/4	4 1/4	2 3/4	3 1/8	3 3/8	3 3/8 x 3/8	6.5
A-8066	6600 C.T.	500	125	50	Leads	Leads	C	3 3/8	4 1/4	4 1/4	2 3/4	3 1/8	3 3/8	3 3/8 x 3/8	6.5
A-8072	7600 C.T. a	16 8 4	100	25	Leads	Leads	C	3 3/8	4 1/4	4 1/4	2 3/4	3 1/8	3 3/8	3 3/8 x 3/8	6.5
A-8054	9000 C.T.	16 8	100	50	Leads	Leads	C	3 3/8	4 1/4	4 1/4	2 3/4	3 1/8	3 3/8	3 3/8 x 3/8	6.5
A-8064	9000 C.T.	500	100	50	Leads	Leads	C	3 3/8	4 1/4	4 1/4	2 3/4	3 1/8	3 3/8	3 3/8 x 3/8	6.5

OUTPUT: HIGH FIDELITY: FREQ. RESPONSE ± 1 1/2 DB 30 TO 20,000 CYCLES

BO-1	15,000 b	600 150	10	.032	Lugs	Lugs	B	2 3/8	2 1/2	3 3/8	1 13/16	1 7/16	—	6-32	2.25
BO-2	20,000 C.T.	600 150	10	1.0	Lugs	Lugs	B	2 13/16	2 3/8	3 1/8	1 1/8	2	—	8-32	3.0
BO-5	10,000 C.T.	600 150 16 8 4	45	5.0	Lugs	Lugs	B	3	3 1/4	3 3/8	2 1/8	2 3/8	—	8-32	4.0
BO-6	7500 C.T.	20 8	80	20	Lugs	Lugs	B	3 3/8	3 13/16	4 3/8	2 3/8	2 3/8	—	10-32	5.75
BO-9	5000 3000 C.T.	600 150 16 8 4	75	15	Lugs	Lugs	B	3 3/8	3 13/16	4 3/8	2 3/8	2 3/8	—	10-32	6.0
*BO-10	20,000 C.T.	600 150	10	.032	Lugs	Lugs	B	2 1/8	2 1/4	2 13/16	1 3/8	1 3/8	—	6-32	1.5
*BO-11	3000 2500 C.T.	600 150 16 8 4	150	40	Lugs	Lugs	B	4 1/8	4 3/8	5 3/8	3 3/8	3 3/8	—	10-32	9.5
*BO-12	10,000 C.T.	600 16 8	100	10	Lugs	Lugs	B	4 1/8	4 3/8	5 3/8	3 3/8	3 3/8	—	10-32	9.0
*BO-13	10,000 C.T. a	16 8 4	100	20	Lugs	Lugs	B	3 3/8	3 13/16	4 13/16	2 3/8	2 3/8	—	10-32	7.0
*BO-15	4300 C.T. a, c	16 8	150	65	Leads	Leads	SC	4 3/8	5 1/4	5 3/4	2 1/2	4 3/8	4 1/8	7/32	12.0

tone control choke: WRITE FOR BULLETIN 456R

d	*C-2332-1	1.6 hy	For use in Pre-amplifiers for Separate Tone Control	h=2 1/2, w=2, d=2 1/8,	1.3
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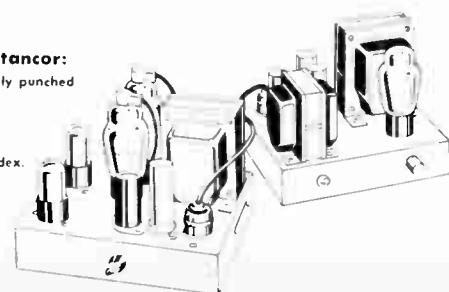
a. Has Screen grid taps on primary. b. Has Tertiary Winding to provide 15% inverse feedback. c. Has cathode feedback Winding.  
\* Available until stock is depleted

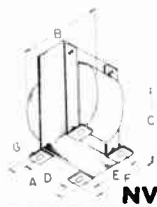
STANCOR-WILLIAMSON ULTRA-LINEAR HIGH FIDELITY AMPLIFIER

Has had wide acceptance due to its fine performance characteristics and ease of assembly.  
Power output — 25 watts with less than 1% total Harmonic distortion and negligible intermodulation distortion. Frequency response — flat from 20 cycles to 40KC. Write for Bulletin 479 for complete Parts List, schematic and performance curves.

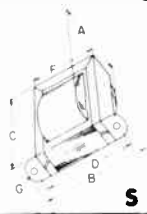
Parts Available from Stancor:

- WM-8 Chassis set — Completely punched and finished
  - PC-8412 Power Transformer
  - C-1411 Choke
  - A-8072 Output Transformer
- For Transformer ratings, refer to index.

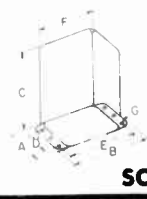




NV



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SC

**STANCOR**  
COMMERCIAL  
audio  
transformers

25 VOLT LINE TO VOICE COIL

Catalog No.	Impedance in Ohms		Audio Watts	Termination		Style	Dimensions							WT Lbs.
	Primary	Secondary		Pri	Sec		A	B	C	D	E	F	G	
A-8099	312 625 1250	8 4	2 1 .5	Lugs	Lugs	A	1 3/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.3
A-8087	312 625 1250	8	2 1 .5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
A-8088	{ 156 312 625 1250 } 2500 5000	8	{ 4 2 1 .5 } .25 .12	Leads	Leads	A	1 3/8	2 7/8	1 3/8	2 3/8	—	2	3/16	0.7
A-8095	125 250 500 1000 2000	8 4	5 2.5 1.25 .62 .31	Lugs	Lugs	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
A-8096	78 156 312 625 1250	16 8 4	8 4 2 1 .5	Lugs	Lugs	S	1 3/8	2 3/8	2	2	—	1 3/8	3/16	0.65
A-8097	{ 39 78 156 312 } 625 1250	16 8 4	16 8 4 2 1 .5	Lugs	Lugs	S	2 1/8	3 1/8	2 3/8	2 13/16	—	2 1/4	3/16	1.6

70.7 VOLT LINE TO VOICE COIL

A-8109	2500 5000 10000	8 4	2 1 .5	Lugs	Lugs	A	1 3/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.3
A-8083	2500 5000 10000	8	2 1 .5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
A-8084	{ 1250 2500 5000 } 10000 20000/40000	8	{ 4 2 1 .5 } .25 .12	Leads	Leads	A	1 3/8	2 7/8	1 3/8	2 3/8	—	2	3/16	0.7
A-8105	{ 1000 2000 4000 } 8000 16000	8 4	{ 5 2.5 1.25 } .62 .31	Lugs	Lugs	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
A-8080	1000 1250 1667 2500 5000	16 8	5 4 3 2 1	Lugs	Lugs	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
A-8102	625 1250 2500 5000 10000	16 8 4	8 4 2 1 .5	Lugs	Lugs	S	1 1/2	2 3/8	2	2	—	1 3/8	3/16	0.7
A-8081	500 555 625 715 833	16 8	10 9 8 7 6	Lugs	Lugs	S	1 3/8	2 3/8	2	2	—	1 3/8	3/16	0.7
A-8082	333 357 384 417/455	16 8	{ 15 14 13 } 12 11	Lugs	Lugs	S	1 3/8	2 7/8	2 3/8	2 3/8	—	2	3/16	1.2
A-8103	312 625 1250 2500 5000 10000	16 8 4	16 8 4 2 1 .5	Lugs	Lugs	S	2 1/8	3 1/8	2 3/8	2 13/16	—	2 1/4	3/16	1.5

140 VOLT LINE TO VOICE COIL

A-8108	4000 8000 16000 32000	8 4	5 2.5 1.25 .62	Lugs	Lugs	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
A-8106	2500 5000 10000 20000	16 8 4	8 4 2 1	Lugs	Lugs	S	1 3/8	2 3/8	2	2	—	1 3/8	3/16	0.7
A-8107	{ 1250 2500 5000 } 10000 20000	16 8 4	16 8 4 2 1	Lugs	Lugs	S	2	3 1/8	2 3/8	2 13/16	—	2 1/4	3/16	1.8

LINE TO VOICE COIL

A-8101	500	6-8 3.2	5	Lugs	Leads	A	1 1/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
A-3883	500	15 8 6 4	25	Lugs	Lugs	S	1 3/8	2 7/8	2 3/8	2 3/8	—	2	3/16	1.1
A-3882	500 333 250	15 8 4	25	Lugs	Lugs	C	2 1/2	2 3/8	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.4
A-3818	1500 1000 500	15 8 4	25	Lugs	Lugs	S	2 1/8	3 3/8	3 1/8	3 1/8	—	2 3/8	3/16	2.2
A-7947	{ 2000 1500 1000 } 500	6-8 3.2	8	Lugs	Lugs	A	1 3/8	2 7/8	1 3/8	2 3/8	—	2	3/16	0.7
A-7949	{ 2000 1500 1000 } 500	6-8 3.2	12	Lugs	Lugs	S	1 3/8	2 7/8	2 3/8	2 3/8	—	2	3/16	1.1
A-3820	2000 1500 1000 500	15 8 4	40	Lugs	Lugs	C	3 7/16	3 3/8	4 1/8	2 3/8	2 9/16	3 3/8	3/16 x 3/8	5.0
A-8104	3000 2000 1500 1000 500	16 8 4	10	Lugs	Lugs	S	1 3/8	2 7/8	2 3/8	2 3/8	—	2	3/16	1.5
A-3837	500	.06 to .48	15	Lugs	Lugs	S	2	2 7/8	2 3/8	2 3/8	—	2	3/16	1.4

LINE TO LINE

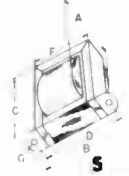
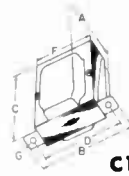
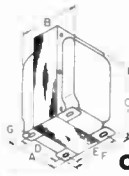
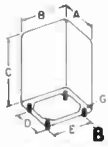
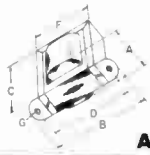
A-4350	500 333 200 125 50	500 333 200 125 50	10	Lugs	Lugs	A	1 3/8	3 1/8	2	2 13/16	—	2 3/8	3/16	1.0
A-4407	500 333 200 125 50	500 333 200 125 50	20	Lugs	Lugs	C	2 1/2	2 3/8	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.4
A-3838	500	250 166 125 100 84	30	Lugs	Lugs	NV	2 1/2	2 3/8	3 1/8	2	2	2 11/16	3/16 x 3/8	2.3

\* Available until stock is depleted

# STANCOR

COMMERCIAL

## audio transformers



**FOR INTERCOMS AND TRANSCEIVERS**

Catalog No.	Application	Impedance in Ohms		Audio Watts	Termination		Style	Dimensions							WT Lbs.
		Primary	Sec.		Pri	Sec		A	B	C	D	E	F	G	
A-4744	Intercom Input	4	25,000	—	Leads	Leads	VE	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/8	0.5
A-4748	Intercom Input	45 or 50	50,000	—	Leads	Leads	A	1 3/8	2 1/2	1 1/4	1 3/4	—	1 1/2	3/8	0.4
A-8090	Line to Voice Coil	45 or 50	6-8 3-4	3	Lugs	Lugs	A	1 1/4	2 3/8	1 3/8	2	—	1 3/4	3/8	0.5
A-8091	Line to Voice Coil	45 or 50	6-8 3-4	8	Lugs	Lugs	A	1 1/2	2 3/8	1 3/8	2 3/8	—	2	3/8	0.7
A-3817	Transceiver Modulation and Output	5000 / 6750	4	10	Leads	Leads	S	2	2 3/8	2	2	—	1 3/4	3/8	0.7
A-3833	Transceiver Input Mic. or Flate to Grid	5000 200	60,000	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2 3/8	—	2	3/8	0.7
A-3836	Transceiver Output	10,000	2000 50	5	Leads	Leads	A	1 13/16	2 3/8	1 3/8	2 3/8	—	2	3/8	0.7
A-4749	Telephone patch Circuit	10,000	500	—	Leads	Leads	TD	1 1/2	2 1/4	1 13/16	—	1 13/16	1 1/2	3/8	1.0

**MICROPHONE, PICKUP OR LINE TO GRID**

Catalog No.	Application	Impedance in Ohms		Ratio	Termination		Style	Dimensions							WT. Lbs.
		Primary	Secondary		Pri	Sec		A	B	C	D	E	F	G	
A-4705	S.B. Mic. to S. Grid	200 70	80,000	1:20	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.5
A-4706	S.B. Mic. to S. Grid	100	60,000	1:24.5	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.5
A-4708	D.B. Mic. to S. Grid	200 C.T.	57,000	1:17	Lugs	Lugs	S	1 1/2	2 3/8	2	2	—	1 3/8	3/16	0.7
A-4742	S.B. Mic. to P.P. Grids	100	400,000 C.T.	1:64	Leads	Leads	S	1 7/8	2 3/8	2 3/8	2 3/8	—	2	3/16	1.2
A-4747	S.B. Mic. or Line to S. Grid	70	1,300,000	1:137	Leads	Leads	VE	1 1/4	1 13/16	1 7/8	1 1/2	—	1 1/4	3/16	0.5

**MICROPHONE, PICKUP OR LINE TO GRID**

Catalog No.	Application	Impedance in Ohms		Ratio	Termination		Style	Dimensions							WT. Lbs.
		Primary	Secondary		Pri	Sec		A	B	C	D	E	F	G	
A-4351	Mic. or Line to S. Grid	500 333 200 125 50	89,000	1:13.3	Leads	Leads	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/8	1.4
A-4352	Mic or Line to P.P. Grids	500 333 200 125 50	89,000 C.T.	1:13.3	Lugs	Lugs	A	1 3/8	3 1/4	2	2 13/16	—	2 3/8	3/8	1.0
A-4709	Dyn. mic or Pickup to S. Grid	30 15 8 4	106,000	1:60	Leads	Leads	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/8	1.7
A-4778	Line to S. Grid	600 500 C.T.	240,000	1:20	Leads	Leads	C1	1 13/16	2 3/8	2 1/4	2 3/8	—	2	3/16	1.0
A-4779	Line to S. or P.P. Grids	600 500 C.T.	60,000 C.T.	1:10	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/8	0.5
A-4780	Line to P.P. Grids	600 500 C.T.	240,000 C.T.	1:20	Leads	Leads	VE	1 11/16	3 1/4	2	2 13/16	—	2 3/8	3/8	1.0
CIC-1	Line to P.P. Grids	600 150	100,000 C.T.	1:13	Leads	Leads	TD	1 1/2	2 1/4	2 1/8	—	1 13/16	1 1/2	3/8	0.75
CIS-1	Line to P.P. Grids	600 150	100,000 C.T.	1:13	Lugs	Lugs	TD	1 1/2	2 1/4	2 1/8	—	1 13/16	1 1/2	3/8	0.75
CIC-2	S.B. or D.B. Mic. to P.P. Grids	125 50	125,000	1:32	Leads	Leads	TD	1 1/2	2 1/4	2 1/8	—	1 13/16	1 1/2	3/8	0.75
CIS-2	S.B. or D.B. Mic. to P.P. Grids	125 50	125,000	1:32	Lugs	Lugs	TD	1 1/2	2 1/4	2 1/8	—	1 13/16	1 1/2	3/8	0.75

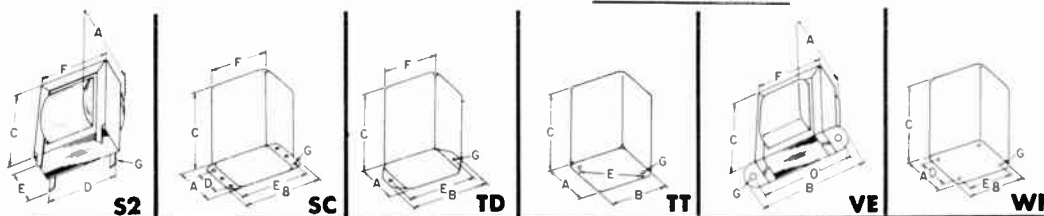
\* Available until stock is depleted

SECTION 5600

**STANCOR**

COMMERCIAL

audio transformers



**INPUT: HIGH FIDELITY—SHIELDED—FREQ. RESPONSE ± 1 DB 30 TO 15,000 CYCLES**

Catalog No.	Application	Impedance in Ohms		Audio Level	Termination		Style	Dimensions							WT. Lbs.
		Primary	Secondary		Pri	Sec		A	B	C	D	E	F	G	
8I-1	Line to S. or P.P. Grids	600/150 C.T.	50,000 C.T.	+15 dbm	Lugs	Lugs	B	2 1/2	2 1/4	2 1/8	1 3/8	1 1/8	—	6-32	1.5
8I-2	Line to S. or P.P. Grids	600/150 C.T.	50,000 C.T.	+15 dbm	Lugs	Lugs	Bo	2 1/2	2 1/4	2 1/8	1 3/8	1 1/8	—	6-32	1.5
8I-3	Line Bridging to P.P. Grids	8000/6000 C.T.	50,000 C.T.	+15 dbm	Lugs	Lugs	B	2 1/2	2 1/4	2 1/8	1 3/8	1 1/8	—	6-32	1.5
8I-4	Line to Line	600/150 C.T.	600/150 C.T.	+15 dbm	Lugs	Lugs	B	2 1/2	2 1/4	2 1/8	1 3/8	1 1/8	—	6-32	1.5
8I-5	Line to Line	600/150 C.T.	600/150 C.T.	+30 dbm	Lugs	Lugs	Bo	3	3 1/4	3 3/8	2 1/8	2 3/8	—	8-32	3.25
8I-6	P.P. Plates to S. or P.P. Grids	20,000 C.T.	50,000 C.T.	+15 dbm	Lugs	Lugs	B	2 1/2	2 1/4	2 1/8	1 3/8	1 1/8	—	6-32	1.5
8I-7	Mic., Pickup or Line to Grid	600/250/150/50	50,000 C.T.	+15 dbm	Lugs	Lugs	B	2 1/2	2 1/4	2 1/8	1 3/8	1 1/8	—	6-32	1.5

**INPUT: WF SERIES—SHIELDED—FREQ. RESPONSE ± 2 DB 30 TO 20,000 CYCLES**

WF-20	Mic., pickup or Line to Grid	500-600/333/250/200/125-.50/50	50,000 C.T.	+7 db	Lugs	Lugs	WF	1 1/2	1 1/2	2	1 3/8	1 3/8	—	4-40	0.6
WF-21	Mic., pickup or Line to Grid	500/200/50	50,000 C.T.	+7 db	Lugs	Lugs	Wfo	1 1/2	1 1/2	2	1 3/8	1 3/8	—	4-40	0.6
WF-22	Mic., pickup or Line to Grid	500-600/333/250/200/125-150/50	80,000 C.T.	+7 db	Lugs	Lugs	WF	1 1/2	1 1/2	2	1 3/8	1 3/8	—	4-40	0.6
WF-28	S. or P.P. Plates to S. or P.P. Grids	15,000 C.T.	80,000 C.T.	+7 db	Lugs	Lugs	WF	1 1/2	1 1/2	2	1 3/8	1 3/8	—	4-40	0.6
WF-30	Mixer, Mic., pickup, or Line to Line	500-600/333/250/200/125-150/50	500-600/333/250/200/125-150/50	+7 db	Lugs	Lugs	WF	1 1/2	1 1/2	2	1 3/8	1 3/8	—	4-40	0.6
WF-35	S. Plate to Line	15,000	500-600/333/250/200/125-150/50	+7 db	Lugs	Lugs	WF	1 1/2	1 1/2	2	1 3/8	1 3/8	—	4-40	0.6
WF-36	PP. Plates to Line	30,000 C.T.	500-600/333/250/200/125-150/50	+7 db	Lugs	Lugs	WF	1 1/2	1 1/2	2	1 3/8	1 3/8	—	4-40	0.6

**INPUT: MINIATURE FREQ. RESPONSE ± 1 DB 30 TO 15,000 CYCLES**

TT-11	Mic., pickup or Line to Grid	500-600/200-250/50	50,000	0db	Lugs	Lugs	TT	3/8	3/8	1 1/4	—	—	1 1/8	2-56	.08
TT-12	Mic., pickup or Line to Grids	500-600/200-250/50	50,000 C.T.	0db	Lugs	Lugs	TT	3/8	3/8	1 1/4	—	—	1 1/8	2-56	.08
TT-13	Dyn. mic. to Grid	30/7.5	50,000	0db	Lugs	Lugs	TT	3/8	—	1 1/4	—	—	1 1/8	2-56	.08
TT-14	S. Plate to Grid	15,000	60,000	0db	Lugs	Lugs	TT	3/8	—	1 1/4	—	—	1 1/8	2-56	.08

**INTERSTAGE: SINGLE PLATE (7,000 TO 20,000 OHM) TO SINGLE GRID**

Catalog No.	Ratio	Max. Pri DCMA	Termination		Style	Dimensions							WT. Lbs.
			Pri	Sec		A	B	C	D	E	F	G	
A-53	1:3	10	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/8	3/8	0.5

**INTERSTAGE: SINGLE PLATE (7,000 TO 15,000 OHM) TO PUSH PULL GRIDS**

A-52C	1:2	10	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2	—	1 3/8	3/8	0.4
A-62C	1:2	10	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2 3/8	—	2	3/8	0.7
A-4745	1:2	10	Leads	Leads	SC	2 1/4	2 1/8	2 1/8	1 1/2	2 3/8	2	3/8	1.7
A-53C	1:3	10	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/8	3/8	0.5
A-63C	1:3	10	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2 3/8	—	2	3/8	0.7
A-73C	1:3	10	Leads	Leads	A	1 3/8	3 1/8	2	2 1/8	—	2 3/8	3/8	1.0
A-4719	1:3	10	Leads	Leads	SC	2 1/4	2 1/8	2 1/8	1 1/2	2 3/8	2	3/8	1.7
A-64C	1:4	10	Leads	Leads	S	1 3/8	2 3/8	2	2	—	1 3/8	3/8	0.7
* A-4420	Replacement for Delco 6061		Leads	Leads	S2	1 1/4	—	1 3/8	1 3/8	3/8	1 3/8	3/8	0.5

**INTERSTAGE: PUSH-PULL PLATES (7,000 TO 15,000 OHMS) TO PUSH-PULL GRIDS**

Catalog No.	Ratio	Max. Pri DCMA	Termination		Style	Dimensions							WT. Lbs.
			Pri	Sec		A	B	C	D	E	F	G	
A-4711	1:1	10	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2 3/8	—	2	3/8	0.7
A-4208	1:1.4	15	Leads	Leads	C	2 1/2	2 3/8	3 3/8	2	1 3/8	2 3/8	3/8 x 3/8	2.5

**INTERSTAGE: MULTI-PURPOSE (7,000 TO 15,000 OHM PLATES)**

A-4774	1:3	10	Leads	Leads	S	1 3/8	2 3/8	2 3/8	2 3/8	—	2	3/8	1.2
A-4773	1:3	10	Leads	Leads	SC	2 1/4	2 1/8	2 1/8	1 1/2	2 3/8	2	3/8	1.7

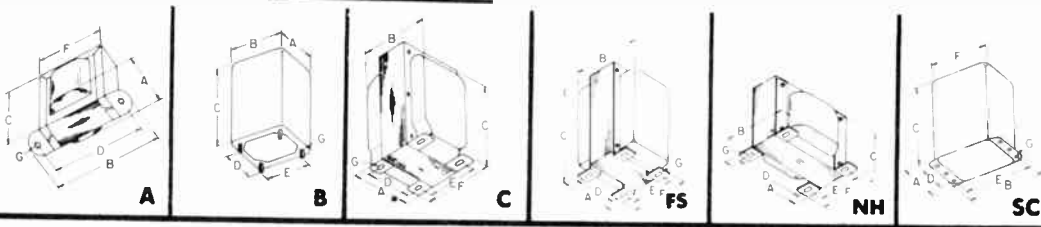
Proper Connections will provide Ratios of 1:1, 1:3, or 1:6 May be Used for Single or Push-Pull Plates to Single or Push-Pull Grids

\* Available until stock is depleted

o. Has multiple internal magnetic shields.

SECTION 5600

**STANCOR**  
COMMERCIAL  
audio  
transformers



**DRIVER: SINGLE PLATE TO PUSH-PULL GRIDS**

a	Catalog No.	Pri. Impedance in Ohms	Max Pri DCMA	Ratio Pri: 1/2 Sec	Audio Watts	Termination		Style	Dimensions							WT. Lbs.	
						Pri	Sec		A	B	C	D	E	F	G		
	A-4713	10,000	30	2:1	5	Leads	Leads	A	1 3/4	2 3/8	1 3/8	2 3/8	—	2	3/8	3/8	0.7
	A-4752	10,000	40	2 / 1.5 : 1	10	Leads	Leads	A	1 3/4	3 1/4	2	2 1/8	—	2	3/8	3/8	1.2
	A-4722	10,000	30	2:1	10	Leads	Leads	SC	2 1/4	2 1/4	1 1/2	2 3/8	—	2	3/8	3/8	1.7
	A-4723	10,000	20	2.5:1	5	Leads	Leads	A	1 1/2	2 1/2	1 1/2	2 3/8	—	2	3/8	3/8	0.7
	A-4210	1500 to 5000	40	3:1	5	Leads	Leads	A	1 1/2	2 1/2	1 1/2	2 3/8	—	2	3/8	3/8	0.7
	A-4702	1500 to 5000	80	3:1	15	Leads	Leads	C	2 1/2	2 3/4	3 1/2	2	1 3/4	2 3/8	3/8 x 3/8	2.5	
				5:1	20	Leads	Leads	C	2 1/2	2 3/4	3 1/2	2	1 3/4	2 3/8	3/8 x 3/8	2.5	

**DRIVER: PUSH-PULL PLATES TO PUSH-PULL GRIDS**

b	Catalog No.	Pri. Impedance in Ohms	Max Pri DCMA	Ratio Pri: 1/2 Sec	Audio Watts	Termination	Style	Dimensions							WT. Lbs.	
						Pri	Sec	A	B	C	D	E	F	G		
	A-4208	10,000 to 30,000 C.T.	15	2.8:1	15	Leads	Leads	C	2 1/2	2 3/4	3 3/8	2	1 3/4	2 3/8	3/8 x 3/8	2.5
	A-4701	20,000 C.T.	25	3:1	15	Leads	Leads	C	2 1/2	2 3/4	3 3/8	2	1 3/4	2 3/8	3/8 x 3/8	2.5
	A-4212	1500 to 5000 C.T.	50	3.2:1	20	Leads	Leads	C	2 1/2	2 3/4	3 3/8	2	1 3/4	2 3/8	3/8 x 3/8	2.5

**DRIVER: "POLY-PEDANCE"-MULTIPLE TAPS OFFER A WIDE RANGE OF RATIO SELECTION**

b	Catalog No.	Pri. Impedance in Ohms	Max Pri DCMA	Ratio Pri: 1/2 Sec	Audio Watts	Termination	Style	Dimensions							WT. Lbs.	
						Pri	Sec	A	B	C	D	E	F	G		
	A-4761	5000 to 15,000 C.T.	100	2.4 2.2 2.1 1.8 1.6 1.4 1.25:1	15	Leads	Lugs	C	2 1/2	3 1/8	3 3/8	2	2 1/8	2 3/8	3/8 x 3/8	3.4
	A-4762	5000 to 15,000 C.T.	100	5 4.5 4 3.4 3.2 3.1 2.6:1	15	Leads	Lugs	C	2 1/2	2 3/4	3 3/8	2	1 3/4	2 3/8	3/8 x 3/8	2.7
	A-4765	500		1.33 1.2 1 .8 .7 .5 .45 .4 .36 .32:1	15	Leads	Lugs	C	2 1/2	2 3/4	3 3/8	2	1 3/4	2 3/8	3/8 x 3/8	3.2

**DRIVER: BROADCAST FREQ. RESPONSE + 1 DB 30 TO 15,000 CYCLES**

c	Catalog No.	Pri. Impedance in Ohms	Max Pri DCMA	Ratio Pri: 1/2 Sec	Audio Watts	Termination	Style	Dimensions							WT. Lbs.	
						Pri	Sec	A	B	C	D	E	F	G		
	BD-1	3000 C.T.	100	3.5:1	10	Terms	Terms	B	3 1/4	3 3/8	4 3/8	2 3/4	2 3/8	—	10-32	6.5

**MODULATION**

c	Catalog No.	Impedance in Ohms		Max. Sec DCMA	Audio Watts	Termination		Style	Dimensions							WT. Lbs.	
		Primary	Secondary			Pri	Sec		A	B	C	D	E	F	G		
	A-3812	10,000 C.T.	4000	50	5	Leads	Leads	A	1 3/4	2 3/8	1 3/8	2 3/8	—	2	3/8	3/8	0.7
	A-3871	4500	8500	50	10	Leads	Leads	SC	2 1/2	2 1/4	2 1/4	1 1/2	2 3/8	—	2	3/8	1.4
	A-3845	10,000 C.T.	8000 6500 5000 3000	100	25	Leads	Leads	C	2 1/2	2 3/8	3 3/8	2	1 3/8	2 1/2	3/8 x 3/8	2.8	
	A-3808	3800 3300 C.T.	10 000 7500 5000	170	60	Lugs	Lugs	C	3 3/4	4	4 1/8	3	2 1/8	3 3/8	3/8 x 3/8	7.7	
	A-3829	9000 6900 C.T.	6250 5000 4000 3300	300	175	Lugs	Lugs	C	3 3/4	5	4 1/8	3	3 1/8	4 3/8	3/8 x 3/8	11.4	

**MODULATION: "POLYPEDANCE" — MULTIPLE TAPS OFFER A WIDE RANGE OF IMPEDANCE MATCH**

d	Catalog No.	Pri. Impedance in Ohms	Max Pri DCMA	Ratio Pri: 1/2 Sec	Audio Watts	Termination	Style	Dimensions							WT. Lbs.	
						Pri	Sec	A	B	C	D	E	F	G		
	A-3891	2000 to 20,000	2000 to 20,000	100	15	Lugs	Lugs	C	2 1/2	2 3/4	3 3/4	2	1 3/4	2 3/8	3/8 x 3/8	2.5
	A-3892	2000 to 20,000	2000 to 20,000	150	30	Lugs	Lugs	C	3 1/4	3 1/2	3 3/4	2 1/2	2 3/4	3	3/8 x 3/8	4.3
	A-3893	2000 to 20,000	2000 to 20,000	180	60	Lugs	Lugs	C	3 3/4	4	3 3/4	2 1/2	2 1/4	3 1/2	3/8 x 3/8	6.2
	A-3894	2000 to 20,000	2000 to 20,000	225	125	Lugs	Lugs	C	3 3/4	4 1/2	4 1/8	3	3 3/8	4 1/8	3/8 x 3/8	9.4
	A-3898	2000 to 20,000	2000 to 20,000	260	300	Terms	Terms	FS	5 3/4	7 3/8	8 1/8	4 3/4	4 3/4	5 3/4	3/8 x 3/8	3.8
	A-3899	2000 to 20,000	2000 to 20,000	500	600	Terms	Terms	FS	7 1/4	10 1/4	9 1/4	6	5 3/4	6 3/4	3/8 x 3/8	7.0

**MODULATION: BROADCAST FREQ. RESPONSE + 1 DB 30 TO 15,000 CYCLES**

e	Catalog No.	Pri. Impedance in Ohms	Max Pri DCMA	Ratio Pri: 1/2 Sec	Audio Watts	Termination	Style	Dimensions							WT. Lbs.	
						Pri	Sec	A	B	C	D	E	F	G		
	BM-1	7500 C.T.	5000	0	125	Terms	Terms	SC	6 1/8	6 1/2	7 1/8	4 1/4	6	5 1/4	1/4	25

**MODULATION REACTOR:**

e	Catalog No.	Inductance in Henries	DCMA	Insul. Test RMS Volts	Termination	Style	Dimensions							WT. Lbs.
							A	B	C	D	E	F	G	
	BR-1	65	250	7500	Terms	SC	7 1/8	7 3/8	8 1/8	5	7	5 1/4	1/4	41

**SPLATER CHOKES: FOR HIGH LEVEL "CLIPPER" FILTERS**

f	Catalog No.	Pri. Impedance in Ohms	Max Pri DCMA	Audio Level	Termination	Style	Dimensions							WT. Lbs.
					Pri	Sec	A	B	C	D	E	F	G	
	C-2317	.048 to 0.9	300	5000	Lugs	NH	3	3	2 3/8	2 1/2	2	2 3/8	3/8 x 3/8	2.3
	* SR-300	.02 to 1.5	300	7500	Terms	SC	4 3/8	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	7/8	10
	* SR-500	.02 to 1.5	500	10000	Terms	SC	5 3/8	5 3/8	6 3/8	3 1/2	5 3/8	4 1/8	1/4	14.5

**LOW PASS FILTER: CUT OFF FREQ. 3,000 CYCLES**

f	Catalog No.	Impedance in Ohms		Audio Level	Termination		Style	Dimensions							WT. Lbs.
		Input	Output		Pri	Sec		A	B	C	D	E	F	G	
	* LPF-1	15,000	500 or 100,000	10 V. output	Lugs	Lugs	SC	2 1/4	2 1/4	2 1/4	1 1/2	2 3/8	2	3/8	0.9

**BAND PASS FILTER: 200 TO 3,000 CYCLES**

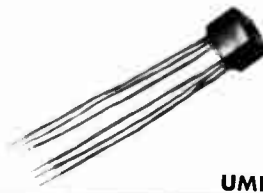
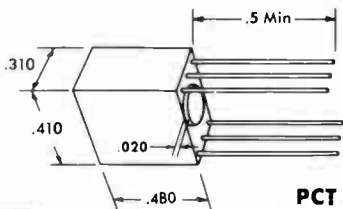
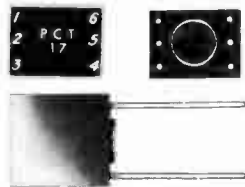
g	Catalog No.	Pri. Impedance in Ohms	Max Pri DCMA	Audio Level	Termination	Style	Dimensions							WT. Lbs.	
					Pri	Sec	A	B	C	D	E	F	G		
	C-2340	10,000	500 or 100,000	10 V. output	Lugs	Lugs	SC	2 1/4	2 1/4	2 1/4	1 1/2	2 3/8	2	3/8	0.6

**FOR TRANSISTOR MOBILE MODULATOR (WRITE FOR BULLETIN 545 FOR CIRCUIT)**

h	Catalog No.	Application	Impedance in Ohms		Max Pri DCMA	Audio Watts	Termination		Style	Dimensions							WT. Lbs.
			Pri	Sec			Pri	Sec		A	B	C	D	E	F	G	
	TA-15	Input	50 to 100	10	50	.005	Leads	Leads	A	1	1 3/8	1 3/8	1 3/8	—	1 1/2	1/8	0.15
	TA-16	Driver	20	36 C.T.	400	1.0	Leads	Leads	A	1 1/4	2 1/8	1 1/4	1 1/4	—	1 1/2	3/8	0.20
	TA-17	Modulation	8 C.T.	(7500 5000 or 120 Ma)	—	35.0	Leads	Leads	C	2 1/2	3	3 3/8	2	2	2 3/8	3/8 x 3/8	3.0

\* Available until stock is depleted

SECTION 5600



**STANCOR**  
COMMERCIAL  
miniature  
audio

**POLYCHROMATRANS** With Multiples of 0.1" Grid Spacing for Printed Circuits.

**COLOR CODING** by application to assure immediate and positive transformer identification.

**RECTANGULAR SHAPE** allows the utmost utilization of space and stacking in limited area.

**PROTECTIVE STAND-OFF** prevents solder flow-back and maximum lead exit protection.

**SPACED LEADS** of fatigue resistant gold plated nickel-iron alloy are .020" in diameter, 9/16" long and have multiples of 0.1" grid spacing for printed circuit application.

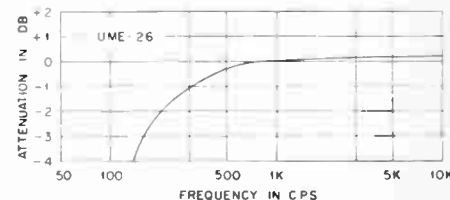
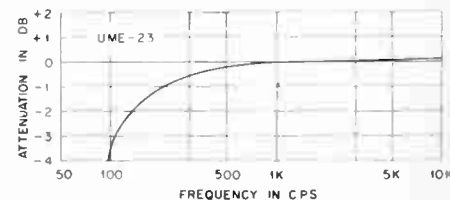
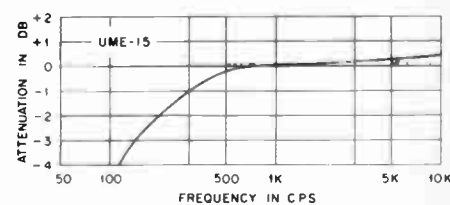
Catalog No.	Power Level in M.W.	Application	Color Application Guide	Matching Impedance		Max. M.A. D.C. Unbal. in Pri.	D.C. Resistance		Overall Turns Ratio	RMS Test Volts
				Primary	Secondary		Primary	Secondary		
PCT-14	.15	Input	Brown	200,000 CT	1,000 CT	0	6300	130	14.1:1	500
PCT-15	.35	Input	Brown	50,000 CT	1,000 CT	0	4600	90	7.1:1	500
PCT-16	.5	Input	Brown	250,000	250,000	0	3500	4500	1:1	500
PCT-17		Input	Brown	200,000	1,000	0	6300	130	14.1:1	500
PCT-21		Interstage	Red	25,000	1,000	.5	2000	140	5:1	500
PCT-23	.55	Interstage	Red	25,000 CT	1,000 CT	.5	2000	140	5:1	500
PCT-25	.75	Interstage	Red	10,000 CT	1,500 CT	1	1250	360	2.57:1	500
PCT-30	.75	Driver	Orange	10,000 CT	1,200 CT	1	1250	240	2.88:1	500
PCT-31	.75	Driver	Orange	10,000 CT	2,000 CT	1	1250	400	2.24:1	500
PCT-39	.75	Driver	Orange	10,000 CT	500 CT	1	1250	100	4.47:1	500
PCT-43	.75	Output	Yellow	1,000	50	3	175	9.5	4.4:1	500
PCT-54	.75	Output	Yellow	600 CT	12	4.5	92	3.6	7.06:1	500
PCT-60	.75	Output	Yellow	500 CT	600	3	80	118	1.1:1	500
PCT-61	.75	Output	Yellow	900 CT	600	4	125	115	1.22:1	500
PCT-62	.75	Output	Yellow	1,500 CT	600	3	200	110	1.58:1	500
PCT-70	.75	Output	Yellow	320 CT	3.2	6	52	.9	10:1	500
PCT-71	.75	Output	Yellow	600 CT	3.2	4.5	84	1	13.6:1	500
PCT-76	.75	Output Isolation	Green	10,000 CT	10,000 CT	1	1100	1400	1:1	500
PCT-77	.75	Output Isolation	Green	600 CT	600 CT	3	85	110	1:1	500
PCT-116	—	Choke	Blue	6 HYS.	—	2	1800	—	—	500
PCT-117	—	Choke	Blue	1.25 HYS.	—	2	200	—	—	500
PCT-118	—	Choke	Blue	3.5 HYS.	—	2	1200	—	—	500
PCT-128	—	Choke	Blue	.3 HY.	—	4	50	—	—	500

SPCT-10 Magnetic Alloy Shield-fits all PCT Transformers.

**ULTRA MINIATURE ENCAPSULATED TRANSFORMERS** Size .312" x .400" x .426". Insulation Test — 100 Volts

Catalog No.	Application	Pri. Res.	Pri. Imp. in Ohms	D.C. MA in Pri.	Sec. Imp. in Ohms	Sec. Res.	Mw. Level
UME-11	interstage	1500	30,000	.5	1200	185	50
UME-12	output	120	600	3	60	13	100
UME-13	output	250	1200	3	60	17	100
UME-14	output	70	600	3	3.2	.7	100
UME-15	output	170	1200	2	3.2	.75	100
UME-16	output	1200	10,000	1	3.2	.7	100
UME-17	input	7500	200,000	0	1000	260	25
UME-18	reactor	1000	3 hy @ 2 MADC	2	—	—	—
UME-19	output or driver	1100	12,500 CT	1	600 CT	45	100
UME-20	driver	1000	12,500	1	1500 CT	100	100
UME-21	driver	1100	12,500	1	2500 CT	160	100
UME-22	single or PP output	25	200 CT	10	16	3	500
UME-23	single or PP output	35	400 CT	7	16	2.5	500
UME-24	single or PP output	75	800 CT	5	16	2	500
UME-25	single or PP output	85	1070 CT	4	16	2	500
UME-26	single or PP output	120	1330 CT	3.5	16	2	500
UME-27	single or PP output	225	2000 CT	3	16	2.5	500
UME-28	single or PP output	750	10,000 CT	1	16	2.5	500
UME-29	output	35	300 CT	7	600	110	500
UME-30	output	60	500 CT	5.5	600	110	500
UME-31	output	105	900 CT	4	600	110	500
UME-32	output	200	1500 CT	3	600	120	500
UME-33	interstage	1500	30,000 CT	.5	1200 CT	175	100
UME-34	input	6500	200,000 CT	0	1000 CT	250	25
UME-35	interstage	1000	12,000 CT	1	1800 CT	115	100
UME-36	reactor	2600	6 hy @ 2 MADC	2	—	—	—
UME-37	reactor	190	1 hy @ 2 MADC	2	—	—	—
UME-38	reactor	1800	12 hy @ 0 DC	0	—	—	—
UME-39	reactor	2700	20 hy @ 0 DC	0	—	—	—

Typical Response Curves

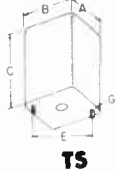
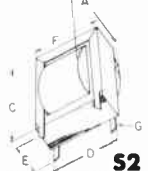
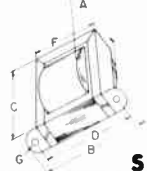
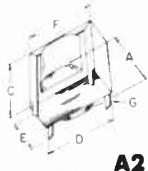
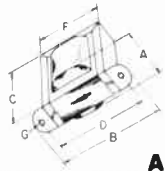


SECTION 5600

**STANCOR**

COMMERCIAL

transistor  
transformers



FOR AUDIO APPLICATIONS: ALL UNITS TERMINATE WITH LEADS

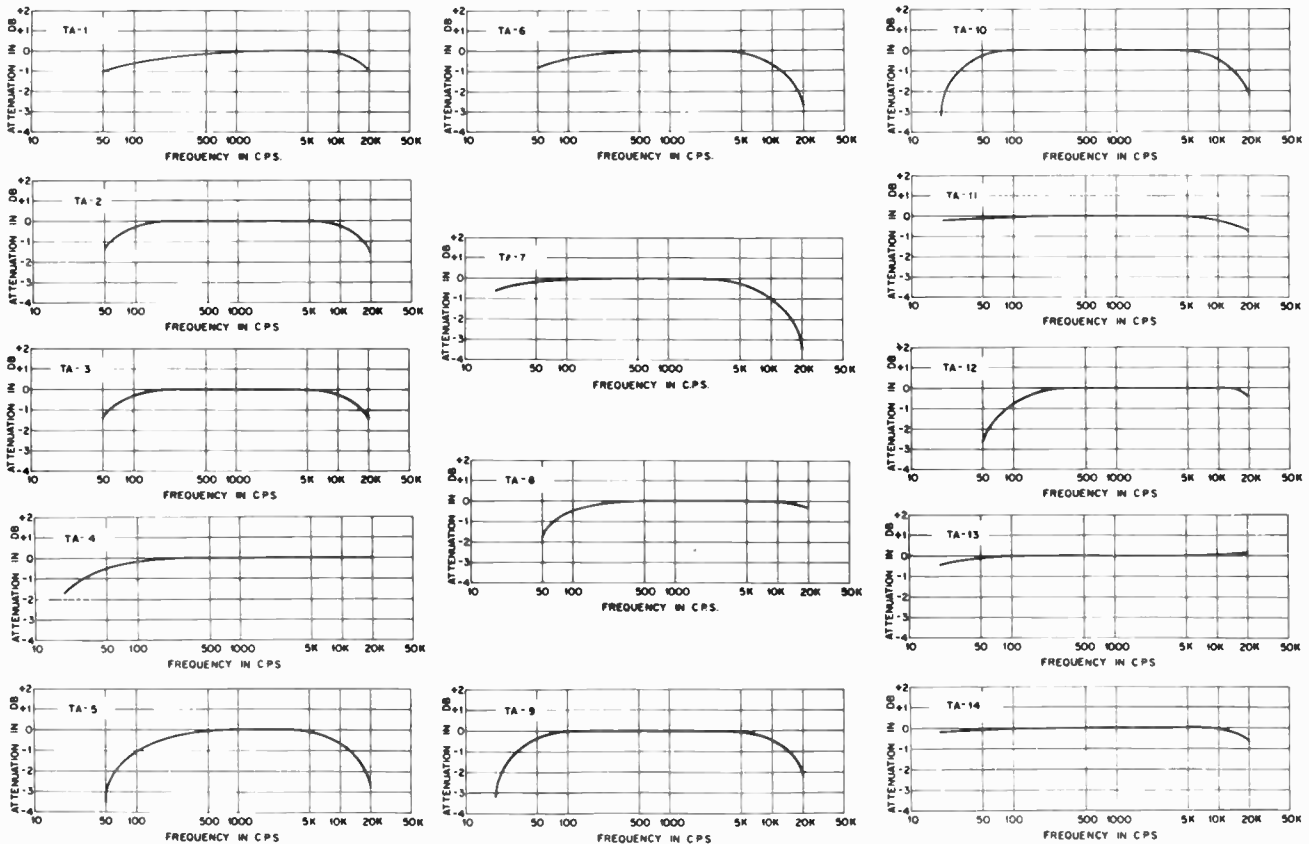
Catalog No.	Application	Impedance in Ohms		Max. Pri. DCMA	Audio Watts	D.C. Res. in Ohms		Style	Dimensions							WT Lbs.	
		Pri.	Sec.			Pri	Sec		A	B	C	D	E	F	G		
TA-1	Input	600 C.T.	10	20	.05	42	0.8	A	1	1 3/8	1 3/16	1 3/8	—	—	1 1/16	3/8	.07
TA-2	Interstage	100 C.T.	10 C.T.	100	.25	4.3	0.8	A	1 1/2	2 1/8	1 1/4	1 3/8	—	—	1 1/2	3/16	.25
TA-3	Interstage	100	1000 C.T.	100	.25	5.8	4.5	A	1 1/2	2 3/8	1 3/8	2	—	—	1 3/4	3/16	.35
TA-4	Interstage	500 C.T.	5000 C.T.	12	.03	37	250	A	1 3/8	2 3/8	1 3/8	2	—	—	1 3/4	3/16	.35
TA-5	Driver	1000	200 C.T.	10	.05	400	115	A	3/8	1 3/8	1 3/16	1 1/16	—	—	1 3/16	1/8	.05
TA-6	Driver	2000	200 C.T.	5	.05	720	115	A	3/8	1 3/8	1 1/16	1 1/16	—	—	1 3/16	1/8	.05
TA-7	Driver	100	100 C.T.	100	.5	12	12	A	1 3/8	2 3/8	1 3/8	2 3/8	—	—	2	3/16	.60
TA-8	Output	9800	15	2	.05	640	2	A	3/8	1 3/8	1 1/16	1 1/16	—	—	1 3/16	1/8	.05
TA-9	Output	1000	16 8 4	10	.2	180	3.5	A	3/8	1 3/8	1 3/16	1 3/8	—	—	1 1/16	1/8	.07
TA-10	Output	2000 C.T.	16 8 4	—	.2	250	4	A	3/8	1 3/8	1 3/16	1 3/8	—	—	1 1/16	1/8	.08
TA-11	Output	48 C.T.	16 8	275	5	5	1.5	A	1 3/8	3 1/4	2	2 1/16	—	—	2 3/8	3/16	1.0
TA-12	Output	20 C.T.	8	500	10	.55	.35	A	1 3/8	2 3/8	1 3/8	2	—	—	1 3/4	3/16	.45
TA-13	Driver	200 C.T.	400 C.T.	10	.6	4	7	SC	2 1/4	2 1/16	2 1/16	1 1/2	—	—	2	3/16	1.5
TA-14	Output	24 C.T.	16 4	200	10	2	1.2	SC	3 1/16	4 7/16	4 3/16	2 3/8	—	—	3 1/4	3/16	6.6
TA-56	Output	48 C.T.	16 8 3.2	550	10	3.6	1.4	S†	1 3/4	2 3/8	2 3/8	2 3/8	—	—	2	3/16	.90
TA-57	Output	100 C.T.	16 8 3.2	500	10	6.6	1.5	S	1 3/8	2 3/8	2 3/8	2 3/8	—	—	2	3/16	.95
TA-58	Driver	100	200 C.T.	200	.5	6.5	15.5	A	1 1/4	2 1/8	1 1/4	1 3/4	—	—	1 1/2	3/16	.20
TA-59	Driver	500 C.T.	200 C.T.	50	.5	36.5	15.5	A	1 3/8	2 1/8	1 1/4	1 3/4	—	—	1 1/2	3/16	.20
TA-60	Output	125 C.T.	8	50	1.5	7.5	0.9	TS	1 3/16	1 3/8	1 1/16	—	—	—	—	6-32	.30
TA-61	Driver	*	*	—	—	1.8	1.8	S	1 1/2	2 3/8	2	2	—	—	1 3/8	3/16	.60
TA-62	Output	25	4	400	4	1.5	0.4	A	1 3/8	2 3/8	1 3/8	2 3/8	—	—	2	3/16	.60

FOR TRANSISTORIZED AUTO RADIOS

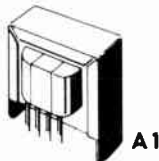
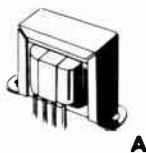
TA-48	Interstage	1000	40	10	2	136	2.8	S2	1 1/4	—	1 3/4	1 3/16	7/16	1 3/8	1/8	.35	
TA-49	Output	30 C.T.	4	50	10	2.2	0.3	S	1 1/2	2 3/8	2 3/8	2 3/8	—	—	2	3/16	.80
TA-50	Output	9	4	920	10	1.5	1.0	A2	1 3/8	—	2	2	—	—	3/4	2 3/8	1.0
TA-51	Interstage	1000	10	10	2	170	1.0	S2	1 1/4	—	1 3/4	1 3/16	7/16	1 3/8	1/8	.35	

\*Trifilar Wound-Ratio 1:1:1. †Has Lugs on Secondary.

TYPICAL FREQUENCY RESPONSE CURVES





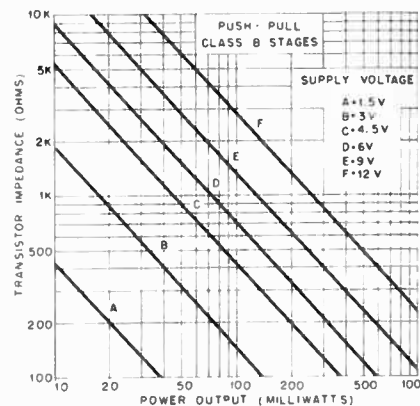


## MINIATURE AUDIOS

**.150 WATT GROUP** — Dimensions: HxWxD, 2 1/2" x 1 3/8" x 5/8". Mounting tabs 3/16" wide, 2 3/8" centers • Weight .65 oz. Mounting Type A1.

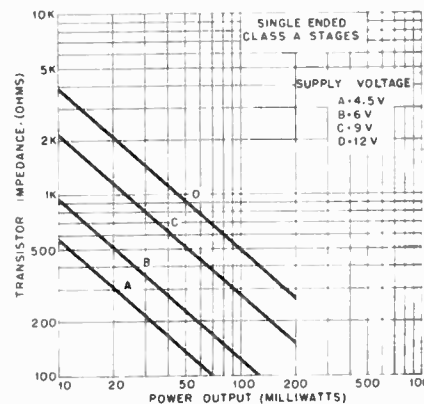
Catalog No.	Application	Turns Ratio Pri. to Sec.	Impedance in Ohms		D.C. Res. in Ohms	
			Pri.	Sec.	Pri.	Sec.
TA-18	Input	1.00:45.5	30 CT	50,000	14.7	4060
TA-19	Interstage	3.08:1	100 CT	10 CT	19	1.27
TA-20	Output	5.22:1	350 CT	4, 12	38	1.45
TA-21	Output	5.53:1	500 CT	4, 8, 16	75.3	3.55
TA-22	Interstage	3.16:1	500 CT	50	59.7	7.9
TA-23	Output	5.65:1	600 CT	4, 8, 16	73.2	3.2
TA-24	Interstage	10.0:1	500 CT	50,000	76.8	5135
TA-25	Output	6.75:1	825 CT	4, 8, 16	74	2.7
TA-26	Output	9.80:1	1,250	4, 12	132.5	1.4
TA-27	Interstage	1:4.08	1,200	20,000 CT	142	1860
TA-28	Interstage	1.65:1	1,500	500 CT	104	46.5
TA-29	Output	11.8:1	2,500	4, 16	370	2.3
TA-30	Interstage	1.00:1.22	5,000 CT	7,500 CT	650	790
TA-31	Interstage	1.00:1.41	5,000 CT	10,000 CT	635	825
TA-53	Interstage	3:1	5,000 CT	45,000	310	1400
TA-32	Interstage	1.00:4	5,000 CT	80,000 CT	500	5200
TA-33	Output	24.6:1	10,000 CT	4, 8, 16	1174	2.6
TA-34	Interstage	6.97:1	10,000	200 CT	1200	33.4
TA-35	Interstage	2.24:1	10,000	2,000 CT	1200	257
TA-36	Interstage	1.83:1	10,000	3,000 CT	1200	385
TA-54	Interstage	5:1	20,000	800 CT	1350	95
TA-37	Output	5.55:1	400 CT	11	71.5	1.5
TA-38	Interstage	1.72:1	500 CT	150 CT	62	21.2

Transistor Impedance Characteristic Curves



**.300 WATT GROUP** — Dimensions: HxWxD, 1 3/8" x 1 3/8" x 3/4". Mounting Centers: 1 3/8" • Weight 1.2 oz. Mounting Type A.

Catalog No.	Application	Turns Ratio Pri. to Sec.	Impedance in Ohms		D.C. Res. in Ohms	
			Pri.	Sec.	Pri.	Sec.
TA-39	Output	2.5:1	100 CT	4, 8, 16	10.9	1.45
TA-40	Output	3.27:1	160	4, 8, 16	18.7	1.4
TA-41	Output	5.00:1	400 CT	4, 8, 16	34	1.5
TA-42	Output	5.60:1	500 CT	4, 8, 16	47	.85
TA-52	Interstage	1:1	500 CT	500 CT	40	55
TA-43	Output	6.63:1	700 CT	4, 8, 16	77	1.15
TA-44	Output	12.5:1	2,500	4, 8, 16	172	1.15
TA-45	Output	13.7:1	3,000	4, 8, 16	192	1.2
TA-46	Interstage	8.17:1	100,000	1,500 CT	3250	143
TA-55	Input	50:1	500,000	200 CT	7000	8.5
TA-47	Input	1.00:14.1	1,000 CT	200,000 CT	123	181.5
TA-63	Driver	3.17:1	20,000 CT	2,000 CT	2140	32.5

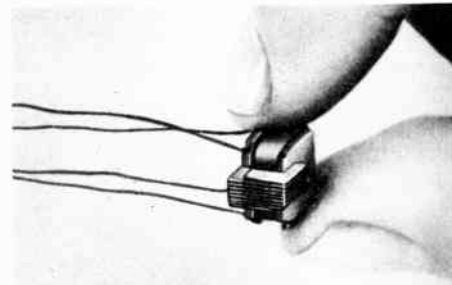


## ULTRA MINIATURE

Here are the smallest iron core audio transformers ever built. They weigh less than 1/10 ounce and are no larger than the transistors they power.

These transformers are designed primarily for transistor audio applications but they can be used wherever low power is involved. Useful range, below 1 mw level. They are constructed of extremely fine wire, wound on molded nylon bobbins, with special nickel alloy steel laminations.

Catalog No.	Application	Pri. Imp.	Sec. Imp.	Pri. DC Res.	Sec. DC Res.	Weight
•UM-111	Output or matching	1,000	50/60	120	9.0	0.10
•UM-112	High imp. mic. input	200,000	1,000	4000	195	0.10
•UM-113	Interstage	20,000	1,000	1350	205	0.10
•UM-114	Output or matching	500	50/60	70	9.0	0.10

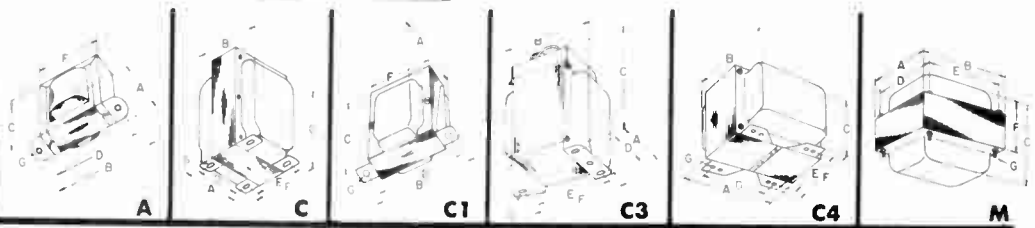


Dimensions\* UM-110, 1/4" x 3/8" x 3/8"; UM-111, 112, 113, 114, 3/8" x 3/8" x 3/8". Dimensions ±.015". \*Available until stock is depleted.

# STANCOR

COMMERCIAL

power transformers



Stancor's broad line of commercial grade power transformers offers a choice of standard mounting styles. Listings are in ascending order of plate-supply voltage for ease of selection.

All units are designed and built to meet the exacting requirements of EIA for electrical tolerances, dielectric strength, temperature rise and construction. All are insulated with class A materials; (105°C max. operating temperature).

Transformers designed for full-wave C.T. rectification with capacitor input filter may be used with choke input filter allowing an increase in D.C. current of 30%.

Transformers designed for full-wave C.T. rectification with choke input filter may be used with capacitor input filter requiring a decrease in D.C. current of 25%.

CONSULT FACTORY for detailed information concerning electrical rating and or mechanical characteristics.

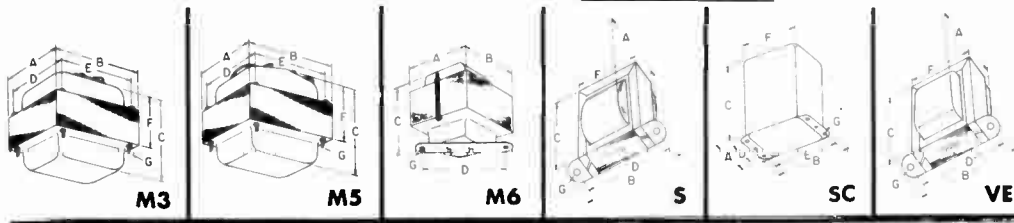
FOR CAPACITOR INPUT SYSTEMS

PRIMARYS 117 VOLTS 60 CYCLES

Catalog No.	Plate Windings		Rectifier Fil.		Other Windings		Termination		Style	Dimensions							Wt. lbs.		
	AC Volts	DCMA	Volts	Amps	Volts	Amps	Pri.	Sec.		A	B	C	D	E	F	G			
a	P-8379	115 <sup>a</sup>	290			2.7 6.3	.45 8.0	Leads	Leads	M†	2 1/16	3 3/8	4	2 7/8	3	2 3/8	8-32	5.7	
	P-8158	117 <sup>a</sup>	200			6.3 6.3 6.3	4.0 2.0 9.5	Leads	Leads	M†	3 3/8	4 3/8	3 3/8	2 3/4	3 3/8	2 3/8	8-32	6.2	
	P-8336	117 <sup>a</sup>	280			6.3 6.3	1.2 6	Leads	Leads	M†	3 3/4	4 3/8	4 1/4	3 3/4	4 1/8	3	8-32	8.0	
	P-8386	117 <sup>a</sup>	300			6.3	10.0	Leads	Leads	C4†	3 3/4	4	3 3/8	2 1/2	2 1/2	2 3/8	3/16 x 3/8	6.9	
b	P-6146	120-0-120	250	5.0	3.0			Leads	Leads	C	3 3/8	3 3/4	3 3/8	2 1/2	1 13/16	2 13/16	3/16 x 3/8	4.2	
	PS-8415	125 <sup>b</sup>	15			6.3	.6	Leads	Leads	S	1 3/8	2 3/8	1 13/16	2	—	2 11/16	3/16	.7	
	PS-8416	125-0-125	25			6.3	1.0	Leads	Leads	S	1 3/8	2 13/16	2 3/8	2 3/8	—	2	3/16	1.0	
	PA-8421	125 <sup>b</sup>	50			6.3	2.0	Leads	Leads	A	2 1/8	3 11/16	2 1/4	3 3/8	—	2 3/8	3/16	1.5	
	P-8181	150 <sup>b</sup>	25			6.3 C.T.	.5	Leads	Leads	VE	1 13/16	2 3/8	1 13/16	2	—	1 3/8	3/16	.8	
	P-8372	150 <sup>b</sup>	250			6.3	8.0	Leads	Leads	M	3 3/4	4 1/2	4 1/8	3	3 3/4	2 3/8	8-32	8.7	
	P-9000C	155 <sup>a</sup>	450			6.3	2.0	Leads	Leads	C†	3 1/2	4 3/8	4 3/8	3 1/8	3 13/16	4 1/2	1/4 x 3/8	12.0	
	P-8359	190-160-0-160-190	70			6.3 C.T.	3.0	Leads	Leads	C	2 1/2	2 3/8	3 1/8	2	1 3/8	2 3/8	3/16 x 3/8	2.8	
	P-8383	200-0-200	110			6.3	2.0	Leads	Leads	C	2 1/2	3 1/4	3 1/8	2	2 1/4	2 3/8	3/16 x 3/8	3.0	
	PC-8417	220-0-220	50			6.3 25.2	4.0 6	Leads	Leads	C	2 1/2	2 3/8	3 1/8	2	1 3/8	2 3/8	3/16 x 3/8	2.2	
c	P-8168	220-0-220	330	5.0	3.0	6.3	6.5	Leads	Leads	M†	3 3/4	4 3/8	4 3/8	3	3 3/4	3 3/8	8-32	10.5	
	PCC-40	130-0-130	220			6.3	6.5	Leads	Leads	SC	2 3/8	3 1/2	3 1/2	2	3 3/8	2 13/16	3/16	3.2	
	PSC-40	225-0-225	40	5.0	2.0	6.3 C.T.	2.0	Lugs	Lugs	SC	2 3/8	3 1/2	3 3/8	2	3 3/8	2 13/16	3/16	3.2	
	P-8155	225-0-225	90	5.0	2.0	6.3 C.T.	2.0	Lugs	Lugs	M	2 13/16	3 3/8	3 3/8	2 1/4	2 13/16	2 1/2	8-32	4.5	
	PC-8418	230-0-230	50			6.3	2.5	Leads	Leads	C	2 1/2	2 3/8	3 1/8	2	1 3/8	2 3/8	3/16 x 3/8	2.2	
	PM-8418	230-0-230	50			6.3	2.5	Leads	Leads	M	2 1/2	3	2 3/8	2	2 1/8	1 1/2	8-32	2.2	
	PC-8401	235-0-235	40	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	C	2 1/2	2 3/8	3 1/8	2	1 3/8	2 3/8	3/16 x 3/8	2.2	
	PM-8401	235-0-235	40	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	M	2 1/2	3	2 3/8	2	2 1/2	1 3/8	8-32	2.2	
	P-8374	235-0-235	260	5.0	6.0	6.3	5.0	Leads	Leads	M†	3 3/8	4 3/8	4 3/8	3	3 13/16	3 3/8	8-32	10.0	
	P-8382	235 <sup>b</sup>	20	5.0	2.0	6.3	1.2	Leads	Leads	M6	2 3/8	2 3/8	3 3/8	2 13/16	—	—	.136	2.5	
	PC-8402	240-0-240	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	C	2 1/2	2 3/4	3 3/8	2	1 3/4	2 3/8	3/16 x 3/8	2.4	
	PM-8402	240-0-240	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	M	2 1/2	3	2 3/8	2	2 1/2	1 3/8	8-32	2.4	
d	P-6348	240-0-240	60			6.3 C.T.	2.75	Leads	Leads	M	2 3/8	2 3/8	2 3/4	1 13/16	—	2 1/8	6-32	2.3	
	PC-8419	240-0-240	70			6.3	3.0	Leads	Leads	C	2 1/2	2 3/8	3 3/8	2	1 13/16	2 3/8	3/16 x 3/8	2.6	
	PM-8419	240-0-240	70			6.3	3.0	Leads	Leads	M	2 1/2	3	2 3/8	2	2 1/2	2	8-32	2.6	
	P-8173	250-0-250	10			6.3	.6	Leads	Leads	C1	2 3/8	2 3/8	2 1/4	2 3/8	—	1 1/2	3/16	1.0	
	P-8174	250-0-250	20			6.3	.6	Leads	Leads	C1	3 3/8	2 1/4	2 3/8	2 13/16	—	2 3/8	3/16	1.5	
	PC-8403	250-0-250	70	5.0	2.0	6.3 C.T.	2.5	Leads	Leads	C	2 1/2	3 3/8	3 3/8	2	2 13/16	2 13/16	3/16 x 3/8	3.2	
	PM-8403	250-0-250	70	5.0	2.0	6.3 C.T.	2.5	Leads	Leads	M	2 1/2	3	3 3/8	2	2 1/2	2 1/4	8-32	3.2	
	PC-8404	260-0-260	90	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	C	2 13/16	3 1/2	3 1/2	2 1/4	2 13/16	2 3/8	3/16 x 3/8	4.0	
	PM-8404	260-0-260	90	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	M	2 13/16	3 3/8	3 1/2	2 1/4	2 13/16	2 3/8	3/16 x 3/8	4.0	
	PC-8420	260-0-260	90			6.3	4.0	Leads	Leads	C	2 13/16	3 3/8	3 1/2	2 1/4	2	2 13/16	2 3/8	3/16 x 3/8	3.5
	PM-8420	260-0-260	90			6.3	4.0	Leads	Leads	M	2 13/16	3 3/8	3 1/2	2 1/4	2	2 13/16	2 3/8	3/16 x 3/8	3.5
	P-8354	260-0-260	325	5.0 C.T.	6.0	6.3	11.0	Leads	Leads	M5†	3 3/4	4 1/2	5 1/4	3 3/8	4 1/8	4	8-32	11.0	
P-8353	265-0-265	300	5.0	6.0	12.6 C.T.	6.0	Leads	Leads	C3	3 3/4	4 3/4	5 3/8	3	4	5 1/4	3/32 x 1/2	12.5		
e	PCC-55	270-0-270	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	SC	2 3/8	3 1/2	3 1/2	2	3 3/8	2 11/16	3/16	3.5	
	PSC-55	270-0-270	55	5.0	2.0	6.3 C.T.	2.0	Lugs	Lugs	SC	2 3/8	3 1/2	3 3/4	2	3 3/8	2 11/16	3/16	3.5	
	PC-8405	270-0-270	120	5.0	3.0	6.3 C.T.	3.5	Leads	Leads	C	3 3/8	3 3/2	3 3/8	2 1/2	2 3/8	3 3/8	3/16 x 3/8	4.9	
	PM-8405	270-0-270	120	5.0	3.0	6.3 C.T.	3.5	Leads	Leads	M	3 3/8	3 3/4	3 3/8	2 1/2	2 3/8	3 3/8	3/16 x 3/8	4.9	
	P-8172	270-0-270	200	5.0	3.0	6.3	8.5	Leads	Leads	M	3 3/8	3 3/4	4 7/8	2 11/16	3 3/8	3 3/4	8-32	7.0	
	P-8356	270-0-270	260	5.0	3.0	6.3	8.8	Leads	Leads	C†	3 3/8	3 3/8	3 3/8	2 1/2	2 1/4	2 13/16	.136	6.5	
	P-8376	270-0-270	320	5.0	4.0	6.3	10.0	Leads	Leads	M†	3 3/8	4 1/4	4 3/4	3	3 13/16	2 3/8	8-32	8.5	
	P-8377	270-0-270	280	5.0	3.0	6.3	10.0	Leads	Leads	M†	3 3/8	3 3/8	3 3/8	2 11/16	3 3/8	2 3/8	8-32	6.7	
	P-8334	275-0-275	305	5.0	5.0	6.3	8.5	Leads	Leads	M†	3 3/4	4 3/8	5 3/8	3 3/4	4 1/8	4	8-32	13.0	
	P-8167	280-0-280	400	5.0	6.0	6.3	4.5	Leads	Leads	M†	3 3/4	4 3/8	5 1/2	3 3/4	4 1/8	4 1/4	8-32	13.0	
P-8332	280-0-280	260	5.0	5.0	6.3	1.2	Leads	Leads	M†	3 3/4	4 3/8	4 3/8	3 3/4	4 1/8	3 3/8	8-32	11.0		

a. For use in Voltage Doubler Circuits. b. For use in Half-Wave Circuits. † With Copper shorting band to reduce external Magnetic Field. ‡ Plate wdg and rectifier filament wdg Connected to Tube Socket. Available until stock is depleted.

SECTION 5600



**STANCOR**  
COMMERCIAL  
power transformers

FOR CAPACITOR INPUT SYSTEMS

PRIMARYS 117 VOLTS 60 CYCLES

	Catalog No.	Plate Windings		Rectifier Fil.		Other Windings		Termination		Style	Dimensions							Wt. lbs.
		AC Volts	DCMA	Volts	Amps	Volts	Amps	Pri.	Sec.		A	B	C	D	E	F	G	
<b>a</b>	P-8373	280-0-280	280	5.0	3.0	6.3 24.0	10.0 2.6	Leads	Leads	M	3 1/8	3 3/4	4 1/4	2 11/16	3 3/8	3 3/4	8-32	8.0
	P-8378	280-0-280 250-0-250	300	5.0/3.0	4.5	6.3 24.0	10.0 1.2	Leads	Leads	C†	3 1/8	4 3/8	3 3/8	2 1/2	3 3/4	4 3/8	3/16 x 3/8	7.9
	P-8375	283-0-283	210	5.0 C.T.	3.0	6.3 6.3	1.5 1.2	Leads	Leads ‡	M3†	3 3/4	4 3/8	4 3/8	3	3 3/4	3 3/4	8-32	8.3
	P-8355	285-0-285	250	5.0	3.0	6.3	9.5	Leads	Leads	C4†	3 3/4	3 1/2	3 3/8	2 1/2	2 3/8	2 3/4	8-32	6.5
	P-8365	285-0-285	325	5.0	6.0	12.6 C.T.	6.0	Leads	Leads	M†	3 3/4	4 3/8	4 3/8	3	3 3/4	3	8-32	10.2
	P-8352	290-0-290	240	5.0	3.0	12.6 C.T.	5.25	Leads	Leads	C	3 3/4	3 1/8	4 1/8	3	3 3/8	4 3/4	3/16 x 1/2	8.5
	P-8367	290-0-290	270	5.0	6.0	6.3 6.3	8.5 1.2	Leads	Leads ‡	M5†	3 3/4	4 1/2	5 1/8	3	3 3/4	3 3/4	8-32	12.5
	P-8381	290-0-290	290	5.0	3.0	6.3 6.3	5.0 5.0	Leads	Leads	M†	3 1/8	3 1/8	5	2 11/16	3 3/8	3 3/8	8-32	6.9
	P-8333	295-0-295	225	5.0 C.T.	3.0	6.3 6.3	11.4 9	Leads	Leads ‡	M3†	3 3/4	4 3/8	4 3/8	3 3/4	4 1/8	3 3/8	8-32	10.0
	<b>b</b>	PCC-60	300-0-300	60	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	SC	3 1/4	4	3 7/8	2 3/4	3 1/2	2 1/8	7/32
PSC-60		300-0-300	60	5.0	2.0	6.3 C.T.	3.0	Lugs	Lugs	SC	3 1/4	4	4 1/4	2 3/4	3 1/2	2 1/8	7/32	4.5
P-6358		300-0-300	65			6.3 C.T.	2.7	Leads	Leads	C	2 1/2	2 1/2	3 3/8	2	1 3/4	2 3/8	3/16 x 3/8	3.0
P-8175		300-0-300	70	5.0	3.0	6.3 C.T.	3.0	Leads	Leads	C	2 7/8	3 1/8	3 1/2	2 1/4	2 3/4	3 3/8	3/16 x 7/16	4.0
PM-8423		300-0-300	90	5.0	2.0	6.3 C.T.	3.5	Leads	Leads	M	2 13/16	3 3/8	3	2 1/4	2 13/16	2	8-32	4.0
P-8177		300-0-300	120	5.0	3.0	6.3 C.T.	3.0	Leads	Leads	C	3 3/16	3 3/8	3 7/8	2 3/4	2 3/8	3 3/8	3/16 x 1/2	5.8
P-8164		300-0-300	225	5.0	3.0	6.3	9.0	Leads	Leads	M†	3 3/16	4 3/8	4 1/8	2 3/4	3 3/16	3 3/8	8-32	7.5
P-8335		300-0-300	325	5.0	6.0	6.3 6.3	8.8 1.5	Leads	Leads	M†	3 3/4	4 3/8	5 1/8	3 3/4	4 1/8	4	8-32	13.0
P-8331		310-0-310	240	5.0	3.0	6.3 6.3	6.4 3.0	Leads	Leads	M†	3 3/4	4 3/8	4 1/2	3 3/4	4 1/8	3 1/4	8-32	9.0
P-8370		310-0-310	320	5.0 C.T.	6.0	6.3 6.3	11.0 1.2	Leads	Leads d	M5†	3 3/4	4 3/8	5 3/8	3	3 3/4	4 3/8	8-32	14.0
P-8337	315-0-315	225	5.0	3.0	6.3 6.3	1.2 8.25	Leads	Leads ‡	M3†	3 3/4	4 1/2	4 1/2	3 3/4	4 1/8	3 3/4	8-32	8.5	
<b>c</b>	P-8338	315-0-315	310	5.0	6.0	6.7 6.4 6.3	10.0 1.6 4.0	Leads	Leads	M†	3 7/8	4 3/4	5 3/8	3	3 3/4	4	10-32	12.5
	P-8371	320-0-320 200-0-200	200 80	5.0 C.T.	3.0	6.3 6.3	4.0 3.0	Leads	Leads ‡	M3†	3 3/4	4 3/8	5 3/8	3	3 3/4	4	8-32	11.3
	P-6010	325-0-325	40	5.0 C.T.	2.0	6.3 C.T.	2.0	Leads	Leads	M	2 1/2	3	2 3/4	2	2 1/2	1 7/8	8-32	2.4
	PC-8406	325-0-325	40	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	C	2 1/2	2 3/4	3 1/4	2	2 1/2	2 1/8	3/16 x 3/8	2.4
	PM-8406	325-0-325	40	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	M	2 1/2	3	2 3/4	2	2 1/2	2 13/16	3/16 x 3/8	3.2
	PC-8407	325-0-325	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	C	2 1/2	3 1/8	3 1/2	2	2 1/2	2 1/4	8-32	3.2
	PM-8407	325-0-325	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	M	2 1/2	3	3 1/8	2	2 1/2	2 1/4	3/16 x 3/8	5.8
	PC-8422	325-0-325	150	5.0	3.0	6.3 C.T.	5.0	Leads	Leads	C	3 3/8	3 3/8	3 7/8	2 1/2	2 3/8	3 7/8	3/16 x 3/8	5.8
	PM-8422	325-0-325	150	5.0	3.0	6.3 C.T.	5.0	Leads	Leads	M	3 3/8	3 3/8	3 7/8	2 1/2	2 3/8	3 7/8	8-32	5.8
	P-8339	325-0-325	255	5.0	3.0	12.6 C.T.	5.25	Leads	Leads	C	3 3/4	4	4 3/8	3	3 3/4	4 3/4	3/16 x 1/2	8.5
P-8369	325-0-325	240	5.0 C.T.	3.0	6.3 6.3	10.0 1.2	Leads	Leads ‡	M3†	3 3/4	4 3/8	5 3/8	3	3 3/4	4 1/8	8-32	11.5	
<b>d</b>	PCC-85	330-0-330	85	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	SC	3 11/16	4 7/16	4 3/16	2 3/4	3 7/8	3 3/4	7/16	6.0
	PSC-85	330-0-330	85	5.0	2.0	6.3 C.T.	3.0	Lugs	Lugs	SC	3 11/16	4 7/16	4 3/16	2 3/4	3 7/8	3 3/4	7/32	6.0
	FCC-70	335-0-335	70	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	SC	2 1/4	4	3 7/8	2 1/4	3 1/2	2 1/8	7/32	4.5
	PSC-70	335-0-335	70	5.0	2.0	6.3 C.T.	3.0	Lugs	Lugs	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	2 1/8	7/32	4.5
	P-5059	337-0-337	200	5.0 C.T.	3.0	6.3 C.T.	5.0	Leads	Leads ‡	C	3 3/4	4 3/8	4 11/16	3	3 3/4	4	3/16 x 3/8	9.6
	PC-8408	340-0-340	70	5.0	2.0	6.3 C.T.	2.5	Leads	Leads	C	2 13/16	3 3/8	3 1/2	2 1/4	2 1/8	2 1/8	3/16 x 3/8	3.8
	PM-8408	340-0-340	70	5.0	2.0	6.3 C.T.	2.5	Leads	Leads	M	2 13/16	3 3/8	3 1/2	2 1/4	2 1/8	2 1/4	8-32	3.8
	P-8166	340-0-340	330	5.0	6.0	6.3 6.3	5.0 5.0	Leads	Leads	M†	3 3/4	4 3/8	5 3/8	3 3/4	4 1/8	4 1/8	8-32	13.0
	PCC-105	345-0-345	105	5.0	2.0	6.3 C.T.	3.5	Leads	Leads	SC	3 11/16	4 7/16	4 3/16	2 3/4	3 7/8	3 3/4	7/32	6.5
	PSC-105	345-0-345	105	5.0	2.0	6.3 C.T.	3.5	Lugs	Lugs	SC	3 11/16	4 7/16	4 11/16	2 3/4	3 7/8	3 3/4	7/32	6.5
P-6011	350-0-350	70	5.0 C.T.	3.0	6.3 C.T.	2.5	Leads	Leads	M	2 1/2	3	3 3/8	2	2 1/2	2 1/2	8-32	3.5	
P-6012	350-0-350	90	5.0 C.T.	3.0	6.3 C.T.	3.5	Leads	Leads	M	2 13/16	3 3/8	3 3/2	2 1/4	2 13/16	2 1/2	8-32	4.2	
PC-8409	350-0-350	90	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	C	2 13/16	3 3/8	3 1/2	2 1/4	2 3/8	3 3/8	3/16 x 3/8	4.5	
PM-8409	350-0-350	90	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	M	2 13/16	3 3/8	3 1/2	2 1/4	2 13/16	2 1/2	8-32	4.5	
<b>e</b>	P-8176	350-0-350	110	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	C	3 1/4	3 7/8	3 13/16	2 3/4	3	3 3/8	3/16 x 1/2	5.5
	P-6013	350-0-350	120	5.0 C.T.	3.0	6.3 C.T.	3.0	Leads	Leads	M	3 1/8	3 3/4	3 3/8	2 1/2	3 1/8	2 3/8	8-32	5.2
	P-8345	350-0-350	215	5.0	3.0	6.3 6.3	9.0 1.2	Leads	Leads	M†	3 3/4	4 3/8	5	3 3/4	4 1/8	3 3/8	8-32	11.5
	P-8165	350-0-350 220-0-220	180 70	5.0 3.0	3.0 3.0	6.3 6.3	2.0 10.0	Leads	Leads	M†	3 3/4	4 3/8	4 3/4	3	3 3/4	3 1/2	8-32	11.0
	P-8350	350-0-350	270	5.0	6.0	6.3 6.6	1.5 7.8	Leads	Leads	M†	3 3/4	4 3/8	5 1/2	3 3/4	4 1/8	4	8-32	13.0
	P-8340	355-0-355	270	5.0	6.0	6.3 6.3	1.65 2.4	Leads	Leads	M†	3 3/4	4 3/8	5 3/8	3 3/4	4 1/8	4 1/8	8-32	12.0
	PC-8410	360-0-360	120	5.0	3.0	6.3 C.T.	3.5	Leads	Leads	C	3 1/8	3 3/4	3 7/8	2 1/2	2 7/8	3 3/8	3/16 x 3/8	5.5
PM-8410	360-0-360	120	5.0	3.0	6.3 C.T.	3.5	Leads	Leads	M	3 1/8	3 3/4	3 1/2	2 1/2	3 1/8	2 1/2	8-32	5.5	

† With Copper shorting bond to reduce external Magnetic Field.

‡ Plate wdg and rectifier filament wdg Connected to Tube Socket.

▲ Primary for 117-107 volts.

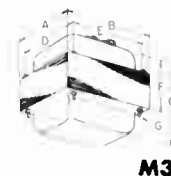
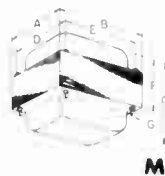
\* Available until stock is depleted  
ALL SECONDARY A.C. VOLTAGES ±3%

ALL PCC AND PSC NUMBERS MAY BE OPERATED AT 50 CYCLES

STANCOR PAGE 16

SECTION 5600

**STANCOR**  
COMMERCIAL  
**power transformers**



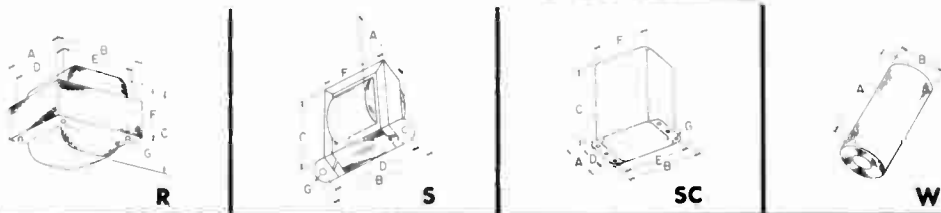
FOR CAPACITOR INPUT SYSTEMS

PRIMARIES 117 VOLTS 60 CYCLES

Catalog No.	Plate Windings		Rectifier Fil.		Other Windings		Termination		Style	Dimensions							Wt. lbs.
	AC Volts	DCMA	Volts	Amps.	Volts	Amps.	Pri.	Sec.		A	B	C	D	E	F	G	
* P-8160	360-0-360	185	5 0	3 0	6 45	12 0	Leads	Leads	M	3 3/4	4 1/2	4 1/4	3	3 3/4	3 1/8	8-32	9 6
P-8341	165-0-165	65	5 0	3 0													
	360-0-360	175	5 0	3 0	12 6 C.T.	5 45	Leads	Leads	C †	3 3/4	4 3/8	4 3/8	3	3 1/2	4 3/8	3/8 x 1/2	11 0
P-8349	220-0-220	110	5 0	2 0													
	360-0-360	260	5 0	6 0	5 0	2 0	Leads	Leads	M †	3 3/4	4 3/8	5 1/2	3 1/4	4 1/8	4	8-32	13 0
* P-8159	360-0-360	250	5 0	3 0	6 3	8 0	Leads	Leads	M †	3 3/4	4 3/8	4 3/8	3 1/4	4 1/8	3 3/8	8-32	10 0
			5 0	2 0	6 3	6											
P-8351	360-0-360	240	5 0	6 0	6 5	9 3	Leads	Leads	M	3 3/4	4 3/8	4 1 3/16	3 1/4	4 1/8	3 3/8	8-32	10 5
P-8343	360-0-360	220	5 0	3 0													
	220-0-220	110	5 0	2 0	12 8 C.T.	5 8	Leads	Leads	C	3 3/4	5 1/4	4 3/4	3	3 3/8	4 1 3/16	3/8 x 1/2	11 5
P-8344	365-0-365	170	5 0	3 0													
	200-0-200	84	5 0	2 0	12 6	4 25	Leads	Leads	C †	3 3/4	4 1/2	4 3/4	3	3 1/8	4 3/8	3/8 x 1/2	9 0
P-8342	365-0-365	260	5 0	6 0	6 3	8 85	Leads	Leads	M †	3 3/4	4 3/8	5 3/8	3 1/4	4 1/8	4	8-32	13 0
					6 3	1 2											
* P-8156	365-0-365	295	5 0	6 0	5 0	2 0	Leads	Leads	M †	3 3/4	4 3/8	6 3/8	3 1/4	4 1/8	5 1/4	8-32	16 5
P-8348	365-0-365	270	5 0	6 0	6 7	4 5	Leads	Leads	M †	3 3/4	4 3/8	4 3/8	3 1/4	4 1/8	3 3/8	8-32	10 0
					6 3 C.T.	4 0											
PCC-150	370-0-370	150	5 0	3 0	6 3 C.T.	1 0	Leads	Leads	SC	4 3/8	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	1 3/4	11 5
PSC-150	370-0-370	150	5 0	3 0	6 3 C.T.	4 0	Lugs	Lugs	SC	4 3/8	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	1 3/4	11 5
					6 3 C.T.	1 0											
* P-8163	370-0-370	190	5 0	3 0	6 3	7 75	Leads	Leads	M †	3 3/4	4 3/8	5 3/8	3 1/4	4 1/8	3 3/4	8-32	10 8
P-6315	370-0-370	275	5 0 C.T.	3 0	6 3 C.T.	7 0	Leads	Leads	M	3 3/4	4 1/2	4 1/4	3	3 3/4	3	8-32	9 3
					6 3	6 0											
P-8366	370-0-370	220	5 0	6 0	6 3	4 0	Leads	Leads	M †	3 3/4	4 3/8	5 1/4	3	3 3/4	3 1/2	8-32	11 0
* PCC-120	375-0-375	120	5 0	3 0	6 3 C.T.	4 0	Leads	Leads	SC	4 3/8	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	1 3/4	9 5
					6 3 C.T.	4 0											
PSC-120	375-0-375	120	5 0	3 0	6 3 C.T.	4 0	Lugs	Lugs	SC	4 3/8	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	1 3/4	9 5
P-6014	375-0-375	150	5 0 C.T.	3 0	6 3 C.T.	5 0	Leads	Leads	M	3 3/8	3 3/4	3 3/4	2 1/2	3 3/8	2 3/4	8-32	6 0
PC-8411	375-0-375	150	5 0	3 0	6 3 C.T.	4 5	Leads	Leads	C	3 3/16	4	4 1/4	2 3/4	2 1 3/16	3 1 1/16	3/8 x 3/8	5 8
					6 3 C.T.	4 5											
PM-8411	375-0-375	150	5 0	3 0	6 3 C.T.	4 5	Leads	Leads	M	3 3/8	4 1/8	3 3/8	2 3/4	3 3/16	2 1/2	8-32	5 8
* P-6008	375-0-375	180	5 0 C.T.	3 0	2 5 C.T.	6 0	Leads	Leads	M	3 3/16	4 1/8	3 3/8	2 3/4	3 3/16	2 3/8	8-32	6 2
					6 3 C.T.	3 3											
* P-8154	375-0-375	205	5 0	3 0	5 0	2 0	Leads	Leads	M	3 3/4	4 1/2	4 1/4	3	3 3/4	3 3/8	8-32	9 1
					6 3	5 6											
P-8171	375-0-375	225	5 0 C.T.	3 0	6 3	2 0	Leads	Leads †	M3 †	3 3/4	4 1/2	4 3/8	3	3 3/4	3 3/8	8-32	10 5
* P-8162	380-0-380	180	5 0 C.T.	3 0	6 3	9 0	Leads	Leads †	M3 †	3 3/8	4 1/8	5 1/4	2 3/4	3 3/8	4 1/8	8-32	9 0
					6 3	1 2											
P-8169	380-0-380	220	5 0	3 0	6 3	5 0	Leads	Leads	M †	3 3/4	4 3/8	4 3/4	3	3 3/4	3 1/2	8-32	10 5
					6 3	7 0											
P-8170	380-0-380	220	5 0	3 0	6 3	1 2	Leads	Leads	C †	3 3/4	4 3/4	4 3/4	3	3 3/8	4 7/8	3/8 x 3/8	10 5
					6 3	7 0											
PCC-200	385-0-385	200	5 0	3 0	6 3 C.T.	4 5	Leads	Leads	SC	4 3/8	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	1 3/4	12 0
PSC-200	385-0-385	200	5 0	3 0	6 3 C.T.	1 0	Lugs	Lugs	SC	4 3/8	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	1 3/4	12 0
					6 3 C.T.	4 5											
P-8347	385-0-385	230	5 0	3 0	5 0	2 0	Leads	Leads	M †	3 3/4	4 3/8	5 3/8	3 1/4	4 1/8	4	8-32	13 0
					6 45	7 4											
* P-8157	385-0-385	195	5 0	3 0	6 3	1 6	Leads	Leads	M	3 3/4	4 1/2	4 3/4	3	3 3/4	3 1/2	8-32	11 1
	235-0-235	105	5 0	2 0	6 3	7 65											
* P-8161	385-0-385	230	5 0	3 0	5 0	2 0	Leads	Leads	M †	3 3/4	4 1/2	5 3/8	3 1/4	4 1/8	3 3/8	8-32	11 8
					6 3	9 0											
P-6007	400-0-400	110	5 0 C.T.	3 0	2 5 C.T.	15 0	Leads	Leads	M	3 1/8	3 3/4	3 1/2	2 1/2	3 3/8	2 1/2	8-32	5 4
P-4004	400-0-400	175	5 0 C.T.	3 0	2 5	1 75	Leads	Leads	M	3 3/8	3 3/8	3 1/2	2 1/2	3 3/8	2 1/2	8-32	5 4
	80v. Bias				6 3 C.T.	2 5	Leads	Leads	C	3 3/4	3 3/8	4 1 1/16	3	2 1 3/16	3 3/8	3/8 x 3/8	8 3
P-8346	400-0-400	180	5 0	3 0			Leads	Leads	C	3 3/4	4 3/4	4 3/4	3	3 1/2	4 7/8	3/8 x 1/2	11 0
	330-0-330	180	5 0	3 0													
PC-8412	400-0-400	200	5 0	3 0	6 3 C.T.	5 0	Leads	Leads	C	3 3/4	4	4 1 1/16	3	2 1 3/16	3 1 1/16	3/8 x 3/8	8 2
	400-0-400	200	5 0	3 0	6 3 C.T.	5 0	Leads	Leads	M	3 3/4	4 1/2	3 3/8	3	3 3/4	2 3/8	8-32	8 2
PCC-250	400-0-400	250	5 0	4 0	6 3 C.T.	5 0	Leads	Leads	C	3 3/4	4 1/2	4 1 1/16	3	3 3/8	4 3/8	3/8 x 3/8	10 0
	400-80-0-80-400	250	5 0	6 0	5 0	2 0	Leads	Leads	SC	5 3/8	5 7/8	6 1/8	3 1/2	5 3/8	4 3/4	1 3/4	15 0
* PSC-250	400-80-0-80-400	250	5 0	6 0	6 3 C.T.	7 0	Lugs	Lugs	SC	5 3/8	5 7/8	6 1/8	3 1/2	5 3/8	4 3/4	1 3/4	15 0
					5 0	2 0											
P-8360	437-0-437	185	5 0	3 0	6 3	3 0	Leads	Leads	C	3 3/4	4 1/2	4 1 1/16	3	3 3/8	4 3/8	3/8 x 3/8	9 5
P-6143	440-0-440	130	5 0	3 0	6 3 C.T.	3 5	Leads	Leads	C	3 3/8	4 1/8	4 1/4	2 3/4	2 1 3/16	3 3/4	3/8 x 3/8	7 0
					6 3	3 0											
PC-8414	600-0-600	200	5 0	3 0	6 3	3 0	Leads	Leads	C	3 3/4	4 1/4	4 1 1/16	3	3 1/8	3 1 3/16	3/8 x 3/8	8 3

T With Copper shorting band to reduce external Magnetic Field. † Plate wdg and rectifier filament wdg Connected to Tube Socket. ▲ Primary for 117-107 Volts. f Intermittent duty.  
\* Available until stock is depleted

ALL SECONDARY A.C. VOLTAGES ± 3% ALL PCC AND PSC NUMBERS MAY BE OPERATED AT 50 CYCLES



**STANCOR**

COMMERCIAL

power transformers

FOR REACTOR INPUT SYSTEMS

PRIMARIES 117 VOLTS 50/60 CYCLES

Catalog No.	Plate Windings		Rectifier Fil.		Other Windings		Termination		Style	Dimensions							Wt. lbs.	
	AC Volts	DCMA	Volts	Amps.	Volts	Amps.	Pri.	Sec.		A	B	C	D	E	F	G		
PCR-55	350-0-350	55	5 0	2 0	6 3 C.T.	2 0	Leads	Leads	SC	2 3/4	3 1/2	3 1/2	2	3 1/8	2 1/16	3/16	3 1/4	
PSR-55	350-0-350	55	5 0	2 0	6 3 C.T.	2 0	Lugs	Lugs	SC	2 3/8	3 1/2	3 3/4	2	3 1/8	2 1/16	3/16	3 1/4	
PCR-70	425-0-425	70	5 0	2 0	6 3 C.T.	3 0	Leads	Leads	SC	3 3/4	4	3 3/8	2 1/4	3 3/8	2 1/16	3/16	4 1/2	
PSR-70	425-0-425	70	5 0	2 0	6 3 C.T.	3 0	Lugs	Lugs	SC	3 3/4	4	4 1/4	2 1/4	3 3/8	2 1/16	3/16	4 1/2	
PCR-85	440-0-440	85	5 0	2 0	6 3 C.T.	3 0	Leads	Leads	SC	3 11/16	4 7/16	4 3/8	2 3/4	3 3/8	3 1/4	3/16	6	
PSR-85	440-0-440	85	5 0	2 0	6 3 C.T.	3 0	Lugs	Lugs	SC	3 11/16	4 7/16	4 3/8	2 3/4	3 3/8	3 1/4	3/16	6	
PCR-105	450-0-450	105	5 0	2 0	6 3 C.T.	3 5	Leads	Leads	SC	3 11/16	4 7/16	4 3/8	2 3/4	3 3/8	3 1/4	3/16	6 1/2	
PSR-105	450-0-450	105	5 0	2 0	6 3 C.T.	3 5	Lugs	Lugs	SC	3 11/16	4 7/16	4 3/8	2 3/4	3 3/8	3 1/4	3/16	6 1/2	
PCR-120	500-0-500	120	5 0	3 0	6 3 C.T.	4 0	Leads	Leads	SC	4 3/16	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	1 3/16	9 1/2	
PSR-120	500-0-500	120	5 0	3 0	6 3 C.T.	4 0	Lugs	Lugs	SC	4 3/16	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	1 3/16	9 1/2	
a	PCR-150	510-0-510	150	5 0	3 0	6 3 C.T.	1 0	Leads	Leads	SC	4 3/16	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	1 3/16	11 1/2
	PSR-150	510-0-510	150	5 0	3 0	6 3 C.T.	1 0	Lugs	Lugs	SC	4 3/16	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	1 3/16	11 1/2
b	PCR-200	520-0-520	200	5 0	3 0	6 3 C.T.	1 0	Leads	Leads	SC	4 3/16	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	1 3/16	12 1/4
	PSR-200	520-0-520	200	5 0	3 0	6 3 C.T.	1 0	Lugs	Lugs	SC	4 3/16	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	1 3/16	12 1/4
c	PCR-300	550-370-75-0	300	5 0	6 0	6 3 C.T.	1 0	Leads	Leads	SC	5 3/16	5 7/8	6 1/8	3 1/2	5 3/8	4 3/4	1 7/16	17 1/2
	PSR-300	550-370-75-0	300	5 0	6 0	6 3 C.T.	1 0	Lugs	Lugs	SC	5 3/16	5 7/8	6 1/8	3 1/2	5 3/8	4 3/4	1 7/16	17 1/2

FOR REGULATED POWER SUPPLIES

PRIMARIES 117 VOLTS 50/60 CYCLES

b	PSC-165	440-0-440	165	5 0	3 0	6 3 6 3 6 3 6 3	0 6 3 0 3 0 7 5	Lugs	Lugs	SC	4 3/16	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	1 3/16	12
	PSC-205	450-0-450	200	5 0	2 0	6 3 6 3	0 6 4 0	Lugs	Lugs	SC	4 3/16	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	1 3/16	12

FOR BIAS SUPPLIES

PRIMARIES 117 VOLTS 50/60 CYCLES

c	IBC-150	180-160-140-120-0-120	150	5 0	3 0			Leads	Leads	SC	3 3/4	4	4 1/4	2 1/4	3 1/2	2 1/16	7/32	5
	IBS-150	140-160-180-180-160-140-120-0-120	150	5 0	3 0			Lugs	Lugs	SC	3 3/4	4	4 1/4	2 1/4	3 1/2	2 1/16	7/32	5
	2BC-150	140-160-180-180-160-140-120-0-120	150	5 0	3 0	(Pri.-230v.)		Leads	Leads	SC	3 3/4	4	4 1/4	2 1/4	3 1/2	2 1/16	7/32	5
	2BS-150	140-160-180-180-160-140-120-0-120	150	5 0	3 0	(Pri.-230v.)		Lugs	Lugs	SC	3 3/4	4	4 1/4	2 1/4	3 1/2	2 1/16	7/32	5
	P-6317	140-160-180-200-170-130-90-0-90	200	5 0	3 0			Leads	Lugs	C	3 1/8	3 3/8	3 3/8	2 1/2	2 3/8	3 1/16	3/16 x 3/8	4.9
	P-6318	130-170-200-450-400-350-250-0-250-350-400-450	200	5 0	3 0			Leads	Lugs	C	3 7/16	4 1/4	4 3/8	2 3/4	2 1/16	3 1/16	3/16 x 3/8	7.0

FOR CATHODE RAY TUBES

PRIMARIES 117 VOLTS 60 CYCLES

d	P-8150	1550 <sup>b</sup>	1.5	2.5	1.75	6.3/5/2.5	1 0	Leads	Leads	SC	2 1/2	3	3 1/8	1 3/4	2 1/16	2 3/16	3/16	1 8
	P-8179	1600 <sup>b</sup>	3 0			6.3/5/2.5	3 0	Lugs	Lugs	M	2 1/2	3	3 1/2	2	2 1/2	2 1/2	8-32	3 5
	P-8178	1800 <sup>b</sup>	2 0	?	1.8	2.5	2 2	Leads	Leads	C	3 1/8	3 3/4	3 7/8	2 1/2	2 1/2	3 3/16	3/16 x 3/8	5
	P-8151	2400 <sup>b</sup>	5 0	2 5	2 0	6.3	2 0	Leads	Leads	C	3 3/16	3 3/8	4 1/4	2 3/4	2 1/16	3 3/16	3/16 x 3/8	6 4

FOR SOLAR CF-160 CONDENSER TESTER

PRIMARY 117 VOLTS 60 CYCLES

e	P-6459	550 <sup>b</sup>	30			6 3	0 9	Leads	Leads	R	2 3/16	2 3/8	2 1/4	1 3/4	2 3/16	1 11/16	5/32	1 4
		55	60			6 3	0 6											

FOR 100 WS ELECTRONIC PHOTOFLASH

PRIMARY 105/115/125 VOLTS 60 CYCLES

f	P-6425	380 <sup>b</sup>	20					Leads	Leads	S	2	2 7/8	2 3/16	2 3/8	—	2	3/16	1.4
	P-6426	Charges 1050 mfd. to 450 volts D.C. Trigger Coil for use with P-6425 Ratio 1 to 35 Write for Bulletin #470R for Circuit Details						Leads	Leads	W	3/4	9/16	—	—	—	—	—	.2

b. For use in Half-Wave Circuits.

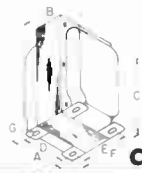
ALL SECONDARY A.C. VOLTAGES ±3%

**STANCOR**

COMMERCIAL

filament  
transformers

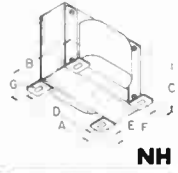
A



C



FA



NH

WITH SINGLE SECONDARY: ALL PRIMARIES 50/60 CYCLES

	Catalog No.	Secondary		Insulation Test RMS Volts	Primary Volts	Termination		Style	Dimensions							WT Lbs.
		Volts	Amps.			Pri	Sec		A	B	C	D	E	F	G	
a	P-4026	2.5	1.5	2500	117	Leads	Leads	A	1 3/8	2 7/8	1 3/8	2 3/8	—	2	3/16	0.7
	P-4082	2.5 CT	2.5	2500	117 107	Leads	Leads	SC	2 1/4	2 1 1/2	2 1 1/2	1 1/2	2 3/8	2	3/16	1.5
	P-6133 †	2.5 CT	5.0	7500	117	Leads	Leads	S	2 1/4	3 1/8	2 3/8	2 1 3/8	—	2 1/4	3/16	1.5
	F-25	2.5 CT	5.25	3500	115 230	Lugs	Lugs	SC	2 1/2	3	3 1/8	1 3/4	2 1 1/2	2 3/8	3/16	2.0
	P-4083 †	2.5 CT	6.0	2500	117 107	Leads	Leads	C	2 1/2	2 1/2	3 3/8	2	—	2 3/8	3/16 x 3/8	2.2
	P-3024 †	2.5 CT	10.0	2500	117 107	Leads	Leads	C	2 1/2	2 3/4	3 3/8	2	1 3/4	2 3/8	3/16 x 3/8	2.5
	P-6454	2.5 CT	10.0	7500	117 107	Leads	Leads	S	2 1/2	3 3/8	3 3/8	3 3/8	—	2 3/8	3/16	2.5
	P-3060	2.5 CT	10.0	10000	117	Lugs	Lugs	NV	2 1 3/8	2 3/8	3 3/8	2 1/4	1 7/8	2 1/2	3/16 x 3/16	2.5
	F-210	2.5 CT	10.0	5000	115 230	Terms	Terms	SC	2 3/8	3 1/2	3 3/4	2	3 3/8	2 1 1/2	3/16	3.0
	F-210H	2.5 CT	10.0	9000	115 230	Terms	Terms	SC	3 3/4	4	4 1/4	2 1/4	3 1/2	3	3/16	4.0
	F-215H	2.5 CT	15.0	9000	115 230	Terms	Terms	SC	3 1 1/8	4 7/8	4 3/8	2 3/4	3 3/8	3 1/4	3/16 x 3/8	6.0
	P-3026 †	5.0 CT	3.0	2500	117 107	Leads	Leads	C	2 1/2	2 3/8	3 3/8	2	1 3/8	2 3/8	3/16 x 3/8	2.4
	P-4088 †	5.0 CT	3.0	2500	117	Lugs	Lugs	NV	2 1/2	1 3/8	3 3/8	2	—	2 3/8	3/16 x 3/8	1.8
	P-6467	5.0 CT	3.0	2500	117	Leads	Leads	A	2 1/2	3 3/4	2	2 1 3/8	—	2 3/8	3/16	1.4
	F-54 †	5.0 CT	4.0	2500	115 230	Lugs	Lugs	SC	2 1/2	3	3 3/8	1 3/4	2 1 1/2	2 3/8	3/16	2.2
	P-6455	5.0 CT	6.0	2000	117 107	Leads	Leads	S	2 1/2	3 3/8	2 3/4	2 1 3/8	—	2 1/4	3/16	2.0
	P-3062 †	5.0 CT	6.0	2500	117	Lugs	Lugs	NV	2 1/2	2 1/4	3 3/8	2	2	2 3/8	3/16 x 3/16	2.3
	P-5000 †	5.0 CT	6.0	2500	117 107	Leads	Leads	C	2 1/2	3	3 3/8	2	2	2 3/8	3/16 x 3/8	3.1
	P-6135	5.0 CT	10.0	2500	117	Leads	Leads	NV	2 1/2	2 3/4	3 3/8	2	2 3/8	3	3/16 x 3/8	3.0
	F-58	5.0 CT	10.0	2500	115 230	Terms	Terms	SC	2 3/8	3 1/2	3 3/4	2	3 3/8	2 1 1/2	3/16	3.5
b	F-510H †	5.0 CT	10.0	10000	115 230	Terms	Terms	SC	3 1 1/8	4 7/8	4 1 1/8	2 3/4	3 7/8	3 3/4	3/16	6.5
	P-4086 †	5.0 CT	14.0	10000	117 107	Terms	Terms	FA	4 1/4	5 1/2	5 1/8	2 3/4	6	7	1 1/4	12.3
	P-6433 †	5.0 CT	15.0	2500	117	Leads	Leads	NV	2 1/2	2 3/4	3 3/8	2	2 1/4	2 3/8	3/16 x 3/16	3.0
	F-516	5.0 CT	20.0	2500	115 230	Terms	Terms	SC	3 1 1/8	4 7/8	4 1 1/8	2 3/4	3 7/8	3 3/4	3/16	6.5
	F-520HB	5.0 CT	20.0	10000	115 230	Terms	Terms	SC	4 3/8	5 3/4	5 1 1/8	2 1/2	4 3/4	4 1/8	3/16	13.0
	P-6432 †	5.0 CT	21.0	2500	117	Leads	Leads	NV	3 3/8	2 3/8	3 1 3/8	2 1/2	2 1/4	2 3/8	3/16 x 3/16	4.5
	P-6302 †	5.0 CT	22.0	10000	117 107	Terms	Terms	FA	4 1/4	5 1/2	5 3/8	2 3/4	6	7	3/16 x 3/8	13.5
	P-6492	5.0 CT	30.0	2500	117	Leads	Leads	C	3 3/4	4	4 1 1/8	3	2 1 3/8	3 3/8	3/16 x 3/8	7.5
	P-6468 †	5.0 CT	30.0	2500	117 107	Lugs	Lugs	C	3 7/8	3 3/8	4 1/4	2 3/4	2 1 1/2	3 1/2	3/16 x 3/8	6.3
	F-530	5.0 CT	30.0	2500	115 230	Terms	Terms	SC	4 3/8	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	3/16	10.5
	P-6305 †	5.0 CT	30.0	10000	117 107	Terms	Terms	FA	4 1/4	7	5	3 3/8	7 3/4	8 1/2	1 1/4	18.3
	P-6137 †	5.25 CT	13.0	2500	117	Leads	Leads	NV	3 3/8	2 3/8	3 1 3/8	2 1/2	2 1/2	3 3/8	3/16 x 3/16	5.2
	•P-8385	6.3 CT	0.3	1500	117	Leads	Leads	A	1 3/8	2 3/8	1 1/4	1 3/4	—	1 1/2	3/16	0.3
	P-6465	6.3 CT	.6	1500	117	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	P-8389	6.3	1.0	1500	117	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2 3/8	—	2	3/16	0.6
	P-6134	6.3 CT	1.2	3000	117	Leads	Leads	A	1 7/8	2 3/8	1 3/8	2 3/8	—	2	3/16	0.8
	P-8190	6.3	1.2	5000	117	Leads	Leads	A	1 3/8	3 3/4	2	2 1 3/8	—	2 3/8	3/16	1.0
	P-8191	6.3	1.2	5000	6.3	Leads	Leads	A	2	3 3/4	2	2 1 3/8	—	2 3/8	3/16	1.0
	F-615 †	6.3 CT	1.5	2500	115 230	Lugs	Lugs	SC	2 1/4	2 1 1/2	2 1 1/2	1 1/2	2 3/8	2	3/16	1.0
	F-63 †	6.3 CT	3.0	2500	115 230	Lugs	Lugs	SC	2 1/2	3	3 3/8	1 3/4	2 1 1/2	2 3/8	3/16	2.0
c	P-5014 †	6.3 CT	3.0	2500	117	Lugs	Lugs	NV	2 1/2	2	3 3/8	2	1 3/4	2 3/8	3/16 x 3/16	2.0
	P-6466	6.3 CT	3.0	2500	117	Leads	Leads	A	2 3/8	3 3/4	2	2 1 3/8	—	2 3/8	3/16	1.4
	P-6462	6.3	3.0	7000	117 107	Leads	Leads	S	2 3/8	3 3/8	3 3/8	3 3/8	—	2 3/8	3/16	2.0
	P-4019 †	6.3 CT	4.0	2500	117 107	Leads	Leads	C	2 1/2	2 3/4	3 3/8	2	1 3/4	2 3/8	3/16 x 3/8	2.7
	F-65	6.3 CT	5.5	2500	115 230	Lugs	Lugs	SC	2 3/8	3 1/2	3 3/4	2	3 3/8	2 1 3/8	3/16	3.0
	P-3064 †	6.3 CT	6.0	2500	117	Lugs	Lugs	NV	2 1/2	2 3/8	3 3/8	2	2	2 3/8	3/16 x 3/16	2.4
	P-4089 †	6.3 CT	6.0	2500	117 107	Leads	Leads	C	2 1 3/8	3 3/4	3 1/2	2 1/4	2	2 3/4	3/16 x 3/8	3.5
	P-6456	6.3 CT	6.0	2000	117 107	Leads	Leads	A	2 3/8	3 3/4	2 3/8	3 3/8	—	2 3/4	3/16	2.0
	P-6464	6.3 CT	10.0	2000	117	Leads	Leads	C	2 1 3/8	3 1/4	3 1/2	2 1/4	2	2 3/4	3/16 x 3/8	3.5
	P-6308 †	6.3 CT	10.0	2500	117 107	Leads	Leads	NV	2 1 3/8	2 3/8	3 3/8	2 1/4	2 1/4	2 3/4	3/16 x 3/8	3.4
	F-610	6.3 CT	10.0	2500	115 230	Terms	Terms	SC	3 3/4	4	4 1/4	2 1/4	3 3/8	3	3/16	5.0
	P-6309 †	6.3 CT	20.0	2500	117 107	Leads	Leads	NV	3 3/4	3 3/8	4 3/8	3	2 3/8	3	3/16 x 3/16	6.7
	P-5015 †	7.5 CT	4.0	2500	117	Lugs	Lugs	NV	2 1/2	2 1/4	3 3/8	2	2 1/2	2 3/4	3/16 x 3/16	2.7
	P-4091 †	7.5 CT	5.0	2500	117 107	Leads	Leads	C	2 1 3/8	3 3/8	3 1/2	2 1/4	1 7/8	2 3/8	3/16 x 3/8	3.4
	P-6138 †	7.5 CT	8.0	2500	117	Leads	Leads	NV	3 3/8	2 3/4	3 1 3/8	2 1/2	2 3/8	3	3/16 x 3/8	4.7
	F-712	7.5 CT	12.0	2500	115 230	Terms	Terms	SC	3 1 1/8	4 7/8	4 1 1/8	2 3/4	3 3/8	3 3/4	3/16	6.5
	P-6457	7.5 CT	21.0	2000	117 107	Leads	Leads	C	3 3/4	4	4 3/8	3	2 3/4	4	1/4 x 1/2	8.0
	F-725	7.5 CT	25.0	2500	115 230	Terms	Terms	SC	4 3/8	5 1/4	5 3/8	2 1/2	4 3/4	4 1/8	3/16	12.0
	F-751	7.75 CT	51.0	2500	115 230	Terms	Terms	SC	6 3/8	6 1/2	7 1/8	4 1/4	6	5 1/4	1/4	29.0
	F-104	10.0 CT	4.0	2500	115 230	Lugs	Lugs	SC	2 3/8	3 1/2	3 3/4	2	3 3/8	2 1 1/2	3/16	3.2
d	P-5016 †	10.0 CT	4.0	2500	117	Lugs	Lugs	NV	2 1 3/8	2 1/2	3 3/8	2 1/4	2	2 3/8	3/16 x 3/16	3.3
	P-6458	10.0 CT	5.0	2000	117 107	Leads	Leads	NV	2 1/2	2 1/2	3 3/8	2 1/8	1 1 3/8	2 3/4	3/16 x 1/2	3.0
	P-4096 †	10.0 CT	5.0	2500	117 107	Leads	Leads	C	3 3/8	3 3/4	3 3/8	2 1/2	1 3/8	2 3/4	3/16 x 3/8	4.0
	F-106	10.0 CT	6.5	2500	115 230	Terms	Terms	SC	3 3/4	4	4 1/4	2 1/4	3 1/2	3	3/16	5.0
	P-6139 †	10.0 CT	8.0	2500	117	Leads	Leads	NV	3 3/8	3	3 1 3/8	2 1/2	2 3/8	3	3/16 x 3/16	4.9
	P-4097 †	10.0 CT	8.0	2500	117 107	Leads	Leads	C	3 3/8	3 3/4	3 3/8	2 1/2	2 1/2	3 3/8	3/16 x 3/8	5.2
	P-6461	10.0 CT	10.0	2000	117	Leads	Leads	C	3 3/4	3 3/8	3 3/8	2 3/4	2 1 1/2	2 1 1/2	3/16 x 1/2	5.0
	F-1010	10.0 CT	10.0	2500	115 230	Terms	Terms	SC	3 1 1/8	4 7/8	4 1 1/8	2 3/4	3 3/8	3 3/4	3/16	6.5
	P-5002 †	10.0 CT	12.0	7500	117 107	Terms	Terms	FA	4 1/4	5 1/2	5 1/8	2 3/4	6	7	1/4	14.7
	P-3020 †	11.0 CT	10.0	2500	117 107	Leads	Leads	C	3 3/4	3 3/8	4 1 1/8	3	2 7/8	3 1/4	3/16 x 3/8	7.7
	•P-8384	12.6 CT	1.0	1500	117	Leads	Leads	A	1 3/4	3 1/4	2	2 1 3/8	—	2 3/8	3/16	0.9
	P-8130	12.6 CT	2.0	1500	117	Leads	Leads	A	2 1/8	3 1/4	2	2 1 3/8	—	2 3/8	3/16	1.4
	P-8358	12.6 CT	3.0	1500	117	Leads	Leads	A	2 1/4	3 3/4	2 3/8	3 3/8	—	2 3/4	3/16	1.6
	P-6469	25.2	1.0	1500	117	Leads	Leads	A	2 1/8	3 1/4	2	2 1 3/8	—	2 3/8	3/16	1.4
	P-8180	25.2 CT	1.0	1500	117	Leads	Leads	A	2 1/8	3 1/4	2	2 1 3/8	—	2 3/8	3/16	1.4
	P-8357	25.2 CT	2.0	1500	117	Leads	Leads	A	2 1/4	4	2 3/8	3 3/8	—	3 3/8	3/16	2.2
	P-8388	25.2 CT	2.8	1500	117	Leads	Leads	A	2 1/4	4	2 3/8	3 3/8	—	3 3/8	3/16	2.2

ALL SECONDARY VOLTAGES ±3%

†Available until stock is depleted

Insulation Test Voltage: Twice Allowable RMS Working Voltage plus 1000 Volts.

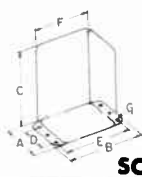
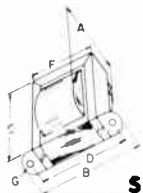
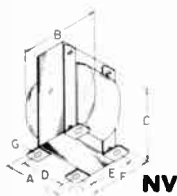
†Has Electrostatic shield.

SECTION 5600

**STANCOR**

COMMERCIAL

**filament transformers**



**WITH MULTIPLE SECONDARIES: ALL PRIMARIES 50/60 CYCLES**

	Catalog No.	Secondary		Insulation Test RMS Volts	Primary Volts	Termination		Style	Dimensions							WT Lbs.								
		Volts	Amps.			Pri	Sec		A	B	C	D	E	F	G									
<b>a</b>	P-6144†	2.5 CT 5.0 CT 6.3 CT	3.5 3.0 3.0	2500	117	Leads	Leads	C	2 <sup>13</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>4</sub>	2	2 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub> x 3 <sup>3</sup> / <sub>16</sub>	3.7								
	P-6338	2.5 5.0 5.0 CT 6.3 CT	3.0 3.0 2.0 3.0						2500	117	Leads	Leads	NH	3 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>16</sub>	2 <sup>13</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>16</sub> x 3 <sup>1</sup> / <sub>16</sub>	3.4			
	*F1†	5.0 6.3 CT	2.0 2.5											2500	105 115 125	Lugs	Lugs	SC	2 <sup>1</sup> / <sub>2</sub>	3	3 <sup>3</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>4</sub>	2 <sup>11</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>8</sub>
<b>b</b>	*F2†	5.0 12.6 CT	2.0 1.25	2500	105 115 125	Lugs	Lugs	SC							2 <sup>1</sup> / <sub>2</sub>				3	3 <sup>3</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>4</sub>	2 <sup>11</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub>
	*F3†	5.0 6.3 CT	3.0 5.0		2500				105 115 125	Lugs	Lugs	SC	2 <sup>7</sup> / <sub>8</sub>		3 <sup>1</sup> / <sub>2</sub>				3 <sup>3</sup> / <sub>4</sub>	2	3 <sup>3</sup> / <sub>8</sub>	2 <sup>11</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3.5
	*F4†	5.0 6.3 CT 6.3 CT or 12.6 CT	3.0 3.0 3.0 3.0						2500				105 115 125	Lugs	Lugs	SC	3 <sup>1</sup> / <sub>4</sub>	4	3 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>	3	3 <sup>1</sup> / <sub>16</sub>	4.7
	*F5†	5.0 6.3 CT 6.3 CT	3.0 1.0 5.0										2500				105 115 125	Lugs	Lugs	SC	3 <sup>1</sup> / <sub>4</sub>	4	3 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>
<b>c</b>	P-5009†	5.0 CT 6.3 CT	3.0 6.0	2500		117 107	Leads	Leads									C				3 <sup>1</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>
	P-5008†	5.0 CT 6.3 CT	4.0 3.6		2500	117 107				Leads	Leads	C									2 <sup>13</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>4</sub>
	P-4022†	5.0 CT 6.3 CT	6.0 6.0			2500			117 107					Leads	Leads	C					3 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>
<b>d</b>	P-6333	5.0 5.0 7.5 6.3 CT 6.3 CT	3.0 3.0 4.0 3.0	2500			117	Lugs	Lugs				NH				3 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>16</sub>	2 <sup>13</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub> x 3 <sup>1</sup> / <sub>16</sub>	4.7
	*F8†	5.0 CT 5.0 CT 5.0 CT	3.0 3.0 6.0		5000					105 115 125	Lugs	Lugs					SC	3 <sup>11</sup> / <sub>16</sub>	4 <sup>7</sup> / <sub>16</sub>	4 <sup>11</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>16</sub>
	P-6463	6.0 CT 6.5 CT or 7.0 CT	13			2000				117				Lugs	Lugs	NV		2 <sup>13</sup> / <sub>16</sub>	2 <sup>7</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>4</sub>	2 <sup>11</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub> x 3 <sup>3</sup> / <sub>16</sub>
<b>e</b>	P-6428†	6.3 6.3 6.3 6.3 CT	1.75 1.75 1.75 1.75	2500			117	Leads	Leads	C			2 <sup>1</sup> / <sub>2</sub>					3 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2	2	2 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub> x 3 <sup>3</sup> / <sub>16</sub>	3.0
	P-6430†	6.3 CT 6.3 CT	3.0 3.0		2500						117	Leads	Leads				C	2 <sup>1</sup> / <sub>2</sub>	2 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2	1 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>16</sub> x 3 <sup>3</sup> / <sub>16</sub>
	*F-6†	6.3 CT 6.3 CT or 12.6 CT	3.0 3.0 3.0			2500								105 115 125	Lugs	Lugs		SC	2 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	2	3 <sup>1</sup> / <sub>8</sub>	2 <sup>11</sup> / <sub>16</sub>
<b>f</b>	P-6429†	6.3 6.3 6.3 6.3 CT	3.5 3.5 3.5 3.5	2500			117	Leads	Leads	C				3 <sup>1</sup> / <sub>8</sub>					3 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>16</sub>	3	3 <sup>1</sup> / <sub>16</sub> x 3 <sup>3</sup> / <sub>16</sub>
	P-6431†	6.3 CT 6.3 CT	6.0 6.0		2500						117	Leads	Leads	C			3 <sup>1</sup> / <sub>8</sub>		3 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>16</sub>	3	3 <sup>1</sup> / <sub>16</sub> x 3 <sup>3</sup> / <sub>16</sub>
	*F-7†	6.3 CT 6.3 CT or 12.6 CT	6.0 6.0 6.0			2500									105 115 125	Lugs	Lugs	SC	3 <sup>11</sup> / <sub>16</sub>	4 <sup>7</sup> / <sub>16</sub>	4 <sup>11</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>4</sub>

**MULTI-TAPPED FOR TUBE CHECKERS: PRIMARY 50/60 CYCLES**

	Catalog No.	Secondary Volts								Primary Volts	Termination	Style	A	B	C	D	E	F	G	WT Lbs.
		1.1	1.4	1.5	2.0	2.5	3.0	3.3	4.0											
<b>g</b>	P-1834-3	5.0	6.3	7.5	12	20	25	30	35	105 115 125	Leads Lugs	A	2 <sup>7</sup> / <sub>8</sub>	4	2 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>16</sub>	—	3 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub>	2.4

\* Available until stock is depleted  
† Has Electrostatic shield.

Insulation Test Voltage: Twice Allowable RMS Working Voltage plus 1000 Volts.

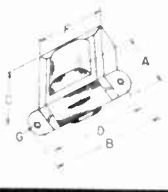
**ALL SECONDARY VOLTAGES ±3%**

SECTION 5600

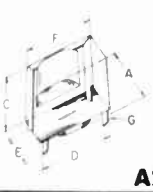
**STANCOR**

COMMERCIAL

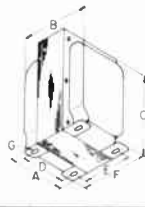
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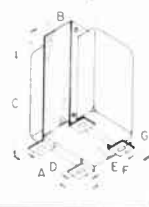
A



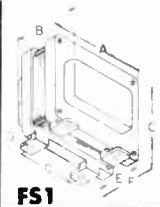
A2



C



FS



FS1

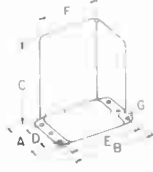
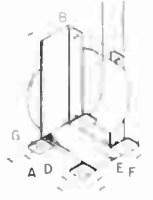
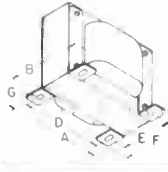
**SMOOTHING CHOKES: INDUCTANCE TOLERANCE-MINUS 15% PLUS 50% AT 10 VOLTS 60 CYCLES**

a	Catalog No.	Inductance Henries	DCMA	DC. Res. ohms	Insul. Test RMS Volts	Termination	Style	Dimensions							WT Lbs	
								A	B	C	D	E	F	G		
a	C-2345	350	5	5600	2500	Leads	A	1 3/4	3 3/4	2	2 13/16	—	2 3/8	3/16	1.0	
	C-2344	1.5	10	85	2500	Leads	A	1 1/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.4	
	C-2707	2.0	15	70	1500	Leads	A	1 1/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.4	
	C-1515	20.0	15	900	1500	Leads	A	1 3/8	2 7/8	1 3/8	2 3/8	—	2	3/16	0.7	
	C-2346	35	15	1800	1500	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.5	
	C-2318	12.0	30	400	2000	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.5	
	RC-1540	15.0	40	475	2500	Leads	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.5	
	RS-1540	15.0	40	475	2500	Lugs	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.5	
	C-1080	3.5	50	200	1500	Leads	A	1 3/8	2 3/8	1 3/8	2 3/8	—	2	3/16	0.7	
	C-1706	4.5	50	300	1500	Leads	A	1 1/4	2 3/8	1 3/8	2	—	1 3/4	3/16	0.5	
	C-1723	4.5	50	325	1500	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.5	
	C-1325	5.0	50	250	1500	Leads	A	1 1/4	2 3/8	1 3/8	2 3/8	—	2	3/16	0.7	
	C-1277	7.0	50	300	1500	Leads	A	1 3/8	2 3/8	1 3/8	2 3/8	—	2	3/16	0.7	
	C-1227	7.0	50	350	1500	Leads	A	1 3/8	2 3/8	1 3/8	2 3/8	—	2	3/16	0.7	
	C-1707	7.0	50	550	1500	Leads	A	1 1/4	2 3/8	1 3/8	2	—	1 3/4	3/16	0.5	
	C-1333	8.0	50	450	1500	Leads	A	1 3/8	2 3/8	1 3/8	2 3/8	—	2	3/16	0.7	
	C-1279	8.5	50	400	1500	Leads	A	1 3/8	2 3/8	1 3/8	2 3/8	—	2	3/16	0.7	
	C-1215	9.0	50	500	1500	Leads	A	1 3/8	2 3/8	1 3/8	2 3/8	—	2	3/16	0.7	
	b	C-1003	16.0	50	580	1500	Leads	A	1 3/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
		RC-1055	10.0	55	230	2500	Leads	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.7
RS-1055		10.0	55	230	2500	Lugs	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.7	
RC-1555		15.0	55	380	2500	Leads	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	2.0	
RS-1555		15.0	55	380	2500	Lugs	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	2.0	
C-1708		13.0	65	500	1500	Leads	A	1 3/4	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0	
C-1355		8.0	75	290	1500	Lugs	L	2 3/8	—	2	1 1/2	1 3/8	1 5/8	3/16 x 1/2	1.0	
C-1002		15.0	75	400	1500	Leads	A	1 3/8	3 3/8	2 3/8	3 1/8	—	2 3/4	3/16	1.7	
C-1420		16.0	80	360	1500	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.5	
C-1709		8.0	85	250	1500	Leads	A	1 3/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.4	
RC-1085		10.0	85	175	2500	Leads	SC	2 1/2	3	3 1/16	1 3/4	2 11/16	2 3/8	3/16	2.5	
RS-1085		10.0	85	175	2500	Lugs	SC	2 1/2	3	3 1/16	1 3/4	2 11/16	2 3/8	3/16	2.5	
RC-1585		15.0	85	285	2500	Leads	SC	2 1/2	3	3 1/16	1 3/4	2 11/16	2 3/8	3/16	2.7	
RS-1585		15.0	85	285	2500	Lugs	SC	2 1/2	3	3 1/16	1 3/4	2 11/16	2 3/8	3/16	2.7	
C-2305		5.0	100	300	1500	Leads	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.5	
RC-8105		8.0	105	100	2500	Leads	SC	2 3/8	3 1/2	3 1/2	2	3 3/8	2 11/16	3/16	3.7	
RS-8105		8.0	105	100	2500	Lugs	SC	2 3/8	3 1/2	3 3/4	2	3 3/8	2 11/16	3/16	3.7	
RC-12105		12.0	105	170	2500	Leads	SC	2 3/8	3 1/2	3 1/2	2	3 3/8	2 11/16	3/16	4.0	
c		RS-12105	12.0	105	170	2500	Lugs	SC	2 3/8	3 1/2	3 3/4	2	3 3/8	2 11/16	3/16	4.0
		C-1001	10.5	110	225	3000	Leads	A	2 3/8	4	2 5/8	3 3/16	—	3 3/8	3/16	2.3
	C-2704	9.0	125	250	1500	Leads	A	1 7/8	3 3/4	2 3/8	3 1/8	—	2 3/4	3/16	1.8	
	C-2303	2.5	130	100	2000	Leads	A	1 3/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0	
	C-1421	7.0	140	165	3000	Leads	C	2 1/2	2 3/4	3 3/8	2	1 3/4	2 3/8	3/16 x 3/8	2.5	
	C-2304	2.3	150	60	1500	Leads	A	1 3/4	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0	
	C-2309	3.0	150	90	2000	Leads	A	1 7/8	3 3/4	2 3/8	3 1/8	—	2 3/4	3/16	1.7	
	C-2335	7.0	150	170	1500	Leads	SC	2 1/2	3	3 1/16	1 3/4	2 11/16	2 3/8	3/16	2.3	
	C-1710	7.0	150	200	1500	Leads	A	2	4	2 5/8	3 3/16	—	3 1/8	3/16	2.2	
	RC-8150	8.0	150	100	2500	Leads	SC	3 1/4	4	3 7/8	2 1/4	3 1/2	3	3/16	5.2	
	RS-8150	8.0	150	100	2500	Lugs	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	3	3/16	5.2	
	RC-12150	12.0	150	150	2500	Leads	SC	3 3/4	4	3 7/8	2 1/4	3 1/2	3	3/16	5.5	
	RS-12150	12.0	150	150	2500	Lugs	SC	3 3/4	4	4 1/4	2 1/4	3 1/2	3	3/16	5.5	
	C-1410	4.0	175	100	3000	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.4	
	C-2327	1.5	200	85	1500	Leads	A	1 1/2	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7	
	C-2325	2.0	200	60	1500	Leads	A	1 3/8	3 3/4	2 3/8	3 1/8	—	2 3/4	3/16	1.8	
	C-1411	4.5	200	80	3000	Leads	C	2 13/16	4 1/4	3 1/2	2 1/4	2	2 3/4	3/16	3.5	
	C-1646	5.0	200	90	5000	Leads	C	3 1/8	3 1/2	3 3/8	2 1/2	2 3/16	3	3/16 x 3/8	4.5	
	d	RC-8200	8.0	200	85	2500	Leads	SC	3 11/16	4 7/16	4 3/16	2 3/4	3 3/8	3 1/4	3/16	7.0
		RS-8200	8.0	200	85	2500	Lugs	SC	3 11/16	4 7/16	4 11/16	2 3/4	3 3/8	3 1/4	3/16	7.0
C-1721		8.5	200	120	3000	Leads	NV	2 13/16	2 5/8	3 3/16	2 1/4	2 1/2	3 1/8	3/16 x 5/16	4.4	
C-2705		10.0	200	150	2500	Leads	C	2 13/16	3 3/16	3 1/2	2 1/4	2 5/16	3 1/8	3/16 x 3/8	4.5	
RC-12200		12.0	200	140	2500	Leads	SC	3 11/16	4 7/16	4 3/16	2 3/4	3 7/8	3 1/4	3/16	7.0	
RS-12200		12.0	200	140	2500	Lugs	SC	3 11/16	4 7/16	4 11/16	2 3/4	3 7/8	3 1/4	3/16	7.0	
C-1703		4.0	250	60	3000	Lugs	NV	2 13/16	2 5/8	3 3/16	2 1/4	2 1/2	3 1/8	3/16 x 3/16	4.2	
C-1412		4.0	250	60	3000	Leads	C	2 13/16	3 5/8	3 1/2	2 1/4	2 3/8	3 1/8	3/16 x 3/8	4.3	
RC-8250		8.0	250	90	2500	Leads	SC	4 7/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	10.5	
RS-8250		8.0	250	90	2500	Lugs	SC	4 7/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	10.5	
C-2343		0.75	300	32	1500	Leads	A	1 3/8	2 7/8	1 3/8	2 3/8	—	2	3/16	0.7	
C-2326		1.0	300	43	1500	Leads	A	2	3 3/4	2 3/4	3 1/4	—	2 3/4	3/16	1.7	
C-2334		2.8	300	60	1500	Leads	A	2 1/8	4	2 5/8	3 3/16	—	3 3/8	3/16	2.5	
*R-63		6.0	300	35	7500	Terms	SC	5 3/16	5 7/8	6 1/16	3 1/2	5 3/8	4 3/4	1/4	16.5	
RC-8300		8.0	300	60	3500	Leads	SC	4 7/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	12.5	
RS-8300		8.0	300	60	3500	Lugs	SC	4 7/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	12.5	
C-1722		8.0	300	80	3000	Leads	NV	3 3/4	3	4 5/16	3	2 1/2	3 1/4	3/16 x 3/16	7.3	
C-2308		8.0	300	80	3000	Leads	C	3 3/4	4	4 11/16	3	2 13/16	3 3/8	3/16 x 3/8	7.8	

\*Available until stock is depleted.

Insulation Test Voltage: Twice Allowable RMS Working Voltage plus 1000 Volts.





**STANCOR**

COMMERCIAL

**filter chokes**

**SMOOTHING CHOKES: INDUCTANCE TOLERANCE-MINUS 15% PLUS 50% AT 10 VOLTS 60 CYCLES**

Catalog No.	Inductance Henries	DCMA	DC. Res. ohms	Insul. Test RMS Volts	Termination	Style	Dimensions							WT Lbs
							A	B	C	D	E	F	G	
C-1413	8.0	300	80	3000	Lugs	C	3 3/4	4	4 11/16	3	2 13/16	3 3/8	3/8 x 3/8	7.8
R-103	10.0	300	40	2500	Terms	SC	6 1/4	6 1/2	7 1/16	4 1/4	6	5 1/8	1/4	22.0
C-2706	2.6	310	50	1500	Leads	C	2 1/2	3 3/8	3 3/8	2	2 3/8	3	3/8 x 3/8	4.0
C-2347	1.0	350	40	1500	Leads	A	1 3/4	3 1/4	2	2 13/16	—	2 3/8	3/8	1.0
C-2328	0.8	375	25	1500	Leads	A	1 3/8	3 3/4	2 3/8	3 1/8	—	2 3/4	3/8	1.5
C-2709	2.0	400	40	2500	Leads	A	2 1/8	4	2 3/8	3 3/8	—	3 1/8	3/8	2.3
C-1414	7.5	400	60	5000	Lugs	C	3 3/4	5	4 11/16	3	3 13/16	4 3/8	3/8 x 3/8	11.8
R-65	6.0	500	35	9000	Terms	FS1	7 1/2	3 1/4	7	4 3/4	5 1/4	6 3/8	3/8 x 3/4	35.0
C-1415	6.0	500	75	7500	Terms	FS	5 3/8	5 1/2	7 1/8	4 3/8	3 3/8	4 3/8	3/8 x 1/2	23.7
R-105	10.0	500	40	9000	Terms	FS1	7 1/2	4	7	4 3/4	6	7 1/8	3/8 x 3/4	35.0
C-2708	0.32	600	10	1500	Leads	A	1 3/8	3 1/4	2	2 13/16	—	2 3/8	3/8	1.3

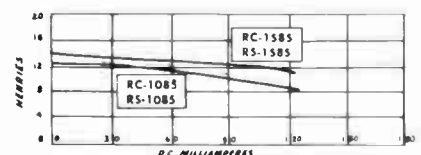
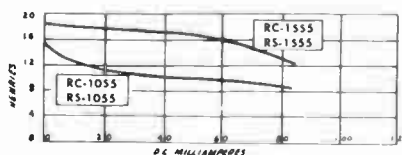
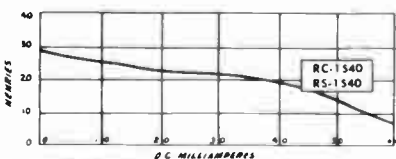
**SWINGING CHOKES: INDUCTANCE MEASURED AT 50 VOLTS 60 CYCLES**

C-1718	13.5	15	130	2000	Leads	C	2 1/2	2 3/8	3 3/8	2	1 3/8	2 1/4	3/8 x 3/8	2.3
	3.5	150												
C-1400	12.0	17.5	100	3000	Leads	C	2 1/2	2 3/4	3 3/8	2	1 3/4	2 3/8	3/8 x 3/8	2.4
	2.0	175												
C-1401	12.0	20	80	3000	Leads	C	2 13/16	3 1/4	3 1/2	2 1/4	2	2 3/4	3/8 x 3/8	3.5
	2.0	200												
C-1645	12.0	20	90	5000	Leads	C	3 3/8	3 1/2	3 3/8	2 1/2	2 3/16	3	3/8 x 3/8	4.5
	2.0	200												
C-1702	12.0	25	60	3000	Lugs	NV	2 13/16	2 3/4	3 3/16	2 1/4	2 1/2	3 1/8	3/8 x 3/16	4.3
	2.0	250												
C-1402	12.0	25	60	3000	Leads	C	2 13/16	3 3/8	3 1/2	2 1/4	2 3/8	3 1/8	3/8 x 3/8	4.3
	2.0	250												
C-1720	20.0	30	80	3000	Leads	NV	3 3/4	3 3/8	4 9/16	3	2 1/2	3 1/8	3/8 x 3/16	7.2
	4.0	300												
C-2307	20.0	30	80	3000	Leads	C	3 3/4	4	4 11/16	3	2 13/16	3 3/8	3/8 x 3/8	7.9
	4.0	300												
C-1403	20.0	30	80	5000	Lugs	C	3 3/4	4	4 11/16	3	2 13/16	3 3/8	3/8 x 3/8	7.7
	4.0	300												
C-1404	17.0	40	60	5000	Lugs	C	3 3/4	5	4 11/16	3	3 13/16	4 3/8	3/8 x 3/8	11.7
	3.0	400												
C-1405	16.0	50	75	7500	Terms	FS	5 3/8	5 1/4	7 1/8	4 3/8	3 3/8	4 3/8	3/8 x 1/2	24.3
	4.0	500												

**HIGH CURRENT CHOKES: INDUCTANCE MEASURED AT 1 VOLT 60 CYCLES**

Catalog No.	Inductance Millihenries	DC Amps	DC. Res. ohms	Insul. Test RMS Volts	Termination	Style	Dimensions							WT Lbs
							A	B	C	D	E	F	G	
TC-1	3.0	1.0	.25	1000	Leads	A2	1 1/8	—	1 3/16	1 3/16	3/16	1 1/2	3/32	0.6
TC-2	11.0	1.0	.75	1000	Leads	A2	1 1/8	—	1 3/16	1 3/16	3/16	1 1/2	3/32	0.6
C-2690	300 or 75	1.0	3.0	1500	Leads	NV	2 13/16	3	3 3/16	2 1/4	2 3/8	3 3/4	3/8 x 3/16	5.0
		2.0	.75											
C-2685	35	2.0	.75	1500	Leads	NH	2 3/8	2 1/4	2 3/16	2 3/16	2	2 3/8	3/8 x 3/16	1.9
C-2691	80 or 20	2.5	.60	1500	Leads	NV	3 3/8	3 1/2	3 13/16	2 1/2	3	3 3/8	3/8 x 3/16	7.0
		5.0	.15											
C-2686	25	4.0	.425	1500	Leads	NH	3 3/8	2 3/8	2 3/8	2 13/16	2 1/8	2 3/4	3/8 x 3/16	3.4
C-2687	10	8.0	.15	1500	Leads	NH	3 3/4	3	3 3/16	3 1/8	2 1/2	3 1/8	3/8 x 3/16	5.3
C-2688	10	12.5	.11	1500	Leads	NH	4 1/8	2 3/8	3 1/2	3 3/16	2 3/8	3	3/8 x 3/16	5.9
C-2689	5	22.5	.03	1500	Leads	NH	4 1/2	4 3/8	3 13/16	3 3/4	3 1/2	4 1/8	3/8 x 3/16	11.9

**TYPICAL INDUCTANCE CHARACTERISTIC CURVES**

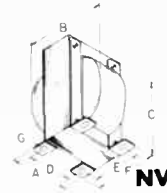
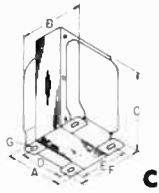


Insulation Test Voltage: Twice Allowable RMS Working Voltage plus 1000 Volts. \*Available until stock is depleted.

# STANCOR

COMMERCIAL

rectifier  
transformers



SECTION 5600

## SILICON RECTIFIER POWER TRANSFORMERS: Primaries — 117 Volts 50/60 Cycle-Lead Wire Termination.

Catalog No.	Secondary #1		Secondary #2		Secondary #3		Style	Dimensions							WT. Lbs.
	Volts	DCMA †	Volts	Amps.	Volts	Amps.		A	B	C	D	E	F	G	
RP-400	400 C.T.	400	6.3	3.0	6.3	3.0	C	3 1/8	4 1/4	4 1/4	2 3/4	3 1/16	3 3/8	3/16 x 3/8	7.1
RP-600	300 C.T.	600	6.3	2.5	6.3	2.5	C	3 1/8	4 1/4	4 1/4	2 3/4	3 1/16	3 3/8	3/16 x 3/8	7.1
RP-800	200 C.T.	800	6.3	2.0	6.3	2.0	C	3 1/8	4 1/4	4 1/4	2 3/4	2 13/16	3 3/4	3/16 x 3/8	6.9
RP-1600	100 C.T.	1600	6.3	1.5	6.3	1.5	C	3 1/8	3 3/8	4 1/4	2 3/4	2 11/16	3 1/2	3/16 x 3/8	6.0
RP-2000	80 C.T.	2000	6.3	1.5	6.3	1.5	C	3 1/8	4	4 1/4	2 3/4	2 13/16	3 3/8	3/16 x 3/8	6.5
RP-2500	60 C.T.	2500	6.3	1.5	6.3	1.5	C	3 1/8	3 3/8	4 1/4	2 3/4	2 11/16	3 1/2	3/16 x 3/8	6.0

†Refer to operating. Conditions as shown below.

T Stancor No.	SR*	L Stancor No.	C1 (in MFD)	C2 (in MFD)	SPR*	D.C. Output		Rectifier Load
						Volts	MA.	
RP-400	Four #F-4	C-2709	10	10	Yes	192	400	Capacitive
RP-400	Four #F-4	C-2690	—	200	No	173	540	Inductive
RP-600	Four #F-6	C-2334	80	80	Yes	190	600	Capacitive
RP-600	Four #F-6	C-2690	—	125	No	126	1090	Inductive
RP-800	Two #40-L	C-2690	40	150	Yes	105	800	Capacitive
RP-800	Two #40-L	C-2690	—	350	No	86	1340	Inductive
RP-1600	Two #40-L	C-2690	200	200	Yes	53	1600	Capacitive
RP-1600	Two #40-L	C-2691	—	300	No	41	2600	Inductive
RP-2000	Two #40-L	C-2690	500	500	Yes	47	2000	Capacitive
RP-2000	Two #40-L	C-2686	—	1000	No	33	2950	Inductive
RP-2500	Two #40-LF	C-2691	500	500	Yes	31	2500	Capacitive
RP-2500	Two #40-LF	C-2686	—	1000	No	23	3950	Inductive
RP-400	Four #F-4	C-1710	8	10	Yes	502	150	Capacitive
RP-400	Four #F-4	C-1722	—	20	No	330	302	Inductive
RP-600	Four #F-6	C-2334	8	20	Yes	322	305	Capacitive
RP-600	Four #F-6	C-2690	—	125	No	285	425	Inductive
RP-800	Four #F-6	C-2709	30	40	Yes	247	377	Capacitive
RP-800	Four #F-6	C-2708	—	250	No	172	625	Inductive
RP-1600	Four #F-4	C-2690	40	80	Yes	100	880	Capacitive
RP-1600	Four #F-4	C-2690	—	300	No	88	1160	Inductive
RP-2000	Four #F-4	C-2690	100	100	Yes	93	810	Capacitive
RP-2000	Four #40-L	C-2690	—	250	No	71	1450	Inductive
RP-2500	Four #40-L	C-2690	200	200	Yes	70	1060	Capacitive
RP-2500	Four #40-L	C-2690	—	500	No	50	1950	Inductive
RP-400	Four #F-6	C-1420	8	0.5	Yes	1040	75	Capacitive
RP-600	Four #F-6	—	60	—	Yes	802	142	Capacitive
RP-800	Two #F-6	—	80	—	Yes	536	188	Capacitive
RP-1600	Two #F-6	C-2326	80	16	Yes	240	325	Capacitive
RP-2000	Two #F-6	—	150	—	Yes	212	390	Capacitive
RP-2500	Two #40-L	—	500	—	Yes	150	553	Capacitive

Note: Filtering shown permits maximum output ripple voltage of 3% or less.

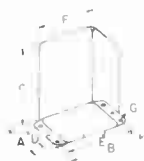
\*Quantity Shown is Total Number used in a given circuit. Rectifiers should be equivalent to Sarks Tarzian numbers shown.

\*Surge protection resistors are recommended when capacitor input filters are used. Allow 3.3 ohms per 70 volts R.M.S. applied voltage. Transformer secondary winding D.C. resistance may be used as part or all of the amount required.

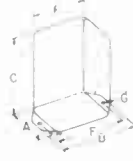
## FOR TRANSISTOR POWER SUPPLIES: Primary 117 Volts 60 Cycles Lead Wire Termination.

Catalog No.	Secondary #1		Secondary #2		Style	Dimensions							WT. Lbs.
	Volts	DCMA	Volts	DCMA		A	B	C	D	E	F	G	
P-8193A	17/18	6 Amps. RMS	—	—	NV	3 1/8	3 1/8	3 13/16	2 1/2	2 3/8	3 1/16	3/16 x 3/16	6.0
P-8194A	36	3 Amps. RMS	36	3 Amps. RMS	NV	3 3/4	3 3/4	4 3/8	3	3	3 1/16	3/16 x 3/16	10
P-8196	80 C.T.	1200	—	—	C	2 13/16	3 3/8	3 1/2	2 1/4	2 3/8	3 1/8	3/16 x 3/8	4.5

\*Write for Bulletin #587 for Rectifier Circuits showing D.C. Voltages and allowable D.C. Current.



SC



TD

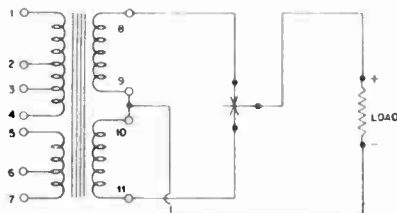
**SILICON OR SELENIUM RECTIFIER TRANSFORMERS:**

Primary — 117 Volts 50 60 Cycles.  
Solder Lug Termination

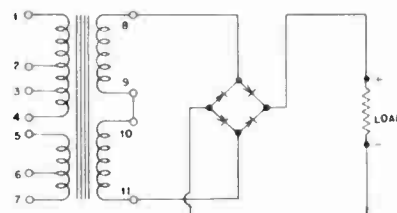
These transformers have been designed to operate in full-wave center tap or bridge rectifier circuits. The D.C. voltages shown are approximate since they depend on the internal drop of the rectifiers used.

Primary taps and an additional buck or boost tapped winding provides a wide range of output voltages. For detailed terminal connections, output voltages, etc. write for bulletin 518-R. For matching high current chokes see page 22.

**FULL-WAVE C. T.**



**FULL-WAVE BRIDGE**



Catalog No.	Rectifier Circuit	Range of Applied A.C. Volts Under Load (Approx.)	Output Resistive or Inductive Load Max D.C.		Output Capacitive Load* Max. D.C.		Style	Dimensions							WT. Lbs.
			Volts	Amps.	Volts	Amps.		A	B	C	D	E	F	G	
RT-201	C. T.	11.7 to 29.4	11.2	2.0	13.8 <sup>1</sup>	2.0	NV	2 1/2	2 3/8	3 1/8	2	2 1/8	2 13/16	3/16 x 5/16	2.5
	Bridge	11.1 to 28.5	23.0	1.25	30.0 <sup>2</sup>	1.25									
RT-202	C. T.	12.0 to 29.8	11.1	4.0	14.7 <sup>3</sup>	4.0	NV	2 13/16	2 3/4	3 3/16	2 1/4	2 3/8	3 1/16	3/16 x 5/16	3.8
	Bridge	12.0 to 29.8	24.3	2.0	33.0 <sup>1</sup>	2.0									
RT-204	C. T.	11.7 to 29.2	12.0	8.0	14.5 <sup>4</sup>	8.0	NV	3 1/8	3 1/2	3 13/16	2 1/2	2 7/8	3 3/16	3/16 x 5/16	6.1
	Bridge	11.6 to 29.2	24.0	4.0	32.4 <sup>3</sup>	4.0									
RT-206	C. T.	12.0 to 29.7	11.5	12.0	14.4 <sup>5</sup>	12.0	NV	3 3/16	4	4 3/16	2 3/4	3 1/4	3 15/16	3/16 x 5/16	9.1
	Bridge	12.0 to 29.7	24.0	6.0	32.0 <sup>6</sup>	6.0									
RT-208	C. T.	12.1 to 29.2	11.4	15.0	14.8 <sup>7</sup>	15.0	NV	3 3/4	5	4 9/16	2 13/16	3 3/4	4 7/16	3/16 x 5/16	12.6
	Bridge	12.1 to 29.2	23.7	8.0	32.5 <sup>4</sup>	8.0									
RT-2012	C. T.	12.2 to 29.0	11.4	22.5	14.3 <sup>8</sup>	22.5	NV	4 3/8	5 7/8	5 5/16	3 1/2	4 1/4	4 13/16	3/16 x 5/16	20.5
	Bridge	12.2 to 29.0	23.5	12.0	33.0 <sup>5</sup>	12.0									
RT-408	Bridge	25.0 to 53.5	44.0	8.0	63.0 <sup>1</sup>	8.0	NV	4 3/8	6 3/4	5 5/16	3 1/2	5 1/4	5 15/16	3/16 x 5/16	26.5
RT-4012	Bridge	25.0 to 53.0	43.5	12.0	60.0 <sup>5</sup>	12.0	NV	5 3/8	6	7 1/8	4 5/8	5 1/2	6 1/2	3/8 x 1/2	34

\*MFD Filter Capacitor 1-1000, 2-500, 3-2000, 4-4000, 5-6000, 6-3000, 7-7500, 8-12000.

**TRANSISTOR INVERTER TRANSFORMERS:**

Write for Bulletin CT-43 for Circuit Diagram.  
Lead Wire Termination.

Catalog No.	Input	Output Volts	MADC	Style	Dimensions							WT. Lbs.	
					A	B	C	D	E	F	G		
DCT-1	12 Volts D.C.	275 D.C.	125	TD	1 7/8	2 7/16	2 1/4		2 1/8	1 7/8		3/16	0.9
DCT-2	12 Volts D.C.	250 D.C. or 500 D.C.	275 165	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2		3/16	1.5

**TRANSISTOR INVERTER TRANSFORMER:**

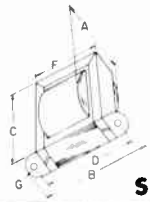
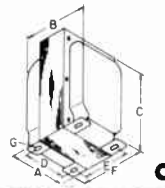
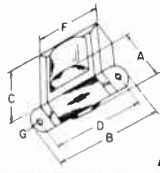
With 12 Volts D.C. and 117 Volts 60 Cycle Primary.  
Write for Bulletin 596 for Circuit Diagram.

Catalog No.	D.C. Output		Filament Winding	Style	Dimensions							WT. Lbs.	
	Volts	DCMA			A	B	C	D	E	F	G		
P-8195	280	150 CCS 250 ICAS	12.6 V. or 3 Amps. (with 117 V. Pri)	C	3 1/8	3 15/16	3 3/8	2 1/2	2 5/8	3 3/8		3/16 x 3/8	6.0

**SPECIAL VIBRATOR TRANSFORMERS:**

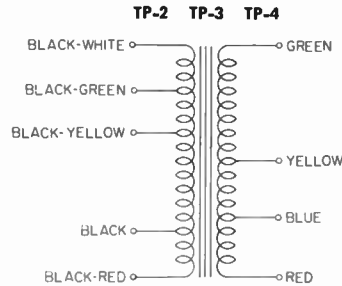
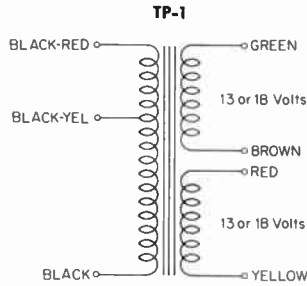
With D.C. and 117 Volts 60 Cycle Primary.  
Lead Wire Termination.

Catalog No.	D.C. Pri.	Plate Winding		Buffer Cap.	Filament Winding		Style	Dimensions							WT. Lbs.
		A.C. Volts	DCMA		Volts	Amps.		A	B	C	D	E	F	G	
P-6166	6 V.	350-0-350	135	.01 mfd	6.3	2.25	C	3 3/4	3 3/4	4 11/16	3	2 5/8	3 3/8	3/16 x 3/8	6.9
P-6496	12 V.	350-0-350	100	.005 mfd	12.6 C.T.	2.0	C	3 3/4	4	4 11/16	3	2 13/16	3 3/8	3/16 x 3/8	7.9



**RECTIFIER TRANSFORMERS: Primary 117 Volts 60 Cycles—Lead Wire Termination**

Multiple Primary and Secondary Taps offer a wide selection of output Voltages. All D.C. current ratings are based on capacitor input Filtering. Max. D.C. Ma For TP-1 is for each Secondary.



**Typical Secondary AC Voltages**

6.5	21 C.T.
7.5	22
8	24
9	26.5 C.T.
9.5	27
10	28
13.5 C.T.	29 C.T.
14.5 C.T.	31.5
16 C.T.	32 C.T.
18 C.T.	35.5 C.T.
19 C.T.	37 C.T.
20	42 C.T.

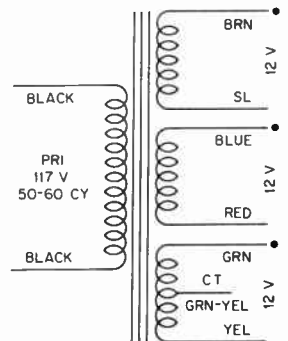
a	Catalog No.	MAX. D.C. MA.			Style	Dimensions							Wt. Lbs.
		Full-Wave CT	Bridge	Half-Wave		A	B	C	D	E	F	G	
	TP-1	1500	900	450	C	2½	3	3½	2	2	2¾	¾ x ¾	2.7
	TP-2	150	100	50	A	1¾	2¾	1¾	2¾	—	2	¾	0.7
	TP-3	400	300	150	A	2½	3¾	2¾	3½	—	2¾	¾	1.5
	TP-4	1500	1000	500	C	2½	3¾	3½	2	2½	2¾	¾ x ¾	3.2

**VERSATILE LOW CURRENT CONTROL TRANSFORMERS: Primary 117 Volts 50/60 Cycles Lead Wire Termination**

Three isolated 12 Volt Secondaries (one with a center tap) provide many combinations of output voltages and current by series or parallel combinations.

b

Catalog No.	Amperes Each Sec.	Style	Dimensions							Wt. Lbs.
			A	B	C	D	E	F	G	
●P-8361	.10	S	1½	2	1¾	1¾	—	1¾	¾	.36
●P-8362	.15	S	1¾	2¾	2	2	—	1¾	¾	.60
●P-8363	.25	S	1¾	2¾	2¾	2¾	—	2	¾	.85
●P-8364	.50	S	2½	2¾	2¾	2¾	—	2	¾	1.25



**MINIATURIZED CONTROL TRANSFORMERS: Primary 117 Volts 60 Cycles Secondary 12 Volts—Lead Wire Termination**

c

Catalog No.	Secondary Amperes			Style	Dimensions							Wt. Lbs.
	RMS	Bridge	Half-Wave		A	B	C	D	E	F	G	
●P-8390	.150	.100 DC	.050 DC	A	1¼	2½	1¼	1¾	—	1½	¾	.25
●P-8391	.350	.225 DC	.110 DC	A	1¾	2¾	1¾	2	—	1¾	¾	.35
●P-8392	.700	.450 DC	.225 DC	A	1½	2¾	1¾	2¾	—	2	¾	.60
●P-8393	1.200	.750 DC	.375 DC	A	1¾	3¼	2	2¾	—	2¾	¾	.85

**MINIATURIZED CONTROL TRANSFORMERS: Primary 117 Volts 60 Cycles Secondary 24 Volts C.T.—Lead Wire Termination**

d

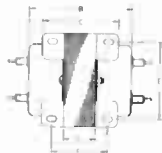
Catalog No.	Secondary Amperes			Style	Dimensions							Wt. Lbs.
	RMS	Full-Wave CT	Bridge		A	B	C	D	E	F	G	
●P-8394	.085	.135 DC	.065 DC	A	1¼	2½	1¼	1¾	—	1½	¾	.25
●P-8395	.200	.275 DC	.135 DC	A	1¾	2¾	1¾	2	—	1¾	¾	.35
●P-8396	.400	.550 DC	.270 DC	A	1½	2¾	1¾	2¾	—	2	¾	.60
●P-8397	.700	.925 DC	.450 DC	A	1¾	3¼	2	2¾	—	2¾	¾	.85

● New Part Number

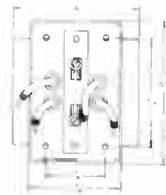
SECTION 5600



NCF & PCF



PCC



**STANCOR**

COMMERCIAL

**control transformers**

**NORMAL REACTANCE TYPE:** Primary 115 Volts 50-60 Cycles Lead Wire Termination.

Catalog Number	Secondary			Dimensions in Inches								Approx. Weight Lbs.
	Volts	Amps.	V-A Cap.	A	B	C	D	E	F	G		
NCF-1650	16	3.15	50	3	3 1/4	2 3/8	2 3/4	2 3/8	1 3/4	1	3 1/2	
NCF-2425	24	1.05	25	2 3/8	2 1/2	2 1/8	2 1/2	2 1/8	1 1/2	3/8	2 1/4	
NCF-2450	24	2.1	50	3	3 1/4	2 3/8	2 3/4	2 3/8	1 3/4	1	3 1/2	
NCF-2475	24	3.15	75	3 1/2	3 3/8	2 7/8	3 1/2	3	2 1/4	1 7/16	4 1/2	
NCF-24100	24	4.15	100	3 13/16	3 11/16	3 13/16	3 1/2	3 3/16	2 15/16	1 9/16	5 1/4	
NCF-24150	24	6.25	150	4 1/2	4 1/8	3 3/4	4	3 3/4	3	1 1/2	8 1/2	
NCF-3250	32	1.55	50	3	3 1/4	2 3/8	2 3/4	2 3/8	1 3/4	1	3 1/2	
NCF-3275	32	2.35	75	3 1/2	3 3/8	2 7/8	3 3/16	3	2 1/4	1 7/16	4 1/2	
NCF-32150	32	4.7	150	4 1/2	4 1/8	3 3/4	4	3 3/4	3	1 1/2	8 1/2	
NCF-1550	550	(NL)	50	2 7/8	2 7/8	2 7/8	3 1/2	2 1/4	2 1/8	1 1/8	3 1/2	

**POWER CIRCUIT TRANSFORMERS:** Primary 50-60 Cycles. Lead Wire Termination.

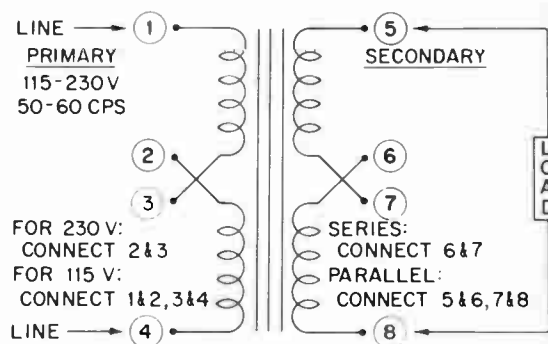
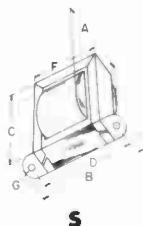
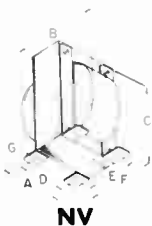
Catalog Number	Primary Volts	Secondary			Dimensions in Inches								Weight Lbs.
		Volts	Amps.	V-A Cap.	A	B	C	D	E	F	G		
PCF-2025	230	115	.25	25	3	3	2 1/8	2 13/16	2 3/8	1 1/2	3/4	2	
PCF-2050	230	115	.45	50	3	3 1/2	2 3/8	2 13/16	2 3/8	2	1 1/4	2 3/4	
PCF-24075	230/460	115	.65	75	3 1/2	3 3/8	2 7/8	3 3/16	3	2 1/4	1 7/16	4 1/4	
PCF-24100	230/460	115	.85	100	3 13/16	4 1/8	3 13/16	3 1/2	3 3/16	2 15/16	1 9/16	5 1/4	
PCF-24250	230/460	115	2.2	250	5 1/4	4 9/16	3 15/16	4 9/16	4 1/4	3	1 11/16	12	

**POWER CIRCUIT TRANSFORMERS:** Conduit Box Mounting

Catalog Number	Primary		Secondary			Dimensions in Inches				Weight Lbs.
	Volts	Cycles	Volts	Amps.	V-A Cap.	A	B	C	G	
PCC-24100	230/460	50-60	115	.85	100	3 3/4	4 3/16	3 3/8	1 7/16	5 1/4
PCC-24150	230/460	50-60	115	1.5	150	4 1/2	4 3/8	3 3/4	1 1/2	7 3/4
PCC-24250	230/460	50-60	115	2.2	250	5 1/4	4 7/8	4 3/16	1 11/16	11 1/2

**CONTROL TRANSFORMERS:** Primary 115-230 Volts 50-60 Cycles Solder Lug Termination.

Typical Applications: Automatic Assembly equipment, Relays, Solenoids, Small Motors, Speed Changers, Recording Device, Pumps, Electronic Tubes, Heating Elements, Elevators, Door Openers, Automatic Musical Instruments, Low Voltage Lighting Signal Lamps, Spark Plug Testers, Control Valves for Fluids and Gases, Fans and Blowers, Mechanical and Electrical Signs and similar applications.



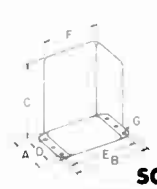
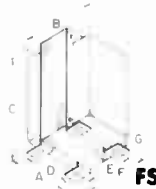
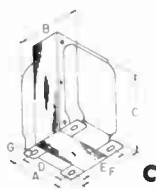
Catalog No.	VA Cap.	Secondary		Style	Dimensions								WT. Lbs.
		Parallel	Series		A	B	C	D	E	F	G		
P-6375	12	6V @ 2A	12V @ 1A	S	1 1/8	2 1/8	2 3/8	2 3/8	—	2	3/16	1.0	
P-6376	24	6V @ 4A	12V @ 2A	S	1 7/8	3 1/8	2 3/4	2 13/16	—	2 1/4	3/16	1.5	
P-6377	48	12V @ 4A	24V @ 2A	S	2 1/4	3 3/8	3 1/8	3 1/8	—	2 5/8	3/16	2.5	
P-6378	96	12V @ 8A	24V @ 4A	NV	2 13/16	2 7/8	3 3/16	2 1/4	2 1/4	2 3/8	3/16 x 5/16	4.2	
P-6379	192	12V @ 16A	24V @ 8A	NV	3 7/16	3 3/8	4 3/16	2 3/4	3	3 11/16	3/16 x 5/16	8.0	

• New Part Number. \*Available until stock is depleted.

**STANCOR**

COMMERCIAL

isolation/auto transformers



**STEP-DOWN AUTO-TRANSFORMERS:** Primary — 230 Volts 50/60 Cycles — Line Cord and Plug.  
Secondary — 115 Volts — Standard Female Receptacle.

	Catalog No.	Watts	Style	Dimensions							Wt. Lbs.
				A	B	C	D	E	F	G	
<b>a</b>	P-6287	40	C	2 3/8	2 1/2	3 1/2	2	1 1/2	2 1/8	3/16 x 3/8	2.2
	P-5062	80	C	2 13/16	3 3/8	3 1/2	2 1/4	2 1/2	2 7/8	3/16 x 3/8	3.8
	P-5063	100	C	3 1/8	3 5/8	3 3/8	2 1/2	2 1/16	2 7/8	3/16 x 3/8	4.5
	P-5064	150	C	3 7/16	3 3/8	4 1/4	2 3/4	2 7/16	3 3/4	3/16 x 3/8	5.2
	P-5065	300	C	3 3/4	4 1/4	4 11/16	3	3 1/16	3 3/8	3/16 x 3/8	8.8
	P-6141	500	C	3 3/4	5 1/4	4 11/16	3	4 1/16	4 3/8	3/16 x 3/8	13.7
	P-6124	1000	FS	5 3/8	6 3/4	7 1/8	4 3/8	4	5	3/8 x 1/2	24.7
<b>b</b>	SD-50	50	SC	2 7/8	3 1/2	3 1/2	2	3 3/8	2 11/16	3/16	2.8
	SD-100	100	SC	3 11/16	4 7/8	4 5/8	2 3/4	3 3/8	3 1/4	3/16	4.3
	SD-150	150	SC	4 3/16	5 1/4	5 5/8	2 1/2	4 3/4	4 1/8	3/16	7.0
	SD-250	250	SC	4 7/16	5 1/4	5 5/8	2 1/2	4 3/4	4 1/8	3/16	8.8
	SD-500	500	SC	5 5/16	5 7/8	6 1/8	3 1/2	5 3/8	4 11/16	1/4	14.5
	SD-1000	1000	SC	6 1/8	6 1/2	7 1/8	4 1/4	6	5 1/8	1/4	22.5

**LINE ADJUSTING AUTO-TRANSFORMERS:** Primary — 50 60 Cycle. Line Cord and Selector Switch.  
Secondary — Female Receptacle with Voltmeter.

	Catalog No.	Watts	Input Voltage	Output Voltage	Style	Dimensions							WT. Lbs.
						A	B	C	D	E	F	G	
<b>c</b>	PV-6441	150	65 75 90 100 115 130 145	115	C	3 3/4	5 3/8	5 1/2	3	4 3/16	5 1/8	3/16 x 3/8	6.4
	PV-6442	350	65 75 90 100 115 130 145	115	C	3 3/4	6 1/8	5 1/2	3	5 1/16	5 7/8	3/16 x 3/8	10.5
	PV-6443	500	65 75 90 100 115 130 145	115	C	3 3/4	6 7/8	5 1/2	3	5 13/16	6 3/4	3/16 x 3/8	15
	PV-6444	750	65 75 90 100 115 130 145	115	C	4 3/8	8 1/8	6 1/8	3 1/2	6 5/8	7 3/4	1/4 x 3/8	19

**LINE ADJUSTING ISOLATION TRANSFORMERS:** Primary — 50 60 Cycles. Line Cord and Selector Switch.  
Secondary — Standard Female Receptacle.

	Catalog No.	Watts	Input Voltage	Output Voltage	Style	Dimensions							Wt. Lbs.
						A	B	C	D	E	F	G	
<b>d</b>	IS-50	50	105 115 125	††125 115 105	SC	3 11/16	4 7/16	4 11/16	2 3/4	3 3/8	3 1/4	3/16	5
	IS-100	100	105 115 125	††125 115 105	SC	4 3/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	8.5
	IS-150	150	105 115 125	††125 115 105	SC	5 3/16	5 7/8	6 1/16	3 1/2	5 3/8	4 11/16	1/4	12.5
	IS-250	250	105 115 125	††125 115 105	SC	5 5/16	5 7/8	6 1/4	3 1/2	5 3/8	4 11/16	1/4	18.3

**STRAIGHT ISOLATION: ELECTROSTATIC SHIELDS GROUNDED TO CORE** Primary — 50 60 Cycles. Line Cord.  
Secondary — Female Receptacle.

	Catalog No.	Watts	Input Voltage	Output Voltage	Style	Dimensions							Wt. Lbs.
						A	B	C	D	E	F	G	
<b>e</b>	P-6410	50	115	115	C	2 3/16	3 1/8	3 1/2	2 1/4	1 7/8	2 3/8	3/16 x 3/8	3.7
	P-6160 †	100	105 115 125	115	C	3 3/4	3 3/4	4 11/16	3	2 7/16	3 3/8	3/16 x 3/8	7.0
	P-6371	175	117	117	SC	4 7/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	9.0
	P-6161 †	250	105 115 125	115	C	3 3/4	5 1/2	4 11/16	3	4 3/16	5 1/8	3/16 x 3/8	14.2
	P-6298 †	500	105 115 125	115	FS	5 3/8	7 1/8	7 3/8	4 3/8	4 1/4	5 1/4	3/8 x 1/2	28
	P-6125 ▲	1000	105 115 125	115	FS	5 3/8	7 3/4	7 1/8	4 3/8	5	6	3/8 x 1/2	35
	P-6123 ▲	1500	105 115 125	115	FS	5 3/8	9	7 1/8	4 3/8	6 1/4	7 1/4	3/8 x 1/2	50

**STEP-DOWN ISOLATION: ELECTROSTATIC SHIELDS GROUNDED TO CORE** Primary — 50 60 Cycles. Line Cord.  
Secondary — Female Receptacle.

	Catalog No.	Watts	Input Voltage	Output Voltage	Style	Dimensions							Wt. Lbs.
						A	B	C	D	E	F	G	
<b>f</b>	P-6383 †	100	210 230 250	115	C	3 3/4	3 3/4	4 11/16	3	2 7/16	3 3/8	3/16 x 3/8	7.3
	P-6385 †	250	210 230 250	115	C	3 3/4	5 1/2	4 11/16	3	4 5/16	5 1/8	3/16 x 3/8	14.2
	P-6387 †	500	210 230 250	115	FS	5 3/8	7 1/8	7 3/4	4 3/8	4 1/4	5 1/4	3/8 x 1/2	29.5
	P-6389 ▲	1000	210 230 250	115	FS	5 3/8	7 7/8	7 1/8	4 3/8	5	6	3/8 x 1/2	34
	P-6390 ▲	1500	210 230 250	115	FS	5 3/8	9 3/8	7 1/8	4 3/8	6 1/2	7 1/2	3/8 x 1/2	50

**ISOLATION TESTING TRANSFORMERS: ELECTROSTATIC SHIELD GROUNDED TO CORE** Primary—50 60 Cycles. Line Cord.  
Secondary—Three Female Receptacles.

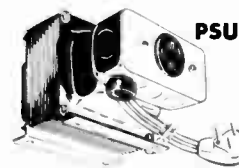
	Catalog No.	Watts	Input Voltage	Output Voltage	Style	A	B	C	D	E	F	G	Wt. Lbs.
<b>g</b>	P-6415	350	117	105 115 125	C	4 3/8	5 11/16	5 3/8	3 1/2	4 11/16	5 3/16	1/4 x 3/8	17

**AUTO-TRANSFORMERS FOR TESTING:** Primary 50 60 Cycles — Line Cord and Selector Switch.  
Secondary — Female Receptacle.

	Catalog No.	Watts	Input Voltage	Output Voltage	Style	A	B	C	D	E	F	G	Wt. Lbs.
<b>h</b>	P-6299	150	115	90 100 110 120 130 140 150	C	3 1/8	3 3/8	3 3/8	2 1/2	2 7/16	3 3/8	3/16 x 3/8	6

**STEP UP — STEP-DOWN AUTO-TRANSFORMERS:** 208 V. 230 V., or 230 V. 208 V. 60 Cy.  
(Three wire Line Cord and Receptable) by means of Connection. Change inside outlet Box.

	Catalog No.	Application	Style	Height	Base Area	Mtg Ctrs	Wt. Lbs.
<b>i</b>	PSU-2000	2.3 KVA for 1/2 to 1 hp Motors	PSU	3 1/2	3 3/4 x 6 1/2	2 7/8 x 3 1/4	9
	PSU-3000	3 KVA for 1 to 2 hp Motors	PSU	4	4 1/2 x 6	2 1/2 x 3 3/4	10



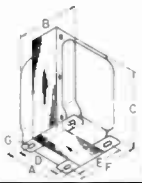
† Has Primary Switch.

▲ Has Primary Terminals.

†† With 115 volt input.

\* Available until stock is depleted

SECTION 5600



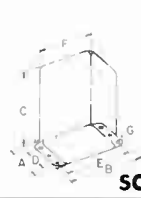
C



FS



FS1



SC

**STANCOR**

COMMERCIAL

plate transformers

FOR REACTOR INPUT SYSTEMS: All Primaries 50 60 Cycles.

	Catalog No.	Plate Winding AC Volts	DC Volts	DCMA		Primary Volts	Style	Dimensions							WT. Lbs.
				CCS	ICAS			A	B	C	D	E	F	G	
<b>a</b>	P-8040▲	500-40-0-500	400 40	300	375	115	C	3 3/4	4 3/8	4 1/16	3	3 3/16	4 1/4	3/16 x 3/8	9.8
	P-8041▲	615-520-40-0 520-615	500 400 40	250	310	115	C	3 3/4	5 1/4	4 1/16	3	4 1/16	4 7/8	3/16 x 3/8	13.6
	P-45††	675-575-0 575-675	500 400	250	325	115 230	SC	4 3/8	5 1/4	5 3/16	2 1/2	4 3/4	4 1/8	3/16	12.0
	P-8042▲	770-510-40-0 510-770	600 400 40	300	375	115	C	3 3/4	6 1/2	4 1/16	3	5 3/16	6 1/8	3/16 x 3/8	18.0
	P-67††	900-735-0 735-900	750 600	250	325	115 230	SC	4 3/8	5 1/4	5 3/16	2 1/2	4 3/4	4 1/8	3/16	13.5
	P-8043▲	950-750-40-0 750-950	750 600 40	300	375	115	FS	5 3/8	6 3/4	7 1/8	4 3/8	4	5	3/8 x 1/2	29.0
<b>b</b>	P-8044▲	1200-0-1200† 535-0-535	1000 400	150 150	190 190	115	FS	6 1/8	8 1/4	7 3/8	4 3/4	4	5	3/16 x 3/4	29.8
	P-8025▲	1230-940-0 940-1230	1000 750	400	500	115	FS	5 3/8	7 1/2	7 1/8	4 3/8	4 3/4	5 3/4	3/8 x 1/2	35.0
	P-1240††	1425-0-1425† 600-0-600	1250 400	150 200	200 260	115 230	SC	5 3/8	5 3/8	6 1/16	3 1/2	5 3/8	4 1 1/16	1/4	26.0
	P-8026▲	1475-1175-0 1175-1475	1250 1000	300	375	115	FS	5 3/8	7 1/2	7 1/8	4 3/8	4 3/4	5 3/4	3/8 x 1/2	36.5
	P-8027▲	1510-1210-0 1210-1510	1250 1000	500	625	115	FS	5 3/8	8 1/4	7 1/8	4 3/8	5 1/2	6 1/2	3/8 x 1/2	45.2
	P-1512††	1710-1430-0 1430-1710	1500 1250	300	425	115 230	FS-1	7 1/2	7	7	4 3/4	6	7 1/8	3/8 x 3/4	43.0
	P-8028▲	1740-1460-0 1460-1740	1500 1250	300	375	115	FS	5 3/8	7 3/4	7 1/8	4 3/8	5	6	3/8 x 1/2	38.7
	P-8029▲	1775-1500-0 1500-1775	1500 1250	500	625	115 230	FS	7 1/4	8 1/8	9	6	5 3/8	6 3/8	7/16 x 3/8	65.0
	P-8031▲	2075-1775-0 1775-2075	1750 1500	500	625	115 230	FS	7 1/4	8 1/8	9	6	5 3/8	6 3/8	7/16 x 3/8	65.0
<b>c</b>	P-8030▲	2100-1800-0 1800-2100	1750 1500	300	375	115	FS	5 3/8	7 1/4	7 1/8	4 3/8	5 1/2	6 1/2	3/8 x 1/2	45.8
	P-8033▲	2375-2065-0 2065-2375	2000 1750	500	625	115 230	FS	7 1/4	8 3/8	9	6	5 3/8	7 1/8	7/16 x 3/8	77.0
	P-8032▲	2400-2100-0 2100-2400	2000 1750	300	375	115	FS	5 3/8	8	7 1/8	4 3/8	6 1/4	7 1/4	3/8 x 1/2	46.0
	P-2520††	2820-2260-0 2260-2820	2500 2000	300	425	115 230	FS-1	8 3/8	7 1/2	8 1/2	5 1/2	6 3/8	8 1/8	3/8	71.0
	P-8034▲	2900-2385-0 2385-2900	2500 2000	300	375	115 230	FS	7 1/4	8 1/8	9	6	5 3/8	6 3/8	7/16 x 3/8	62.8
	P-2126††	2900-2320-0 2320-2900	2600 2100	500	700	115 230	FS	7 1/4	10 1/2	9	6	7 3/4	9	7/16 x 3/8	95.0
	P-8035▲	2950-2375-0 2375-2950	2500 2000	500	575	115 230	FS	7 1/4	9 3/8	9	6	7 1/16	8 3/8	7/16 x 3/8	80.0
	P-4353††	4600-4050-3400 0-3400-4050 4600	4000 3500 3000	600	800	115 230	FS-1	13 3/8	10	12 3/4	9	8 3/8	10 1/2	1/2	150.

WITH PLATE LEADS OUT OF TOP: For Reactor Input Systems. All Primaries 50 60 Cycles.

<b>d</b>	PT-8311††	1200-0-1200	1000	225	280	117	C	3 3/4	5 1/4	4 1/16	3	4 1/16	4 7/8	3/16 x 3/8	13.0
	PT-8312††	1200-0-1200	1000	325	405	117	C	4 3/8	6 3/4	5 3/8	3 1/2	5 1/8	6 1/4	1/4 x 3/8	22.5
	PT-8313††	1475-0-1475	1250	250	310	117	C	4 3/8	6 3/8	5 3/8	3 1/2	5	6 1/8	1/4 x 3/8	22.0
	PT-8314††	1790-0-1790	1500	225	280	117	C	4 3/8	6 1/2	5 3/8	3 1/2	4 7/8	6	1/4 x 3/8	21.5
	PT-8315††	2065-0-2065	1750	200	250	117	C	4 3/8	6 3/8	5 3/8	3 1/2	5	6 1/8	1/4 x 3/8	22.0

CCS RATING FOR REACTOR INPUT — ICAS RATING FOR CAPACITOR INPUT: All Primaries 50 60 Cycles.

<b>e</b>	PC-8301††	415-0-415	300 425	200	160	117	C	3 3/8	3 1/2	3 3/8	2 1/2	2 3/16	3	3/16 x 3/8	4.8
	PC-8302††	515-0-515	385 500	235	200	117	C	3 3/16	4 1/8	4 1/4	2 3/4	2 1 3/16	3 3/4	3/16 x 3/8	6.8
	PC-8303††	665-0-665	500 750	250	200	117	C	3 3/4	4 3/8	4 1/16	3	3 3/16	4	3/16 x 3/8	9.6
	PC-8304††	750-0-750	600 850	265	200	117	C	3 3/4	4 3/8	4 1/16	3	3 1 1/16	4 1/2	3/16 x 3/8	11.5
	PC-8305††	920-0-920	750 1000	250	200	117	C	3 3/4	5	4 1/16	3	3 1 3/16	4 3/8	3/16 x 3/8	11.9
	PC-8306††	920-0-920 500-0-500 †	750 1100 380 550	150	125	117	C	3 3/4	5	4 1/16	3	3 1 3/16	4 3/8	3/16 x 3/8	11.9

All "C" style have Leads; "SC" style have lugs; "FS" and "FS1" have Terminals.  
 †Both Secondaries may be Loaded Simultaneously.  
 \*Available until stock is depleted.

††Secondary C.T. must be grounded.  
 ▲May be used with Secondary C.T. ungrounded.  
 All Secondary A.C. Voltages +3%.

## T.V. REPLACEMENT FLYBACKS

t.v.  
replacement


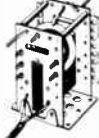


















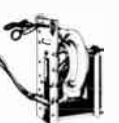
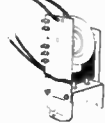





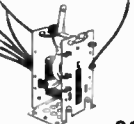
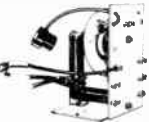
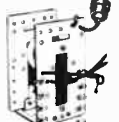






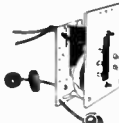
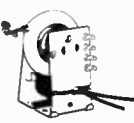
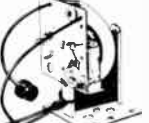

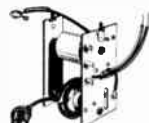





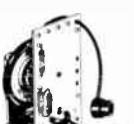







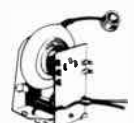











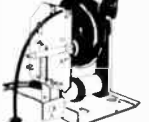


REFER TO STANCOR T. V. REPLACEMENT GUIDE FOR APPLICATION

Part No.	Mtg. Type	Part No.	Mtg. Type	Part No.	Mtg. Type	Part No.	Mtg. Type
* A-8119/HO-155	1	A-8267/HO-217	32	HO-279	55	HO-340	67
* A-8127/HO-156	1	* A-8268/HO-218	32	HO-280	56	HO-341	Coil Only
* A-8128/HO-157	1	* A-8269/HO-219	33	HO-281	24	HO-342	56
A-8129/HO-158	1	A-8270/HO-220	33	HO-282	56	HO-343	55
A-8130/HO-159	2	A-8271/HO-221	33	HO-283	58	HO-344	55
A-8131/HO-160	3	* A-8272/HO-222	33	HO-284	59	HO-345	63
A-8132/HO-161	4	* A-8273/HO-223	62	HO-285	58	HO-346	63
A-8133/HO-162	5	* A-8274/HO-224	34	* HO-286	24	HO-347	64
A-8134/HO-163	5	A-8275/HO-225	35	HO-287	60	HO-348	65
A-8135/HO-164	6	A-8276/HO-226	35	* HO-288	61	HO-349	66
A-8136/HO-165	7	* A-8277/HO-227	35	HO-289	58	HO-350	40
A-8137/HO-166	8	* A-8278/HO-228	8	HO-290	53	HO-351	26
A-8138/HO-167	8	* A-8279/HO-229	8	* HO-291	59	HO-352	65
* A-8139/HO-168	9	* A-8280/HO-230	8	* HO-292	58	HO-353	61
A-8220/HO-169	10	* A-8281/HO-231	30	HO-293	56	HO-354	40
* A-8221/HO-170	10	* A-8282/HO-232	22	HO-294	9	HO-355	40
* A-8222/HO-171	11	* A-8283/HO-233	8	HO-295	9	HO-356	40
* A-8223/HO-172	8	A-8284/HO-234	36	* HO-296	58	HO-357	40
A-8224/HO-173	12	A-8285/HO-235	37	HO-297	50	HO-358	61
* A-8225/HO-174	12	* A-8287/HO-237	6	* HO-298	44	HO-359	40
A-8226/HO-175	12	A-8288/HO-238	31	HO-299	44	HO-360	62
* A-8227/HO-176	13	A-8289/HO-239	31	* HO-300	38	HO-361	53
A-8228/HO-177	13	A-8290/HO-240	31	HO-301	26	HO-362	68
A-8229/HO-178	13	* A-8291/HO-241	38	* HO-302	26	HO-363	68
A-8230/HO-179	14	A-8292/HO-242	26	HO-303	26	HO-364	68
A-8231/HO-180	14	A-8293/HO-243	39	HO-304	26	HO-365	68
A-8232/HO-181	16	A-8294/HO-244	40	HO-305	20	HO-366	68
A-8233/HO-182	8	A-8295/HO-245	40	HO-306	24	HO-367	68
A-8234/HO-183	17	A-8296/HO-246	41	HO-307	54	HO-368	67
A-8235/HO-184	17	A-8297/HO-247	30	HO-308	54	HO-369	67
A-8236/HO-185	39	A-8298/HO-248	42	* HO-309	9	HO-370	67
* A-8237/HO-186	18	A-8299/HO-249	30	* HO-310	8	HO-371	40
A-8238/HO-188	18	* HO-250	41	HO-311	38	HO-372	40
* A-8239/HO-189	19	HO-251	41	HO-312	9	HO-373	40
A-8240/HO-190	4	HO-252	43	HO-313	8	HO-374	40
A-8241/HO-191	20	* HO-253	44	HO-314	8	HO-375	55
* A-8242/HO-192	21	HO-254	43	HO-315	42	HO-376	49
* A-8243/HO-193	17	HO-255	45	HO-316	50	HO-377	44
A-8244/HO-194	22	HO-256	8	HO-317	26	HO-378	44
* A-8245/HO-195	23	* HO-257	42	HO-318	26	HO-379	40
* A-8246/HO-196	23	* HO-258	15	HO-319	40	HO-380	68
* A-8247/HO-197	24	HO-259	13	HO-320	40	HO-381	40
A-8248/HO-198	12	* HO-260	30	HO-321	53	HO-382	40
* A-8249/HO-199	16	* HO-261	20	* HO-322	22	HO-383	40
* A-8250/HO-200	14	* HO-262	47	HO-323	26	HO-384	40
* A-8251/HO-201	8	* HO-263	48	HO-324	42	HO-385	40
A-8252/HO-202	8	HO-264	42	* HO-325	45	HO-386	40
A-8253/HO-203	25	HO-265	49	* HO-326	2	HO-387	26
A-8254/HO-204	26	* HO-266	50	* HO-327	27	HO-388	40
A-8255/HO-205	26	HO-267	62	* HO-328	27	* HO-389	71
* A-8256/HO-206	27	HO-268	35	HO-329	27	* HO-390	71
* A-8257/HO-207	27	HO-269	35	HO-330	55	* HO-391	71
* A-8258/HO-208	28	* HO-270	62	HO-331	14	* HO-392	71
* A-8259/HO-209	27	HO-271	52	HO-332	27	* HO-393	71
* A-8260/HO-210	27	HO-272	53	HO-333	40	* HO-394	71
A-8261/HO-211	2	* HO-273	30	HO-334	40	* HO-395	71
A-8262/HO-212	29	HO-274	54	HO-335	40	* HO-396	71
A-8263/HO-213	20	HO-275	16	HO-336	56	* HO-397	72
A-8264/HO-214	30	HO-276	48	HO-337	54	* HO-398	72
A-8265/HO-215	8	HO-277	47	HO-338	2	HO-600C†	69
* A-8266/HO-216	31	* HO-278	59	HO-339	32	HO-601C†	70



FLYBACK MOUNTING TYPES

STANCOR

 1	 2	 3	 4	 5	 6	 7
 8	 9	 10	 11	 12	 13	 14
 15	 16	 17	 18	 19	 20	 21
 22	 23	 24	 25	 26	 27	 28
 29	 30	 31	 32	 33	 34	 35
 36	 37	 38	 39	 40	 41	 42
 43	 44	 45	 47	 48	 49	 50
 52	 53	 54	 55	 56	 58	 59
 60	 61	 62	 63	 64	 65	 66
 67	 68	 69	 70	 71	 72	

**STANCOR**

COMMERCIAL

t.v.  
replacement

DY



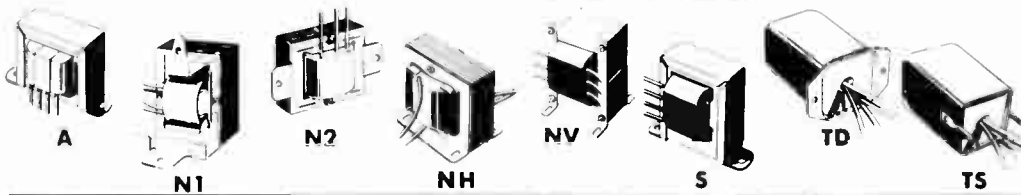
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## DEFLECTION YOKES

Refer to Stancor T.V. replacement guide for Application.

	Part No.	Coil Inductance in MH		Coil Resistance in Ohms		Max. Scan.	Case Diam.	Unit Length	Mtg. Type	Application
		Horizontal	Vertical	Horizontal	Vertical					
<b>a</b>	*DY-1A	8.3	50	13.5	66	53°	3 1/8	3	DY	Multi-Purpose
	DY-2A	10.3	50	14.5	66	70°	3 1/8	2 3/4	DY	Multi-Purpose
	DY-8A	8.5	50	14.5	52.5	70°	3 1/8	2 3/4	DY	Multi-Purpose
	DY-9A	13.5	50	17.5	53.5	70°	3 1/8	2 3/4	DY	Multi-Purpose
	DY-10A	30.0	3.5	45	3.5	70°	3 1/8	2 3/4	DY	Multi-Purpose
	DY-11A	20.0	50	31	50	70°	3 1/8	2 3/4	DY	Multi-Purpose
	*DY-12A	30.0	50	22	50	70°	3 1/8	2 3/4	DY	Multi-Purpose
<b>b</b>	DY-13A	12.5	48	15	52	90°	3 1/2	3	DY	Muntz
	DY-14A	30.0	3.5	45	3.5	70°	3 1/8	2 3/4	DY	RCA
	DY-15A	25.0	40.0	35	50	70°	3 1/8	2 3/4	DY	Motorolo
	DY-16A	20	44.0	26	45	90°	3 3/8	3 1/8	DY	Multi-Purpose
	DY-17A	12.0	42.0	20	43	90°	3 3/4	3	DY	G. E.
	*DY-18A	14.5	41.5	18	50	70°	3 1/4	3 1/4	DY	Sylvania
	*DY-19A	20.0	41.5	28	50	70°	3 1/4	3 1/4	DY	Sylvania
<b>c</b>	*DY-20A	20.0	41.5	28	50	70°	3 1/4	3 1/4	DY	Sylvania
	DY-21A	14.5	3.1	10	3.5	70°	3 1/8	2 7/8	DY	RCA
	*DY-22A	20	46.0	25	45	70°	3 1/8	2 7/8	DY	Hoffman
	DY-23A	20.0	45.0	27	43	90°	3 3/4	3 1/8	DY	RCA
	DY-24A	18.5	11.0	34	11.5	90°	4	2 3/4	DY	RCA
	*DY-25A	24.0	11.0	46	11.0	90°	4	2 3/4	DY	Emerson
	DY-26A	19.0	11.5	34	16.5	110°	4 1/4	2 1/4	DY	RCA
DY-27A	17.5	12.3	35.5	13.5	110°	4 1/4	2 1/4	DY	RCA	
<b>d</b>	DY-28A	24	3.2	36	3.4	70°	3 1/4	2 7/8	DY	Motorolo
	DY-29A	24	3.2	36	3.4	70°	3 1/4	2 7/8	DY	Motorolo
	DY-30A	24	3.2	36	3.4	70°	3 1/4	2 7/8	DY	Motorolo
	DY-31A	24	42	44.2	42	90°	4 1/4	3 1/4	DY	Motorolo
	DY-32A	24	42	34	42	90°	4 1/8	3 1/4	DY	Motorolo
	DY-33A	30.5	43	34	50	70°	3 3/4	2 1/2	DY	Philco
	DY-34A	30	47	45	42	90°	3 3/4	2 3/4	DY	Philco
<b>e</b>	DY-35A	20	45	28	45	90°	4	3	DY	Philco
	DY-37A	20	45	28	45	90°	4	3 1/4	DY	Emerson
	DY-38A	20	34.4	38	34	110°	4 1/4	3 3/4	DY	Emerson
	DY-39A	13	40	22	41	90°	4	3 1/4	DY	Zenith
	DY-40A	12	40	17	39	110°	4 1/4	3 3/4	DY	G. E.
	DY-41A	13.3	41	20	54	70°	3 1/4	3	DY	RCA
	DY-42A	30.4	34	47.2	34	110°	4 1/4	3 3/4	DY	RCA
<b>f</b>	DY-43A	24	3.3	31	3	90°	4	3	DY	Motorolo
	DY-44A	18.5	34	33	34	110°	4 1/4	2 1/8	DY	Westinghouse
	DY-45A	18.6	14.8	35	13.8	110°	4 1/4	3 3/4	DY	Admiral
	DY-46A	20	40	38	39	110°	4 1/4	3 3/4	DY	Olympic
	DY-47A	8.2	41	19.7	72	70°	3 1/2	2 1/2	DY	G. E.
	DY-48A	14	29	33	60	70°	3 1/2	2 1/2	DY	G. E.
	DY-49A	44	38	110	80	70°	3 3/8	2 7/8	DY	G. E.
*DY-50A	12	33	28	83	70°	3 3/8	2 7/8	DY	G. E.	
<b>g</b>	DY-51A	18.6	15	38	17.2	110°	3 3/4	3	DY	Pockord-Bell
	DY-52A	20.5	37.5	30	35	90°	3 1/4	3 3/4	DY	Westinghouse
	DY-53A	24	39	40	37.0	110°	3 1/8	3 3/8	DY	Philco
	DY-54A	24	40	40	37	110°	3 1/4	3 1/4	DY	Philco
	DY-55A	23.5	14.8	41	13.8	114°	3 1/2	3 3/4	DY	Mognox
	DY-56A	15	40	29.5	39.5	110°	3 3/4	3 1/4	DY	Zenith
<b>h</b>	DY-57AT	24	70	40	29	114°	3 1/4	2 3/4	DY	Multi-Purpose
	DY-58AT	18.5	70	30	29	114°	3 1/4	2 3/4	DY	Multi-Purpose
	DY-59AT	24	15	40	6	114°	3 1/4	2 3/4	DY	Multi-Purpose
	DY-60AT	18.5	35	35	28	114°	3 1/4	2 3/4	DY	Multi-Purpose
	DY-61AT	20	20	22	5.5	114°	3 1/4	2 3/4	DY	Multi-Purpose
	*DY-62A	12.5	48	22	40	92°	4 1/4	3 1/4	DY	Zenith
	*DY-63A	18.5	13.5	35	14	110°	4 1/4	3 1/4	DY	Multi-Purpose
	DY-90AC	12	39	6.5	23	70°	6 7/8	4 1/4	DY	Multi-Purpose
	*DY-91AC	11.5	23.5	8.5	12.5	90°	6 1/2	3 3/4	DY	Zenith Color

\* New part number \* Available until stock is depleted



**STANCOR**  
COMMERCIAL  
t.v.  
replacement

**VERTICAL DEFLECTION OUTPUT TRANSFORMERS: Refer to Stancor T.V. replacement guide for Application.**

	Part No.	Turns Ratio Pri. Sec.	Primary Impedance $\Omega$	D.C. Res. In Ohms		Height Overall	Base Area	Mtg. Ctrs.	Mtg. Type	Shpg. Wt. In Lbs.	
				Pri.	Sec.						
<b>a</b>	A-8112 VO-83	10:1	18,000 $\Omega$ $\pm$ 12 DCMA	1300	10	2	1 3/4 x 3 3/4	2 13/16	A	1.0	
	A-8113 VO-84	8:8:1	16,500 $\Omega$ $\pm$ 10 DCMA	700	12	2	1 3/4 x 3 3/4	2 13/16	A	1.0	
	A-8115 VO-85	10:1	19,000 $\Omega$ $\pm$ 13 DCMA	600	7	3 1/16	2 1/2 x 2 1/2	1 15/32 x 2	NV	2.5	
	A-8123 VO-87 $\S$	11.4:1	17,000 $\Omega$ $\pm$ 20 DCMA	1200	11	2	1 3/4 x 3 3/4	2 13/16	A	1.2	
	A-8140 VO-88	44:1	11,000 $\Omega$ $\pm$ 20 DCMA	400	0.3	3 1/16	2 1/2 x 2 1/2	1 15/32 x 2	NV	2.5	
	A-8141 VO-89 $\S$	18:1	30,000 $\Omega$ $\pm$ 10 DCMA	1650	4.5	2 1/4	3 3/4 x 2 1/8	3 1/8	A	1.5	
	A-8142 VO-90	8:1	19,000 $\Omega$ $\pm$ 13 DCMA	540	10.5	2 3/8	2 1/4 x 3	2 3/8 x 1 5/8	NH	2 1/2	
	A-8143 VO-91	10:1	14,000 $\Omega$ $\pm$ 15 DCMA	625	14	2 1/4	2 1/4 x 3 3/8	3 1/8	A	2	
	A-8144 VO-92	9:1	9,500 $\Omega$ $\pm$ 30 DCMA	540	15	2 1/4	1 3/4 x 3 3/8	3 1/8	A	1 1/2	
<b>b</b>	A-8145 VO-93	9:1	11,000 $\Omega$ $\pm$ 19 DCMA 6,000 $\Omega$ $\pm$ 15 DCMA	540	14	2 5/8	2 1/4 x 2 1/2	3	N1	2	
	A-8146 VO-94 $\S$ ▲	6.9:1	4,700 $\Omega$ $\pm$ 50 DCMA	375	10	2	1 7/8 x 3 1/4	2 13/16	A	1 1/2	
	A-8147 VO-95 $\S$	6:1	3,200 $\Omega$ $\pm$ 40 DCMA 6,000 $\Omega$ $\pm$ 15 DCMA	300	9	2	1 3/4 x 3 1/4	2 13/16	A	1	
	A-8148 VO-96 $\S$ ▲	8:1	4,700 $\Omega$ $\pm$ 50 DCMA	375	6.5	2	1 7/8 x 3 1/4	2 13/16	A	1 1/2	
	A-8149 VO-97 $\S$	6.9:1	11,500 $\Omega$ $\pm$ 20 DCMA	330	8.5	2	1 5/8 x 3 1/4	2 13/16	A	1	
	A-8150 VO-98 $\S$	9:1	11,000 $\Omega$ $\pm$ 19 DCMA	450	11.3	2	3 3/4 x 2 3/16	3 3/8	N2	1.7	
	A-8151 VO-99	7.5 15:1	8,500 $\Omega$ $\pm$ 19 DCMA	580	6.7	2 1/4	3 3/4 x 2 1/4	3 1/8	N1	1.7	
<b>c</b>	VO-100 $\S$ ▲	9.2:1	7,500 $\Omega$ $\pm$ 30 DCMA	360	14.0	2 1/8	3 3/8 x 1 7/8	3 1/8	A	1 1/2	
	VO-101 $\S$	12:1	16,000 $\Omega$ $\pm$ 15 DCMA	675	6.8	2 1/4	3 3/8 x 1 3/4	3 1/8	A	1 1/2	
	VO-102 $\S$	6.5:1	6,700 $\Omega$ $\pm$ 25 DCMA	275	10	2 3/8	4 x 2 1/4	3 9/16	A	2 1/2	
	VO-103 $\S$	16:1	10,000 $\Omega$ $\pm$ 15 DCMA	530	5.5	2	3 1/4 x 1 1/2	2 13/16	A	1 1/2	
	VO-105 $\S$	44.5:1	24,000 $\Omega$ $\pm$ 15 DCMA	740	.8	2	3 1/4 x 1 1/2	2 13/16	A	1 1/2	
	VO-106	35.5:1	35,000 $\Omega$ $\pm$ 0 DCMA	1400	3.8	1 5/8	2 7/8 x 1 1/2	2 3/8	A	1	
	VO-108 $\S$	9:1	10,000 $\Omega$ $\pm$ 25 DCMA	350	10.3	2	3 1/4 x 2	2 13/16	A	1.3	
	VO-109	Multi-Ratio 5:1 to 50:1	40 MA Max.			2	3 1/4 x 2	2 13/16	A	1.3	
	VO-110	16:1	18,000 $\Omega$ $\pm$ 20 DCMA	1670	7.0	2	2 x 3 3/4	2 13/16	A	1.3	
	VO-111	18:1	20,000 $\Omega$ $\pm$ 20 DCMA	1425	7.5	2	2 x 3 3/2	2 13/16	A	1.3	
	VO-112	8:1	7,000 $\Omega$ $\pm$ 30 DCMA	384	3.5	2 1/4	3 5/8 x 2 1/8	3 1/8	A	1.8	
<b>d</b>	VO-113 $\S$	15:1	13,000 $\Omega$ $\pm$ 20 DCMA	1435	19.7	2 5/16	1 3/4 x 2 15/16	2 3/8	S	1.3	
	VO-114	6:1	5,000 $\Omega$ $\pm$ 30 DCMA	250	6.0	2	3 1/4 x 1 5/8	2 13/16	A	1	
	VO-115 $\S$	12:1	7,000 $\Omega$ $\pm$ 35 DCMA	360	2.4	2 5/16	3 3/4 x 1 7/8	3 1/8	A	1.4	
	VO-116	18:1	32,000 $\Omega$ $\pm$ 15 DCMA 11,000 $\Omega$ $\pm$ 30 DCMA	1500	5.3	2 5/16	3 3/4 x 1 13/16	3 1/8	A	1.5	
	VO-117	13:1	9,500 $\Omega$ $\pm$ 25 DCMA 8,000 $\Omega$ $\pm$ 50 DCMA	275	4.0	2 5/16	3 3/4 x 2 1/16	3 1/8	A	2.0	
	VO-118	8:1	9,000 $\Omega$ $\pm$ 35 DCMA 3,000 $\Omega$ $\pm$ 70 DCMA	350	4.0	2 5/16	3 3/4 x 2	3 1/8	A	1.6	
	VO-119 $\S$	8:1	6,000 $\Omega$ $\pm$ 30 DCMA 4,500 $\Omega$ $\pm$ 60 DCMA	385	8.0	2 5/16	3 3/4 x 1 7/8	3 1/8	A	1.5	
	VO-120 $\S$	7.5:1	7,800 $\Omega$ $\pm$ 35 DCMA 5,000 $\Omega$ $\pm$ 70 DCMA	235	6.0	2 5/16	3 3/4 x 2 1/16	3 1/8	A	1.8	
	<b>e</b>	VO-122 $\S$	6.5:1	3,500 $\Omega$ $\pm$ 45 DCMA 2,000 $\Omega$ $\pm$ 65 DCMA	145	4.0	2 5/16	3 3/8 x 1 7/8	3 1/8	A	1.5
		VO-123 $\S$ ▲	7:1	5,300 $\Omega$ $\pm$ 35 DCMA 2,000 $\Omega$ $\pm$ 70 DCMA	180 $\dagger$	4.0	2 5/16	3 3/4 x 2	3 1/8	A	1.6
VO-126 $\S$		14.5:1	6,000 $\Omega$ $\pm$ 40 DCMA 1,800 $\Omega$ $\pm$ 80 DCMA	260	1.4	2 5/16	3 3/4 x 2	3 1/8	A	1.6	
VO-127 $\S$		16:1	10,500 $\Omega$ $\pm$ 20 DCMA 8,000 $\Omega$ $\pm$ 40 DCMA	460	3.4	2 5/16	3 3/4 x 2	3 1/8	A	1.6	
VO-128 $\S$ ▲		17:1	20,000 $\Omega$ $\pm$ 20 DCMA 4,800 $\Omega$ $\pm$ 45 DCMA	2250	8.0	2	2 x 3 3/4	2 13/16	A	1	
VO-129 $\S$ ▲		11:1	6,000 $\Omega$ $\pm$ 50 DCMA 4,000 $\Omega$ $\pm$ 75 DCMA	430	4.5	2 3/16	2 x 3 3/4	3 1/8	A	1.6	
VO-700C $\dagger$		10:1	7,500 $\Omega$ $\pm$ 32 DCMA	370	20	2 3/16	2 1/8 x 3 3/4	3 1/8	A	1.6	

**VERTICAL BLOCKING-OSCILLATOR TRANSFORMERS**

	Part No.	Turns Ratio Pri. Sec.	Height Overall	Base Area	Mounting Centers	Mounting Type	Shpg. Wt. In Lbs.
<b>f</b>	A-8111 VBO-194	1:4.2	1 3/8	1 1/2 x 2 1/2	2	A	0.4
	A-8121 VBO-195	1:4.2	1 3/4	1 1/2 x 2 5/16	1 15/16	TD	0.4
	A-8122 VBO-196	1:4.2	1 5/16	1 1/16 x 1 3/16	1 13/64	TS	0.3
	A-8125 VBO-198	1:4.2	1 3/16	2 3/16 x 1 1/4	1 3/4	A	0.4
	A-8126 VBO-199	1:1.5	1 3/4	1 1/2 x 2	1 3/4	S	0.5
	VBO-200	1:1.5	1 3/8	1 1/2 x 2 1/2	2	A	0.5
	VBO-201	1:3.33	1 3/16	2 3/16 x 1 1/4	1 3/4	A	0.4

For color T.V.

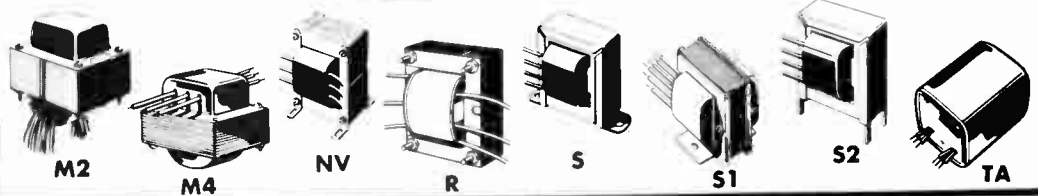
▲Has vertical blanking winding.

♦Has screen grid top.

§Autoformer.

# STANCOR

COMMERCIAL  
radio & t.v.  
replacement



## AUTO RADIO VIBRATOR TRANSFORMERS Exact Duplicate for 6 Volt D.C. Primary.

	Part No.	Original Part No.	Trade Name	D.C. Volts at Filter Input	D.C. MA.	Mtg. Type	Recommended Buffer Cap. (mfd.)	Height Overall	Base Area	Shpg. Wt. In Lbs.
<b>a</b>	P-6471	25B472533 D71014	Motorola (40B, 50B, etc.) Colonial-Detrolo No. 8072	235	70	TA	0.006	3	2 3/8 x 2 3/16	2.0
	P-6476	D70267 C70267	Colonial-Detrolo No. 7070 Col.-Mot.-Det. No. 8030	220	53.5	TA	0.008	2 3/8	2 7/32 x 2 5/32	2.0
	P-6477	25C500189	Motorola	150	50	M2	0.03	2	1 7/8 x 2 1/4	1.0
	P-6478	25C501644	Motorola	225	70	R	0.02	2 1/4	2 3/16 x 2 3/8	1.5
	P-6480	65-0347	Philco	225	70	R	0.0033	2 3/16	2 1/4 x 2 3/8	1.5
	P-6481	32-8313-1	Philco	250	60	M4	0.0068	2 1/4	2 3/16 x 2 3/8	1.5
	P-6490	C 291787-1	Bendix (Ford Model 588F)	265	52	R	0.006	2 1/8	2 3/16 x 2 3/8	1.5
	P-6499	1220163 <sup>1</sup>	United Motors (Delco)	250	60	TA	0.006	3 3/32	2 3/8 x 2 1/2	2.3

### Exact Duplicate For 12 Volt D.C. Primary

<b>b</b>	P-6482	6084	United Motors (Delco)	250	60	TA	.004	3 1/4	2 11/16 x 2 11/16	2.5
	P-6489	6067	United Motors (Delco)	250	60	R	.004	2 3/8	2 3/16 x 2 3/8	2.0
	P-6493	*25C535794	Motorola	275	75	S1	(See Footnote)	2 3/4	2 3/8 x 2	1.7
	P-6494	32-8592-1	Philco	245	70	R	0.0047	2 3/8	2 3/8 x 2 1/8	1.5
	P-6495	*25K535795	Motorola	275	75	S1	(See Footnote)	2 3/4	2 3/8 x 2 1/8	1.7
	P-6497	7265604 <sup>2</sup>	United Motors (Delco)	250	55	S2	.007 <sup>3</sup>	2 3/8	2 1/4 x 2	1.8

\*2 buffer capacitors used 0.5 mfd. and 0.04 mfd. as in original circuit.

<sup>1</sup>7261386 and 7262956 replaced by P-6499  
<sup>2</sup>7269118 replaced by P-6497  
<sup>3</sup>15K-1W. Res.

## UNIVERSAL VIBRATOR TRANSFORMERS With 6 Volts D.C. Primary

	Part No.	Secondary A.C. Volts	D.C. Volts At Filter Input	D.C. M.A.	Recommended Buffer Cop.	Mtg. Type	Height Overall	Base Area	Mtg. Ctrs.	Shpg. Wt. In Lbs.
<b>c</b>	P-6491	188-0-188	200	40	0.003 mfd.	S	2 1/4	3 1/8 x 2 1/8	2 13/16	1.5
	P-4062	300-0-300	260	65	0.006 mfd.	NV	3 1/8	2 1/2 x 2 3/8	2 x 2	2.3
	P-4063	320-0-320	285	75	0.006 mfd.	NV	3 1/8	2 1/2 x 2 3/4	2 x 2 1/4	2.8
	P-6131	370-0-370	330	100	0.007 mfd.	NV	3 1/2	2 7/8 x 2 3/8	2 1/4 x 2 1/4	3.5

## WIDTH AND LINEARITY CONTROLS

	Stancor No.	Application	Ind. in Mh.	Res. in Ohms	AGC Ind. in Mh.	AGC Res. in Ohms
<b>d</b>	RTC-8628 <sup>†</sup>	Width or Linearity Coil	2.5-17.	24	—	—
	WC-1*, WC-1A*	Width or Linearity Coil	15-.60.	55	—	—
	WC-2*, WC-2A*	Width Coil	.05-50.	.53	—	—
	WC-4*, WC-4A*	Topped Linearity Coil	.55-4.6	8.3	—	—
	WC-5*, WC-5A*	Width Coil	.17-.61	1.0	—	—
<b>e</b>	WC-6*, WC-6*A	Width or Linearity Coil	4-.39.	32.	2.7-7.6	19.5
	WC-7*, WC-7A*	Topped Linearity Coil	1.3-4.1	5.6	—	—
	WC-8*, WC-8A*	Width Coil	.5-3.5	2.3	—	—
	WC-9*, WC-9A*	Width Coil	1.-10.	8.0	—	—
	WC-10*, WC-10A*	Width Coil with Keyed Winding	3.2-9.	28.	.16-.7	1.
	WC-11*	Width Coil with AGC	2.6-7.5	12.	4.-28.	32.
	WC-12*	Topped Width Coil	2.3-11.8	10.	—	—
<b>f</b>	WC-13*	Width Coil with AGC	4.-30.	27.	.075-80.	2.
	WC-14*, WC-14A*	Width Coil	4.-30.	27.	185-1.82	3.
	WC-15*	Width Coil with AGC	45.-215.	130.	—	—
	WC-16*, WC-16A*	Width Coil with Topped AGC	3.1-21.	18.8	.39-2.4	2.4
	WC-17*	Width Coil with Topped Width Coil	1.5-11.	9.	9.-24.	49.5

\* Available for either 5/16" or 7/16" mounting hole. Use suffix "A" for 7/16" hole.  
<sup>†</sup> Adaptor supplied for either 5/16" or 7/16" mounting hole.  
<sup>‡</sup> Only for 7/16" mounting hole.  
<sup>§</sup> For 1 3/4" mounting centers equipped with slider.  
<sup>¶</sup> Shipped without core, use original core.  
<sup>‡</sup> Available until stock is depleted

## COLOR DEGAUSSING COIL:

Catalog No. — DGC-100

With 10-foot Line Cord and In-Line Switch

Full 12" Diameter for Foster — Better Demagnetizing of Color TV Sets.



## C.R. TUBE BOOSTER:

Catalog No. — P-8192 (For parallel heaters only)

- No connections to solder.
- HI-LO switch provides two levels of brilliance.
- Does not require AC line connections.
- Measures only 3 1/2" high, 1 1/2" in diameter.
- Does not change CR tube space requirements.



CRTB

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you require...**



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of electronic  
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sold through  
distributors**





# ENCAPSULATED **400 cps** *transformers*

## CLIPPER SERIES

Fig.	Cat. No.	Sec. Volts	Sec. Amp	Insul. Volts (RMS)	Pri. Volts	Mold Size	Net Price
19	4C1	6.3 CT	0.8	1500	115	SM3	13.80
19	4C2	6.3 CT	1.2	1500	115	SM2	13.80
19	4C3	6.3 CT	6.8	1500	110/115/120	2	22.15
20	4C4	6.3 6.3	4.9 2.7	1500	115	3	19.80
19	4C5	6.3 CT	7.2	1500	115	35	23.00
21	4C6	6.3 6.3 6.3	7 7 1.5	1500 1500 1500	120	35	22.40
22	4C7	6.3 CT 6.3 CT	7 7	1500 1500	120	4	26.65
21	4C8	6.3 6.3 6.3	13.7 2.9 0.3	1500 1500 1500	115	4	26.65
19	4C9	6.3 CT	12.3	1500	115	5	24.65
21	4C11	6.3 6.3 6.3	2.4 2.5 2.7	1500	115	3	24.65
19	4C26	6.3 CT	2	1500	115	SM1	17.55
19	4C27	6.3 CT	3	1500	115	1A	18.25
19	4C28	6.3 CT	5	1500	115	2	18.90
19	4C29	5 CT	3	2500	115	SM1	17.55
19	4C30	5 CT	6	2500	115	2	18.90
19	4C31	8.5 CT	12	1500	115	5	24.63
19	4C32	8.5 CT	23	1500	115	7	27.30
19	4C33	8.5 CT	35	1500	115	8	29.75
19	4C34	8.5 CT	45	1500	115	9	35.90
19	4C12	14.1	3	1500	115	3	18.79
19	4C35	21 CT	4.5	1500	115	5	24.63
19	4C13	21	9	1500	115	7	21.30
19	4C36	21 CT	18	1500	115	9	35.90
19	4C10	20 CT	0.6	1500	115	SM1	17.55

FREQUENCY  
380-1000 cps.



FOR MINIMUM SIZE &  
MINIMUM WEIGHT  
• CONTOUR MOLDED  
• HIPERSIL CORES

MIL-T27B  
Specifications

MIL Type  
TF5SX01ZZ

85 C Max. Ambient  
Operating Temp.

HIGH SHOCK  
EXTREME  
ENVIRONMENT  
CONDITIONS  
LIGHT WEIGHT FOR  
AIRBORNE USE  
10,000 HOUR  
PLUS-LIFE  
SERVO  
APPLICATIONS  
ISOLATION  
POWER SUPPLIES  
AIRBORNE CONTROL  
CIRCUITS  
MISSILE CIRCUITS



FIG. 18



FIG. 19

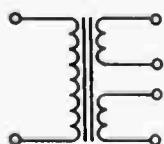


FIG. 20

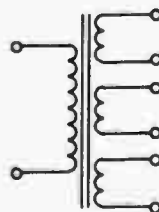


FIG. 21

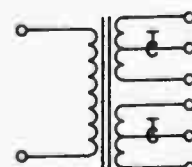


FIG. 22

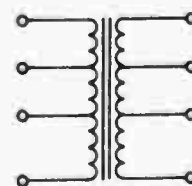


FIG. 23

STERLING TRANSFORMER CORP.



# ENCAPSULATED 400 cps transformers

## CLIPPER SERIES

Fig.	Cat. No.	Sec. Volts	Sec. Amp.	Insul. Volts (RMS)	Pri. Volts	Mold Size	Net Price
19	4C37	21 CT	24	1500	115	10	43.10
19	4C38	24 CT	4	1500	115	5	24.63
19	4C39	24 CT	8	1500	115	7	27.30
19	4C40	24 CT	16	1500	115	9	35.90
19	4C41	24 CT	21	1500	115	10	43.10
19	4C14	26	0.5	1500	115	SM1	17.12
19	4C15	26 CT	1.5	1500	115	3	18.79
19	4C23	26 CT	3	1500	115	4	21.30
19	4C24	26 CT	5	1500	115	6	24.85
19	4C16	28 CT 6.3 CT	0.8 7	1500	115	3	26.62
19	4C42	41 CT	2.3	1500	115	5	24.63
19	4C43	41 CT	4.5	1500	115	7	27.30
19	4C44	41 CT	9	1500	115	9	35.90
19	4C45	41 CT	12	1500	115	10	43.10
19	4C46	48 CT	2	1500	115	5	24.63
19	4C47	48 CT	4	1500	115	7	27.30
19	4C48	48 CT	8	1500	115	9	35.90
19	4C49	48 CT	10	1500	115	10	43.10
19	4C25	52 CT	2	1500	115	5	24.63
19	4C17	52 CT	0.2	1500	115	SM1	18.99
19	4C18	90 CT	4.5	1500	115	9	35.90
18	4C19	115	.05	1500	115	SM2	14.10
18	4C21	115	2.8	1500	115	8	29.23
23	4C20	105/115/125	0.4	1500	105/115/125	2	20.30
23	4C50	105/115/125	1	1500	105/115/125	6	25.75
23	4C51	105/115/125	2.4	1500	105/115/125	8	30.20
23	4C52	105/115/125	3.2	1500	105/115/125	9	36.40
23	4C53	105/115/125	4	1500	105/115/125	10	43.70
23	4C22	334	0.3	1500	115	SM1	16.12

FREQUENCY  
380-1000 cps.



FOR MINIMUM SIZE &  
MINIMUM WEIGHT

- CONTOUR MOLDED
- HIPERSIL CORES

MIL-T27B  
Specifications

MIL Type  
TF5SX01ZZ

85°C Max. Ambient  
Operating Temp.

HIGH SHOCK  
EXTREME  
ENVIRONMENT  
CONDITIONS  
LIGHT WEIGHT FOR  
AIRBORNE USE  
10,000 HOUR  
PLUS-LIFE  
SERVO  
APPLICATIONS  
ISOLATION  
POWER SUPPLIES  
AIRBORNE CONTROL  
CIRCUITS  
MISSILE CIRCUITS

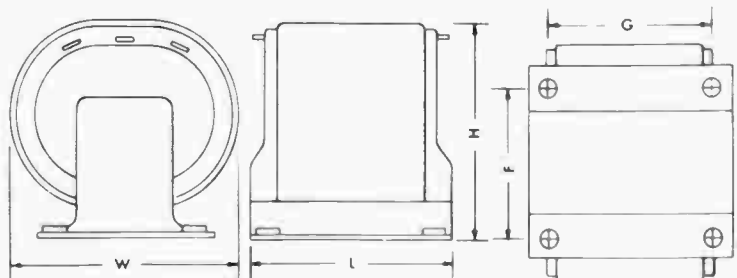
MOLD NO.	OVERALL DIMENSIONS			MTG. DIMENSIONS			APP. WT. (LBS.)	MTG. METH.
	L	W	H	F	G			
SM3	1	1-1/4	1-3/16	1		Note 1	0.06	Note 1
SM2	1-1/2	1-1/4	1-11/16	1		Note 1	0.10	Note 1
SM1	1-1/2	1-1/2	1-11/16	1-1/8		Note 1	0.16	Note 1
1	1-13/16	1-7/8	1-13/16	1-1/4	1-7/16	Note 2	0.25	Note 2
1A	1-11/16	1-17/32	1-13/16	1-5/32	1-1/8	Note 2	0.25	Note 2
2	2	1-15/16	2-1/8	1-9/32	1-1/4	Note 2	0.40	Note 2
3	2-5/16	1-13/16	2-1/8	1-9/32	1-7/16	Note 2	0.45	Note 2
35	2-1/16	2-3/8	2-3/16	1-17/32	1-11/16	Note 2	0.70	Note 2
4	2-5/16	2-3/8	2-9/16	1-17/32	1-11/16	Note 2	0.90	Note 2
5	2-3/4	2-3/8	2-7/8	1-17/32	2-3/16	Note 2	1.20	Note 2
6	2-3/4	2-5/8	3-1/8	1-17/32	2-3/16	Note 2	1.50	Note 2
7	3	2-7/8	3-3/8	1-25/32	2-1/2	Note 2	2.00	Note 2
8	3-3/8	2-7/8	3-3/8	1-25/32	2-1/2	Note 2	2.50	Note 2
83	3-3/4	3-1/4	3-3/8	2-1/4	3	Note 3	3.25	Note 3
84	3-3/4	3-3/4	3-3/8	2-3/4	3-1/8	Note 3	4.25	Note 3
9	4-1/16	3-3/8	3-7/8	2-3/16	3-1/2	Note 3	5.00	Note 3
10	4-1/2	3-15/16	3-15/16	2-3/4	3-1/8	Note 3	6.00	Note 3

Note 1—SM series are two hole mounting with holes on center line. #4-40 Pem nuts are fastened to the bracket.

Note 2—#6-32 Pem nuts on bracket are standard.

Note 3—#8-32 Pem nuts on bracket are standard.

- All primaries 380-1000 cps
- Dielectric test voltages:  
PRIMARYS 1500 Volts RMS  
SECONDARIES 1500 Volts RMS
- Epoxy resin used as encapsulant
- Prices subject to change without notice



STERLING TRANSFORMER CORP.

# transistor transformers



## UNIVERSAL DC POWER MODULE TRANSFORMERS

High reliability transformers having a tapped primary and single or dual secondary windings which may be connected F.W. bridge or F.W. center tap so as to obtain a wide range of DC voltages and current ratings.

INPUT PRIMARY 115 volts 50-500 cps

TYPE	FIG.	F.W. BRIDGE											F.W. CT			MIL STD * HERM SEAL TF 45x02		INDUST. OPEN FRAME	
		AC VOLT	40 5	32.25	28.5	24	20.25	16 5	12	8.25	40.5	24	16.5	Style	Net Pr.	Style	Net Pr.		
7K1	1	DC VOLT	53.0	41.0	34	25	24	18	12	6	24	12	6.6	H	12.90	F	7.90		
		DC AMP	.025	.035	.040	.042	.055	.042	.070	.085	.042	.055	.068						
7K2	1	INPUT CAP	(.1)	(.1)	(.1)	(.1)	(.2)	(.2)	(.2)	(.2)	(.2)	(.2)	H	14.20	L	9.20			
		DC AMP	.085	.12	.13	.14	.18	.14	.23	.23	.14	.17					.21		
7K3	1	INPUT CAP	(.1)	(.1)	(.1)	(.1)	(.2)	(.2)	(.2)	(.2)	(.2)	(.2)	H	15.85	F	8.15			
		DC AMP	.48	.60	.60	.64	1.0	.8	1.2	1.52	.8	.883					.92		
7K4	1	INPUT CAP	(.5)	(.5)	(.5)	(.5)	(1.0)	(1.0)	(2.0)	(2.0)	(1.0)	(1.0)	(2.0)	H	21.80	L	13.40		
		DC AMP	1.2	1.5	1.5	1.6	2.5	2.0	3.0	3.8	2.0	2.2	2.8						
7K5	1	INPUT CAP	(.5)	(.5)	(.5)	(.5)	(1.0)	(1.0)	(2.0)	(2.0)	(1.0)	(1.0)	(2.0)	H	31.70	L	22.65		
		DC AMP	3.0	3.5	3.8	4.0	6.0	4.5	7.5	9.0	4.5	5.5	6.7						
7K6	1	INPUT CAP	(1.0)	(1.0)	(1.0)	(1.0)	(2.0)	(2.0)	(4)	(4)	(2.0)	(2.0)	(2.0)	H	52.80	L	39.80		
		DC AMP	7.5	8.5	9.5	10	15	11	19	23	11	13.5	17						
7K7	2	INPUT CAP	(4.0)	(4.0)	(4.0)	(4.0)	(4.0)	(6.0)	(12)	(12)	(6)	(6)	(12)	H	22.44	L	14.05		
		AC VOLTS	81	64.5	57.0	48	40.5	33	24	16 5	81	48	33						
		DC VOLT	106	82	68	50	48	36	24	12	48	24	13						
		DC AMP	0.6	0.75	0.75	0.8	1.25	1.0	1.5	1.9	1.0	1.1	1.4						

TYPE	FIG.	PRI TAP	F.W. BRIDGE						F.W. CT					MIL STD * HERM SEAL		INDUST. OPEN FRAME		
			SEC. AC Volt	AC Amp	CHOKE DC Volt	INPUT DC Amp	CAP DC Volt	INPUT DC Amp	Cap	CHOKE DC Volt	INPUT DC Amp	CAP DC Volt	INPUT DC Amp	Cap	Style	Net Pr.	Style	Net Pr.
7K8	3	—	20CT	0.3	16.5	0.3	26	0.2	(.2)	8	0.43	12	0.3	(.5)	H	11.25	F	5.70
7K9	3	—	20CT	0.6	16.5	0.6	26	0.4	(.4)	9	0.85	13	0.6	(1.0)	H	14.20	F	8.65

TYPE	FIG.	PRI	F.W. BRIDGE											MIL STD * HERM SEAL	INDUST. OPEN FRAME				
			SEC. IN PARALLEL	SEC. in PARALLEL CONN.				SEC. in SERIES CONN.											
			L	17	1.5	14	3.0	18.5	2.0	(1.0)	28	1.5	45	1	(.5)	H <th rowspan="2">20.50 <th rowspan="2">L <th rowspan="2">13.40 </th></th></th>	20.50 <th rowspan="2">L <th rowspan="2">13.40 </th></th>	L <th rowspan="2">13.40 </th>	13.40
7K10	4	L	H	21.5	1.5	17.5	3.0	25	2.0	(1.0)	35	1.5	36	1	(.5)				
			L	17	4	14	8.0	18.5	5.0	(2.0)	28	4.0	45	2.5	(1.0)				
7K11	4	L	H	21.5	4	17.5	8.0	25	5.0	(2.0)	35	4.0	36	2.5	(1.0)	H	33.00	L	23.60
			L	17	9	14	18.0	18.5	12.0	(6.0)	28	9.0	45	6	(4.0)				
7K12	4	L	H	21.5	9	17.5	18.0	25	12.0	(6.0)	35	9.0	36	6	(4.0)	H	50.50	L	37.10
			L	34	4.5	28	9.0	43	6.0	(4.0)	56	4.5	85	3.0	(1.0)				
7K13	4	L	H	43	4.5	35	9.0	56	6.0	(4.0)	70	4.5	110	3.0	(1.0)	H	50.50	L	37.10
			L	10	20	8.2	20	10	13	(12)	—	—	—	—	—				
7K14	4	L													H	29.70	L	22.95	

\*FOR MILITARY USE REDUCE DC AMP 20%. Note Input Cap = (K) 1000 MFD. in Rectifier Circuit.

## HIGH CURRENT TRANSFORMERS AND CHOKES

115V. 50-500 CPS

### TRANSFORMERS

TYPE	FIG.	SEC. IN PARALLEL		SEC. IN SERIES		Net Price
		AC Volt	AC Amp	AC Volt	AC Amp	
7K15	5	3.2/6.4	16	3.2/6.4/9.6/12.8	8	7.55
7K16	5	3.2/6.4	24	3.2/6.4/9.6/12.8	12	8.95
7K17	5	3.2/6.4	50	3.2/6.4/9.6/12.8	25	18.90
7K18	5	3.2/6.4	100	3.2/6.4/9.6/12.8	50	26.20
7K19	5	6/12	16	6/12/18/24	8	12.55
7K20	5	6/12	24	6/12/18/24	12	15.70

TYPE	FIG.	SEC. IN PARALLEL		SEC. IN SERIES		Net Price
		AC Volt	AC Amp	AC Volt	AC Amp	
7K21	5	6/12	50	6/12/18/24	25	25.10
7K22	5	6/12	100	6/12/18/24	50	37.65
7K23	5	9/18	16	9/18/27/36	8	14.55
7K24	5	9/18	24	9/18/27/36	12	15.95
7K25	5	9/18	50	9/18/27/36	25	31.10
7K26	5	9/18	100	9/18/27/36	50	45.00

### CHOKES

TYPE	FIG.	INDUCTANCE (Millihenries)	D.C. Amps	DCR (Ω)	Net Price
7K27	9	30	8	0.3	11.35
7K28	9	15	12	0.1	14.65

TYPE	FIG.	INDUCTANCE (Millihenries)	D.C. Amps	DCR (Ω)	Net Price
7K29	9	5	25	0.025	23.00
7K30	9	1.4	50	0.01	31.35





# transistor transformers

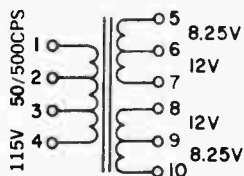


FIG. 1

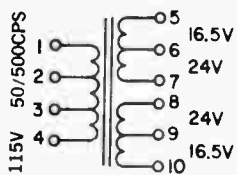


FIG. 2

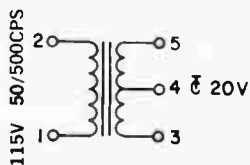


FIG. 3

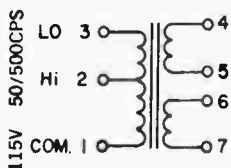


FIG. 4

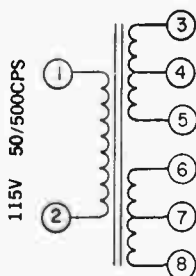


FIG. 5

TYPE	STYLE	FIG.	L	W	H	M1	M2	MTG. HOLES	STUDS
7K1	H	8	1 $\frac{1}{16}$	1 $\frac{1}{16}$	1 $\frac{3}{4}$	1 $\frac{1}{4}$	—	—	(2) 6-32
	F	6	2 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$	1 $\frac{3}{4}$	—	(2) $\frac{3}{16}$	—
7K2	H	8	1 $\frac{5}{8}$	1 $\frac{5}{8}$	2 $\frac{3}{8}$	1 $\frac{3}{16}$	1 $\frac{3}{16}$	—	(4) 6-32
	L	7	1 $\frac{3}{8}$	1 $\frac{5}{8}$	2 $\frac{1}{8}$	1 $\frac{1}{16}$	1 $\frac{3}{8}$	(4) $\frac{5}{32}$	—
7K3	H	8	2 $\frac{1}{16}$	2 $\frac{1}{16}$	3 $\frac{1}{8}$	1 $\frac{1}{16}$	1 $\frac{1}{16}$	—	(4) 6-32
	F	6	3 $\frac{3}{4}$	2	2 $\frac{5}{16}$	3 $\frac{1}{8}$	—	(2) $\frac{3}{16}$	—
7K4	H	8	3 $\frac{1}{16}$	2 $\frac{5}{8}$	4 $\frac{1}{4}$	2 $\frac{1}{16}$	1 $\frac{5}{16}$	—	(4) 8-32
	L	7	2 $\frac{7}{8}$	2 $\frac{5}{8}$	3 $\frac{1}{16}$	2 $\frac{1}{4}$	2 $\frac{1}{8}$	(4) 1 $\frac{1}{16}$	—
7K5	H	8	3 $\frac{1}{16}$	3 $\frac{3}{8}$	5 $\frac{1}{4}$	3	2 $\frac{1}{16}$	—	(4) 10-32
	L	7	3 $\frac{3}{8}$	3 $\frac{1}{2}$	4 $\frac{5}{8}$	3	2 $\frac{1}{2}$	(4) 1 $\frac{1}{16}$	—
7K6	H	8	5 $\frac{1}{2}$	4 $\frac{1}{2}$	6 $\frac{3}{4}$	3 $\frac{3}{4}$	3	—	(4) $\frac{1}{4}$ -20
	L	7	4 $\frac{7}{16}$	4 $\frac{1}{2}$	5 $\frac{3}{8}$	3 $\frac{1}{2}$	3 $\frac{3}{8}$	(4) $\frac{5}{32}$	—
7K7	H	8	3 $\frac{1}{16}$	2 $\frac{5}{8}$	4 $\frac{1}{4}$	2 $\frac{1}{16}$	1 $\frac{5}{16}$	—	(4) 8-32
	L	7	2 $\frac{7}{8}$	2 $\frac{5}{8}$	3 $\frac{1}{16}$	2 $\frac{1}{4}$	2 $\frac{1}{8}$	(4) 1 $\frac{1}{16}$	—
7K8	H	8	1 $\frac{1}{16}$	1 $\frac{1}{16}$	2 $\frac{1}{16}$	1 $\frac{3}{8}$	1 $\frac{1}{4}$	—	(4) 6-32
	F	6	2 $\frac{7}{8}$	1 $\frac{1}{2}$	1 $\frac{1}{16}$	2 $\frac{3}{8}$	—	(2) $\frac{3}{16}$	—
7K9	H	8	1 $\frac{1}{16}$	1 $\frac{1}{16}$	2 $\frac{3}{4}$	1 $\frac{3}{8}$	1 $\frac{1}{4}$	—	(4) 6-32
	F	6	3 $\frac{1}{16}$	2 $\frac{1}{4}$	2	2 $\frac{1}{16}$	—	(2) $\frac{3}{16}$	—
7K10	H	8	3 $\frac{1}{16}$	2 $\frac{5}{8}$	4 $\frac{1}{4}$	2 $\frac{1}{16}$	1 $\frac{5}{16}$	—	(4) 8-32
	L	7	2 $\frac{7}{8}$	2 $\frac{1}{2}$	3 $\frac{1}{16}$	2 $\frac{1}{4}$	2	(4) 1 $\frac{1}{16}$	—
7K11	H	8	4 $\frac{1}{16}$	3 $\frac{1}{16}$	5 $\frac{3}{8}$	3 $\frac{1}{16}$	2 $\frac{1}{16}$	—	(4) 10-32
	L	7	3 $\frac{3}{8}$	3 $\frac{3}{8}$	4 $\frac{3}{8}$	3 $\frac{1}{16}$	2 $\frac{3}{4}$	(4) 1 $\frac{1}{16}$	—
7K12	H	8	5 $\frac{7}{8}$	4 $\frac{3}{4}$	6 $\frac{1}{16}$	4 $\frac{1}{8}$	3 $\frac{1}{2}$	—	(4) $\frac{1}{4}$ -20
	L	7	4 $\frac{1}{2}$	5 $\frac{1}{4}$	5 $\frac{3}{8}$	3 $\frac{1}{2}$	4 $\frac{1}{8}$	(4) $\frac{5}{32}$	—
7K13	H	8	5 $\frac{7}{8}$	4 $\frac{3}{4}$	6 $\frac{1}{16}$	4 $\frac{1}{8}$	3 $\frac{1}{2}$	—	(4) $\frac{1}{4}$ -20
	L	7	4 $\frac{1}{2}$	5 $\frac{1}{4}$	5 $\frac{3}{8}$	3 $\frac{1}{2}$	4 $\frac{1}{8}$	(4) $\frac{5}{32}$	—
7K14	H	8	3 $\frac{1}{16}$	3 $\frac{3}{8}$	5 $\frac{1}{4}$	3	2 $\frac{1}{16}$	—	(4) 10-32
	L	7	3 $\frac{3}{8}$	3 $\frac{1}{2}$	4 $\frac{5}{8}$	3	2 $\frac{1}{2}$	(4) 1 $\frac{1}{16}$	—
7K15	L	9	3 $\frac{1}{16}$	3	3 $\frac{3}{16}$	3 $\frac{1}{8}$	2 $\frac{1}{4}$	(4) 1 $\frac{1}{16}$	—
7K16	L	9	4 $\frac{1}{16}$	3 $\frac{1}{4}$	3 $\frac{1}{2}$	3 $\frac{1}{16}$	2 $\frac{3}{8}$	(4) 1 $\frac{1}{16}$	—
7K17	L	9	5 $\frac{3}{8}$	4 $\frac{1}{4}$	4 $\frac{5}{8}$	4 $\frac{3}{8}$	2 $\frac{7}{8}$	(4) $\frac{5}{32}$	—
7K18	L	9	5 $\frac{3}{8}$	5 $\frac{3}{4}$	4 $\frac{5}{8}$	4 $\frac{3}{8}$	4 $\frac{1}{8}$	(4) $\frac{5}{32}$	—
7K19	L	9	4 $\frac{1}{16}$	3 $\frac{3}{8}$	3 $\frac{1}{2}$	3 $\frac{1}{16}$	3	(4) 1 $\frac{1}{16}$	—
7K20	L	9	4 $\frac{1}{16}$	4 $\frac{1}{2}$	3 $\frac{3}{8}$	3 $\frac{3}{4}$	3 $\frac{3}{8}$	(4) 1 $\frac{1}{16}$	—
7K21	L	9	5 $\frac{3}{8}$	5 $\frac{3}{4}$	4 $\frac{5}{8}$	4 $\frac{3}{8}$	4 $\frac{1}{8}$	(4) $\frac{5}{32}$	—
7K22	L	9	6 $\frac{1}{2}$	6 $\frac{3}{8}$	5 $\frac{3}{8}$	5 $\frac{1}{16}$	4 $\frac{3}{8}$	(4) $\frac{5}{32}$	—
7K23	L	9	4 $\frac{1}{16}$	4 $\frac{3}{8}$	3 $\frac{3}{8}$	3 $\frac{3}{4}$	3 $\frac{3}{8}$	(4) 1 $\frac{1}{16}$	—
7K24	L	9	5 $\frac{3}{8}$	4 $\frac{7}{8}$	4 $\frac{5}{8}$	4 $\frac{3}{8}$	3 $\frac{3}{8}$	(4) $\frac{5}{32}$	—
7K25	L	9	6 $\frac{1}{2}$	6	5 $\frac{3}{8}$	5 $\frac{1}{16}$	3 $\frac{3}{4}$	(4) $\frac{5}{32}$	—
7K26	L	9	6 $\frac{1}{2}$	7 $\frac{3}{4}$	5 $\frac{3}{8}$	5 $\frac{1}{16}$	5 $\frac{1}{8}$	(4) $\frac{5}{32}$	—
7K27	L	9	4 $\frac{1}{16}$	3 $\frac{3}{8}$	3 $\frac{1}{2}$	3 $\frac{1}{16}$	3	(4) 1 $\frac{1}{16}$	—
7K28	L	9	5 $\frac{3}{8}$	4 $\frac{1}{4}$	4 $\frac{5}{8}$	4 $\frac{3}{8}$	3 $\frac{1}{8}$	(4) $\frac{5}{32}$	—
7K29	L	9	5 $\frac{3}{8}$	4 $\frac{3}{4}$	4 $\frac{5}{8}$	4 $\frac{3}{8}$	3 $\frac{3}{8}$	(4) $\frac{5}{32}$	—
7K30	L	9	6 $\frac{1}{2}$	5 $\frac{3}{4}$	5 $\frac{3}{8}$	5 $\frac{1}{16}$	4 $\frac{1}{8}$	(4) $\frac{5}{32}$	—

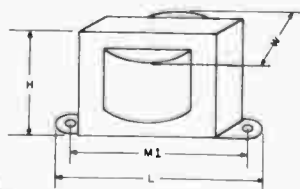


FIG. 6

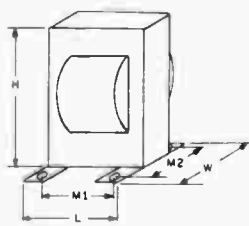


FIG. 7

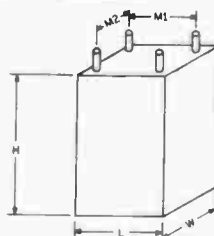


FIG. 8

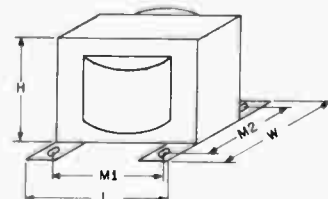


FIG. 9

STERLING TRANSFORMER CORP.

# transistor transformers



## MINISPEC TRANSISTOR TRANSFORMERS — 300 SERIES

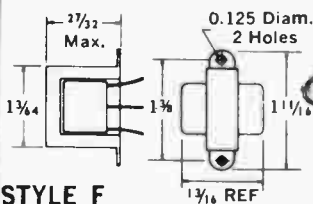
Part No.	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbal. Ma.	Oper. Lev. DBM	Freq. Response $\pm 2$ db.	Net Price 1-9 pcs.	
							F	H
300	Line to Base	600	600	10	23	200-15,000	\$4.00	\$8.60
301	Coll. to P.P. Base	100	10 C.T./40 C.T.	100	27	200-20,000	4.65	9.60
302	Coll. to Base or line	50,000	600	3	20	300-15,000	4.30	9.25
303	Collector to speaker	50,000	6	3	20	300-15,000	4.30	9.25
304	Coll. to P.P. Base	100,000	1,200 C.T.	1.4	17	200-15,000	4.50	9.45
305	Coll. to P.P. Base	25,000	1,200 C.T.	3	22	200-15,000	4.50	9.45
306	P.P. Coll. to P.P. Base	50,000 C.T.	1,200 C.T.	3	20	300-15,000	4.65	9.60
307	Line to P.P. Base	600 C.T.	1,200 C.T.	4	23	200-15,000	4.65	9.60
308	Collector to Base	25,000	600	3	22	200-15,000	4.30	9.25
309	P.P. Coll. to P.P. Base	4,000 C.T.	600 C.T.	3	32	200-15,000	4.65	9.60
310	Output Coll. to speaker	2,000	3.4	10	32	200-15,000	4.30	9.25
311	P.P. Coll. to speaker	4,000 C.T.	3.4	3	32	200-15,000	4.50	9.45
312	Coll. to Speaker	400	10	50	25	200-20,000	4.00	8.60
313	P.P. Servo Output	500 C.T.	210	30	27	300-20,000	4.30	9.25
314	P.P. Coll. to P.P. Base	25,000 C.T.	1,200 C.T.	6	22	200-15,000	4.65	9.60
315	P.P. Coll. to P.P. Base	50,000 C.T.	1200/300 Split	3	20	300-15,000	4.95	9.90
316	P.P. Coll. to P.P. Base	4,000 C.T.	600/150 Split	3	32	200-15,000	4.80	9.75
317	Line to P.P. Base	600/150 Split	1,200 C.T.	4	23	200-15,000	4.80	9.75
318	P.P. Coll. to Servo	250 C.T.	1,000	10	30	200-15,000	4.30	9.25
319	Coll. to P.P. Base	2,500	600 C.T.	10	32	200-15,000	4.30	9.25
320	P.P. Coll. to P.P. Base	7,500 C.T.	600 C.T.	8	32	200-15,000	4.65	9.60
321	Line to P.P. Base	600 C.T.	600 C.T.	20	23	200-15,000	4.50	9.45
322	P.P. Coll. to Servo	1,600 C.T.	450	15	30	200-15,000	4.30	9.25
323	P.P. Coll. to Servo	250 C.T.	500	10	30	200-15,000	4.30	9.25

## MINISPEC AUDIO TRANSFORMERS — 300 SERIES

Part No.	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbal. Ma.	Oper. Lev. DBM	Freq. Response $\pm 2$ db.	Net Price 1-9 pcs.	
							F	H
375	Mike or line to 1 grid	50/250/600 C.T.	50,000	0	5	20-20,000	\$4.50	\$9.90
376	Mike or line to 2 grids	50/250/600 C.T.	50,000 C.T.	0	5	20-20,000	4.65	10.40
377	Dynamic mike to 1 grid	7.5/30	50,000	0	5	20-20,000	4.30	9.90
378	Single plate to 1 grid	15,000	60,000	0	6	20-15,000	3.80	8.45
379	Single plate to 1 grid	15,000	60,000	4	14	200-20,000	3.80	8.45
380	Single plate to 2 grids	15,000	95,000 C.T.	0	5	20-15,000	4.00	9.45
381	Single plate to 2 grids	15,000	95,000 C.T.	4	11	200-20,000	4.15	9.75
382	Single plate to line	15,000	50/250/600 C.T.	0	8	20-20,000	4.15	10.60
383	Single plate to line	15,000	50/250/600 C.T.	4	21	150-20,000	4.15	10.60
384	Push pull plates to line	30,000 C.T.	50/250/600 C.T.	0	8	30-50,000	4.30	10.60
385	Crystal mike to line	50,000	50/250/600 C.T.	0	5	20-20,000	4.15	10.25
386	Mixing and matching	50/250 C.T.	50/250/600 C.T.	0	8	20-20,000	4.15	10.25
387	Reactor	300 hy. 0 d.c.	50 hy. @ 3 ma.			DCR 6,000	3.65	8.10
388	50:1 mike to grid	200	$\frac{1}{2}$ Megohm	0	9	80-3,000	4.30	9.90
389	10:1 plate to grid	10,000	1 Megohm	0	11	100-2,500	4.00	9.25

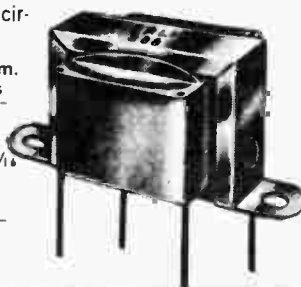
### MINISPEC 300 SERIES

Highest efficiency miniature transformer for transistor and audio circuit applications.



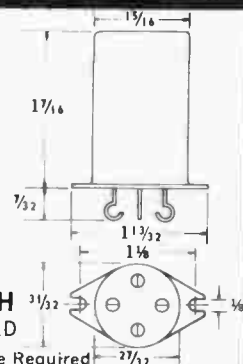
STYLE F  
INDUSTRIAL

MILITARY STYLE ENCAPSULATED  
VERSIONS ARE AVAILABLE



STYLE H  
HERMETICALLY SEALED

Clearance Hole Required



STERLING TRANSFORMER CORP



# transistor transformers

## MICROSPEC TRANSISTOR TRANSFORMERS — 600 SERIES

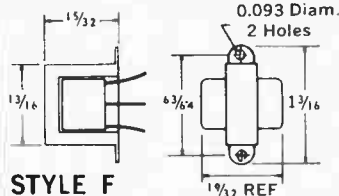
Part No.	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbal. Ma.	Oper. Lev. DBM	Freq. Response $\pm 2$ db.	Net Price 1-9 pcs.	
							F	H
601	Line to Base	600	600	8	22	200-15,000	\$4.30	\$8.10
602	Coll. to Base or line	50,000	600	0.7	20	200-15,000	4.50	8.25
603	P.P. coll. to P.P. Base	50,000 C.T.	600 C.T.	1.4	20	200-15,000	5.30	9.45
604	Collector to speaker	50,000	6	1	20	200-15,000	4.80	8.75
605	Coll. to P.P. Base	25,000	1,200 C.T.	1	20	200-15,000	4.95	9.25
606	P.P. coll. to P.P. Base	50,000 C.T.	1,200 C.T.	1.4	20	200-15,000	5.15	9.45
607	Line to P.P. Base	600 C.T.	1,200 C.T.	16	22	200-15,000	4.65	8.45
608	Collector to Base	25,000	600	1	20	200-15,000	3.80	7.95
609	P.P. coll. to P.P. Base or line	4,000 C.T.	600 C.T.	5	28	200-15,000	4.80	8.60
610	Coll. to Spkr.	2,000	3.4	5	28	200-15,000	4.30	8.10
611	Output P.P. coll. to spkr.	4,000 C.T.	3.4	5	28	200-15,000	4.50	8.25
612	Coll. to P.P. Base	10,000	1,500 C.T.	1	20	200-15,000	4.95	9.25
613	P.P. Coll. to P.P. Base	10,000 C.T.	200 C.T.	6	20	200-15,000	4.95	8.95
614	P.P. Coll. to P.P. Base	25,000 C.T.	1,200 C.T.	2	20	200-15,000	5.15	9.45
615	Coll. to P.P. Base	2,500	2,500 C.T.	2	23	200-15,000	4.50	8.25
616	P.P. Coll. to P.P. Base	4,000 C.T.	600/150 split	5	28	200-15,000	5.15	9.45
617	P.P. Coll. to P.P. Base	7,500 C.T.	600 C.T.	4	22	200-15,000	4.80	8.60
618	Line to Base	600 C.T.	600 C.T.	16	22	200-15,000	4.65	8.45
619	P.P. Coll. to P.P. Base	25,000 C.T.	600 C.T.	2	20	200-15,000	4.95	9.25
620	P.P. Coll. to P.P. Base	10,000 C.T.	1,500 C.T.	2	20	200-15,000	5.15	9.45
621	Driver/Isolation	10,000 C.T.	10,000 C.T.	2	20	200-15,000	5.15	9.45
622	P.P. Coll. to P.P. Base	7,500 C.T.	1,200 C.T.	4	22	200-15,000	4.95	9.25
623	P.P. Coll. to P.P. Base	2,000 C.T.	500 C.T.	10	28	200-15,000	4.80	9.10
624	Line to P.P. Base	600 C.T.	1200/300 split	16	22	200-15,000	5.15	9.45

## MICROSPEC AUDIO TRANSFORMERS — 600 SERIES

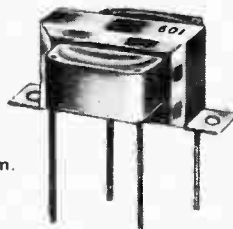
Part No.	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbal. Ma.	Oper. Lev. DBM	Freq. Response $\pm 2$ db.	Net Price 1-9 pcs.	
							F	H
675	Input	200/50	250,000/62,500	0	4	200-10,000	\$4.95	\$8.10
676	Interstage 3:1	10,000	90,000	0	4	150-10,000	5.30	8.25
677	Plate to line	10,000	200	3	20	150-10,000	4.65	7.95
678	Output	30,000	50	1	20	150-10,000	4.50	7.80
679	Reactor 50 HY at 1 macd				4700	ohms DCR	4.50	7.60
680	Output	100,000	60	0.5	20	250-10,000	4.65	7.95
681	Output	30,000	1,200	0.5	20	200-10,000	3.65	7.10

### MICROSPEC 600 SERIES

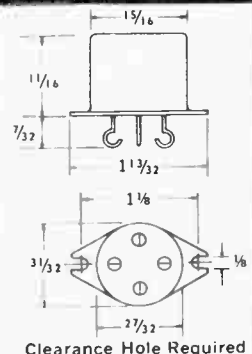
Subminiature transformers for high efficiency circuits.



**STYLE F**  
INDUSTRIAL



MILITARY STYLE ENCAPSULATED  
VERSIONS ARE AVAILABLE



Clearance Hole Required  
**STYLE H**  
HERMETICALLY SEALED

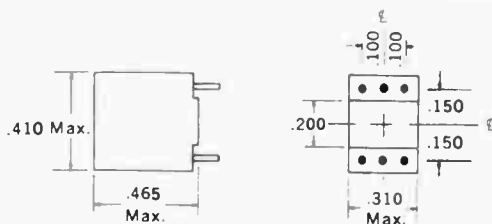


# transistor transformers

## NANOSPEC TRANSISTOR TRANSFORMERS — 900 SERIES

Frequency Response  $\pm 2$  db 300 Cycles to 90 KC

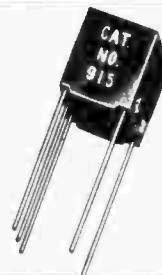
Part No.	Application	Color Application Guide	Primary Impedance	Secondary Impedance	Unbal. Pri. DC Ma.	Power Level MW.	DC Resistance		Net Price 1-9 Pcs.
							Primary	Secondary	
903	Interstage	Red	50,000 CT	1,000 CT	0	10	3300	75	8.25
904	Interstage	Red	50,000	1000 250 Split	0	10	3300	75	8.95
905	Interstage	Red	25,000 CT	1,000 CT	0.5	40	1700	115	7.80
906	Interstage	Red	25,000	1000 / 250 Split	0.25	40	1700	115	8.45
907	Interstage	Red	25,000	1,000	0.25	40	1700	115	7.15
908	Isolation	Green	10,000 CT	10,000 CT	1	50	1200	1300	8.45
909	Driver	Orange	10,000 CT	2,000 CT	1	50	1050	300	7.45
910	Driver	Orange	10,000	2000 500 Split	0.5	50	1050	300	8.10
911	Driver	Orange	10,000 CT	1,200 CT	1	50	1050	280	7.45
912	Driver	Orange	10,000	1200 300 Split	0.5	50	1050	280	7.95
913	Driver	Orange	10,000	1,200	0.5	50	1050	280	6.60
914	Driver	Orange	10,000 CT	500 CT	1	50	1050	80	7.45
915	Isolation	Green	2,500	2,500 CT	1	50	250	325	6.95
916	Output	Yellow	1,500 CT	600	3	50	170	135	6.80
917	Output	Yellow	500	50	3	50	60	8	5.95
918	Output	Yellow	120 CT	3.2	10	50	17	.75	6.30
919	Audio Choke	Blue	6 HY.	DCR 1800 OHMS	2				5.95
920	Audio Choke	Blue	.3 HY.	DCR 45 OHMS	4				5.15
921	Audio Choke	Blue	1.25 H	DCR 180 OHMS	2				5.30
922	Audio Choke	Blue	3.5 H	DCR 1040 OHMS	2				5.30
923	Audio Choke	Blue	.9 H	DCR 110 OHMS	2				5.30
924	Audio Choke	Blue	.1 H	DCR 15 OHMS	5				5.30
925	Interstage	Red	10,000 CT	1,500 CT	1	50	1050	300	7.95
926	Isolation	Green	600 CT	600 CT	3	50	72	92	7.95
927	Output	Yellow	1,000	50	3	50	145	8	6.45
928	Output	Yellow	300 CT	600	7	50	41	98	6.60
929	Output	Yellow	500 CT	600	3	50	67	98	6.60
930	Output	Yellow	900 CT	600	4	50	104	96	6.80
931	Output	Yellow	150 CT	12	10	50	18	3.5	6.45
932	Output	Yellow	300 CT	12	7	50	42	3.4	6.45
933	Output	Yellow	600 CT	12	4.5	50	77	3	6.60
934	Output	Yellow	1,000 CT	12	3.5	50	120	3	6.80
935	Output	Yellow	1,500 CT	12	3	50	179	2.9	6.95
936	Output	Yellow	7,500 CT	12	1	50	796	2.9	7.45
937	Output	Yellow	320 CT	3.2	6	50	44	.77	6.45
938	Output	Yellow	600	3.2	3	50	70	.76	6.15
939	Output	Yellow	600 CT	3.2	4.5	50	70	.85	6.60
940	Output	Yellow	800 CT	3.2	4	50	107	.86	6.80
941	Output	Yellow	1,200	3.2	2	50	131	.76	6.15
942	Output	Yellow	1,200 CT	3.2	3	50	131	.87	6.80
943	Output	Yellow	1,600 CT	3.2	2.5	50	186	.8	6.95
944	Output	Yellow	10,000	3.2	1	50	1160	.81	6.80
945	Output	Yellow	8,000 CT	3.2	1	50	790	.76	7.45



### NANOSPEC 900 SERIES

Designed for printed circuit transistor use in high component density applications.

Epoxy resin encapsulated.



STERLING TRANSFORMER CORP.



# STANDARD INTERSTAGE AND LINE TRANSISTOR AND TUBE APPLICATIONS

# filters

Hermetically Sealed — Manufactured to MIL-F-18327B Available in Other Frequencies

## LOW PASS

### INTERSTAGE

LI units have a loss of approximately 3 db at cutoff frequency, and an attenuation of 35 db at 1.5 cutoff frequency. Input and output 10,000 ohms. LI units are MIL type FR4RX11YY.

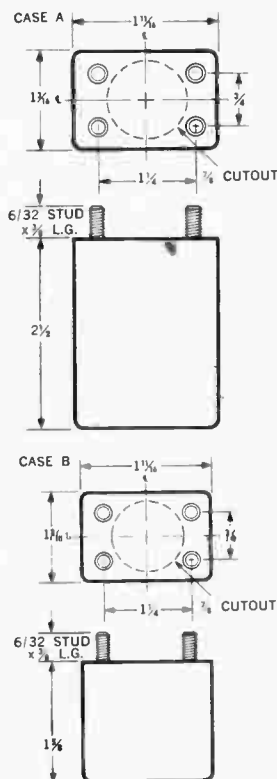
Part No.	Frequency	Case Size	Net Price
LI-60	60 cps	A	34.65
LI-100	100 cps	A	34.65
LI-200	200 cps	B	34.65
LI-400	400 cps	B	34.65
LI-500	500 cps	B	34.65
LI-800	800 cps	B	34.65
LI-1,000	1,000 cps	B	34.65
LI-1,500	1,500 cps	B	34.65
LI-2,000	2,000 cps	B	34.65
LI-2,500	2,500 cps	B	34.65
LI-3,000	3,000 cps	B	34.65
LI-4,000	4,000 cps	B	34.65
LI-5,000	5,000 cps	B	34.65
LI-10,000	10,000 cps	B	34.65

### LINE

LL units have a loss of approximately 3 db at cutoff frequency, and an attenuation of 35 db at 1.5 cutoff frequency. Input and output 500/600 ohms. LL units are MIL type FR4RX11YY.

Part No.	Frequency	Case Size	Net Price
LL-600	600 cps	A	34.65
LL-1,000	1,000 cps	A	34.65
LL-1,500	1,500 cps	A	34.65
LL-2,000	2,000 cps	A	34.65
LL-2,500	2,500 cps	A	34.65
LL-4,000	4,000 cps	A	34.65
LL-8,000	8,000 cps	A	34.65
LL-10,000	10,000 cps	A	34.65
LL-12,000	12,000 cps	A	34.65

### CASE DETAIL



## HIGH PASS

### INTERSTAGE

HI units have a loss of less than 6 db at cutoff frequency, and an attenuation of 35 db at .67 cutoff frequency. Input and output 10,000 ohms. HI units are MIL type FR4RX33YY.

Part No.	Frequency	Case Size	Net Price
HI-100	100 cps	A	34.65
HI-200	200 cps	A	34.65
HI-300	300 cps	A	34.65
HI-400	400 cps	A	34.65
HI-500	500 cps	A	34.65
HI-800	800 cps	A	34.65
HI-1,000	1,000 cps	A	34.65
HI-2,000	2,000 cps	A	34.65
HI-3,000	3,000 cps	A	34.65

### LINE

HL units have a loss of less than 6 db at cutoff frequency, and an attenuation of 35 db at .67 cutoff frequency. Input and output 500/600 ohms. HL units are MIL type FR4RX33YY.

Part No.	Frequency	Case Size	Net Price
HL-200	200 cps	A	42.90
HL-300	300 cps	A	42.90
HL-500	500 cps	A	42.90
HL-1,000	1,000 cps	A	42.90

FOR WIDE BAND PASS FILTERS THE LI & HI OR LL & HL MAY BE CONNECTED IN SERIES.

## BAND PASS

### INTERSTAGE

BI units have 2:1 voltage gain. They are sharply peaked, having approximately 2 db attenuation at plus or minus 3% from center frequency and attenuation greater than 40 db at 1/2 and twice center frequency. Input 10,000 ohms, output to grid. BI units are MIL type FR4RX22YY.

Part No.	Frequency	Case Size	Net Price
BI-50	50 cps	A	33.00
BI-60	60 cps	A	33.00
BI-100	100 cps	A	33.00
BI-120	120 cps	B	33.00
BI-200	200 cps	B	33.00
BI-240	240 cps	B	33.00
BI-400	400 cps	B	33.00
BI-500	500 cps	B	33.00
BI-750	750 cps	B	33.00
BI-800	800 cps	B	33.00
BI-1,000	1,000 cps	B	33.00
BI-1,500	1,500 cps	B	33.00
BI-2,000	2,000 cps	B	33.00
BI-3,000	3,000 cps	B	33.00
BI-4,000	4,000 cps	B	33.00
BI-5,000	5,000 cps	B	33.00
BI-10,000	10,000 cps	B	33.00

### LINE

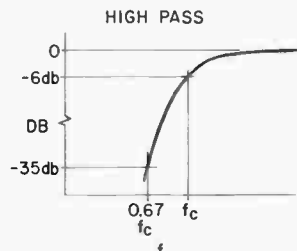
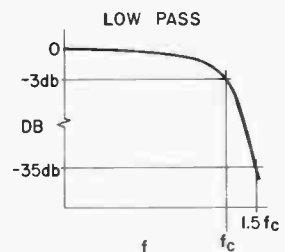
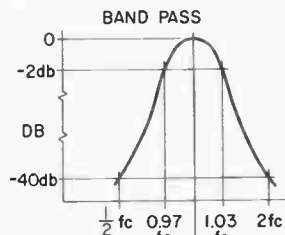
BL units have 9:1 voltage gain. They are sharply peaked, having approximately 2 db attenuation at plus or minus 3% from center frequency and attenuation greater than 40 db at 1/2 and twice center frequency. Input 500/600 ohms, output to grid. BL units are MIL type FR4RX22YY.

Part No.	Frequency	Case Size	Net Price
BL-400	400 cps	B	33.00
BL-1,000	1,000 cps	B	33.00

### TRANSISTOR INTERSTAGE

They are sharply peaked, having approximately 2 db attenuation at plus or minus 3% from center frequency and attenuation greater than 40 db at 1/2 and twice center frequency. Input 10,000 ohms, output 10,000 ohms. BIT units are MIL type FR4RX22YY.

Part No.	Frequency	Case Size	Net Price
BIT-60	60 cps	A	39.60
BIT-100	100 cps	A	39.60
BIT-120	120 cps	B	39.60





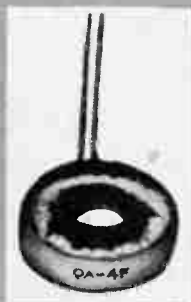
# hi-Q toroidal inductors

MANUFACTURED TO MIL-T-27A. ALL HERMETICALLY SEALED UNITS (STYLE H) ARE MIL TYPE TF4RX20YY

■ ALL MOLDED UNITS STYLE M ARE MIL TYPE TF5RX20ZZ

■ ALSO TOROIDAL INDUCTORS IN OTHER SIZES AND VALUES AVAILABLE ON SPECIAL ORDER.

■ MOLYBDENUM PERMALLOY POWDER CORES USED IN ALL UNITS.

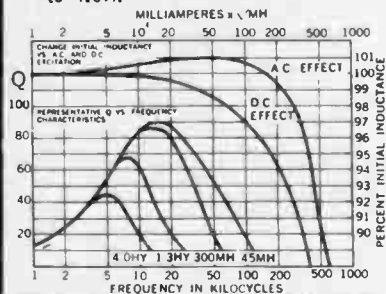


**STYLE F**  
 ■ ALL INDUCTORS SHOWN AVAILABLE IN OPEN STYLE F.

## QA SERIES

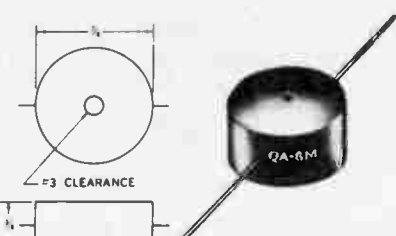
FREQUENCY TO 20KC-ACCURACY ± 2%

The QA series is designed to optimize small size and high "Q" for miniaturized applications. These units are available on special order with stabilized cores and inductance from 1MH to 4.0H.



AVAILABLE ON SPECIAL ORDER  
 HERMETICALLY SEALED

Part No.	Inductance	Approx. DCR Ohms	Approx. Distributed Capacity PF	Net Price 1-9 pcs.	
				Style F	Style M
QA-1	5MH	2.5	30	4.80	6.30
QA-2	10	5	33	4.80	6.30
QA-3	15	8	34	4.95	6.45
QA-4	20	11.2	36	5.10	6.60
QA-5	30	17	37	5.15	6.80
QA-6	50	28	40	5.30	6.95
QA-7	100	50	42	5.45	7.10
QA-8	150	80	44	5.65	7.30
QA-9	200	120	45	5.75	7.40
QA-10	300	150	46	5.85	7.65
QA-11	500	290	48	5.95	7.95
QA-12	1.00H	530	51	6.80	8.75
QA-13	1.50	825	53	6.95	9.60

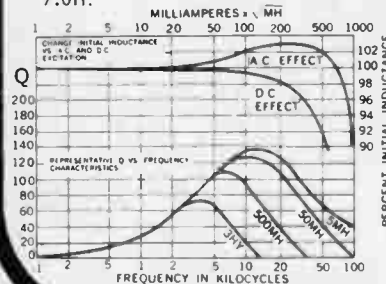


**MOLDED STYLE M**  
 Encapsulated in Epoxy Resin. Pigtail leads for printed circuit applications.

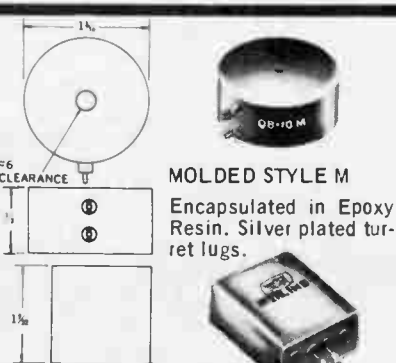
## QB SERIES

FREQUENCY TO 20KC-ACCURACY ± 2%

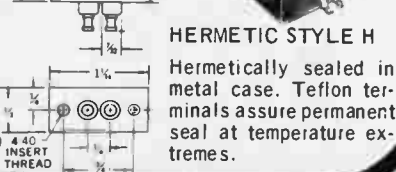
The QB series is designed for airborne applications where stable high "Q" is needed with minimized size and weight. Available on special order with stabilized cores and inductance to 7.0H.



Part No.	Inductance	Approx. DCR Ohms	Approx. Distributed Capacity PF	Net Price 1-9 pcs.		
				Style F	Style H	Style M
QB-1	5MH	1.1	38	4.30	7.45	5.80
QB-2	10	2.1	40	4.30	7.45	5.80
QB-3	15	3.3	42	4.30	7.45	5.95
QB-4	20	3.7	43	4.35	7.55	6.05
QB-5	30	5.8	45	4.40	7.70	6.15
QB-6	50	11	47	4.50	7.95	6.25
QB-7	100	22	49	4.65	8.45	6.30
QB-8	150	34	50	4.80	8.60	6.45
QB-9	200	47	52	5.05	9.00	6.70
QB-10	300	60	53	5.15	9.25	6.80
QB-11	500	95	55	5.30	9.45	6.95
QB-12	1.00H	213	57	5.65	9.90	7.45
QB-13	1.50	335	59	6.45	10.40	8.10



**MOLDED STYLE M**  
 Encapsulated in Epoxy Resin. Silver plated turret lugs.



**HERMETIC STYLE H**  
 Hermetically sealed in metal case. Teflon terminals assure permanent seal at temperature extremes.

STERLING TRANSFORMER CORP.

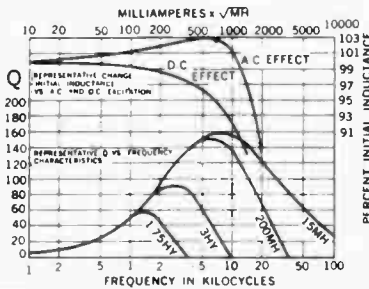
# hi-Q toroidal inductors



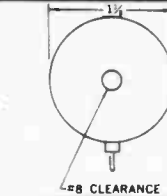
## QC SERIES

FREQUENCY TO 10KC  
ACCURACY ± 2%

The QC series is designed for high "Q", increased power level & stability. Available on special order with stabilized cores and inductance to 20H.



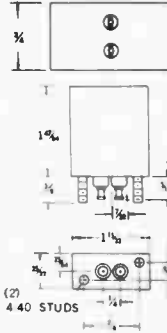
Part No.	Inductance	Approx. DCR Ohms	Approx. Distributed Capacity PF	Net Price 1-9 pcs.		
				Style F	Style H	Style M
QC-1	5MH	0.62	60	4.80	7.80	6.80
QC-2	10	1.1	66	4.95	7.95	6.80
QC-3	15	1.7	68	4.95	8.10	6.80
QC-4	20	1.9	70	5.05	8.25	6.80
QC-5	30	3	72	5.10	8.45	6.80
QC-6	50	6	76	5.15	8.60	6.80
QC-7	100	11	81	5.30	9.25	7.30
QC-8	150	17	83	5.45	9.45	7.30
QC-9	200	24	85	5.50	9.65	7.40
QC-10	300	37	88	5.60	9.80	7.50
QC-11	500	63	91	5.65	10.10	7.60
QC-12	1.00H	110	96	5.80	10.60	7.95
QC-13	1.50	185	98	5.95	10.75	8.10
QC-14	2.00	250	100	6.50	11.20	8.40
QC-15	3.00	380	103	7.05	11.65	8.80
QC-16	5.00	645	106	7.45	12.25	9.25
QC-17	7.50	950	109	8.00	13.00	10.05
QC-18	10.00	1175	112	8.25	13.70	10.60



**MOLDED STYLE M**  
Encapsulated in Epoxy Resin. Silver plated turret lugs.



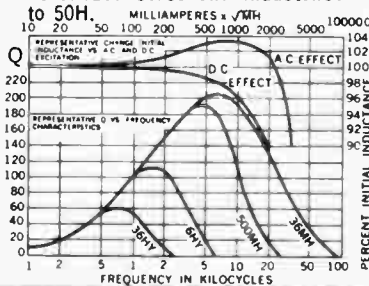
**HERMETIC STYLE H**  
Hermetically sealed in metal case. Teflon terminals assure permanent seal at temperature extremes.



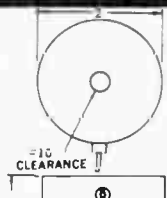
## QD SERIES

FREQUENCY TO 10KC-ACCURACY ± 2%

The QD series is designed for very high "Q" in the audio band allowing for application in sharp frequency filters with high power levels and low losses. They are excellent for tuned transformers and oscillators. Available on special order with stabilized cores and inductance to 50H.



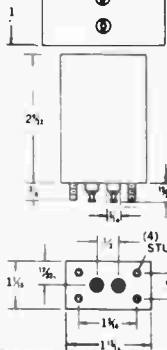
Part No.	Inductance	Approx. DCR Ohms	Approx. Distributed Capacity PF	Net Price 1-9 pcs.		
				Style F	Style H	Style M
QD-1	20MH	1.0	97	7.80	11.60	9.60
QD-2	30	1.5	100	7.80	11.60	9.60
QD-3	50	2.5	105	7.80	11.60	9.60
QD-4	100	6	110	7.95	11.75	9.75
QD-5	150	7	113	8.10	11.85	10.35
QD-6	200	10	115	8.10	11.85	10.35
QD-7	300	15	117	8.25	12.05	10.60
QD-8	500	25	121	8.25	12.05	10.60
QD-9	1.00H	60	126	8.60	12.55	10.90
QD-10	1.50	90	130	8.95	12.90	11.25
QD-11	2.00	100	131	9.85	13.90	11.70
QD-12	3.00	155	134	10.20	14.30	12.00
QD-13	5.00	275	138	10.40	14.55	12.25
QD-14	7.50	400	140	11.10	15.55	13.20
QD-15	10.00	600	142	12.25	16.50	14.20
QD-16	15.00	900	146	13.20	17.35	15.20
QD-17	20.00	1100	148	14.15	19.10	16.80
QD-18	25.00	1500	150	14.40	19.35	17.00



**MOLDED STYLE M**  
Encapsulated in Epoxy Resin. Silver plated turret lugs.



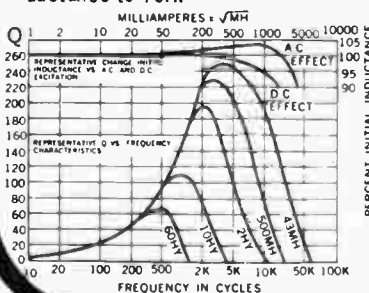
**HERMETIC STYLE H**  
Hermetically sealed in metal case. Teflon terminals assure permanent seal at temperature extremes.



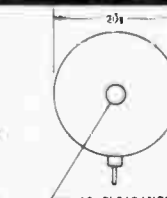
## QE SERIES

FREQUENCY TO 15KC  
ACCURACY ± 2%

The QE series is most widely used in low audio frequency applications where high "Q" is essential. They are used where inductance stability over a wide voltage range is required. Available on special order with inductance to 75H.



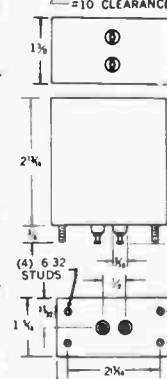
Part No.	Inductance	Approx. DCR Ohms	Approx. Distributed Capacity PF	Net Price 1-9 pcs.		
				Style F	Style H	Style M
QE-1	25MH	0.85	127	11.90	14.85	13.90
QE-2	50	1.6	136	12.05	15.05	14.05
QE-3	100	3	144	15.35	15.35	14.40
QE-4	150	3.9	149	15.70	15.70	15.05
QE-5	200	5.9	153	16.25	16.25	15.25
QE-6	300	8.5	158	16.30	16.30	15.30
QE-7	500	15	164	16.35	16.35	15.35
QE-8	1.00H	30	173	16.70	16.70	15.35
QE-9	1.50	40	177	17.00	17.00	15.70
QE-10	2.00	60	181	17.95	17.95	16.10
QE-11	3.00	85	185	18.05	18.05	16.30
QE-12	5.00	142	192	18.35	18.35	16.50
QE-13	7.50	215	196	18.70	18.70	17.55
QE-14	10.00	300	200	19.00	19.00	17.85
QE-15	15.00	430	205	20.15	20.15	19.00
QE-16	20.00	550	209	21.20	21.20	20.00
QE-17	25.00	800	212	21.45	21.45	20.30
QE-18	30.00	850	214	25.30	25.30	24.15
QE-19	50.00	1500	221	27.75	27.75	26.60



**MOLDED STYLE M**  
Encapsulated in Epoxy Resin. Silver plated turret lugs.



**HERMETIC STYLE H**  
Hermetically sealed in metal case. Teflon terminals assure permanent seal at temperature extremes.

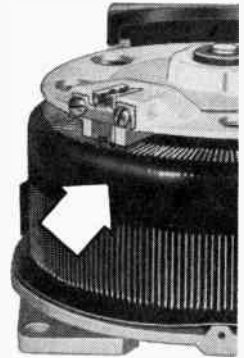


# POWERSTAT® Variable Transformers now

New epoxy-coated POWERKOTE Coils make the POWERSTAT line the most outstanding value in variable transformers today. *Without increase in price, size or weight*, only POWERSTAT Variable Transformers give an average of 20% higher current ratings, 10:1 greater overload capability, longer life, greater resistance to fungus, salt spray and other contaminating atmospheres. POWERKOTE Coil commutator bars are embedded in place preventing steady-state operating temperature and severe overloads from distorting the commutator.

POWERSTAT Variable Transformers are designed to deliver continuously adjustable voltage from a-c power lines. They introduce no waveform distortion and feature rugged construction, precious metal plated commutators, excellent regulation, high efficiency and conservative ratings. All manually operated types listed in the charts except the 10B-12, EN116B-EN216B and EN117B-EN217B Series are available with motor drives if desired. Motor-driven speeds are 5, 15, 30 or 60 seconds for full range travel on all except types having -4, -5, or -6 suffixes which do not offer the 5-second speed. Single types in the 116B-216B, 117B-217B, 126-226 and 136B-236B Series are also offered with 2- or 3-wire cord-pull sets. 1156D-1256D Series types are available in ratings to 244 kva.

**HIGHER RATINGS**  
**HIGHER OVERLOAD CAPABILITIES**  
**LONGER LIFE**



**RATINGS AND SPECIFICATIONS**

INPUT		OUTPUT				TYPE	Ship. Wt. Lbs.
Volts	Cycles	Volts	Const. Current Load Max. Amp.	Max. KVA	Const. Impedance Load Max. Amp.		
<b>10B-12 SERIES</b>							
Single Phase							
120	60	0-132	1	0.13	—	—	2PF10
120	50/60	0-120	2.25*	0.27	3†	0.36	10B
120	60	0-132	2.25*	0.30	—	—	—
240	50/60	0-240	0.7*	0.17	0.9†	0.22	12
240	50/60	0-264	0.5**	0.13	—	—	—
240	50/60	0-240	2.25*	0.54	3†	0.72	10B-2
240	60	0-264	2.25*	0.59	—	—	—
480	50/60	0-480	0.7*	0.34	0.9†	0.43	12-2
480	50/60	0-528	0.5**	0.26	—	—	—
Three Phase							
120	50/60	0-120	2.25*	0.47	3†	0.62	10B-2
120	60	0-132	2.25*	0.51	—	—	—
240	50/60	0-240	0.7*	0.29	0.9†	0.37	12-2
240	50/60	0-264	0.5**	0.23	—	—	—
240	60	0-240	2.25*	0.94	3†	1.2	10B-3
480	50/60	0-480	0.7*	0.58	0.9†	0.75	12-3
480	60	0-528	0.5**	0.46	—	—	—
<b>21-22 SERIES</b>							
Single Phase							
120	50/60	0-120	4.5	0.54	6.5	0.78	21
120	50/60	0-140	4.5	0.63	—	—	—
240	50/60	0-240	2.25	0.54	3.25	0.78	22
240	50/60	0-280	2.25	0.63	—	—	—
240	50/60	0-240	4.5	1.1	6.5	1.6	21-2
240	50/60	0-280	4.5	1.3	—	—	—
480	50/60	0-480	2.25	1.1	3.25	1.6	22-2
480	50/60	0-560	2.25	1.3	—	—	—
Three Phase							
120	50/60	0-120	4.5	0.94	6.5	1.4	21-2
120	50/60	0-140	4.5	1.1	—	—	—
240	50/60	0-240	2.25	0.94	3.25	1.4	22-2
240	50/60	0-280	2.25	1.1	—	—	—
240	50/60	0-240	4.5	1.9	6.5	2.7	21-3
240	60	0-280	4.5	2.2	—	—	—
480	50/60	0-480	2.25	1.9	3.25	2.7	22-3
480	60	0-560	2.25	2.2	—	—	—

INPUT		OUTPUT				TYPE	Ship. Wt. Lbs.
Volts	Cycles	Volts	Const. Current Load Max. Amp.	Max. KVA	Const. Impedance Load Max. Amp.		
<b>116B-216B and 117B-217B SERIES†</b>							
Single Phase							
120	50/60	0-120	10	1.7	13	1.6	116B
120	50/60	0-140	10	1.4	—	—	—
120	60	0-120	12	1.4	15	1.8	117B†
240	50/60	0-240	3.5	0.84	5	1.2	216B
240	50/60	0-280	3.5	0.98	—	—	—
240	60	0-240	5	1.2	7	1.7	217B†
240	50/60	0-240	10	2.4	13	3.1	116B†-2
240	50/60	0-280	10	2.8	—	—	—
240	60	0-240	12	2.9	15	3.6	117B†-2
480	50/60	0-480	3.5	1.7	5	2.4	216B†-2
480	50/60	0-560	3.5	2.0	—	—	—
480	60	0-480	5	2.4	7	3.4	217B†-2
Three Phase							
120	50/60	0-120	10	2.1	13	2.7	116B†-2
120	50/60	0-140	10	2.4	—	—	—
120	60	0-120	12	2.5	15	3.1	117B†-2
240	50/60	0-240	3.5	1.5	5	2.1	216B†-2
240	50/60	0-280	3.5	1.7	—	—	—
240	60	0-240	5	2.1	7	2.9	217B†-2
240	50/60	0-240	10	4.2	13	5.4	116B†-3
240	60	0-280	10	4.8	—	—	—
240	60	0-240	12	5.0	15	6.2	117B†-3
480	50/60	0-480	3.5	2.9	5	4.2	216B†-3
480	60	0-560	3.5	3.4	—	—	—
480	60	0-480	5	4.2	7	5.8	217B†-3
<b>EN116B-EN216B and EN117B-EN217B SERIES</b>							
Single Phase							
120	50/60	0-120	8	0.96	13	1.6	EN116B
120	50/60	0-140	8	1.1	—	—	—
120	60	0-120	10	1.2	14.5	1.7	EN117B
240	50/60	0-240	3	0.72	4.5	1.1	EN216B
240	50/60	0-280	3	0.84	—	—	—
240	60	0-240	4.4	1.1	5.8	1.4	EN217B
240	50/60	0-240	8	1.9	13	3.1	EN116B-2
240	50/60	0-280	8	2.2	—	—	—
240	60	0-240	10	2.4	14.5	3.5	EN117B-2
480	50/60	0-480	3	1.4	4.5	2.2	EN216B-2
480	50/60	0-560	3	1.7	—	—	—
480	60	0-480	4.4	2.1	5.8	2.8	EN217B-2
Three Phase							
120	50/60	0-120	8	1.7	13	2.7	EN116B-2
120	50/60	0-140	8	1.9	—	—	—
120	60	0-120	10	2.1	14.5	3.0	EN117B-2
240	50/60	0-240	3	1.2	4.5	1.9	EN216B-2
240	50/60	0-280	3	1.5	—	—	—
240	60	0-240	4.4	1.8	5.8	2.4	EN217B-2
240	50/60	0-240	8	3.3	13	5.4	EN116B-3
240	60	0-280	8	3.9	—	—	—
240	60	0-240	10	4.2	14.5	6.0	EN117B-3
480	50/60	0-480	3	2.5	4.5	3.7	EN216B-3
480	60	0-560	3	2.9	—	—	—
480	60	0-480	4.4	3.7	5.8	4.8	EN217B-3

†Also available with open construction. Suffix U when ordering.



THE

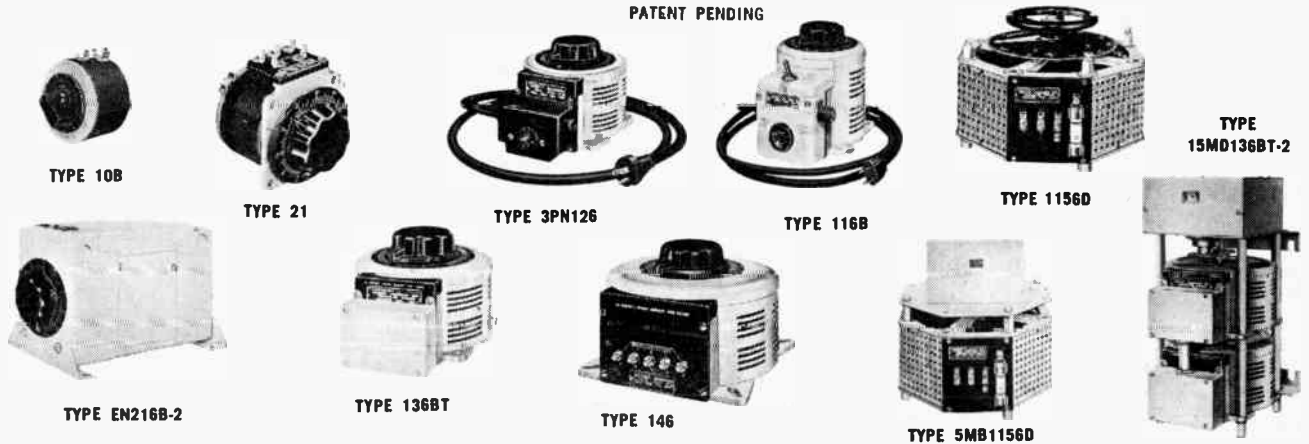
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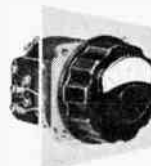
# with **POWERKOTE™ COILS**

PATENT PENDING



INPUT		OUTPUT				TYPE	Ship. Wt. Lbs.
Volts	Cycles	Volts	Const. Current Load Max. Amp.	Const. Impedance Load Max. KVA	Max. Amp.		
<b>126-226 SERIES†</b>							
Single Phase							
120	50/60	0-120	15	1.8	20	2.4	126
120	50/60	0-140	15	2.1	—	—	17
240	50/60	0-240	7.5	1.8	10	2.4	226
240	50/60	0-280	7.5	2.1	—	—	32
240	50/60	0-240	15	3.6	20	4.8	126-2
240	50/60	0-280	15	4.2	—	—	32
480	50/60	0-480	7.5	3.6	10	4.8	226-2
480	50/60	0-560	7.5	4.2	—	—	32
Three Phase							
120	50/60	0-120	15	3.1	20	4.2	126-2
120	50/60	0-140	15	3.6	—	—	32
240	50/60	0-240	7.5	3.1	10	4.2	226-2
240	50/60	0-280	7.5	3.6	—	—	32
240	50/60	0-240	15	6.2	20	8.3	126-3
240	60	0-280	15	7.3	—	—	49
480	50/60	0-480	7.5	6.2	10	8.3	226-3
480	60	0-560	7.5	7.3	—	—	49
<b>136B-236B SERIES†</b>							
Single Phase							
120	50/60	0-120	22	2.6	28	3.4	136B
120	50/60	0-140	22	3.1	—	—	25
120	50/60	0-120	44	5.3	56	6.7	136B-2*
120	50/60	0-140	44	6.2	—	—	52
240	50/60	0-240	10	2.4	13	3.1	236B
240	50/60	0-280	10	2.8	—	—	25
240	50/60	0-240	22	5.3	28	6.7	136B-2
240	50/60	0-280	22	6.2	—	—	52
480	50/60	0-480	20	4.8	26	6.2	236B-2
480	50/60	0-560	20	5.6	—	—	52
Three Phase							
120	50/60	0-120	77	4.6	78	5.8	136B-2
120	50/60	0-140	22	5.3	—	—	52
240	50/60	0-240	10	4.2	13	5.4	236B-2
240	50/60	0-280	10	4.8	—	—	52
240	50/60	0-240	22	9.1	28	11.6	136B-3
240	60	0-280	22	10.7	—	—	76
480	50/60	0-480	10	8.3	13	10.8	236B-3
480	60	0-560	10	9.7	—	—	76
<b>146-246 SERIES†</b>							
Single Phase							
120	50/60	0-120	30	3.6	35	4.2	146
120	50/60	0-140	30	4.2	—	—	8.3
120	50/60	0-120	60	7.2	70	8.4	146-2**
120	50/60	0-140	60	8.4	—	—	38
240	50/60	0-240	15	3.6	19	4.6	246
240	50/60	0-280	15	4.2	—	—	8.3
240	50/60	0-240	30	7.2	35	8.4	146-2
240	50/60	0-280	30	8.4	—	—	8.3
480	50/60	0-480	15	7.2	19	9.1	246-2
480	50/60	0-560	15	8.4	—	—	8.3

INPUT		OUTPUT				TYPE	Ship. Wt. Lbs.
Volts	Cycles	Volts	Const. Current Load Max. Amps.	Const. Impedance Load Max. KVA	Max. Amps.		
<b>146-246 SERIES† (cont'd.)</b>							
Three Phase							
120	50/60	0-120	30	6.2	35	7.3	146-2
120	50/60	0-140	30	7.3	—	—	8.3
240	50/60	0-240	15	6.2	19	7.9	246-2
240	50/60	0-280	15	7.3	—	—	8.3
240	50/60	0-240	30	12.5	35	14.5	146-3
240	60	0-280	30	14.5	—	—	12.5
480	50/60	0-480	15	12.5	19	15.8	246-3
480	60	0-560	15	14.5	—	—	12.5
<b>1156D-1256D SERIES†</b>							
Single Phase							
120	50/60	0-120	50	6.0	55	6.6	1156D
120	50/60	0-140	50	7.0	—	—	82
120	50/60	0-120	100	12.0	110	13.2	1156D-2P
120	50/60	0-140	100	14.0	—	—	169
120	50/60	0-120	150	18.0	165	19.8	1156D-3P
120	50/60	0-140	150	21.0	—	—	272
240	50/60	0-240	28	6.7	28	6.7	1256D
240	50/60	0-280	28	7.8	—	—	82
240	50/60	0-240	50	12.0	55	13.2	1156D-2S
240	50/60	0-280	50	14.0	—	—	156
240	50/60	0-240	56	13.4	56	13.4	1256D-2P
240	50/60	0-280	56	15.7	—	—	169
240	50/60	0-240	84	20.2	84	20.2	1256D-3P
240	50/60	0-280	84	23.5	—	—	272
240	50/60	0-240	100	24.0	110	26.4	1156D-4PS
240	50/60	0-280	100	28.0	—	—	361
480	50/60	0-480	28	13.4	28	13.4	1256D-2S
480	50/60	0-560	28	15.7	—	—	156
480	50/60	0-480	56	26.9	56	26.9	1256D-4PS
480	50/60	0-560	56	31.4	—	—	361
Three Phase							
120	50/60	0-120	50	10.4	55	11.4	1156D-2D
120	50/60	0-140	50	12.1	—	—	155
240	50/60	0-240	28	11.6	28	11.6	1256D-2D
240	50/60	0-280	28	13.6	—	—	155
240	50/60	0-240	50	20.8	55	22.9	1156D-3Y
240	60	0-280	50	24.2	—	—	230
240	50/60	0-240	100	41.6	110	45.7	1156D-6Y
240	50/60	0-280	100	48.5	—	—	507
480	50/60	0-480	28	23.3	28	23.3	1256D-3Y
480	60	0-560	28	27.2	—	—	235
480	50/60	0-480	56	46.6	56	46.6	1256D-6Y
480	60	0-560	56	54.3	—	—	507



**STATIONARY  
METERED KNOB  
TYPES**

Single units (those listed in charts without -2 or -3 suffixes) in the 116B-216B, 117B-217B, 126-226, 136B-236B and 146-246 series are also available with metered knobs. Stationary voltmeter does not turn with knob. Voltmeter accurate within  $\pm 2.5\%$  of full scale and insensitive to stray magnetic fields. When ordering, add VS prefix to type number. *Back-of-panel* mounted types in the 21-22 through 146-246 series can be combined with Metered Knob Assemblies. Existing models can be retrofitted also. Assembly type VS150 has a 0-150 volt scale and type VS300 has 0-300.

†Also available with open construction. Suffix U when ordering.  
\*Requires also one paralleling choke type T5000.  
\*\*Requires also one paralleling choke type T6053.

**IN SECTIONS 2100, 3500 AND 4000**

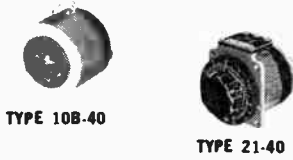
# POWERSTAT® Variable Transformers

NOW WITH POWERKOTE\* COILS

\*PATENT PENDING

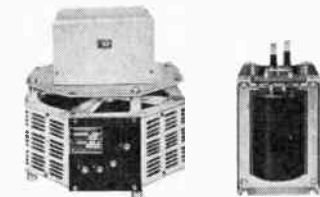
## 40-VOLT SERIES

Meet high current, low voltage requirements of low voltage power supplies and a wide range of transistor circuit applications. Manually-operated and motor-driven single, 2- and 3-gang single phase types available.



## LINE CORRECTORS

Used to correct line voltage variations to maintain a constant output voltage or to supply a limited range of output voltage from a stable a-c source. Manually operated and motor-driven types available.



## OIL-COOLED AND EXPLOSION-PROOF

Oil-cooled units substantially increase ratings above equivalent air-cooled types and provide a measure of safety. Explosion-proof models are Underwriters' Laboratories listed for Class 1, Group D service. Both are manually operated only.



## LW136B SERIES

Have three windings. Connections can be made for operation as a source of adjustable low output voltage, a line voltage corrector or a limited range variable transformer. Manually operated and motor-driven, open and enclosed construction types available. Full connections and ratings on request.



INPUT		OUTPUT				TYPE	Ship. Wt. Lbs.
Volts	Hertz	Volts	Const. Current Load Max. Amps.	Max. KVA	Const. Impedance Load Max. Amps.		
40-VOLT SERIES							
Single Phase							
40	60	0 40	7	0 28	9	0 36	10B 40
			18	0 72	22	0 88	21 40
			25	1 0	30	1 2	116BU 40

INPUT		OUTPUT			TYPE	Ship. Wt. Lbs.
Volts	Hertz	Volts	Max. Amps.	Max. KVA		
LINE CORRECTOR SERIES						
Used as Line Correctors — SINGLE PHASE						
95 135	50/60	115	52	6 0	LC21060	80
95 135	50/60	115	130	15 0	LC2115E	200
195 255	50/60	230	32 5	7 5	LC22070	85
205 250	50/60	230	120	27 5	LC2278E	205
400 520	50/60	460	40	18 4	LC2418E	205
Used as Line Correctors — THREE PHASE						
195 255	50/60	230	50	20 0	LC3220V0	241
195 255	50/60	230	113	45 0	LC3245YE	615
195 255	50/60	230	175	70 0	LC3270DE	795
400 520	50/60	460	33	26 3	LC34750E	230
400 520	50/60	460	100	79 7	LC3475YE	630
420 500	50/60	460	131	104	LC34100YE	630

When units of the LC series are used as limited range adjustable transformers, the input voltage is the output voltage shown in the above chart and the output voltage is the input voltage shown in the above chart.

INPUT		OUTPUT			TYPE††	Ship. Wt. Lbs.
Volts	Hertz	Volts	Max. Amps.	Max. KVA		
OIL-COOLED						
120	50/60	0 120	15	1 8	0-116B	32
120	50/60	0 140	15	2 1		
120	50/60	0 140	30	4 2	0-1126	100
240	50/60	0 240	6	1 4	0-216B	32
240	50/60	0 280	6	1 7		
240	50/60	0 280	18	5 0	0 1226	105

††Other Types available on special order

INPUT		OUTPUT			TYPE	Ship. Wt. Lbs.
Volts	Hertz	Volts	Max. Amps.	Max. KVA		
EXPLOSION-PROOF						
120	50/60	0 120	7 5	0 90	X-116	47
120	50/60	0 140	7 5	1 0		
120	50/60	0 140	12	1 7	X-1126	142
240	50/60	0 240	3	0 72	X-216	47
240	50/60	0 280	3	0 84		
240	50/60	0 280	6	1 7	X-1226	142

INPUT		OUTPUT††			TYPE	Ship. Wt. Lbs.
Volts	Hertz	Volts	Max. Amps.	Max. KVA		
LW136B SERIES						
Single Phase						
120/240	50/60	15 0 15	35	0 52	LW136B	25
120/240/480	50/60	30 0 30	35	1 0	LW136B 2	52
120/240	50/60	45 0 45	35	1 6	LW136B-3	76
120/240	50/60	0 30	25	0 75	LW136B-3	25
120/240/480	50/60	0 60	25	1 5	LW136B 2	52
120/240	50/60	0 90	25	2 2	LW136B-3	76
Three Phase						
120/240	50/60	0 30	25	1 3	LW136B 2	52
120/240	50/60	0 30	43 3	2 2	LW136B 3	76
120/240	50/60	0 52	25	2 2	LW136B-3	76
240/480	60	0 35	43 3	2 6	LW136B-3	76
240/480	60	0 60	25	2 6	LW136B 3	76

††LW136B Series ratings are for use as low voltage isolated output transformer

## HIGH FREQUENCY POWERSTAT® VARIABLE TRANSFORMERS



Standard manually-operated types designed to meet applicable military specifications are available for 28, 120, 240 and 480 volt, 400/800 hertz single and three phase operation in ratings from 56 va to 7.3 kva; for 115 volt, 400/800 hertz single phase service with outputs of 0-28 volts, 2.5 or 8 amperes and 0-5 volts, 6 or 12 amperes; for 400/1600 hertz service as limited range variable transformers, low voltage output variable transformers or line correctors.

SEE OTHER SUPERIOR ELECTRIC PRODUCT PAGES



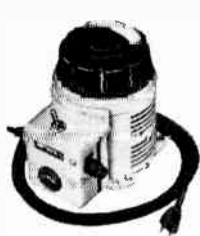
THE

SUPERIOR ELECTRIC

COMPANY

## STATIONARY METERED KNOB POWERSTAT® Variable Transformers

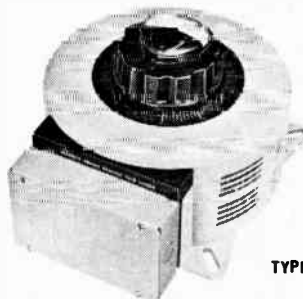
- FOR BACK-OF-PANEL OR GENERAL UTILITY MOUNTING
- ACCURATE VOLTMETER REMAINS STATIONARY INSIDE KNOB RIM. . . DOES NOT TURN WITH THE KNOB
- AVAILABLE IN TYPES TO 4 KVA
- MAXIMUM APPLICATION FLEXIBILITY
- SAVES PANEL SPACE, WIRING AND INSTALLATION COSTS



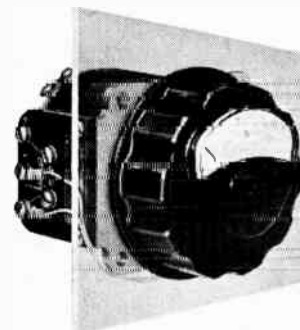
TYPE VS116B



TYPE VS3PN126



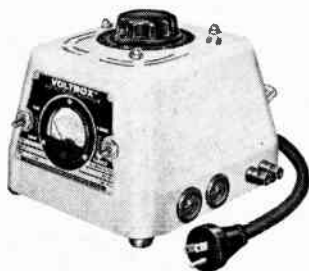
TYPE VS146T



**GENERAL UTILITY MOUNTING** – Single units (those listed in charts without -2 or -3 suffixes) in the 116B-216B, 117B-217B, 126-226, 136B-236B and 146-246 series are also available with knobs incorporating direct-reading voltmeters. Voltmeters remain stationary as the knob rim is turned, have an accuracy of  $\pm 3\%$  of full scale and are insensitive to stray magnetic fields. When ordering, add VS prefix to the type number given in the charts.

**BACK-OF-PANEL MOUNTING** – Standard cataloged POWERSTAT Variable Transformers in the 21-22 through the 146-246 series designed or adaptable for back-of-panel mounting can be combined with Metered Knob Assemblies. Models for 120 volt service require Metered Knob Assembly VS150 having a 0-150 volt scale and units for 240 volt use require Metered Knob Assembly VS300 having a 0-300 volt scale. Existing models can be retrofitted also.

### VOLTBOX® A-C Power Supply



TYPE UC1MB

Compact, versatile instrument containing all the necessary components for many tests involving a-c voltage: POWERSTAT Variable Transformer, direct reading voltmeter, three output receptacles, two 5-WAY® Binding Posts, "on-off" switch, line-load meter switch, renewable fuse and six foot cord-plug. All are enclosed in a cast aluminum case equipped with a carrying handle. Type UC1MB ratings are 120 volt, single phase 50/60 hertz input and 0-140 volt 10 ampere, 1.4 kva output. Other types are available on special order. Ideal for chemical, physical, electrical and other laboratories, the factory inspection department and plant.

### FLEXIFORMER® Packaged Transformer Primaries



TYPE TP150

When used as a source of a-c voltage, the center opening permits hand-threading the correct number of secondary winding turns to obtain the desired output voltage. When used as a current transformer, the unit winding is shuted by an ammeter which indicates the current flow in a conductor hand-threaded through the center opening. For 50/60 hertz duty.

### OHMSTAT® Slidewire Resistors



TYPE SWR5C

Feature unbreakable, high-temperature coated, split aluminum tube with stainless steel spring expansion compensator. Operates at peak rating with no slackening of wire turns. Excellent heat conducting properties of aluminum prevent "hot spots." Slider bar is chrome-plated brass; double sliding contact provides reliable connection with resistance wire. Negligible inductance through 400 cycles. Screened for user protection. Baseplate shields mounting surface.

TYPE	RATED AMPERES	NOMINAL RESISTANCE OHMS	WATTS	MAXIMUM INPUT VOLTS
SWR05C	0.5	1000	250	500
SWR1C	1	500	500	500
SWR2C	2	125	500	250
SWR3C	3	55	500	165
SWR5C	5	20	500	100
SWR10C	10	5	500	50
SWR20C	20	1.25	500	25

#### RATINGS AS A

#### SOURCE OF A-C VOLTAGE

TYPE	NORMAL PRIMARY VOLTS	Hertz	MAXIMUM VA	VOLTS PER SECONDARY TURN	REGULATION AT MAXIMUM OUTPUT
TP150	120	50/60	150	0.3	25%
TP1000	120	50/60	1000	0.75	10%
TP152	240	50/60	150	0.3	25%
TP1020	240	50/60	1000	0.75	10%

#### RATINGS AS A CURRENT TRANSFORMER

TYPE	INPUT/OUTPUT RATIO	MAXIMUM PRIMARY AMPERES	MAXIMUM SECONDARY AMPERES	ACCURACY AT 60 Hertz
TP150	400/1	400	1.0	1%
TP1000	160/1	800	5.0	1%
TP152	800/1	400	0.5	1%
TP1020	320/1	800	2.5	1%

IN SECTIONS 2100, 3500 AND 4000

# HIGH CURRENT TRANSFORMERS & CHOKES

## ELECTRICAL SPECIFICATIONS

**SHIP**

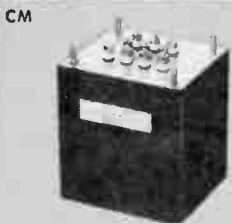
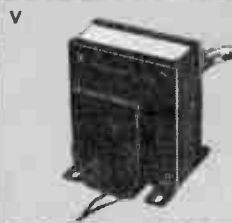
SECONDARY VOLTS	PART NO.	PRIMARY VOLTS 50-500 CY	SECONDARY AMPS (RMS) FOR OPTIONAL WIRING		
			SERIES	PARALLEL	
<b>10 VOLTS</b> Series 2.5-5-7.5-10 Parallel 2.5-5	10 02	115	2	4	
	10 05	115	5	10	
	10 10	115	10	20	
	10 20	115	20	40	
				A M P S	A M P S
<b>12.6 VOLTS</b> Series 3.1-6.3-9.4-12.6 Parallel 3.1-6.3	12 02	115	2	4	
	12 05	115	5	10	
	12 10	115	10	20	
	12 20	115	20	40	
				A M P S	A M P S
<b>24 VOLTS</b> Series 6-12-18-24 Parallel 6-12	24 01	115	1	2	
	24 02	115	2	4	
	24 04	115	4	8	
	24 06	115	6	12	
	24 08	115	8	16	
	24 12	105, 115, 125	12	24	
	24 25	105, 115, 125	25	50	
	24 50	105, 115, 125	50	100	
	24 100	115, 230	100	200	
				A M P S	A M P S
<b>36 VOLTS</b> Series 9-18-27-36 Parallel 9-18	36 01	115	1	2	
	36 02	115	2	4	
	36 04	115	4	8	
	36 06	115	6	12	
	36 08	105, 115, 125	8	16	
	36 12	105, 115, 125	12	24	
	36 25	105, 115, 125	25	50	
	36 50	115, 230	50	100	
	36 100	115, 230	100	200	
				A M P S	A M P S
<b>56 VOLTS</b> Series 14-28-42-56 Parallel 14-28	56 01	115	1	2	
	56 02	115	2	4	
	56 04	115	4	8	
	56 06	115	6	12	
	56 08	105, 115, 125	8	16	
	56 12	105, 115, 125	12	24	
	56 25	105, 115, 125	25	50	
	56 50	115, 230	50	100	
	56 100	115, 230	100	200	
				A M P S	A M P S
<b>64 VOLTS</b> Series 16-32-48-64 Parallel 16-32	64 00	115	0.5	1	
	64 01	115	1	2	
	64 02	115	2	4	
	64 04	115	4	8	
	64 06	115	6	12	
	64 08	105, 115, 125	8	16	
	64 12	105, 115, 125	12	24	
	64 25	105, 115, 125	25	50	
	64 50	115, 230	50	100	
				A M P S	A M P S
<b>80 VOLTS</b> Series 20-40-60-80 Parallel 20-40	80 00	115	0.5	1	
	80 01	115	1	2	
	80 02	115	2	4	
	80 05	115	5	10	
	80 10	105, 115, 125	10	20	
	80 25	115, 230	25	50	
	80 50	115, 230	50	100	
				A M P S	A M P S
	<b>88 VOLTS</b> Series 22-44-66-88 Parallel 22-44	88 00	115	0.5	1
		88 01	115	1	2
88 02		115	2	4	
88 05		115	5	10	
88 10		105, 115, 125	10	20	
88 25		115, 230	25	50	
			A M P S	A M P S	
<b>120 VOLTS</b> Series 30-60-90-120 Parallel 30-60	120 00	115	0.5	1	
	120 01	115	1	2	
	120 02	115	2	4	
	120 05	105, 115, 125	5	10	
	120 10	105, 115, 125	10	20	
	120 20	105, 115, 125	20	40	
				A M P S	A M P S
<b>180 VOLTS</b> Series 45-90-135-180 Parallel 45-90	180 00	115	0.5	1	
	180 01	115	1	2	
	180 02	115	2	4	
	180 05	115	5	10	
	180 10	105, 115, 125	10	20	
				A M P S	A M P S
<b>230 VOLTS</b> Series 59.5-115-172.5-230 Parallel 57.5-115	230 00	115	0.5	1	
	230 01	115	1	2	
	230 02	115	2	4	
	230 05	105, 115, 125	5	10	
				A M P S	A M P S
<b>300 VOLTS</b> Series 75-150-225-300 Parallel 75-150	300 00	115	0.5	1	
	300 01	115	1	2	
	300 02	115	2	4	
	300 05	105, 115, 125	5	10	
				A M P S	A M P S



**SAME**



**DAY**



**DC TO RMS CONVERSION CHART**

SECONDARY RMS CURRENT = DC CURRENT X FACTOR BELOW

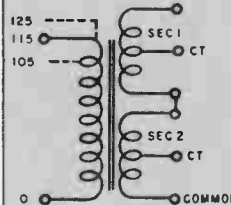
	Choke Input Filter or Inductive Load	Resistive Load	Capacitor Input Filter or Capacitive Load
FULL WAVE BRIDGE	1.0	1.0	1.8
FULL WAVE C.T.	.7	1.0	1.15

TODD ELECTRIC high current transformers and chokes are most widely used for high power rectifier and high current A.C. applications. They are built to the highest standards of workmanship. All types are designed for a nominal temperature rise of 45°C at full load and will easily withstand unusual overloads. The regulation is extremely low, varying from 10% on the smallest unit to 1% on the largest.

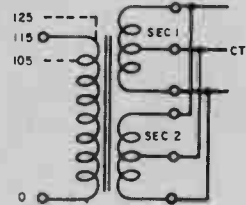
Four constructional types are available for maximum flexibility for use in either the laboratory, test rigs, OEM equipment, or production.

All Prices and Data Subject to Change Without Notice.

CERTIFIED DATA AVAILABLE — CUSTOM VARIATIONS QUOTED PROMPTLY



SERIES HOOKUP



PARALLEL HOOKUP



• ENGINEERING • RELIABILITY • SERVICE

# TODD ELECTRIC CO., INC.

# MECHANICAL SPECIFICATIONS FOR HIGH CURRENT TRANSFORMERS & CHOKES

SPECIFY STYLE DESIRED WHEN ORDERING

All units have name plates and wiring diagrams for installation ease, future reference and permanent identification.

45°  
TEMPERATURE RISE  
MINIMUM  
REGULATION

• BRACKET MTD (STYLE B) • ENCAPSULATED (STYLE BE)				STYLE B		STYLE BE		• FULLY MTD SHELLS STYLE V				STYLE V		• HERMETIC SEALED MIL-T (STYLE CM)				STYLE CM					
L	W	H	ML	MW	WGT	Price	Price	L	W	H	ML	MW	WGT	Price	L	W	H	ML	MW	WGT	Price	Part No.	
3	2½	2½	2½	1½	1.5	\$ 6.05	\$11.98	2½	2½	3½	2	1½	2.0	\$ 5.87	3	3½	3½	2½	2½	2½	3.1	\$20.57	10 02
3	2½	2½	2½	2½	2.5	7.15	13.45	2½	2½	3½	2	1½	3.0	6.90	3	3½	3½	2½	2½	2½	4.2	23.85	10 05
3¾	3¾	3¾	3¾	2½	5.0	9.75	17.38	3½	3¾	3¾	2½	2½	5.5	9.36	3¾	4½	4½	2½	3¾	3¾	6.0	33.15	10 10
4½	5½	3¾	3¾	3½	11.2	18.10	34.75	3½	4½	4½	3	3½	11.5	17.40	4½	5	5½	3¾	4¾	4¾	13.0	62.75	10 20
3	2½	2½	2½	1¾	1.8	6.40	12.10	2½	2½	3½	2	1½	1.8	6.21	3	3½	3½	2½	2½	2½	3.1	21.76	12 02
3	3	2½	2½	2½	3.4	7.65	13.70	2½	3½	3½	2	2½	4.2	7.50	3	3½	3½	2½	2½	2½	3.8	25.85	12 05
3¾	3¾	3¾	3¾	2½	6.0	10.30	18.05	3½	3¾	3¾	2½	2½	6.5	9.85	3¾	4½	4½	2½	3¾	3¾	6.0	33.80	12 10
5¼	4½	4½	4½	2½	10.0	19.75	27.95	4½	4½	5½	3½	3	11.0	18.80	4½	5¾	6¼	3½	4¾	4¾	15.6	68.50	12 20
3	2½	2½	2½	2	2.6	6.52	12.10	2½	2½	3½	2	1½	2.6	6.32	3	3½	3½	2½	2½	2½	3.1	22.17	24 01
3	2¾	2½	2½	2	2.8	7.30	13.03	2½	2½	3½	2	1½	2.8	7.08	3	3½	3½	2½	2½	2½	4.0	24.82	24 02
3¾	3¾	3¾	3¾	2¼	5.0	9.15	17.38	3½	3¾	3¾	2½	2½	5.0	8.88	3¾	4½	4½	2½	3¾	3¾	5.5	31.11	24 04
4½	3¾	3¾	3¾	2¾	6.5	11.09	18.88	3½	3¾	4½	2¾	2¾	6.5	10.65	3¾	4½	4½	2½	3¾	3¾	6.6	37.71	24 06
4½	4¼	3¾	3¾	3	8.7	15.48	25.94	3½	3¾	4½	2¾	3¾	8.7	14.86	3¾	4½	4½	2½	3¾	3¾	8.8	52.63	24 08
4½	4½	3¾	3¾	3½	11.0	17.75	28.94	3½	3¾	4½	3	3½	11.0	17.04	4½	5	5½	3¾	4¾	4¾	14.7	60.35	24 12
5¼	5¾	4¾	4¾	3½	22.0	30.80	51.88	4½	4½	5½	3½	4½	22.0	33.12	4½	5¾	6¼	3½	4¾	4¾	21.0	104.72	24 25
+6¾	6¾	5¾	5¾	5¼	30.0	47.75	79.25	5¾	7¼	6¼	4½	5¼	31.0	42.50	6¾	5¾	7½	4½	5¾	5¾	37.0	162.35	24 50
+7½	8	6¾	6¾	5¾	38.4	58.00	113.80	5¾	8	6¾	4½	5¼	31.0	42.50	6¾	8	8¾	5½	6¾	6¾	60.0	219.10	24 100
3	2½	2½	2½	2	2.7	6.60	12.69	2½	2½	3½	2	1½	2.7	6.40	3	3½	3½	2½	2½	2½	3.4	22.44	36 01
3¾	3	2½	2½	2¼	3.6	7.61	14.10	2½	2½	3½	2¼	2¼	3.6	7.38	3¾	3¾	3¾	2½	2½	3	4.8	25.87	36 02
4½	4½	3¾	3¾	2¾	6.9	11.40	19.06	3½	3¾	4½	2¾	2¾	6.9	11.06	3¾	4½	4½	2½	3	3¾	7.8	38.76	36 04
4½	4½	3¾	3¾	3¾	9.0	15.60	26.44	3½	3¾	4½	3	3¾	9.0	14.98	4½	5	5½	3¾	4¾	4¾	10.7	53.04	36 06
4½	5	3¾	3¾	3½	12.0	16.40	27.25	3½	4½	4½	3	3¾	12.0	15.74	4½	5	5½	3¾	4¾	4¾	13.1	55.76	36 08
5¼	5¼	4¾	4¾	3¾	17.2	27.75	39.83	4½	5½	5½	3½	4½	17.2	26.64	4½	5¾	6¼	3½	4¾	4¾	16.9	94.35	36 12
+6¾	6¾	5¾	5¾	4¼	32.2	41.50	68.81	5½	5½	6¼	4½	4¼	33.0	35.85	5½	6¾	7½	4½	5¾	5¾	29.5	141.10	36 25
+7¼	8	6½	6½	6¼	51.0	68.50	110.50	5½	8	6½	4½	4¼	33.0	35.85	6½	6¾	8¼	4½	5¾	5¾	43.7	232.90	36 50
+7½	9¾	6¾	6¾	7¾	70.0	109.00	168.88	5½	9¾	6¾	4½	4¼	33.0	35.85	6¾	8	10¾	5½	6¾	6¾	58.0	370.60	36 100
3¾	3	2½	2½	2½	3.6	8.06	13.56	2½	2½	3½	2	1½	3.8	7.82	3¾	3¾	3¾	2½	2½	3	3.9	27.40	56 01
3¾	3¾	3¾	3¾	2½	5.6	8.98	17.48	3¾	3¾	4½	2½	2½	5.6	8.71	3¾	4¼	4¼	2½	2½	3¾	6.3	30.53	56 02
4½	4½	3¾	3¾	3	8.4	15.45	26.56	3½	3¾	4½	2¾	2¾	8.4	14.99	3¾	4½	4½	2½	3	3¾	10.1	52.53	56 04
5¼	4¾	4¾	4¾	3½	10.7	20.98	31.13	4½	4½	5½	3½	3½	10.0	20.35	4½	5¾	6¼	3½	4¾	4¾	15.6	71.33	56 06
5¼	5¼	4¾	4¾	3¾	17.3	26.10	42.06	4½	5½	5½	3½	4½	17.3	25.32	4½	5¾	6¼	3½	4¾	4¾	18.6	88.74	56 08
+6¾	6¾	5¾	5¾	3¾	24.5	36.85	61.31	5½	4¾	6¼	4¼	3¾	26.0	31.15	5½	6¾	7½	4½	5¾	5¾	26.3	125.29	56 12
+6¾	6¾	5¾	5¾	5¼	39.7	57.10	92.38	5½	6¼	6¼	4¼	5½	41.0	48.20	5½	6¾	7½	4½	5¾	5¾	43.0	194.14	56 25
+7½	7¾	6¾	6¾	5¾	54.0	104.50	144.88	5½	7¾	6¾	4¼	5½	41.0	48.20	6¾	8	8¾	5½	6¾	6¾	65.0	355.30	56 50
+9	10¼	9	9	7¾	100.0	152.65	228.13	5½	10¼	9	4¼	5½	41.0	48.20	6¾	8	8¾	5½	6¾	6¾	65.0	355.30	56 100
3	2½	2½	2½	2	2.3	6.55	12.50	2½	2½	3½	2	1½	2.3	6.35	3	3½	3½	2½	2½	2½	3.2	22.35	64 00
3	3	2½	2½	2½	3.4	7.55	13.75	2½	2½	3½	2½	2½	3.4	7.48	3	3½	3½	2½	2½	2½	3.0	26.50	64 01
3¾	3¾	3¾	3¾	2½	6.0	10.20	18.10	3½	3¾	4½	2¾	2¾	6.5	9.85	3¾	4½	4½	2½	3	3¾	6.0	34.75	64 02
4½	4½	3¾	3¾	3¾	10.0	20.10	28.05	3½	3¾	4½	3	3¾	11.0	19.30	4½	5	5½	3¾	4¾	4¾	12.6	69.15	64 04
5¼	4¼	4¾	4¾	3¾	14.0	23.45	38.75	4½	4½	5½	3½	3½	15.0	23.15	4½	5¾	6¼	3½	4¾	4¾	16.4	81.79	64 06
5¼	5¼	4¾	4¾	3¾	17.2	25.85	45.70	4½	5½	5½	3½	4½	17.2	25.10	4½	5¾	6¼	3½	4¾	4¾	19.1	87.50	64 08
+6¾	6¾	5¾	5¾	3¾	28.0	38.10	66.25	5½	5¾	6¼	4¼	5¾	34.0	34.10	5½	6¾	7½	4½	5¾	5¾	29.2	132.50	64 12
+7¼	7¾	6¾	6¾	5¾	47.0	64.50	105.50	5½	6¾	6¼	4¼	5¾	34.0	34.10	5½	6¾	7½	4½	5¾	5¾	40.0	226.00	64 25
+7½	9	6¾	6¾	7¼	65.0	104.50	161.75	5½	9	6¾	4¼	5¾	34.0	34.10	6¾	8	10¾	5½	6¾	6¾	54.0	359.50	64 50
3	2½	2½	2½	2½	2.6	6.75	12.85	2½	2½	3½	2	1½	2.6	6.55	3	3½	3½	2½	2½	2½	3.0	22.95	80 00
3¾	3¾	3¾	3¾	2½	4.4	8.35	14.40	2½	2½	3½	2¼	2¼	4.4	8.10	3¾	3¾	3¾	2½	2½	3	5.6	28.39	80 01
4½	4½	3¾	3¾	3¾	7.8	12.10	18.40	3½	3¾	4½	2¾	2¾	7.8	11.74	3¾	4½	4½	2½	3	3¾	8.7	41.14	80 02
5¼	4¼	4¾	4¾	3¾	14.0	23.25	35.45	4½	4½	5½	3½	3½	15.0	22.80	3¾	4½	4½	2½	3¾	3¾	16.4	81.10	80 05
+6¾	6¾	5¾	5¾	4	30.0	41.10	67.50	5½	5½	6¼	4¼	4¼	31.0	65.50	5½	6¾	7½	4½	5¾	5¾	29.0	139.50	80 10
+7¼	7¾	6¾	6¾	4¾	34.0	70.50	112.75	5½	6¾	6¼	4¼	4¼	31.0	65.50	5½	6¾	7½	4½	5¾	5¾	46.0	239.70	80 25
+7½	9¾	7¾	7¾	6¾	60.0	124.85	180.31	5½	9¾	7¾	4¼	4¼	31.0	65.50	6¾	7¾	8¼	4¾	5¾	5¾	46.0	239.70	80 50
3	2½	2½	2½	1¾	2.6	7.10	12.15	2½	2½	3½	2	1½	2.6	6.85	3	3½	3½	2½	2½	2½	3.3	23.95	88 00
3¾	3¾	3¾	3¾	2½	4.7	8.95	16.35	3½	3¾	3¾	2½	2½	4.7	8.55	3¾	4¼	4¼	2½	2½	3¾	5.3	30.15	88 01
4½	4½	3¾	3¾	3	8.2	13.40	19.85	3½	3¾	4½	2¾	2¾	8.2	13.10	3¾	4½	4½	2½	3	3¾	8.9	44.60	88 02
5¼	5¼	4¾	4¾	3¾	17.2	27.80	39.75																



# HIGH CURRENT CHOKES | FILAMENT TRANSFORMERS

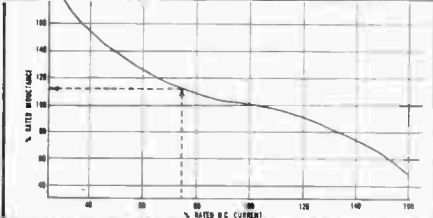
## HIGH CURRENT CHOKES

50/400 CYCLES

(DIMENSIONS REFER TO HIGH CURRENT XFMR STYLES)

Part No.	Inductance	Cur. (D.C.)	Resistance	BRACKET MTD (STYLE B)							Style		FULLY MTD. SHELLS (STYLE V)							HERMETIC SEALED MIL-T (STYLE CM)							Style	
				ENCAPSULATED (STYLE BE)							B	BE															CM	CM
				L	W	H	ML	MW	WGT	Price	Price	L	W	H	ML	MW	WGT	Price	L	W	H	ML	MW	WGT	Price	Price		
CH-00	140	.5	3	2 5/8	2 1/4	2 1/4	2 3/4	2	2.0	\$6.10	\$9.05	2 1/4	2 1/2	2 5/8	1 3/4	1 5/8	1.9	\$7.15	2 1/8	3	3 1/8	1 7/8	2 5/8	2.6	\$20.90			
CH-01	100	1	1.5	3	2 3/8	2 1/2	2 1/2	2	2.6	6.65	9.48	2 3/8	2 5/8	3 1/8	2	1 1/4	2.6	7.58	3	3 1/2	3 1/8	2 1/8	2 5/8	3.0	22.40			
CH-02	80	2	.95	3	2 3/8	2 1/2	2 1/2	2	2.6	7.89	11.35	2 3/8	2 5/8	3 1/8	2	1 1/4	3.2	9.15	3	3 1/2	3 1/8	2 1/8	2 5/8	3.8	26.80			
CH-04	60	4	.60	3 3/4	3 1/8	3 1/8	3 1/8	2 5/8	5.2	9.66	13.90	3 3/4	3 7/8	3 1/4	2 1/2	2 5/8	5.8	10.85	3 5/8	4 1/4	4 1/8	2 1/8	3 3/8	6.8	33.10			
CH-05	50	5	.40	3 3/4	3 3/8	3 1/8	3 1/8	2 3/4	5.8	10.70	14.25	3 3/4	3 7/8	3 1/4	2 1/2	2 3/4	6.0	11.75	3 5/8	4 1/4	4 1/8	2 1/8	3 3/8	7.1	38.50			
CH-06	40	8	.30	3 3/4	3 3/2	3 1/8	3 1/8	2 7/8	6.4	12.87	18.60	3 3/4	3 7/8	3 1/4	2 1/2	2 7/8	6.2	14.45	3 5/8	4 1/4	4 1/8	2 1/8	3 3/8	7.8	43.50			
CH-08	30	20	.20	4 1/8	3 7/8	3 1/4	3 1/4	3	8.7	15.80	22.45	3 1/2	4 5/8	4 1/4	2 3/4	3 5/8	8.7	18.10	4	4 5/8	4 7/8	3	3 1/4	10.0	54.40			
CH-12	20	12	.15	5 1/4	4 3/4	4 3/8	4 3/8	3 1/2	13.0	19.60	28.40	4 1/2	5 1/8	5 3/8	3 1/2	3 3/4	13.0	21.80	4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	15.0	66.50			
CH-16	15	16	.10	5 1/4	5 1/8	4 3/8	4 3/8	3 3/4	15.0	20.10	29.00	4 1/2	5 1/8	5 3/8	3 1/2	3 7/8	14.0	22.10	4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	16.2	67.50			
CH-20	10	20	.05	5 1/4	4 3/4	4 3/8	4 3/8	3 1/2	13.0	20.40	29.10	4 1/2	5	5 3/8	3 1/2	3 1/2	13.0	22.95	4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	17.5	69.10			
CH-25	7	25	.035	5 1/4	5 3/8	4 3/8	4 3/8	4 3/8	18.0	29.70	42.60	4 1/2	5 7/8	5 3/8	3 1/2	4 3/8	18.0	34.15	4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	21.0	101.58			
CH-40	3.5	40	.02	6 3/8	5 1/4	5 7/8	5 3/4	3 1/2	20.0	36.50	50.20	5 1/2	6 3/8	6 1/4	4 1/4	4 3/4	24.0	38.75	5 1/4	6 7/8	7 1/2	4 1/4	5 3/4	26.0	128.50			
CH-50	2	50	.01	6 3/8	5 3/8	5 7/8	5 3/4	3 3/4	24.0	41.70	59.87	5 1/2	6 3/8	6 1/4	4 1/4	4 3/4	26.0	43.50	5 1/4	6 7/8	7 1/2	4 1/4	5 3/4	30.0	140.80			
CH-100	.7	100	.004	6 3/8	5 3/8	5 7/8	5 3/4	3 7/8	32.0	46.05	66.25	5 1/2	6 3/8	6 1/4	4 1/4	4 3/4	29.0	51.10	5 1/4	6 7/8	7 1/2	4 1/4	5 3/4	37.0	155.80			
CH-200	.35	200	.002	7 1/2	6 1/2	7	6 3/4	4 3/4	45.0	69.60	98.15	5 1/2	6 3/8	6 1/4	4 1/4	4 3/4	29.0	51.10	5 1/4	6 7/8	7 1/2	4 1/4	5 3/4	37.0	155.80			

† Includes height of terminals.



TODD ELECTRIC HIGH CURRENT CHOKES are the perfect companion to our High Current Transformers when utilizing inductive filtering in designing a power supply.

### INDUCTANCE VARIATION

The inductance realized from any stock High Current Choke will vary from the normal rated values as shown by the graph when subjected to a non-rated current. Due to greater heating loss, steady state current should not be exceeded by more than 30% except for intermittent operation.

## FILAMENT TRANSFORMERS

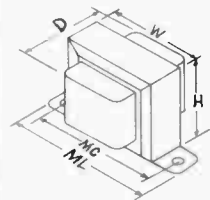
50/60 CYCLES

SINGLE SECONDARY — CENTER TAPPED

CHANNEL MOUNTED

PRIMARY 117 VOLTS

Part No.	Secondary Volts (CT)	Secondary Amps	Rms Hipot Test Volts	H	W	Dimensions D	MC	ML	Weight	Net Price
F2 15	2.5	1.5	2500	1 1/8	2	1 1/8	2 3/8	2 7/8	.75	\$2.53
F2 30	2.5	3	1500	1 1/8	2	1 1/8	2 3/8	2 1/4	.7	2.90
F5 30	5	3	2500	2	2 3/8	2 1/8	2 1/4	3 1/4	1.4	3.53
F5 60	5	6	1500	2 1/2	2 3/4	2 1/8	3 1/8	3 3/4	1.7	4.83
F5 80	5	8	2500	2 5/8	3 1/8	2 1/4	3 3/8	4	2.5	5.70
F6 06	6.3	.6	2500	1 3/8	1 3/4	1 1/2	2	2 3/8	.4	2.60
F6 12	6.3	1.2	2500	1 3/8	2	1 7/8	2 3/8	2 7/8	.8	2.98
F6 13	6.3	1.2	5000	2	2 3/8	1 7/8	2 1/4	3 1/4	.8	3.94
F6 30	6.3	3	2500	2	2 3/8	2 1/8	2 1/4	3 1/4	1.4	3.92
F6 60	6.3	6	2000	2 3/8	2 3/4	2 3/4	3 3/8	3 3/4	2	5.58
F12 20	12.6	2	1500	2	2 3/8	2 1/8	2 1/4	3 1/4	1.4	4.42
F12 30	12.6	3	1500	2 3/8	2 3/4	2 3/4	3 1/8	3 3/4	1.6	5.65
F25 10	25.2	1	1500	2	2 3/8	2 1/8	2 1/4	3 1/4	1.4	4.53
F25 20	25.2	2	1500	2 3/8	3 1/8	2 1/4	3 3/8	4	2.2	6.70



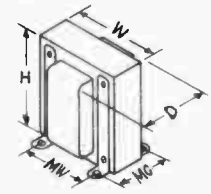
8" LEAD TERMINALS

BRACKET MOUNTED

PRIMARY 117 VOLTS

ELECTROSTATIC SHIELD GROUNDED TO FRAME

Part No.	Secondary Volts (CT)	Secondary Amps	Rms Hipot Test Volts	H	W	Dimensions D	MC	MW	Weight	Net Price
F2 100	2.5	10	10000	3 1/4	2 1/8	2 3/8	1 7/8	2 1/4	2.5	\$8.71
F5 050	5	5	2500	3 1/8	2 1/2	2 1/8	1 7/8	2	2.2	5.85
F5 100	5	10	2500	3 1/8	2 1/2	2 1/8	2 3/8	2	3.0	7.87
F5 150	5	15	2000	3 1/8	2 1/2	2 3/4	2 1/4	2	3.5	9.80
F5 250	5	25	2500	3 3/8	2 7/8	3 3/8	2 5/8	2 1/2	4.8	14.08
F6 040	6.3	4	2500	3 1/8	2 1/2	2 3/8	2 1/8	2	2.4	5.95
F6 060	6.3	6	2000	3 1/8	2 1/2	2 3/8	2	2	2.4	6.87
F6 100	6.3	10	2500	3 1/4	2 7/8	2 5/8	2 1/8	2 1/4	3.5	8.97
F6 200	6.3	20	2500	4 3/8	3 3/4	3 3/8	2 3/8	3	6.8	14.27
F7 040	7.5	4	2000	3 1/8	2 1/2	2 1/4	2 1/8	2	2.8	6.28
F7 080	7.5	8	2500	3 7/8	3 1/8	2 3/4	2 3/8	2 1/2	4.8	8.65
F10 040	10	4	2500	3 3/8	2 7/8	2 1/2	2	2 1/4	3.4	7.06
F10 080	10	8	2500	3 7/8	3 1/8	3	2 3/8	2 1/2	5.0	10.29



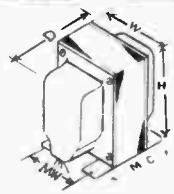
LUG TERMINALS

VERTICAL SHELL MOUNTED

PRIMARY 117/105 VOLTS (Tapped)

ELECTROSTATIC SHIELD GROUNDED TO FRAME

Part No.	Secondary Volts (CT)	Secondary Amps	Rms Hipot Test Volts	H	W	Dimensions D	MC	MW	Weight	Net Price
F2 061	2.5	6	2500	3 1/8	2 1/2	2 1/2	1 1/2	2	2.2	\$7.24
F2 101	2.5	10	2500	3 1/8	2 1/2	2 7/8	1 3/4	2	2.5	6.31
F5 031	5	3	2500	3 1/8	2 1/2	2 1/2	1 1/2	2	2.4	6.71
F5 061	5	6	2000	3 1/8	2 1/2	3	2	2	3.1	7.41
F5 301	5	30	2500	4 1/4	3 1/4	3 7/8	2 3/4	2 3/4	6.3	18.81
F6 041	6.3	4	2000	3 1/8	2 1/2	2 3/4	1 3/4	2	2.7	6.69
F6 061	6.3	6	2500	3 1/2	2 7/8	3 1/8	2	2 1/4	3.5	8.58
F6 101	6.3	10	2000	3 1/2	2 7/8	3 3/8	2 3/8	2 1/4	3.8	8.77
F7 051	7.5	5	2500	3 1/2	2 7/8	3 1/8	2	2 1/4	3.4	9.25
F7 051	10	5	2500	3 7/8	3 1/8	3 1/4	1 7/8	2 1/2	4.0	10.07
F10 081	10	8	2000	3 7/8	3 1/8	3 3/4	2 1/2	2 1/2	5.2	9.58
F10 101	10	10	2000	3 7/8	3 1/8	3 7/8	2 3/4	2 1/2	5.8	11.23



12" LEAD TERMINALS

ENGINEERING • RELIABILITY • SERVICE

# TODD ELECTRIC CO., INC.





# STEPDOWN AUTO TRANSFORMERS | LINE ISOLATION

## STEPDOWN AUTO TRANSFORMERS

## 50/60 CYCLES - UL COMPONENTS

(MOST UNITS CAN BE REVERSED FOR STEPUP USE)

### HEAVY DUTY MODEL

220/240 Input  
110/120 Output

Catalog Number	Rating Watts	Weight Lbs.	Dimension Inches			List Price
			H	W	D	
SD-15	75	2 1/4	3 3/8	2 3/4	3 3/8	\$10.72
SD-16	100	2 1/4	3 3/8	2 3/4	3 3/8	10.80
SD-17	150	3 3/8	3 3/8	2 3/4	3 1/8	12.18
SD-12	250	6	4 5/8	3 7/8	3 5/8	15.70
SD-18	350	6 3/8	4 5/8	3 7/8	3 3/4	17.34
SD-11	500	10 2/3	4 5/8	3 7/8	4 7/8	22.33
SD-19	750	12	4 5/8	3 7/8	5 1/8	25.31
SD-13	1000	15 3/8	4 5/8	3 7/8	6 1/8	35.54
SD-14	1500	20	4 5/8	3 7/8	7 1/8	41.45
SD-20	2000	24	6	4 1/2	6 5/8	89.95



UL LINE CORD & RECEPTACLE

### NORMAL DUTY MODEL

220/240 Input  
110/120 Output

Catalog Number	Rating Watts	Weight Lbs.	Dimension Inches			List Price
			H	W	D	
SD-24	50	1 1/2	2 3/8	3 3/4	2 1/4	\$7.09
SD-21	65	1 3/8	2 3/8	3 3/4	2 1/4	7.13
SD-25	80	1 5/8	2 3/8	3 3/4	2 1/4	7.48
SD-23	100	1 3/4	2 3/8	3 3/4	2 3/8	7.51
SD-26	125	2	2 5/8	4	2 5/8	7.46
SD-27	150	2 1/4	2 5/8	4	2 5/8	8.92



UL LINE CORD & RECEPTACLE

### INDUSTRIAL MODEL

208/220/240 Input  
110/120 Output

Catalog Number	Rating Watts	Weight Lbs.	Dimension Inches			List Price
			H	W	D	
SD-28	3000	38	6 1/8	7 1/8	6 1/4	\$191.54
SD-29	4000	47	6 1/8	7 1/8	6 1/4	248.04
SD-22	5000	58	6 1/8	7 1/8	6 1/4	282.28
SD-30	6000	70	6 1/8	7 1/8	6 1/4	344.75



SCREW TYPE TERMINALS

\*Available Panel MTD. Add Suffix "P"

### REGULATORS



TYPE	PRIMARY INPUT TAPS ON SELECTOR SWITCH										OUTPUT VOLTS
11	84	92	100	108	115	122	130	138	145	155	115
12	84	92	100	108	115	122	130	138	145	155	208/230
21	170	185	200	215	230	245	260	275	290	305	115
22	170	185	200	215	230	245	260	275	290	305	208/230

### HEAVY DUTY VOLTAGE REGULATOR

WITH METER & SWITCH  
(See Chart Above For Volts)

Catalog Number	Rating	WT. W.	Dimension (") Lbs.	H	W	D	List Price
TC-17	11 or 22	150	6 5 1/2	3 3/2	5	\$ 32.21	
TC-18	11 or 22	350	7 5 1/2	3 3/2	5 3/8	45.54	
TC-11	11 or 22	500	11 5 1/2	3 3/2	5 3/4	52.66	
TC-19	11 or 22	750	15 5 1/2	3 3/2	6 3/8	65.93	
TC-13	11 or 22	1000	20 5 1/2	3 3/2	7 3/8	80.39	
TC-14	11 or 22	1500	25 5 1/2	3 3/2	8 3/8	105.23	
TC-20	11 or 22	2000	30 6 3/2	4 3/2	8 3/4	200.11	
TC-17	12 or 21	150	6 5 1/2	3 3/2	5 1/4	37.70	
TC-18	12 or 21	350	7 5 1/2	3 3/2	5 3/4	52.59	
TC-11	12 or 21	500	11 5 1/2	3 3/2	6	60.79	
TC-19	12 or 21	750	15 5 1/2	3 3/2	6 3/4	77.76	
TC-13	12 or 21	1000	20 5 1/2	3 3/2	7 3/4	96.84	
TC-14	12 or 21	1500	25 5 1/2	3 3/2	8 3/4	119.11	
TC-20	12 or 21	2000	30 6 3/2	4 3/2	9 3/4	229.84	



UL LINE CORD & RECEPTACLE

### PANEL MOUNTED VOLTAGE REGULATOR

WITH METER & SWITCH  
(See Chart Above For Volts)

Catalog Number	Rating	WT. W.	Dimension (") Lbs.	H	W	D	List Price
TA-20	11 or 22	2000	40 6 7/8	7 1/2	17 3/8	\$234.94	
TA-28	11 or 22	3000	50 6 7/8	7 1/2	17 3/8	268.56	
TA-29	11 or 22	4000	60 6 7/8	7 1/2	17 3/8	328.22	
TA-22	11 or 22	5000	70 6 7/8	7 1/2	17 3/8	380.11	
TA-30	11 or 22	6000	85 6 7/8	7 1/2	17 3/8	451.46	
TA-20	12 or 21	2000	40 6 7/8	7 1/2	17 3/8	255.66	
TA-28	12 or 21	3000	50 6 7/8	7 1/2	17 3/8	286.59	
TA-29	12 or 21	4000	60 6 7/8	7 1/2	17 3/8	350.25	
TA-22	12 or 21	5000	70 6 7/8	7 1/2	17 3/8	406.05	
TA-30	12 or 21	6000	85 6 7/8	7 1/2	17 3/8	479.96	



LEAD TERMINALS INSIDE REMOVABLE COVER

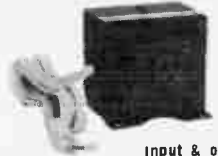
Packed One Per Carton

### MOTOR VOLTAGE BOOSTERS

SINGLE PHASE 50/60 ~

Complete with U.L. Line Cord & Receptacle

Catalog No.	Horse-Power	Max Current	Input	Output	Plug-Socket Style	H	W	D	Weight	Price
1BT-125	3/4	12.5	100	115	Parallel	4	4 1/2	5 3/8	10	\$32.10
2BT-150	1-1/2	12.5	208	230	Tandem	4	4 1/2	5 7/8	11	35.73
2BT-250	2-2 1/2	18	208	230	Crows Foot	4	4 1/2	6 1/2	15	43.64
2BT-300	3	24	208	230	Crows Foot "L"	4	4 1/2	8	18	54.67



Input & output volts may be reversed "on the job"

## LINE ISOLATION

## 50/60 CYCLES - OUTPUT 115 VOLTS

UL COMPONENTS

### STRAIGHT ISOLATION

ELECTROSTATIC SHIELD CONNECTED TO CORE

Part No.	Watts	Input Volts	Rms Hipot Test Volts	H	W	Dimensions D	MC	MW	Weight	Price: Line Cord & Receptacle	Price Leads Only
LI-50	50	115	2000	3 1/2	2 7/8	3 1/8	1 7/8	2 1/4	3.7	\$9.24	\$8.82
LI-100	100	115	2000	4 3/4	3 3/4	3	2	3	6.2	12.32	11.67
LI-175	175	115	2000	4 3/4	3 3/4	4 1/4	3 3/8	3	8.8	17.71	16.82
LI-250	250	115	2000	4 3/4	3 3/4	5 1/8	4 1/8	3	12.0	21.88	20.80
LI-500	500	115	2000	5 1/4	4 1/2	6 1/8	5 1/8	3 1/2	20.0	35.75	33.99
LI-750	750	115	2000	5 1/4	4 1/2	7	6	3 1/2	25.2	42.08	40.04
LI-1000	1000	115	2000	5 1/4	4 1/2	7 7/8	6 7/8	3 1/2	30.0	48.95	46.37
LI-1500	1500	115	2000	7 3/8	6 1/4	7 1/4	6 1/8	4 3/4	36.2	59.84	56.98
LI-1001	100	230	2500	4 3/4	3 3/4	3	2	3	6.5	12.60	11.98
LI-2501	250	230	2500	4 3/8	3 3/4	5 1/8	4 1/8	3	12.5	22.88	21.78
LI-5001	500	230	2500	5 1/4	4 1/2	6 1/8	5 1/8	3 1/2	21.0	36.41	38.01
LI-10001	1000	230	2500	5 1/4	4 1/2	8	7	3 1/2	31.0	49.67	47.27



ALSO AVAILABLE LEADS ONLY

### ADJUSTABLE ISOLATION

ELECTROSTATIC SHIELD CONNECTED TO CORE

INPUT TAP SWITCH MOUNTED IN SHELL

Part No.	Watts	Input Volts	Rms Hipot Test Vo'ts	H	W	Dimensions D	MC	MW	Weight	Price: Line Cord & Receptacle	Price Leads Only
LI-1002	100	105/115/125	2000	4 3/4	3 3/4	3 3/4	2 5/8	3	7.8	\$18.12	\$17.19
LI-25002	250	105/115/125	2000	4 3/4	3 3/4	5 1/2	4 3/4	3	14.3	29.26	27.84
LI-5002	500	105/115/125	2000	5 1/4	4 1/2	6 5/8	5 5/8	3 1/2	22	41.20	38.94
LI-10002	1000	105/115/125	2000	5 1/4	4 1/2	8 1/2	7 3/8	3 1/2	33.5	55.88	52.91
LI-1003	100	210/230/250	2500	4 3/4	3 3/4	3 3/4	2 5/8	3	7.5	17.77	16.92
LI-2503	250	210/230/250	2500	4 3/4	3 3/4	5 1/2	4 3/8	3	14	28.66	27.40
LI-5003	500	210/230/250	2500	5 1/4	4 1/2	6 1/2	5 1/2	3 1/2	21	40.26	38.34
LI-10003	1000	210/230/250	2500	5 1/4	4 1/2	8 3/8	7 1/4	3 1/2	32	54.78	51.90



ALSO AVAILABLE LEADS ONLY

AW-23C-5M-12/66

# TRIAD DISTRIBUTOR DIVISION



A DIVISION OF LITTON INDUSTRIES



## MINIATURES

### †† JAF SERIES — Hermetically Sealed

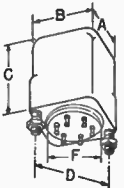
Type No.	Primary Impedance	Secondary Impedance	Max. Level-DBM	Freq. Resp.	** MTG.
JAF-1‡	600/250/50	50000	0	60-15000	AF
JAF-2‡	600/250/50	250000	0	100-15000	AF
JAF-3	600/250/50	60000 CT.	0	60-15000	AF
JAF-5‡	30/12/4	50000	0	50-15000	AF
JAF-11	15000	50000	10	60-15000	AF
JAF-12	15000	60000 CT.	10	60-15000	AF
JAF-13	15000 (3 Ma.)	95000 CT.	10	350-7000	AF
JAF-14‡	200	½ megohm	10	300-3000	AF
JAF-15	15000	1 megohm	10	350-5000	AF
JAF-21	15000	600/250/50	10	60-15000	AF
JAF-22	15000 (3 Ma.)	600/250/50	10	350-7000	AF
JAF-23	20000 CT.	600/250/50	10	60-15000	AF
JAF-24	10000 CT.	2000 CT.	10	50-20000	AF
JAF-25	12000 CT.(2 Ma.)	600 CT./150	12	50-15000	AF
JAF-26	50000CT.(.5Ma.)	600 CT./150	10	50-20000	AF
JAF-31‡	600/250/50	600/250/50	10	60-15000	AF
JAF-32	1500 CT. (2Ma.)	600 CT./150	14	50-20000	AF
JAF-33‡	5000 CT.	5000 CT.	10	60-15000	AF
JAF-34	500 CT.	500 CT./125	14	50-20000	AF
JAF-35	600 CT.	2000 CT./500	14	50-20000	AF
JAF-101	50 h.-.75 Ma.				AF
JAF-102	6 HY.—3 MA. or 4 HY.—6 MA.				AF



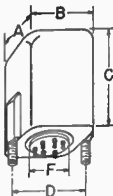
JZ



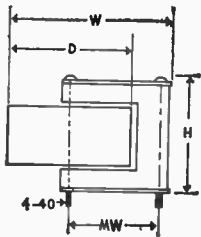
TZ



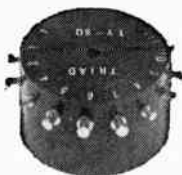
AF AJ



AG AH



TY-S



TY-MOLDED

### SUB-MINIATURE AUDIO — Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	DC Res. Ohms (Approx.)		** Case
			Pri.	Sec.	
JZ-1	600/250/50	60000	350	4100	JZ
JZ-5	30/12/4	50000	11.5	3800	JZ
JZ-13	15000 (1. Ma.)	135000 CT.	1150	4400	JZ
JZ-15	20000 (.5 Ma.)	1200/600/100	2700	350	JZ
JZ-25	10000 (1 Ma.)	200	1500	120	JZ
JZ-26	1000 (5 Ma.)	50	355	20	JZ

### SUB-MINIATURE AUDIO — Open Frame

Type No.	Primary Impedance	Secondary Impedance	DC Res. Ohms (Approx.)	
			Pri.	Sec.
TZ-1	600/250/50	60000	350	4100
TZ-2XT	200 CT.	200000	35	5000
TZ-5	30/12/4	50000	6	3500
TZ-7	30/12/4	1000	5	480
TZ-13	15000 (1 Ma.)	135000 CT.	985	4400
TZ-15	20000 (.5 Ma.)	1200/600/100	2700	350
TZ-24XT	25000 CT.	500 CT.	2000	60
TZ-29XT	10000 CT.	10,000 CT	1100	1400
TZ-25	10000 1 Ma.)	200	1500	120
TZ-32XT	1500 CT.	600 CT./150	160	65
TZ-26	1000 (5 Ma.)	50	355	20
TZ-103XT	4 Hy. or 1 Hy.	—	400	—
T-41X	1000 (10 Ma.)	200 CT.	430	130
T-42X	9800 (2 Ma.)	16	855	1.7
TY-44X	1000 (10 Ma.)	16/8/4	180	3.8
TY-47X	2000 CT.(10 Ma.)	16/8/4	260	4

### TRANSFORMERS FOR TRANSISTOR POWER SUPPLIES

Type No.	D.C. Volts Out of Rect.	D.C. Ma. Max.	H	Dimensions—Inches			MW
				W	D		
TY-68S	250	65	1¾	1¾	1½		1½
TY-69S	300	100	1¾	2¾	1¾		1½
TY-70S	325	150	2	2¾	2¼		1½
TY-71S	375	200	2	2¾	2¼		1½
TY-74S	600	200	2	4½	3		3¾

### EPOXY MOLDED TOROIDAL TYPE

Type No.	D.C. Source Volts	D.C. Volts Out Of Rectifier	D.C. Ma. Max.	Dimension—Inches		Wt. Lbs.
				Dia.	Ht.	
TY-78	12.6	250/125	100	1¾	1¼	.35
TY-79	12.6	300/150	200	1¾	1	.35
TY-80	12.6	325/162.5	150	1¾	1	.35
TY-81	12.6	375/187.5	200	2	1	.50
TY-82	12.6	450/225	150	2	1	.50
TY-83	12.6	500/250	250	2¾	1¾	.85

‡Static Shield •New item

TY-84	12.6	600/300	200	2¾	1¾	1.00
TY-85	12.6	600/300	350	2¾	2½	2.00
•TY-86	12.6	425/212.5	350	2¾	1¾	1.00
•TY-87‡	12.6	600/300	200	2¾	1¾	1.00
TY-88	28	250/125	80	1¾	¾	.25
TY-89	28	300/150	100	1¾	¾	.35
TY-90	28	325/162.5	200	1¾	1	.35
TY-91	28	375/187.5	200	2	1	.50
TY-92	28	450/225	200	2	1	.50
TY-93	28	500/250	250	2¾	1¾	.85
TY-94	28	600/300	200	2¾	1¾	1.00
TY-99	6.3	300/150	100	1¾	1	.35
TY-100	6.3	325/162.5	150	2	1	.50
TY-101	6.3	375/187.5	200	2¾	1¾	1.00
TY-102	6.3	450/225	150	2¾	1¾	1.00

‡ Additional winding 125 V. @ 10 ma. for SSB.

### †† MINIATURE AUDIO — "Trijets"

Type No.	Primary Impedance	Secondary Impedance	Max. Level-DBM	Freq. Resp.
T-1X‡	600/250/50	50000	0	60-15000
T-2X‡	600/250/50	250000	0	100-15000
T-3X	600/250/50	60000 CT.	0	60-15000
T-5X‡	30/12/4	50000	0	50-15000
T-11X	15000	50000	10	60-15000
T-12X	15000	60000 CT.	10	60-15000
T-13X	15000 (3 Ma.)	950000 CT.	10	350-70000
T-14X‡	200	500000	10	300-3000
T-15X	15000	1 Megohm	10	150-15000
T-20X	15000	600/250/50	10	60-15000
T-21X	3000	50	10	100-15000
T-22X	15000 (3 Ma.)	600/250/50	10	350-7000
T-23X	2000 CT.	600/250/50	10	60-15000
T-24X	10000 CT.	2000 CT.	10	50-20000
T-25X	12000 CT.(2 Ma.)	600 CT. 150	10	50-16000
T-26X	50000 CT.(.5 Ma.)	600 CT./150	10	100-15000
T-31X‡	600/250/50	600/250/50	10	50-15000
T-32X	1500 CT. (2 Ma.)	600 CT./150	13	50-20000
T-33X‡	5000 CT.	5000 CT.	10	60-15000
T-34X	500 CT.	500 CT./125	13	50-20000
T-35X	600 CT.	2000 CT./500	13	50-20000
T-101X	50 henries @ .75 Ma.			
T-102X	6 Hy.-3 Ma. or 4 Hy.-6 Ma.			

†† Low frequency loss will result from DC in windings other than where specified.

\*\*See Case Chart on Triad Page 15

## MINIATURES

### TRANSISTOR TRANSFORMERS

Type No.	Primary Matching Impedance	Primary Current MA	Secondary Matching Impedance	Maximum Level
TY-23X	50000	.5	500 CT.	100 MW
TY-24X	50000	.5	3000 CT.	200 MW
TY-25X	100000	.5	200 CT.	200 MW
TY-26X	100000	.5	3000 CT.	200 MW
TY-27XT	500 CT.	2	500 CT.	10 MW
TY-28XT	500 CT.	2	200 CT.	10 MW
TY-29X	24 CT.	500	8/4	8W
TY-30X	100 CT.	100	8/4	2W
TY-31X	200 CT.	50	8/4	2W
TY-32X	200 CT.	2	2000 CT.	200 MW
TY-33X	400 CT.	5	16/8/4	200 MW
TY-34X	400 CT.	5	2000 CT.	200 MW
TY-35X	500 CT.	2	150 CT.	100 MW
TY-36X	2000	2	1500 CT.	200 MW
TY-37X	2000 CT.	4	8000 CT.	200 MW
TY-38X	3000 CT.	4	1000 CT.	200 MW
TY-39X	4000 CT.	5	16/8/4	200 MW
TY-40X	5000	1	200 CT.	100 MW
TY-41X	16000	1	4000	100 MW
TY-42X	20000	.5	8/4	100 MW
TY-43X	20000	.5	800 CT.	100 MW
TY-44X	1000	10	16/8/4	200 MW

Continued on TRIAD Page 2



# TRIAD DISTRIBUTOR DIVISION



A DIVISION OF LITTON INDUSTRIES



## MINIATURES (Continued)

Type No.	Primary Matching Impedance	Primary Current MA	Secondary Matching Impedance	Maximum Level
TY-45X	500 CT.	5	16/8/4	200 MW
TY-46X	100	100	1000 CT.	1 W
TY-47X	2000 CT.	10	16/8/4	200 MW
TY-48X	100 CT.	40	16/8/4	.5 W
TY-49X	500 CT.	12	5000 CT.	1 W
TY-50X	125000	0	2000 CT.	40 MW
TY-51X	2000 CT.	10	200 CT.	100 MW
TY-52X	20000 CT.	1	2000 CT.	200 MW
TY-53X	200 CT.	10	400 CT.	6 W
TY-54X	15000	1.5	200 CT.	200 MW
TY-55X	2000 CT.	2	500 CT.	200 MW
TY-56X	10000	1	2000 CT.	200 MW
TY-57X	250 CT.	10	16/8/4	200 MW
TY-58X	125 CT.	15	8/4	200 MW
TY-59X	5000 CT.	1	50000 CT.	200 MW
TY-60X	200000	0	1000	100 MW
TY-61X	100	100	100 CT.	4 W
TY-62X	10000	2	4	100 MW
TY-63X	48 CT.	275	16/8	8 W
TY-64X	32 CT.	575	16/8/4	10 W
TY-65Z	32 CT.	575	6K/4K/3K	10 W
TY-66A	6 CT.	5A	6K/4K/3K	40 W
TY-67A	6 CT.	5A	16/8/4	40 W

### †† JO SERIES — Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	Max. Level-DBM	Freq. Resp.	Case
JO-1	600/250/50	50000	0	60-15000	JOA
JO-2	600/250/50	250000	0	100-8000	JOA
JO-3	600/250/50	60000 CT.	0	60-15000	JOA
JO-11	15000	60000	10	50-15000	JOB
JO-12	15000	60000 CT.	10	50-15000	JOB
JO-13	15000-3 Ma.	95000 CT.	10	300-7000	JOB
JO-21	15000	600/250/50	10	50-15000	JOB
JO-22	15000-3 Ma.	600/250/50	10	300-7000	JOB
JO-23	20000 CT.	600/250/50	10	50-15000	JOB
JO-31	600/250/50	600/250/50	10	50-15000	JOB
JO-101	50 h.-2 Ma.				JOB

### DC TO AC TRANSISTOR TRANSFORMERS

Type	Primary	Secondary
TY-75A	12v	115v 60cps 115 watts
TY-76A	12v	115v 60cps 60 watts
TY-488	28v	115v 400cps 60 watts
TY-462	12v	115v 400cps 60 watts

### DC TO DC CONVERTER TRANSFORMERS For use in blocking oscillator type power supplies

No. Type	Mtg. Cent-ers			*Typical Operation	
	L.	W.	H.	Input	Output
TY-200X	1 1/8"	7/8"	1 1/4"	3VDC @ 20 Ma.	1050VDC @ 25 μa
TY-201TZ	1/2"	3/4"	3/4"	4VDC @ 15 Ma.	500VDC @ 50 μa
TY-202X	1 1/8"	7/8"	1 1/4"	4VDC @ 45 Ma.	550VDC @ 80 μa

## POWER COMPONENTS HERMETICALLY SEALED

### Combined PLATE and FILAMENT Transformers Primary 115V — 50/60 cycle

Type No.	Plate Supply AC Volts	DC Ma.	Filaments	F Dim. (Min.) Inches	Case
HSM-200	120	100	6.3 CT.-1.6A.	1	FA
HSM-201	500 CT.	20	6.3 CT.-2A.	1 1/4	GA
HSM-202	120	20	6.3 CT.-.6A.	1 1/4	EA
HSM-203	600 CT.	50	6.3 CT.-2.5A. 5 -2A.	1 1/4	JB
HSM-205	700 CT.	70	6.3 CT.-3A. 5 -3A.	1 1/4	JA
HSM-207	700 CT.	120	6.3 CT.-5A. 5 -3A.	1 1/4	KA
HSM-208	626 CT.	200	6.3/5.0-3A. 6.3 CT. 5	1 1/4	KA
HSM-241	700 CT.-150 V. bias.tap.	150	6.3 CT.-6A. 6.3-V. -2A. 5 -3A.	1 1/4	LA

\*New item

HSM-212	1000/800 CT.	150 (ch. in.) 117 (cd. in.)	6.3/5-4A. 6.3 CT.-4A. 6.3 V-4A.	1 1/4	LA
HSM-245	800/700 CT. 70 V. bias tap.	200	6.3 CT.-6A. 6.3-V. -4A. 5 -6A.	1 1/4	MA
HSM-216	1000/800 CT.	200 (ch. in.) 157 (cd. in.)	6.3/5-4A. 6.3 CT.-5A. 6.3-5A.	1 1/4	MA
HS-247	800/700 CT. 70 V. bias tap.	300	6.3 CT.-8A. 6.3-V. -4A. 5 -6A.	1 1/4	GP-15
HSM-218	1000/800 CT.	300 (ch. in.) 235 (cd. in.)	6.3/5-6A. 6.3 CT.-6A. 6.3-6A.	1 1/4	GP-15
HSM-219	(115/230 pri.) 760/1600 CT.	40/230 (ch. input)		Spcl.	GP-15

All types electrostatically shielded.  
GP-15 dims. 4 3/4" x 5 7/8" x 6 5/8" high. Wt. approx. 22 lbs.  
Mtg. centers 3 3/4" x 4 7/8".

### Combined PLATE and FILAMENT Transformers Primary 115V—400 cycle to operate 380 to 1500 cycles

Type No.	Plate Supply AC Volts	DC Ma.	Filaments	Insur. Test Volt.	F Dim. (Min.) Inches	Case
HS-401	500 CT.	40	6.3 CT.-1A. 6.3-1A.	1500	1	EB
HS-400	125	25	6.3 CT.-8A.	1500	3/2	AH
HS-404	500 CT.	120	6.3 CT.-3A. 6.3/5.0-3A.	1500	1 1/4	FA
HS-405	600 CT.	70	6.3 CT.-2A. 6.3-2A. *6.3-2A.	1500	1 1/4	GA
HS-407	600 CT.	120	6.3 CT.-3.5A. 6.3-3.5A. *6.3/5-3A.	1500	1 1/4	JB
HS-409	700 CT.	150	6.3 CT.-4A. *6.3/5-3A.	1500	1 1/4	HA
HS-413	450 CT.	200	6.3 CT.-6A. 6.3 -6A. *6.3/5-4A.	1500	1 1/4	JA
HS-415	800/600 CT.	200	63. CT.-6A. 6.3-6A. *6.3/5-6A.	2500	1 1/4	KB
HS-417	800/600 CT.	300	6.3 CT.-6A. 6.3-6A. *6.3/5-6A.	2500	1 1/4	LA

\* Tapped for 5 volt rectifier use. All types electrostatically shielded.

### SOLID STATE LOW-VOLTAGE TRANSFORMER

Primary 10/115/125 volts — 50/60 cycles

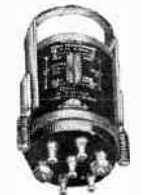
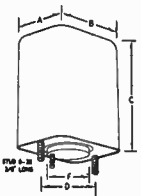
Type No.	Secondary AC Volts	RMS Amps	Rectifier Circuit CT. Full Wave	Bridge FW	Case
*HSM-248	35 CT.	3	14.5v	29v	KA

### AUDIO INTERSTAGE Transformers

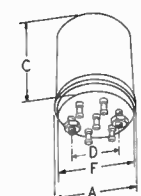
Type No.	Primary Imped.	Turn Ratio	Freq. Resp.	Power Output	Shield'g	Case
HS-25	15000	1:2.72 overall	20-20000	75 MW	P-1	GP-4
HS-35	15000	1:2.72 overall	20-20000	26 MW	P-1	GP-2
HS-27	20000/5000	1:1.72 overall	20-20000	130 MW	P-1	GP-4
HS-29	20000/5000	1:2 overall	20-20000	20 MW	P-5	GP-4
HSM-31	20000/5000	1:1 or 2:1	20-20000	3 W		FA
HS-32	15000 (6 Ma.)	1:2 overall	20-15000	200 MW	P-1	GP-5



HS Series



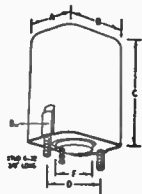
JO Series



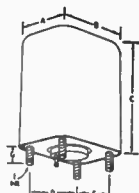
# TRIAD DISTRIBUTOR DIVISION



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GP 1, 2, 3



MIL-T-27A CASE



Case A



PL-4

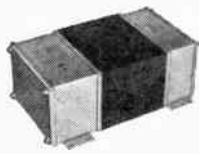
PL-5



PL-6



Case X



Case SC

## POWER OUTPUT to Line and VC. Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	Max. Level-Watts	Freq. Resp.	** Case
HS-71	10000 (10 Ma.)	600/150	2	150-15000	AH-2
HS-73	5000 (40 Ma.)	500/250/16/8/4	5	70-15000	AJ-2
HS-75	1000 CT. (50 Ma. bal.)	500/250/16/8/4	10	100-25000	EB
HS-77	9000 CT. (120 Ma. bal.)	500/250/16/8/4	25	70-20000	GA

## LOW LEVEL AUDIO

### AUDIO INPUT TRANSFORMERS Hermetically Sealed

Type No.	Primary Imped.	Turn Ratio	Freq. Resp.	Power Output MW	Shield	** Case
HS-1	600*/250*/150/62.5	1:11.3	20-20000	10	P-5	GP-4
HS-11 HS-3	Same as above	1:14 overall	20-20000	10	P-1 P-5	GP-2 GP-5
HS-4	Same as above				P-3	GP-4
HS-14	Same as above				P-1	GP-3
HS-15	600*/250*/150/62.5 (10 Ma.)	1:8 overall	30-20000	100	P-3	GP-5
HS-5	30	1:65.7	40-12000	1	P-5	GP-4

\*Balanced center tap.

### OUTPUT, MIXING, MATCHING, BRIDGING

Type No.	Primary Imped.	Secondary Impedance	Freq. Resp.	Power Output MW	Shield	** Case
HS-50	15000	600*/250*/150/62.5	20-20000	400	P-3	GP-4
HS-60	15000	600*/350*/150/62.5	20-20000	20	P-1	GP-2
HS-61	15000 (5 Ma.)	600*/250*/150/62.5	40-15000	200	P-1	GP-5
HS-52	20000 CT./5000	600*/250*/150/62.5	20-20000	400	P-1	GP-4
HS-54	20000 CT./5000	600*/250*/150/62.5	20-20000	30	P-5	GP-4
HS-56V	600*/250*/150/62.5	600*/250*/150/62.5	10-30000	100	P-3	GP-4
HS-66	600*/250*/150/62.5	600*/250*/150/62.5	10-30000	100	P-1	GP-3
HS-58	600*/250*/150/62.5	600*/250*/150/62.5	20-20000	50	P-3H	GP-5

\* Balanced center tap.

## POWER COMPONENTS

Type No.	Primary Volts	Secondary Volts	Secondary Amperes	Insulation Test Voltage	** Case
HSM-223	115	6.3	0.6	1500	AJ-2
HSM-225	105-115-125	6.3 CT.	2	1500	EA
HSM-226	105-115-125	6.3 CT.	3.6	1500	FA
HSM-224	105-115-125	6.3 CT.	5.5	2500	HB
HSM-234	105-115-125	†6.3 CT. 6.3	10	2500	KA
HSM-227	105-115-125	†6.3 CT. 6.3	3	2500	GA
HSM-229	105-115-125	6.3 CT.	8	2500	JB
HSM-233	105-115-125	12.6 CT.	.8	1500	EA
HSM-237	105-115-125	12.6 CT.	2	2000	FA
HSM-230	105-115-125	24 CT.	0.8	1500	FA
HSM-239	105-115-125	24 CT.	1.5	2500	GA
HSM-240	115/230	†12.6 CT. 12.6	1.5	2500	GA
HSM-236	105-115-125	†12.6 CT. 12.6	2	2500	JB
HSM-228	105-115-125	†6.3 CT. 6.3	6	2500	JA
HSM-231	105-115-125	6.3 CT. 5 CT.	5	2500	JB
HSM-235	105-115-125	2.5 CT. 10 CT.	10	7500	MA
HSM-238	105-115-125	†26 CT. 26	2	2500	JA

† Series or parallel connections.

\*\* See case chart Triad Page 15.

## FILAMENT Transformers, 380/1500 cycle

Type No.	Primary Volts	Secondary Volts	Secondary Amperes	Insulation Test Voltage	** Case
HS-436	115	6.3 CT.	1	1500	AH
HS-425	105-115-125	6.3 CT.	2	1500	AJ-2
HS-427	105-115-125	6.3 CT.	5	2500	EA
HS-445	105-115-125	24 CT.	3	2500	EA
HS-438	105-115-125	24 CT.	1.5	1500	EA
HS-433	105-115-125	*6.3 CT. *6.3	5	2500	FA
HS-435	105-115-125	*6.3 CT. *6.3	3.5	2000	FA
HS-441	105-115-125	*5 CT. *5	10	2000	HA
HS-443	105-115-125	*12.6 CT. *12.6	0.8	1500	AJ-2
HS-442△	57.5-99.7-115-120 Single phase.	*12.6 CT. *12.6	2	1500	EA
HS-444△	57.5-99.7-115-120	*26 CT. *26 CT.	2	2000	FA

△ Two Units can be used, 115 volt 3 phase to 26 volt 2 phase, Scott-connected. \* Series or parallel connection. † 5 volt tap for filament type rectifiers.

## UNIVERSAL RECTIFIER

### POWER SUPPLY TRANSFORMERS

Primaries 115 Volts, 50/60 Cycles

Type No.	DC Range	MIL Case
HSM-249	6V.-.065A. to 53V.-.02A.	AH
HSM-250	6V.-.22A. to 53V.-.07A.	AJ
HMS-251	6V.-1.2A. to 53V.-.4A.	FA
HSM-252	6V.-3A. to 53V.-1A.	HA
HSM-253	6V.-7.5A. to 53V.-2.5A.	KA
HSM-254	6V.-18A. to 53V.-6A.	OA

## HIGH FIDELITY OUTPUT

### HIGH LEVEL OUTPUT — Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	Freq. Resp.	Max. Level Watts	F Di. Min. In.	** Case
HSM-79	20000 CT. (20 Ma.) or 5000 (40 Ma.)	16/8/4	40-20000	5	1½	FA
HSM-80	20000 CT. (20 Ma.) or 5000 (40 Ma.)	600/250 CT. or 150/62.5	40-20000	5	1½	FA
HSM-81	8000 CT. Split primary.	16/8/4	7-50000	15	1½	JB
HSM-82	8000 CT.	600/250/125	7-50000	15	1½	JB
HSM-182	8000/2000 CT. Split primary.	600/250/125	7-50000	15	1½	JB
HSM-84	5000 CT.	16/8/4	15-30000	20	1½	JB
HSM-184	8000	16/8/4	10-50000	25	1½	KB
HSM-189	10000/2500 CT. Split primary.	16/8/4	7-50000	25	1½	KB
HSM-190	10000/2500 CT. Split primary.	500/250/125	7-50000	25	1½	KB
HSM-187	6600 CT. or 1650 CT.	500/250/125	7-50000	25	1½	KB

(Continued on next page.)

# TRIAD DISTRIBUTOR DIVISION



A DIVISION OF LITTON INDUSTRIES



## HIGH FIDELITY OUTPUT (cont.)

HSM-94	4500 CT.	16/8/4	7-50000	55	1 1/4	LA
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### HIGH LEVEL OUTPUT

Type No.	Primary Impedance	Secondary Impedance	Output Watts
S-34X	4000 CT.	32/16/8	7.5
S-31A	8000 CT.	16/8/4	15
S-32A	8000 CT.	500/250/125	15
†S-142A	8000 CT.	16/8/4	15
S-35A	5000 CT.	16/8/4	20
S-36A	5000 CT.	500/250/125	20
†S-146A	6600 CT.	16/8/4	25
S-149A	3300 CT.	16/8/4	50
SR-45Z*	4000/2000/1000/500	16/8/4	10
S-46A	2000/1000/500/250	16/8/4	20
†SX-201	3300 ohms CT.	4-8-16 ohms	10-15
†SX-202	4500 ohms CT.	4-8-16 ohms	10-15
SX-203	5000 ohms	4-8-16 ohms	5-7
SX-204	5000 ohms CT.	4-8-16 ohms	10-15
SX-205	6600 ohms CT.	4-8-16 ohms	10-15
†SX-206	6600 ohms CT.	4-8-16 ohms	10-15
†SX-207	8000 ohms CT.	4-8-16 ohms	10-15
SX-208	8000 ohms CT.	4-8-16 ohms	10-15

† Williamson type circuit. Proper taps on primary for screen operation, leads out both end bells.

\* Replaces S-45Z.

## LINE POWER

### ISOLATION Transformers, 50/60 cycles

(See Triad page 6 for 380/1500 cycle isolation transformers)

Type No.	V. A. Output	Input Volts	Output Volts
N-51X	35	115	115
N-68X	50	230/115	115
N-53M	85	115	115
N-54M	150	115	115
N-73A	150	115	115/230
N-74A	150	115	57.5/115
N-67A	150	230/115	115
N-55M	250	115	115
N-66A	250	230/115	115
N-57M	500	115	115
N-59M	1000	115	115
†N-52M	350	95 to 130 (in 5V steps)	115
†N-56M	150	95 to 130 (in 5V. steps)	115

† With switch and meter for primary voltage control. Detachable cord.

N-469A	50	440/220	115
N-470A	150	440/220	115
N-471A	300	440/220	115

### CONSTANT VOLTAGE TRANSFORMERS

Type No.	Rating V. A.	Input Volts	Output Volts
K-100	30	95-130	117
K-101	60	95-130	117
K-102	120	95-130	117
K-103	250	95-130	117
K-104	500	95-130	117
K-105	750	95-130	117

### STEPDOWN Autoformers, 50/60 cycles

Type No.	V. A. Output	Input Volts	Output Volts
N-1X	50	230	115
N-3M	85	230	115
N-4M	150	230	115
N-5M	250	230	115
N-7M	600	230	115
N-9M	1250	230	115
N-11M	2000	230	115
N-34X	150	95/105/115/125/135	115
†N-35M	250	95 to 130 (in 5V. steps)	115
†N-50M	500	95 to 130 (in 5V. steps)	115

With switch and meter.

† M case with switch for primary voltage control and detachable cord.

Note: Last letter of Type No. denotes case style.

## FILTER REACTORS

Type No.	Current DC Ma.	Inductance *Henries	Resistance Ohms	Insulation Test Voltage
HSM-301	20	30	1000	1500
HSM-302	20	14	560	1500
HS-331	40	4	375	1500
HS-303	50	12	385	1500
HS-333	70	3	225	1500
HSM-305	70	15	300	2500
HS-335	120	3	150	1500
HSM-307	120	15	185	2500
HSM-309	150	9	115	2500
HS-339	200	3	105	2000
HSM-315	200	10	100	2500
HS-341	300	2	48	2000
HSM-319	300	10	85	2500

Minimum Inductance—20%

## PULSE TRANSFORMERS BLOCKING OSCILLATOR TYPE

Type No.	Pulse Voltage per Winding	Pulse Duration—us	Load Impedance —Ohms
PL-4	100-100	.54 to .66	500*
*PL-5	100-100-100	.36 to .54	2000*
PL-6	100-100-100	.36 to .54	2000*

\* As blocking oscillator in Triad circuit. Can be used with lower impedances and higher peak power at lower duty cycle.

## HIGH SPEED FERRITE TOROIDAL CORE LOW POWER

Type No.	Turns Ratio	Pulse Width $\mu$ Sec.	Rise Time $\mu$ Sec.	Repetition Rate	Suggested Load Ohms	Watts
PL-80E	1-1	.07	.03	1-2 Mc	200	15
PL-81E PL-81H PL-81P	2-1	.07	.03	1-2 Mc	200	20
PL-82H PL-82P	3-1	.08	.03	1-2 Mc	100	15
PL-83E PL-83H PL-83P	4-1	.08	.03	1-2 Mc	100	15
PL-84E PL-84H	5-1	.08	.03	1-2 Mc	100	15

The letter "H" indicates Hermetically Sealed, the letter "P" indicates Miniature Plug-in and the letter "E" indicates Epoxy Molded.

## LOW SPEED SILICON CORE LOW POWER

Type No.	Pulse Voltage per Winding	Pulse Duration— $\mu$ Sec.	Load Impedance —Ohms
PL-124H	300-300-300	.6 to 5	150
PL-140E PL-140H PL-140M	100-400-100	.6 to 5	175
PL-139E PL-139H PL-139M	100-100	.3 to 1.5	250
PL-146E PL-146H PL-146M	300-300	.6 to 5	250

Letter "M" indicates MIL type case. For pulse types only.



Case B



Case M



Case M with Meter



Case C



Case AC



A DIVISION OF LITTON INDUSTRIES



# TRIAD DISTRIBUTOR DIVISION

## Instrument POWER SUPPLY Transformers

For PREAMPLIFIERS, VTVM, etc.  
Primary 115 volts — 60 cycles

Type No.	Plate Supply		Filament Windings Volts and Amperes
	AC Volts	DC Ma.	
R-68A	800 CT.	30	5V.-2A, 6.3V.-1.2A, 6.3V.-1.2A.
R-2C	135	15	6.3V.-9A.
R-23B	250 CT.	22	6.3-.8A. 15.5/12.6V.-6A.
R-3A	500 CT.	20	6.3V CT.-2A.
R-29A	230 CT.	40	6.3V.CT.-1.5A.
R-30X	135	50	6.3V.-1.5A.
R-54X	115	15	6.3V.-.6A.
R-56A	130	20	0/15/22.5/30V.-.6A.
R-73B	135	200	6.3V CT.-5.5A.

For CATHODE RAY Tubes  
Primary 115 volts — 60 cycles

Type No.	Plate Supply		Filament Windings Volts and Amperes	
	AC Volts	DC Ma.		
R-41C	440-0-440-1250.	125/5	*6.3V.-.6A. †2.5V.-1.75A. 5V.-3A.	†2.5V.-1.75A. 5V.-3A.
R-45C	400-0-400-800.	30/5	*6.3V.-.6A. 6.3 CT.-3A. †5V.-2A	6.3V.-1A. 5V.-2A.
R-43C	1600	3	*6.3/5/2.5V.-1A. †6.3/5/2.5V.-3A.	

\* Static shielded and insulated for full plate voltage.  
† Insulated for full plate voltage.

For REGULATED POWER SUPPLIES  
Primary 115 volts — 60 cycles

Type No.	Plate Supply		Filament Windings Volts and Amperes	
	AC Volts	DC Ma. Choke Input		
R-70A	880 CT.	75	6.3V.-.6A. 6.3V.-.3A.	6.3V.-.9A. 6.3V.-.3A.
R-26A	880-720 CT.	200	6.3 CT.-.8A. 6.3V.-1A.	6.3V.-.3A. 5V.-3A.
R-28A	1250 CT.	300	6.3 CT.-.8A. 6.3V.-3A.	6.3V.-.3A. 5V.-6A.
R-46A	1250 CT. 130 (Bias winding)	350	5V.-4A.	6.3V.-4A. 6.3V.-1A. 6.3V.-1A.
R-46A will supply 550 V. D.C. using 2 5R4G rectifier tubes, choke input. Will also supply 130 V. for bias using Selenium rectifier. Sufficient filament windings to regulate screen voltages.				
R-27A	1500 CT.	400	5V.-6A.	6.3V.-.3A. 6.3V.-.8A.

### UNIVERSAL

Isolation, Autoformer, Voltage Control 50/60CPS

Type No.	V.A. (Isolation)	V.A. (Autoformer)
N-64AC	500	1000
N-62AC	1000	2000
N-60SC	2000	4000

### SOLID STATE RECTIFIER POWER TRANSFORMERS

Primary 117 volts — 50/60 cycles

Type No.	Secondary No. 1 Volts	Secondary No. 2 MADC	Secondary No. 3 Volts @ A	Secondary No. 4 Volts @ A	Mounting Centers
R-82B	35-0-35	3.5 Amp.	—	—	3 x 3 3/4
R200A	200-0-200	400	6.3	3 6.3	3 2 3/4 x 3 1/4
R201A	150-0-150	600	6.3	2.5 6.3	2 3/4 x 3 1/4
R202A	100-0-100	800	6.3	2 6.3	2 3/4 x 2 1 1/4
R-203A	50-0-50	1600	6.3	1.5 6.3	2 3/4 x 2 1 1/4
R-204A	40-0-40	2000	6.3	1.5 6.3	2 3/4 x 2 1 1/4
R-205A	30-0-30	2500	6.3	1.5 6.3	2 3/4 x 2 1 1/4
R-206B	27-0-27	1.9 Amp.	—	—	2 1/2 x 3 1/2
†R-208A	40-0-40	1.2 Amp.	—	—	2 1/4 x 3 3/8

### SELENIUM RECTIFIER Transformers Primary 60 cycles

These transformers are for use with Selenium rectifiers.  
Rectifiers not included.

Type No.	Primary Volts	Secondary		Half Wave Volts DC	Full Wave Volts DC
		AC Volts	Ampers RMS		
F-47U	115	17-18	3	6-7	13-14
F-48U	115	17-18	6	6-7	13-14
F-49U	115	36 36	3 3	13	26
F-60U	115	6.5-13- 19.5-26	3 (Int.)	9	18
F-61U	115	24-27-30- 33-36	3	13	26
F-67U	110-120	24-27-30- 33-36	8	13	26
F-63U	115	8-9 8-9	2 2	—	6-7
F-64U	115	7-8-9	7	—	6-7
F-62U	105-115- 125	9-9-9-9	10 ea. wdg.	—	6-7 ea. wdg.
F-68U	115	9 CT. 9 9 9	3.5 3.5 3.5 3.5	—	6-7 ea. wdg.
F-65U	110-120	140-150-160	.75	60	115
F-66U	110-120	140-150-160	2.5	60	115
F-79U	115	24-26-28-30	15	11.4	22.8
F-80U	tapped for mult. sec.	12 to 18 or 24 to 36CT	40 20	—	13
F-84AC	230-115	24CT or 12CT	10 20	—	8.5
F-90X	115 tapped	40CT-20CT-10	100ma	15	30
F-91X	115 tapped	40CT-20CT-10	300ma	15	30
F-92A	115 tapped	40CT-20CT-10	1 amp	15	30
R-93A	115	6.3CT (voltage doubler circuit) 150-160-170	6 (500ma)	65	120
F-93X	115 tapped	40CT-20CT-10	750ma	15	30
F-94X	115 tapped	40CT-20CT-10	35ma	15	30

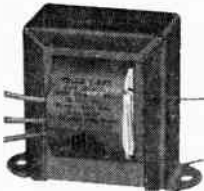
### FILAMENT Transformers, Single Secondary Primary 115 volts — 60 cycles

Type No.	Secondary Volts	Secondary Amperes	Test Volts
F-1X	2.5 CT.	3	1500
F-72Z	2.5 CT.	5	7500
F-6X	2.5 CT.	6	2500
F-3X	2.5 CT.	10	3000
F-5U	2.5 CT.	10	7500
F-71U	2.5 CT.	10	10000
F-7X	5 CT.	3	1500
F-8X	5 CT.	6	1500
F-12X	5 CT.	8	2500
F-9A	5.2 CT.	13	1500
F-10U	5 CT.	14	10000
F-9U	5.2 CT.	13	1500
F-15U	5 CT.	15	3000
F-11U	5.2 CT.	24	1500
F-13X	6.3	.6	1500
F-14X	6.3 CT.	1.2	2500
†F-52X	6.3	1.2	5000
†F-51X	6.3/5	2	5000
†F-53X	6.3	4	5000
F-16X	6.3 CT.	3	2500
F-43X	6.3	4	1500
F-18X	6.3 CT.	6	1500
F-18A	6.3 CT.	6	1500
F-19X	6.3/6 CT.	6	2000
F-21A	6.3 CT.	10	1500
F-20U	6.3/6 CT.	11	3000
F-17U	6.3 CT.	15	Pri. 1500 Sec. 10000
F-22A	6.3 CT.	20	2000
F-24U	7.5/6.3 CT.	8	3000
F-28U	7.5/6.3 CT.	25	3000
F-23U	10 CT.	7	1500
F-29U	12/11/10 CT.	11	3000
F-25X	12.6 CT.	1.5	1500

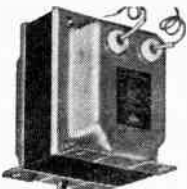
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Case U



Case Z



Case AL



Case X

# TRIAD DISTRIBUTOR DIVISION



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Type No.	Inductance Henries	Current Ma.	Resistance Ohms	Test Volts RMS
F-44X	12.6 CT.	2	1500	
F-26X	12.6 CT.	2.5	1500	
F-45X	24 CT.	1	1500	
F-46X*	24 CT.	1	1500	
F-41X	25.2 CT.	2	1500	
F-40X	26.8 CT.	1	1500	
F-50X	Filament line transformer Pri. 6.3V/5V Sec. 6.3/5V 2A		5000	
•F-54X	35 CT.	1.5	1500	
•F-85U	5 or 7.5 CT.	20	1500	
	5 or 7.5 CT.	20	1500	

† Low capacity—High voltage for damper tube operation.  
\* 50/60 cycles.

## CHOKES

### SWINGING FILTER REACTORS

Type No.	Inductance Henries	Current Ma.	Resistance Ohms	Test Volts RMS
C-31A	25/5	20/200	150	2500
C-33A	25/5	30/300	105	3000
C-32AL	20/4	35/350	105	5000
C-35A	20/4	40/400	65	3000
C-39A	25/5	50/500	65	3000
C-38AL	25/5	50/500	65	5000

### SMOOTHING FILTER REACTORS

Type No.	Inductance Henries	Current Ma.	Resistance Ohms	Test Volts RMS
C-30X	50	15	3500	1500
C-2X	2	15	70	1500
C-1X	15	20	1000	1500
C-3X	10	50	500	1500
C-4X	4	50	360	1500
C-6X	5	65	330	1500
C-5X	12	75	390	1500
C-8X	7	75	240	1500
C-7X	10	90	270	1500
C-9X	4	90	100	1500
C-11X	6	110	160	1500
C-10X	9	125	250	1500
C-12X	6	160	165	1500
C-12A	6	160	165	1500
C-13X	3	160	75	1500
C-14X	6	200	150	1500
C-14A	6	200	150	1500
C-16A	10	200	150	2500
C-21X	1.5	225	65	1500
C-15X	4	250	100	1500
C-15A	4	250	100	1500
C-23X	1.2	260	45	1500
C-24X	1	240	50	1500
C-27X	.7	290	25	1500
C-36X	.5	300	30	1500
C-17X	1.5	300	40	1500
C-18A	8	300	90	2500
C-19A	10	300	105	3000
C-25A	2.6	310	60	1500
C-42AL	8	350	105	5000
C-34X	.6	350	35	1500
C-28X	1	350	35	1500
C-29X	1.5	375	50	1500
C-50X	2	400	40	2500
C-20A	6	400	60	3000
C-22A	10	500	65	3000
C-45AL	10	500	65	5000
C-40X	.32	600	10	1500
C-47U	.3-.075	1A-2A	3-.75	1500
C-48U	.08-.02	2.5A-5A	.57-.143	1500
C-49U	.032-.008	5A-10A	.19-.05	1500
C-80U	.024-.006	20A-40A	.096-.024	1500
•C-56X	.035	2.0A	.75	1500
•C-57U	.025	4.0A	.55	1500
•C-58U	.01	8.0A	.15	1500
•C-59U	.01	12.5A	.10	1500
•C-60U	.005	22.5A	.06	1500

### ISOLATION Transformers

Primary 115V—400 cycle to operate 380 to 1500 cycles

Type No.	Secondary Volts	Amp.	V. A.	F Dim. (Min.) Inches	Case
HS-470	115	.35	40	1	EA
HS-471	115	.7	80	1	FA
HS-472	115	1.4	160	1	GA
HS-474	115	2.6	300	1	JA
HS-475	115	4.4	500	1	KA

### 60 cycle — hermetically sealed

Type No.	secondary volts	amp.	V.A. (Min.)	F dim. inches	Case
HSM-270	105-115-125	.4	50	1	JB
HSM-271	105-115-125	1	125	1	KA
HSM-272	105-115-125	2	250	1 1/4	NB

All isolation transformers electrostatically shielded.

### FILAMENT Transformers, Multiple Secondary

Primary 115 volts — 60 cycles

Type No.	Secondary Volts and Amperes	Test Volts RMS
F-27U	10 CT.-10A. 2.5 CT.-10A.	1500 7500
F-30A	5 CT.-3A. 6.3 CT.-8A.	1500
F-32A	6.3 CT.-3A. 6.3 CT.-3A.	1500
F-34A	6.3 CT.-1.75A. 6.3V.-1.75A. 6.3V.-1.75A.	1500
F-36A	6.3 CT.-3.5A. 6.3V.-3.5A. 6.3V.-3.5A.	1500
F-38A	6.3 CT.-5A. 6.3V.-5A. 6.3V.-1A. 5V.-4A. 5 CT.-2A.	1500
F-42A	12.6 CT.-2.5A. 12.6-2.5A.	1500
F-83A	12.6 CT. 5 12.6 CT. 5	1500

### AUDIO TRANSFORMERS

Low Level High Fidelity

Type No.	Application	Frequency Response	Primary Impedance	Turn Ratio
A-9J	line or mike to grid	30-15000	600/250/50	12
A-10J	line to grid	30-15000	600/150 split wdgs.	10.5
A-11J	line or mike to grid 60-80DB shielding	30-15000	600/250/50	10
A-12J	same as A-11J	30-15000	600 CT./150 split windings	10
A-13J	line to transistor or line to line (70 db Shld)	30-15000	600/300/200 CT./110/50 split windings	1
A-40J	par. fed 6J5 or 6SN7 plate to P.P. grids	30-15000	15000	2.76
A-50J	pp plates to voice coil	30-15000	10000 CT.	35.3
A-52J	line or transistor to line or transistor	30-15000	500 CT./125 20 MA. D.C. Split Winding	2
A-55J	par. fed 6J5 or 6SN7 to line	30-15000	15000	5
A-56J	line or transistor to Voice Coil	30-15000	500 CT./125 20 MA. D.C. Split Winding	5.6
•A-61J	line to 2 lines or transistors	60-15000	600/150 split wdgs.	1.41:1:1
A-65J	par. fed 6J5 or 6SN7 to line	30-15000	15000 CT.	5
A-66J	same as A-65J—5 ma DC in primary	40-15000	15000	5
A-67J	line to line	30-15000	600 CT./150 split windings	1
A-68J	pp plate to line 4 ma DC in primary	30-15000	15000 CT.	5
A-69J	pp plates or bridging to line 3 MA. D.C. in Primary	30-15000	25,000 CT./6250 Split Winding	7.1
A-70J	line or transistor to line or transistor	30-15000	500 CT./125 15 MA. D.C. Split Winding	2.24
A-77J	Audio choke — dual winding	250 henries - 5 ma DC 62.5 henries - 10 ma DC		
A-57J	line or transistor to line	30-15000	600/250/50	1:1
A-79J	Transistor inter-stage 10ma in primary	20-15000	1000	2.2

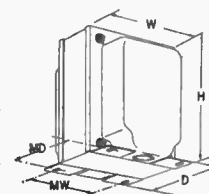
### Line or Microphone to Grid

Type No.	Application	Frequency Response	Primary Impedance	Turn Ratio
A-1X	Line or single button mike to grid.	100-15000	100	31.4
A-3X	Line or D.B. mike to grid.	200-10000	400 CT.	22.1
A-4X	Line to grid.	100-20000	500/200/67.5 CT.	12
A-5X	Single button mike to p.p. grids—Hi-gain.	100-15000	100	84
A-6X	Speaker V.C. to grid	150-20000	8/3.2	79
A-7J	Voice coil to grid	150-10000	3.2	124

• New item.



Case A



Case A

Triad J Series offers flexibility enabling your amplifiers to exceed broadcast standards. Although economy in construction has cut costs, these transformers approach and closely approximate performance characteristics found in more costly hermetically sealed parts. Single hole mounting provides for rotation for maximum reduction of hum... alloy shielding gives you 40-60 db hum reduction (60-80 db in Types A-11J & A-12J)... you can obtain wide frequency ranges... flexible leads facilitate ease in mounting... input units are electrostatically and magnetically shielded... light weight and encased in Triad's satin smooth baked gray enamel cases, 1 3/8" diameter, 1 3/4" above chassis... legible circuit diagrams are permanently affixed to every case.



A DIVISION OF LITTON INDUSTRIES



# TRIAD DISTRIBUTOR DIVISION

## AUDIO OUTPUT TRANSFORMERS

Line to Voice Coil

Type No.	Primary Impedance	Output Imped.	Output Watts	Freq. Resp.
S-23X	50 (autoformer).	3.2	1	100-8000
S-26X	500/50 (autoformer).	3.2	4	100-8000
S-65X	500	8/4	5	100-10000
S-66X	500 (autoformer).	16/8/4	3	100-10000
S-76Z	250/125/62.5/31	16/8/4	10	40-15000
S-77U	500 CT./125 split wdgs.	32/16/8/4/2	30	40-15000

## POWER

### Combined PLATE and FILAMENT Transformers

Primary 115 volts — 60 cycles

Type No.	Plate Supply		Rect. Fil.		Other Fil.	
	AC Volts	DC Ma.	Volts	Amp.	Volts	Amp.
R-22A	380/320 CT.	70	6.3	.6	6.3 CT.	3
R-22B	380/320 CT.	70	6.3	.6	6.3 CT.	3
R-4A	500 CT.	40			6.3 CT.	2
R-4B	500 CT.	40			6.3 CT.	2
R-5A	600 CT.	65			6.3 CT.	2.7
R-5B	600 CT.	65			6.3 CT.	2.7
R-6A	480 CT.	50	5	2	6.3 CT.	2
R-6B	480 CT.	50	5	2	6.3 CT.	2
R-7A	600 CT.	50	5	2	6.3 CT.	2
R-7B	600 CT.	50	5	2	6.3 CT.	2
R-8A	500 CT.	75	5	2	6.3 CT.	2.5
R-8B	500 CT.	75	5	2	6.3 CT.	2.5

R-9A	600 CT.	75	5	2	6.3 CT.	3
R-9B	600 CT.	75	5	2	6.3 CT.	3
R-10A	525 CT.	90	5	2	6.3 CT.	5
R-10B	525 CT.	90	5	2	6.3 CT.	5
R-11A	700 CT.	90	5	2	6.3 CT.	3.5
R-11B	700 CT.	90	5	2	6.3 CT.	3.5
R-12A	550 CT.	110	5	2	6.3 CT.	5
R-12B	550 CT.	110	5	2	6.3 CT.	5
R-14A	700 CT.	125	5	3	6.3 CT.	4.5
R-14B	700 CT.	125	5	3	6.3 CT.	4.5
R-16A	700 CT.	160	5	3	6.3 CT.	5
R-16B	700 CT.	160	5	3	6.3 CT.	5
R-17A	750 CT. 80 Tap	160	5	3	6.3 CT. 2.5 CT.	5 5
R-18A	750 CT.	175	5	3	6.3 CT.	8
R-18B	750 CT.	175	5	3	6.3 CT.	8
R-19A	750 CT. 80 Tap	200	5	3	6.3 CT. 2.5 CT.	6 10
R-20A	700 CT.	200	5	3	6.3 CT.	8
R-20B	700 CT.	200	5	3	6.3 CT.	8
R-72A	800 CT.	140	5	3	6.3 CT.	4
R-21A	800 CT.	200	5	3	6.3 CT.	6
R-21B	800 CT.	200	5	3	6.3 CT.	6
R-24A	800 CT.	300	5	6	6.3 CT.	6
R-24B	800 CT.	300	5	6	6.3 CT.	6
R-25A	800 CT.	500	5	6	6.3 CT.	3
R-58A	875 CT.	185	5	3	6.3 CT. 6.3 CT.	4 3
†R-59A	1200 CT.	200	5	3	6.3 CT. 6.3 CT.	3 3
R-71A	900 CT.	250	5 CT.	4	6.3 CT. 6.3 CT.	2 4

### Combined PLATE and FILAMENT Transformers "100" Series

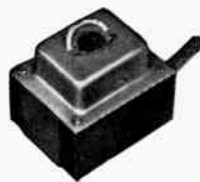
Never have the outstanding features of Triad Combined Plate and Filament Power Transformers been available at such realistic costs. No quality or performance requirement has been overlooked... specify Triad and be certain. Shielding, impregnation, chatter freedom... to Triad's demanding quality control standards.



Case A



Case B



Case BS

### PRIMARY 115 VOLTS 60 CYCLES

Type No.	Plate Supply AC Volts	Rect. Filaments DC Ma. Volts	Filaments Amp.	Other Filaments Volts	Amp.	Case Dim.			Mtg. Dim.		Wt. Lbs.	
						H	W	D	MW	MD		
R-104A	500 C.T.	40		6.3 V.C.T.	2	2 3/4	2 3/8	2 1/4	1 3/4	1 1/2	1.55	
R-104B	500 C.T.	40		6.3 V.C.T.	2	1 5/8	2 3/4	2 1/4	2 3/8	1 3/4	1.55	
R-105A	600 C.T.	65		6.3 V.C.T.	2.7	3 1/8	2 5/8	2 1/2	2	1 3/4	2	
R-105B	600 C.T.	65		6.3 V.C.T.	2.7	1 3/4	3 1/8	2 5/8	2 1/2	2	2	
R-106A	480 C.T.	50	5	2	6.3 V.C.T.	2	3 1/8	2 5/8	2 3/8	2	2.05	
R-106B	480 C.T.	50	5	2	6.3 V.C.T.	2	1 5/8	3 1/8	2 5/8	2 1/2	2.05	
R-107A	600 C.T.	50	5	2	6.3 V.C.T.	2	3 1/8	2 5/8	2 1/2	2	2.35	
R-107B	600 C.T.	50	5	2	6.3 V.C.T.	2	1 3/4	3 1/8	2 5/8	2 1/2	2.35	
R-108A	500 C.T.	75	5	2	6.3 V.C.T.	2.5	3 1/8	2 5/8	2 5/8	2	1 7/8	2.4
R-108B	500 C.T.	75	5	2	6.3 V.C.T.	2.5	1 7/8	3 1/8	2 5/8	2 1/2	2	2.4
R-109A	600 C.T.	75	5	2	6.3 V.C.T.	3	3 1/2	3	2 7/8	2 1/4	1 3/4	2.9
R-109B	600 C.T.	75	5	2	6.3 V.C.T.	3	1 3/4	3 3/8	2 7/8	2 1 3/8	2 1/4	2.9
R-110A	525 C.T.	90	5	2	6.3 V.C.T.	5	3 1/2	3	3 1/4	2 1/4	2	3.25
R-110B	525 C.T.	90	5	2	6.3 V.C.T.	5	2	3 3/8	2 7/8	2 1 3/8	2 1/4	3.25
R-111A	700 C.T.	90	5	3	6.3 V.C.T.	3.5	3 1/2	3	3 1/4	2 1/4	2	3.55
R-111B	700 C.T.	90	5	3	6.3 V.C.T.	3.5	2	3 3/8	2 7/8	2 1 3/8	2 1/4	3.55
R-112A	550 C.T.	110	5	2	6.3 V.C.T.	5	3 1/2	3	3 3/8	2 1/4	2 1/8	3.7
R-112B	550 C.T.	110	5	2	6.3 V.C.T.	5	2 1/8	3 3/8	2 7/8	2 1 3/8	2 1/4	3.7
R-113A	650 C.T.	40	5	2	6.3 V.C.T.	2	3 1/8	2 5/8	2 3/4	2	1 3/4	2.3
R-113B	650 C.T.	40	5	2	6.3 V.C.T.	2	2	3	2 1/2	2	2 1/2	2.3
R-114A	700 C.T.	125	5	3	6.3 V.C.T.	4.5	3 7/8	3 1/4	3 1/4	2 1/2	2 3/8	4.7
R-114B	700 C.T.	125	5	3	6.3 V.C.T.	4.5	2 1/2	3 3/4	3 1/8	3 1/8	2 1/2	4.7
R-115A	680 C.T.	70	5	2	6.3 V.C.T.	2.5	3 5/8	3	3 3/8	2 1/4	2 1/8	3.5
R-115B	680 C.T.	70	5	2	6.3 V.C.T.	2.5	2	3 3/8	2 7/8	2 1 3/8	2 1/4	3.5
R-116A	700 C.T.	160	5	3	6.3 V.C.T.	5	3 7/8	3 1/4	3 3/8	2 1/2	2 5/8	5.65
R-116B	700 C.T.	160	5	3	6.3 V.C.T.	5	2 5/8	3 3/4	3 3/8	3 1/8	2 1/2	5.65
R-118A	750 C.T.	175	5	3	6.3 V.C.T.	8	4 1/4	3 5/8	4	2 3/4	2 7/8	7.45
R-118B	750 C.T.	175	5	3	6.3 V.C.T.	8	2 7/8	4 1/8	3 1/2	3 3/8	2 3/4	7.45
R-120A	700 C.T.	200	5	3	6.3 V.C.T.	8	4 1/4	3 5/8	4 1/8	2 3/4	2 7/8	8.25
R-120B	700 C.T.	200	5	3	6.3 V.C.T.	8	3	4 1/8	3 1/2	3 3/8	2 3/4	8.25
R-121A	800 C.T.	200	5	3	6.3 V.C.T.	6	4 1/4	3 5/8	4 3/8	2 3/4	3 1/4	8.25
R-121B	800 C.T.	200	5	3	6.3 V.C.T.	6	3 1/4	4 1/8	3 1/2	3 3/8	2 3/4	8.25

# TRIAD DISTRIBUTOR DIVISION



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## PLATE POWER Transformers Primary 115 volts — 50/60 cycles

Type No.	Secondary Volts		Sec. D.C. Ma.		Rect. Fil.
	AC	DC	CCS	ICAS	
P-1A	440/220 CT.	180/90	160	190	5V-3A
P-3A	600/300 CT.	250/125	300	360	5V-4A
P-5A <sup>o</sup>	1100 CT.	400	250	300	5V-4A
P-7A <sup>o</sup>	1235 CT.	500	250	300	5V-4A
P-9A	1235 CT.	500	500	600	5V-6A
P-11A <sup>o</sup>	1455 CT.	600	250	300	
P-213AL*†	1780 CT.	750	250	300	
SP-14A	1780 CT.	750/600	250	300	
P-215AL*†	2340 CT.	1000	250	300	
P-216AL*†	2430 CT.	1000	500	600	
P-217AL*†	2880 CT.	1250	250	300	
P218AL*†	2880 CT.	1250	500	600	
P-220AL*†	3300 CT.	1500	350	420	
PR-21AL	3300 CT.	1500	500	600	

† Plate leads out side of case for 866 rectifiers.  
‡ Tapped Pri. to produce the lower D.C. voltage.  
\*Pri. is 230/115V.  
<sup>o</sup>60 cycle only.

## POWER TRANSFORMERS

### Combined Plate and Filament

Electrostatically shielded. Primary 115 volts 60 cycles.

Type No.	Plate Supply		Filaments — Volts and Amperes	
	AC Volts	DC Ma.		
R-37BC	735 V.C.T.	275	5V.—6A.	6.3V.—8.5A. 6.3V./5V.—2A.*
R-38A	750 V.C.T.	225	5V.—3A.	6.3V.—10A. 6.3V.—1.2A.* 6.3V.—2.5A.
R-40BC	780/440 V.C.T.	300	5V.—3A. 5V.—3A. 5V.—2A.	6.3V.—8.5A. 6.3V.—3.5A.
R-49BS	650 V.C.T.	240	5V.—3A.	6.3V.—9A. 6.3V.—0.9A. 6.3V.—1.2A.*
R-49BC				
R-50A	790/650 V.C.T.	310	5V.—3A. 5V.—3A. 5V.—2A.	6.3V.—5A. 6.3V.—5A. 6.3V.—2.6A.
R-50BC				
R-51BC	505 V.C.T.	320	5V.—6A.	6.3V.—5A. 6.3V.—5A. 6.3V.—1.2A.*
R-60BC	460 V.C.T.	300	5V.—6A.	6.3V.—10A. 6.3V.—1.2A.* 6.3V.—2.5A.
R-61BC	560 V.C.T.	275	5V.—6A.	6.3V.—6A. 6.3V.—6A. 6.3V.—1.2A.*
R-62BC	680 V.C.T.	290	5V.—6A.	6.3V.—10A. 6.3V.—1.5A. 6.3V.—1.2A.*
R-64BC	520 V.C.T.	270	5V.—3A.	6.3V.—10A.
R-65BC	550 V.C.T.	270	5V.—3A.	6.3V.—10A.
R-66BC	580 V.C.T.	270	5V.—3A.	6.3V.—10A.
R-67BC	600 V.C.T.	250	5V.—3A.	6.3V.—9A.
R-69BC	550 V.C.T.	270	5V.—3A.	6.3V.—10A.
R-74BC	680 V.C.T.	190	6.3V.—7.8A. 6.3V.—1.2A. (damper wdg)	5V.—3A.

\* Less than 100 m.m.f.d. capacity to ground and insulated for high voltage damper tube.  
Height of transformers in BC cases is measured from chassis line to top of case. Copper shading ring on all BC cases to reduce external magnetic field.

Note: Last letter of Type No. denotes case style.

## UNIVERSAL RECTIFIER POWERS

Type No.	Secondary No. 1 AC Volts	Secondary DC Amps		Secondary No. 2 AC Volts DC Amps
		Full Wave CT	Bridge	
■F-200A	13 or 18 @ .9 ADC	—	—	13 or 18 @ .9 ADC
■F-202U	11.0 to 29.5	2.0	1.25	—
■F-203U	12.0 to 30.0	4.0	2.0	—
■F-204U	11.5 to 29.0	8.0	4.0	—
■F-205U	12.0 to 29.5	12.0	6.0	—

■ New item.

## AUDIO

Triad Replacement Output Transformers furnish a wide range of size and mounting characteristics... specifically engineered for mounting in precise location in chassis. Climaitite treated... manufactured to exacting quality standards of more costly types... progressively designed for advanced circuitry and audio tubes... total complete coverage over impedance and wattage ranges... Triad units provide finest response in minimum space... and outlive all others.

### REPLACEMENT OUTPUT TRANSFORMERS

Single Tube To Standard Voice Coil 3-4 Ohms

Type No.	Primary Impedance	D.C. Ma	Audio Watt
S-20X	2000	50	2-3
S-20Z	2000	50	2-3
S-2X	2000	55	3-5
S-12X	2500	50	2-3
S-12Z	2500	50	2-3
S-1X	2500	60	3-5
S-50X	2500	60	4-6
S-16X	3000 5% Tap	50	2-3
S-30X	3000	60	3-5
S-67X	3200	60	4-6
S-4X	3000	70	5-8
S-14Z	4000	50	2-3
S-41X	4000	50	3-5
S-41Z	4000	50	3-5
S-6X	5000	35	2-3
S-6Z	5000	35	2-3
S-3X	5000	40	3-5
S-5X	5000	50	5-8
S-5Z	5000	50	5-8
S-48X	6500	35	2-3
S-48Z	6500	35	2-3
S-49X	6500	35	3-5
S-7X	7500	30	3-5
S-9X	7500	50	5-8
S-9Z	7500	50	5-8
S-8X	8000	30	2-3
S-8Z	8000	30	2-3
S18X	8000	45	4-6
S-18Z	8000	45	4-6
S-11X	10000	30	2-3
S-11Z	10000	30	2-3
S-17X	10000	30	3-5
S-10X	10000	45	4-6
S-40X	14000	5.5	1/4
S-38X	16000	15	2-3
S-38Z	16000	15	2-3
S-37X	25000	4.0	1/4
S-13X	25000	10	2-3
S-13Z	25000	10	2-3

### REPLACEMENT PUSH-PULL OUTPUT TRANSFORMERS

Push-Pull Tubes To Voice Coil 3-4 Ohms

Type No.	Impedance	D.C. MA. Each Side	Audio Watts
S-39X	12000 CT.	30	3-4
S-64X	6000 CT.	40	4-6
S-15X	10000 CT.	35	7-10
S-19Z	10000 CT.	50	10-14
S-68Z	3000/3800 CT.	90	15-18
S-69Z	5000 CT.	60	15-18
S-21A	8000 CT.	55	15-18
S-21Z	8000 CT.	55	15-18



Case Z



Case A



Case X



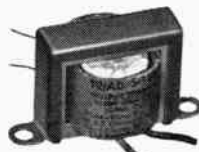
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# TRIAD DISTRIBUTOR DIVISION

## SOLID STATE RECTIFIER POWERS

Type No.	Secondary No. 1		Secondary No. 2		Secondary No. 3	
	Volts	Dc ma.	Volts	Amps.	Volts	Amps.
R-200A	200-0-200	400	6.3	3	6.3	3
R-201A	150-0-150	600	6.3	2.5	6.3	2.5
R-202A	100-0-100	800	6.3	2	6.3	2
R-203A	50-0-50	1600	6.3	1.5	6.3	1.5
R-82B	35-0-35	3500	—	—	—	—
R-204A	40-0-40	2000	6.3	1.5	6.3	1.5
R-205A	30-0-30	2500	6.3	1.5	6.3	1.5
R-206B	27-0-27	1250	—	—	—	—



Case X

## AUDIO

### LOW LEVEL OUTPUT Transformers

Type No.	Application	Freq. Resp.	Pri. Imped.	Second. Imped.
A-51X	Tube to line.	300-3000	7000	50
A-53X	Single or p.p. tubes to line.	70-7000	18000 CT.	600/250/50
S-58X	Line to line.	300-3000	600/150	600/150

—Split windings—

### SPLATTER Chokes

Type No.	Inductance Henries	Current Ma.	Res. Ohms	Wt. Lbs.
C-26X	Tapped to 1.5	100	95	1 1/4
C-43X	Tapped .05 to 1	300	40	2

### UNIVERSAL OUTPUT Transformers Single Or Push-Pull Tubes To Voice Coil

Type No.	Application	Impedance	DC Audio MA	Watts
S-62X	Single or P.p. plates	2000-10000	30	2
S-52X	Single or p.p. plates	4000-24000	30	4
S-51X	Single or p.p. plates	4000-14000	35	5
S-63X	Single or p.p. plates	1500-7000	50	6
S-54X	Single	1500-5000	70	8
S-53X	Single or p.p. plates	4000-14000	40	8
S-55X	P.p. plates	4000-14000	40	10
S-55Z	P.p. plates	4000-14000	40	10
S-56Z	Single	1500-6000	85	12
S-59Z	P.p. plates	1500-4000	65	15
S-57Z	P.p. plates	4000-14000	55	15
S-61Z	P.p. plates	4000-10000	60	20



Case J



Case P

## PLUG-IN INPUT Transformers

Type No.	Application	Pri. Imped.	Second. Imped.	Freq. Resp.	Shield'g
A-202P	Same as above.	200/50 CT. Δ	36,000	20-20000	90 db.
MS-273P	Same as above	200/50 CT. Δ	80,000	30-30000	70 db.
A-210P	Stereo Isolation	1:1 ratio	30,000	20-20000	45 db.

Δ Split Winding

## INTERSTAGE Transformers Plate to Grid

Type No.	Application	Freq. Resp.	Pri. Imped.	Second Imped.	Ratio
A-31X	Plate to single or p.p. grids	300-3000	10000	90000CT	1 : 3
A-33X	Plate to single or p.p. grids	70-7000	10000	90000CT	1 : 3
A-42Z	Multi-ratio single or p.p. plates to single or p.p. grids.	70-7000	15000	135000CT. or 33750	1 : 1.5 1 : 3 1 : 6
A-35A	Plate to single or p.p. grids	50-10000	10000	90000CT	1 : 3
A-40J	Parallel-fed 6J5 or 6SN7. Plate to p.p. grid 45 db. shielding.	30-15000	15000	115000CT	1 : 2.76

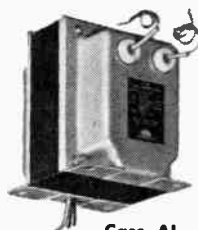
## MODULATION Transformers Tube to RF Load

Type No.	Primary	Freq. Resp.	Secondary Impedance	Ma.	Aud. Wtts.
TY-65Z	32 CT. (575 Ma.) (Transistor use)	70-15000	3000-4000-6000	100	10
M-4Z	5000 (Auto-former).	300-3000	6750 4	100 (total)	10
M-1X	10000 CT. for 19, 1J6, 6N7, 6A6, etc.	300-3000	5000-8000-10000	50	5
M-3X	10000 CT. for 6N7, 6A6, 6F6's, etc.	300-3000	3000-5000-8000	100	20
TY-66A	6 CT. (5A) (Transistor use)	300-3000	3000-4000-6000	200	40
†M-7AL	4250 CT. for 807's	300-3000	3000-5000-8000	200	60
†M-12AL	Multi-match	300-3000	4000 to 20000	300	125

## DRIVER Transformers

Type No.	Driver Tubes	Output Tubes	Frequency Response	Ratio Primary 1/2 Sec.	Primary D.C. Ma.
A-81X	30, 1H4, etc.	19, 30's, 1J6, etc.	200-20,000	2.66:1	15
A-83X	6F6, 42, 45, etc.	6L6, 6F6, 6V6, 807, etc.	70-7000	1.33:1	40
A-85X	6F6, 42, 45, etc.	6L6, 6F6, 6V6, 807, etc.	50-10000	2.66:1	40
A-89A	P.p. plates to class B or AB grids— Universal 15 watt.	Any class B or AB tubes. 100-500 watts output	50-10000	3.1 or 1.8:1	100 per side
TY-61X	Transistor use		70-10000	1:0.5	100
TY-158X	Transistor use, dual secondaries		20-20,000	1.5:1:1	50
TY-159X	Transistor use, dual secondaries		20-20,000	3:1:1	50
TY-160X	Transistor use, dual secondaries		20-20,000	6:1:1	50

†Plate leads out side



Case AL



# TRIAD DISTRIBUTOR DIVISION



A DIVISION OF LITTON INDUSTRIES



**OUTPUT Transformers**  
Tube to Voice Coil and Line

Type No.	Tubes	Pri. Imped.	Sec. Imped.	DC Pri.	Audio Watts
S-27A	2A3, 6A3, 6B4, 6L6, 6U6, 6Y6, 12A5, 25B6, 35B5, 50A5.	2500	500/16/8/4	80	8
S-28X	2A5, 6AC5, 6B5, 6F6, 6K6, 7B5, 14A5, 25AC5.	7500	500/16/8/4	40	5
S-29X	6AQ5, 6AS5, 6V6, 7C5, 25A6, 25B5, 25L6, 25N6, 35A5, 35L6.	5000	500/16/8/4	45	5
S-22A	P.p. 2A3, 6B4, 6A5, 6L6, etc.	5000 CT.	500/16/8/4	100 (bal.)	15
S-24A	P.p. 6V6, 7C5, 6K6, 6F6, etc.	8000 CT.	500/16/8/4	80 (bal.)	15
S-60A	P.p. 6L6, 5881, 6600 CT.	500/250/16/8/4		120 (bal.)	35

**70.7 volt Line to Voice Coil (Cont.)**

Type No.	Primary Impedance	Sec. Imped.	Output Watts	Freq. Resp.
S-46A	Autoformer 2000/1000/500/250.	16/8/4	20	20-20000
S-75K	Weatherproof autoformer 2000/1000/500/250.	16/8/4	20	20-20000
S-78Z	Isolation 4000/2000/1000/500.	16/8/4	10	40-20000
S-79Z	Isolation 2000/1000/500/250.	16/8/4	20	40-20000
S-47Z	10K/5K/2.5K/1250/625	16/8/4	8	20-20000
S-73X	Isolation 16K/8K/4K/2K/1K	16/8/4	5	40-15000

**70.7 volt Line to Voice Coil**

Type No.	Primary Impedance	Sec. Imped.	Output Watts	Freq. Resp.
S-70Z	Autoformer 16000/8000/4000/2000/1000.	8/4	5	40-15000
S-71Z	Autoformer 4000/2000/1000/500.	16/8/4	10	40-20000
S-25Z	Autoformer 4000/2000/1000/500.	8/4	10	30-20000
SR-45Z	Autoformer 4000/2000/1000/500.	16/8/4	10	20-20000
SR-74K	Weatherproof autoformer 4000/2000/1000/500.	16/8/4	10	20-20000
S-72Z	Autoformer 2000/1000/500/250.	16/8/4	20	40-20000

**25 VOLT LINE TRANSFORMERS**

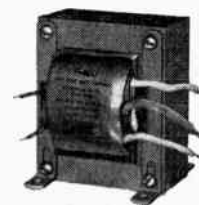
Type No.	Primary Matching Impedance	Secondary Load Impedance	Output Watts
S-131X	1250/625/312	8/4	2
S-132X	1000/500/250/125	16/8/4	5
S-133Z	500/250/125/62.5	16/8/4	10

**MATCHING TRANSFORMERS FOR 25 OR 70.7 VOLT LINE**

Type No.	Application	Primary Impedance	Secondary Impedance
S-129Z	70.7V line to 25V line or, 25V line to 70.7V line		30
S-130Z	70.7V line to 25V line or, 25V line to 70.7V line		10

**Special TRANSCEIVER Transformers (Voice Frequencies)**

Type No.	Application	Primary Impedance	Secondary Impedance
A-21X	S.B. mike or plate to grid (2 primaries)	100 10000	100000
A-23X	Tube to line and hi-impedance phones.	10000	50 and 2000



Case U

## INSTRUMENTATION GEOFORMERS

### LOW FREQUENCY TRANSISTOR TRANSFORMERS

Type No.	Impedance Ohms		Turns Ratio	Min. pri. Ind. @ 100MV—60 cy. With No Unbalanced D.C. Current	D. C. Resistance (Ohms)		Frequency Response in Cycles								Shielding	Case Mtg.	Wt.
	Pri.	Sec.			Pri.	Sec.	Primary Signal of 1 Volt Unbalanced D.C. Secondary Current of 2 Ma.				3 Ma.						
							1 Ma.		5 Ma.		1 Ma.		5 Ma.				
G-18	1000	125	2:83:1	60.	500	44	5	8	5	8	6	9	7	10	P1-H	GP-1F	3.2 oz.
	or 250	or 31					20000	7000	20000	7000	20000	7000	20000	7000			
G-19	1000	1000	1:1	65.	540	230	12	15	12	15	12	15	20	40	P1-H	GP-2L	5¼ oz.
	or 250	or 250					7000	3800	7000	3800	7000	3800	7000	3800			
G-30	1000	2500	1:1.58	20.	350	1800	20	40	22	45	40	75	70	160	P1	GP-1F	3.2 oz.
	CT.	CT.					8000	4200	8000	4200	8000	4200	8000	4200			

### CHOPPER INPUT TRANSFORMERS

Triad Chopper Input Transformers provide exceedingly close balance between the two halves of the primary winding . . . minimum noise in microvolt ranges of input signals is assured with Triad's special core treatment techniques. For demanding transistor and tube applications, Triad's special design capabilities have an outstanding record. For special applications, consult Triad.

Type No.	Turns Ratio	Minimum Primary Inductance @ 1V—60	Maximum Primary Volts @ 60	Primary Matching Impedance In Ohms	Secondary Matching Impedance In Ohms	D.C. Resistance In Ohms		Stray Fields Shield	Case and Mounting	Weight
G-20‡	1:8	120 h.	25	10,000 CT or 2500	640,000 CT	370	21,000	P5-H	GP-4T	11½ oz.
G-21‡ G-21TS‡	4:1	1200 h.	84	20,000 CT	12,500 CT	4000	1300	P1-H P5-H	GP-2L GP-4T	5¼ oz. 11½ oz.
G-22‡	1:4	1000 h.	90	50,000 CT	800,000 CT	2200	19,000	P5-H	GP-5W	1 lb.
G-23‡	6.32:1	1000 h.	75	40,000 CT	1000 CT	4400	160	P1-H	GP-2L	5¼ oz.
G-24‡	1:1	400 h. Low capacity coupling less than .02 µµF between windings.	19.5	40,000 CT	40,000 CT	1625	1625	P5	GP-5S	1 lb.
G-25‡ G-25TS‡	2:1	800 h.	70	40,000 CT or 10,000 CT	10,000 CT	3200	2200	P1-H P5-H	GP-2L GP-4T	5¼ oz. 11½ oz.

‡Static Shield

# TRIAD DISTRIBUTOR DIVISION TOROIDS

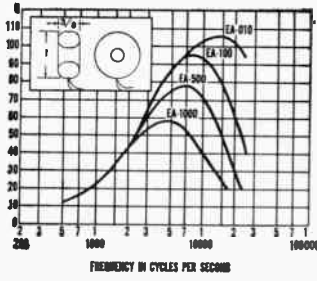


A DIVISION OF LITTON INDUSTRIES

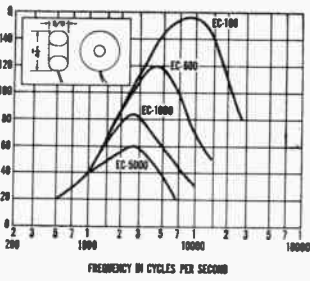


Triad toroids may be ordered with standard leads in strong plastic coating, or epoxy molded encapsulated per Specification MIL-T-27A; TF5RX20Z2. To specify molded toroids with gold-plated fixed terminals, an "A" should be added to the full type number; for example, EM-001A.

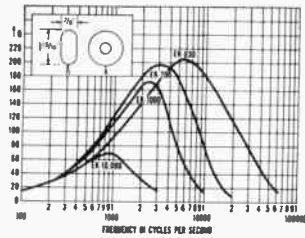
EA SERIES



EC SERIES



EK SERIES



A

TOROIDS



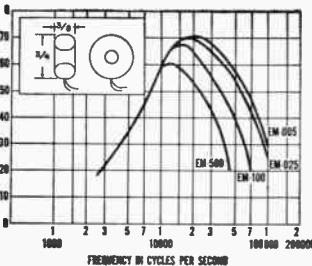
Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EA-001	1 mh	.40	270
EA-002	2 mh	.58	192
EA-003	3 mh	.73	157
EA-004	4 mh	.85	135
EA-005	5 mh	1.10	121
EA-007	7 mh	1.35	102
EA-010	10 mh	2.10	86
EA-015	15 mh	3.10	70
EA-020	20 mh	4.25	60
EA-025	25 mh	4.80	54
EA-030	30 mh	6.70	50
EA-040	40 mh	9.50	43
EA-050	50 mh	11.00	38
EA-070	70 mh	16.00	32
EA-100	100 mh	23.00	27
EA-150	150 mh	37.00	22
EA-200	200 mh	42.00	19
EA-250	250 mh	60.00	17
EA-300	300 mh	70.00	16
EA-400	400 mh	95.00	14
EA-500	500 mh	115.00	12
EA-600	600 mh	150.00	11
EA-700	700 mh	160.00	10
EA-1000	1000 mh	260.00	8.6

Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EC-001	1 mh	.40	520
EC-002	2 mh	.56	368
EC-003	3 mh	.70	300
EC-004	4 mh	.82	260
EC-005	5 mh	.92	233
EC-007	7 mh	1.05	195
EC-010	10 mh	1.30	165
EC-015	15 mh	1.60	134
EC-020	20 mh	1.85	116
EC-030	30 mh	2.85	95
EC-040	40 mh	4.20	82
EC-050	50 mh	5.50	74
EC-070	70 mh	8.30	74
EC-100	100 mh	13.00	52
EC-200	200 mh	23.00	37
EC-250	250 mh	33.00	33
EC-300	300 mh	35.00	30
EC-400	400 mh	42.00	26
EC-500	500 mh	72.50	23
EC-600	600 mh	80.00	21
EC-700	700 mh	68.00	19.5
EC-1000	1000 mh	134.00	16.5
EC-1500	1500 mh	200.00	13.5
EC-2000	2000 mh	220.00	11.6
EC-3000	3000 mh	370.00	9.5
EC-4000	4000 mh	550.00	6.2
EC-5000	5000 mh	780.00	7.4
EC-7000	7000 mh	700.00	6.2
EC-10000	10000 mh	1100.00	5.2

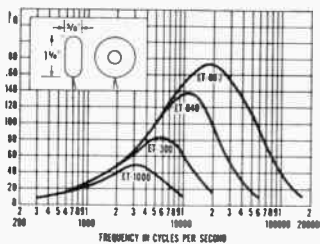
Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EK-010	10 mh	.82	262
EK-020	20 mh	1.10	184
EK-030	30 mh	1.40	150
EK-040	40 mh	1.90	130
EK-050	50 mh	2.40	116
EK-060	60 mh	2.60	106
EK-080	80 mh	3.10	92
EK-100	100 mh	4.40	82
EK-120	120 mh	4.80	75
EK-150	150 mh	6.20	67
EK-200	200 mh	7.50	58
EK-250	250 mh	9.00	52
EK-300	300 mh	12.00	47
EK-400	400 mh	14.00	41
EK-500	500 mh	19.00	37
EK-700	700 mh	27.00	31
EK-1000	1000 mh	45.00	26
EK-1500	1500 mh	67.00	21
EK-2000	2000 mh	100.00	18.4
EK-2500	2500 mh	108	16.5
EK-3000	3000 mh	116	15
EK-4000	4000 mh	150	13
EK-5000	5000 mh	200	11.6
EK-7000	7000 mh	300	9.8
EK-10000	10000 mh	350	8.2
EK-20000	20000 mh	800	5.8
EK-30000	30000 mh	1250	4.1
EK-40000	40000 mh	2000	4.1

Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EM-001	1 mh	1.25	150
EM-002	2 mh	1.70	108
EM-003	3 mh	2.25	87
EM-004	4 mh	2.60	76
EM-005	5 mh	3.10	68
EM-007	7 mh	4.5	57
EM-010	10 mh	6.5	48
EM-015	15 mh	10.00	39
EM-020	20 mh	11.5	34
EM-025	25 mh	16.5	30
EM-030	30 mh	18	27.6
EM-040	40 mh	27	24
EM-050	50 mh	30	22
EM-060	60 mh	40	19.5
EM-070	70 mh	43	18
EM-100	100 mh	66	15
EM-150	150 mh	100	12.5
EM-200	200 mh	115	11
EM-250	250 mh	155	9.6
EM-300	300 mh	180	8.8
EM-400	400 mh	265	7.6
EM-500	500 mh	295	7
EM-700	700 mh	400	5.8
EM-1000	1000 mh	650	4.8

EM SERIES



ET SERIES



Type No.	Ind.	Res Ohms Approx.	D.C.-Ma. for 5% Ind. drop
ET-001	1 mh	.20	680
ET-002	2 mh	.50	480
ET-003	3 mh	.68	396
ET-004	4 mh	.81	342
ET-005	5 mh	1.10	306
ET-007	7 mh	1.50	260
ET-010	10 mh	2	217
ET-015	15 mh	2.85	177
ET-020	20 mh	4.0	153
ET-025	25 mh	4.8	137
ET-030	30 mh	6.5	125
ET-040	40 mh	9.2	108
ET-050	50 mh	10.3	97
ET-060	60 mh	14.5	88
ET-070	70 mh	15.0	82
ET-100	100 mh	24.0	68
ET-150	150 mh	35.0	56
ET-200	200 mh	44.5	48
ET-250	250 mh	64	43
ET-300	300 mh	70	40
ET-400	400 mh	94	34
ET-500	500 mh	108	31
ET-700	700 mh	173	26
ET-1000	1000 mh	230	22

Discontinued item, available until stock depleted.

# TRIAD DISTRIBUTOR DIVISION



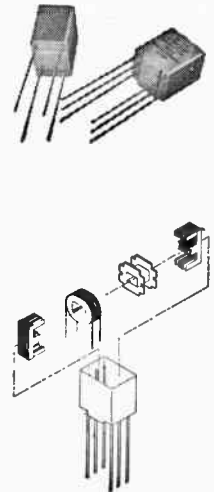
A DIVISION OF LITTON INDUSTRIES



## RED SPEC TRANSISTOR TRANSFORMERS

Type No.	Application Type	MIL-T-27A Designation	Primary Impedance	D.C. Res. Pri. Ohms	Max. Unbal. Pri. D.C. Ma.	Secondary Impedance	Max. Power MW
SP-4	Input	TF5RX16ZZ	200000 c.t.	5300	0	1000 c.t.	10
SP-5	Input	TF5RX16ZZ	50000 c.t.	3800	0	1000 c.t.	25
SP-7	Input	TF5RX16ZZ	200000	5300	0	1000	10
SP-11	Interstage	TF5RX13ZZ	25000/20,000	1700	.5	1000/800	40
SP-13	Interstage	TF5RX13ZZ	25000 c.t./20,000 c.t.	1700	.5	1000 c.t./800 c.t.	40
SP-15	Interstage	TF5RX13ZZ	10000 c.t.	1050	1	1500 c.t.	50
SP-20	Driver	TF5RX13ZZ	10000 c.t.	1050	1	1200 c.t.	50
SP-21	Driver	TF5RX13ZZ	10000 c.t.	1050	1	2000 c.t.	50
SP-22	Driver	TF5SX13ZZ	10000	1050	1	2000 c.t./500†	50
SP-29	Driver	TF5RX13ZZ	10000 c.t.	1050	1	500 c.t.	50
*SP-32	Output	TF5RX17ZZ	500	60	3	50	50
SP-33	Output	TF5RX17ZZ	1000	145	3	50	50
SP-34	Output	TF5RX17ZZ	600	70	3	3.2	50
SP-35	Output	TF5RX13ZZ	1200	131	2	3.2	50
SP-36	Output	TF5RX13ZZ	10000	1160	1	3.2	50
SP-42	Output	TF5RX17ZZ	150 c.t.	18	10	12	50
SP-47	Output	TF5RX13ZZ	1500 c.t.	179	3	12	50
SP-48	Output	TF5RX13ZZ	7500 c.t.	796	1	12	50
SP-49	Output	TF5RX17ZZ	300 c.t.	41	7	600	50
SP-50	Output	TF5RX17ZZ	500 c.t.	67	3	600	50
SP-51	Output	TF5RX17ZZ	900 c.t.	104	4	600	50
SP-52	Output	TF5RX13ZZ	1500 c.t.	168	3	600	50
SP-63	Output	TF5RX13ZZ	1200 c.t.	125	3	3.2	50
SP-64	Output	TF5RX13ZZ	1600 c.t.	186	2.5	3.2	50
SP-65	Output	TF5RX13ZZ	8000 c.t.	790	1	3.2	50
SP-66	Output Isolation	TF5RX13ZZ	10000 c.t.	1000	1	10000 c.t.	50
SP-67	Output Isolation	TF5RX17ZZ	600 c.t.	73	3	600 CT.	50
SP-68	Output Isolation	TF5SX13ZZ	10000	1000	1	10000 c.t./2500†	50
SP-69	Output Isolation	TF5SX17ZZ	600	72	3	600 c.t./150†	50
SP-70	Output Isolation	TF5RX17ZZ	600	72	3	600	50
SP-106	Choke	TF5RX20ZZ	6 hy.	1700	2		
SP-107	Choke	TF5RX20ZZ	1.25 hy.	180	2		
SP-108	Choke	TF5RX20ZZ	3.5 hy.	1100	2		
SP-117	Choke	TF5RX20ZZ	.9HY	110	2		
SP-118	Choke	TF5RX20ZZ	.3 hy.	42	4		
SP-128	Choke	TF5RX20ZZ	.1HY	15	5		
SP-310	Magnetic shielding case						

CT For Center Tap. †Split secondary.



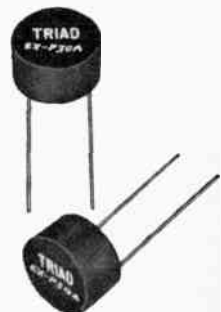
## Sub-miniature Encapsulated TOROIDAL INDUCTORS

Triad sub-miniature toroidal inductors, designed for quick, easy printed-circuit board mounting, are now stocked for immediate delivery in a range of standard ratings from 50 micro-henries to 500 milli-henries. Many uses, especially in airborne telemetering applications incorporating Triad's sub-miniature filters FL-384 through FL-388. Case size of units is  $\frac{3}{16}$  inch diameter by  $\frac{1}{4}$  inch high. Providing an optimum combination of high Q and extremely small-size, this series is ideal for printed board, transistor or vacuum tube application.

Triad sub-miniature inductors are toroidally wound on permalloy powdered cores. Encapsulated in high temperature epoxy resin. Weldable or solderable leads of gold plated nickel alloy. Highly resistant to severe acceleration, shock or vibration. Manufactured to MIL-T-27A, Grade 5 Class S (MIL type TF5SX20ZZ).

NOTE: Ma. DC maximum is for approximately 5% drop in inductance. Those figures marked \* will give less than 5% inductance drop but should not be exceeded under operating conditions. Inductance tolerance of EX-P05A through EX-P50A is  $\pm 5\%$ ; EX-001A through EX-500A is  $\pm 2\%$ .

Cat. No.	Inductance (0 DC)	OCR (ohms) $\pm 25\%$	Maximum Ma. DC
EX-P05A	50 $\mu$ h	1.2	75*
EX-P10A	100 $\mu$ h	1.4	75*
EX-P20A	200 $\mu$ h	2.0	75*
EX-P30A	300 $\mu$ h	2.3	75*
EX-P50A	500 $\mu$ h	3.0	75*
EX-001A	1 mh	4.3	75*
EX-002A	2 mh	8	60*
EX-003A	3 mh	6.5	60
EX-005A	5 mh	11	47
EX-010A	10 mh	15.6	33
EX-020A	20 mh	35	23
EX-030A	30 mh	55	19
EX-050A	50 mh	62	14
EX-100A	100 mh	130	10
EX-200A	200 mh	139	6
EX-300A	300 mh	206	5
EX-400A	400 mh	310	4.5



Prices subject to change without notice. Net prices shown for 1-9 quantity. For 1 to 249 pieces, see your stocking Triad Distributor for quantity discount schedule. For 250 or more pieces, contact your Triad Representative or call the factory.



# TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES



## PRICE INDEX BY TYPE NUMBER

Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price
A-1X	2.97	A-300X	5.55	D-56	8.07	D-157	10.35	D-611	7.93	EC-040A	6.33	EK-40000	8.44	ET-500A	7.70
A-3X	3.32	A-301X	5.13	D-57	9.15	D-158	4.88	D-612	7.80	EC-050	4.08	EK-40000A	11.74	ET-700	5.10
A-4X	4.15	A-302X	5.33	D-58	6.63	D-159	7.90	D-613	7.77	EC-050A	6.38	EM-001	3.92	ET-700A	7.70
A-5X	4.28	A-304X	5.95	D-59	7.35	D-160	8.55	D-614	8.34	EC-070	4.13	EM-001A	5.60	ET-1000	5.13
A-6X	3.25	A-305X	6.17	D-60R	6.43	D-161	7.50	D-615	6.68	EC-070A	6.63	EM-002	3.93	ET-1000A	7.75
A-7J	4.95	A-200P	15.00	D-61	5.55	D-162	7.80	D-616	7.82	EC-100	4.18	EM-002A	3.93	EX-P05A	8.10
A-9J	10.00	A-202P	20.85	D-62	5.82	D-163	6.62	D-617	8.40	EC-100A	6.92	EM-003	3.95	EX-P10A	8.10
A-10J	9.43	A-210P	10.86	D-63	6.40	D-164	7.28	D-618	7.73	EC-200	4.27	EM-003A	5.63	EX-P20A	8.10
A-11J	9.64	C-1X	2.35	D-64	7.50	D-165	7.41	D-619	10.20	EC-200A	6.72	EM-004	3.98	EX-P30A	8.10
A-12J	9.95	C-2X	2.07	D-65	9.25	D-166	6.45	D-620	8.00	EC-250	4.33	EM-004A	5.67	EX-P50A	8.10
A-13J	9.35	C-3X	2.75	D-66	9.60	D-167	9.92	D-621	7.80	EC-250A	6.80	EM-005	4.03	EX-001A	8.10
A-21X	3.53	C-4X	2.30	D-67	9.98	D-168	5.35	D-622	8.70	EC-300	4.40	EM-005A	5.73	EX-002A	8.10
A-23X	2.85	C-5X	3.28	D-68	10.15	D-169	8.40	D-623	8.40	EC-300A	6.95	EM-007	4.08	EX-003A	8.50
A-31X	3.90	C-6X	2.73	D-69	7.28	D-170	7.83	D-624	8.80	EC-400	4.50	EM-007A	5.75	EX-005A	8.50
A-33X	4.85	C-7X	3.48	D-70	8.40	D-171	7.33	D-625	6.82	EC-400A	6.93	EM-010	4.15	EX-010A	8.72
A-35A	6.18	C-8X	3.38	D-71	7.20	D-172	8.49	D-626	7.20	EC-500	4.60	EM-010A	5.80	EX-020A	8.72
A-39A	8.65	C-9X	2.90	D-72	8.27	D-173	8.73	D-627	7.90	EC-500A	6.93	EM-015	4.23	EX-030A	9.27
A-40J	9.82	C-10X	4.13	D-73R	8.57	D-174	8.75	D-628	7.68	EC-600	4.67	EM-015A	5.88	EX-050A	9.27
A-41J	9.24	C-11X	3.62	D-74	7.14	D-175	7.13	D-629	3.57	EC-600A	7.00	EM-020	4.30	EX-100A	9.89
A-42Z	5.13	C-12A	6.00	D-75	8.40	D-176	2.85	D-630	7.86	EC-700	4.75	EM-020A	5.95	EX-200A	10.55
A-50J	6.55	C-12X	4.32	D-76R	9.02	D-177	7.50	D-631	7.68	EC-700A	7.08	EM-025	4.38	EX-300A	10.77
A-51X	3.33	C-13X	4.55	D-77R	9.47	D-178	8.43	D-632	7.72	EC-1000	4.85	EM-025A	6.00	EX-400A	10.99
A-52J	6.80	C-14A	6.48	D-78	7.48	D-179	6.88	D-638	7.72	EC-1000A	7.25	EM-030	4.45	F-1X	3.55
A-53X	4.08	C-14X	4.75	D-79	7.57	D-180	7.88	D-639	7.72	EC-1500	4.90	EM-030A	6.17	F-3X	4.98
A-54X	2.73	C-15A	6.27	D-80	7.95	D-181	7.80	EA-001	3.28	EC-1500A	7.57	EM-040	4.50	F-5U	6.38
A-55J	9.47	C-15X	4.58	D-81	7.27	D-182	7.48	EA-001A	5.70	EC-2000	5.00	EM-040A	6.20	F-6X	4.62
A-57J	9.12	C-16A	8.25	D-82	9.32	D-183	7.50	EA-002	3.32	EC-2000A	7.65	EM-050	4.53	F-7X	4.00
A-58J	7.73	C-17X	3.77	D-83R	5.95	D-184	8.22	EA-002A	5.73	EC-3000	5.10	EM-050A	6.22	F-8X	5.22
A-61J	9.52	C-18A	9.80	D-84	9.35	D-185	8.70	EA-003	3.33	EC-3000A	7.97	EM-060	4.55	F-9A	9.97
A-64J	6.30	C-19A	12.30	D-85	9.44	D-186	7.80	EA-003A	5.75	EC-4000	5.18	EM-060A	6.25	F-9U	9.62
A-65J	9.69	C-20A	13.65	D-86	9.77	D-187	7.65	EA-004	3.35	EC-4000A	8.00	EM-070	4.60	F-10U	10.07
A-66J	8.65	C-21X	3.15	D-87	8.18	D-188R	7.88	EA-004A	5.77	EC-5000	5.25	EM-070A	6.27	F-11U	10.79
A-67J	9.77	C-22A	22.50	D-88	7.40	D-189	9.05	EA-005	5.78	EC-5000A	8.32	EM-100	4.65	F-12X	6.05
A-68J	9.07	C-23X	3.67	D-89R	9.55	D-190 Kit	7.95	EA-005A	5.78	EC-7000	5.35	EM-100A	6.33	F-13X	2.67
A-69J	8.34	C-24X	2.68	D-90	8.45	D-191	7.48	EA-007	3.37	EC-7000A	8.18	EM-150	4.73	F-14X	3.17
A-70J	6.45	C-25A	6.10	D-91	6.99	D-192	6.98	EA-007A	5.78	EC-10000	5.42	EM-150A	6.40	F-14Z	3.55
A-75J	5.85	C-26X	3.55	D-92	8.15	D-193	9.32	EA-010	3.38	EC-10000A	9.60	EM-200	4.83	F-15U	9.32
A-77J	8.39	C-27X	2.50	D-93R	8.30	D-194	7.20	EA-010A	5.80	EK-010	5.70	EM-200A	6.47	F-16X	3.98
A-78J	8.42	C-28X	3.57	D-94R	7.95	D-195	6.50	EA-015	5.90	EK-010A	8.90	EM-250	4.88	F-17U	12.94
A-79J	8.32	C-29X	3.80	D-95	7.20	D-196	6.57	EA-015A	3.42	EK-020	5.73	EM-250A	6.57	F-18A	7.05
A-81X	3.23	C-30X	3.00	D-96	9.57	D-197	6.33	EA-020	3.42	EK-020A	8.92	EM-300	4.93	F-18X	5.88
A-83X	3.75	C-31A	8.13	D-97R	10.30	D-198	9.45	EA-020A	5.92	EK-030	5.77	EM-300A	6.67	F-19X	6.15
A-85X	4.12	C-32AL	13.00	D-98R	10.57	D-199	7.35	EA-025	3.47	EK-030A	8.95	EM-400	4.98	F-20U	9.82
A-89A	8.55	C-33A	12.22	D-99	7.97	D-200	6.68	EA-025A	6.08	EK-040	5.82	EM-400A	6.72	F-21A	9.00
A-91A	8.45	C-34X	2.68	D-100	7.47	D-201	7.50	EA-030	3.47	EK-040A	9.00	EM-500	5.03	F-22A	12.50
A-95X	3.08	C-35A	13.98	D-101	7.90	D-202	7.43	EA-030A	6.08	EK-050	5.87	EM-500A	6.73	F-23U	7.77
A-96X	3.67	C-36X	2.42	D-102	7.65	D-203	7.58	EA-040	3.50	EK-050A	9.00	EM-700	5.10	F-24U	8.44
A-97K	4.28	C-38AL	24.73	D-103	8.80	D-204	7.92	EA-040A	6.12	EK-060	5.93	EM-700A	6.83	F-25X	3.75
A-97X	3.05	C-39A	23.34	D-104	6.30	D-205	8.00	EA-050	3.50	EK-060A	9.09	EM-1000	5.15	F-26X	4.15
A-97Y	4.70	C-40X	3.15	D-105	7.67	D-206	7.65	EA-050A	6.12	EK-080	5.98	EM-1000A	6.92	F-27U	13.82
A-97Z	3.38	C-42AL	12.62	D-106	7.33	D-207	7.92	EA-070	3.57	EK-080A	9.24	ET-001	4.47	F-28U	18.07
A-98K	5.10	C-43X	4.77	D-107	8.44	D-208	6.88	EA-070A	6.18	EK-100	5.92	ET-001A	6.83	F-29U	12.51
A-98X	2.68	C-45AL	30.74	D-108	10.20	D-209	9.32	EA-100	3.62	EK-100A	9.45	ET-002	4.50	F-30A	9.97
A-99X	4.65	C-47U	7.60	D-109	6.90	D-210	6.67	EA-100A	6.23	EK-120	6.13	ET-002A	6.92	F-32A	7.02
A-101U	6.00	C-48U	9.55	D-110	8.28	D-211	7.77	EA-150	3.75	EK-120A	9.40	ET-003	4.52	F-34A	8.67
A-102X	4.07	C-49U	14.69	D-111	8.10	D-212	7.85	EA-150A	6.50	EK-150	6.20	ET-003A	6.93	F-36A	11.39
A-103X	3.93	C-50X	6.53	D-112	8.62	D-213	7.86	EA-200	3.80	EK-150A	9.55	ET-004	4.53	F-38A	11.94
A-104X	4.73	C-56X	3.90	D-113	8.57	D-214	7.57	EA-200A	6.55	EK-200	6.27	ET-004A	6.97	F-40X	3.38
A-105X	3.93	C-57U	6.05	D-114	9.35	D-215	8.34	EA-250	3.83	EK-200A	9.55	ET-005	4.57	F-41X	4.82
A-107X	5.68	C-58U	8.53	D-115R	7.17	D-216	8.94	EA-250A	6.58	EK-250	6.40	ET-005A	7.00	F-42A	7.40
A-108X	4.52	C-59U	9.63	D-116	10.94	D-217	7.33	EA-300	3.88	EK-250A	9.74	ET-007	4.60	F-43X	4.38
A-109X	4.82	C-60U	17.12	D-117	7.02	D-218	8.94	EA-300A	6.63	EK-300	6.57	ET-007A	7.03	F-44X	3.73
A-110X	4.08	C-80U	36.97	D-118R	8.40	D-219	6.67	EA-400	3.97	EK-300A	9.85	ET-010	4.62	F-45X	3.77
A-111X	3.98	CE-1	9.92	D-119	8.18	D-220	6.87	EA-400A	6.72	EK-400	6.70	ET-010A	7.08	F-46X	3.87
A-112X	4.43	CE-4	11.50	D-120	7.30	D-221	8.50	EA-500	4.08	EK-400A	10.00	ET-015	4.63	F-47U	8.07
A-113X	4.27	CE-5	10.85	D-121	7.72	D-222	9.02	EA-500A	6.83	EK-500	6.77	ET-015A	7.10	F-48U	9.97
A-113Z	3.43	CL-1	.60	D-122	7.30	D-223	11.10	EA-6000	4.17	EK-500A	10.07	ET-020	4.65	F-49U	16.39
A-114X	4.90	D-2	6.90	D-123	7.88	D-224	10.35	EA-600A	6.92	EK-700	6.85	ET-020A	7.17	F-50X	5.35
A-115X	4.35	D-11	10.22	D-124	6.67	D-225	9.40	EA-700	4.25	EK-700A	10.17	ET-025	4.70	F-51X	5.68
A-115Z	3.40	D-14R	7.80	D-125	7.62	D-226	9.00	EA-700A	7.00	EK-1000	7.15	ET-025A	7.20	F-52X	4.15
A-116X	3.82	D-19	9.01	D-126	9.87	D-227	8.40	EA-1000	4.35	EK-1000A	10.24	ET-030	4.73	F-53X	5.48
A-117X	4.08	DA-20	4.75	D-127	7.44	D-228	8.32	EA-1000A	7.10	EK-1500	7.05	ET-030A	7.25	F-54X	4.87
A-118X	4.53	D-22	7.80	D-128	2.53	D-229	7.73	EC-001	3.60	EK-1500A	10.37	ET-040	4.80	F-60U	7.10
A-119X	5.20	D-27	7.82	D-129	6.82	D-230	8.33	EC-001A	5.72	EK-2000	7.08	ET-040A	7.37	F-61U	10.17
A-120X	3.05	D-28	6.57	D-130R	6.47	D-231	6.00	EC-002	3.63	EK-2000A	10.44	ET-050	4.85	F-62U	25.24
A-120Z	2.83	D-33	7.14	D-131	9.58	D-232	5.23	EC-002A	5.68	EK-2500	7.15	ET-050A	7.43	F-63U	7.05
A-122X	2.72	DA-36	3.77	D-132	7.77	D-233	5.12	EC-003	3.67	EK-2500A	10.54	ET-060	4.90	F-64U	8.79
A-122Z	2.72	DA-37	2.49	D-133											

# TRIAD DISTRIBUTOR DIVISION



A DIVISION OF LITTON INDUSTRIES

## PRICE INDEX BY TYPE NUMBER



Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price
F-102X	6.33	G-101	26.22	HSM-184	30.02	HS-471	20.75	N-54M	14.83	R-5A	7.77	R-818C	24.32	S-9Z	3.27
F-104U	8.65	G-101TS	32.67	HSM-186	30.02	HS-472	22.09	N-55M	22.67	R-5B	7.73	R-818S	32.09	S-10X	2.87
F-105Z	4.17	G-135	24.02	HSM-187	44.43	HS-474	31.77	N-56M	39.17	R-5C	8.03	R-82B	13.93	S-11X	2.45
F-106Z	5.05	G-150	19.60	HSM-189	43.14	HS-475	35.92	N-57M	52.33	R-5D	7.95	R-83A	18.59	S-11Z	2.45
F-107Z	7.50	G-183	29.41	HSM-190	45.19	JAF-1	16.25	N-59M	56.95	R-5E	8.22	R-84K	6.15	S-12X	2.37
F-108U	9.97	G-201	19.60	HSM-192	45.04	JAF-2	15.33	N-60SC	119.17	R-5F	8.13	R-85A	15.99	S-12Z	2.38
F-109U	17.89	G-202	26.21	HSM-193	45.04	JAF-3	16.25	N-62AC	54.30	R-5G	8.65	R-86BA	12.48	S-13X	2.48
F-200A	7.22	G-235	24.17	HSM-200	18.20	JAF-5	16.25	N-64AC	30.22	R-5H	8.57	R-87BC	16.62	S-13Z	2.58
F-202U	7.23	G-250	22.19	HSM-201	23.09	JAF-11	16.25	N-66A	17.95	R-5I	10.15	R-89BC	17.60	S-15X	3.27
F-203U	8.89	G-255	23.10	HSM-202	17.79	JAF-12	16.25	N-67A	11.55	R-5J	10.05	R-90BC	18.10	S-16X	2.28
F-204U	13.10	G-266	26.61	HSM-203	26.34	JAF-13	16.25	N-68X	5.88	R-5K	10.00	R-91HA	18.15	S-17X	2.43
F-205U	16.67	G-274	26.17	HSM-205	33.87	JAF-14	16.25	N-73A	11.28	R-5L	10.00	R-92A	17.82	S-18X	2.33
FL-381	43.90	G-283	24.92	HSM-207	36.24	JAF-15	14.57	N-74A	11.67	R-5M	10.77	R-92A	17.82	S-18X	2.33
FL-384	62.25	G-284	24.57	HSM-208	44.49	JAF-21	16.25	N-69A	7.35	R-5N	10.70	R-93A	16.17	S-18Z	2.35
FL-385	61.42	G-285	20.00	HSM-212	47.43	JAF-22	16.25	N-470A	10.62	R-5O	10.70	R-94H	26.11	S-19Z	2.42
FL-386	61.42	G-286	25.15	HSM-216	54.64	JAF-23	16.25	N-471A	16.92	R-5P	9.64	R-104A	6.00	S-20X	2.40
FL-387	61.42	G-301	20.82	HSM-218	78.78	JAF-24	16.25	NW-1	.60	R-5Q	12.67	R-104B	6.02	S-20Z	2.40
FL-388	63.62	G-306	21.40	HSM-219	72.53	JAF-25	16.25	NW-2	.72	R-5R	12.67	R-105A	6.90	S-21A	4.72
FL-389	41.39	G-309	63.89	HSM-223	11.62	JAF-26	16.25	NW-3	.78	R-5S	13.87	R-105B	6.90	S-21Z	4.05
FL-404	39.00	G-310	49.87	HSM-224	19.94	JAF-31	16.25	NW-4	.78	R-5T	13.87	R-106A	7.28	S-22A	7.13
FL-405	39.00	G-313	21.77	HSM-225	22.47	JAF-32	16.25	NW-5	.78	R-5U	15.27	R-106B	7.33	S-23X	2.37
FL-406	39.00	G-315	21.57	HSM-226	19.00	JAF-33	16.49	NW-6	.72	R-5V	16.13	R-107A	7.60	S-24A	6.77
FL-407	39.00	G-335	20.00	HSM-227	22.42	JAF-34	16.25	NW-7	.60	R-5W	15.92	R-107B	7.60	S-25Z	3.98
FL-408	39.00	G-336	19.74	HSM-228	26.66	JAF-35	16.25	NW-10	.60	R-5X	16.45	R-108A	7.82	S-26X	2.50
FL-409	39.00	G-350	18.91	HSM-229	24.25	JAF-101	16.25	NW-14	.78	R-5Y	15.95	R-108B	7.73	S-27A	6.05
FL-410	39.00	G-355	18.72	HSM-230	17.35	JAF-102	16.25	NW-18	.60	R-5Z	15.64	R-109A	7.38	S-28X	4.72
FL-411	39.00	G-388	16.34	HSM-231	25.39	JO-1	12.84	NW-19	.60	R-60A	17.28	R-109B	7.38	S-29X	4.77
FL-412	39.00	G-389	16.34	HSM-232	33.14	JO-2	12.84	NW-21	.67	R-60B	17.00	R-110A	8.65	S-30X	2.67
FL-413	39.00	G-391	18.91	HSM-233	18.97	JO-3	12.84	NW-22	.82	R-60C	7.90	R-110B	8.65	S-31A	8.67
FL-414	39.00	G-394	14.02	HSM-234	37.61	JO-5	12.84	NW-23	.72	R-60D	7.80	R-111A	8.95	S-32A	8.82
FL-415	42.00	G-401	19.60	HSM-235	50.43	JO-11	12.84	NW-24	.72	R-60E	6.45	R-111B	8.95	S-34X	4.73
FL-416	42.00	G-435	23.89	HSM-236	23.15	JO-12	12.84	NW-25	.67	R-60F	19.65	R-112A	9.15	S-35A	10.27
FL-417	42.00	G-437	25.85	HSM-237	16.49	JO-13	12.84	P-1A	9.10	R-60G	19.65	R-112B	9.15	S-36A	9.32
FL-418	42.00	G-435TS	23.52	HSM-238	30.19	JO-21	12.84	P-3A	11.02	R-60H	34.01	R-113A	7.57	S-37X	4.43
FL-419	42.00	G-455	23.07	HSM-239	18.67	JO-22	12.84	P-5A	14.47	R-60I	22.29	R-113B	7.57	S-38X	2.15
FL-429	42.00	G-500	34.44	HSM-240	21.77	JO-23	12.84	P-7A	15.40	R-60J	41.21	R-114A	9.95	S-38Z	2.15
FL-421	42.00	G-501	32.84	HSM-241	44.83	JO-31	12.84	P-9A	27.87	R-60K	30.09	R-114B	9.95	S-39X	2.40
G-2	33.61	G-502	35.84	HSM-245	53.51	JO-101	12.84	P-11A	13.98	R-60L	5.92	R-115A	8.50	S-40X	3.48
G-2H3	23.65	GF-600	36.84	HS-247	70.53	JZ-1	10.83	P-14A	21.22	R-60M	5.45	R-115B	8.50	S-41X	2.30
G-4	33.44	GF-601	47.87	HSM-248	29.18	JZ-5	10.83	P-15AL	25.50	R-60N	19.09	R-116A	11.07	S-42Z	15.19
G-5	31.77	GF-602	33.25	HSM-249	15.25	JZ-7	10.83	P-16AL	45.03	R-37BC	25.57	R-116B	11.07	SR-45Z	6.40
G-5TS	28.90	HSM-250	17.60	HSM-250	17.60	JZ-13	10.83	P-17AL	25.22	R-38A	23.59	R-118A	13.00	S-42A	9.67
G-7	31.69	HC-25	21.85	HSM-251	24.27	JZ-15	10.83	P-18AL	49.48	R-38B	20.45	R-118B	13.00	S-46A	9.67
G-8	39.22	HC-115	29.25	HSM-252	31.16	JZ-25	10.83	P-20AL	48.62	R-39A	18.05	R-120A	12.75	S-47A	4.03
G-10	39.99	HC-300	38.10	HSM-253	47.06	JZ-26	10.83	PR-21AL	50.67	R-39B	18.90	R-120B	12.75	S-48X	2.00
G-12	27.84	HS-1	25.27	HSM-254	67.46	K-20 Kit	6.98	P-213AL	19.50	R-40BC	26.07	R-121A	14.65	S-48Z	2.00
G-14	19.60	HS-3	31.92	HSM-270	26.04	K-100	24.00	P-215AL	21.65	R-41C	15.97	R-121B	14.65	S-49X	2.12
G-14TS	32.74	HS-4	28.40	HSM-271	33.87	K-101	27.33	P-216AL	43.32	F-2BC	14.49	R-122A	17.15	S-50X	2.27
G-17	30.84	HS-5	22.00	HSM-272	48.19	K-102	35.00	P-217AL	24.67	R-43C	12.49	R-123HA	16.47	S-51X	3.57
G-18	23.49	HS-8	28.58	HS-273P	19.65	K-103	52.00	P-218AL	48.30	R-45C	14.99	R-124BC	13.84	S-52X	4.38
G-18TS	24.40	HS-11	19.05	HSM-301	21.10	K-104	82.00	P-220AL	43.33	R-46A	28.51	R-125BC	16.15	S-53X	4.10
G-19	25.11	HS-14	25.59	HSM-302	12.44	K-105	100.00	PL-4	10.05	R-47C	22.90	R-126A	15.44	S-54X	4.52
G-19TS	24.53	HS-15	31.92	HS-303	14.49	KA-1	2.50	PL-5	12.13	R-49BS	21.27	R-127A	16.14	S-55X	5.45
G-20	37.51	HS-23	22.87	HSM-305	16.95	KA-2	2.50	PL-6	12.13	R-50A	26.06	R-128BC	17.34	S-55Z	5.57
G-21	31.69	HS-25	26.22	HSM-307	22.65	M-1X	3.48	PL-10	1.78	R-50BC	24.60	R-129BC	19.00	S-56Z	5.27
G-21TS	38.67	HS-27	24.72	HSM-309	21.82	M-3X	5.77	PL-80E	10.94	R-51BC	22.19	R-131A	24.25	S-57Z	5.93
G-22	38.12	HS-29	25.92	HSM-315	23.59	M-4Z	4.17	PL-81E	12.14	R-52BC	17.15	R-132BC	15.55	S-58X	3.18
G-22H	25.85	HS-31	27.33	HSM-319	33.87	M-5Z	4.11	PL-81E	11.47	R-54X	2.72	R-133A	17.15	S-59Z	5.72
G-23	31.22	HS-32	26.84	HS-331	9.37	M-6X	4.77	PL-81H	12.25	R-56A	6.55	R-134A	16.40	S-60A	10.24
G-24	33.34	HS-35	19.51	HS-333	10.67	M-7AL	11.22	PL-81P	11.67	R-58A	18.39	R-135BC	18.14	S-61Z	5.93
G-25	31.11	HS-50	25.29	HS-335	14.20	M-8AL	14.77	PL-82E	11.39	R-59A	18.64	R-136BC	15.84	S-62X	4.17
G-25TS	38.22	HS-52	26.27	HS-339	16.50	M-12AL	22.15	PL-82H	12.69	R-60BC	20.39	R-138A	15.74	S-63X	3.52
G-30	18.00	HS-54	25.71	HS-400	15.34	M-15A	9.05	PL-82P	12.02	R-61BC	22.29	R-200A	16.20	S-64X	2.80
G-31	25.69	HS-56V	30.19	HS-401	23.17	M-16AL	11.34	PL-83E	12.17	R-62BC	28.42	R-201A	15.82	S-65X	2.57
G-32	32.74	HS-58	36.64	HS-402	23.17	MB-20	.72	PL-83H	12.92	R-63BC	16.15	R-202A	15.07	S-66X	2.85
G-33	30.79	HS-60	19.32	HS-404	26.47	MB-31	.45	PL-83P	12.27	R-64BC	18.19	R-203A	14.15	S-67X	2.77
G-36	19.79	HS-61	20.64	HS-405	28.56	MK-1	3.58	PL-84E	11.82	R-64BC	18.19	R-204A	14.87	S-68Z	3.78
G-40	29.86	HS-66	25.71	HS-407	34.32	MK-2	3.58	PL-84H	13.07	R-65BC	17.24	R-205A	14.27	S-69Z	5.35
G-40TS	37.27	HS-71	14.10	HS-409	30.87	MK-3	4.42	PL-84P	12.42	R-66BC	18.59	R-206B	10.48	S-70Z	3.63
G-48	18.40	HS-73	16.75	HS-413	34.82	MK-4	4.42	PL-124E	11.39	R-67BC	16.15	TR-208A	8.64	S-71Z	5.10
G-48TS	26.69	HS-75	24.39	HS-415	47.21	N-1X	4.10	PL-124H	12.77	R-68A	9.77	R-300A	19.00	S-72Z	4.20
G-51	22.02	HS-77	21.20	HS-417	49.44	N-3M	8.90	PL-139E	9.80	R-69BC	17.37	R-675A	19.00	S-73X	4.00
G-51A	22.62	HSM-79	22.89	HS-425	16.34	N-4M	10.20	PL-139H	10.88	R-70A	11.97	S-1X	2.70	SR-74K	6.45
G-53	29.02	HSM-80	24.45	HS-427	21.19	N-5M	13.30	PL-139M	11.75	R-71A	18.94	S-2X	2.45	S-75K	11.32
G-53A	20.80	HSM-81	33.92	HS-433	23.34	N-7M	22.72	PL-140E	11.39	R-72A	12.20	S-3X	2.60	S-76Z	5.23
G-54	28.79	HSM-82	35.64	HS-435	25.54	N-9M	50.10	PL-140H	12.77	R-73B	8.64	S-4X	2.98	S-77U	10.22
G-57	19.62	HSM-84	34.02	HS-436	11										



# TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES



## PRICE INDEX BY TYPE NUMBER

Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price
S-144A	15.24	†SP-70	6.95	T-41X	4.62	TY-50X	7.13	TY-90	16.10	WLC-8	1.80	V-23	5.50	Y-62-1	9.40
S-146A	15.78	SP-106	7.07	T-42X	3.90	TY-51X	4.50	TY-91	15.37	WLC-8A	1.80	V-23B	6.65	Y-64	9.15
S-148A	15.35	SP-107	5.98	T-101X	4.02	TY-52X	5.63	TY-92	15.50	WLC-9	1.88	V-23K	8.34	Y-64-1	9.35
S-149A	18.35	SP-108	6.22	T-102X	2.77	TY-53X	4.20	TY-93	24.77	WLC-10	1.59	V-23Z	5.67	Y-66-1	9.29
S-152A	19.77	SP-117	6.28	TY-1XT	3.82	TY-54X	5.22	TY-94	22.64	WLC-11	2.05	Y-22	8.42	Y-70	8.94
S-154A	21.57	SP-118	6.02	TY-2Z	4.13	TY-55X	5.22	TY-99	15.10	WLC-12	1.38	Y-22-1	9.09	Y-70-1	9.49
MS-156A	16.50	SP-128	5.93	TY-3XT	3.73	TY-56X	3.77	TY-100	23.95	WLC-17	1.41	Y-22-3	9.07	Y-72-1	10.09
S-158A	25.54	SP-310	.84	TY-4XT	3.18	TY-57X	4.07	TY-101	19.39	WLC-21	1.33	Y-24	9.74	Y-81-3	11.62
SP-4	10.50	SX-201	7.44	TY-16XT	1.67	TY-58X	3.78	TY-102	19.75	WLC-23	1.33	Y-24-3	7.00	Y-83-1	9.92
SP-5	9.95	SX-202	7.41	TY-17XT	2.32	TY-59X	6.73	†TY-158X		WLC-25	1.52	Y-25	5.83	Y-82-1	9.59
SP-7	9.52	SX-203	7.26	TY-23X	5.57	TY-60X	6.32	†TY-159X	4.93	WLC-26	1.62	Y-25-1	6.45	YC-1	.82
SP-11	8.27	SX-204	7.44	TY-24X	5.42	TY-61X	3.49	†TY-160X	5.47	WLC 29	1.85	Y-25-3	6.33	YC-110	1.17
SP-13	9.07	SX-205	7.50	TY-25X	6.17	TY-62X	4.32	TY-200X	7.57	WLC-30	1.68	Y-26-2	8.67	YC-111	1.17
SP-15	8.99	SX-206	7.59	TY-26X	9.17	TY-63X	4.83	TY-201TZ	5.32	WLC-31	1.88	Y-28	7.97	YC-112	1.17
SP-20	8.72	SX-207	7.62	TY-27XT	4.22	TY-64X	4.95	TY-202X	5.77	Y-12	6.52	Y-28-3	8.37	YC-300-1	22.50
SP-21	8.77	SX-208	7.50	TY-28XT	4.67	TY-65Z	4.52	TY-462	16.64	Y-12-1	7.68	Y-30G	8.94	YC-310-2	18.33
SP-22	9.10	T-1X	4.35	TY-29X	4.95	TY-66A	10.22	TY-468	13.35	Y-12-3	7.23	Y-31G	9.24	YC-311-2	19.51
SP-29	8.49	T22X	5.30	TY-30X	3.32	TY-67A	9.89	TZ-1	6.05	Y-17	7.77	Y-40	8.32	YC-312-2	19.28
SP-32	6.87	T-3X	5.27	TY-31X	3.25	TY-68S	7.52	TZ-2XT	6.38	Y-17-1	6.05	Y-40-3	8.80	YT-101	8.91
SP-33	7.10	T-5X	4.32	TY-32X	3.77	TY-69S	9.49	TZ-5	8.07	Y-17-2	8.65	Y-41	7.63	YT-102-2	9.09
SP-34	6.55	T-11X	4.57	TY-33X	3.72	TY-70S	10.10	TZ-7	4.75	Y-17-3	8.54	Y-41-2	9.37	YT-103-1	10.00
SP-35	6.65	T-12X	5.32	TY-34X	3.60	TY-71S	10.20	TZ-13	6.37	Y-19	8.03	Y-41-3	8.87	YT-106-2	9.80
SP-36	7.05	T-13X	5.08	TY-35X	3.17	TY-74S	8.94	TZ-15	4.62	Y-19-1	6.82	Y-42-2	8.73	YT-107-2	9.80
SP-42	7.28	T-14X	4.00	TY-36X	3.57	TY-75A	16.54	TZ-17XT	5.07	Y-19-3	8.22	Y-44	8.75	13125	4.90
SP-47	7.70	T-15X	4.12	TY-37X	4.47	TY-76A	10.67	TZ-24XT	5.80	Y-20	7.78	Y-44-1	9.39	13500-1	6.60
SP-48	7.78	T-20X	4.35	TY-38X	4.30	TY-78	14.72	TZ-25	5.25	Y-20-2	8.90	Y-45	9.15	†13500-2	8.20
SP-49	7.48	T-21X	4.17	TY-39X	5.15	TY-79	14.72	TZ-26	4.65	Y-20-3	8.20	Y-45-2	9.90	13510	6.60
SP-50	7.62	T-22X	4.00	TY-40X	4.18	TY-80	15.94	TZ-28	4.08	Y-21	8.50	Y-46	5.95	13510-2	8.20
SP-51	7.67	T-23X	4.68	TY-41X	5.13	TY-81	15.19	VR-30Z	4.15	Y-21-1	8.90	Y-46-3	7.57	13511	14.25
SP-52	7.98	T-24X	3.98	TY-42X	4.97	TY-82	14.72	V-31	4.47	Y-21-3	7.05	Y-47	5.98	†13540	6.60
SP-63	7.23	T-25X	4.03	TY-43X	4.88	TY-83	21.17	V-31K	6.96	TZ-29XT	4.72	Y-48	6.40	†13541	6.60
SP-64	7.27	T-26X	3.73	TY-44X	4.08	TY-84	21.57	WLC-13	1.32	TZ-32XT	4.87	Y-48-3	7.48	13600	9.20
SP-65	7.50	T-31X	4.20	TY-45X	4.12	TY-85	22.94	WLC-3	1.33	TZ-103XT	3.53	Y-49	7.68	13600-2	11.50
SP-66	8.48	T-32X	3.35	TY-46X	3.03	TY-86	21.80	WLC-4	1.32	V-21	5.23	Y-60R	9.29	13751	3.92
SP-67	7.55	T-33X	4.90	TY-47X	4.55	†TY-87	22.50	WLC-5	1.33	V-21B	5.93	Y-60-1	9.29	13750	3.92
SP-68	8.90	T-34X	3.38	TY-48X	4.02	TY-88	13.02	WLC-6	1.32	V-21K	9.19	Y-60-2	11.49	13800	1.40
SP-69	8.50	T-35X	3.98	TY-49X	3.98	TY-89	12.82	WLC-7	1.35	V-21Z	5.38	Y-62	8.59	13801	1.40

‡Discontinued item. Available until supply is exhausted

### TRIAD CASES

GB	HA	HB	JA	JB	KA	KB	LA	LB	MA	MB	NA	NB	AH	AJ	EA	EB	FA	FB	GA	
A	2 3/8	2 3/8	2 3/8	3 1/8	3 1/8	3 3/8	3 1/8	3 1/8	4	4	4 3/8	4 3/8	A	1 3/8	1 3/8	1 3/8	1 3/8	2 1/8	2 1/8	2 3/8
B	2 3/4	3 1/8	3 1/8	3 3/8	3 3/8	3 1/2	4 3/8	4 3/8	4 1/8	4 1/8	5 1/8	5 1/8	B	1 3/8	1 3/8	1 3/8	1 3/8	2 3/8	2 3/8	2 3/8
C	2 1/2	4 1/8	3 3/8	4 7/8	3 7/8	5 1/4	5 3/8	4 1/2	6	4 1/8	6 1/8	5 1/2	C	1 3/4	2 3/8	2 3/8	2 3/8	3 3/8	2 1/2	3 1/8
D	2 1/2	2 1/4	2 1/4	2 5/8	2 5/8	3	3 3/8	3 3/8	3 1/8	3 1/8	4 1/8	4 1/8	D	1 1/4	1 3/8	1 3/8	1 3/8	1 1/8	1 1/8	2 1/8
E	1 3/4	1 3/4	1 3/4	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8	3	3	3 3/8	3 3/8	E	1 3/8	1 1/4	1 1/4	1 1/4	1 1/8	1 1/8	1 3/8
G	3/8	3/8	3/8	3/8	3/8	1/2	1/2	1/2	5/8	5/8	5/8	5/8	G	3/8	3/8	3/8	3/8	3/8	3/8	3/8
I	6-32	8-32	8-32	8-32	8-32	10-32	10-32	10-32	1/4-20	1/4-20	1/4-20	1/4-20	I	6-32	6-32	6-32	6-32	6-32	6-32	6-32

Wt. (avg.) lbs.	AF	AG	AH-2	AJ-2	JZ*†	GP-1	GP-2	GP-3	GP-4	GP-5	JOA	JOB	
A	1 1/4	2 1/2	2 1/4	4 1/2	4	7 3/8	7				A	1 3/8 dia.	1 3/8 dia.
B	3/8	3/8	3/8	3/8	3/8	1 1/2	1 1/2	18	16		B	Round	Round
C	1 3/4	2 3/8	2 3/8	2 3/8	2 3/8	2 1/2	2 1/2	2 1/2	2 1/2		C	1 1/2	1 1/2
D	2 1/2	2 1/4	2 1/4	2 5/8	2 5/8	3	3	3 3/8	3 3/8		D	3/8	3/8
E	1 3/4	1 3/4	1 3/4	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8		F	7/8	7/8
G	3/8	3/8	3/8	3/8	3/8	1/2	1/2	5/8	5/8		Unit Wt.	2 oz.	2 1/2 oz.
I	6-32	8-32	8-32	8-32	10-32	10-32	10-32	10-32	10-32				

\* Not in conformance with MIL-T-27A.  
† Not in conformance with MIL-T-27

### SHIELDING

- P-1—One nickel alloy high permeability shield — 45db. reduction in pickup.
- P-3—Two nickel alloy shields interleaved with one heavy copper shading ring — 70db. reduction in pickup.
- P-5—Three nickel alloy shields interleaved with two heavy copper shading rings— 95 db. reduction in pickup.

Prices subject to change without notice. Net prices shown for 1-9 quantity. For 1 to 249 pieces, see your stocking Triad Distributor for quantity discount schedule. For 250 or more pieces, contact your Triad Representative or call the factory.



## CONTINUED HISTORY IN THE ADVANCEMENT OF THE STATE OF THE ART

In the development of iron core inductance devices, UTC has established itself as the leader in advancing the state of the art for over thirty years. R & D is constantly conducted in new materials, structural advancements and modifications, and winding and manufacturing techniques.

It was UTC who, through the development of advanced fine wire winding techniques, introduced the "Ouncer" series of transformers and inductors in the 1940's. These designs heralded the concepts of miniaturization in the field of iron core inductance devices. Again, it was UTC who developed the DO-T family of transformers and inductors, embodying a revolutionary new structural concept. These components are extremely compatible with present day circuitry demands, and have a power handling capacity far exceeding similar size competitive units. The "PIL" series, for instance, is no larger than an aspirin. These units,

as most UTC components, are ruggedized and highly reliable items which have found strong acceptance in the demanding areas of defense, aerospace, and medical electronics, not to mention the industrial and commercial fields. Many other incidents, both large and small, can be mentioned wherein UTC contributed significantly to the advancement of the state of the art.

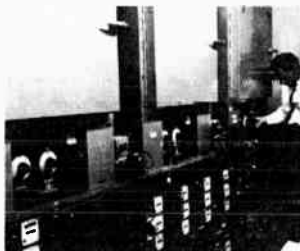
UTC continues in its efforts to bring you the most advanced iron core inductance devices made. Active R & D programs, backed by top engineering talent, supported by broad production capabilities, and monitored by stringent quality control measures, attest to UTC's dedication to supplying you with the ultimate designs and units available in the present day state of the art.

We have found this makes good sense and business for UTC. By using UTC components, we're sure it will do likewise for you.

### PRODUCT IMPROVEMENT THROUGH CONTINUED R&D— PICTURED HERE ARE A FEW OF UTC'S MANY SUPPORT FACILITIES



PROGRAMMED  
VIBRATION MEASUREMENTS



ACCELERATED  
LIFE TESTING



HIGH ALTITUDE TESTING OF  
INSULATION SYSTEMS



MICROSCOPIC ANALYSIS OF  
ULTRAMINIATURE COILS



CORROSIVE ENVIRONMENT  
TESTS OF FINISHES



6 MILLION WATT  
PULSE MODULATOR

●  
**THE MOST  
COMPLETE  
LINE OF  
TRANSFORMERS,  
INDUCTORS,  
MAGAMPS,  
PULSE UNITS,  
ELECTRIC WAVE  
FILTERS &  
HIGH Q COILS  
IN THE  
INDUSTRY**  
●

SEE FOLLOWING 14 PAGES FOR TOP QUALITY UTC STOCK ITEMS

**UNITED<sup>®</sup> TRANSFORMER COMPANY**  
DIVISION OF TRW INC.

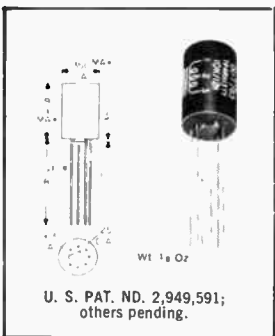


# NEW TRANSFORMERS & FILTERS

## AUDIO TRANSFORMERS

### DO-T200\* SERIES, ULTRAMINIATURE PLUG-IN TRANSISTORS TRANSFORMERS

Manufactured and successfully tested to complete environmental requirements of MIL-T-27B. Most Ruggedized MIL Structure, Grade 4, Metal Encased. MIL types TF4RX13YY, TF4RX16YY. Immediate Delivery From Stock. Full Conformance to MIL Mounting Requirements. Solderable and Weldable Leads. Hermetically Sealed. Straight Pin Terminals. Excellent Response. High Efficiency. Low Distortion. Leads are 7/8" long, .016 Dumet wire, gold plated, and may be either welded or soldered. They are uninsulated and are spaced on a .1" radius circle. In pulse coupling impedance matching applications (when measured with a 30 microsecond input pulse voltage wave), typical values for these transformers are: 5% or less droop, zero overshoot, and less than 10% backswing. Also see below and pages 2 & 3 for other DO-T family constructions.



Type No.	Pri. Imp.	D.C. ma† in Pri.	Sec. Imp.	Application	Suggested Net Price
DO-T255	1000 CT	3	50	Output or matching	6.90
	1200 CT	3	60		
DO-T275	10,000 CT	1	1500 CT	Interstage	7.80
	12,000 CT	1	1800 CT		
DO-T277	10,000 CT	1	2000 split	Interstage	8.70
	12,000 CT	1	2400 split		
DO-T278	10,000	1	2000 CT	Driver	8.70
	12,500	1	2500 CT		
DO-T283	10,000 CT	1	10,000 CT	Isolation or interstage	8.70
	12,000 CT	1	12,000 CT		
DO-T288	20,000 CT	.5	800 CT	Interstage	8.70
	30,000 CT	.5	1200 CT		
DO-T297	200,000 CT	0	1000 CT	Input and Chopper	10.80
DO-T200SH	Drawn Hipermalloy shield provides 15 to 20 db shielding through side of case				.75

†DCma shown is for single ended usage. For push pull, DCma can be any balanced value taken by .5W transistors. Where windings are listed as split, 1/4 of the listed impedance is available by paralleling the winding.

### DO-T\*, DI-T\* TRANSFORMERS

Designed, manufactured and successfully tested to complete MIL-T-27B specifications. See page 3 for size and weight and complete DO-T, DI-T line. Also above and page 2 for other DO-T family constructions. These units can be used for pulse coupling impedance matching applications. All U.S. Pat. No. 2,949,591; others pending.

Type No.	Pri. Imp.	D.C. ma† in Pri.	Sec. Imp.	Typical Application	Suggested Net Price
DO-T53	400 CT	8	4K CT	Input or driver	\$7.80
	500 CT	6	5K CT		
DO-T54	40K CT	.25	4K CT	Interstage or isol.	8.70
	50K CT	.25	5K CT		
DI-T53	400 CT	8	4K CT	Input or driver	7.80
	500 CT	6	5K CT		

†DCma shown is for single ended usage. For push pull, DCma can be any balanced value taken by .5W transistors.

### SUBMINIATURE TRANSFORMERS

Designed, manufactured and successfully tested to complete MIL-T-27B specifications. See page 6 for size and weight of FH units, also listings of other FH & H hermetic audio units. These units have straight pin terminals for welding or printed circuit use. Response ±2 db from 300 to 20KC. Level +17 dbm; 50 mw.



Type No.	Application	MIL Type	Pri. Imp. Ohms	Sec. Imp. Ohms	Unbal. DC ma	Pri. Sugg. Net Price
FHA-5	Transistor TF4RX17YY Input		500/125 split	5K/1250 split	12	\$8.10
FHA-10	Transistor TF4RX13YY Intrstg or Isol		5000/1250 split	5K/1250 split	4	\$8.10

### ULTRA-COMPACT\* "A" LINE TRANSFORMERS

Newly added to the line of high quality industrial type transformers. See page 10 for complete listing of Ultra-Compact transformers. Application: "2 wire to 4 wire" hybrid circuit. Two transformers in one case for hybrid circuit use. Frequency response: 40-20KC ± 2 db. Level: +10dbm, 10 mw. Includes 60 db minimum circuit isolation.



electromagnetic shielding. Hybrid circuit will provide 60 db minimum circuit isolation.

Type No.	Pri. Imp. Ohms	Unbal. DC	Sec. Imp. Ohms	Suggested Net Price
A-48	500/600	0	500/600 } 2 500/600 } wds. plus winding for balance loading	\$18.00

### 400 CYCLE POWER TRANSFORMERS

#### UNIVERSAL TRANSISTOR SUPPLY TRANSFORMERS

Designed, manufactured and successfully tested to complete MIL-T-27B specifications. Units are in drawn MIL metal cases. The MET-495 (MIL type TF4SX02A) is in a MIL AJ case: 1 1/2 x 1 1/2 x 2 3/8" h., wt. 2 1/2 lbs. The MET-445 (MIL type TF4SX02AH) is in a MIL AH case: 1 3/4 x 1 3/4 x 1 3/4" h., wt. 3/4 lbs. For full line of MET type universal transistor supply transformers see page 4.

MET-495 Pri. 115 Volts, 400 ~ Nom. Sec. V, 16.5 to 81  
MET-445 115 Volts, 400 ~ Nom. Sec. V, 8.25 to 40.5

TYPE NO.	MIL DC RANGE	INDUST. DC RANGE	Suggested Net Each
MET-495	12V-.6A to 106V-.2A	12V-.76A to 106V-.24A	\$15.00
MET-445	6V-.6A to 53V-.2A	6V-.75A to 53V-.24A	13.50

### ISOLATION TRANSFORMERS



Units designed, manufactured and successfully tested to complete MIL-T-27B specifications. These units are metal encased to MIL Grade 4, Class S, Life X. ELECTROSTATICALLY SHIELDED. See page 4 for complete line of MET type transformers.

Type No.	MET-400	MET-405
Primary	105/115/125 380-1000~	105/115/125 380-1000~
Secondary	1) 115VCT-.06A 2) 115VCT-.06A	1) 115VCT-.2A 2) 115VCT-.2A
Series Con.	230V-.06A	230VCT-.2A
Parallel Con.	115V-.12A	115VCT-.4A
MIL Type	TF4SX03AH	TF4SX01EA
Base	1 3/8 x 1 3/8"	1 3/8 x 1 3/8"
Height	1 3/4"	2 3/4"
Weight	3/4 lbs.	1 lb.
Suggested Net Price	13.50	14.70

### MOLDED ISOLATION & SUPPLY TRANSFORMERS



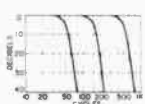
Designed, manufactured and successfully tested to complete MIL-T-27B specifications.

These units are vacuum molded to MIL Grade 5. Units are ELECTROSTATICALLY SHIELDED. See page 4 for Metal Cased lines of transistor supply transformers.

Type No.	H-149	H-148
Application	—	Isolation
Primary	28V 380-1000~	105/115V 400~
Secondary	1) 6.3V-.08A 2) 6.3V-.08A	115VCT-.02A
Series Con.	12.6V-.08A	
Parallel Con.	6.3V-.16A	
MIL Type	TF5X03ZZ	TF5X03ZZ
Base	3/4 x 7/8"	3/4 x 1"
Height	3/8"	3/4"
Weight	.04 lbs.	.05 lbs.
Suggested Net Price	7.50	10.80

### ELECTRIC WAVE FILTERS

#### NEW STANDARD FILTERS



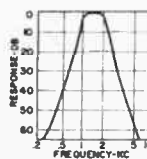
Base ..... 1 1/2 x 1 1/4"  
LMI-150 ..... 1 5/8" h.,  
wt. 6 oz.  
LMI-50 ..... 2 1/2" h.,  
LML-500 ..... wt. 9 oz.  
HML-40



All UTC filters are designed, manufactured and successfully tested to MIL-F-18327C environmental requirements. The LMI-50 & LMI-150 are Low Pass Interstage Filters with source and load impedance of 10,000 ohms. Cutoff frequencies: LMI-50 at 50 cycles; LMI-150 at 150 cycles. The LML-500 is a Low Pass Filter with a source and load impedance of 500/600 ohms, cutoff frequency is 500 cycles. HML-40 is a High Pass Filter with a source and load impedance of 500/600 ohms, cutoff frequency is 40 cycles. Suggested net prices are: LMI-50—\$39.00; LMI-150—\$31.50; LML-500—\$39.00; HML-40—\$42.00. SEE COMPLETE FILTER LINES ON PAGE 8.

### BROAD BAND FILTER

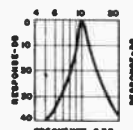
The FBH-1—Flat package Broad Band Pass Filter has a source and load of 10K ohms. Units are within 3 db from 1KC to 2KC, and have an attenuation of at least 36 db at frequencies below 500 cps and above 4KC. FP-C Case. MIL type FR6RX22YY1. Suggested net price: \$54.00.



FP-C CASE  
Height 1/2", wt. 2.2 oz.

### LOW FREQUENCY FILTER (BAND PASS & BAND REJECT)

The LBP-10 Low Frequency Band Pass Filter has a 10 cps center frequency. The filter has 4 terminals so that it can be used as a band pass filter with a 10K ohm load or with a high impedance load, and in addition, as a band reject filter. As a Band Pass Filter, the unit is within 3 db at 9.6 and 10.4 cps. Attenuation at 5 & 20 cps is at least 30 db with the 10K ohms output load and 35 db with the 3.3 Megohm load. As a Band Reject Filter, the unit attenuates 10 cps by a minimum of 30 db and varies less than 3 db from DC to 7 cps, and from 14 cps to 36KC. This filter is MIL type FR6RX22FB1. Suggested net price: \$60.00.



# UNITED TRANSFORMER COMPANY DIVISION OF TRW INC.

UTC PAGE 1.

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# NEW



## TRANSFORMERS, FILTERS, MAGAMPS, HIGH Q COILS

### NEW UTC "FLATS"\* ELECTRIC WAVE FILTERS

For other Filters see pages 1 & 8  
Designed, Manufactured and Successfully  
Tested to Complete

#### MIL-F-18327C Specifications

These filters meet today's need for flat component configurations, have excellent attenuation characteristics and are ruggedized to Grade 4, MIL-F-18327C. Straight pin terminals and flat construction make these units ideally suited for printed circuit applications. These filters are hermetically sealed in flat metal cases shielded to reduce hum pickup. FP-A case: 2 x 2 x 1/2" h., 2.5 oz. FP-B case: 2 x 1 1/2 x 3/8" h., 2 oz.

**Suggested stock price: \$42.00 each net.**

**FHH-200:** Flat package high pass filter, source and load 10K ohms. Units are within 1 db up to 300 cycles 3 db ± 1 db at 200 cycles, and have an attenuation of at least 40 db at frequencies below 140 cycles. FP-A case. Mil Type: FR6RX33YY1.

**FLH-600:** Flat package low pass filter, source and load 10K ohms. Units are within 1 db from DC to 4.2 KC, 3 db ± 1 db at 600 cycles, and have an attenuation of at least 40 db at frequencies above 800 cycles. FP-A case. Mil Type: FR6RX11YY1.

**FLH-5000:** Flat package low pass filter, source and load 10K ohms. Units are within 1 db from DC to 3 KC, 3 db ± 1 db at 5 KC, and have an attenuation of at least 43 db at frequencies above 6400 cycles. FP-B case. Mil Type: FR6RX11YY1.

**FLL-3500:** Flat package low pass filter, source and load 600 ohms. Units are within 1 db from DC to 3 KC, 3 db ± 1 db at 3500 cycles, and have an attenuation of at least 40 db at frequencies above 4500 cycles. FP-A case. Mil Type: FR6RX33YY1.

**FLL-18000:** Flat package low pass filter, source and load 600 ohms. Units are within 1 db from DC to 15 KC, 3 db ± 1 db at 18 KC, and have an attenuation of at least 43 db at frequencies above 23 KC. FP-A case. Mil Type: FR6RX11YY1.

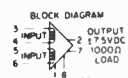
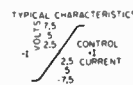
**FLL-50000:** Flat package low pass filter, source and load 600 ohms. Units are within 1 db from DC to 42 KC, 3 db ± 1 db at 50 KC, and have an attenuation of at least 43 db above 64 KC. FP-B case. Mil Type: FR6RX11YY1.



### NEW LINE OF SOLID STATE "MAS"\* PUSH-PULL MAGNETIC AMPLIFIERS

For other Magamps see page 7.

The "MAS" magamps operate on an input of 115 V 400 cycles with an output of ±7.5 V DC, 1000 ohm load and have 2 isolated control inputs. These magnetic amplifiers afford a power gain of approximately 30,000. The power input and output are also completely and individually isolated. The "MAS" magamps are manufactured to MIL-T-27B standards. Units are housed in a hermetically sealed steel case with plug-in octal compressed glass terminals. The "MAS" magamps are 3 inches high with a 1 1/2 inch diameter and weighs approximately 1/2 pound.



The "MAS" magamps have many advantages over other active circuit elements such as tubes, transistors: • Long life and years of maintenance free operation due to magnetic characteristics and solid state elements. • Ruggedness can withstand high shock, vibration, radiation, and moisture. • Reliability — can withstand 10 times overloads and operate into short without damage.

Possible applications include: • Control Amplifier • Photocell • SCR Controls • Strain Gauge Amplifier • Meter Preamps • Thermocouple • Differential Amplifier • Signal mixing, summing, integration • Hydraulic Servo Valve Driver • Servo Motor • Linear Amplifications of Transducer Signals.

Type Number	Winding Number	Input Resistance Ohms	Trans-resistance Ohms	Nominal DC μamps 5V DC Output 1000 Ω Load	Suggested Price Net
MAS-400	1	45	2.5 x 10 <sup>4</sup>	200	135.00
	2	45	2.5 x 10 <sup>4</sup>	200	
MAS-410	1	500	8.0 x 10 <sup>4</sup>	60	135.00
	2	500	8.0 x 10 <sup>4</sup>	60	
MAS-420	1	1000	12.5 x 10 <sup>4</sup>	40	135.00
	2	100	4.0 x 10 <sup>4</sup>	125	

### NEW, LLP-15, STANDARD LOW FREQUENCY LOW PASS FILTER

For other Filters see pages 1 & 8.  
Designed, Manufactured and Successfully  
Tested to Complete MIL-F-18327C

The LLP-15 low frequency low pass filter has a loss of less than 3 db at 15 cycles and attenuation of more than 40 db at 30 cycles. Source and load impedance 100K ohms. MIL Type FR6RX11FA1. Dim: 2 1/4 x 2 3/4 x 3 1/8" h., 1 1/2 lbs. **Suggested net price: \$60.00 net.**

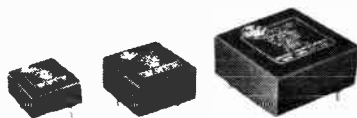


### NEW "FE, FI, FO" MINIATURE INDUCTORS

For other High Q Coils see page 9.

Designed, Manufactured and Successfully Tested to Complete MIL-T-27B Specifications.

FE, FI, FO miniature inductors are ideal for transistor and printed circuit applications, having both pin terminals and a molded flat construction. These units are symmetrical toroids providing maximum Q in minimum size. The FE and FI inductors are adjusted at 1 V, 1 KC. The FO units are adjusted at 1 V, 400 cycles. All units are adjusted to a tolerance of ±1%. The ma DC Max shown is for approximately 5% drop in inductance. The temperature stability is unequalled from -55°C to +100°C. For AC level limitations, a general rule of thumb would be to consider the maximum AC current approximately equal to the maximum DC current rating. However, for specific applications, contact UTC with exact level, frequency, and Q requirements to determine suitability of part in application. All FE, FI, FO inductors are equally well suited for vacuum tube application. All units Mil Type: TF5RX20ZZ.



Type No.	Ind. Hy. (0 DC)	ma DC Max.	DCR Max.	Suggested Price Net
FE-.02	.0200	50	5.1	\$ 9.00
FE-.05	.0500	30	12	9.60
FE-.1	.100	22	22	10.20
FE-.5	.500	10	122	10.80
FE-1	1.00	7	250	11.40
FE-2	2.00	5	500	12.00
FI-.04	.0400	50	4.3	10.80
FI-.1	.100	30	11	11.10
FI-.25	.250	20	27	11.40
FI-.5	.500	14	60	11.70
FI-1	1.00	10	110	12.00
FI-4	4.00	5	430	12.90
FO-.1	.100	60	4.2	15.00
FO-.5	.500	25	23	15.00
FO-1	1.00	18	43	15.60
FO-2	2.00	12	92	16.20
FO-5	5.00	8	240	16.80
FO-10	10.0	6	440	18.00

### NEW "PIL"\* AUDIO TRANSFORMERS

For other PIL'S see page 3.

Designed, Manufactured and Successfully Tested to Complete MIL-T-27B Specifications.

These units are the smallest audio transformers available. The DO-T type structure incorporated overcomes inherently poor electrical characteristics usually found in miniature audio transformers. These ultraminiature PIL transformers are engineered to provide top electrical performance. All units are subjected to a 500 volt dielectric strength test, instead of the usual 100 volts, for higher safety margins and reliability.

Units are designed to a field-proven, ruggedized construction with a completely rigid cylindrical bobbin eliminating wire movement and stress. The turns are circular, effecting uniform wire lay and eliminating corner stress. The leads are rigidly anchored to the coil wire terminal board fashion, eliminating the use of tape, and brought out through strain relief. The units are terminated in weldable and solderable, insulated Gold plated Dumet leads. Dim: 3/16" dia. x 3/16" h., 1/20 oz.

All units are metal encased to Grade 4. Units made to Class S are available on special order. U. S. Patent No. 2,949,591.



Type No.	MIL Type	Pri Imp	Unbal D.C. ma In Pri	Sec Imp	Pri OCR	Max Mw Level	±3 db Fre Range @ 1 Mw	Suggested Net Price
PIL-50	TF4RX17YY	500 CT	3	500 CT	40	100	800 cps-250KC	7.20
PIL-70	TF4RX13YY	10K CT	1	500 CT	530	100	800 cps-250KC	7.50
PIL-75	TF4RX13YY	10K CT	1	2K CT	530	100	800 cps-250KC	7.50

### PRECISION SCOTT-T REFERENCE TRANSFORMER NEW SCR-10\*

Tested to Complete MIL-T-27B Specifications

Designed, Manufactured and Successfully

Used in the precise conversion of three wire synchro information to equivalent resolver information. Two outputs 90° apart are obtained, which can be utilized in analog and digital computer application or coordinate transformation applications. Mil type TF4SX09AJ.

Special custom built units with other electrical values are available to your requirements

Input 90V 60/400~ 3 Phase high impedance suitable for synchro output.

Output 1) 3V @ .25 MA 2 Phase Output.  
2) 3V @ .25 MA 1 Phase Output.

a) Magnitudes of output voltage matched within 0.25%.

b) Phase angle of output voltages is 90° ± .225°.

**Suggested Net Each: \$24.00**

AJ case, see page 14



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UTC PAGE 2.

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# TRANSISTOR TRANSFORMERS (Commercial Types) & M-S Transformers & Inductors

## TRANSISTOR TRANSFORMERS (Commercial Type)

### NEW CAT★ TRANSISTOR IMPEDANCE TYPES

All units in RC-50 case. (See page 11.) Frequency range ± 2 db, 50-15,000 cps. Power level 1 watt except CAT-15, 5 watts.

UTC Type	Application	Imped. Ohms	Primary Unbal. Ma DC	Secondary Imped., Ohms	Sugg. Net Each
CAT-15	Output	48/12 spl.	750*	16 spl./8/4	\$8.85
CAT-20	Istg./outp.	500/125 spl.	20	16/4 split	8.10
CAT-25	Istg./outp.	500/125 spl.	20	500/125 spl.	8.70
CAT-30	Input/istg.	500/125 spl.	20	2K/500 split	8.40
CAT-40	Istg./outp.	10K/2.5K spl.	8	2K/500 split	8.40

\*Balance. ★Trade mark.

### CHANNEL FRAME FILAMENT/TRANSISTOR TRANSFORMERS Pri. 115 V. 50/60 Cycles—Test Volts RMS: 1500

Type No.	Secondary	W	D	H	M	Lbs.	Sugg. Net Each
FT-1	2.5 VCT-3A	2 7/8	1 5/8	1 11/16	2 3/8	3/4	\$4.50
FT-2	6.3 VCT-1.2A	2 7/8	1 5/8	1 11/16	2 3/8	3/4	4.50
FT-3	2.5 VCT-6A	3 1/8	1 7/8	2	2 1/2	1	5.10
FT-4	5.3 VCT-3A	3 1/8	1 7/8	2	2 1/2	1	5.10
FT-5	2.5 VCT-10A	3 3/4	2 1/8	2 1/2	3 1/8	1 1/2	5.70
FT-6	5 VCT-3A	3 3/4	2 1/8	2 1/2	3 1/8	1 1/2	5.70
FT-7	7.5 VCT-3A	3 3/4	2 1/8	2 1/2	3 1/8	1 1/2	5.70
FT-8	6.3 VCT-8A	4	2 1/2	2 3/8	3 1/8	2 1/2	6.30
FT-10	24 VCT-2A or 12V-4A	4	2 5/8	2 11/16	3 3/8	2 1/2	6.90
FT-11	24 VCT-1A or 12 V-2A	3 3/4	2 1/8	2 3/8	3 1/8	1 1/2	6.00
FT-12	36 VCT-1.3A or 18 V-2.6A	4	2 5/8	2 5/8	3 3/8	2 1/2	6.90

Taps on pri. of FT-13, FT-14 & FT-15 to modify sec. nominal V, -6%, +6%, +12%

FT-13	26 VCT-.04A	2 1/2	1 3/4	1 1/4	1 3/4	1/2	\$5.70
FT-14	26 VCT-.25A	2 1/2	1 3/4	1 1/4	2 1/4	3/4	5.70
FT-15	48VCT-1A	4	2 1/2	2 5/8	3 3/4	2 1/2	7.80
FT-16*	11 VCT-2.5A or 5.5 VCT-5A	3 3/4	2 1/8	2 3/8	3 1/8	1 1/2	7.80

\* For 120 V input, use 6% top

### TRANSISTOR/FILAMENT TRANSFORMERS

Pri. 115 x 50/60 Cycles; Bridge Rectifier  
S-77, S-78 & S-79 Tapped For Dual Secondary Voltages

UTC Type	DCV	DCA	Case No. See Page 13	Sugg. Net Ea.
S-75	5.2/14	1.2/4	G-1	\$ 6.60
S-76	10/26	4/1.4	G-4	9.90
S-77	14/56	3/1	G-5	11.40
S-78	28/110	9/3	G-10	33.00
S-79	32/120	3/1	G-7	18.00

## MILITARY STANDARD TRANSFORMERS AND INDUCTORS

Designed, Manufactured and Successfully Tested to Complete MIL-T-27B Specifications

### FILAMENT, POWER, PLATE TRANSFORMERS

Primary 105/115/125 v., 54/66 cycles. Current ratings are for high voltage secondary DC, choke input filter. For condenser input, reduce by 70%. All units are MIL grade 4, ruggedized; equally usable where grade 1 is specified. Electrostatically shielded.

UTC Type	MS No.	MIL Type TF4RX-	Secondary Rating	MIL Case (Pg. 14)	Sugg. Net Ea.
N-583A	90016-2	01EB002	2.5 v.-3 a.; 1000 WV	EB	\$13.50
N-584A	90017-2	01GB003	2.5 v.-10 a.; 1000 WV	GB	15.00
N-585A	90018-2	01FB004	5 v.-3 a.; 1000 WV	FB	13.50
N-586A	90019-2	01HB005	5 v.-10 a.; 1000 WV	HB	18.00
N-587A	90020-2	01FB006	6.3 v.-2 a.; 1000 WV	FB	13.50
N-588A	90021-2	01GB007	6.3 v.-5 a.; 1000 WV	GB	15.00
N-589A	90022-2	01JB008	6.3 v.-10 a.; 1000 WV	JB	19.50
N-590A	90023-2	01KB009	6.3 v.-20 a.; 1000 WV	KB	24.00
N-591A	90024-2	01JB012	2.5 v.-10 a.; 6300 WV	JB	19.50
N-592A	90025-2	01KB013	5 v.-10 a.; 6300 WV	KB	22.50
N-593A	90026-2	03HA001	200-100-0-100-200, 70 ma; 6.3/5 v.-2 a.; 6.3 v.-3 a. 325-0-325, 70 ma;	HA	24.00
N-594A	90027-2	03JB002	6.3/5 v.-2 a.; 6.3 v.-4 a. 6.3/5 v.-2 a.; 6.3 v.-4 a.	JB	22.50
N-595A	90028-2	03KB006	325-0-325, 150 ma; 5 v.-3 a.; 6.3 v.-5 a.	KB	26.40
N-596A	90029-2	03LB003	400-0-400, 175 ma; 5 v.-3 a.; 6.3 v.-8 a.	LB	33.00
N-597A	90030-2	03MB004	450-0-450, 250 ma; 5 v.-3 a.; 6.3 v.-8 a.	MB	39.00
N-598A	90031-2	02KB001	350-0-350, 250 ma	KB	21.00
N-599A	90032-2	02LB002	550-0-550, 250 ma	LB	28.50
N-600A	90036-2	02NB003	800-0-800, 250 ma	NB	37.50

### CIRCUIT DEVELOPMENT TRANSFORMERS FOR TRANSISTORS

The UTC Laboratory circuit development transformers aid the designer in selecting optimum impedances for best power and distortion results from his transistor circuit.

#### LAB-5

20 Cycles to 20kc  
Up to 50mw Continuous

Pri Imp. Ω	Sec. Imp. Ω
125	125
200 split	200 split
500 split	500 split
2000 split	2000 split

Suggested Net Each: \$48.00

#### LAB-5 & LAB-10

units in LS-1 case  
3 1/8 x 2 3/8 x 3 1/4"; 3 lbs.

#### LAB-20

units in LS-3 case  
5 1/2 x 5 x 4 1/4"; 15 lbs.

#### LAB\* UNIT



Terminal board as shown above

#### LAB-10

20 Cycles to 20kc  
Up to 1W Continuous

Pri. Imp. Ω	Sec. Imp. Ω	Ratio
1900 Ω to 14,400 Ω	20:1 or 10:1	19 Ω to 36 Ω
925 Ω to 7600 Ω	10:1 or 5:1	37 Ω to 76 Ω

Suggested Net Each: \$30.00

#### LAB-20

20 Cycles to 20kc  
Up to 50W Continuous

Pri. Imp. Ω	Sec. Imp. Ω
6, 12, 24, 40, 54, 70,	4, 8, 16, 64

Suggested Net Each: \$60.00

### TRANSISTOR/FILAMENT SUPPLY TRANSFORMERS

Primary 115 volts 50/60 cycles

Type No.	Sec. V RMS	Sec. A RMS	In Parallel		In Series		Case No. See Pg. 11	Sugg. Net Ea.				
			Choke in DCV	C in DCA	Choke in DCV	C in DCA						
CG-30	17/21.5	1.5	14/17.5	3	18.5/25	2	28/35	1.5	43/56	1	RC-112	\$18.90
CG-31	34/43	4.5	28/35	9	43/56	6	56/70	4.5	85/110	3	RC-175	42.00
CG-32	6.3VCT	1.2									RC-62	10.50

### FILAMENT/TRANSISTOR SUPPLY TRANSFORMERS

Primary 105, 115, 210, 220, 230 volts, 50/60 cycles, except CG-34 . . . 105, 115, 220, 230. These transformers may be used on 25 to 43 cycles if 220 volt primary is used on 110 volts. Secondary voltage is simultaneously reduced to half.

Type No.	Sec. Volts C.T.	Sec. Amp.	Working Voltage	Sec. Test Volts RMS	Case No. See Page 11	Sugg. Net Each
CG-33	6.3	4	500	2000	RC-75	\$10.50
CG-34	2.5	10	2500	6000	RC-112	12.00
CG-35	6.3	6	500	2000	RC-87	12.00
CG-36	6.3/6.3	5/5	500	2000	RC-100	15.60
CG-120	2.5	10	5000	11000	RC-125	18.00
CG-121	5	25	5000	11000	RC-150	22.50
CG-122	7.5/6.3	10	1500	4000	RC-125	18.00
CG-124	10	10	1500	4000	RC-150	18.00
CG-125	14/12/11	10	1500	4000	RC-150	21.00
CG-126	14/11/10	10	1500	4000	RC-152	30.00



RC CASE See Pg. 11

### AUDIO TRANSFORMERS

Frequency response 300-10,000 cps ± 2 db. Split 600-ohm units provides for 600 ohms CT and 1500 ohms. Electrostatic shielding provided on W-784, W-785 and W-786. No. W-783 has center-tapped secondary for 90K CT or 22.5K CT. All units in AJ case (Pg. 14). Wt., 0.6 lb.

UTC Type	MS No.	MIL Type TF1RX-	#	Pri. Ohms	Pri. DC Ma., Unbal.	Sec. Ohms	Sugg. Net Ea.
W-783	90000-1	15AJ001	a	10K CT	10	90K spl.	\$16.50
W-784	90001-1	16AJ002	b	600 spl.	.....	4/8/16	15.30
W-785	90002-1	10AJ001	c	600 spl.	.....	135K CT	15.30
W-786	90003-1	16AJ001	d	600 spl.	.....	600 spl.	15.30
W-787	90004-1	13AJ001	e	7.6K/4.8K	40	600 spl.	13.95
W-788	90005-1	13AJ002	f	7.6K/4.8K	40	4/8/16	14.25
W-789	90006-1	13AJ003	g†	15K CT	10	600 spl.	13.95
W-790	90007-1	13AJ004	g*	24K CT	20†	600 spl.	14.25
W-791	90008-1	13AJ005	g#	60K CT	20*	600 spl.	13.95

# Use: a—PP plates to pp grids, 15 dbm level. b—Line to VC, 2 watts. c—Line to pp grids, 15 dbm. d—Line to line, 15 dbm. e—Plate to line, 2 watts. f—Plate to VC, 2 watts. g—PP plates to line. †Balanced. ‡2 watts. \*1 watt. #0.5 watt.

### INDUCTORS

Two windings for series or parallel connection. Inductance shown for series connection. All but Z-847 are standard MIL case types. Rated 3500 WVDC, unless otherwise noted.

UTC Type	MS No.	MIL Type	Induct. Hy.	Ma DC	DCR Ohms	MIL Case Pg. 14	Sugg. Net Each
Z-848*	90009-1	04FA001	16	80	645	FA	\$12.60
Z-849*	90010-1	04GA002	25	80	670	GA	15.00
Z-850*	90011-1	04HA003	40	80	1020	HA	22.50
Z-851†	90013-1	04HA005	16	125	330	HA	18.00
Z-852†	90014-1	04JB006	25	125	460	JB	25.50
Z-853	90037-1	04KA007	40	125	535	KA	31.50
Z-854	75000-2	04LA009*	16	200	180	LA	33.00
Z-855	75001-2	04MA010*	25	200	210	MA	37.50
Z-856	75002-2	04NA012*	16	315	105	NA	45.30
Z-857	75003-2	04Y013*	25	315	150	YY	75.00

\*1000 WVDC. †2000 WVDC. ‡TF1RX-. \*TF4RX.

# UNITED® TRANSFORMER COMPANY DIVISION OF TRW INC.

UTC PAGE 5.

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Designed, Manufactured and Successfully Tested to Complete MIL-T-27B Specifications.



**HERMETIC COMPONENTS**

**HERMETIC AUDIO UNITS**



These extremely compact units are proved to specifications of MIL-T-27B. Response & level ratings: RC-25: Similar to outputs for case (1 1/2" x 3/4" x 1 3/4" h. 1.5 oz.). RC-50: Similar to ultra compact units for case (1 1/2" x 1 1/2" x 2 1/2" h. 8 oz.). SM: Similar to SSO units for case (1 1/2" x 1 1/2" x 2 1/2" h. 0.8 oz.). FH: 2 1/2" x 2 1/2" x 1/2" h. .8 oz.

ALSO SEE PAGE 1 FOR NEW HERMETIC AUDIO UNITS

UTC Type	Application	Pri. Imped., Ohms	Sec. Imped., Ohms	Wdg.	Sugg. Net Ea.
H-1	Line to grid	50, 200 CT, 500 CT	50K	a	\$9.00
H-2	Mike to grid	82, 50 ma	15K	a	9.90
H-4	Pi. to grid	15K	40K	a	7.80
H-4	Pi. to grid	15K, 4 ma	40K	a	7.80
H-5	Pi. to p-p	15K	95K CT	a	8.40
H-4	Pi. to V-C	15K, 4 ma	95K split	a	10.20
H-7	Pi. to line	20K CT, 4 ma	150/600	a	9.40
H-9	Mixing	150/600	600 CT	a	9.00
H-9	Input	150/600	1 mes.	a	9.00
H-11	Pi. to grid	10K	1 mfp	a	9.60
H-11	React. Ind. 300 hys.	500 CT	500/160 ma, 600 ohms	a	9.50
H-12	Line to p-p	50, 200 CT, 500 CT	50K CT	a	9.40
H-13	Interstage	10K/2.5K split	2K/.5K split	a	9.00
H-14	Interstage	10K/2.5K split	4K/1K split	a	9.00
H-15	Tr. to line	1.3K CT	500/125 split	a	9.00
H-16	Tr. to V-C	2K/4K CT	8/16	a	9.00
H-17	Tr. input	600/150 split	2K/500 split	a	8.70
H-18	Tr. interstage	10K CT	500/125 split	a	8.70
H-19A	Input	250 CT/500 CT	50K/100 CT	b	16.50
H-20	Interstage	15K split	80K split	b	15.90
H-21	Pi. to p-p	15K, 1 ma	80K split	b	15.90
H-21	Tr. interstage	50K CT	500/125 split	b	15.90
H-22	Pi. to line	15K, 8 ma	50/200, 125/500	b	16.50
H-22	Tr. interstage	500/125 split	500/125 split	a	9.00
H-22	Tr. interstage	500/125 split	150/37.5 split	a	9.00
H-22	Split Inductor:	Series: 60 Hys-80 ma, 4 ohms		a	6.40
H-22	Split Inductor:	Parallel: 15 Mhy-160 ma, 1 ohm		a	6.40
H-22	Split Inductor:	Parallel: 15 Mhy-40 ma, 15 ohms		a	6.40
H-22	Tr. interstage	100/25 split	40/10 split	a	9.00
H-23	P-p to line	30K split	50/200, 125/500	b	12.60
H-24	Inductor: 250 hys.	50 Hys, 65 hys, 100 ma, 25 ohms		b	12.60
H-25	Mixing	500 CT	125/500	b	15.90
H-26	Interstage	10K/2.5K split	2K/500 split	b	15.90
H-27	Tr. to V-C	500 CT	1/4 split	b	15.90
H-28	Interstage	200 CT	400 split	b	12.60
H-28	Tr. to V-C	48 CT	16, 8, 4	b	12.60
H-28	Tr. to V-C	48 CT	16, 8, 4	b	12.60
H-28	Mixing	50, 125/150	50, 125/150	b	18.00
H-28	Matching	200/750, 333	200/750, 333	b	18.00
H-28	Split Inductor:	Series: 4 Hys-50 ma, 100 ohms		b	8.10
H-28	Split Inductor:	Parallel: 15 Mhy-100 ma, 25 ohms		b	8.40
H-28	Split Inductor:	Parallel: 10 Hys-30 ma, 250 ohms		b	21.00
H-29	Max. shid. chop.	2400 e. s	100	c	30.90
H-29	Shid. chop.	2000 e. s	312K	c	30.90
H-29	Shid. chop.	10K/2.5K e. s.	50K	f	18.00
H-30	Input	50	62,500	d	9.80
H-31	Pi. to grid	10K	30K	d	8.40
H-32	Pi. to line	10K	700	d	8.40
H-33	Output	30K, 1 ma	50	d	9.80
H-33	Inductor: 100 hys.	50 hys, 1 ma, 4500 ohms		d	9.80
H-36	Interstage	25K, 0.5 ma	1K	d	7.50
H-37A	Tr. output	500 CT	1.2K CT	d	7.50
H-38	Interstage	10K CT, 2 ma	500	d	7.50
H-39	Interstage	10K CT, 2 ma	2K CT	d	7.50
H-40A	Tr. output	500 CT	600 CT	d	7.50
H-41A	Tr. output	1500 CT	600 CT	d	7.50
H-42A	Isol. Tr. Inter.	10K CT	10K CT	d	8.40
FMA-15	Tr. Interstage	10K CT 2.5K split	200 CT/50 split	e	8.10
FMA-15	Tr. Interstage	20K CT/5K split	800 CT/200 split	e	8.10
FMA-15	Split Inductor:	Series: 40 Hys-22 ma, 6 ohms		e	6.00
FMA-15	Split Inductor:	Parallel: 15 Mhy-64 ma, 1.5 ohms		e	6.00
FMA-15	Split Inductor:	Series: 1 Hy-8 ma, 100 ohms		e	6.00
FMA-15	Split Inductor:	Parallel: 2.5 Hys-2 ma, 160 ohms		e	6.00
FMA-15	Split Inductor:	Parallel: .8 Hys-4 ma, 40 ohms		e	6.00

\*Has 75 db shielding. †6000 ohms. †1500 ohms. †5 watts. †110 watts.

#Case: a—RC-25. b—RC-50. c—RC-62. d—SM. e—FH. f—RC-37. (See above & pg.11)

**HERMETIC SEALED FILTER INDUCTORS TUBE and TRANSISTOR TYPE**



METAL CASED MIL-TYPE TFI TYPE  
H-70 thru H-79, H-105 thru H-109 & H-300

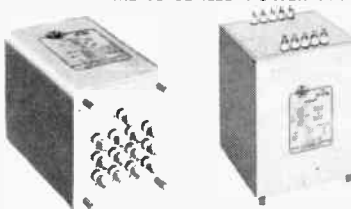
The multiple ratings for the "H" series of filter chokes suit these units for the complete gamut of military and industrial applications. Transistor supply units are swinging tube to enhance regulation. H-79 terminals opposite mounting.

\*Relates to ripple voltage, in input filter circuits only.

Type No.	Ind. Hys.	MA	DC	Res. Ohms	Max. DCV <sup>2</sup> Ch. Input	Test V. RMS	MIL Case Pg.	Wgt. Lbs.	Sugg. Net Ea.
H-70	20	925	350	1000	AH	5.8-10			
H-71	20	40	350	500	FB	16-50			
H-72	13	70	215	500	GB	14-40			
H-73	11	150	700	2500	HB	12-80			
H-74	11	150	135	700	JB	15-60			
H-75	11	200	90	700	KB	21-80			
H-76	11	200	85	1500	LB	27-100			
H-77	10	300	60	2000	MB	31-50			
H-78	7	400	48	2500	OB	37-50			
H-79	7	3000	2000	9000	7x7x8	96-100			
H-164 †	453	35	12	0	AG	7-50			
(2 wdg.s.)	11.25	70	295	500	AH	9-80			
H-166 †	125	50	1.2	500	AH	9-80			
(2 wdg.s.)	31	100	3	500	AH	9-80			
H-168 †	68	100	8	750	AJ	9-90			
(2 wdg.s.)	17	200	2	1000	GB	11-70			
(2 wdg.s.)	18	125	6	1000	JB	11-70			
(2 wdg.s.)	1045	250	15	1000	JA	18-100			
H-171 †	91	25A	.03	1000	JA	18-100			
(2 wdg.s.)	2.25	1.5A	.0075	1000	KA	25-50			
H-172 †	70	25A	.22	1000	HA	16-20			
(2 wdg.s.)	17.5	.5A	.055	1000	KA	25-50			
H-173 †	90	.5A	.15	1000	KB	30-100			
(2 wdg.s.)	22.5	1A	.038	1000	KA	30-100			
H-174 †	30	65A	08	1000	MB	30-100			
(2 wdg.s.)	12	1.3A	.02	1000	MB	30-100			
Type No.	Inductance	DCR	Test						
H-105	2.5 @ 25 MA	225	1000	1 1/4	1 1/4	1 1/4	1	5	30
H-106	2.25 @ 60 MA	110	1000	1 1/4	1 1/4	1 1/4	.28	4	60
H-107	2 @ 120 MA	55	2500	2 1/4	1 1/4	1 1/4	1.9	8	40
H-108	2 @ 220 MA	35	2500	2 1/4	2 1/4	2 1/4	1.7	11	40
H-109 †	.2 @ 150 MA	.6	750	2 1/2	2 1/2	2 1/2	1.7	12	30
(2 wdg.s.)	.06 @ 250 MA	.15							
H-300 †	1 @ 5 MA	40	500	1	3/4	3/4	0.5	6	90
(2 wdg.s.)	.25 @ 10 MA	10							

† Split winding in series \* Split winding in parallel  
† Rated in millihenries

**HERMETIC SEALED POWER and PLATE TRANSFORMERS**



H-114, H-115, H-117 have terminals opposite mounting.

Power transformers: primary 115V, 60 cycles suited to 50°-1000 cycles service. Plate transformers: primary 105/115/210/220 volts, 50/60 cycles. "L" ratings are choke input... "C" ratings are condenser input. H-80 thru H-197 MIL type TF4R03, H-110 thru H-117 MIL type TF4R02. The tapped high voltage winding provides either of two secondary voltages for greatest versatility. The power transformer listings indicate DC voltages and permissible currents for both choke and condenser input filters, as well as for military and industrial applications.

"W" suffix units designed for full wave center tap and full wave bridge application. Center tap of secondary may be disconnected from ground.

**MIL-T-27B Ratings in Regular Type, Industrial Ratings in Bold Type**

MIL Type No.	HV	Sec. DC	Approx. DC Volts	Type	Fil. Wdg.	Approx. DC Volts	DC MA	Fil. Wdg.	MIL Case Pg. 14	Sugg. Net Each
H-80	500	L	240	30	6.3VCT-2A	C 215	38	6.3VCT-2.5A	FA	\$15.60
H-81	500	L	170	95		L 160	110			
H-81	500	G	270	65	6.3VCT-3A	C 245	78	6.3VCT-3A	HA	21.00
H-81	550	L	200	85	5V-2A	L 180	105	5V-2A		
H-81	550	L	310	50		C 280	65			
H-82	550	L	180	145		L 160	190			
H-82	600	L	290	90	6.3VCT-4A	C 270	115	6.3VCT-4.5A	JB	24.00
H-82	600	L	215	135	5V-2A	L 190	180	5V-2A		
H-82	600	C	330	85		C 315	100			
H-83	600	L	215	165		L 200	210			
H-83	600	C	315	100	6.3V-5A	C 320	120	6.3V-6A	JA	24.60
H-83	670	L	250	150	5V-2A	L 230	200	5V-2A		
H-83	670	C	400	90		C 380	110			
H-84	700	L	245	225		L 240	255			
H-84	750	L	275	205	6.3V-5A	C 375	165	6.3V-6A	KA	30.00
H-84	750	C	430	125	6.3V-1A	L 270	230	6.3V-1.5A		
H-84	750	C	430	125	5V-3A	C 410	150	5V-4A		
H-85	700	L	245	300		L 230	370			
H-85	750	L	390	190	6.3V-6A	C 355	230	6.3V-6A	LA	34.50
H-85	750	L	270	280	6.3V-1.5A	L 250	350	6.3V-2A		
H-85	750	C	425	170	5V-3A	C 395	210	5V-4A		
H-86	720	L	270	310		L 250	360			
H-86	790	L	425	180	6.3V-6A	C 395	225	6.3V-7.5A	MB	36.00
H-86	790	L	295	300	6.3V-2A	L 280	350	6.3V-2A		
H-86	790	C	475	160	5V-3A	C 440	210	5V-4A		
H-87	730	L	245	420		L 230	515			
H-87	800	L	390	275	6.3V-6A	C 390	300	6.3V-6A	NB	42.60
H-87	800	L	275	400	6.3V-2A	L 275	480	6.3V-2A		
H-87	800	C	440	250	5V-4A	C 430	290	5V-6A		
H-89	850	L	305	430		L 275	550			
H-89	1050									



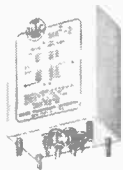
# HERMETIC COMPONENTS

## SECTION 5600

Designed, Manufactured and Successfully Tested to Complete MIL-T-27B Specifications.

### MAT\* MAGNETIC AMPLIFIERS FOR SERVO MOTOR APPLICATIONS

#### VACUUM TUBE TYPE



The MAT 1-4 Magnetic Amplifiers are exceptionally stable units designed for the control of 2 phase, 115V., 400 cycle servo motors. They are compact... hermetically sealed... mechanically shielded... and meet MIL-T-27B and MIL-E-5400 Specifications. The output is sinusoidal, amplitude variable, and phase reversible. Control is provided by a dual triode such as 12AU7 operating with a plate voltage of 115 volts, 400 cycles, or higher. The signal to the triode grids can be polarity reversible DC or phase reversible 400 cycles with or without suppressed carrier modulation. These units eliminate DC power requirements as well as temperature sensitive dry disc rectifiers. The high input impedance provides minimum loading on sensing elements and high power gain. Ringing at low load level has been reduced to a minimum through high internal damping factors. The power output figures are conservative... power gain of the Magnetic Structure is approximately 40... response time approximately 7.5 milliseconds. The maximum null voltage is 3 volts RMS. For single phase supply voltage the load capacitor should effect 90° phase shift with motor load... for 3 phase, 30° phase shift.

Type No.	MAT-1	MAT-2	MAT-3	MAT-4
<b>230 Volt Supply</b>				
Power output	4 W.	8 W.	11 W.	18 W.
RL, ohms	3300	1600	1200	720
CL, mfd., approx.	.2	.3	.5	.7
<b>115 Volt Supply</b>				
Power output	2 W.	4 W.	6 W.	9 W.
RL, ohms	6500	3300	2200	1450
CL, mfd.	.13	.2	.3	.45
Reson. Freq.	40 cyc.	35 cyc.	35 cyc.	20 cyc.
Log-Decr.	.18	.23	.03	.65
Cont. Wdg. Res.	6200 ohms	8450 ohms	4750 ohms	5650 ohms
Case, Length, in.	1 1/4	1 1/2	1 3/4	2 1/8
Width, in.	1 1/8	2 1/8	2 1/2	3 1/8
Height, in.	2 3/8	2 3/4	2 1/2	3 3/8
Mtg. Dim., in.	1 3/8 x 1 1/2	1 x 1 1/8	1 1/8 x 1 7/8	1 1/2 x 2 1/2
Studs, stainless	4-40	6-32	8-32	8-32
Cutout, in.	1	1	1	1
Unit Weight, lbs.	.57	1.1	1.7	2.75
Sugg. Net Each	\$27.00	\$30.00	\$36.00	\$39.00

**MAT-5** 115V.-400 cyc to 460 VCT; provides 230V. 48 MA DC or 460V. 24 MA DC. RC-37 Case (UTC pg. 11). MIL type TF45Y02YY. Suggested Net Each \$10.80

**MAT-6** Input... 10,000 ohms pri... 1:15 C.T. ratio... phase shift under 1°... RC-25 case (UTC pg. 6). MIL-type TF4RX10YY. Suggested Net Each \$9.00

#### TRANSISTOR TYPE

UTC transistor MAT units are identical to their vacuum tube counterparts, but designed for low impedance control. The input transformer may be chosen by impedance ratio rather than precise rated impedance.

Type No.	MAT-7	MAT-8	MAT-9	MAT-10	MAT-6C
Power output	4 W.	8 W.	11 W.	18 W.	50 W.
RL, ohms	3300	1600	1200	720	260
CL, mfd approx.	.2	.3	.5	.7	.7
Cont. Wind. Res.	381Ω	521Ω	301Ω	361Ω	50
Case Length, in.	2 1/4	2 1/2	2 3/4	2 3/4	MIL MB
Width, in.	1 1/8	2 1/4	2 1/2	2 3/4	
Height, in.	1 1/2	1 1/2	2	2 1/4	
Mtg. Dim., in.	1 3/8 x 1 7/8	1 3/8 x 2	1 1/8 x 2 1/8	2 3/8 x 2 3/8	60 cycle type
Studs, stainless	4-40	6-32	8-32	8-32	
Cutout, in.	1	1	1	1	
Weights, lbs.	.65	1.1	1.7	2.75	
Sugg. Net Each	\$25.80	\$28.80	\$34.50	\$37.50	\$54.00

**MAT-11** 115V.-400 cyc. to two 28 Volt .2A windings for 56 VCT-.2A or 28V.-.4A RC-37 (UTC pg. 11) case. MIL type TF45Y02YY. Suggested Net Each \$10.05

**MAT-65** 115V.60 cyc. to 8.5 VCT (300 ma & 63 VCT (300 ma & FA case (pg. 14). MIL Type TF45X02FA. Sugg. Net Each \$12.60

### ULTRASHIELDED POWER-LINE ISOLATION TRANSFORMERS

Simulates battery operation for critical circuits requiring extreme isolation from power line.



Designed to give the ultimate in isolation, for line-powered equipment, which formerly could only be obtained from battery power. The effective capacity coupling between primary and secondary windings is less than 0.1 MMFD.

For this purpose MIL-T-27B Ratings in Regular Type shields are individually terminated to allow maximum flexibility. Input and output terminals are brought out on opposite sides of a special housing in order to maintain the excellent isolation between line and load.

Type No.	Power Watts	Power Case Size	Sugg. Net Ea.
HIT-1	50	60 4 1/2 x 4 1/2 x 3 1/2"	\$33.00
HIT-15	120	150 5 1/2 x 5 x 3 1/2"	39.00
HIT-2	160	200 5 1/2 x 5 1/2 x 4 1/2"	48.00
HIT-3	400	480 8 x 6 1/2 x 5 1/2"	69.00
HIT-4	1000	1200 9 x 7 1/2 x 7 1/2"	120.00
HIT-450†	80	100 4 1/2 x 4 1/2 x 3 1/2"	33.00

† Primary, 115V. 400 cps. Secondary, 115 volts.

### PRECISION MINIATURE WIDE APPLICATION PULSE TRANSFORMERS

UTC miniature, wound core, pulse transformers are individually precision adjusted in standard test circuits to close tolerances. They are high reliability units, hermetically sealed by vacuum molding and suited for service from -70° C. to +130° C. Wound core structure provides excellent temperature stability (un-

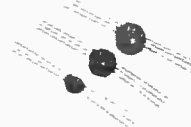
like ferrite). Designs are high inductance type to provide minimum of droop and assure true pulse width. H-45 thru H-57 ratio 1:1:1. H-60 thru H-69 ratio 4:4:1. Others ratio 5:3:1.

See PIP pulse units on UTC page 3.

#### TRANSISTOR PULSE TRANSFORMERS

Type No.	APPROX. DCR, OHMS			BLOCKING OSCILLATOR PULSE				COUPLING CIRCUIT CHARACTERISTICS							Sugg. Net Each	
	1-2	3-4	5-6	Width μ Sec.	Rise Over Shoot %	Droop %	Back Swing μ Sec.	P	Width μ Sec.	Volts Out	Rise Time	Over Shoot %	Droop %	Back in, out, μ Sec.		Imp. Ω
H-60	.124	.14	.05	.05	.016	0	0	30	.05	9.3	.012	0	0	20	50	6.60
H-61	.41	.48	.19	.1	.016	0	0	30	.1	8.2	.021	0	0	15	50	6.60
H-62	.78	.94	.33	.2	.022	0	0	18	.2	7.4	.034	0	5	12	100	6.60
H-63	1.86	2.26	.70	.5	.027	2	10	20	.5	7.5	.045	0	20	25	100	6.60
H-64	3.73	4.4	1.33	1	.033	0	12	25	1	7	.078	0	15	23	100	6.60
H-65	6.2	7.3	2.22	2	.066	0	15	25	2	6.6	.14	0	10	20	100	7.50
H-66	10.2	12	3.6	3	.087	0	18	30	3	6.8	.17	0	10	20	100	7.50
H-67	14.5	17.5	5.14	5	.097	0	23	28	5	7.9	.2	0	18	28	200	7.50
H-68	42.3	52.1	14.8	10	.14	0	15	28	10	6.5	.4	0	15	30	200	7.50
H-611	.426	.32	.132	.1	.018	8	0	12	.1	8.2	.02	0	0	30	140/50	7.20
H-641	5	3.6	1.4	1	.04	0	10	10	1	7	.07	0	20	30	280/100	7.20
H-671	21	16	6	5	.08	0	14	12	5	8	.2	0	25	30	560/200	7.50
H-69	Transistor pulse transformer kit, consists of H-60 thru H-68 in plastic case.															60.00

ALL UNITS INDIVIDUALLY ADJUSTED TO PARAMETERS SHOWN IN TABLES



Size & weight of these units same as H-45.

#### VACUUM TUBE PULSE TRANSFORMERS

Type No.	APPROX. DCR, OHMS			BLOCKING OSCILLATOR PULSE				COUPLING CIRCUIT CHARACTERISTICS							DIMENSIONS			Sugg. Net Each	
	1-2	3-4	5-6	Width μ Sec.	Rise Over Shoot %	Droop %	Back Swing μ Sec.	P	Width μ Sec.	Volts Out	Rise Time	Over Shoot %	Droop %	Back in, out, μ Sec.	Imp. Ω	L in.	W in.		Wt. Grams
H-45	3	3.5	4	.05	.022	0	20	10	.05	17	.01	20	0	35	250	3/8	3/8	1	\$ 7.35
H-46	5.5	6.5	7	.10	.024	0	25	10	.10	19	.01	30	10	50	250	3/8	3/8	1	7.35
H-47	3.7	4.0	4	.20	.026	0	25	8	.20	18	.01	30	15	65	500	3/8	3/8	4	6.60
H-48	5.5	5.8	6	.50	.03	0	20	5	.50	20	.01	30	20	65	500	3/8	3/8	4	6.60
H-49	8	8.5	9	1	.04	0	20	10	1	24	.02	15	15	65	500	3/8	3/8	4	6.60
H-50	20	21	22	2	.05	0	20	10	2	27	.05	10	15	35	500	3/8	3/8	4	6.60
H-51	28	31	33	3	.10	1	20	8	3	26	.07	10	10	35	500	3/8	3/8	4	6.60
H-52	36	41	44	5	.13	1	25	8	5	23	.15	10	10	45	1000	3/8	3/8	4	6.60
H-53	37	44	49	7	.28	0	25	8	7	24	.20	10	10	50	1000	3/8	3/8	6	6.60
H-54	50	58	67	10	.30	0	20	8	10	24	.25	10	10	50	1000	3/8	3/8	6	6.90
H-55	78	96	112	16	.75	0	20	10	16	23	.40	5	15	20	1000	3/8	3/8	6	6.90
H-56	93	116	138	20	1.25	0	25	10	20	23	.6	5	10	10	1000	3/8	3/8	6	6.90
H-57	104	135	165	25	2.0	0	30	10	25	24	1.5	5	10	10	1000	3/8	3/8	6	6.90
H-461	9.6	6.4	2.5	.1	.025	0	0	8	.1	19	.02	3	5	20	700/250	3/8	3/8	1	7.50
H-501	30	20	7	2	.08	0	12	5	2	27	.06	12	15	35	1400/500	3/8	3/8	4	6.60
H-531	66	47	17	7	.32	0	12	3	7	24	.23	12	10	40	2800/1000	3/8	3/8	6	6.60
H-561	180	142	53	20	1.75	0	13	5	20	23	.7	5	10	10	2800/1000	3/8	3/8	6	6.90
H-58	Pulse transformer kit. Consisting of H-45 thru H-57 in a partitioned plastic case.															88.20			

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# ELECTRIC WAVE FILTERS

Designed, Manufactured and Successfully Tested to Complete MIL-F-18327C Specifications.



BM & LM Series



HM Series

## INTERSTAGE AND LINE FILTERS

Available in stock frequencies listed below (numerical part of type number is cutoff frequency in cps). Compact shielded cases hermetically sealed to MIL-F-18327C specs. BML, LMI, BML cases: 1 1/2" x 1 1/4" x 1 3/8" h.; wt., 6 oz. HMI, HML, LML cases: 1 1/2" x 1 1/4" x 2 1/2" h.; wt., 9 oz. The BML filters are band pass interstage units designed to operate between a vacuum tube plate (or 10,000 ohms) and a grid. They provide a gain of 2 at center frequency. BTI units are same as BML, but 10,000 ohms output. BML band pass filters, similarly, work into a grid, but have an input impedance of 500/600 ohms. They provide a gain of 9. HMI filters are high pass interstage units. LMI filters are low pass interstage units. HML filters are high pass with input and output impedance of 500/600 ohms. LML filters are low pass filters with input and output impedance of 500/600 ohms. LLP low frequency low pass filter, loss of less than 40 db at 20 cycles. Source & load 100K ohms.

UTC Type	Sugg. Net Ea.	UTC Type	Sugg. Net Ea.	UTC Type	Sugg. Net Ea.
BMI-30	\$36.00	LMI-200	\$31.50	HMI-800	\$31.50
BMI-50	30.00	LMI-400	31.50	HMI-1000	31.50
BMI-60	30.00	LMI-500	31.50	HMI-2000	31.50
BMI-90	30.00	LMI-800	31.50	HMI-3000	31.50
BMI-100	30.00	LMI-1000	31.50	BML-400	30.00
BMI-120	30.00	LMI-1500	31.50	BML-1000	30.00
BMI-150	30.00	LMI-2000	31.50	HML-200	39.00
BMI-200	30.00	LMI-2500	31.50	HML-300	39.00
BMI-240	30.00	LMI-3000	31.50	HML-500	39.00
BMI-300	30.00	LMI-4000	31.50	HML-1000	39.00
BMI-400	30.00	LMI-5000	31.50	LML-1000	31.50
BMI-500	30.00	LMI-10000	31.50	LML-1500	31.50
BMI-750	30.00	BTI-60	36.00	LML-2000	31.50
BMI-800	30.00	BTI-100	36.00	LML-2500	31.50
BMI-1000	30.00	BTI-120	36.00	LML-3000	31.50
BMI-1500	30.00	HMI-50	31.50	LML-4000	31.50
BMI-2000	30.00	HMI-100	31.50	LML-8000	31.50
BMI-3000	30.00	HMI-200	31.50	LML-10000	31.50
BMI-4000	30.00	HMI-300	31.50	LML-12000	31.50
BMI-5000	30.00	HMI-400	31.50	LLP-10	60.00
BMI-10000	30.00	HMI-500	31.50		
LMI-100	31.50				

## NEW 400-CYCLE 115 V. LINE FILTERS

Intended for use on 115 v., 400 cps line to eliminate harmonic distortion.



UTC No. PLF-25 — Gives 150 v. output into 500 ohm load with ±1 db, 375-425 cps. Will attenuate 800 cycles by 30 db; 1200 cycles and higher by at least 50 db. MIL type, FR6RX11NB1. Meets MIL-F-18327C. Size 4 3/4" w. x 5 1/4" d. x 5 1/2" h. Weight, 10 lbs. Suggested Net Each.....\$66.00

UTC No. PLP-13 — Eliminates harmonic distortion, rejects 60 and 120 cycles, and gives zero phase shift at 400 cycles. Operating into 1000 ohm load, provides 115 v. output at 400 cycles, within ±1 db, 375-425 cycles. Attenuates 800 cycles by 15 db; 1200 cps by 45 db; above 1200 cps by at least 35 db; 120 cps by 20 db; and, 60 cps by 30 db. MIL type FR6RX22-LB1; meets MIL-F-18327C specifications. Size, 3 1/4" w. x 4 3/4" d. x 4 1/2" h. Weight, 6 1/2 lbs. Suggested Net Each.....\$66.00

## TELEGRAPH TONE CHANNEL FILTERS



UTC band pass filters for multiplex transmitting and receiving provide maximum stability in miniature sizes. Stock filters cover all standard transmit and receive bands. All units employ 7 pin terminal header matching subminiature 7 pin socket.

TGR (receiving) & TGT (transmitting) filters are 600 ohms in and out. They are down less than 3 db at ± 42.5 cycles from center frequency. TGR units are down more than 30 db at ± 170 cycles. Attenuation is greater than 15 db at adjacent channel crossover. TGT units are down more than 16 db at ± 170 cycles. Attenuation is greater than 7.5 db at adjacent channel crossover. All units are MIL type FR6RX-22YY1.

**TGT CASE**  
1 1/2 x 1 1/2 x 2 1/2  
Mtg 1 1/8 x 1 1/8"  
Screws .....6-32  
Weight ... 8 oz.



**TGR CASE**  
1 1/2 x 1 1/2 x 4 1/4  
Mtg 1 1/8 x 1 1/8"  
Screws .....6-32  
Weight .....15 oz.

**IMMEDIATE DELIVERY ON ALL ITEMS**

UTC Type	Sugg. Net Ea.	Center Frequency (Cyc.)	UTC Type	Sugg. Net Ea.
TGT-423	\$42.00	425	TGR-425	\$72.00
TGT-595	42.00	595	TGR-595	72.00
TGT-765	42.00	765	TGR-765	72.00
TGT-935	42.00	935	TGR-935	72.00
TGT-1105	42.00	1105	TGR-1105	63.00
TGT-1275	36.00	1275	TGR-1275	63.00
TGT-1445	36.00	1445	TGR-1445	63.00
TGT-1615	36.00	1615	TGR-1615	63.00
TGT-1785	33.00	1785	TGR-1785	60.00
TGT-1955	33.00	1955	TGR-1955	60.00
TGT-2125	33.00	2125	TGR-2125	60.00
TGT-2295	33.00	2295	TGR-2295	60.00
TGT-2465	30.00	2465	TGR-2465	57.00
TGT-2635	30.00	2635	TGR-2635	57.00
TGT-2805	30.00	2805	TGR-2805	57.00
TGT-2975	30.00	2975	TGR-2975	57.00
TGT-3145	30.00	3145	TGR-3145	57.00
TGT-3315	30.00	3315	TGR-3315	57.00

## SPECIAL FREQUENCY FILTERS

BMI, BML, BPH, BPM, BTI, HMI, HML, HPM, LMI, LML, LPM	\$48.00
MNF, MWF, TMN, TMW	\$60.00
TGR	\$90.00
TGT	\$54.00



BPM



MINIFILTERS\*



HPM & LPM

For NEW Filters See Pages 1 & 2.

These units provide almost the same characteristics as the standard interstage units listed to the left, although extremely miniaturized. Hermetically sealed to MIL-F-18327C specs. B type case: 3/4" x 3/4" x 1 1/8" h.; wt., 1 oz. H and L cases: 1" x 1" x 1 3/8" h.; wt., 2 1/4 oz. Cutoff frequencies in cps indicated by type number. BPM units (BAND PASS) have 2:1 gain. Attenuation is approximately 2 db ±3% from center frequency, and 35 db per octave as shown. Input 10,000 ohms, output to grid, tapped for 10,000 ohms to provide for transistor circuits. For tube circuits continuity is on grid side, for transistor use continuity is on input side. BPH units (BAND PASS) attenuation less than 3 db ±5% from center frequency, and 40 db per octave. Source and load 500 ohms. HPM units (HIGH PASS) are down less than 6 db at cutoff frequency, and more than 30 db at .67 cutoff frequency, 40 db at .6 cutoff frequency. Input and output 10,000 ohms. LPM units (LOW PASS) are down less than 6 db at cutoff frequency, and more than 30 db at 1.5 cutoff frequency, 40 db at 1.65 cutoff frequency. Input and output 10,000 ohms.

UTC Type	Sugg. Ea.	UTC Type	Sugg. Ea.	UTC Type	Sugg. Ea.
BPM-50000	\$27.00	BPM-2500	\$27.00	HPM-1500	\$30.00
BPM-100000	27.00	BPM-3000	27.00	HPM-4000	30.00
BPM-400	27.00	BPM-3200	27.00	LPM-200	30.00
BPM-440	27.00			LPM-300	30.00
BPM-500	27.00	BPM-4000	27.00	LPM-500	30.00
BPM-600	27.00	BPM-4800	27.00	LPM-1000	30.00
BPM-750	27.00	BPM-5000	27.00	LPM-1500	30.00
BPM-800	27.00	BPM-6000	27.00	LPM-2000	30.00
BPM-1000	27.00	BPM-6400	27.00	LPM-3000	30.00
BPM-1200	27.00	BPM-8000	27.00	LPM-5000	30.00
BPM-1500	27.00	BPM-10000	27.00	LPM-6000	30.00
BPM-1600	27.00	BPM-20000	27.00	LPM-8000	30.00
BPM-1800	27.00	HPM-500	30.00	LPM-10000	30.00
BPM-2000	27.00	HPM-1000	30.00	LPM-15000	30.00

## TELEMETERING BAND PASS FILTERS



TMN-4 thru TMN-1.7  
1 1/4 x 1 3/2 x 2"  
Weight 3.5 oz  
TMN-2.3 thru TMW-70  
2 3/4 x 2 3/4 x 1 3/8"  
Weight 1.2 oz



MNF-4 thru MNF-5.4  
1 3/4" Sq. x 1/2" high  
Weight 1 oz.  
MNF-7.35 thru MWF-70  
2 3/4" Sq. x 1/2" high  
Weight 1/3 oz.

Both TMN and TMW types are designed for 100 K input and output impedance and have an insertion loss of less than 6 db. Four pin hermetic header matches small Winchester socket.

TMN filters are down less than 3 db at ± 7.5% of center frequency. They are down more than 18 db at ± 25% of center frequency. Attenuation is greater than 40 db beyond 1.75 Fc and .58 Fc.

TMW filters are down less than 3 db at ± 15% of center frequency. They are down more than 20 db at ± 50% of center frequency. Attenuation is greater than 40 db beyond 2.5 Fc and .4 Fc.

MNF and MWF (Minifilter) provide same performance as filters described above but are extremely miniaturized. Slanted toward use with transistors. Pin terminals ideally suited for printed circuits.

UTC Type	Sugg. Net Ea.	Center Freq'cy KC	Band Width±	UTC Type	Sugg. Net Ea.
TMN-.4	\$39.00	.4	7 1/2%	MNF-.4	\$39.00
TMN-.56	39.00	.56	7 1/2%	MNF-.56	39.00
TMN-.73	39.00	.73	7 1/2%	MNF-.73	39.00
TMN-.96	39.00	.96	7 1/2%	MNF-.96	39.00
TMN-1.3	39.00	1.3	7 1/2%	MNF-1.3	39.00
TMN-1.7	39.00	1.7	7 1/2%	MNF-1.7	39.00
TMN-2.3	39.00	2.3	7 1/2%	MNF-2.3	39.00
TMN-3.0	39.00	3.0	7 1/2%	MNF-3.0	39.00
TMN-3.9	39.00	3.9	7 1/2%	MNF-3.9	39.00
TMN-5.4	39.00	5.4	7 1/2%	MNF-5.4	39.00
TMN-7.35	39.00	7.35	7 1/2%	MNF-7.35	39.00
TMN-10.5	42.00	10.5	7 1/2%	MNF-10.5	42.00
TMN-14.5	42.00	14.5	7 1/2%	MNF-14.5	42.00
TMN-22	42.00	22	7 1/2%	MNF-22	42.00
TMN-30	42.00	30	7 1/2%	MNF-30	42.00
TMN-40	42.00	40	7 1/2%	MNF-40	42.00
TMN-52.5	42.00	52.5	7 1/2%	MNF-52.5	42.00
TMN-70	42.00	70	7 1/2%	MNF-70	42.00
TMW-22	42.00	22	15%	MWF-22	42.00
TMW-40	42.00	30	15%	MWF-30	42.00
TMW-52.5	42.00	52.5	15%	MWF-52.5	42.00
TMW-70	42.00	70	15%	MWF-70	42.00

## HIGH Q PRECISION INDUCTANCE DECADE

Invaluable instruments for design and experimental work with tuned circuits, wave filters, and equalizers. The low hum pickup toroid coils employ a new permalloy dust core which, combined with special winding methods, provides very high Q, excellent voltage and temperature stability, and high self resonance frequency. The inductance values are laboratory adjusted to better than 1% precision, with calibration noted on base.



DI CASE

Length ..... 4 1/2"  
Width ..... 4 3/8"  
Height ..... 2 3/8"  
Weight ..... 2 lbs.

Type No.	Induct. Henries	Optimum Range	Max. Q	Max. ACMA	Ins. Test Volts RMS	Sugg. Net Ea.
DI-1	10 x .01	2-60 KC	200	500	500	\$42.00
DI-2	10 x .1	.25-20 KC	200	150	500	54.00
DI-3	10 x 1	.25-10 KC	200	50	500	57.00
DI-4	10 x 10	2-1.5 KC	100	15	500	72.00

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High Q Coils & Inductors
Designed, Manufactured and Successfully Tested to Complete MIL-T-27B Specifications.\*

MINIDUCTORS

For NEW Inductors See page 2.

All these ultracompact high Q units are grade 5, hermetically sealed to (MIL-T-27B). All give extra temperature stability rated at 1%, -55° C to +100° C.

MM—Ultraminature epoxy molded toroidal inductors with pin terminals for printed circuit application. Maximum Q at 30 KC. 3/4 dia. x 1/4" h.; wt. .07 oz.

ML—Ultraminature epoxy molded toroidal inductors similar to MM except maximum Q at 100 KC. Size & wt. as MM.

ML—Ultraminature hermetically sealed inductors with epoxy board and pin terminals for printed circuit application. Maximum Q at 800 cps to 2 KC, depending on inductance. 3/8 x 1/4 x 3/8" h.; wt. .2 oz.

MO—Miniature epoxy molded inductors with pin terminals for printed circuit application. Maximum Q at 600 cps to 1500 cps depending on inductance. 3/4 x 1/4 x 1/4" h.; wt. 1 oz.

MW—Miniature epoxy molded toroidal inductors with pin terminals for printed circuit application. Maximum Q at 5 to 10 KC. 23/32 dia. x 1/32" h.; wt. .25 oz.



Table with columns: UTC Type, Induct., Sugg. Net Ea., UTC Type, Induct., Sugg. Net Ea., UTC Type, Induct., Sugg. Net Ea., UTC Type, Induct., Sugg. Net Ea.

HIGH Q TOROID INDUCTORS

Favorites for over fifteen years, UTC HQ Toroids are only excelled by the preferred new "M" series. As typical Q curves show, HQ coils are available for application from 100 cycles to 100 KC. Adjusted to 1%, the inductance is virtually independent of frequency, temperature, and vibration. Voltage stability is excellent, and shielding case assures 80 db coupling attenuation. Hermetically to MIL-T-27B. All units MIL type TF4RX-20YY.



HQA and HQC CASE
Diameter 1 1/2"
Height 1 1/2"
Mounting 1 1/2"
Screws 6-32
Cutout 3/8 x 1 1/4"
Weight 5 oz.



HBQ CASE
Length 2 5/8"
Width 1 5/8"
Height 2 5/8"
Mounting 1 1/4 x 2 1/4"
Screws 6-32
Cutout 3/8 x 1 1/8"
Weight 14 oz.



HQE CASE
Length 1 1/2"
Width 1/2"
Height 1 1/2"
Mounting 3/4"
Screws 4-40
Cutout 3/8 x 1/2"
Weight 1.5 oz.

Table with columns: Type No., Inductance (O DC), DC MA Max., Sugg. Net Ea., Type No., Inductance (O DC), DC MA Max., Sugg. Net Ea., Type No., Inductance (O DC), DC MA Max., Sugg. Net Ea.

HERMETIC "M" TYPE TOROIDS

UTC permalloy dust toroids provide highest Q factor with miniaturized dimensions. Lob adjusted to 1% tolerance and sealed to MIL-T-27B specs. Magnetic case plus toroid provide 80 db shielding.

Table with columns: MQA, MQB, MQD, MQE and their specifications (frequency, inductance, size, weight).

TQA units are similar to MQA but center tapped for oscillator application, etc. Net each: TQA-1 thru TQA-15, \$1.50 more than MQA's; TQA-16, 14.70; TQA-17, 15.90; TQA-18, 17.40; TQA-19, 21.00; TQA-20, 23.40.

Table with columns: UTC Type, Ind., Sugg. Net Ea., UTC Type, Ind., Sugg. Net Ea., UTC Type, Ind., Sugg. Net Ea., UTC Type, Ind., Sugg. Net Ea.

VARIDUCTORS

These variable inductors are ideal for use in tuned circuits, equalizers, oscillators, etc. TYPE HVC:—Gives highest Q and stability; adjustable -70% to +200% of mean value. Hermetically sealed to MIL-T-27B.

HVV Types: For precise matching; vernier inductance variation ±10% of nominal value. Offer high Q over a wide frequency range and high temperature stability.

VIC:—Adjustable -45% to +85% of mean value.

Size: HVC, TVC and HVV types, 1 1/8" lg. x 2 3/32" w. x 1 1/2" h.; weight 2 oz. VIC type, 1 1/2" lg. x 1 1/4" w. x 1 1/4" h.; weight 5 1/2 oz.

TVC type inductors are identical to HVC units, but provide taps at 30% and 50% of total turns—ideal for oscillator circuits, etc. HVC & TVC: U. S. Pat. No. 2,879,489. HVV: U. S. Pat. No. 3,267,400.

Table with columns: JTC Type, Mean Hys., DC Ma., Sugg. Net Ea., UTC Type, Mean Hys., DC Ma., Sugg. Net Ea.

LOW FREQUENCY HIGH Q COILS

MQL TYPES

All these units of MIL type TF4RX20YY induct value to 2% tolerance at 1v., 60 cycles. Exceptional Q and stability, inductance swing less than 3.5% from -55°C to +85°C. The case, sealed hermetically to MIL-T-27B is 1 1/2" dia. 2 1/2" h. Either transformer, parallel, series or center type connections are permitted due to dual windings to 4 terminals. Mounting 1 1/2" sq. with a 6-32 screw. Cutout 1 1/2" dia wt. 1 lb.

Table with columns: Type No., Series, Hys. (O DC), Sugg. Net Ea., Type No., Series, Hys. (O DC), Sugg. Net Ea.



MQM TYPES

Designed for high Q at low frequencies. Structure provides exceptional stability, adjusted to 2% at 1v., 60 cycles. Inductance variation less than 2% from -55°C to +130°C. Made to MIL-T-27B, MIL type TF4SX20YY. Size 1 1/4" d x 1 1/8" h., cutout: 1" d., wt. 5 oz.

Table with columns: Type No., Series Hy (O DC), Parallel Hy (O DC), Series DCR ±20%, Sugg. Net Ea.

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HI-FI & BROADCASTING COMPONENTS

ULTRACOMPACT\* HI-FI AUDIOS

Small light weight, wide range units. Level +15 dbm except where otherwise noted. Top and bottom mounting. Die cast case, 1 1/2" x 1 1/2" x 2" h. Weight, 1/2 lb.

ALSO SEE PAGE 1 FOR NEW A-48 UNIT

Table with columns: UTC Type, Application, Primary Impedance, Sec. Imped., Level dbm, Sugg. Net Ea. Lists various audio transformer models like A-10, A-11, A-12, etc.

\*+30 dbm. †6K ohms. ‡1.5K ohms. §2K ohms. ¶500 ohms. \*\*8 ma. ††Frequency response (±2 db), cps: a—20-20,000, b—30-20,000, c—40-20,000, d—10-50,000, e—30-30,000, f—20-40,000, g—20-30,000.

HIPERMALLOY\* TRANSFORMERS

Hipermalloy audio and power transformers are specifically designed for portable and compact service. High fidelity though light in weight and dependable. The frequency characteristic of the Hipermalloy audio units is uniform from 30 to 20,000 cycles. They incorporate a Hipermalloy nickel iron core and hum balanced coil structure. The rugged die cast case is of high conductivity alloy finished in grey, arranged for mounting with the terminals either up or down. DC in Primary shown is maximum unbalanced.



Table with columns: TYPE H-2 CASE, TYPE H-1 CASE. Lists dimensions like Length, Width, Height, Mounting, Screws, Cutout, and Unit Wt.

LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS Units Housed in Type H-1 Case

Table with columns: UTC Type, Application, Primary Imped., Sec. Imped., Level dbm, Sugg. Net Ea. Lists models like HA-100, HA-100X, HA-101, etc.

INTERSTAGE AUDIO TRANSFORMERS Units Housed in Type H-1 Case, except HA-107: in H-2 Case

Table with columns: UTC Type, Application, Primary Imped., Sec. Imped., Level Mw., Sugg. Net Ea. Lists models like HA-104, HA-105, HA-106, etc.

LINEAR STANDARD\* TRANSFORMERS

Guaranteed frequency response of ±1 db 20-20,000 cps, ±1 db 7-50,000 cps on high level units, make these ideal transformers for uniform frequency response and low distortion. High efficiency and dependability through shielding. Top and bottom mounting.



Table with columns: UTC Type, Application, Pri. Imp., Sec. Imp., Level dbm, Sugg. Net Ea. Lists models like LS-10, LS-10X, LS-12, etc.

HIGH LEVEL TRANSFORMERS

Sizes: LS-33, -47, -52, -54, -55, -56, -57, -61, -63, 3 1/2" x 4 1/4" x 4 1/4" h. (Wt., 7 1/2 lbs.). LS-611, -614, -34, -35, -48, -58, -65, -666, -667, 5" x 5 1/4" x 4 1/4" h. (Wt., 15 lbs.). LS-691, 13" x 15 1/2" x 24" h. (Wt., 370 lbs.). LS-692, 13" x 15 1/2" x 28" h. (Wt., 520 lbs.).

Table with columns: UTC Type, Application, Pri. Imp., Sec. Imp., Level dbm, Sugg. Net Ea. Lists models like LS-33, LS-34, LS-37, etc.

† With feedback. \* Secondary Impedance: a—1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125/150, 200/250, 333, 500/600 ohms. b—500, 333, 250/200, 125, 50, 30, 20, 10, 7.5, 5, 2.5, 1.2 ohms. c—30, 20, 15, 10, 7.5, 5, 2.5, 1.2 ohms. d—6K, 5K, 4K, 1.8K, 1.5K, 1K, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 ohms. e—4, 8, 16 ohms. f—500 ohms split. g—4.5K, 4K, 3.5K, 2.75K, 2K. h—2.5K, 2K, 1.75K, 1.5K, 1.25K. i—Pri./1/2 Sec. 3:2:1. j—Pri./1/2 Sec. 5:1:1.

PLATE TO LINE TRANSFORMERS Units Housed in Type H-1 Case

Table with columns: UTC Type, Application, Prim. Imp., Sec. Imp., Level Mw., Sugg. Net Ea. Lists models like HA-113, HA-114, HA-133.

OUTPUT TRANSFORMERS Units Housed in Type H-2 Case

Table with columns: UTC Type, Application, Prim. Imp., Sec. Imp., Level Wotts, Sugg. Net Ea. Lists models like HA-134, HA-135, HA-136.

POWER TRANSFORMERS Units Housed: HP-122 in Type H-1 Case; HP-123 in Type H-2 Case

Table with columns: UTC Type, Application, Psi. Volt, Fil. Wind, Sugg. Net Ea. Lists models like HP-122, HP-123.

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UTC PAGE 10. \*UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1967 United Transformer Co., Div. of TRW INC.



COMMERCIAL GRADE COMPONENTS

DIMENSIONS, COMMERCIAL GRADE "RC" CASE



Performance insured during constant usage due to the ruggedness of this vacuum impregnated component with special sealing compound. Case, finished in light gray enamel, is ready for mounting on chassis. (All audio components linear).

Case No.	Base Dim. (Sq.)	Mounting Dim. (Sq.)	Ht., +1/8, -1/16	Cutout Dia.	Unit Wt. (Lbs.)
RC-37	1 3/8	1 1/8	1 3/8	1 1/4	.35
RC-50	1 3/8	1 3/8	2 1/4	1 1/2	1/2
RC-62	1 13/16	1 1/2	2 1/2	1 1/2	1
RC-75	2 3/16	1 13/16	2 3/8	1 7/8	1 1/2
RC-87	2 3/16	2 3/16	3 1/4	2	2 1/2
RC-100	3	2 3/8	3 3/4	2 3/8	3 1/2
RC-112	3 7/16	2 11/16	4 1/8	2 7/8	5
RC-125	3 3/4	3	4 1/2	3	6 1/2
RC-150	4 1/2	3 3/16	5 1/2	3 3/4	11
RC-152	5 1/8	4 1/8	5 1/2	4	15 1/2
RC-175	5 3/4	4 7/8	7	4	22

SWINGING INPUT AND FILTER INDUCTORS

UTC Type	Induct. Henries	DC MA	DC Res. Ohms	Test Volts	Case No.	Sugg. Net Ea.
CG-40	10	200	110	1750	RC-112	\$10.20
CG-44	30	100	400	1750	RC-100	8.10
CG-45	250	15	5000	1750	RC-87	7.50
CG-48C	75	50	2200	1750	RC-87	9.00
CG-100	12	150	110	2500	RC-125	10.50
CG-102	12	250	100	3000	RC-150	15.60
CG-104	10	350	90	5000	RC-152	18.90
CG-108	10	500	52	7000	RC-175	30.00
CG-15	10	1000	40	9000	RC-87	11.40
CG-101	25/5	150	110	2500	RC-125	10.50
CG-103	25/5	250	100	3000	RC-150	15.60
CG-105	25/5	350	90	5000	RC-152	18.90
CG-109	25/5	500	52	7000	RC-175	30.00
CG-111	100/10mh	2.5a.	.6	1500	RC-87	11.40
(2 wdg)†	25/2.5mh	.5a.	.15	1500	RC-112	12.60
CG-112	40/10mh	6 a.	.24	1500	RC-125	14.70
(2 wdg)†	10/2.5mh	12 a.	.06	1500	RC-125	14.70
CG-113	7/1.75mh	17.5a.	.036	9000	1 1/2 x 4 3/4 x 6 7/8 H. Wt., 40 lbs.	75.00
(2 wdg)†	1.8/45mh	35 a.	.009	9000	1 1/2 x 4 3/4 x 6 7/8 H. Wt., 40 lbs.	75.00
CG-1C	25/5	1000	40	9000	1 1/2 x 4 3/4 x 6 7/8 H. Wt., 40 lbs.	75.00

‡ Split winding in series. † Wt., 40 lbs. ‡ Split winding in parallel.

PLATE TRANSFORMERS

Primaries for 105, 115, 220, 230 volts; 50/60 cycles. For reduced power, secondary can be cut in half, using 220 v. primary on 110 volts; may be used on 25 to 43 cycles in this case. "W" suffix units designed for full wave center tap and full wave bridge application. Center tap may be disconnected from ground.

UTC Type	High Voltage	DC Volts	Case No.	Sugg. Net Ea.
CG-300	625-515-0-515-625	500/400	RC-150	\$21.00
CG-300W	625-515-0-515-625	1000/800	RC-150	22.50
CG-301	580-530-300-0-300-530-580	475/425/250	RC-152	33.00
CG-301W	580-530-300-0-300-530-580	950/850/500	RC-152	36.00
CG-302	950-750-0-750-950	760/610	RC-175	39.00
CG-302W	950-750-0-750-950	1520/1220	RC-175	42.00
CG-303	1500-1235-400-0-400-1235-1500	1250/1000	RC-175	43.50
CG-303W	1500-1235-400-0-400-1235-1500	2500/2000	RC-175	48.00

POWER AND BIAS TRANSFORMERS

Primary 115 volts, 50/60 cycles. DCMA is for choke input; reduce 70% for condenser input. Filament 1 is 5 volts, 3 amps., and Filament 2 is 5 volts, 2 amps., except as otherwise noted.

UTC Type	High Voltage	DC Ma	Filament 3	Filament 4	Case No.	Sugg. Net Ea.
CG-422	435-365-0-365-435	125	6.3 VCT-3A	2.5 VCT-5A	RC-150	\$27.00
CG-428	125-0-125 500-0-500 80-0-80	25 250	6.3 VCT-4A	6.3 VCT-3A, tapped 2.5 VCT-3A	RC-152	31.50
CG-429*	600-525-0-525-600	250	7.5 VCT-3A, tapped 6.3 VCT-4A		RC-152	31.50
CG-431†	500-400-0-400-500 80-0-80	500	6.3 VCT-100 5A	6.3 VCT-3A	RC-175	42.60
CG-315	Tapped for any DC voltage from 15 to 100 volts within 6%—250 MA				RC-125	16.50
CG-316	Tapped for any DC voltage from 75 to 400 volts within 6%—250 MA				RC-152	27.00

\*Filament 2 is 6.3 VCT-3A. †Filament 1 is 5V-6A.

AUDIO UNITS

UTC Type	Use †	Pri. Imped., Ohms	Level	Case RC-	Sugg. Net Ea.
CG-131	a	15K	+28 dbm	50	\$13.50
CG-132	b	15K	+30 dbm	62	13.50
CG-133	c	30K CT	+32 dbm	75	13.50
CG-134	d	50, 200, 500	+30 dbm	50	11.40
CG-135	e	50, 200, 500	+30 dbm	50	12.90
CG-235	f	50, 200, 500	+28 dbm	75	21.00
CG-136	g	15K, 50, 200	+30 dbm	62	18.00
CG-137	h	50, 200, 500	+28 dbm	50	10.80
CG-140	i	15K	+30 dbm	50	9.90
CG-141	j	30K CT	+32 dbm	50	9.60
CG-233	k	30K CT	+35 dbm	87	15.00
CG-333	k	30K CT	+35 dbm	87	15.00
CG-433	k	5K CT	10 w.	100	12.00
CG-15	l	8K CT	20 w.	100	13.50
CG-16	l	3K/5K CT	20 w.	100	14.70
CG-19	l	6K/10K CT	20 w.	100	14.40
CG-710	l	14K/20K CT	20 w.	100	18.00
CG-216	l	9K CT	30 w.	125	16.50
CG-20	m	5K CT, 43% screen taps	25 w.	125	18.00
CG-21	m	3.3K CT, 40% screen taps	50 w.	150	24.00
CVP-1	n	3K/5K/6K/8K/10K/14K CT	12 w.	100	16.80
CVP-2	n	"	30 w.	125	18.90
CVP-3	n	"	60 w.	150	27.00
CVP-4	n	"	125 w.	152	33.00
CVP-5	n	"	300 w.	175	48.00
CVL-1	p	500	15 w.	87	12.00
CVL-2	p	500	40 w.	125	18.00
CVL-3	p	500	75 w.	150	21.00
CVM-0	q	Any Class B	12 w.	100	14.10
CVM-1	q	"	30 w.	125	18.00
CVM-2	q	"	60 w.	150	22.50
CVM-3	q	"	125 w.	152	30.00
CVM-4	q	"	300 w.	175	54.00
CVM-5	q	"	600 w.	†	168.00
CG-51AX	r	15K	5 w.	87	15.00
CG-53AX	r	3K/10K/CT	20 w.	112	15.00
CG-59AX	r	50, 200, 500	20 w.	112	15.00

† 7" x 12" x 9"; Wt., 60 lbs. †a—Pl. to grid. b—Pl. to 2 grids. c—2 pl. to 2 grids. d—Input, humbucking. e—P-p input, humbucking. f—Input, mag. shielded. g—Dual input, humbucking. h—Mixing. i—Pl. to line. j—P-p to line. k—Driver. l—Output. m—Feedback output. n—Universal output. p—Universal matching. q—Universal modulator. r—Universal driver.

END CASTING UNITS

See note on "W" suffix units under plate transformers.

UCT Type	High Volt	DC Volt	L	W	H	Wt. Lbs.	Sugg. Net Ea.
CG-304	1500-1235-0-1235-1500	1.25K	1K 14 3/8	8 1/2	10 3/8	100	\$198.00
CG-304W†	1500-1235-0-1235-1500	2.5K	2K 14 3/8	8 1/2	10 3/8	100	219.00
CG-305	2400-1750-0-1750-2400	2K 1.5K	10 1/2	4 3/4	6 7/8	50	75.00
CG-305W†	2400-1750-0-1750-2400	4K 3K	10 1/2	4 3/4	6 7/8	50	81.00
CG-306	as above	2K 1.5K	13 7/8	8 1/2	10 3/8	100	174.00
CG-306W†	as above	4K 3K	13 7/8	8 1/2	10 3/8	100	186.00
CG-307	3500-3000-2400-0-2400-3000-3500	3K 2.5K	13 3/8	8 1/2	10 3/8	90	183.00
CG-308	as CG-307	3K 2.5K	15 1/8	8 1/2	10 3/8	125	225.00
CG-309	as CG-307	3K 2.5K	21	10	13 1/4	253	450.00
CG-310	4600-4050-3500-0-3500-4050-4600	4K 3.5K	17 1/4	10	13 1/4	150	420.00
CG-311	1500-1235-0-1235-1500	1.25K	1K 10 1/2	4 3/4	6 7/8	50	75.00
CG-311W†	1500-1235-0-1235-1500	2.5K	2K 10 1/2	4 3/4	6 7/8	50	78.60
CG-312	1800-1500-0-1500-1800	1.5K 1.25K	10 1/2	4 3/4	6 7/8	38	81.00

† Full Wave Bridge Rectifier types.

VARIPOWER \* AUTOFORMERS

Simultaneous control of filament, plate and line voltage. Filament voltage control within 2 1/2%. Output voltage from 0 to 130 volts. 50/60 cycles. Taps at 25, 55, 75, 95, 100, 105, 110, 115, 120, 125, and 130 volts.

UTC Type	Watts Output	Case No.	Sugg. Net Ea.	UTC Type	Watts Output	Case No.	Sugg. Net Ea.
CVA-1	150	RC-112	\$13.50	CVA-4	1000	RC-152	\$27.00
CVA-2	250	RC-125	18.00	CVA-5	2000	RC-175	42.60
CVA-3	500	RC-150	22.50				

UNITED TRANSFORMER COMPANY DIVISION OF TRW INC.



MINIATURE, OUNCER, SUBOUNCER & SUB-SUBOUNCER UNITS



SUBOUNCER\* & SUB-SUBOUNCER\* AUDIO TRANSFORMERS  
TRANSISTOR & TUBE TYPES HERMETICALLY SEALED

Designed, Manufactured and Successfully Tested to complete MIL - T - 27B Specifications.

UTC SSO-#P and SO-#P units are ideal miniaturized components having high efficiency and wide frequency response. Special nickel iron core materials and winding methods provide exceptional performance and reliability.

These units are vacuum molded to MIL Grade 5. They employ 50 mil deeply anchored pin terminals ideally suited for printed circuit and transistor application. Terminals are strong enough to support these light weight units.

The UTC SML-70 is an ultra miniature transformer providing high shielding, extremely low insertion loss with wide band response, 200 cycles to 20 kc. These units are provided with pin terminals (.025 dia.) strong enough to support the unit and are ideal for printed circuits.



SO-#P UNIT	SSO-#P UNIT	SML-70
Dim. 3/4" x 1 1/2" x 3/32"	Dim. 3/4" x 7/8" x 3/16"	3/16" x 3/16" x 3/16"
Pin Length 1/4"	Pin Length 1/4"	Wt. .2 oz.
Wt. ....05 lb.	Wt. ....04 lb.	

PRINTED CIRCUIT AUDIO UNIT — HIPERMALLOY SHIELD CASE

Type No.	Application	Pri. Imp. ohms	Sec. Imp. ohms	Sugg. Net Ea.
SML-70	Input or Chopper Service	200K	1K	\$8.40

MIL TYPE: TF5RX16ZZ.

PRINTED CIRCUIT MOLDED TYPES TO MIL GRADE 5

Type No.	Application	Pri. Imp. ohms	Sec. Imp. ohms	Sugg. Net Ea.
SO-2P	Interstage/3:1	10K	90K	\$6.90
SO-3P*	Plate to Line	10K	200	6.90
		25K	500	
SO-5P	Inductor: 40 hy at 1 ma, 2675 ohms, series; 4 hy at 4 ma, 670 ohms, parallel;			6.90
SO-7P*	Transistor	20K	800	6.60
	Interstage	30K	1200	
SO-8P	Transistor to PP Sec.	10K	2000 CT	7.50
SO-9P	PP Transistor to V.C.	500 CT	3.2	7.50
SO-14P	Transistor	80 CT	32 Split	7.80
	Interstage	100 CT	40 Split	
SO-15P	Tr. output	600 CT	600 Split	7.80
SO-17P	Inductor: 16 hy at 2 ma, 1.1K ohms, series; 4 hy at 4 ma, 275 ohms, parallel;			6.90

MIL TYPES: TF5RX13ZZ: SO-3P, SO-7P, SO-8P; TF5RX15ZZ: SO-2P; TF5RX17ZZ: SO-9P, SO-14P, SO-15P, SO-17P; TF5RX20ZZ: SO-5P.

SSO-3P	Plate to line	10K	200	\$7.20
		25K		
SSO-5P	Inductor: 100 hy at 0 ma, 4.4K ohms, series; 25 hy at 0 ma, 1.1K ohms, parallel			6.90
SSO-8P	Transistor to pp sec.	10K	2000 CT	7.20
SSO-14P	Transistor	10K CT	200 CT	7.50
	Interstage	25K CT	500 CT	
SSO-15P	Transistor	20K CT	800 CT	7.50
	Interstage	30K CT	1200 CT	
SSO-19P	Output matching	500 CT	600 CT	7.20
SSO-20P	Output	1.5K CT	600 CT	7.20
SSO-21P	Crystal/Chopper	200K CT	1000 CT	8.10
SSO-22P	Interstage	10K CT	1500 CT	7.20
		12K CT	1800 CT	
SSO-23P	Inductor: 8 hy at 2 ma, 600 ohms, series; 2 hy at 4 ma, 150 ohms, parallel			6.90
SSO-24P	Inductor: 3.5 hy at 2 ma, 160 ohms, series; 0.9 hy at 4 ma, 40 ohms, parallel			6.90
SSO-25P	Transistor	10K CT	10K/	8.10
	Interstage		2.5K spl.	
SSO-27P	Tr. Output	4K CT 2.5 ma	600 spl.	8.10

MIL TYPES: TF5RX13ZZ: SSO-3P, SSO-8P, SSO-14P, SSO-15P, SSO-22P, SSO-25P, SSO-27P; TF5RX16ZZ: SSO-21P; TF5RX17ZZ: SSO-19P, SSO-20P; TF5RX20ZZ: SSO-5P, SSO-23P, SSO-24P.

SUB-SUBOUNCERS\* AND SUBOUNCERS\*



Lead mounted (channel available as separate item) miniature nickel iron core units for transistor or vacuum tube circuits. Plastic mounted leads. SSO Sub-Subouncers: Approx. 2 db, 140-10,000 cps; +20 VU except inputs +7 VU. (7/16" x 3/4" x 3/16"; wt. .02 lb.) SO Subouncers: Approx. 2 db, 100-10,000 cps; +24 VU except inputs +10 VU. (1/2" x 3/4" x 7/8"; wt. .03 lbs.)

UTC SSO-#P	Sugg. Net Ea.	Application	Pri. Imp., Ohms	Sec. Imp., Ohms	UTC SSO-#P	Sugg. Net Ea.
1	\$4.50	Input	50/200	62.5K/250K	1	\$3.60
2	4.80	Interstage	10K, .25 ma	90K	2	3.30
3	4.20	Pl. to line	10K/25K, 1.5 ma	200/500	3	3.30
4	3.90	Output	30K, 1 ma	50	4	3.30
5	3.90	Inductor:	50 hys. @ 1 ma	4400 ohms #	5	3.00
6	4.20	Output	100K, .5 ma	60	6	3.90
7	3.30	Tr. intrstg.	20K/30K†	8K/1200	7	3.00
8	3.90	Tr. intrstg.	10K, 1 ma	2K CT	8	3.60
9	3.00	Tr. to V.C.	10K, 2 ma	16		
		Tr. to V.C.	500 CT	3.2	9	3.60
10	3.00	Tr. to V.C.	10K, 2 ma	3.2		
		Tr. to V.C.	2K/4K CT	8/16	10	3.60
11	3.00	Tr. Output	500/600S	50/60		
		Transist. Int.	400/500 CT	400/500 Split	11	4.20
12	3.00	Tr. Output	1K/1.2K††	50/60		
		Transist. Int.	400/500 CT	120/150 Split	12	4.20
13	4.50	Input	200K	1K		
		Transist. Int.	400/500 CT	40/50 Split	13	4.20
14	4.20	Tr. intrstg.	10K/25K CT	200/500 CT		
		Transist. Int.	80/100 CT	32/40 Split	14	4.20
15	4.20	Tr. intrstg.	20K/30K CT	.8K/1.2K CT		
		Tr. output	600 CT, 5 ma	600 Split	15	4.20
16	3.00	Tr. output	1.2K/1.5K††	3.2/4		
		Tr. intrstg.	2.5K CT, 4 ma	250 Split	16	4.20
17	3.30	Output	10K/12.5K**	500/600 CT		
		Inductor:	16 hy at 2ma, 1.1K ohms, series;		17	3.30
			4 hv at 4 ma, 275 ohms, parallel			
18	3.30	Output	7.5K/9.4K CT	3.2/4		
19	3.30	Matching	500 CT	600 CT		
20	3.30	Output	1.5K CT	600 CT		
21	4.80	Chopper	200K CT	1K CT		
22	3.90	Tr. intrstg.	10K/12K CT	1.5K/1.8K CT		
23	3.00	Inductor:	4 hys @ 5 ma, 650 ohms			
24	3.00	Inductor:	1.5 hys. @ 5 ma, 160 ohms			
25	5.10	Transist. Int.	10K/12K CT	10K/12 CT		
26	5.10	Transist. Int.	40K/50K CT	400/500 Split		
27	5.10	Tr. output	4K CT, 2.5 ma	600 Split		
CH	.30	Mounting channel for any of above			CH	.30

†0.5 ma. †Resis., 2675 ohms. †3.5 ma. \*\*2 ma. ††3 ma. #DC resis.

OUNCER\* AUDIO UNITS

Standard and Plug-in Types



UTC oincer components provide wide range ±1 db, 30 to 20,000 cps (except Nos. O-14 and O-15). O unit case: 7/8" Dia x 1 1/4" H, Wt: 1 oz. (except O-16; heavy shielding case 1 1/2" Dia x 1 1/2" H, Wt: 3 oz.) P unit case: 1 1/2" Dia x 1 1/2" H, Wt: 2 oz. (except P-16; heavy shielding case 1 3/4" Dia x 2 3/4" H, Wt: 4 oz.)

UTC No.	Sugg. Net Ea.	Application	Pri. Imped., Ohms	Sec. Imped., Ohms	UTC No.	Sugg. Net Ea.
O-1	\$7.80	Input	50, 200, 500	50K	P-1	\$9.00
O-2	7.80	P-p input	50, 200, 500	50K CT	P-2	9.00
O-3	7.50	Input	7.5/30	50K	P-3	8.40
O-4	6.60	Pl. to grid	15K	60K		
O-5	6.60	Pl. to grid	15K, 2 ma	60K		
O-6	7.50	Pl. to p-p	15K	95K CT	P-6	8.40
O-7	7.50	Pl. to p-p	15K, 2 ma	95K CT	P-7	8.40
O-8	7.80	Pl. to line	15K	50, 200, 500	P-8	9.00
O-9	7.80	Pl. to line	15K, 2 ma	50, 200, 500	P-9	9.00
O-10	8.40	P-p to line	30K CT	50, 200, 500	P-10	9.00
O-11	7.80	Cryst. out.	50K	50, 200, 500	P-11	9.00
O-12	7.80	Mixing	50, 200, 500	50, 200, 500	P-12	9.00
O-13	6.30	Inductor	300 Hys-0 ma;	6000 ohms		
O-14	7.50	50:1 input	200	500K		
O-15	7.50	10:1 P/O	15K	1 meg.	P-15	9.00
O-16	10.20	Shid. input	250 CT	50K	P-16	11.40
O-17	1.50	Hipermailloy shield, 25 db, for Ouncers				
O-18	7.80	Tr. intrstg.	10K split	2K split		
O-19	7.80	Tr. intrstg.	10K split	4K split		
O-20	6.30	Tr. to line	1.5K CT	500 split		
O-21	5.40	Tr. to V.C.	2K/4K CT	8/16		
O-22	5.40	Tr. to V.C.	500/400 CT	4/3.2		
O-23	5.10	Inductor 7 Hys-3 ma; 230 ohms				
O-24	5.10	Inductor 1.6 Hys-3 ma; 25 ohms				
O-25	8.10	Transist. Input	600/150 split	2K/500 split		
O-26	8.10	Transist. Int.	10K CT 4 ma.	10K CT		
O-27	8.40	Transist. Int.	10K CT 4 ma.	500/125 split		
O-28	8.40	Transist. Int.	50K CT. 2 ma.	500/125 split		
O-29	8.70	Transist. Int.	100K CT 1 ma.	500/125 split		
		or chopper				
O-30	8.10	Transist. Int.	500/125 split	500/125 split		
O-31	8.10	Transist. Int.	500/125 split	150/37.5 split		
O-32	8.10	Transist. Int.	500/125 split	50/12.5 split		
O-33	8.10	Transist. Int.	100/25 split	40/10 split		
O-34	5.10	Split	Series: 60 Mhy-80 ma; 4 ohms			
		Inductor	Parallel: 15 Mhy-160 ma; 1 ohm			
O-36	5.10	Split	Series: 1 Hy-20 ma; 60 ohms			
		Inductor	Parallel: .25 Hy-40 ma; 15 ohms			
O-37	8.10	Tr. to line	4K/1K spl., 4 ma	650/150 split		
O-38	5.10	Spkr. match	0, 4, 8, 16 ODC			
O-BR	.21	Mounting U-bracket for ouncers				

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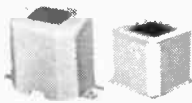
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# AMATEUR & PUBLIC ADDRESS TRANSFORMERS "S" SERIES

## DIMENSIONS, SPECIAL SERIES TRANSFORMERS



G-1 thru G-4      G-5 thru G-12

UTC Special Series transformers are specifically designed for amateur and popular-priced PA service. These units are finished in a rich, commercial type medium gray enamel. A recessed terminal strip is provided, permitting above chassis or bread-board wiring in addition to standard chassis type.

Case	Height, In.	Width, In.	Depth, In.	Wt., Lbs.
G-1	1 7/8	2 1/4	1 3/4	1
G-2	2 1/8	3 1/8	1 7/8	1 1/2
G-3	2 1/2	3 3/4	2 1/2	2
G-4	2 7/8	4 1/8	2 7/8	3
G-5	3 3/8	3 7/8	4 1/2	4 1/2
G-7	4 3/8	4 5/8	5 1/2	8
G-8	4 7/8	5 3/8	5 7/8	12
G-9	5 7/8	5 7/8	6 3/4	21
G-10	5 7/8	6 1/8	6 5/8	24
G-11	5 7/8	6 1/2	7 7/8	31
G-12	10 1/4	7 7/8	9 1/4	52

## INPUT AND DRIVER TRANSFORMERS

Type UTC	Application	Ratio Pri. to Sec.	Level	Case	Sugg. Net Ea.
S-1	Plate to grid	1:3 1/2	+30 dbm	G-2	\$ 5.40
S-2	Plate to p-p grids	1:4 †	+30 dbm	G-2	6.60
S-3	Pl. to 1 or 2 grids	1:4 †	+25 dbm	G-1	4.80
S-5	Line to grid, humbkg.	1:16	+30 dbm	G-2	5.70
S-6	Line to grid, compact	1:16	+25 dbm	G-1	4.80
S-8	Driver pl. to p-p	2.66:1, 5:1 †	5 w.	G-3	7.20
S-9	Driver p-p to p-p	2.66:1, 3.6:1 †	20 w.	G-4	9.60
S-10	Driver p-p to p-p	5:1 †	5 w.	G-3	7.20

†Center tapped.

## MATCHING, OUTPUT AND MODULATION UNITS

UTC Type	Application	Pri. Imped., Ohms	Level, Watts	Case	Sugg. Net Ea.
S-11	Pl. to line	15K	a .25	G-2	\$ 5.70
S-12	line to V.C.	.5K/2K/4K	b 15	G-2	6.00
S-13	line to V.C.	.5K/2K/4K	b 30	G-4	9.00
S-14	Output	2.5K/4K/7K/10K	c 10	G-2	7.20
S-15	PP output	4K/5K/10K CT	c 12	G-2	7.80
S-16	PP output	3K/6K/9/10K CT	c 30	G-4	9.30
S-17	PP output	3.8K/4.5/5K CT	c 55	G-5	13.20
S-18	Univ. modul.	Any Class B	d 12	G-3	8.40
S-19	Univ. modul.	Any Class B	d 30	G-4	9.90
S-20	Univ. modul.	Any Class B	d 55	G-5	16.50
S-21	Univ. modul.	Any Class B	d 110	G-7	22.50
S-22	Univ. modul.	Any Class B	d 250	G-9	36.00

†Secondary Impedance: a—200/500 ohms. b—2, 4, 8, 15 ohms. c—2, 8, 15, 500 ohms. d—Any Class C.

## FILTER, SWINGING AND AUDIO INDUCTORS

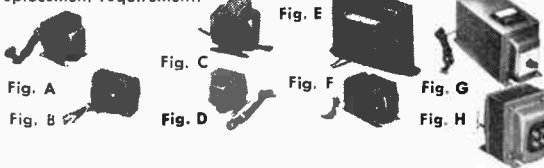
Type	Henries	Ma. DC	Ohms	Insul.	Case	Sugg. Net Ea.
S-23	300	5	5000	1500 v.	G-2	\$ 4.80
S-24	500	3	6000	1500 v.	G-2	5.40
S-25	30	30	800	1500 v.	G-2	4.20
S-26	12	60	250	1500 v.	G-2	4.20
S-27	25	75	350	1500 v.	G-4	5.40
S-28	20	100	350	1500 v.	G-4	6.90
S-29	6	175	90	1500 v.	G-4	5.40
S-30	4/20	175	90	1500 v.	G-4	5.40
S-31	6	225	100	2700 v.	G-5	7.50
S-32	4/20	225	100	2700 v.	G-5	7.50
S-33	8	300	100	4000 v.	G-7	9.90
S-34	4/20	300	100	4000 v.	G-7	10.50
S-35	8	400	60	5000 v.	G-8	12.90
S-36	4/20	400	60	5000 v.	G-8	12.90
S-37	8	550	60	6000 v.	G-8	16.50
S-38	4/20	550	60	6000 v.	G-8	16.50
S-80	50/10 Mhy	1.75A	.5	500 v.	G-1	4.50
S-81	100/8 Mhy	2.5A	.6	1500 v.	G-3	6.60
(2Wdgs)	25/2 Mhy	5A	.15			

§Audio. †P.P. Audio C. T. ‡Swinging.

Information on components in this box listed on UTC page 14.

## REPLACEMENT TYPE COMPONENTS

The shells and brackets of these vacuum sealed components are finished in shiny black enamel. A minimum number covers any replacement requirement.



## FILAMENT TRANSFORMERS

Primary Tapped 105, 115 Volts, 50-60 Cy.

UTC Type	Secondary Volts	Secondary Current	Insulation	Case No.	Sugg. Net Ea.
S-53	2.5 VCT	10 Amp	1500 V	G-3	\$ 6.90
S-54	5 VCT	4 Amp	2500 V	G-3	6.30
S-55	6.3 VCT	3 Amp	1500 V	G-3	6.00
S-57	2.5 VCT	10 Amp	10000 V	G-5	9.90
S-58	2.5 VCT	20 Amp	10000 V	G-5	10.50
S-59	5 to 5.25 VCT	13 Amp	5000 V	G-5	9.90
S-60	5 to 5.25 VCT	22 Amp	10000 V	G-7	15.00
S-61	7.5 VCT tapped	10 Amp	3000 V	G-5	12.00
S-62	6.3 VCT				
S-62	10 VCT	10 Amp	3000 V	G-5	10.20
S-63	14 VCT tapped	10 Amp	5000 V	G-7	15.00
S-63	12 VCT & 11 VCT				

Type	Filament 1	Filament 2	Filament 3	Case	Sugg. Net Ea.
‡S-64	2.5 VCT-5A	2.5 VCT-5A	5 VCT-6A	G-5	\$12.00
‡S-67	5 VCT-6A	6.3 VCT-5A		G-5	11.40
‡S-68	5 VCT-3A	6.3 VCT-4A	7.5 VCT-5A	G-5	11.70
‡S-70	6.3 VCT-5A	6.3 VCT-5A		G-5	11.40
‡S-71	2.5 VCT 6A	2.5 VCT-6A	2.5 VCT-12A	G-7	16.50
‡S-72	5 VCT-3A	5 VCT-3A	5 VCT-6A	G-5	13.50

§Insulation 10,000 v. †Insulation 5000 v. ‡Insulation 3000 v.

## COMBINED PLATE AND FILAMENT TRANSFORMERS

Primary 115 V., 50-60 Cy.

UTC Type	Voltage	DC V.	Rect. Fil.	Filament No. 1	Filament No. 2	Case No.	Sugg. Net Ea.
S-39	490-400-0-400-490	400/310	5V-3A	2.5 VCT-6A	6.3 VCT-4A	G-7	\$18.00
S-40	525-425-0-400-425-525	400/310	5V-3A	6.3 VCT-3A	6.3 VCT-3A	G-7	19.50
S-41	600-0-600-200 ma	475	5 V-3A	7.5 V tapped 6.3 V-3A	6.3 VCT-2A	G-7	19.50
S-42	600-525-0-525-600	480/400	5 V-6A	7.5 V tapped 6.3 V-3A	6.3 VCT-3A	G-7	21.00

## PLATE AND BIAS TRANSFORMERS

Primary 115 V. 50/06 Cycles

UTC Type	2.5 VCT-12A High Voltage	DC Voltages †	DC Ma	Case	Sugg. Net Ea.
S-44	575-525-0-525-575	470/430	500	G-9	\$27.00
S-45	900-750-0-750-900	750/620	200	G-8	22.50
S-46	1000-750-0-750-1000	825/600	300	G-9	25.50
S-47	1500-1250-1000-0-1000-1250-1500	1275/1050/825	300	G-10	36.00
S-48	1500-1250-1000-0-1000-1250-1500	1300/1075/850	500	G-11	42.00
S-49	2100-1800-1500-0-1500-1800-2100	1815/1540/1275	300	G-11	39.00
S-50	3000-2500-0-2500-3000	2625/2175	300	G-12	66.00
S-51	Any bias voltage from 15 to 100	± 6% 200		G-5	13.20
S-52	Any bias voltage from 75 to 400	± 6% 200		G-7	18.00

†Based on two section filter for 200 ma. and 300 ma. units. Single section filter for 500 ma. units, both choke input.

**IMMEDIATE DELIVERY**  
**ON ALL UTC STOCK ITEMS**  
**AND SPECIAL CUSTOM BUILT UNITS TO YOUR SPECS.**

**UNITED TRANSFORMER COMPANY DIVISION OF TRW INC.**

UTC PAGE 13. \*UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1967 United Transformer Co., Div. of TRW INC.



TRANSFORMERS FOR INDUSTRY WIDE APPLICATIONS

**DOUBLE SHELL POWER TRANSFORMERS (FIG. B SEE PG. 13)**  
Rectifier filaments 5 volts, 3 amps except R-101, 2 amps.

UTC Type	High V.	DC Ma.	Amplifier Filament	Overall Height	Wt., Lbs.	Sugg. Net Ea.
R-101	275-0-275	50	6.3 v. CT-2.7A	3"	2 1/2	\$ 8.70
R-102	350-0-350	70	6.3 v. CT-3A	3 5/8"	3 1/2	10.20
R-103	350-0-350	90	6.3 v. CT-3.5A	3 11/16"	4 1/2	10.35
R-104	350-0-350	120	6.3 v. CT-5A	3 7/8"	5 1/2	11.10
R-105	385-0-385	160	6.3 v. CT-5A	4 1/4"	7	12.00

**VERTICAL SHELL POWER TRANSFORMERS (FIG. C SEE PG. 13)**  
Rectifier filaments 5 volts, 3 amps., except R-110, 2 amps.

UTC Type	High V.	DC Ma.	Amplifier Filament	Overall Height	Wt., Lbs.	Sugg. Net Ea.
R-110	300-0-300	50	6.3 v. CT-2.7A	3 1/4"	2 1/2	\$ 8.70
R-111	350-0-350	70	6.3 v. CT-3A	3 1/4"	3 1/2	10.20
R-112	350-0-350	120	6.3 v. CT-5A	4"	5 1/2	11.10
R-113	400-0-400	200	6.3 v. CT-6A	4 5/8"	8	14.10

**CHANNEL FRAME FILTER INDUCTORS (FIG. E SEE PG. 13)**

Inductance Shown is at Rated D.C.M.A.—Test Volts RMS: 1500

Type No.	Induct. Hys.	Current	Resist. Ohms	Dimensions, in.				Wt. Lbs.	Sugg. Net Ea.
				W	D	H	M		
R-55	6	40MA	300	2 3/8	1 3/8	1 3/8	2	1/2	\$ 1.80
R-14	8	40MA	250	2 7/8	1 1/2	1 1/2	2 3/8	3/4	2.25
R-15	12	30MA	450	2 7/8	1 1/2	1 1/2	2 3/8	3/4	2.25
R-16	15	30MA	630	2 7/8	1 1/2	1 1/2	2 3/8	3/4	2.25
R-17	20	40MA	850	3 1/8	1 5/8	2	2 13/16	1	2.70
R-18	8	80MA	250	3 1/8	1 5/8	2	2 13/16	1	2.85
R-19	14	100MA	450	3 5/8	1 7/8	2 1/2	3 1/8	1 1/2	3.45
R-20	5	200MA	90	4 1/8	2 1/4	2 3/8	3 1/8	2 1/2	3.90
R-21	15	300MA	90	4 1/8	2 1/4	2 3/8	3 1/8	2 1/2	3.90
R-220	100/8 Mhy.	2.5A	.6	3 3/4	2	2 3/8	3 1/8	1 1/2	4.20
	25/2 Mhy.	5A	.16						

**PHOTOFLASH TRANSFORMERS STANDARD 982**

Can be used for either standard (Amglu type) or trigger (Sylvania type) multiple flash tubes. Circuit details included with transformer.

PF-1 Primary for 115 volts, 50/60 cycles. Secondaries for power supply delivering 2200 volts DC to condenser up to 100 Mfd. Compound sealed in G-3 (Pg.13) case 2 1/8 x 2 3/4 (3 3/4 including flanges) x 2 1/2 inches high.

Weight 2 lbs. Suggested net each: \$8.40

PF-3 Trigger Transformer 15 KV peak. 7/8 O.D. x 3 lang. Weight 2 oz. Suggested net each: \$6.00



**TRANSISTOR TYPE**

These are miniaturized light weight units for transistor type photo-flash supply.

PF-5 Primary for 115 volts, 50/60 cycles or for 4 1/2 V. battery switched by PF-6 inverter transformer. Output delivers 400 V. DC when used in voltage doubler circuit to charge ahataflash capacitor (typically 40 watt-sec.). G-1 case (Pg.13)

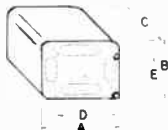
Suggested net each: \$8.40

PF-6 Inverter transformer transforms 4 1/2 V. DC from battery to input for PF-5 step up transformer. Cuncer case (Pg.13)

Suggested net each: \$5.10

PF-7 Trigger transformer. Shorting .25 mfd. capacitor (charged to approx. 225 V. DC) across terminals 1-2 produces 6 KV pulse at terminal 3 for triggering flash tube. 7/8" Dia. x 1 5/16"; Wt. 1/2 oz. Suggested net each: \$3.60

**MIL-T-27B CASE SIZES**



MIL Case	Size, Inches: Dimension					Mtg. Studs
	A	B	C	D	E	
AF	3/4	3/4	1 1/8	Diag.	3/8	4-40 x 3/8
AG	1	1	1 3/8	Diag.	3/4	4-40 x 3/8
AH	1 1/4	1 3/4	1 3/4	Diag.	1 1/4	6-32 x 3/8
AJ	1 5/8	1 5/8	2 3/8	1 3/4	1 3/4	6-32 x 3/8
EA	1 1/2	1 1/2	2 3/4	1 3/4	1 1/4	6-32 x 3/8
EB	1 1/2	1 1/2	2 1/4	1 3/4	1 1/4	6-32 x 3/8
FA	2 3/8	2 1/4	3 1/8	1 1/2	1 3/4	6-32 x 3/8
FB	2 3/8	2 1/4	2 1/2	1 1/2	1 3/4	6-32 x 3/8
GA	2 3/4	2 3/8	3 1/4	2 1/8	1 3/4	6-32 x 3/8
GB	2 3/4	2 3/8	2 1/4	2 1/8	1 3/4	6-32 x 3/8
HA	3 1/4	2 5/8	4 1/4	2 1/4	1 5/8	8-32 x 3/8
HB	3 1/4	2 5/8	3 3/4	2 1/4	1 5/8	8-32 x 3/8
JA	3 3/4	3 1/4	4 7/8	2 5/8	2 1/8	8-32 x 3/8
JB	3 3/4	3 1/4	3 7/8	2 5/8	2 1/8	8-32 x 3/8
KA	3 1/2	3 3/8	5 1/4	3	2 3/4	10-32 x 1/2
KB	3 1/2	3 3/8	4 5/8	3	2 3/4	10-32 x 1/2
LA	4 3/8	3 1/2	5 5/8	3 3/4	2 1/2	10-32 x 1/2
LB	4 3/8	3 1/2	4 1/2	3 3/4	2 1/2	10-32 x 1/2
MA	4 1/2	4	6	3 1/2	3	1/4-20 x 5/8
MB	4 1/2	4	4 3/4	3 1/2	3	1/4-20 x 5/8
NA	5 1/4	4 3/8	6 1/4	4 1/4	3 3/4	1/4-20 x 5/8
NB	5 1/4	4 3/8	5 1/2	4 1/4	3 3/4	1/4-20 x 5/8
OA	5 1/2	4 1/2	6 3/4	3 3/4	3	1/4-20 x 5/8

**STEP-DOWN AUTO-TRANSFORMERS (FIG. A SEE PG. 13)**

With 6-ft. cord and female receptacle, except R-64; 220/240 to 110/120 v., 50/60 cps.

UTC Type	Rating	Size, Inches			Wt., Lbs.	Sugg. Net Ea.
		L	W	H		
R-41	85 watt capacity	3 1/4	2 5/8	3 1/8	4	\$ 7.20
R-42	125 watt capacity	3 1/2	3	3 1/2	5	8.70
R-43	175 watt capacity	3 3/4	3 1/4	3 7/8	5 1/2	9.00
R-44	250 watt capacity	4 3/8	3 1/4	3 7/8	6 1/2	12.00
R-45	500 watt capacity	4 5/8	3 7/8	4 5/8	12	13.50
R-46	1200 watt capacity	6 7/8	3 7/8	4 5/8	18	24.00
R-64	2500 watts, no cord	10 1/2	4 3/4	6 3/4	30	57.00

**ISOLATION TRANSFORMERS (FIG. F SEE PG. 13)**

Ideal for isolating line noise. AC-DC sets, etc. Excellent electrostatic shielding 1500 volt breakdown test. Six foot card and female receptacle, except R-77.

Primary 110-120 volts 50/60 cycles—Secondary 110-120 volts Except R-97 220 volt Primary—120 volt Sec.

Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.	Sugg. Net Ea.
R-72	40	3 1/8	2 3/8	3 1/8	2x1 7/8	4	\$ 7.20
R-73	100	3 3/4	3 1/4	3 7/8	2 1/2x2 3/8	6	11.40
R-74	250	4 7/8	3 7/8	4 3/8	3x3 1/2	12	18.00
R-75	600	7 3/8	3 7/8	4 3/8	3x5 7/8	20	24.00
R-76	1200	8 1/2	4 1/2	6 1/8	3 3/8x6 5/8	30	57.00
R-77	2500	12	7	9	6x11	70	111.00
R-97	250	4 7/8	3 7/8	4 5/8	3x3 1/2	12	15.00

**LINE VOLTAGE ADJUSTERS WITH METER (FIG. G SEE PG. 13)**

The perfect answer to abnormal or fluctuating line voltage. Adjust switch so that meter reads at red line and you know that your equipment is working at correct voltage. These units combine a tapped auto-transformer with a switch and meter in a compact, rugged assembly. The nine tap switch provides for line voltage of 60 to 140 volts an 115 volt output models and 160 to 240 volts an 230 volt output model. All units are designed for 50/60 cycles service and come complete with 6 foot input cord and plug and outlet receptacle.

Type No.	Primary Volts	Sec. Volts	Watts Ratings	L	W	H	Wgt. Lbs.	Sugg. Net Ea.
R-78	†	115	150	7	4	4 3/4	6	\$19.50
R-79	†	115	300	7	4	4 3/4	9	21.00
R-80	†	115	600	10 1/4	4	4 3/4	13	24.00
R-81	†	115	1200	10 1/4	4	4 3/4	21	33.00
R-86	‡	230	1200	10 1/4	4	4 3/4	21	33.00

† 60, 70, 80, 90, 100, 110, 120, 130, 140  
‡ 160, 170, 180, 190, 200, 210, 220, 230, 240

**EXPORT VOLTAGE ADAPTER (FIG. D SEE PG. 13)**

Complete with card and plug and special locking switch providing for line voltages of 105, 115, 125, 135, 150, 210, 230, 250 volts; 42 to 60 cycles. Output voltage 115.

Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.	Sugg. Net Ea.
R-47	85	4 5/8	3	3 1/2	2 1/4x2 1/4	4 1/2	\$12.00
R-48	150	4 3/4	3 1/4	4	2 1/2x2 1/2	5 1/2	12.60

**TV VOLTAGE REGULATOR (FIG. D SEE PG. 13)**

Complete with card, plug, and special locking switch. Permits operation at 115 volt 50/60 cycle TV sets on line voltages of 85, 90, 95, 100, 105, 110, 120, 125 V.

Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.	Sugg. Net Ea.
R-49	350	5	3 1/4	4	2 1/2x2 3/4	5	\$12.90

**SIGNALLING AND CONTROL TRANSFORMERS (FIG. H SEE PG. 13)**

Primary 110-120 volts, 50/60 cycles—Secondary

4/8/12/16/20/24 volts

High power transformers suitable for operating relays, sirens horns, gangs, etc. from 115 V. 50/60 cycle line. These units have four secondary terminals providing 4, 8, 12, 16, 20 and 24 volt output. The volt ampere rating is based on the 24 volt secondary tap with corresponding reduction at the lower voltages. Underwriters' approved primary leads are employed, and screw-type binding posts.

Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.	Sugg. Net Ea.
SC-3	50	3	3 1/4	3 3/8	1 3/4x2 1/4	3	\$8.40
SC-4	100	3 1/4	3 3/4	4	2 1/8x2 1/2	5	9.90
SC-5	250	4	4 5/8	4 3/4	3 3/8x3	10	14.40

**INDUSTRIAL DISCOUNTS**

Applicable to any UTC products listed in this catalog.

1-24	25-99	100 up
Net Price	Net —15%	Net —20%

**UNITED TRANSFORMER COMPANY DIVISION OF TRW INC.**

# Amperex Industrial, Communication,

TUBE TYPE	TUBE TYPE	TUBE TYPE	TUBE TYPE	TUBE TYPE	TUBE TYPE	TUBE TYPE
OA2	5EJP31/D13-26GH	6EU7	13GB5/XL500	150UVP	5559	6693
OB2	5ELP2/D13-21GP	6FG6/EM84	14K7	153AVP	5560/FG95	6700/ET51
OE3	5ELP7/D13-21GM	6FY5/EC97	14L7	153C	5586	6756
OG3	5ELP11/D13-21BE	6GB5/EL500	14GW8	155N	5586(JAN)	6759
IA3/DA90	5ELP31/D13-21GH	6GJ7/ECF801	15A6	160G	5604	6779
IA86	5GJ7/LCF801	6GK5	15CW5/PL84	161G	5632/C3J	6786
IA66	5HG8/LCF86	6GK6	15DQ8/PCL84	171G	5651	6800A
IAH5	5R4GY	6GM8/ECC86	16A5	200C	5654/6AK5W	6801
IAJ4	5R4GYB	6GV8/ECL85	16A8/PCL82	200CB	5657	6816
IAN5	5U8	6GW8/ECL86	16AQ3/XY88	200HB	5658	6883
IB3GT	5U9/LCF201	6HA5/EC900	16GK6	200LB	5666	6884
IBG2	5X9/LCF200	6HG8/ECF86	16Y9/PFL200	200N	5667	6907
ICP1	5Z4G/GZ30	6HU6/EM87	17C8	200NB/900V	5678	6907(JAN)
ICP31/DH3-91	6A8B	6HU8/ELL80	17EW8/HCC85	356	5684/C3JA	6922
IG3GT/IB3GT	6AF9	6GV8	17Z3	367	5685/C6JA	6922(JAN)
IL4/DF92	6AJ8/EC81	6GW8	18GB5/LL500	300PC	5718	6922 USN
IM3/DM70	6AK5/EF95	6HW8	18GV8	310PC	5726/6AL5W	6922M
IN3/DM71	6AK5W	6HU6	19AU4	400PC	5727/2D21W	6923
IR5/DK91	6AK8	6I6/ECC91	19AU4GTA	404A	5759	6939
IS2A/DY87	6AL3/EY88	6I6A	19BR5	417A	5762	6939(JAN)
IS5/DAF91	6AL5/EAA91	6IWB/ECF802	19D8	500N	5771	6960
IT4/DF91	6AL5W/5726	6JX8/EC84	19FL8	501N	5822A	6961
IU4	6AM5	6KG6	19KF6	501R	5823	6977
IU5/DAF92	6AM6	6LNB/LCF80	19X3	502N	5824	6979
IX2B	6AQ4	6LX8/LCF802	19Y3	504R	5842(JAN)	7025
2D21	6AQ5/EL90	6N3	20AQ3/LY88	505N	5847	7034
2D21W	6AQ5/EL90MP	6N8	21A6	506N	5847(JAN)	7034/4X150A(JAN)
2ER5/XC95	6AQ5A	6Q4/EC80	25E5	507N	5861/EC55	7035
2FY5/XC97	6AQ8/ECC85	6R3/EY81	25L6GT	575A	5866	7035/4X150D(JAN)
2GK5	6AT6/EBC90	6R4/EC81	27GB5/PL500	632B	5866A	7038
2HA5	6AU4GTA	6S2	30A5	651	5867	7062
2J42	6AU6/EF94	6S2A	30AE3	652	5867A	7090
2J55	6AU6A	6S4A	31A3	653B	5868	7091
3AMP1/DG7-32	6AV6/EBC91	6SN7GTB	35L6GT	655	5869	7092
3A4/DL93	6AX4GT	6U3	35W4	673	5870	7119
3A5/DCC90	6AX4GTB	6U8	38A3	725A	5894(COMM)	7136
3AU6	6BA6/EF93	6U8A	40KG6	805	5894(JAN)	7189
3BH2	6BD7A	6U8B	45A5	807	5894MIL	7189A
3BU8	6BE6/EK90	6U8C	45B5/UL84	810	5894A	7189MP
3B28	6BE7	6U8D	45B5/UL84MP	811A	5894B	7203
3BK2P/DN7-78	6BH6	6V9/ECF201	50BM8/UCL82	812A	5911	7203/4CX50B(JAN)
3BK7/DP7-78	6BJ6	6V9/ECH200	50BM8/UCL82MP	813	5913	7204
3BK11/DB7-78	6BL8/ECF80	6W4GT	50C5	828	5920	7204/4CX250F(JAN)
3BK31/DH7-78	6BM8/ECL82	6X2	6X4/EZ90	829B	5923	7237
3BY2/DN7-11	6BN5	6X9/ECF200	6X9/ECF200	832A	5924	7291
3BY7/DP7-11	6BQ5/EL84	6Y9/EFL200	6Y9/EFL200	53CG	5924A	7292
3BY11/DB7-11	6BQ5/E184MP	7AN7	7AU7	63UVP	6007	7308(JAN)
3BY31/DH7-11	6BR5/EM80	7AU7	7C24	54AVP	6008	7316
3BZ6	6BT4	7D18	7D18	54UVP	6075	7320/E84L
3C4/DL96	6BX6/EF80	7E8	7E8S	56AVP	6076	7325
3CB6	6BZ6	7HG8/PCF86	7HG8/PCF86	56AVP/03	6077	7336
3EH7/XF183	6C4/EC90	8BQ5/XL84	8BQ5/XL84	56AVP/05	6079	7377
3EJ7/XF184	6CA4/EZ81	8CW5/XL86	8CW5/XL86	56CVP	6083	7378
3ER5	6CA7/EL34	8GJ7/PC801	8GJ7/PC801	56F17	6084	7459
3GK5	6CA7/EL34MP	8MB6	8MB6	56TVP	6085	7527
3HA5/LC900	6CB6A	8MG6	8MG6	56TUVP	6146	7534/E130L
3NP4/MW6-2	6CD7/EM34	8MY6	8MY6	56UVP	6155	7580
3Q4/DL95	6CG7	8U9/PCF201	8U9/PCF201	57AVP	6156	7580W/4CX250R
3S4/DL92	6CH6	8X9/PCF200	8X9/PCF200	58AVP	6159	7580W/4CX250R(JAN)
3V4/DL94	6CJ5	9A8/PCF80	9A8/PCF80	58CG	6189/12AU7WA	7609
3-400Z	6CJ6	9AB4	9AB4	58CV	6189/EC82CC	7609(JAN)
4-65A	6CK5	9AK8	9AK8	58CVP	6211	7643
4-125A	6CK6	9AQ8/PCC85	9AQ8/PCC85	58UVP	6211A	7645
4-250A	6CM4/EC86	9ED4	9ED4	60AVP	6218	7650
4-400A	6CM5	9U8	9U8	75C1	6227	7693
4B32	6CM6	9V8/XCL85	9V8/XCL85	75N	6252	7694
4BL8/XCF80	6CS6/EH90	9V9/PCH200	9V9/PCH200	75NB3	6252(JAN)	7697
4C35	6CT7	10CW5/LL86	10CW5/LL86	76NB3	6267/EF86	7699
4CX250B	6CU7	10DX8/LCL84	10DX8/LCL84	85A1/OE3	6279	7709
4CX250F	6CV7	11Y9/LFL200	11Y9/LFL200	85A2/OG3	6339	7710
4X250FG/8621	6CW5/EL86	12AC5	12AC5	90AG	6354	7711
4X250F(JAN)	6CW7	12AJ7	12AJ7	90AV	6360	7714
4CX250R	6DA5/EM81	12AT6/HBC90	12AT6/HBC90	90C1	6360(COMM)	7721/D3A
4CX250R(JAN)	6DA6/EF89	12AT7/ECC81	12AT7/ECC81	90CG	6360(JAN)	7722/E280F
4CX350A/8321	6DC8/EBF89	12AU6/HF94	12AU6/HF94	90CV	6360 MIL	7735A
4EH7	6DE6	12AU7/ECC82	12AU7/ECC82	90NB3/900V	6360A	7737
4EJ7	6DJ8/ECC88	12AU7A/ECC82	12AU7A/ECC82	90NB4/900V	6360A	7737M
4ES8/XCC189	6DL4/EC88	12AU7A	12AU7A	90NS	6370	7737(JAN)
4GK5	6DL5/EL95	12AU7WA/6189	12AU7WA/6189	92AV	6375	7753
4HA5/PC900	6DL5MP/EL95MP	12AV6/HBC91	12AV6/HBC91	100C	6463	7788
4X150A	6DR8	12AX4GTA	12AX4GTA	100CB	6508	7788(JAN)
4X1500A(JAN)	6DS8	12AX4GTB	12AX4GTB	100E1	6589	7800
4X150D	6DT6	12AX7	12AX7	100HB	6617	7804
4X1500D(JAN)	6DX8/ECL84	12AX7A/ECC83	12AX7A/ECC83	100LB	6618	7805
4X250B	6DY5	12AX7A/6681	12AX7A/6681	100NB/900V	6661	7806
4X250F	6EC4	12BA6/HF93	12BA6/HF93	120C	6662	7807
4X500A	6ED4	12BF6/HK90	12BF6/HK90	120BN/900V	6681/E83CC	7843
5AQ4	6EH7/EF183	12BL6	12BL6	150A1	6681/12AX7A	7844
5AR4/GZ34	6EJ7/EF184	12DS7	12DS7	150AVP	6686	7854
5BHP2	6ER5/EC95	12DS7A	12DS7A	150B2/6354	6687	7899
5BHP7	6ES6	12S7	12S7	150C1P	6688	7900
5BHP31	6ES8/ECC189	12S1/7GTA	12S1/7GTA	150CVP	6688A	7983
5C22	6ET6	12X4/HZ90	12X4/HZ90	150N/900V	6688(JAN)	7986/5866A
				150NB/900V	6689	8008AX
				5557/FG17		

AMPEREX ELECTRONIC CORPORATION

# Amperex®

TOMORROW'S THINKING IN TODAY'S PRODUCTS

# and Receiving Tubes . . . .



TUBE TYPE	TUBE TYPE	TUBE TYPE	TUBE TYPE	TUBE TYPE	TUBE TYPE	TUBE TYPE
8020AX	55852N	D13-23GH	E283CC	EF83	HL94	UCL82
8032	56001	D13-24BE	E288CC/8233	EF85	HY90	UCL82MP
8042	5850N/8483	D13-26GH	EA52/6923	EF86	HZ90	UCL83
8078		D13-27GH	EA53	EF89	K81A	UF41
8108/EC157		DA90	EA76	EF91	LC900	UF42
8116		DAC21	EA91	EF92	LCF80	UF80
8117		DAF40	EABC80	EF93	LCF86	UF85
8118		DAF41	EAC91	EF94	LCF200	UF86
8119/TBL/400		DAF91	EAF42	EF95	LCF201	UF89
8120/TBL/500		DAF92	EB34	EF97	LCF801	UL41
8163		DAF96	EB41	EF98	LCF802	UL44
8177		DB711-/3BYP11	EB91	EF183	LC184	UL84
8179		DB7-78/3BKP11	EBC3	EF184	LF1200/11Y9	UL84MP
8223/E288CC		DC70/6375	EBC33	EFF51	LL86	UM4
8228		DCC90	EBC41	EFL200	LL500	UM80
8233		DCC90/3AJ	EBC81	FFP60	LY88	UY1(N)
8254		DCG1/250	EBC90/6AT6	EH90	ORP30	UY11
8255/E88C		DCG4/1000G	EBC91/6AV6	EK2	ORP50	UY41
8268		DCG5/5000EG	EBF2	EK90	ORP60	UY42
8269		DF21	EBF32	EL2	ORP61	UY82
8270		DF22	EBF35	EL3(N)	ORP62	UY85
8278/EL503		DF91	EBF80	EL5	ORP63	UY89
8300		DF92	EBF83	EL6	PABC80	VC25/20
8321/4CX350A		DF96	EBF89	EL11	PB2/500	VC25/32
8322/4CX350F		DF97	EBL1	EL12	PC900	VC50/20
8348		DF904	EBL21	EL33	PCC84	VC50/32
8408		DG7-5	EC50	EL34	PCC85	VC100/20
8416		DG7-6	EC55/5861	EL34MP	PCC88	VC100/32
8436/EC158		DG7-31	EC80	EL34/6CA7	PCC189	VC250/32
8453/2550M		DG7-32/3AMP1	EC81	EL36	PCF80	XC95
8457		DH3-91/1CP31	EC86	EL37	PCF82	XC97
8458		DH7-11/3BYP31	EC88	EL37MP	PCF86	XC900.2HA5
8463		DH7-78/3BKP31	EC90	EL38	PCF200	XCC189
8482		DH13-10	EC91	EL41	PCF201	XCf80
8483/55850N		DK21	EC92	EL42	PCF801	XCL85
8505		DK40	EC95	EL50	PCH200	XCL86 5HG8
8507		DK91	EC97	EL51	PCL82	XF183
8509		DK92	EC157/8108	EL60	PCL84	XF184
8541		DK96	EC158/8436	EL81	PCL85	XL84
8556		DL21	EC900	EL82	PCL86	XL86
8560/DX278		DL41	EC1000/8254	EL83	PE05 25	XL500
8572		DL92	EC8010	EL84	PE06 40N	XP1000
8577		DL93	ECC32	EL84MP	PE06 40P	XP1002
8579		DL94	ECC33	EL85	PF86	XP1003
8580		DL95	ECC34	EL86	PFL200	XP1004
8591		DL96	ECC35	EL90	PL21	XP1005
8592		DL21	ECC40	EL90MP	PL36	XP1010
8593		DM70	ECC81	EL91	PL81	XP1011
8594		DM71	ECC82	EL95	PL82	XP1014
8595		DN7-11/3BYP2	ECC83	EL95MP	PL83	XP1015
8608		DN7-78/3BKP2	ECC84	EL360	PL84	XP1020
8621		DP7-11/3BYP7	ECC85	EL500	PL150	XP1021
8621(JAN)		DP7-78/3BKP7	ECC86	EL503	PL500	XP1023
8621/4CX250FG		DX278/8560	ECC88	EL821	PL1067	XP1030
8624		DY86	ECC91	EL822	PL6574	XP1031
8637		DY87	ECC189	ELL80	PL6755	XP1032
8639		E1T/6370	ECC2000	EM1	PY80	XP1033
8643		E10-10BE	ECF1	EM4	PY81	XP1040
8666		E10-10GH	ECF80	FM34	PY82	XP1110
8667		E10-10GM	ECF82	EM80	PY88	XP1111
8668		E10-10GP	ECF86	EM81	QEO4/10	XP1112
8669		E10-12BE	ECF200	EM84	RPY14	XP1113
8670		E10-12GH	ECF201	EM87	RPY17	XP1114
8680		E10-12GM	ECF801	EQ80	RPY18	XP1115
8683		E10-12GP	ECF802	ET51/6700	RPY19	XP1116
8731		E55L-8233	ECH3	EY51	RPY20	XP1117
8732		E80CC/6085	FCH4	EY80	RYP27	XP1118
8733		E80CF/7643	ECH21	EY81	SD504	XP1120
8735		E80F/6084	ECH35	EY82	SD513	XP1121
8736		E80L/6227	ECH41	EY8C	SD540	YP1122
13201AE		E80T/6218	ECH42	EY87	SD560	XP1123
18042		E81CC/6201	ECH81	EY88	TB86 14	XP1130
18045		E82CC/6189	ECH83	EZ2	TB87/8000	XP1131
18503		E81L/6686	ECH84	EZ40	TB87 9000	XP1140
18504		E83CC/6681	ECH200	EZ41	TBL2/400/8119	XP1141
18505		E83F/6689	ECL80	EZ80	TBL2 500 8120	XY88 16AQ3
18506		E84L/7520	ECL82	EZ81	YD1202	YJ1080
18508		E86C	ECL83	EZ90	U30	Z50T
18509		E88C/8255	ECL84	FG17 5557	UABC80	Z70U 7710
18510		E88CC/6922	ECL85	FG95	UAF42	Z70W 7709
18515		E90CC/5920	ECL86	FG105	UB41	Z71U/7711
18516		E90F/7693	EFP1	GZ30	UBC41	Z300T
18517		E91AA/5726	EF6(N)	GZ32	UBC81	Z303C
18518		E91H/6687	EF9	GZ33	UBF80	Z502S
18522		E91N/5727	EF22	GZ34	UBF89	Z504S
18526		E92CC	EF36	HBC90	UBL1	Z505S
18529		E95F/5654	EF37A	HBC91	UBL21	Z550M/8453
18536		E99F/7694	EF39	HC85	UC92	Z803U 6779
18550		E130L/7534	EF40	HC81	UC85	Z805U 7714
18552		E180CC/7062	EF41	HF93	UCH4	Z900T 5823
40701		E180F/6688	EF42	HF94	UCH21	ZB3200
55850AM		E182CC/7119	EF43	HF200	UCH41	ZM1030
55125		E182F/5847	EF50	HF300	UCH42	ZM1032
55850S		E186F/7737	EF55	HK90	UCH81	ZZ1000 8228
55851N		E280F/7722	EF80	HL92	UCL11	

AMPEREX ELECTRONIC CORPORATION

# Amperex®

TOMORROW'S THINKING IN TODAY'S PRODUCTS

**AUTOMATIC**

**AMPERITE**

**REGULATOR**

**BALLAST TUBE FOR AUTOMATIC REGULATION OF CURRENT AND VOLTAGE**



STANDARD



MINIATURE

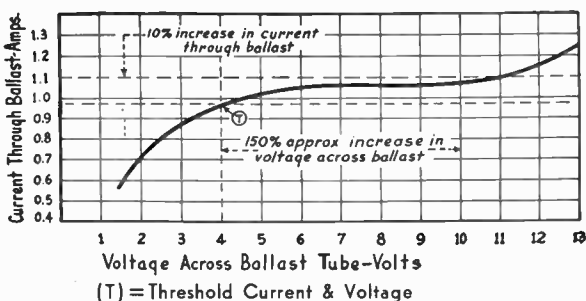
**AUTOMATIC REGULATION  
WHAT IT IS**

The AMPERITE Ballast-Regulating Tube is an automatic "rheostat" designed to keep the current in a circuit at a definite value, for example, 0.5 amp.

Should the supply voltage increase, the Amperite will automatically increase in resistance enough to take up the increase in supply voltage — keeping the voltage on the load constant. It consists of an iron wire hermetically sealed in a bulb containing hydrogen or helium — the two gases with the highest heat conductivity. Its regulating action is based on the high temperature co-efficient of resistance of the iron wire and the rapid cooling of hydrogen or helium gas.

Being a constant current device, the AMPERITE Ballast-Regulating Tube can be used only to regulate a constant load—fixed wattage. Thermostatic relays can sometimes be included in these regulators to reduce initial surge.

**We strongly recommend that you send us your specifications on special problems, and let us recommend the BALLAST TUBE you need.**



Characteristic curve of a typical Amperite. Approximate curve of any other Amperite can be obtained by multiplying or dividing the current or voltage scale by any number.

**Standard Types of Amperite Ballast Tubes Net \$1.80**  
**Amperite NE70V Neon Lamp Net \$1.80**

*D6T4	*1HT11	3H4	3A20	5-11	6-8B	**7HTF2	9A10	12-4
**D6TK7	**1HTF11	**3HTF4	3H-25	5-16	6A10	**7HTF3	10-3	12A10
**D6TF10	1H20	**3TF4A	3-38A	5H3	6-11	**7HTF4	10-4A	12-11
**D6TF30	1H22	**3TF4	3-50A	5H4	6-12	7H4	10-4B	13-4
D7-20	**2TK7	**3TFV4	4A10	5H10	6-13	7H4B	10-4C	15-4
D7H4	2A10	3V4	4-12	5H11	6A15	7H7	10-4D	16-4
*D7HT4	2A12	3-7	4H3	6-3	6-36	7H11	10-4E	17-3
*D7HT11	2A20	**3TF7	4H4C	6-4	6H4	**8TF2	10A10	20-3
1A10	*2HT2	3A10	**4HTF4	6-4A	**6HTF4	8-3B	10A12	20-4
**1TF10	2H4	3-11	**4HTF7	6-4B	6H6	8-4	10-25	22-4
1-15	**2HTF4	3H11	4H10	*6T4F	7-4	8A10	11-3	34-2
*1HT2	2H10	3TF11	4H11	**6TF4	**7TF4	9-4	11-4	41-7E
*1HT4	**3TK2	*3TF12	5-4	**5TF4	6-7	7A10	9-4A	11A10
1H10	3-4	3-14	**5TF4	6-7	7A10	9-4A	11A10	55-1
**1HTF10	3H-1-7	3-16	5A10	**6TF7	7-11	9-7	11-11	55-4

\*T denotes T5½ bulb-7 pin miniature, e.g., 3T4.  
\*\*TF denotes T6½ bulb-9 pin miniature, e.g., 3TF4.  
Base Wiring: Octal, 7 and 9 pin miniature—prongs 2-7.

**AMPERITE NEON LAMP  
TYPE NE70V Net \$1.80**

**GENERAL ADVANTAGES:**

- Light, compact • No moving parts • Rugged; will withstand vibration of 10G. minimum
- Hermetically sealed; not affected by altitude or humidity changes • Can be changed as easily as a radio tube • Operates equally well on A.C. or D.C. • Inexpensive

**CAPACITIES AVAILABLE**

Current values of 60 ma. to 5 amps; threshold voltage 0.4 to 40 V. Maximum dissipation 50w per tube (ST19 bulb). Any number of AMPERITES with the same voltage range can be operated in parallel. AMPERITES should not be used in series.

**AGEING**

AMPERITE Ballast Tubes may change approximately up to 3% in current if aged for 4 to 8 hours, at maximum voltage. They will change very little thereafter.

**LIFE EXPECTANCY**

Average life if operated as recommended .....	<b>2000 Hours</b>
If operated continuously at maximum voltage .....	<b>1000 Hours</b>
If operated continuously at 80% maximum voltage .....	<b>5000 Hours</b>
If filament is operated below glow point .....	<b>5000 Hours up</b>

In operation, the Amperite filament starts to glow at one point; as the voltage is increased, the glow spreads over the entire filament. Like incandescent lamps, turning Amperite on and off reduces its life, especially if operating near its maximum voltage.

**TIME LAG CHARACTERISTICS**

Time lag encountered in an Amperite Ballast Tube depends upon the wattage consumed by the ballast and the size of the bulb. Where the wattage is small for the size of the bulb, the action can be made practically instantaneous — less than 1 second. In such cases the bulb will remain at practically ambient temperature. When the wattage is high enough to heat the bulb to a temperature uncomfortable to the hand (160°F) the lag might be as much as several minutes for final readings—but normally reaches within 90% of final readings within a few seconds.

**AMPERITE NUMBERING SYSTEM**

In general, the AMPERITE number approximately denotes the current—voltage threshold value. For example:

Amperite Number	3-4	3H4	10-7	12-11	12H11
Threshold Current	0.3	0.35	1.0	1.2	1.25
Threshold Voltage	4.0	4.0	7.0	11.0	11.0

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**AUTOMATIC**

# AMPERITE

**REGULATOR**

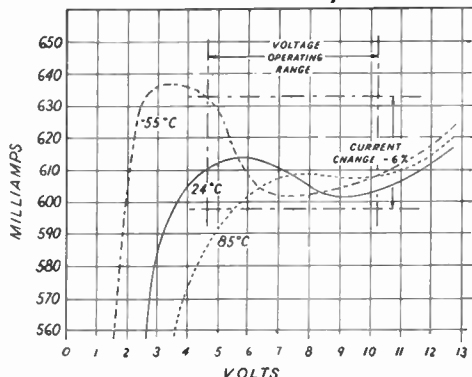
BALLAST TUBE FOR AUTOMATIC REGULATION OF CURRENT AND VOLTAGE



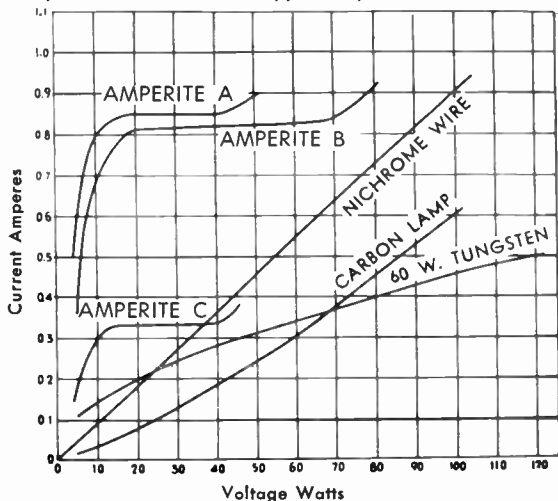
### AMBIENT EFFECTS

Ambient temperature variation of  $-50^{\circ}$  to  $+70^{\circ}$  C will change the current value of an Amperite approximately 2% on regulating portion of curve as shown directly below. Being hermetically sealed the Amperite is not affected by altitude or humidity changes.

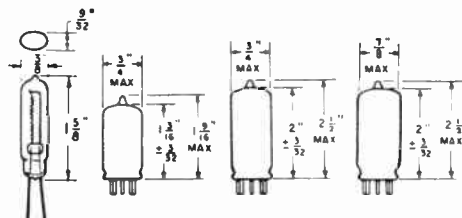
We strongly recommend that you send us your specifications on special problems, and let us recommend the BALLAST TUBE you need.



Amperite Ballast-Type 6-4 current voltage characteristic under ambient conditions of  $-55^{\circ}$ ,  $24^{\circ}$ , and  $85^{\circ}$  C. The percentage change with ambient is approximately the same with all type Amperite ballasts.



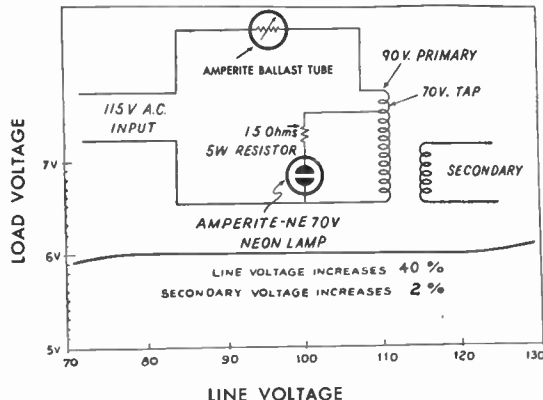
This diagram illustrates for superior regulating characteristics of the Amperite Ballast-Regulating Tube. **STANDARD SIZES** available for various wattage consumption . . . For good regulation, a bulb should not be required to dissipate more than 50% of maximum wattage.



SIZE	SUB. MIN. L	T5½S	T5½L	T6½L
MAX. WATTS	2 W.	3	5	5
WT. PER TUBE	2 GMS.	7 GMS.	8 GMS.	8 GMS.

### BATTERY CHARGING AND DISCHARGING

Amperite Ballast Tubes are very successfully used for keeping the current constant in charging and discharging batteries. Any number of Amperites of the same voltage range can be placed in parallel to obtain proper current. The current can be kept to  $\pm 1\%$ . Advise voltage variation and currents desired.



A light, compact, and inexpensive method of obtaining close regulation is to use an Amperite Ballast Tube with an Amperite Neon Lamp — type NE70V. Base octal-base wiring-prongs 2-5. One NE70V is used for all loads up to 100W.

### POWER SUPPLIES

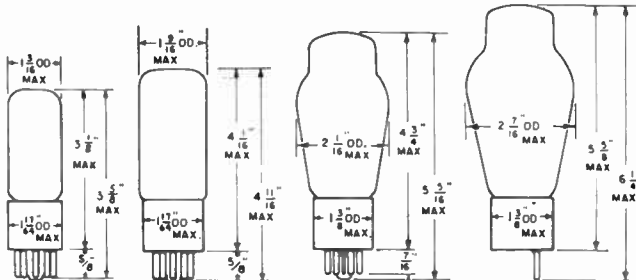
We strongly recommend, for any particular application, to fill in and return one of our special problem sheets (ASP 343) and permit us to recommend the most suitable AMPERITE.

POWER SUPPLY	Dry Cells	6 Volts	12 Volts	26 Volts	115 Volts
Supply Variation	2.2-3.0V	5.5-7.5V	11.4-13.8V	22.0-30.0V	105-125V
Desired on Load	1.8-2.0V	3.9-4.1V	6.1- 6.4V	12.4-12.8V	90- 95V
Required on AMPERITE	0.4-1.0V	1.6-3.4V	5.3- 7.4V	9.6-19.2V	15- 30V
Current Variation	.29-.32a	.29-.32a	.29-.32a	.29-.32a	.29-.32a

The above chart shows the maximum load voltage for the given supply to obtain  $\pm 2\%$  current regulation on load. Better regulation is obtainable by increasing the voltage across the AMPERITE. Up to a point, the higher the percentage of the supply voltage taken up by the AMPERITE, the better the regulation. Radio tube filament loads — have low cold resistance which causes a high initial surge. For such loads we recommend a bleeder of 20 to 50% prox. of load and the corresponding AMPERITE. e.g.

FILAMENT LOAD	USE AMPERITE	TOTAL CURRENT
0.3a	4HTF4	0.45a
0.6a	8-4	0.8a
0.7a	9H4	0.95a

On Radio tube filament loads the bleeder will also improve the regulation.



# Electrons Industrial Components

TYPE	OTHER DESIGNATIONS	DESCRIPTION	MAX. CONTINUOUS AVERAGE DC ANODE CURRENT (AMPS)	OSCILLOGRAPH PEAK ANODE CURRENT CONTINUOUSLY RECURRING (AMPS)	MAX. INSTANTANEOUS PEAK FORWARD VOLTAGE	MAX. INSTANTANEOUS PEAK INVERSE VOLTAGE
<b>RECTIFIERS Xenon-Filled</b>						
EL 1C	3B22	Full Wave. A4-10 Base. Single End.	1.0	4.0		725
EL 3B	6013	Half Wave A4-10 Base. Anode Cap.	2.5	20		920
EL 3C	4B24	Full Wave. A4-81 Base. Single End.	2.5	10		725
EL 3C/L	6982	Full Wave. Lug Type Base. Single End.	2.5	10		725
EL 6B	5892	Half Wave. A4-81 Base. Anode Cap.	6.4	77		920
EL 6B/L	6983	Half Wave. Lug Type Base. Anode Cap.	6.4	77		920
EL 6C		Full Wave. A4-81 Base. Single End.	6.4	25.6		725
EL 6F	6015	Half Wave. Panel Mounted. Flexible Leads	6.4	77		920
EL 16F		Half Wave. Panel Mounted. Flexible Leads	16.0	96		620
<b>THYRATRONS</b>						
EL C1B	3C31	A4-10 Base. Anode Cap. Xenon	1.0	8.0	525	700
EL C1B/A	5664	A4-10 Base. Anode Cap. Xenon	1.0	8.0	750	1250
EL C1K	6014	A4-10 Base. Single End. Xenon	1.0	8.0	1000	1250
EL C1K/B	7319	A4-10 Base. Single End. Xenon	1.0	8.0	2000	2000
EL C3J	5632	A4-10 Base. Anode Cap. Xenon	2.5	30	900	1250
EL C3J/A	5684	A4-10 Base. Anode Cap. Xenon	2.5	30	1000	1250
EL C3J/L	7216	Lug Type Base. Anode Cap. Xenon	2.5	30	900	1250
EL C3J/AL	7556	Lug Type Base. Anode Cap. Xenon	2.5	30	1000	1250
EL C4H-1		A4-81 Base. Anode Cap. Xenon	4.0	50	1700	1700
EL C4H-2		Panel Mounted. Anode Cap. Xenon	4.0	50	1700	1700
EL C4H-3		Lug Type Base. Anode Cap. Xenon	4.0	50	1700	1700
EL C4H-4		Panel Mounted. Flexible Leads. Xenon	4.0	50	1700	1700
EL C4H-5		Lug Type Base. Flexible Lead. Xenon	4.0	50	1700	1700
EL C6C	6987	#4310 Base. Anode Cap. Xenon	6.4	77	2000	4000
EL C6H-1		A4-81 Base. Anode Cap. Xenon	6.4	80	1700	1700
EL C6H-2		Panel Mounted. Anode Cap. Xenon	6.4	80	1700	1700
EL C6H-3		Lug Type Base. Anode Cap. Xenon	6.4	80	1700	1700
EL C6H-4		Panel Mounted. Flexible Leads. Xenon	6.4	80	1700	1700
EL C6H-5		Lug Type Base. Flexible Lead. Xenon	6.4	80	1700	1700
EL C6J	5C21	A4-81 Base. Anode Cap. Xenon	6.4	77	750	1250
EL C6J/A	5685	A4-81 Base. Anode Cap. Xenon	6.4	77	1000	1250
EL C6J/F	6860	Panel Mounted. Anode Cap. Xenon	6.4	77	1000	1250
EL C6J/L	6988	Lug Type Base. Anode Cap. Xenon	6.4	77	750	1250
EL C6J/K	6864	A4-81 Base. Anode Cap. Xenon	6.4	77	1000	1250
EL C6J/KF	6871	Panel Mounted. Flexible Leads. Xenon	6.4	77	1000	1250
EL C6J/KL	6989	Lug Type Base. Anode Cap. Xenon	6.4	77	1000	1250
EL C16J	5665	Panel Mounted. Flexible Leads. Xenon	16.0	160	1000	1250
EL C16H		Panel Mounted. Flexible Leads. Xenon	16.0	160	1700	1700
EL 6011/710	7307A	A4-10 Base. Anode Cap. Mercury Gas	2.5	30	1700	1700
EL 7518/710L	7509A	Lug Type Base. Anode Cap. Mercury Gas	2.5	30	1700	1700
<b>SURGE ARRESTERS</b>						
TYPE		DESCRIPTION	TYPICAL RMS AC VOLTS BREAKDOWN			
EL 2120		A4-10 Base. 3 Electrodes	200			
EL 2140		A4-10 Base. 3 Electrodes	400			
EL 2175		A4-10 Base. 3 Electrodes	750			
EL 2420		Solder Terminals. 2 Electrodes	200			
EL 2440		Solder Terminals. 2 Electrodes	400			
EL 2475		Solder Terminals. 2 Electrodes	750			
EL 2940		One Bracket. One Flexible Lead	400			
EL 2975		One Bracket. One Flexible Lead	750			

## ELECTRONS COMPANY

A Unit of General Signal Corporation







## RECEIVING TUBES



Type	Suggested List Price†	Type	Suggested List Price†	Type	Suggested List Price†	Type	Suggested List Price†	Type	Suggested List Price†	Type	Suggested List Price†	Type	Suggested List Price†	Type	Suggested List Price†
024	\$2.55	4JC6	\$3.60	6BA8A	\$4.20	6DV4	\$6.45	6JG6A	\$6.50	8CX8	\$4.40	12DQ7	\$3.25	18FW6	\$2.45
024A	2.45	4JD6	3.60	6BA11	4.10	6DW4B	3.50	6JH6	2.45	8EM5	4.45	12DS7	4.05	18FX6	2.40
1A7GT	5.40	4LJ8	4.10	6BC4	5.50	6DX8/ECL84	2.95	6JH8	4.30	8ET7	3.10	12DTS	3.10	18FY6	2.15
1AD2	2.80	5AM8	4.05	6BC7	3.60	6DZ7	8.70	6JK8	4.05	8FQ7/		12DT8	3.55	19AU4-GTA	3.55
1AY2	2.60	5AN8	4.45	6BC8	3.75	6E5	5.65	6JM6	4.10	8CG7	2.30	12DU7	4.40	19BGG6A	6.65
1BC2	2.90	5AQ5	2.40	6B06	2.30	6EA5	3.55	6JN6	3.85	8GJ7	3.25	12DV7	3.55	19CL8A	3.70
1BH2	3.05	5ARA/GZ34	4.25	6BD11	5.05	6EA7	5.20	6JN8	3.65	8GN8/8EB8	4.15	12DV8	3.95	19EA8	4.45
1DN5	4.40	5AS8	4.40	6BE3	2.80	6EA8	3.00	6JS6A	7.30	8JU8A	3.35	12DY8	7.95	19EZ8	4.50
1G3GT/1B3GT	2.75	5AT8	3.80	6BF6	2.40	6E85	4.60	6JTA6	4.95	8JV8	4.00	12ED5	2.70	19GQ7	3.80
1H2	2.95	5AU4	3.65	6BF9	3.55	6E88	4.40	6JT8	4.05	8KA8	4.25	12EG6	3.45	19HV8	3.75
1J3	2.75	5AV8	4.05	6BF6	1.95	6EH4	7.30	6JU8	3.50	8LC8	4.25	12EK6/12DZ6/		19JN8	3.20
1K3	2.75	5B8	5.50	6BF11	4.90	6EH5	2.70	6JV8	4.40	8LT8	2.70	12EA6	3.60	19KG8	3.10
1L4	3.25	5BC3	3.15	6B06GA	6.15	6EH7/EF183	3.85	6JWB/ECF802	3.10	9A8/8AB/		12EQ7	2.75	19T8	4.05
1L6	12.55	5BK7A	3.75	6BH6	2.75	6EJ4	7.60	6JZ6	4.60	PCF80	2.40	12E26	3.55	20AQ3	3.30
1LH4	7.60	5BQ7A	4.00	6BH8	4.20	6EJ7/EF184	3.55	6JZ8	3.55	9AU7	2.65	12E26	3.25	20E27	3.45
1N2A	4.40	5BR8	4.20	6BH11	3.90	6EM5	3.35	6K6GT	2.75	9BJ11	4.80	12FK6	2.55	21GY5	4.60
1R5	3.25	5BT8	3.10	6BI3	2.80	6EM7/6EA7	4.90	6K7	5.00	9BR7	3.15	12FM6	2.60	21HB5A	4.35
1S2A/DY87	2.55	5BW8	3.20	6BJ6	2.70	6E07	2.95	6K11/6Q11	3.65	9CL8	2.95	12FQ8	5.20	21JV6	4.20
1S5	3.05	5CG8	3.35	6BJ6A	2.75	6ER5	2.55	6KA8	4.25	9CV8	3.40	12FX5	2.70	21J26	4.40
1T4	3.05	5CL8A	4.05	6BJ7	2.95	6ES5	3.85	6KDB	7.70	9KC6	4.35	12FX8A	3.85	21KAG	4.45
1U4	3.05	5CM8	3.55	6BJ8	3.60	6ES8/ECC189	5.45	6KE8	5.65	9K28	2.95	12GA6	2.70	21L8R	4.75
1U5	2.90	5CQ8	4.10	6BK4A	7.55	6E07	2.70	6KE8	2.70	9K8A	3.10	12GC6	3.95	22BH3A	3.10
1V2	2.15	5CZ5	4.45	6BK4B	7.55	6E08/6EH8	3.30	6KM8	3.45	10A11	4.55	12GE5	4.10	22BW3	3.05
1X2A/1X2B	2.90	5DH8	5.50	6BK5	3.45	6EV5	2.85	6KR8	4.25	10BQ5	2.30	12GQ7A	3.90	22DE4	3.40
2AF4	3.85	5DJ4	3.55	6BK7B	3.55	6EV7	2.75	6KT6	3.00	10C8	5.15	12GT5	5.35	22J6A	5.90
2AF4B/2DZ4	3.85	5EA8	3.80	6BL7GTA	4.60	6EW6	2.30	6KT8	4.25	10CW5	2.55	12H6	4.45	22JUG	5.75
2AH2	3.40	5ES8	5.50	6BL8/ECF80	2.40	6EW7	6.00	6KU8	4.80	10DE7	3.45	12HE7	6.80	2329	4.75
2AS2	3.00	5EU8	3.65	6BM8/ECCL82	2.90	6EX6	7.50	6KV8	5.85	10DX8/LCL84	2.90	12HC7	4.15	24BF11	5.20
2AV2	2.35	5EW6	3.05	6BN4A	3.40	6EY6	3.60	6KY8A	7.25	10EG7	4.40	12HL7	3.90	24JZ8	4.50
2BN4A	2.75	5FG7	2.60	6BN6/GKS6	3.35	6EZ5	4.05	6KZ8	3.20	10EM7	4.90	12J5	4.10	25AV5GA	5.65
2CN3A	3.25	5FV8	3.25	6BN8	3.35	6EZ8	3.55	6L6	8.80	10EW7	4.40	12J8	4.35	25AX4GT	3.05
2CW4	4.60	5GH8	4.10	6BN11	4.10	6F5	5.50	6L6GC	4.55	10GF7A	4.35	12JN6	3.90	25BK5	3.40
2CY5	3.30	5GJ7	2.95	6BQ5/EL84	2.65	6F6	5.80	6LB6	8.15	10GK6	3.05	12JN8	3.70	25BQ6A/	
2DS4	4.60	5GM6	2.80	6B06GA/		6FG6GT	5.80	6LB8	4.70	10GN8	4.00	12JTG6A	4.95	25CUG6	4.35
2DV4	6.45	5GX6	2.45	6CUG6	4.10	6FD7	5.30	6LC8	4.20	10HF8	4.65	12K5	3.45	25BQ6-GTB	4.35
2EN5	3.20	5GX7	3.60	6B06GTB	4.10	6FG5	5.35	6LE8	5.55	10JTB	4.05	12L6GT	3.55	25C5	2.95
2ER5	3.30	5HA7	3.05	6BQ7A/GBZ7	3.75	6FG6/EM84	3.30	6LF8	3.85	10JY8	3.65	12R5	3.30	25CA5	3.60
2FH5	3.15	5HB7	2.75	6BR8A/6FV8A	4.00	6FG7	3.70	6LH6	6.80	10KR8	4.25	12SA7	4.90	25CD6GB	5.75
2FS5	4.85	5HG8	3.70	6BS3A	3.30	6FH5	3.15	6LJ6	6.75	10KU8	4.85	12SF5	3.95	25DK4	2.20
2GK5/2FQ5A	3.85	5J6	3.25	6BS8	3.75	6FH8	4.05	6LJ8	4.10	10LE8	5.90	12SG7	4.70	25DN6	5.95
2GU5	4.50	5JK6	3.85	6B8	3.40	6FJ7	3.75	6LM8	4.20	10LW8	4.25	12SJ7	4.30	25EC6	6.15
2HA5	3.85	5JL6	3.85	6BV8	3.20	6FM7	3.25	6LN8	2.40	10LZ8/10JA8	2.95	12SK7	4.45	25EH5	3.25
2HK5	3.85	5KE8	5.20	6BW4	2.75	6FM8	2.80	6LQ8	5.05	11AR11	4.10	12SL7GT	4.15	25F5A	3.85
2HQ5	3.85	5KZ8	2.55	6BW8	3.30	6FQ7/6CG7	2.30	6LR8	2.70	11BQ11	4.10	12ST7	2.80	25L6GT	2.95
3A2	5.50	5LJ8	4.10	6BW11	4.40	6FS5	4.10	6LU8	4.75	11BT11	5.40	GTA	2.80	25W4GT	3.70
3A3A/3CA3/		5T8	4.20	6BX7GT	5.60	6FV6	4.20	6LX8/LCF802	2.60	11CY7	3.60	12SQ7	4.15	25W6GT	3.40
3AW3	3.20	5U4GB/		6BY5GA	4.80	6FW5	3.85	6LY8	3.55	11FY7	3.40	12TI0	4.25	25Z6GT	3.85
3AF4B/3DZ4	3.80	5AS4A/		6BY6	3.00	6FY5	2.75	6M11	4.55	11HM7	4.30	12V6GT	4.45	27	5.10
3AL5	1.95	5U8	3.10	6BY8	2.70	6FY7	3.20	6MD8	4.85	11J8	3.85	12W6GT	4.45	27GB5/	
3AT2	3.05	5U9/LCF201	2.95	6BZ3	2.95	6G11	4.40	6ME8	4.20	11KV8	5.90	12X8A/		PL500	3.70
3AU6	2.20	5V3	3.45	6BZ6	2.10	6BG5/EL500	3.80	6N7	5.05	11L8	5.90	13CW4	5.05	29GK6	3.60
3AV6	2.20	5V4A	3.85	6BZ8	4.20	6BC5	4.20	6S4A	2.30	11L78	3.25	13D7	3.50	30AG11	5.05
3AW2	3.20	5V6GT	3.40	6C4	1.95	6CE5	3.95	6S8GT	4.15	11Y9	3.75	13DR7	3.85	31J38A	7.30
3BE6	2.70	5X8	3.75	6C5A	5.35	6CF5	3.45	6SA7	4.85	12AB5	3.50	13EM7/		32ET5A	2.40
3BL2	3.55	5Y3GT	1.75	6C9	5.50	6GF7A	4.85	6SC7	4.60	12AC6	2.10	15EA7	5.35	33GT7	6.95
3BN2	3.45	5Z3	3.90	6C10	3.70	6GH8A	3.20	6SF5	3.75	12AD6	2.80	13FD7	5.05	33GY7	6.05
3BN4	3.05	6B4	2.45	6CA4	2.45	6GJ5A	5.60	6SG7	4.65	12AE6A	2.75	13GB5	3.80	33GY7A	6.05
3BN6	3.80	6AC7	5.50	6CA5	3.00	6GJ7/ECF801	3.10	6SH7	5.35	12AE10	4.25	13GF7A	4.65	33JV6	4.20
3BS2A	3.25	6AD10	3.70	6CA7/EL34	5.35	6GK5/6FQ5A	3.85	6SJ7	4.10	12AF3	3.85	13J10/13Z10	5.05	34GD5	2.95
3BY6	2.75	6AD10	6.90	6CB5A	9.40	6GK6	3.00	6SK7	4.25	12AF6	3.15	13V10	4.10	35B5	3.20
3BZ6	2.15	6AF3	3.10	6CB6A/6CF6	5.10	6GL7	5.80	6SL7GT	3.55	12AL5	2.30	14B6	5.25	35C5	2.10
3CB6/3CF6	2.15	6AF4	3.75	6CD6GA	2.50	6GM5	3.05	6SN7GTB	2.70	12AL8	6.20	14BL11	5.10	35EH5	3.40
3CE5/3BC5	3.25	6AF4A/6DZ4	3.75	6CE5/6BC5	2.20	6GM6	2.75	6SQ7	4.00	12AL11	4.20	14BR11	4.80	35GL6	2.90
3CN3	3.20	6AF5	3.50	6CG3/6CD3/		6GN8	4.35	6TB8	3.35	12AQ5	2.70	14G18	3.50	35L6GT	2.75
3CS6	2.90	6AF11	4.75	6CE3	3.40	6GN8	4.30	6T9	3.70	12AT6	1.75	14J68	3.10	35W4	1.25
3CY5	3.75	6AC5	2.85	6CG8A	3.25	6GQ7	3.75	6T10	4.25	12AT7/ECCL81	2.85	15AF11	4.75	35Y4	4.50
3D4	4.30	6AC7	6.50	6CH8	5.65	6GT5	5.40	6U8A/6KDB/		12AUG6	2.00	15DB11	4.85	35Z5GT	2.15
3DK6	2.30	6AG9	5.15	6CJ3/6DW48	3.50	6GU5	4.10	5KDB	3.10	12AU7A/		15CWS/PL84	2.45	36AM3A	6.25
3DT6	2.30	6AG11	4.10	6CK3	2.60	6GU7	3.20	6U10	2.90	12ECC82	2.30	15DQ8	3.55	38HE7	6.65
3EA5	3.55	6AH4GT	3.25	6CK4	3.55	6GV5	4.10	6U10	3.65	12AV5GA	5.05	15E6	3.45	38HK7	6.55
3EH7	3.55	6AH6	4.40	6CL3	3.50	6GW8/ECCL86	3.05	6V3A	4.55	12AV6	1.60	15FM7/		40KD6	8.00
3EJ7	3.55	6AK5/EF95	4.50	6CL6	3.80	6GX7	3.70	6V4/EZ80	1.50	12AV7	3.80	13FM7	3.00	42KN6	7.20
3ER5	3.30	6AL3	2.60	6CL8A	3.90	6GY5	4.60	6V6	6.35	12AV8	3.10	15F7	3.55	45B5/UL84	2.80
3FS5	4.30	6AL5	1.90	6CM6	3.75	6GY6/6GX6	2.60	6V6GTA	2.40	12AX3	3.00	15H66	3.85	50B5	2.95
3GK5	3.85	6AL7GT	6.90	6CM7	2.75	6GY8	3.55	6W4GTA	2.30	12AX4GTB	2.70	15Y8A	4.75	50C5	2.20
3GS8/3BU8	3.55	6ALL1	4.10	6CM8	4.05	6GZ5	2.70	6W6GT	2.95	12AX7/ECCL83	2.50	15K18	7.65	50DC4	2.40
3HM5/3HA5	3.85	6AM4	5.55	6CN7	4.20	6H6	4.30	6X4	1.80	12AY3	2.65	16A8	3.45	50EH5	2.30
3HQ5	3.85	6AMB4	3.25	6CQ4	3.55	6HB5	4.20	6X5GT	2.40	12AZ7A	2.95	16AQ3/XY88	2.70	50FE5	4.45
3Q4	3.35	6AN4	6.15	6CQ8	3.50	6HB6/6HA6	4.45	6X8A	3.20	12B4A	3.20	16GK6	3.05	50HG6	2.40
3S4	3.40	6AN8A	3.95	6CR6	2.95	6HB7	3.65	6X9/ECF200	2.95	12BAG6	1.80	16GV5	4.85	50HN6	
3V4	2.60	6AQ5A/6HG5	2.25	6CS6	2.70	6HE5	4.45	6Y6GT	3.55	12BA7	5.90	16KA6	4.45	50	

# Industrial Receiving and Communication Tubes



5654

### FIVE STAR TUBES

In industrial and communication equipment — critical sockets where there can be no compromise with electronic tube performance — you can depend on the proven reliability of GE Five-Star tubes. Their high reliability is a result of special design features, special manufacturing processes, special tests, and stabilizing periods.



5670



6140A

### INDUSTRIAL RECEIVING TUBES

For industrial and military applications involving electronic instrumentation and control, there is a G-E industrial receiving tube specifically designed to meet your particular requirement.



6661



6688A

### ENTERTAINMENT TUBES

G. E. offers a full line of entertainment tubes encompassing the fields of radio, TV, and hi-fi. Featured as a portion of this line are types specifically designed for high-fidelity monaural and stereo applications.



5963



5965A

### COMPUTER TUBES

Two complete tube lines, Computer and Five-STAR Computer, are designed to meet the specialized needs of the computer industry. Outstanding features include: high permeance, low heater power requirements, controlled cutoff characteristics, and long life.



6005

TYPE	DESCRIPTION	GENERAL						MAXIMUM RATINGS					TYPICAL OPERATING CONDITIONS																										
		Base Connections	Dimensions in Inches		Cathode		Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	Class and Type of Service	Plate Input Watts	Voltages			Currents			GM, $\mu$ mbos	Triode $\mu$ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts															
			Length	Diameter	Volts	Current Amps.								Plate	Screen Grid No. 2	Control Grid No. 1	Plate, ma	Screen Grid No. 2, ma	Control Grid No. 1, ma																				
0A2 $\sigma$	Glow-Discharge Diode Voltage Regulator	5B0	2 $\frac{3}{8}$	3 $\frac{3}{8}$	—	—	Regulation (5 to 30 ma)=2 volts Min. anode supply=185 volts DC	—	—	—	—	DC operating current=5 ma min. DC operating current=30 ma max.	—	—	—	—	—	—	—	—	—	—	—	—	—	Ionizing voltage=155 volts DC* Operating voltage=150 volts DC*													
0A3	Glow-Discharge Diode Voltage Regulator	4AJ	4 $\frac{1}{8}$	1 $\frac{1}{8}$	—	—	Regulation (5 to 40 ma)=5 volts Min. anode supply=105 volts DC	—	—	—	—	DC operating current=5 ma min. DC operating current=40 ma max.	—	—	—	—	—	—	—	—	—	—	—	—	—	Ionizing voltage=100 volts DC* Operating voltage=75 volts DC*													
0A4G	Gas Triode	4V	4 $\frac{1}{8}$	1 $\frac{1}{8}$	—	—	—	—	—	—	—	Peak cathode current=100 ma max. DC cathode current=25 ma max.	—	—	—	—	—	—	—	—	—	—	—	—	—	Starter anode drop=55 volts DC* Anode drop=70 volts DC*													
0B2 $\sigma$	Glow-Discharge Diode Voltage Regulator	5B0	2 $\frac{3}{8}$	3 $\frac{3}{8}$	—	—	Regulation (5 to 30 ma)=1 volt Min. anode supply=133 volts DC	—	—	—	—	DC operating current=5 ma min. DC operating current=30 ma max.	—	—	—	—	—	—	—	—	—	—	—	—	—	Ionizing voltage=115 volts DC* Operating voltage=100 volts DC*													
0B3	Glow-Discharge Diode Voltage Regulator	4AJ	4 $\frac{1}{8}$	1 $\frac{1}{8}$	—	—	Regulation (5 to 40 ma)=8 volts Min. anode supply=125 volts DC	—	—	—	—	DC operating current=5 ma min. DC operating current=40 ma max.	—	—	—	—	—	—	—	—	—	—	—	—	—	Ionizing voltage=110 volts DC* Operating voltage=90 volts DC*													
0C3	Glow-Discharge Diode Voltage Regulator	4AJ	4 $\frac{1}{8}$	1 $\frac{1}{8}$	—	—	Regulation (5 to 40 ma)=2 volts Min. anode supply=133 volts DC	—	—	—	—	DC operating current=5 ma min. DC operating current=40 ma max.	—	—	—	—	—	—	—	—	—	—	—	—	—	Ionizing voltage=115 volts DC* Operating voltage=105 volts DC*													
0D3	Glow-Discharge Diode Voltage Regulator	4AJ	4 $\frac{1}{8}$	1 $\frac{1}{8}$	—	—	Regulation (5 to 40 ma)=4 volts Min. anode supply=185 volts DC	—	—	—	—	DC operating current=5 ma min. DC operating current=40 ma max.	—	—	—	—	—	—	—	—	—	—	—	—	—	Ionizing voltage=160 volts DC* Operating voltage=150 volts DC*													
1AD4 $\alpha$	Sharp-Cutoff RF/AF Pentode	1AD4	1.50	0.385	1.25	0.1	CF	—	45 $\frac{1}{2}$	—	45 $\frac{1}{2}$	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Class A Amplifier $R_{g3}=2$ Meg.													
2D21 $\sigma$	Thyratron	7B0	2 $\frac{3}{8}$	3 $\frac{3}{8}$	6.3	0.6	CU	Anode voltage drop=8 volts					Controlled Rectifier	Max. DC cathode current=100 ma Max. peak inverse voltage=1,300 volts			Max. peak cathode current=500 ma																						
2DF4 $\sigma$	Pentode	9JL	2 $\frac{3}{8}$	7 $\frac{1}{8}$	2.5	0.345	CF	—	250 $\frac{1}{2}$	30 $\frac{1}{2}$	125 $\frac{1}{2}$	1.5 $\frac{1}{2}$	Class A Amplifier	4.4	120	120	-3.6	37 40	3.5	—	—	—	—	—	—	—	6,850 7,500												
2E26	Beam Power Amplifier	7CK	3 $\frac{3}{32}$	2 $\frac{25}{32}$	6.3	0.8	CU	125	300 $\frac{1}{2}$	10 $\frac{1}{2}$	200 $\frac{1}{2}$	2.5 $\frac{1}{2}$	A <sub>1</sub> (1) CCS	6.8	250	160	14	35 $\frac{1}{2}$	7 $\frac{1}{2}$	—	—	—	—	—	—	—	—	—											
									500 $\frac{1}{2}$	12.5 $\frac{1}{2}$	200 $\frac{1}{2}$	2.5 $\frac{1}{2}$	AB <sub>2</sub> (2) ICAS	72*	500	125	-15	22 $\frac{1}{2}$	32*	—	—	—	—	—	—	—	—	—	—	—	—	0.36	6,200 $\rho$	42					
									400 $\frac{1}{2}$	10 $\frac{1}{2}$	200 $\frac{1}{2}$	2.5 $\frac{1}{2}$	AB <sub>2</sub> (2) CCS	60*	400	125	-15	20 $\frac{1}{2}$	32*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.36	8,000 $\rho$	54		
									400 $\frac{1}{2}$	6.7 $\frac{1}{2}$	200 $\frac{1}{2}$	2.5 $\frac{1}{2}$	C-P CCS	20	400	160	-50	50	7.5	5.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	—	12.5*
									500 $\frac{1}{2}$	9 $\frac{1}{2}$	200 $\frac{1}{2}$	2.5 $\frac{1}{2}$	C-P ICAS	27	500	180	-50	54	9	5.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	—
500 $\frac{1}{2}$	10 $\frac{1}{2}$	200 $\frac{1}{2}$	1.7 $\frac{1}{2}$	C-T CCS	30	400	190	-30	75	11	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	—	20*							
500 $\frac{1}{2}$	10 $\frac{1}{2}$	200 $\frac{1}{2}$	1.7 $\frac{1}{2}$	C-T CCS	30	500	185	-40	60	11	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	—	20*							
500 $\frac{1}{2}$	10 $\frac{1}{2}$	200 $\frac{1}{2}$	2.3 $\frac{1}{2}$	C-T ICAS	39.6	600	185	-45	66	10	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.17	—	27*							
2X2-A	Half-Wave, High-Voltage Rectifier	4AB	4 $\frac{1}{32}$	1 $\frac{1}{8}$	2.5	1.75	CU	—					—	Max. DC output current=7.5 ma; max. peak inverse voltage=12,500 volts; rms supply voltage=5,500 volts; max. peak current=60 ma																									
GL-3B28	Half-Wave Gas Rectifier	4P	6 $\frac{1}{32}$	2 $\frac{1}{8}$	5.2	5.0	CF	—					—	Tube voltage drop=10 v. For 10,000 peak inverse volts, 1 peak amp. max.; 0.25 avg. amp. max. For 5,000 peak inverse volts, 2 peak amp. max.; 0.5 avg. amp. max.																									
5R4-GYA	Full-Wave, High-Vacuum Rectifier	5T	4 $\frac{1}{8}$	1 $\frac{1}{8}$	5.0	2.0	CF	—					—	Tube voltage drop per section=67 volts at 250 ma DC Max. DC output current=250 ma; max. peak inverse voltage=2,800 volts; rms supply voltage per plate=750 volts; max. peak current per plate=650 ma																									
5Y3WGTB <sup>(1)</sup>	See 6087/5Y3WGTB <sup>(1)</sup>																																						
6AC7WA <sup>(1)</sup>	See 6134/6AC7WA <sup>(1)</sup>																																						
6AK6	Power Amplifier Pentode	7BK	2 $\frac{1}{8}$	3 $\frac{3}{8}$	6.3	0.15	CU	—	300 $\frac{1}{2}$	2.75 $\frac{1}{2}$	250 $\frac{1}{2}$	0.75 $\frac{1}{2}$	Class A Amplifier	2.70	180	180	-9.0	15 $\frac{1}{2}$	2.5 $\frac{1}{2}$	—	—	—	—	—	—	—	—	2,300	—	—	10,000	1.1							
6AN5 $\sigma$	Beam Power Amplifier	7BD	2 $\frac{1}{8}$	3 $\frac{3}{8}$	6.3	0.45	CU	—	120 $\frac{1}{2}$	4.2 $\frac{1}{2}$	120 $\frac{1}{2}$	1.4	Class A Amplifier	4.2	120	120	R <sub>k</sub> =120	35 $\frac{1}{2}$	12 $\frac{1}{2}$	—	—	—	—	—	—	—	—	8,000	—	—	2,500	1.3							
6AS6 $\sigma$	Dual-Control RF Pentode	7CM	1 $\frac{3}{8}$	3 $\frac{3}{8}$	6.3	0.175	CU	—	180 $\frac{1}{2}$	1.7 $\frac{1}{2}$	140 $\frac{1}{2}$	0.75	Class A Amplifier	—	120	120	-2.0	5.2	3.5	—	—	—	—	—	—	—	—	—	—	—	—	—	3,200						
6AS7GA	Low-Mu Twin Triode	8BD	4 $\frac{1}{4}$	1 $\frac{1}{8}$	6.3	2.5	CU	—	250 $\frac{1}{2}$	13 $\frac{1}{2}$	—	—	DC Amplifier	—	135	—	R <sub>k</sub> =250	125	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7,000						
6C4WA <sup>(1)</sup>	Medium-Mu Triode	6BG	2 $\frac{1}{8}$	3 $\frac{3}{8}$	6.3	0.15	CU	—	300	3.5	—	—	Class A Amplifier	—	250	—	—	10.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2,200						
6D4	Gas Triode	5AY	2 $\frac{1}{8}$	3 $\frac{3}{8}$	6.3	0.25	CU	—	—	—	—	—	Relay Control	Tube voltage drop*=16 volts at 25 ma DC; max. DC cathode current=25 ma; max. voltage between elements=450 volts; max. peak cathode current=100 ma																									

# Industrial Receiving and Communication Tubes



TYPE	DESCRIPTION	GENERAL						MAXIMUM RATINGS				TYPICAL OPERATING CONDITIONS													
		Base Connections	Dimensions In Inches		Cathode		Type	Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	Class and Type of Service	Plate Input Watts	Voltages			Currents			GM, $\mu$ mhos	Triode $\mu$ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts
			Length	Diameter	Volts	Current Amps.									Plate	Screen Grid No. 2	Control Grid No. 1	Plate, ma	Screen Grid No. 2, ma	Control Grid No. 1, ma					
6J4 $\sigma$	High-Frequency Triode	7BQ	2 1/8	3/4	6.3	0.4	CU	150*	2.25†	—	—	Class A Amplifier	2.25	150	—	R <sub>k</sub> =100	15†	—	—	12,000	55	—	—	—	—
6SK7WA $\theta$ (R)	See 6137/6SK7WA $\theta$ (R)																								
6X4WA $\theta$ (R) $\sigma$	See 6202/6X4WA $\theta$ (R)																								
12A6	Beam Power Amplifier	7AC	3/4	1 1/4	12.6	0.15	CU	250†	7.5†	250†	1.5†	Class A Amplifier	7.5	250	250	—12.5	30†	3.5†	—	3,000	—	—	7,500	3.4	
12AT7WB $\theta$ (R) $\sigma$	See 6201																								
12AY7 $\sigma$	Twin Triode	9A	2 3/4	7/8	6.3	0.3	CU	300†	1.5†	—	—	Class A Amplifier (per section)	0.75	250	—	—4.0	3.0	—	—	1,750	44	—	—	—	—
28D7	Double Beam Power Amplifier	8BS	3 1/2	1 3/4	28.0	0.4	CU	100†	3.0†	67.5†	0.5†	Class A Amplifier (per section)	0.35†	28	28	—3.5	12.5†	1.0†	—	3,400	—	—	4,000	0.100	
407A $\sigma$	Medium-Mu Twin Triode	407A	1 3/4	7/8	40	0.05	CU	330†	1.35†	—	—	Class A Amplifier	—	150	—	R <sub>k</sub> =240	8.2	—	—	5,500	35	—	—	—	
408A $\sigma$	Sharp-Cutoff Pentode	7BD	1 3/4	3/4	2.0	0.05	CU	180†	1.7†	180†	0.5†	Class A Amplifier	—	120	120	R <sub>k</sub> =200	7.0	2.2	—	5,000	—	—	—	—	
83	Full-Wave Mercury-Vapor Rectifier	4C	5 3/4	2 1/4	5.0	3.0	CF	Tube voltage drop * = 15 volts				Max. DC output current = 225 ma; max. peak inverse voltage = 1,550 volts; max. rms supply voltage per plate = 450 volts; max. peak current per plate = 1,000 ma													
502A	Thyratron	6BS	2 3/4	1 3/4	6.3	0.6	CU	Anode voltage drop = 8 volts				Controlled Rectifier	Max. DC cathode current = 100 ma; max. peak inverse voltage = 1,300 volts; max. peak cathode current = 1.0 ampere												
807	Beam Power Amplifier	5AW	5 3/4	2 1/4	6.3	0.9	CU	60	400†	25†	400†	—	AB <sub>1</sub> T CCS	24	400	400†	—45	60†	—	0	6,000	8	0	3,000	15
									400†	30†	400†	—	AB <sub>1</sub> T ICAS	24	400	400†	—45	60†	—	0	6,000	8	0	3,000	15
									600†	25†	300†	3.5†	AB <sub>1</sub> (2) CCS	57.2*	400	300	—30	56†	2†	0	—	—	0	6,800 $\rho$	36
									600†	25†	300†	3.5†	AB <sub>1</sub> (2) CCS	70.5*	500	300	—32	44†	1†	0	—	—	0	8,200 $\rho$	46
									600†	25†	300†	3.5†	AB <sub>1</sub> (2) CCS	83.3*	600	300	—34	36†	0.6†	0	—	—	0	10,000 $\rho$	56
									750†	30†	300†	3.5†	AB <sub>1</sub> (2) ICAS	105*	750	300	—35	30†	0.5†	0	—	—	0	12,000 $\rho$	72
									600†	25†	300†	3.5†	AB <sub>1</sub> (2) CCS	96*	400	300	—28	72†	2.0†	0.2	—	—	0.2	3,700 $\rho$	55
									600†	25†	300†	3.5†	AB <sub>1</sub> (2) CCS	120*	500	300	—30	60†	0.9†	0.2	—	—	0.2	4,600 $\rho$	75
									600†	25†	300†	3.5†	AB <sub>1</sub> (2) CCS	120*	600	300	—32	48†	0.7†	0.2	—	—	0.1	6,900 $\rho$	80
									750†	30†	300†	3.5†	AB <sub>1</sub> (2) ICAS	180*	750	300	—35	30†	0.5†	0.2	—	—	0.2	7,300 $\rho$	120
									600†	25†	300†	2.5†	B-P CCS	30	400	300	—40	75	5	0	—	—	0.4	—	9*
									600†	25†	300†	2.5†	B-P CCS	35	500	300	—40	70	4	0	—	—	0.3	—	11*
									750†	30†	300†	2.5†	B-P ICAS	37.5	600	300	—40	62.5	4	0	—	—	0.2	—	15*
									475†	16.5†	300†	2.5†	C-P CCS	26	325	250	—75	80	3	0	—	—	0.3	—	17*
600†	25†	300†	2.5†	C-P ICAS	39.4	475	250	—85	83	8	4	—	—	0.4	—	22*									
600†	25†	300†	2.5†	C-T CCS	40	400	250	—45	100	8	4	—	—	0.4	—	28*									
600†	25†	300†	3.5†	C-T CCS	50	500	250	—45	100	8	4	—	—	0.3	—	44*									
750†	30†	300†	3.5†	C-T ICAS	75	750	250	—45	100	8	4	—	—	0.3	—	25*									
GL-809	High-Perveance, High-Mu Triode	3G	6 1/4	2 1/4	6.3	2.5	TF	60	750	25	—	—	B(2) CCS	100*	500	—	0	40†	—	—	50	2.4	5,200 $\rho$	60	
									1,000	30	—	—	B(2) ICAS	150*	750	—	—4.5	40†	—	—	50	2.4	8,400 $\rho$	100	
									600	17.5	—	—	B(2) ICAS	200*	1,000	—	—10	40†	—	—	50	3.4	11,600 $\rho$	145	
									750	25	—	—	C-P CCS	41.5	500	—	—60	83	—	32*	50	3.2*	—	30*	
									750	25	—	—	C-P CCS	50	600	—	—60	83	—	32*	50	3.2*	—	38*	
									750	25	—	—	C-P ICAS	75	750	—	—60	100	—	32*	50	4.3*	—	55*	
									1,000	30	—	—	C-T CCS	50	500	—	—50	100	—	20*	50	2.5*	—	35*	
GL-811-A	High-Perveance High-Mu Zero-Bias Triode	3G	6 1/2	2 1/4	6.3	4.0	TF	1,000	750	25	—	—	B(2) CCS	262*	750	—	0	32†	—	—	160	9.7	5,100 $\rho$	178	
									1,250	45	—	—	B(2) CCS	350*	1,000	—	0	44†	—	—	160	7.5	7,400 $\rho$	248	
									1,500	65	—	—	B(2) CCS	325*	1,250	—	0	50†	—	—	160	3.8	12,400 $\rho$	235	
									1,500	65	—	—	B(2) ICAS	448*	1,250	—	0	54†	—	—	160	6	9,200 $\rho$	310	
									1,750†	45†	—	—	B(2) ICAS	470*	1,500	—	—4.5	32†	—	—	160	4.4	12,400 $\rho$	340	
									1,250	45	—	—	C-P CCS	115	1,000	—	—55	115	—	45*	160	6.1*	—	88*	
									1,250	45	—	—	C-P ICAS	175	1,250	—	—120	140	—	45*	160	10*	—	135*	
1,500	65	—	—	C-T CCS	175	1,250	—	—50	140	—	45*	160	5.7*	—	135*										
1,500	65	—	—	C-T ICAS	260	1,500	—	—70	173	—	40*	160	7.1*	—	200*										
1,750†	45†	—	—	C-T $\omega$ CCS	204	1,750†	—	—70	130	—	46*	160	12*	—	175*										
1,750†	45†	—	—	C-T $\omega$ CCS	175	1,125	—	—35	125	—	25*	160	3*	—	135*										
GL-812-A	High-Perveance Medium-Mu Triode	3G	6 1/2	2 1/4	6.3	4.0	TF	30	1,250	45	—	—	B(2) CCS	325*	1,250	—	—40	22†	—	—	29	3.5	12,200 $\rho$	235	
									1,500	65	—	—	B(2) ICAS	465*	1,500	—	—48	28†	—	—	29	5	13,200 $\rho$	340	
									1,000	30	—	—	C-P CCS	115	1,000	—	—110	115	—	33*	29	6.6*	—	85*	
									1,250	45	—	—	C-P ICAS	175	1,250	—	—115	140	—	35*	29	7.6*	—	130*	
									1,250	45	—	—	C-T CCS	175	1,250	—	—90	140	—	30*	29	5.4*	—	130*	
1,500	65	—	—	C-T ICAS	260	1,500	—	—120	173	—	30*	29	6.5*	—	190*										
1,750†	45†	—	—	C-T $\omega$ CCS	236	1,740†	—	—100	150	—	29*	29	12*	—	200*										

# Industrial Receiving and Communication Tubes



TYPE	DESCRIPTION	GENERAL							MAXIMUM RATINGS					TYPICAL OPERATING CONDITIONS														
		Base Connections	Dimensions In Inches		Cathode			Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	Class and Type of Service	Plate Input Watts	Voltages			Currents			GM. $\mu$ hos Triode $\mu$ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts				
			Length	Diameter	Volts	Current Amps.	Type								Plate	Screen Grid No. 2	Control Grid No. 1	Plate, ma	Screen Grid No. 2, ma	Control Grid No. 1, ma								
GL-816	Half-Wave, Mercury-Vapor Rectifier	4P	4 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	2.5	2.0	CF	—	—	—	—	—	max. peak plate current=0.5 ampere; max. average plate current=0.125 ampere Tube voltage drop=15 volts; max. peak inverse voltage=7,500 volts;															
GL-866-A	Half-Wave, Mercury-Vapor Rectifier	4P1	6 <sup>1</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>16</sub>	2.5	5.0	CF	—	—	—	—	—	Tube voltage drop=15 volts	For 10,000 peak inverse volts, max. peak current=1.0 amp.; max. average current=0.25 amp. For 5,000 peak inverse volts, max. peak current=1.0 amp.; max. average current=0.25 amp. For 2,500 peak inverse volts, max. peak current=2.0 amp.; max. average current=0.5 amp.														
GL-872A/872	Half-Wave, Mercury-Vapor Rectifier	4AT	8 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>16</sub>	5.0	7.5	CF	—	—	—	—	—	Tube voltage drop=15 volts	For 10,000 peak inverse volts, max. peak current=5.0 amp.; max. average current=1.25 amp. For 5,000 peak inverse volts, max. peak current=5.0 amp.; max. average current=1.25 amp.														
2050	Thyratron	6BS	4 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	6.3	0.6	CU	Anode voltage drop=8 volts					Controlled Rectifier	Max. DC cathode current=100 ma; max. peak inverse voltage=1,300 volts; max. peak cathode current=1.0 ampere														
2050A	Thyratron	6BS	3 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	6.3	0.6	CU	Anode voltage drop=8 volts					Controlled Rectifier	(Same as 2050)														
5636 <sup>(R)</sup>	Dual-Control Pentode	8DC	1.375	0.400	6.3	0.15	CU	165	0.65	155	0.7	Gated Amplifier	.53 .4	100 100	100 100	R <sub>k</sub> =150 R <sub>k</sub> =150	5.3 4.0	3.6 5.8	— —	3,200 1,950	G <sub>3</sub> tied to cathode E <sub>g3</sub> =-1.0 volts	—	—	—	—			
5642 <sub>a</sub>	Half-Wave, High-Voltage Rectifier	5642	2.380	0.400	1.25	0.2	CF	—	—	—	—	—	TV Flyback Rectifier	Voltage drop=30 volts at 4.0 ma DC; max. DC output current=0.25 ma; max. peak inverse voltage=10,000 volts; max. peak current=5.0 ma														
5651 <sub>σ</sub>	Glow-Discharge Diode Voltage Reference	5B0	2 <sup>5</sup> / <sub>8</sub>	3 <sup>4</sup> / <sub>8</sub>	—	—	—	—	—	—	—	—	—	Max. anode supply voltage=150 volts; max. DC operating current=3.5 ma; max. ionization voltage=115 volts. Min. DC operating current=1.5 ma; max. operating voltage=92 volts. Regulation (1.5 to 3.5 ma)=3.0 volts, max.														
5654 <sup>(R)</sup>	Sharp-Cutoff RF Pentode	7BD	1 <sup>3</sup> / <sub>4</sub>	3 <sup>4</sup> / <sub>8</sub>	6.3	0.175	CU	200	1.65	155	0.55	Class A Amplifier	.9	120	120	R <sub>k</sub> =200	7.5	2.5	—	5,000	—	—	—	—	—			
5663 <sub>σ</sub>	Thyratron	6CE	1 <sup>1</sup> / <sub>2</sub>	3 <sup>4</sup> / <sub>8</sub>	6.3	0.15	CU	—	—	—	—	—	Controlled Rectifier	Anode voltage drop=11 volts; max. DC cathode current=20 ma; max. peak inverse voltage=500 volts; max. peak cathode current=60 ma														
5670 <sup>(R)</sup>	High-Frequency Twin Triode	8CJ	1 <sup>3</sup> / <sub>4</sub>	7 <sup>8</sup> / <sub>8</sub>	6.3	0.35	CU	330	1.35	—	—	—	Class A Amplifier AB <sub>1</sub> (1)	1.2 3.8	150 300	— —	R <sub>k</sub> =240 R <sub>k</sub> =800 <sub>e</sub>	8.2 9.8 <sub>f</sub>	— —	— —	5,500	35	—	—	—	27,000	1.0	
5686 <sup>(R)</sup>	Beam Power Amplifier	9G	2 <sup>3</sup> / <sub>16</sub>	7 <sup>8</sup> / <sub>8</sub>	6.3	0.35	CU	160 160	275	7.5	275	3.0	Class A Amplifier C-T CCS C-T CCS	6.7 10.0	250 250	250 180	-12.5 -30	27 <sub>f</sub> 30	3 <sub>f</sub> 10.5	— 2.0*	3,100	—	—	—	—	9,000	2.7	
5687 <sub>σ</sub>	Medium-Mu Twin Triode	9H	2 <sup>3</sup> / <sub>16</sub>	7 <sup>8</sup> / <sub>8</sub>	12.6 6.3	0.45 0.9	CU	300 <sub>f</sub>	4.2 <sub>f</sub> 7.5 <sub>ω</sub>	—	—	—	Class A Amplifier (per section)	4.1 3.0	180 250	— —	-7.0 -12.5	23.0 12.0	— —	— —	8,500 5,400	17 16	—	—	—	—	—	—
5687WA <sup>(R)</sup>	See 5687 <sub>σ</sub>																											
5691	High-Mu Twin Triode	8BD	2 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	6.3	0.6	CU	275	1.0	—	—	—	Class A Amplifier (per section)	.58	250	—	-2.0	2.3	—	—	1,600	70	—	—	—	—	—	
5692	Medium-Mu Twin Triode	8BD	2 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	6.3	0.6	CU	275	1.75	—	—	—	Class A Amplifier (per section)	1.6	250	—	-9.0	6.5	—	—	2,200	20	—	—	—	—	—	
5693	Sharp-Cutoff Pentode	8N	2 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	6.3	0.3	CU	300	2.0	125	0.3	Class A Amplifier	.75	250	100	-3.0	3.0	0.85	—	—	1,650	—	—	—	—	—	—	
5718 <sub>a</sub>	Medium-Mu Triode	8DK	1.375	0.400	6.3	0.15	CU	500	165	0.9	—	—	Class A Amplifier UHF Oscillator	3.3 3.0	100 150	— —	R <sub>k</sub> =150 R <sub>k</sub> =1500	8.5 20.0	— —	— —	5,800	27	—	—	—	—	0.9*	
5719 <sub>a</sub>	High-Mu Triode	8DK	1.375	0.400	6.3	0.15	CU	—	165	0.1	—	—	Class A Amplifier	.073	100	—	R <sub>k</sub> =1500	0.73	—	—	1,700	70	—	—	—	—	—	
5725 <sup>(R)</sup>	Dual-Control RF Pentode	7CM	1 <sup>3</sup> / <sub>4</sub>	3 <sup>4</sup> / <sub>8</sub>	6.3	0.175	CU	—	200	1.65	155	0.55	Class A Amplifier	.62	120	120	-2.0	5.2	3.5	—	3,200	E <sub>g</sub> =0 volts	—	—	—	—	—	
5726 <sup>(R)</sup>	Twin Diode	6BT	1 <sup>3</sup> / <sub>4</sub>	3 <sup>4</sup> / <sub>8</sub>	6.3	0.30	CU	—	—	—	—	—	Half Wave Rectifier	Tube voltage drop per section=10 volts at 60 ma DC; max. DC output current per plate=10 ma; max. peak inverse voltage=360 volts; rms supply voltage per plate=117 volts; max. peak current per plate=60 ma														
5727 <sup>(R)</sup>	Thyratron	7BN	2 <sup>1</sup> / <sub>8</sub>	3 <sup>4</sup> / <sub>8</sub>	6.3	0.6	CU	—	—	—	—	—	Controlled Rectifier	Anode voltage drop=8 volts; max. DC cathode current=100 ma; max. peak inverse voltage=1,300 volts; max. peak cathode current=500 ma														
5749 <sup>(R)</sup>	Remote-Cutoff RF Pentode	7BK	2 <sup>1</sup> / <sub>8</sub>	3 <sup>4</sup> / <sub>8</sub>	6.3	0.3	CU	330	3.1	300	1.1	Class A Amplifier	2.75 1.08	250 100	100 100	R <sub>k</sub> =56 R <sub>k</sub> =68	11.0 10.8	4.2 4.4	— —	4,400 4,300	—	—	—	—	—	—	—	
5750 <sup>(R)</sup>	Pentagrod Converter	7CH	2 <sup>1</sup> / <sub>8</sub>	3 <sup>4</sup> / <sub>8</sub>	6.3	0.3	CU	330	1.1	110	1.0	Converter	.65	250	100	-1.5	2.6	7.5	osc.	I <sub>g1</sub> =0.5 ma; R <sub>g1</sub> =20,000 ohms	—	—	—	—	—	—	—	
5751 <sup>(R)</sup>	High-Mu Twin Triode	9A	2 <sup>3</sup> / <sub>16</sub>	7 <sup>8</sup> / <sub>8</sub>	12.6 6.3	0.175 0.35	CU	330	0.8	—	—	—	Class A Amplifier (per section)	.25 .08	250 100	— —	-3.0 -1.0	1.0 0.8	— —	— —	1,200 1,200	70 70	—	—	—	—	—	—
5763 <sub>σ</sub>	Beam Power Amplifier Pentode	9K	2 <sup>5</sup> / <sub>8</sub>	7 <sup>8</sup> / <sub>8</sub>	6.0	0.75	CU	30- 30- 30- 30- 30- 30- 300-	250 12.0 250 12.0 250 13.5 250 12.0 250	8.0 250 1.5 2.0 2.0 2.0	1.5 1.5 2.0 2.0 2.0	10 15 15 17 15	C-P CCS C-P ICAS C-T CCS C-T ICAS C-T CCS Doubler-CCS Tripler-CCS	10 15 15 17 15 12 8.5	250 300 250 350 300 300 300	250 250 250 250 250 250 235	-39 -42.5 -28.5 -28.5 -60	40 50 50 48.5 50	5.6 6 6.6 6.2 5	1* 2.4* 1.6* 1.6* 3*	7,000 7,000	— —	— —	— —	0.05* 0.15* 0.1* 0.1* 0.35* 0.6* 0.6*	— —	— —	6.4* 10* 10.3* 12* 7* 2.1* 1.3*
5814-A <sup>(R)</sup>	Medium-Mu Twin Triode	9A	2 <sup>3</sup> / <sub>16</sub>	7 <sup>8</sup> / <sub>8</sub>	12.6 6.3	0.175 0.35	CU	330	3.0	—	—	—	Class A Amplifier (per section)	2.7 1.2	250 100	— —	-8.5 0.0	10.5 11.8	— —	— —	2,200 3,100	17 19.5	—	—	—	—	—	—
5824	Beam Power Amplifier	7AC	4 <sup>5</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>16</sub>	25.0	0.3	CU	200 <sub>f</sub>	12.5 <sub>f</sub>	135 <sub>f</sub>	2.0 <sub>f</sub>	Class A Amplifier	9.4	135	135	-22.0	61 <sub>f</sub> 69 <sub>e</sub>	2.5 <sub>f</sub> -14.5*	—	—	5,000	—	—	—	—	1,700	4.3	
5840 <sub>a</sub>	Sharp-Cutoff RF Pentode	8DL	1.375	0.400	6.3	0.15	CU	—	165	0.8	155	0.35	Class A Amplifier	.75	100	100	R <sub>k</sub> =150	7.5	2.4	—	5,000	—	—	—	—	—	—	

# Industrial Receiving and Communication Tubes

# GENERAL ELECTRIC

TYPE	DESCRIPTION	GENERAL						MAXIMUM RATINGS				TYPICAL OPERATING CONDITIONS														
		Base Connections	Dimensions in Inches		Cathode		Type	MAX. PER. FOR Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	Class and Type of Service	Voltages				Currents			Triode $\mu$ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts		
			Length	Diameter	Volts	Current Amps.								Plate	Screen Grid No. 2	Control Grid No. 1	Plate, ma	Screen Grid No. 2, ma	Control Grid No. 1, ma	GM, $\mu$ mhos						
5844 $\sigma$	Medium-Mu Twin Triode	7BF	2 1/8	3/4	6.3	0.3	CU	—	200	1.0	—	—	Class A Amplifier (per section)	.75	100	—	$R_k=470$	4.8	—	—	3,700	28	—	—	—	—
5879 $\sigma$	Sharp-Cutoff AF Pentode	9AD	2 3/8	7/8	6.3	0.15	CU	—	330	125	330	0.25	Class A Amplifier (pentode con.) Class A Amplifier (Triode con.)	.45 1.4	250 250	100	—3.0 —8.0	1.8 5.5	—	—	1,000 1,530	—	—	—	—	—
5881	Beam Power Amplifier	7AC	3 1/2	1 1/8	6.3	0.3	CU	—	360	23	270	3.0	Class A Amplifier (single tube) Class A (2 tubes, push-pull) Class AB <sub>1</sub> (2 tubes, push-pull)	13.3 18.8 30 36.2	350 250 250	250	—18 —14 —16.0 —17.5	53 —65 75 —80 120 —140 134 —155 88 —132 88 —140	2.5 —8.5 4.3 —7.6 10 —16 11 —17 5.0 —15 5.0 —11	—	—	5,200 6,100	—	—	4,200 2,500 5,000 6,600 3,800	11.3 6.7 14.5 17.5 26.5 18.0
5896 $\theta$ $\alpha$	High-Frequency Twin Diode	8DJ	1.375	0.400	6.3	0.9	CU	—	—	—	—	—	Full-Wave Rectifier	Tube voltage drop (per section)=4.5 volts at 18 ma DC; max. DC output per plate=10 ma; max. peak inverse voltage=460 volts; rms supply voltage per plate=150 volts; max. peak current per plate=60 ma												
5899 $\theta$ $\alpha$	Semi-Remote-Cutoff RF Pentode	8DL	1.375	0.400	6.3	0.15	CU	—	165	0.75	155	0.35	Class A Amplifier	.72	100	100	$R_k=120$	7.2	2.0	—	4,500	—	—	—	—	—
5902 $\theta$ $\alpha$	Beam Power Amplifier	8DL	1.750	0.400	6.3	0.45	CU	—	165	3.7	155	0.4	Class A Amplifier	3.3	110	110	$R_k=270$	30	2.2	—	4,200	—	—	3,000	1.0	
5963 $\sigma$	Medium-Mu Twin Triode	9A	2 3/8	7/8	12.6 6.3	0.15 0.3	CU	—	250	2.5	—	—	Class A Amplifier (per section) Freq. Halfer (per section)	.58 .75	67.5 150 150	—	0 —15 0	8.5 5.1	—	—	3,200	21	—	—	20,000 20,000	
5964 $\sigma$	High-Mu Twin Triode	7BF	2 1/8	3/4	6.3	0.45	CU	—	250	1.5	—	—	Class A Amplifier (per section) Freq. Halfer (per section)	.95 .75	100 150 150	—	$R_k=50$ —10 0	9.5 0 5.0	—	—	6,000	39	—	—	20,000 20,000	
5965 $\sigma$ 5965A $\sigma$	Twin Triode	9A	2 3/8	7/8	12.6 6.3	0.225 0.45	CU	—	330	2.4	—	—	Class A Amplifier (per section) Freq. Halfer (Per section)	1.28 1.25	150 150 150	—	$R_k=220$ —5.5	8.5 10.5 0.15	—	—	6,700	47	—	—	7,200 7,200	
5998A	Low-Mu Twin Triode	8BD	4 1/4	1 1/8	6.3	2.4	CU	—	275	15	—	—	Class A Amplifier	11	110	—	$R_k=105$	100	—	—	15,500	5.4	—	—	—	
6005 $\theta$ (R) $\sigma$	Beam Power Amplifier	7BZ	2 5/8	3/4	6.3	0.45	CU	—	275	11	275	2.2	Class A Amplifier (single tube) AB <sub>1</sub> (2) CCS	11 5.4	250 180 180	250	—12.5 —8.5 —15	45 —47 29 —30 70 —79	5 —7.0 3.0 —4.5 5 —13	—	—	4,100 3,700	—	—	5,000 5,500 10,000	4.5 2.0 10.0
6012	Thyratron	6CO	3 7/8	1 5/8	6.3	2.6	CU	—	—	—	—	—	Controlled Rectifier	Tube voltage drop=10 volts; max. peak inverse voltage=1,300 volts; max. peak current=5 amp.; max. d-c cathode current=0.5 amp.; max. peak forward voltage=650 volts.												
6021 $\theta$ $\alpha$ (R)	Medium-Mu Twin Triode	8DG	1.375	0.400	6.3	0.3	CU	—	165	0.7	—	—	Class A (per section)	.65	100	—	$R_k=150$	6.5	—	—	5,400	35	—	—	—	
6046	Beam Power Amplifier	7AC	3 3/8	1 3/2	25.0	0.3	CU	—	200	10	125	1.5	Class A Amplifier Relay Energizer	9.2 5.5	200 110 115 115	125 110 115 115	$R_k=180$ —7.5 —25	46 49 105 0.1	2.2 4.0 12.8	—	8,000 8,000	—	—	4,000 2,000 500 500	3.8 2.1	
6072A $\theta$ (R) $\sigma$	Twin Triode	9A	2 3/8	7/8	12.6 6.3	0.175 0.35	CU	—	330	1.6	—	—	Class A (per section)	.75	250	—	$R_k=250$	3.0	—	—	1,750	44	—	—	—	
6080 $\theta$	Low-Mu Twin Triode Power Amplifier	8BD	4 1/8	1 3/2	6.3	2.5	CU	—	250	13	—	—	DC Amplifier (per section)	.17	135	—	$R_k=250$	125	—	—	7,000	2	—	—	—	
6087 $\theta$ (R)	See 6087/5Y3WGT $\theta$ (R)																									
6087 $\theta$ (R)	Full-Wave, High-Vacuum Rectifier	5L	3 3/8	1 3/2	5.0	2.0	CU	—	—	—	—	—	Full-Wave Rectifier	Tube voltage drop per section=50 volts at 125 ma DC; max. DC output current=125 ma; max. peak inverse voltage=1,400 volts; rms supply voltage per plate=350 volts; max. peak current per plate=375 ma												
6111 $\theta$ $\alpha$ (R)	Medium-Mu Twin Triode	8DG	1.375	0.400	6.3	0.3	CU	—	165	0.95	—	—	Class A Amplifier (per section)	.85	100	—	$R_k=220$	8.5	—	—	5,000	20	—	—	—	
6112 $\theta$ $\alpha$ (R)	High-Mu Twin Triode	8DG	1.375	0.400	6.3	0.3	CU	—	165	0.3	—	—	Class A Amplifier (per section)	.26 .08	150 100	—	$R_k=820$ $R_k=1,500$	1.75 0.8	—	—	2,500 1,800	70	—	—	—	
6134	Sharp-Cutoff RF Pentode	8N	2 5/8	1 3/8	6.3	0.45	CU	—	330	3.3	330	0.45	Class A Amplifier	3.0	300	150	$R_k=160$	10	2.5	—	9,000	—	—	—	—	
6135 $\theta$ (R) $\sigma$	Medium-Mu Twin Triode	6BG	2 1/8	3/4	6.3	0.175	CU	—	330	3.8	—	—	Class A Amplifier	2.6 1.2	250 100	—	—8.5 0	10.5 11.8	—	—	2,200 3,100	17 19.5	—	—	—	
6136 $\sigma$	Sharp-Cutoff RF Pentode	7BK	2 1/8	3/4	6.3	0.3	CU	—	330	3.3	165	0.7	Class A Amplifier	2.6 .5	250 100	150	$R_k=68$ $R_k=150$	10.6 5.0	4.3 2.1	—	5,200 3,900	—	—	—	—	
6137 $\theta$ (R)	See 6137/6SK7WA $\theta$ (R)																									
6137 $\theta$ (R)	Remote-Cutoff RF Pentode	8N	2 5/8	1 3/8	6.3	0.3	CU	—	330	3.3	140	0.44	Class A Amplifier	2.3 1.3	250 100	100	—3 —1	9.2 13.0	2.6 4.0	—	2,000 2,350	—	—	—	—	

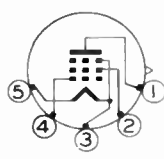




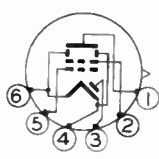




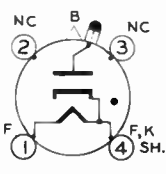
# Industrial Receiving and Communication Tubes



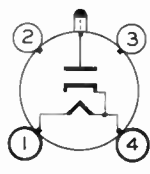
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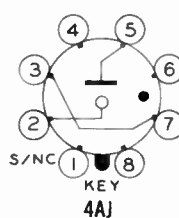
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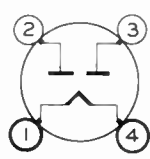
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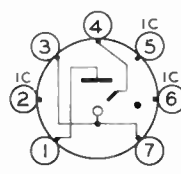
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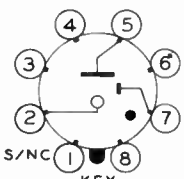
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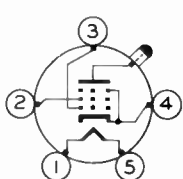
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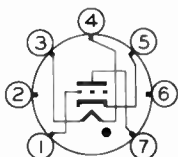
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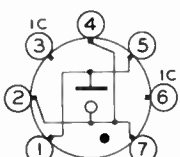
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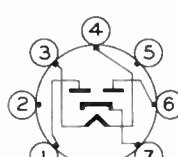
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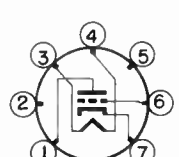
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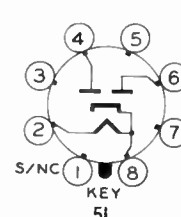
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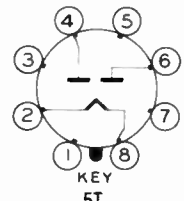
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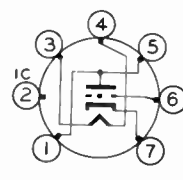
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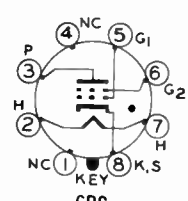
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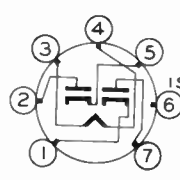
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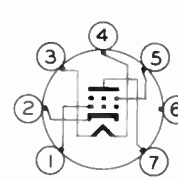
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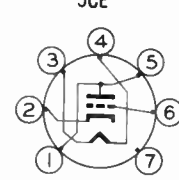
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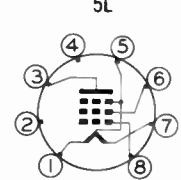
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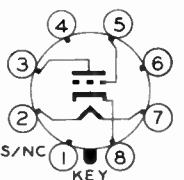
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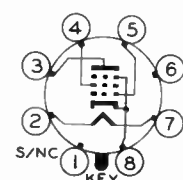
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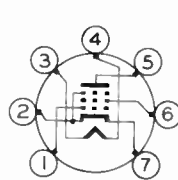
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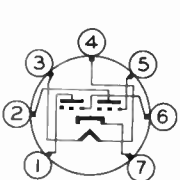
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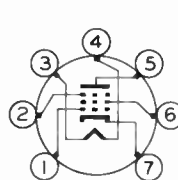
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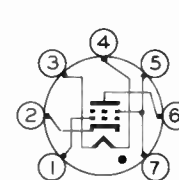
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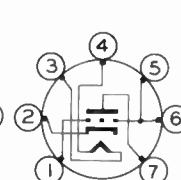
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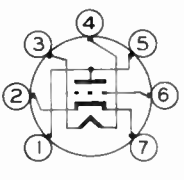
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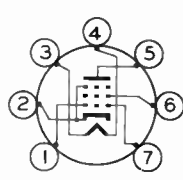
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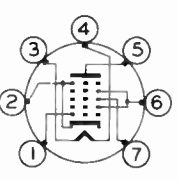
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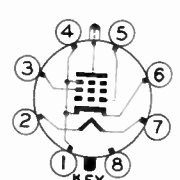
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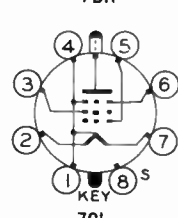
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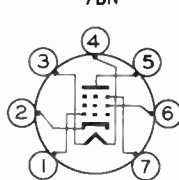
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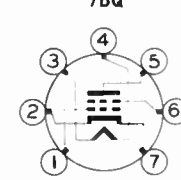
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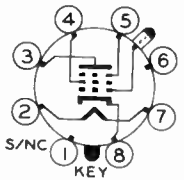
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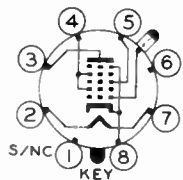
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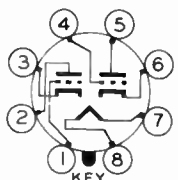
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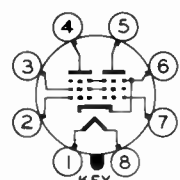
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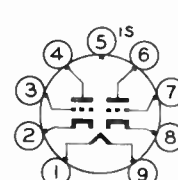
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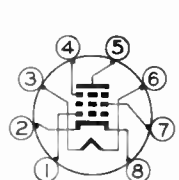
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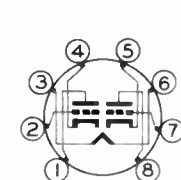
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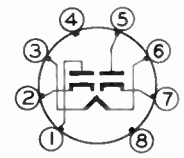
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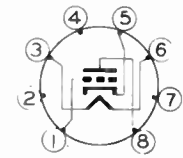
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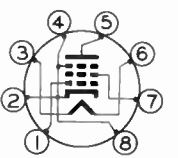
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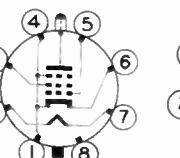
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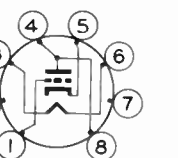
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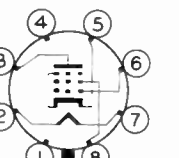
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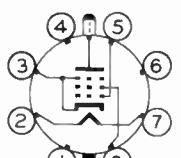
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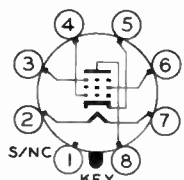
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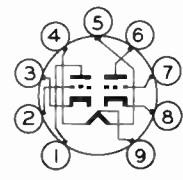
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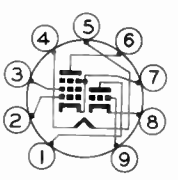
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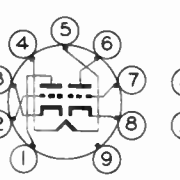
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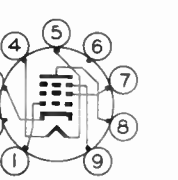
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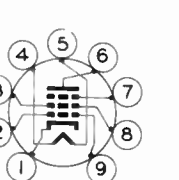
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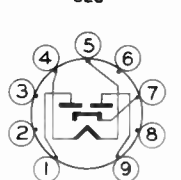
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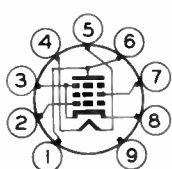
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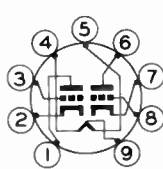
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# Industrial Receiving and Communication Tubes

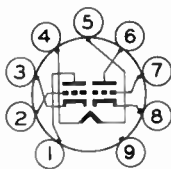
# GENERAL ELECTRIC



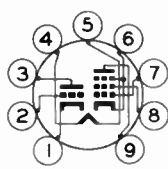
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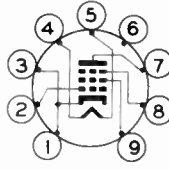
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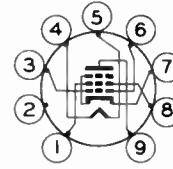
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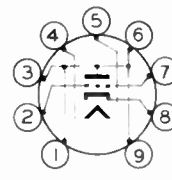
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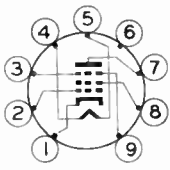
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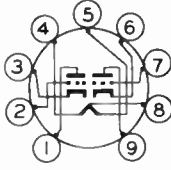
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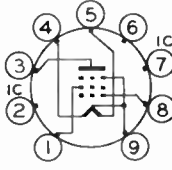
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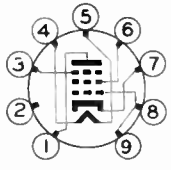
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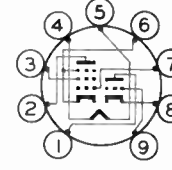
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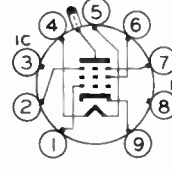
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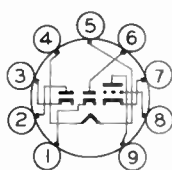
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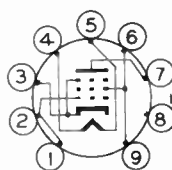
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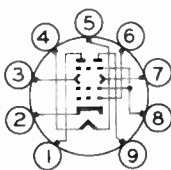
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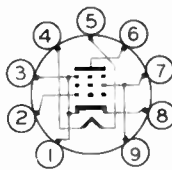
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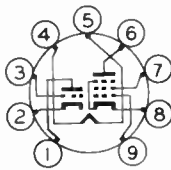
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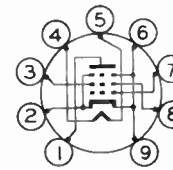
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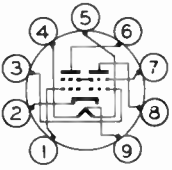
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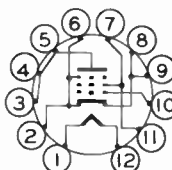
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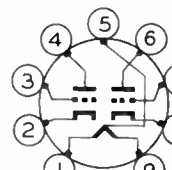
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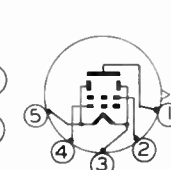
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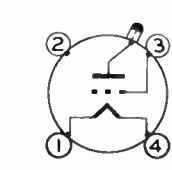
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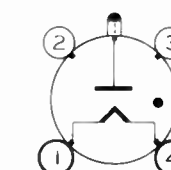
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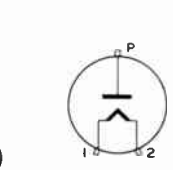
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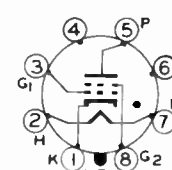
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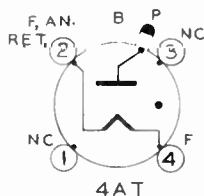
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5642



6CO



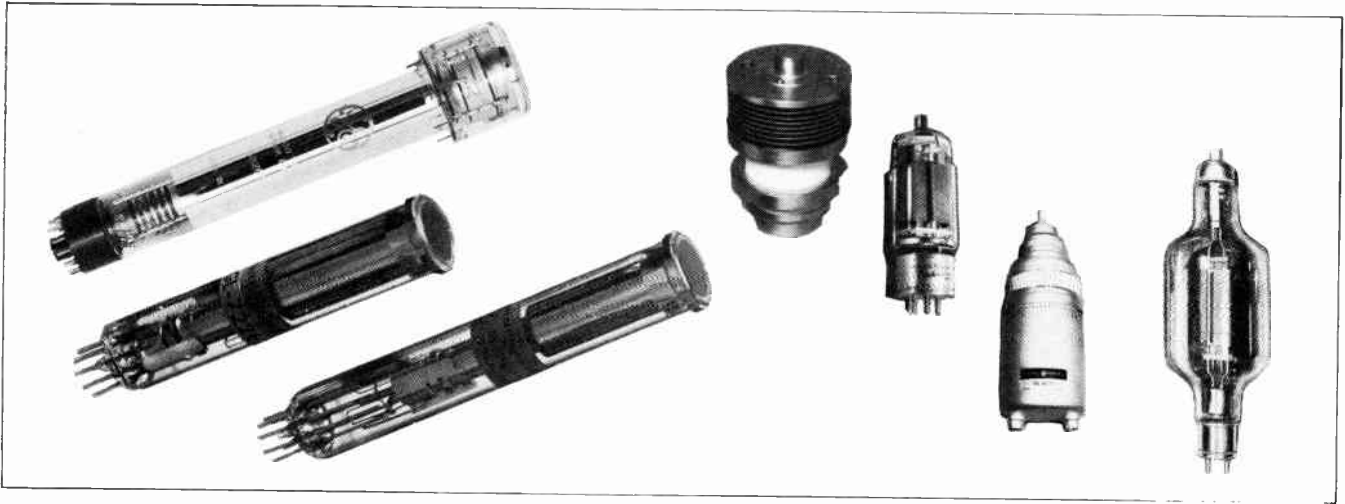
4AT

## 18 VALUE-ANALYZED benefits of G-E 5-Star Tubes...

- Controlled inside diameter on bulbs reduces vibrational output and microphonics.
- Highly efficient getter performs throughout tube life and guides flash to avoid inter-element leakage.
- A getter flash shield improves initial leakage characteristics.
- Two double mica spacers, with additional anti-leakage slots, brace internal parts, provide superior inter-element insulation and improve vibration characteristics. 12 or 16 contact points give firmer fit between bulb and mount.
- Short, sturdy cages increase rigidity of tube structure.
- Plate ears are embossed for added strength and improved mica fit.
- U-bolt construction through top and bottom micas firmly secures the cage assembly.
- Smooth grid legs prevent a "sawing" action on the mica, reducing grid vibration and microphonic noise.
- Critical grids are plated with gold or silver to minimize grid emission.
- Passive cathode alloys assure reliability and long life in low-duty cycle circuits where interface tends to develop.
- Outside diameter and density of cathode coating are statistically controlled.
- Low thermo-conductivity cathode tab reduces heat loss.
- Cataphoretic coating of all heater bends after forming insures complete heater-cathode insulation.
- Folded heater design proved most reliable under shock, vibration and heater cycling conditions. Heater is temperature-controlled to further improve reliability and lengthen life.
- Rhenium-tungsten heater material increases tensile strength, reduces brittleness, and allows larger-diameter heater wire.
- Lead-glass stems help ward off glass electrolysis.
- Pins are annealed to prevent glass strain at socket insertion.
- Stem design minimizes welds—fewer points of possible failure—less change of short-causing particles from weld splash.

# Broadcast, Industrial & Special Purpose Power Tubes

# GENERAL ELECTRIC



## LONG LIFE IMAGE ORTHICONS

Type	Target	Field Mesh	Signal:Noise (4.5 mc)	Amplitude Response @ 400 TV Lines	Typical Lens Aperture vs. Scene Illumination		Application	
					Color	Monochrome	Primary	Other
Z7899	Glass	No	65:1	65%	—	f:16 @ 80 - 100 ft-c	Studio, VTR	Color remote
Z7888	Glass	Yes	65:1	65%	f:8 @ 200 ft-c	f:16 @ 80 - 100 ft-c	Color remote	Monochrome VTR
Z7866	Semiconductor	Yes	50:1	70%	f:5.6 @ 50 ft-c	f:22 @ 50 - 100 ft-c	Color studio	Monochrome X-ray
7629A	MgO	No	50:1	65%	—	f:16 @ 25 - 50 ft-c	Monochrome Remote	X-ray

## STANDARD IMAGE ORTHICONS

4401	Glass	No	50:1	60%	—	f:16 @ 50 ft-c	Studio, remote	X-ray
5820A 5820A/R	Glass (Ruggedized)	No	50:1	60%	—	f:16 @ 100 ft-c	Studio, VTR	Remote
7293A 7293A/R	Glass (Ruggedized)	Yes	50:1	60%	—	f:16 @ 100 ft-c	Monochrome studio	Color studio
8093A 8093A/R	Glass (Ruggedized)	Yes	60:1	60%	—	f:16 @ 120 ft-c	Studio color, VTR	Monochrome

## SPECIAL PURPOSE IMAGE ORTHICONS

Type	Target	Field Mesh	Photo Cathode	Resolution Sensitivity*	Applications
					Z5395 Z7805
7538 7409	MgO Ruggedized 7538	No	S-10	500 @ $1.5 \times 10^{-5}$ 100 @ $4 \times 10^{-7}$	Low light level surveillance, electro optical telescope systems, airborne and tank fire control
7967 Z7806	MgO Ruggedized 7967	No	S-20	500 @ $5 \times 10^{-4}$ 100 @ $1.5 \times 10^{-7}$	Extremely low light level surveillance, underwater TV systems, astronomical systems
7969 Z7807	MgO Ruggedized 7969	No	UV	500 @ $1.5 \times 10^{-5}$ 100 @ $4 \times 10^{-7}$	Near UV sensitive medical biological studies, missile detection
Z7809	MgO	No	S-10		Similar to 7538 except fiber optic faceplate. Fibre optic systems. Can be coupled to image intensifier
Z7810 Z7822	MgO Ruggedized Z7810	No	S-20		Similar to 7967 except fiber optic faceplate. Fiber optic systems, radiation scintillator studies. Can be coupled to image intensifier
Z7814	MgO	Yes	S-20	500 @ $5 \times 10^{-6}$ 100 @ $2.7 \times 10^{-7}$	Improved Corner resolution, electro-optical telescope systems
7198A	Glass	No	S-10		General Purpose surveillance, fire control

\* Resolution sensitivity is defined as television lines per target inch @ specified photocathode illumination in foot-candles.

## BROADCAST AND INDUSTRIAL VIDICONS

Type	Application	Maximum Dimensions		Heater Current @ 6.3 V Amperes	Amplitude Response @ 400 TV Lines Focus Coil Field Strength @ 40 Gauss		Sensitivity	OPERATING PARAMETERS			
		Di. Inches	Length Inches		@ 40 Gauss	@ 60 Gauss		Faceplate Illumination ft-c	Target Volts	Dark Current Micro-amperes	Signal Output Micro-amperes
7038 7038V	Film Color Film	1.135	6.50	.6	30%	40%	Average Min. Lag	15 100	30 - 50 10 - 30	.02 .004	.4 .3
7325	Live	1.135	6.50	.6	30%	40%	Average Max.	1.0 .2	30 - 50 40 - 100	.02 .2	.2 .2
7735A	Live	1.135	6.50	.6	30%	40%	Average Max.	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
7735B	Live	1.135	6.50	.6	35%	45%	Average Max.	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2

# Special Purpose Power Tubes Broadcast, Industrial &



## BROADCAST AND INDUSTRIAL VIDICONS (Continued)

Type	Application	Maximum Dimensions		Heater Current @ 6.3 V Amperes	Amplitude Response @ 400 TV Lines Focus Coil Field Strength @ 40 Gauss @ 60 Gauss		Sensitivity	OPERATING PARAMETERS			
		Maximum Dia. Inches	Length Inches		Faceplate Illumination ft-c	Target Volts		Dark Current Micro- amperes	Signal Output Micro- amperes		
7226	Live	1.135	5.25	.15	30%	40%	Average Max.	1.0 .2	30 - 50 40 - 100	.02 .2	.2 .2
8484	Live	1.135	5.50	.6	30%	40%	Average Max.	1.0 .2	30 - 50 40 - 100	.02 .2	.2 .2
7262A	Live	1.135	5.25	.09	30%	40%	Average Max.	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
7263A	Ruggedized 7262A	1.135	5.25	.09	30%	40%	Average Max.	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
8507	Live	1.135	6.50	.6	50%	70%	Average Max.	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
8541	Live	1.135	6.50	.09	50%	70%	Average Max.	1.0 .0	20 - 40 35 - 70	.02 .2	.2 .2
8572 8572V	Film Color Film	1.135	6.50	.6	50%	70%	Average Min. Lag	15 100	30 - 50 10 - 30	.02 .004	.4 .3
8604	Film	1.135	6.50	.09	50%	70%	Average Min. Lag	15 100	30 - 50 10 - 30	.02 .004	.4 .3

## TRANSMITTING TUBES

TYPE	DESCRIPTION	DIMENSIONS IN INCHES		CATHODE		MAXIMUM RATINGS						TYPICAL OPERATING CONDITIONS									
		Length	Diameter	Volts	Amps.	Type	Max. Freq. for Full Input, mc.	Plate Dissipation Watts	Plate Volts	Plate Input Watts	Screen Grid No. 2 Volts	CLASS AND TYPE OF SERVICE	Plate Volts	Plate Current, ma	Screen Grid No. 2 Volts	Screen Grid No. 2 Current, ma	Grid No. 1 Volts	μ Factor	GM μ/amhos	Approx. Drive Power, Watts	Approx. Output Power, Watts
GL-2H21θ	Phasitron type. For use as phase modulator. Max. frequency 500 KC.	4 $\frac{1}{8}$	1 $\frac{1}{8}$	6.3	0.3	CU						DC Plate Volts=300; Deflector volts=100; RF output volts=4.									
GL-4-400A	Forced-air cooled power tetrode.	6 $\frac{3}{8}$	3 $\frac{3}{8}$	5.0	14.5	TF	110	400 270 400	4,000 3,200 4,000	— 600 600	AB <sub>2</sub> (2) C-P C-T	3,000 2,500 3,000	700 500 350	500 28 46	-80 -220 -220	— — —	5.1	4,000	4.5 3.5 6.1	1,375 510 800	
GL-4-1000A	Forced-air cooled beam power tetrode.	9 $\frac{3}{8}$	5 $\frac{1}{4}$	7.5	21	TF	110	1,000	6,000	— 1,000	C-T C-P	6,000 5,000	700 600	500 130	140 -200 -200	7.2	10,000	15 11	3,440 2,440		
GL-4D21/ 4-125A	Air-cooled beam power tetrode.	5 $\frac{1}{8}$	2 $\frac{7}{8}$	5.0	6.5	TF	120 120	85 125	2,500 3,000	— 400 400	C-P C-T	2,500 3,000	152 167	350 350	30 -210 -150	6.2	2,450	3.3 2.5	300 375		
GL-4X150A	Air-cooled beam power tetrode.	2 $\frac{1}{2}$	1.635	6.0	2.6	CU	— 500 500	150 100 150	1,250 1,000 1,250	— 400 300	AB <sub>2</sub> (2) C-P C-T	1,250 1,000 1,250	475 200 200	300 250 280	65 -44 -115	5.0	12,000	0.15 2 30	425 140 140		
GL-7C29 $\theta$	Forced-air cooled triode.	5 $\frac{3}{8}$	2 $\frac{1}{2}$	10.5	28	TF	110	500	3,000	1,200	C-T	2,800	330	—	-250	29	—	—	600		
GL-7D21θ	Thoriated-tungsten filament. Forced-air cooled tetrode.	7 $\frac{1}{2}$	3.015	6.3	30	TF	110	1,200	4,000	3,000	750	C-T	3,750	670	600	100	-102	8.0	—	60	1,575
GL-810	High-perveance triode; jumbo 4-pin base. Medium grid and plate caps.	8 $\frac{3}{4}$	2 $\frac{1}{4}$	10	4.5	TF	— 30 30	175 125 175	2,750 2,000 2,500	510 500 750	B(2)■ C-P■ C-T■	2,250 2,000 2,500	450 250 300	— — —	-60 -350 -180	— 36	— — —	13 35 19	725 380 575		
GL-813	Beam power amplifier; giant 7-pin bayonet base; medium cap.	7 $\frac{1}{2}$	2 $\frac{1}{8}$	10	5.0	TF	— 30 30	125 100 125	2,500 2,000 2,250	450 400 500	AB <sub>2</sub> (2)■ C-P■ C-T■	2,500 2,000 2,250	290 200 220	750 350 400	-95 -175 -155	— — —	— — —	0 4.3 4.0	490 300 375		
GL-829-B	Twin beam power amplifier; septar 7-pin base; wire plate terminals.	4 $\frac{1}{8}$	2 $\frac{3}{8}$	6.3 12.6	2.25 1.125	CU	— 200 200	30 28 40	750 600 750	100 90 120	AB <sub>2</sub> (2)■ C-P■ C-T■	600 600 750	110 150 160	200 200 200	-18 -60 -50	9.0	8,500	0 0.5 0.4	44 70 99		
GL-832-A	Twin beam power amplifier; septar 7-pin base; wire plate terminals.	3 $\frac{3}{8}$	2 $\frac{3}{8}$	6.3 12.6	1.6 0.8	CU	200 200	15 20	600 750	36 50	C-P■ C-T■	600 750	60 65	200 200	-70 -50	6.5	3,500	0.21 0.24	26 35		
GL-833-A	High perveance triode; forced-air cooled; special post terminals.	8 $\frac{1}{8}$	4 $\frac{1}{8}$	10	10	TF	— 20 20	450 350 450	4,000 4,000 4,000	1,800 1,800 2,000	B(2)■ C-P■ C-T■	4,000 4,000 4,000	900 450 500	— — —	-100 -325 -225	— 35	— — —	38 42 35	2,700 1,500 1,600		
GL-838	Air-cooled triode; jumbo 4-pin base.	7 $\frac{7}{8}$	2 $\frac{3}{8}$	10	3.25	TF	30	100	1,250	220	C-T	1,250	150	—	-90	—	—	6.0	—	130	
GL-862-A $\theta$	Water-cooled triode. Dissipation 50 to 100 KW.	60	3 $\frac{1}{8}$	33	207	TF	1.6	100,000	20,000	00,000	C-P	12,000	5,000	—	-800	45	—	2,000	45,000		
GL-880 $\theta$	Water-cooled triode; for broadcast and RF heating; special terminals.	11 $\frac{1}{2}$	7	12.6	320	PT	— 25 25	15,000 12,000 20,000	10,500 10,500 10,500	40,000 36,000 60,000	B(2) C-P C-T	10,000 10,000 10,000	7,000 3,600 6,000	— — —	-450 -1200 -1000	20	—	540 1,100 1,500	46,000 27,000 40,000		
GL-889-A $\theta$	Water-cooled triode; for broadcast and RF heating; special terminals.	10 $\frac{1}{8}$	3 $\frac{3}{8}$	11.0	125	PT	— 50 50	5,000 3,000 5,000	8,500 6,000 8,500	12,000 6,000 16,000	B(2) C-P C-T	7,500 6,000 7,500	3,200 1,000 2,000	— — —	-300 -900 -800	21	—	150 140 400	15,000 4,000 10,000		
GL-892	Water-cooled triode; two-section filament; special connections.	20 $\frac{7}{8}$	6 $\frac{1}{8}$	11.0 per sec.	60	PT	— 1.6 1.6	7,500 6,000 10,000	15,000 10,000 15,000	20,000 10,000 30,000	B(2) C-P C-T	12,500 10,000 12,000	2,800 780 1,550	— — —	-170 -1,600 -1,600	50	—	160 460 565	22,000 6,000 14,000		
GL-5513 $\theta$	Forced-air cooled triode; thoriated-tungsten filament.	7 $\frac{1}{2}$	3.015	6.3	32.0	TF	220	1,200	3,000	3,300	Class B,TV	2,000	680	—	-20	—	—	223	1,125		

# Broadcast, Industrial & Special Purpose Power Tubes



## TRANSMITTING TUBES (Continued)

TYPE	DESCRIPTION	DIMENSIONS IN INCHES		CATHODE			MAXIMUM RATINGS					CLASS AND TYPE OF SERVICE	TYPICAL OPERATING CONDITIONS									
		Length	Diameter	Volts	Amps.	Type	Max. Freq. for Full Input, mc.	Plate Dissipation Watts	Plate Volts	Plate Input Watts	Screen Grid No. 2 Volts		Plate Volts	Plate Current, ma	Screen Grid No. 2 Volts	Screen Grid No. 2 Current, ma	Grid No. 1 Volts	μ Factor	GM μmhos	Approx. Drive Power, Watts	Approx. Output Power, Watts	
GL-5518#	Forced-air cooled triode tungsten filament.	12¾	5.530	6.3	235	PT	110	4,000	7,000	12,000	—	C-T	6,600	1,300	—	—	-520	21	—	180	6,500	
GL-5549	Forced-air cooled triode. Dissipation 4.0 KW.	11	5½	12.6	57	TF	50	4,000	8,500	10,000	—	C-T	8,000	1,250	—	—	-800	23	—	230	7,500	
GL-5556	Air-cooled triode; small 4-pin bayonet base.	4½	1¾	4.5	1.1	TF	6	10	350	14	—	C-T	350	35	—	—	-80	—	—	0.25	6	
GL-5593#	Phasitron type for use as phase modulator.	4¾	1¾	6.3	0.3	CU	Max. frequency for full rating=250 MC.; Anode volts=300; Deflector volts=100; RF output volts=4.															
GL-5675	Medium-μ "pencil type" triode; for service up to 3,000 MC.	2.252	0.816	6.3	0.135	CU	—	9	300	9	—	C-T oscillator at 1,700 MC.	120	25	—	—	-8	20	—	—	0.475	
GL-5736	Forced-air cooled triode. Special connections.	7¾	3¾	6.0	60	TF	—	2,500	3,000	4,200	—	B C-T C-P	3,000 5,000 3,500	2,800 1,000 1,140	—	—	-160 -850 -600	—	—	140 250 270	4,350 4,100 3,200	
GL-5762/ 7C24	Forced-air cooled triode; special terminal connections.	7½	4¼	12.6	29	TF	—	3,000	6,200	8,700	—	B C-P C-T-F	3,000 2,000 3,000	6,200 5,000 6,200	8,700 5,000 8,700	—	—	-200 -400 -550	—	—	195 720 1,225	8,800 4,200 7,000
GL-5894	Air-cooled twin tetrode. Max. ratings up to 250 MC.	4¾	1½	6.3 12.6	1.8 0.9	CU	250	40	750	120	300	B C-T C-P	600 600 600	200 200 150	300 250 250	26 16 20	-25 -80 -80	— 8.2 —	— 3.0 0.8	0.2 90 71		
GL-6039#	Water-cooled triode; Replaces GL-9C24 with filament change.	8½	3.9	5.0	78	TF	220	7,000	6,000	13,500	—	Class B, TV	5,000	2,100	—	—	-300	21	—	1,060	4,900	
GL-6161#	Forced-air cooled triode; special terminal connections.	3¼	1.76	6.3	3.4	CU	900 900	250 250	1,600 1,600	560 400	—	B-T C-T-F C-M	1,600 <sup>h</sup> 1,650 <sup>h</sup> 1,675 <sup>h</sup>	350 250 250	—	—	-100 <sup>a</sup> -150 <sup>a</sup> -175 <sup>a</sup>	2	—	75 <sup>a</sup> 80 <sup>a</sup> 100 <sup>a</sup>	230 <sup>a</sup> 180 <sup>a</sup> 140 <sup>a</sup>	
GL-6251#	Water-cooled metal and ceramic tetrode.	13¼	5½	5.5	19.0	TF	220	25,000	7,000	50,000	700	Class B, TV	6,800	7,500	600	50	-20	20	—	2,300	25,000	
GL-6907	Twin tetrode for use up to 600 MC. Standard 7-pin base.	3¾	1.8	12.6	0.65	CU	—	20 14 20	600 500 600	—	250 300 250	B C-P C-T	500 400 400	70 80 100	250 300 250	16 6 5	-26 -50 -50	8	2,500	— — —	23.5 13 20	
GL-6942#	Forced-air cooled metal and ceramic tetrode.	8¾	3½	5.7	24	CV	1,000 1,000	1,500 1,500	4,000 4,000	2,500 2,500	—	Class B, TV C-T	3,500 4,000	520 420	500 500	35 11	-40 -110	—	—	100 65	1,000 1,000	
GL-7007#	Forced-air cooled metal and ceramic tetrode. Special connections.	11.63	6.4	5.0	180	CU	220	8,000 12,000	5,000 7,500	10,000 20,000	2,000 2,000	C-P C-T	4,800 7,000	1,800 2,600	800 1,000	160 200	-300 -300	10	—	100 80	6,000 12,000	
7034/4X150A See 4X150A																						
GL-7085/ 356	Water and forced-air cooled triode for broadcast and industrial heating. Replaces GL-880.	11¼	7	7.5	170	TF	25 25 25 2	22,500 22,500 15,000 22,500	12,500 12,500 10,000 12,500	45,000 33,000 40,000 60,000	—	B(2) B-P C-P C-T C-T	12,500 12,500 10,000 10,000 12,500 15,000	6,400 2,400 3,800 4,500 5,600 4,700 4,400	— — — — — —	— — — — -1,300 -1,400 -1,500	20	—	430 1,070 1,010 960 1,440 850 770	55,000 12,000 29,000 32,000 38,000 42,000 51,000		
GL-7289	High transconductance triode, forced-air cooled with integral radiator.	2¾	1¾	6.3	1.0	—	Otherwise same as GL-2C39-B															
GL-8000	High-perveance triode; jumbo 4-pin base; skirted medium and cap, medium side cap.	8¾	2¼	10.0	4.5	TF	— 30 30	175 125 175	2,750 2,000 2,500	510 500 750	—	B C-P C-T	2,250 2,000 2,500	450 250 300	— — —	— — —	-130 -370 -240	16.5	—	7.9 20 18	725 380 575	
GL-8005	Water-cooled triode. Maximum ratings up to 150 MC.	5	1¾	16.0	38	PT	150	750	2,500	1,250	—	C-P	—	—	—	—	—	20	—	—		
GL-8020	High-perveance triode; jumbo 4-pin base; medium cap.	6¼	2¾	10	3.25	TF	— 60 60	85 75 85	1,500 1,250 1,500	250 240 300	—	B C-P C-T	1,500 1,250 1,500	330 190 200	— — —	— — —	-67.5 -195 -130	20	—	5.5 9 7.5	330 170 220	

See Ceramic Section pgs. 0 - 0 for types 2C39B.  
See Ceramic Section pgs. 0 - 0 for GL-6299 - GL-6897.  
Outline diagrams for GL-7644 and GL-7784 are on page 12.

Outline diagrams for GL16897 and GL-7289 are on page 4.  
Basing diagram for GL-7085/356 is on page 9.  
Footnotes are on page 14.

### FOOTNOTES FOR TRANSMITTING TUBE LISTINGS

- A Cathode to grid volts.
- A<sub>1</sub>(1) Single tube class A audio power amplifier.
- AB<sub>1</sub>(2) Push-pull class AB<sub>1</sub> audio power amplifier.
- AB<sub>2</sub>(2) Push-pull class AB<sub>2</sub> audio power amplifier.
- B Referred to grid terminal.
- B(2) push-pull class B audio power amplifier.
- B-P Single tube class B RF telephone service.
- C Driver power output.
- C-P Single tube class C plate-modulated telephony service.
- C-T Single tube class C telephony or FM service.
- C-T (Pulsed) Single tube class C RF pulsed oscillator.
- CF Coated filament (directly heated).
- CV Thoriated tungsten cathode (indirectly heated)
- CU Coated indirectly heated cathode (unipotential).
- D Useful power output.
- C-G-T Single tube class C grid-modulated video service.
- PT Pure tungsten filament (directly heated).
- TF Thoriated-tungsten filament (directly heated).
- # Broadcast tube type.
- Intermittent Commercial and Amateur Service rating.
- <sup>a</sup> Cathode to grid volts.
- <sup>b</sup> Referred to grid terminal.
- <sup>c</sup> Driver power output.
- <sup>d</sup> Useful power output.

# Broadcast, Industrial & Special Purpose Power Tubes


**GENERAL ELECTRIC**

## BROADCAST, INDUSTRIAL & SPECIAL PURPOSE POWER TUBES—HIGH VACUUM RECTIFIERS

TYPE	DESCRIPTION	DIMENSIONS IN INCHES		CATHODE		MAXIMUM ANODE RATINGS			TYPICAL OPERATION*			
		Length	Diameter	Volts	Amps.	Peak Inverse Volts	Peak Amperes	Average Current Amperes	Peak Inverse Volts	A.C. Anode Volts	D.C. Output Volts	D.C. Output Current Amperes
GL-2B22	UHF lighthouse type diode, 8-pin octal base.	1 $\frac{3}{8}$	1.312	6.3	0.75	300	0.7	0.02	150	100	50	0.005
GL-2B23	Magnetically-controlled diode. Six-pin octal base.	3 $\frac{3}{8}$	1 $\frac{3}{8}$	6.3	0.3			0.03			150	0.030
GL-3B24-W	Small size, high peak—Inverse voltage diode, shock and vibration resistant.	4 $\frac{7}{8}$	1 $\frac{1}{2}$	2.5 5.0	3.0 3.0	20,000 20,000	0.15 0.3	0.03 0.06	20,000 20,000	—	—	0.03 0.06
GL-836	Heater-cathode type. Small 4-pin bayonet base. Medium cap.	6 $\frac{3}{8}$	2 $\frac{3}{8}$	2.5	5	5,000	1	0.25	5,000 $\ddagger$	3,400 $\ddagger$	1,550 $\ddagger$	0.5 $\ddagger$
GL-1616	Coated-filament type. Small 4-pin bayonet base. Medium cap.	6 $\frac{3}{8}$	2 $\frac{3}{8}$	2.5	5	6,000	0.8	0.13	5,500 $\ddagger$	3,800 $\ddagger$	1,730 $\ddagger$	0.26 $\ddagger$
GL-5973	Thoriated tungsten filament. Two-pin base. Medium cap.	19 $\frac{1}{2}$	6 $\frac{1}{8}$	16.0	19.1	75,000 40,000	5.0 5.0	1.0 1.25	75,000 40,000	—	—	1.0 1.25
GL-8020	Tungsten-filament type. Small 4-pin bayonet base.	8	2 $\frac{3}{8}$	5.0	6.0	40,000	0.75	0.1	40,000	28,000	—	0.1

## BROADCAST, INDUSTRIAL & SPECIAL PURPOSE POWER TUBES—GAS-FILLED RECTIFIERS

TYPE	DESCRIPTION	Tube Voltage Drop	MAX. ANODE RATING — FOR 60 CPS SUPPLY				DIMENSIONS IN INCHES		CATHODE		OPERATING CONDITIONS#				
			Temp. Range Condensed Mercury, C.	Peak Inverse Volts	Peak Amperes	Average Amperes	Fault Amperes	Length	Diameter	Volts	Amps.	Peak Inverse Volts	Max. A.C. Plate-to-Plate Supply Volts	Approx. D.C. Output Volts to Filter	D.C. Output Amperes
GL-3B28	Small 4-pin, bayonet base. Medium cap—ceramic-insulated, Xenon-filled.	10	-75 to +90	5,000 10,000	2 1	0.5 0.25	20 20	6	2 $\frac{3}{8}$	2.5	10.0	5,000 10,000	3,400 7,000	1,550 3,200	1.0 0.5
FG-32	See GL-5558/FG-32														
FG-104	See GL-5561/FG-104														
FG-280	All-metal tube for use in low-voltage applications. Flexible leads.	15	40 to 80	1,000	40	6.4	200	10 $\frac{3}{4}$	2 $\frac{1}{4}$	5.0	10.0	2,000	1,400	645	12.8
GL-575-A	Jumbo 4-pin, bayonet base. Medium cap.	10	20 to 50	15,000	10	2.5	100	11 $\frac{1}{8}$	3 $\frac{1}{8}$	5.0	10.0	15,000	10,600	4,800	5
GL-673	Same as GL-575-A except for super-jumbo 4-pin, bayonet base.	Same as GL-575-A						11 $\frac{3}{8}$	3 $\frac{1}{8}$						
GL-857-B	Special terminal connections. Skirted large cap.	15	30 to 40 25 to 60	22,000 10,000	40 40	10 10	400 400	19 $\frac{7}{8}$ <sup>a</sup>	7 $\frac{1}{8}$	5.0	30.0	22,000 10,000	15,400 7,000	7,000 3,200	20 20
GL-866-A	Small 4-pin, bayonet base. Medium cap—ceramic-insulated.	15	20 to 60	10,000	1	0.25	20	6 $\frac{3}{8}$	2 $\frac{3}{8}$	2.5	5.0	10,000	7,000	3,200	0.5
GL-869-B	4-pin base. Skirted large cap.	15	30 to 40	20,000	10	2.5	100	14 $\frac{3}{8}$	5 $\frac{1}{8}$	5.0	19.0	20,000	14,000	6,400	5
GL-870-A	Heavy-duty heater-cathode type. Flexible leads.	16	35 to 40 35 to 50	16,000 7,500	450 450	75 75	4,500 4,500	26 <sup>a</sup>	5 $\frac{1}{2}$	5.0	65.0	16,000 7,500	9,060 4,260	4,150 1,950	150
GL-872-A	Jumbo 4-pin base. Medium cap—ceramic-insulated.	10	20 to 60 20 to 70	10,000 5,000	5 5	1.25 1.25	50 50	8 $\frac{1}{2}$	2 $\frac{3}{8}$	5.0	7.5	10,000 5,000	7,000 3,400	3,200 1,550	2.5 2.5
GL-5558/FG-32	Small 4-pin, bayonet base. Medium cap.	15	30 to 60 30 to 80	5,000 2,000	15 15	2.5 2.5	200 200	7	3	5.0	4.5	5,000 2,000	3,400 1,400	1,550 645	5 5
GL-5561/FG-104	Super-jumbo 4-pin, bayonet base. Maximum averaging time 15 sec. for welder-control service.	15 15	40 to 80 25 to 50	3,000 10,000	40 16	6.4 4.0	400 160	11 $\frac{1}{4}$	3 $\frac{3}{8}$	5.0	10.0	3,000	2,000	910	12.8
GL-8008	Same as GL-872-A except for super-jumbo 4-pin, bayonet base.	Same as GL-872-A						8 $\frac{3}{4}$	2 $\frac{3}{8}$						

## THYRATRON TUBES

TYPE	DESCRIPTION	Dimensions Inches (Max.)		Cathode		Approx. Tube Drop Volts	Temperature Range of Condensed Mercury, °C.	MAXIMUM RATINGS					Critical Grid Volts at Anode Volts
		Length	Diam.	Volts	Amps.			Peak Forward Anode Volts	Peak Inverse Anode Volts	Peak Cathode Amperes	Average Cathode Amperes	Fault Amperes	
2D21	Negative-control, heater-cathode type. Miniature 7-pin base.	2 $\frac{1}{8}$	3 $\frac{1}{4}$	6.3	0.6	8	-75 to +90*	650	1,300	0.5	0.1	10	4.2 @ 450
3C23	Gas and mercury-filled. Negative-control, filament type. Small 4-pin bayonet base, medium cap.	6 $\frac{1}{8}$	2 $\frac{3}{8}$	2.5	7	15	-40 to +80 -40 to +100	1,250 200	1,250 200	6 6	1.5 1.5	120 120	-5.5 @ 1,000 -2.5 @ 100
6D4	Relay tube or relaxation oscillator. Miniature 7-pin base.	2 $\frac{1}{8}$	3 $\frac{1}{4}$	6.3	.25	16	-55 to +90*	350	350	0.11	.025	—	—
FG-81-A	Mercury vapor type for relay control. Medium 4-pin bayonet base, medium cap.	6 $\frac{3}{8}$	2 $\frac{3}{8}$	2.5	5	16	-55 to +85	500	500	2.0	0.5	40	-7.5 @ 500
FG-97	Mercury vapor, double-grid type. Medium 4-pin bayonet base, medium cap top and side.	6 $\frac{3}{8}$	2 $\frac{3}{8}$	2.5	5	16	+40 to +80	1,000	1,000	2.0	0.5	40	-13 @ 1,000
FG-98A	Mercury vapor, double-grid type. Medium 4-pin bayonet base, medium cap top and side.	6 $\frac{3}{8}$	2 $\frac{3}{8}$	2.5	5	16	-55 to +85	500	500	2.0	0.5	40	-16 @ 500
FG-105	Negative-control, heater-cathode type. Super-jumbo 4-pin bayonet base, large cap top and side.	11 $\frac{1}{4}$	2 $\frac{1}{2}$ R	5.0	10	16	-40 to +80	2,500	2,500	40	6.4	400	-9 @ 1,000
FG-154	Negative-control, heater-cathode type. Uses low grid power. Medium 4-pin bayonet base, medium cap.	8	3	5.0	7	16	-20 to +50*	500	500	10	2.5	80	-9 @ 500
FG-172	Negative-control, heater-cathode type. Metal envelope with flexible leads and threaded terminal. †Welder Control Ratings.	10 $\frac{3}{4}$	2 $\frac{5}{8}$ R	5.0 5.5†	10 11†	16 16	+40 to +80 +30 to +95	2,000 750	2,000 750	40 77	6.4 2.5	400 400	-9 @ 1,000

Broadcast, Industrial &  
Special Purpose Power TubesGENERAL  ELECTRIC

## THYRATRON TUBES (Continued)

TYPE	DESCRIPTION	Dimensions Inches (Max.)		Cathode		Approx. Tube Drop Volts	MAXIMUM RATINGS						Critical Grid Volts at Anode Volts
		Length	Diam.	Volts	Amps.		Temperature Range of Condensed Mercury, °C.	Peak Forward Anode Volts	Peak Inverse Anode Volts	Peak Cathode Amperes	Average Cathode Amperes	Fault Amperes	
393-A	Negative-control, filament type, mercury vapor and gas-filled. Octal base, small cap.	6%	2 $\frac{1}{8}$	2.5	7	15	-40 to +80	1,250	1,250	6.0	1.5	—	-5.5 @ 1,000
414	Negative-control, mercury vapor, heater-cathode type. Bracket mounted, flexible leads.	15%	3 $\frac{1}{8}$	5	19	20	+40 to +80	3,000	3,000	100	5.0	1,500	-10 @ 1,000
502-A	Negative-control, heater-cathode type. Metal envelope, octal base.	2%	1 $\frac{1}{8}$	6.3	0.6	11	-55 to +90*	650	1,300	1.0	0.1	10	-3.5 @ 1,000
672-A	Negative-control, heater-cathode type. Ignitor firing applications. Super-jumbo 4-pin bayonet base, medium cap.	8 $\frac{1}{2}$	2 $\frac{1}{8}$	5	5	12	+40 to +80	2,500	2,500	40	3.2	150	-10 @ 1,000
678	Negative-control, filament type. Relay control application. Jumbo 4-pin bayonet base, medium cap.	10 $\frac{3}{4}$	2 $\frac{1}{8}$	5	7.5	15	+25 to +50	10,000	15,000	6.0	1.6	50	-15 @ 1,000
884	Negative-control, heater-cathode type. Relaxation oscillator and relay control. Small 5-pin base.	4 $\frac{1}{8}$	1 $\frac{1}{8}$	6.3	0.6	16	-75 to +90*	350	350	0.3	0.075	—	-25 @ 250
2050-A	Negative-control, heater-cathode type. Octal 8-pin base.	4 $\frac{1}{8}$	1 $\frac{1}{8}$	6.3	0.6	8	-75 to +90*	650	1,300	1.0	0.1	10	-3 @ 650
5544	Negative-control, inert gas, filament type. Quick-heating cathode. Super-jumbo 4-pin base, medium cap.	7 $\frac{1}{2}$	2 $\frac{1}{8}$	2.5	12	16	-55 to +70*	1,500	1,500	40	3.2	560	-8 @ 1,000
5557	Negative-control, mercury vapor, filament type. Medium 4-pin bayonet base, medium cap.	6 $\frac{1}{8}$	2 $\frac{1}{8}$	2.5	5	16	+40 to +80	2,500	5,000	2	0.5	40	-7 @ 1,000
5559	Negative-control, heater-cathode type. Small 4-pin bayonet base, medium cap.	7 $\frac{1}{4}$	3	5.0	4.5	16	+40 to +80	1,000	1,000	15	2.5	200	-6.5 @ 1,000
5560	Negative-control, heater-cathode type. Ignitor firing applications. Small 4-pin bayonet base, two medium caps.	7 $\frac{3}{8}$	2 $\frac{1}{4}$	5.0	4.5	16	+40 to +80	1,000	1,000	15	2.5	200	-9 @ 1,000
5563-A	Negative-control, filament type. Jumbo 4-pin bayonet base, medium cap.	10 $\frac{1}{2}$	2 $\frac{1}{8}$	5.0	10	15	+25 to +50 +25 to +55 +25 to +50 +25 to +55	20,000 15,000 20,000 15,000	20,000 15,000 20,000 15,000	6.4 1.8 11.5 11.5	1.6 1.8 2.5 2.5	70 70 70 70	-2.5 @ 500
5632/C3J	Negative-control, filament type. Small 4-pin bayonet base, medium cap.	6	1 $\frac{1}{8}$	2.5	9	10	-55 to +75*	900	1,250	30	2.5	300	-4.5 @ 750
5663	Negative-control, inert-gas-filled. For relay and grid-control rectifier applications. Seven-pin miniature.	1 $\frac{1}{2}$	3 $\frac{1}{4}$	6.3	0.15	11	-55 to +90*	500	500	0.06	0.02	1.0	-2.5 @ 500
5665/C16J	Negative-control, xenon, filament type. Base bracket and flexible leads.	10 $\frac{1}{2}$	2 $\frac{1}{8}$	2.5	31	11	-55 to +75*	1,000	1,250	160	16	1,000	-2.2 @ 500 -4.0 @ 1,000
5696A	Negative-control, inert-gas-filled cathode type. seven-pin miniature.	1 $\frac{3}{4}$	3 $\frac{1}{4}$	6.3	0.15	10	-55 to +90	500	500	0.125	0.028	2.0	—
5720	Positive-control, heater-cathode type. Medium 4-pin bayonet base, medium cap.	7 $\frac{1}{2}$	3	5.0	4.5	—	+35 to +80	1,000	1,000	15	2.5	200	+9.5 @ 1,000
5727	Negative-control, inert-gas-filled cathode type. Seven-pin miniature.	1 $\frac{7}{8}$	3 $\frac{1}{4}$	6.3	0.6	8	-75 to +90*	650	1,300	0.5	0.1	10	-3.5 @ 450
5728	Negative/positive-control, heater-cathode type. Small 4-pin bayonet base, medium cap.	7	3	5.0	4.5	16	+40 to +80	1,000	1,000	15	2.5	200	+4 @ 100 0 @ 1,000
5830	Negative-control, heater-cathode type for high voltage and current applications.	17 $\frac{3}{4}$	5 $\frac{1}{8}$	5.0	20	16	+40 to +65	10,000	10,000	75	12.5	1,500	-6 @ 10,000
5855	Negative-control, filament type. High commutation factor for motor control. Lugs for connections.	11 $\frac{1}{4}$	3 $\frac{5}{8}$	2.5	34	16	-55 to +70*	1,500	1,500	160	18	2,000	-3 @ 1,000
6011/710	Negative-control, mercury vapor and gas-filled type. Medium 4-pin bayonet base, large cap.	6 $\frac{1}{4}$	1 $\frac{1}{8}$	2.5	9	15	-40 to +80	1,000	1,250	30	2.5	250	-5 @ 1,000
6012	Negative-control, heater-cathode type. Octal, 6-pin base.	4 $\frac{1}{4}$	1 $\frac{1}{2}$	6.3	2.5	10	-75 to +90*	650	1,300	5	0.5	20	-10 @ 650
6014/C1K	Negative-control, filament, xenon type. Small 4-pin bayonet base.	4 $\frac{1}{4}$	1 $\frac{1}{8}$	2.5	6.3	8	-55 to +75*	1,000	1,250	8	1	77	-2 @ 500
6807	Negative-control, gas type. Super-jumbo bayonet base.	9	2 $\frac{5}{8}$	2.5	21	16	-55 to +70*	1,500	1,500	80	6.4	1,120	-6 @ 1,000
6808	Same as GL-6807 with flexible leads and bracket mount.	9	2 $\frac{5}{8}$	2.5	21	16	-55 to +70*	~1,500	1,500	80	6.4	1,120	-6 @ 1,000
6809	Same as GL-6807 with spade lugs for panel mounting.	9	2 $\frac{5}{8}$	2.5	21	16	-55 to +70*	1,500	1,500	80	6.4	1,120	-6 @ 1,000
6858/760	Negative-control, filament type. Four-pin bayonet base. Medium cap.	9 $\frac{1}{2}$	2 $\frac{1}{8}$	2.5	21	12	-40 to +80	1,500	1,500	77	6.4	770	-4 @ 500 -5.5 @ 1,250
6859/760-P	Negative-control, filament type. Bracket-type base for panel mounting. Medium cap.	9 $\frac{1}{2}$	2 $\frac{1}{8}$	2.5	21	12	-40 to +80	1,500	1,500	77	6.4	770	-4 @ 500 -5.5 @ 1,250
7518/710-L	Negative-control, gas and mercury type. Spade lugs for panel mounting. Medium cap.	6 $\frac{1}{4}$	1 $\frac{1}{8}$	2.5	9	15	-40 to +80	1,000	1,250	30	2.5	250	-5 @ 1,000
7725	Negative-control, gas and mercury type. Quick-heating filament. Four-pin bayonet base. Medium cap.	6 $\frac{1}{4}$	1 $\frac{1}{8}$	2.5	9	15	-40 to +80	3,500	3,500	30	2.5	250	-5 @ 1,000 -9 @ 3,500
7726	Same as GL-7725 except spade lugs for panel mounting.	6 $\frac{1}{4}$	1 $\frac{1}{8}$	2.5	9	15	-40 to +80	3,400	3,500	30	2.5	250	-5 @ 1,000 -9 @ 3,500

Miniature types are in bold face.

\* Temperature rating expressed in ambient temperature range over which the tube will operate.



## Ignitrons

GENERAL  ELECTRIC

Ignitrons are gas-discharge tubes employing a mercury pool as the cathode. The mercury pool cathode provides extremely high emission capability. Initiation of conduction in the ignitron is accomplished by means of a starting electrode called the ignitor. The ignitor is a small rod of highly refractory material which dips into the mercury pool. The passage of ignition current through the ignitor causes a cathode spot to form at the junction of the ignitor and mercury pool. Ionization from the cathode spot spreads throughout the volume of the ignitron and when the anode is positive electrons flow to it. By control of the point in the A-C cycle at which the ignitor is fired the duration of current flow through the ignitron is controlled. The ignitron,



therefore, is ideally suited for high current rectification and control service. The following charts present summarized rating information for General Electric ignitrons. All ratings are based on 25-60 CPS operation. For convenience to the user the ignitron types are grouped by typical application service. Many types are rated for more than one service and therefore appear in two or more rating charts. More detailed ratings are available upon request for all of the G.E. ignitrons listed. The ignitron has long been recognized as a long life, highly reliable device. As the industry's leading ignitron manufacturer General Electric is pleased to present the information contained in this booklet and invites your inquiry for additional application assistance if required.



## IGNITRONS — RESISTANCE WELDING CONTROL SERVICE

TYPE	SIZE	MECHANICAL DATA			MAXIMUM ELECTRICAL RATINGS*				
		Maximum Dimensions - Inches		Mounting	Supply Volts RMS	Maximum Demand KVA	Corresponding Average Anode Current Amperes	Maximum Average Anode Current Amperes	Corresponding Demand KVA
Rigid Length	Diameter								
GL-5550	A	9 $\frac{1}{8}$	2 $\frac{3}{4}$	Clamp	250-600	300	12.1	22.4	100
GL-5551A/GL-5551A-PC	B	13	2 $\frac{3}{4}$	Conventional	250-600	600	30.2	56	200
GL-5552A/GL-5552A-PC	C	14	4 $\frac{1}{4}$	Conventional	250-600	1200	75.6	140	400
GL-5553B/GL-5553B-PC	D	19 $\frac{1}{2}$	5 $\frac{5}{8}$	Conventional	250-600	2400	192	355	800
GL-5554 (2)	—	17	4 $\frac{1}{8}$	Conventional	2400	1200	75	113	600
GL-5555 (2)	—	17 $\frac{1}{2}$	5 $\frac{3}{4}$	Conventional	2400	2400	135	207	1105
GL-5564 (2)	—	27 $\frac{1}{8}$	9 $\frac{1}{8}$	Special	2400	4800	270	414	2210
GL-6512 (2)	Integral Thermostat Version of GL-5554. Same Ratings Apply.								
GL-6513 (2)	Integral Thermostat Version of GL-5555. Same Ratings Apply.								
GL-6515 (2)	Integral Thermostat Version of GL-5564. Same Ratings Apply.								
GL-7151	E	23 $\frac{1}{4}$	9 $\frac{1}{8}$	Special	250-600	4800 <sup>(1)</sup>	486	900	1600
GL-7669/GL-7669-PC	B	9 $\frac{7}{8}$	2 $\frac{3}{4}$	Coaxial	250-600	600	30.2	56	200
GL-7671/GL-7671-PC	C	11 $\frac{7}{8}$	4 $\frac{1}{4}$	Coaxial	250-600	1200	75.6	140	400
GL-7673/GL-7673-PC	D	19 $\frac{1}{2}$	5 $\frac{5}{8}$	Coaxial	250-600	2400	192	355	800
GL-7681/GL-7681-PC	Jumbo C	17 $\frac{1}{2}$	4 $\frac{1}{4}$	Conventional	250-600	1800	135	220	600
GL-7998/GL-7998-PC	Jumbo C	14 $\frac{1}{4}$	4	Coaxial	250-600	1800	135	220	600
GL-8205	E	23	9 $\frac{1}{8}$	Coaxial	250-600	4800 <sup>(1)</sup>	486	900	1600
GL-37250/GL-37250-PC	B-2000	13	2 $\frac{3}{4}$	Conventional	250-600	1000	43.2	75	200
GL-37251/GL-37251-PC	B-2000	13	2 $\frac{3}{4}$	Coaxial	250-600	1000	43.2	75	200
GL-37252/GL-37252-PC	C-4000	14 $\frac{1}{4}$	4 $\frac{1}{4}$	Conventional	250-600	2000	108	150	380
GL-37253/GL-37253-PC	C-4000	14 $\frac{1}{4}$	4 $\frac{5}{8}$	Coaxial	250-600	2000	108	150	380
GL-37254/GL-37254-PC	D-6000	19 $\frac{1}{2}$	5 $\frac{5}{8}$	Conventional	250-600	3000	224	400	1000
GL-37255/GL-37255-PC	D-6000	19 $\frac{1}{2}$	5 $\frac{5}{8}$	Coaxial	250-600	3000	224	400	1000

Warranty for all types listed above is H-12 except for those marked (2), see footnote below.

PC Indicates plastic coated version.

\* All ratings based on use of liquid cooling.

(1) Maximum demand current below 500 volts should not exceed 9600 amperes RMS.

(2) Have H-24 warranty.

## IGNITRONS — FREQUENCY-CHANGER WELDING CONTROL SERVICE

TYPE	SIZE	MECHANICAL DATA			MAXIMUM ELECTRICAL RATINGS*				
		Maximum Dimensions - Inches		Mounting	Peak Inverse Voltage Volts	Maximum Peak Anode Current Amperes	Corresponding Average Anode Current Amperes	Maximum Average Anode Current Amperes	Corresponding Peak Anode Current Amperes
Rigid Length	Diameter								
GL-5551A GL-5551A-PC	B	13	2 $\frac{3}{4}$	Conventional	1200 1500	600 480	5 4	22.5 18	135 108
GL-5553B GL-5553B-PC	D	19 $\frac{1}{2}$	5 $\frac{5}{8}$	Conventional	1200 1500	3000 2400	40 32	140 112	840 672
GL-5822A GL-5822A-PC	C	14 $\frac{1}{4}$	4 $\frac{1}{4}$	Conventional	1200 1500	1500 1200	20 16	70 56	420 336
GL-7669 GL-7669-PC	B	9 $\frac{7}{8}$	3 $\frac{1}{4}$	Coaxial	1200 1500	600 480	5 4	22.5 18	135 108
GL-7672 GL-7672-PC	C	11 $\frac{7}{8}$	4 $\frac{5}{8}$	Coaxial	1200 1500	1500 1200	20 16	70 56	420 336
GL-7673 GL-7673-PC	D	19 $\frac{1}{2}$	5 $\frac{5}{8}$	Coaxial	1200 1500	3000 2400	40 32	140 112	840 672
GL-7681 GL-7681-PC	Jumbo C	17 $\frac{1}{2}$	4 $\frac{1}{4}$	Conventional	1200 1500	2250 1800	30 24	105 84	630 502
GL-7998 GL-7998-PC	Jumbo C	16	4	Coaxial	1200 1500	2250 1800	30 24	105 84	630 502

Warranty for all types listed above is H-12.

PC Indicates plastic coated version.

\* All ratings based on use of liquid cooling.

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## IGNITRONS — PULSE WELDING CONTROL SERVICE

TYPE	SIZE	MECHANICAL DATA			MAXIMUM ELECTRICAL RATINGS*						
		Maximum Dimensions - Inches		Mounting	Peak Inverse Voltage Volts	Initial Peak Inverse Voltage Volts	Peak Anode Current Amperes	Average Anode Current Amperes	Averaging Time Seconds	Anode Current Repetition Rate - Pulses Per Second	Anode Current Pulse Width Microseconds
		Rigid Length	Diameter								
GL-7670	B	9 $\frac{7}{8}$	2 $\frac{3}{4}$	Coaxial	2500	1250	2000	10	2	60	1000
GL-7673	C	19 $\frac{1}{2}$	5 $\frac{7}{8}$	Coaxial	2500	1250	4000	20	2	60	1200
GL-8360	B	9 $\frac{7}{8}$	2 $\frac{3}{4}$	Coaxial	2500	1250	2000	10	2	60	1000

Warranty for all types listed above is H-12.

\* All ratings based on use of liquid cooling.

## IGNITRONS — POWER RECTIFIER SERVICE

TYPE	DESCRIPTION	MECHANICAL DATA			MAXIMUM ELECTRICAL RATINGS*				Warranty
		Max. Dimensions Inches		Mounting	Peak Anode Voltage Volts		Anode Current Amperes		
		Rigid Length	Diameter		Forward	Inverse	Peak	Average	
GL-5554	For continuous-duty power rectifier service at 100 amperes at 900 volts peak forward and inverse. Has auxiliary anode and two ignitors.	17	4 $\frac{1}{8}$	Conventional	900 2,100	900 2,100	900 600	100 75	H-24, G-12
GL-5555	For continuous-duty power rectifier service at 200 amperes at 900 volts peak forward and inverse. Has auxiliary anode and two ignitors.	17 $\frac{1}{2}$	5 $\frac{3}{4}$	Conventional	900 2,100	900 2,100	1,800 1,200	200 150	H-24, G-12
GL-5564	For continuous-duty power rectifier service at 400 amperes at 900 volts peak forward and inverse. Has auxiliary anode and two ignitors.	27 $\frac{1}{2}$	9 $\frac{1}{8}$	Special	750	750	3,600	400	H-24, G-12
GL-5630	For high voltage power-rectifier and inverter service. Also used as capacitor discharge or DC short-circuiting switch.	22 $\frac{3}{4}$	5 $\frac{3}{4}$	Conventional	20,000	20,000	200	50	G-12
GL-5779	Small glass air-cooled type for demonstrating the operating principles of ignitrons and ignitrons.	8 $\frac{1}{4}$	2 $\frac{1}{2}$	Conventional	350	350	30	10	G-12
GL-5788	Similar to GL-5555. Features reliable operation at higher water temperatures and phase-retard operation; has larger diameter ignitor terminals.	19 $\frac{1}{4}$	5 $\frac{3}{4}$	Conventional	2,100	2,100	1,200	150	H-24, G-12
GL-6228	For high voltage power-rectifier and inverter service. Also used in capacitor discharge and DC short-circuiting switch service.	42	9	Special	20,000	20,000	900	150	H-36, G-12
GL-6504	Double-grid type with three ignitors for locomotive rectifier service. Twelve tubes will supply DC power for 4000 HP locomotive.	30 $\frac{1}{4}$	9	Coaxial	4,000	4,000	2,000	350	G-12
GL-6509	Similar to GL-5555. For auxiliary power in rectifier locomotives. Has three ignitors.	7 $\frac{1}{2}$	5 $\frac{3}{4}$	Conventional	900 2,100	900 2,100	1,800 1,200	200 150	G-12
GL-6512	Integral thermostat version of GL-5554. Same ratings apply.								H-24, G-12
GL-6513	Integral thermostat version of GL-5555. Same ratings apply.								H-24, G-12
GL-6514	Integral thermostat version of GL-5788. Same ratings apply.								H-24, G-12
GL-6515	Integral thermostat version of GL-5564. Same ratings apply.								H-24, G-12
GL-6878	Double-grid type for locomotive rectifier service. Features coaxial cathode connection to reduce magnetic field effects.	30 $\frac{1}{4}$	13 $\frac{1}{8}$	Coaxial	100	4,000	2,500	675	G-12
GL-6958	Double-grid type for industrial power rectifier and inverter service. Especially suited for phase retard operation. Features coaxial cathode connection to reduce magnetic field effects.	29 $\frac{7}{8}$	9	Special	4,000	4,000	2,000	275	G-12
GL-7042	Integral thermostat version of GL-6958. Same ratings apply.								G-12
GL-7736	Similar to GL-5564. Features reliable operation at high voltage and with phase-retard operation.	27 $\frac{7}{8}$	9 $\frac{1}{8}$	Special	900 2,100	900 2,100	3,600 2,400	400 300	G-12
GL-8420	Forced-air-cooled type for locomotive electronic contactor service. Features coaxial cathode connection to reduce magnetic field effects; integral thermostat control.	22 $\frac{3}{4}$	10 $\frac{1}{4}$	Coaxial	1,000	1,000	2,500	200	G-12
GL-8465	For motor control service. Has auxiliary anode and two ignitors.	17 $\frac{1}{2}$	5 $\frac{3}{4}$	Conventional	900 2,100	900 2,100	1,800 1,200	200 150	H-24, G-12
GL-8466	Integral thermostat version of GL-8465. Same ratings apply.								H-24, G-12
GL-35438	Double-grid motor control ignitron. Features cathode connection to reduce magnetic field effects.	30 $\frac{1}{4}$	13 $\frac{1}{8}$	Special	4,000	4,000	2,500	675	G-12

\* All ratings are based on use of liquid cooling except GL-5779 and GL-8420 whose ratings are based on use of forced air cooling.

Ignitrons

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## IGNITRONS — CAPACITOR DISCHARGE SERVICE

TYPE	MECHANICAL DATA			MAXIMUM ELECTRICAL RATINGS					Cooling
	Maximum Dimensions - Inches		Mounting	Peak Anode Voltage Volts		Peak Anode Current Amperes	Typical Discharge Rate Pulses Per Minute	Ionization Time-Micro- seconds	
	Rigid Length	Diameter		Forward	Inverse				
GL-5630	22 $\frac{3}{4}$	5 $\frac{3}{4}$	Conventional	35,000	35,000	20,000	2	0.8	Liquid
GL-6228	42	9	Special	50,000	50,000	30,000	2	0.8	Liquid
GL-7171	8 $\frac{3}{4}$	2 $\frac{3}{32}$	Clamp	15,000	15,000	35,000	2	0.5	Air
GL-7703	7 $\frac{5}{8}$	2 $\frac{1}{4}$	Clamp	20,000	20,000	100,000	2	0.5	Liquid or Air
GL-37207	20	5 $\frac{3}{4}$	Conventional	25,000	25,000	300,000	500	0.5	Liquid
GL-37228	7 $\frac{5}{8}$	2 $\frac{1}{4}$	Clamp	20,000	20,000	100,000	2	0.5	Liquid or Air
GL-37248	7 $\frac{5}{8}$	2 $\frac{1}{4}$	Clamp	50,000	50,000	25,000	2	0.7	Liquid or Air
GL-37267A	10 $\frac{1}{4}$	6 $\frac{1}{2}$	Coaxial	20,000	20,000	300,000	500	0.7	Liquid

For above types, warranty is normally K-1000, however warranty information for specific applications will be supplied upon request.

## IGNITRON ACCESSORIES

## THERMOSTAT KITS

Kit includes thermostat and spring-loaded fastener in a captive assembly for connection to mounting pad located on ignitron water jacket.

Single-pole contacts perform control functions as shown in chart below.

Kit No.	Function	Contacts	Temperature		Termination
			Open (°F)	Close (°F)	
N15272AA	Water control	NO	86	96	36-inch leads with spade terminals
N15273AA	Over-temperature protection	NC	125	105	36-inch leads with spade terminals
N15286AA	Water control	NO	86	96	Terminal block
N15287AA	Over-temperature protection	NC	125	105	Terminal block

## COOLING CLAMP

## IGNITOR TERMINAL CONNECTING LEADS

Suitable for use with GL-5550, GL-7171 and GL-7703 to accomplish cathode connection and liquid cooling: Cat. No. L 6922259-G5	Insulated leads for connection to 0.250-inch diameter ignitor terminals	Cat. No. N 22006LC	7 $\frac{3}{4}$ inches long
		Cat. No. N 22007LC	13 $\frac{1}{2}$ inches long

## QUICK-CHANGE WATER CONNECTORS

Ignitron installation time is reduced through the use of slotted anode and cathode terminals . . . provided as a regular feature on all standard G-E welding ignitrons . . . and the use of the quick-change brass water hose connectors shown in table.

Fitting No.	Description	Use with G-E Ignitron Type
B1HK	Socket	GL-5551-A, GL-5552-A, GL-5822-A, GL-7669, GL-7670, GL-7671, GL-7672, GL-7681, GL-7998, GL-8360, GL-37250, GL-37251, GL-37252, GL-37253
B2HK	Socket	GL-5553-B, GL-5554, GL-5555, GL-6512, GL-6513, GL-7673, GL-37254, GL-37255
B2K16	Plug	

## CONDENSED WARRANTY INFORMATION

## G-12—

(Rectifier service only.) Warranted for full replacement within one year of service. Expires 18 months from date of sale to ultimate user or two years from date of shipment by G.E.

## H-12—

Warranted for one year with prorated adjustment after 15 days of service. Expires 18 months from date of sale to ultimate user, 12 months from date of initial installation, or 2 years from date of shipment by G.E.

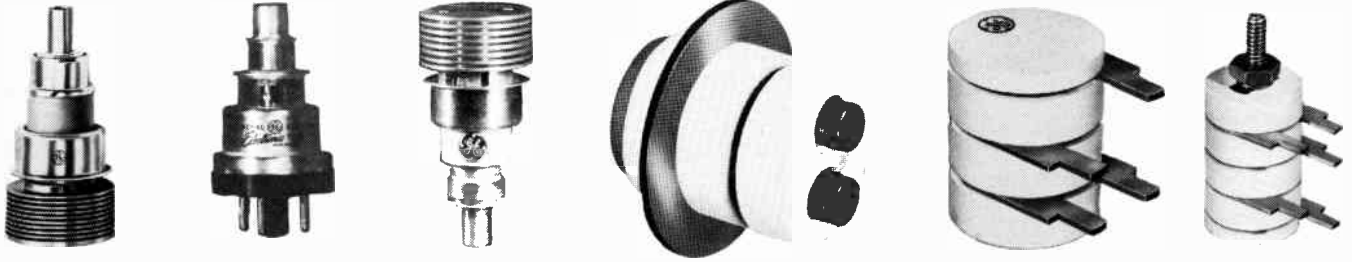
## H-24—

Warranted for two years with prorated adjustment after 15 days of service. Expires 36 months from date of sale to ultimate user, 24 months from date of initial installation, or 3 $\frac{1}{2}$  years from date of shipment by G.E.

## K-1000—

Warranted for 1000 operations or six months of service with prorated adjustment for the difference between elapsed number of operations and 1000. Expires nine months from date of sale to ultimate user, six months from date of initial installation, or twelve months from date of shipment by G.E.

# PLANAR TUBES — CERAMIC • GLASS LIGHTHOUSE



## GENERAL, MAXIMUM RATINGS

## CHARACTERISTIC AND TYPICAL OPERATION

TYPE	GENERAL DESCRIPTION	Out-line Dwg.	Heater		Max. Plate Volts And Watts	Max. Grid Current ma	Max. Freq. MC (8)		Plate Volts	Neg. Grid Volts	Plate Milli-am-peres	Grid Milli-am-peres	μ	Rp, Ohms	Gm, μMhos	Gain in db	R.F. Power Output	Freq. MC
			Volts	Amps														
2B22	Metal-glass diode — "lighthouse" type, intended for detector service.	A	6.3	0.75	300 (1)	—	1,500	Signal detector	Tube voltage drop: 6.0 volts at $I_b=20$ milliamperes. Maximum DC cathode current=20 milliamperes; maximum peak cathode current=700 milliamperes									
2C39-A	Metal-ceramic triode — intended for UHF power amplifier, oscillator, or frequency multiplier service.	B	6.3	1.03	1,000 100 (3)	50	2,500	Avg. char. Class C Oscillator Class C Oscillator	600 900 800	(7) -22 -20	70 90 80	27 27 32	100 — —	— — —	2,500 — —	— — —	27W 12W	500 2,500
2C39-B	Metal-ceramic triode — intended for UHF power amplifier, oscillator, or frequency multiplier service.	B	6.3 (2)	1.03	1,000 100 (3)	50	2,500	Avg. char. Class-C oscillator Class-C oscillator	600 900 900	(4) 22 40	75 90 90	— 27 30	95 — —	— — —	24,800 — —	— — —	17W 40W	2,500 500
2C39-WA	Military version of 2C39B when subject to considerable vibration and shock. Interchangeable with 2C39B.	Same as 2C39B																
2C40	Metal-glass triode — "lighthouse" type, intended for UHF oscillator or amplifier service.	C	6.3	0.75	500 6.5	8.0	3,370	Avg. char. Radio-frequency oscillator	250 250	Rk=200 5.0	17 20	— 0.5	36 —	— —	4,850 —	— —	75MW	3,370
2C40-A	Metal-glass triode — "lighthouse" type, intended for UHF oscillator service, either CW or pulse.	C	6.3	0.75	500 6.5 1,400 (5) 4.0 (6)	8.0 1,000 (6)	3,370	Avg. char. Radio-frequency oscillator Plate-pulsed oscillator D.F.=.001	250 250 1,400	Rk=200 5.0 —	17 20 1,000	— 0.5 —	35 — —	— — —	5,100 — —	— — —	75MW 300W	3,370 3,000
2C42	Lighthouse triode. For use as plate-pulsed oscillator up to 1300 mc.	D	6.3	0.9	3,000 25	—	—	C-T Oscillator At 3370 mc.	250	-5	20	—	36	—	4,850	—	—	—
2C43	Metal-glass triode — "lighthouse" type, intended for UHF CW	D	6.3	0.9	500 12 3,500 (5)	—	1,500 3,370 (6)	Avg. char. Push-pull radio-frequency oscillator — values for two tubes Plate-pulsed oscillator D.F.=.001	250 470 3,000	Rk=100 Rg=1,000 Rg=100	21 38 2,500	— — —	50 — —	— — —	8,100 — —	— — —	9.0W 1.75KW	350 3,370
2C46	Lighthouse triode. For use in cavity as stable oscillator between 1,000 and 1,200 mc.	D	6.3	0.75	500 12	—	—	C-T UHF Oscillator	150	—	8	—	60	—	3,500	—	—	—
3CX100A5	Metal-ceramic triode — intended for UHF oscillator or amplifier service, either CW or pulse.	E	6.0 (3)	1.0	1,000 100 (3)	50	2,500 3,000 (6)	Avg. char. Class-C amplifier Plate-pulsed oscillator D.F.=.0025	600 900 3,500	(7) 40 —	70 90 3,000	— 30 1,800	100 — —	— — —	25,000 — —	— — —	40W 1.6W	500 3,000
6299	Metal-ceramic triode — intended for low-noise UHF amplifier service.	F	6.3	0.3	200 2.0	0	3,000	Avg. char. Class-A radio-frequency amplifier — grounded-grid	175 (9) 0 (10) 0 (10)	(9) 0 0	10 10 10	— — —	110 115	7,300 9600	15,000	— 17.5 11	— — —	450 3,000
6442	Metal-ceramic triode — intended for UHF oscillator or amplifier service, either CW or pulse.	G	6.3 (2)	0.9	350 8.0 (2) 3,000 (5) 7.5 (6)	15 1,250 (6)	2,500 5,000 (6)	Avg. char. Class-C amplifier Plate-pulsed oscillator — D.F.=.001	350 250 3,000	4.25 — 75	35 23 2,500	— 6.0 1,250	50 — —	— — —	16,500	— — —	2.8W 0.5KW	1,000 5,000
6771	Metal-ceramic triode — intended for UHF oscillator or amplifier service, either CW or pulse.	G	6.3 (2)	0.575	300 6.25 (3) 1,750 (5)	8.0 700 (6)	4,000 5,000 (6)	Avg. char. Radio-frequency oscillator	250 275	1.6 —	25 25	— —	90 —	— —	23,000	— —	300MW	4,000
6897	Metal-ceramic triode — intended for UHF CW oscillator or amplifier service.	B	6.3 (2)	1.03	1,000 100 (3)	50	2,500	Avg. char. Class-C oscillator	600 900 500	(4) 22 40	75 90 90	— 27 30	90 — —	— — —	24,800	— — —	17W 40W	2,500 500
7077	Metal-ceramic triode — intended for low-noise UHF amplifier service.	H	6.3	0.24	250 1.1	—	3,000	Avg. char. Grounded-grid amplifier	250 (11) 250 (11)	Rk=82 Rk=82	6.5 6.5	— —	90 9,000	10,000	— —	14.5	— —	450
7266	Metal-ceramic diode — intended for instrument-probe service.	I	6.3	0.215	600 (1)	—	3,000	Instrument detector	Tube voltage drop: 1.0 volts at $I_b=1.0$ milliamperes. Maximum DC cathode current=2.2 milliamperes; maximum peak cathode current=11 milliamperes									
7289	Metal-ceramic triode — intended for UHF oscillator or amplifier service, either CW or pulse.	E	6.0 (2)	1.0	1,000 100 (3) 3,500 (5) 27 (6)	50 1,800 (6)	2,500 3,000 (6)	Avg. char. Class-C amplifier Plate-pulsed oscillator — D.F.=.0025	600 (7) 900 3,500	(7) — —	70 90 3,000	30 — 1,800	100 — —	— — —	25,000	— — —	40W 1.6KW	500 3,000
7296	Metal-ceramic triode — intended for VHF oscillator or amplifier service.	J	6.3	0.4	330 5.5	10	500	Avg. char.	200	Rk=68	17	—	90	5,450	16,500	—	—	—
7391	Metal-ceramic triode — intended for UHF oscillator service.	F	6.3	0.38	200 2.25	3.0	6,000	Avg. char. Class-C oscillator	175 150 150	1.5 — —	10 12 12	— 3.0 3.0	62 — —	— — —	11,000	— — —	65MW 500MW	5,400 500
7462	Metal-ceramic triode — intended for low-noise VHF amplifier service.	K	6.3	0.24	250 1.1	—	500	Avg. char.	150	(12)	7.2	—	94	9,000	10,000	—	—	—
7486	Metal-ceramic triode — intended for UHF oscillator or amplifier service.	H	6.3	0.24	250 1.0	2.2	3,000	Avg. char. Class-C oscillator Class-C amplifier	150 150 150	Rk=82 Rg=1,000 Rg=3,000	7.5 8.0 5.0	— 2.0 1.0	90 — —	— — —	10,500	— — —	300MW 300MW	1,200 450
7588	Metal-ceramic triode — intended for VHF amplifier service.	J	6.3	0.4	300 5.5	—	500	Avg. char.	200	(13)	24	—	175	3,900	45,000	—	—	—

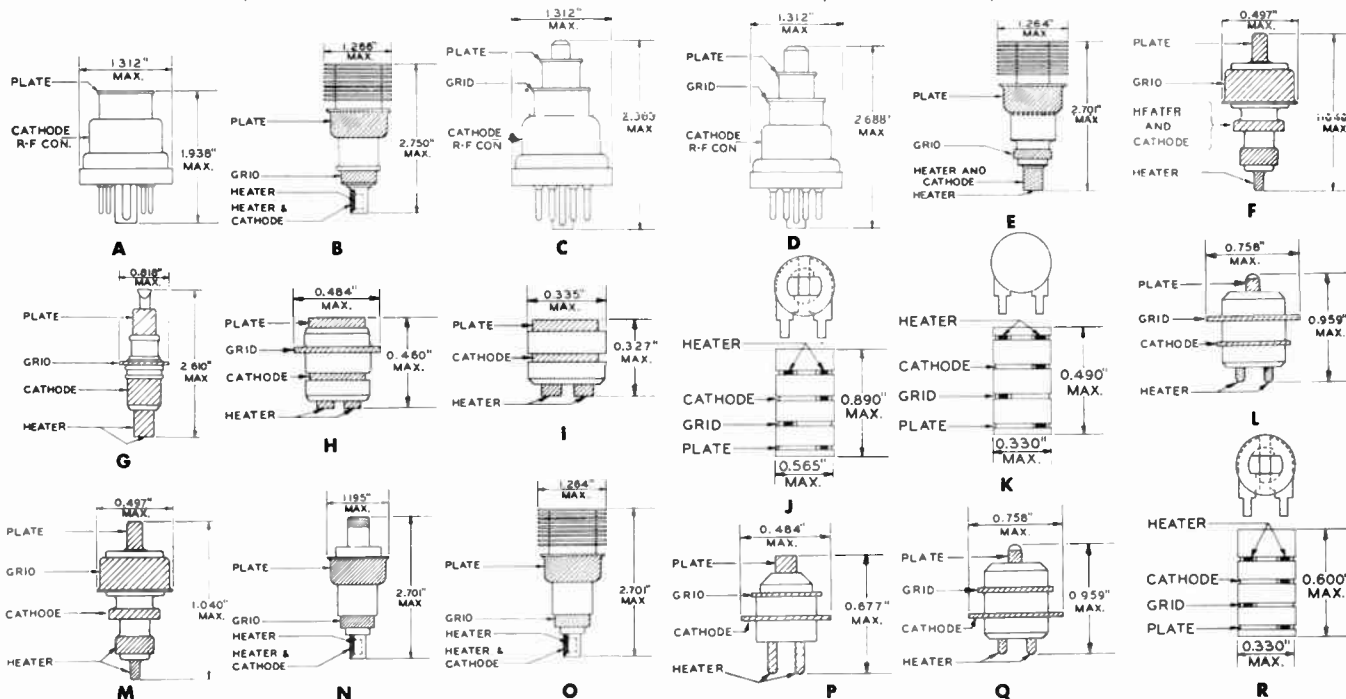
# PLANAR TUBES — CERAMIC • GLASS LIGHTHOUSE



GENERAL, MAXIMUM RATINGS										CHARACTERISTIC AND TYPICAL OPERATION										
TYPE	GENERAL DESCRIPTION	Out-line Dwg.	Heater Volts	Amps	Max. Plate Volts And Watts	Max. Grid Current ma	Max. Freq. MC <sup>(8)</sup>				Plate Volts	Neg. Grid Volts	Plate Milli-amperes	Grid Milli-amperes	Rp, Ohms	Gm, $\mu$ Mhos	Gain in db	R.F. Power Output	Freq. MC	
7625	Metal-ceramic triode — intended for low-level audio-frequency amplifier service.	K	6.3	0.215	275 0.85	—	—	Avg. char.		150	Rk=1,000	0.95	—	80	57,000	1,400	—	—	—	
7644	Metal-ceramic triode — intended for low-noise UHF amplifier service.	F	6.3	0.3	200 2.0	—	3,000	Avg. char. Class-A radio-frequency amplifier — grounded-grid		175 300 300 (14)	0 0 0	10 10 10	— — —	110 — —	7,300 — —	15,000 — —	11 17.5	— — —	3,000 450	
7720	Metal-ceramic triode — intended for VHF oscillator service.	K	6.3	0.24	250 1.0	2.2	500	Avg. char. Class-C oscillator		150 150	Rk=82 Rg=7,000	7.5 4.0	0.5	90	—	10,500	—	100MW	450	
7768	Metal-ceramic triode — intended for UHF amplifier service.	L	6.3	0.4	330 5.5	—	3,000	Avg. char.		175	(13)	24	—	225	4,500	50,000	—	—	—	
7784	Metal-ceramic triode — intended for low-noise UHF amplifier service.	M	6.3	0.3	200 2.0	—	3,000	Avg. char. Class-A radio-frequency amplifier — grounded-grid		200 (10) (10)	0 0 0	10 10 10	— — —	110 — —	7,300 — —	15,000 — —	17.5 11	— — —	450 3000	
7815	Metal-ceramic triode — intended for UHF pulsed oscillator or amplifier service.	N						Plate-pulsed oscillator — D.F.=.003		3,500	—	3,000	3.0	—	—	—	—	2KW	2,500	
7815R	Metal-ceramic triode — intended for UHF pulsed oscillator or amplifier service.	O	6.0 (2)	1.0	3,500 (5) 10 (6, 15)	5.0	3,000	Plate-pulsed oscillator — D.F.=.003		3,500	—	3,000	3.0	—	—	—	—	2KW	2,500	
7841	Metal-ceramic diode — intended for detector service.	I	6.3	0.215	350 (1)	—	3,000	Signal detector		Tube voltage drop: 2.6 volts at Ib=5.0 milliamperes. Maximum DC cathode current=5.5 milliamperes; maximum peak cathode current=22 milliamperes										
7910	Metal-ceramic triode — intended for UHF plate-pulsed oscillator or amplifier service.	P	6.3	0.275	1,200 (5) 1.5 (6)	200 (6)	7,500	Avg. char. Plate-pulsed oscillator — D.F.=.001		125 1,000	Rk=82	11.5 600	200	75	—	16,000	—	—	100W	5,900
7911	Metal-ceramic triode — intended for UHF plate-pulsed oscillator or amplifier service.	Q	6.3	0.55	3,000 (5) 6.5 (6)	1,000 (6)	6,000	Avg. char. Plate-pulsed oscillator — D.F.=.001		200 3,000	Rk=100	23 2,500	300	58	2,300	25,000	—	2.2KW	4,100	
7913	Metal-ceramic triode — intended for UHF oscillator or amplifier service.	L	6.3	0.4	330 5.5	10	3,000	Avg. char. Class-C oscillator		200 300	Rk=47 Rg=1,500	25 25	5.0	100	2,500	40,000	—	4.0W	400	
8081	Metal-ceramic triode — intended for low-level audio-frequency amplifier service.	R	6.3	0.215	275 0.85	—	—	Avg. char.		150	Rk=1,000	0.95	—	80	57,000	1,400	—	—	—	
8082	Metal-ceramic triode — intended for UHF oscillator service.	R	6.3	0.24	250 1.0	2.2	500	Avg. char. Class-C oscillator		150 150	Rk=82 Rg=7,000	7.5 4.0	0.5	—	—	—	—	100MW	450	
8083	Metal-ceramic triode — intended for low-noise VHF amplifier service.	R	6.3	0.24	250 1.1	—	500	Avg. char.		150	(12)	7.2	—	94	9,000	10,500	—	—	—	

**NOTES**

- (1) Peak inverse voltage.
- (2) This is the bogey value at which average characteristics are determined. For some classes of operation a lower value may be recommended.
- (3) These are the highest values listed for any class of CW operation; lower values may be indicated for some classes of CW operation. Refer to complete data sheets.
- (4) Adjusted for Ib=75 milliamperes.
- (5) for this information.
- (6) Peak voltage rating for pulse service.
- (7) Pulse service.
- (8) Adjusted for Ib=70 milliamperes.
- (9) The frequency listed is one at which significant application data are available or expected, and does not necessarily represent an absolute frequency limit.
- (10) Adjusted for Ib=10 milliamperes.
- (11) Adjusted for Ib=10 milliamperes; range must be variable from 75 to 200 volts.
- (12) Bypassed resistor (18k) in plate-supply lead.
- (13) With Rk=910 and Eg=+6.0 volts.
- (14) With Rk=270 and Eg=+6.0 volts.
- (15) Bypassed resistor (17.5k) in plate-supply lead.
- (16) Plate dissipation of 100 watts is maintained with forced-air cooling.

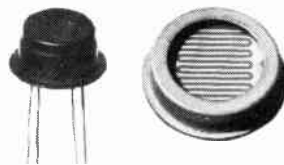
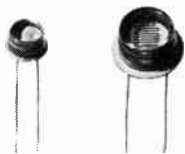


# Special Devices — Photo Conductive Cells

GENERAL  ELECTRIC

Reliable, hermetically sealed, or plastic encapsulated, cadmium sulfide and cadmium selenide photoconductive cells are available in a wide assortment of package sizes and electrical characteristics.

Photocell-lamp combinations consist of a photoconductive cell and an illumination source enclosed in a light tight, metal package available in an assortment of electrical characteristics.

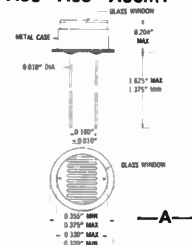


TYPE	Outline Drawing	Enclosures	Sensitive Material	Peak Spectral Response	MAXIMUM RATINGS			Resistance at 2 Footcandles — Ohms	Resistance at 20 Footcandles — Ohms	Dark Current (Maximum)	RESPONSE TIME	
					Ambient Temperature	Power Dissipation	Voltage				Turn-on Time <sup>(1)</sup> Sec.	Turn-off Time <sup>(2)</sup> Sec.
A33P1	B	Plastic	CdS	5500A	-40 to +65C	50 MW <sup>(10)</sup>	30	6,300	1,070	100μA <sup>(4)</sup>	0.88	0.21
A35	A	Metal-Glass	CdS	5500A	-40 to +65C	75 MW <sup>(3)</sup>	50	12,000	2,900	100μA <sup>(4)</sup>	1.0	0.28
A36M1	A	Metal-Glass	CdS	5500A	-40 to +65C	75 MW <sup>(3)</sup>	60	30,000	3,800	60μA <sup>(4)</sup>	0.089	0.005
B46	C	Metal-Glass	CdS	6100A	-40 to +80C	250 MW <sup>(5)</sup>	60	1,250	260	80μA <sup>(6)</sup>	0.75	0.57
B425	C	Metal-Glass	CdS	6100A	-40 to +65C	250 MW <sup>(3)</sup> 500 MW <sup>(7)</sup>	250	9,100	1,400	80μA <sup>(4)</sup>	0.56	0.09
B425P1	D	Plastic	CdS	6100A	-40 to +65C	200 MW <sup>(3)</sup>	250	9,100	1,400	80μA <sup>(4)</sup>	0.56	0.09
C425P1	D	Plastic	CdSe	7300A	-40 to +65C	50 MW <sup>(10)</sup>	250	15,000	1,800	50μA <sup>(4)</sup>	0.016	0.021
B430	C	Metal-Glass	CdS	6100A	-40 to +65C	250 MW <sup>(3)</sup> 500 MW <sup>(7)</sup>	300	15,000	2,500	100μA <sup>(4)</sup>	0.32	0.08
B1035M1	F	Metal-Glass	CdS	6100A	-40 to +65C	600 MW <sup>(3)</sup> 1.0 W <sup>(8)</sup>	350	12,000	1,570	400μA <sup>(9)</sup>	0.23	0.1
B1035M2	F	Metal-Glass	CdS	6100A	-40 to +65C	600 MW <sup>(3)</sup> 1.0 W <sup>(8)</sup>	350	5,500	970	400μA <sup>(9)</sup>	0.23	0.1
B1035M3	F	Metal-Glass	CdS	6100A	-40 to +65C	600 MW <sup>(3)</sup> 1.0 W <sup>(8)</sup>	350	2,750	580	1500μA <sup>(9)</sup>	0.23	0.1

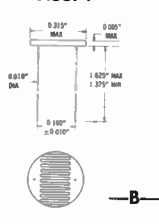
**NOTES**

- (1) The time required for current through the cell to reach 90% of its steady value upon switching from darkness to a light level of 5 footcandles.
- (2) The time required for current through the cell to decrease to 10% of its steady value upon switching from a light level of 5 footcandles to darkness.
- (3) This dissipation is allowable at ambient temperatures from -40 to +40C. From +40 to +65C, the allowable dissipation decreases linearly, reaching zero at +65C.
- (4) Measures approximately 30 seconds after removal of illumination of two footcandles produced by a tungsten-filament source operated at a color temperature of 2854 Kelvin and at rated cell voltage.
- (5) This dissipation is allowable at ambient temperatures from -40 to +40C. From +40 to +80C, the allowable dissipation decreases linearly, reaching 37 milliwatts at +80C, and going to zero above +80C.
- (6) Measured approximately 20 seconds after removal of illumination of two footcandles produced by a tungsten-filament source operated at a color temperature of 2854 Kelvin; d-c polarizing voltage 12 volts.
- (7) Allowable dissipation may reach 500 milliwatts with external heat-conducting bracket.
- (8) For a maximum of 20 minutes at 12-hour intervals.
- (9) Measured approximately 30 seconds after removal of illumination of one footcandle produced by a tungsten-filament source operated at a color temperature of 2854 Kelvin; d-c polarizing voltage 50 volts.
- (10) This dissipation is allowable at ambient temperatures from -40 to +30C. From +30 to +65C, the allowable dissipation decreases linearly, reaching zero at +65C.

**A33 - A35 - A36M1**

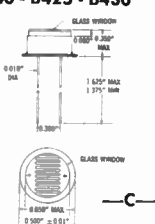


**A33P1**

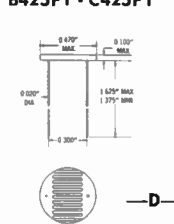


**OUTLINE DRAWINGS**

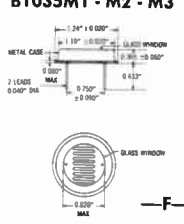
**B46 - B425 - B430**



**B425P1 - C425P1**



**B1035M1 - M2 - M3**



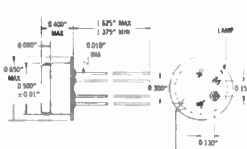
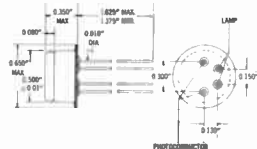
## Photoconductive Cell — Lamp Combinations

TYPE	Outline Drawing	Sensitive Material	MAXIMUM RATINGS					Cell Resistance At 20% Of Maximum Lamp Voltage — Ohms	Cell Resistance At 90% Of Maximum Lamp Voltage — Ohms	Dark Current (Maximum)
			PHOTOCONDUCTIVE CELL			LAMP				
			Ambient Temperature	Power Dissipation	Voltage	Voltage	Current <sup>(1)</sup>			
PL5B1	A	CdS	-40 to +65C	100 MW <sup>(2)</sup>	250	5.0	60 MA	40,000	260	80μA <sup>(4)</sup>
PL5C1	A	CdSe	-40 to +65C	100 MW <sup>(2)</sup>	200	5.0	60 MA	20,000	260	15μA <sup>(4)</sup>
PL5B2	A	CdS	-40 to +65C	100 MW <sup>(2)</sup>	60	5.0	60 MA	3,400	60	400μA <sup>(2)</sup>
Y-1248*	A	CdS	-40 to +65C	100 MW <sup>(2)</sup>	60	28	40 MA	2,000	30	100μA <sup>(2)</sup>
Y-1260*	A	CdS	-40 to +65C	100 MW <sup>(2)</sup>	250	28	40 MA	5,000	130	80μA <sup>(4)</sup>

**NOTES**

- (1) Current of a bogey lamp at rated voltage.
- (2) This dissipation is allowable at ambient temperatures from -40 to +30C. From +30 to +65C, the allowable dissipation decreases linearly, reaching zero at +65 C.
- (3) Measured approximately 5 minutes after removal of illumination; d-c polarizing voltage 60 volts.
- (4) Measured approximately 5 minutes after removal of illumination; d-c polarizing voltage 250 volts.
- (5) Measured approximately 5 minutes after removal of illumination; d-c polarizing voltage 200 volts.
- \* Publication of these data does not obligate the General Electric Company to manufacture a device with these characteristics.

**OUTLINE DRAWINGS**



# Special Devices — Reed Switches



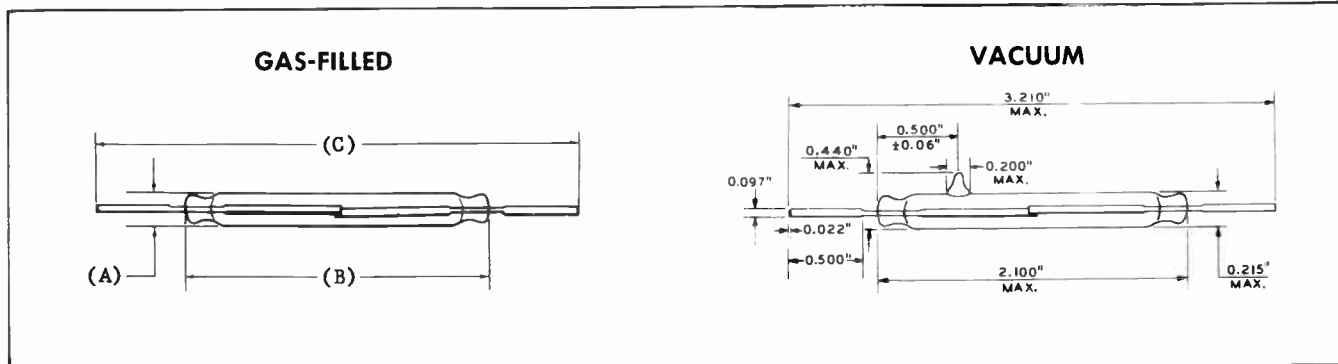
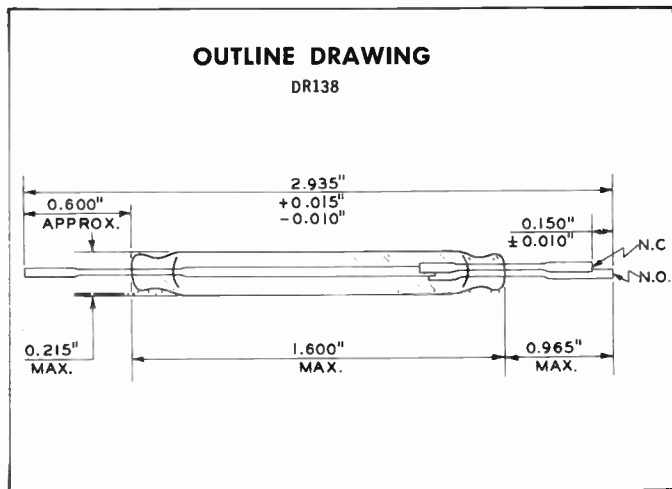
In a relatively short period of years, the dry reed switch has begun to play an important role in performing the switching function for a wide variety of electronic/electro-mechanical equipment. Major application, now in general use, range from telephone switchgear, appliances, and data processing units to logic circuitry for industrial controls.

The General Electric reed switch capsule consists of a pair of low reluctance, magnetically actuated, flat metal reeds, hermetically sealed in an atmosphere of dry inert gas. The reeds are of equal length and are supported as cantilevers, overlapping at the center of the glass cylinder where they are separated by a small air gap, thus forming a normally open Single Pole, Single Throw (SPST) switch.

Type <sup>(1)</sup>	Former Designation	MAXIMUM CONTACT RATING			SENSITIVITY		Maximum Initial Contact Resistance In Milliohms	Breakdown Voltage Minimum, 60 cps rms	Life Expectancy In Millions of Cycles <sup>(2)</sup>	MAXIMUM DIMENSIONS IN INCHES			Contacts And Leads
		Resistive Load	Maximum Current	Maximum Voltage	Pull-In Ampere-Turns	Drop-Out Ampere-Turns				Glass Dia. (A)	Glass Length (B)	Overall Length (C)	
<b>MINIATURE — INERT-GAS FILLED</b>													
DR100	IDR04	4VA	0.25A	250	43±11 <sup>(3)</sup>	18±8 <sup>(3)</sup>	150	300	20 <sup>(4)</sup>	0.108	0.84	2.03	<sup>(5)</sup>
DR121	Y-1292	10VA	0.25A	250	43±11 <sup>(3)</sup>	28±8 <sup>(3)</sup>	150	300	20 <sup>(4)</sup>	0.108	0.84	2.55	<sup>(6)</sup>
DR123	Y-1513	10VA	0.25A	250	35±11 <sup>(3)</sup>	15±10 <sup>(3)</sup>	150	300	20 <sup>(4)</sup>	0.108	0.84	2.55	<sup>(6)</sup>
DR125	Y-1454	4VA	0.25A	250	35±13 <sup>(3)</sup>	18±10 <sup>(3)</sup>	150	300	20 <sup>(4)</sup>	0.108	0.84	2.03	<sup>(5)</sup>
DR145		10VA	0.25A	250	28±10	6 Min.	150	300	20 <sup>(4)</sup>	0.108	0.84	2.55	<sup>(6)</sup>
<b>2" — INERT-GAS FILLED</b>													
DR101	2DR15	15VA	1.0A	250	90±15 <sup>(7)</sup>	34±8 <sup>(7)</sup>	50	500	20 <sup>(8)</sup>	0.215	2.10	3.21	<sup>(9)</sup>
DR104	2DR15-3	15VA	1.0A	125	40±10 <sup>(7)</sup>	23±7 <sup>(7)</sup>	50	350	20 <sup>(8)</sup>	0.215	2.10	3.21	<sup>(9)</sup>
DR113	2DR50	50VA	3.0A	250	90±15 <sup>(7)</sup>	45±10 <sup>(7)</sup>	50	500	20 <sup>(15)</sup>	0.215	2.10	3.21	<sup>(18)</sup>
<b>2" — VACUUM</b>													
DRV120	2VR15	—	3.0A <sup>(16)</sup>	5000 <sup>(16)</sup>	113±20 <sup>(17)</sup>	52±10 <sup>(17)</sup>	50	7000	—	See Drawing			
<b>FORM C</b>													
DR138		5VA	0.25A	250	90±20	32±15	50	350	20	See Drawing			

**NOTES**

- (1) All switches use single-pole, single-throw, normally open, Form A contact arrangements. With the exception of type DRV120, which is a vacuum switch, all switches are filled with inert gas at an internal pressure 1/2 atmosphere
- (2) Some degradation or improvement in performance may be expected at operating conditions other than those specified.
- (3) Sensitivity measured using a 6300 turn coil of #41 wire wound on a 0.8" long bobbin approximately 0.17" in diameter.
- (4) Full load, 25 volts d-c, 60 operations per second at H.V.A.
- (5) Diffused gold contacts with gold-plated leads.
- (6) Rhodium-plated contacts with gold-plated leads.
- (7) Sensitivity measured using a 10,000 turn coil of #39 wire wound on a 2.0" long bobbin approximately 0.25" in diameter.
- (8) Full load, 50 volts d-c, 60 operations per second.
- (9) Diffused gold contacts with both leads tinned.
- (12) Sensitivity measured using a 10,000 turn coil of #36 wire wound on a 1.750" long bobbin approximately 0.330" in diameter.
- (13) Nominal center-to-center of bent leads.
- (14) Diffused gold contacts with both leads tinned and bent on 90° angle.
- (15) Full load, 125 volts d-c, 60 operations per second.
- (16) The voltage rating is a "hold-off" value, and the current rating is a measure of the current the contacts will carry but not switch. Maximum permissible switching currents are to be determined.
- (17) Sensitivity measured using a 5,700 turn coil of #36 wire wound on a 2.0" long bobbin having an oval cross-section of approximately 0.5" x 0.28".
- (18) Rhodium-plated contacts with both leads tinned.



## Special Devices—Tungar Bulbs

GENERAL  ELECTRIC

The Tungar bulb developed by General Electric in 1916—and used for rectification of a-c to d-c is well known wherever battery charging or similar applications require d-c power.

CATALOG NUMBER	12X825 206501†	20X672	16X897	45X674	99X44	189048 [RTMA Type 4B28]	189049 [RTMA Type 4B26]	217283 [RTMA Type 5B21]	76X13	99X45
TYPE	Argon Half-wave	Mercury Argon Half-wave	Mercury Argon Full-wave	Mercury Argon Full-wave	Mercury Argon Half-wave	Argon Half-wave	Argon Half-wave	Argon Half-wave	Mercury Argon Half-wave	Mercury Argon Half-wave
<b>MAXIMUM RATINGS — ABSOLUTE VALUES</b>										
Maximum peak inverse anode voltage .....	275	90	1000	1000	105	300	375	225	275	110
Maximum anode current:										
Average amperes — in phase operation .....	2	5	2	6	10	6	6	15	20	20
Peak amperes — in phase operation .....	12	30	12	36	36	36	36	90	120	120
Maximum d-c output, average volts .....	75	20	250	250	25	60	90	60	75	25
Maximum temperature measured at tube base ..	100 C	130 C	90 C	90 C	160 C	100 C	100 C	100 C	160 C	160 C
<b>GENERAL DESIGN</b>										
Number of electrodes .....	2	2	3	3	2	2	2	2	2	2
Catalog Number of socket .....	278768	3778926	5556072G1	5556072G1	217967	217967	217967	217967	217967	217967
Cathode, thoriated tungsten filament*:										
Maximum volts .....	2.1	2.1	2.625	2.625	2.31	2.31	2.31	2.625	2.73	2.73
Minimum volts .....	1.9	1.9	2.375	2.375	2.09	2.09	2.09	2.375	2.47	2.47
Filament current — Amperes (approx.) .....	12	12	10	18	17.5	17	17	25	32	32
Pre-heating time — Seconds .....	0 <sup>1</sup>	0 <sup>2</sup>	300 <sup>3</sup>	300 <sup>3</sup>	0 <sup>2</sup>	0 <sup>1</sup>	0 <sup>1</sup>	15 <sup>4</sup>	180 <sup>3</sup>	15 <sup>3</sup>
Anode voltage drop (Arc Drop):										
Maximum volts .....	9.5	9	20	18	10.5	10	11	9	15	10
Design standard, volts .....	7.5	6	9	9	6	7	7.5	7.5	6.5	7.5
Critical anode voltage (pick-up):										
Hot .....	15	6	20	20	6	15	16	16	6	6
Cold .....	15	11	24	20	11	15	16	16	12	12
Type of cooling .....	Radiation	Radiation	Radiation	Radiation	Radiation	Radiation	Radiation	Radiation	Radiation	Radiation
Mouting position .....	Any	Vertical— Base Down	Vertical— Base Down	Vertical— Base Down	Vertical— Base Down	Any	Any	Any	Vertical— Base Down	Vertical— Base Down
<b>DIMENSIONS AND WEIGHTS</b>										
Net weight in ounces .....	2	3	3	4½	4	4	4	5½	6½	6½
Standard carton quantity .....	12	12	12	12	12	12	12	12	12	12
Shipping weight in pounds per carton .....	8	8	8	7½	7½	7½	7½	26	26	26
Maximum length in inches .....	4¼	4⅝	6	7½	7	7	7	8¾	9½	9½
Maximum diameter in inches .....	2¾	2¾	2¾	3¾	3¾	3¾	3¾	3⅞	3⅞	3⅞

## NOTES

\* Except for Cat. Nos. 16X897 and 45X674 which have coated filaments.

† Cat. No. 206501 is identical to Cat. No. 12X825 except that it is fitted with an adapter to take a clip anode lead and fits a standard Edison socket.

<sup>1</sup> Under normal ambient temperature conditions, this tube will deliver 90 percent of full output within three seconds after the simultaneous application of anode and filament voltages. Longer tube life can be obtained by applying anode voltage 1 to 3 seconds later than the filament voltage.

<sup>2</sup> Under normal ambient temperature conditions, this tube will deliver 80 percent of full output within three seconds after the simultaneous application of anode

and filament voltages. Longer tube life can be obtained by applying anode voltage 1 to 3 seconds later than the filament voltage.

<sup>3</sup> The preheating time listed must be respected and filament excitation must be continuous if guarantees are to apply. When first installed in a new location, this tube should be operated for 10 minutes with filament voltage only.

<sup>4</sup> Full output can be obtained as soon as power is applied to the anode after preheating time. The recommended tube preheating time must be respected and filament excitation must be continuous if guarantees are to apply.



# GE Interchangeability Listing



Type To Be Replaced	GE Replacement Type	Type To Be Replaced	GE Replacement Type	Type To Be Replaced	GE Replacement Type	Type To Be Replaced	GE Replacement Type	Type To Be Replaced	E Replacement Type
AG	83	5Y3WGTB	6087	12AV7	5965A	VR-75-ST	0A3	VR-150MT	0A2
SBS	CL-5551A	5Y3-GT	6087△△	12AY7	6072A*	L-77	6C4WA	QS-150/40	0D3
SCS	CL-5552A	5Y3-GA	6087△△	12AU7	6189	QL-77	6C4WA	B-152	12AT7WB
SDR	GL-5555	5Y3-G	6087△△	FA-13	GL-5628/FA13	DD-77	5726†	D-152	5726†
SDS	GL-5553B	PM-05	5654	AR-14	GL-5551Aφ	X-77	5750	B-152	6201
OG3	5651	QV-05/25	807	14GTB	7724	L-77	6135	BK-168B	GL-5822Aφ
XR-1-3200	GL-5544	DD-6	5726	AR-14T	GL-5551Aφ	QL-77	6135	172	FG-172
1D21	1D21/SN4	DQ-6	GL-869B	AR-14TP	GL-5551Aφ	U-78	6X4W	WL-172	FG-172
1G50	2050	FA-6	GL-5677	AR-14TWS	GL-5551Aφ	ECC81	12AT7WB	CV-177	813
C-1J	6014/C1K	6AC7	6AC7WA	G-15F	927	FG-81	FG81A	C-180	832A
C-1J/K	6014/C1K	6AC7WA	6134	C-16J	5665/C16J	ECC81	6679	C-180	832A
C-1K/6014	6014/C1K	6AH6	6485	ELC16J	5665/C16J	WL-81-A	FG81A	E-180F	6688A
ELC1K	6014/C1K	6AJ7	6AC7WA	EE-17	5557/FG17	E-81CC	6201	E-182CC	7044
C-1K	GL-6014/C1K	6AJ7	6134	WL-17	5557/FG17	CC-81E	6201	VT-187	575A
1L21	GL-1L21	6AK5	5654	DET17	810	ECC82	6680	BR-191B-4606	5762/7C24
1P32	927	6ALS5W	5726†	FG-17	5557/FG-17	S-82CC	6189	WT-210-0001	2D21
1R21	GL-5550	6ALS	5726†	17	5557/FG-17	E-82M	5824	WT-210-0003	2050
CT-1/2500	5559/FG57	6AQ5W	6005	WL-17	5557/FG-17	ECC83	12AX7WA	WT-210-0008	866A
H-2-10	2X2-A	6AQ5-AM8245	6005	NU-20	927	ECC83	6681	WT-210-0011	0C3
QY-2-100	813	6AQ5A/6HG5	6005	20A3	2D21	ECC83	7025	WT-210-0015	5557/FG-17
P-2-12	832A	6AS6W	5725	NU-20C	927	E-83CC	6681	WT-210-0018	0D3
2-100A/100R	GL-8020	6AS6/409A	6AS6	KD-21	0A3	QS-83/3	5651	WT-210-0019	83
B-2A	2050	6AU6WA	6136	PL-21	2D21	VT-83	83	WT-210-0027	872A
2B21	2X2-A	ZP-6B	2C43	PL-21	5727	85A2	5651	WT-210-0043	5632/C35
2B23	GL-2B23	6BA6W	5749	RL-21	2D21	85A2	5651	WT-210-0045	892
2B29	829B	6BA6	5749	BK-24	GL-5552Aφ	ECC88	6D18	WT-210-0054	GL-5830
2B32	832A	6BE6	5750	BK-24A	GL-5552Aφ	KT-88	6550	WT-210-0056	5559/FG-17
2B94	5894	6BH6	6661	BK-24B	GL-5552Aφ	EK-90	5750	WT-210-0057	5560/FG-95
2C39	2C39A	6BJ6	6662	KD-24	0C3	EC-90	6135	WT-210-0058	FG-172
2C39A	2C39WA	6C4	6C4WA	KD-25	0D3	VR-90	0B3	WT-210-0062	5557/FG-17
2C39WB	3CX100A5, 2C39B	6C4	6135	ATS25	807	VR-90-30	0B3	WT-210-0069	5557/FG-17
2C51W	5670S	6CL6	6197	ARS25	807	GL-90-30	0B3	WT-210-0070	GL-5550
2C51W	5670S	6C86A	6676	ARS25A	807	E-90F	6661	WT-210-0071	GL-5551A
2C51	5670S	6CL6	6677	25B6-G	5824	VR-90ST	0B3	WT-210-0072	GL-5552A
2D	1P40	6CY5	7717	CE-25C	927	EN-91	2D21	WT-210-0073	GL-5553B
2D21/R6200	2D21	6CY5	8113	NC-25C	927	EB-91	5726†	WT-210-0075	GL-5822A
WL-2D21	2D21	6D2	5726†	CE-25D	927	ECC91	5964	WT-210-0078	FG-172
2D21W	5727	6G10	FG105	CEB25D	927	E-91AA	5726†	WT-210-0079	FG-105
2D21	5727	DD-6G	5726	25L6GT	6046	AA-91E	5726†	WT-210-0086	833A
2G57	5557/FG-17	6J6	5964	CV-26	813	E-91N	5727	WT-210-0106	5632/C3J
2H28	3B28	6J6-A	5964	L-29	6299	EN-92	5696A	WT-210-0116	5560/FG-95
2H66	866A	C-6J	6807	CE-29R	929	EF-93	5749	WT-210-0147	GL-5552A
2H21	GL-2H21	C-6J/5C21	6807	CE-30C	930	EF-94	8425-A	WT-210-0149	GL-5551A
T-2M05	5964	ELC6J-A	6807	CE-30D	930	EF-94	8426-A	WT-210-0152	GL-5553B
D-2M9	5726	ELC6J/K	6807	CV-32	866A	HF-94	8426-A	WT-210-0156	GL-5551A
V-2M70	6X4W	ELC6J/KF	6808	EN-32	2050A	EF-95	5654	WT-210-0157	GL-5552A
QY-2/250	813	6L13	12AX7WA	FG-32	5558/FG32	E-95F	5654	WT-210-0158	GL-5551A
TX-2/3	GL-5544	6L6WGB	5881##	FG-33	GL5720/FG33	FG-95	5560/FG95	WT-210-0159	GL-5552A
2XM600A	866A	6L6	5881##	WL-33	GL5720/FG33	FG-98	FG98A	WT-210-0165	GL-5553B
QY-3-125	4D21/4-125A	6L6GT	5881##	REL34	2C40	E-99F	6662	WT-210-0166	GL-7151
3B25	3B28	6L6G	5881##	BK-34	GL-5553Bφ	VT-100	807	WT-210-0170	GL-5822A
3B27	3B28	6L13	7025	BK-34A	GL-5553Bφ	100	5575/100/616	WT-210-0179	6858/760
3B28/CR275	3B28	6S17	5693#	BK-34B	GL-5553Bφ	100A	GL-8020	WT-210-0188	6014/C1K
CE-3C23	3C23	6S17WGT	5693#	CE-36D	927	FG-104	5561/FG104	WT-210-0234	5665/C16J
NL-3C23	3C23	6SL7GT	5691SΔ†	CC-36D	930	105	5561/FG104	WT-210-0235	GL-5552A
WL-3C23	3C23	6SN7-GT	5692Δ#	EL-37	5881##	FG105	FG105	WT-210-0237	GL-5551A
C-3J	5632/C3J	6SN7-GTB	5692Δ#	RK-39	807	AX-105	FG105	WT-210-0240	GL-5553B
ELC3J	5632/C3J	6SK7	6137	FG-41	GL-5830	VR-105-MT	0B3	WT-210-0246	GL-7681
OA-3/VR75	0A3	6SK7WA	6137	WL-41	GL-5830	VR-105-30	0C3	WT-210-0249	GL-5551A-PC
OB-3/VR90	0B3	6SS7	6SK7WA	BK-42	GL-5551Aφ	VR-105-ST	0C3	WT-210-0252	GL-5552A-PC
OC-3/VR105	0C3	6SS7	6137	BK-42A	GL-5551Aφ	GL-105/30	0C3	WT-210-0258	GL-7681
QB-3/300	4D21/4-125A	6U8	6678	BK-42B	GL-5551Aφ	WTT106	5632/C3J	WT-210-0263	GL-8205
QE-03/10	5763	6U8A	6678	BK-46	GL-5555	WTT108	3C23	WT-210-0274	GL-7669
QQE-03-12	6360	6X4	6X4W†	B-47	5623/B47	108C1	0B2	WT-210-0275	GL-7671
QQV-03-10	6360	6X4	6203†	U-6F	5Y3WGTB	STR108/30	0D2	WT-210-0281	GL-7998
QV-03/12	5763	6X4	6203†	HD-51	51A3	STV108/30	0B2	WT-210-0282	GL-37255
3SU103	3B28	GB-6X4WA	6X4W	51A3	927	WTT11	5559/FG57	WT-210-0283	GL-7670
3X100A11	2C39WA	6X4	6X4WA	H5Y1B	829B	TC-112	3C23	WT-210-0285	GL-7671-PC
4B-13	813	GB-6X4-WA	6X4WA	HD-52	0B2	WTT118	FG105	WT-210-0290	GL-7669-PC
4B13	813	6X4WA	6202	53AWB	927	CV-124	807	WT-210-0305	GL-37253-PC
4F15R	4X150A/7034	QV-06-20	6146A	WL-57	5559/FG57	E-125A	4D21/4-125A	WT-210-0306	GL-37254
4G1280K	2D21	QE-06/50	807	FG-57	5559/FG57	WTT127	833A	AH-213	GL-869B
4G23	3C23	QQE06/40	829B	RK-58	GL-838	F-127A	833A	CV-216	0D3
4G93	393A	7C24	5762/7C24	VT-60/A	807	BW-129	889A	VT-216	816
4G63	5563A	7C29	GL-7C29	DP-61	6AK5W	DP-61	6AK5W	VR-216A	866A
4H72	872A/872	7D21	GL-7D21	HY-61	807	CV-133	GL-838	AH-224	872A/872
4H73	673	7F25-A	4-1000A	61A3	930	VT-134	6C4WA	AX-224	3B28
4H88	8008	PJ-8	GL-5556	61DV3	929	WTT134	GL-5665/C16J	TS-229	5687
4X150A	4X150A/7034	8F66R	6166A	HY-61/807	807	VT-139	0D3	ECC230	6080
4X150A	7034/4X150A	8T92	892	DF-62	1A04	CV-140	6663	235A	GL-5552A
4Y25	807	QQV07-40	829B	B-65	5692Δ#	C-143	813	FG-235A	GL-5552A
HM-04	5750	TT-10	813	FG-67	GL5728/FG67	VT-144	813	238A	GL-5555
PM-04	5749	10E195	FG95	DY-70	5642	C-144	829B	GL-238A	GL-5555
QQE-04/15	832A	10E/587	807	EC-70	5718	VR-150	0D3	238B	GL-5555
XG-5-500	5557/FG-17	10E/95	5560/FG95	ECC70	6021	VR-150-MT	0A2	FG-238B	GL-5555
5B250A	807	GU-12	866A	EC-71	5718	VR-150-30	0D3	VT-245	2050
5C100-A	813	12AT7	12AT7WB	EF-71	5899	VR-150-ST	0D3	RG-250-3000	866A
5C21/C6J	6807	12AT7WA	6201	EL-71	5902	150C1	0A2	HF-255	GL-869B
5R4G	5R4GYA	12AX7	12AX7WA	EF-72	5840	150C2	0A2	255A	GL-869B
5RWGA	5R4GYA	12AX7	5751†#	GL-75-30	0A3	150C4	0A2	255B	GL-869B
5T33	833A	12AX7-A	5751S†#	VR-75-30	0A3	150C3	0D3	258A	GL-5555

\* Low-Microphonic    † Balanced Sections    ‡ Lower Heater Current    § Higher Heater Current    # Lower Ratings    ## Higher Ratings  
 Δ Shorter Envelope    †† Longer Envelope    ΔΔ Cathode Type    ††† Different Basing    ★ General Electric Five-Star Type  
 φ Replaces other type listed. Will require change in cathode heater voltage.  
 # Electrical and Mechanical replacement for other type listed. May require change in water control or over temperature protection switches.

This Interchangeability listing has been prepared to help you find a G-E replacement for your tube requirements. It is believed to be accurate as of the date issued. However no responsibility is assumed by the General Electric Company for its use; nor for any infringements of patents or other rights of third parties which may result from its use.

# GE Interchangeability Listing



Type To Be Replaced	GE Replacement Type	Type To Be Replaced	GE Replacement Type	Type To Be Replaced	GE Replacement Type	Type To Be Replaced	GE Replacement Type	Type To Be Replaced	GE Replacement Type
FG-258A	GL-5553B	631	5559/FG57	GL-816	816	UE-966A	866A	NL-1071P	GL-7669-PC
FG-258B	GL-5553B	WL-631	5559/FG57	C-830B	829B	966A	866A	NL-1072	GL-7671
FG-259B	GL-5554	NL-632-B	5560/FG95	GL-830B	829B	UE-966A	866A	NL-1072P	GL-7671-PC
WT-262	866A	WL-632-B	5560/FG95	T-830B	829B	UE-967	FG17	NL-1073	GL-7673
FG-271	GL-5551A	CV-635	833A	C-833	833A	967	FG17	NL-1074	GL-8205
272	5557/FG-17	CV-638	GL-838	833	833A	967	5557/FG-17	NL-1079	GL-7998
WT-272	5557/FG-17	CV-642	872A/872	WL-833A	833A	NU-967	5557/FG-17	NL-1079P	GL-7998-PC
CR-274/872A	872A/872	651	GL-5552A	GL-833A	833A	UE-967	5557/FG-17	NL-1081	GL-37250
280	FG-280	WL-651	GL-5552A	T-833A	833A	UE-972	872A/872	NL-1081P	GL-37250-PC
CV-283	6663	DF-652	1A04	836	3B28	UE-972-A	872A/872	NL-1082	GL-37252
VT-286	832A	652	GL-5551A	838	GL-838	SN-972D	5899	NL-1082P	GL-37252-PC
WT-294	DD3	WL-652	GL-5551A	CV-846	6AC7WA	SN-973	5840	CK-1090	5823
Z-300T	DA4G	652/657	GL-5551A	CV-846	6134	SN-973C	5840	NL-1091	GL-37251
WT-301	83	653	GL-5555	CV-852	6C4WA	UE-975A	575A	NL-1091P	GL-37251-PC
B-309	12AT7WB	WL-653	GL-5555	S-856	DA2	975A	575A	NL-1092	GL-37253
CE-309	5557/FG-17	653A	GL-5555	GL-857B	857	SN-976	5902	NL-1092P	GL-37253-PC
CE-309	5557/FG-17	WL-653A	GL-5555	857B	GL-857B	SN-976D	5902	SC-1140A	5719
B-309	6201	653B	GL-5555	DR-857B	GL-857B	SN-979	5718	SC-1156A	5636
CE-311	3C23	WL-653B	GL-5555	F-857B	GL-857B	SN-979D	5718	SQ-1205	0A3
CE-320	6011/710	655	GL-5553B	ML-857B	GL-857B	SN-980	5719	QS-1207	0A2
320-A	6011/710	WL-655	GL-5553B	WL-857B	GL-857B	SN-980D	5719	QS-1208	DB2
QM-328	5686	656	GL-5552A	S-860	DB2	SN-994B	5896	XG-12500	5559/FG57
B-329	5814A	WL-656	GL-5552A	EF-861	6688A	DE-0517	5557/FG-17	1257	5559/FG57
B-329	5814WB	657	GL-5551A	F-862	862A	DG-0517	5557/FG-17	PL-1267	DA4G
B-339	12AX7WA	WL-657	GL-5551A	GL-862	862A	QV-0620B	6883	1267	FG67
B-339	5751S#	658	GL-5553B	RCA862	862A	RG-1000/3000	862A	1295	FG95
B-339	7025	WL-658	GL-5553B	862	862A	SN-1007	862	CV-1364	807
350A	807	CV660	6AC7WA	GL-862A	862A	NL-10009A	GL-7681	CK-1374	807
353A	872A/872	CV-660	6134	F-862A	862A	NL-10009AP	GL-7681-PC	CV-1572	807
F-363A	862A	672	672A	WL-863	862A	WT-1009/210-0246	GL-7681	1649	6AC7WA
F-366A	866A	WL-678	678	C-866	866A	NL-1011	GL-5551A	1649	6134
F-369B	GL-869B	679	GL-5554	UX-866	866A	NL-1011A	GL-5551A	1665	2050
F-375A	575A	WL-679	GL-5554	RK-866	866A	NL-1011AP	GL-5551A-PC	1672	FG-172
375A	575A	681	GL-5550	866	866A	NL-1012	GL-5552A	1701	5557/FG-17
381	2C39A	WL-681	GL-5550	866A/3B28	3B28	NL-1012A	GL-5552A	CV-1762	6AK6
CE-393A	393A	682	GL-5550	C-866A	866A	NL-1012A	GL-5552A-PC	CV-1763	614
WE-393A	393A	WL-682	GL-5550	RCA866A	866A	NL-1012AP	GL-5552A-PC	ZV-1798/5973	GL-5973
GL-393A	393A	CV-686	GL-5550	DC3	866A	NL-1013	GL-5553B	M-1821	5840
NL-393A	393A	686	GL-5550	GL-866A/866	866A	NL-1013A	GL-5553B	CV-1832	DA2
QF-408	1AD4	WL-686	GL-5550	NU-866A/866	866A	NL-1014A	GL-7151	CV-1833	DB2
409A	6AS6	CV-688	2C43	T-866A/866	866A	NL-1016	GL-7681	A-1834	6080
414	GL-414	688	GL-5564	866ACR27	866A	NL-1016A	GL-7681	CV-1835	3B28
WL-414	GL-414	WL-688	GL-5564	NU-866JR/816	816	NL-1016AP	GL-7681-PC	1852	6AC7WA
415	GL-5550	689	GL-6228	869	GL-869B	NL-1022	GL-5822A	1852	6134
GL-415	GL-5550	WL-689	GL-6228	869A	GL-869B	NL-1022A	GL-5822A	G-1889A	889A
GL-451	GL-8020	WT-699	GL-5550	UV-869A	GL-869B	NL-1022AP	GL-5822A-PC	1904	GL5728/FG67
ZP-451	GL-8020	710	6011/710	869B	GL-869B	WT-1022/210-0170	GL-5822A	CV-1949	6D4
451	GL-8020	NL-710	6011/710	AG-869B	GL-869B	ZP-1030	GL-8500	CV-1981	6137
CV-455	12AT7WB	6011/710	6011/710	CE-869B	GL-869B	ZP-1031	GL-8513	CV-2014	5763
464	2C43	NL-710/6011	6011/710	DR-869B	GL-869B	NL-1036H	GL-7171	CV-2014	5763
ZP-464	2C43	NL-715	5557/FG-17	EE-869B	GL-869B	NL-1036H	GL-7171-H	GL-2050	2050
GL-464A	2C43	715/5557	5557/FG-17	F-869B	GL-869B	NL-1037	GL-35329	WL-2050	2050A
464A	2C43	NL-715/5557	5557/FG-17	ML-869B	GL-869B	NL-1039	GL-37228	RK-2050	2050A
X-474	2C39A	CV-724	816	NL-869B	GL-869B	SN-1039A	5840	2051	2050A
CV-475	5899	W-727	5749	WL-869B	GL-869B	NL-1051	GL-5551A	CV-2129	5763
CV477	5899	X-727	5750	EL-870	4D21/4-125A	NL-1051A	GL-5551A	CV-1230	4D21/4-125A
CV-492	12AX7WA	W-727	6660	870	GL-870A	NL-1051AP	GL-5551A-PC	A-2130A	8005
WL-502-A	502A	EF-730	5636	870A	GL-870A	WT-1051A/210-0158	GL-5551A	2179A	2C40
GL-502A	502A	EF-731	5899	872	872A, 872	WT-1051A/210-0158	GL-5551A	A-2203	2C43
506	GL-6228	EF-732	5840	872A	872A, 872	WT-1051A/210-0249	GL-5551A-PC	A-2214J	6161
GL-506	GL-6228	EF-734	6205	T-875A	575A	NL-1051P	GL-5551A-PC	A-2229A	2C40
507	GL-5564	CV-747	6AC7WA	WL-880	880-A	NL-1052	GL-5552A	CV-2237	1AD4
GL-507	GL-5564	CV-747	6134	GL-880	880-A	NL-1052A	GL-5552A-PC	CV-2241	5642
512	575A	CV-752	DA4G	ML-880	880-A	WT-1052A/210-0159	GL-5552A	A-2293C	2C42
GL-512	575A	CK-760	760	HY-866JR	816	NL-1052P	GL-5552A-PC	A-2294C	2C46
GL-512A	575A	NL-760	6807	889	889A	WT-1052P/210-0159	GL-5552A	A-2352	5675
CV-525	12A6	760	6809	F-892	892	NL-1052P	GL-5552A-PC	QA-2401	6C4WA
CV-526	12A6	NL-760-L	6858/760	RCA892	892	WT-19052P/210-0252	GL-5552A-PC	QA-2401	6135
GL-549	5663	760-P	6859/760P	GL-892	892	NL-1053	GL-5553B	QA-2404	5726†
VX-550A	3B28	760/6858	6858/760	WL-892	892	NL-1053A	GL-37254	QA-2406	12AT7WB
VH-550A	866A	XB-785-B	2050A	Z-900T	5823	WT-1053A/210-0165	GL-5553B	QA-2407	6201
QM-556	6X4W	CV-797	2021	EAA901	5726	NL-1053B	GL-37254	QA-2408	6202
QM-556	6X4WA	ECC801	6201	S-901C	5651	NL-1054	GL-7151	CV-2432	5692Δ #
QM-557	5654	ECC801S	6201	EF-905	5654	NL-1054A	GL-7151	CV-2516	6205
QM-558	5725	ECC802	6189	GL-927	927	NL-1059	GL-37207	CV-2522	2C39A
QM-559	5726†	ECC802S	6189	GL-929	929	CV-1060	GL-7669	CV-2523	6AS6
CK-571AX	5886	ECC803	7025	WL-930	1P40	NL-1061	GL-7669-PC	CV-2573	5651
ZP-572	2C39A	ECC803S	7025	GL-930	930	NL-1061P	GL-7669-PC	CV-2575	5670S
WL-575A	575A	WL-807	807	WL-930	930	NL-1062	GL-7671	CV-2578	5687
AM-575A	575A	RK-807	807	930B	829B	NL-1062P	GL-7671-PC	CV-2638	393A
EE-575A	575A	GL-807	807	UE-930B	829B	NL-1063	GL-37255	CV-2643	2C40
578	GL-8020	NU-807	807	GL-931A	931A	NL-1064	GL-8205	CV-2666	812-A
WL-578	GL-8020	UY-807	807	CV-932	2C40	NL-1066	GL-7670	CV-2685	880-A
CK-612	6AN5	P-807	7293AR	UE-938	GL-838	NL-1068	GL-7672	CV-2693	929
CV618	83	WL-810	810	CV-939	5824	NL-1068P	GL-7672-PC	CV-2694	930
CV-627	810	GL-810	810	CV-945	28D7	NL-1069	GL-7998	CV-2696	931A
CV-628	811-A	811	811-A	SN-956	5642	NL-1069P	GL-7998-PC	CV-2698	5896
630	2050A	812	812-A	SN-956A	5642	NL-1071	GL-7669	CV-2721	2050
WL-630	2050A	WL-813	813	SN-956B	5642				
630A	2050A	GL-813	813	UE-966	866A				
WL-630A	2050A	NU-813T813	813	966	866A				

\* Low-Microphonic † Balanced Sections ‡ Lower Heater Current § Higher Heater Current # Lower Ratings ## Higher Ratings  
 Δ Shorter Envelope †† Longer Envelope ΔΔ Cathode Type ††† Different Basing 5★ General Electric Five-Star Type  
 ∅ Replaces other type listed. Will require change in cathode heater voltage.  
 ∅ Electrical and Mechanical replacement for other type listed. May require change in water control or over temperature protection switches.

This Interchangeability Listing has been prepared to help you find a G-E replacement for your tube requirements. It is believed to be accurate as of the date issued. However no responsibility is assumed by the General Electric Company for its use; nor for any infringements of patents or other rights of third parties which may result from its use.

# GE Interchangeability Listing



Type To Be Replaced	GE Replacement Type	Type To Be Replaced	GE Replacement Type	Type To Be Replaced	GE Replacement Type	Type To Be Replaced	GE Replacement Type	Type To Be Replaced	GE Replacement Type
CV-2721	2050A	NL-5551	GL-5551A	GL-5555/	6100	6C4WA	GL-7629	7629AR	
CV-2723	GL-869B	PL-5551	GL-5551A	RG-238B	6100	6135	GL-7644	7644	
CV-2842	6C4WA	VJ-5551	GL-5551A	WL-5555/653B	6106	5Y3WGTB	7669	GL-7669	
CV-2844	6X4W	WL-5551	GL-5551A	5556	6113	5691S $\Delta$ †	WL-7669	GL-7669	
CV-2844	6X4WA	5551A	GL-5551A	WL-5557/17	6125	6C4WA	7669-PC	GL-7669-PC	
CV-2854	6AN5	5551AP	GL-5551A-PC	AX-5557/FG-17/1701	6125	6135	WL-7669PC	GL-7669-PC	
CV-2858	3824W	5551A-PC	GL-5551A-PC	5557/FG-17	6146B	6146B/8298A	7670	GL-7670	
CV-2876	5727	5551A/652	GL-5551A	5558	6148	5702WA	WL-7670	GL-7670	
CV-2877	5654	AJ-5551A	GL-5551A	NL-5559/FG-57	6151	5744WA	7671	GL-7671	
CV-2882	5726	AX-5551A	GL-5551A	WL-5559/57	6155	4D21/4-125A	WL-7671	GL-7671	
CV-2884	5725	GL-5551A/		GL-5559/FG-57	6166		7671-PC	GL-7671-PC	
CV-2967	GL-8020	FG-271	GL-5551A	GL-5560/FG95	6166A	6166A	WL-7671PC	GL-7671-PC	
CV-2984	6080	PL-5551A	GL-5551A	NL-5560/FG-95	6182	7007/6166A	7672	GL-7672	
Z-3011	6299	WL-5551A	GL-5551A	5561	6183	6019	7673	GL-7673	
3069	866A	WL-5551APC	GL-5551A-PC	F-5563	6183	GL-6942H	NL-7673	GL-7673	
3070	872A/872	WL-5551A/652	GL-5551A	GL-5563-A	6183	GL-6942H	7673-PC	GL-7673-PC	
3071	GL-869B	WL-5551A/652PC	GL-5551A-PC	5563A	6183	GL-6942H	7673-PC	GL-7673-PC	
WX-3194	GL-5550	GL-5551A/FG-271	GL-5551A	5563A	6183	GL-6942H	7673-PC	GL-7673-PC	
WX-3230	678	WL-5551/652	GL-5551A	5564	6183	GL-6942H	7673-PC	GL-7673-PC	
CV-3508	6201	WT-5551/210-0071	GL-5551A	GL-5564/GL-507	6198	6198	7673-PC	GL-7673-PC	
CV-3512	5695A	5552	GL-5552A	5575	6198	6198	7673-PC	GL-7673-PC	
3572	866A	5552AP	GL-5552A-PC	5593	6228	6228	7673-PC	GL-7673-PC	
CV-3798	0A3	5552A-PC	GL-5552A-PC	5623	6228	6228	7673-PC	GL-7673-PC	
38166	866A	5552A/651	GL-5552A	5627	6228	6228	7673-PC	GL-7673-PC	
3874A	813	5552A	GL-5552A	5628	6228	6228	7673-PC	GL-7673-PC	
3885A	3828	5552A	GL-5552A	5630	6228	6228	7673-PC	GL-7673-PC	
CV-3928	5636	NL-5552	GL-5552A	5632	6228	6228	7673-PC	GL-7673-PC	
CV-3929	5840	PL-5552	GL-5552A	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-3930	5718	WL-5552	GL-5552A	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4008	5719	5552A	GL-5552A	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4009	5749	5552AP	GL-5552A-PC	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4010	5654	5552A-PC	GL-5552A-PC	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4011	6ASGW	5552A/651	GL-5552A	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4012	5725	AJ-5552A	GL-5552A	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4013	5750	AX-5552A	GL-5552A	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4013	5670S	PL-5552A	GL-5552A	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4016	5814A	VJ-5552A	GL-5552A	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4016	5814WB	WL-5552A	GL-5552A	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4017	5751S#	WL-5552APC	GL-5552A-PC	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4018	5727	WL-5552A/651	GL-5552A	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4022	6135	WL-5552A/651PC	GL-5552A-PC	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4023	6136	GL-5552/	GL-5552A-PC	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4024	12A77WB	FG-235A	GL-5552A	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4025	5726†	WL-5552/651	GL-5552A	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4029	5902	WT-5552/210-0072	GL-5552A	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-4039	5763	5553	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
A-4051	807	AX-5553	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
A-4051J	807	WL-5553	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
4078F	GL-869B	5553A	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
4260	5557/FG-17	AJ-5553A	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
4261	55557/FG-17	GL-5553A	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
TY-4350	833A	5553B	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
C-439-N7-51	N15286AA	5553B-PC	GL-5553B-PC	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
C-439-N7-52	N15287AA	5553B/655	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
C-439IN-58	N15272AA	AJ-5553B	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
C-439IN-59	N15273AA	GL-5553B	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
4401	5820A	AX-5553B	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
4414	5820A	NL-5553B	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
A-4475	6AS7G	NL-5553BP	GL-5553B-PC	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
ASG5017	5557/FG-17	PL-5553B	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
PA-5021	866A	VJ-5553B	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
TH-5021B	866A	WL-5553B	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
ASG5023	3C23	WL-5553BPC	GL-5553B-PC	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
TH-5031B	872A/872	WL-5553B/655	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
Z-5102	GL-7985	WL-5553B/655PC	GL-5553B-PC	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
AG-5211	0A2	5553	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
CV-5216	5654	WL-5553/655	GL-5553B	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
TH-5221V/B	3828	5554	GL-5554	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
Z-5319	GL-7399	5554	GL-5554	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
5513	GL-5513	AX-5554	GL-5554	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
5518	GL-5518	WL-5554	GL-5554	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
5544	GL-5554	5554/	GL-5554	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
MT-5544	GL-5554	FG-259B	GL-5554	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
PL-5544	GL-5554	AX-5554/679	GL-5554	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
GL-5545	6807	GL-5554/679	GL-5554	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
5549	GL-5549	5555	GL-5555	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
5550	GL-5550	5555	GL-5555	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
AX-5550	GL-5550	5555	GL-5555	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
NL-5550	GL-5550	5555	GL-5555	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
WL-5550	GL-5550	5555	GL-5555	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
5550/GL-415	GL-5550	5555	GL-5555	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
GL-5550/GL-415	GL-5550	5555	GL-5555	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
WL-5550/681	GL-5550	5555	GL-5555	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
WL-5550/	GL-5550	5555	GL-5555	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
681/686	GL-5550	5555	GL-5555	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
WT-5550/210-0070	GL-5550	5555	GL-5555	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
5551	GL-5551A	5555/238B	GL-5555	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
AJ-5551	GL-5551A	AX-5555/653B	GL-5555	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
AX-5551	GL-5551A	GL-5555/	GL-5555	5632/C3J	6228	6228	7673-PC	GL-7673-PC	
GL-5551	GL-5551A	FG-238A	GL-5555	5632/C3J	6228	6228	7673-PC	GL-7673-PC	

\* Low-Microphonic    † Balanced Sections    ‡ Lower Heater Current    § Higher Heater Current    # Lower Ratings    ## Higher Ratings  
 ^ Shorter Envelope    †† Longer Envelope    ‡‡ Cathode Type    ††† Different Basing    5★ General Electric Five-Star Type

φ Replaces other type listed. Will require change in cathode heater voltage.  
 # Electrical and Mechanical replacement for other type listed. May require change in water control or over temperature protection switches.

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# ELECTRON TUBES and COMPONENTS FOR ENTERTAINMENT and INDUSTRY

PREFERRED ENTERTAINMENT

## RECEIVING TUBES

For: • High-Fidelity • AM-FM • Television • Industry  
• Foreign Replacement

Mullard electron tubes, universally recognized for their advanced designs and reliability, offer a comprehensive range of tubes for High-Fidelity, AM-FM, Television, and Industrial Applications. The vast manufacturing resources of the Mullard organization, including the world's most modern research laboratories, is your assurance of guaranteed tube design advantages for maximum performance in electronic equipment.

Tube Type	Cross Ref.	Tube Type	Cross Ref.	Tube Type	Cross Ref.	Tube Type	Cross Ref.
DAF96	1AH5	ECF801	6GJ7	EM84	6FG6	PL81	21A6
DK96	1AB6	ECH81	6AJ8	EM87	6HU6	PL84	15CW5
DM70	1M3	ECH84	6JX8	EY81	6R3	PL500	27GB5
DM71	1N3	ECL80	6AB8	EY88	6AL3	PY81	17Z3
DY87	1S2A	ECL82	6BM8	EZ80	6V4	PY88	30AE3
EABC80	6AK8	ECL84	6DX8	EZ81	6CA4	UBF80	17C8
EB91	6AL5	ECL85	6GV8	EZ90	6X4	UCL82	50BM8
EBC90	6AT6	ECL86	6CW8	GZ30	5Z4G	UL84	45B5
EBC91	6AV6	EF80	6BX6	GZ32	5A04	UY85	38A3
EBF80	6N8	EF85	6BY7	GZ34	5AR4	XC95	2ER5
EBF83	6OR8	EF86	6Z67	HBC91	12AV6	XC900	2HA5
EBF89	6DC8	EF89	6DA6	HCC85	17EW8	XC8F0	4B18
EC80	6Q4	EF91	6AM6	HF93	12BA6	XC8F01	4GJ7
EC81	6R4	EF92	6CQ6	HK90	12BE6	XY88	16AQ3
EC86	6CM4	EF93	6BA6	HL92	50C5	DM70	DM70
EC88	6DL4	EF94	6AU6	HY90	35W4	OM71	OM71
EC90	6C4	EF95	6AK5	KT66		DY87	DY87
EC92	6AB4	EF183	6EH7	KT88		XC95	XC95
EC95	6ER5	EF184	6EJ7	LC900	3HA5	2CK5	2CK5
EC97	6FY5	EK90	6BE6	LCF801	5GJ7	3CK5	3CK5
EC900	6HA5	EL34	6CA7	LF183	4EJ7	6EU7	6EU7
ECC33		EL37	6CA7	LF184	4EJ7	6GK5	6GK5
ECC81	12AT7	EL41	6CK5	PC900	4HA5	6T8A	6T8A
ECC82	12AU7	EL81	6CJ6	PCC85	9A08	6U8A	6U8A
ECC83	12AX7	EL84	6B05	PCC88	7D18	12AU7A	12AU7A
ECC85	6AQ8	EL85	6BN5	PCF80	9A8	12AX7A	12AX7A
ECC86	6GM8	EL86	6CW5	PCF86	8GJ7	7025	7025
ECC88	6DJ8	EL90	6A05	PCF801	8E17	7025A	7025A
ECC91	6J6	EL91	6AM5	PCL82	16A8	7189	7189
ECC189	6ES8	EL95	6DL5	PCL84	15D08	7189A	7189A
ECF80	6BL8	EL500	6GB5	PCL85	18GV8	7247	7247
ECF82	6U8	EM34	6CD7	PCL86	14GW8		
ECF86	6HG8	EM81	6DA5	PL36	25E5		

## 10M Series Tubes



- TUBE-TO-TUBE UNIFORMITY
- SECTION-TO-SECTION UNIFORMITY
- LONG LIFE
- GUARANTEED PERFORMANCE
- FOR THE BALANCE ORIGINALLY DESIGNED INTO THE CIRCUIT

A selected series of individually laboratory-tested tubes, ideal for today's technically-advanced and exacting electronic equipment meets more stringent requirements... individual foam cushion packaging for protection during handling and shipping. Each Master 10M tube guaranteed for 10,000 hours of effective performance within two years from date of purchase. Recommended for the full range of electronic equipment.

### TYPICAL TEST SPECIFICATIONS 12AT7 DOUBLE TRIODE

#### TEST CONDITIONS:

Vf 12.6V  
Va 250V  
Vr -2V

#### LIMIT EACH TRIODE

Ia Min. 8.8 Ma  
Max. 42 Ma

Ig<sup>1</sup> Less than 7mA

Ia Triode No. 1 vs.

Triode No. 2

Less than 15% deviation.

Cutoff less than 20

µA with 8V on grid.

Insulation heater to cathode less than 7mA.

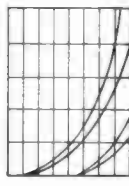
Insulation heater positive, cathode negative

with 125V on plate. Less than 20µA.

#### HUM AND MICROPHONICS

Check to close parameters special test specifications and circuits to be given upon request.

Typical Ia curves with voltage ratings from 100 to 250V.



## INDUSTRIAL AND SPECIAL PURPOSE TUBES

An extensive range of over 700 dependable Special Purpose Tubes for virtually every industrial application, including Cathode Ray Tubes, Image Converter Tubes, Photosensitive Devices, Counting Tubes, Indicator Tubes, Electrometer Tubes, Trigger Tubes, Voltage Reference Tubes, High Voltage Rectifiers, Thyratrons, Power Triodes and Tetrodes, Microwave Tubes, etc. Each tube reflects traditional MULLARD quality construction, for example:



Tube Type	Cross Ref.	Sugg. Resale Price	Mullard Type	EIA Type	Net Each
E55L	8233	\$13.25	QQV02-6	6939	\$12.00
E80CC	6085	3.30	QY5-3000A	6076	305.00
E80F	6084	3.30	TD03-10	5861	37.50
E80L	6227	3.05	T003-10E	—	45.00
E81L	6686	4.10	Z502S	—	13.65
E83F	6689	3.85	Z803U	6779	5.75
E88CC	6922	4.87	75C1	—	2.40
E180CC	7062	2.25	85A2	0G3	2.30
E180F	6688	6.80	90AV	—	5.90
E182CC	7119	2.95	92AV	—	19.00
E181F	7788	9.75	108C1	0B2	1.32
EL360	—	4.75	150B2	6354	2.55
JP9/2.5	7028	142.00	150C4	0A2	1.26
ME1400	—	6.70			
OC7P1	—	5.50			

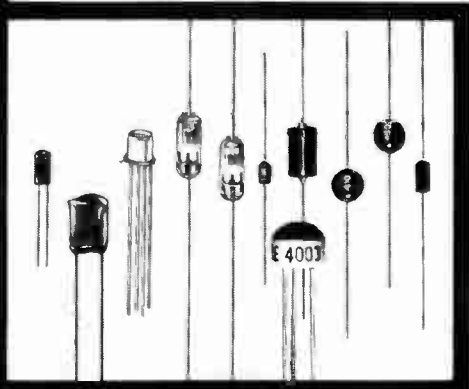
## CAPACITORS

Miniature aluminum electrolytic mylar\* and metalized mylar\*. A broad range of subminiature capacitors designed for solid state and transistorized applications.

\*T.M. Dupont.

## 10M Tubes for Industrial & Entertainment Purposes

Tube Type	Sugg. Resale Price	Tube Type	Sugg. Resale Price
6AB8	\$2.75	12AX7A	\$2.20
6AJ8	2.65	120W7	2.55
6AK5	3.25	15CW5	2.50
6AK8	2.80	6267	2.50
6AL5	1.95	7025	2.35
6AQ5	2.15	7247	2.35
6AQ5A	2.15	EABC80/6AK8	2.90
6AQ8	2.40	EB91/6AL5	1.95
6AT6	2.00	EBC90/6AT6	2.00
6AU6	2.05	EBC91/6AV6	1.95
6AU6A	2.05	EBF89/6DC8	2.65
6AV6	1.95	EC90/6C4	2.85
6BA6	2.00	EC95/6ER5	2.40
6BE6	2.10	EC97/6FY5	2.35
6BL8	3.05	ECC81/12AT7	2.55
6BQ5	2.15	ECC82/12AU7	2.20
6BQ5A	2.15	ECC83/12AX7	2.20
6C4	2.85	ECC85/6A08	2.40
60A6	2.55	ECC88/6DJ8	3.10
60C8	2.65	ECC91/6J6	2.55
6DJ8	3.10	ECC189/6ES8	3.50
6DL5	2.55	ECF80/6BL8	3.05
6DX8	2.85	ECF86/6DC8	3.10
6EJ7	2.60	ECH81/6AJ8	2.65
6ER5	2.40	ECL80/6AB8	2.75
6ES8	3.50	ECL84/60X8	2.85
6EU7	2.35	EF86/6Z67	2.50
6FY5	2.35	EF89/6BA6	2.55
6GK5	2.40	EF93/6BA6	2.00
6HG8	3.10	EF94/6AU6	2.05
6J6	2.55	EF95/6AK5	3.25
6J6A	2.55	EF183/6EH7	2.60
6T8A	2.80	EF184/6EJ7	2.60
6U8A	2.80	EC90/6BE6	2.10
8G8	2.65	EL84/6B05	2.15
9A8	3.25	EL90/6A05	2.15
12AT7	2.25	EL95/6DL5	2.55
12AU7	2.20	HBC91/12AV6	1.95
12AU7A	2.20	PCF80/9A8	3.25
12AV6	1.95	PCF86/8HG8	2.65
12AX7	2.20	PL84/15CW5	2.50



## TRANSISTORS and DIODES

A wide range of silicon planar transistors encapsulated in epoxy. Available for immediate delivery.

### SERVICE RANGE

Over 275 of the most popular receiving tubes for the U.S. service dealer renewal market.

### MATCHED PAIRS

Laboratory-Balanced

Tube Type	Cross Ref.	Tube Type	Cross Ref.
ECL82MP	6BM8MP	EL95MP	6DL5MP
ECL86MP	6GW8MP	KT66MP	
EL34MP	6CA7MP	KT77MP	
EL37MP		KT88MP	
EL84MP	6BQ5MP	UCL82MP	50BM8MP
EL86MP	6CW5MP	UL84MP	45B5MP
EL90MP	6AQ5MP	7189MP	

The most complete range for optimum performance of hi-fi and stereophonic equipment.



INTERNATIONAL ELECTRONICS CORPORATION



# RCA PICTURE TUBES COLOR and BLACK and WHITE

## RCA SILVERAMA® BLACK AND WHITE PICTURE TUBES

NOTICE: RCA Silverama Picture Tubes contain all new parts and materials except for the envelopes which, prior to re-use, are carefully inspected to meet the standards of original new envelopes.

TUBE TYPE	TUBE TYPE	TUBE TYPE	TUBE TYPE
5AXP4	17BWP4	Use 17CSP4	19FEP4B
5TP4	17BZP4	Use 17DSP4	19FJP4
7JP4	17CP4		19FJP4A
8DP4	17CAP4	Use 17DSP4	19FLP4
8XP4	17CBP4	Use 17BJP4	19FQP4
8YP4	17CDP4		19FSP4
9QP4	17CFP4		19FTP4
9WP4	17CKP4	Use 17DSP4	19GJP4
10BP4A	17CLP4	Use 17BJP4	19GJP4A
10BP4C	17CSP4		19XP4
10BP4D	17CW4	Use 17DSP4	19YP4
10CP4	17CYP4		19ZP4
10EP4	17DAP4		20CP4
10FP4A	17DHP4	Use 17EFP4	20CP4A
11AP4	17DKP4		20CP4B
11BP4	17DLP4	Use 17DSP4	20CP4C
11CP4	17DQP4		20CP4D
11GP4	17DRP4		20DP4C
11HP4	17DSP4		20DP4D
11HP4A	17DTP4	Use 17DKP4	20HP4D
12BNP4	17DXP4		20HP4E
12BNP4A	17DZP4	Use 17DXP4	
12CFP4	17EB4	Use 17EFP4	20LP4
12CGP4	17EFP4		20MP4
12CNP4	17GP4	Use 17TP4 (Note 1)	21AP4
12JP4	17HP4B	Use 17HP4C	
12KP4A	17HP4C		21ACP4
12LP4A	17JP4	Use 17BP4D	21ACP4A
12LP4C	17LPA4	Use 17LP4B	21AFP4
12QP4	17LP4B		21ALP4
12QPA4	17QPA4	Use 17QP4B	21ALP4A
12TP4	17QP4B		21ALP4B
12ZP4	17RP4	Use 17HP4C	21AMP4A
12ZPA4	17RP4C	Use 17HP4C	21AMP4B
14ATP4	17TP4		21ANP4
14BP4	17UP4	Use 17QP4B	21ANP4A
14BP4A	17VP4	Use 17LP4B	21ANP4B
14CP4	17VP4B	Use 17LP4B	21ANP4C
14CP4A	17YP4	Use 17QP4B	21ASP4
14CP4B	19ABP4		21ATP4
14DP4	19ACP4	Use 19CHP4	21ATP4A
14EP4	19AFP4	Use 19AUP4	21ATP4B
14NP4	19AHP4		21AUP4
14NP4A	19AJP4		21AUP4A
14RP4	19AUP4		21AUP4B
14RP4A	19AVP4		21AVP4B
14SP4	19AXP4	Use 19AYP4	21AVP4C
14WP4	19AYP4		21AVP4D
14ZP4	19BDP4		21AWP4A
16ALP4A	19BLP4	Use 19AVP4	21AWP4B
	19BT4		21AYP4
16ANP4	19BVP4	Use 19AVP4	21BAP4
16ASP4	19BWP4	Use 19AVP4	21BNP4
16ATP4	19CDP4	Use 19XCP4	21BSP4
16AYP4	19CFP4	Use 19CHP4	21BTP4
16BGP4	19CHP4		21CPB4A
16BVP4	19CJP4	Use 19AVP4	21CEP4
16BWP4	19CKP4	Use 19CHP4	21CEP4A
16CEP4	19CMP4		21CMP4
16CJP4	19CQP4	Use 19CXP4	21CQP4
16CMP4	19CRP4	Use 19BDP4	21CUP4
16CMP4A	19CX4		21CVP4
16CP4	19CYP4	Use 19BTP4	21CWP4
16CAP4	19CZP4	Use 19DAP4	21CXP4
16CHP4	19DAP4		21CZP4
16CHP4A	19DCP4	Use 19DRP4	21DAP4
16DP4A	19DEP4	Use 19AVP4	21DEP4A
16GP4B	19DFP4	Use 19CHP4	
	19DHP4	Use 19DSP4	
16KP4	19DQP4		21DMP4
16KP4A	19DRP4		21DNP4
16LP4A	19DSP4		21DQP4
16QP4	19DUP4	Use 19ENP4A	21DSP4
16RP4A	19DWP4	Use 19ENP4A	21EP4B
16RP4B	19EAP4	Use 19ENP4A	21EP4C
16SP4A	19EBP4		21EP4D
16TP4	19EDP4	Use 19DRP4	21EAP4
16UP4	19EFP4	Use 19DSP4	21EAP4A
16VP4	19EGP4		21EMP4
16WP4A	19EHP4	Use 19DRP4	21EQP4
16XP4	19EHP4A	Use 19DRP4	
16YP4	19EJP4	Use 19FEP4B	21ESP4
16ZP4	19ELP4	Use 19AVP4	21EVP4
17AP4	19ENP4	Use 19ENP4A	
17ATP4	19ENP4A		21FAP4
17ATP4A	19ERP4	Use 19DRP4	21FAP4A
17AVP4	19ESP4	Use 19DSP4	21FAP4B
17AVP4A	19EUP4	Use 19DRP4	21FAP4C
17BP4B	19EVP4	Use 19DQP4	21FAP4D
17BP4D	19EWP4	Use 19DQP4	
17BJP4	19FCP4	Use 19DQP4	21MP4
17BRP4	19FDP4	Use 19DQP4	21WP4A
17BUP4	19FEP4	Use 19FEP4B	21WP4B
17BVP4	19FEP4A	Use 19FEP4B	21XP4B

TUBE TYPE	TUBE TYPE	TUBE TYPE
21YP4A	Use 21YP4B	23EKP4
21YP4B		23ENP4
21ZP4B	Use 21ZP4C	23EQP4
21ZP4C		23ESP4
23AFP4	Use 23YP4	23ETP4
23AHP4		23EWP4
23ALP4	Use 23CQP4	23EWP4A
23ANP4	Use 23BLP4	23EZP4
23ARP4		23F4A
23ASP4		23FBP4
23ATP4	Use 23BLP4	23FCP4
23AUP4	Use 23AHP4	23FDP4
23AVP4	Use 19FLP4	23FEP4
23AWP4	Use 23BJP4	23FHP4
23BDP4	Use 23YP4	23FLP4
23BG4		23FMP4
23BHP4	Use 23BGP4	23FRP4
23BJP4		23FSP4
23BK4	Use 23BLP4	23FVP4
23BLP4		23FVP4A
23BNP4	Use 23CP4	23GP4
23BQP4		23GBP4
23BTP4	Use 23YP4	23GEP4
23BVP4	Use 23YP4	23GJP4
23BWP4		23GJP4A
23CP4		23GPA4
23CP4A	Use 23CP4	23GTP4
23CBP4		23GTP4A
23CGP4		23GWP4
23CQP4		23GXP4
23DBP4		23DAP4
23DLP4	Use 23ENP4	23HP4
23DLP4A	Use 23ENP4	23HPF4
23DNP4	Use 23BLP4	23HFP4A
23DNP4	Use 23ETP4	23HG4
23DYP4	Use 23EQP4	23HLP4
23DZP4		23HQP4
23EP4		23HRP4
23ECP4	Use 23ENP4 (Note 1)	23HWP4A
23EDP4	Use 23EKP4 (Note 1)	23HWP4A
		23HWP4A

### NOTES

Where replacement type is indicated consult RCA Interchangeability Guide for Replacement information.

NOTE 1: For replacement purposes of these types electrical and/or mechanical modifications may be required.

NOTE 2: 21AP4 — "RCA receivers with 21AP4 may be converted to 21ZP4 with conversion kit (RCA Part No. 12B202)."

### RCA HI-LITE COLOR TELEVISION PICTURE TUBES

NOTICE: RCA Hi-Lite Color Television Picture Tubes contain all new parts and materials.

H-15LP22	H-19EYP22	H-21FBP22A	H-22JP22	H-25BP22A
H-19EXP22	H-19GWP22	H-21FJP22A	H-25AP22A	H-25XP22

### RCA COLORAMA PICTURE TUBES

NOTICE: RCA Colorama Picture Tubes contain used materials which, prior to re-use, are carefully inspected to meet our high quality standards.

15GP22	C-21AXP22A	C-21FJP22	C-25AP22A
C-19EYP22	C-21CYP22A	C-21FBP22	C-25BP22A

### COLOR PICTURE TUBE INTERCHANGEABILITY GUIDE

TYPE TO BE REPLACED	REPLACE BY RCA TYPE	NOTES	TYPE TO BE REPLACED	REPLACE BY RCA TYPE	NOTES
15GP22	15GP22	Direct	25AP22	C-25AP22A	Direct
15LP22	H-15LP22	Direct	RE25AP22	H-25AP22A	Direct
19EXP22	H-19EXP22	Direct	25AP22A	H-25XP22	J
19EYP22	C-19EYP22	Direct	RE25AP22A		
19FMP22	H-19EYP22	Direct	25BP22	C-25BP22A	Direct
19FXP22	H-19GWP22	Direct	25BP22A	H-25BP22A	Direct
19GWP22	H-19GWP22	Direct	RE25BP22A		
21AXP22	C-21AXP22A	Direct	25CP22	C-25AP22A	Direct
21AXP22A	C-21FBP22	J	REA25CP22	H-25AP22A	Direct
21AXP22A/21AXP22	H-21FBP22A	J	RE25CP22A	H-25XP22	J
21CYP22	C-21CYP22A	Direct	25FP22	C-25BP22A	Direct
21CYP22A	C-21FBP22	J	RE25FP22	H-25BP22A	Direct
	H-21FBP22A	J	25FP22A		
21FBP22	C-21FBP22	Direct	25GP22	C-25AP22A	Direct
21FBP22A	H-21FBP22A	Direct	25GP22A	H-25AP22A	Direct
21FJP22	C-21FJP22	Direct		H-25XP22	J
21FJP22A	H-21FJP22A	Direct	25RP22	C-25BP22A	Direct
21FKP22	C-21FJP22	Direct		H-25BP22A	Direct
	H-21FJP22A	Direct	25SP22	C-25AP22A	Direct
22JP22				H-25AP22A	Direct
22LP22	H-22JP22	Direct		H-25XP22	J
23EGP22			25XP22	H25XP22	Direct
23EGP22A	C-23EGP22	Direct	490JB22	H-19EXP22	Direct
			490LB22		

J—Conversion information is packed with the tube.



# RCA ELECTRON TUBES

## ENTERTAINMENT RECEIVING TYPES

\* Optional List

## PRICE SCHEDULE — JUNE, 1967

RCA Type	List Price*	RCA Type	List Price*	RCA Type	List Price*	RCA Type	List Price*	RCA Type	List Price*	RCA Type	List Price*
0Z4	\$2.55	4BL8/XCF80	\$2.40	5Y4GT	\$3.40	6BL7GTA	\$4.60	6DV4	\$6.45	6HF8	\$4.00
0Z4A	2.45	4BN6	4.05	5Z3	3.95	6BL8/ECF80	2.40	6DW4B	3.50	6HG5	2.70
1A3	6.15	4BQ7A	4.15	5Z4 use 5Y3GT		6BM8/ECL82	2.90	6DW5	3.85	6HG8/ECF86	4.10
1A5GT	4.00	4BS8	4.25	6A7	8.00	6BN4A	3.40	6DX8/ECL84	2.90	6HJ5	5.80
1A7GT	5.40	4BU8/4GS8	3.70	6A8	7.10	6BN6	3.35	6DZ4	3.75	6HJ8	3.10
1AD2	2.85	4BZ6	2.10	6AB4	2.45	6BN8	3.35	6EA5 use 6CY5	5.65	6HK5	3.90
1AY2	2.60	4BZ7	3.85	6AC5GT	5.85	6BN11	4.10	6EA7	5.20	6HL8	3.05
1B3GT use		4CB6	2.20	6AC7	5.75	6BQ5/EL84	2.65	6EA8	3.00	6HM5/6HA5	3.85
1G3GT/1B3GT		4CS6	3.05	6AC10	3.70	6BQ6GTB/6CU6	4.10	6EB8	4.40	6HM6	2.95
1BC2	2.90	4DE6	2.50	6AD10	6.90	6BQ7A	3.75	6EB8	4.40	6HQ5	4.50
1G3GT/1B3GT	2.75	4DK6	2.55	6AF3	3.10	6BR8A	4.00	6EH5	2.90	6HR5	2.55
1K3/1J3	2.75	4DT6A	2.35	6AF4	3.75	6BS3A	3.30	6EH7/EF183	3.85	6HR6	2.75
1L6	12.55	4EH7	3.55	6AF4A	3.75	6BS8	3.75	6EH8	3.00	6HS5	7.75
1N5GT	4.90	4EJ7	3.55	6AF6G	6.30	6BU8	3.40	6EJ7/EF184	3.55	6HS6	2.85
1R5	3.25	4ES8/XCC189	4.05	6AF9	3.05	6BV8	3.00	6EM5	3.35	6HS8	3.85
1S2A/DY87	2.55	4EW6	2.90	6AF11	4.75	6BW4	2.75	6EM7	4.90	6HZ6	2.75
1S4	4.10	4GK5	3.90	6AG5	2.85	6BW8	3.35	6EQ7	2.95	6HZ8	5.50
1S5	3.05	4GM6	2.20	6AG7	6.20	6BW11	4.40	6ER5	3.55	6J5	4.10
1T4	3.05	4GS8 use		6AG9	5.15	6BX7GT	5.60	6ES5	2.85	6J5GT	4.10
1U4	3.05	4BU8/4GS8		6AG11	4.15	6BY5GA	4.80	6ES8/ECL189	5.45	6J6A	2.90
1U5	2.65	4GX7	3.60	6AH4GT	3.25	6BY6	3.00	6ET7	4.00	6J7	5.20
1V2	2.20	4HA5/PC900	2.95	6AH6	4.40	6BY8	2.70	6EU7	4.00	6J10	5.00
1X2A use		4HA7	3.05	6AH6	4.40	6BZ6	2.10	6EU7	2.70	6J11	4.80
1X2B/1X2A		4HC7	3.05	6AK5/EF95	4.50	6BZ7	3.75	6EUS	3.35	6J6A	5.85
1X2B/1X2A	2.90	4HM6	3.10	6AL3/EY88	2.60	6BZ8	4.20	6EV5	2.85	6J6C	3.75
2A3	9.90	4HQ5	3.85	6AL5	1.90	6C4	1.95	6EV7	2.75	6J8	3.05
2AF4B/2DZ4	3.80	4HS8	3.35	6AL7GT	6.95	6C5	5.35	6EW6	2.35	6JD6	3.30
2AH2	3.40	4HT6	2.55	6AL11	4.15	6C6	7.85	6EW7	6.00	6JE6A	8.50
2AS2	3.00	4JC6	3.60	6AM4	5.55	6C9	5.50	6EZ5	4.05	6JE8	3.70
2AV2	2.35	4JD6	3.60	6AM8A	3.25	6C10	3.70	6EZ5	4.05	6JF6	6.20
2BJ2	4.20	4JH6	2.45	6AN4	6.15	6CA4	2.30	6EZ5	4.05	6JG6A	6.50
2BN4A	2.75	4KE8	5.20	6AN8A	3.95	6CA5	3.00	6F5	5.50	6JH6	2.45
2CW4	4.60	4LJ8	4.10	6AQ5A	2.25	6CA7/EL34	5.35	6F5	5.50	6JH8	4.30
2CY5	3.30	5AM8	4.05	6AQ6	2.70	6CB5A	9.35	6F6	5.80	6JH8	4.05
2DS4	4.60	5AN8	4.45	6AQ7GT	4.10	6CB6A/6CF6	2.10	6FG6T	5.80	6JM6A	4.15
2DV4	6.45	5AR5/GZ34	4.25	6AQ8/ECC85	3.00	6CD6GA	5.50	6FG8	8.45	6JN6	3.85
2DZ4 use		5AQ5	2.40	6AR5	2.45	6CE5 use		6FG7	2.95	6JN8	3.65
2AF4B/2DZ4	4.60	5AS4A	3.45	6AR8	4.85	6CE5/6CE5		6FD7	5.30	6JS6A	7.30
2EN5	3.20	5AS8	4.40	6AR11	4.10	6CF6 use		6FE5	3.40	6JT6A	4.95
2ER5	3.30	5AT8	3.80	6AS5	2.75	6CB6A/6CF6	3.40	6FG6 use		6J8	4.00
2FH5	3.15	5AU4	3.65	6AS8	4.00	6CG3/6CD3		EM84/6FG6		6JU8A	3.50
2FQ5A use 2GK5		5AV8	4.05	6AS11	5.10	6CG7 use		6EG7	3.70	6JV8	4.40
2FS5	4.85	5AZ4	5.30	6AT6	2.05	6FQ7/6CG7		6EG7	3.70	6JW8/ECF802	3.10
2GK5	3.85	5B8	5.50	6AT8A	4.00	6CG8A	3.25	6FH5	3.15	6JZ6	4.65
2GU5	4.50	5BC3A	3.15	6AU4GTA	3.40	6CH8	5.60	6FH8	4.05	6JZ8	3.55
2HA5	3.85	5BE8	3.10	6AU5GT	4.65	6CK3	2.60	6FJ7	3.75	6K6GT	2.70
2HQ5	3.85	5BK7A	3.75	6AU6A	1.95	6CK4	3.55	6FM7	3.25	6K7	5.00
3A2	5.50	5BQ7A	4.00	6AU8A	4.40	6CL3	3.50	6FM8	2.85	6K8	7.70
3A3A/3B2	3.20	5BR8	4.20	6AV5GA	5.20	6CL6	3.80	6FQ5A	3.85	6K11/6Q11	3.65
3AF4A/3DZ4	3.80	5BT8	3.10	6AV6	1.75	6CL8A	3.90	6FQ7/6CG7	2.35	6KA8	4.25
3AL5	1.95	5BW8	3.20	6AV11	4.40	6CM6	3.35	6FSS	4.10	6KD6	7.70
3AT2	3.05	5CG8	3.35	6AW8A	3.60	6CM7	2.75	6FV6	4.20	6KD8 use	
3AU6	2.20	5CL8A	4.05	6AX3	2.60	6CM8	4.05	6FV8A	3.30	6UBA/6KD8	
3AV6	2.20	5CQ8	4.10	6AX4GTB	2.50	6CN7	4.20	6FW5	3.85	6KE8	5.65
3AW3 use 3A3A/3B2		5DJA	3.55	6AX5GT	3.25	6CQ4	3.55	6FY5/EC97	2.75	6KL8	2.95
3B2 use 3A3A/3B2		5E8	3.80	6AX8	3.50	6CQ8	3.50	6FY7	3.20	6KM6	8.20
3BA6	2.35	5ES8/YCC189	5.50	6AY3B	2.90	6CR6	2.95	6G11	4.40	6KM8	3.45
3BC5/3CE5	2.45	5EU8	3.65	6AY11	4.10	6CS7	2.80	6GB5/EL500	3.80	6KR8	4.25
3BN4A	3.05	5EW6	3.05	6AZ8	5.50	6CU5	2.70	6GC5	4.20	6KT6	3.00
3BN6	3.80	5FG7	2.60	6B8	6.85	6CU6 use		6GF5	3.50	6KT8	4.25
3BU8/3GS8	3.55	5FV8	3.25	6B10	3.35	6BQ6GTB/6CU6		6GF7A	4.85	6KU8	4.80
3BY6	3.00	5GH8A	4.10	6BA3	3.05	6C8	4.40	6GH8A	3.20	6KV8	5.85
3BZ6	2.15	5GJ7	2.95	6BA6/EF93	2.10	6C4	4.60	6GJ5A	5.60	6KY8A	7.25
3CA3 use 3A3A/3B2		5GM6	2.80	6BA7	5.85	6C5/EL86	2.45	6GJ7/ECF801	3.10	6KZ8	3.40
3CB6	2.15	5GN8	2.45	6BA8A	4.20	6C8	4.25	6GK5	3.85	6L6	8.80
3CE5 use		5GX6	2.45	6BA11	4.10	6CY5	3.60	6GK6	3.00	6L6GC	4.55
3CE5/3CE5		5GX7	3.60	6BC4	5.50	6CY7	3.05	6GL7	5.80	6L7	6.95
3CF6	2.55	5HA7	3.05	6BC5/6CE5	2.25	6D6	2.40	6GL8	5.80	6LB8	4.70
3CS6	2.90	5HB7	2.75	6BC7	3.60	6DE7	3.65	6GM5	3.05	6LC8	4.20
3CY5	3.90	5HG8/LCF86	3.70	6BD6	2.35	6DG6GT	3.85	6GM6	2.75	6LEB	6.20
3DG4	4.30	5H26	2.75	6BD11	5.05	6DK6	2.35	6GN8	4.30	6LF8	3.85
3DK6	2.30	5J6	3.25	6BE3	2.85	6DL5/EL95	2.95	6GQ7	3.75	6LJ8	4.10
3DT6A	2.35	5JK6	3.85	6BE6	2.40	6DM4A	3.35	6GT5A	5.40	6LM8	4.15
3DZ4 use		5JL6	3.85	6BF5	3.35	6DN6	7.00	6GU5	4.10	6LN8/LCF80	2.40
3AF4A/3DZ4		5KD8	2.50	6BF6	1.95	6DN7	3.35	6GU7	3.20	6LQ8	5.05
3EA5	3.55	5KE8	5.20	6BF11	4.90	6DQ5	7.85	6GV5	4.15	6LT8	2.55
3EH7/XF183	3.55	5KZ8	2.45	6BG6G	6.10	6DQ6B use		6GV8/ECL85	3.10	6LU8	4.75
3EJ7/XF184	3.55	5LJ8	4.10	6BH3A	2.80	6GW6/6DQ6B		6GW6/6DQ6B	4.20	6LX8/LCF802	2.60
3ER5	3.30	5M8	4.45	6BH8	4.20	6GX6	2.60	6GW8/ECL86	3.05	6LY8	3.55
3FH5	3.25	5N9/LCF201	2.55	6BH11	3.90	6GX7	3.60	6GX6	2.60	6LT8	2.55
3FS5	4.30	5V3A	3.50	6BJ3	2.80	6GY5	4.60	6GX7	3.60	6M11	4.55
3GH5	3.85	5V4GA	3.85	6BJ6	2.75	6GS4	4.60	6GY6	4.60	6MD8	4.85
3GS8 use		5V6GT	3.40	6BJ7	2.95	6DS5	3.65	6GY8	2.60	6ME8	4.20
3BU8/3GS8		5X8	3.75	6BJ8	3.60	6DT5	3.55	6H6	3.55	6N7	5.05
3HM5/3HA5	3.85	5Y3GT	1.75	6BK4B	7.55	6DT6A	2.25	6HA5 use	4.30	6N7GT	5.20
3HQ5	3.85	5Y4GA	2.45	6BK5	3.50	6DT8	3.75	6HM5/6HA5		6Q7	5.90
3JC6A	3.30			6BK7B	3.55			6HB5	4.20	6SA4	2.35
3KT6	2.80							6HB6	4.45	6SBGT	4.15
3Q4	3.35							6HB7	3.65	6SA7	4.85
3Q5GT	5.85							6HE5	3.70	6SA7GT	4.40
3S4	3.40							6HF5	7.30	6SB7Y	5.95
3V4	2.60									6SC7	4.60
4AU6	2.70										
4AV6	2.25										
4BC8	3.85										



RESALE PI

## POWER/MICROWAVE/PHOTO

RCA Type	Dist. Resale Price	RCA Type	Dist. Price
<b>RCA CAMERA &amp; DISPLAY TUBES</b>			
<b>RCA IMAGE ORTHICONS</b>			
4415/S**	\$1,400.00	7CP4	
4416/S**	1,400.00	7TP4	
4492	1,650.00	8HP4	
4513	1,320.00	8NP4	
4513/S*	1,400.00	10SP4	
4536	2,165.00	14BAP4	
4536VI	2,350.00	17DWP4	
5820A	860.00	21EYP4	
5820A/L	1,800.00		
7293A	1,150.00		
7295B	1,440.00		
7295C	1,975.00		
7389B	1,440.00		
7389C	1,975.00		
7513	1,320.00		
7513/S*	1,400.00		
7629A	1,700.00		
8092A	1,870.00		
8092A/S*	1,870.00		
8673	1,800.00		
8673/S	1,915.00		
8674	1,800.00		
8674/S	1,915.00		
8685	1,440.00		
8748	1,975.00		
8749	1,975.00		
<b>RCA MONOSCOPES</b>			
2F21	300.00		
1699	P		
<b>RCA VIDICONS</b>			
4478	93.00		
4488	120.00		
4493	1,055.00		
4494	1,055.00		
4495	1,055.00		
4500	430.00		
4503	470.00		
7038	175.00		
7262A	215.00		
7263A	370.00		
7735B	170.00		
8051	575.00		
8134	275.00		
8134/V1	370.00		
8480	760.00		
8480/V1	1,140.00		
8507	215.00		
8521	575.00		
8567	910.00		
8572	215.00		
8573	275.00		
<b>RCA CATHODE-RAY TUBES</b>			
<b>OSCILLOGRAPH TYPES</b>			
1EP1	25.75		
1EP11	28.10		
2AP1A	19.00		
2BP1	20.10		
2BP11	21.50		
3AP1A	27.20		
3AQ1P	34.35		
3BP1A	24.70		
3JP1	26.85		
3JP7	28.30		
3KP1	27.90		
3RP1	17.95		
3RP1A	27.65		
3RP7A	27.65		
3WP1	50.05		
3WP11	38.60		
5ABP1	35.75		
5ADP1	35.00		
5ADP31	35.75		
5BP1A	35.05		
5CP1A	37.90		
5FP7A	40.05		
5UP1	21.50		
5UP7	26.25		
5UP31	22.25		
7VP1	31.45		
902A	21.45		
4489	21.45		
4490	36.85		
4491	41.50		
4499	29.35		
4510	37.15		
<b>TRANSCRIBER KINESCOPE</b>			
5WP11	99.40		
<b>VIEW-FINDER KINESCOPIES</b>			
5FP4A	31.45		
<b>MONITOR KINESCOPIES</b>			
<b>PROJECTION KINESCOPE</b>			
<b>FLYING-SPOT CATHOD RAY TUBES</b>			
<b>DISPLAY STORAGE TUBES</b>			
<b>RADECHON</b>			
<b>RECEIVING TYPE TUBES FOR INDUSTRY AND COMMUNICATION</b>			
<b>Beam Deflection</b>			
<b>Beam Power</b>			
<b>Subminiature:</b>			
<b>Miniature:</b>			
<b>Diodes</b>			
<b>Glow-Discharge</b>			
<b>Voltage Regulators</b>			

\* Available in matched sets of three \*\* Available as ma

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RCA ELECTRON TUBES  
ENTERTAINMENT RECEIVING TYPES

\* Optional List

## PRICE SCHEDULE — JUNE, 1967

RCA Type	List Price*	RCA Type	List Price*	RCA Type	List Price*	RCA Type	List Price*	RCA Type	List Price*	RCA Type	List Price*
6SF5	\$3.70	8GJ7/PCF801	\$3.25	12AY7	\$4.85	12JB6A	\$6.20	17C9	\$7.15	25EC6	\$6.15
6SF7	6.30	8GN8	4.15	12AZ7A	2.95	12JN6	3.90	17CK3	2.60	25EH5	3.25
6SG7	4.70	8JV8	4.00	12B4A	3.20	12JN8	3.70	17CU5/17C5	2.35	25F5A	3.85
6SH7	5.35	8KA8	4.25	12BA6	1.80	12JTA	4.95	17D4	3.05	25L6GT	2.95
6SJ7	4.15	8LC8	4.25	12BA7	5.90	12K5	3.45	17DE4	3.20	25W4GT	3.70
6SJ7GT	3.90	8LT8	2.70	12BD6	2.35	12K7GT	6.60	17DM4A	3.05	25Z6GT	3.85
6SK7	4.25	9A8/PCF80	2.40	12BE3	3.05	12KL8	2.45	17DQ6B use		27GB5/PL500	3.70
6SK7GT	5.50	9AU7	2.65	12BE6	1.95	12L6GT	3.55	17GW6/17DQ6B		31JS6A	7.30
6SL7GT	3.55	9BJ11	4.80	12BF6	2.10	12L8	3.35	17EW8/HCC85	2.75	32ET5A	2.40
6SN7GTB	2.70	9BR7	3.15	12BF11	4.35	12SA7	4.90	17GE5	4.35	33GT7	6.95
6SQ7	4.00	9EA8	3.05	12BH7A	2.90	12SA7GT	4.90	17GJ5A	5.50	33GY7A	6.05
6SQ7GT	4.00	9GV8/XCL85	3.00	12BK5	3.75	12SC7	5.20	17GT5	4.45	33JV6	4.20
6SR7	4.25	9KC6	4.35	12BL6	2.95	12SF5	3.85	17GV5	4.20	34GD5A	2.95
6T4	5.15	9KZ8	2.95	12BN6	3.65	12SF7	6.20	17GW6/17DQ6B	4.25	35B5	3.20
6T8A	3.35	9UBA	3.10	12BQ6GTB/12CU6	4.20	12SG7	4.70	17JB6A	5.50	35C5	2.10
6T9	3.70	10AL11	4.55	12BR7	3.05	12SH7	5.40	17JG6A	5.75	35EH5	3.40
6T10	4.25	10C8	5.15	12BS3A	3.35	12SJ7	4.30	17JM6A	4.20	35GL6	2.90
6U5	7.40	10CW5/LL86	2.55	12BT3	2.85	12SK7	4.45	17JN6	3.90	35L6GT	2.75
6U8A/6KD8	3.10	10DE7	3.50	12BV7	3.30	12SK7GT	4.45	17JT6A	4.95	35W4	1.25
6U9/ECF201	2.90	10DR7	4.45	12BW4	2.75	12SL7GT	4.15	17JZ8	3.55	35Y4	4.50
6U10	3.65	10DX8/LCL84	2.90	12BY7A	3.20	12SN7GTA	2.80	17KV6	7.30	35Z3	4.70
6V3A	4.55	10EG7	4.35	12BZ6	2.40	12SQ7	4.45	17LD8 use 15KY8A		35Z4GT	2.55
6V6	6.35	10EM7	4.90	12BZ7	4.15	12SQ7GT	4.45	17X10	4.50	35Z5GT	2.20
6V6GTA	2.40	10GF7A	4.35	12C5 use		12V6GT	4.45	18FV6A	2.45	36AM3B	2.25
6W4GT	2.30	10GK6	3.05	12CU5/12C5		12WG6T	4.45	18FX6A	2.40	38HE7	6.65
6W6GT	2.95	10GN8	4.00	12CA5	2.85	12X4	1.95	18FY6A	2.20	38HK7	6.55
6X4	1.80	10HF8	4.65	12CN5	3.25	13CW4	5.05	18GD6A	2.95	40KD6	8.10
6X5GT	2.40	10JA8	3.75	12CR6	2.95	13DE7	3.50	19AU4GTA	3.55	42	4.85
6X8A	3.15	10JT8	4.05	12CU5/12C5	2.75	13DR7	3.85	19BC6GA	6.65	42KN6	7.20
6X9/ECF200	2.90	10JY8	3.65	12CU6 use		13EM7/15EA7	4.80	19CL8A	3.70	43	7.20
6Y6GA/6Y6G	4.05	10KR8	4.25	12BQ6GTB/12CU6		13FD7	5.05	19EA8	4.45	50A5	5.85
6Y9	3.10	10KU8	4.85	12CX6	2.75	13FM7	3.00	19E28	4.50	50B5	2.95
6Z4 use 84/6Z4		10LB8	4.70	12D4	2.75	13GB5 XL500	3.30	19GQ7	3.80	50C5	2.20
6Z10	5.00	10LE8	5.90	12DB5	2.60	13GF7A	4.70	19HR6	2.45	50DC4	2.40
7A7	7.15	10LW8	4.25	12DK6	2.30	13J10 use		19HS6	2.40	50EH5	2.30
7A8	7.80	10LZ8	2.95	12DQ6B use		13Z10 13J10		19HV8	3.55	50FE5	4.45
7AU7	2.45	11AR11	4.10	12GW6/12DQ6B		13V10	4.10	19J6	3.70	50FK5	2.20
7C5	3.35	11B011	4.10	12DQ7	3.25	13Z10 13J10	5.05	19JN8	3.05	50HC6	2.40
7C7	3.40	11BT11	5.40	12DS7	4.05	14A7	5.55	19KG8	3.10	50HK6	2.15
7EY6	3.35	11CY7	3.60	12DT5	3.10	14B6	5.30	19T8	4.05	50L6GT	2.85
7F7	7.50	11HM7	4.30	12DT8	3.55	14BL11	5.10	19X8	4.10	50X6	5.85
7F8	8.25	11JE8	3.85	12DU7	4.40	14BR11	4.80	20AQ3/LY88	2.80	50Y6GT	4.35
7HC8/PLF86	2.95	11KV8	5.90	12DW7	3.05	14GT8	3.45	20E27	3.40	50Y7GT	4.25
7N7	7.10	11LQ8	5.90	12DY8	7.95	14JG8	3.10	21GV5	4.65	60FX5	2.95
7V7	4.65	11Y9/LFL200	3.10	12DZ6	3.60	15AF11	4.75	21HB5A	4.35	80	4.80
7X7	7.65	12AB5	3.50	12ED5	2.70	15BD11	4.85	21JV6	4.20	84/6Z4	5.20
8AR11	4.35	12AC6	2.10	12EK6	3.55	15CW5/PL84	2.45	21JZ6	4.40	117L7/M7GT	9.55
8AU8	3.85	12AD6	2.80	12EQ7	2.75	15DQ8	2.95	21KA6	4.45	117N7GT	12.85
8AW8A	4.00	12AE6A	2.75	12F8	3.25	15FM7	3.40	21LR8	6.00	117P7GT	12.85
8B10	3.35	12AF3	3.85	12FK6	2.55	15FY7	3.55	22BH3A	3.10	117Z3	4.50
8BA8A	3.45	12AF6	3.15	12FM6	2.60	15KY8A	4.75	22BW3	3.05	117Z6GT	6.70
8BA11	4.00	12AL5	2.30	12FQ8	5.20	15LE8	7.65	22DE4	3.40	5879	4.45
8BH8	3.35	12AL8	6.15	12FV7	3.40	16A8	2.95	22JF6	6.85	6973	4.25
8BM11	3.90	12AL11	4.20	12FX5	2.70	16AQ3 XY88	2.70	22JG6A	5.90	7025	3.10
8BN8	3.70	12AQ5	2.70	12FX8A	3.85	16GK6	3.05	22JU6	5.75	7027A	6.75
8BQ5	2.75	12AT6	1.75	12GC6	3.95	16GY5	4.85	22KM6	8.20	7189	2.85
8BQ11	4.30	12AT7/ECC81	2.85	12GE5	4.10	17AX3	2.60	23Z9	4.70	7199	4.45
8BU11	4.10	12AU6	2.00	12GJ5A	4.90	17AX4GTA	3.05	24JE6A	8.50	7247	3.20
8C7 use 8FQ7/8CG7		12AU7A/ECC82	2.35	12GN7A	3.90	17AY3	2.65	25AV5GA	5.65	7355	3.10
8CM7	2.70	12AV5GA	5.05	12GT5	5.35	17BE3/17BZ3	2.90	25AX4GT	3.05	7408	3.35
8CN7	3.05	12AV6	1.80	12GW6/12DQ6B	4.25	17BF11</					

**RCA E**

RESALE PRICE

**POWER/MICROWAVE/PHOTOSE**

RCA Type      Dist. Resale Price Optional

**RCA POWER TUBES**

RCA VACUUM POWER TUBES FOR CW APPLICATIONS

2C39A	\$20.75
2C39A/V1	20.75
2C39WA	20.75
2C40	29.30
2C40A	34.00
2C43	26.95
2E24	6.80
2E26	4.00
4-125A 4D21	36.00
4-250A/5D22	46.50
4E27A/5-125B	45.00
4X500A	128.50
9C21	1,865.00
9C25	1,735.00
807	3.60
810	28.60
811A	7.15
812A	7.60
813	24.25
827R	470.00
828	34.50
829B	19.85
832A	16.65
833A	65.10
837	13.95
845	28.40
880	760.00
891R	490.00
892	342.00
892R	440.00
1624	9.45
1625	5.50
4604	8.75
4626	600.00
4629	380.00
4632	1,085.00
4634	390.00
4635	2,500.00
4636	520.00
4637	110.00
4638	720.00
5556	52.45
5671	1,825.00
5713	620.00
5762/7C24	240.00
5770	1,465.00
5771	700.00
5786	265.00
6076	305.00
6146A	4.35
6146B/8298A	5.20
6146W	6.75
6155	36.00
6156	42.60
6159B	5.15
6159W	9.15
6161	125.00
6166	825.00
6166A/7007	1,005.00
6524	24.45
6816	52.90
6850	22.10
6883	4.30
6883B/8032A/8552	5.40
6884	40.00
6897	32.15
7094	35.45
7203/4CX250B	35.75
7204/4CX250F	39.35
7213	410.00
7271	34.00
7457	65.25
7650	240.00
7842	65.25
7843	34.35
8000	25.00
8005	17.75
8032	4.95
8072	20.10
8121	27.95
8122	31.50
8165/4-65A	27.00
8166/4-1000A	132.00
8167/DCX300A	54.00

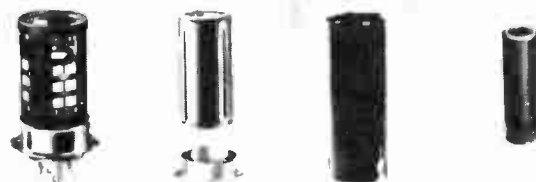
**ierc****Heat Dissipating Electron Tube Shields**

Standard Configurations Available from Factory Stock

**VERTICAL MOUNTING SHIELDS FOR MINIATURE TUBES**

MILITARY AND INDUSTRIAL TYPES FOR NEW AND EXISTING EQUIPMENT. IERC vertical mounting shields used on tubes in room ambient, will reduce bulb temperatures as much as 60% lower than a JAN shielded tube, 40% below bare bulb temperature. Tests demonstrate tube life increases of two to twelve times.

	MIL TYPE B WITH BASE	MILITARY INDUSTRIAL TYPE WITH BASE	FITS EXISTING JAN BASES MILITARY INDUSTRIAL	VERTICAL SHIELD FOR SUBMINIATURE TUBES
for short 7 pin	T5 1015-1	NWT5 5515 1B	TRN5 5015B	for short R B T3 3031B
for med 7 pin	T5 1020-1	NWT5 5520 1B	TRN5 5070B	for long R B T3 3041B lock fits
for long 7 pin	T5-1025 1	NWT5 5525 1B	TRN5 5075B	M535407 socket for short F P
for short 9 pin	T6 1015 1	NWT6 6520 1B	TRN6 6015B	T3 3042B lock fits
for med 9 pin	T6-1020 1	NWT6 6520 1B	TRN6 6020B	M535407 socket for short F P
for long 9 pin	T6 1025 1	NWT6 6525 1B	TRN6 6025B	T3 3042B lock fits
for tubes like 6094		NWT6-6528 1B	TRN6 6027B	M535408 socket
base for all 7 pin	T5 1001	T5 1001		
base for all 9 pin	T6 1001	T6 1001		

**FOR OCTAL AND POWER TUBES**

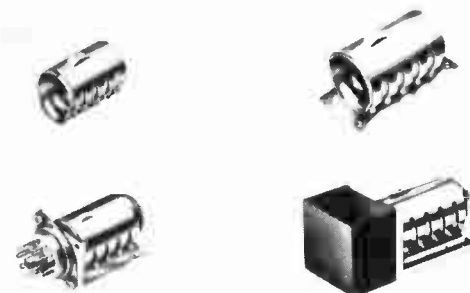
IERC Octal tube shields are designed to meet applicable requirements of MIL-S-9372C such as heat dissipation, vibration, etc. Mounting hole dimensions of bases match standard military bottom mounted sockets. Many additional shield types are available for all T9 and T12 compactron type tubes, and for large T16 to T28 size power tubes.

IERC PART NO	MAXIMUM TUBE LENGTH	IERC PART NO	MAXIMUM TUBE LENGTH	IERC PART NO	MAXIMUM TUBE LENGTH
<b>FOR T9 TUBES</b>					
T9-3017H	1-3/4"	T12-3030H	3-1/8"	T12-3022 2NH	2 1/2"
T9-3020H	2-1/18"	T12-3032H	3-5/16"	T12-3025 2NH	2 3/4"
T9-3022H	2-5/18"	T12-3035H	3 11/16"	T12-3027 2NH	3"
Use base T9-3000H		T12-3040H	4-1/8"	T12-3030 2NH	3 1/4"
		T12-3045H	4-11/16"	T12-3032 2NH	3 1/2"
T9-3025H	2-1/2"	Use base T12-3001H		T12-3035 2NH	3 3/4"
T9-3028H	2-11/16"	Shield I.D. fits JEDEC T12 tube bases up to 1.50" dia such as 8B 2B		T12-3040 2NH	4 1/4"
T9-3027H	2-3/4"			T12-3045 2NH	4 3/4"
T9-3030H	3-1/16"			Use base T12-3001 3H Shields I.D. bored to fit JEDEC T12 tube bases such as 8B 8B	
T9-3032H	3-1/4"			<b>FOR T14 TUBES</b>	
Use base T9-3001H		T12-3022NH	2 3/8"	T14-3030H	3 1/8"
		T12-3025NH	2 5/8"	Use base T14-3000 2H	
<b>FOR T11 TUBES</b>		T12-3027NH	2 15/16"	T14-3047NH	4 15/16"
T11-3027H	2-15/16"	T12-3030NH	3-1/8"	Use base T16-3001H	
T11-3031H	3-5/16"	T12-3032NH	3-5/16"	<b>FOR T16 TUBES</b>	
T11-3038H	3-11/16"	T12-3035NH	3-11/16"	T16-3040H	3 3/16"
T11-3041H	4-1/16"	T12-3040NH	4-1/8"	Use base T16-3001H	
Use base T11-3001H		T12-3040NH	4-11/16"		
<b>FOR T12 TUBES</b>		Use base T12-3001H			
T12-3022H	2-3/8"	Shield I.D. bored to fit JEDEC T12 tube bases such as 8B 71			
T12-3025H	2-5/8"				
T12-3027H	2-15/16"				

**HORIZONTAL MOUNTING SHIELDS FOR IMPROVED THERMAL DESIGN**

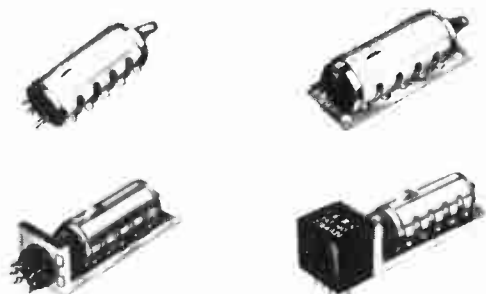
These shields efficiently remove tube heat by conduction with thermal resistances less than 5°C/watt, which allows the tube temperature to be controlled by the chassis temperature.

FOR MINIATURE TUBES	SHELL & SPRING FOR SOLDER MOUNTING	SHELL & SPRING WITH MOUNTING BASE	SHIELD & SOCKET ASSEMBLY	RIGHT ANGLE SOCKET & SHIELD ASSEMBLY
for short 7-pin	TSP 315	TSP 415	TSP-1415 1	TSP 2415
for med 7-pin	TSP 325	TSP 425	TSP-1425 1	TSP-2425
for long 7-pin	TSP 335	TSP 435	TSP-1435 1	TSP-2435
for short 9-pin	TSP 316	TSP 416	TSP-1416 1	TSP 2416
for med 9-pin	TSP 326	TSP 426	TSP-1426 1	TSP 2426
for long 9-pin	TSP 336	TSP 436	TSP-1436-1	TSP 2436



Horizontal shields provide positive shock and vibration protection without resonance. They permit dense package layouts and separation of hot tubes from other circuitry.

FOR SUBMINIATURE TUBES	SHELL & SPRING FOR SOLDER MOUNTING	SHELL & SPRING WITH MOUNTING BASE	SOCKET & SOCKET ASSEMBLY	RIGHT ANGLE SOCKET & SHIELD ASSEMBLY
for short round button	T3 321	T3 321	T3 1531	T3 2531
for long round button	T3 331	T3 431	T3 1532	T3 2532
for short flat press	T3 322FP	T3 424FP	T3 1532	T3 2532
for long flat press	T3 322FP	T3 424FP	T3 1532	T3 2532
for all flat bulb	T3 323FB	T3 423FB		

**ierc** OCAInternational Electronic Research Corporation  
A CORPORATE DIVISION OF DYNAMICS CORPORATION OF AMERICA





# LEWIS AND KAUFMAN, Ltd.

SPECIAL PURPOSE TUBES — LONG LIFE — DEPENDABILITY

Number	Suggested Resale Price	Number	Suggested Resale Price	Number	Suggested Resale Price	Number	Suggested Resale Price
0A2	\$1.30	5FP7A	\$32.95	814	\$23.50	6101/6J6WA	\$5.35
0A2WA	3.30	5JP1AM	75.00	816	3.20	6136	2.70
0A3	1.54	5JP2AM	75.00	826	28.00	6146A	4.30
0B2	1.35	5LP1A	40.00	836	11.10	6146B	5.20
0B2WA	2.35	5MP1AM	40.00	838	20.00	6159	4.80
0B3	2.30	5NP1	35.00	866A	2.65	6186	3.75
0C3	1.45	5R4GY	2.03	866JR	3.75	6186/6AG5WA	3.75
0D3	1.40	5RP1A	169.70	872A	9.85	6189/12AU7A	3.45
0D3W	6.20	5RP11AM	169.70	873	19.50	6197	2.48
0G3	2.30	5SP7AM	160.00	918	4.65	6201/12AT7WA	2.50
2AC15	11.00	5UP7	29.05	1612	5.77	6205	5.35
2AP1	19.50	5Y3WGTA	3.75	1613	3.30	6211	1.95
2AP1A	19.50	5Y3WGTB	5.75	1620	7.55	6293	5.95
2AS15	10.50	5YP1	55.00	1621	3.85	6336A	18.00
2AS15A	10.50	5ZP16	83.00	1622	5.35	6414	3.65
2B23	75.00	6AC7W	5.70	1629	1.85	6528	21.55
2BP1	20.60	6AC7WA	5.70	1631	3.25	6550	4.30
2C26A	7.50	6AH6WA	7.50	1635	3.80	6626/0A2WA	3.30
2C50	9.90	6AJ5	3.75	5557/FG17	9.50	6660/6BA6	1.01
2C51	3.65	6AK5W	2.35	5558/FG32	17.50	6661/6BH6	1.34
2C52	4.80	6AL5W	1.33	5559/FG57	24.50	6662/6BJ6	1.29
2C53	9.00	6AS7G	4.93	5651	1.78	6663/6AL5W	.92
2D21	1.22	6AU6WA	2.70	5651WA	3.75	6664/6AB4	1.12
2D21W	2.90	6AU6WB	2.70	5654	2.35	6676/6CB6A	1.06
2E22	8.40	6C21	90.00	5654/6AK5W	2.35	6677/6CL6	1.85
2SM15	12.00	6J4WA	5.50	5654/6AK5W/6090	5.10	6678/6U8A	1.62
2X2A	3.25	6J6WA	4.95	5670	2.11	6679/12AT7	1.50
3ABP1	125.00	6L6WGB	4.10	5670WA	2.30	6680/12AU7A	1.22
3ACP1A	37.00	6Q5G	6.00	5685/C6JA	27.00	6681/12AX7	1.26
3ACP2	39.45	6SN7WGTA	4.90	5687	3.15	6887	1.40
3ACP7	39.45	6X4W	1.60	5691	8.75	6922/E88CC	4.75
3ACP11	39.45	10QP7	75.00	5692	8.25	7054	1.54
3AP1	44.15	12AKP7	55.00	5693	6.60	7057	1.95
3BP1	29.80	12AT7WA	2.53	5725	3.05	7059	1.48
3B4WA	5.85	12DP7A	67.95	5726	2.10	7060	1.75
3B24W	9.00	12SP7D	46.80	5726/6AL5W/6097	1.40	7061	1.29
3B24WA	9.90	25T	26.50	5727	2.90	7370	10.26
3B28	7.50	35T	31.00	5727/2D21W	2.90	7730	1.93
3B29	10.30	35TG	31.00	5749	2.20	7898	1.34
3C23	11.98	100R	16.20	5749/6BA6W	2.20	7905	3.85
3C24	16.00	100TH	23.50	5750	3.45	8008	9.90
3C45	19.00	100TL	23.50	5751	2.55	8013A	17.05
3DP1A	45.70	152TH	93.00	5751WA	2.85	8020	16.00
3FP7A	35.00	249B	18.00	5763	2.53	8020W	19.50
3GP1A	29.50	249C	14.60	5814A	2.30	9001	5.40
3JP1	30.75	250R	36.00	5814WA	2.30	9002	4.20
3JP7	30.75	250TH	38.50	5823	1.70	9003	5.40
4-65	25.70	250TL	38.50	5842/417A	7.25	9004	4.60
4-125A	35.50	254W	25.00	5847/404A	9.40	9005	8.05
4B24	11.80	274A	8.35	5881	3.10	9006	2.70
4B26	7.00	274B	9.00	5963	1.34	C1K	11.80
4B31	32.83	300B	10.80	4964	1.55	C6J/5C21	28.10
4D21	36.00	310A	7.70	5965	1.90	FG17/5557	9.50
4PR60B	107.00	407A	5.90	6005	3.70	FG57/5559	24.50
5ADP7	40.20	408A	4.95	6005/6AQ5W	3.75	FG154	108.00
5BCP1/T55P1	77.60	715A	20.00	6073	3.00	HF100	34.00
5BDP7	98.00	715B	28.50	6073/0A2	3.00	HF200	58.00
5BP1	39.45	715C	70.00	6074	3.45	HF300	46.50
5CBP1	63.00	719A	260.00	6074/0B2	3.45	KU23	47.00
5CP1A	35.90	807	3.15	6080	5.00	LK24G/3C24	16.00
5CP1B	49.80	811A	6.50	6080WA	9.95	LK54	36.00
5D21	45.00	812A	6.50	6082	5.60	LK72	6.00
				6099	15.35	R1130B/1B59	22.90



PRICES AND DELIVERY FOR TUBES NOT LISTED ARE AVAILABLE UPON REQUEST.

## RUSSELL INDUSTRIES/LEWIS AND KAUFMAN, Ltd.

# SHIELDMU® TAPE AND FOIL FOR ELECTROMAGNETIC SHIELDING

## ECONOMICAL SHIELDING with SHIELDMU TAPE and FOIL

Magnetic Metal's SHIELDMU tapes and foils are fully processed and ready to use; heat-treatment is not required after forming. Formed-in-place shields save time and expense when compared to fabrication of special shields. This is most important where experimental results are urgently required, or where small quantity needs make tooling costs uneconomical. Many manufacturers form shields in place around inductive components to save space and achieve magnetic component isolation. Use of tapes and foils also reduces stocking problems associated with drawn or fabricated component shields.

## SELECTING SHIELDMU

Shieldmu is provided in four levels of permeability performance. Each is designed to meet the specific requirements of various shielding applications. Multi-layer shields using different materials often give the most economical result by putting high flux capability materials in the region of the strongest field. The high permeability layers are then most effective at the lower field strengths. Shieldmu with adhesive backing eliminates the necessity of taping or spot welding Shieldmu in place.

The thickness of the adhesive itself (not counting the peel-away paper layer) is nominally .001". Clear in color and chemically stabilized for long term life, the adhesive has a bond strength ranging up to 60 oz. per inch at a 90° pulling angle. It is a rubber-based thermoplastic which may be operated in temperatures up to 300°F.

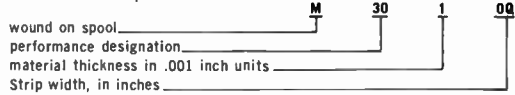
## ADHESIVES AND NDN-ADHESIVE BACKED

Typical Class of Material	Trade Designations
80% Nickel-Iron Alloys	Shieldmu 30, Hymu 80, Mumetal, Hipernom
50% Nickel-Iron Alloys	Shieldmu 10, 49 Alloy, 4750, Hipernik, Nicaloi
Silicon-Iron Alloys	Shieldmu 3
Low Carbon Steel	Shieldmu 1

## ORDERING INFORMATION:

Shieldmu is carried in stock by your local distributor in various width and lengths wound on spools. When ordering, please use the part number indicated in the following price lists; each letter and digit is coded to indicate a specific requirement as shown in the examples below:

SHIELDMU wound on spools:



## SHIELDMU 30 — (M 30)

Maximum flux 7,000—8,000 gauss. Typical permeabilities—initial 20,000,—maximum 150,000. For maximum attenuation, even at low inductions. M — Prefix — Regular Back ABM — Prefix — Adhesive Back

PRICE LIST per linear foot extended (pulled taut) in random lengths

Part No.	Strip Width (Inches)		1-9		10-24		25-49		50-99		100-249		250-499		500-999		Thickness (Inches)
	M	ABM	M	ABM	M	ABM	M	ABM	M	ABM	M	ABM	M	ABM	M	ABM	
30-1-00	1/4	—	\$.17	—	\$.16	—	\$.15	—	\$.14	—	\$.13	—	\$.12	—	\$.11	—	.001
30-1-0H	1/2	—	.30	—	.29	—	.28	—	.27	—	.26	—	.25	—	.24	—	.001
30-1-1Q	3/4	—	.48	—	.43	—	.41	—	.39	—	.38	—	.37	—	.36	—	.001
30-1-1	1	—	.63	—	.57	—	.54	—	.51	—	.49	—	.48	—	.47	—	.001
30-1-2	2	—	.99	—	.89	—	.85	—	.82	—	.79	—	.76	—	.73	—	.001
30-2-0Q	1/4	1/4	.24	.48	.23	.43	.22	.41	.21	.38	.20	.37	.19	.36	.18	.35	.002
30-2-0H	1/2	1/2	.42	.84	.38	.76	.37	.72	.36	.69	.34	.66	.32	.63	.31	.59	.002
30-2-1Q	3/4	3/4	.60	1.20	.54	1.08	.52	1.04	.50	1.00	.48	.96	.46	.92	.44	.88	.002
30-2-1	1	1	.75	1.50	.68	1.35	.66	1.27	.63	1.21	.61	1.17	.59	1.13	.55	1.10	.002
30-2-2	2	2	1.14	2.28	1.03	2.05	.97	1.95	.94	1.85	.90	1.80	.88	1.75	.84	1.67	.002
30-2-4	4	4	—	—	4.05	—	3.83	—	3.70	—	3.57	—	3.44	—	3.30	—	.002
30-2-5TQ	—	5 3/4	—	—	6.00	—	5.40	—	5.10	—	4.93	—	4.76	—	4.59	—	.002
30-4-0Q	1/4	1/4	.33	.66	.31	.59	.30	.57	.29	.55	.27	.53	.26	.51	.25	.49	.004
30-4-0H	1/2	1/2	.54	1.08	.49	.97	.48	.94	.46	.91	.44	.88	.42	.84	.40	.80	.004
30-4-1Q	3/4	3/4	.72	1.44	.65	1.29	.62	1.15	.59	1.13	.57	1.11	.55	1.09	.53	1.06	.004
30-4-1	1	1	1.05	2.10	.94	1.89	.90	1.68	.86	1.65	.83	1.62	.80	1.58	.77	1.54	.004
30-4-2	2	2	1.56	3.12	1.40	2.81	1.34	2.49	1.25	2.44	1.21	2.39	1.18	2.34	1.15	2.29	.004
30-4-4	4	4	2.58	5.16	2.32	4.64	2.19	4.24	2.06	4.02	4.05	3.87	—	3.84	—	3.80	.004
30-4-8	8	8	5.25	10.50	4.72	9.45	4.50	8.40	4.20	8.05	4.05	7.84	—	7.72	—	7.60	.004
30-4-11TQ	—	11 3/4	—	—	12.00	—	10.80	—	9.60	—	5.40	—	5.25	—	—	—	.004
30-4-12	12	—	6.75	—	6.05	—	5.70	—	5.40	—	9.40	—	9.20	—	8.80	—	.004
30-6-0Q	1/4	—	.36	—	.35	—	.34	—	.33	—	.32	—	.29	—	.27	—	.006
30-6-1Q	3/4	—	.78	—	.70	—	.66	—	.64	—	.62	—	.60	—	.58	—	.006
30-6-1	1	—	1.14	—	1.02	—	.96	—	.90	—	.87	—	.86	—	.84	—	.006
30-6-2	2	—	1.74	—	1.56	—	1.50	—	1.39	—	1.35	—	1.13	—	1.28	—	.006
30-6-4	4	—	3.15	—	2.83	—	2.67	—	2.51	—	2.44	—	2.37	—	—	—	.006
30-6-8	8	—	5.85	—	4.95	—	4.68	—	4.55	—	4.42	—	—	—	—	—	.006
30-6-12	12	—	6.60	—	5.94	—	5.61	—	5.28	—	4.95	—	—	—	—	—	.006
30-6-15TE	15 3/8	—	8.65	—	7.80	—	7.35	—	6.90	—	6.50	—	—	—	—	—	.006

## SHIELDMU 10 — (M 10)

Maximum flux 14,000—15,000 gauss. Typical permeabilities—initial 5,000,—maximum 100,000. For good attenuation, even at high inductions.

Part No.	Strip Width (Inches)	1-9	10-24	25-49	50-99	100-249	250-499	500-999	Thickness (Inches)	
10-2-0Q	1/4	.22	.38	.36	.35	.34	.33	.31	.002	
10-2-0H	1/2	.39	.70	.62	.61	.60	.59	.58	.002	
10-2-1Q	3/4	.51	.92	.87	.84	.81	.78	.75	.002	
10-2-1	1	.75	1.35	1.27	1.21	1.17	1.13	1.10	.002	
10-2-2	2	1.11	2.00	1.89	1.83	.86	1.77	1.63	.002	
10-2-5TQ	—	5 3/4	—	4.18	—	3.95	—	3.69	—	.002
10-4-0Q	1/4	.30	.47	.46	.45	.44	.43	.42	.004	
10-4-1	1	.93	1.67	1.58	1.53	1.48	1.43	1.37	.004	
10-4-2	2	1.35	2.40	2.23	2.17	2.13	2.08	2.03	.004	
10-4-4	4	2.16	3.89	3.63	3.48	3.34	3.20	3.06	.004	
10-4-8	8	4.29	7.72	7.29	7.04	6.79	6.52	6.30	.004	
10-4-11TQ	—	11 3/4	—	8.59	—	8.12	—	7.65	—	.004
10-6-1Q	3/4	.66	.59	.57	.55	.53	.51	.49	.006	
10-6-2	2	1.47	1.32	1.18	1.15	1.12	1.10	1.08	.006	
10-6-4	4	2.82	2.53	2.40	2.26	2.16	2.07	—	.006	
10-6-12	12	5.10	4.59	4.59	4.08	3.82	—	—	.006	

## SHIELDMU 3 — (M 3)

Maximum flux 18,000 gauss. Typical permeabilities—initial 1,000,—maximum 15,000. For economical shielding with high induction capability.

Part No.	Strip Width (Inches)	1-9	10-24	25-49	50 & over	100-249	250-499	500-999	Thickness (Inches)	
3-1-0Q	1/4	\$.13	\$.12	\$.11	\$.10	\$.09	\$.08	\$.07	.001	
3-1-1	1	.48	.43	.41	.39	.38	.37	.36	.001	
3-1-2	2	.72	.65	.62	.59	.57	.55	.53	.001	
3-2-0Q	1/4	.19	.34	.32	.30	.29	.28	.27	.002	
3-2-1Q	3/4	.45	.80	.76	.74	.72	.70	.68	.002	
3-2-1	1	.60	1.20	1.04	1.00	.96	.92	.88	.002	
3-2-2	2	.87	1.74	1.58	1.52	1.46	1.40	1.34	.002	
3-2-4	4	—	2.92	2.62	2.47	2.34	2.20	2.15	.002	
3-2-5TQ	—	5 3/4	—	3.24	—	2.88	—	2.72	—	.002
3-4-0Q	1/4	.24	.43	.41	.38	.37	.36	.35	.004	
3-4-1	1	.75	1.35	1.27	1.21	1.17	1.13	1.10	.004	
3-4-2	2	1.08	1.94	1.87	1.80	1.73	1.68	1.63	.004	
3-4-4	4	1.50	2.70	2.45	2.38	2.32	2.26	2.20	.004	
3-4-12	12	—	3.62	3.42	3.22	3.13	3.04	2.95	.004	
3-4-11TQ	—	11 3/4	—	6.53	—	6.18	—	5.83	—	.004
3-6-0H	1/2	.42	.38	.36	.35	.34	.33	.31	.006	
3-6-1	1	.84	.75	.72	.70	.68	.66	.62	.006	
3-6-12	12	4.23	3.81	3.60	3.38	3.17	—	—	.006	

## SHIELDMU 1 — (M 1)

Maximum flux 17,000 gauss. Typical permeabilities—initial 300; maximum 3,000. For economical shielding at high inductions.

Part No.	Strip Width (Inches)	1-9	10-24	25-49	50 & over	100-249	250-499	500-999	Thickness (Inches)
1-6-1	1	\$.33	\$.31	\$.30	\$.29	\$.27	\$.26	\$.25	.006
1-6-4	4	.96	.86	.82	.78	.76	.74	.71	.006
1-6-12	12	2.70	2.43	2.30	2.16	2.12	2.05	—	.006

SHIELDMU ALBUMS: (A) Individually Packaged Pieces, 12" x 12"						SHIELDMU ALBUMS: (ABA) Individually Packaged Pieces, 12" x 11 3/4"					
Part No.	Material Thickness (Inches)	1-9	10-24	25-49	50 & over	Part No.	Material Thickness (Inches)	1-9	10-24	25-49	50 & over
A30-6-12	.006	\$7.35	\$6.61	\$6.35	\$5.88	ABA30-4-11TQ	.004	\$13.20	\$11.88	\$11.22	\$10.56
A10-4-12	.004	4.28	4.75	4.49	4.22	ABA3-4-11TQ	.004	7.80	7.02	6.63	6.24
A3-4-12	.004	4.02	3.42	3.42	3.22						
A1-6-12	.006	3.00	2.70	2.55	2.40						



**russell industries, / MAGNETIC METALS**

# SHIELDFLEX FLEXIBLE TUBING FOR ELECTROMAGNETIC SHIELDING

Shieldflex tubing is specially designed and constructed to provide both electromagnetic and electrostatic shielding of current carrying conductors. The flexibility of the tubing permits close routing of conductors around components or other conductors, thus effecting space economy so important in miniaturization of components. Production economies are possible also because of the simple operation required — simply run the cable through a length of Shieldflex. Time consuming work of wrapping cables with Shieldmu tape can be reduced by using Shieldflex.



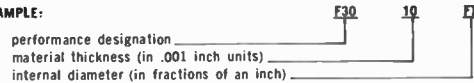
SHIELDFLEX flexible tubing for magnetic shielding is formed from high permeability electromagnetic alloys in a spirally wound construction.

Part No.	I.D. (Inches)	O.D. (Inches)	Material Thickness (Inches)	Nominal Bend Inside Dia. (Inches)	PRICE LIST per linear foot extended (pulled taut) in random lengths					
					1-9	10-24	25-49	50-99	100-249	250-499
F30-10FT	3/32	13/64	.010	1 1/8	\$2.22	\$2.02	\$1.89	\$1.78	\$1.75	\$1.70
F30-10-TS	3/32	13/64	.010	1 1/8	2.31	2.08	1.97	1.84	1.78	1.75
F30-10-ST	3/32	13/64	.010	1 1/8	2.64	2.37	2.24	2.12	2.06	2.00
F30-10-0Q	1/4	13/32	.010	1 1/4	2.82	2.53	2.40	2.25	2.20	2.14
F30-10-NT	3/32	13/64	.010	1 1/8	3.09	2.78	2.63	2.47	2.41	2.34
F30-10-FS	3/32	13/64	.010	1 1/8	3.21	2.89	2.73	2.57	2.51	2.44
F30-10-ET	3/32	13/64	.010	1 1/8	3.33	3.00	2.82	2.67	2.60	2.53
F30-10-TE	3/8	1 1/2	.010	1 1/2	3.45	3.10	2.92	2.76	2.69	2.62
F30-10-SS	3/8	1 1/2	.010	1 1/2	3.69	3.32	3.15	2.95	2.88	2.79
F30-14-0H	1/2	1 1/4	.014	2	4.50	4.50	3.82	3.60	3.55	—
F30-14-NS	1/2	1 1/4	.014	2 1/4	4.98	4.48	4.23	3.98	3.88	—
F30-14-FE	5/8	3/4	.014	2 1/2	5.46	4.91	4.65	4.37	4.25	—
F30-14-TQ	3/4	7/8	.014	6	6.93	6.23	5.88	5.53	5.41	—
F30-14-1	1	1 1/8	.014	7	9.27	8.34	7.88	7.42	7.05	—
F30-20-2	2	2 1/2	.020	10 7/8	27.00	24.70	22.95	21.60	20.90	19.00

**ORDERING INFORMATION:**

Random lengths of Shieldflex in 14 diameters can be purchased from your local electronic distributor. When ordering, please use the part numbers as presented in the price list above.

**EXAMPLE:**



## FULL-SPECTRUM SHIELDMU® 30CU ELECTROMAGNETIC SHIELDING

... FOR EFFECTIVE SHIELDING FROM 1 HERTZ TO 10 GIGAHERTZ!

Shieldmu® 30CU magnetic shielding provides full-spectrum electromagnetic shielding of sensitive components from 1 Hz to 10 GHz. A combination high permeability, high conductivity shielding, Shieldmu 30CU consists of a 0.0014-inch layer of high frequency shielding cemented firmly to a 0.004-inch layer of low frequency shielding. The combination of the two materials provides effective shielding over a large portion of the electromagnetic spectrum.

The interlayer of thermosetting adhesive provides an adhesive strength of 40 oz./inch at a 90° pulling angle and is rated for continuous use at temperatures up to 130°C. The adhesive is non-conductive with an insulation resistance of 500,000 megohms (ASTM D-1000). The adhesive, because of its good insulation value, improves the shielding effectiveness.

Available from your local electronic distributor in either sheet or spool-wound tape form, full-spectrum Shieldmu 30CU is easy to use. It can be cut easily with ordinary scissors. After it is cut, it is simply placed over the component and formed in place. Since Shieldmu 30CU is so easy to use, it offers a fast, economical method for determining the proper shielding required for sensitive components. It is suitable for either prototype or production use.

Number	Tape (Inches) Width	PRICE PER LINEAR FOOT							Approx. feet per lb.
		Feet 1-9	Feet 10-24	Feet 25-49	50-99 Feet	100-249 Feet	250-499 Feet	500-999 Feet	
CM30-414-1	1	\$2.25	\$2.05	\$1.91	\$1.80	\$1.75	\$1.70	\$1.65	48
CM30-414-2	2	3.51	3.16	2.98	2.81	2.73	2.65	2.57	24
CM30-414-4	4	6.18	5.56	5.17	4.86	4.75	4.64	4.53	12
CM30-414-12	12	13.58	12.22	11.54	10.86	10.81	10.75	10.67	4

## SHIELDKU ADHESIVE BACKED, PRESSURE SENSITIVE COPPER TAPES AND FOILS FOR RADIO FREQUENCY SHIELDING

SHIELDKU provides extremely lightweight and highly effective shielding when used to attenuate interference signals caused by electronic processing systems and associated circuitry from interference and induced

voltages poses a major problem to electronic, design and standards engineers. SHIELDKU is designed to eliminate the RFI problem around and between sensitive equipments and components.

**RADIO FREQUENCIES INTERFERENCE TEST DATA SHIELDING**

**EFFECTIVENESS IN DECIBELS (db)**

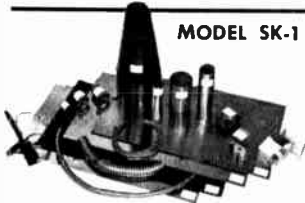
MAGNETIC WAVE			
60 Hz	5 KHz	14 KHz	200 KHz
0	14	32	53
ELECTRIC WAVE			
200 KHz	1 MHz	18 MHz	
≥ 117	≥ 105	≥ 100	
PLANE WAVE			
400 MHz	1 KMHz	10 KMHz	
≥ 105	≥ 95	≥ 10	

**THICKNESS:**

- COPPER ..... .0014
- ADHESIVE ..... .0005
- RELEASE PAPER ..... .0025
- COMPOSITE ..... .0044

PART NO.	STRIP WIDTH (INCHES)	PRICES PER LINEAR FOOT WOUND ON SPOOLS							
		10	25	50	100	250	500	1000	2500
C-14-0Q	1/4				*.09	.08	.07	.06	.05
C-14-0H	1/2				*.10	.09	.08	.07	.06
C-14-TQ	3/4				*.11	.10	.09	.08	.07
C-14-1	1				*.14	.13	.12	.11	.10
C-14-2	2			*.21	.20	.19	.18	.17	.16
C-14-4	4		*.42	.40	.38	.36	.34	.32	.31
C-14-12	12	*1.26	1.23	1.20	1.14	1.08	1.02	.96	.92

Quotations on request for intermediate widths and greater lengths. Available up to 36 inches in width.



**MODEL SK-1 SHIELDING KIT**

For use in industry, laboratories, and schools to prove-out theoretical designs. Includes items listed in table, below.

Model SK-1 Shielding Kit \$99.50 Net Each

M.M. Part No.	Description
PA1719-4920SH	CRT shield of 50% Ni-Fe alloy .020" thick for 5" cathode ray tube
PA62 Set HY25	Drawn can and cover, 80% Ni-Fe alloy .025" thick
PA229 Set HY20	Same, but .020" thick
PA805 HY20	Fabricated can, 80% Ni-Fe alloy .020" thick
PA1555 HY20	Fabricated can w/cover, 80% Ni-Fe .020" thick
PA636-1 HY25	Same, but .025" thick
PA7365 HY031	Fabricated can, 80% Ni-Fe, .031" thick
PA2198 HY14	Fabricated cylinder, 80% Ni-Fe, .014" thick
PA1693 HY20	Same, but .020" thick
M30-6-12	12" x 24" Shieldmu 30, .006" thick
M10-6-12	12" x 24" Shieldmu 10, .006" thick
M3-4-12	12" x 24" Shieldmu 3, .004" thick
MT-6-12	12" x 24" Shieldmu 1, .006" thick
F30-10-FT	Shieldflex, 3/32" I.D. x 4 feet
F30-14-0H	Shieldflex, 1/2" I.D. x 2 feet
F30-14-1	Shieldflex, 1" I.D. x 1 foot
MT-1	Search coil with instruction for practical method of determining shielding needs
MT-1	Electromagnetic material identification test kit (see right)

**ELECTROMAGNETIC MATERIAL IDENTIFICATION**

**TEST KIT**



Use to identify parts or materials that have illegible or missing markings. For quality control incoming inspection of parts such as transformer laminations, magnetic shields, motor laminations, tape wound cores, pole pieces, and recording head laminations. Use also to segregate mixed stock of materials or parts. Fast 1-minute test; non-destructive. No knowledge of chemistry needed.

Model MT-1 Test Kit — Net Each ..... \$395

**russell industries, inc.**



# SYLVANIA INDUSTRIAL PRODUCTS

Type	Sugg. User Price	Type	Sugg. User Price	Type	Sugg. User Price	Type	Sugg. User Price	Type	Sugg. User Price
*OA2	\$ 1.32	6AS7G	\$ 4.93	872A	\$ 9.90	GB-5751	\$ 2.55	*6676/6CB6A	\$ 1.06
GB-OA2WA	3.35	6AS7GA	4.93	884	2.28	*5763	2.45	*6677/6CL6	1.85
OA3	1.54	*6AU6WB	2.70	889RA (See		5796	17.25	*6678/6U8A	1.62
*OA4G	1.86	*6BF7W	4.20	5667/889RA)		*5814A	2.35	*6679/12AT7	1.50
OA5	6.96	GB-6BQ7A	2.20	921	5.20	GB-5814A	2.35	*6680/12AU7	1.22
*OB2	1.37	*6C4W	1.55	922	3.80	*5823	1.72	*6681/12AX7	1.26
*OB2WA	2.40	*6C4WA	3.15	923	4.70	*5840	5.35	6688	6.80
GB-OB2WA	2.40	GB-6CY5	1.85	927	6.00	5845	9.95	*6788	10.85
*OB3	2.35	*6D4	2.85	929	3.45	5855	85.00	6802	11.43
*OC3	1.50	6DJ8	1.90	930	4.95	5879	1.95	6807	32.25
*OD3	1.44	GB-6OJ8	2.70	931A	12.30	5881	3.10	*6832	20.65
C1K/6014	11.80	6J4	4.02	1000T	169.00	5894	25.00	6879	13.37
VG1A	32.60	*6J4WA	5.60	1051A	65.00	*5896	3.80	*6883A	4.30
1P39	3.15	GB-6J4WA	5.60	1052A	99.00	*5899	5.55	6897	32.15
1P40	4.80	C6J/A/5685	29.00	1061	65.00	*5902	4.80	6909	11.43
2-01C	18.00	*6J6WA	5.35	R1111	12.70	*5903	7.45	6910	13.37
2C39A	20.75	*6SJ7WGT	2.70	R1111M	26.00	*5904	7.90	6922	4.87
2C39B	32.15	*6SL7WGT	3.15	1218A	5.00	*5905	8.40	6939	11.37
2C39WA	29.00	GB-6SL7WGT	3.15	GB-1219/5670	3.70	*5906	8.40	*6943	11.10
2C40	29.30	*6SN7WGT	2.35	GB-1220/5654	3.05	*5907	8.40	*6944	11.10
2C43	26.95	GB-6SN7WGT	2.35	1229	5.35	*5908	9.80	*6945	11.10
2C51	3.65	*6SN7WGTA	4.90	GB-1252/6U8A	2.00	5916	9.80	*6946	10.85
2D21	1.25	*6V6GTY	1.45	1319	125.00	*5931	6.80	*6947	11.35
2D21W (See		*6X4W	1.60	1616	15.10	GB-5931	6.80	*6948	11.35
5727/2D21W)		*6X4WA	2.85	1624	9.45	*5932	11.30	6973 (Receiving	
2E24	6.45	GB-6X4WA	2.85	2050	2.37	GB-5932	11.30	Type)	X
2E26	4.00	*6X5WGT	1.55	2050A	2.03	*5933	12.35	6977	2.50
*2J42	102.00	GB-6X5WGT	1.55	5530-H	425.00	GB-5933	12.35	7025 (Receiving	
2X2A	3.95	*7AK7	8.15	5531	795.00	*5933WA	16.50	Type)	X
3-400Z (See		GB-7AK7	8.15	5541	670.00	5934	22.00	7034/4X150A	25.00
8163/3-400Z)		*7F8W	7.05	5551A/652	65.00	*5963	1.34	7038	175.00
3A5	2.03	*12AT7WA	2.55	5552A	99.00	5964	1.54	7044	2.70
3B28	7.00	*12AT7WB	2.55	5553B	245.00	5965	1.95	*7054	1.54
3C23	11.98	12AY7	2.45	5557†	9.50	5966	42.00	*7055	1.00
3CPN10A5 (See		C16J/5665	52.50	5558	17.50	*5977	6.55	*7056	.92
7815/3CPN10A5)		RX21A	25.75	5559†	23.00	*5987	11.10	*7057	1.95
3CX100A5 (See		25T	28.50	5560/FG95†	33.00	6005	3.23	*7058	1.26
7289/3CX100A5)		*28D7	4.95	5575/100	225.00	GB-6005	3.23	*7059	1.48
3CX2500A3	200.00	S28D7	4.95	5576/200	245.00	6011/710	12.00	*7060	1.75
3CX2500F3	210.00	*28D7W	10.75	5604	570.00	6012	7.65	*7061	1.30
3CX3000A1	210.00	FG-95 (See		5606	288.00	6014 (See C1K/6014)		7155	13.37
3CX3000F1	220.00	5560/FG95)		5632 (See C3J/5632)		*6021	3.50	*7167	1.45
3E29	21.50	100 (See 5575/100)		*5636A	6.10	*6028	4.95	7199 (Receiving	
C3J/5632	12.70	100TH	23.50	*5639	5.25	6072	3.90	Type)	X
C3J/A/5684	13.10	102A	174.00	*5641	7.55	*6080	5.33	7203/4CX250B	35.75
4-65A (See		200 (See 5576/200)		5642	3.55	GB-6080	5.33	7204/4CX250F	39.00
8165/4-65A)		250TH	38.50	*5643	9.05	*6080WA	10.80	*7258	2.75
4-125A	36.00	304TH	75.00	*5644	9.90	GB-6101	5.35	7289/3CX100A5	30.75
4-250A	46.50	304TL	75.00	*5647	8.65	*6110	8.05	7325	185.00
4-400A (See		GB-407A	5.90	5651	1.90	*6111	3.70	GB-7327	12.45
8438/4-400A)		GB-408A	4.95	5651WA	3.75	*6112	4.10	GB-7550	13.25
4-1000A (See		450TL	85.00	5654	2.45	*6135	2.40	7551	3.40
8166/4-1000A)		481B	10.90	GB-5654	2.45	GB-6135	2.40	7735A	170.00
4CX250B (See		575A†	21.00	5658	595.00	GB-6136	2.70	7738	2.80
7203/4CX250B)		579B	20.50	5665 (See C16J/5665)		*6146A	4.35	*7759	7.35
4CX250F (See		592/3-200A3	46.00	5667 (889RA)†	370.00	6146B/8298A	5.20	*7760	15.25
7204/4CX250F)		604	11.80	5668	350.00	*6159	4.80	*7761	7.40
4CX250K (See		604L	13.00	5669	515.00	*6159A	4.80	*7762	7.40
8245/4CX250K)		615	10.05	*5670	2.45	GB-6186	3.85	7803	2.55
4CX300A (See		627	27.50	GB-5670	2.45	*6186/6AG5WA	3.85	7815/	
8167/4CX300A)		632B	33.00	5684 (See		6189	3.70	3CPN10A5	30.75
4CX1000A (See		635	13.00	C3J/A/5684)		GB-6189	3.70	*7887	6.70
8168/4CX1000A)		635L	13.50	5685 (See		*6197	2.30	*7888	5.25
4CX5000A (See		642	17.00	C6J/A/5685)		GB-6201	2.55	7962	7.50
8170/4CX5000A)		652 (See 5551A/652)		GB-5687	4.00	*6205	5.90	7963	7.50
4E27A/5-125B	45.00	672A	39.85	*5687WA	5.66	*6206	7.25	7984	5.35
4PR60B (See		673	21.00	*5692	8.25	6211	1.95	8008	11.80
8252/4PR60B)		678	50.75	5693	6.60	*6216	4.15	8035 (CT-4251)	11.10
4W20,000A (See		710 (See 6011/710)		5696	1.95	6257	330.00	*8064	7.5C
8173/4W20,000A)		760	28.10	*5718	3.65	6350	1.85	8070	7.50
4X150A (See		760L	29.40	*5719	3.15	*6352	9.85	8071	7.50
7034/4X150A)		807†	3.40	5722	8.35	*6360	4.95	8077/7054	1.50
4X250B	35.75	810	28.60	5725	3.15	6421-F	545.00	8161/3X2500A3	
4X500A	127.50	811A	7.15	GB-5725	3.15	6425-F	675.00	(See 3CX2500A3)	
5R4GYB	2.03	812A	7.60	5726	1.55	6476A	14.95	8163/3-400Z	34.00
*5Y3WGTA	4.05	813	24.25	GB-5726	1.55	6483	3.09	8165/4-65A	27.00
GB-5Y3WGTA	4.05	815	35.75	GB-5727	2.90	6485	2.05	8166/4-1000A	132.00
6AD4	3.40	816	3.60	*5727/2D21W	2.90	6550	4.95	8167/4CX300A	54.00
*6AH6WA	7.60	828	34.50	5736	164.75	*6660/6BA6	1.01	8168/	
*6AJ5	3.85	829B	19.85	5749	2.20	*6661/6BH6	1.34	4CX1000A	181.00
6AK6	1.40	832A	16.65	GB-5749	2.20	*6662/6BJ6	1.29	8170/	
6AN5	4.20	833A†	65.10	5750	3.45	*6663/6AL5	.92	4CX5000A	495.00
*6AN5WA	10.80	866A	3.25	GB-5750	3.45	6664/6AB4	1.12	8173/	
6AS6	3.43	869B†	155.00	*5751	2.55	*6669/6AQ5A	1.06	4W20,000A	2,030.00

# SYLVANIA INDUSTRIAL PRODUCTS

Type	Sugg. User Price	Type	Sugg. User Price	Type	Sugg. User Price	Type	Sugg. User Price	Type	Sugg. User Price	
8210	\$10.75	*5ADP7	\$48.75	7ABP14A	\$59.85	<b>KLYSTRONS</b>			1N2482	\$ .65
8233	13.25	5ADP7A	50.65	7ABP19A	59.85	SK-220A	\$165.00	1N2483	.69	
8238/3X3000A1		5ADP11	48.75	7AEP1	75.30	SK-220B-G	155.00	1N2484	.71	
(See 3CX3000A1)		5ADP11A	50.65	7AEP2	75.30	SK-221A	170.00	<b>MICROWAVE DIODES</b>		
8239/3X3000F1		5ADP31A	50.65	*7AEP7	75.30	SK-221B-K	160.00	1N21B	\$ .68	
(See 3CX3000F1)		*5AHP4A	53.20	7AEP11	75.30	SK-221H	210.00	1N21C	1.02	
8245/4CX250K	64.00	*5AHP7A	39.30	7AQP4	85.45	SK-222A-G	160.00	1N21D	2.10	
8251/3X2500F3		5AHP14A	48.95	7AQP7	85.45	K-4014	195.00	1N21E	3.50	
(See 3X2500F3)		5AHP19A	48.95	7AQP16	85.45	<b>DIODES</b>				
8252/4PR60B	107.00	*5AMP1A	57.05	7AQP19	85.45	1N34A	\$ .30	1N21F	7.15	
8298A (See 6146B/8298A)		*5AMP2A	57.05	7AQP25	85.45	1N35	1.58	1N21WE	4.35	
8334	5.00	*5AMP7A	71.90	7AUP4	85.65	1N38A (Order 1N38B)	.49	1N21G	11.90	
8353	11.10	*5AMP11A	71.90	7AUP7	85.65	1N38B	.49	1N23B	.67	
8438/4-400A	48.00	5AMP31A	89.10	7BP2A	51.60	1N48	.30	1N23C	1.02	
8484	175.00	5AQP1A	50.65	*7BP7A	51.60	1N55A	.40	1N23D	2.10	
8507	215.00	5AQP2A	50.65	7JP1/7VP1	46.65	1N58A	.55	1N23E	3.50	
9001	5.40	5AQP7A	50.65	7JP7	46.65	1N60	.30	1N23F	7.15	
70780	.65	5AQP11A	50.65	7MP7	69.15	1N64	.30	1N23WE	4.35	
7460-0008	1.20	5AUP24	165.20	7MP14	69.15	1N72 (Order 1N82A)	.60	1N23G	11.90	
<b>INDUSTRIAL and MILITARY CATHODE RAY TUBES</b>		5BCP1	81.00	7UP7	59.30	1N82	.82	1N25	3.53	
2AP1A	\$31.60	5BCP4	X	7UP25	59.30	1N82A	.82	1N25A	8.48	
2BP1	31.60	*5BCP7	81.00	8CP1	65.60	1N90	.33	1N25B	11.75	
2BP11	X	5BCP11	81.00	8CP2	65.60	1N100	.32	1N26	6.50	
*3ACP1A	43.40	5BGP1/T51P1	95.95	8CP7	65.60	1N126A	.30	1N26A	7.75	
*3ACP2A	43.40	5BGP2/T51P2	95.95	8CP11	65.60	1N191	.35	1N26B	27.25	
*3ACP7A	43.40	5BGP7/T51P7	95.95	8DP4	41.20	1N251	.72	1N26C	31.15	
*3ACP11A	43.40	5BGP11/		8FP4	51.25	1N252	.65	1N53	23.20	
3ACP12A	43.40	T51P11	95.95	8HP4	47.30	1N276	.31	1N53A	25.70	
3ACP16A	59.50	5BGP15/		8KP4	44.00	1N277	.34	1N53B	29.65	
*3ADP1	61.60	T51P15	95.95	8LP4	42.90	1N279	.29	1N53C	46.79	
3ADP2	61.60	5BHP1A/		8NP4	47.30	1N281	.31	1N53D	73.50	
3ADP7	61.60	T54P1A	101.30	8QP4	56.00	1N294	.34	1N76	2.05	
3ADP11	61.60	*5BHP2A/		*10AKP7	72.15	1N295	.35	1N76A	2.60	
3ASP1	49.45	T54P2A	101.30	10ANP4	132.00	1N456A	.42	1N78	4.50	
3ASP2	49.45	5BHP7A/		*10ANP7	132.00	1N457A	.45	1N78B	7.00	
3ASP7	49.45	T54P7A	101.30	10ANP16	132.00	1N458A	.48	1N78C	14.00	
3ASP11	49.45	5BHP11A/		10ANP19	132.00	1N459A	.51	1N78D	22.00	
3BEP1	44.80	T54P11A	101.30	10ANP25	132.00	1N461	.42	1N78E	31.50	
*3BGP1	63.70	5BHP15A/		*10KP7A	65.45	1N461A	.42	1N78F	56.00	
3BGP2	63.70	T54P15A	101.30	10KP7B	70.75	1N462A	.44	1N415B	.68	
3BGP7	63.70	5BNP16	45.25	10NP11	162.30	1N463A	.54	1N415D	2.10	
3BGP11	63.70	*5BP1A	34.90	10SP4	72.00	1N464A	.53	1N415E	3.50	
3BMP1	55.95	5BRP1	56.65	10VP7	97.60	1N483B	.70	1N415F	7.15	
3BMP2	55.95	5BRP4	56.65	10VP15	X	1N625	.43	1N415G	11.90	
3BMP7	57.90	5BRP7	56.65	*10WP7	66.65	1N626	.45	1N415S	24.50	
3BMP11	57.90	5BRP11	56.65	10WP7A	71.95	1N627	.60	1N416B	.68	
3BMP12	57.90	*5CP1A	38.85	10WP14	74.70	1N628	.72	1N416C	1.02	
*3BP1A	38.80	*5CP1B	41.30	10WP14A	84.70	1N629	.81	1N416D	2.10	
*3FP7A	43.60	*5CP7A	38.85	10WP19A	X	1N662	.92	1N416E	3.50	
*3JP1	39.50	5CVP1	203.00	*12ABP7A	65.50	1N663	1.20	1N416F	7.15	
*3JP2	39.50	5CVP7	203.00	12ABP14A	65.50	1N816	.52	1N416G	11.90	
*3JP7	39.50	5CVP19	203.00	12ABP19A	65.50	1N914	.45	1N830A	3.85	
*3JP12	X	5DEP1	34.45	*12DP7A	94.00	1N916	.75	1N831	6.85	
*3KP1	31.60	5DEP2	34.45	*12DP7C	101.00	1N3064	.67	1N831A	10.90	
3KP4	31.60	5DEP7	34.45	*12DP7D	78.65	1N3182	.64	1N831B	15.00	
3KP7	31.60	5DEP11	34.45	17DWP4	29.90	1N4092	.34	1N832	6.85	
3KP11	31.60	5DKP4	X	21EYP4	33.30	1N4093	.68	1N832A	10.90	
3KP16	31.60	5DKP11	36.10	SC-2558P1	180.00	<b>"BULLET" RECTIFIERS</b>				
3MP1	28.00	5DKP15	36.10	SC-2558P4	180.00	1N2069	\$ .65	1N3655	4.00	
*3RP1	27.05	5DKP16	36.10	SC-2558P7	180.00	1N2070	.71	1N3655A	9.00	
3RP1A	33.10	5DKP24	X	SC-2830P1	55.70	1N2071	.87	1N3745	6.60	
*3SP1	47.95	5DLP4	42.40	SC-2854	58.25					
3SP2	47.95	5FP4A	38.10	SC-3116P/						
3SP11	47.95	*5FP7A	35.30	T65P/T543P	110.00					
*3WP1	38.40	5FP11A	35.30	SC-3301P/						
3WP2	38.40	*5FP14A	35.30	T64P/T533P	110.00					
3WP11	38.40	5QP4A	61.10	<b>PHOTOCONDUCTORS</b>						
*4MP1	71.60	5RP1A	169.70	8100	\$1.40					
5ABP1	48.75	5RP2A	169.70	8142	1.40					
5ABP1A	50.65	5RP4A	169.70	8143	1.40					
5ABP4	48.75	5RP5A	169.70	8345	1.40					
5ABP4A	50.65	5RP7A	169.70	8346	1.40					
5ABP7	48.75	5RP11A	169.70	8475A	1.54					
5ABP7A	50.65	*5UP1	31.65	8477A	1.54					
5ABP11	48.75	5UP7	31.65	8318A	1.54					
5ABP11A	50.65	5UP11	31.65	8582	1.54					
5ABP31A	X	5WP15	110.90	PL-466E	3.55					
*5ADP1	48.75	5ZP15	103.95	PL-1810C	3.55					
5ADP1A	50.65	5ZP16	103.95	PL-8212E	3.55					
*5ADP2	48.75	5ZP24	103.95	PL-8224C	3.55					
5ADP2A	50.65	*7ABP7A	59.85	7163	1.76					

Types listed in Bold Face are Sylvania Gold Brand Tubes.

- Tubes are "Communication Quality" types.
- Indicates Military Type Approval.

‡ These tubes may be of foreign manufacture and in many cases, manufactured by the foreign affiliate of Sylvania Electric Products Inc.

x Price quoted upon request.

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# DELIVERY

Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.

# DIRECT INTERCHANGEABILITY LIST



This Interchangeability Index has been prepared to assist you in finding exact replacement for electronic tubes in the Industrial, Transmitting and Special Purpose fields.

This listing is believed to be accurate to the date of issue. However, no responsibility is assumed by Westinghouse for its completeness or for its use, nor for any infringement of patents or other rights of third parties which may result from its use.

## KEY TO ABBREVIATIONS

CR — Cathode Ray	N — Neutron Detector
CS — Camera or Storage	Photo — Phototube
Glow — Glow Tube (Cold Cath.)	Rect — Rectifier
GA — Vacuum Gauge	Thyr — Thyatron
Ig — Ignitron	Trans. — Transmitting
IR — Industrial Receiving	VR — Voltage Regulator or Reference
	HCDD — Hollow Cathode Discharge Device

## INDEX OF COMMONLY USED MANUFACTURERS PREFIXES

<b>A</b> Radio Corporation of America	<b>HV</b> United Electronics Co.	<b>RK</b> Raytheon Manufacturing Co.
<b>AH</b> Marconi Wireless Telegraph Co.	<b>HV</b> Japanese Manufacture	<b>SN</b> Sylvania Electric Products Inc.
<b>AX</b> Amperex Electronic Corp.	<b>HY</b> C B S Hytron Co.	<b>T</b> Taylor Tubes Inc.
<b>BL</b> Bomac Laboratories	<b>KD</b> Ferranti Ltd.	<b>TT</b> Taylor Tubes Inc.
<b>BR</b> Standard Telephone & Cables Inc.	<b>KI</b> Westinghouse Electric Corp.	<b>UE</b> United Electronics Co.
<b>BT</b> British Thomson-Houston Co.	<b>KU</b> Westinghouse Electric Corp.	<b>UX</b> United Electronics Co.
<b>CE</b> Continental Electric Co.	<b>KU</b> Kuthe Laboratories Inc.	<b>V</b> Varian Associates Inc.
<b>CK</b> Raytheon Manufacturing Co.	<b>KX</b> Westinghouse Electric Corp.	<b>VA</b> Varian Associates Inc.
<b>DET</b> Marconi Wireless Telegraph Co.	<b>M</b> Mullard Electric Products Ltd.	<b>WE</b> Western Electric Co.
<b>DR</b> General Electronics Inc.	<b>ML</b> Machlett Laboratories Inc.	<b>WL</b> Westinghouse Electric Corp.
<b>EE</b> Electronic Enterprises Inc.	<b>MT</b> English Electric Valve Co.	<b>WT</b> Weltronic Co.
<b>EL</b> Electrons Inc.	<b>NL</b> National Electronics Inc.	<b>WTT</b> Weltronic Co.
<b>F</b> International Telephone & Telegraph	<b>NU</b> National Union Electric Corp.	<b>WX</b> Westinghouse Electric Corp.
<b>FG</b> General Electric Co.	<b>PL</b> Penta Laboratories Inc.	<b>X</b> Varian Associates Inc.
<b>G</b> General Motors Laboratories Inc.	<b>PL</b> N. V. Philips Gloeilampenfabrieken	<b>XG</b> Mullard Electric Products Ltd.
<b>GL</b> General Electric Co.	<b>QK</b> Raytheon Manufacturing Co.	<b>Z</b> General Electric Co.
<b>HD</b> C B S Hytron Co.	<b>R</b> Radio Corporation of America	<b>ZP</b> General Electric Co.

TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
SBS	Ig	WL-5551A
SCS	Ig	WL-5552A
SDR	Ig	WL-5555
SDS	Ig	WL-5553B
TGRA	Rect	WL-575A
TGRB	Rect	WL-872A
TGRG	Thyr	WL-5563A
TVTA	Trans	WL-892
TVTb	Trans	WL-833A
TVTc	Trans	WL-889A
TVTg	Trans	WL-5606
TVTf	Trans	WL-5771
WL-0A2	VR	WL-0A2
DA2	VR	WL-0A2
WL-DA3	VR	WL-0A3
OA3	VR	WL-0A3
OA3/VR75	VR	WL-0A3
WL-OB3	VR	WL-0B3
OB3	VR	WL-0B3
WL-OC3	VR	WL-OC3
OC3	VR	WL-OC3
OC3/VR105	VR	WL-OC3
WL-OD3	VR	WL-OD3
OD3	VR	WL-OD3
OD3/VR150	VR	WL-OD3
OG3	VR	WL-5651
AC-1C	Rect	WL-3B22
CT1-2500	Thyr	WL-5559
EL-1C	Rect	WL-3B22
EL-C1B	Thyr	WL-5664
EL-C1BA	Thyr	WL-5664
EL-C1J	Thyr	WL-6014
GL-C1J	Thyr	WL-6014
EL-C1JA	Thyr	WL-6014
EL-C1K	Thyr	WL-6014
GXU1	Rect	WL-3B28
TQ1-2	Thyr	WL-3C23
XG1-2500	Thyr	WL-5559
XR1-3200	Thyr	WL-22994
XR1-6400	Thyr	WL-C6H-1
1G50	Photo	WL-2050
1P32	Photo	WL-927
GL-1P40	Photo	WL-1P40
WL-1P40	Photo	WL-1P40
1P40	Photo	WL-1P40
1R21	Ig	WL-5550
B2A	Thyr	WL-2050
BTL2-1	Trans	WL-5762
D2M9	IR	WL-6663
DQ2	Rect	WL-866A
DX2	Rect	WL-3B28
H2-10	Rect	WL-2X2A
M-2K-2.5	Rect	WL-7018
M-2K-215	Rect	WL-7018
P2-12	Trans	WL-832A
P2-40	Trans	WL-829B
P2-40B	Trans	WL-829B
QB2/250	Trans	WL-813
QQE02/5	Trans	WL-6939
QQV02/6	Trans	WL-6939
QY2-100	Trans	WL-813
TQ2	Thyr	WL-5557
TX2/3	Thyr	WL-22994
TX2/6	Thyr	WL-C6H-1
XGQ2-6400	Thyr	WL-105
2B4	Thyr	WL-885
2B21	Rect	WL-2X2A

TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
2B29	Trans	WL-829B
2B32	Trans	WL-832A
2B94	Trans	WL-5894
2C4	Thyr	WL-5696
ML-2C39	Trans	WL-2C39A
2C39	Trans	WL-2C39A
WL-2C39A	Trans	WL-2C39A
2C39A	Trans	WL-2C39A
GL-2C39B	Trans	WL-2C39B
ML-2C39B	Trans	WL-2C39B
WL-2C39B	Trans	WL-2C39B
2C39B	Trans	WL-2C39B
GL-2D21	Thyr	WL-2D21
PL-2D21	Thyr	WL-2D21
WL-2D21	Thyr	WL-2D21
2D21	Thyr	WL-2D21
2D21W	Thyr	WL-5727
GL-2E24	Trans	WL-2E24
WL-2E24	Trans	WL-2E24
2E24	Trans	WL-2E24
GL-2E26	Trans	WL-2E26
WL-2E26	Trans	WL-2E26
2E26	Trans	WL-2E26
2G57	Thyr	WL-5557
2H28	Rect	WL-3B28
2H66	Rect	WL-866A
2V/400A	Rect	WL-866A
2XM600A	Rect	WL-866A
2X2/879	Rect	WL-2X2A
GL-2X2A	Rect	WL-2X2A
WL-2X2A	Rect	WL-2X2A
2X2A	Rect	WL-2X2A
EM-2.5	Rect	WL-7018
EL-C3J	Thyr	WL-5632
C3J	Thyr	WL-5632
C3J/5632	Thyr	WL-5632
EL-C3JA	Thyr	WL-7306A
EL-C3JAL	Thyr	WL-7556A
EL-3C	Rect	WL-4824
EL-3C/L	Rect	WL-7015
QB3/300	Trans	WL-4D21
QE03/10	Trans	WL-5763
QQE03/12	Trans	WL-6360
QQV03-10	Trans	WL-6360
QV03-12	Trans	WL-5763
QY3-125	Trans	WL-4D21
RG3-250A	Rect	WL-866A
RR3-250	Rect	WL-3B28
T-3C	Rect	WL-4B24
3-1000A4	Trans	WL-1000T
GL-3C23	Thyr	WL-3C23
WL-3C23	Thyr	WL-3C23
3C23	Thyr	WL-3C23
3C31	Thyr	WL-5664
3E21	Trans	WL-829B
3E29	Trans	WL-829B
3G15	Thyr	WL-5664
3G501A	Thyr	WL-C6H-1
3H150J	Trans	WL-2C39B
3V390A	Thyr	WL-5559
3X100A5	Trans	WL-2C39A
3X100A11	Trans	WL-2C39B
GL-3X2500A3	Trans	WL-3X2500A3
WL-3X2500A3	Trans	WL-3X2500A3
3X2500A3	Trans	WL-3X2500A3
WL-3X2500F3	Trans	WL-3X2500F3
3X2500F3	Trans	WL-3X2500F3

TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
QB-3.5-750	Trans	WL-5D22
AX-4-125A	Trans	WL-4D21
AX-4-125A/6155	Trans	WL-4D21
AX-4-250A	Trans	WL-5D22
AX-4-250A/6156	Trans	WL-5D22
BPMD4	IR	WL-6669
DCG4-1000G	Rect	WL-866A
DCX4-1000	Rect	WL-3B28
DQ4	Rect	WL-872A
EL-C4H-1	Thyr	WL-6856
C4H-1	Thyr	WL-6856
EL-C4H-2	Thyr	WL-6857
C4H-2	Thyr	WL-6857
EL-C4J	Thyr	WL-6856
C4J	Thyr	WL-6856
EL-C4J/F	Thyr	WL-6857
C4J/F	Thyr	WL-6857
GL-KC4	Rect	WL-5575
PM04	I R	WL-6660
QQE04/20	Trans	WL-832A
QQV04-20	Trans	WL-815
QV04-15	Trans	WL-832A
QY4-250	Trans	WL-5D22
TY4-350	Trans	WL-833A
4-125A	Trans	WL-4D21
4-125A/4D21	Trans	WL-4D21
4-250A	Trans	WL-5D22
4-250A/5D22	Trans	WL-5D22
GL-4-400A	Trans	WL-400A
WL-4-400A	Trans	WL-400A
4-400A	Trans	WL-400A
GL-4-1000A	Trans	WL-4-1000A
WL-41000A	Trans	WL-4-1000A
4-1000A	Trans	WL-4-1000A
4B13	Trans	WL-813
4CX250B	Trans	WL-7203
4G23	Thyr	WL-3C23
4G63	Thyr	WL-5563A
4G/280K	Thyr	WL-5727
4H72	Rect	WL-872A
4H88	Rect	WL-8008
4T100	Trans	WL-813
4T250A1	Trans	WL-813
4X250B	Trans	WL-4CX250B
4Y25	Trans	WL-807
B75	Thyr	WL-5559
DCG5/5000GB	Rect	WL-872A
DCG5/5000GS	Rect	WL-8008
G50	Rect	WL-872A
PM05	I R	WL-5654
QE05/40	Trans	WL-6146
QE05/40H	Trans	WL-6159
QV05/25	Trans	WL-807
XG5-500	Thyr	WL-5557
5-125B	Trans	WL-4E27A
5B/250A	Trans	WL-807
5CEP11	C R	5CEP11
5CEP16	C R	5CEP16
5C21	Thyr	WL-5C21
5C/100A	Trans	WL-813
5DEP1	C R	5DEP1
5DEP2	C R	5DEP2
PL-5D22	Trans	WL-5D22
WL-5D22	Trans	WL-5D22
5D22	Trans	WL-5D22
5FP7	C R	5FP7A
5FP7A	C R	5FP7A

# Direct Interchangeability List

continued

TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE	TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE	TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
5FP7B	C R	5FP7B	TT10	Trans	WL-813	EB42	Rect	WL-857B
5FP11	C R	5FP11	10E/9	Trans	WL-832A	BK42A	Ig	WL-5551A
5FP11A	C R	5FP11A	10E/587	Trans	WL-807	BK42B	Ig	WL-5551A
5F22A	Trans	WL-5D22	10E/11-141	Trans	WL-807	L-FTX44-5	Thyr	WL-5665
5H69A	Rect	WL-869B	10FP4	C R	10FP4A	TX44-5	Thyr	WL-5665
5R4-GY	Rect	WL-5R4-GYB	10FP4A	C R	10FP4A	BK46	Ig	WL-5555
5R4-GYA	Rect	WL-5R4-GYB	10KP7	C R	10KP7	GS-47X	Photo	WL-927
5R4-GYB	Rect	WL-5R4-GYB	10KP7A	C R	10KP7A	HD51	V R	WL-0A2
5S1	Trans	WL-807	10KP7B	C R	10KP7B	TS51	I R	WL-5654
5T33	Trans	WL-833A	10SP4	C R	10SP4	51A	Photo	WL-927
5UP1	C R	5UP1	10UP14	C R	10UP14A	R-51A	Photo	WL-927
5WP11	C R	5WP11	10UP14A	C R	10UP14A	TE-54	I R	WL-5687
5ZP16	C R	5ZP16	10WP7	C R	10WP7	FG-57	Thyr	WL-5559
EL-C6J	C R	WL-5C21	10WP7A	C R	10WP7A	MT-57	Thyr	WL-5559
C6J	Thyr	WL-5C21	GU12	Rect	WL-866A	PL-57	Thyr	WL-5559
C6J/5C21	Thyr	WL-5C21	TM12	I R	WL-6J4	RL-57	Thyr	WL-5559
EL-C6J/A	Thyr	WL-C6H-1	12ABP7	C R	12ABP7A	TG-57	Thyr	WL-5559
C6J/A	Thyr	WL-C6H-1	12ABP7A	C R	12ABP7A	WL-57	Thyr	WL-5559
C6J/A/5685	Thyr	WL-C6H-1	12AT7	I R	WL-6679	DP61	I R	WL-5654
EL-C6J/F	Thyr	WL-C6H-2	12AT7W	I R	WL-6201	HY-61	Trans	WL-807
C6J/F	Thyr	WL-C6H-2	12AT7WA	I R	WL-6201	HY-61/807	Trans	WL-807
EL-C6J/K	Thyr	WL-C6H-1	12AU7	I R	WL-6680	R-61A	Photo	WL-930
C6J/K	Thyr	WL-C6H-1	12AU7W	I R	WL-6189	61A3	Photo	WL-930
EL-C6J/KF	Thyr	WL-C6H-2	12AU7WA	I R	WL-6189	B65	I R	WL-5692
C6J/KF	Thyr	WL-C6H-2	12AX7	I R	WL-6681	BK66	Ig	WL-5550
EL-C6J/L	Thyr	WL-7321	12AX7A	I R	WL-7729	EC70	I R	WL-5718
C6J/L	Thyr	WL-7321	12BY7	I R	WL-7733	EL71	I R	WL-5902
EL-C6H-1	Thyr	WL-C6H-1	12BY7A	I R	WL-7733	RKR-72	Rect	WL-481B
WL-C6H-1	Thyr	WL-C6H-1	12SP7	C R	12SP7D	VR-75	V R	WL-0A3
C6H-1	Thyr	WL-C6H-1	12SP7B	C R	12SP7D	VR-75ST	V R	WL-0A3
EL-C6H-2	Thyr	WL-C6H-2	12SP7D	C R	12SP7D	WT-75ST	Thyr	WL-C6H-1
WL-C6H-2	Thyr	WL-C6H-2	DG13-32	C R	5UP1	BT77	Thyr	WL-6663
C6H-2	Thyr	WL-C6H-2	MF13-1	C R	5FP7A	D77	I R	WL-5881
DD6	Thyr	WL-6663	13D2	I R	WL-5692	KT77	I R	WL-5726
DD6G	I R	WL-6663	AR-14	Ig	WL-5551A	QD77	I R	WL-5726
DQ6	I R	WL-869B	P-14	Thyr	WL-5557	CC81E	I R	WL-6201
EL-6C	Rect	WL-670	AR-14T	Ig	WL-5551A	ECC81	I R	WL-6679
EL-6C/L	Rect	WL-7017	AR-14TP	Ig	WL-5551APC	E81CC	I R	WL-6201
T-6C	Rect	WL-670	AR-14TWS	Ig	WL-5551APC	FG-81A	Thyr	WL-81A
QE06/50	Rect	WL-807	G15F	Photo	WL-927	WL-81A	Thyr	WL-81A
QQE06/40	Trans	WL-5894	EL-C16J	Thyr	WL-5665	EBF82	I R	WL-6678
QQV06/40	Trans	WL-5894	GS-16S0	Photo	WL-1P40	ECC82	I R	WL-6680
QQV06/40A	Trans	WL-5894	QV16/40A	Trans	WL-5894	ECC83	I R	WL-6681
QV06/20	Trans	WL-6146	TT16	Trans	WL-4D21	ECC84	I R	WL-6386
6AB4	I R	WL-6664	TT16D	Trans	WL-4D21	84A3	Photo	WL-923
6AK5	I R	WL-5654	16AKP7	C R	16AKP7	85A2	V R	WL-5651
6AK5W	I R	WL-5654	16ALP7	C R	16ALP7	E88CC	I R	WL-6922
6AK5W/5654	I R	WL-5654	DE117	Trans	WL-810	KT88	I R	WL-6550
6AL5	I R	WL-6663	EE-17	Thyr	WL-5557	E90F	I R	WL-6661
6AQ5	I R	WL-6669	FG-17	Thyr	WL-5557	EL90	I R	WL-6669
6AS6	I R	WL-6AS6	HT-17	Thyr	WL-5557	VR-90	V R	WL-0B3
6AS7G	I R	WL-6AS7GA	ML-17	Thyr	WL-5557	VR-90ST	V R	WL-0B3
6AS7GA	I R	WL-6AS7GA	RL-17	Thyr	WL-5557	BT-91	Thyr	WL-22994
6AU6	I R	WL-6136	TT-17	Thyr	WL-5557	E91AA	I R	WL-6663
6AU6W	I R	WL-6136	WE-17	Thyr	WL-5557	E91N	Thyr	WL-2D21
6AU6WA	I R	WL-6136	WL-17	Thyr	WL-5557	EAA91	I R	WL-6663
6B32	I R	WL-6663	17	Thyr	WL-5557	EB91	I R	WL-6663
6BA6	I R	WL-6660	P17A	Trans	WL-807	EN91	Thyr	WL-2D21
6BH6	I R	WL-6661	CE-20	Photo	WL-927	EC92	I R	WL-6664
6BJ6	I R	WL-6662	NU-20	Photo	WL-927	EN92	Thyr	WL-5696
6C31	I R	WL-6J4	NU-20	Photo	WL-927	EF93	I R	WL-6660
6CL6	I R	WL-6677	20A3	Thyr	WL-5727	EF94	I R	WL-6136
6D2	I R	WL-6663	KD21	V R	WL-0A3	EF95	I R	WL-5654
6DB6	I R	WL-6954	PL21	Thyr	WL-2D21	QV95/25	Trans	WL-807
6F31	I R	WL-6660	RL-21	Thyr	WL-2D21	E99F	I R	WL-6662
6F33	I R	WL-6AS6	21A6	Thyr	WL-81A	ML-100	Rect	WL-5575
6G10	Thyr	WL-105	21EWP4	C R	21EWP4	TXM100	C R	WL-2D21
6G45	Thyr	WL-C6H-1	CE-23	Photo	WL-923	WL-102A	Rect	WL-402A
6K4	I R	WL-5718	NU-23	Photo	WL-923	X-103	Trans	WL-4D21
6L6	I R	WL-5881	BK24	Ig	WL-5552A	FG-104	Rect	WL-5561
6L6G	I R	WL-5881	KD24	V R	WL-0C3	WL-104	Rect	WL-5561
6L6GA	I R	WL-5881	BK24A	Ig	WL-5552A	WTT-104	Rect	WL-575A
6L6GB	I R	WL-5881	BK24B	Ig	WL-5552A	AX-105	Thyr	WL-105
6L6GC	I R	WL-5881	ATS25	Trans	WL-807	FG-105	Thyr	WL-105
6L6W	I R	WL-5881	G25/3000	Rect	WL-866A	MT-105	Thyr	WL-105
6L6WA	I R	WL-5881	KD25	V R	WL-0D3	PL-105	Thyr	WL-105
6L6WB	I R	WL-5881	NU-25	Photo	WL-927	RL-105	Thyr	WL-105
6L13	I R	WL-7729	ATS25A	Trans	WL-807	VR-105	V R	WL-105
6L41	Trans	WL-5763	CE-25C	Photo	WL-927	VR-105	V R	WL-0C3
6SJ7	I R	WL-5693	BT27	Thyr	WL-105	WL-105	Thyr	WL-105
6SL7-GT	I R	WL-5691	D27	I R	WL-6663	WTT-105	Trans	WL-892
6SL7-WGT	I R	WL-5691	CE-30	Photo	WL-1P40	105	Thyr	WL-105
6SN7-GT	I R	WL-5692	NU-30	Photo	WL-930	VR-105MT	V R	WL-OC3
6SN7-GTA	I R	WL-5692	CE-30C	Photo	WL-930	PL-106	Thyr	WL-6858
6U8	I R	WL-6678	CE-30Q	Thyr	WL-930	WTT-106	Thyr	WL-7307A
6U8A	I R	WL-6678	ECC32	I R	WL-5557	STV108/30	V R	WL-0B2
QQV07-40	Trans	WL-829B	EN32	Thyr	WL-2050	WTT-108	Thyr	WL-3C23
7ABP7	C R	7ABP7A	FG-32	Rect	WL-5558	108C1	V R	WL-0B2
7ABP7A	C R	7ABP7A	WL-32	Rect	WL-5558	WTT-110	Thyr	WL-5830
7AUP4	C R	7AUP4	FG-33	Thyr	WL-5720	WTT-111	Thyr	WL-5559
7BP7	C R	7BP7A	BK34	Ig	WL-5553B	WTT-112	Thyr	WL-632C
7BP7A	C R	7BP7A	REL34	Trans	WL-2C40	WTT-113	Thyr	KU-676
7BP7B	C R	7BP7B	BK34A	Ig	WL-5553B	WTT-116	Thyr	WL-5664
7C24	Trans	WL-5762	BK34B	Ig	WL-5553B	WTT-117	Thyr	WL-5557
7F25A	Trans	WL-4-1000A	ECC35	I R	WL-5691	X-117	Trans	WL-5D22
7H57	Rect	WL-857B	TE-35	I R	WL-5654	WTT-118	Thyr	WL-105
7MP7	C R	7MP7	EL37	I R	WL-5881	WTT-119	Thyr	WL-172
7TP4	C R	7TP4	RK-39	Trans	WL-807	T-125	Trans	WL-810
8F66R	Trans	WL-6166A	FG-41	Thyr	WL-5830	E-125A	Trans	WL-4D21
8T92	Trans	WL-892R	WL-41	Thyr	WL-5830	WTT-127	Trans	WL-833A
8T92R	Trans	WL-892R	BK42	Ig	WL-5551A			
D2M9	I R	WL-6663	CE-42	Photo	WL-922			

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BR-132	Trans	WL-5762	WT-210-0283	Ig	WL-7670	QM559	I R	WL-5726
WTT-134	Thyr	WL-5665	WT-210-0285	Ig	WL-7671PC	WT-568	Rect	WL-7018
B142	Trans	WL-833A	WT-210-0290	Ig	WL-7669PC	CK-569AX	I R	WL-5678
KX142	Rect	WL-2X2A	WT-210-0306	Ig	WL-5553B	CK-571AX	I R	WL-5886
C143	Trans	WL-813	AH213	Rect	WL-869B	GL-572	Trans	WL-2C39A
C144	Trans	WL-829B	CE-213	Rect	WL-7018	ZP-572	Trans	WL-2C39A
WTT-149	Thyr	WL-172	CE-213A	Rect	WL-7018	DR-575A	Rect	WL-575A
QS150-40	V R	WL-0D3	VR216A	Rect	WL-866A	EE-575A	Rect	WL-575A
SM150-30	V R	WL-0A2	AH217	Rect	WL-872A	F-575A	Rect	WL-575A
STV150/30	V R	WL-0A2	CE-220	Rect	WL-481B	GL-575A	Rect	WL-575A
VR-150	V R	WL-0D3	CE-221	Rect	WL-670	ML-575A	Rect	WL-575A
VR-150-30	V R	WL-0D3	CE-222	Rect	WL-3B22	WL-575A	Rect	WL-575A
VR-150MT	V R	WL-0A2	AX-224	Rect	WL-3B28	575A	Rect	WL-575A
VR-150ST	V R	WL-0D3	CE-224	Rect	WL-4B24	WL-579	Rect	WL-579B
150C1	V R	WL-0A2	Z-225	Rect	WL-866A	WL-579A	Rect	WL-579B
150C2	V R	WL-0A2	ECC-230	I R	WL-6080	WL-579B	Rect	WL-579B
150C3	V R	WL-0D3	230N	Rect	WL-5558	579B	Rect	WL-579B
150C4	V R	WL-0A2	CE-232	Rect	WL-5558	NL-600	Rect	WL-3B22
B152	I R	WL-6679	FG-235A	Ig	WL-5552A	NL-604	Rect	WL-7014
D152	I R	WL-6663	FG-238B	Ig	WL-5555	NL-604L	Rect	WL-7015
Q160-1	Trans	WL-4D21	CE-245	Rect	WL-7016	NL-606	Rect	WL-7016
BK168B	Ig	WL-SB22A	WT-246	Thyr	WL-2050	WT-606	Thyr	WL-2D21
FG-172	Thyr	WL-172	G250/3000	Rect	WL-866A	NL-606L	Rect	WL-7017
WL-172	Thyr	WL-172	GRG250/3000	Thyr	WL-5557	KU-610	Glow	KU-610
172	Thyr	WL-172	HG250/3000	Rect	WL-866A	ACC612	Thyr	WL-C6H-1
C178	Trans	WL-5894	E-250A	Trans	WL-5D22	R-612G	Rect	WL-2X2A
C180	Trans	WL-832A	K251	Rect	WL-866A	WL-613	Rect	WL-613
G180-2M	V R	WL-0D3	HF-255	Rect	WL-869B	613	Rect	WL-613
ECC189	I R	WL-6922	PL-255	Thyr	WL-414	NL-615	Rect	WL-7018
EF190	I R	WL-6676	255A	Rect	WL-869B	WL-616	Rect	WL-5575
BR191	Trans	WL-5762	255B	Rect	WL-869B	KU-618	Thyr	KU-618
ML-199	Recc	WL-8094	FG-258A	Ig	WL-5553B	ZP-620	Trans	WL-2C40
ML-200	Rect	WL-5576	FG-258B	Ig	WL-5553B	WL-624	Thyr	WL-624
AH201	Rect	WL-866A	FG-259B	Ig	WL-5554	GL-627	Thyr	WL-627
A-206	Rect	WL-579B	WT-262	Rect	WL-866A	KU-627	Thyr	WL-627
GL-207	Trans	WL-207	WT-269	V R	WL-0C3	WL-627	Thyr	WL-627
ML-207	Trans	WL-207	FG-271	Ig	WL-5551A	627	Thyr	WL-627
RX-207	Rect	WL-670	WE-272	Thyr	WL-5557	WL-629	Thyr	WL-629
UE-207	Trans	WL-207	WT-272	Thyr	WL-5557	629	Thyr	WL-629
WL-207	Trans	WL-207	WT-272A	Thyr	WL-5557	WL-630	Thyr	WL-2050
207	Trans	WL-207	WE-274B	Rect	WL-5557	WT-630	Thyr	WL-2050
WT-210-0001	Thyr	WL-2D21	WT-274	V R	WL-0B3	WL-630A	Thyr	WL-2050
WT-210-0004	Thyr	WL-2050	WT-280	Thyr	WL-C6H-1	WL-631	Thyr	WL-5559
WT-210-0008	Rect	WL-866A	WT-294	V R	WL-0D3	WT-631	Thyr	WL-5559
WT-210-0011	V R	WL-0C3	CE-303	Thyr	WL-5664	NL-632B	Thyr	WL-632C
WT-210-0015	Thyr	WL-5557	CE-306	Thyr	WL-C6H-1	WL-632B	Thyr	WL-632C
WT-210-0016	V R	WL-0B3	F-307A	Trans	WL-634	KU-634	Thyr	WL-677
WT-210-0017	Thyr	WL-6856	CE-308	Thyr	WL-207	NL-635	Rect	WL-7019
WT-210-0018	V R	WL-0D3	ML-308	Trans	WL-C6H-1	WT-635	Thyr	WL-C6H-1
WT-210-0027	Rect	WL-872A	ML-308R	Trans	WL-5668	NL-635L	Rect	WL-7020
WT-210-0038	Thyr	WL-172	B309	I R	WL-5669	NL-635P	Rect	WL-6930
WT-210-0043	Thyr	WL-5796	CE-309	Thyr	WL-6679	KX-642	Glow	KX-642
WT-210-0044	Rect	WL-575A	CE-311	Thyr	WL-5557	WL-651	Ig	WL-5552A
WT-210-0045	Trans	WL-892	F-319A	Rect	WL-3C23	WL-652	Ig	WL-5551A
WT-210-0047	Thyr	WL-3C23	WE-319A	Rect	WL-872A	WL-653	Ig	WL-5555
WT-210-0051	V R	WL-0A2	CE-320	Thyr	WL-872A	WL-653A	Ig	WL-5555
WT-210-0054	Thyr	WL-5830	CE-320	Thyr	WL-7307A	WL-653B	Ig	WL-5555
WT-210-0056	Thyr	WL-5559	320A	Thyr	WL-7307A	DF654	I R	WL-5678
WT-210-0057	Thyr	WL-632C	B329	I R	WL-6680	WL-655	Ig	WL-5553B
WT-210-0058	Thyr	KU-676	B339	I R	WL-6681	WL-656	Ig	WL-5552A
WT-210-0059	Thyr	WL-677	F-353A	Rect	WL-872A	WL-657	Ig	WL-5551A
WT-210-0062	Thyr	WL-5557	F-357A	Rect	WL-857B	WL-658	Ig	WL-5553B
WT-210-0063	Thyr	WL-5685	F-357B	Rect	WL-857B	K1-664	Rect	WL-4B24
WT-210-0066	Thyr	WL-5665	F-363A	Trans	WL-892	WL-670	Rect	WL-670
WT-210-0069	Thyr	WL-5557	F-366A	Rect	WL-866A	WL-672	Thyr	WL-672A
WT-210-0070	Ig	WL-5550	F-369B	Rect	WL-869B	GL-672	Thyr	WL-672A
WT-210-0071	Ig	WL-5551A	WT-373	Rect	WL-7018	672	Thyr	WL-672A
WT-210-0072	Ig	WL-5552A	F-375A	Rect	WL-575A	GL-672A	Thyr	WL-672A
WT-210-0073	Ig	WL-5553B	WT-382	Rect	WL-872A	WL-672A	Thyr	WL-672A
WT-210-0074	Ig	WL-105	Q400-1	Trans	WL-5D22	672A	Thyr	WL-672A
WT-210-0075	Ig	WL-5822A	WE-403A	I R	WL-5654	GL-673	Rect	WL-673
WT-210-0077	Thyr	WL-5727	WE-409A	I R	WL-6A56	ML-673	Rect	WL-673
WT-210-0078	Thyr	WL-172	GL-414	Thyr	WL-414	WL-673	Rect	WL-673
WT-210-0079	Thyr	WL-105	WL-414	Thyr	WL-414	673	Rect	WL-673
WT-210-0086	Trans	WL-833A	GL-415	Ig	WL-5550	KU-676	Thyr	KU-676
WT-210-0093	Trans	WL-5668	GL-426	Rect	WL-7018	676	Thyr	KU-676
WT-210-0100	Thyr	WL-672A	WT-439	Thyr	WL-172	WL-677	Thyr	WL-677
WT-210-0106	Thyr	WL-7306A	440	Rect	WL-7018	677	Thyr	WL-677
WT-210-0116	Thyr	WL-632C	444	Rect	WL-3B22	GL-678	Thyr	WL-678
WT-210-0120	Thyr	KU-610	GL-452	Trans	WL-892	WL-678	Thyr	WL-678
WT-210-0134	Thyr	WL-678	WL-456	Rect	WL-456	678	Thyr	WL-678
WT-210-0141	Thyr	WL-5796	ZP-468	C R	7BP7B	WL-679	Ig	WL-5554
WT-210-0147	Ig	WL-5552A	GL-473	Trans	WL-5736	WL-681	Ig	WL-5550
WT-210-0149	Ig	WL-5551A	ML-473	Trans	WL-5736	WL-682	Ig	WL-5550
WT-210-0152	Ig	WL-5553B	WL-473	Trans	WL-5736	WL-686	Ig	WL-5550
WT-210-0156	Ig	WL-5551A	X-474	Trans	WL-2C39A	WL-689	Ig	WL-6228
WT-210-0157	Ig	WL-5552A	GL-475	C R	5FP7B	WT-699	Ig	WL-5550
WT-210-0158	Ig	WL-5551A	ZP-475	C R	5FP7B	NL-710	Thyr	WL-7307A
WT-210-0159	Ig	WL-5552A	WL-481	Rect	WL-481B	NL-710L	Thyr	WL-7509A
WT-210-0162	Thyr	WL-7509A	WL-481A	Rect	WL-481B	NL-715	Thyr	WL-5557
WT-210-0165	Ig	WL-5553B	WL-481B	Rect	WL-481B	D717	I R	WL-6663
WT-210-0170	Ig	WL-5822A	GL-490	Rect	WL-7016	T717	Thyr	WL-5557
WT-210-0179	Thyr	WL-C6H-1	495	Rect	WL-7016	N727	I R	WL-6669
WT-210-0183	Thyr	WL-7556A	GL-506	Ig	WL-6228	W727	I R	WL-6660
WT-210-0188	Thyr	WL-6014	GL-509	Trans	WL-889A	ML-728	Thyr	WL-5557
WT-210-0234	Thyr	WL-5665	GL-509R	Trans	WL-5667	DC728A	Thyr	WL-627
WT-210-0245	Thyr	WL-C6H-2	GL-510	Rect	WL-857B	XC728A	Thyr	WL-627
WT-210-0246	Ig	WL-7681	GL-512	Rect	WL-575A	NL-730	Thyr	WL-2299A
WT-210-0249	Ig	WL-5551APC	GL-512A	Rect	WL-575A	731A	I R	WL-5654
WT-210-0252	Ig	WL-5552APC	VH-550A	Rect	WL-866A	EF734	I R	WL-6205
WT-210-0274	Ig	WL-7669	VX-550A	Rect	WL-3B28	NL-734	Thyr	WL-2299A
WT-210-0275	Ig	WL-7671	P552/1E	Trans	WL-4D21	NL-740	Thyr	WL-6856
						NL-740L	Thyr	WL-7022

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NL-740P	Thyr	WL-6857	C866	Rect	WL-866A	EAA901	I R	WL-6663
WL-741	Photo	WL-923	UX-866	Rect	WL-866A	S901C	V R	WL-5651
WL-759	Glow	WL-759	866	Rect	WL-866A	EAA901S	I R	WL-6663
NL-760	Thyr	WL-C6H-1	C866A	Rect	WL-866A	EF905	I R	WL-5654
NL-760L	Thyr	WL-7023	CE-866A	Rect	WL-866A	UL-905	Thyr	WL-5559
NL-760P	Thyr	WL-6859	EE-866A	Rect	WL-866A	TX-920	Thyr	WL-5559
NL-761	Thyr	WL-C6H-1	GL-866A	Rect	WL-866A	UL-905	Thyr	WL-5559
NL-762	G A	WL-762	HF-866A	Rect	WL-866A	GL-922	Photo	WL-922
WL-765	G A	WL-765	ML-866A	Rect	WL-866A	WL-922	Photo	WL-922
WL-765A	G A	WL-765A	RCA-866A	Rect	WL-866A	922	Photo	WL-922
XB767A	Thyr	WL-2050	RK-866A	Rect	WL-866A	GL-923	Photo	WL-923
ECC801S	S P	WL-6201	T-866A	Rect	WL-866A	WL-923	Photo	WL-923
DR-807	Trans	WL-807	UE-866A	Rect	WL-866A	923	Photo	WL-923
GL-807	Trans	WL-807	WL-866A	Rect	WL-866A	GL-927	Photo	WL-927
WL-807	Trans	WL-807	866A	Rect	WL-866A	WL-927	Photo	WL-927
807	Trans	WL-807	HY-866JR	Rect	WL-816	927	Photo	WL-927
DR-810	Trans	WL-810	NU-866JR	Rect	WL-816	GL-930	Photo	WL-930
GL-810	Trans	WL-810	866JR	Rect	WL-816	WL-930	Photo	WL-930
ML-810	Trans	WL-810	UV-869	Rect	WL-869B	930	Photo	WL-930
T-810	Trans	WL-810	869	Rect	WL-869B	931	Photo	WL-931A
UE-810	Trans	WL-810	UV-869A	Rect	WL-869B	GL-931A	Photo	WL-931A
WL-810	Trans	WL-810	869A	Rect	WL-869B	WL-931A	Photo	WL-931A
810	Trans	WL-810	869A	Rect	WL-869B	931A	Photo	WL-931A
DR-811	Trans	WL-811A	CE-869B	Rect	WL-869B	UE-966	Rect	WL-866A
GL-811	Trans	WL-811A	DR-869B	Rect	WL-869B	UE-966A	Rect	WL-866A
GL-811	Trans	WL-811A	EE-869B	Rect	WL-869B	BM-966B	Rect	WL-866A
NU-811	Trans	WL-811A	F-869B	Rect	WL-869B	HV-966B	Rect	WL-866A
WL-811	Trans	WL-811A	GL-869B	Rect	WL-869B	Thyr	Thyr	WL-5557
811	Trans	WL-811A	ML-869B	Rect	WL-869B	UE-967	Thyr	WL-5557
GL-811A	Trans	WL-811A	WL-869B	Rect	WL-869B	UE-972	Rect	WL-872A
WL-811A	Trans	WL-811A	869B	Rect	WL-869B	UE-972A	Rect	WL-872A
811A	Trans	WL-811A	WL869BL	Rect	WL-869BL	UE-975A	Rect	WL-575A
DR-812	Trans	WL-812A	869BL	Rect	WL-869BL	SN976	I R	WL-5902
GL-812	Trans	WL-812A	872	Rect	WL-872A	SN976D	I R	WL-5902
NU-812	Trans	WL-812A	DR-872A	Rect	WL-872A	SN979	I R	WL-5718
WL-812	Trans	WL-812A	EE-872A	Rect	WL-872A	SN979D	I R	WL-5718
812	Trans	WL-812A	F-872A	Rect	WL-872A	RG1000/3000	Rect	WL-872A
GL-812A	Trans	WL-812A	GL-872A	Rect	WL-872A	Stel-1000-2.5-15	Thyr	WL-5559
WL-812A	Trans	WL-812A	ML-872A	Rect	WL-872A	RS-1007	Trans	WL-4D21
812A	Trans	WL-812A	RK-872A	Rect	WL-872A	WT-1009	Ig	WL-7681
DR-813	Trans	WL-813	UE-872A	Rect	WL-872A	NL-1009A	Ig	WL-7681PC
GL-813	Trans	WL-813	WL-872A	Rect	WL-872A	NL-1009AP	Ig	WL-7681PC
ML-813	Trans	WL-813	872A	Rect	WL-872A	NL-1011A	Ig	WL-23011
RK-813	Trans	WL-813	T-875A	Rect	WL-875A	NL-1011A	Ig	WL-23011PC
T-813	Trans	WL-813	879	Rect	WL-2X2A	NL-1012A	Ig	WL-23012
UE-813	Trans	WL-813	GL-880	Trans	WL-5658	NL-1012AP	Ig	WL-23012PC
WL-813	Trans	WL-813	ML-880	Trans	WL-5658	NL-1013A	Ig	WL-23013
813	Trans	WL-813	UE-880	Trans	WL-5658	NL-1016	Ig	WL-23016
GL-815	Trans	WL-815	WL-880	Trans	WL-5658	NL-1022	Ig	WL-5822A
WL-815	Trans	WL-815	880	Trans	WL-5658	WT-1022	Ig	WL-5822A
815	Trans	WL-815	GL-885	Thyr	WL-885	NL-1022A	Ig	WL-5822A
DR-816	Rect	WL-816	RCA-885	Thyr	WL-885	D1031A	Trans	WL-8045
GL-816	Rect	WL-816	RX-885	Thyr	WL-885	NL-1036	Ig	WL-7171
WL-816	Rect	WL-816	WL-885	Thyr	WL-885	B-1038	C R	10WP7
816	Rect	WL-816	885	Thyr	WL-885	NL-1051	Ig	WL-5551A
GL-829	Trans	WL-829B	889	Trans	WL-889A	NL-1051A	Ig	WL-5551A
NU-829	Trans	WL-829B	F-889A	Trans	WL-889A	WT-1051A	Ig	WL-5551A
RK-829	Trans	WL-829B	GL-889A	Trans	WL-889A	NL-1051P	Ig	WL-5551APC
829	Trans	WL-829B	ML-889A	Trans	WL-889A	WT-1051P	Ig	WL-5551APC
829A	Trans	WL-829B	UE-889A	Trans	WL-889A	NL-1052	Ig	WL-5552A
GL-829B	Trans	WL-829B	WL-889A	Trans	WL-889A	NL-1052A	Ig	WL-5552A
ML-829B	Trans	WL-829B	889A	Trans	WL-889A	WT-1052A	Ig	WL-5552A
RK-829B	Trans	WL-829B	889R	Trans	WL-5667	NL-1052P	Ig	WL-5552APC
WL-829B	Trans	WL-829B	F-889RA	Trans	WL-5667	WT-1052P	Ig	WL-5552APC
829B	Trans	WL-829B	GL-889RA	Trans	WL-5667	NL-1053	Ig	WL-5553B
T830B	Photo	WL-930	ML-889RA	Trans	WL-5667	WT-1053A	Ig	WL-5553B
GL-832	Trans	WL-832A	UE-889RA	Trans	WL-5667	WT-1053P	Ig	WL-5553BPC
NU-832	Trans	WL-832A	WL-889RA	Trans	WL-5667	NL-1061	Ig	WL-7669
832	Trans	WL-832A	889RA	Trans	WL-5667	NL-1061P	Ig	WL-7669PC
DR-832A	Trans	WL-832A	F-891	Trans	WL-891	NL-1062	Ig	WL-7671
GL832A	Trans	WL-832A	GL-891	Trans	WL-891	NL-1066	Ig	WL-7670
ML-832A	Trans	WL-832A	ML-891	Trans	WL-891	NL-1071	Ig	WL-23014
RK-832A	Trans	WL-832A	UE-891	Trans	WL-891	NL-1071P	Ig	WL-23014PC
WL-832A	Trans	WL-832A	WL-891	Trans	WL-891	NL-1072	Ig	WL-23015
832A	Trans	WL-833A	891	Trans	WL-891	NL-1072P	Ig	WL-23015PC
WL-833	Trans	WL-833A	F-891R	Trans	WL-891R	NL-1073	Ig	WL-23017
833	Trans	WL-833A	GL-891R	Trans	WL-891R	NL-1079	Ig	WL-23018
DR-833A	Trans	WL-833A	ML-891R	Trans	WL-891R	CK-1090	Glow	WL-5823
GL-833A	Trans	WL-833A	UE-891R	Trans	WL-891R	C-1108	Trans	WL-4D21
ML-833A	Trans	WL-833A	WL-891R	Trans	WL-891R	K-1195P7	C R	7ABP7A
UE-833A	Trans	WL-833A	891R	Trans	WL-891R	QS-1206	V R	WL-0C3
WL-833A	Trans	WL-833A	F-892	Trans	WL-892	QS-1207	V R	WL-0A2
833A	Trans	WL-833A	GL-892	Trans	WL-892	1220	I R	WL-5654
EE-836	Rect	WL-836	ML-892	Trans	WL-892	1266	V R	WL-0B3
GL-836	Rect	WL-836	UE-892	Trans	WL-892	1295	Thyr	WL-632C
RK-836	Rect	WL-836	WL-892	Trans	WL-892	Stel-1300-01-05	Thyr	WL-2D21
WL-836	Rect	WL-836	892	Trans	WL-892	K-1304P7	C R	7ABP7A
836	Rect	WL-836	DR-892R	Trans	WL-892R	1381HQ	I R	WL-5654
836A	Rect	WL-836	F-892R	Trans	WL-892R	Z1494	I R	WL-5654
S-856	V R	WL-0A2	GL-892R	Trans	WL-892R	Z1498	I R	WL-6189
857	Rect	WL-857B	ML-892R	Trans	WL-892R	ME-1504	Thyr	WL-5559
F-857A	Rect	WL-857B	UE-892R	Trans	WL-892R	GL-1614	I R	WL-5881
GL-857A	Rect	WL-857B	WL-892R	Trans	WL-892R	RK-1614	I R	WL-5881
857A	Rect	WL-857B	892R	Trans	WL-892R	1614	I R	WL-5881
DR-857B	Rect	WL-857B	GL-895	Trans	WL-895	1657	Thyr	WL-2050
F-857B	Rect	WL-857B	ML-895	Trans	WL-895	1665	Thyr	WL-2050
GL-857B	Rect	WL-857B	895	Trans	WL-895	1672	Thyr	WL-172
ML-857B	Rect	WL-857B	GL-895R	Trans	WL-895R	HF-1701	Thvr	WL-5557
WL-857B	Rect	WL-857B	ML-895R	Trans	WL-895R	ZV-1798	Rect	WL-5973
857B	Rect	WL-857B	WL-895R	Trans	WL-895R	1812P7	C R	5FP7B
S-859	V R	WL-0C2	895R	Trans	WL-895R	1812P11	C R	5FP11A
F-863	Trans	WL-892	Z900T	Glow	WL-5823	1813P7	C R	7BP7B
RCA863	Trans	WL-892				A-1834	I R	WL-6080
F-863A	Trans	WL-892						

## Direct Interchangeability List

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TUBE TYPE MARKEO	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE	TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE	TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
E-1870	Trans	WL-4D21	WX-5464	HCDD	WL-22824	5604	Trans	WL-5604
1971	Trans	WL-207	WX-5471	HCDD	WL-22825	ML-5606	Trans	WL-5606
2014	I R	WL-6197	WX-5472	HCDD	WL-22826	WL-5606	Trans	WL-5606
GL-2050	Thyr	WL-2050A	WX-5485	HCDD	WL-22827	5606	Trans	WL-5606
RK-2050	Thyr	WL-2050A	WX-5486	HCDD	WL-22828	ML-5619	Trans	WL-5619
WL-2050	Thyr	WL-2050A	WX-5487	HCDD	WL-22829	WL-5619	Trans	WL-5619
2050	Thyr	WL-2050A	WX-5488	HCDD	WL-22830	5619	Trans	WL-5619
GL-2050A	Thyr	WL-2050A	WX-5489	HCDD	WL-22831	GL-5625	Rect	WL-5575
WL-2050A	Thyr	WL-2050A	WX-5490	HCDD	WL-22832	5625	Rect	WL-5575
2050A	Thyr	WL-2050A	WL-5513	Trans	WL-5513	GL-5632	Thyr	WL-7307A
RK-2051	Thyr	WL-2050	5513	Trans	WL-5513	5632	Thyr	WL-7307A
2051	Thyr	WL-2050	ASG-5544	Thyr	WL-22994	5640	I R	WL-5902
2179A	Trans	WL-2C40	GL-5544	Thyr	WL-22994	5648	Trans	WL-2C39B
A2209	I R	WL-614	5544	Thyr	WL-22994	GL-5651	V R	WL-5651
A2209A	I R	WL-614	ASG-5545	Thyr	WL-C6H-1	WL-5651	V R	WL-5651
CV2210	Thyr	WL-22994	GL-5545	Thyr	WL-C6H-1	5651	V R	WL-5651
CV2215	Thyr	WL-C6H-1	5545	Thyr	WL-C6H-1	CK-5654	V R	WL-5654
A-2229A	Trans	WL-2C40	AX-5550	Ig	WL-5550	GL-5654	I R	WL-5654
A-2251A	Trans	WL-5667	GL-5550/415	Ig	WL-5550	WL-5654	I R	WL-5654
A-2251B	Trans	WL-5667	NL-5550	Ig	WL-5550	5654	S P	WL-5654
QA2404	I R	WL-6663	WL-5550	Ig	WL-5550	ML-5658	Trans	WL-5658
QA2408	I R	WL-5692	WT-5550	Ig	WL-5550	WL-5658	Trans	WL-5658
5tel-2500-6-40	Thyr	WL-105	5550	Ig	WL-5550	5658	Trans	WL-5658
CV2723	Rect	WL-869B	AJ-5551	Ig	WL-5551A	WL-5664	Thyr	WL-5664
CV2957	Thyr	WL-5557	AX-5551	Ig	WL-5551A	5664	Thyr	WL-5664
3069	Rect	WL-866A	GL-5551	Ig	WL-5551A	GL-5665	Thyr	WL-5665
3070	Rect	WL-872A	NL-5551	Ig	WL-5551A	WL-5665	Thyr	WL-5665
3071	Rect	WL-869B	PL-5551	Ig	WL-5551A	5665	Thyr	WL-5665
WX-3072	Rect	WL-670	VJ-5551	Ig	WL-5551A	F-5667	Trans	WL-5667
3072	Rect	WL-857B	WL-5551	Ig	WL-5551A	ML-5667	Trans	WL-5667
WX-3141	Thyr	WL-676	WT-5551	Ig	WL-5551A	WL-5667	Trans	WL-5667
WX-3172	Thyr	WL-672A	5551	Ig	WL-5551A	5667	Trans	WL-5667
WX-3187	Thyr	WL-414	AJ-5551A	Ig	WL-5551A	F-5668	Trans	WL-5668
WX-3194	Ig	WL-5550	AX-5551A	Ig	WL-5551A	ML-5668	Trans	WL-5668
XRI-3200	Thyr	WL-22994	GL-5551A	Ig	WL-5551A	WL-5668	Trans	WL-5668
WX-3230	Thyr	WL-678	PL-5551A	Ig	WL-5551A	5668	Trans	WL-5668
3546PW	Photo	WL-927	WL-5551A	Ig	WL-5551A	F-5669	Trans	WL-5669
WX-3751	C R	5CEP11	5551A	Ig	WL-5551A	ML-5669	Trans	WL-5669
3572	Rect	WL-866A	WL-5551APC	Ig	WL-5551APC	WL-5669	Trans	WL-5669
3874A	Trans	WL-813	AX-5552	Ig	WL-5552A	5669	Trans	WL-5669
3885A	Rect	WL-3B28	GL-5552	Ig	WL-5552A	CK-5678	I R	WL-5678
WX-3989	C S	WL-7383	NL-5552	Ig	WL-5552A	WL-5678	I R	WL-5678
4017	Rect	WL-866A	PL-5552	Ig	WL-5552A	5678	I R	WL-5678
A-4051	Trans	WL-807	WL-5552	Ig	WL-5552A	WL-5682	Trans	WL-5682
A-4051G	Trans	WL-807	WT-5552	Ig	WL-5552A	5682	Trans	WL-5682
A-4051J	Trans	WL-807	5552	Ig	WL-5552A	5683	Thyr	WL-6014
4078F	Rect	WL-869B	AJ5552A	Ig	WL-5552A	WL-5684	Thyr	WL-7306A
4078Z	Rect	WL-869B	GL-5552A	Ig	WL-5552A	AX-5685	Thyr	WL-5685
WX-4113	G A	WL-22618	NL-5552A	Ig	WL-5552A	WL-5685	Thyr	WL-5685
A-4229	Trans	WL-4E27A	PL-5552A	Ig	WL-5552A	5685	Thyr	WL-5685
4260	Thyr	WL-5557	VJ-5552A	Ig	WL-5552A	GL-5687	I R	WL-5687
4261	Thyr	WL-5557	WL-5552A	Ig	WL-5552A	WL-5687	I R	WL-5687
A4273B	I R	WL-5692	5552A	Ig	WL-5552A	5687	I R	WL-5687
WX-4424	G A	WL-22614	WL-5552APC	Ig	WL-5552APC	GL-5691	I R	WL-5691
WX-4433	Rect	WL-22800	AX-5553	Ig	WL-5553B	WL-5691	I R	WL-5691
WX-4433A	Rect	WL-22800	GL-5553	Ig	WL-5553B	5691	I R	WL-5691
WX-4436	HCDD	WL-22602	WL-5553	Ig	WL-5553B	GL-5692	I R	WL-5692
WX-4451	G A	WL-22620	5553	Ig	WL-5553B	WL-5692	I R	WL-5692
A4461	I R	WL-6660	GL-5553A	Ig	WL-5553B	5692	I R	WL-5692
A4475	I R	WL-6A57GA	5553A	Ig	WL-5553B	GL-5693	I R	WL-5693
WX-4484	HCDD	WL-22603	AJ-5553B	Ig	WL-5553B	WL-5693	I R	WL-5693
WX-4492	Rect	WL-22801	AX-5553B	Ig	WL-5553B	5693	I R	WL-5693
A-4522A	I R	WL-6681	GL-5553B	Ig	WL-5553B	GL-5696	Thyr	WL-5696
A-4524A	I R	WL-6681	AX-5553B	Ig	WL-5553B	WL-5696	Thyr	WL-5696
A-4535	I R	WL-6080	VJ-5553B	Ig	WL-5553B	5696	Thyr	WL-5696
A-4535A	I R	WL-6080	WL-5553B	Ig	WL-5553B	GL-5718	I R	WL-5718
A-4541H	Trans	WL-5763	5553B	Ig	WL-5553BPC	WL-5718	I R	WL-5718
WX-4580	HCDD	WL-22604	WL-5553BPC	Ig	WL-5554	5718	I R	WL-5718
WX-4586	Rect	WL-22602	AX-9954	Ig	WL-5554	GL-5718A	I R	WL-5718
WX-4620	HCDD	WL-22605	GL-5554	Ig	WL-5554	5718A	I R	WL-5718
WX-4650	HCDD	WL-22606	WL-5554	Ig	WL-5554	GL-5720	Thyr	WL-5720
WX-4651	HCDD	WL-22607	5554	Ig	WL-5554	NL-5720	Thyr	WL-5720
WX-4659	HCDD	WL-22608	AX-5555	Ig	WL-5555	WL-5720	Thyr	WL-5720
WX-4663	HCDD	WL-22609	GL-5555	Ig	WL-5555	5720	Thyr	WL-5720
WX-4664	HCDD	WL-22610	WL-5555	Ig	WL-5555	5725	I R	WL-6A56
WX-4680	HCDD	WL-22804	5555	Ig	WL-5555	5726	I R	WL-6663
WX-4688	HCDD	WL-22809	WL-5555A	Ig	WL-5555A	GL-5727	Thyr	WL-5727
WX-4689	HCDD	WL-22611	5555A	Ig	WL-5555A	WL-5727	Thyr	WL-5727
WX-4715A	Trans	WL-22803	AX-5557	Thyr	WL-5557	5727	Thyr	WL-5727
WX-4743	HCDD	WL-22963	GL-5557	Thyr	WL-5557	GL-5736	Trans	WL-5736
WX-4748	HCDD	WL-22811	WL-5557	Thyr	WL-5557	ML-5736	Trans	WL-5736
WX-4836	N	WL-22792	5557	Thyr	WL-5557	WL-5736	Trans	WL-5736
WX-4930	HCDD	WL-22812	GL-5558	Rect	WL-5558	5736	Trans	WL-5736
WX-4931A	HCDD	WL-22822	NL-5558	Rect	WL-5558	GL-5749	I R	WL-6660
WX-4932	HCDD	WL-22813	WL-5558	Rect	WL-5558	5749	I R	WL-6660
WX-4933	HCDD	WL-22815	5558	Rect	WL-5558	GL-5751	I R	WL-5751
WX-4934	HCDD	WL-22805	AX-5559	Thyr	WL-5559	WL-5751	I R	WL-5751
WX-4936	HCDD	WL-22816	GL-5559	Thyr	WL-5559	5751	I R	WL-5751
WX-4937	HCDD	WL-22817	NL-5559	Thyr	WL-5559	WL-5762	Trans	WL-5762
WX-4972	HCDD	WL-22818	WL-5559	Thyr	WL-5559	5762	Trans	WL-5762
ASG 5017	Thyr	WL-5557	5559	Thyr	WL-5559	GL-5763	Trans	WL-5763
PA-5021	Rect	WL-866A	5560	Thyr	WL-6328	WL-5763	Trans	WL-5763
TH 5021B	Rect	WL-866A	GL-5561	Rect	WL-5561	5763	Trans	WL-5763
ASG 5023	Thyr	WL-3C23	WL-5561	Rect	WL-5561	GL-5771	Trans	WL-5771
CV5027	Thyr	WL-5559	5561	Rect	WL-5561	GL-5771	Trans	WL-5771
TH5031B	Rect	WL-872A	ML-5575	Rect	WL-5575	ML-5771	Trans	WL-5771
WX-5059	N	WL-22791	WL-5575	Rect	WL-5575	WL-5771	Trans	WL-5771
WX-5073	HCDD	WL-22819	ML-5576	Rect	WL-5576	5771	Trans	WL-5771
ASG5121	Thyr	WL-2021	WL-5576	Rect	WL-5576	WL-5796	Thyr	WL-5796
WX-5382	HCDD	WL-22820	5591	I R	WL-5654	CK-5814	I R	WL-5814A
WX-5399	HCDD	WL-22821	AX-5604	Trans	WL-5604	5814	I R	WL-5814A
WX-5434	HCDD	WL-22838	ML-5604	Trans	WL-5604	GL-5814A	I R	WL-5814A
WX-5463	HCDD	WL-22823	WL-5604	Trans	WL-5604	WL-5814A	I R	WL-5814A

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TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE	TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE	TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
5814A	I R	WL-5814A	WL-6146A	Trans	WL-6146A	GL-6660	I R	WL-6660
GL-5820	C S	WL-5820A	6146A	Trans	WL-6146A	WL-6660	I R	WL-6660
ML-5820	C S	WL-5820A	6155	Trans	WL-4021	6660	I R	WL-6660
WL-5820	C S	WL-5820A	6156	Trans	WL-5022	GL-6661	I R	WL-6661
5820	C S	WL-5820A	GL-6159	Trans	WL-6159	WL-6661	I R	WL-6661
WL-5820A	C S	WL-5820A	WL-6159	Trans	WL-6159	6661	I R	WL-6661
5820A	C S	WL-5820A	6159	Trans	WL-6159	GL-6662	I R	WL-6662
GL-5822	I R	WL-5822A	WL-6166A	Trans	WL-6166A	WL-6662	I R	WL-6662
NL-5822	I R	WL-5822A	6166A	Trans	WL-6166A	6662	I R	WL-6662
WL-5822	I R	WL-5822A	R6175B	Rect	WL-5R4-GYB	GL-6663	I R	WL-6663
5822	I R	WL-5822A	6180	S P	WL-5692	GL-6663	I R	WL-6663
GL-5822A	I R	WL-5822A	6187	S P	WL-6A56	6663	I R	WL-6663
NL-5822A	I R	WL-5822A	GL-6189	S P	WL-6189	GL-6664	I R	WL-6664
WL-5822A	I R	WL-5822A	WL-6189	S P	WL-6189	WL-6664	I R	WL-6664
5822A	I R	WL-5822A	6189	S P	WL-6189	6664	I R	WL-6664
WL-5823	Glow	WL-5823	WL-6197	S P	WL-6197	GL-6669	I R	WL-6669
5823	Glow	WL-5823	6197	S P	WL-6197	6669	I R	WL-6669
GL-5830	Thyr	WL-5830	GL-6198	C S	See 6198A	GL-6676	I R	WL-6676
WL-5830	Thyr	WL-5830	WL-6198	C S	See 6198A	WL-6676	I R	WL-6676
5830	Thyr	WL-5830	6198	C S	See 6198A	6676	I R	WL-6676
WL-5859	Rect	WL-5859	GL-6198A	C S	See 6198A	GL-6677	I R	WL-6677
WL-5860	Rect	WL-5859	ML-6198A	C S	See 6198A	WL-6677	I R	WL-6677
WL-5877	Thyr	WL-2299A	WL-6198A	C S	See 6198A	6677	I R	WL-6677
WL-5878	Thyr	WL-C6H-1	6198A	C S	See 6198A	GL-6678	I R	WL-6678
GL-5879	I R	WL-5879	R6200	Thyr	WL-2021	WL-6678	I R	WL-6678
WL-5879	I R	WL-5879	GL-6201	I R	WL-6201	6678	I R	WL-6678
5879	I R	WL-5879	6201	I R	WL-6201	GL-6679	I R	WL-6679
GL-5881	I R	WL-5881	TH-6220	Thyr	WL-C6H-1	WL-6679	I R	WL-6679
WL-5881	I R	WL-5881	GL-6228	Ig	WL-6228	6679	I R	WL-6679
5881	I R	WL-5881	WL-6228	Ig	WL-6228	GL-6680	I R	WL-6680
CK-5886	I R	WL-5886	6228	Ig	WL-6228	WL-6680	I R	WL-6680
WL-5886	I R	WL-5886	TH-6230	Thyr	WL-3C23	6680	I R	WL-6680
5886	I R	WL-5886	6265	I R	WL-6661	GL-6681	I R	WL-6681
WL-5891	Trans	WL-5891	WL-6293	Trans	WL-6293	WL-6681	I R	WL-6681
ML-5894	Trans	WL-5894	6293	Trans	WL-6293	6681	I R	WL-6681
WL-5894	Trans	WL-5894	WL-6307	N	WL-6307	AX-6693	Rect	WL-673
5894	Trans	WL-5894	WL-6307A	N	WL-6307A	6693	Rect	WL-673
GL-5902	I R	WL-5902	TS-6336	I R	WL-6336A	WL-6696	Trans	WL-6696
WL-5902	I R	WL-5902	6336	I R	WL-6336A	6696	Trans	WL-6696
5902	I R	WL-5902	TS-6336A	I R	WL-6336A	WL-6697	Trans	WL-6697
5902A	I R	WL-5902	WL-6336A	I R	WL-6336A	6697	Trans	WL-6697
F-5918A	Trans	WL-5918A	6336A	I R	WL-6336A	6697	Trans	WL-6697
WL-5918A	Trans	WL-5918A	AJ-6346	Ig	WL-5551A	6778	I R	WL-5718
5918A	Trans	WL-5918A	6346	Ig	WL-5551A	GL-6807	Thyr	WL-6807
5932	I R	WL-5881	AJ-6347	Ig	WL-5552A	WL-6807	Thyr	WL-6807
5933	Trans	WL-807	6347	Ig	WL-5552A	6807	Thyr	WL-6807
WL-5934	Rect	WL-5934	6348	Ig	WL-5553A	GL-6808	Thyr	WL-6808
WL-5936	Trans	WL-5936	WL-6376	N	WL-6376A	6808	Thyr	WL-6808
GL-5963	I R	WL-5963	WL-6376A	N	WL-6376A	GL-6829	I R	WL-5965
WL-5963	I R	WL-5963	WL-6377	N	WL-6377	6829	I R	WL-5965
5963	I R	WL-5963	WL-6379	Trans	WL-6379	GL-6849	C S	WL-6849
GL-5964	I R	WL-5964	6379	Trans	WL-6379	WL-6849	C S	WL-6849
WL-5964	I R	WL-5964	F-6399	Trans	WL-6399	6849	C S	WL-6849
5964	I R	WL-5964	WL-6399	Trans	WL-6399	GL-6856	Thyr	WL-6856
GL-5965	I R	WL-5965	6399	Trans	WL-6399	WL-6856	Thyr	WL-6856
WL-5965	I R	WL-5965	XRI-6400	Thyr	WL-C6H-1	6856	Thyr	WL-6856
5965	I R	WL-5965	XRI-6400A	Thyr	WL-C6H-1	GL-6857	Thyr	WL-6857
WL-5966	G A	WL-5966	ML-6420	Trans	WL-6420	WL-6857	Thyr	WL-6857
GL-5973	Rect	WL-5973	WL-6420	Trans	WL-6420	6857	Thyr	WL-6857
WL-5973	Rect	WL-5973	6420	Trans	WL-6420	GL-6858	Thyr	WL-6858
5973	Rect	WL-5973	ML-6421	Trans	WL-6421	WL-6858	Thyr	WL-6858
WL-5986	Trans	WL-5986A	WL-6421	Trans	WL-6421	6858	Thyr	WL-6858
WL-5986A	Trans	WL-5986A	6421	Trans	WL-6421	GL-6859	Thyr	WL-6859
6005	I R	WL-6669	ML-6421F	Trans	WL-6421F	WL-6859	Thyr	WL-6859
GL-6011	Thyr	WL-7307A	WL-6421F	Trans	WL-6421F	6859	Thyr	WL-6859
PL-6011	Thyr	WL-7307A	6421F	Trans	WL-6421F	GL-6860	Thyr	WL-6860
TH-6011	Thyr	WL-5557	ML-6422	Trans	WL-6422	6860	Thyr	WL-6860
WL-6011	Thyr	WL-7307A	WL-6422	Trans	WL-6422	6864	Thyr	WL-C6H-1
6011	Thyr	WL-7307A	6422	Trans	WL-6422	6871	Thyr	WL-C6H-2
WL-6012	Thyr	WL-6012	ML-6423	Trans	WL-6423	GL-6883	Trans	WL-8032
6012	Thyr	WL-6012	WL-6423	Trans	WL-6423	WL-6883	Trans	WL-8032
GL-6014	Thyr	WL-6014	6423	Trans	WL-6423	6883	Trans	WL-8032
WL-6014	Thyr	WL-6014	ML-6423F	Trans	WL-6423F	WL-6893	Trans	WL-6893
6014	Thyr	WL-6014	WL-6423F	Trans	WL-6423F	6893	Trans	WL-6893
GL-6021	I R	WL-6021	6423F	Trans	WL-6423F	6900	I R	WL-5687
WL-6021	I R	WL-6021	ML-6424	Trans	WL-6424	WL-6922	I R	WL-6922
6021	I R	WL-6021	WL-6424	Trans	WL-6424	6922	I R	WL-6922
R6025	C R	10FP4A	6424	Trans	WL-6424	6928	I R	WL-6669
TH-6031	Thyr	WL-5559	ML-6425	Trans	WL-6425	WL-6937	N	WL-6937A
6057	I R	WL-5751	WL-6425	Trans	WL-6425	WL-6937A	N	WL-6937A
6058	I R	WL-6663	6425	Trans	WL-6425	WL-6938	N	WL-6938
6060	I R	WL-6679	ML-6425F	Trans	WL-6425F	WL-6941	N	WL-6941A
6062	Trans	WL-5763	WL-6425F	Trans	WL-6425F	WL-6941A	I R	WL-6941A
6067	I R	WL-5814A	6425F	Trans	WL-6425F	WL-6954	I R	WL-6954
GL-6072	I R	WL-6072	ML-6426	Trans	WL-6426	6968	I R	WL-5654
WL-6072	I R	WL-6072	6426	Trans	WL-6426	WL-6971	N	WL-6971A
6072	I R	WL-6072	ML-6427	Trans	WL-6427	6982	Rect	WL-7015
6073	V R	WL-0A2WA	WL-6427	Trans	WL-6427	6984	Thyr	WL-6856
6074	V R	WL-0B2WA	6427	Trans	WL-6427	6985	Thyr	WL-6857
WL-6080	I R	WL-6080	GL-6511	Rect	WL-575A	6988	Thyr	WL-7321
6080	I R	WL-6080	6511	Rect	WL-575A	WL-6998	N	WL-6998
6096	I R	WL-5654	6520	I R	WL-6080	NL-7014	Rect	WL-7014
6097	I R	WL-6663	WL-6550	I R	WL-6550	WL-7014	Rect	WL-7014
6113	I R	WL-5691	6550	I R	WL-6550	7014	Rect	WL-7014
TH-6120	Thyr	WL-105	WL-6567	Trans	WL-6567	NL-7015	Rect	WL-7015
GL-6136	I R	WL-6136	6567	Trans	WL-6567	WL-7015	Rect	WL-7015
WL-6136	I R	WL-6136	6582	I R	WL-5654	7015	Rect	WL-7015
6136	I R	WL-6136	WL-6623	Trans	WL-6623	NL-7016	Rect	WL-7016
GL-6146	Trans	WL-6146	6623	Trans	WL-6623	WL-7016	Rect	WL-7016
R6146	Rect	WL-8008	6626	V R	WL-0A2WA	7016	Rect	WL-7016
WL-6146	Trans	WL-6146	6627	V R	WL-0B2WA		Rect	WL-7016
6146	Trans	WL-6146						

## Direct Interchangeability List

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TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE	TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE	TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
NL-7017	Rect	WL-7017	WL-7741	N	WL-7741	WL-22821	HCDD	WL-22821
WL-7017	Rect	WL-7017	WL-7748	Trans	WL-7748	WL-22822	HCDD	WL-22822
7017	Rect	WL-7017	WL-7750	Trans	WL-7750	WL-22823	HCDD	WL-22823
NL-7018	Rect	WL-7018	7752	I R	WL-6A56	WL-22824	HCDD	WL-22824
WL-7018	Rect	WL-7018	WL-7903	G A	WL-7903	WL-22825	HCDD	WL-22825
7018	Rect	WL-7018	WL-7904	G A	WL-7904	WL-22826	HCDD	WL-22826
NL-7019	Rect	WL-7019	WL-7982	Trans	WL-7982	WL-22827	HCDD	WL-22827
WL-7019	Rect	WL-7019	GL-8005	Trans	WL-8005	WL-22828	HCDD	WL-22828
7019	Rect	WL-7019	ML-8005	Trans	WL-8005	WL-22829	HCDD	WL-22829
NL-7020	Rect	WL-7020	WL-8005	Trans	WL-8005	WL-22830	HCDD	WL-22830
TH-7020	Ig	WL-5551A	8005	Trans	WL-8005	WL-22831	HCDD	WL-22831
WL-7020	Rect	WL-7020	DR-8008	Rect	WL-8008	WL-22832	HCDD	WL-22832
7020	Rect	WL-7020	EE-8008	Rect	WL-8008	WL-22833	HCDD	WL-22833
TH7021	Ig	WL-5551A	GL-8008	Rect	WL-8008	WL-22834	HCDD	WL-22834
NL-7023	Thyr	WL-7023	ML-8008	Rect	WL-8008	WL-22835	HCDD	WL-22835
WL-7023	Thyr	WL-7023	UE-8008	Rect	WL-8008	WL-22836	HCDD	WL-22836
7023	Thyr	WL-7023	WL-8008	Rect	WL-8008	WL-22837	HCDD	WL-22837
7025	I R	WL-7729	8008	Rect	WL-8008	WL-22838	HCDD	WL-22838
TH7030	Ig	WL-5552A	8018	Trans	WL-807	WL-22839	HCDD	WL-22839
TH7031	Ig	WL-5552A	8024	Trans	WL-832A	WL-22840	HCDD	WL-22840
WL-7038	C S	WL-7038	WL-8032	Trans	WL-8032	WL-22841	HCDD	WL-22841
7038	C S	WL-7038	WL-8043	Thyr	WL-8043	WL-22842	HCDD	WL-22842
TH7040	Ig	WL-5553B	WL-8044	Trans	WL-8044	WL-22843	HCDD	WL-22843
TH7041	Ig	WL-5553B	WL-8057	G A	WL-8057	WL-22844	HCDD	WL-22844
WL-7087	N	WL-7087	WL-8073	N	WL-8073	WL-22845	HCDD	WL-22845
WL-7087A	N	WL-7087A	WL-8074	N	WL-8074	WL-22846	HCDD	WL-22846
7136	Rect	WL-575A	WL-8075	N	WL-8075	WL-22847	HCDD	WL-22847
GL-7171	Ig	WL-7171	M8079	I R	WL-6663	WL-22848	HCDD	WL-22848
WL-7171	Ig	WL-7171	WL-8094	Rect	WL-8094	WL-22849	HCDD	WL-22849
7171	Ig	WL-7171	M8100	I R	WL-5654	WL-22850	HCDD	WL-22850
WL-7186	N	WL-7186	M8101	I R	WL-6660	WL-22851	HCDD	WL-22851
WL-7187	N	WL-7187	WL-8105	N	WL-8105	WL-22856	HCDD	WL-22856
WL-7188	N	WL-7188	M8136	I R	WL-6189	WL-22857	HCDD	WL-22857
WL-7203	Trans	WL-4CX250B	M8137	I R	WL-5751	WL-22858	HCDD	WL-22858
7203	Trans	WL-4CX250B	WL-8137	N	WL-8137	WL-22859	HCDD	WL-22859
WL-7215	Trans	WL-7215	M8149	I R	WL-7730	WL-22860	HCDD	WL-22860
7216	Thyr	WL-7556A	8161	Trans	WL-3X2500A3	WL-22862	Trans	WL-22862
WL-7243	N	WL-7243	M8162	I R	WL-6201	WL-22863	HCDD	WL-22863
WL-7255	Trans	WL-7255	8166	Trans	WL-4-1000A	WL-22864	HCDD	WL-22864
WL-7268	C S	WL-7268A	8170	Thyr	WL-4CX5000A	WL-22867	HCDD	WL-22867
7268	C S	WL-7268A	M8178	Thyr	WL-5727	WL-22868	G A	WL-22868
WL-7269	Thyr	8043	M8195	I R	WL-6A56	WL-22869	G A	WL-22869
WL-7290	C S	WL-7290	M8204	Thyr	WL-5727	WL-22870	HCDD	WL-22870
WL-7297	Thyr	WL-23052	M8212	I R	WL-6663	WL-22871	HCDD	WL-22871
WL-7299	Thyr	WL-C6H-2	M8214	I R	WL-6681	WL-22872	HCDD	WL-22872
WL-7306	Thyr	WL-7306A	WL-8214	N	WL-8214	WL-22873	HCDD	WL-22873
WL-7306A	Thyr	WL-7306A	M8223	V R	WL-0A2	WL-22874	HCDD	WL-22874
WL-7307	Thyr	WL-7307A	M8245	I R	WL-6669	WL-22875	HCDD	WL-22875
WL-7307A	Thyr	WL-7307A	8251	Trans	WL-3X2500F3	WL-22876	HCDD	WL-22876
7316	I R	WL-6189	8298	Trans	WL-8298	WL-22877	HCDD	WL-22877
WL-7317	N	WL-7317	WL-8306	Ig	WL-8306	WL-22878	HCDD	WL-22878
WL-7321	Thyr	WL-7321	8348	Trans	WL-4-400A	WL-22879	HCDD	WL-22879
F-7328	Trans	WL-7328A	WL-8461	Trans	WL-8461	WL-22880	HCDD	WL-22880
WL-7328	Trans	WL-7328A	GL-9002	I R	WL-9002	WL-22881	HCDD	WL-22881
7328	Trans	WL-7328A	WL-9002	I R	WL-9002	WL-22882	HCDD	WL-22882
WL-7328A	Trans	WL-7328A	9002	I R	WL-9002	WL-22883	HCDD	WL-22883
WL-7353	N	WL-7353	AX-9903	Trans	WL-5894	WL-22884	HCDD	WL-22884
WL-7363	Thyr	WL-7363	WL-22602	HCDD	WL-22602	WL-22885	HCDD	WL-22885
WL-7383	C S	WL-7383	WL-22603	HCDD	WL-22603	WL-22886	HCDD	WL-22886
7386	Thyr	WL-C6H-1	WL-22604	HCDD	WL-22604	WL-22887	HCDD	WL-22887
VH7400	Rect	WL-872A	WL-22605	HCDD	WL-22605	WL-22888	HCDD	WL-22888
WL-7413	Trans	WL-7413	WL-22606	HCDD	WL-22606	WL-22889	HCDD	WL-22889
WL-7463	Trans	WL-7463	WL-22607	HCDD	WL-22607	WL-22890	HCDD	WL-22890
WL-7464	Trans	WL-7464	WL-22608	HCDD	WL-22608	WL-22891	HCDD	WL-22891
C74730	C R	5FP7A	WL-22609	HCDD	WL-22609	WL-22892	HCDD	WL-22892
C7475A	C R	7BP7B	WL-22610	HCDD	WL-22610	WL-22893	HCDD	WL-22893
ML-7482	Trans	WL-7482	WL-22611	HCDD	WL-22611	WL-22894	HCDD	WL-22894
WL-7482	Trans	WL-7482	WL-22612	G A	WL-22612	WL-22895	HCDD	WL-22895
7482	Trans	WL-7482	WL-22613	G A	WL-22613	WL-22896	HCDD	WL-22896
WL-7509	Thyr	WL-7509A	WL-22614	G A	WL-22614	WL-22897	HCDD	WL-22897
WL-7509A	Thyr	WL-7509A	WL-22618	G A	WL-22618	WL-22898	HCDD	WL-22898
GL-7518	Thyr	WL-7509A	WL-22619	G A	WL-22619	WL-22899	HCDD	WL-22899
WL-7540	Trans	WL-7540	WL-22620	G A	WL-22620	WL-22900	HCDD	WL-22900
7543	I R	WL-6136	WL-22627	G A	WL-22627	WL-22901	HCDD	WL-22901
WL-7556	Thyr	WL-7556A	WL-22637	G A	WL-22637	WL-22902	HCDD	WL-22902
WL-7556A	Thyr	WL-7556A	WL-22640	G A	WL-22640	WL-22903	HCDD	WL-22903
ML-7560	Trans	WL-7560	WL-22643	G A	WL-22643	WL-22904	HCDD	WL-22904
WL-7560	Trans	WL-7560	WL-22663	HCDD	WL-22663	WL-22905	HCDD	WL-22905
7560	Trans	WL-7560	WL-22754	G A	WL-22754	WL-22906	HCDD	WL-22906
WL-7560V	Trans	WL-7560V	WL-22759	Trans	WL-22759	WL-22907	HCDD	WL-22907
WL-7565	Trans	WL-7565	WL-22789	Trans	WL-22759	WL-22908	HCDD	WL-22908
GL-7581	I R	WL-5881	WL-22791	N	WL-22791	WL-22909	HCDD	WL-22909
7581	I R	WL-5881	WL-22792	N	WL-22792	WL-22910	HCDD	WL-22910
AX-7585	Ig	WL-5552A	WL-22793	N	WL-22793	WL-22911	HCDD	WL-22911
7585	Ig	WL-5552A	WL-22800	Rect	WL-22800	WL-22912	HCDD	WL-22912
WL-7604	Trans	WL-7604	WL-22801	Rect	WL-22801	WL-22913	HCDD	WL-22913
WL-7606	N	WL-7606	WL-22802	Rect	WL-22802	WL-22914	HCDD	WL-22914
WL-7657	N	WL-7657	WL-22803	Trans	WL-22803	WL-22915	HCDD	WL-22915
WL-7658	Rect	WL-7658	WL-22804	HCDD	WL-22804	WL-22916	HCDD	WL-22916
WL-7659	Rect	WL-7659	WL-22805	HCDD	WL-22805	WL-22917	HCDD	WL-22917
WL-7676	G A	WL-7676	WL-22806	HCDD	WL-22806	WL-22923	G A	WL-22923
WL-7685	Trans	WL-7685	WL-22809	HCDD	WL-22809	WL-22925	HCDD	WL-22925
WL-7691	Trans	WL-7691	WL-22810	HCDD	WL-22810	WL-22926	HCDD	WL-22926
7725	Thyr	WL-7307A	WL-22811	HCDD	WL-22811	WL-22927	HCDD	WL-22927
7726	Thyr	WL-7509A	WL-22812	HCDD	WL-22812	WL-22928	HCDD	WL-22928
WL-7729	I R	WL-6681	WL-22813	HCDD	WL-22813	WL-22929	HCDD	WL-22929
7729	I R	WL-6681	WL-22814	HCDD	WL-22814	WL-22930	HCDD	WL-22930
WL-7730	I R	WL-7730	WL-22815	HCDD	WL-22815	WL-22931	HCDD	WL-22931
7730	I R	WL-7730	WL-22816	HCDD	WL-22816	WL-22932	HCDD	WL-22932
7735	C S	WL-7735A	WL-22817	HCDD	WL-22817	WL-22933	HCDD	WL-22933
WL-7735A	C S	WL-7735A	WL-22818	HCDD	WL-22818	WL-22934	HCDD	WL-22934
7735A	C S	WL-7735A	WL-22819	HCDD	WL-22819	WL-22935	HCDD	WL-22935
WL-7740	Ig	WL-7740	WL-22820	HCDD	WL-22820	WL-22936	HCDD	WL-22936



# Direct Interchangeability List

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TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE	TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE	TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
WL-22937	HCDD	WL-22937	WL-22984	HCDD	WL-22984	WL-23059	HCDD	WL-23059
WL-22938	HCDD	WL-22938	WL-22985	HCDD	WL-22985	WL-23060	HCDD	WL-23060
WL-22939	HCDD	WL-22939	WL-22986	HCDD	WL-22986	WL-23063	Trans	WL-23063
WL-22940	HCDD	WL-22940	WL-22987	HCDD	WL-22987	WL-23095	Rect	WL-23095
WL-22941	HCDD	WL-22941	WL-22988	HCDD	WL-22988	WL-23102	Rect	WL-23102
WL-22942	HCDD	WL-22942	WL-22989	HCDD	WL-22989	WX-30008	HCDD	WL-22806
WL-22951	HCDD	WL-22951	WL-22990	HCDD	WL-22990	WX-30009	HCDD	WL-22833
WL-22952	HCDD	WL-22952	WL-22991	HCDD	WL-22991	WX-30010	HCDD	WL-22834
WL-22953	HCDD	WL-22953	WL-22992	HCDD	WL-22992	WX-30011	HCDD	WL-22835
WL-22954	HCDD	WL-22954	WL-22996	HCDD	WL-22996	WX-30024	HCDD	WL-22837
WL-22955	HCDD	WL-22955	WL-22997	HCDD	WL-22997	WX-30040	HCDD	WL-22843
WL-22956	HCDD	WL-22956	WL-22998	HCDD	WL-22998	WX-30041	HCDD	WL-22842
WL-22957	HCDD	WL-22957	WL-23007	HCDD	WL-23007	WX-30042	HCDD	WL-22836
WL-22958	HCDD	WL-22958	WL-23008	HCDD	WL-23008	WX-30043	HCDD	WL-22841
WL-22959	HCDD	WL-22959	WL-23009	HCDD	WL-23009	WX-30044	HCDD	WL-22840
WL-22960	HCDD	WL-22960	WL-23010	HCDD	WL-23010	WX-30052	HCDD	WL-22814
WL-22961	HCDD	WL-22961	WL-23011	IG	WL-23011	WX-30053	HCDD	WL-22844
WL-22962	HCDD	WL-22962	WL-23011PC	IG	WL-23011PC	WX-30054	HCDD	WL-22839
WL-22963	HCDD	WL-22963	WL-23012	IG	WL-23012	WX-30103	HCDD	WL-22845
WL-22964	HCDD	WL-22964	WL-23012PC	IG	WL-23012PC	WX-30104	HCDD	WL-22846
WL-22965	HCDD	WL-22965	WL-23013	IG	WL-23013	WX-30105	HCDD	WL-22867
WL-22966	HCDD	WL-22966	WL-23013PC	IG	WL-23013PC	WX-30106	HCDD	WL-22847
WL-22967	HCDD	WL-22967	WL-23014	IG	WL-23014	WX-30108	HCDD	WL-22848
WL-22968	HCDD	WL-22968	WL-23014PC	IG	WL-23014PC	WX-30143	HCDD	WL-22849
WL-22969	HCDD	WL-22969	WL-23015	IG	WL-23015	WX-30144	HCDD	WL-22850
WL-22970	HCDD	WL-22970	WL-23015PC	IG	WL-23015PC	WX-30145	HCDD	WL-22851
WL-22971	HCDD	WL-22971	WL-23016	IG	WL-23016	WX-30146	HCDD	WL-22857
WL-22972	HCDD	WL-22972	WL-23017	IG	WL-23017	WX-30147	HCDD	WL-22860
WL-22973	HCDD	WL-22973	WL-23018	IG	WL-23018	WX-30148	HCDD	WL-22859
WL-22974	HCDD	WL-22974	WL-23027	HCDD	WL-23027	WX-30213	IG	WL-23014
WL-22975	HCDD	WL-22975	WL-23028	HCDD	WL-23028	C73111	C R	10KP7A
WL-22976	HCDD	WL-22976	WL-23029	Rect	WL-23029	82170	C R	10WP7A
WL-22977	HCDD	WL-22977	WL-23034	HCDD	WL-23034	175771	I R	WL-5814A
WL-22978	HCDD	WL-22978	WL-23035	HCDD	WL-23035	823623	I R	WL-6189
WL-22979	HCDD	WL-22979	WL-23036	HCDD	WL-23036	845712	I R	WL-6681
WL-22980	HCDD	WL-22980	WL-23041	HCDD	WL-23041	845722	I R	WL-6AS7GA
WL-22981	HCDD	WL-22981	WL-23042	HCDD	WL-23042	845723	I R	WL-5881
WL-22982	HCDD	WL-22982	WL-23046	HCDD	WL-23046	845724	I R	WL-5654
WL-22983	HCDD	WL-22983	WL-23049	HCDD	WL-23049	845926	Trans	WL-5763

Inclusion of a tube type in this book does not necessarily imply availability of that type from Westinghouse. Although every effort has been made to ensure accuracy of these data, no liability is assumed for their use.

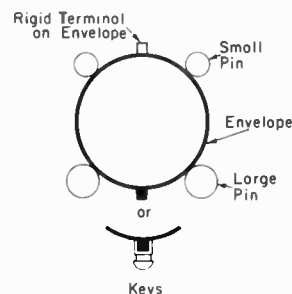


# WESTINGHOUSE INDUSTRIAL AND POWER TUBES

## KEY TO ABBREVIATIONS

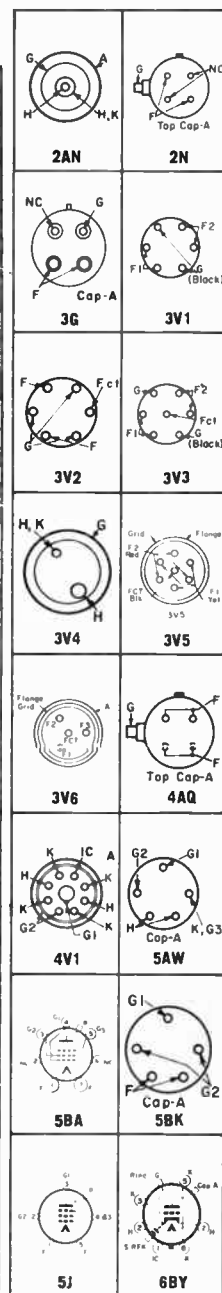
<b>A</b>	Anode	<b>IC</b>	Internal Connection (Do NOT Use)	<b>PK</b>	Peak
<b>AMP</b>	Angstrom Units	<b>ITV</b>	Industrial & Closed Circuit TV	<b>PN</b>	Pentode
<b>AVG</b>	Ampere (s)	<b>K</b>	Cathode	<b>RAD</b>	Radius
<b>CO</b>	Average	<b>KV</b>	Kilovolt (s)	<b>REFL</b>	Reflector
<b>COLL</b>	Cut-off	<b>KVA</b>	Kilovolt-Ampere (s)	<b>RES</b>	Resonator
<b>COOL</b>	Collector	<b>KW</b>	Kilowatt (s)	<b>RP</b>	Plate Resistance
<b>DIAM</b>	Type of Cooling	<b>LUM</b>	Luminous	<b>SEC</b>	Second (s)
<b>DISS</b>	Diameter	<b>Ma</b>	Milliamper (s)	<b>SENS</b>	Sensitivity
<b>DWG</b>	Dissipation	<b>MAX</b>	Maximum	<b>T</b>	Triode
<b>FREQ</b>	Drawing	<b>Mc</b>	Megacycle (s)	<b>Trig</b>	Trigger Electrode
<b>G</b>	Frequency	<b>MIN</b>	Minute	<b>TV</b>	Television Broadcasting
<b>G1</b>	Grid	<b>mmHG</b>	Millimeters of Mercury	<b>TYP</b>	Typical
<b>G2</b>	Grid One	<b>nv</b>	No Connection	<b>V</b>	Volt (s)
<b>G3</b>	Grid Two	<b>OAL</b>	Overall Length	<b>μA</b>	Microampere (s)
<b>GC</b>	Grid Three	<b>PC</b>	Photocathode	<b>μMHOS</b>	Micromhos
<b>H</b>	Gigacycle (s)			<b>μSEC</b>	Microsecond (s)
	Heater			<b>°C</b>	Degrees Centigrade

## GUIDE TO BASE DRAWINGS



# HIGH VACUUM AMPLIFIERS

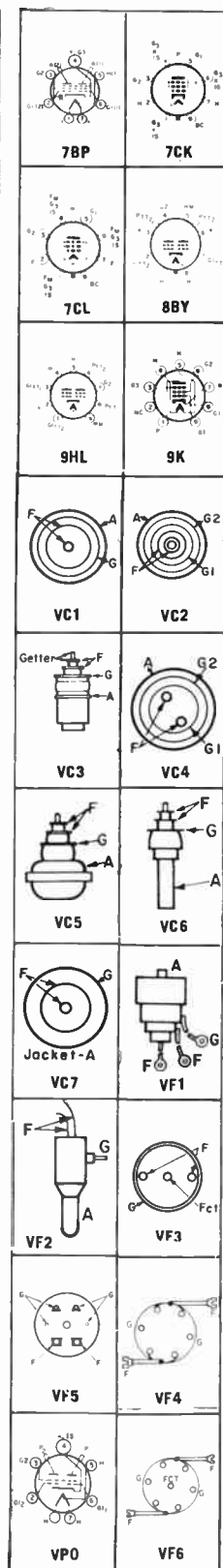
TUBE TYPE	COOL	CATHODE		RATINGS (1)				PERFORMANCE					MECHANICAL			
		VOLTS	AMPS.	ANODE KV	INPUT KW	DISS. KW	FREQ. MHz <sup>(2)</sup>	ANODE KV	GRID VOLTS	ANODE AMPS.	DRIVE WATTS	OUT KW	(4) gm or μ	MAX. OAL (2) INCH	MAX. DIAM. (2) INCH	BASE DWG.
WL-2C39A	F	6.3	1	1	125W	100W	2500	800V	-20(6)	80mA	6	27(5)	100	2 3/4	1 1/4	2AN
WL-2C39B	F	6.3	1	1	125W	100W	2500	800V	-20(6)	80mA	6	27(5)	100	2 3/4	1 1/4	2AN
WL-2C40	A	6.3	0.75	500V	12.5W	6.5W	3370	250V	-5	20mA	-	75(6)	36	2 1/8	1 1/8	6BY
WL-2E24	A	6.3	0.65	600V	40W	13.5W	125	600V	-50	66mA	0.21	27W	3200	3 3/32	1 3/8	7CL
WL-2E26	A	6.3	0.8	600V	40W	13.5W	125	600V	-45	66mA	0.17	27W	3500	3 3/32	1 3/8	7CK
WL-4CX250B	F	6	2.6	2	0.5	0.25	500	2	-90	0.25	1	0.4	12000	2 1/2	1 5/8	4V1
WL-4CX5000A	F	7.5	75	7.5	22.5	5	30	7.5	-350	2.8	150	16	-	9 1/8	4 1/16	VC2
WL-4D21	A	5	6.5	3	0.5	125W	120	3	-150	0.167	2.5	0.375	2450	5 1/16	2 3/4	5BK
WL-4-400A	A	5	14.5	4	1.4	0.4	110	4	-220	0.35	12	1.1	4000	6 3/8	3 3/8	5BK
WL-4-1000A	F	7.5	21	6	4.2	1	110	6	-200	0.7	200	3.4	10000	9 5/8	5 1/4	5BK
WL-5D22	F	5	14.5	4	1.4	0.25	110	4	-225	0.312	10	1	4000	6 3/8	3 3/8	5BK
WL-207	W	22	52	15	30	10	1.6	12	-1660	1.67	235	15	20	20 1/4	4 1/8	VF2
WL-807	A	6.3	0.9	600V	60W	25W	60	600V	-45	100mA	0.2	40W	6000	5 3/4	2 1/8	5AW
WL-810	A	10	4.5	2	0.5	125W	30	2	-160	0.25	12	0.375	36	8 3/4	2 3/8	2N
WL-811A	A	6.3	4	1.5	260W	65W	30	1.5	-70	0.173	7.1	0.2	160	6 3/32	2 3/8	3G
WL-812A	A	6.3	4	1.5	260W	65W	30	1.5	-120	0.173	6.5	0.19	29	6 1/32	2 3/8	3G
WL-813	A	10	5	2	0.36	100W	30	2	-120	0.18	1.9	0.275	3750	7 1/2	2 3/8	5BA
WL-815	A	12.6(8)	0.8	500V	75W	25W	150	500V	-45	0.15	0.18	56W	4000	4 1/8	2 3/8	8BY
WL-829B(7)	A	12.6(8)	1.125	750V	45W	15W	200	750V	-50	0.12	0.45	65W	8500	4 3/8	2 3/8	7BP
WL-832A(7)	A	12.6(8)	0.80	750V	18W	7.5W	200	750V	-65	48mA	0.19	26W	3500	3 3/8	2 3/8	7BP
WL-833A	F	10	10	4	1.8	0.4	20	4	-200	0.45	26	1.44	35	8 1/16	4 1/32	VP2
WL889A	W	11	120	8.5	16	5	50	7.5	-800	2	400	10	21	10 1/16	3 3/8	VP6
WL-891	W	22(9)	60	12	18	6	1.6	10	-2000	1.4	310	10	8.5	20 3/8	4 1/4	VP3
WL-891R	F	22(9)	60	10	15	4	1.6	10	-2000	1.4	310	10	8.5	22	12	VP3
WL-892	W	22(9)	60	15	30	10	1.6	12	-1600	1.64	500	14	50	20 3/8	4 1/4	VP3
WL-892R	F	22(9)	60	12.5	18	4	1.6	10	-1300	1.4	495	10	50	22	12	VP3
WL-895	W	19(10)	139	17	140	40	6	17	-1000	7.5	1700	100	37	23 3/8	6 3/4	VP4
WL-895R	F	19(10)	139	17	110	20	6	17	-1800	6	2200	84	37	24 1/2	17	VP5
WL-5513	F	6.3	30	4	3.6	1.2	220	3750	-150	0.94	64	2370	49	6 3/8	3	VC1
WL-5604	F	11	176	12.5	32.5	10	25	12	-1170	2.5	470	22.5	20	13 3/4	8 1/8	VP6
WL-5606	W	22	60	14	25	10	1.6	12	-1100	1.8	-	15.5	50	16	4 3/8	VP7
WL-5619	W	11	176	12.5	32.5	20	25	12	-1170	2.5	470	22.5	20	13	5 1/4	VP6
WL-5658	W	12	290	12.5	60	20	15	12	-870	4.5	800	40	20	11 1/2	7	VP8
WL-5666	W	11	120	10	20	12.5	22.5	9	-750	2	340	12.2	21	10 3/4	3 3/8	VP6
WL-5667	F	11	120	10	20	7.5	22.5	9	-750	2	340	12.2	21	11 3/4	11	VP6
WL-5668	W	22	60	14	28	20	5	12	-700	2	-	17	50	16	4 3/8	VP7
WL-5669	F	22	60	14	26	10	5	12	-700	2	-	17	50	17 1/8	8 1/8	VP7
WL-5682	W	16.5	325	16	300	120	30	15	-1400	18.4	7200	215	30	23 1/4	8 1/32	VC3



# High Vacuum Amplifiers

continued

TUBE TYPE	COOL	CATHODE		RATINGS (1)			PERFORMANCE						MECHANICAL			
		VOLTS	AMPS.	ANODE KV	INPUT KW	DISS. KW	FREQ. MHz <sup>(2)</sup>	ANODE KV	GRID VOLTS	ANODE AMPS.	DRIVE WATTS	OUT KW	(4) gm or $\mu$	MAX. OAL (2) INCH	MAX. DIAM. (2) INCH	BASE DWG.
WL-5736	F	6	60	3.5	3.5	2.5	110	3.5	-300	1	85	2.55	22	7 $\frac{1}{4}$	3 $\frac{3}{8}$	VP9
WL-5762	F	12.6	29	6.2	8.7	3	30	6	-550	1.25	225	6	29	7 $\frac{1}{8}$	4 $\frac{1}{16}$	VF3
WL-5763	A	6	0.75	300V	15W	12W	50	300V	-60	50mA	0.35	7W	7000	2 $\frac{5}{8}$	$\frac{7}{8}$	9K
WL-5771	W	7.5	170	15	67.5	22.5	1.6	15	-990	4.5	1160	53	20	11 $\frac{1}{16}$	7	VP8
WL-5891	F	11	95	15	100	25	10	15	-1500	6.1	1785	73.5	36	24 $\frac{1}{2}$	11 $\frac{1}{16}$	VP5
WL-5894(7)	A	12.6	0.9	750V	60W	20W	250	600V	-80	200mA	3	90W	—	4 $\frac{3}{16}$	1 $\frac{15}{16}$	VPO
WL-5918A	W	11	285	17.5	300	70	22	17.5	-1000	13.8	3600	180	37	23 $\frac{3}{8}$	7 $\frac{1}{8}$	3V1
WL-5936	W	20	143	18	180	70	15	17	-1400	10	4500	136	37	23 $\frac{3}{8}$	8 $\frac{1}{8}$	VP5
WL-5986A	W	11	285	17.5	300	70	22	17.5	-1000	13.8	3600	180	37	24	8 $\frac{3}{32}$	VF4
WL-6146	A	6.3	1.25	600V	67.5W	20W	60	600V	-58	112mA	0.2	52W	7000	3 $\frac{1}{16}$	1 $\frac{23}{32}$	7CK
WL-6146A	A	6.3	1.25	600V	67.5W	20W	60	600V	-58	112mA	0.2	52W	7000	3 $\frac{1}{16}$	1 $\frac{23}{32}$	7CK
WL-6146B	A	6.3	1.25	600V	90W	27W	60	600V	-70	0.15	0.3	63W	7000	3 $\frac{1}{16}$	1 $\frac{23}{32}$	7CK
WL-6159	A	26.5	0.30	600V	67.5W	20W	60	600V	-58	112mA	0.2	52W	7000	3 $\frac{1}{16}$	1 $\frac{23}{32}$	7CK
WL-6360	A	12.6(8)	0.41	300V	22.5W	10W	200	300V	-40	75mA	0.1	14.5W	3300	3 $\frac{1}{16}$	$\frac{7}{8}$	9HL
WL-6379(11)	W	11	285	17.5	150	70	Note 11	14.7	-3100	1.2 Min. 20 Max.	0	150	5	23 $\frac{3}{8}$	6 $\frac{3}{4}$	3V1
WL-6399	W	11	29	6.2	9	6	30	6	-800	1.4	210	6	25	8 $\frac{1}{2}$	2 $\frac{15}{16}$	3V2
WL-6420	W	7.0	85	10	20	12.5	30	9	-750	2	240	13.2	20	13 $\frac{3}{4}$	4 $\frac{1}{16}$	VC5
WL-6421	F	7	85	10	20	10	30	9	-750	2	240	13.2	20	17 $\frac{7}{8}$	4 $\frac{1}{32}$	VC6
WL-6421F	F	7	85	10	20	7.5	30	9	-750	2	240	13.2	20	14 $\frac{1}{2}$	8 $\frac{1}{8}$	VC5
WL-6422	W	7	85	12.5	30	20	30	12	-400	2.1	200	18.2	90	15 $\frac{1}{2}$	4 $\frac{3}{16}$	VC6
WL-6423	F	7	85	12.5	30	12.5	30	12	-400	2.1	200	18.2	90	15 $\frac{3}{4}$	5	VC6
WL-6423F	F	7	85	12.5	30	10	30	12	-400	2.1	200	18.2	90	16	8 $\frac{1}{8}$	VC5
WL-6424	W	7	120	12.5	40	20	30	12	-1000	3.3	430	30.6	20	15 $\frac{1}{2}$	4 $\frac{3}{16}$	VC6
WL-6425	F	7	120	12.5	40	12.5	30	12	-1000	3.3	430	30.6	20	15 $\frac{3}{4}$	5	VC6
WL-6425F	F	7	120	12.5	40	11	30	12	-1000	3.3	430	30.6	20	16	8 $\frac{1}{8}$	VC5
WL-6426	W	8	200	12.5	80	40	30	7.5	-850	5.3	7500	33	20	15 $\frac{5}{8}$	4 $\frac{3}{4}$	VC6
WL-6427	F	8	200	12.5	80	20	30	7.5	-850	5.3	7500	33	20	16 $\frac{1}{4}$	5 $\frac{1}{4}$	VC6
WL-6567	W	6	70	12	24	15	50	12	-800	1.94	445	19.3	33	11 $\frac{1}{4}$	3 $\frac{1}{16}$	VC7
WL-6623	F	6	60	5	5	2.5	30	5	-850	1	250	4.1	22	6 $\frac{1}{16}$	4 $\frac{1}{16}$	VF5
WL-6696	W	13	205	16	120	60	30	15	-1600	7	600	80	20	19 $\frac{3}{8}$	6 $\frac{1}{8}$	VC6
WL-6697	F	13	205	16	120	35	30	15	-1600	7	600	80	20	19 $\frac{3}{8}$	6 $\frac{1}{8}$	VC6
WL-6893	A	12.6	0.4	600V	40W	13.5W	125	600V	-45	66mA	0.17	27W	3500	3 $\frac{21}{32}$	1 $\frac{1}{8}$	7CK
WL-6939	A	12.6(8)	0.3	250V	12W	6W	500	180V	-20	55mA	1.2	5W	10500	2 $\frac{5}{8}$	$\frac{7}{8}$	9HL
WL-7120(11)	W	7	85	10	20	12.5	Note 11	10	-2350	0.6 4.2	0	21	4.4	13 $\frac{3}{4}$	4 $\frac{3}{16}$	VC6
WL-7121(11)	F	7	85	10	20	10	Note 11	10	-2350	0.6 4.2	0	21	4.4	13 $\frac{3}{4}$	4 $\frac{1}{2}$	VC6
WL-7203	F	6	2.3	2	—	250W	500	2	-90	0.25	1	0.4	—	2 $\frac{15}{32}$	1 $\frac{5}{8}$	4V1
WL-7215	W	6	60	9.2	18	9	30	9	-1400	2	337	13.6	22	8 $\frac{1}{2}$	3 $\frac{3}{8}$	VP9
WL-7255	W	6	60	9.2	18	9	30	9	-1400	2	337	13.6	22	9 $\frac{1}{2}$	3 $\frac{3}{8}$	VF5
WL-7328A(11)	F	7	245	10	50	20	Note 11	10	-2200	0.5 Min. 8.5 Max.	0	49.5	6	14 $\frac{1}{2}$	10 $\frac{1}{16}$	3V3
WL-7463	F	6	70	12	24	12	60	12	-800	1.94	445	19.3	33	9 $\frac{1}{16}$	11	VC7
WL-7464(11)	W	6	60	8	18	8	Note 11	7.5	-1200	0.3 Min. 2.68 Max.	0	10.8	6	9 $\frac{1}{2}$	3 $\frac{5}{8}$	VP9
WL-7482	V	14.5	450	20	600	200	30	20	-1000	29	6000	440	45	26	11 $\frac{3}{8}$	VC6
WL-7482V	V	14.5	450	20	600	200	30	20	-1000	29	6000	440	45	27 $\frac{1}{2}$	11 $\frac{3}{8}$	VC6
WL-7540(11)	W	5	250	15	70	35	Note 11	12.5	-2800	1 Min. 8 Max.	0	59	5	16	7 $\frac{1}{4}$	VF6
WL-7560	W	14.5	450	20	600	175	30	20	-1000	29	6000	440	45	29 $\frac{1}{2}$	10	VC6
WL-7560V	W	14.5	450	20	600	175	30	20	-1000	29	6000	440	45	36 $\frac{1}{2}$	10	VC6



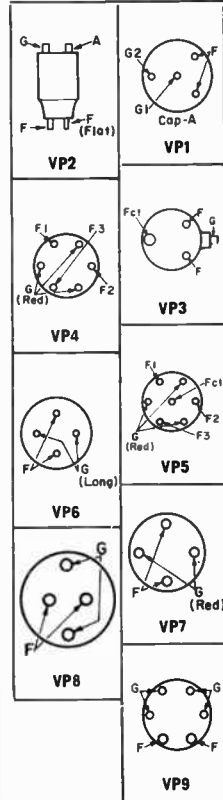


# High Vacuum Amplifiers

continued



TUBE TYPE	COOL	CATHODE		RATINGS (1)				PERFORMANCE					MECHANICAL			
		VOLTS	AMPS.	ANODE KV	INPUT KW	DISS. KW	FREQ. MHZ <sup>(3)</sup>	ANODE KV	GRID VOLTS	ANODE AMPS.	DRIVE WATTS	OUT KW	(4) gm or $\mu$	MAX. OAL (2) INCH	MAX. DIAM. (2) INCH	BASE DWG.
WL-7565(11)	F	6	60	5	5	2.5	Note 11	7	-1140	0.5 Min. 2.2 Max.	0	7.7	6	6 $\frac{1}{16}$ "	4 $\frac{1}{16}$ "	VF5
WL-7604(12)	F	5	8	4	1.5	0.6	60	3.5	-210	0.285	65	755	20	5 $\frac{1}{16}$ "	2 $\frac{1}{16}$ "	3V4
WL-7685(12)	F	5	8	4	1.5	0.6	60	4	-550	0.12 Min. 0.64 Max.	0	1550	6.5	5 $\frac{1}{16}$ "	2 $\frac{1}{16}$ "	3V4
WL-7748	W	8	150	12.5	80	35	30	12.5	-1300	4.25	970	46.5	20	15	7 $\frac{1}{4}$ "	3V3
WL-7982(11)	W	7	265	10	75	35	Note 11	10	-2200	0.5 Min. 9.3 Max.	61	65	5.5	15	6 $\frac{3}{8}$ "	3V3
WL-8032	A	13.5	0.585	600V	67.5W	20W	60	600V	-58	112mA	0.2	52W	7000	3 $\frac{1}{16}$ "	1 $\frac{3}{32}$ "	7CK
WL-8161/ 3CX2500A3	F	7.5	51.5	6	12	2.5	75	6	-500	2	136	10	22.5	9	4 $\frac{1}{8}$ "	VC1
WL-8251/ 3CX2500F3	F	7.5	51.5	6	12	2.5	30	6	-500	2	136	10	22.5	9	4 $\frac{1}{8}$ "	VF1
WL-8298	A	6.75	1.165	600V	67.5W	20W	60	600V	-58	112mA	0.2	52W	7000	3 $\frac{1}{16}$ "	1 $\frac{3}{32}$ "	7CK
WL-22759	W	6	60	9.2	18	9	30	9	-1400	2	337	13.6	22	9 $\frac{1}{2}$ "	3 $\frac{3}{8}$ "	VF5
WL-22789	W	6	60	9.3	21	9	30	9	-1400	2	337	13.6	22	9 $\frac{1}{2}$ "	3 $\frac{3}{8}$ "	VF5
WL-22803	W	13.5	550	22	600	200	15	20	-1400	30	8800	485	35	33 $\frac{1}{8}$ "	9 $\frac{1}{2}$ "	3V5
WL-22862	W	12.6	285	18	270	90	2	16	-1800	13.2	3250	150	22	24	8 $\frac{3}{32}$ "	VF4
WL-22924	V	12.6	285	18	270	100	2	16	-1800	13.2	3250	150	22	25	10	VF4
WL-23063	W	13.5(10)	375	25	1000	375	15	16	-1900	46	17KW	550	22	40	15	3V6
								20	-2200	52.5	18KW	770				
WL-23165	W	11(10)	95	15	150	90	10	15	-1500	6.1	1785	73.5	36	23 $\frac{7}{8}$ "	8 $\frac{1}{4}$ "	VP5



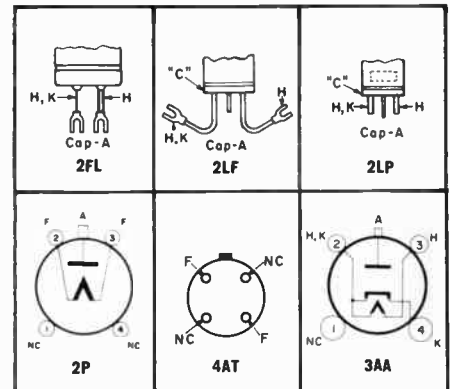
## Notes

- Ratings and Performance are based on CCS Class C Telegraphy service unless otherwise shown.
- Excluding flying leads and protruding side terminals, pipes or handles.
- Highest frequency for full input.
- For triodes, amplification factor ( $\mu$ ) is shown; for tetrodes, beam tubes and pentodes, transconductance (gm) in micromhos is listed.
- Watts output at 500 megahertz.
- Milliwatts output at 3000 megahertz.
- Twin unit tube, Ratings are each unit, Performance for both units.
- Parallel heater connection requires half heater voltage and twice heater current.
- For d-c and single phase a-c. For 2 phase a-c voltage per phase will be half listed value and current per phase will be listed current value.
- Listed values of filament voltage and current are per phase for 3 phase operation.
- Designed for audio and ultra-sonic service, Ratings are single tube Class AB and Performance is for 2 tubes Class AB.
- Ratings and Performance are for Class AB r-f amplifier service.

COOLING CODE = A — RADIATION      W — WATER  
F — FORCED AIR      V — VAPOR

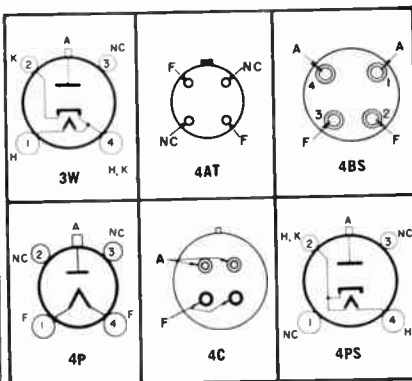
# GAS AND MERCURY VAPOR RECTIFIERS

TUBE TYPE	CATHODE		RATINGS				MECHANICAL				
	VOLTS	AMPS.	INVERSE VOLTS	PEAK AMP.	AVG. AMP.	DROP VOLTS (2)	COOL	MAX. DAL	MAX. DIAM.	BASE DWG.	
WL-3B22	2.5	6	725	4.0	1.0	8	air	6"	12 $\frac{1}{32}$ "	4C	
WL-3B28	2.5	5	10000	1.0	0.25	10	air	6 $\frac{3}{32}$ "	2 $\frac{1}{16}$ "	4P	
WL-4B24	2.5	11.5	725	10.0	2.5	8	air	7 $\frac{1}{2}$ "	2 $\frac{3}{16}$ "	4BS	
WL-575A	5.0	10	15000	6.0	1.5	10	air	11 $\frac{1}{16}$ "	3 $\frac{3}{16}$ "	4PS	
WL-670	2.5	17	725	25.6	6.3	8	air	8"	2"	4BS	
WL-673	5.0	10	15000	10.0	2.5	10	air	11 $\frac{1}{16}$ "	3 $\frac{3}{8}$ "	2P	
WL-816	2.5	2	7500	0.5	0.125	15	air	4 $\frac{1}{16}$ "	1 $\frac{1}{16}$ "	4P	
WL-857B(3)	5.0	30	22000	40.0	10.0	15	air	19 $\frac{7}{8}$ "	7 $\frac{1}{8}$ "	2FL	
WL-866A	2.5	5	10000	1.0	0.25	15	air	6 $\frac{1}{16}$ "	2 $\frac{1}{16}$ "	4P	
WL-869B	5.0	19	20000	10.0	2.5	15	air	14 $\frac{7}{8}$ "	5 $\frac{1}{8}$ "	2LP	
WL-869BL(3)	5.0	19	20000	10.0	2.5	15	air	14 $\frac{7}{8}$ "	5 $\frac{1}{8}$ "	2LF	
WL-872A	5.0	7.5	10000	5.0	1.25	15	air	8 $\frac{1}{2}$ "	2 $\frac{3}{16}$ "	4AT	



# GAS AND MERCURY VAPOR RECTIFIERS

TUBE TYPE	CATHODE		RATINGS				MECHANICAL				
	VOLTS	AMPS.	INVERSE VOLTS	PEAK AMP.	AVG. AMP.	DROP VOLTS (2)	COOL	MAX. (1) OAL	MAX. DIAM.	BASE DWG.	
WL-5558	5.0	4.5	5000	15.0	2.5	15	air	7"	3"	3W	
WL-5561	5.0	10	3000	40.0	6.4	15	air	11 1/4"	3 1/16"	3AA	
WL-6894	5.0	10	20000	11.5	2.5	25(4)	air	10 1/32"	2 5/8"	4AT	
WL-6895	5.0	10	20000	11.5	2.5	25(4)	air	10 1/32"	2 5/8"	2P	
WL-6930(3)	2.5	18	1000	77	6.4	9	air	8 5/8"	2 1/16" (5)	2P	
WL-7014(6)	2.5	11.5	900	10.0	2.5	10	air	7 1/2"	2 1/16"	4BS	
WL-7015(7)	2.5	11.5	900	10.0	2.5	10	air	7 1/2"	2 1/16"	4BS	
WL-7016(6)	2.5	17	900	25.6	6.4	10	air	8"	2 1/16"	4BS	
WL-7017(7)	2.5	17	900	25.6	6.4	10	air	8 5/8"	2 1/16"	4BS	
WL-7018	2.5	7	2000	10.0	2.5	12	air	6 3/8"	2 1/16"	4P	
WL-7019	2.5	18	1000	77.0	6.4	9	air	9 1/2"	2 1/16"	2P	
WL-7020(8)	2.5	18	1000	77.0	6.4	9	air	9 1/2"	2 1/16"	2P	
WL-7659(3)	5.0	16.25	22000	40.0	10.0	15	air	17 5/8"	7 1/2"	2FL	
WL-8008	5.0	7.5	10000	5.0	1.25	15	air	8 3/4"	2 3/16"	2P	
WL-23029(3)	5.0	30	22000	40.0	10.0	15	air	19 7/8"	7 1/8"	2FL	

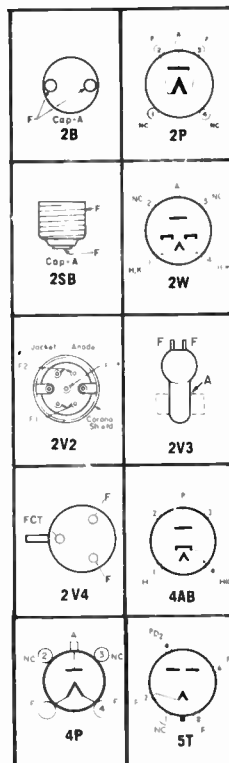


**Notes**

1. Excluding flying leads.
2. Average value at rated current.
3. Flying leads.
4. Max. value at rated peak current.
5. Excluding mounting bracket.
6. Twin units, ratings are per unit.
7. Lug-based, twin units, ratings are per unit.
8. Lug-based.

## HIGH VACUUM RECTIFIERS

TUBE TYPE	NOTE	CATHODE		RATINGS				MECHANICAL		
		VOLTS	AMPS	INVERSE KV	PEAK MA	AVG. MA	DROP (3) VOLTS	MAX. OAL	MAX. DIAM.	BASE DWG.
WL-2X2A	(1)	2.5	1.75	12.5	60	7.5	240	4 1/32"	1 1/16"	4AB
WL-5R4-GYB	(1)	5	2	3100	715	150	123	4 1/4"	1 1/16"	5T
WL-102A	(1)	20.0	19	75	750	120	—	16 1/16"	5 1/8"	2B
WL-399	(2)	10.0	11.5	140	—	50	—	9 3/32"	3 1/16"	2B
WL-456	(1)	11.0	20	140	500	60	1760	19"	5 1/8"	2B
WL-481B	(1)	2.5	5	25	150	30	80 (5)	4 7/8"	1 1/16"	4P
WL-579B	(1)	2.5	6	20	270	25	510	7 1/16"	2 1/16"	2P
WL-613	(1)	11.0	10	140	200	20	1040	19"	5 1/8"	2SB
WL-836	(1)	2.5	5	5	1000	250	1800	6 1/16"	2 1/16"	2W
WL-5575	(1)	20.0	24	150	1000	160	525	25 1/4"	6 1/8"	2B
WL-5576	(1)	20.0	32	150	2500	400	1000	25 1/4"	6 1/8"	2B
WL-5859/5860	(2)	10.0	11.5	140	—	100	—	7 7/8"	2 1/16"	2B
WL-5934	(1)	2.5	6	20	270	25	520	6 7/8"	2 1/16"	4P
WL-5973	(1)	16.0	19.1	75	5000	1000	950	19 1/2"	6 1/8"	2B
WL-7658	(6)	4.0	6.8	125	750	150	900	8"	2 1/16"	2B
WL-8094	(1)	12.0	23	110	10000	650	2500	25 1/4"	6 1/8"	2B
WL-22800	(7)	7	250	50	60A	20A	850	14 1/2"	10 1/16"	2V2
WL-22801	(7)	5	125	30	30A	10A	950	11"	6 7/32"	2V3
WL-22802	(8)	7	250	50	60A	20A	850	15"	8 1/8"	2V2
WL-23095(9)	(8)	9	132	30	—	3.5A	Note 9	12 1/16"	4 5/8"	2V3
WL-23102/102A	(1)	20	19	75	750	120	1800	16 7/8"	5 1/8"	2B
WL-23178(9)	(8)	16	32	15	—	2A	Note 9	9 1/2"	4 1/2"	2V4



**Notes**

1. Air cooled.
2. Oil cooled for X-ray applications.
3. At bogey filament conditions and peak current.
4. Excluding leads.
5. Measured at 30 ma.
6. Oil cooled.
7. Forced air cooled.
8. Water cooled.
9. Control diode.

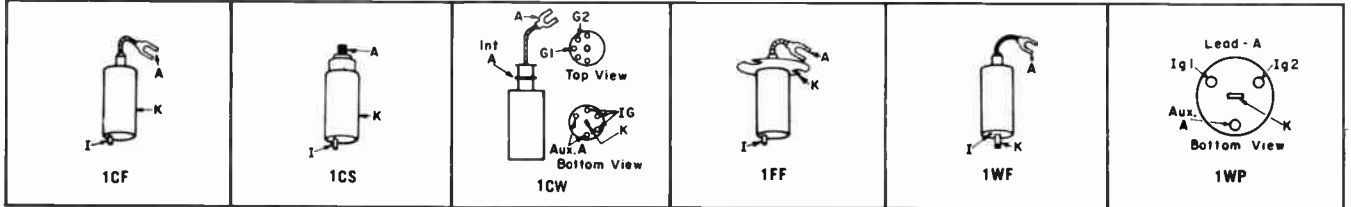




# IGNITRONS

Ignitrons are gas-discharge, pool-type cathode tubes in which current conduction is initiated for each conducting cycle by means of an electrode called an ignitor. The ignitor is a small conical refractory element projecting into the mercury. When a relatively small current is conducted through the ignitor to the mercury, ionization of some mercury molecules in this area takes place. Ignitrons are of the half-wave type and current is conducted only when the anode is positive with respect to the cathode and the ignitor is fired. Control of the average conducted current is accomplished by phase control of the point in the input cycle at which the ignitor is fired. During the non-conducting cycle, ionization in these single-anode tubes is very low; the resulting reduction of shielding necessary to

prevent arc-backs lowers the arc voltage and permits operation at lower supply voltages. Ignitrons therefore have some of the control characteristics of thyratrons and, having a mercury-pool cathode, are capable of conducting very large currents. Water cooling of metal envelopes is used on most types to further increase current carrying capacity in a compact tube. Provision is made on some of the tube shells to connect thermostats for tube protection and water saving. Ignitrons are used in resistance welders, frequency-changer resistance welders, power rectifiers, high current switches in controlled fusion equipment, heat control devices for air-frame testing, and any circuit requiring precise control of large amounts of alternating or direct current.



## A.C. WELDER CONTROL IGNITRONS

TUBE TYPE (NOTE 2)	SIZE	MAXIMUM RATINGS								MAX. DIMENSIONS (NOTE 1)		COOLING	BASE DWG.
		RMS LINE VOLTS	DEMAND KVA	CORRES. CURRENT DC AMP.	DEMAND RMS AMP. 500 V. 1-30 CPS	CURRENT DC AMP.	CORRES. DEMAND KVA	MAX. AVG. TIME IN SEC. @ 250 V @ 500 V	LENGTH	DIAM.			
WL-5550	A	250-600	300	12.1	600	22.4	100	22	11	9 <sup>7</sup> / <sub>8</sub> "	2 <sup>3</sup> / <sub>4</sub> "	Clamp	1 CF
WL-5551A WL-5551A (PC)	B	250-600	600	30.2	1200	56	200	18	9	13"	2 <sup>3</sup> / <sub>4</sub> "	Water	1 WF
WL-5552A WL-5552A (PC)	C	250-600	1200	75.6	2400	140	400	14	7.1	14"	4 <sup>1</sup> / <sub>4</sub> "	Water	1 WF
WL-5553B WL-553B (PC)	D	250-600	2400	192	4800	355	800	11.2	5.6	19 <sup>1</sup> / <sub>2</sub> "	5 <sup>5</sup> / <sub>8</sub> "	Water	1 WF
WL-5554/679	C	2400	1200	75	500 (Note 3)	113	600	1.5 (Note 3)	—	17"	4 <sup>1</sup> / <sub>8</sub> "	Water	1 WP
WL-5555/653B WL-5555A	D	2400	2400	135	1000 (Note 3)	207	1105	1.7 (Note 3)	—	20"	5 <sup>3</sup> / <sub>4</sub> "	Water	1 WP
WL-7669 WL-7669 (PC)	B Coax	250-600	600	30.2	1200	56	200	18	9	13"	3 <sup>1</sup> / <sub>4</sub> "	Water	1 FF
WL-7671 WL-7671 (PC)	C Coax	250-600	1200	75.6	2400	140	400	14	7.1	14 <sup>1</sup> / <sub>4</sub> "	4 <sup>5</sup> / <sub>8</sub> "	Water	1 FF
WL-7681	C 1/2	250-600	1800	113.5	3600	210	600	9.5	7.1	17 <sup>1</sup> / <sub>2</sub> "	4 <sup>1</sup> / <sub>4</sub> "	Water	1 WF

## FREQUENCY CHANGER WELDING CONTROL IGNITRONS

TUBE TYPE (NOTE 2)	SIZE	PEAK INVERSE VOLTS	RATED CURRENTS				MAX. AVG. TIME SECONDS	MAX. DIMENSIONS (NOTE 1)		COOLING	BASE DWG.
			MAX. PEAK AMP.	CORRES. AVG. AMP.	MAX. AVG. AMP.	CORRES. PEAK AMP.		LENGTH	DIAMETER		
WL-5551A WL-5551A (PC)	B	1200 1500	600 480	5 4	22.5 18	135 108	10 10	13"	2 <sup>3</sup> / <sub>4</sub> "	Water	1 WF
WL-5553B WL-5553B (PC)	D	1200 1500	3000 2400	40 32	140 112	840 672	6.25 6.25	19 <sup>1</sup> / <sub>2</sub> "	5 <sup>5</sup> / <sub>8</sub> "	Water	1 WF
WL-5822A	C	1200 1500	1500 1200	20 16	70 56	420 336	6.25 6.25	14"	4 <sup>1</sup> / <sub>4</sub> "	Water	1 WF
WL-7669 WL-7669 (PC)	B Coax	1200 1500	600 480	5 4	22.5 18	135 108	10 10	13"	3 <sup>1</sup> / <sub>4</sub> "	Water	1 FF
WL-7670	—	2500	2000	10	—	—	2	12"	2 <sup>3</sup> / <sub>4</sub> "	Water	1 FF
WL-7681	C 1/2	1200 1500	2250 1800	30 24	105 84	630 502	6.25 6.25	17 <sup>1</sup> / <sub>2</sub> "	4 <sup>1</sup> / <sub>4</sub> "	Water	1 WF



## POWER RECTIFIER IGNITRONS

TUBE TYPE	SIZE	PEAK INVERSE VOLTS	MAXIMUM CURRENT RATINGS		MAXIMUM DIMENSIONS (NOTE 1)		COOLING	BASE DWG.
			PEAK AMP.	CONT. AVG. AMP.	LENGTH	DIAMETER		
WL-5554/679	C	900 2100	900 600	100 75	17"	4 $\frac{1}{8}$ "	Water	1 WP
WL-5555A WL-5555/653B	D	900 2100	1800 1200	200 150	20"	5 $\frac{3}{4}$ "	Water	1 WP
WL-6228	—	20000	900	150	42"	9"	Water	1 CW

## CONTINUOUS DUTY A.C. CONTROL IGNITRONS (NOTE 4)

TUBE TYPE (NOTE 2)	SIZE	MAXIMUM RATINGS								MAX. DIMENSIONS (NOTE 1)		COOLING	BASE DWG.
		RMS LINE VOLTS	DEMAND KVA	CORRES. CURRENT DC AMP.	CONTIN- UOUS RMS AMP. 2 TUBES	CURRENT DC AMP.	CORRES. DEMAND KVA	MAX. AVG. TIME IN SEC.		LENGTH	DIAM.		
								@ 250 V	@ 500 V				
WL-23011 WL-23011 (PC)	B	250-600	600	30.2	124	56	200	18	9	13"	2 $\frac{3}{4}$ "	Water	1 WF
WL-23012 WL-23012 (PC)	C	250-600	1200	75.6	311	140	400	14	7.1	14"	4 $\frac{1}{4}$ "	Water	1 WF
WL-23013 WL-23013 (PC)	D	250-600	2400	192	788	355	800	11.2	5.6	19 $\frac{1}{2}$ "	5 $\frac{5}{8}$ "	Water	1 WF
WL-23014 WL-23014 (PC)	B Coax	250-600	600	30.2	124	56	200	18	9	13"	3 $\frac{1}{4}$ "	Water	1 FF
WL-23015 WL-23015 (PC)	C Coax	250-600	1200	75.6	311	140	400	14	7.1	14 $\frac{1}{4}$ "	4 $\frac{5}{8}$ "	Water	1 FF
WL-23016	C $\frac{1}{2}$	250-600	1800	113.5	466	210	600	9.5	7.1	17 $\frac{1}{2}$ "	4 $\frac{1}{4}$ "	Water	1 WF
WL-23017	D Coax	250-600	2400	192	788	355	800	11.2	5.6	17 $\frac{1}{2}$ "	5 $\frac{5}{8}$ "	Water	1 FF
WL-23018	C $\frac{1}{2}$ Coax	250-600	1800	113.5	466	210	600	9.5	7.1	15"	5 $\frac{5}{8}$ "	Water	1 FF

## CAPACITOR DISCHARGE &amp; CROWBAR IGNITRONS

TUBE TYPE	MAXIMUM RATINGS					MAX. DIMENSIONS (NOTE 1)		COOLING	BASE DWG.
	HOLD-OFF KV	PEAK AMP.	DISCHARGE COULOMBS	REP. RATE PULSES/MIN.	AVERAGE CURRENT AMP.	LENGTH	DIAMETER		
WL-7171	10	35,000	18.6	2	0.6	8 $\frac{7}{16}$ "	2 $\frac{5}{32}$ "	Clamp	1 CS
WL-7703	20	100,000	—	2	—	7"	2 $\frac{7}{32}$ "	Clamp	1 CS
WL-7740	20	35,000	18.6	2	0.6	8 $\frac{7}{8}$ "	2 $\frac{5}{32}$ "	Clamp	1 CS
WL-8306	15	35,000	18.6	2	0.6	8 $\frac{7}{8}$ "	2 $\frac{5}{32}$ "	Clamp	1 CS

## PULSE MODULATOR IGNITRONS (NOTE (5))

TUBE TYPE	MAXIMUM RATINGS			AVG. AMP.	PULSE		BASE DWG.
	FORWARD KV	INVERSE KV	PEAK AMP.		LENGTH $\mu$ SEC.	REP. RATE PPS	
WL-6228	40	0.5	3300	3.8	3.2	360	1 CW

## NOTES

- Excluding flying leads, water pipes, and on coaxial tubes the mounting flange.
- Suffix PC indicates plastic-coated tube.
- At 2400 volts.
- These tubes use heavy duty ignitors designed for continuous duty.
- Consult Industrial and Transmitting Tube Development Department for pulse modulator applications. The parameters listed represent a specific application only and substantial increases can be made in some areas.

# VACUUM MEASURING TUBES

Vacuum measuring tubes are designed to become part of an evacuated system. With suitable circuitry, the pressure in that system may be accurately determined. The Bayard-Alpert ionization gauge is used for measurement of very low pressures. The Schulz-Phelps ionization gauge measures pressures up to one atmosphere. The Pirani and thermocouple gauges

are less accurate and measure only the higher pressures, but, their associated circuitry is much simpler.

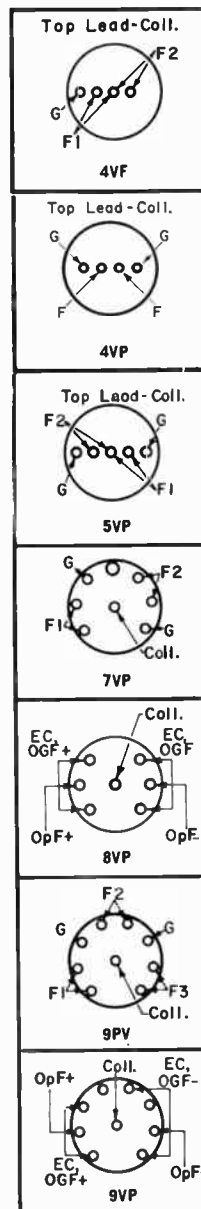
These tubes are used in electron tube and semiconductor device processing control, vacuum deposition, research and rocket altimeter applications.

## Ionization Gauges

TUBE TYPE	TUBE CLASS	RANGE TORR	ELECTRICAL				MECHANICAL				
			FILAMENT		COLL VOLTS	GRID VOLTS	TUBULATION		MAX. OAL (1)	MAX. DIAM.	BASE DWG.
			VOLTS	AMPS.			SIZE	MAT'L.			
WL-5966	Bayard-Alpert (2)	$10^{-3}$ to $10^{-10}$	7	2.5	-30	150	1/2"	Nonex	11 1/2"	3 1/8"	4VF
WL-6794	Bayard-Alpert (2)	$10^{-3}$ to $10^{-10}$	6	2.5	-30	.50	1/2"	Pyrex	8 3/8"	2 1/2"	7VP
WL-7676	Schulz-Phelps	$5 \times 10^{-1}$ to $10^{-5}$	2	2.25	-60	60	1/2"	Nonex	7 1/4"	1 13/16"	8VP
WL-7903	Schulz-Phelps	$5 \times 10^{-1}$ to $10^{-5}$	1.3	2.4	-60	60	1/2"	Pyrex	7 1/4"	1 13/16"	9VP
WL-7904	Bayard-Alpert (2)	$10^{-3}$ to $10^{-9}$	4	1.5	-30	150	1/2"	Pyrex	7 1/4"	1 3/16"	9VP
WL-8057	Bayard-Alpert (3)	$10^{-3}$ to $10^{-9}$	7	2.5	-30	150	3/4"	Nonex	5 1/4"	4 9/16"	5VP
WL-22612	Bayard-Alpert (2)	$10^{-3}$ to $10^{-9}$	7	2.5	-30	150	1/2"	Pyrex	11 1/2"	3 1/8"	4VF
WL-22613	Bayard-Alpert (2)	$10^{-3}$ to $10^{-9}$	7	2.5	-30	150	3/4"	Pyrex	11 1/2"	3 1/4"	4VF
WL-22614	Bayard-Alpert (2)	$10^{-3}$ to $10^{-9}$	7	2.5	-30	150	1"	Pyrex	11 1/2"	3 3/8"	4VF
WL-22618	Bayard-Alpert (2)	$10^{-3}$ to $10^{-9}$	7	2.5	-30	150	1/2"	Pyrex	5 3/8"	5 9/16"	4VF
WL-22619	Bayard-Alpert (2)	$10^{-3}$ to $10^{-9}$	7	2.5	-30	150	3/4"	Pyrex	5 3/8"	5 9/16"	4VF
WL-22620	Bayard-Alpert (2)	$10^{-3}$ to $10^{-9}$	7	2.5	-30	150	1"	Pyrex	5 3/8"	5 9/16"	4VF
WL-22627	Bayard-Alpert (2)	$10^{-3}$ to $10^{-10}$	7	2.5	-30	150	3/4"	Pyrex	8"	2 1/8"	7VP
WL-22637	Bayard-Alpert (3)	$10^{-3}$ to $10^{-9}$	7	2.5	-30	150	3/4"	Pyrex	6 3/8"	5 9/16"	5VP
WL-22640	Bayard-Alpert (3)	$10^{-3}$ to $10^{-9}$	7	2.5	-30	150	3/4"	Kovar	6 3/8"	5 9/16"	5VP
WL-22643	Bayard-Alpert (3)	$10^{-3}$ to $10^{-9}$	7	2.5	-30	150	3/4"	Pyrex	8"	2 1/8"	7VP
WL-22754	Bayard-Alpert (4)	$10^{-3}$ to $10^{-9}$	2.5	2.5	-30	150	3/4"	Nonex	5 1/4"	4 9/16"	5VP
WL-22868	Bayard-Alpert (4)	$10^{-3}$ to $10^{-9}$	2.5	2.5	-30	150	3/4"	Pyrex	5 1/4"	4 9/16"	5VP
WL-22869	Bayard-Alpert (4)	$10^{-3}$ to $10^{-9}$	2.5	2.5	-30	150	3/4"	Kovar	5 1/4"	4 9/16"	5VP
WL-22923	Schulz-Phelps	$5 \times 10^{-1}$ to $10^{-5}$	2	2.25	-60	60	1/2"	Kovar	7 1/4"	1 13/16"	9VP
WL-22947	Bayard-Alpert (4)	$10^{-3}$ to $10^{-9}$	2.5	2.5	-30	150	3/4"	Nonex	5 1/4"	4 9/16"	4VP
WL-22948	Bayard-Alpert (4)	$10^{-3}$ to $10^{-9}$	2.5	2.5	-30	150	3/4"	Pyrex	5 1/4"	4 9/16"	4VP
WL-22949	Bayard-Alpert (4)	$10^{-3}$ to $10^{-9}$	2.5	2.5	-30	150	3/4"	Kovar	5 1/4"	4 9/16"	4VP

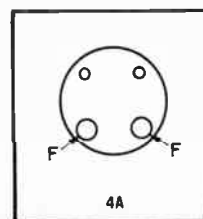
### Notes

1. Excluding flexible leads. Length and diameter describe space to contain tube.
2. Grid outgassed by electron bombardment.
3. Grid outgassed by a-c current conduction.
4. Non-burn-out filament and grid outgassed by a-c current conduction.



## Pirani Tubes

TUBE TYPE	FILAMENT		TUBULATION		RANGE TORR	MAX. OAL	MAX. DIAM.	BASE DWG.
	MAT'L.	AMPS.	SIZE	GLASS				
WL-762	Platinum	0 to 0.3	3/8"	Nonex	1 to $5 \times 10^{-4}$	7 15/16"	1 9/16"	4A
WL-765	Platinum	0 to 0.3	5/8"	Nonex	1 to $5 \times 10^{-4}$	6 3/4"	1 9/16"	4A
WL-765A	Platinum	0 to 0.3	None	None	1 to $5 \times 10^{-4}$	5 1/4"	1 9/16"	4A



# Hollow Cathode Discharge Devices For Atomic Absorption Spectroscopy

Gas Fill	Window	
	Quartz 1"	Pyrex 1½"
Argon	Q-A-B	P-A-A
Neon	Q-N-B	P-N-A



## Single-Element Hollow-Cathode Devices (See Note)

Tube Type	Window, Gas Fill & Size	Element	Analytical Lines			Max. mA	Tube Type	Window, Gas Fill & Size	Element	Analytical Lines			Max. mA
			Å	Å	Å					Å	Å	Å	
WL-22603	P-N-A	Copper	3247	3274	—	20	WL-22932	Q-N-B	Bismuth	2231	3068	—	12
WL-22610	P-N-A	Calcium	4227	—	—	20	WL-22933	Q-N-B	Cadmium	2288	3261	—	12
WL-22806	Q-A-B	Silver	3281	3383	—	20	WL-22934	Q-N-B	Chromium	3579	4254	—	25
WL-22809	P-N-A	Aluminum	3092	3962	—	20	WL-22935	Q-N-B	Gold	2428	2676	—	15
WL-22810	Q-N-B	Iron	2483	3720	—	20	WL-22936	Q-N-B	Manganese	2795	2801	—	25
WL-22811	Q-N-B	Zinc	2139	3076	—	18	WL-22937	Q-N-B	Molybdenum	3133	3170	—	30
WL-22818	Q-N-B	Samarium	3951	4760	—	20	WL-22938	Q-N-B	Selenium	1960	2040	—	15
WL-22819	Q-N-B	Nickel	2320	3415	—	20	WL-22939	Q-N-B	Silicon	2516	—	—	20
WL-22823	P-N-A	Cesium	4556	8521	—	25	WL-22940	Q-N-B	Tellurium	2143	2386	—	15
WL-22824	P-N-A	Rubidium	7800	—	—	30	WL-22941	Q-N-B	Tin	2863	—	—	15
WL-22826	Q-N-B	Uranium	5027	5915	—	25	WL-22942	Q-N-B	Rhenium	3460	3465	—	25
WL-22827	Q-N-B	Dysprosium	4046	4187	—	15	WL-22968	Q-N-B	Magnesium	2025	2852	—	20
WL-22828	Q-N-B	Erbium	4008	—	—	15	WL-22969	Q-N-B	Palladium	2448	2476	3404	25
WL-22829	Q-N-B	Holmium	4054	5983	—	15	WL-22973	Q-N-B	Vanadium	3184	3855	—	30
WL-22830	P-N-A	Lithium-6	6708	—	—	30	WL-22977	Q-N-B	Cerium	—	—	—	20
WL-22831	P-N-A	Lithium-7	6708	—	—	30	WL-22979	Q-N-B	Neodymium	4925	—	—	20
WL-22833	Q-N-B	Gallium	2874	4172	—	15	WL-22981	Q-N-B	Praseodymium	4951	5133	—	20
WL-22834	P-N-A	Barium	5536	—	—	25	WL-22983	Q-A-B	Ytterbium	3988	—	—	20
WL-22835	P-N-A	Strontium	4607	—	—	25	WL-22985	Q-N-B	Gadolinium	3684	—	—	20
WL-22836	Q-N-B	Arsenic	1937	1972	—	20	WL-22987	Q-N-B	Yttrium	4077	4102	—	15
WL-22837	Q-N-B	Iron (High Purity)	2843	3720	—	20	WL-22989	Q-N-B	Phosphorus	—	—	—	20
WL-22844	Q-N-B	Tungsten	4009	4294	—	30	WL-22991	Q-N-B	Titanium	3643	3998	—	25
WL-22845	Q-N-B	Europium	4594	4627	—	20	WL-22996	Q-N-B	Indium	3040	—	—	20
WL-22847	Q-A-B	Mercury	2537	—	—	15	WL-22997	Q-N-B	Rhodium	3435	3692	—	25
WL-22848	Q-N-B	Terbium	4319	4338	—	25	WL-23007	Q-N-B	Thulium	4094	4105	—	20
WL-22851	Q-A-B	Platinum	2659	—	—	25	WL-23009	Q-N-B	Lutetium	3081	3282	—	20
WL-22858	Q-N-B	Niobium	4059	4080	—	25	WL-23027	Q-N-B	Thorium	—	—	—	20
WL-22859	Q-A-B	Tantalum	3311	—	—	30	WL-23049	Q-N-B	Lanthanum	3574	3928	4015	15
WL-22860	Q-A-B	Zirconium	3519	3601	—	25	WL-23060	P-N-A	Lithium-Nat.	6708	—	—	30
WL-22863	P-N-A	Potassium	4044	7665	—	25	WL-23138	Q-A-B	Ruthenium	3499	3728	—	25
WL-22864	P-A-A	Sodium	3302	5890	—	25	WL-23143	Q-N-B	Sulphur	—	—	—	20
WL-22916	Q-A-B	Boron	2497	—	—	20	WL-23144	Q-A-B	Osmium	—	—	—	20
WL-22927	Q-N-B	Lead	2170	2833	—	15	WL-23145	Q-N-B	Iridium	2850	—	—	25
WL-22928	Q-N-B	Cobalt	2407	3454	3527	25	WL-23160	Q-A-B	Germanium	2651	—	—	20
WL-22931	Q-N-B	Antimony	2176	2311	—	25	WL-23180	Q-N-B	Hafnium	2866	3072	—	18
							WL-23181	Q-N-B	Scandium	3907	3912	—	20

## Multi-Element Hollow-Cathode Devices (See Note)

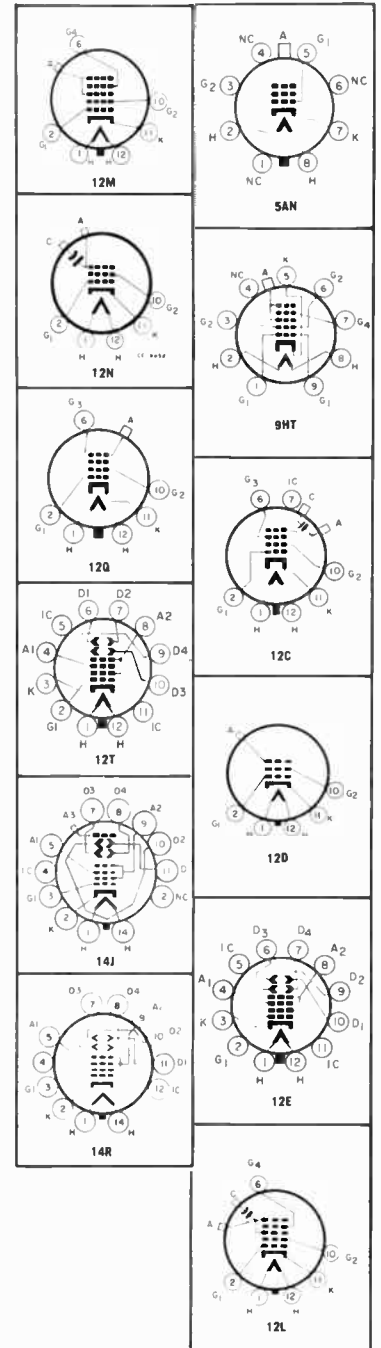
Tube Type	Window, Gas Fill & Size	Elements	Max. mA	Tube Type	Window, Gas Fill & Size	Elements	Max. mA
WL-22930	Q-N-B	Ca Mg Al	20	WL-23135	Q-N-B	Cu Zn Mo	15
WL-23034	P-N-A	Ba Ca Sr	25	WL-23141	Q-N-B	Cu Zn Mo Co	15
WL-23035	Q-N-B	Ca Mg Al Li	18	WL-23146	Q-N-B	Cu Zn Pb Cd	12
WL-23106	Q-N-B	Fe Cu Mn	20	WL-23147	Q-N-B	As Sb Bi	15
WL-23108	Q-N-B	Cr Fe Mn Ni	30	WL-23148	Q-N-B	As Se Te	15
WL-23109	Q-N-B	Cu Zn Pb Sn	12	WL-23171	Q-N-B	Pb Zn Ag	12
WL-23116	Q-N-B	As Ni	20	WL-23173	P-N-A	Na K	25
WL-23117	Q-N-B	Au Ni	15	WL-23174	Q-N-B	Cr Co Ni	25
WL-23118	Q-N-B	In P	20	WL-23176	Q-N-B	Cr Co Cu Fe Mn Ni	30
WL-23119	Q-N-B	Cu Ga	15	WL-23177	Q-N-B	Mo Cu Fe	25
WL-23130	Q-N-B	Se Ni	15	WL-23179	Q-N-B	Fe Cu Ni Pb Zn	15
WL-23131	Q-N-B	Cu Mn	20	WL-23190	Q-N-B	Cu Co	20
WL-23132	Q-N-B	Cu Pb Zn Ag	15	WL-23207	Q-N-B	Ca Zn	15
WL-23133	Q-N-B	Ba Ca Sr Mg	25	WL-23208	Q-N-B	Cr Cu	20
WL-23134	Q-N-B	Cu Zn Fe Mn	15	WL-23211	Q-N-B	Au Cu Fe Ni	20
				WL-23216	Q-N-B	Ag Zn Pb Cd	12

NOTE: This is not a complete listing. Only preferred types are listed. Preferred types have window and fill combinations, for each element, suitable for most applications and are stocked for immediate shipment. For a complete listing refer to data sheets ET-1532 and ET-1553.

# Industrial & Military Cathode Ray Tubes

Tube Type	Note	Bulb			Electrical					Max. OAL
		Face Rad.	Base Dwg.	Defl. Angle	Anode KV	Focus Volts	Grid 2 Volts	Grid 1 Volts (1)	Line Width	
3JP-	3	8"	14J	ES	4	400 to 690	2000	-45 to -75	—	10.188"
3JP-A	3	8"	14J	ES	4	400 to 690	2000	-45 to -75	0.030"	10.188"
3WP-	3	Flat	12T	ES	2	330 to 620	—	-60 to -100	0.026"	11.625"
5CEP-	2	Flat	12Q	42°	10	2070 to 2370	300	-40 to -65	0.0015"	13.5"
5DEP-	3	20"	12E	ES	2	340 to 640	—	-90 max.	0.023"	15.125"
5DKP-	2	24"	5AN	53°	8	Mag.	250	-30 to -75	0.006"	11.5"
5PP-A	3	24"	5AN	53°	5	Mag.	250	-25 to -70	0.010"	11.5"
5UP-	3	20"	12E	ES	2	340 to 640	—	-90 max.	0.023"	15.125"
5WP-	3	Flat	12C	50°	27	4200 to 5400	200	-42 to -98	0.008"	11.812"
5ZP-	2	Flat	12C	40°	27	5544 to 7056	200	-42 to -98	0.0045"	14.75"
7ABP-	3	24"	12M	50°	7	0 to 250	300	-33 to -77	0.012"	13.5"
7ABP-A	2	24"	12M	50°	7	0 to 250	300	-33 to -77	0.012"	13.5"
7AUP-	4	24"	9HT	70°	8	0 to 300	300	-25 to -60	0.012"	8.5"
7BP-A	3	24"	5AN	53°	7	Mag.	250	-25 to -70	—	13.625"
7BP-B	3	24"	5AN	53°	7	Mag.	250	-25 to -70	0.012"	13.625"
7MP-	3	24"	12D	50°	7	Mag.	250	-27 to -63	0.012"	13.125"
7TP-	3	24"	12Q	50°	10	1170 to 1590	200	-18 to -48	0.012"	13.5"
7VP-	3	20"	14R	ES	2.5	670 to 1000	—	-70 max.	0.040"	14.875"
8CP-	3	20"	14J	ES	4	540 to 800	2000	-24 to -56	—	16.875"
8HP-	5	27"	12L	90°	11	0 to 300	300	-28 to -72	0.012"	10.25"
8KP-	5	27"	12M	90°	16	0 to 400	300	-35 to -72	—	12.25"
10KP-A	3	42"	12D	50°	10	Mag.	300	-35 to -72	0.015"	18"
10KP-B	2	42"	12D	50°	10	Mag.	300	-35 to -72	0.015"	18"
10SP-	2	42"	12Q	50°	14	1640 to 2225	200	-18 to -48	0.015"	17"
10UP-A	2	42"	12M	50°	10	-150 to +150	300	-33 to -77	0.015"	18"
10VP-	2	42"	12N	50°	11	Mag.	250	-28 to -72	—	18"
10WP-	3	42"	12M	50°	10	0 to 600	300	-35 to -75	0.015"	17.312"
10WP-A	2	42"	12M	50°	10	0 to 600	300	-35 to -75	0.015"	17.312"
12ABP-	3	40"	12M	55°	10	0 to 300	300	-28 to -72	0.019"	18.375"
12ABP-A	2	40"	12M	55°	10	0 to 300	300	-28 to -72	0.019"	18.375"
12SP-B	2	40"	12D	55°	9	Mag.	250	-27 to -63	0.017"	19.125"
12SP-D	2	40"	12D	55°	9	Mag.	250	-27 to -63	0.015"	19.125"
14WP-	5	24"	12L	90°	12	-50 to +350	300	-28 to -72	—	13.562"
16AKP-	2	56.312"	12M	53°	12	0 to 400	300	-35 to -75	0.025"	22.438"
16ALP-	2	56.312"	12M	53°	12	0 to 400	300	-35 to -75	0.025"	23.938"
17DWP-	5	27"	12L	70°	18	0 to 400	300	-33 to -77	—	19.562"
21EWP-	5	33"	12D	72°	16	Mag.	300	-33 to -75	0.018"	23.812"

- Notes: 1. For cutoff.  
 2. Aluminized screen, round faceplate.  
 3. Round faceplate.  
 4. Aluminized screen, round faceplate, 0.9" diameter neck, 6.3 volt — 300 mA heater.  
 5. Aluminized screen, rectangular faceplate.





ALPHA WIRE



MIL-W-76B-PLASTIC WIRE

TYPE MW-UNCOVERED PLASTIC

DESCRIPTION: Solid or extra flexible stranded tinned copper, color coded medium wall polyvinylchloride insulation. The stranded conductor has an extra tight lay to prevent springing open when stripped.

CHARACTERISTICS: Temperature rating -40°C to +80°C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

STRANDED

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	STRANDS	NOM. WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1550	MW-C 24( 7)U	24	7 32	.016"	.059"	1-30 AS LISTED BELOW
1551	MW-C 22( 7)U	22	7 30	.016"	.064"	
1553	MW-C 20(10)U	20	10 30	.016"	.073"	
1555	MW-C 18(16)U	18	16 30	.016"	.084"	
1557	MW-C 16(26)U	16	26 30	.016"	.095"	
1559	MW-C 14(41)U	14	41 30	.016"	.110"	
1560	MW-C 12(65)U	12	65 30	.016"	.125"	

SOLID

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	STRANDS	NOM. WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1561 24	MW-C 24( 1)U	24	1	.016"	.055"	1-30 AS LISTED BELOW
1561	MW-C 22( 1)U	22	1	.016"	.060"	
1563	MW-C 20( 1)U	20	1	.016"	.066"	
1565	MW-C 18( 1)U	18	1	.016"	.074"	
1567	MW-C 16( 1)U	16	1	.016"	.083"	

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
ALSO AVAILABLE TO ORDER CUT, STRIPPED AND TINNED



MIL-W-76B-PLASTIC WIRE

TYPE MW-GLASS BRAID

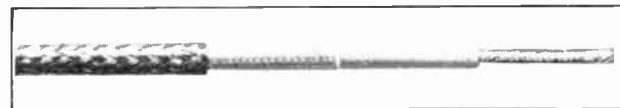
DESCRIPTION: Extra flexible stranded tinned copper, white medium wall polyvinylchloride insulation, color coded flame retardant lacquered glass braid overall. The stranded conductor has an extra tight lay to prevent springing open when stripped.

CHARACTERISTICS: Temperature rating -40°C to +80°C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	STRANDS	NOM. WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1590	MW-C 22( 7)B	22	7 30	.016"	.080"	1-19 as listed below
1591	MW-C 20(10)B	20	10 30	.016"	.090"	1-19 as listed below
1592	MW-C 18(16)B	18	16 30	.016"	.100"	1-19 as listed below
1593	MW-C 16(26)B	16	26 30	.016"	.115"	1-19 as listed below
1594	MW-C 14(41)B	14	41 30	.016"	.125"	1 & 11-19 as listed below
1595	MW-C 12(65)B	12	65 30	.016"	.140"	1 & 11-19 as listed below

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
ALSO AVAILABLE TO ORDER CUT, STRIPPED AND TINNED

\*Other solid colors and striped combinations available to order



MIL-W-76B-PLASTIC WIRE

TYPE MW-GLASS BRAID-SHIELDED

DESCRIPTION: Extra flexible stranded tinned copper, white medium wall polyvinylchloride insulation, white flame retardant lacquered glass braided with tinned copper shield overall, 80% coverage. The stranded conductor has an extra tight lay to prevent springing open when stripped.

CHARACTERISTICS: Temperature rating -40°C to +80°C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	STRANDS	NOM. WALL THICKNESS	NOMINAL O.D.	* STOCK COLOR
1194 24	MW-C 24( 7)BS	24	7 32	.016"	.090"	White
1194 22†	MW-C 22( 7)BS	22	7 30	.016"	.095"	White
1194†	MW-C 20(10)BS	20	10 30	.016"	.108"	White
1196†	MW-C 18(16)BS	18	16 30	.016"	.124"	White
1197†	MW-C 16(26)BS	16	26 30	.016"	.133"	White
1198†	MW-C 14(41)BS	14	41 30	.016"	.144"	White
1199†	MW-C 12(65)BS	12	65 30	.016"	.168"	White

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
ALSO AVAILABLE TO ORDER CUT, STRIPPED AND TINNED

\*Other solid colors and striped combinations available to order.  
†1194 22 to 1199 formerly 1361 to 1365



MIL-W-76B-PLASTIC WIRE

TYPE MW-SHIELDED

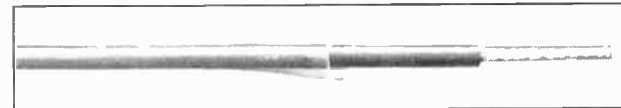
DESCRIPTION: Extra flexible stranded tinned copper, color coded medium wall polyvinylchloride insulation, braided tinned copper shield overall, 80% coverage. Stranded conductor has an extra tight lay to prevent springing open when stripped.

CHARACTERISTICS: Temperature rating -40°C to +80°C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	STRANDS	NOM. WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1350	MW-C 24( 7)S	24	7 32	.016"	.075"	White
1351	MW-C 22( 7)S	22	7 30	.016"	.085"	White
1352	MW-C 20(10)S	20	10 30	.016"	.095"	White
1353	MW-C 18(16)S	18	16 30	.016"	.105"	White
1354	MW-C 16(26)S	16	26 30	.016"	.115"	White
1355	MW-C 14(41)S	14	41 30	.016"	.130"	White
1356	MW-C 12(65)S	12	65 30	.016"	.145"	White

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
ALSO AVAILABLE TO ORDER CUT, STRIPPED AND TINNED

\*Other solid colors and striped combinations available to order.



MIL-W-76B-PLASTIC WIRE

TYPE MW-NYLON JACKET

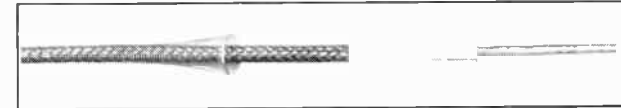
DESCRIPTION: Extra flexible stranded tinned copper, color coded medium wall polyvinylchloride insulation, clear nylon (polyamide) jacket overall. Stranded conductor has an extra tight lay to prevent springing open when stripped.

CHARACTERISTICS: Temperature rating -40°C to +90°C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	STRANDS	NOM. WALL THICKNESS	NOM. JKT. THICK.	NOM. O.D.	* STOCK COLORS
1503	MW-C 24( 7)J	24	7 32	.016"	.002"	.065"	1-19 as listed below
1504	MW-C 22( 7)J	22	7 30	.016"	.003"	.072"	1-19 as listed below
1505	MW-C 20(10)J	20	10 30	.016"	.003"	.079"	1-19 as listed below
1506	MW-C 18(16)J	18	16 30	.016"	.003"	.090"	1-19 as listed below
1507	MW-C 16(26)J	16	26 30	.016"	.004"	.103"	1-19 as listed below
1508	MW-C 14(41)J	14	41 30	.016"	.004"	.118"	1-6 as listed below
1509	MW-C 12(65)J	12	65 30	.016"	.005"	.135"	1-3 as listed below

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
ALSO AVAILABLE TO ORDER CUT, STRIPPED AND TINNED

\*Other solid colors and striped combinations available to order



MIL-W-76B-PLASTIC WIRE

TYPE MW-SHIELDED-NYLON JACKET

DESCRIPTION: Stranded tinned copper, white medium wall polyvinylchloride insulation, braided tinned copper shield, 80% minimum coverage, clear nylon (polyamide) jacket overall.

CHARACTERISTICS: Temperature rating -40°C to +90°C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	STRANDS	NOM. WALL THICKNESS	NOMINAL JACKET	NOMINAL O.D.
1370	MW-C 24( 7)SJ	24	7 32	.016"	.005"	.091"
1371	MW-C 22( 7)SJ	22	7 30	.016"	.005"	.100"
1372	MW-C 20( 7)SJ	20	7 28	.016"	.005"	.105"
1373	MW-C 18(19)SJ	18	19 30	.016"	.005"	.115"
1374	MW-C 16(19)SJ	16	19 29	.016"	.005"	.125"
1375	MW-C 14(19)SJ	14	19 27	.016"	.005"	.138"
1376	MW-C 12(19)SJ	12	19 25	.016"	.005"	.156"

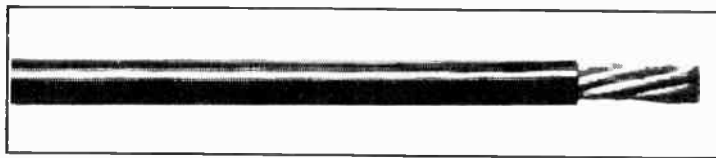
STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
ALSO AVAILABLE TO ORDER CUT, STRIPPED AND TINNED

\* STOCK COLORS

- 1-White
- 7-Brown
- 13-White Green
- 19-White Violet
- 25-White Black Orange
- 2-Black
- 8-Orange
- 14-White Yellow
- 20-White Black Red
- 26-White Black Gray
- 3-Red
- 9-Gray (slate)
- 15-White Blue
- 21-White Black Green
- 27-White Black Yellow
- 4-Green
- 10-Violet (purple)
- 16-White Brown
- 22-White Black Blue
- 28-Tan
- 5-Yellow
- 11-White Black
- 17-White Orange
- 23-White Black Yellow
- 29-Pink
- 6-Light Blue
- 12-White Red
- 18-White Gray
- 24-White Black Brown
- 30-Dark Blue

\*Other striped color combinations available to order

# Mil-W-76B Plastic Wire



## TYPE HW — UNCOVERED PLASTIC

**DESCRIPTION:** Stranded tinned copper, color coded heavy wall polyvinylchloride insulation.

**CHARACTERISTICS:** Temperature rating -40 C to +80 C. Resistant to acids, alkalis, oil, flame, moisture and fungus.

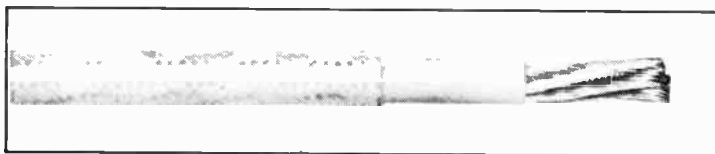
ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	VOLT RATING	NOM. O.D.	*STOCK COLORS
1571	HW-C 22( 7)U	22	7/30	.032"	2500	.092"	1-10 as listed below
1573	HW-C 20( 10)U	20	10/30	.032"	2500	.100"	1-10 as listed below
1575	HW-C 18( 16)U	18	16/30	.032"	2500	.112"	1-10 as listed below
1577	HW-C 16( 26)U	16	26/30	.032"	2500	.126"	White, Black, Red
1579	HW-C 14( 41)U	14	41/30	.045"	600	.170"	White, Black, Red
1651	HW-C 12( 65)U	12	65/30	.045"	600	.186"	White, Black, Red
1653	HW-C 10(105)U	10	105/30	.045"	600	.210"	White, Black, Red
1655	HW-C 8(133)U	8	133/29	.045"	600	.260"	White, Black, Red
1657	HW-C 6(133)U	6	133/27	.045"	600	.305"	White, Black, Red

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED

**\* STOCK COLORS**

- 1—White    3—Red    5—Yellow    7—Brown    9—Gray (Slate)
- 2—Black    4—Green    6—Light Blue    8—Orange    10—Violet (Purple)

Other solid and striped combinations available to order.



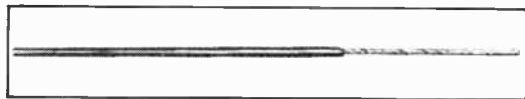
## TYPE HW — GLASS BRAID

**DESCRIPTION:** Stranded tinned copper, white heavy wall polyvinylchloride insulation, color coded flame retardant lacquered glass braid overall.

**CHARACTERISTICS:** Temperature rating -40 C to +80 C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.	STOCK COLORS
1598	HW-C 10(105)B	10	105/30	.045"	.230"	White, White/Black, White/Red
1599	HW-C 8(133)B	8	133/29	.045"	.280"	White, White/Black, White/Red
1599/6	HW-C 6(133)B	6	133/27	.045"	.325"	White, White/Black, White/Red

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
ALSO AVAILABLE TO ORDER CUT, STRIPPED AND TINNED



## TYPE LW — UNCOVERED PLASTIC

Regular Tinned Conductor

**DESCRIPTION:** Stranded tinned copper, color coded light wall polyvinylchloride insulation. (Nom. wall thickness .010")

**CHARACTERISTICS:** Temperature rating -40°C to +80°C. Voltage rating 300 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. O.D.
1685	LW-C 30(7)U	30	7/38	.033"
1686	LW-C 28(7)U	28	7/36	.035"
1687	LW-C 26(7)U	26	7/34	.038"
1688	LW-C 24(7)U	24	7/32	.043"
1689	LW-C 22(7)U	22	7/30	.049"
1690	LW-C 20(7)U	20	7/28	.060"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED



## TYPE LW — NYLON JACKET

**DESCRIPTION:** Stranded tinned copper, color coded light wall polyvinylchloride insulation, clear nylon (polyamide) jacket overall. Nominal Jacket Thickness .002" (Nom. wall thickness .010")

**CHARACTERISTICS:** Temperature rating -40°C to +90°C. Voltage rating 300 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. O.D.
1675	LW-C 30(7)J	30	7/38	.036"
1676	LW-C 28(7)J	28	7/36	.039"
1677	LW-C 26(7)J	26	7/34	.042"
1678	LW-C 24(7)J	24	7/32	.047"
1679	LW-C 22(7)J	22	7/30	.053"
1680	LW-C 20(7)J	20	7/28	.065"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED

# Mil-W-16878D



## TYPE B — UNCOVERED PLASTIC

Pre-Bonded Tinned Copper Conductor

**DESCRIPTION:**

Each strand of the conductor is double tinned and then heated, which bonds the individual strands together for easy stripping. Color coded .010" polyvinylchloride insulation. The insulation meets requirements of MIL-W-16878D.

**CHARACTERISTICS:**

Temperature rating -55 C to +105 C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus.

**APPLICATION:**

A pre-bonded conductor is the ideal construction when leads are to be cut and stripped for point to point wiring. The pre-bonded conductor maintains much of the flexibility of an ordinary stranded wire but reduces processing and handling costs on soldering, retwisting of strands after stripping and hand tinning operations. Since the individual strands are bonded, expensive induction heating equipment is unnecessary.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.
3154	B-24	24	7/32	.010"	.044"
3155	B-22	22	7/30	.010"	.051"
3156	B-20	20	7/28	.010"	.059"
3157	B-18	18	7/26	.010"	.070"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED.

**STOCK COLORS**

(Other striped combinations available to order.)

- 1—White
- 2—Black
- 3—Red
- 4—Green
- 5—Yellow
- 6—Light Blue
- 7—Brown
- 8—Orange
- 9—Gray (slate)
- 10—Violet (purple)
- 11—White/Black
- 12—White/Red
- 13—White/Green
- 14—White/Yellow
- 15—White/Blue
- 16—White/Brown
- 17—White/Orange
- 18—White/Gray
- 19—White/Violet



Alpha No.	Sugg. Resale per 1000'
1571	12.00
1573	13.73
1575	18.15
1577	23.60
1579	43.56
1651	54.45
1653	90.75
1655	235.95
1657	290.40
1595	119.79
1599	1599/6
1685	1685
1686	1686
1687	1687

## PRICES

199.65	1688	6.50	1677	9.83	3155	11.60
268.62	1689	7.13	1678	9.99	3156	16.01
6.45	1690	8.10	1679	10.73	3157	22.70
5.94	1675	9.66	1680	12.30		
6.44	1676	9.66	3154	9.87		

COLOR CODED PLASTIC INSULATION

STRANDED CONDUCTOR

CLEAR NYLON JACKET

COLOR CODED PLASTIC INSULATION

STRANDED CONDUCTOR

# Mil-W-16878D Plastic Wire

## TYPE B — UNCOVERED PLASTIC

Regular Tinned Copper Conductor

**DESCRIPTION:** Stranded tinned copper, color coded, .010" polyvinylchloride insulation.  
**CHARACTERISTICS:** Temperature rating -55°C to +105°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRANDS	NOM. WALL THICKNESS	NOM. O.D.
1850	B-32	32	7/40	.010"	.028"
1851	B-30	30	7/38	.010"	.032"
1852	B-28	28	7/36	.010"	.034"
1853	B-26	26	7/34	.010"	.038"
1854	B-24	24	7/32	.010"	.043"
1854/19	B-24	24	19/36	.010"	.043"
1855	B-22	22	7/30	.010"	.050"
1855/19	B-22	22	19/34	.010"	.050"
1856	B-20	20	7/28	.010"	.058"
1856/19	B-20	20	19/32	.010"	.058"
1857	B-18	18	7/26	.010"	.068"
1857/19	B-18	18	19/30	.010"	.068"
1858/19	B-16	16	19/29	.010"	.077"
1859/19	B-14	14	19/27	.010"	.091"

\* STOCK COLORS

- 1—White
  - 2—Black
  - 3—Red
  - 4—Green
  - 5—Yellow
  - 6—Light Blue
  - 7—Brown
  - 8—Orange
  - 9—Gray (slate)
  - 10—Violet (purple)
  - 11—White/Black
  - 12—White/Red
  - 13—White/Green
  - 14—White/Yellow
  - 15—White/Blue
  - 16—White/Brown
  - 17—White/Orange
  - 18—White/Gray
  - 19—White/Violet
- Ⓢ Other striped color combinations to order.

## TYPE B — NYLON JACKET

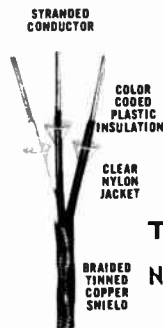
Regular Tinned Copper Conductor

**DESCRIPTION:** Stranded tinned copper, color coded, .010" polyvinylchloride insulation, clear nylon (polyamide) jacket overall.  
**CHARACTERISTICS:** Temperature rating -55°C to +115°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRANDS	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1860	B-32	32	7/40	.010"	.003"	.035"
1861	B-30	30	7/38	.010"	.003"	.039"
1862	B-28	28	7/36	.010"	.003"	.041"
1863	B-26	26	7/34	.010"	.003"	.044"
1864	B-24	24	7/32	.010"	.003"	.049"
1864/19	B-24	24	19/36	.010"	.003"	.049"
1865	B-22	22	7/30	.010"	.003"	.056"
1865/19	B-22	22	19/34	.010"	.003"	.056"
1866	B-20	20	7/28	.010"	.003"	.064"
1866/19	B-20	20	19/32	.010"	.003"	.064"
1867	B-18	18	7/26	.010"	.003"	.074"
1867/19	B-18	18	19/30	.010"	.003"	.074"
1868/19	B-16	16	19/29	.010"	.003"	.085"
1869/19	B-14	14	19/27	.010"	.004"	.099"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
 ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED.

# Mil-W-16878D Multi-Conductor Cable



## TYPE B — NYLON SHIELDED-PLASTIC JACKET

**DESCRIPTION:**

Each conductor stranded tinned copper, .010" polyvinylchloride insulation, color coded, clear nylon (polyamide) jacket, conductors cabled, braided tinned copper shield 90% coverage, white polyvinylchloride jacket overall.

**CHARACTERISTICS:**

Temperature rating -55°C to +105°C  
 Voltage rating 600 volts, resistant to acids, alkalis, oil, flame, moisture, fungus, solvents.

ALPHA NO.	NO. OF CONO.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. NYLON THICKNESS	NOM. OVERALL JACKET	NOM. O.D.
3200	1	26	7/34	.010"	.003"	.010"	.087"
3201	2	26	7/34	.010"	.003"	.014"	.138"
3202	3	26	7/34	.010"	.003"	.014"	.142"
3203	4	26	7/34	.010"	.003"	.016"	.162"
3210	1	24	19/36	.010"	.003"	.010"	.092"
3211	2	24	19/36	.010"	.003"	.016"	.152"
3212	3	24	19/36	.010"	.003"	.016"	.161"
3213	4	24	19/36	.010"	.003"	.017"	.162"
3220	1	22	19/34	.010"	.003"	.010"	.100"
3221	2	22	19/34	.010"	.003"	.016"	.168"
3222	3	22	19/34	.010"	.003"	.017"	.178"
3223	4	22	19/34	.010"	.003"	.019"	.174"
3230	1	20	19/32	.010"	.003"	.010"	.106"
3231	2	20	19/32	.010"	.003"	.019"	.186"
3232	3	20	19/32	.010"	.003"	.019"	.196"
3233	4	20	19/32	.010"	.003"	.021"	.193"
3240	1	18	19/30	.010"	.003"	.012"	.120"
3241	2	18	19/30	.010"	.003"	.021"	.210"
3242	3	18	19/30	.010"	.003"	.022"	.227"
3243	4	18	19/30	.010"	.003"	.023"	.218"
3245	1	16	19/29	.010"	.003"	.016"	.137"
3246	2	16	19/29	.010"	.003"	.023"	.236"
3247	3	16	19/29	.010"	.003"	.023"	.240"
3248	4	16	19/29	.010"	.003"	.025"	.274"

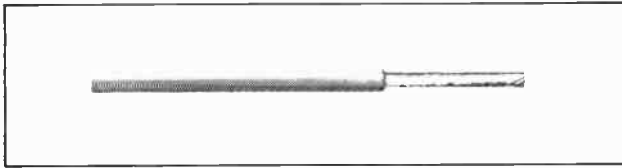
STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS  
 1—White, 2—Black, 3—Red, 4—Green

ALPHA WIRE



# Mil-W-16878D Plastic Wire

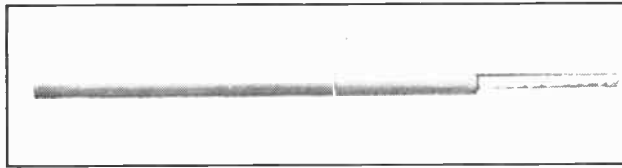


## TYPE C — UNCOVERED PLASTIC

**DESCRIPTION:** Stranded tinned copper, color coded .016" polyvinylchloride insulation.  
**CHARACTERISTICS:** Temperature rating -55 C to +105 C. Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1830	C-24	24	7/32	.016"	.058"	1-19 as listed below
1831	C-22	22	7/30	.016"	.064"	1-19 as listed below
1832	C-20	20	7/28	.016"	.072"	1-19 as listed below
1833	C-18	18	7/26	.016"	.082"	1-19 as listed below
1834	C-16	16	19/29	.016"	.091"	1 & 11-19 as listed below
1835	C-14	14	19/27	.016"	.105"	1 & 11-19 as listed below
1836	C-12	12	19/25	.016"	.124"	1 & 11-19 as listed below

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
 ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED



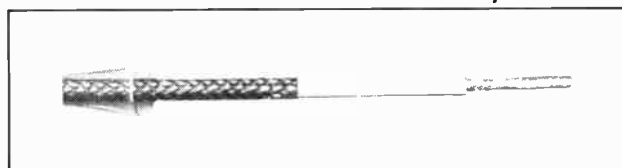
## TYPE C — NYLON JACKET

**DESCRIPTION:** Stranded tinned copper, color coded .016" polyvinylchloride insulation, clear nylon (polyamide) jacket overall.  
**CHARACTERISTICS:** Temperature rating -55 C to +115 C. Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOM. JKT. THICK.	NOMINAL O.D.	* STOCK COLORS
1840	C-24	24	7/32	.016"	.002"	.065"	1-19 as listed below
1841	C-22	22	7/30	.016"	.003"	.072"	1-19 as listed below
1842	C-20	20	7/28	.016"	.003"	.079"	1-19 as listed below
1843	C-18	18	7/26	.016"	.003"	.090"	1-19 as listed below
1844	C-16	16	19/29	.016"	.004"	.099"	1 & 11-19 as listed below
1845	C-14	14	19/27	.016"	.004"	.114"	1 & 11-19 as listed below
1846	C-12	12	19/25	.016"	.005"	.135"	1 & 11-19 as listed below

**\*STOCK COLORS**  
 1—White 6—Light Blue 11—White Black 16—White Brown  
 2—Black 7—Brown 12—White Red 17—White Orange  
 3—Red 8—Orange 13—White Green 18—White Gray  
 4—Green 9—Gray (slate) 14—White Yellow 19—White Violet  
 5—Yellow 10—Violet (purple) 15—White Blue  
 \* Other solid colors and striped combinations available to order.

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
 ALSO AVAILABLE TO ORDER CUT, MARKED AND STRIPPED

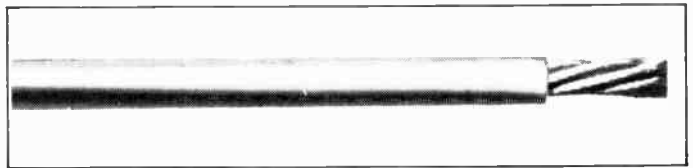


## TYPE C — SHIELDED — NYLON JACKET

**DESCRIPTION:** Stranded tinned copper, white .016" polyvinylchloride insulation, braided tinned copper shield, 90% coverage, clear nylon (polyamide) jacket overall (which can be stripped to order for color identification).  
**CHARACTERISTICS:** Temperature rating -55 C to +115 C. Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOMINAL JKT. THICKNESS	NOMINAL O.D.
1470	C-24	24	7/32	.016"	.005"	.091"
1471	C-22	22	7/30	.016"	.005"	.098"
1472	C-20	20	7/28	.016"	.005"	.105"
1473	C-18	18	19/30	.016"	.005"	.115"
1474	C-16	16	19/29	.016"	.005"	.125"
1475	C-14	14	19/27	.016"	.005"	.142"
1476	C-12	12	19/25	.016"	.005"	.156"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
 ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED



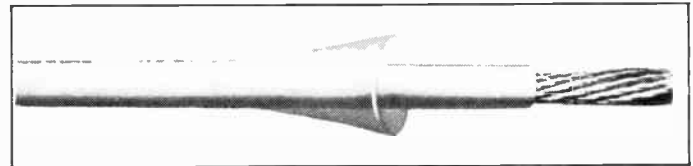
## TYPE D — UNCOVERED PLASTIC

**DESCRIPTION:** Stranded tinned copper, color coded polyvinylchloride insulation.  
**CHARACTERISTICS:** Temperature rating -55°C to +105°C. Voltage rating 3000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOM. O.D.	*STOCK COLORS
1870	D-24	24	7/32	.029"	.082"	Wh., Blk., Red
1871	D-22	22	7/30	.029"	.088"	Wh., Blk., Red
1872	D-20	20	7/28	.029"	.096"	Wh., Blk., Red
1873	D-18	18	7/26	.029"	.106"	Wh., Blk., Red
1874	D-16	16	19/29	.029"	.115"	Wh., Blk., Red
1875	D-14	14	19/27	.029"	.129"	Wh., Blk., Red
1876	D-12	12	19/25	.034"	.158"	Wh., Blk., Red
1877	D-10	10	37/26	.037"	.185"	White
1878	D-8	8	133/29	.040"	.247"	White
1879	D-6	6	133/27	.040"	.290"	White
1879/4	D-4	4	133/25	.045"	.355"	White
1879/2	D-2	2	665/30	.045"	.425"	White
1879/1	D-1	1	817/30	.050"	.480"	White
1879/0	D-0	0	1045/30	.052"	.530"	White

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
 ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED

■ NEW



## TYPE D — NYLON JACKET

**DESCRIPTION:** Stranded tinned copper, color coded polyvinylchloride insulation. Sizes 24-6, clear nylon (polyamide) jacket overall, sizes 4-0, white nylon braid overall.

**CHARACTERISTICS:** Temperature rating -55°C to +115°C. Voltage rating 3000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

### CLEAR NYLON JACKET

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOMINAL O.D.	*STOCK COLORS
1880	D-24	24	7/32	.029"	.004"	.090"	Wh., Blk., Red
1881	D-22	22	7/30	.029"	.004"	.096"	Wh., Blk., Red
1882	D-20	20	7/28	.029"	.004"	.104"	Wh., Blk., Red
1883	D-18	18	7/26	.029"	.004"	.114"	Wh., Blk., Red
1884	D-16	16	19/29	.029"	.005"	.125"	Wh., Blk., Red
1885	D-14	14	19/27	.029"	.005"	.139"	Wh., Blk., Red
1886	D-12	12	19/25	.034"	.005"	.168"	Wh., Blk., Red
1887	D-10	10	37/26	.037"	.006"	.197"	White
1888	D-8	8	133/29	.040"	.009"	.265"	White
1889	D-6	6	133/27	.040"	.010"	.310"	White

### WHITE NYLON BRAID

1889/4	D-4	4	133/25	.045"	.010"	.375"	White
1889/2	D-2	2	665/30	.045"	.011"	.447"	White
1889/1	D-1	1	817/30	.050"	.011"	.502"	White
1889/0	D-0	0	1045/30	.052"	.011"	.552"	White

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
 ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED

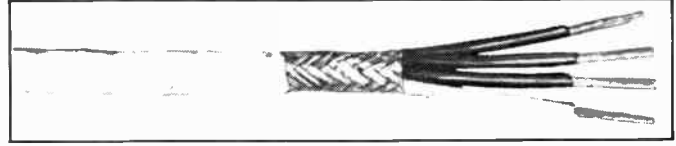
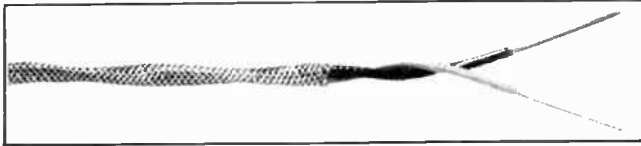
■ NEW

## PRICES

Alpha No	Size	Resale per 1000'	Alpha No	Size	Resale per 1000'
1830	9/21	1472	1877	8/20	577.50
1831	10/56	1473	1878	7/19	708.50
1832	12/54	1474	80/27	184	26.51
1833	16/50	1475	110/36	221	32.50
1834	21/35	1476	173/27	222	31.67
1835	31/19	1477	17/24	223	13.56
1836	56/40	1478	14/15	224	91.71
1840	14/85	1479	21/25	225	76.23
1841	18/85	1480	26/40	226	116.77
1842	18/15	1481	39/63	227	152.46
1843	20/13	1482	44	228	297.66
1844	26/10	1483	64	229	319.90
1845	39/60	1484	80	230	29.00
1846	77/15	1485	110/50	231	676.50
1470	47/15	1486	261/00	232	921.70
1471	50/82	1487	366/30	233	990.00



# Mil-W-16878D Shielded Teflon<sup>+</sup> Cables



### NO OUTER COVERING OVER SHIELD

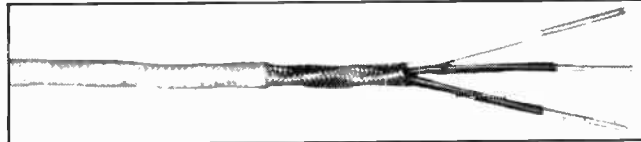
**DESCRIPTION:** Each conductor stranded silver plated copper, Type E extruded TFE .010" insulation, braided silver plated copper shield over conductor(s), 90% coverage.

**CHARACTERISTICS:** Temperature rating 65°C to +200°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	STRAND	NOM. O.D.	NOM. CAP. IN MMF SHIELD TO COND.	COND. TO COND.
2809	1	24	19/36	.069"	45	—
2809/2	2	24	19/36	.112"	35	25
2809/3	3	24	19/36	.120"	35	20
2809/4	4	24	19/36	.132"	35	20
2812	1	22	19/34	.075"	55	—
2812/2	2	22	19/34	.124"	45	25
2812/3	3	22	19/34	.132"	35	25
2812/4	4	22	19/34	.146"	35	25
2815	1	20	19/32	.083"	55	—
2815/2	2	20	19/32	.142"	95	25
2815/3	3	20	19/32	.151"	85	25
2815/4	4	20	19/32	.168"	140	30
2818	1	18	19/30	.093"	70	—
2818/2	2	18	19/30	.162"	60	35
2818/3	3	18	19/30	.172"	60	35
2818/4	4	18	19/30	.192"	55	35
2807	1	16	19/29	.103"	107	—
2807/2	2	16	19/29	.184"	67	35

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
 ■ NEW

COLOR CODE OF CONDUCTORS  
 1—White 3—Red  
 2—Black 4—Green



### TEFLON IMPREGNATED BRAID OVER SHIELD

**DESCRIPTION:** Each conductor stranded silver plated copper, Type E extruded .010" TFE Teflon insulation, color coded, cabled, braided silver plated copper shield, 90% coverage, braided white fused Teflon impregnated, fiberglass braid overall.

**CHARACTERISTICS:** Temperature rating -65°C to +200°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	STRAND	NOM. O.D.	NOM. CAP. IN MMF SHIELD TO COND.	COND. TO COND.
2811	1	24	19/36	.081"	45	—
2811/2	2	24	19/36	.126"	35	25
2811/3	3	24	19/36	.133"	35	20
2811/4	4	24	19/36	.144"	35	20
2814	1	22	19/34	.088"	55	—
2814/2	2	22	19/34	.137"	45	25
2814/3	3	22	19/34	.144"	35	25
2814/4	4	22	19/34	.158"	35	25
2817	1	20	19/32	.097"	55	—
2817/2	2	20	19/32	.154"	95	25
2817/3	3	20	19/32	.163"	85	25
2817/4	4	20	19/32	.180"	140	30
2819	1	18	19/30	.106"	70	—
2819/2	2	18	19/30	.174"	60	35
2819/3	3	18	19/30	.185"	60	35
2819/4	4	18	19/30	.205"	55	35
2820	1	16	19/29	.117"	107	—
2820/2	2	16	19/29	.196"	67	35

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
 ■ T.M. DuPont ■ NEW

COLOR CODE OF CONDUCTORS  
 1—White 2—Black 3—Red 4—Green

Alpha No.	Sugg. Retail per 500'	2815	116.09	2807/2	340.20	2817/2	311.85
2809	86.63	2815/2	265.43	2811	148.13	2817/3	426.20
2809/2	183.47	2815/3	347.88	2811/2	230.25	2817/4	564.27
2809/3	266.55	2815/4	460.85	2811/3	304.58	2819	204.44
2809/4	339.23	2818	140.33	2811/4	400.20	2819/2	363.83
2812	97.02	2818/2	329.18	2814	157.65	2819/3	468.50
2812/2	204.44	2818/3	399.86	2814/2	253.41	2819/4	634.10
2812/3	295.91	2818/4	540.54	2814/4	433.13	2820	237.83
2812/4	374.22	2807	151.20	2817	194.04	2820/2	375.63
2814/3	330.56						

### PRICES

### TEFLON TAPE WRAP JACKET OVER SHIELD

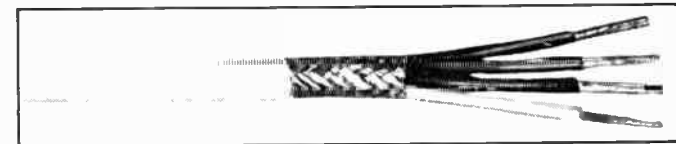
**DESCRIPTION:** Each conductor stranded silver plated copper, Type E extruded .010" TFE Teflon insulation, color coded, cabled, braided silver plated copper shield 90% coverage, sintered wrapped white Teflon tape jacketed overall.

**CHARACTERISTICS:** Temperature rating -65°C to +200°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	STRAND	NOM. JKT. THICKNESS	NOM. O.D. AT HIGH POINT	NOM. CAP. IN MMF SHIELD TO COND.	COND. TO COND.
2821	1	24	19/36	.010"	.095"	45	—
2821/2	2	24	19/36	.010"	.140"	35	25
2821/3	3	24	19/36	.010"	.147"	35	20
2821/4	4	24	19/36	.014"	.159"	35	20
2824	1	22	19/34	.010"	.102"	55	—
2824/2	2	22	19/34	.014"	.154"	45	25
2824/3	3	22	19/34	.014"	.162"	35	25
2824/4	4	22	19/34	.014"	.176"	35	25
2827	1	20	19/32	.010"	.110"	55	—
2827/2	2	20	19/32	.014"	.170"	95	25
2827/3	3	20	19/32	.014"	.175"	85	25
2827/4	4	20	19/32	.018"	.213"	140	30
2829	1	18	19/30	.010"	.120"	70	—
2829/2	2	18	19/30	.014"	.190"	60	35
2829/3	3	18	19/30	.018"	.219"	60	35
2829/4	4	18	19/30	.018"	.237"	55	35
2826	1	16	19/29	.010"	.130"	107	—
2826/2	2	16	19/29	.018"	.230"	67	25

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS  
 1—White, 2—Black, 3—Red, 4—Green



### TEFLON FEP EXTRUDED JACKET OVER SHIELD

**DESCRIPTION:** Each conductor stranded silver plated copper, Type E extruded TFE insulation color coded, cabled, braided silver plated copper shield 90% coverage, extruded FEP white Teflon jacket overall.

**CHARACTERISTICS:** Temperature rating -65°C to +200°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus. Extruded FEP Teflon jacket is tough and abrasion resistant.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.	NOM. CAP. IN MMF SHIELD TO COND.	COND. TO COND.
2831	1	24	19/36	.010"	.010"	.085"	45	—
2831/2	2	24	19/36	.010"	.010"	.130"	35	25
2831/3	3	24	19/36	.010"	.010"	.135"	35	20
2834	1	22	19/34	.010"	.010"	.091"	55	—
2834/2	2	22	19/34	.010"	.014"	.150"	45	25
2834/3	3	22	19/34	.010"	.014"	.158"	35	25
2837	1	20	19/32	.010"	.010"	.100"	55	—
2837/2	2	20	19/32	.010"	.014"	.168"	95	25
2837/3	3	20	19/32	.010"	.014"	.178"	85	25
2839	1	18	19/30	.010"	.010"	.110"	70	—
2839/2	2	18	19/30	.010"	.014"	.188"	60	35
2839/3	3	18	19/30	.010"	.018"	.207"	60	35
2836	1	16	19/29	.010"	.010"	.123"	107	—
2836/2	2	16	19/29	.010"	.018"	.220"	67	35

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS  
 1—White, 2—Black, 3—Red  
 ■ NEW + T.M. DuPont

Alpha No.	Sugg. Retail per 500'	2827 <th>252.95 <th>2826 <th>311.85 <th>2837 <th>228.68</th> </th></th></th></th>	252.95 <th>2826 <th>311.85 <th>2837 <th>228.68</th> </th></th></th>	2826 <th>311.85 <th>2837 <th>228.68</th> </th></th>	311.85 <th>2837 <th>228.68</th> </th>	2837 <th>228.68</th>	228.68
2821	194.04	2827/2	452.18	2826/2	512.45	2837/2	407.13
2821/2	322.25	2827/3	616.77	2831	174.98	2837/3	556.13
2821/3	476.43	2827/4	725.45	2831/2	291.06	2839	273.74
2821/4	561.80	2829	303.18	2831/3	425.65	2839/2	446.99
2824	218.30	2829/2	495.50	2834	197.51	2839/3	594.24
2824/2	395.01	2829/3	660.08	2834/2	356.90	2836	285.08
2824/3	521.48	2829/4	850.65	2834/3	469.50	2826/2	513.45
2824/4	677.40						

### PRICES

**Mil-W-16878D Teflon<sup>†</sup> Wire****TYPE E — EXTRUDED (600 VOLTS)**SILVER  
PLATED  
STRANDED  
CONDUCTOR**DESCRIPTION:** Single conductor stranded silver plated copper, extruded TFE Teflon insulation.**CHARACTERISTICS:** Temperature rating -65°C to +200°C. Voltage rating 600 volts.  
Resistant to acid, alkalis, oil, flame, moisture, solvents and fungus.COLOR  
CODED  
TEFLON  
INSULATION

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOM. O.D.	*STOCK COLORS
2850	E-32	32	7/40	.010"	.029"	1-19 as listed
2851	E-30	30	7/38	.010"	.032"	1-19 as listed
2852	E-28	28	7/36	.010"	.036"	1-19 as listed
2853	E-26	26	7/34	.010"	.040"	1-19 as listed
2854	E-24	24	19/36	.010"	.045"	1-19 as listed
■ 2854/7	E-24	24	7/32	.010"	.044"	1-19 as listed
2855	E-22	22	19/34	.010"	.051"	1-19 as listed
■ 2855/7	E-22	22	7/30	.010"	.050"	1-19 as listed
2856	E-20	20	19/32	.010"	.059"	1-19 as listed
■ 2856/7	E-20	20	7/28	.010"	.058"	1-19 as listed
2857	E-18	18	19/30	.010"	.070"	1-19 as listed
2858	E-16	16	19/29	.010"	.077"	1-19 as listed
2859	E-14	14	19/27	.012"	.094"	1-6 & 11-19
2859/12	E-12	12	19/25	.012"	.113"	1 & 11-19
2859/10	E-10	10	37/26	.012"	.134"	1 & 11-19

**\*STOCK COLORS**1—White  
2—Black  
3—Red  
4—Green  
5—Yellow6—Light Blue  
7—Brown  
8—Orange  
9—Gray (slate)  
10—Violet (purple)11—White/Black  
12—White/Red  
13—White/Green  
14—White/Yellow  
15—White/Blue16—White/Brown  
17—White/Orange  
18—White/Gray  
19—White/Violet

\* Other solid colors and striped combinations available to order.

**STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.****ALSO AVAILABLE TO ORDER CUT, MARKED AND STRIPPED**

■ NEW

**TYPE EE — EXTRUDED (1000 VOLTS)**SILVER  
PLATED  
STRANDED  
CONDUCTOR**DESCRIPTION:** Single conductor stranded silver plated copper, TFE extruded Teflon insulation.**CHARACTERISTICS:** Temperature rating -65°C to +200°C. Voltage rating 1000 volts.  
Resistant to acid, alkalis, oil, flame, moisture, solvents and fungus.COLOR  
CODED  
TEFLON  
INSULATION

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOM. O.D.	*STOCK COLORS
2874	EE-24	24	19/36	.014"	.055"	1-19
2875	EE-22	22	19/34	.014"	.062"	1-19
2876	EE-20	20	19/32	.014"	.070"	1-19
2877	EE-18	18	19/30	.014"	.080"	1-19
2878	EE-16	16	19/29	.014"	.089"	1 & 11-19
2879	EE-14	14	19/27	.017"	.106"	1 & 11-19
2879/12	EE-12	12	19/25	.017"	.124"	1 & 11-19
2879/10	EE-10	10	37/26	.017"	.145"	1 & 11-19
2879/8	EE-8	8	133/29	.020"	.210"	White only

**\*STOCK COLORS**1—White  
2—Black  
3—Red  
4—Green  
5—Yellow6—Light Blue  
7—Brown  
8—Orange  
9—Gray (slate)  
10—Violet (purple)11—White/Black  
12—White/Red  
13—White/Green  
14—White/Yellow  
15—White/Blue16—White/Brown  
17—White/Orange  
18—White/Gray  
19—White/Violet

\* Other solid colors and striped combinations available to order.

**STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.****ALSO AVAILABLE TO ORDER CUT, MARKED AND STRIPPED**

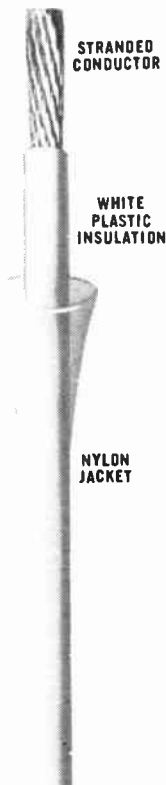
† T.M. DuPont

Alpha No.	Sugg. Resale per 1000'
2850	70.95
2851	75.90
2852	79.20
2853	80.85
2854	88.28
2854 7	78.00

**PRICES**

2855	102.30	2859	264.00	2877	163.35
2855 7	90.00	2859 12	405.90	2878	222.75
2856	132.00	2859 10	643.50	2879	297.00
2856 7	120.00	2874	94.05	2879 12	462.00
2857	157.41	2875	109.73	2879 10	775.50
2858	206.25	2876	139.59	2879/8	1386.00



**Mil-W-5086A****UNSHIELDED AIRCRAFT WIRE FOR ELECTRICAL SYSTEMS****DESCRIPTION:**

- MIL-W-5086A—Type I— AN-22 thru AN-12—Single conductor stranded tinned copper, white polyvinylchloride insulation, clear nylon, (polyamide) jacket overall.
- MIL-W-5086A—Type II— AN-22 thru AN-12—Single conductor stranded tinned copper, white polyvinylchloride insulation, white glass braid, clear nylon (polyamide) jacket overall.
- MIL-W-5086A—Type II— AN-10 thru AN-0000—Single conductor stranded tinned copper, white polyvinylchloride insulation, white glass braid, flame retardant nylon lacquered nylon braid overall.

**CHARACTERISTICS:** Temperature rating: -55°C. to +105°C. Voltage rating: 600 volts. Resists effects of water, oil, aircraft fuels, hydraulic fluid, skydral, ethyleneglycol, alcohol, dilute acids, alkalis, fungus and abrasion.

**UNSHIELDED (MIL-W-5086A) TYPE I**

ALPHA NO.	MIL TYPE DESIGNATION	CONDUCTOR SIZE	STRAND	NOMINAL O.D.	NOM. WGT LBS. PER M/FT.
1381	AN-22	22	19/34	.068"	4.0
1382	AN-20	20	19/32	.078"	5.7
1383	AN-18	18	19/30	.088"	8.3
1384	AN-16	16	19/29	.098"	10.4
1385	AN-14	14	19/27	.117"	15.9
1386	AN-12	12	19/25	.137"	23.7

**UNSHIELDED (MIL-W-5086A) TYPE II**

1341	AN-22	22	19/34	.075"	4.6
1342	AN-20	20	19/32	.085"	6.3
1343	AN-18	18	19/30	.095"	8.9
1344	AN-16	16	19/29	.105"	10.9
1345	AN-14	14	19/27	.125"	16.3
1346	AN-12	12	19/25	.143"	24.2
1387	AN-10	10	49/27	.189"	39.2
1388	AN-8	8	133/29	.240"	66.2
1389	AN-6	6	133/27	.293"	102.8
1389/4	AN-4	4	133/25	.355"	158.2
1389/2	AN-2	2	665/30	.425"	244.1
■ 1389/1	AN-1	1	817/30	.470"	300.0
1389/0	AN-0	0	1045/30	.525"	381.0
1389/00	AN-00	00	1330/30	.590"	485.0
■ 1389/000	AN-000	000	1661/30	.645"	609.0
■ 1389/0000	AN-0000	0000	2104/30	.715"	755.0



**STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.**

**ALSO AVAILABLE TO ORDER CUT, STRIPPED AND TINNED**

■ **NEW**

Alpha No.	Sugg. Resale per 1000'	<b>PRICES</b>				Alpha No.	Sugg. Resale per 500'
1381	14.03	1341	20.93	1387	46.20	1389/0	453.75
1382	15.51	1342	24.53	1388	102.30	1389/00	577.50
1383	18.65	1343	27.23	1389	135.30	1389/000	842.16
1384	22.28	1344	31.68	1389/4	181.50	1389/0000	1016.40
1385	29.70	1345	40.10	1389/2	264.00		
1386	41.25	1346	55.44	1389/1	353.93		



# Alpha RG Cable Types

## POLYETHYLENE DIELECTRIC

All Illustrations — Actual Size

ALPHA PART NO.	RG CABLE TYPE	INNER CONDUCTOR			DIELECTRIC		SHIELDS			JACKET		ARMOR (.0126 ALUM. WIRE)	OPR VOLTS RMS	LBS. PER M/FT.	NOM. IMPED. OHMS	NOM. CAP MMF/ FT.
		MAT.	STRAND	NOM. O.D.	MAT.	O.D.	Inner	Outer	O.D.	MAT	O.D.					
9006A	6A/U	CW	1	.0285	PE	.189	SC	C	.264	NCV	.336		2700	74	75	20
9008	8/U	C	7/.0285	.086	PE	.295	C	—	.340	V	.415		5000	105	52	29.5
9008A	8A/U	C	7/.0285	.086	PE	.295	C	—	.340	NCV	.415		5000	99	52	29.5
9009B	9B/U	SC	7/.0285	.086	PE	.285	SC	SC	.355	NCV	.430		5000	126	50	30
9010A	10A/U	C	7/.0285	.086	PE	.295	C	—	.340	NCV	.415	.475	5000	125	52	29.5
9011	11/U	TC	7/.0159	.048	PE	.295	C	—	.340	V	.415		5000	94	75	20.5
9011A	11A/U	TC	7/.0159	.048	PE	.292	C	—	.340	NCV	.412		5000	89	75	20.5
9012A	12A/U	TC	7/.0159	.048	PE	.292	C	—	.340	NCV	.412	.475	5000	113	75	20.5
9014A	14A/U	C	1	.102	PE	.383	C	C	.463	NCV	.558		7000	201	52	29.5
9017A	17A/U	C	1	.188	PE	.695	C	—	.760	NCV	.885		11000	462	52	29.5
9019A	19A/U	C	1	.250	PE	.925	C	—	.990	NCV	1.135		14000	720	52	29.5
9022B	22B/U	C	Two7/.0152	.047	PE	.291	TC	TC	.355	NCV	.430		1000	124	95	16
9055	55/U	C	1	.032	PE	.121	TC	TC	.176	NP	.206		1900	31	53.5	28.5
9055B	55B/U	SC	1	.032	PE	.121	TC	TC	.176	BP	.206		1900	32	53.5	28.5
9058	58/U	C	1	.032	PE	.121	TC	—	.150	V	.200		1900	24	53.5	28.5
9058A	58A/U	TC	19/.0071	.0375	PE	.120	TC	—	.150	V	.199		1900	25	50	29.5
9058C	58C/U	TC	19/.0071	.0375	PE	.120	TC	—	.150	NCV	.199		1900	25	50	29.5
9059	59/U	CW	1	.0253	PE	.150	C	—	.191	V	.250		2300	36	73	21
9059B	59B/U	CW	1	.023	PE	.150	C	—	.191	NCV	.246		2300	36	75	20.5
9062	62/U	CW	1	.025	SSP	.151	C	—	.191	V	.250		750	34	93	13.5
9062A	62A/U	CW	1	.025	SSP	.151	C	—	.191	NCV	.249		750	34	93	13.5
9063B	63B/U	CW	1	.0253	SSP	.295	C	—	.340	NCV	.415		1000	78	125	10
9071B	71B/U	CW	1	.025	SSP	.151	C	TC	.208	BP	.250		750	42	93	13.5
9174	174/U	CW	7/.0063	.019	PE	.060	TC	—	.088	V	.105		1500	7	50	30
9212	212/U	SC	1	.056	PE	.189	SC	SC	.265	NCV	.336		3000	85	50	29.5
9213	213/U	C	7/.0296	.090	PE	.292	C	—	.340	NCV	.412		5000	100	50	30.5
9214	214/U	SC	7/.0296	.090	PE	.292	SC	SC	.360	NCV	.432		5000	129	50	30.5
9215	215/U	C	7/.0296	.090	PE	.292	C	—	.340	NCV	.412	.475	5000	122	50	30.5
9217	217/U	C	1	.106	PE	.380	C	C	.463	NCV	.555		7000	202	50	30
9218	218/U	C	1	.195	PE	.690	C	—	.760	NCV	.880		11000	457	50	30
9219	219/U	C	1	.195	PE	.690	C	—	.760	NCV	.880	.945	11000	507	50	30
9223	223/U	SC	1	.036	PE	.120	SC	SC	.176	NCV	.216		1900	36	50	30

### ALL TYPES LISTED CONFORM TO LATEST REVISION MIL-C-17.

C—Bare Copper  
 TC—Tinned Copper  
 SC—Silver Covered Copper  
 CW—Copper Covered Steel

PE—Solid Polyethylene  
 SSP—Semi Solid Polyethylene  
 BP—Black Polyethylene—Type IIIA

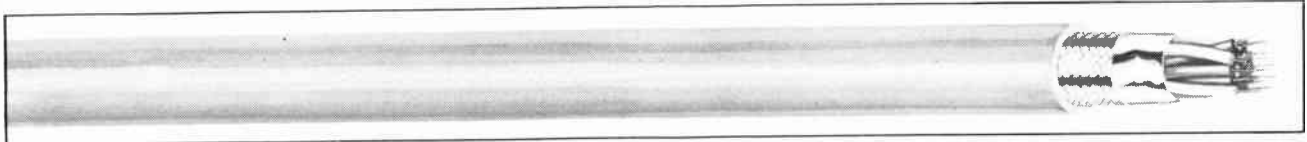
NP—Natural Polyethylene—Type III  
 V—Polyvinylchloride—Type I  
 NCV—Non-Contaminating Polyvinylchloride—Type IIA

ALL DIMENSIONS ARE MAXIMUM  
 EXCEPT WHERE INDICATED

## ALPHA WIRE







## CONTROL AND INSTRUMENTATION CABLE

### MULTI-CONDUCTOR SHIELDED PLASTIC JACKET

#### PER MIL-W-16878D

**DESCRIPTION:** Each conductor stranded tinned copper. Color coded, polyvinylchloride insulation, cabled, mylar wrap. Braided tinned copper shield 90% coverage, chrome gray polyvinylchloride jacket overall.

**CHARACTERISTICS:** Temperature rating - 55°C to +105°C. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

**APPLICATIONS:** Interconnecting cables for electronic equipment, instrumentation and control cable, telemetry data, remote control of sensitive recording instruments.

### MINIATURE SHIELDED CONTROL CABLE— 600 VOLT

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOM. JACKET	NOM. O.D.
3302	2	B-28	7 36	.010"	.012"	.125"
3303	3	B-28	7 36	.010"	.012"	.130"
3304	4	B-28	7 36	.010"	.012"	.140"
3306	6	B-28	7 36	.010"	.015"	.170"
3308	8	B-28	7 36	.010"	.015"	.175"
3310	10	B-28	7 36	.010"	.018"	.210"
3312	12	B-28	7 36	.010"	.018"	.215"
3315	15	B-28	7 36	.010"	.020"	.230"
3320	20	B-28	7 36	.010"	.022"	.260"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

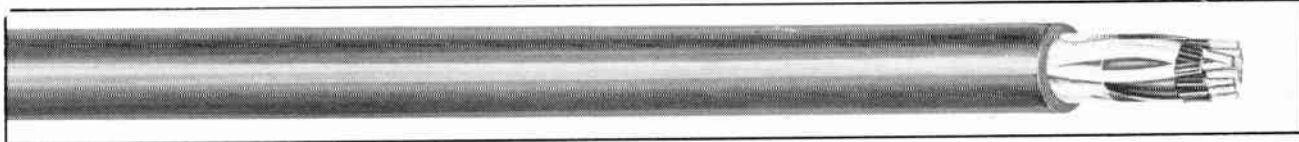
### HEAVY DUTY SHIELDED CONTROL CABLE— 1000 VOLT

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOM. JACKET	NOM. O.D.
3405	5	C-18	19 30	.016"	.025"	.300"
3410	10	C-18	19 30	.016"	.035"	.405"
3415	15	C-18	19 30	.016"	.040"	.470"
3420	20	C-18	19 30	.016"	.045"	.530"
3430	30	C-18	19 30	.016"	.055"	.650"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

**COLOR CODE OF CONDUCTORS**

- |                 |                |                       |
|-----------------|----------------|-----------------------|
| 1—Black         | 11—Blue Black  | 21—Orange Green       |
| 2—White         | 12—Black White | 22—Black White Red    |
| 3—Red           | 13—Red White   | 23—White Black Red    |
| 4—Green         | 14—Green White | 24—Red Black White    |
| 5—Orange        | 15—Blue White  | 25—Green Black White  |
| 6—Blue          | 16—Black Red   | 26—Orange Black White |
| 7—White Black   | 17—White Red   | 27—Blue Black White   |
| 8—Red Black     | 18—Orange Red  | 28—Black Red Green    |
| 9—Green Black   | 19—Blue Red    | 29—White Red Green    |
| 10—Orange Black | 20—Red Green   | 30—Red-Black Green    |



## UNSHIELDED STATION CONTROL CABLE

### HEAVY-DUTY MULTI-CONDUCTOR

#### PLASTIC JACKET—600 VOLTS

**DESCRIPTION:** Each conductor, stranded bare copper, .020" polyethylene insulation, .010" polyvinylchloride jacket over each conductor, color coded, cabled with fillers where necessary, moisture resistant tape, black polyvinylchloride jacket overall. 600 volt operating voltage.

**APPLICATIONS:** Remote control of automatic electrical equipment, recording and relaying devices, telemetering, switchgear operations and indicators, substation operation, temperature voltage, pressure and motor control, dimensional tolerance on automatic quality control.

**16 GAUGE — 26 30 BARE COPPER**

ALPHA NO.	NO. OF COND.	NOM. JKT. THICKNESS	NOM. O.D.
4102	2	.045"	.360"
4103	3	.045"	.480"
4105	5	.045"	.520"
4106	6	.045"	.550"
4107	7	.045"	.570"
4108	8	.045"	.590"
4110	10	.045"	.620"
4112	12	.045"	.660"
4114	14	.045"	.690"
4116	16	.045"	.750"

ALPHA NO.	NO. OF COND.	NOM. JKT. THICKNESS	NOM. O.D.
4119	19	.060"	.800"
4121	21	.060"	.810"
4122	22	.060"	.880"
4124	24	.060"	.930"
4126	26	.060"	.990"
4130	30	.060"	1.01"
4137	37	.060"	1.09"
4140	40	.060"	1.16"
4150	50	.080"	1.22"
4160	60	.080"	1.32"

**14 GAUGE — 7 22 BARE COPPER**

ALPHA NO.	NO. OF COND.	NOM. JKT. THICKNESS	NOM. O.D.
4202	2 Twin	.045"	.800"
4203	3 Rd.	.045"	.390"
4204	4	.045"	.425"
4205	5	.045"	.462"
4206	6	.045"	.481"
4207	7	.045"	.502"
4208	8	.060"	.556"
4209	9	.060"	.622"
4210	10	.060"	.657"
4212	12	.060"	.696"

**12 GAUGE — 7 20 BARE COPPER**

ALPHA NO.	NO. OF COND.	NOM. JKT. THICKNESS	NOM. O.D.
4302	2 Twin	.045"	.800"
4303	3 Rd.	.045"	.431"
4304	4	.045"	.471"
4305	5	.045"	.523"
4306	6	.045"	.564"
4307	7	.060"	.599"
4308	8	.060"	.644"
4309	9	.060"	.690"
4310	10	.060"	.727"
4312	12	.060"	.775"
4314	14	.060"	.807"

ALPHA NO.	NO. OF COND.	NOM. JKT. THICKNESS	NOM. O.D.
4315	15	.060"	.832"
4316	16	.060"	.901"
4318	18	.080"	.928"
4319	19	.080"	.943"
4320	20	.080"	.966"
4322	22	.080"	1.01"
4325	25	.080"	1.09"
4327	27	.080"	1.129"
4330	30	.080"	1.168"
4334	34	.080"	1.201"
4337	37	.080"	1.257"

\*FLAT DIMENSION .233" x .366"

\*\*FLAT DIMENSION .252" x .404"

COLOR CODE: The color code of neoprene jacketed control cables conforms to IPCEA standards either with full color code or surface printed with color name and number.

STANDARD SPOOL PUT-UP: CUT TO SPECIFIC LENGTHS.



<b>PRICES</b>			
Alpha No.	Sugg. Resale per 1000'		
3302	92.57	4108	1.09
3303	120.51	4110	1.20
3304	141.57	4112	1.45
3306	174.24	4114	1.64
3308	206.91	4116	1.82
3310	250.47	4202	.40
3312	290.40	4203	.65
3315	348.48	4119	2.04
3320	462.83	4121	2.32
3405	344.85	4122	2.43
3410	588.06	4124	2.51
3415	813.12	4126	2.76
3420	1052.70	4130	3.12
3430	1524.60	4137	3.45
4102	.33	4140	3.82
4103	.65	4150	4.72
4105	.80	4160	5.81
4106	.87	4204	.80
4107	.98	4205	1.01
4206	1.06	4306	1.34
4207	1.09	4307	1.49
4208	1.28	4308	1.73
4209	1.45	4309	1.82
4210	1.60	4310	2.04
4212	1.89	4312	2.46
4214	2.29	4314	2.65
4216	2.57	4315	3.27
4219	2.83	4316	3.41
4224	3.92	4318	3.62
4227	4.18	4319	3.73
4230	4.64	4320	3.99
4234	5.23	4322	4.36
4237	5.48	4325	5.05
4240	7.08	4327	5.43
4302	.47	4330	5.81
4303	.73	4334	6.53
4304	.88	4337	7.17
4305	1.17		



### SHIELDED CONTROL CABLE

#### HEAVY-DUTY MULTI-CONDUCTOR RUGGED NEOPRENE JACKET

DESCRIPTION: Each conductor stranded tinned copper, color coded rubber insulation, cabled with fillers where necessary, cotton wrap, braided tinned copper shield, cotton wrap, rugged black neoprene jacket overall.

CHARACTERISTICS: Operating Temperature: 20 C to - 60 C.

#### #18 GAUGE CABLE

ALPHA NO.	NO. OF COND.	SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1450	2	18	41 34	.020"	.035"	.295"
1451	3	18	41 34	.020"	.035"	.305"
1452	4	18	41 34	.020"	.035"	.330"
1454	6	18	41 34	.020"	.035"	.370"
1456	8	18	41 34	.020"	.035"	.420"
1458	10	18	41 34	.020"	.035"	.480"
1459	12	18	41 34	.020"	.065"	.555"
1459 15	15	18	41 34	.020"	.065"	.640"
1459 20	20	18	41 34	.020"	.065"	.730"

#### #16 GAUGE CABLE

ALPHA NO.	NO. OF COND.	SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1450 16	2	16	65 34	.025"	.035"	.335"
1451 16	3	16	65 34	.025"	.035"	.355"
1452 16	4	16	65 34	.025"	.035"	.385"
1454 16	6	16	65 34	.025"	.040"	.445"
1456 16	8	16	65 34	.025"	.040"	.510"
1458 16	10	16	65 34	.025"	.040"	.575"

#### #14 GAUGE CABLE

ALPHA NO.	NO. OF COND.	SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1400	2	14	41 30	.030"	.040"	.395"
1401	3	14	41 30	.030"	.040"	.425"
1402	4	14	41 30	.030"	.040"	.455"
1404	6	14	41 30	.030"	.040"	.515"

#### #12 GAUGE CABLE

ALPHA NO.	NO. OF COND.	SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1410	2	12	65 30	.030"	.040"	.440"
1411	3	12	65 30	.030"	.040"	.465"
1412	4	12	65 30	.030"	.040"	.505"

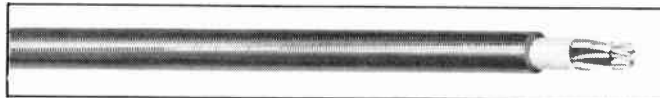
#### #10 GAUGE CABLE

ALPHA NO.	NO. OF COND.	SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1420	2	10	105 30	.030"	.040"	.495"
1421	3	10	105 30	.030"	.040"	.520"

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS

1—Black	11—White Black (Braid)
2—White	12—White Red (Braid)
3—Red	13—White Green (Braid)
4—Green	14—White Yellow (Braid)
5—Yellow	15—White Blue (Braid)
6—Blue	16—White Brown (Braid)
7—Brown	17—White Purple (Braid)
8—Orange	18—White Slate (Braid)
9—Slate	19—Black Red (Braid)
10—Purple	20—Black Yellow (Braid)



### UNSHIELDED CONTROL CABLE

#### HEAVY-DUTY MULTI-CONDUCTOR RUGGED NEOPRENE JACKET—600 VOLTS

DESCRIPTION: Each conductor stranded bare copper, color coded rubber insulation, cabled with fillers where necessary, wrap over conductors, heavy duty black neoprene jacket overall. 600 volt operating voltage.

APPLICATIONS: Remote control of automatic electrical equipment and sub-stations, tele-metering, voltage pressure and motor control, signal transmission. Flexible heavy duty neoprene jacketed cable, recommended for outside installation, cable resists oil, ozone, sunlight, moisture, abrasion and impact.

#### 18 GAUGE # 41 34 BARE COPPER — 1 32" INSULATION THICKNESS

ALPHA NO.	NO. OF COND.	NOM. JKT. THICKNESS	NOM. O.D.
4505	5	.045"	.500"
4506	6	.045"	.540"
4507	7	.045"	.580"
4508	8	.045"	.610"
4509	9	.060"	.640"
4510	10	.060"	.730"
4514	14	.060"	.810"

ALPHA NO.	NO. OF COND.	NOM. JKT. THICKNESS	NOM. O.D.
4520	20	.060"	.965"
4526	26	.080"	1.04"
4530	30	.080"	1.10"
4540	40	.080"	1.25"
4550	50	.080"	1.35"
4560	60	.080"	1.50"

#### 16 GAUGE # 65 34 BARE COPPER — 1 32" INSULATION THICKNESS

ALPHA NO.	NO. OF COND.	NOM. JKT. THICKNESS	NOM. O.D.
4605	5	.045"	.530"
4606	6	.045"	.580"
4607	7	.045"	.620"
4608	8	.060"	.660"
4610	10	.060"	.790"
4612	12	.060"	.811"
4614	14	.060"	.844"
4616	16	.060"	.875"
4619	19	.060"	.995"
4620	20	.060"	1.02"

ALPHA NO.	NO. OF COND.	NOM. JKT. THICKNESS	NOM. O.D.
4622	22	.080"	1.065"
4624	24	.080"	1.11"
4626	26	.080"	1.156"
4630	30	.080"	1.194"
4637	37	.080"	1.290"
4640	40	.080"	1.340"
4644	44	.080"	1.420"
4650	50	.080"	1.520"
4660	60	.080"	1.610"

#### 14 GAUGE # 105 34 BARE COPPER — 3 64" INSULATION THICKNESS

ALPHA NO.	NO. OF COND.	NOM. JKT. THICKNESS	NOM. O.D.
4705	5	.095"	.700"
4706	6	.095"	.765"
4707	7	.095"	.820"
4708	8	.095"	.882"

ALPHA NO.	NO. OF COND.	NOM. JKT. THICKNESS	NOM. O.D.
4709	9	.095"	.930"
4710	10	.095"	.970"
4712	12	.110"	1.018"

#### 12 GAUGE # 165 34 BARE COPPER — 3 64" INSULATION THICKNESS

ALPHA NO.	NO. OF COND.	NOM. JKT. THICKNESS	NOM. O.D.
4805	5	.095"	.760"
4806	6	.095"	.810"
4807	7	.095"	.870"
4808	8	.110"	.945"
4809	9	.110"	1.02"

ALPHA NO.	NO. OF COND.	NOM. JKT. THICKNESS	NOM. O.D.
4810	10	.110"	1.10"
4812	12	.110"	1.22"
4816	16	.110"	1.36"
4818	18	.125"	1.50"

STANDARD SPOOL PUT-UP: CUT TO SPECIFIC LENGTHS.

COLOR CODE: The color code of neoprene jacketed control cables conforms to IPCEA standards either with full color code or surface printed with color name and number.

## PRICES

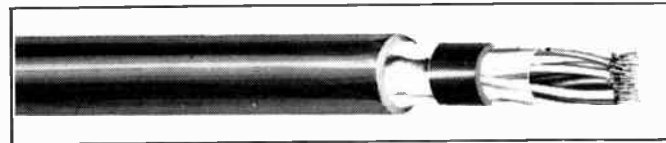
Alpha No.	Sugg. Resale per 1000'	Alpha No.	Sugg. Resale per ft.	Alpha No.	Sugg. Resale per ft.	Alpha No.	Sugg. Resale per ft.
1450	183.65	1404	870.00	4608	1.64	4644	9.80
1451	308.55	1410	711.48	4610	2.07	4650	10.71
1452	384.78	1411	889.35	4612	2.46	4660	12.71
1454	562.65	1412	1110.78	4614	2.87	4705	1.49
1456	744.15	1420	925.65	4616	3.12	4706	1.82
1458	936.54	1421	1161.60	4619	3.88	4707	1.96
1459	1306.80			4620	4.03	4708	2.43
1459/15	1631.85	Alpha No.	Sugg. Resale per ft.	4526	3.38	4709	2.76
1459/20	1821.60	4505	.91	4530	4.61	4710	3.01
1450/16	323.07	4506	1.08	4540	5.34	4712	3.55
1451/16	399.30	4507	1.23	4550	7.48	4805	1.82
1452/16	457.38	4508	1.42	4560	9.26	4806	2.07
1454/16	715.11	4509	1.64	4622	10.42	4807	2.32
1456/16	900.24	4510	1.85	4624	4.36	4808	2.65
1458/16	1361.25	4514	2.46	4626	4.94	4809	3.12
1400	417.45	4605	1.01	4630	5.34	4810	3.41
1401	517.28	4606	1.17	4637	6.25	4812	4.07
1402	617.10	4607	1.38	4640	7.88	4816	5.12
					8.71	4818	5.73



# Telemetering & Supervisory Shielded Control Cable

**DESCRIPTION:** Each conductor bare solid copper, high molecular weight polyethylene insulation, color coded, twisted into pairs, cabled with a non-hygroscopic binder tape .008" aluminum shield, black polyethylene jacket overall. Operating voltage 300 volts.  
Double jacketed types, (3903-4060 below) same except for additional inner black polyethylene jacket over binder, and .005" copper shield.

**APPLICATIONS:** Remote control of rocket recording data and test-firing control, transmission of signals which telemeter temperature, voltage pressure, etc. control of multi-circuits, measuring devices, quality control equipment, radar antenna. For aerial, duct and conduit installations.  
Double jacketed types have higher dielectric strength and suited for direct burial installations.



### 22 AWG SOLID

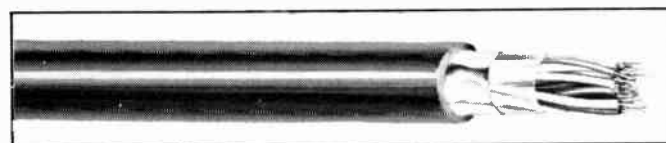
ALPHA NO.	NO. OF PAIRS	NOM. INSUL. THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.	APPROX. LBS./M'
■ 3703	3	.015"	.045"	.39"	88
3706	6	.015"	.045"	.47"	108
3712	12	.015"	.060"	.59"	171
3718	18	.015"	.060"	.67"	210
3725	25	.015"	.060"	.76"	266
3750	50	.015"	.060"	1.10"	510
■ 3755	100	.015"	.060"	1.28"	815
■ 3760	200	.015"	.060"	1.83"	1490

### 19 AWG SOLID

■ 3803	3	.015"	.045"	.42"	90
3806	6	.015"	.045"	.52"	140
3812	12	.015"	.060"	.66"	232
3818	18	.015"	.060"	.76"	301
3825	25	.015"	.060"	.92"	426
3850	50	.015"	.060"	1.20"	767
■ 3855	100	.015"	.060"	1.58"	830
■ 3860	200	.015"	.060"	2.17"	1520

### 16 AWG SOLID

■ 3863	3	.020"	.060"	.56"	160
■ 3864	6	.020"	.060"	.69"	240
■ 3865	12	.020"	.060"	.88"	400
■ 3866	18	.020"	.070"	1.04"	560
■ 3867	25	.020"	.070"	1.18"	720
■ 3868	50	.020"	.080"	1.62"	1350



### DOUBLE JACKET — HEAVY DUTY

#### 22 AWG SOLID

ALPHA NO.	NO. OF PAIRS	NOM. INSUL. THICKNESS	NOM. JKT. THICKNESS INNER	NOM. JKT. THICKNESS OUTER	NOM. O.D.	APPROX. LBS./M'
■ 3903	3	.015"	.047"	.045"	.43"	90
3906	6	.015"	.047"	.045"	.57"	149
3912	12	.015"	.047"	.060"	.69"	226
3918	18	.015"	.047"	.060"	.77"	281
3925	25	.015"	.047"	.080"	.92"	374
3950	50	.015"	.047"	.080"	1.20"	645
■ 3955	100	.015"	.047"	.080"	1.39"	830
■ 3960	200	.015"	.047"	.080"	1.91"	1580

### 19 AWG SOLID

■ 4003	3	.015"	.047"	.060"	.47"	110
4006	6	.015"	.047"	.060"	.62"	200
4012	12	.015"	.047"	.060"	.76"	297
4018	18	.015"	.047"	.060"	.92"	415
4025	25	.015"	.047"	.080"	1.00"	558
4050	50	.015"	.047"	.080"	1.30"	929
■ 4055	100	.015"	.047"	.080"	1.65"	1380
■ 4060	200	.015"	.047"	.080"	2.23"	2570

STANDARD PUT-UP: CUT TO SPECIFICATION — MIN. 25 FT.

**BINDER COLORS:** 1- 25 pair, white-blue binder; 25- 50, white-orange; 50- 75, white-green; 75- 100, white-black; 100- 125, white-slate; 125- 150, red-blue; 150- 175, red-orange; 175- 200, red-green. (Color code per IPCEA.)

# Shielded Control Cable



### GENERAL PURPOSE MULTI-CONDUCTOR RUBBER INSULATED AND RUBBER JACKET

**DESCRIPTION:** Each conductor, stranded tinned copper, color coded rubber insulation, cabled with fillers where necessary, cotton wrap, braided tinned copper shield, cotton wrap, tough black rubber jacket overall.

**CHARACTERISTICS:** Suggested Operating Temperature: -20°C to +60°C.

**APPLICATIONS:** Cables are extremely flexible for control circuits, video and audio interconnecting cable, broadcast and heavy duty studio use.

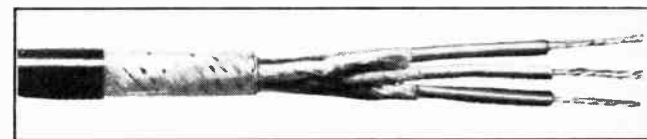
#### SHIELDED MULTI-CONDUCTOR CABLE

ALPHA NO.	NO. OF COND.	SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1250 18	2	18	41 34	.020"	.035"	.295"
1250	2	20	26 34	.020"	.035"	.270"
1251	3	20	26 34	.020"	.035"	.285"
1252	4	20	26 34	.020"	.035"	.305"
1253	5	20	26 34	.020"	.035"	.330"
1254	6	20	26 34	.020"	.035"	.345"
1255	7	20	26 34	.020"	.035"	.355"
1255 8	8	20	26 34	.020"	.035"	.385"
1255 10	10	20	26 34	.020"	.035"	.440"
1255 12	12	20	26 34	.020"	.065"	.525"
1255 15	15	20	26 34	.020"	.065"	.595"
1255 20	20	20	26 34	.020"	.065"	.660"

STANDARD SPDDL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

See color code of conductors below

# Unshielded Control Cable



### GENERAL PURPOSE MULTI-CONDUCTOR RUBBER INSULATED AND RUBBER JACKET

**DESCRIPTION:** Each conductor stranded tinned copper, color coded rubber insulation, cabled with fillers, where necessary, cotton wrap, tough black rubber jacket overall.

**CHARACTERISTICS:** Suggested operating temperature -20°C to +60°C.

ALPHA NO.	NO. OF COND.	SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1244	2	20	26 34	.020"	.035"	.240"
1245	3	20	26 34	.020"	.035"	.255"
1246	4	20	26 34	.020"	.035"	.275"
1247	5	20	26 34	.020"	.035"	.300"
1247 6	6	20	26 34	.020"	.035"	.315"
1247 7	7	20	26 34	.020"	.035"	.325"
1247 8	8	20	26 34	.020"	.035"	.360"
1247 10	10	20	26 34	.020"	.035"	.410"
1247 12	12	20	26 34	.020"	.035"	.435"
1247 15	15	20	26 34	.020"	.035"	.505"
1247 20	20	20	26 34	.020"	.035"	.570"

STANDARD SPDDL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

#### COLOR CODE OF CONDUCTORS

1—Black 5—Yellow 9—Slate 13—White Green (Braid) 17—White Purple (Braid)  
2—White 6—Blue 10—Purple 14—White Yellow (Braid) 18—White Slate (Braid)  
3—Red 7—Brown 11—White Black (Braid) 15—White Blue (Braid) 19—Black Red (Braid)  
4—Green 8—Orange 12—White Red (Braid) 16—White Brown (Braid) 20—Black Yellow (Braid)

## PRICES

Alpha No	Sugg. Retail per ft		Sugg. Retail per 500'		
3703	74	3850	334	3925	
3706	73	3855	970	3950	
3712	98	3860	1895	3955	
3718	120	3863	112	3960	
3725	155	3864	176	4003	
3750	246	3865	353	4006	
3755	584	3866	453	4012	
3760	1375	3867	807	4018	
3803	86	3868	807	4025	
3806	91	3903	71	4050	
3812	123	3906	91	4055	
3818	156	3912	117	4060	
3825	196	3918	145		
1250 18	79.70	1255 10	263.18	1247 6	94.38
1250	47.85	1255 12	363.00	1247 7	103.46
1251	53.63	1255 15	471.90	1247 8	114.35
1252	62.30	1255 20	589.88	1247 10	199.65
1253	79.86	1244	47.73	1247 12	272.25
1254	98.60	1245	51.00	1247 15	399.30
1255	104.70	1246	61.17	1247 20	544.50
1255/8	121.50	1247	78.05		



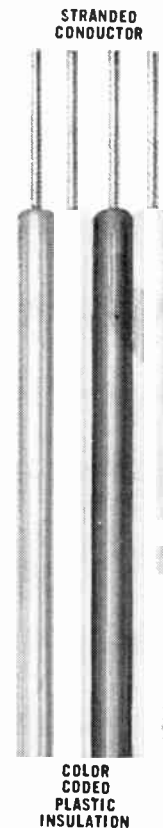
# Flat Ribbon Cable

MULTI-CONDUCTOR — PLASTIC INSULATION  
CONDUCTORS PER MIL-W-16878D, Type C

**DESCRIPTION:** Each conductor stranded tinned copper, color coded .016" polyvinylchloride insulation, conductors bonded together to form flat ribbon cable.

**CHARACTERISTICS:** Temperature rating -55°C to +105°C. Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus.

**APPLICATIONS:** Saves time, weight, and space on circuit connections, interconnecting assemblies and systems, wiring harnesses for racks, sliding drawer and drop panels. Conductors fully color coded and easily separated for neat terminations.



ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOMINAL O.D.
3504	4	22	7/30	.016"	.065" x .260"
3508	8	22	7/30	.016"	.065" x .520"
3512	12	22	7/30	.016"	.065" x .780"
3516	16	22	7/30	.016"	.065" x 1.040"
3520	20	22	7/30	.016"	.065" x 1.300"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

**COLOR CODE OF CONDUCTORS**

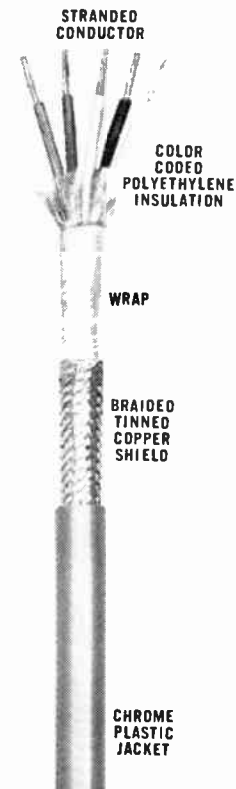
- 1—White
- 2—Black
- 3—Red
- 4—Green
- 5—Yellow
- 6—Light Blue
- 7—Brown
- 8—Orange
- 9—Gray (slate)
- 10—Violet (purple)
- 11—White/Black
- 12—White/Red
- 13—White/Green
- 14—White/Yellow
- 15—White/Blue
- 16—White/Brown
- 17—White/Orange
- 18—White/Gray
- 19—White/Violet
- 20—White/Black/Red

# Shielded Control Cable

GENERAL PURPOSE MULTI-CONDUCTOR  
PLASTIC JACKETED CABLE

**DESCRIPTION:** Each conductor, stranded tinned copper, color coded, polyethylene insulation, cabled with fillers where necessary, rayon wrap, braided tinned copper shield, chrome gray polyvinylchloride jacket overall.

**CHARACTERISTICS:** Suggested Operating Temperature: -20°C to +60°C. Suggested Operating Voltage: 600 Volts.



ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1712	2	20	26/34	.014"	.030"	.230"
1713	3	20	26/34	.014"	.035"	.250"
1715	4	20	26/34	.014"	.035"	.260"
1716	5	20	26/34	.014"	.035"	.275"
1717	6	20	26/34	.014"	.035"	.300"
1719	8	20	26/34	.014"	.035"	.330"
1721	10	20	26/34	.014"	.035"	.375"
1723	12	20	26/34	.014"	.035"	.380"
1726	15	20	26/34	.014"	.035"	.410"
1728	20	20	26/34	.014"	.035"	.455"

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

**COLOR CODE OF CONDUCTORS**

- 1—Black
- 2—White
- 3—Red
- 4—Green
- 5—Yellow
- 6—Blue
- 7—Brown
- 8—Orange
- 9—Slate
- 10—Purple
- 11—White/Black
- 12—White/Red
- 13—White/Green
- 14—White/Yellow
- 15—White/Blue
- 16—White/Brown
- 17—White/Purple
- 18—White/Slate
- 19—Black/Red
- 20—Black/Yellow



PRICES			
Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'
3504	47.22	3520	235.95
3508	85.85	1712	42.65
3512	133.22	1713	42.90
3516	190.58	1715	49.92
		1716	56.10
		1717	114.35
		1719	143.39
		1721	181.50
		1723	275.88
		1726	443.85
		1728	544.50

## Shielded Microphone Cable



### PLASTIC JACKET

**DESCRIPTIDN:** 1702-1706: Single conductor, stranded tinned copper, white polyethylene insulation, braided or spiral wrapped tinned copper shield, gray polyvinylchloride jacket overall.

1709-1712: Each conductor stranded tinned copper, color coded polyethylene insulation, cabled with fillers, textile wrap, braided or spiral wrapped tinned copper shield, gray polyvinylchloride jacket overall.

**APPLICATIONS:** 1702-1706: All high impedance microphones, lapel, ribbon, velocity, crystal contact, hi-fi interconnecting cables.

1709-1712: All low impedance microphones—carbon, condenser, dynamic.

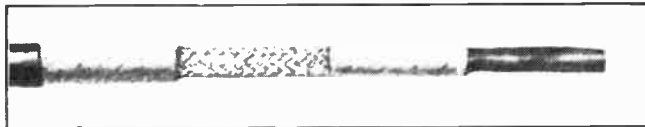
**CHARACTERISTICS:** Suggested operating temperature: 20 C to -60°C.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	*CAPACITY NOM./FT.	SUG. WORK. VOLTAGE	TYPE OF SHIELD	NOM. JKT THICKNESS	NOM. O.D.
1702	1	26	3/34†	.016"	38 mmf.	1000	Spiral Wrapped	.020"	.110"
1703	1	24	10/34	.020"	35 mmf.	3500	Braided	.030"	.145"
1704	1	24	10/34	.040"	23 mmf.	5000	Braided	.030"	.190"
1705	1	24	10/34	.016"	45 mmf.	1000	Spiral Wrapped	.020"	.110"
1706	1	20	26/34	.030"	36 mmf.	4000	Braided	.030"	.175"
1709	2	24	10/34	.016"	38 mmf.	1000	Spiral Wrapped	.030"	.190"
1710	2	22	16/34	.025"	31 mmf.	1000	Braided	.025"	.230"
1712	2	20	26/34	.014"	45 mmf.	600	Braided	.030"	.245"

**STANDARD SPDDL PUT-UP:** 100 FT., 250 FT., 500 FT., 1000 FT.

\* Between one conductor and remaining conductors connected to shield.  
† Three strands of tinned copper and four strands of tinned copperweld.

**COLOR CODE OF CONDUCTORS**  
1—White 2—Black



### RUBBER AND NEOPRENE JACKETS

**DESCRIPTIDN:** Each conductor stranded tinned copper, color coded rubber insulation, cotton wrap, braided tinned copper shield, cotton wrap, tough black rubber or neoprene jacket overall.

**APPLICATIONS:** 1248-1449: All high impedance microphone, broadcast and heavy duty studio use, communication and audio systems.

1250-1450 16: All low impedance microphone, broadcast and heavy duty studio use. Can also be used for control circuits, video and audio interconnection cable, and as electronic power cables.

**CHARACTERISTICS:** Suggested operating temperature: 20 C to -60 C.

Rubber jacketed cable suited for standard duty indoor use.

Neoprene jacketed cable suited for heavy duty outdoor use and direct burial. Will resist oil, acid, sunlight, ageing and abrasion.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	TYPE OF JKT.	*NOM. CAP. MMF./FT.	NOM. O.D.
1248†	1	20	26/34	.025"	.030"	Rubber	97	.190"
1249	1	20	26/34	.040"	.035"	Rubber	60	.230"
1249/18	1	18	41/34	.040"	.035"	Rubber	69	.240"
1449	1	18	41/34	.040"	.035"	Neoprene	69	.240"
1250	2	20	26/34	.020"	.035"	Rubber	68	.270"
1250/18	2	18	41/34	.020"	.035"	Rubber	78	.295"
1450	2	18	41/34	.020"	.035"	Neoprene	78	.295"
1450/16	2	16	65/34	.025"	.035"	Neoprene	82	.335"

**STANDARD SPDDL PUT-UP:** 100 FT., 250 FT., 500 FT., 1000 FT.

\* Between one conductor and remaining conductors (if any) connected to shield.  
† Mylar wrap under tinned copper-shield.

**COLOR CODE OF CONDUCTORS**  
1—Black 2—White

Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'
1702	16.50	1706	34.13	1248	44.15	1250	47.85
1703	15.69	1709	39.50	1249	44.55	1250/18	79.70
1704	21.45	1710	31.19	1249/18	69.30	1450	93.56
1705	19.05	1712	-42.65	1449	73.20	1450/16	172.43

### PRICES

## Low Capacitance Shielded Microphone Cable



### CELLULAR FOAM POLYETHYLENE INSULATION — PLASTIC JACKET

**DESCRIPTION:** Single conductor, stranded tinned copper, white foam polyethylene insulation, braided tinned copper shield, chrome gray polyvinylchloride jacket.

Two conductors, stranded tinned copper, color coded foam polyethylene insulation, 1 white and 1 black, cabled with fillers, textile wrap, braided tinned copper shield, chrome gray polyvinylchloride jacket.

**CHARACTERISTICS:** Suggested operating temperature: 20°C to -60°C. Low loss foam polyethylene provides lower capacitance and attenuation than standard solid polyethylene microphone cables, thereby increasing the effective length of usable cable without loss of signal.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	*CAPACITY NOM./FT.	NOM. JKT. THICKNESS	NOM. O.D.
2310	1	26	3/34†	.016"	30 mmf.	.020"	.115"
2311	1	24	10/34	.035"	20 mmf.	.030"	.180"
2312	1	24	10/34	.055"	15 mmf.	.030"	.225"
2323	2	22	16/34	.035"	11 mmf.	.030"	.300"

**STANDARD SPDDL PUT-UP:** 100 FT., 250 FT., 500 FT., 1000 FT.

\* Between one conductor and remaining conductors connected to shield.  
† Three strands of tinned copper and four strands of tinned copperweld

**COLOR CODE OF CONDUCTORS**  
1—White 2—Black

## E-Z-Strip Lamp Cord



### U.L. APPROVED

**DESCRIPTIDN:** Conductors parallel, stranded extra flexible bare copper, rubber or polyvinylchloride jacket overall. Split in jacket to permit "E-Z" separation.

**APPLICATIONS:** For line cord on radios, lamps, electric clocks, food mixers and other small instruments and appliances.

**CHARACTERISTICS:** Suggested operating temperature: -20°C to +60°C. Suggested operating voltage: 300 volts.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	INSUL. TYPE	NOM. WALL THICKNESS	U/L TYPE	NOMINAL O.D.	STOCK COLORS
1967	2	18	41/34	Rubber	.032"	SP-1(POSJ)	.220" x .120"	Brown, Black, White
1977	2	18	41/34	Plastic	.032"	SPT-1(POT)	.215" x .115"	Brn., Blk., Wh., Gray, Tan
1978	2	18	41/34	Plastic	.045"	SPT-2(POT)	.285" x .150"	Brown
1979	2	18	41/34	Plastic	.032"	SPT-1(POT)	.215" x .115"	Clear
1982	2	16	65/34	Plastic	.045"	SPT-2(POT)	.300" x .160"	Brown

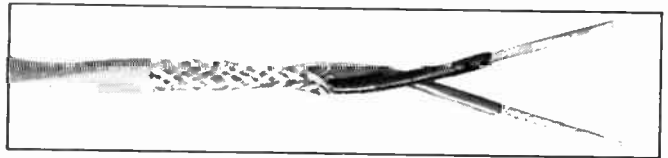
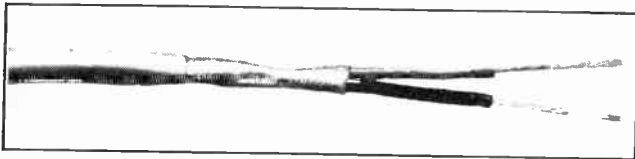
**STANDARD SPDDL PUT-UP:** 100 FT., 250 FT., 500 FT., 1000 FT.

### PRICES

Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 250'	Alpha No.	Sugg. Resale per 250'
2310	25.41	2312	38.66	1967	8.01	1978	12.26
2311	30.30	2323	66.71	1977	6.27	1979	9.98
						1982	17.42



# Shielded Plastic Jacketed Cable



## SPIRAL WRAPPED COPPER SHIELD

**DESCRIPTION:** Each conductor stranded or solid tinned copper, color coded polyvinylchloride insulation, conductors twisted, spiral wrapped copper shield, gray polyvinylchloride jacket overall. Nominal jacket thickness .020".

**CHARACTERISTICS:** Use of spiral shield makes pigtail off extremely simple and fast. Excellent for production line work. Provides close to 100% shielded coverage for audio and RF frequencies. Suggested operating temperature: 20°C to +60°C.

## BRAIDED COPPER SHIELD

**DESCRIPTION:** Each conductor tinned copper, color coded polyvinylchloride insulation, conductors twisted, braided copper shield, gray polyvinylchloride jacket overall. Suitable for outdoor installations.

**CHARACTERISTICS:** A conventional type of braided shield providing approximately 75% coverage is particularly desirable where flexibility is required. The copper shield allows ease of pigtail soldering. Shield construction provides additional cable strength. Operating temperature: -20°C to +60°C. Nominal jacket thickness .020".

**APPLICATIONS:** For public address and sound systems, ideal for recording studios, amateur radio transmitters, shielded power or electronic circuits, wherever an economical shielded cable is required.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOM. O.D.	SUGG. WORKING VOLTAGE
2255	2	22	Solid	.016"	.170"	350V
2254/1	1	22	7/30	.016"	.115"	350V
2254	2	22	7/30	.016"	.175"	350V
2254/3	3	22	7/30	.016"	.190"	350V
2254/4	4	22	7/30	.016"	.200"	350V
2254/6	6	22	7/30	.016"	.235"	350V
2256/1	1	20	10/30	.016"	.130"	350V
2256	2	20	10/30	.016"	.195"	350V
2256/3	3	20	10/30	.016"	.210"	350V
2256/4	4	20	10/30	.016"	.225"	350V
2256/6	6	20	10/30	.016"	.265"	350V
2258/1	1	18	16/30	.016"	.135"	350V
2258	2	18	16/30	.016"	.230"	350V
2258/3	3	18	16/30	.016"	.235"	350V
2258/4	4	18	16/30	.016"	.245"	350V
2260	2	16	26/30	.016"	.240"	350V
2260/3	3	16	26/30	.016"	.245"	350V
2265	2	14	41/30	.020"	.285"	450V
2265/3	3	14	41/30	.020"	.290"	450V
2268	2	12	65/30	.020"	.325"	450V
2268/3	3	12	65/30	.020"	.330"	450V

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.  
 COLOR CODE OF CONDUCTORS  
 1—Black 2—Red 3—White 4—Green 5—Yellow 6—Blue

Alpha No.	Sugg. Retail per 500'	PRICES					
2255	14.33						
2254/1	16.14						
2254	16.10	2256/1	18.24	2258 1	21.33	2260 3	66.24
2254/3	26.31	2256 3	19.64	2258 2	23.76	2265 3	68.97
2254/4	41.75	2256/4	29.04	2258 3	29.93	2265 3	116.16
2254/6	65.34	2256/6	61.71	2258/4	70.79	2268	125.24
			81.68	2260	32.67	2268.3	192.39

**STRANDED**

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOM. O.D.	SUGG. WORKING VOLTAGE
1735	1	22	7/30	.016"	.125"	350V
1736	2	22	7/30	.016"	.185"	350V
1737	3	22	7/30	.016"	.200"	350V
1738	4	22	7/30	.016"	.210"	350V
1740	1	20	10/30	.016"	.135"	350V
1741	2	20	10/30	.016"	.200"	350V
1742	3	20	10/30	.016"	.220"	350V
1743	4	20	10/30	.016"	.230"	350V
1745	1	18	16/30	.016"	.145"	350V
1746	2	18	16/30	.016"	.235"	350V
1747	3	18	16/30	.016"	.245"	350V
1747/4	4	18	16/30	.016"	.255"	350V
1748	2	16	26/30	.016"	.250"	350V
1749	3	16	26/30	.016"	.255"	350V
1750	2	14	41/30	.020"	.290"	450V
1751	3	14	41/30	.020"	.295"	450V
1760	2	12	65/30	.020"	.335"	450V
1761	3	12	65/30	.020"	.340"	450V

**SOLID**

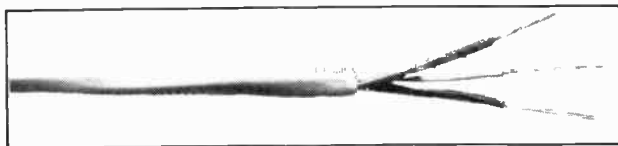
ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOM. O.D.	SUGG. WORKING VOLTAGE
1775*	2	22	1	.016"	.175"	350V
1779	2	20	1	.016"	.210"	350V
1783	2	18	1	.016"	.220"	350V

\*With 22 AWG solid tinned copper ground wire under braided copper shield.

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.  
 COLOR CODE OF CONDUCTORS 1—Black 2—Red 3—White 4—Green

Alpha No	Sugg. Retail per 500'	PRICES					
1735	22.86						
1736	24.26						
1737	32.91	1742	44.18	1747 4	81.86	1760	124.74
1738	43.65	1743	62.88	1748	60.21	1761	169.79
1740	25.73	1745	30.14	1749	81.86	1775	21.45
1741	34.91	1746	41.84	1750	79.70	1779	33.87
		1747	59.60	1751	113.04	1783	41.22

# Unshielded Audio Cable



## MULTI-CONDUCTOR — PLASTIC JACKET

**DESCRIPTION:** Each conductor stranded tinned copper, color coded polyvinylchloride insulation, conductors twisted, gray polyvinylchloride jacket overall. Suitable for outdoor installations.

**APPLICATIONS:** Unbalanced intercom systems. Low voltage relay control cable. P.A. systems. Electronic computer cable. Interconnecting cables. Remote control circuits. Telephones. Telemetering connecting cable. "Baby Sitter" intercom.

**CHARACTERISTICS:** Suggested Operating Temperature: 20 C to -60 C.

### 200 VOLTS STRANDED CONDUCTORS

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1172	2	22	7/30	.010"	.020"	.140"
1173	3	22	7/30	.010"	.020"	.145"
1174	4	22	7/30	.010"	.020"	.170"
1175	5	22	7/30	.010"	.020"	.175"
1176	6	22	7/30	.010"	.020"	.185"
1177	7	22	7/30	.010"	.020"	.190"
1178	8	22	7/30	.010"	.020"	.200"
1179	9	22	7/30	.010"	.020"	.225"
1180	10	22	7/30	.010"	.020"	.235"
1181	12	22	7/30	.010"	.020"	.255"
1181/15	15	22	7/30	.010"	.020"	.280"
1181/20	20	22	7/30	.010"	.020"	.310"
1181/25	25	22	7/30	.010"	.020"	.340"
1181/30	30	22	7/30	.010"	.020"	.365"
1181/40	40	22	7/30	.010"	.025"	.425"
1181/50	50	22	7/30	.010"	.035"	.500"
1181/60	60	22	7/30	.010"	.035"	.530"

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

### 300 VOLTS STRANDED CONDUCTORS

ALPHA NO.	NO.	SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1897	2	18	16/30	.016"	.020"	.200"
1898	3	18	16/30	.016"	.020"	.210"
1898/4	4	18	16/30	.016"	.020"	.240"
1898/6	6	18	16/30	.016"	.020"	.290"
1898/8	8	18	16/30	.016"	.025"	.315"
1898/10	10	18	16/30	.016"	.025"	.370"
1898/12	12	18	16/30	.016"	.025"	.385"

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

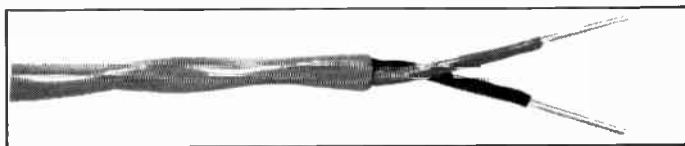
### 300 VOLTS SOLID CONDUCTORS

ALPHA NO.	CONDUCTOR NO.	SIZE	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1797	2	18	.016"	.020"	.190"
1798	3	18	.016"	.020"	.200"
1798/4	4	18	.016"	.020"	.220"
1798/5	5	18	.016"	.020"	.235"
1798/6	6	18	.016"	.020"	.265"

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

#### COLOR CODE OF CONDUCTORS

1—Black	21—White Brown	41—White Green Red
2—Red	22—White Orange	42—White Green Green
3—White	23—White Gray	43—White Green Blue
4—Green	24—White Violet	44—White Green Brown
5—Orange	25—White Black Red	45—White Green Purple
6—Blue	26—White Black Green	46—White Blue Black
7—Brown	27—White Black Yellow	47—White Blue Red
8—Yellow	28—White Black Blue	48—White Blue Green
9—Pink	29—White Black Brown	49—White Blue Blue
10—Slate	30—White Black Orange	50—White Blue Brown
11—Tan	31—White Black Slate	51—White Blue Purple
12—Tan	32—White Black Purple	52—White Brown Black
13—Red Green	33—White Black Black	53—White Brown Red
14—Red Yellow	34—White Red Black	54—White Brown Green
15—Red Black	35—White Red Red	55—White Brown Blue
16—White Black	36—White Red Green	56—White Brown Purple
17—White Red	37—White Red Blue	57—White Purple Red
18—White Green	38—White Red Brown	58—White Purple Green
19—White Yellow	39—White Red Purple	59—White Purple Blue
20—White Blue	40—White Green Black	60—White Purple Blue



## MULTI-CONDUCTOR — PLASTIC JACKET

**DESCRIPTION:** Each conductor tinned copper, color coded polyvinylchloride insulation, conductors twisted, gray polyvinylchloride jacket overall. Suitable for outdoor installations.

**APPLICATIONS:** Intercoms. Interconnecting cables. Remote control circuits. Telephones. Telemetering connecting cable. "Baby Sitter" intercom.

**CHARACTERISTICS:** Suggested Operating Temperature: 20°C to +60°C

### SOLID

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOMINAL JACKET	NOMINAL O.D.	SUGG. OPER. VOLTAGE
1793	2	22	1	.010"	.020"	.130"	200 V
1794	3	22	1	.010"	.020"	.140"	200 V
1794/4	4	22	1	.010"	.020"	.160"	200 V
1795	2	20	1	.016"	.020"	.170"	350 V
1796	3	20	1	.016"	.020"	.180"	350 V
1796/4	4	20	1	.016"	.020"	.200"	350 V
1797	2	18	1	.016"	.020"	.190"	350 V
1798	3	18	1	.016"	.020"	.200"	350 V
1798/4	4	18	1	.016"	.020"	.220"	350 V
1799	2	16	1	.016"	.020"	.215"	350 V
1799/3	3	16	1	.016"	.020"	.230"	350 V
1799/4	4	16	1	.016"	.020"	.250"	350 V

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT

COLOR CODE OF CONDUCTORS: 1—Black 2—Red 3—White 4—Green

### STRANDED

1893	2	22	7/30	.010"	.020"	.135"	200 V
1894	3	22	7/30	.010"	.020"	.145"	200 V
1894/4	4	22	7/30	.010"	.020"	.170"	200 V
1895	2	20	10/30	.016"	.020"	.180"	350 V
1896	3	20	10/30	.016"	.020"	.195"	350 V
1896/4	4	20	10/30	.016"	.020"	.215"	350 V
1897	2	18	16/30	.016"	.020"	.200"	350 V
1898	3	18	16/30	.016"	.020"	.210"	350 V
1898/4	4	18	16/30	.016"	.020"	.240"	350 V
1899	2	16	26/30	.016"	.020"	.225"	350 V
1899/3	3	16	26/30	.016"	.020"	.245"	350 V
1899/4	4	16	26/30	.016"	.020"	.270"	350 V
1891	2	14	41/30	.016"	.020"	.260"	350 V
1891/3	3	14	41/30	.016"	.020"	.280"	350 V
1892	2	12	65/30	.016"	.020"	.300"	350 V
1892/3	3	12	65/30	.016"	.020"	.320"	350 V

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS: 1—Black 2—Red 3—White 4—Green

## PRICES

Alpha No.	Sugg. Retail per 500'	Alpha No.	Sugg. Retail per 500'	Alpha No.	Sugg. Retail per 500'	Alpha No.	Sugg. Retail per 500'
1172	9.83	1181/50	544.50	1793	11.25	1899	32.15
1173	11.15	1181/60	653.40	1794	16.89	1899/3	63.75
1174	14.69	1897	23.90	1794/4	23.73	1899/4	86.87
1175	17.82	1898	42.27	1795	19.92	1891	64.10
1176	27.65	1898/4	60.72	1796	28.41	1891/3	86.63
1177	31.35	1898/6	87.48	1796/4	33.35	1812	90.09
1178	34.65	1898/8	116.94	1797	23.21	1892/3	131.67
1179	38.37	1898/10	149.00	1798	31.97	1894/4	169.47
1180	39.20	1898/12	176.72	1798/4	41.75	1895	16.97
1181	42.08	1797	23.21	1799	40.37	1896	32.15
1181/15	128.21	1798	31.97	1799/3	48.86	1896/1	43.31
1181/20	164.58	1798/4	41.75	1799/4	65.84	1897	23.90
1181/25	213.26	1798/5	54.05	1893	14.03	1898	42.27
1181/30	272.25	1798/6	64.44	1894	19.92	1898/4	60.72







# Unshielded Audio Cable

## MULTI-CONDUCTOR — OUTER COTTON BRAID

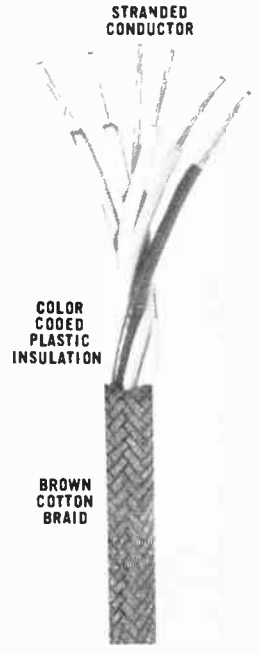
**DESCRIPTION:** Each conductor stranded tinned copper, color coded polyvinylchloride insulation, conductors twisted, brown cotton braid overall,

**CHARACTERISTICS:** Suggested operating temperature: 40 C to 80 C. Suggested operating voltage: 600 volts.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOMINAL O.D.
1182	2	20	10 30	.016"	.170"
1183	3	20	10 30	.016"	.180"
1184	4	20	10 30	.016"	.200"
1185	5	20	10 30	.016"	.220"
1186	6	20	10 30	.016"	.240"
1187	7	20	10 30	.016"	.240"
1188	8	20	10 30	.016"	.265"
1189	9	20	10 30	.016"	.285"
1190	10	20	10 30	.016"	.310"
1192	12	20	10 30	.016"	.322"
1192 15	15	20	10 30	.016"	.360"
1192 20	20	20	10 30	.016"	.405"
1192 25	25	20	10 30	.016"	.450"
1192 30	30	20	10 30	.016"	.485"

**COLOR CODE OF CONDUCTORS**

- 1—Black
- 2—Red
- 3—White
- 4—Green
- 5—Orange
- 6—Blue
- 7—Brown
- 8—Yellow
- 9—Purple
- 10—Slate
- 11—Pink
- 12—Tan
- 13—White Black
- 14—White Red
- 15—White Green
- 16—White Orange
- 17—White Blue
- 18—White Brown
- 19—White Yellow
- 20—White Purple
- 21—White Gray
- 22—White Black Red
- 23—White Black Green
- 24—White Black Yellow
- 25—White Black Blue
- 26—White Black Brown
- 27—White Black Orange
- 28—White Black Gray
- 29—White Black Violet
- 30—Dark Blue



**STANDARD SPOOL PUT-UP:**

1182-1192 20; 100 FT., 500 FT., 1000 FT.  
1192 25-1192 30; 100 FT., 250 FT., 500 FT.

## MULTI-CONDUCTOR — NO OUTER JACKET

**DESCRIPTION:** Each conductor tinned copper, color coded polyvinylchloride insulation, conductors twisted.

**APPLICATIONS:** Intercoms, Interconnecting cables, Remote control circuits, Telephones, Telemetering connecting cable, "Baby Sitter" intercom.

**CHARACTERISTICS:** Suggested Operating Temperature: -20°C to +60°C. Suggested Operating Voltage: 350 Volts.

**SOLID**

ALPHA NO.	NO. OF COND.	SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.
1900	2	22	1	.016"	.100"
1901	3	22	1	.016"	.115"
1903	2	20	1	.016"	.120"
1904	3	20	1	.016"	.135"
1906	2	18	1	.016"	.145"
1907	3	18	1	.016"	.155"
1909	2	16	1	.016"	.175"
1910	3	16	1	.016"	.190"
1912	2	19*	1	.016"	.130"
1913	3	19*	1	.016"	.135"

**STRANDED**

1915	2	22	7/30	.016"	.125"
1916	3	22	7/30	.016"	.140"
1918	2	20	10/30	.016"	.145"
1919	3	20	10/30	.016"	.160"
1921	2	18	16/30	.016"	.165"
1922	3	18	16/30	.016"	.180"
1924	2	16	26/30	.016"	.190"
1925	3	16	26/30	.016"	.210"
1927	2	14	41/30	.016"	.220"
1928	3	14	41/30	.016"	.240"

**STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.**

\*Bare Untinned Copper Conductor.

**COLOR CODE OF CONDUCTORS:** 1—Brown 2—Tan 3—Gray

STRANDED CONDUCTOR

COLOR CODED PLASTIC INSULATION



Alpha No.	Sugg. Resale per 500'	<b>PRICES</b>				Alpha No.	Sugg. Resale per 500'
1182	23.60	1192	154.28	1904	17.76	1916	16.46
1183	34.11	1192 15	199.65	1906	17.15	1918	14.55
1184	41.37	1192 20	272.25	1907	24.69	1919	21.05
1185	53.00	1192 25	272.25	1909	29.45	1921	16.62
1186	67.88	1192 30	344.85	1910	43.31	1922	24.00
1187	78.05	1900	8.63	1912	9.96	1924	18.53
1188	90.75	1901	11.78	1913	15.59	1925	34.91
1189	112.53	1903	11.36	1915	12.56	1927	38.81
1190	127.05					1928	65.84

# Plastic Intercom Cable



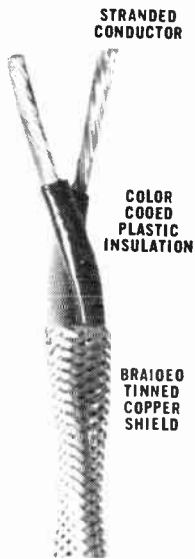
**DESCRIPTION:** Each conductor stranded tinned copper, color coded polyvinylchloride insulation, braided tinned copper shield (See Chart) over one, two, or three conductors, remaining conductors unshielded and paired, chrome polyvinylchloride jacket overall.

**APPLICATIONS:** General wiring from station to station where shielded conductor(s) is essential to eliminate cross talk.  
 1243 Recommended for unbalanced system with remote "break-in."  
 1243/4: Recommended for balanced systems.  
 1243/5: Recommended for coin operated phonographs.  
 1243/P: Recommended for circuits requiring complete isolation.

**CHARACTERISTICS:** Suggested operating temperature: -20°C to +60°C. Suggested operating voltage: 350 volts.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	NO. STRAND	NO. COND. SHIELD	NOM. WALL THICK.	NOM. JKT.	NOMINAL O.D.	COLOR CODE OF COND.
1243	3	22	7/30	1	.016"	.020"	.200"	White—Shielded Blk., Red—Unshielded
1243/4	4	22	7/30	2	.016"	.020"	.180"x.285"	Blk., Wh.—Shielded Blk., Red—Unshielded
1243/5	5	22	7/30	3	.016"	.020"	.200"x.300"	Blk., Wh., Red—Shielded Blk., Red—Unshielded
■1243/P	4	22	7/30	2 pair	.016"	.020"	.180"x.315"	Blk., Wh.—Shielded Blk., Red—Shielded

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.  
 ■ NEW



# Shielded Audio Cable

2 CONDUCTOR — NO OUTER JACKET

**DESCRIPTION:** Each conductor tinned copper, color coded polyvinylchloride insulation, conductors twisted, braided tinned copper shield overall.

**APPLICATIONS:** For public address and sound systems. Transmission line. Industrial paging and call systems. Recording equipment. Hospital and school sound installations. Broadcast and audio cable. Rack and panel wiring.

**CHARACTERISTICS:** Suggested Operating Temperature: -20°C to +60°C.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOM. O.D.	SUGG. OPER. VOLTAGE
1261/26	2	26	7/34	.010"	.095"	200V
1261	2	24	16/36	.016"	.125"	350V
1256/22V	2	22	7/30	.016"	.140"	350V
1256V	2	20	10/30	.016"	.155"	350V
1259V*	2	18	16/30	.016"	.170"	350V
1260V	2	16	26/30	.020"	.210"	450V
1260/14	2	14	41/30	.020"	.225"	450V
1260/12	2	12	65/30	.025"	.295"	600V

\* 22 AWG solid tinned copper ground wire under braided copper shield.

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.  
 COLOR CODE OF CONDUCTORS 1—Black 2—Red



# Miniature Shielded Cable

CLEAR PLASTIC JACKET

**DESCRIPTION:** Each conductor stranded tinned copper, color coded polyvinylchloride insulation, conductors twisted, fine braided tinned copper shield overall, clear polyvinylchloride jacket overall.

**CHARACTERISTICS:** Suggested operating temperature: -20°C to +60°C.  
 Suggested operating voltage: 200V

ALPHA NO.	NO. OF CONO.	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1120	2	28	7/36	.010"	.010"	.105"
1121	3	28	7/36	.010"	.010"	.115"
1122	4	28	7/36	.010"	.010"	.120"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.  
 COLOR CODE OF CONDUCTORS: 1—Black 2—Red 3—White 4—Green

PRICES			
Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 1000'
1243	20.46	1260 12	148.83
1243/4	25.34	1261	28.92
1243/5	55.71	1256 22V	22.34
1243/P	45.38	1256V	26.24
		1261/26	30.41
		1259V	38.97
		1260V	45.38
		1260/14	75.86
		1120	59.52
		1121	70.97
		1122	90.02



# Shielded Audio & Data Cable

INDIVIDUALLY SHIELDED MULTIPLE PAIRS — PLASTIC JACKET

**DESCRIPTION:** Each conductor, tinned copper, color coded, high density polyethylene, conductors twisted into pairs. 22 gauge tinned copper drain wire. Mylar-supported aluminum foil shield, aluminum facing inward. Chrome Grey PVC jacket overall.

**NEW**

**CHARACTERISTICS:** Mutual conductance between conductors of a pair, 25 pf/ft. Capacitance of a single conductor to shield, 45 pf/ft.

**APPLICATIONS:** For audio, R.F. and pulse applications requiring superior circuit isolation.



**#22 — SOLID**

**#22 — STRANDED**

ALPHA NO.	NO. OF PAIRS	NO. OF CONO. STRAND	CONO.	NOM. WALL THICK. (Inches)	NOM. JKT. THICK. (Inches)	NOM. O.O. (Inches)	ALPHA NO.	NO. OF PAIRS	NO. OF CONO. STRAND	CONO.	NOM. WALL THICK. (Inches)	NOM. JKT. THICK. (Inches)	NOM. O.O. (Inches)
6000	3	6	1	.010	.025	.235	6010	3	6	7/30	.010	.025	.252
6002	6	12	1	.010	.030	.318	6012	6	12	7/30	.010	.030	.342
6004	9	18	1	.010	.030	.371	6014	9	18	7/30	.010	.035	.410
6006	11	22	1	.010	.035	.414	6016	11	22	7/30	.010	.040	.457
6008	15	30	1	.010	.040	.485	6018	15	30	7/30	.010	.040	.523
							6020	19	38	7/30	.010	.050	.570
							6022	27	54	7/30	.010	.055	.687

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

**PAIR NO. COLOR COMBINATION OF PAIRS**

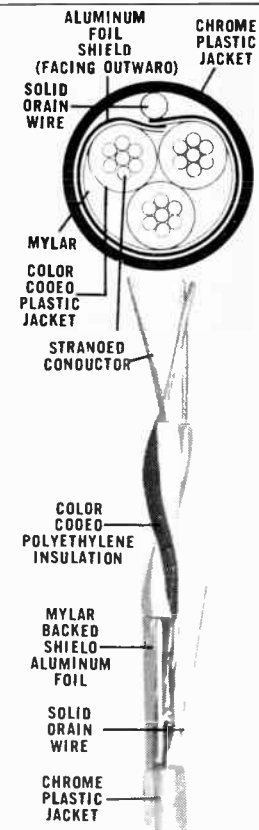
- 1—Black paired with Red
- 2—Black paired with White
- 3—Black paired with Green
- 4—Black paired with Blue
- 5—Black paired with Brown
- 6—Black paired with Yellow
- 7—Black paired with Orange
- 8—Red paired with Green
- 9—Red paired with White
- 10—Red paired with Blue
- 11—Red paired with Yellow
- 12—Red paired with Brown
- 13—Red paired with Orange
- 14—Green paired with Blue
- 15—Green paired with White
- 16—Green paired with Brown
- 17—Green paired with Orange
- 18—Green paired with Yellow
- 19—White paired with Blue
- 20—White paired with Brown
- 21—White paired with Orange
- 22—White paired with Yellow
- 23—Blue paired with Brown
- 24—Blue paired with Orange
- 25—Blue paired with Yellow
- 26—Brown paired with Orange
- 27—Brown paired with Yellow

# Shielded Plastic Jacketed Cable

MYLAR SUPPORTED ALUMINUM FOIL SHIELD

**DESCRIPTION:** Each conductor stranded tinned copper, color coded polyethylene insulation, conductors cabled, wrapped mylar supported aluminum foil shield, 100% coverage with drain wire laid parallel, aluminum foil facing outward to provide maximum ground, gray pvc jacket overall.

**CHARACTERISTICS:** Operating temperature: -20°C to +60°C. Operating voltage: 400 volts. Light weight, reduces cable diameter, and provides 100% shield coverage.



ALPHA NO.	NO. OF CONO.	SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
2402	2	22	7/30	.016"	.020"	.195"
2403	3	22	7/30	.016"	.020"	.210"
2404	4	22	7/30	.016"	.020"	.225"
2412	2	20	10/30	.016"	.020"	.210"
2413	3	20	10/30	.016"	.020"	.225"
2414	4	20	10/30	.016"	.020"	.240"
2422	2	18	16/30	.016"	.020"	.230"
2423	3	18	16/30	.016"	.020"	.245"
2424	4	18	16/30	.016"	.020"	.265"
2432	2	16	26/30	.016"	.020"	.255"
2433	3	16	26/30	.016"	.020"	.275"
2442	2	14	41/30	.016"	.020"	.290"
2443	3	14	41/30	.016"	.020"	.310"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS: 1—Black 2—Red 3—White 4—Green



Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'
6000	41.94	6014	139.74
6002	81.35	6016	162.93
6004	113.40	6018	210.84
6006	135.05	6020	294.36
6010	51.26	6022	445.61
6012	98.40	2402	14.52
		2403	18.15
		2404	33.57
		2412	18.15
		2413	22.68
		2414	42.65
		2422	21.33
		2423	28.59
		2424	48.09
		2432	48.92
		2433	59.90
		2442	63.89
		2443	84.21

## PRICES

# Hi-Fi and Stereo Interconnecting Cable Phono Wire

STRAINED CONDUCTOR

WHITE PLASTIC INSULATION

BRAIDED TINNED COPPER SHIELD

**DESCRIPTION**

1332 and 1200: Single conductor stranded tinned copper, white polyvinylchloride insulation, fine braided tinned copper shield overall.

1201: Same as No. 1200 plus brown cotton braid over shield.

1115 and 1116: Each conductor stranded tinned copper, color coded polyvinylchloride insulation, conductors twisted.

1100-1110: Each conductor stranded tinned copper, color coded polyvinylchloride insulation, conductors twisted with an extra tight lay for flexibility. When shielded the overall shield has been specially designed for extreme limpness so as not to impede the movement of the phono arm when tracking.

**CHARACTERISTICS:** Suggested Operating Temperature: -55 C to +105 C.

**SINGLE CONDUCTOR SHIELDED**

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.	SUGG. OPER. VOLTAGE	COLOR CODE
1332	1	30	7/38	.010"	.047"	200V	White
1200	1	24	16/36	.016"	.080"	350V	White
1201	1	24	16/36	.016"	.115"	350V	White

**UNSHIELDED**

1115	2	30	7/38	.010"	.065"	200V	Black & Red
1116	3	30	7/38	.010"	.070"	200V	Blk., Red & White

**STEREO (Unshielded)**

1100	2	32	7/40	.010"	.047"	200V	Black & Red
1101	3	32	7/40	.010"	.053"	200V	Blk., Red & White
1102	4	32	7/40	.010"	.061"	200V	Blk., Rd., Wh. & Gr.

**STEREO (Shielded)**

1105	2	32	7/40	.010"	.055"	200V	Black & Red
1106	3	32	7/40	.010"	.061"	200V	Blk., Red & White
1107	4	32	7/40	.010"	.068"	200V	Blk., Rd., Wh. & Gr.
1110*	2	32	7/40	.010"	.063"	200V	Black & Red

STANDARD SPOOL PUT-UP: 10 FT., 100 FT., 500 FT., 1000 FT.

\*Each conductor individually shielded and then twisted.

## Plastic Speaker Cable Colored and Clear Insulation

**DESCRIPTION:** Conductors parallel, stranded bare copper, color coded polyvinylchloride insulation, conductors separate easily when slit apart.

**APPLICATION:** Hi-Fi speaker cable, miniature juke box speaker connection and rear auto speaker extension cable. Clear insulation will blend with interior room decor.

**CHARACTERISTICS:** Suggested Operating Temperature: -20°C to +60°C. Operating Voltage: 300 Volts.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.	STOCK COLORS
1944	2*	24	7/32	.016"	.057" x .120"	Brn., Blk., Wh., Gray, Tan
1945	2*	24	7/32	.016"	.057" x .120"	Clear
1946	2	20	10/30	.016"	.085" x .175"	Brn., Blk., Wh., Gray, Tan
1947	2	20	10/30	.016"	.085" x .175"	Clear
1977	2	18	41/34	.032"	.115" x .215"	Brn., Blk., Wh., Gray, Tan
1979 †	2	18	41/34	.032"	.115" x .215"	Clear

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

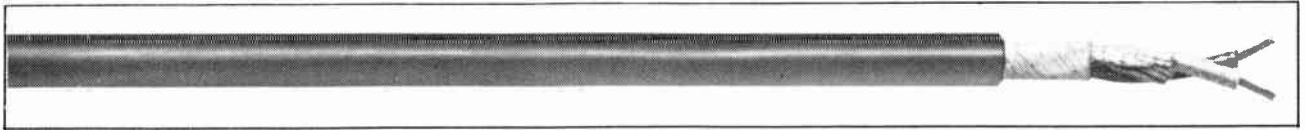
\*1 Conductor Tinned, 1 Bare.

†U.L. type SPT-1

### PRICES

Alpha No.	Sugg. Resale per 1000'	Alpha No.	Sugg. Resale per 100'	Alpha No.	Sugg. Resale per 500'
1332	45.38	1100	3.81	1944	4.95
1200	34.29	1101	5.07	1945	5.94
1201	43.73	1102	6.63	1946	8.84
Alpha No.	Sugg. Resale per 100'	1105	6.03	1947	10.40
1115	2.82	1106	7.07	Alpha No.	Sugg. Resale per 250'
1116	3.99	1107	8.16	1977	6.27
		1110	7.44	1979	9.98





**SERVICE & POWER CORDS**  
U.L. APPROVED

**DESCRIPTION: RUBBER PORTABLE CORDS, TYPE SV, SJ, & S**

Each conductor stranded bare copper, separator, color coded rubber insulation, cabled with fillers, separator, tough black rubber jacket overall.

**NEOPRENE PORTABLE CORDS, TYPE SVO, SJO, & SO**

Each conductor, stranded bare copper, oil resistant polyvinylchloride insulation, cabled with fillers, separator, black neoprene jacket overall. Oil, grease, ozone, acid, moisture resistant.

**YELLOW PORTABLE CORDS, TYPE SVTO, SJTO, & STO**

Each conductor, stranded bare copper, oil resistant polyvinylchloride insulation, cabled with fillers, separator, plastic jacket overall. Resistant to oil, acid, moisture, abrasion resistant, easy to clean.

**CHARACTERISTICS**

& APPLICATIONS: Suggested Operating Temperatures: 20°C to +60°C.

U.L. TYPE	TYPE OF USAGE	VOLTAGE RATING
SV, SVO, SVTO	Light appliances such as fans, mixers, and office equipment.	300V
SJ, SJO, SJTO	Medium appliances, small motors, tools, amplifiers, speakers.	600V
S, SO, STO	Heavy duty equipment, generators, heaters, tools, air-conditioners.	600V

**RUBBER PORTABLE CORD 300 VOLT**

ALPHA NO.	TYPE	NO. OF COND.	COND. SIZE	NOM. THICKNESS		CURRENT CARRYING CAPACITY IN AMPS	NOM. O.D.
				INS.	JKT.		
1951	SV	2	18	.016"	.032"	7	.250"
1952	SJ	2	18	.032"	.032"	7	.305"
1952 3	SJ	3	18	.032"	.032"	7	.330"
1952 4	SJ	4	18	.032"	.032"	6	.370"
1953	SJ	2	16	.032"	.032"	10	.330"
1953 3	SJ	3	16	.032"	.032"	10	.360"
1953 4	SJ	4	16	.032"	.032"	8	.400"

**NEOPRENE PORTABLE CORD 300 VOLT**

1931	SVO	2	18	.016"	.032"	7	.250"
1932	SJO	2	18	.032"	.032"	7	.305"
1932 3	SJO	3	18	.032"	.032"	7	.330"
1932 4	SJO	4	18	.032"	.032"	6	.370"
1933	SJO	2	16	.032"	.032"	10	.330"
1933 3	SJO	3	16	.032"	.032"	10	.360"
1933 4	SJO	4	16	.032"	.032"	8	.400"

**PLASTIC PORTABLE CORD 300 VOLT**

1991	SVTO	2	18	.016"	.032"	7	.250"
1992	SJTO	2	18	.032"	.032"	7	.305"
1992 3	SJTO	3	18	.032"	.032"	7	.330"
1992 4	SJTO	4	18	.032"	.032"	6	.370"
1993	SJTO	2	16	.032"	.032"	10	.330"
1993 3	SJTO	3	16	.032"	.032"	10	.360"
1993 4	SJTO	4	16	.032"	.032"	8	.400"

\*As a safety feature jacket color is yellow for maximum visibility.

STANDARD SPOOL PUT-UP: 50 FT., 100 FT., 250 FT.

COLOR CODE OF CONDUCTORS: 1—White 2—Black 3—Green 4—Red

**SERVICE & POWER CORDS**  
U.L. APPROVED

**RUBBER 600 VOLT PORTABLE CORD**

ALPHA NO.	TYPE	NO. OF COND.	COND. SIZE	NOM. THICKNESS		CURRENT CARRYING CAPACITY IN AMPS	NOM. O.D.
				INS.	JKT.		
1954	S	2	18	.030"	.060"	7	.370"
1954 3	S	3	18	.030"	.060"	7	.395"
1954 4	S	4	18	.030"	.060"	6	.430"
1955	S	2	16	.030"	.060"	10	.405"
1955 3	S	3	16	.030"	.060"	10	.430"
1955 4	S	4	16	.030"	.060"	8	.485"
1956	S	2	14	.045"	.075"	15	.330"
1956 3	S	3	14	.045"	.075"	15	.360"
1956 4	S	4	14	.045"	.075"	12	.405"
1957	S	2	12	.045"	.090"	20	.300"
1957 3	S	3	12	.045"	.090"	20	.330"
1957 4	S	4	12	.045"	.090"	16	.365"
1958	S	2	10	.045"	.090"	25	.260"
1958 3	S	3	10	.045"	.090"	25	.290"
1958 4	S	4	10	.045"	.090"	20	.325"
1959	S	2	8	.050"	.090"	35	.230"
1959 3	S	3	8	.050"	.090"	35	.250"
1959 4	S	4	8	.050"	.090"	28	.290"
1960	S	2	6	.050"	.090"	45	.180"
1960 3	S	3	6	.050"	.090"	45	.205"
1960 4	S	4	6	.050"	.090"	36	.245"

**NEOPRENE 600 VOLT PORTABLE CORD**

1934	SVO	2	18	.030"	.060"	7	.370"
1934 3	SVO	3	18	.030"	.060"	7	.395"
1934 4	SVO	4	18	.030"	.060"	6	.430"
1935	SVO	2	16	.030"	.060"	10	.405"
1935 3	SVO	3	16	.030"	.060"	10	.430"
1935 4	SVO	4	16	.030"	.060"	8	.485"
1936	SVO	2	14	.045"	.075"	15	.330"
1936 3	SVO	3	14	.045"	.075"	15	.360"
1936 4	SVO	4	14	.045"	.075"	12	.405"
1937	SVO	2	12	.045"	.090"	20	.300"
1937 3	SVO	3	12	.045"	.090"	20	.330"
1937 4	SVO	4	12	.045"	.090"	16	.365"
1938	SVO	2	10	.045"	.090"	25	.260"
1938 3	SVO	3	10	.045"	.090"	25	.290"
1938 4	SVO	4	10	.045"	.090"	20	.325"
1939	SVO	2	8	.050"	.090"	35	.230"
1939 3	SVO	3	8	.050"	.090"	35	.250"
1939 4	SVO	4	8	.050"	.090"	28	.290"
1940	SVO	2	6	.050"	.090"	45	.180"
1940 3	SVO	3	6	.050"	.090"	45	.205"
1940 4	SVO	4	6	.050"	.090"	36	.245"

**PLASTIC 600 VOLT PORTABLE CORD**

1994	SVTO	2	18	.030"	.060"	7	.370"
1994 3	SVTO	3	18	.030"	.060"	7	.395"
1994 4	SVTO	4	18	.030"	.060"	6	.430"
1995	SVTO	2	16	.030"	.060"	10	.405"
1995 3	SVTO	3	16	.030"	.060"	10	.430"
1995 4	SVTO	4	16	.030"	.060"	8	.485"
1996	SVTO	2	14	.045"	.075"	15	.330"
1996 3	SVTO	3	14	.045"	.075"	15	.360"
1996 4	SVTO	4	14	.045"	.075"	12	.405"
1997	SVTO	2	12	.045"	.090"	20	.300"
1997 3	SVTO	3	12	.045"	.090"	20	.330"
1997 4	SVTO	4	12	.045"	.090"	16	.365"
1998	SVTO	2	10	.045"	.090"	25	.260"
1998 3	SVTO	3	10	.045"	.090"	25	.290"
1998 4	SVTO	4	10	.045"	.090"	20	.325"

\*Not listed by Underwriters Laboratories.

STANDARD SPOOL PUT-UP: 50 FT., 100 FT., 250 FT.

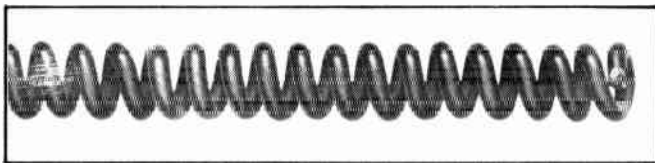
COLOR CODE OF CONDUCTORS: 1—White 2—Black 3—Green 4—Red

Alpha No.	Sugg. Resale per 250'
1951	13.61
1952	16.34
1952/3	30.12
1952/4	48.56
1953	20.42
1953/3	44.64
1953/4	65.70
1931	21.78
1932	27.95
1932/3	34.04
1932/4	51.00
1933	33.93
1933/3	47.55
1933/4	69.51
1991	19.97
1992	25.41
1992/3	28.13
1992/4	47.19
1993	29.04
1993/3	39.93
1993/4	62.07

**PRICES**

1954	39.93	1960/3	408.38	1940	326.70
1954/3	51.18	1960/4	471.90	1940/3	435.60
1958/3	156.45	1934	44.82	1940/4	526.35
1955	43.56	1934/3	54.45	1994	36.48
1955/3	63.53	1934/4	68.06	1994/3	47.73
1955/4	80.22	1935	47.91	1994/4	64.25
1956	72.60	1935/3	68.97	1995	40.83
1956/3	94.38	1935/4	83.67	1995/3	59.90
1956/4	116.16	1936	81.12	1995/4	77.31
1957	88.94	1936/3	99.83	1996	66.60
1957/3	118.70	1936/4	119.79	1996/3	90.38
1957/4	148.83	1937	94.56	1996/4	112.53
1958	120.51	1937/3	127.05	1997	85.85
1954/4	65.52	1937/4	156.09	1997/3	113.25
1958/4	193.11	1938	126.14	1997/4	146.10
1959	217.80	1938/3	163.35	1998	112.53
1959/3	290.40	1938/4	204.18	1998/3	152.46
1959/4	381.15	1939	226.88	1998/4	179.69
1960	304.92	1939/3	317.63		
		1939/4	417.45		





**RETRACTILE COIL CORDS**

**POWER CORDS—NEOPRENE JACKET U.L. APPROVED**

RETRACTED LENGTHS 2 & 4 FEET—EXTENDED LENGTHS 12 & 25 FEET

DESCRIPTION: Long-lasting service is assured with this quality multi-conductor power cord. Each conductor is stranded copper, with rubber insulation, and a rugged weather and oil-resistant neoprene jacket overall.

APPLICATION: Used on electric tools, portable drills, soldering wires, electrical appliances, household appliances, etc. to eliminate loose hanging wires and to prevent wires from tangling and twisting.

CHARACTERISTICS: Suggested operating temperature 20 C to 60 C

ALPHA NO.	NO. OF CONDS.	CONDUCTOR SIZE	U.L. TYPE	AMP. RATING	VOLT. RATING	NOM. COIL O.D.	NOM. O.D. CORD	COLOR CODE OF CONDUCTORS
660 2   660 4   660 1	2	18   41 34	SV0	7	300	7/8"	260"	1-Black 2-White
760 2   760 4	3	18   41 34	SV0	7	300	1"	275"	1-Black 2-White 3-Red
661 2   661 4   661 1	2	18   41 34	SJO	7	300	1-3/16"	320"	1-Black 2-White
662 2   662 4   662 1	3	18   41 34	SJO	7	300	1-3/8"	350"	1-Black 2-White 3-Red
663 2   663 4	4	18   41 34	SJO	5.6	300	1-7/16"	385"	1-Black 2-White 3-Red 4-Green
762 2   762 4	3	18   41 34	SO	7	600	1-5/8"	405"	1-Black 2-White 3-Red
763 2   763 4	4	18   41 34	SO	5.6	600	1-5/8"	435"	1-Black 2-White 3-Red 4-Green
664 2   664 4   664 1	2	16   65 34	SJO	10	300	1-3/8"	360"	1-Black 2-White
665 2   665 4   665 1	3	16   65 34	SJO	10	300	1-7/16"	390"	1-Black 2-White 3-Red
666 2   666 4	4	16   65 34	SJO	8	300	1-1/2"	425"	1-Black 2-White 3-Red 4-Green
670 2   670 4	3	16   65 34	SO	10	600	1-3/16"	470"	1-Black 2-White 3-Red
671 2   671 4	4	16   65 34	SO	8	600	1-7/8"	500"	1-Black 2-White 3-Red 4-Green
672 2   672 4	2	14   41 30	SO	15	600	2-1/8"	540"	1-Black 2-White
673 2   673 4	3	14   41 30	SO	15	600	2-1/8"	560"	1-Black 2-White 3-Red
674 2   674 4	4	14   41 30	SO	12	600	2-1/4"	605"	1-Black 2-White 3-Red 4-Green
675 2   675 4	2	12   65 30	SO	20	600	2-1/4"	605"	1-Black 2-White
676 2   676 4	3	12   65 30	SO	20	600	2-3/8"	635"	1-Black 2-White 3-Red
677 2   677 4	4	12   65 30	SO	16	600	2-3/8"	678"	1-Black 2-White 3-Red 4-Green

COLOR CODE OF CONDUCTORS  
1-Black 2-White 3-Green 4-Red

\*If all four conductors normally carry current, amp rating is as shown. If one lead is used as a ground, amp rating is the same as 2 and 3 conductor cords.

†A 12' retracted length with a 12' straight lead on each end for easy stripping and termination. Cord extends to approximately 6 feet.

**RETRACTILE TEST LEAD WIRE**

RETRACTED LENGTH 12"—EXTENDED LENGTH 6 FEET

DESCRIPTION: A high grade quality rubber insulation for maximum flex life extruded over a single conductor of extra flexible tinned copper which gives long life to this retractile test lead wire. Available in a 12' retracted length with a 6' straight lead on each end, the cord extends to approximately 6 feet.

ALPHA NO.	CONDUCTOR SIZE	CONDUCTOR STRAND	AMP. RATED	VOLT. RATING	NOM. COIL O.D.	NOM. O.D. CORD	COLOR CODE
650	20	41 36	4	5,000	3/4"	165"	Black-Red

COLOR CODE SPECIFY BLACK OR RED

**RETRACTILE POWER CORD SETS U.L. APPROVED**

RETRACTED LENGTH 18"—EXTENDED LENGTH 7 1/2 FEET

DESCRIPTION: Coiled power cord with a sturdy molded male plug on one end. On the other end we have removed a portion of the neoprene jacket, exposed the conductors and stripped them for easy termination. Operating voltage, 300 volts.

APPLICATION: Same as power cords, but with a plug on one end

ALPHA NO.	NO. OF CONDS.	CONDUCTOR SIZE	U.L. TYPE	NOM. COIL O.D.	NOM. O.D. CORD	COLOR CODE OF CONDUCTORS
654	2	18   41 34	SV0	7/8"	260"	1-Black 2-White
655	2	18   41 34	SJO	1-3/16"	320"	1-Black 2-White
656	3	18   41 34	SJO	1-3/8"	350"	1-Black 2-White 3-Red
657	2	16   65 34	SJO	1-3/8"	360"	1-Black 2-White
658	3	16   65 34	SJO	1-7/16"	390"	1-Black 2-White 3-Red

COLOR CODE OF CONDUCTORS  
1-Black 2-White 3-Red

**RETRACTILE COIL CORDS**

**RETRACTILE COMMUNICATION COIL CORDS**

RETRACTED LENGTHS 2 & 4 FEET EXTENDED LENGTHS 12 & 25 FEET

DESCRIPTION: Multi-conductor communication cord manufactured with extra flexible #23 AWG 21/36 tinned soft cadmium copper for maximum flex life. Insulated with rubber for communication circuits of maximum 120 working volts. The overall jacket is a specially compounded cured neoprene jacket giving long life to the retractile cord.

APPLICATION: Used in communication equipment, such as telephone car carriers, mobile radio equipment, ham operations, head sets, citizen band units and radio transmitter to receiver head sets, communication cords eliminate hazards and inconveniences caused by tangled straight cords.

ALPHA NO.	NO. OF CONDS.	CONDUCTOR SIZE	AMP. RATING	VOLTAGE RATING	NOM. COIL O.D.	NOM. O.D. CORD	COLOR CODE OF CONDUCTORS
680 2   680 4	2	23   21 36	1	120	3/4"	215"	1-Black 2-White
681 2   681 4	3	23   21 36	1	120	13/16"	220"	1-Black 2-White 3-Red
682 2   682 4	4	23   21 36	1	120	15/16"	250"	1-Black 2-White 3-Red 4-Green
683 2   683 4	5	23   21 36	1	120	1-1/16"	285"	1-Black 2-White 3-Red 4-Green 5-Blue
684 2   684 4	6	23   21 36	1	120	1-1/8"	305"	1-Black 2-White 3-Red 4-Green 5-Blue 6-Yellow
685 2   685 4	7	23   21 36	1	120	1-1/4"	320"	1-Black 2-White 3-Red 4-Green 5-Blue 6-Yellow 7-Brown

**RETRACTILE COMMUNICATION CORDS (SHIELDED)**

RETRACTED LENGTHS 2 & 4 FEET—EXTENDED LENGTHS 12 & 25 FEET

DESCRIPTION: Same as above, except that shielded conductors are individually shielded with a cadmium copper shield to eliminate external electrical interference. Shield can be pigtailed for direct soldering connections.

APPLICATION: When shielded communication cords are needed.

ALPHA NO.	NO. OF CONDS.	CONDUCTOR SIZE	VOLTAGE RATING	SHIELDING	NOM. COIL O.D.	NOM. O.D. CORD	COLOR CODE OF CONDUCTORS
690 2   690 4	2	23   21 36	120	Shielded	3/4"	160"	White
692 2   692 4	2	1-23   21 36   1-24   41 40	120	Unshielded/ Shielded	3/4"	240"	Black/ White
694 2   694 4	3	2-23   21 36   1-24   41 40	120	Unshielded/ Shielded	3/4"	240"	Black & Red/ White
696 2   696 4	4	2-23   21 36   2-24   41 40	120	Unshielded/ Individually Shielded	1"	270"	Red & Black/ White & Green

**RETRACTILE COMMUNICATION CORDS**

**PREPARED FOR EASY INSTALLATION AND REPLACEMENT**

RETRACTED LENGTH 12"—EXTENDED LENGTH 6 FEET

DESCRIPTION: Same as communication cords except earl end is prepared as indicated

ALPHA NO.	NO. OF CONDS.	AWG	NOM. COIL O.D.	NOM. CORD O.D.	PREPARATION
686	3	23 21 36	13 16"	220"	1 end: total length 11 1/2'. Conductors stripped and tinned. Other end: total length 11 1/2'. Jacket removed.
687	4	23 21 36	15 16"	250"	1 end: total length 11 1/2'. Conductors stripped and tinned. Other end: total length 11 1/2'. Jacket removed.
688	5	23 21 36	1-1 16"	285"	1 end: total length 4 1/4'. Conductors stripped and tinned. Other end: total length 4 1/4'. Conductors stripped and tinned.

**MINIATURE RETRACTILE COMMUNICATIONS CORDS**

RETRACTED LENGTH 2 FEET—EXTENDED LENGTH 10 FEET

DESCRIPTION: A small diameter plastic cord with stranded tinned copper conductors for maximum flexibility, insulated and jacketed with polyvinylchloride. Each cord is available in a 2 ft. retracted length with a 6' straight lead on each end and extends to approximately 10 feet.

APPLICATION: For low voltage power and communication equipment where miniaturization is required due to space and weight limitations.

ALPHA NO.	NO. OF CONDS.	SIZE	CONDUCTOR STRAND	AMP. RATING	VOLT. RATING	NOM. COIL O.D.	NOM. CORD O.D.	COLOR CODE OF CONDUCTORS
651	2	28	19 40	0.5	100	1/2"	135"	1-Black 2-White
652	4	28	19 40	0.5	100	1/2"	150"	1-Black 2-White 3-Green 4-Red

For 3 conductor, use 4 conductor with one lead unused

Alpha No.	Sugg. Resale	Alpha No.	Sugg. Resale	Alpha No.	Sugg. Resale
660/2	4.08	664/4	10.44	675/4	31.94
660/4	7.26	664/1	3.08	676/2	21.05
660/1	2.18	665/2	7.07	676/4	40.29
760/2	6.35	665/4	13.61	677/2	23.33
760/4	11.25	665/1	3.44	677/4	44.82
661/2	4.53	666/2	9.08	654	3.81
661/4	8.16	666/4	16.70	655	4.53
661/1	2.54	670/2	10.16	656	6.89
662/2	5.63	670/4	18.87	657	4.89
662/4	10.52	671/2	11.25	658	7.44
662/1	3.18	671/4	21.05	650	1.07
663/2	6.71	672/2	11.27	680/2	3.99
663/4	12.71	672/4	20.87	680/4	6.53
762/2	10.34	673/2	12.71	681/2	4.53
762/4	19.23	673/4	23.60	681/4	7.62
763/2	11.61	674/2	14.52	682/2	5.18
763/4	21.59	674/4	27.23	682/4	8.88
664/2	5.25	675/2	16.88	683/2	6.71
				683/4	11.97
				684/2	8.34
				684/4	14.88
				685/2	9.26
				685/4	16.70
				690/2	5.72
				690/4	9.98
				692/2	7.62
				692/4	13.79
				694/2	10.52
				694/4	19.59
				696/2	12.08
				696/4	22.68
				686	3.00
				687	4.89
				688	5.45
				651	3.26
				652	4.08



# Flat Braid

**DESCRIPTION:** A woven braid, composed of tinned copper strands, which is rolled flat at time of manufacture to a specific width depending upon construction.

ALPHA NO.	NOM. FLAT WIDTH	NOM. THICKNESS	BRAID CONSTRUCTION		APPROX. AWG EQUIV.	NOM. CIRCULAR MILLS	*CURRENT CARRYING CAP. (Amps)	PUT-UP CODE	
			AWG OF INDIV. ENDS	CARRIERS	TOTAL NO. OF INDIV. ENDS				
1221	.025	.015"	36	8	8	27	200	4.0	1 thru 5
1222	1/32"	.020"	36	16	16	24	400	6.0	1 thru 5
1223	3/64"	.020"	36	24	24	22	600	7.0	1 thru 5
1224	1/16"	.020"	36	16	48	19	1200	11.0	1 thru 5
1229	1/8"	.020"	36	24	72	18	1800	16.0	1 thru 5
1230	3/16"	.020"	36	24	120	15	3000	25.0	1 thru 5
1231	1/4"	.030"	36	24	168	14	4200	32.0	1 thru 5
1232	3/8"	.030"	36	48	288	12	7200	46.0	1 thru 5
1233/2	1/2"	.030"	36	48	384	10	9600	53.0	1 thru 5
1233	5/8"	.030"	36	48	384	10	9600	53.0	1 thru 5
1234	3/4"	.040"	36	48	832	7	20800	85.0	1 thru 5
1235	1"	.045"	36	48	832	7	20800	85.0	1 thru 5
1239	1 3/8"	.050"	30	48	336	5	33700	100.0	1 thru 5
1240	1 1/2"	.060"	30	48	528	3	53064	150.0	1 thru 3
1241	1 3/4"	.080"	30	48	1248	00	125424	280.0	1 thru 3
1242	2"	.120"	30	48	1536	000	154368	310.0	1 thru 3
1242/1	2 1/4"	.150"	30	48	1680	000	168840	320.0	1 & 2
1242/2	2 1/2"	.170"	30	48	1920	000	192000	340.0	1 & 2
1242/3	2 3/4"	.180"	30	48	2160	0000	216000	370.0	1 & 2
1242/4	3"	.200"	30	48	2256	0000	225000	390.0	1 & 2

PUT-UP CODE 1—50ft. 2—100 Ft. 3—250 Ft. 4—500 Ft. 5—1000 Ft.



# Oval Commercial Braid

**DESCRIPTION:** A woven tinned copper braid which is left in the tubular configuration as it leaves the braiding equipment. It is manufactured to a specific inside diameter but because of its extreme flexibility cannot maintain its completely round shape and becomes oval.

ALPHA NO.	NOM. I.D. WHEN ROUNDED	AWG OF INDIV. ENDS	BRAID CONSTRUCTION		APPROX. AWG EQUIV.	NOM. CIRCULAR MILLS	*CURRENT CARRYING CAPACITY (Amps)	PUT-UP CODE	
			AWG OF INDIV. ENDS	CARRIERS	TOTAL NO. OF INDIV. ENDS				
2130	1/32"	34	24	24	24	954	9.0	1 thru 5	
2132	1/16"	34	16	32	32	1192	11.0	1 thru 5	
2134	3/64"	34	16	64	64	16	2544	20.0	1 thru 5
2136	1/8"	34	24	72	72	15	2862	25.0	1 thru 5
2138	1/4"	34	24	120	120	14	4770	32.0	1 thru 5
2140	3/16"	34	24	144	144	13	5724	38.0	1 thru 4
2142	1/4"	34	24	168	168	12	6678	41.0	1 thru 4
2144	3/8"	34	24	192	192	11	7632	46.0	1 thru 4
2146	1/2"	34	48	336	336	9	13356	62.0	1 thru 3
2148	5/8"	34	48	384	384	8	14264	64.0	1 thru 3
2150	1 1/16"	34	48	480	480	7	19080	81.0	1 thru 3
2152	25/32"	34	48	528	528	7	20988	85.0	1 thru 3

PUT-UP CODE 1—50ft. 2—100 Ft. 3—250 Ft. 4—500 Ft. 5—1000 Ft.

\* Values shown are for bare cable in free air at 30°C (86°F) and intended as a reference guide only. Actual values will depend on permissible temperature rise, permissible voltage drop and other conditions of service.



PRICES							
Alpha No.	Sugg. Resale per 1000'	Alpha No.	Sugg. Resale per 250'	Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 100'
1221	30.86	1234	94.38	2146	65.34	1242/1	174.24
1222	31.58	1235	101.64	2148	70.34	1242/2	217.80
1223	34.67	1239	117.98	2150	86.21	1242/3	245.03
1224	40.65			2152	94.38	1242/4	305.25
1229	45.00						
1230	49.91	Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 1000'	Alpha No.	Sugg. Resale per 1000'
1231	69.33	2140	47.37	1240	65.34	2130	22.68
1232	112.53	2142	56.27	1241	127.05	2132	36.30
1233/2	148.83	2144	65.34	1242	163.35	2134	55.35
1233	157.53					2136	68.97

# Tinned Copper Tubular Braid To MIL Spec QQ-B-575



**DESCRIPTION:** A woven tinned copper braid which is manufactured completely round as outlined in Mil Spec QQ-B-575. Each strand of the braid is soft drawn tinned copper wire. The braid is self-supporting and maintains its round configuration. The percentage of shielding coverage is 95% or more when placed over a mandrel of an equivalent diameter to the inside braid diameter.

ALPHA NO.	NOM. I.D. WHEN ROUNDED	BRAID CONSTRUCTION			APPROX. AWG. EQUIV.	NOM. CIRCULAR MILLS	*CURRENT CARRYING CAPACITY (Amps)	PUT-UP CODE
		AWG OF INDIV. ENDS	CARRIERS	TOTAL NO. OF INDIV. ENDS				
2160	1/32"	36	24	24	22	600	7.0	1-3
2162	1/16"	36	24	48	19	1200	11.0	1-3
2163	3/64"	36	24	72	18	1800	16.0	1-3
2164	1/8"	36	24	96	16	2400	19.0	1-3
2166	3/16"	36	24	120	15	3000	25.0	1-3
2167	1/4"	36	24	240	12	6000	40.0	1-3
2168	3/16"	36	24	168	14	4200	32.0	1-3
2170	1/4"	34	24	192	11	7630	46.0	1-2
2171	3/8"	36	24	384	10	9600	53.0	1-2
2171/1	1/8"	30	24	120	9	12060	60.0	1-2
2172	3/8"	36	48	384	10	9600	53.0	1-2
2173	1/2"	30	24	240	6	24120	90.0	1-2
2174	1/2"	36	48	528	9	13200	62.0	1-2
2175	3/8"	30	48	480	3	48240	145.0	1-2
2175/1	1/4"	30	48	768	1	77180	190.0	1-2
2176	1/2"	36	48	864	7	21600	88.0	1-2

PUT-UP CODE: 1—50 Ft. 2—100 Ft. 3—250 Ft.

## EXTRA LARGE TINNED COPPER TUBULAR BRAID

**DESCRIPTION:** These tubular braids manufactured to standards of QQ-B-575 although these sizes are not listed in the specification.

ALPHA NO.	NOM. I.D. WHEN ROUNDED	BRAID CONSTRUCTION			APPROX. AWG. EQUIV.	NOM. CIRCULAR MILLS	*CURRENT CARRYING CAPACITY (Amps)	PUT-UP CODE
		AWG OF INDIV. ENDS	CARRIERS	TOTAL NO. OF INDIV. ENDS				
2177	7/8"	30	48	336	5	33700	100.0	1 & 2
2178	1"	30	48	384	4	38600	120.0	1 & 2
2179	1 1/8"	30	48	432	4	43330	130.0	1 & 2
2180	1 1/4"	30	48	480	3	48150	145.0	1 & 2
2181	1 3/8"	30	48	528	3	53000	150.0	1 & 2
2182	1 1/2"	30	48	576	2	57775	165.0	1 & 2

PUT-UP CODE: 1—50 Ft. 2—100 Ft.

## SILVER PLATED TUBULAR BRAID CONSTRUCTION TO MIL SPEC QQ-B-575

**DESCRIPTION:** A woven silver plated copper braid which is manufactured completely round as outlined in Mil Spec QQ-B-575. Each strand of the braid is soft drawn silver plated copper wire. The braid is self-supporting and maintains its round configuration. The percentage of shielding coverage is 95% or more when placed over a mandrel of an equivalent diameter to the inside braid diameter.

ALPHA NO.	NOM. I.D. WHEN ROUNDED	BRAID CONSTRUCTION			APPROX. AWG. EQUIV.	NOM. CIRCULAR MILLS	*CURRENT CARRYING CAPACITY (Amps)	PUT-UP CODE
		AWG OF INDIV. ENDS	CARRIERS	TOTAL NO. OF INDIV. ENDS				
2190	1/32"	36	24	24	22	600	7.0	1-3
2191	1/16"	36	24	48	19	1200	11.0	1-3
2192	3/64"	36	24	72	18	1800	16.0	1-3
2193	1/8"	36	24	96	16	2400	19.0	1-3
2194	3/16"	36	24	120	15	3000	25.0	1-3
2195	1/4"	36	24	240	12	6000	40.0	1-3
2196	3/16"	36	24	168	14	4200	32.0	1-3
2197	1/4"	34	24	192	11	7640	46.0	1 & 2
2198	3/8"	36	24	384	10	9600	53.0	1 & 2

PUT-UP CODE: 1—50 Ft. 2—100 Ft. 3—250 Ft.

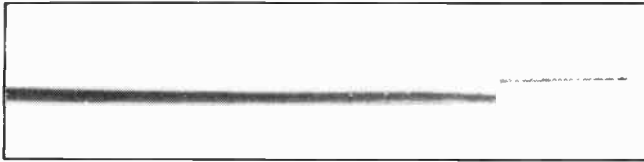
\* Values shown are for bare cable in free air at 30°C (86°F) and intended as a reference guide only. Actual values will depend on permissible temperature rise, permissible voltage drop and other conditions of service.

PRICES			
Alpha No.	Sugg. Resale per 250'	Alpha No.	Sugg. Resale per 100'
2160	6.60	2170	15.78
2162	12.71	2171	19.05
2163	15.06	2171/1	21.78
2164	19.23	2172	20.13
2166	18.15	2173	32.30
2167	36.30	2174	29.70
2168	24.75	2175	59.98
		2175/1	91.65
		Alpha No.	Sugg. Resale per 250'
		2176	43.92
		2177	63.53
		2178	64.35
		2179	76.23
		2180	87.12
		2181	98.01
		2182	107.09
		Alpha No.	Sugg. Resale per 100'
		2190	12.51
Alpha No.	Sugg. Resale per 250'	Alpha No.	Sugg. Resale per 250'
2191	24.50	2191	24.50
2192	32.67	2192	32.67
2193	45.38	2193	45.38
2194	49.01	2194	49.01
2195	90.75	2195	90.75
2196	68.06	2196	68.06
Alpha No.	Sugg. Resale per 100'	Alpha No.	Sugg. Resale per 100'
2197	54.63	2197	54.63
2198	68.06	2198	68.06





## High Voltage Wire



**DESCRIPTION:** Single conductor, stranded tinned copper, white flame retardant polyethylene insulation. When shielded, braided tinned copper shield overall.

**APPLICATIONS:** Designed for use as high-voltage leads in electronic equipment, especially for cathode ray tubes in television receivers and oscilloscopes. Shielded type used to minimize RF radiation in transmitters, X-ray, and diathermy equipment.

### UNSHIELDED TYPE

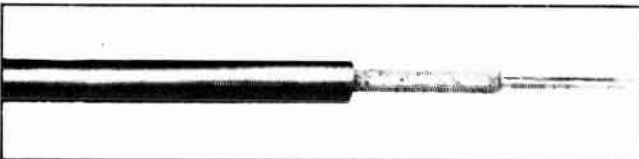
ALPHA NO.	CONDUCTOR SIZE	STRANDS	NOM. WALL THICKNESS	VOLTAGE BREAKDOWN AC	DC	NOM. O.D.
1640	22	7/30	.047"	5,000	10,000	.124"
1641	20	10/30	.047"	5,000	10,000	.132"
1642	20	10/30	.063"	10,000	20,000	.164"
1643	18	16/30	.047"	5,000	10,000	.144"
1644	18	16/30	.063"	10,000	20,000	.176"
1645	18	16/30	.095"	15,000	40,000	.240"
1646	16	26/30	.047"	5,000	10,000	.156"
1647	16	26/30	.063"	10,000	20,000	.188"
1648	16	26/30	.095"	15,000	40,000	.252"

### SHIELDED TYPE

ALPHA NO.	CONDUCTOR SIZE	STRANDS	NOM. WALL THICKNESS	VOLTAGE BREAKDOWN AC	DC	NOM. O.D.
1660	22	7/30	.047"	5,000	10,000	.144"
1661	20	10/30	.047"	5,000	10,000	.152"
1662	20	10/30	.063"	10,000	20,000	.184"
1663	18	16/30	.047"	5,000	10,000	.164"
1664	18	16/30	.063"	10,000	20,000	.196"
1665	18	16/30	.095"	15,000	40,000	.264"
1666	16	26/30	.047"	5,000	10,000	.180"
1667	16	26/30	.063"	10,000	20,000	.208"
1668	16	26/30	.095"	15,000	40,000	.276"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

## Test Lead Wire



**DESCRIPTION:** Single conductor, extra flexible stranded tinned soft annealed copper, epoxy resin, color coded rubber insulation, smooth satin finish.

**APPLICATIONS:** As test leads in analyzers, oscillators, multi-meters, and all other types of testing apparatus or wherever an extra flexible insulated wire is required. Heavy Duty type designed for television, therapeutic equipment, analyzers, oscillators, etc.

Suggested Operating Temperature: 20°C to -60°C.

ALPHA NO.	CONDUCTOR SIZE	STRANDS	NOM. WALL THICKNESS	VOLTAGE BREAKDOWN	SUGG. WORKING VOLTAGE	NOM. O.D.	STOCK COLORS
1632	20	41/36	.040"	6,000 ††	1500 V	.125"	Black, Red
1635	20	41/36	.047"	12,000 ††	3000 V	.140"	Black, Red
1636	18	65/36	.045"	20,000 ††	5000 V	.140"	Black, Red
1638	18	65/36	.090"	29,000 ††	10000 V	.230"	Black, Red
1639	18	65/36	.047"	20,000 ††	5000 V	.145"	Black, Red Green

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

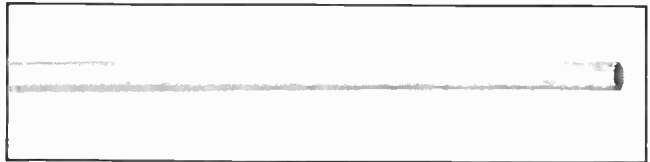
†† 60 Cycles

Military type specification MIL-W-13169B

### PRICES

Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'
1640	16 88	1646	32 12	1663	58 53	1632	12 12
1641	19 59	1647	45 92	1664	112 98	1635	12 99
1642	29 39	1648	61 26	1665	124 28	1636	13 35
1643	23 40	1650	47 21	1666	78 95	1638	22 52
1644	35 11	1661	50 82	1667	103 91		
1645	56 27	1662	76 68	1668	131 13		

## Uninsulated Tinned Copper



### SOLID WIRE — SOFT DRAWN

**DESCRIPTION:** Pure electrolytic soft, drawn, solid, copper properly annealed and tinned for quick soldering.

**APPLICATIONS:** Winding of coils. Antennas. Point to point wiring. Bus-bar. Component leads. Ground wire.

### SPECIFICATIONS MIL-W-3861 TYPE S — QQ-W-343 TYPE S — ASTM-B-33

ALPHA NO.	CONDUCTOR SIZE	NOMINAL CIRCULAR MIL AREA	NOMINAL O.D.
299 3	30 AWG	100.5	.010"
299 2	28 AWG	159.8	.013"
299 1	26 AWG	254.1	.016"
299	24 AWG	404.0	.020"
298	22 AWG	642.4	.025"
297	20 AWG	1022.0	.033"
296	18 AWG	1642.0	.040"
295	16 AWG	2583.0	.051"
286	14 AWG	4107.0	.065"
289	12 AWG	6530.0	.082"
292	10 AWG	10380.0	.103"
292 8	8 AWG	16510.0	.129"
292 6	6 AWG	26250.0	.162"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

### ROUND BUS-BAR — HARD DRAWN

#### SPECIFICATION ASTM-B-246-S1

Alpha No.	CONDUCTOR SIZE	NOMINAL CIRCULAR MIL AREA	NOMINAL O.D.
278	14 AWG	4107.0	.065"
280	12 AWG	6530.0	.082"
282	10 AWG	10380.0	.103"

STANDARD PUT-UP: TWO FOOT LENGTHS—100 PER PACKAGE

## Antenna-Aerial Wire



**APPLICATIONS** Recommended especially for ship, short-wave and transmitter antennas where 1159-1164: high tensile strength and corrosion resistance is required.

**APPLICATIONS** For short wave and transmitter antennas. Suitable for commercial and 136 and 112: amateur use. Easy to install, no "backlash."

ALPHA NO.	CONDUCTOR SIZE	STRANDS	BREAKING STRENGTH	CONDUCTOR TYPE	NOMINAL O.D.	GOVERNMENT SPECIFICATION
1159	16	7/24	230 Lbs.	Silicon Bronze	.060"	—
1160	14	7/22	420 Lbs.	Silicon Bronze	.075"	—
1161	12	7/20	650 Lbs.	Silicon Bronze	.100"	MIL-W-13276
1163	10	7/18	1000 Lbs.	Silicon Bronze	.122"	MIL-W-13074
1164	8	7/16	1600 Lbs.	Silicon Bronze	.150"	—
136	16	7/24	—	Bare Copper	.060"	—
112	14	7/22	—	Bare Copper	.075"	—

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.



### PRICES

Alpha No.	Sugg. Resale per 1000'	Alpha No.	Sugg. Resale per 1000'	Alpha No.	Sugg. Resale per 1000'	Alpha No.	Sugg. Resale per 1000'
299 3	3 04	295	11 55	278	6 35	1163	58 44
299 2	3 30	286	17 33	280	8 52	1164	82 04
299 1	3 12	292	53 53	282	11 47		
299	3 47						
298	3 84	Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 1000'
297	5 28	1159	51 09	1159	22 05	136	9 90
296	8 25	1160	80 58	1160	28 49	112	16 10
		1161		1161	38 12		

# U.L. Approved Hook-Up Wire

**DESCRIPTION:** Stranded tinned copper, color coded polyvinylchloride insulation.  
**CHARACTERISTICS:** Temperature rating (-10°C to +80°C, 300 V) (-10°C to +105°C, 600 V).  
 Resistant to acids, alkalis, oil, flame, moisture and fungus.

## 300 VOLT 80°C - STYLE No. 1007

ALPHA NO.	CONDUCTOR SIZE	STRAND	NOM. O.D.
3050	24	7/32	.057"
3051	22	7/30	.065"
3053	20	10/30	.071"
3055	18	16/30	.080"
3057	16	26/30	.095"

## 600 VOLT\*105°C - STYLE No. 1015

ALPHA NO.	CONDUCTOR SIZE	STRAND	NOM. O.D.
3071	22	7/30	.095"
3073	20	10/30	.102"
3075	18	16/30	.112"
3077	16	26/30	.125"
3079	14	41/30	.142"

**\* STOCK COLORS: 1-19**

- |              |                    |                 |
|--------------|--------------------|-----------------|
| 1—White      | 7—Brown            | 13—White Green  |
| 2—Black      | 8—Orange           | 14—White Yellow |
| 3—Red        | 9—Gray (slate)     | 15—White Blue   |
| 4—Green      | 10—Violet (purple) | 16—White Brown  |
| 5—Yellow     | 11—White Black     | 17—White Orange |
| 6—Light Blue | 12—White Red       | 18—White Gray   |
|              |                    | 19—White Violet |

**\* STOCK COLORS: 1-10**

**STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.**

# U.L. Semi-Rigid Business Machine Wire

**DESCRIPTION:** Stranded tinned copper, color coded semi-rigid polyvinylchloride insulation.

**CHARACTERISTICS:** Temperature rating -10°C to +80°C, 300 volts in business machine or electronic computers only.

**APPLICATIONS:** Internal wiring of computers, electric bookkeeping, accounting machines, and other office and control equipment.

## 300 VOLT 80°C — STYLE No. 1061

ALPHA NO.	CONDUCTOR SIZE	STRAND	NOM. WALL THICKNESS	NOM. O.D.
3250	24	7/32	.009"	.042"
3251	22	7/30	.009"	.048"
3252	20	7/28	.009"	.056"

**STOCK COLORS**

- |          |           |
|----------|-----------|
| 1—White  | 6—Blue    |
| 2—Black  | 7—Brown   |
| 3—Red    | 8—Orange  |
| 4—Green  | 9—Gray    |
| 5—Yellow | 10—Violet |

\*Other striped color combinations available to order.

**STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT. 5000 FT.**

# U.L. Silicone Rubber Appliance and Fixture Wire

**NEW**

## 300 VOLT 80°C — STYLE No. 1061

**DESCRIPTION:** Stranded tinned copper conductor, silicone rubber insulation, impregnated white fiberglass braid overall.

**CHARACTERISTICS:** Resistant to abrasion, oil, moisture, and fungus.

**APPLICATIONS:** For wiring all types of lighting fixtures and other high wattage devices.

**MAXIMUM OPERATING TEMPERATURE +200°C (392°F)**

ALPHA NO.	N.E.C. TYPE DESIGNATION	CONDUCTOR SIZE	STRAND	INSULATION WALL (64ths)	VOLTAGE RATING (Volts)	NOM. O.D. (Inches)	NET WT. LBS. PER M/FT.
6124	SF-2	18	7/26	2	600	.13	12
6125	SF-2	16	7/24	2	600	.14	16
6126	SF-2	14	7/22	2	600	.16	22
6127	—	12	19/25	2	600	.18	32
6128	—	10	41/26	3	600	.24	52

**MAXIMUM OPERATING TEMPERATURE +150°C (302°F)**

6129	—	22*	7/30	1	300	.08	5
6130	—	22*	7/30	2	600	.11	8
6131	—	20*	10/30	1	300	.09	7
6132	—	20*	10/30	2	600	.12	9
6133	SFF-1	18	16/30	1	300	.10	9
6134	SFF-2	18	16/30	2	600	.13	12
6135	SFF-2	16	26/30	2	600	.14	16
6136	SFF-2	14	41/30	2	600	.16	22
6137	—	12	41/28	2	600	.18	32

\* Listed by U/L for radio hookup wire. **STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.**

## PRICES

Alpha No.	Sugg. Resale per 1000'	Alpha No.	Sugg. Resale per 1000'	Alpha No.	Sugg. Resale per 1000'
3050	5.99	3075	14.52	6125	180.48
3051	6.89	3077	19.41	6126	218.87
3053	8.45	3079	26.31	6127	271.97
3055	10.89	3250	7.98	6128	547.44
3057	14.33	3251	8.70	6129	87.09
3071	10.89	3252	11.61	6130	94.92
3073	11.97	6124	143.13	6131	104.01



STRANDED CONDUCTOR

COLOR CODED PLASTIC INSULATION

STRANDED CONDUCTOR

COLOR CODED PLASTIC INSULATION

STRANDED CONDUCTOR

SILICONE RUBBER INSULATION

WHITE GLASS BRAID

# CATV Foam 75 OHM Triaxial Feeder Cable

**DOUBLE SHIELD — DOUBLE JACKET — FOAM RG 11/U TYPE**

This cable has been specially designed for use as a secondary distribution lead-in cable for community antenna television systems.

The double shield construction provides maximum attenuation of radiated signals and allows for a minimum of cross-cable interference and pickup.

Cable construction consists of a solid bare copper conductor, foamed polyethylene dielectric, braided copper shield, covered by an inner polyethylene jacket, and a second braided copper shield with a polyethylene jacket overall.

The outer jacket offers high resistance to sunlight, weathering, and resists attack by acid, alkalis, oil, and grease.



CABLE IS 100% SWEEP TESTED

STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.—INQUIRE RE LARGER PUT-UPS

<b>Alpha No.</b>	<b>9602F</b>	Outer Shield O. D.	.396"
Nominal Impedance	75 ohm	Jacket Material	Polyethylene
Conductor	Solid Copper	Inner Jacket O. D.	.368"
Conductor O. D.	.064"	Outer Jacket O. D.	.470"
Insulation Material	Foamed Polyethylene	Stock Color	Black
Insulation O. D.	.285"	Attenuation (db/100 ft.)	50 mc — 1.2
Shield Material	#33 Bare Copper		100 mc — 1.7
Inner Shield O. D.	.313"		200 mc — 2.5
(All dimensions are nominal)			

# CATV Foam 75 OHM Coaxial Feeder Cable

**SINGLE SHIELD — SINGLE JACKET — FOAM RG 11/U TYPE**

A high quality foam core feeder cable with non-peaking attenuation characteristics. This foam core cable is widely used as secondary distribution lead-in cable. Cable has a solid bare copper conductor, foam polyethylene dielectric, braided copper shield with a weather proof polyethylene jacket overall. A tough, long lasting cable that is relatively light weight, flexible and easy to install.



CABLE IS 100% SWEEP TESTED

STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.—INQUIRE RE LARGER PUT-UPS

<b>Alpha No.</b>	<b>9603F</b>	Shield O. D.	.313"
Nominal Impedance	75 ohm	Jacket Material	Polyethylene
Conductor	Solid Copper	Jacket O. D.	.405"
Conductor O. D.	.064"	Stock Color	Black
Insulation Material	Foamed Polyethylene	Attenuation (db/100 ft.)	50 mc — 1.2
Insulation O. D.	.285"		100 mc — 1.7
Shield Material	#33 Bare Copper		200 mc — 2.5
(All dimensions are nominal)			

# CATV Foam 75 OHM Drop Cable

**FOAM RG 59/U TYPE — WITH AND WITHOUT MESSENGER**

A low-loss, light weight cable with wide use as subscriber tap-off lead-in cable. Cable contains a bare copper conductor, foam polyethylene dielectric, braided copper shield with a black polyethylene jacket overall. Jacket withstands effect of weathering and sunlight and is resistant to attack by acid, alkali, oil, and grease.

Alpha No. 9606M has, in addition, a built-in #14 gauge steel wire messenger in a "figure eight" construction.



CABLE IS 100% SWEEP TESTED

STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.—INQUIRE RE LARGER PUT-UPS

Alpha No. 9606M — Same as 9606F with steel messenger wire

<b>Alpha No.</b>	<b>9606F</b>	Shield O. D.	.170"
Nominal Impedance	75 ohm	Jacket Material	Polyethylene
Conductor	Solid Copper	Jacket O. D.	.242"
Conductor O. D.	.0253"	Stock Color	Black
Insulation Material	Foamed Polyethylene	Attenuation (db/100 ft.)	50 mc — 2.4
Insulation O. D.	.146"		100 mc — 3.2
Shield Material	#34 Bare Copper		200 mc — 4.6
(All dimensions are nominal)			

# CATV Solid Core 75 OHM Drop Cable

**RG 59/U TYPE — WITH AND WITHOUT MESSENGER**

A long lasting, weatherproof cable widely used as a subscriber tap-off lead-in cable. Cable conductor is copper coated steel, with an extruded polyethylene insulation, braided copper shield, with a grey or black PVC jacket overall.

Alpha No. 9659M has, in addition, a built-in #14 gauge steel wire messenger in a "figure eight" construction.



CABLE IS 100% SWEEP TESTED

STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.—INQUIRE RE LARGER PUT-UPS

Alpha No. 9659M — Same as 9659F with steel messenger wire

<b>Alpha No.</b>	<b>9659</b>	Shield O. D.	.171"
Nominal Impedance	75 ohm	Jacket Material	Polyvinylchloride
Conductor	Solid Copper Coated Steel	Jacket O. D.	.242"
Conductor O. D.	.0253"	Stock Color	Grey, Black
Insulation Material	Polyethylene	Attenuation (db/100 ft.)	50 mc — 2.7
Insulation O. D.	.146"		100 mc — 4.0
Shield Material	#34 Bare Copper		200 mc — 5.7
(All dimensions are nominal)			

MESSENGER

## PRICES

Alpha No.	Sugg. Resale per 1000'	Alpha No.	Sugg. Resale per 1000'
9602F	154.50	9606F	41.63
9603F	100.13	9659	35.25



# 75 OHM Foam TV and FM Coaxial Cable

## FOAM RG 59/U TYPE LOW LOSS—MAXIMUM SIGNAL STRENGTH

Foam core coaxial cable delivers maximum low-loss performance for any TV or FM antenna system. This cable, while providing superior signal for black and white TV, is especially recommended for color TV installations.

Coaxial cable maintains a constant impedance match, eliminates ghosts and color smears, will not pick up interference and gives optimum signal in all types of weather.

The cable contains a solid bare copper conductor, foam polyethylene insulation, braided copper shield and a heavy duty black polyethylene jacket.

<b>Alpha No.</b>	<b>9606F</b>	<b>Shield O. D.</b>	.170"
Nominal Impedance	75 ohm	Jacket Material	Polyethylene
Conductor	Solid Copper	Jacket O. D.	.242"
Conductor O. D.	.0320"	Stock Color	Black
Insulation Material	Foamed Polyethylene	Attenuation (db/100 ft.)	50 mc — 2.4
Insulation O. D.	.146"		100 mc — 3.2
Shield Material	#34 Bare Copper		200 mc — 4.6

(All dimensions are nominal)

CABLE IS 100% SWEEP TESTED

STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.—INQUIRE RE LARGER PUT-UPS



# 75 OHM Solid Core TV and FM Coaxial Cable

## RG 59/U TYPE MAXIMUM SIGNAL STRENGTH — EXTENDED OPERATING LIFE

Coaxial cable is recommended by many leading antenna manufacturers for optimum black and white and color reception. Ghosts, color smears, and noise are eliminated by use of coaxial cable and effective operating life is many times that of ordinary flat line wire. Many TV sets and antennas are now manufactured for use with 75 ohm cable and inexpensive matching transformers may be used in older sets designed for 300 ohm line.

Construction consists of a copper coated steel conductor, polyethylene dielectric, braided copper shield and a grey or black PVC jacket overall.

<b>Alpha No.</b>	<b>9659</b>	<b>Shield O. D.</b>	.171"
Nominal Impedance	75 ohm	Jacket Material	Polyvinylchloride
Conductor	Solid Copper Coated Steel	Jacket O. D.	.242"
Conductor O. D.	.0253"	Stock Color	Grey, Black
Insulation Material	Polyethylene	Attenuation (db/100 ft.)	50 mc — 2.7
Insulation O. D.	.146"		100 mc — 4.0
Shield Material	#34 Bare Copper		200 mc — 5.7

(All dimensions are nominal)

CABLE IS 100% SWEEP TESTED

STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.—INQUIRE RE LARGER PUT-UPS



# 50 OHM Amateur Radio and CB Coaxial Cables

## FOAM RG 8/U TYPE — SOLID RG 58/U TYPE

Signal loss between transmitter and antenna is minimized by the use of these specially designed coaxial cable types. In addition, the ability of these cables to shield out stray radiation fields makes them the preferred broadcast transmission cables.

Foam core cable consists of a stranded bare copper conductor, foam polyethylene dielectric, braided copper shield, and a black PVC jacket.

The solid core cable contains a solid bare copper conductor, solid polyethylene dielectric braided copper shield with a black PVC jacket overall.

Jackets resist effects of weathering and sunlight and heavy abrasion.

### FOAM RG 8/U TYPE

<b>Alpha No.</b>	<b>9608F</b>	<b>Shield Material</b>	#33 Bare Copper
Nominal Impedance	50 ohm	Shield O. D.	.313"
Conductor Stranding	7/.036 Copper	Jacket Material	Polyvinylchloride
Conductor O. D.	.108"	Jacket O. D.	.405"
Insulation Material	Foamed Polyethylene	Stock Color	Black
Insulation O. D.	.285"		

(All dimensions are nominal)

STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.—INQUIRE RE LARGER PUT-UPS



### RG 58/U TYPE

<b>Alpha No.</b>	<b>9658</b>	<b>Shield Material</b>	#36 Tinned Copper
Nominal Impedance	50 ohm	Shield O. D.	.136"
Conductor Stranding	Solid Copper	Jacket Material	Polyvinylchloride
Conductor O. D.	.032"	Jacket O. D.	.195"
Insulation Material	Polyethylene	Stock Color	Black
Insulation O. D.	.116"		

(All dimensions are nominal)

STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.—INQUIRE RE LARGER PUT-UPS



Alpha No.	Sugg. Resale per 1000'	Alpha No.	Sugg. Resale per 1000'
9606F	41.63	9608F	111.75
9659	35.25	9658	30.75

## PRICES



# ALPHLEX® ZIPPER TUBING

**DESCRIPTION** Alphlex Zipper Tubing is the all purpose modern way to harness, cover and protect cables. Just zip to close — and zip to reopen. If you wish, it may be permanently sealed with PB 200 Special Compound Liquid Sealer. Alphlex Zipper Tubing is strong, flexible, durable, and offers new freedom in design, production and repair.

**APPLICATIONS** To shield, to harness wire, to custom-cable to any length, to enclose, to encase, to identify (such as cable markers), to protect, to replace worn jackets.

TYPES OF ZIPPER TUBING						
TYPE	MATERIAL	WALL THICKNESS (Inches)	OPER. TEMP.	APPLICATIONS	STOCK COLORS	STANDARD PUT-UPS
ZIP-31	Polyvinylchloride made from MIL-I-631 D, GRADE C Materials	.020	-20 C to 105 C	All Purpose Type	Clear Black Yellow	25' 50' 100' 25' 50' 100' 25' 50' 100'
ZIP-31M	Polyvinylchloride made from MIL-I-631 D, GRADE C Materials	.040	-20 C to 105 C	Heavy Duty Constructions	Clear Black	100' 100'
ZIP-44	Polyvinylchloride made from MIL-I-7444 B Materials	.020	-67 C to 70 C	Extreme Flexibility, Low Temperature & Aircraft industry	Clear Black	100' 100'
ZIP-50	Polyvinylchloride "sandwich" of aluminum foil laminated between two sheets of polyvinyl	.040	-20 C to 105° C	100% RF shielding	Silver Grey	100'

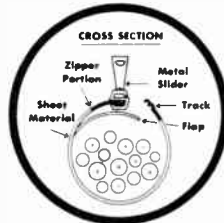


**ZIPPER SPECIFICATIONS FOR ALL TYPES OF ALPHLEX ZIPPER TUBING**

Material	Polyvinylchloride	Cold Brittleness	-86 C
Track Thickness (when closed)	.095"	Fungus proof	will not support fungus
Dielectric Strength V/ml	759	Flammability	self-extinguishing
Tensile Strength P S I	3810	Lateral Pull Strength (unsealed)	42.7 pounds/inch
Ultimate Elongation	255%	Lateral Pull Strength (permanently sealed)	59.8 pounds/inch
Operating Temperature, Upper Limit	106 C	Standard Colors	Black, Clear, Yellow

Contrasting color combinations of zipper and body are available to order. The zipper portion can be supplied in any of the following colors: Black, Yellow, Clear, Blue, White, Brown, Purple, Red, Orange, Green, Slate.

STANDARD SIZES FOR ALL ZIPPER TUBING	
Zipper Tubing Inside Diameter	Approx. Flat Width (From track to track — excluding flap)
1/4"	1 1/8"
3/8"	1 3/8"
1/2"	2"
5/8"	2 1/2"
3/4"	2 3/4"
7/8"	3 1/4"
1"	3 3/4"
1 1/4"	3 3/4"
1 1/2"	4 1/8"
1 3/4"	4 1/2"
1 7/8"	5 1/8"
2"	5 3/4"



Because of small in side Diameter, these sizes cannot be closed by using the slider. The tracks must be closed by manual pressure.

**HOW TO ORDER**

Select the type of Zipper Tubing desired from the chart and the required Inside Diameter. When ordering, request as follows: For example, ZIP 31 Tubing in 1/4" Inside Diameter order — ZIP 31 — 1/4"

## PRICES

Alpha No.		Sugg. Resale per 100'
ZIP-31—1/4"		36.00
ZIP-31—3/8"		37.00
ZIP-31—1/2"		37.50
ZIP-31—5/8"		38.00
ZIP-31—3/4"		38.50
ZIP-31—7/8"		39.50
ZIP-31—1"		40.00
ZIP-31—1 1/8"		41.50
ZIP-31—1 1/4"		42.00
ZIP-31—1 1/2"		43.50
ZIP-31—1 3/4"		45.00
ZIP-31—2"		46.00

Alpha No.		Sugg. Resale
LC-113—White	1/2 lb.	4.73
LC-113—Black	1/2 lb.	5.51
LC-114—White	1/2 lb.	4.73
LC-114—Black	1/2 lb.	5.51
LC-115—White	1/2 lb.	4.73

Alpha No.		Sugg. Resale
LC-115—Black	1/2 lb.	5.51
LC-132—White	500 yd.	8.45
LC-132—Black	500 yd.	9.14
LC-134—White	500 yd.	5.41
LC-134—Black	500 yd.	6.09

Alpha No.		Sugg. Resale
LC-136—White	500 yd.	8.45
LC-136—Black	500 yd.	9.14
LC-140—White	500 yd.	8.45
LC-140—Black	500 yd.	9.14
LC-143—White	500 yd.	8.45

Alpha No.		Sugg. Resale
LC-143—Black	500 yd.	9.14
LC-158—White	500 yd.	8.45
LC-158—Black	500 yd.	9.14
LC-162—White	500 yd.	8.45
LC-162—Black	500 yd.	9.14

Alpha No.		Sugg. Resale per 1000'
PVC-105/24		13.00
PVC-105/22		13.10
PVC-105/20		13.50
PVC-105/18		13.80
PVC-105/17		14.00
PVC-105/16		14.60
PVC-105/15		14.90

## ALPHLEX® ELECTRONIC LACING CORDS AND TAPES

### MIL-T-713A NYLON TWISTED CORD

ALPHA NO.	CLASS	TYPE	BREAKING STRENGTH	FINISH	NOMINAL DIAMETER	STOCK COLORS	YARDS PER POUND	STANDARD PUT-UP
LC-113	I	P Twine	70 lbs.	MW	.050"	Wh., Bik.	560	8 oz. spls.
LC-114	II	P Twine	48 lbs.	MW	.035"	Wh., Bik.	750	8 oz. spls.
LC-115	III	P Twine	32 lbs.	MW	.030"	Wh., Bik.	1180	8 oz. spls.

### MIL-T-713A NYLON FLAT BRAIDED TAPE

ALPHA NO.	CLASS	TYPE	BREAKING STRENGTH	NOMINAL WIDTH	NOMINAL THICKNESS	FINISH	STOCK COLORS	STANDARD PUT-UP
LC-136	II	P Tape	50 lbs.	.090" (3/32")	.014"	MW	Wh., Bik.	500 yd. spls.

### NYLON FLAT BRAIDED TAPE

ALPHA NO.	WIDTH	THICKNESS	TENSILE STRENGTH	FINISH	STOCK COLORS	STANDARD PUT-UP
LC-132	3 32"	.014"	50 lbs.	GE	Wh., Bik.	500 yd. tubes
LC-134	1 16"	.010"	30 lbs.	MW	Wh., Bik.	500 yd. spls.
LC-136	3 32"	.014"	50 lbs.	MW	Wh., Bik.	500 yd. spls.
LC-140	3 32"	.014"	50 lbs.	SR	Wh., Bik.	500 yd. spls.
LC-143	3 32"	.014"	50 lbs.	AM	Wh., Bik.	500 yd. spls.

### DACRON FLAT BRAIDED TAPE

ALPHA NO.	WIDTH	THICKNESS	TENSILE STRENGTH	FINISH	STOCK COLORS	STANDARD PUT-UP
LC-158	3 32"	.014"	50 lbs.	GE	Wh., Bik.	500 yd. tubes
LC-162	3 32"	.014"	50 lbs.	MW	Wh., Bik.	500 yd. spls.

Other materials, finishes and sizes available to order.

# Alphlex® Polyvinylchloride Plastic Tubing (PVC-105)

CONFORMS TO MIL-I-631D †

**DESCRIPTION:** The superior mechanical, thermal, and electrical properties of Alphlex PVC-105, coupled with its economical cost have led to an ever increasing use of this all-purpose insulating material. Another major advantage of Alphlex PVC-105 is its high degree of flexibility, which is maintained even under severe environmental conditions.

Rated for temperatures as high as 105°C, PVC-105 has a high dielectric strength that remains unaffected by increasing temperature throughout its range. PVC-105 maintains a high resistance to the agents of heat, oil, chemical corrosion and fungi with no loss in tensile strength, or flexibility. Other features include an exceptional resistance to abrasion and indefinite shelf life.

Alphlex PVC-105 is compounded with first quality, non-migratory resinous type plasticizers. Carefully selected stabilizers and modifiers added in the manufacturing process, counteract chemical and environmental degradation. Under adverse conditions Alphlex PVC-105 retains its flexibility which permits it to cling to and protect irregular shapes. An unusually simple to handle insulating material, PVC-105 "snakes" well under all environmental conditions.

**APPLICATIONS:** Designed and manufactured for general electronic, aircraft and electrical applications involving temperatures as high as 105°C. Especially useful to protect wires and cables subject to abrasion or where a flexible tubing with a high degree of resistivity to oil, chemicals or solvents is necessary.



## DIMENSIONS CHART

ALPHLEX NUMBER	SIZE	NOM. INSIDE DIA. (Inch.)	NOM. WALL THICKNESS (Inch.)	*STOCK COLORS	STANDARD PUT-UPS
PVC-105/24	24	.022	.013	1-6	100', 500', 1000' Spools
PVC-105/22	22	.027	.012	1-6	100', 500', 1000' Spools
PVC-105/20	20	.034	.016	1-6	100', 500', 1000' Spools
PVC-105/19	19	.038	.016	1-6	100', 500', 1000' Spools
PVC-105/18	18	.042	.016	1-6	100', 500', 1000' Spools
PVC-105/17	17	.047	.016	1-6	100', 500', 1000' Spools
PVC-105/16	16	.053	.016	1-6	100', 500', 1000' Spools
PVC-105/15	15	.059	.016	1-6	100', 500', 1000' Spools
PVC-105/14	14	.066	.016	1-6	100', 500', — Spools
PVC-105/13	13	.076	.016	1-6	100', 500', — Spools
PVC-105/12	12	.085	.016	1-6	100', 500', — Spools
PVC-105/11	11	.095	.016	1-6	100', 500', — Spools
PVC-105/10	10	.106	.016	1-6	100', 500', — Spools
PVC-105/9	9	.118	.020	1-6	100', 500', — Spools
PVC-105/8	8	.133	.020	1-6	100', 500', — Spools
PVC-105/7	7	.148	.020	1-6	100', 500', — Spools
PVC-105/6	6	.166	.020	1-6	100', 500', — Spools
PVC-105/5	5	.186	.020	1-6	100', 500', — Spools
PVC-105/4	4	.208	.020	1-6	100', 250', — Coils
PVC-105/3	3	.234	.020	1-6	100', 250', — Coils

ALPHLEX NUMBER	SIZE	NOM. INSIDE DIA. (Inch.)	NOM. WALL THICKNESS (Inch.)	*STOCK COLORS	STANDARD PUT-UPS
PVC-105/2	2	.263	.020	1-6	100', 250' Coils
PVC-105/1	1	.294	.020	1,2,3	100', 250' Coils
PVC-105/0	0	.330	.020	1,2,3	100', 250' Coils
PVC-105/5/16"	5/16"	.312	.025	1,2,3	100', 250' Coils
PVC-105/3/8"	3/8"	.375	.025	1,2,3	100', 250' Coils
PVC-105/7/16"	7/16"	.438	.025	1,2,3	25', 100', — Coils
PVC-105/1/2"	1/2"	.500	.025	1,2,3	25', 100', — Coils
PVC-105/5/8"	5/8"	.562	.030	1,2,3	25', 100', — Coils
PVC-105/3/4"	3/4"	.625	.030	1,2,3	25', 100', — Coils
PVC-105/3/4"	3/4"	.750	.035	1,2,3	25', 50', — Coils
PVC-105/7/8"	7/8"	.875	.035	1,2,3	25', 50', — Coils
PVC-105/1"	1"	1.000	.035	1,2,3	25', 50', — Coils
PVC-105/1 1/8"	1 1/8"	1.125	.035	1,2	25', 50', — Coils
PVC-105/1 1/4"	1 1/4"	1.250	.040	1,2	25', 50', — Coils
PVC-105/1 3/8"	1 3/8"	1.375	.040	1,2	25', 50', — Coils
PVC-105/1 1/2"	1 1/2"	1.500	.045	1,2	25', 50', — Coils
PVC-105/1 3/4"	1 3/4"	1.750	.055	1,2	25', 50', — Coils
PVC-105/2"	2"	2.000	.060	1,2	25', 50', — Coils
PVC-105/2 1/4"	2 1/4"	2.250	.065	1,2	25', 50', — Coils
PVC-105/2 1/2"	2 1/2"	2.500	.070	1,2	25', 50', — Coils

\* STOCK COLORS 1—Clear 2—Black 3—White 4—Yellow 5—Red 6—Green

† MIL-I-631D, Type F, Form U, Grade C, Class I, Category 1

SEE PAGE 1630 FOR PVC-105 PRICES



# Alphlex® Teflon Extruded Tubing

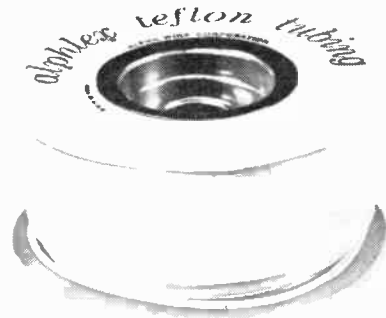
CONFORMS TO MIL-I-22129B

**DESCRIPTION:** Alphlex Teflon Tubing is unmatched by any other type of tubing for use in electrical applications at high frequencies and temperatures. Teflon is rated for continuous operation at 250°C, and retains an exceptional toughness and its flexibility throughout its temperature range.

Alphlex Teflon Tubing has the further advantage of a high degree of resistance to flexural fatigue and repetitive stresses; coefficient of friction lower than that of any other known solid; and a dielectric constant and power factor lower than that of any other known solid. This tubing will not crack or become brittle during aging.

Because of its resistance to soldering iron temperature, Alphlex Teflon Tubing will not shrink back during the soldering process. Alphlex Teflon Tubing will not melt and flow as do conventional thermoplastic materials. At high frequencies, its dielectric strength is many times that of other insulating materials.

Alphlex Teflon Tubing is chemically inert, has zero moisture absorption and its insulation resistance properties are unaffected by heat aging or temperature use up to 250°C.



**APPLICATIONS:** A thin flexible insulation, Alphlex Teflon Tubing permits a miniaturization and compactness of design never before possible. Invaluable in any application where a high heat resistant, flexible, non-flammable, chemical solvent and corrosion-resistant material is required.

## ALPHLEX® THIN WALL TEFLON TUBING (TFT-200)

ALPHLEX NUMBER	SIZE	NOM. INSIDE DIA. (Inch.)	NOM. WALL THICKNESS (Inch.)	STOCK COLORS	STANDARD PUT-UPS	ALPHLEX NUMBER	SIZE	NOM. INSIDE DIA. (Inch.)	NOM. WALL THICKNESS (Inch.)	STOCK COLORS	STANDARD PUT-UPS
TFT-200/30	30	.012	.009	Nat., Yel., Blk., Red	100' Spools	TFT-200/12	12	.085	.012	Nat., Yel., Blk., Red	100' Spools
TFT-200/28	28	.015	.009	Nat., Yel., Blk., Red	100' Spools	TFT-200/11	11	.095	.012	Nat., Yel., Blk., Red	100' Spools
TFT-200/26	26	.018	.010	Nat., Yel., Blk., Red	100' Spools	TFT-200/10	10	.106	.012	Nat., Yel., Blk., Red	100' Spools
TFT-200/24	24	.022	.010	Nat., Yel., Blk., Red	100' Spools	TFT-200/9	9	.118	.015	Nat., Yel., Blk., Red	100' Coils*
TFT-200/22	22	.027	.010	Nat., Yel., Blk., Red	100' Spools	TFT-200/8	8	.133	.015	Nat., Yel., Blk., Red	100' Coils*
TFT-200/20	20	.034	.012	Nat., Yel., Blk., Red	100' Spools	TFT-200/7	7	.148	.015	Natural Only	100' Coils*
TFT-200/19	19	.038	.012	Nat., Yel., Blk., Red	100' Spools	TFT-200/6	6	.166	.015	Natural Only	100' Coils*
TFT-200/18	18	.042	.012	Nat., Yel., Blk., Red	100' Spools	TFT-200/5	5	.186	.015	Natural Only	100' Coils*
TFT-200/17	17	.047	.012	Nat., Yel., Blk., Red	100' Spools	TFT-200/4	4	.208	.015	Natural Only	100' Coils*
TFT-200/16	16	.053	.012	Nat., Yel., Blk., Red	100' Spools	TFT-200/3	3	.234	.015	Natural Only	100' Coils*
TFT-200/15	15	.059	.012	Nat., Yel., Blk., Red	100' Spools	TFT-200/2	2	.263	.015	Natural Only	100' Coils*
TFT-200/14	14	.066	.012	Nat., Yel., Blk., Red	100' Spools	TFT-200/1	1	.294	.015	Natural Only	100' Coils*
TFT-200/13	13	.076	.012	Nat., Yel., Blk., Red	100' Spools	TFT-200/0	0	.330	.015	Natural Only	100' Coils*

\* RANDOM LENGTHS PACKED IN 100' COILS

## ALPHLEX® STANDARD WALL TEFLON TUBING (TFT-250)

Similar in characteristics to TFT-200 (Thin Wall Tubing), but for use in application where additional dielectric values and mechanical strength are necessary.

ALPHLEX NUMBER	SIZE	NOM. INSIDE DIA. (Inch.)	NOM. WALL THICKNESS (Inch.)	STOCK COLORS	STANDARD PUT-UPS	ALPHLEX NUMBER	SIZE	NOM. INSIDE DIA. (Inch.)	NOM. WALL THICKNESS (Inch.)	STOCK COLORS	STANDARD PUT-UPS
TFT-250/24	24	.022	.012	Natural Only	100' Spools	TFT-250/10	10	.106	.016	Natural Only	100' Spools
TFT-250/22	22	.027	.012	Natural Only	100' Spools	TFT-250/9	9	.118	.020	Natural Only	100' Coils*
TFT-250/20	20	.034	.016	Natural Only	100' Spools	TFT-250/8	8	.133	.020	Natural Only	100' Coils*
TFT-250/19	19	.038	.016	Natural Only	100' Spools	TFT-250/7	7	.148	.020	Natural Only	100' Coils*
TFT-250/18	18	.042	.016	Natural Only	100' Spools	TFT-250/6	6	.166	.020	Natural Only	100' Coils*
TFT-250/17	17	.047	.016	Natural Only	100' Spools	TFT-250/5	5	.186	.020	Natural Only	100' Coils*
TFT-250/16	16	.053	.016	Natural Only	100' Spools	TFT-250/4	4	.208	.020	Natural Only	100' Coils*
TFT-250/15	15	.059	.016	Natural Only	100' Spools	TFT-250/3	3	.234	.020	Natural Only	100' Coils*
TFT-250/14	14	.066	.016	Natural Only	100' Spools	TFT-250/2	2	.263	.020	Natural Only	100' Coils*
TFT-250/13	13	.076	.016	Natural Only	100' Spools	TFT-250/1	1	.294	.020	Natural Only	100' Coils*
TFT-250/12	12	.085	.016	Natural Only	100' Spools	TFT-250/0	0	.330	.020	Natural Only	100' Coils*
TFT-250/11	11	.095	.016	Natural Only	100' Spools						

\* RANDOM LENGTHS PACKED IN 100' COILS

Alpha No.	Sugg. Resale per 100'	Alpha No.	PRICES		Sugg. Resale per 100'	Alpha No.	Sugg. Resale per 100'
TFT-200 30	9.00	TFT-200 12	18.48	TFT-250 24	10.01	TFT-250 9	45.86
TFT-200 28	8.00	TFT-200 11	20.45	TFT-250 22	11.23	TFT-250 8	45.43
TFT-200 26	7.70	TFT-200 10	22.04	TFT-250 20	15.19	TFT-250 7	49.56
TFT-200 24	7.70	TFT-200 9	24.95	TFT-250 19	16.31	TFT-250 6	53.55
TFT-200 22	9.50	TFT-200 8	27.52	TFT-250 18	18.70	TFT-250 5	58.99
TFT-200 20	12.00	TFT-200 7	29.45	TFT-250 17	20.39	TFT-250 4	64.09
TFT-200 19	12.50	TFT-200 6	31.82	TFT-250 16	21.78	TFT-250 3	70.89
TFT-200 18	12.98	TFT-200 5	34.85	TFT-250 15	22.26	TFT-250 2	73.14
TFT-200 17	14.18	TFT-200 4	38.10	TFT-250 14	24.03	TFT-250 1	81.26
TFT-200 16	14.53	TFT-200 3	41.74	TFT-250 13	25.33	TFT-250 0	91.38
TFT-200 15	14.58	TFT-200 2	48.13	TFT-250 12	27.41		
TFT-200 14	16.04	TFT-200 1	52.71	TFT-250 11	30.43		
TFT-200 13	17.17	TFT-200 0	59.14	TFT-250 10	33.02		





# Irradiated Polyolefin Tubing

## NEW ALL-PURPOSE SHRINKABLE TUBING — FIT-221

- SHRINKS 50% (2:1 RATIO) WITH ONLY 5% LONGITUDINAL SHRINKAGE
- FEWER SIZES COVERING MORE APPLICATIONS
- AVAILABLE TO MEET U.L. SPECIFICATIONS
- MEETS MIL-1-23053A (WEP)
- AMS SPECIFICATIONS 3636A (COLOR), 3637 (CLEAR)



**DESCRIPTION:** Alphlex FIT-221 Shrinkable Tubing, when heated, forms a tight-mechanical bond, even over irregularly shaped materials. FIT-221 is available in a range of colors and in clear.

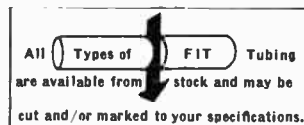
FIT-221 is an all-purpose polyolefin extruded tubing that is simple to use and provides a tight mechanical bond. FIT-221 is an irradiated, thermally stable, modified polyolefin base product. FIT-221 Clear may be used so that jacketed, printed components or cable data is clearly visible and inspection of insulated components, cables or terminations is simplified.

The tubing is supplied in an expanded form and easily slips over the object to be covered. When a temperature of approximately 275°F (135°C) is applied, it immediately returns to its predetermined size (approximately one-half smaller) and forms a permanent tight-fitting mechanical bond. FIT-221 Tubing will not cold-flow or melt but retains form stability

throughout its temperature range. No radioactivity exists in or on the material and it will not emit radiation. Longitudinal shrinkage is 5% maximum when completely recovered.

Controlled shrinkage to the correct predetermined size takes place within seven seconds at 225°F to 255°F. Shrinkage will begin at 235°F, but at a somewhat slower rate. When using an oven, temperature may range from 235°F to 300°F. Prolonged exposure to these temperatures will not affect the physical or electrical properties of FIT-221 Shrinkable Tubing. FIT-221 Clear Tubing remains transparent over its entire operating range of -55°C to 135°C.

**FLAMMABILITY:** Although FIT-221 Clear is a high temperature material, it is flammable and will burn. However, when the tubing is shrunk over non-flammable or flame-resistant components, such as connectors, terminals and wire, the entire assembly will not support combustion.



**DIMENSIONS CHART**

ALPHLEX NO. FIT-221	EQUIVALENT TO FIT-275/270	SIZE	MIN. I.D. BEFORE SHRINKAGE (Inches)	RECOVERED I.D. AFTER SHRINKAGE (Inches)	RECOVERED NOM. WALL THICKNESS (Inches)	STANDARD PACKAGE* 4' LENGTHS		STANDARD PACKAGE* 6" LENGTHS	
						TOT. FTG.	NO. OF LGTHS.	TOT. FTG.	NO. OF LGTHS.
FIT-221- $\frac{3}{4}$ "	FIT-275-24	$\frac{3}{4}$	.046	.023	.016	100'	25	20'	40
FIT-221- $\frac{1}{2}$ "	FIT-275-22, 20	$\frac{1}{2}$	.063	.031	.017	100'	25	18'	36
FIT-221- $\frac{3}{16}$ "	FIT-275-18, 16	$\frac{3}{16}$	.093	.046	.020	100'	25	16'	32
FIT-221- $\frac{1}{8}$ "	FIT-275-14	$\frac{1}{8}$	.125	.062	.020	100'	25	14'	28
FIT-221- $\frac{3}{16}$ "	FIT-275-12, 10	$\frac{3}{16}$	.187	.093	.020	100'	25	12'	24
FIT-221- $\frac{1}{4}$ "	FIT-275-8	$\frac{1}{4}$	.250	.125	.025	100'	25	10'	20
FIT-221- $\frac{3}{8}$ "	FIT-275-6, 4	$\frac{3}{8}$	.375	.187	.025	100'	25	8'	16
FIT-221- $\frac{1}{2}$ "	FIT-275-2, $\frac{5}{16}$ "	$\frac{1}{2}$	.500	.250	.025	20'	5	7'	14
FIT-221- $\frac{3}{4}$ "	FIT-275- $\frac{3}{8}$ ", $\frac{7}{16}$ "	$\frac{3}{4}$	.750	.375	.030	20'	5	6'	12
FIT-221-1"	FIT-275- $\frac{1}{2}$ ", $\frac{5}{8}$ "	1	1.000	.500	.035	20'	5	4'	8
FIT-221-1 $\frac{1}{2}$ "	FIT-275- $\frac{3}{4}$ ", $\frac{7}{8}$ "	1 $\frac{1}{2}$	1.500	.750	.040	20'	5	2.5'	5
FIT-221-2"	FIT-275-1", 1 $\frac{1}{4}$ "	2	2.000	1.000	.045	20'	5	1.5'	3
FIT-221-3"	FIT-275-1 $\frac{1}{2}$ ", 1 $\frac{3}{4}$ "	3	3.000	1.500	.050	8'	2	1'	2
FIT-221-4"	FIT-275-2"	4	4.000	2.000	.055	8'	2	.5'	1

**STOCK COLORS** — Black White, Red, Yellow, Blue, and Clear

\*STANDARD PACKAGE FIT-221 Tubing is available ONLY in the specified packages. When ordering, indicate package desired (6 inches or 4 foot).

For Details On Alpha's Complete Line Of Shrinkable Tubing — Write For Alpha Catalog.



**ALPHA WIRE**



# Irradiated Polyvinylchloride Tubing FIT-105

All Types of FIT Tubing are available from stock and may be cut and/or marked to your specifications.

**HIGHLY FLEXIBLE — IDEAL FOR CABLE JACKETING**

**Conforms to MIL-1-631D, Type F, Form U, Grade C, Class 1, Cat. 1**

**SHRINKAGE RATIO 2:1 (50% Shrinkage)**

**DESCRIPTION:** Alphlex FIT-105 is an easy-to-use modified polyvinylchloride that provides a snug, extremely flexible insulation.

Because of its flexibility, strength and its ability to shrink 50% on application of heat, FIT-105 is ideally suited for insulating components and cables with a wide variation in shape and diameter.

Because of the 50% expanded diameter of FIT-105 Tubing, it is an extremely useful cable jacketing material. Cable cores may be pulled through FIT-105 Tubing with comparative ease and shrunk down to form a jacket with all the qualities of the finest extruded plastic jackets.

The tubing is supplied in expanded form and in continuous lengths. When a temperature of approximately 347°F (175°C) is applied, Alphlex FIT-105 Tubing immediately returns to its predetermined size (approximately 50% smaller), and forms a permanent, tight-fitting mechanical bond. FIT-105 Tubing will not cold-flow or melt but retains form stability within its temperature range. No radioactivity exists in or on the material and it will not emit radiation. Longitudinal shrinkage is less than 10%.

Controlled shrinkage to the correct predetermined size takes place within seven seconds at 325°F, or above. When using an oven, temperature may range from 325°F to 350°F.



## DIMENSIONS CHART

ALPHLEX NO. (BLACK ONLY)	SIZE (Inches)	MINIMUM I.D. BEFORE SHRINKING (Inches)	RECOVERED I.D. AFTER SHRINKING (Inches)	NOMINAL WALL THICKNESS (Inches)	STANDARD PUT-UP (Feet)
FIT-105- $\frac{3}{64}$	$\frac{3}{64}$	.046	.023	.020	25, 100, 500
FIT-105- $\frac{1}{16}$	$\frac{1}{16}$	.062	.031	.020	25, 100, 500
FIT-105- $\frac{3}{32}$	$\frac{3}{32}$	.093	.046	.020	25, 100, 200
FIT-105- $\frac{1}{8}$	$\frac{1}{8}$	.125	.062	.025	25, 100, 200
FIT-105- $\frac{3}{16}$	$\frac{3}{16}$	.187	.093	.025	25, 100, 200
FIT-105- $\frac{1}{4}$	$\frac{1}{4}$	.250	.125	.025	25, 100, 200
FIT-105- $\frac{3}{8}$	$\frac{3}{8}$	.375	.187	.030	25, 100, 200
FIT-105- $\frac{1}{2}$	$\frac{1}{2}$	.500	.250	.030	25, 100
FIT-105- $\frac{3}{4}$	$\frac{3}{4}$	.775	.375	.035	25, 100
FIT-105-1	1	1.000	.500	.040	25, 100
FIT-105-1 $\frac{1}{2}$	1 $\frac{1}{2}$	1.500	.750	.045	25, 100
FIT-105-2	2	2.000	1.000	.050	10, 25, 50

**STOCK COLOR — BLACK**

**LONG LENGTHS — MAXIMUM THREE LENGTHS PER PUT-UP.**

Alpha No.	Footage	Sugg. Resale	<b>PRICES</b>			Alpha No.	Footage	Sugg. Resale
FIT-105- $\frac{3}{64}$	500	31.75	FIT-105- $\frac{3}{16}$	200	26.30	FIT-105- $\frac{3}{8}$	25	8.61
FIT-105- $\frac{1}{16}$	100	9.15	FIT-105- $\frac{1}{8}$	100	13.90	FIT-105-1	100	40.00
FIT-105- $\frac{3}{32}$	25	2.95	FIT-105- $\frac{3}{16}$	25	4.35	FIT-105-1	25	12.20
FIT-105- $\frac{1}{8}$	500	33.25	FIT-105- $\frac{1}{4}$	200	33.00	FIT-105-1 $\frac{1}{2}$	100	65.75
FIT-105- $\frac{3}{16}$	100	9.50	FIT-105- $\frac{1}{4}$	100	17.25	FIT-105-1 $\frac{1}{2}$	25	19.73
FIT-105- $\frac{1}{8}$	25	3.06	FIT-105- $\frac{3}{8}$	25	5.33	FIT-105-2	50	56.60
FIT-105- $\frac{3}{32}$	200	20.30	FIT-105- $\frac{3}{8}$	200	36.50	FIT-105-2	25	28.80
FIT-105- $\frac{1}{8}$	100	10.90	FIT-105- $\frac{1}{2}$	100	19.00	FIT-105-2	10	11.57
FIT-105- $\frac{3}{32}$	25	3.48	FIT-105- $\frac{1}{2}$	25	5.84			
FIT-105- $\frac{1}{8}$	200	21.50	FIT-105-1	100	20.75			
FIT-105- $\frac{3}{8}$	100	11.50	FIT-105-1	25	6.58			
FIT-105- $\frac{1}{8}$	25	3.65	FIT-105-1 $\frac{1}{2}$	100	27.75			



# Irradiated Kynar\* Tubing

## FIT-350

### HIGH TEMPERATURE TUBING

A tough, thin wall tubing with outstanding cut-through and abrasion resistance. Semi-rigid polyvinylidene fluoride.

10 sizes cover complete range of .032 — 1 inch

Clear and non-flammable

**SHRINKAGE RATIO 2:1 (50% Shrinkage)**

**DESCRIPTION:** Alphalex FIT-350 is a new shrinkable tubing with outstanding temperature and physical characteristics and high dielectric strength. Longitudinal shrinkage is only 5%.

FIT-350 is an extremely tough extruded tubing that can be repeatedly flexed, bent, or twisted without loss of its mechanical or electrical strength. Supplied as a clear tubing, FIT-350 may be used where inspection or identification of the item covered is necessary.

When a temperature of approximately 347°F. (175°C.) is applied, the tubing immediately returns to its predetermined size (approximately one-half smaller) and forms a permanent, tough mechanical bond.

FIT-350 will never cold flow or melt and will not split when shrunk over sharp or irregularly shaped objects.

FIT-350 is non-flammable and will operate continuously at temperatures from -55°C to +175°C. It will withstand intermittent heat shock at temperatures up to 350°C.

Compared with other fluorocarbon tubing types, FIT-350 has markedly superior abrasion, cut-through, and cold flow properties.

**SHRINKING METHODS:** The use of a hot air gun (Alpha HG-1) is recommended as being generally the easiest heating method. However, excellent results may be achieved by the use of an oven, radiant heat, dipping in hot liquids, or heating with a soldering iron, burner, or even the flame of a match.

NEW



All FIT-350 Tubing available from stock and may be cut and/or marked to your specifications.



#### DIMENSIONS CHART

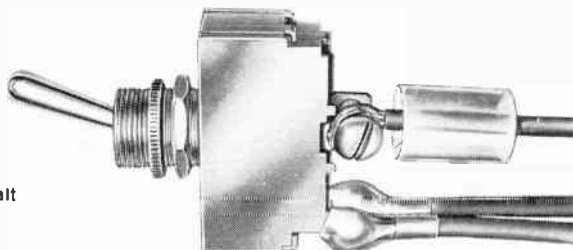
ALPHA NO.	MIN. I.D. BEFORE SHRINKAGE (Inches)	RECOVERED I.D. AFTER SHRINKAGE (Inches)	RECOVERED NOM. WALL THICKNESS (Inches)	STANDARD PACKAGE* 4' LENGTHS		STANDARD PACKAGE 6" LENGTHS	
				TOTAL FOOTAGE	NO. OF LENGTHS	TOTAL FOOTAGE	NO. OF LENGTHS
FIT-350- $\frac{3}{4}$ "	.046	.023	.010	100'	25	16'	32
FIT-350- $\frac{1}{2}$ "	.063	.031	.010	100'	25	14'	28
FIT-350- $\frac{3}{32}$ "	.093	.046	.010	100'	25	12'	24
FIT-350- $\frac{1}{8}$ "	.125	.062	.010	100'	25	10'	20
FIT-350- $\frac{3}{16}$ "	.187	.093	.010	100'	25	8'	16
FIT-350- $\frac{1}{4}$ "	.250	.125	.012	100'	25	6'	12
FIT-350- $\frac{3}{8}$ "	.375	.187	.012	100'	25	4'	8
FIT-350- $\frac{1}{2}$ "	.500	.250	.012	20'	5	2'	4
FIT-350- $\frac{3}{4}$ "	.750	.375	.017	20'	5	1'	2
FIT-350-1"	1.000	.500	.019	20'	5	5'	1

**STANDARD PACKAGE:** FIT-350 tubing is available only in the specified packages. When ordering, indicate package desired (6 inches or 4 foot).

**STOCK COLOR: CLEAR ONLY**



\*T.M. Pennsalt



#### PRICES — 4' Lengths

Alpha No.	No. of Lengths	Footage	Sugg. Resale	Alpha No.	No. of Lengths	Footage	Sugg. Resale
FIT-350- $\frac{3}{4}$ "	25	100	14.70	FIT-350- $\frac{1}{4}$ "	25	100	41.20
FIT-350- $\frac{1}{2}$ "	25	100	16.05	FIT-350- $\frac{3}{8}$ "	25	100	58.90
FIT-350- $\frac{3}{32}$ "	25	100	19.30	FIT-350- $\frac{1}{2}$ "	5	20	22.46
FIT-350- $\frac{1}{8}$ "	25	100	21.20	FIT-350- $\frac{3}{4}$ "	5	20	41.27
FIT-350- $\frac{3}{16}$ "	25	100	32.85	FIT-350-1"	5	20	75.88

# BELDEN • PRICE LIST

 Reference  
 Bulletin E67P-17  
 July 17, 1967

Trade Number Length in ft.	Suggested Trade Price Each	Trade Number Length in ft.	Suggested Trade Price Each	Trade Number Length in ft.	Suggested Trade Price Each	Trade Number Length in ft.	Suggested Trade Price Each
8000-50	1.20	8081	2.93	8215-100	11.65	8245-1000 (RG-55/U)	72.80
8000-75	1.73	8082	3.25	8215-500	50.65	8254-100 (RG-62/U)	6.15
8000-100	2.18	8083	3.80	8215-1000	101.25	8254-500 (RG-62/U)	22.90
8000-1000	19.90	8084	4.70	8216-100 (RG-174/U)	3.60	8254-1000 (RG-62/U)	45.80
8002-50	.87	8085	5.61	8216-500 (RG-174/U)	13.05	8255-500 (RG-62B/U)	26.25
8002-100	1.50	8086	7.30	8216-1000 (RG-174/U)	26.10	8255-1000 (RG-62B/U)	52.50
8008-100	4.05	8150-98	.98	8217-100 } TBO (Use	5.70	8257-500 (RG-71/U)	37.90
8008-150	5.80	8151-98	.98	8217-500 } 8221)	22.05	8257-1000 (RG-71/U)	75.80
8008-500	18.00	8152-98	.98	8217-1000	44.10	8258-500 (RG-71B/U)	36.40
8009-100	2.55	8153-98	.98	8218-100	5.05	8258-1000 (RG-71B/U)	72.80
8009-150	3.50	8154-98	.98	8218-500	18.40	8259-25 (RG-58A/U)	1.95
8009-500	10.50	8155-98	.98	8218-1000	36.80	8259-50 (RG-58A/U)	3.00
8011-100	3.45	8156-98	.98	8219-100	5.70	8259-100 (RG-58A/U)	5.55
8012-100	2.33	8157-98	.98	8219-500	22.05	8259-500 (RG-58A/U)	20.25
8012-1000	19.50	8158-98	.98	8219-1000	44.10	8259-1000 (RG-58A/U)	40.50
8013-100	1.58	8159-98	.98	*8221-100	6.00	8261-100 (RG-11A/U)	12.40
8013-1000	13.15	8160-98	.98	*8221-500	21.00	8261-500 (RG-11A/U)	52.50
8014-25	.57	8161-98	.98	8222-100	1.65	8261-1000 (RG-11A/U)	105.00
8014-500	3.30	8162-98	.98	8222-500	7.50	8262-500 (RG-58C/U)	22.15
8018-50	1.13	8163-98	.98	8225-25	.75	8262-1000 (RG-58C/U)	44.30
8018-500	9.40	8164-98	.98	8225-50	1.17	8263-500 (RG-59B/U)	24.40
8019-100	1.10	8165-98	.98	8225-75	1.52	8263-1000 (RG-59B/U)	48.80
8019-1000	8.20	8166-98	.98	8225-100	1.91	8264-500 (RG-5A/U)	129.00
8020-100	.84	8167-98	.98	8225-250	4.75	8264-1000 (RG-5A/U)	258.00
8020-1000	5.80	8168-98	.98	8225-500	8.95	8265-100• (RG-178B/U)	13.20
8021-100	.71	8169-98	.98	8225-1000	17.20	8265-500• (RG-178B/U)	129.75M'
8021-1000	4.20	8170-98	.98	8225-10000	17.20	8266-100• (RG-180B/U)	36.40
8022-100	.69	8171-98	.98	8226-25	.75	8266-500• (RG-180B/U)	324.75M'
8022-1000	3.60	8172-98	.98	8226-50	1.17	8267-500 (RG-213/U)	57.75
8023-100	.68	8173-98	.98	8226-75	1.52	8267-1000 (RG-213/U)	115.50
8023-1000	3.23	8174-98	.98	8226-100	1.91	8268-500 (RG-214/U)	201.00
8024-100	.66	*8175	1.35	8227-500	49.35	8268-1000 (RG-214/U)	402.00
8024-1000	3.00		per pkg.	8230-25	.86	8269-100• (RG-188A/U)	27.00
8025-100	.66	*8176	.39	8230-50	1.29	8269-500• (RG-188A/U)	244.50M'
8025-1000	2.70		per pkg.	8230-75	1.73	8270-100• (RG-196A/U)	18.25
8040	.86	*8177	1.29	8230-100	2.16	8270-500• (RG-196A/U)	152.00M'
8041	.92		per pkg.	8230-250	5.35	8275-50	2.63
8042	.99	*8178	1.32	8230-500	10.35	8275-75	3.70
8043	1.05		per pkg.	8230-1000	19.75	8275-100	4.50
8044	1.19	*8179	1.35	8230-10000	19.75	8275-250	10.75
8045	1.52		per pkg.	8232-500	43.50	8275-500	21.40
8046	2.03	*8180	1.26	8232-1000	87.00	8275-1000	42.00
8047	1.14		per pkg.	8232-2000	174.00	8279-100	9.00
8048	1.14	*8181	2.40	8233-500	84.75	8279-250	21.00
8049	1.17		per pkg.	8233-1000	169.50	8279-500	39.00
8050	1.17	8190	.98	8233-2000	339.00	8280§ (Cut to customer's specified length Maximum 1500')	727.50M'
8051	1.17	8191	.98	8235-100	4.95	8281-500	76.90
8052	1.20	8196	2.95	8235-500	22.50	8281-1000	153.80
8053	1.26	8197	11.25	8237-50 (RG-8/U)	7.00	8282§ (Cut to customer's specified length Maximum 2000')	322.50M'
8054	1.34	8198	30.40	8237-100 (RG-8/U)	13.15	8283§ (Cut to customer's specified length Maximum 1000')	2640.00M'
8055	1.49	8199	67.60	8237-250 (RG-8/U)	27.75	8284§ (Cut to customer's specified length Maximum 1000')	892.50M'
8056	1.67	8201-100	4.15	8237-500 (RG-8/U)	52.50	8285-50	2.85
8057	1.77	8201-500	17.25	8237-1000 (RG-8/U)	105.00	8285-75	3.85
8058	2.07	8201-1000	34.50	8238-100 (RG-11/U)	11.25	8285-100	4.90
8059	1.17	8205-100	2.85	8238-250 (RG-11/U)	26.25	8285-250	11.65
8060	1.17	8205-500	10.90	8238-500 (RG-11/U)	45.30	8285-500	22.50
8061	1.20	8205-1000	21.75	8238-1000 (RG-11/U)	90.60	8285-1000	45.00
8062	1.23	8208-100	7.30	8239-500 (RG-54A/U)	37.50	8286§ (Cut to customer's specified length Maximum 1000')	750.00M'
8063	1.25	8208-500	32.20	8239-1000 (RG-54A/U)	75.00	8290-50	5.80
8064	1.28	8208-1000	64.40	8240-25 (RG-58/U)	1.75	8290-75	7.80
8065	1.35	8210-100	7.20	8240-50 (RG-58/U)	2.70	8290-100	9.90
8066	1.46	8210-250	16.80	8240-100 (RG-58/U)	4.75	‡8290-250	23.65
8067	1.62	8211-500	22.50	8240-250 (RG-58/U)	10.20	8290-500	47.25
8068	1.76	8211-1000	45.00	8240-500 (RG-58/U)	17.40	8299-25	3.75
8069	2.00	8211-2000	90.00	8240-1000 (RG-58/U)	34.80		(25 per box)
8070	2.39	8212-500	22.50	8241-25 (RG-59/U)	1.95		
8071	2.82	8212-1000	45.00	8241-50 (RG-59/U)	3.10		
8072	3.48	8212-2000	90.00	8241-100 (RG-59/U)	5.50		
8073	1.97	8213-500	59.25	8241-250 (RG-59/U)	12.30		
8074	2.04	8213-1000	118.50	8241-500 (RG-59/U)	19.05		
8075	2.16	8213-2000	237.00	8241-1000 (RG-59/U)	38.10		
8076	2.16	8214-50	7.80	8242-100 (RG-9/U)	34.15		
8077	2.16	8214-100	14.65	8242-1000 (RG-9/U)	315.00		
8078	2.22	‡8214-250	30.00	8243-500 (RG-9B/U)	201.00		
8079	2.37	8214-500	58.50	8243-1000 (RG-9B/U)	402.00		
8080	2.61	8214-1000	117.00	8245-500 (RG-55/U)	36.40		

# BELDEN • PRICE LIST

Trade Number Length in ft.	Suggested Trade Price Each	Trade Number Length in ft.	Suggested Trade Price Each	Trade Number Length in ft.	Suggested Trade Price Each	Trade Number Length in ft.	Suggested Trade Price Each
8300-25 † Solid Color	2.20	8330-500 †•Solid Color	150.00M'	8416-50	3.15	8443-500	11.25
8300-100 †•Solid Color	5.55	8330-1000†•Solid Color	148.50M'	8416-100	5.50	8443-1000	22.50
8300-500 †•Solid Color	48.75M'	8330-1000†•Striped ▲	157.50M'	8416-250	12.60	8444-25	1.28
8300-1000†•Solid Color	48.00M'	8390-25	9.75	8417-15	.98	8444-100	3.75
8300-1000†•Striped ▲	57.00M'	8390-100•	36.75	8417-25	1.31	8444-250	8.10
8301-25 † Solid Color	2.20	8390-500•	367.50M'	8417-50	2.10	8444-500	15.40
8301-100 †•Solid Color	5.70	8391-25	12.15	8417-100	4.00	8444-1000	30.80
8301-500 †•Solid Color	51.75M'	8391-100•	45.00	8417-250	8.65	8445-25	1.43
8301-1000†•Solid Color	51.00M'	8391-500•	450.00M'	8418-100	23.25	8445-100	4.35
8301-1000†•Striped ▲	60.00M'	8392-25	14.65	8418-250	56.25	8445-250	9.60
8302-25 † Solid Color	2.20	8392-100•	54.00	8419-10	.90	8445-500	18.40
8302-100 †•Solid Color	5.85	8392-500•	540.00M'	8419-25	1.58	8445-1000	36.75
8302-500 †•Solid Color	53.65M'	*8393-25	9.75	8419-250	11.35	8446-15	1.43
8302-1000†•Solid Color	52.90M'	*8393-100•	39.00	8420-15	1.65	8446-100	6.45
8302-1000†•Striped ▲	61.90M'	*8393-500•	390.00M'	8420-25	2.50	8446-250	14.70
8303-25 † Solid Color	2.55	8401-15	1.17	8420-50	3.70	8446-500	28.15
8303-100 †•Solid Color	7.20	8401-25	1.53	8420-100	6.90	8446-1000	56.30
8303-500 †•Solid Color	62.25M'	8401-50	2.70	8420-250	17.85	8447-100	7.20
8304-25 † Solid Color	2.50	8401-100	4.95	8420-500	32.40	8447-250	16.50
8304-100 †•Solid Color	6.45	8401-250	10.50	8421-15	1.20	8447-500	31.90
8304-500 †•Solid Color	58.50M'	8401-500	21.00	8421-25	1.58	8447-1000	63.80
8304-1000†•Solid Color	57.75M'	8401-1000	42.00	8421-50	2.85	8448-15	1.58
8304-1000†•Striped ▲	66.75M'	*8402-100	11.25	8421-100	4.65	8448-100	7.75
8305-25 † Solid Color	2.70	*8402-250	26.25	8421-250	10.35	8448-250	18.00
8305-100 †•Solid Color	7.80	*8402-500	52.50	8422-15	1.50	8448-500	34.90
8305-500 †•Solid Color	67.50M'	8403-15	1.95	8422-25	2.25	8448-1000	69.80
8305-1000†•Solid Color	66.75M'	8403-50	5.20	8422-50	4.15	8449-15	1.73
8305-1000†•Striped ▲	75.75M'	8403-100	9.60	8422-100	7.30	8449-100	8.40
8306-25 † Solid Color	2.85	8403-250	21.55	8422-250	16.15	8449-250	19.50
8306-100 †•Solid Color	8.10	8403-500	43.15	8422-500	32.30	8449-500	38.25
8306-500 †•Solid Color	75.00M'	8403-1000	86.25	8422-1000	64.60	8449-1000	76.50
8306-1000†•Solid Color	74.25M'	8404-15	2.25	8423-15	2.35	8450-100	3.55
8306-1000†•Striped ▲	83.25M'	8404-100	10.60	8423-50	6.15	8450-250	7.20
8307-25 † Solid Color	3.15	8404-250	24.40	8423-100	11.55	8450-500	13.15
8307-100 †•Solid Color	9.60	8404-500	48.80	8423-250	27.00	8450-1000	26.25
8307-500 †•Solid Color	90.00M'	8404-1000	97.60	8423-500	54.00	8451-100	4.05
8307-1000†•Solid Color	89.25M'	8405-250	28.15	8423-1000	108.00	8451-250	8.70
8307-1000†•Striped ▲	98.25M'	8405-500	56.30	8424-15	2.65	8451-500	16.50
8308-25 † Solid Color	3.15	8405-1000	112.60	8424-50	6.90	8451-1000	33.00
8308-100 †•Solid Color	9.45	8406-100	11.85	8424-100	13.05	8452-25	1.95
8308-500 †•Solid Color	87.00M'	8406-250	27.75	8424-250	30.75	8452-50	3.30
8309-25 † Solid Color	3.75	8406-500	55.50	8424-500	61.50	8452-100	5.80
8309-100 †•Solid Color	11.55	8407-100	23.25	8424-1000	123.00	8452-250	13.20
8309-500 †•Solid Color	109.50M'	8407-250	56.25	8425-100	15.40	8452-500	26.25
8309-1000†•Solid Color	108.75M'	*8408-100	19.30	8425-250	37.50	8452-1000	52.50
8309-1000†•Striped ▲	117.75M'	*8408-250	45.00	8426-100	18.75	8453-50	4.05
8310-25 † Solid Color	4.95	*8408-500	90.00	8426-250	46.50	8453-100	7.65
8310-100 †•Solid Color	14.10	8409	1.05	8427-100	20.25	8453-500	37.50
8310-500 †•Solid Color	135.00M'	8410-25	2.80	8427-250	49.50	8454-50	4.60
8310-1000†•Solid Color	134.25M'	8410-50	4.90	8428-100	13.50	8454-100	8.65
8310-1000†•Striped ▲	143.25M'	8410-100	9.00	8428-500	63.00	8454-500	39.75
8323-25 † Solid Color	3.00	8410-250	21.00	8428-1000	126.00	8454-1000	79.50
8323-100 †•Solid Color	8.85	8410-500	42.00	8429-10	.84	8455-100	8.80
8323-500 †•Solid Color	79.50M'	8411-15	.95	8429-25	1.35	8455-250	21.90
8325-25 † Solid Color	3.10	8411-25	1.31	8429-250	9.30	8456-100	8.50
8325-100 †•Solid Color	9.00	8411-50	2.10	8430-10	.57	8456-500	39.00
8325-500 †•Solid Color	81.00M'	8411-100	3.90	8430-25	.80	8456-1000	78.00
8326-25 † Solid Color	3.25	8411-250	8.25	8430-250	4.80	8457-100	9.15
8326-100 †•Solid Color	9.75	8411-500	16.50	8431-10	.75	8457-500	42.00
8326-500 †•Solid Color	90.75M'	8411-1000	33.00	8431-15	.98	8457-1000	84.00
8326-1000†•Solid Color	90.00M'	8412-25	2.85	8431-25	1.28	8458-100	15.75
8326-1000†•Striped ▲	99.00M'	8412-50	5.35	8431-100	4.05	8458-500	70.50
8327-25 † Solid Color	3.75	8412-100	9.90	8431-500	18.30	8458-1000	141.00
8327-100 †•Solid Color	10.95	8412-250	22.90	8434-100	5.65	8459-100	24.00
8327-500 †•Solid Color	102.00M'	8412-500	45.80	8434-500	25.50	8459-500	111.00
8327-1000†•Solid Color	101.25M'	8412-1000	91.60	8434-1000	51.00	8459-1000	222.00
8327-1000†•Striped ▲	110.25M'	8413-15	1.86	8437-500	21.00	8460-100	3.15
8328-25 † Solid Color	3.75	8413-25	2.70	8437-1000	42.00	8460-500	12.30
8328-100 †•Solid Color	10.80	8413-50	5.05	8441-100	5.40	8460-1000	24.60
8328-500 †•Solid Color	100.50M'	8413-100	9.40	8441-500	24.00	8461-100	4.05
8329-25 † Solid Color	4.35	8413-250	21.75	8441-1000	48.00	8461-500	16.50
8329-100 †•Solid Color	13.80	8413-500	43.50	8442-500	9.30	8461-1000	33.00
8329-500 †•Solid Color	129.00M'	8415-1	1.41	8442-1000	18.60	8462-25 †	1.28
8329-1000†•Solid Color	128.25M'	8415-50	1.28	8443-25	1.11	8462-100 †	3.85
8329-1000†•Striped ▲	137.25M'	8416-15	1.35	8443-100	2.85	8462-250 †	8.80
8330-25 † Solid Color	5.25	8416-25	1.75	8443-250	6.10	8463-50	2.33
8330-100 †•Solid Color	15.75						

# BELDEN • PRICE LIST

Trade Number Length in ft.	Suggested Trade Price Each	Trade Number Length in ft.	Suggested Trade Price Each	Trade Number Length in ft.	Suggested Trade Price Each	Trade Number Length in ft.	Suggested Trade Price Each		
8463-75	3.23	8491	1.73	8516-1000†	Striped ¶	20.50	8537-100 †	Solid Color	2.00
8463-100	4.30	8492-1000	19.50	8517-100 †	Solid Color	2.07	8537-1000†	Solid Color	13.80
8463-500	19.80	8494	1.65	8517-1000†	Solid Color	15.90	8537-100 †	Striped ¶	2.12
8464-50	1.98	8495	1.31				8537-1000†	Striped ¶	14.95
8464-75	2.70	8497-1	1.46	8517-100 †	Striped ¶	2.19	8538-100 †	Solid Color	1.17
8464-100	3.45	8497-500	1.32	8517-1000†	Striped ¶	17.05	8538-500 †	Solid Color	3.55
8464-500	15.15	8499	.98	8518-100 †	Solid Color	2.01	8538-1000†	Solid Color	6.40
8464-1000	30.30	8500-100 †	Solid Color	8518-1000†	Solid Color	15.30	8538-100 †	Striped ¶	1.29
8465-100	7.95	8500-500 †	Solid Color	8519-100 †	Solid Color	1.77	8538-500 †	Striped ¶	4.15
8465-250	18.90	8500-1000†	Solid Color	8519-1000†	Solid Color	13.35	8538-1000†	Striped ¶	7.50
8465-500	36.40	8500-100 †	Striped ¶	8520-100 †	Solid Color	3.68	8541-100		2.40
8465-1000	72.80	8500-1000†	Striped ¶	8520-500 †	Solid Color	16.65	8541-1000		17.25
8466-100	19.90	8501-100 †	Solid Color	8520-1000†	Solid Color	31.20	8542-100		2.55
8466-250	48.75	8501-500 †	Solid Color	8520-100 †	Striped ¶	3.80	8542-1000		18.75
8466-500	97.50	8501-1000†	Solid Color	8520-500 †	Striped ¶	17.25	8543-100		3.00
8466-1000	195.00	8501-100 †	Striped ¶	8520-1000†	Striped ¶	32.35	8543-1000		22.80
8467-100	10.65	8501-1000†	Striped ¶	8521-100 †	Solid Color	2.60	8544-100		3.45
8467-250	24.40	8502-100 †	Solid Color	8521-500 †	Solid Color	10.35	8544-1000		27.75
8467-500	48.75	8502-500 †	Solid Color	8521-1000†	Solid Color	20.25	8545-100		4.50
8467-1000	97.50	8502-1000†	Solid Color	8521-100 †	Striped ¶	2.72	8545-500		20.25
8468-100	27.00	8502-100 †	Striped ¶	8521-500 †	Striped ¶	10.95	8545-1000		39.00
8468-500	127.50	8502-1000†	Striped ¶	8521-1000†	Striped ¶	21.40	8546-100		6.00
8468-1000	255.00	8503-100 †	Solid Color	8522-25 †	Solid Color	.78	8546-500		26.25
8469-100	14.25	8503-500 †	Solid Color	8522-100 †	Solid Color	1.95	8546-1000		52.50
8469-250	33.40	8503-1000†	Solid Color	8522-500 †	Solid Color	7.50	8547-100		103.50
8469-500	66.80	8503-100 †	Striped ¶	8522-1000†	Solid Color	14.49	8548-100		87.75
8469-1000	133.60	8503-500 †	Striped ¶	8522-500 †	Striped ¶	2.07	8549-100		60.75
8470-500	16.50	8503-1000†	Striped ¶	8522-500 †	Striped ¶	8.10	8550-100		41.25
8470-1000	33.00	8504-100 †	Solid Color	8522-1000†	Striped ¶	15.55	8550-500		198.00
8471-500	20.65	8504-500 †	Solid Color	8523-25 †	Solid Color	.66	8551-100		31.50
8471-1000	41.30	8504-1000†	Solid Color	8523-100 †	Solid Color	1.55	8551-500		151.50
8472-25	2.65	8504-100 †	Striped ¶	8523-500 †	Solid Color	5.65	8552-100		24.00
8472-100	9.15	8504-500 †	Striped ¶	8523-1000†	Solid Color	10.50	8552-500		114.00
8472-250	21.75	8504-1000†	Striped ¶	8523-100 †	Striped ¶	1.67	8853-100		12.00
8473-500	33.75	8505-100 †	Solid Color	8523-500 †	Striped ¶	6.25	8553-500		54.00
8473-1000	67.50	8505-500 †	Solid Color	8523-1000†	Striped ¶	11.65	8553-1000		108.00
8474-100	10.65	8505-1000†	Solid Color	8524-25 †	Solid Color	.60	8554-100		6.90
8474-250	25.50	8505-100 †	Solid Color	8524-100 †	Solid Color	1.35	8554-500		30.00
8475-100	6.00	8505-1000†	Striped ¶	8524-500 †	Solid Color	5.05	8554-1000		60.00
8475-500	27.00	8507-100 †	Solid Color	8524-1000†	Solid Color	9.30	8555-100		5.40
8476-100	8.95	8507-1000†	Solid Color	8524-100 †	Striped ¶	1.47	8555-500		23.25
8476-500	39.00	8507-100 †	Striped ¶	8524-500 †	Striped ¶	5.65	8555-1000		46.50
*8477-500	45.00	8507-1000†	Striped ¶	8524-1000†	Striped ¶	10.45	8556-100		4.50
*8477-1000	90.00	8508-100 †	Solid Color	8525-100 †	Solid Color	1.23	8556-1000		36.00
8478-100	6.60	8508-1000†	Solid Color	8525-500 †	Solid Color	4.30	8557-100		3.90
8478-250	15.75	8508-100 †	Striped ¶	8525-1000†	Solid Color	7.85	8557-1000		31.50
8478-1000	63.00	8508-1000†	Striped ¶	8525-100 †	Striped ¶	1.35	8558-100		3.45
*8479-100	12.00	8509-100 †	Solid Color	8525-500 †	Striped ¶	4.90	8558-1000		26.25
*8479-250	29.10	8509-1000†	Solid Color	8525-1000†	Striped ¶	9.00	8559-100		3.15
8481-100	1.80	8509-100 †	Striped ¶	8527-100 †	Solid Color	5.20	8559-1000		22.50
8481-500	5.80	8509-1000†	Striped ¶	8527-500 †	Solid Color	22.90	8561-100 †		7.50
8481-1000	11.55	8510-100 †	Solid Color	8527-1000†	Solid Color	43.50	8561-1000†		63.00
8482-100	2.25	8510-1000†	Solid Color	8528-100 †	Solid Color	1.73	8562-100 †		4.50
8482-500	8.10	8510-100 †	Striped ¶	8528-500 †	Solid Color	6.45	8562-1000†		38.25
8482-1000	16.20	8510-1000†	Striped ¶	8528-1000†	Solid Color	12.30	8563-100 †		4.05
8483-100	2.95	8511-100 †	Solid Color	8529-25 †	Solid Color	.60	8563-1000†		33.40
8483-500	11.55	8511-1000†	Solid Color	8529-100 †	Solid Color	1.35	8564-100 †		3.25
8483-1000	23.10	8511-100 †	Striped ¶	8529-500 †	Solid Color	4.80	8564-1000†		27.40
8484-100	3.75	8511-1000†	Striped ¶	8529-1000†	Solid Color	9.00	8565-100 †		2.70
8484-500	15.85	8512-100 †	Solid Color	8529-100 †	Striped ¶	1.47	8565-1000†		22.15
8484-1000	31.70	8512-1000†	Solid Color	8529-500 †	Striped ¶	5.40	8566-100 †		2.20
8485-100	4.50	8512-100 †	Striped ¶	8529-1000†	Striped ¶	10.15	8566-1000†		18.40
8485-500	19.50	8512-1000†	Striped ¶	8530-25 †	Solid Color	.57	8567-100 †	Solid Color	1.40
8485-1000	39.00	8513-100 †	Solid Color	8530-100 †	Solid Color	1.14	8567-1000†	Solid Color	9.15
8486-500	10.50	8513-1000†	Solid Color	8530-500 †	Solid Color	3.75	8568-100 †	Solid Color	1.13
8486-1000	21.00	8513-100 †	Striped ¶	8530-1000†	Solid Color	7.20	8568-1000†	Solid Color	7.05
8487-500	14.25	8513-1000†	Striped ¶	8530-100 †	Striped ¶	1.26	8569-100 †	Solid Color	1.10
8487-1000	28.50	8514-100 †	Solid Color	8530-500 †	Striped ¶	4.35	8569-1000†	Solid Color	6.55
8488-100	5.25	8514-1000†	Solid Color	8530-1000†	Striped ¶	8.35	8570-100 †	Solid Color	1.02
8488-500	23.65	8514-100 †	Striped ¶	8531-100 †	Solid Color	2.15	8570-1000†	Solid Color	6.10
8488-1000	47.30	8514-1000†	Striped ¶	8531-500 †	Solid Color	8.85	8571-100 †	Solid Color	1.02
*8489-100	6.45	8515-100 †	Solid Color	8531-1000†	Solid Color	17.25	8571-1000†	Solid Color	6.00
*8489-250	14.70	8515-1000†	Solid Color	8535-100 †	Solid Color	2.94	8574-1000†	Solid Color	13.75
*8489-500	28.65	8516-100 †	Solid Color	8535-1000†	Solid Color	21.00	8575-1000†	Solid Color	11.25
*8489-1000	57.30	8516-1000†	Solid Color	8536-100 †	Solid Color	2.10	8576-1000†	Solid Color	10.50
8490	1.50	8516-100 †	Striped ¶	8536-1000†	Solid Color	16.05	8577-1000†	Solid Color	10.20

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Trade Number Length in ft.	Suggested Trade Price Each	Trade Number Length in ft.	Suggested Trade Price Each	Trade Number Length in ft.	Suggested Trade Price Each	Trade Number Length in ft.	Suggested Trade Price Each
8578-1000† Solid Color	9.75	*8652-50	1.80	8691-100	19.90	8742-1000	41.25
8580-100 † Solid Color	31.50	*8652-250	7.50	8691-500	90.00	8743-100	7.75
8580-500 † Solid Color	136.50	*8653-10	.72	8691-1000	180.00	8743-250	18.75
		*8653-50	1.95	8692-100	28.50	8743-500	35.25
8581-100 † Solid Color	24.75			8692-500	136.50	8743-1000	70.50
8581-500 † Solid Color	114.00	*8653-250	8.25	8692-1000	273.00	8744-100	10.90
8582-100 † Solid Color	10.50	*8654-10	.75	8700-25	1.65	8744-250	26.65
8582-1000† Solid Color	96.00	*8654-50	2.10	8700-50	2.70	8744-500	51.00
		*8654-250	9.00	8700-100	4.90	8744-1000	102.00
8583-100 † Solid Color	6.90	*8655-10	2.70	8700-250	11.25	8745-100	18.75
8583-1000† Solid Color	63.00	*8655-50	12.00	8701-100	2.25	8745-250	44.25
8584-100 † Solid Color	5.20	*8655-250	57.00	8701-500	7.90	8745-500	86.25
8584-1000† Solid Color	40.50	*8656-10	4.20	8701-1000	15.75	8745-1000	172.50
8585-100 † Solid Color	3.00	*8656-50	18.75	*8718-500	63.00	8746§ (Cut to customer's specified length maximum 1500')	318.00M'
8585-1000† Solid Color	23.25	*8656-250	90.00	*8718-1000	126.00	8747-100	9.45
8586-100 † Solid Color	2.55	*8657-10	5.70	8719-500	31.15	8747-250	22.80
8586-1000† Solid Color	18.00	*8657-50	25.50	8719-1000	62.30	8747-500	43.50
8589-100	33.00	*8658-10	7.50	8720-500	48.00	8747-1000	87.00
8589-500	156.00	*8658-50	34.50	8720-1000	96.00	8748-100	13.35
8590-100	21.75	*8659-10	11.25	8722-500	28.50	8748-250	31.90
8590-500	102.00	*8659-50	52.50	8722-1000	57.00	8748-500	63.75
8591-100 †	10.50	8660-10	.68	8723-100	5.40	8748-1000	127.50
8591-1000†	94.50	8660-50	2.05	8723-500	24.00	8749-100	23.25
8597-100 † Solid Color	1.25	8660-250	9.30	8723-1000	48.00	8749-250	55.15
8597-1000 Solid Color	7.80	8661-10	.95	8724-250	12.45	8749-500	110.25
8598-100 † Solid Color	1.26	8661-50	3.30	8724-500	24.00	8749-1000	220.50
8598-1000† Solid Color	8.65	8661-250	15.30	8724-1000	48.00	8750§ (Cut to customer's specified length maximum 1500')	420.00M'
8599-100 † Solid Color	1.50	8662-10	2.22	8725-500	107.25	8751§ (Cut to customer's specified length maximum 1500')	858.00M'
8599-1000† Solid Color	10.80	8662-50	9.75	8725-1000	214.50	8752§ (Cut to customer's specified length maximum 1500')	825.00M'
8601	1.05	8662-250	47.25	8726-100	16.50	8753-100	13.50
8602	1.59	8663-10	1.02	8726-500	75.75	8753-250	33.00
8603	1.62	8663-50	3.45	8726-1000	151.50	8753-500	64.50
8604	2.52	8663-250	16.20	8727-100	33.75	8753-1000	129.00
*8605	1.35	*8864-10	.81	8727-500	168.75	8754-100	15.30
*8618-500	40.50	*8864-50	2.40	8727-1000	337.50	8754-250	37.50
*8618-1000	81.00	*8864-250	10.50	*8728-500	35.25	8754-500	73.50
*8619-500	142.50	8668-10	.96	*8728-1000	70.50	8754-1000	147.00
*8619-1000	285.00	8668-50	2.80	8729-500	39.40	8755-500	112.50
8620-100	10.50	8668-250	12.15	8729-1000	78.80	8755-1000	225.00
8620-500	48.75	8669-10	1.62	*8730-500	30.00	8756-500	132.00
8620-1000	97.50	8669-50	6.90	*8730-1000	60.00	8756-1000	264.00
8621-100	17.25	8669-250	33.00	8731-500	17.25	8757-500	26.25
8621-500	79.50	8670-10	3.30	8731-1000	34.50	8757-1000	52.50
8621-1000	159.00	8670-50	15.00	8732-100	6.00	8758-100	4.35
8622-100	30.00	8670-250	72.00	8732-500	25.50	8758-500	17.65
8622-500	138.75	8671-10	2.50	8732-1000	51.00	8758-1000	35.30
8622-1000	277.50	8671-50	11.25	8733-100	6.00	8759-100	4.65
8623-100	42.00	8671-250	55.50	8733-500	25.50	8759-500	19.50
8623-500	202.50	8672-10	1.80	8733-1000	51.00	8759-1000	39.00
8623-1000	405.00	8672-50	7.95	8734-100	4.65	8760-250	11.70
8624-100	51.00	8672-250	36.00	8734-500	19.50	8760-500	22.15
8624-500	240.00	8673-100	8.70	8734-1000	39.00	8760-1000	44.30
8624-1000	480.00	8673-500	42.60	8735-15	1.17	8761-500	14.40
8627-100	18.00	8674-10	.62	8735-50	3.00	8761-1000	28.80
8627-500	82.50	8674-50	1.49	8735-100	5.25	8762-100	4.45
8627-1000	165.00	8674-250	6.75	8735-500	22.50	8762-250	9.90
8628-100	31.50	8675-100	6.75	8735-1000	45.00	8762-500	18.40
8628-500	146.25	8675-500	31.65	8737-100	3.75	8762-1000	36.80
8628-1000	292.50	8676-10	.56	8737-500	16.50	8763-500	22.50
8629-100	51.00	8676-50	1.02	8737-1000	33.00	8763-1000	45.00
8629-500	247.50	8676-250	4.75	8738-1000	30.00	8764-100	24.75
8629-1000	495.00	8677-100	5.10	8739-100	3.55	8764-250	60.40
8640-250	6.45	8677-500	24.15	8739-500	15.00	8764-500	120.80
8640-500	12.15	8678-100	13.20	8740-100	2.22	8764-1000	241.50
8641-100	3.45	8678-500	63.00	8740-250	4.50	8765-100	29.25
8641-500	13.90	8679-100	21.75	8740-500	7.90	8765-250	71.25
8641-1000	27.80	8680-100	19.50	8740-1000	15.75		
8642-250	17.85	8681-100	12.55	8741-100	3.75		
8642-500	33.15	8682-100	6.15	8741-250	8.25		
		8683-100	4.35	8741-500	15.00		
*8643-25	1.95	8684-100	3.15	8741-1000	30.00		
*8643-50	3.25	8685-100	2.40	8742-100	4.90		
*8643-100	5.70	8686-100	12.00	8742-250	10.95		
*8643-250	13.50	8689-100	6.15	8742-500	20.65		
8649-100	2.25	8690-100	10.15				
8649-500	8.10	8690-500	45.75				
8649-1000	16.20	8690-1000	91.50				
*8652-10	.69						

# BELDEN • PRICE LIST

Trade Number Length in ft.	Suggested Trade Price Each	Trade Number Length in ft.	Suggested Trade Price Each	Trade Number Length in ft.	Suggested Trade Price Each	Trade Number Length in ft.	Suggested Trade Price Each
8765-500	142.50	8783-100	5.85	8870-100	32.25	8916-100 †	3.75
8765-1000	285.00	8783-500	26.25	*8871-25	37.50	8916-500 †	15.45
8766-100	39.75	8784-500	52.50	*8871-100	150.00	8917-100 †	2.85
8766-250	95.25	8786-100	7.00	8873-1	.48	8917-500 †	11.40
8766-500	190.50	8786-500	32.25	8873-100	.33	8918-100 †	2.10
8766-1000	381.00	8787-500	63.00	8874	.68	8918-1000†	15.90
8767-100	9.00	8788-500	36.40	8875	.45	8919-100 †	1.75
8767-250	20.65	8789-500	25.90	8878	3.25 pr	8919-1000†	12.75
8767-500	41.25	8789-1000	51.75	8879	1.38 pr	8920-100 †	1.50
8767-1000	82.50	8790-100	5.80	8880-100 †	7.80	8920-1000†	10.15
8768-100	17.70	8790-250	12.40	8880-1000†	70.50	8933-100 †	4.80
8768-250	42.00	8790-500	24.75	8881-100 †	6.00	8933-500 †	20.55
8768-500	84.00	8790-1000	49.50	8881-1000†	54.00	8934-100 †	3.15
8768-1000	168.00	8791-100	7.05	8882-100 †	3.75	8934-500 †	13.20
8769-100	63.00	8791-500	31.50	8882-1000†	33.75	8935-100 †	2.55
8769-250	150.00	8791-1000	63.00	8883-100 †	3.15	8935-1000†	19.65
8769-500	300.00	8794-500	11.25	8883-1000†	26.10	8936-100 †	2.00
8769-1000	600.00	8794-1000	22.50	8884-100 †	5.10	8936-1000†	15.45
8770-500	28.15	8795-500	9.30	8884-1000†	44.25	8937-100 †	1.80
8770-1000	56.25	8795-1000	18.60	8885-15	1.04	8937-1000†	13.00
8771-250	9.30	8800	.83	8885-25	1.40	8950-100 Solid Color	4.00
8771-500	18.15	*8816	6.24	8885-100	4.15	8950-1000 Solid Color	32.25
8771-1000	36.30	8817	.65	8885-500	19.50	8951-100 Solid Color	2.65
8772-500	22.90	8822	6.00	8886-100 †	3.60	8951-1000 Solid Color	21.75
8772-1000	45.75	8823	6.75	8886-1000†	31.50	8952-100 † Solid Color	2.10
8773§ (Cut to customer's specified length maximum 1000')	909.00M'	8824	5.28	8887-100 †	3.00	8952-1000† Solid Color	16.50
8774-100	30.00	8825	9.33	8887-1000†	25.50	8953-100 † Solid Color	1.80
8774-250	71.25	8826	8.73	8888-25 †	1.20	8953-1000† Solid Color	13.50
8774-500	142.50	8827	10.05	8888-100 †	3.15	8954-100 † Solid Color	1.58
8774-1000	285.00	8850-100	9.00	8888-250 †	6.75	8954-1000† Solid Color	11.25
8775-100	35.25	8851-100	7.35	8889-1	.45	8955-100 Solid Color	1.46
8775-250	84.75	8852-100	6.00	8889-100	.33	8955-1000 Solid Color	10.30
8775-500	169.50	8852-500	26.25	8890-25 †	.90	8956-100 Solid Color	4.15
8775-1000	339.00	8853-100	5.25	8890-100 †	2.25	8956-1000 Solid Color	37.50
8776-100	46.80	8853-1000	45.75	8890-500 †	9.45	8957-100 Solid Color	3.00
8776-250	113.25	8854-100	4.65	8892-100	5.10	8957-1000 Solid Color	27.00
8776-500	226.50	8854-1000	40.50	8892-500	21.00	8958-100 † Solid Color	2.55
8776-1000	453.00	8855-100	4.50	8892-1000	42.00	8958-1000† Solid Color	21.00
8777-100	10.35	8855-1000	37.50	8893-100	4.50	8959-100 † Solid Color	2.25
8777-250	25.15	8858-100	9.60	8893-500	18.40	8959-1000† Solid Color	18.00
8777-500	49.15	8858-1000	88.50	8893-1000	36.75	8960-100 † Solid Color	2.10
8777-1000	98.30	8859-100	7.80	8894-100	6.45	8960-1000† Solid Color	15.00
8778-100	19.50	8859-1000	69.75	8894-1000	57.00	8963-100 Solid Color	28.50
8778-250	50.25	8860-100	6.45	8895-1	.45	8963-500 Solid Color	136.50
8778-500	100.50	8860-1000	57.75	8895-100	.27	8964-100 Solid Color	22.65
8778-1000	201.00	8861-100	5.40	8896-100	4.50	8964-500 Solid Color	108.75
8779-500	33.40	8861-1000	46.50	8896-500	20.25	8965-100 Solid Color	8.55
8779-1000	66.80	8862-100	4.80	8896-1000	40.50	8965-1000 Solid Color	85.50
8780-100	7.05	8862-1000	43.50	8897-500	14.65	8966-100 Solid Color	6.45
8780-500	31.90	8863-100	4.30	8897-1000	29.30	8966-1000 Solid Color	64.50
8780-1000	63.80	8863-1000	38.25	8898-10 †	1.05	8967-100 Solid Color	4.00
8781-100	1.65	*8866-25	1.80	8898-25 †	1.95	8967-1000 Solid Color	39.75
8781-500	4.90	*8866-100	5.10	8898-100 †	5.05	8968-100 Solid Color	3.90
8781-1000	9.75	*8866-500	21.75	8898-500 †	21.00	8968-1000 Solid Color	36.75
8782-25	.68	8868-25	1.10	8899-10 †	.75	8969-100 † Solid Color	2.80
8782-50	1.01	8868-100	2.70	8899-14	.81	8969-1000† Solid Color	24.75
8782-100	1.53	8868-500	10.50	8899-25 †	1.15	8970-100 † Solid Color	2.50
8782-500	5.10	8869-25	.95	8899-100 †	3.60	8970-1000† Solid Color	20.25
8782-1000	10.20	8869-100	2.25	8899-500 †	13.00	8971-100 † Solid Color	2.10
		8869-500	8.40	8899-1000†	26.00	8971-1000† Solid Color	16.90

\* New Item † New Put-Up ‡ Specify Color

ALL SPOOLS ARE ONE PIECE EXACT LENGTH. (EXCEPT SPOOLS WITH (\*) FOOTNOTE)

• Spools may contain more than one piece, minimum length of any one piece is 25 ft.

When priced per M ft. length may vary  $\pm 10\%$  from length shown; all other lengths are exact.

§ Cut to Customer's Specified Length subject to available stock lengths—minimum length 25'; 25' to 199', plus 25', minus 0; 200' or over, plus 50', minus 0.

▲ (Teflon Hook-up Wire) Prices apply to any striped color combination in quantities of 1000' or more. Minimum order 1000' per stripe color combination on 500' and 1000' spools only. Stripping adders do not apply to braided tracers—Write for prices on non-stock tracer colors.

¶ (Vinyl Hook-up Wire) Prices apply to standard stock colors as listed in our current catalog and to non-stock striped colors over stock solid colors in quantities of 10,000' or more. Non-stock striped colors over stock solid colors in quantities of 1000' to 9999'; add pro-rata set-up charge of \$4.50 per color combination. Minimum order 1000' per special stripe combination. Special stripe colors in any quantity will be subject to 2 piece put-up and plus or minus 10% per spool.

Prices Subject to Change Without Notice

## COMPLETE CORDS

Reference  
Bulletin C67P-IT Rev.  
July 17, 1967

Trade Number	Single Lot Price Each	Trade Number	Single Lot Price Each	Trade Number	Single Lot Price Each	Trade Number	Single Lot Price Each
1706B	1.89	1714S	2.62	1725B	2.27	1735S	2.13
1706S	2.05	1715B	2.91	1725S	2.43	1775B	3.33
1709B	1.54	1715S	3.07	1734B	1.70	1775S	3.49
1709S	1.70	1724B	1.97	1734S	1.86	1780B	1.47
1714B	2.48	1724S	2.13	1735B	1.97	1780S	1.63



# BELDEN • PRICE LIST

Trade Number	Single Lot Price Each	Trade Number	Single Lot Price Each	Trade Number	Single Lot Price Each	Trade Number	Single Lot Price Each
1782B	2.30	17238B	.69	17419S	1.18	17726C	1.06
1782S	2.46	17238S	.83	17422B	1.30	17727B †	.70
1785B	2.56	17239B	.61	17422S	1.49	17727S	.83
1785S	2.72	17239S	.74	17425S	1.79	17728B †	.70
17106B †	.24	17249S	1.18	17447S	1.52	17728S	.83
17106S †	.34	17258S	1.01	17448S	1.81	17729B	.88
17109B †	.29	17259S	.85	17449S	2.46	17730B	.96
17109S †	.42	17260S	.78	17460S	1.23	17730S	1.12
17112S †	.48	17270C	1.33	17461S	1.41	17756S	.88
17116B	.26	17271C	1.50	17462S	1.52	17806B	.35
17116S	.40	17272C	1.07	17475S	3.70	17806S	.43
17126B	.29	17273C	1.22	17476S	6.29	17826B	.42
17126S	.40	17274C	1.57	17477S	11.39	17826S	.51
17129S	.50	17288C	1.22	17491S	2.21	17836-S	.99
17139B	.32	17290C	1.31	17492S	4.06	17852S	.45
17139S	.46	17291C	1.07	17493S	7.33	17856B	.46
17140S	1.18	17308B	.54	17494S	2.59	17856S	.58
17141S	1.18	17308S	.69	17495S	5.09	17857S	.62
17156S †	.43	17310B	.62	17497S	9.09	17866B	.48
17159S †	.50	17310S	.78	17555S	2.99	17866S	.59
17162S †	.62	17328B	.66	17556S	5.30	17870B	.61
17165S †	.70	17328S	.82	17565S	6.18	17870S	.74
17177S	.82	17330B	.77	17566S	11.20	17876S	.74
17186B	.32	17330S	.91	17629B	1.92	17886S	1.12
17186S	.45	17359B	.86	17629S	2.21	17887S	1.17
17194S	2.46	17361S	1.02	17635S	3.26	17888S	1.31
17195S	4.19	17370S	1.17	17656S	2.16	17922	.32
17205B †	.40	17375S	2.77	17659S	2.66	17923S	.58
17205S	.53	17405B	.59	17662S	3.25	17925S	2.32
17206B	.46	17405S	.74	17675S	7.78	17931S	.72
17206S	.62	17406B	.62	17676S	13.81	17932S	2.24
17220B	1.14	17406S	.78	17694S	5.44	17933S	3.36
17220C †	1.18	17407B	.69	17695S	9.54	17940S	16.75
17221C †	1.41	17407S	.82	17697S	17.58	17943S	26.83
17222C †	.96	17408B	.74	17706B	.59	17945S	27.20
17223C †	1.06	17408S	.90	17706S	.69	17950S	3.52
17236B	.59	17409B	.82	17707B	.64	17995S	5.28
17236S	.74	17412B	1.07	17723C	.96	17996S	7.84
17237B	.51	17412S	1.23	17724C	.96	17998S	7.36
17237S	.66	17419B	1.01	17725B	.74	17999S	9.76

† Specify color.

## PORTABLE CORDAGE

Reference Bulletin P67P-IT July 17, 1967

Trade Number & Standard Pkg. In Ft. 2S-250=2-250 Spis. 4S-250=4-250 Spis. C=Coil	Suggested Trade Net Per M Feet 250 to 999	Trade Number & Standard Pkg. In Ft. 2S-250=2-250 Spis. 4S-250=4-250 Spis. C=Coil	Suggested Trade Net Per M Feet 250 to 999	Trade Number & Standard Pkg. In Ft. 2S-250=2-250 Spis. 4S-250=4-250 Spis. C=Coil	Suggested Trade Net Per M Feet 250 to 999	Trade Number & Standard Pkg. In Ft. 2S-250=2-250 Spis. 4S-250=4-250 Spis. C=Coil	Suggested Trade Net Per M Feet 250 to 999
18100 C-250	346.82	18123 2S-250 †	37.73	18205 C-250	574.85	*18216 C-200	471.96
18101 C-250	260.28	18124 2S-250	158.40	18206 C-250	422.35	*18217 C-50	363.17
18102 C-250	183.24	18125 2S-250	113.11	18207 C-250	334.94	*18217 C-200	363.17
18103 2S-250	117.00	18126 2S-250 †	46.66	18208 C-250	207.72	18227 2S-250	85.46
18104 2S-250	101.16	18127 2S-250	59.04	18209 C-250	183.96	18228 2S-250	96.34
18105 C-250	444.74	18128 2S-250	81.72	*18210 C-50	799.92	18229 2S-250	102.38
18106 C-250	340.78	18129 2S-250	81.72	*18210 C-200	799.92	18230 2S-250	142.99
18107 C-250 †	254.38	18130 2S-250	115.99	*18211 C-50	1119.89	18231 2S-250	128.81
18108 C-250	162.72	18140 2S-250	56.16	*18211 C-200	1119.89	18314 2S-250	92.45
18109 C-250	139.68	18141 2S-250 †	76.82	*18213 C-25	1535.76	18316 2S-250	83.16
18110 2S-250	102.38	18142 2S-250 †	102.38	*18213 C-100	1535.76	18326 2S-250	68.47
18111 2S-250	76.82	18200 C-250	448.34	*18214 C-25	1087.92	18328 2S-250	55.22
18115 4S-250 †	33.62	18201 C-250	351.00	*18214 C-100	1087.92	18336 2S-250	81.58
18120 2S-250 †	56.16	18202 C-250	243.65	*18215 C-50	648.00	18338 2S-250	68.76
18121 2S-250 †	42.26	18203 2S-250	153.36	*18215 C-200	648.00		
18122 4S-250 †	28.51	18204 2S-250	133.92	*18216 C-50	471.96		

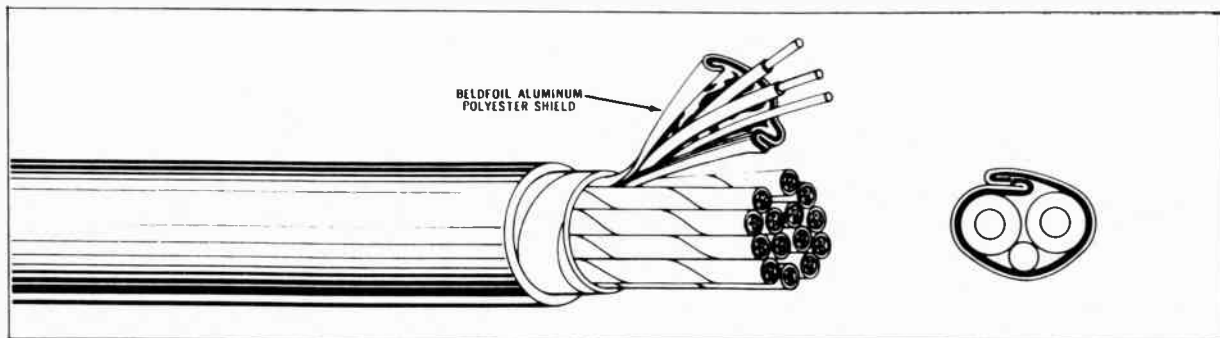
\* New Item † Specify Color  
Shipped only in standard packages as listed. Production quantities of special wires quoted on request.

Reference Bulletin HST-67P-IT REV. 2 July 17, 1967

Prices Subject to Change Without Notice

## HEAT SHRINKABLE TUBING

Trade No.	Suggested Trade Price 4' Per Piece	Trade No.	Suggested Trade Price 6" Per Piece	Trade No.	Suggested Trade Price 6" Per Pkg.	Trade No.	Suggested Trade Price Per Spool
68002	.56	68041	4.15	68231	2.60	68534	16.41
68012	.59	68051	5.00	68241	2.90	68535	35.40
68022	.68	68061	6.25	68251	3.40	68543	4.80
68032	.72	68071	7.15	68261	4.50	68544	17.85
68042	.88	68081	8.30	68271	5.00	68545	39.10
68052	1.11	68091	5.00	68281	5.70	68553	5.53
68062	1.23	68101	8.00			68554	18.70
68072	1.40	68111	6.65			68555	43.35
68082	1.87	68121	10.00	68205	36.55	68556	6.38
68092	2.62	68131	20.00	68215	38.25	68563	22.53
68102	3.93			68235	19.04	68573	6.93
68112	5.42			68245	23.12	68574	24.65
68122	8.60			68255	28.90	68583	8.76
68132	12.53			68265	32.13	68584	32.94
				68513	3.27	68593	9.35
				68514	10.75	68594	35.70
				68515	22.82	68603	15.30
				68523	3.74	68604	58.65
				68524	12.84	68613	22.10
				68525	28.26	68614	86.70
				68533	4.46		



# The Beldfoil ISO-Shield Story

Much of today's miniaturized, high-gain electronic equipment calls for small diameter cables that are lightweight, flexible and has total electrostatic shielding.

Wire braid and serve type shields have a practical range up to 97 percent maximum coverage. While they provide sufficient electrostatic shielding for many applications, they do not furnish the full-coverage shielding required by many high-gain electronic systems.

Beldfoil ISO-Shield provides 100 percent coverage and adds greater effectiveness to all major shielding functions: excluding external signals, confining the transmitted signal and minimizing crosstalk.

Beldfoil ISO-Shield uses a thin layer of aluminum bonded to a polyester film. The aluminum provides the necessary electrostatic shielding while the polyester film adds a bonus insulation and increased mechanical strength. The 100% shielding is accomplished by an exclusive

method of folding back both edges of the tape in such a way as to provide metal-to-metal contact between adjacent wraps, thus providing the same shielding effect as a continuous aluminum tube. As a direct result of using this thin layer of aluminum-polyester shielding, Beldfoil ISO-Shield is lightweight, flexible and small in diameter. Depending on the cable type the polyester film may be used to increase the dielectric strength between the conductors and the shield, or to provide insulation between adjacent shields.

Applications for Beldfoil ISO-Shield range from a single conductor audio and sound cable to complex multi-conductor multi-shield cables. They include cables for data processing systems, telemetering equipment, strain gauge applications, hi-fi systems, instrumentation, TV cameras and receivers, microphones and communications equipment plus many special constructions for both military and commercial use.

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Cords:		MIL-W-5086	33	Teflon Haak-up Wire	30, 41
Cheater Cards	21	MIL-W-7078	33	Teflon Cables	41
Cardlites	50	JAN-C-17	25, 26	Telephone Cables	13-15, 17
Card Reels	51	Multiple Conductor Cables	8-15	Test Prod Wire	22
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Retractable Cards	17	POLYTHERMALEZE	18	UL Type Cardage	22, 52-54
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Enamel Wire	18			Video Cable	24
				WELDOHM	20

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# BELDEN TODAY

*new ideas for moving electrical energy*

## FOREWORD

The purpose of this catalog is to make the selection, purchase and overall usage of Belden Electronic Wire and Cable products easier for you, the customer.

Many of the products listed in this catalog have enjoyed wide acceptance over the years. Some of the newer items are on the way to earning their own reputations for excellence and reliability in the field. They are the recent products of Belden's product development engineering group which starts with the electrical, physical and thermal needs of the applications. Working from the ground up they design and develop a wire, cable or cord that will meet or exceed these requirements.

## INNOVATIONS

Over the years, Belden has pioneered the development of a number of significant design breakthroughs and new engineering techniques which have provided remarkable new products to meet the challenging and ever-changing technology.

Whatever your specialized problems . . . whatever your needs for wire and cable, you can count on Belden's experienced design and engineering talents and resources to help you develop the best solutions to your wire and cable application problems.

Belden is constantly reviewing new materials, insulations, compounds and shielding applications to develop products to satisfy customer's needs.

## TESTING

Belden's products must meet the highest standards of quality control in the industry. High-performance test equipment can simulate practically every known environmental or electrical condition to assure positive, reliable ratings for the most trouble-free operation under known and predictable conditions. Belden's rigid test program assures consistent product reliability from design through packaging.

## MANUFACTURING

Belden designs and builds much of its own specialized manufacturing equipment. To the customer, this means only one thing: scrupulous and uncompromising supervision of the entire manufacturing process that starts with the equipment used to make the product and assures complete, beginning to end, manufacturing integrity.

## SALES ENGINEERING

The total experience and capability of Belden's engineering department is available to you at any time to assist in specifying or developing wiring products that can provide the best and most practical solutions to your specific application requirements.

## NEW ITEMS

### NEW: 8477 UNSHIELDED CABLE

A flexible 12 AWG 2 conductor unshielded cable designed to meet heavy duty application requirements in the areas of instrumentation, sound installation and communications. Cable is suitable for direct burial and may be used as a primary wire or speaker lead for low impedance sound systems.

*Available in 500 and 1000 ft. put-ups.*

**See Page 14 for Further Technical Information.**

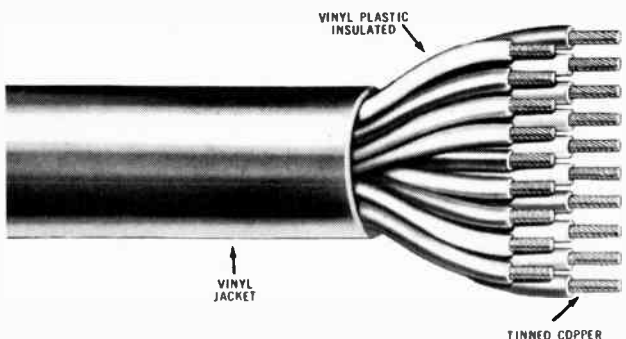
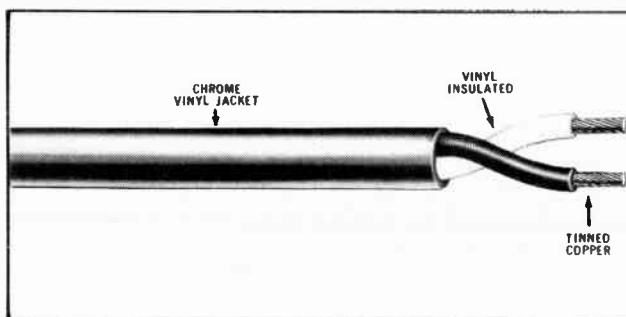
### NEW: 8619 CONTROL AND AUDIO CABLE

A new addition to our complete coverage of multi-conductor control and audio cables.

Specially designed for sound system installations, control wiring and remote control equipment. Construction is 18 AWG, 19 conductors with a tough outer jacket suitable for direct burial. Because it has a comparatively small diameter, it may also be pulled in conduit. Meets IPCEA color code requirements.

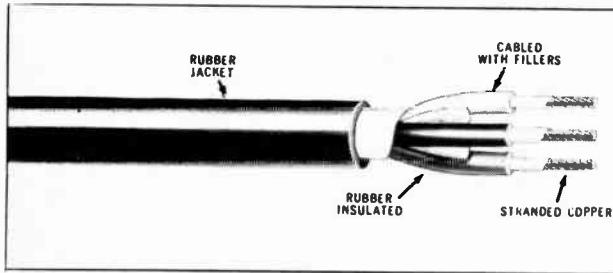
*Available in 500 and 1000 ft. put-ups.*

**See Page 15 for Further Technical Information.**



# Belden

new items

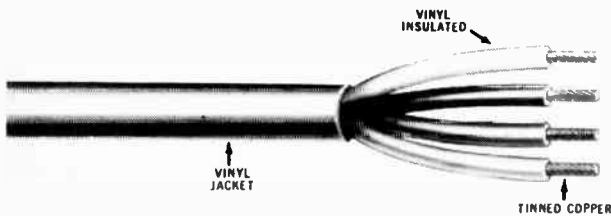


### NEW: 8479 PORTABLE CORDAGE

A 14 AWG 3 conductor portable cordage, designed for extra flexible service in many higher amperage applications.

Available in 100 and 250 ft. put-ups.

See Page 22 for Further Technical Information.

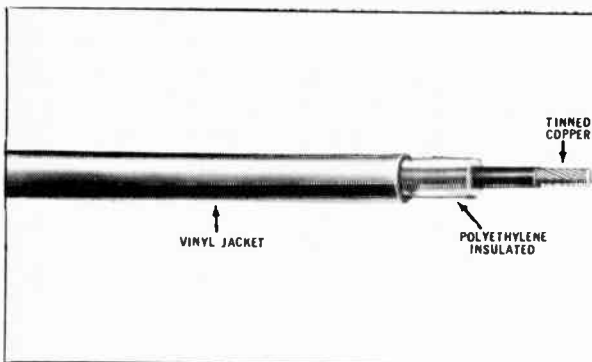


### NEW: 8489 COMMUNICATIONS CABLE

Designed to be used for longer runs, up to 180 feet, of rotor control cable. May also be used as control and audio cable. Features 4 conductors for heavy duty use. 18 AWG construction permits control over greater distances.

Available in 100, 250, 500 and 1000 ft. put-ups.

See Page 15 and Page 21 for Further Technical Information.

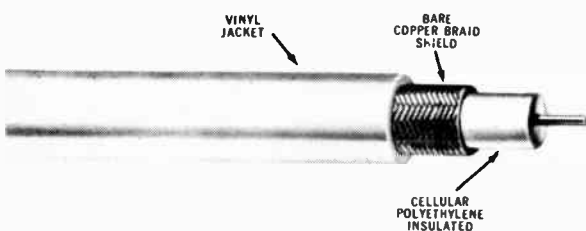


### NEW: 8866 HIGH VOLTAGE CABLE

An economical, small diameter 40 KVDC cable designed for use in the manufacture and repair of cathode ray tube leads used in color TV sets and oscilloscopes. Features a complete bond between the conductor and polyethylene insulation for longer service life. Has a breakdown voltage greater than 80 KVDC.

Available in 25, 100 and 500 ft. put-ups.

See Page 27 for Further Technical Information.

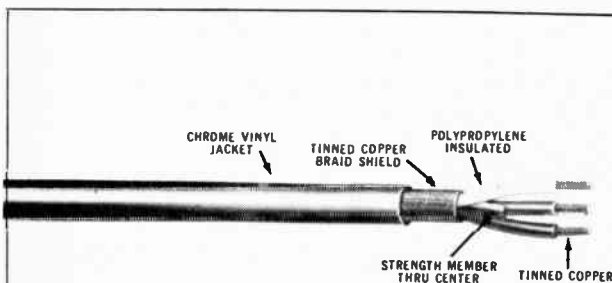


### NEW: 8221 TV DISTRIBUTION CABLE

An excellent all-around cable engineered to meet the multiple requirements of master antenna and closed circuit TV systems; indoor/outdoor applications and as a CATV drop wire. Cable features a flexible all-weather vinyl jacket available in black, white or gray. Easily installed with standard RG 59/U connectors.

Available in 100, 500 and 1000 ft. put-ups.

See Page 26 for Further Technical Information.

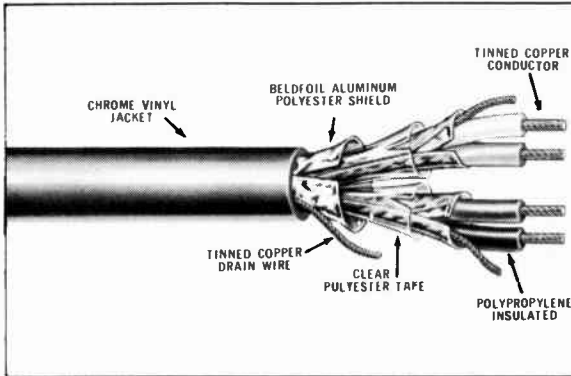


### NEW: 8643 INSTRUMENTATION CABLE

A miniature 30 AWG 3 conductor shielded cable. Strong and flexible for use with low level signals in medical and other instruments. Also recommended for use as a small microphone cable. Ultra-small O.D. measures only .086". Specially designed with added member for increased tensile strength. Features 105°C vinyl jacket. Suitable for steam autoclaving.

Available in 25, 50, 100 and 250 ft. put-ups.

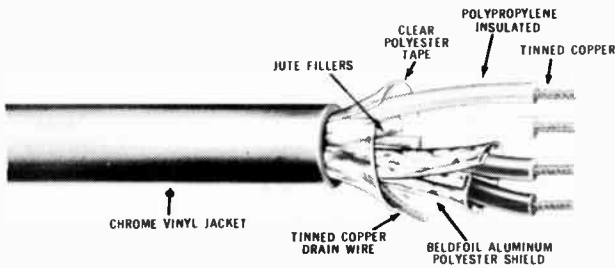
See Page 8 for Further Technical Information.

**NEW: 8728 STRAIN GAUGE CABLE**

Introduced to meet application requirements for a shielded cable with two pairs of conductors. The shielding provides maximum electrostatic isolation from each other. Designed for use in instrumentation, strain gauge and in audio and data transmission equipment electronics. Features 100% Beldfoil ISO-Shield coverage and a very hard insulation with a low dielectric constant and a good capacitance rating. Conductors 22 AWG.

Available in 500 and 1000 ft. put-ups.

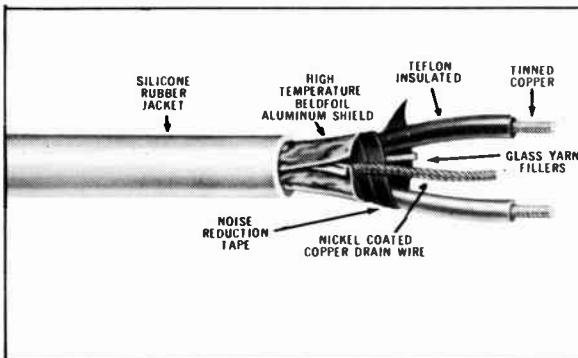
See Page 9 for Further Technical Information.

**NEW: 8730 COMMUNICATIONS CABLE**

Specially designed to reduce feedback problems in high level, low impedance intercom systems such as paging circuit equipment. Recommended for use in audio and sound applications that require shielded cable. Separate axis construction provides excellent freedom from magnetic coupling (feedback) between pairs. Conductors 22 AWG.

Available in 500 and 1000 ft. put-ups.

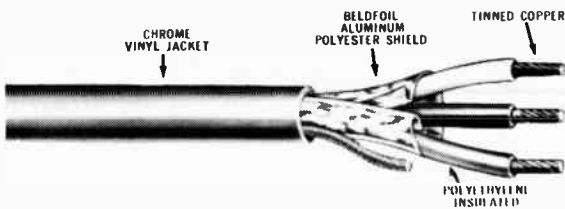
See Page 9 for Further Technical Information.

**NEW: 8393 INSTRUMENTATION CABLE**

This high-temperature 20 AWG instrumentation cable features a FEP teflon insulation and silicone rubber jacket which qualifies it for operating application requirements up to 150°C. It is recommended for instrumentation use and for applications requiring excellent electrical and physical properties or high or low temperatures and resistance to chemicals. Yellow color provides high visibility and easy identification.

Available in 25, 100 and 500 ft. put-ups.

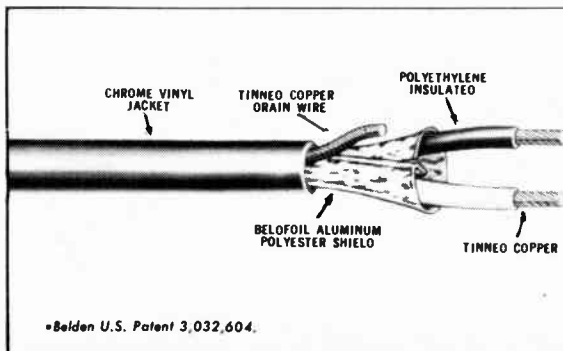
See Page 8 and 41 for Further Technical Information.

**NEW: 8618 INSTRUMENTATION CABLE**

A highly effective 16 AWG 3 conductor shielded cable suitable for a variety of instrumentation, and communications cable applications. Especially engineered and shielded for high current installations at both audio and radio frequencies.

Available in 500 and 1000 ft. put-ups.

See Page 8 for Further Technical Information.

**NEW: 8718 COMMUNICATIONS CABLE**

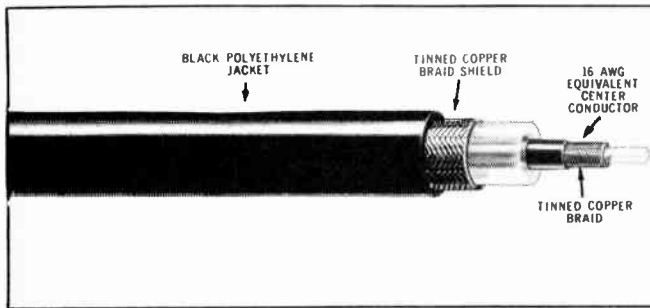
This cable has been designed to fill the need for a high-current, low-loss Beldfoil shielded pair. It is recommended for use in the fields of instrumentation and in audio applications. Its total shielding, large current-carrying ability and low loss characteristics make it especially suitable for use in high power sound systems where shielded speaker lines are required and in applications requiring very long runs of cable. Conductors 12 AWG.

Available in 500 and 1000 ft. put-ups.

See Page 7 for Further Technical Information.

•Belden U.S. Patent 3,032,604.

# Belden new items

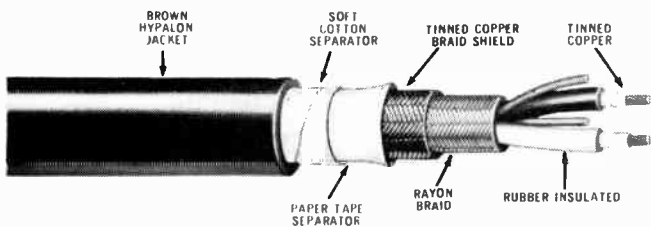


**NEW: 8871 HIGH VOLTAGE CABLE**

A higher voltage cable designed for use by R & D organizations and by power companies in special applications. Recommended for steady state DC voltages and for pulse discharge systems. Excellent bonding between conductive material and insulation assures good strength for long wear and service life. Features a 200 KVDC rating for an ambient 25 °C temperature.

*Available in 25 and 100 ft. put-ups.*

**See Page 27 for Further Technical Information.**

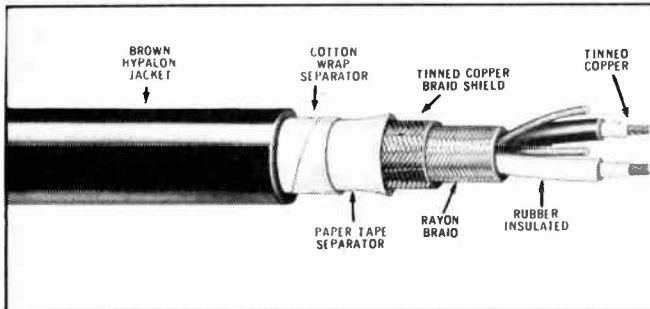


**NEW: 8402 MICROPHONE CABLE**

This flexible brown Hypalon\* jacket microphone cable has been especially designed and constructed for use in studio applications. In addition to having excellent general physical and electrical characteristics, this cable is highly resistant to heat, impact and abrasion. Its resistance to sunlight, ozone, water, oil and chemicals makes it suitable for outdoor use. Brown color blends readily into a variety of backgrounds.

*Available in 100, 250 and 500 ft. put-ups.*

**See Page 16 for Further Technical Information.**

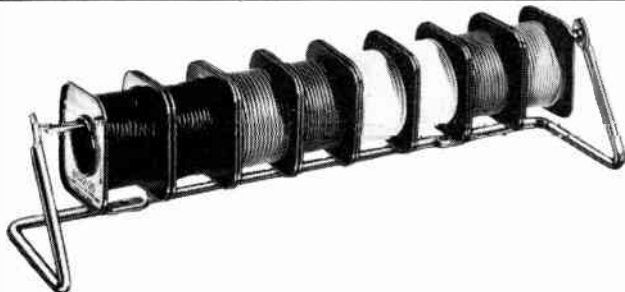


**NEW: 8408 MICROPHONE CABLE**

Belden adds this larger, heavy-duty 16 AWG 2 conductor microphone cable to its line to meet the demand for a larger, 2 conductor, brown Hypalon jacket, shielded cable. Recommended for use in the instrumentation field, as a microphone cable and shielded power supply cord. It features excellent limpness qualities and small diameter for microphone and shielded power supply applications.

*Available in 100, 250 and 500 ft. put-ups.*

**See Page 16 for Further Technical Information.**

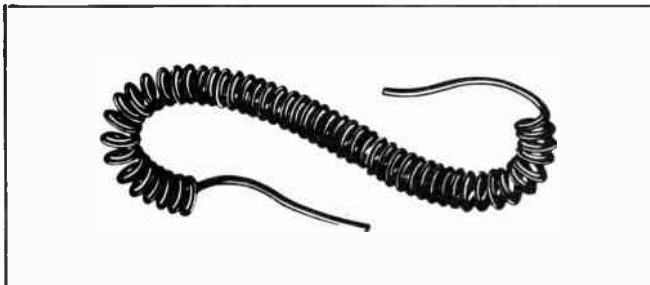


**NEW: 8816 HOOK-UP WIRE KIT**

Versatile 18 AWG wire comes in a portable rack dispenser. Designed for ease and portability in handling small hook-up jobs by servicemen, engineers and hobbyists in home, field or R & D. Kit contains an assortment of 18 gauge stranded, vinyl wire in a portable metal rack dispenser that can be mounted on workbench or wall. Wire meets MIL-W-76 standard.

*Available in kits containing 8-25 ft. spools of wire.*

**See Page 18 for Further Technical Information.**



**NEW: 8605**

This tough, durable coiled cord is highly recommended for electronic guitar and for selected instrumentation applications. Heavy-duty polypropylene gray vinyl insulated cord extends to 12-ft. length and features superior electrical characteristics as well as excellent abrasion and heat resistance.

*Available in merchandiser package.*

**See Page 17 for Further Technical Information.**

\*Trademark of Du Pont

**NEW ADDITIONAL ITEMS**

7 NEW SPARK PLUG WIRE BOOTS. See page 38

9 NEW SHIELDING AND BONDING CABLES. See page 34

8899—Colors: Blue, Gray, White. See page 22

8214—Foam Core RG/8U Type—250 ft. See page 25

8290—TRANSMISSION LINE CABLE—250 ft. See page 19

shielded sound and broadcast audio cables

**Belden**

**COMMUNICATIONS CABLE**

Belden offers a complete line of Communications Cables to provide customers with the best all-around cable for every application requirement. Cables are available in a wide range of sizes, dimensions, shielding constructions and types of insulation. All Communications Cables are designed to protect the desired signal by eliminating or minimizing the interference of hum, noise and crosstalk.

**SHIELDING:** Because it affords such excellent protection, Beldfoil ISO-Shield is now being specified for many critical applications such as instrumentation systems, tracking station equipment, computer and data processing systems, audio, sound, strain gauge and control cables.

No other type of shield on the market surpasses Beldfoil Shield for full coverage and protection against radiation and penetration at audio and radio frequencies. Beldfoil's unique polyester-aluminum shielding provides 100% coverage.

Braided Copper Shields have high tensile strength and are very effective at audio and radio frequencies in flexing applications. Served Copper Shields usually provide more coverage than Braided Copper Shields; they're also easier to terminate. Both Braided and Served Copper Shields are recommended at audio frequencies.











**INSULATIONS:** Belden's Communications Cables are available in a variety of insulation materials, each having its own advantages depending upon the size requirements, environmental and electrical conditions dictated by the application.

Vinyl insulation resists flame, most solvents, oil, ozone and sunlight. It has a higher dielectric constant and capacitance than polyethylene. Therefore it is recommended for audio frequency applications. It is easy to strip.

Polyethylene insulation is lightweight and resists ozone. It has a low dielectric constant for low capacitance and provides low electrical loss and is recommended for audio and radio frequency applications. Like vinyl, polyethylene is easy to strip.

Polypropylene insulation provides excellent heat and abrasion resistance. It has a low dielectric constant with equally low capacitance. It is less flexible than polyethylene. Because it has excellent dielectric strength and mechanical ruggedness, polypropylene insulations are widely used for miniaturization applications. Even with low overall diameters, they permit very low loss. Recommended for audio and radio frequencies.

**TWO CONDUCTOR SHIELDED CABLES**

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Percent Shield Coverage	Nom. *Cap. (mmf/ft)	Nom. **Cap. (mmf/ft)	Suggested Working Voltage	Standard Spool Lengths in ft
<b>With JACKET</b> 	<b>8640</b>	26 (Solid)	.002	.020	.089	Red, Clear	100	80	140	100	250, 500
<b>BELDFOIL®</b>	Solid Copper, BELDSOL® (solderable - no stripping required) insulated BELDFOIL aluminum-polyester shield, 30 AWG solid tinned Copperweld® ground drain wire, WHITE vinyl jacket. Maximum operating temperature 105 C. Ideal for Instrumentation and Audio Console Work where Subminiaturization is Required.										
	<b>8450*</b>	22 (Solid)	.006	.018	.118	Blk, Red	100	40	76	200	100, 250, 500, 1000
<b>BELDFOIL®</b>	<b>8451*</b>	22 (7x30)	.008	.020	.135	Blk, Red	100	34	67	200	100, 250, 500, 1000
<b>Miniature Broadcast Audio Cable</b>	Tinned copper, polypropylene insulated, conductors cabled, stranded tinned copper ground drain wire, BELDFOIL aluminum-polyester shield, BLACK or GRAY vinyl jacket. Belden's Miniature Type Broadcast Audio Cable occupies 1/4 to 3/8 less space than required by Standard Broadcast Audio Cables. The Beldfoil Shield combines high cable reliability with ease of termination.										
	<b>8437</b>	22 (Solid)	.015	.025	.200	Blk, Red	88	48	85	200	500, 1000
<b>Broadcast Audio Cable</b>	<b>8441</b>	22 (16x34)	.015	.025	.210	Blk, Red	88	49	86	200	100, 500, 1000
	<b>8641*</b>	24 (7x32)	.014	.025	.160	Blk, Clear	100	22	42	350	100, 500, 1000
<b>BELDFOIL®</b>	<b>8761*</b>	22 (7x30)	.014	.025	.167	Blk, Clear	100	24	47	350	500, 1000
	<b>8762*</b>	20 (7x28)	.014	.028	.196	Blk, Clear	100	27	49	350	100, 250, 500, 1000
<b>BELDFOIL®</b>	<b>8760*</b>	18 (16x30)	.018	.028	.222	Blk, Clear	100	24	44	450	250, 500, 1000
	<b>8719</b>	16 (19x29)	.025	.030	.274	Blk, Clear	100	24	47	600	500, 1000
<b>BELDFOIL®</b>	<b>8720</b>	14 (19x27)	.032	.035	.340	Blk, Clear	100	24	47	750	500, 1000
	<b>*8718</b>	12 (19x25)	.037	.040	.400	Blk, Clear	100	25	49	1000	500, 1000
<b>BELDFOIL®</b>	Tinned copper polyethylene insulated, BELDFOIL aluminum-polyester shield, stranded tinned copper ground drain wire, (24 AWG for 8641, 22 AWG for 8761, and 20 AWG for 8760 and 8762, 18 AWG for 8719, 16 AWG for 8720, 14 AWG for 8718), chrome vinyl jacket.										
	<b>8739</b>	22 (Solid)	.015	.025	.160	Blk, Red	94.0	38	66	350	100, 500, 1000
<b>BELDFOIL®</b>	<b>8737</b>	22 (7x30)	.015	.025	.170	Blk, Red	89.3	40	70	350	100, 250, 500, 1000
	<b>8759</b>	20 (7x28)	.015	.025	.195	Blk, Red	81.0	47	79	350	100, 500, 1000
<b>BELDFOIL®</b>	<b>8790</b>	18 (7x26)	.020	.028	.231	Red, Wht	76.5	53	92	450	100, 250, 500, 1000
	<b>8780</b>	16 (19x29)	.023	.030	.266	Blk, Wht	84.1	57	98	450	100, 500, 1000
<b>BELDFOIL®</b>	Tinned copper, vinyl insulated, tinned copper spiral wrapped shield, chrome vinyl jacket.										
	<b>8208</b>	18 (16x30)	.020	.025	.255	Red, Wht	69	46	77	200	100, 500, 1000
<b>BELDFOIL®</b>	Tinned copper, rubber insulated, braided tinned copper shield, chrome vinyl jacket.										

\*New Item

©Belden U.S. Patent 3,032,604.

\*Capacitance between conductors.

\*\*Capacitance between 1 conductor and other conductor connected to shield.




▲Trademark of Copperweld Steel Co.

For underground burial recommendations of all types of vinyl, polyethylene, Hypalon and neoprene jacketed cables, please write for Bulletin #6 Electronic Wire Section.

**Belden**

shielded instrumentation, strain gauge and communication cables

**TWO CONDUCTOR SHIELDED CABLES (Cont'd)**

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Percent Shield Coverage	Nom. *Cap. (mmf./ft)	Nom. **Cap. (mmf./ft)	Suggested Working Voltage	Standard Spool Lengths in ft
 High Temperature	<b>8390</b> TEFLON	22 (19x34)	.015	.015	.180	Blk, Wht	90	23	40	1000	25, 100, 500
	Stranded tinned copper, FEP teflon <sup>■</sup> insulated, cabled tinned copper braid shield, white FEP teflon jacket. +200° C maximum, -70° C minimum operating temperature. Ideal where chemical resistance is needed and/or extremely high or low temperatures are required.										
	<b>*8393</b>	20 (7x28)	.020	.030	.245	Blk, Red	100	22	42	1000	25, 100, 500
	Tinned copper FEP Teflon insulated, noise reducing tape, 20AWG (10x30) nickel coated copper drain wire, special Beldfoil shield, Silicane rubber jacket. +150° C maximum, -70° C minimum operating temperature. Jacket working voltage, 1000V DC, shield to ground.										
 Without JACKET	<b>8738</b>	22 (Solid)	.015	—	.130	Blk, Red	72.8	35	61	350	1000
	<b>8758</b>	20 (7x28)	.015	—	.165	Blk, Red	63.8	42	72	350	100, 500, 1000
	<b>8789</b>	18 (7x26)	.020	—	.204	Blk, Wht	74	50	89	450	500, 1000
	<b>8779</b>	16 (19x29)	.023	—	.225	Blk, Wht	83	63	112	600	500, 1000
Tinned copper, vinyl insulated, braided tinned copper shield.											

**INSTRUMENTATION CABLES**

Instrumentation cable provides the vital communications link between sensing devices and read-out equipment. Because of the many and diverse conditions of environment and stress under which instrumentation cables must transmit information — in usable form, without distortion or change — cable characteristics should always be carefully matched with the specific requirements of the particular application.





The scientific, medical and industrial uses of instrumentation cable are vast and ever growing. Some of the

common uses for instrumentation cable are such things as measuring pressure, speed, resistance and temperature.

Belden manufactures a wide variety of precision instrumentation wire using several types of insulating materials for conductors and shields to meet a wide variety of electrical, physical and thermal requirements.

Many Belden Instrumentation Cables are unique in the field and have been engineered for specific application problems.

**THREE CONDUCTOR SHIELDED**

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Percent Shield Coverage	Nom. *Cap. (mmf./ft)	Nom. **Cap. (mmf./ft)	Suggested Working Voltage	Standard Spool Lengths in ft
	<b>8731</b>	22 (Solid)	.015	.025	.178	Blk, Red, Wht	76.2	36	63	350	500, 1000
	<b>8791</b>	18 (7x26)	.020	.028	.236	Blk, Red, Wht	78.2	47	84	450	100, 500, 1000
Tinned copper, vinyl insulated, conductors cabled, tinned copper spiral wrapped shield, chrome vinyl jacket.											
 BELDFOIL <sup>1</sup>	<b>*8618</b>	16 (19x29)	.025	.030	.300	Blk, Red, Wht	100	26	50	600	500, 1000
	<b>8771</b>	22 (7x30)	.014	.025	.175	Blk, Red, Clear	100	23	41	350	250, 500, 1000
	<b>8772</b>	20 (7x28)	.014	.028	.200	Blk, Red, Clear	100	27	51	350	500, 1000
	<b>8770</b>	18 (16x30)	.018	.028	.236	Blk, Red, Clear	100	24	48	450	500, 1000
Tinned copper, polyethylene insulated, conductors cabled, BELDFOIL <sup>1</sup> aluminum-polyester shield, stranded tinned copper ground drain wire (22 AWG for 8771, 20 AWG for 8770 and 8772, and 18 AWG for 8618), chrome vinyl jacket.											
 High Temperature	<b>8735</b>	22 (7x30)	.015	.025	.199	Blk, Red, Wht	70	34	60	350	15, 50, 100, 500, 1000
	<b>8391</b> TEFLON	22 (19x34)	.015	.015	.190	Blk, Red, Wht	90	20	35	1000	25, 100, 500
Stranded tinned copper, FEP teflon <sup>■</sup> insulated, cabled tinned copper braid shield, white FEP teflon jacket. +200° C maximum, -70° C minimum operating temperature. Ideal where chemical resistance is needed and/or extremely high or low temperatures are required.											
	<b>*8643</b>	30 (7x38)	.005	.010	.086	Blk, Red, Wht	95	25	43	200	25, 50, 100, 250
	Tinned copper, polypropylene insulated conductors cabled around textile strength member, tinned copper braid shield, chrome vinyl jacket. 105° C max. operating temperature.										

\*New Item

\*Capacitance between conductors.

\*\*Capacitance between 1 conductor and other conductor connected to shield.

<sup>■</sup>Trademark of DuPont.













\*Belden U.S. Patent 3,032,604.



shielded instrumentation, strain gauge and communication cables

**Belden**

**STRAIN GAUGE QUAD CABLES**

Description	Trade Number	No. of Cond.	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Per cent Shield Coverage	Nom. *Cap. (mmf/ft)	Nom. **Cap. (mmf/ft)	Suggested Working Voltage	Standard Spool Lengths in ft
 <b>BELDFOIL</b> <sup>®</sup>	<b>8434</b> *	4	25 (7x33) 3 copper 4 copper-weld	.013	.020	.179	Red, Blk, Grn, Clear	100	25	40	400	100, 500, 1000
	<i>Tinned copper, polyethylene insulated, black and red conductors under BELDFOIL aluminum-polyester shield, stranded ground wire, green and clear conductors under over-all BELDFOIL aluminum-polyester shield, chrome vinyl jacket. Pairs cabled on common axis to reduce diameter. ⊕</i>											
 <b>BELDFOIL</b> <sup>®</sup>	<b>8723</b> *	4	22 (7x30) copper	.008	.019	.165	Red, Blk, Grn, Wht	100	35	62	400	100, 500, 1000
	<i>Tinned copper, polypropylene insulated, black and red under a BELDFOIL aluminum-polyester shield. Green and white under a BELDFOIL aluminum-polyester shield, stranded tinned copper drain wire, chrome vinyl jacket. Pairs cabled on common axis to reduce diameter. ⊕</i>											
 <b>BELDFOIL</b> <sup>®</sup>	<b>★8728</b> *	4	22 (7x30)	.008	.021	.188	Red, Blk, Grn, Wht	100	35	62	400	500, 1000
	<i>Tinned copper, polypropylene insulated, cabled in pairs each pair BELDFOIL aluminum-polyester shielded with stranded copper drain wire, polyester film over each shield, overall BELDFOIL aluminum-polyester shield and stranded tinned copper drain wire, chrome vinyl jacket. Pairs cabled on common axis to reduce diameter. ⊕</i>											
 <b>BELDFOIL</b> <sup>®</sup>	<b>8729</b> *	4	22 (19x34)	.015	.050	.265	Clear, Blk, Red, Grn	100	22	42	600	500, 1000
	<i>Tinned copper, polyethylene insulated, cabled BELDFOIL aluminum-polyester shield. 18 AWG stranded tinned copperweld ground drain wire, white vinyl jacket.</i>											
 <b>BELDFOIL</b> <sup>®</sup>	<b>8404</b>	4	20 (26x34)	.015	.033	.255	Red, Blk, Grn, Clear	87	25	45	600	15, 100, 250, 500, 1000
	<i>Tinned copper, polyethylene insulated, cabled, rayon braid, tinned copper braid shield, chrome vinyl jacket.</i>											
 <b>BELDFOIL</b> <sup>®</sup>	<b>8407</b>	4	16 (65x34)	.032	.043	.422	Red, Blk, Grn, Wht	84	37	65	600	100, 250
	<i>Tinned copper, separator, rubber insulated, cabled, rayon braid, tinned copper braid shield, cotton wrap, black neoprene jacket.</i>											
 <b>BELDFOIL</b> <sup>®</sup>	<b>8424</b>	4	20 (26x34)	.020	.040	.295	Red, Blk, Grn, Wht	83.5	55	95	600	15, 50, 100, 250, 500, 1000
	<i>Tinned copper, cotton wrap, rubber insulated, rayon braid, tinned copper braid shield, cotton wrap, black rubber jacket.</i>											
 <b>TEFLON</b>	<b>8392</b>	4	22 (19x34)	.015	.015	.205	Red, Blk, Grn, Wht	90	20	35	1000	25, 100, 500
	<i>Stranded tinned copper, FEP teflon<sup>®</sup> insulated, cabled tinned copper braid shield, white FEP teflon jacket. HIGH TEMPERATURE +200° C maximum, -70° C minimum operating temperature. Ideal where chemical resistance is needed and/or extremely high or low temperatures are required.</i>											
 <b>BELDFOIL</b> <sup>®</sup>	<b>8724</b> *	2 shielded 2 unshielded	22 (7x30) 22 (7x30)	.008 .008	.019	.165	Red, Blk, Grn, Wht	100	34	67	200	250, 500, 1000
 <b>BELDFOIL</b> <sup>®</sup>	<b>8722</b> *	2 shielded 2 unshielded	20 (7x28) 20 (7x28)	.015 .015	.028	.260	Red, Blk, Grn, Wht	100	60	99	350	500, 1000
	<i>Tinned copper, 8722 vinyl insulated, 8724 polypropylene insulated, BELDFOIL aluminum-polyester shield over 2 conductors, stranded tinned copper ground drain wire (22 AWG for 8722 and 24 AWG for 8724), chrome vinyl jacket. Pairs cabled on common axis to reduce diameter. ⊕</i>											
 <b>BELDFOIL</b> <sup>®</sup>	<b>8732</b>	2 shielded 2 unshielded	22 (7x30) 22 (7x30)	.015 .015	.030	.188x .296	Blk, Clear Blk, Clear	62	21	37	350	100, 500, 1000
	<i>Tinned copper, polyethylene insulated, tinned copper braid shield over 1 pair, chrome vinyl jacket.</i>											
 <b>BELDFOIL</b> <sup>®</sup>	<b>★8730</b> *	2 shielded 2 unshielded	22 (7x30) 22 (7x30)	.008 .008	.030	.250	Red, Blk, Grn, Wht	100	34	67	200	500, 1000
	<i>Tinned copper, polypropylene insulated, BELDFOIL aluminum-polyester shield over 1 pair with stranded tinned copper drain wire, chrome vinyl jacket. Pairs cabled on separate axes for reduced magnetic coupling.</i>											

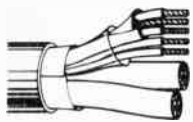
\*New Item  
 \*Capacitance between conductors.  
 \*\*Capacitance between 1 conductor and other conductor connected to shield.  
 ⊕ Request information before planning high and low level circuits in same cable.

•Belden U.S. Patent 3,032,604.  
 ■Trademark of DuPont








# Belden

multi-purpose and special communication cables

## MULTIPLE QUADS AUDIO AND COMMUNICATION CABLES

Description	Trade Number	No. of Cond.	AWG & (Stranding)	Cond. Color Coding	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O D (Inch)	Percent Shield Coverage	Sug-gested Working Voltage	Nom. Cap (mmf ft)	Nom. Cap (mmf ft)	Standard Spool Lengths in ft.
 <b>BELDFOIL</b>	<b>8726*</b>	12 3 (QUADS)	22 (7x30)	Red, Blk, Grn, Wht	.008	.035	.330	100	200	34	67	100, 500, 1000
	<b>8727*</b>	28 (7 QUADS)	22 (7x30)	Red, Blk, Grn, Wht	.008	.040	.450	100	200	34	67	100, 500, 1000
	<p>22 AWG tinned copper, polypropylene insulation, cabled in quads, BELDFOIL shield over black and red conductors, 24 AWG stranded tinned copper drain wire. Each quad is 8724 (on page 9) except for tape shield folding and a clear polyester tape instead of a vinyl jacket. Shields color coded, overall chrome vinyl jacket.</p>											

## SPECIAL AUDIO AND COMMUNICATION CABLES

 <b>BELDFOIL</b>	<b>8734</b>	3 Conductors 1 shielded 2 unshielded	22 (7x30) 22 (7x30)	Wht Blk, Red	.015 .015	.025	.194	82	350	—	79	100, 500, 1000
<p>Tinned copper, vinyl insulated, tinned copper braid shield over 1 conductor, 3 conductors cabled, chrome vinyl jacket.</p>												
 <b>BELDFOIL</b>	<b>8763*</b>	3 Conductors 2 shielded 1 unshielded	20 (7x28) 20 (7x28)	Blk, Red Clear	.014 .014	.028	.210	100	350	26	48	500, 1000
<p>Tinned copper, polyethylene insulated, BELDFOIL aluminum-polyester shield over 2 conductors, #20 stranded tinned copper ground drain wire, chrome vinyl jacket.</p>												
 <b>BELDFOIL</b>	<b>8733*</b>	3 Conductors shielded	22 (7x30)	Blk, Red, Clear	.014	.030	.205	100	350	—	51	100, 500, 1000
<p>Tinned copper, polyethylene insulated, each conductor separately BELDFOIL aluminum-polyester shielded. Ground wire for each conductor is tinned cadmium bronze ribbon under BELDFOIL chrome vinyl jacket.</p>												
 <b>BELDFOIL</b>	<b>8788*</b>	5 Conductors 3 shielded 2 unshielded	22 (7x30)	Blk, Red, Grn, Yel, Blue	.015	.028	.236	100	350	—	125	500
<p>Tinned copper, vinyl insulated 3 conductors each separately BELDFOIL shielded, ground drain wire for each conductor is tinned cadmium bronze ribbon under BELDFOIL 2 conductors unshielded, cabled around a vinyl filler, chrome vinyl jacket.</p>												
 <b>BELDFOIL</b>	<b>8783</b>	3 Conductors 3 unshielded	1-20 (10x30) 2-16 (26x30)	Blue, Grn, Org	.020 .020	.025	.250	—	450	—	—	100, 500
<p>Tinned copper, vinyl insulated, conductors cabled, chrome vinyl jacket.</p>												
 <b>BELDFOIL</b>	<b>8786*</b>	6 Conductors 2 unshielded 4 shielded	22 (7x30) 24 (7x32)	Blu, Wht Blk, Grn, Red, Yel	.015 .015	.028	.256	100	350	—	—	100, 500
<p>Tinned copper, vinyl insulated, 4 conductors twisted under BELDFOIL aluminum-polyester shield, 2 conductors unshielded, 22 AWG drain wire, chrome vinyl jacket.</p>												
 <b>BELDFOIL</b>	<b>8787*</b>	10 Conductors 4 shielded 4 shielded 2 unshielded	24 (7x32) 24 (7x32) 22 (7x30)	Gry, Wht, Blu, Grn Red, Brn, Yel, Org Wht, Blu	.012 .012 .015	.030	.290	100	350	—	—	500
<p>Tinned copper, 22 AWG conductors vinyl insulated, 24 AWG conductors polyethylene insulated, cabled in 2 quads, each with transparent polyester tape wrap, 24 AWG tinned copper ground wire. Red BELDFOIL shield over one quad, green BELDFOIL shield over the other quad; plus 2 unshielded conductors, chrome vinyl jacket.</p>												

\*Capacitance between conductors.

\*\*Capacitance between 1 conductor and other conductor connected to shield.

•Belden U.S. Patent 3,032,604.

special audio and communication cable  
audio cable selection guide



SPECIAL AUDIO AND COMMUNICATION CABLES

Description	Trade Number	No. of Cond.	AWG & (Stranding)	Cond. Color Coding	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Percent Shield Coverage	Suggested Working Voltage	Nom. <sup>a</sup> Cap. (mmf ft)	Nom. <sup>b</sup> Cap. (mmf ft)	Standard Spool Lengths in ft
	<b>8784</b>	10 un-shielded	2-16 (26x30) 1-20 (10x30) 7-22 (7x30)	Blk, Wht Gray Red, Grn, Org, Yel, Blu, Purple Brown	.016 .018 .013	.040	.295	—	300	—	—	500
<i>Tinned copper, vinyl insulated, conductors cabled, chrome vinyl jacket.</i>												
	<b>8640</b>	2	26 (Solid) 1 Pair	Red, Clear	.002	.020	.089	100	100	80	140	250, 500
	<b>8642</b>	6	26 (Solid) 3 Pair	Red, Clear	.002	.025	.140	100	100	80	140	250, 500

Solid copper, BELDSOL<sup>®</sup> (solderable—no stripping required), BELDFOIL aluminum-polyester shield on each pair, red, brown, orange textile marker and isolating polyester tape for each pair on 8642, Copperweld ground drain wire, WHITE vinyl jacket.

Ideal for instrumentation and audio console work where subminiaturization is required.  
105° C maximum operating temperature.

<sup>a</sup>Capacitance between conductors.  
<sup>b</sup>Capacitance between 1 conductor and other conductor connected to shield.

AUDIO CABLE SELECTION GUIDE

The length of cable run for a given wire size can be doubled if twice the power loss can be tolerated in the cable.

The next smaller size can be used when twice the power loss can be tolerated in the cable and the length of cable run remains the same.

To use this chart for constant voltage systems, determine the load impedance using Step 1 below. If this impedance does not appear on the chart, use Step 2 to determine the maximum length of cable run for each wire size.

The choice of appropriate audio cables for runs of varying distances depends on many factors such as amplifier voltage output and power level as well as load impedances and the percent of power loss which can be tolerated. For this reason it is not practical to provide a general chart showing the recommended wire size for all conditions. The chart shows the maximum recommended cable runs for various wire sizes selected for commonly encountered load impedances.

Wire Size (AWG)	Maximum Length of Cable Run (Ft.)					
	Low Impedance— 10% Power Loss			High Impedance— 5% Power Loss		
	4 OHM	8 OHM	16 OHM	100 OHM	250 OHM	500 OHM
14	88	176	352	1045	2610	5220
16	55	110	220	630	1574	3150
18	35	70	140	410	1020	2050
20	22	44	88	262	655	1310
22	13	26	52	164	410	820
24	8	16	32	105	262	525

<b>STEP ONE</b>	$Z \text{ (Load Impedance)} = \frac{E^2 \text{ (Voltage} \times \text{Voltage)}}{P \text{ (Watts)}}$
<b>STEP TWO</b>	$\text{Ft. (Max.)} = \frac{\text{Ft. (chart)} \times Z \text{ (Load Impedance)}}{Z \text{ (chart)}}$
<b>FOR EXAMPLE</b>	<p>Find maximum length of run for #20 AWG pair in a 70 volt, 25 watt system.</p> <p>1. <math>Z = \frac{70 \times 70}{25} = 196 \text{ Ohms}</math>      2. <math>\text{Ft. (max.)} = \frac{262 \times 196}{100} = 513 \text{ feet}</math></p>

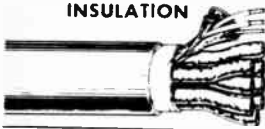
# Belden

miniature coaxial and shielded paired instrumentation and sound cables

## COLOR CODING FOR PAIRED CABLES

Pair Number	Color Combination	Pair Number	Color Combination	Pair Number	Color Combination
1	Black paired with Red	10	Red paired with Blue	19	White paired with Blue
2	Black paired with White	11	Red paired with Yellow	20	White paired with Yellow
3	Black paired with Green	12	Red paired with Brown	21	White paired with Brown
4	Black paired with Blue	13	Red paired with Orange	22	White paired with Orange
5	Black paired with Yellow	14	Green paired with White	23	Blue paired with Yellow
6	Black paired with Brown	15	Green paired with Blue	24	Blue paired with Brown
7	Black paired with Orange	16	Green paired with Yellow	25	Blue paired with Orange
8	Red paired with White	17	Green paired with Brown	26	Brown paired with Yellow
9	Red paired with Green	18	Green paired with Orange	27	Brown paired with Orange

## MULTIPLE PAIR INDIVIDUALLY SHIELDED AUDIO AND SOUND CABLES

Description	Trade Number	No. of Pairs	Stranding	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Nom. *Cap. (mmf ft)	Nom. **Cap. (mmf ft)	Standard Spool Lengths in ft
 <p>22 GAUGE VINYL INSULATION</p>	8767*	3	Solid	.013	.030	.270	40	77	100, 250, 500, 1000
	8768*	6	Solid	.013	.037	.394	40	77	100, 250, 500, 1000
	8764*	9	Solid	.013	.040	.440	40	77	100, 250, 500, 1000
	8765*	11	Solid	.013	.040	.485	40	77	100, 250, 500, 1000
	8766*	15	Solid	.013	.045	.540	40	77	100, 250, 500, 1000


BELDFOIL®

\*22 tinned copper, vinyl insulated, cabled in pairs, each pair and its ground wire under BELDFOIL® aluminum-polyester shield, over-all chrome vinyl jacket. 300 Volts suggested working voltage.

Insulation resistance between shields ..... 100 megohms/M'  
 Capacitance between adjacent shields ..... 115 mmf/ft  
 Voltage breakdown between adjacent shields ..... 1500 volts  
 Working voltage between adjacent shields ..... 50 volts

Vinyl insulation is used for ease of stripping and soldering. Recommended for audio frequency applications requiring excellent circuit isolation. Maximum operating temperature 80°C.

## MULTIPLE PAIR INDIVIDUALLY SHIELDED AUDIO AND DATA CABLES

Description	Trade Number	No. of Pairs	Stranding	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Nom. *Cap. (mmf ft)	Nom. **Cap. (mmf ft)	Standard Spool Lengths in ft
 <p>22 GAUGE POLYPROPYLENE INSULATION</p>	8777*	3	(7x30)	.010	.030	.270	30	55	100, 250, 500, 1000
	8778*	6	(7x30)	.010	.037	.394	30	55	100, 250, 500, 1000
	8774*	9	(7x30)	.010	.040	.440	30	55	100, 250, 500, 1000
	8775*	11	(7x30)	.010	.040	.485	30	55	100, 250, 500, 1000
	8776*	15	(7x30)	.010	.045	.540	30	55	100, 250, 500, 1000
	8769*	19	(7x30)	.010	.055	.620	30	55	100, 250, 500, 1000
	8773*	27	(7x30)	.010	.070	.760	30	55	§Cut to customer's specified length. Maximum length 1000

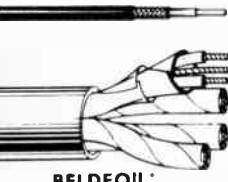
BELDFOIL®

\*22 gauge tinned copper, polypropylene insulated, cabled in pairs, each pair and its ground wire under BELDFOIL® aluminum-polyester shield, over-all chrome vinyl jacket. 300 volts suggested working voltage.

Insulation resistance between shields ..... 100 megohms/M'  
 Capacitance between adjacent shields ..... 115 mmf/ft  
 Voltage breakdown between adjacent shields ..... 1500 volts  
 Working voltage between adjacent shields ..... 50 volts

Recommended for audio, pulse, and radio frequency applications requiring superior circuit isolation. Polypropylene insulation is used for excellent high frequency properties and mechanical toughness. Maximum operating temperature 105°C.

## SPECIAL INSTRUMENTATION CABLES

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Percent Shield Coverage	Nom. *Cap. (mmf ft)	Nom. **Cap. (mmf ft)	Suggested Working Voltage	Standard Spool Lengths in ft
 <p>BELDFOIL®</p>	8700	28 (Solid) Coaxial	.005	.008	.054	Black	80	48	—	100	25,50,100,250
	Solid tinned copper, polypropylene insulation, copper braid, black vinyl jacket. May be steam sterilized for medical research.										
	8725†‡	4 pairs 20 (7x28)	.015	.030	.360	Red, Blk Grn, Wht Wht/Red Wht/Blk Wht/Grn Wht/Yel	100	27	49	400	500 1000

Tinned copper conductors, polypropylene insulated, four groups of two conductors with #22 AWG drain wire. Each group individually BELDFOIL® shielded with polyester tape wrap, chrome vinyl jacket. 105°C Maximum operating temperature.

\*Capacitance between conductors.  
 \*\*Capacitance between 1 conductor and other conductor connected to shield.

§Minimum length 25'  
 †25' to 199', plus 25', minus 0.  
 ‡200' or over, plus 50', minus 0.

†Cabled around common axis request information before planning high and low level circuits in same cable.

‡Color code is Western Regional Strain Gauge Committee.

\*Belden U.S. Patent 3,032,604.

BELDEN PAGE 12


## unshielded paired sound cables

### MULTIPLE PAIR UNSHIELDED SOUND CABLES

TYPICAL APPLICATIONS: Balanced line sound systems.


Made with 80°C vinyl plastic compounds for high dielectric strength and the best physical properties, such as free stripping, small

diameter, and tear resistance. It also resists the effects of water, sun, oil, grease, and ozone. The conductors are paired with a short-lay twist for conductor balance, providing a quiet circuit, free from cross talk.

1 to 27 Pairs	Trade Number	No. of Pairs	AWG & Stranding	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O D (Inch)	Suggested Working Voltage	Standard Spool Lengths in ft
<p><b>ALL CONSTRUCTIONS:</b> Tinned copper, vinyl insulated cabled in pairs, chrome vinyl jacket.</p> 	8740	1	22 Solid	.015	.025	.150	200	100, 250, 500, 1000
	8741	2	22 Solid	.015	.028	.201	200	100, 250, 500, 1000
	8742	3	22 Solid	.015	.030	.240	200	100, 250, 500, 1000
	8690	3	18 (16x30)	.018	.037	.362	400	100, 500, 1000
	8757	4	22 Solid	.015	.030	.255	200	500, 1000
	8743	6	22 Solid	.010	.035	.305	200	100, 250, 500, 1000
	8747	6	22 (7x30)	.010	.035	.340	200	100, 250, 500, 1000
	8691	6	18 (16x30)	.018	.045	.550	400	100, 500, 1000
	8744	9	22 Solid	.010	.037	.354	200	100, 250, 500, 1000
	8748	9	22 (7x30)	.010	.037	.389	200	100, 250, 500, 1000
	8692	9	18 (16x30)	.018	.055	.638	400	100, 500, 1000
	8753	11	22 Solid	.010	.037	.384	200	100, 250, 500, 1000
	8754	13	22 Solid	.010	.037	.409	200	100, 250, 500, 1000
	8745	15	22 Solid	.010	.040	.420	200	100, 250, 500, 1000
	8749	15	22 (7x30)	.010	.040	.425	200	100, 250, 500, 1000
	8755	19	22 Solid	.010	.040	.480	200	500, 1000
	8756	23	22 Solid	.010	.040	.510	200	500, 1000
8746	27	22 Solid	.010	.045	.550	200	§Cut to customer's specified length. Maximum length 1500'	
8750	27	22 (7x30)	.010	.045	.595	200	§Cut to customer's specified length. Maximum length 1500'	

For color coding please refer to page 12

### 38 AND 51 PAIR CABLE



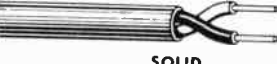

Description	Trade Number	No. of Pairs	Conductors	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O D (Inch)	Standard Spool Lengths in ft
	8752	38	Solid Tinned Copper	.008	.045	.600	§Cut to customer's specified length. Maximum length 1500'
	8751	51	Solid Tinned Copper	.010	.050	.725	

\*22 tinned copper, 8751 vinyl insulated, 8752 polypropylene insulated, cabled in pairs, BELDFOIL® aluminum-polyester shield over cabled pairs, #22 (7x30) stranded drain wire, chrome vinyl jacket. 200 Volts suggested working voltage. Color coding available on request.

§Minimum length 25'. 25' to 199', plus 25', minus 0. 200' or over, plus 50', minus 0.



For color coding information on 8751 and 8752 write for Technical Data

## TWO CONDUCTOR UNSHIELDED CABLES

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Conductor Color Coding	Available Jacket Colors	Nominal O.D. (Inch)	Suggested Working Voltage	Standard Spool Lengths in ft
 Copper, vinyl insulated, PARALLEL Without JACKET	8781	22 (Solid)	.016	—	1 cond. tinned	Chrome	.060x .120	100	100, 500, 1000
	8782	24 (7x32)	.017	—	1 cond. tinned	Chrome, Sand, White, Clear	.058x .115	300	25, 50, 100, 500, 1000
	8649	20 (7x28)	.020	—	1 cond. tinned	Chrome, Clear	.073x .146	300	100, 500, 1000
 Copper, vinyl insulated, TWISTED With JACKET	8481	22 (Solid) bare	.015	—	Brn, Tan	—	.112	350	100, 500, 1000
	8482	19 (Solid) bare	.015	—	Brn, Tan	—	.130	350	100, 500, 1000
	8492	19 (Solid)	.025	—	Brown or White 1 cond. tinned	—	.170	600	1000
	8460	18 (7x26) tinned	.020	—	Blk, Wht	—	.175	450	100, 500, 1000
	8470	16 (19x29) tinned	.023	—	Blk, Wht	—	.195	600	500, 1000
 SOLID  STRANDED Copper, vinyl insulated, CABLED, vinyl jacket	8740	22 (Solid) tinned	.015	.025	Blk, Red	Chrome	.150	200	100, 250, 500, 1000
	8442	22 (7x30) tinned	.015	.025	Blk, Red	Chrome	.165	350	500, 1000
	8205	20 (10x30) tinned	.018	.025	Blk, Red	Chrome	.190	350	100, 500, 1000
	8486	19 (Solid) bare	.015	.025	Brn, Tan	Chrome	.162	350	500, 1000
	8461	18 (7x26) tinned	.020	.028	Blk, Wht	Chrome	.226	450	100, 500, 1000
	8471	16 (19x29) tinned	.023	.030	Blk, Wht	Chrome	.256	600	500, 1000
	8473	14 (19x27) tinned	.031	.035	Blk, Wht	Chrome	.332	600	500, 1000
*8477	12 (19x25) tinned	.031	.040	Blk, Wht	Chrome	.384	600	500, 1000	

For additional 2 conductor cables see PORTABLE CORDAGE on pages 22, 52, 53 and 54. DUPLEX PRIMARY WIRE on page 40.

## THREE CONDUCTOR UNSHIELDED CABLES

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Conductor Color Coding	Nominal O.D. (Inch)	Suggested Working Voltage	Standard Spool Lengths in ft
 Copper, vinyl insulated, PARALLEL Without JACKET	8701	22 (Solid)	.016	—	Chrome 1 cond. tinned	.060x .190	100	100, 500, 1000
	8475	16 (19x29) bare	.023	—	Wht, Brn, Red	.102x .295	300	100, 500
 Bare copper, vinyl insulated, CABLED With JACKET	8483	19 (Solid)	.015	—	Brn, Gray, Tan	.132	350	100, 500, 1000
	8443	22 (7x30) tinned	.010	.025	Blk, Grn, Red	.150	200	25, 100, 250, 500, 1000
	8487	19 (Solid) bare	.015	.025	Brn, Gray, Tan	.180	350	500, 1000



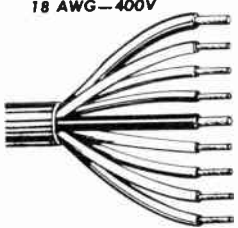
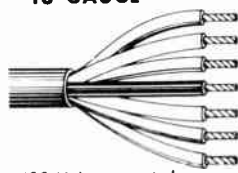
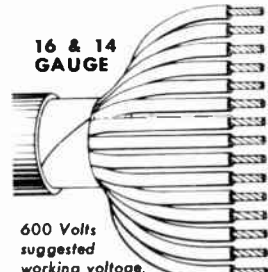
\* New Item.

For additional 3 conductor cables see PORTABLE CORDAGE on pages 22, 52, and 53.

multiple unshielded cables  
and telephone cables

# Belden

## MULTIPLE CONDUCTOR CONTROL AND AUDIO CABLES (NOT PAIRED)

Description and Gauge	Trade Number	No. of Cond.	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Color Code or Chart No.	Standard Spool Lengths in Ft.
 <b>Telephone Cable</b> Bare copper, polyethylene insulated, cabled, rose gray vinyl jacket.	<b>8795</b>	2	22 (Solid)	.016	.022	.160	Red, Grn	500, 1000
	<b>8794</b>	3	22 (Solid)	.016	.022	.168	Red, Grn, Yel	500, 1000
<b>All Constructions:</b> Tinned copper, vinyl plastic insulated, cabled, chrome vinyl jacket. <b>22 GAUGE</b>  <b>COMBINATION GAUGES</b> Suggested working voltage 22 AWG—200V 18 AWG—400V 	<b>8443</b>	3	22 (7x30)	.010	.025	.150	1	25, 100, 250, 500, 1000
	<b>8444</b>	4	22 (7x30)	.010	.025	.168	1	25, 100, 250, 500, 1000
	<b>8445</b>	5	22 (7x30)	.010	.025	.180	1	25, 100, 250, 500, 1000
	<b>8456</b>	10	22 (7x30)	.010	.030	.260	1	100, 500, 1000
	<b>8457</b>	12	22 (7x30)	.010	.030	.260	1	100, 500, 1000
	<b>8458</b>	15	22 (7x30)	.010	.040	.320	2	100, 500, 1000
	<b>8459</b>	25	22 (7x30)	.010	.040	.370	2	100, 500, 1000
	<b>8446</b>	6	4-22 (7x30) 2-18 (16x30)	.010 .018	.025	.222	1	15, 100, 250, 500, 1000
	<b>8447</b>	7	5-22 (7x30) 2-18 (16x30)	.010 .018	.028	.246	1	100, 250, 500, 1000
	<b>8448</b>	8	6-22 (7x30) 2-18 (16x30)	.010 .018	.028	.250	1	15, 100, 250, 500, 1000
<b>18 GAUGE</b>  400 Volts suggested working voltage.	* <b>8489</b>	4	18 (16x30)	.018	.030	.250	1	100, 250, 500, 1000
	<b>8465</b>	5	18 (16x30)	.018	.037	.286	1	100, 250, 500, 1000
	<b>8467</b>	7	18 (16x30)	.018	.037	.324	1	100, 250, 500, 1000
	<b>8469</b>	9	18 (16x30)	.018	.037	.379	1	100, 250, 500, 1000
	<b>8466</b>	12	18 (16x30)	.018	.040	.412	2	100, 250, 500, 1000
	<b>8468</b>	15	18 (16x30)	.018	.045	.490	2	100, 500, 1000
	* <b>8619</b>	19	18 (16x30)	.018	.045	.505	2	500, 1000
<b>16 &amp; 14 GAUGE</b>  600 Volts suggested working voltage.	<b>8620</b>	4	16 (19x29)	.030	.045	.375	2	100, 500, 1000
	<b>8621</b>	7	16 (19x29)	.030	.045	.455	2	100, 500, 1000
	<b>8622</b>	12	16 (19x29)	.030	.060	.600	2	100, 500, 1000
	<b>8623</b>	13	16 (19x29)	.030	.060	.650	2	100, 500, 1000
	<b>8624</b>	19	16 (19x29)	.030	.065	.715	2	100, 500, 1000
	<b>8627</b>	4	14 (19x27)	.045	.045	.495	2	100, 500, 1000
	<b>8628</b>	7	14 (19x27)	.045	.060	.630	2	100, 500, 1000
	<b>8629</b>	12	14 (19x27)	.045	.065	.770	2	100, 500, 1000

### COLOR CODE Chart No. 1

Conductor	Color
1st	Black
2nd	Red
3rd	Green
4th	White
5th	Brown
6th	Blue
7th	Orange
8th	Yellow
9th	Purple
10th	Gray
11th	Pink
12th	Tan

18 Gauge conductors in cables 8446 through 8449 are Black and Red.

\* New Item.

### IPCEA COLOR CODE (Insulated Power Cable Engineers Association) Chart No. 2

Conductor	Color	Conductor	Color	Conductor	Color
1st	Black	9th	Green/Black	17th	White/Red
2nd	White	10th	Orange/Black	18th	Orange/Red
3rd	Red	11th	Blue/Black	19th	Blue/Red
4th	Green	12th	Black/White	20th	Red/Green
5th	Orange	13th	Red/White	21st	Orange/Green
6th	Blue	14th	Green/White	22nd	Blk/Wht/Red
7th	White/Black	15th	Blue/White	23rd	Wht/Blk/Red
8th	Red/Black	16th	Black/Red	24th	Red/Blk/Wht
				25th	Grn/Blk/Wht

# Belden microphone and shielded power supply cables

## MICROPHONE CABLES




Belden Microphone Cables are designed for flexible service at audio frequencies. They are used not only for microphones, but also for home entertainment equipment, instruments, tape recorders and shielded power supplies.

Shielded single conductor cables are used in high impedance systems, while multiple conductor cables are used in


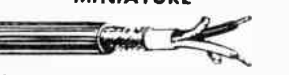

low impedance applications.

All cables are precision-engineered and manufactured to transmit clear signals and to cancel out hum pick-up and crosstalk interference. They are designed to withstand the flexing and normal abuse of studio, laboratory and home usage.

## RUBBER, HYPALON AND NEOPRENE MICROPHONE AND SHIELDED POWER SUPPLY CABLES

Description	Trade Number	No. of Cond.	AWC (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Percent Shield Coverage	Suggested Working Voltage	Impedance (Ohms)	Nom. Cap. (mmf/ft)	Nom. Cap. (mmf/ft)	Standard Spool Lengths in ft	
<b>SINGLE CONDUCTOR</b> 	<b>8410</b>	1	25 (7x33)	.063	.025	.245	80	3000 DC	52	—	33	25, 50, 100, 250, 500	
3 strands copper, 4 strands Copperweld tinned, cellulose yarn braid, rubber insulated, rayon braid, tinned copper braid shield, cellulose yarn wrap, black rubber jacket.													
<b>MINIATURE</b> 	<b>8413</b>	2	24 (45x40)	.019	.025	.190	100	300	—	38	71	15, 25, 50, 100, 250, 500	
	<b>8406</b>	3	24 (45x40)	.019	.025	.223	100	300	—	43	76	100, 250, 500	
Tinned cadmium bronze, cotton serve, rubber insulated, cabled with fillers, conductive textile serve, tinned copper braid shield, cotton serve, black rubber jacket.													
<b>MULTIPLE CONDUCTOR</b> 	<b>8412</b>	2	20 (26x34)	.020	.043	.268	84	600	—	42	68	25, 50, 100, 250, 500, 1000	
	<b>*8402</b>	2	20 (26x34)	.020	.040	.268	84	600	—	42	68	100, 250, 500	
	Brown Hypalon jacket.—Heavy Duty.												
	<b>8428</b>	2	18 (41x34)	.022	.038	.295	91	600	—	47	80	100, 500, 1000	
	Black neoprene jacket.—Heavy Duty												
	<b>*8408</b>	2	16 (65x34)	.032	.040	.385	84	600	—	32	56	100, 250, 500	
	Brown Hypalon jacket.—Heavy Duty												
	<b>8423</b>	3	20 (26x34)	.020	.040	.277	84	600	—	50	85	15, 50, 100, 250, 500, 1000	
<b>8424</b>	4	20 (26x34)	.020	.040	.295	83.5	600	—	55	95	15, 50, 100, 250, 500, 1000		
Tinned copper, cotton wrap, rubber insulated, rayon braid, tinned copper braid shield, cotton wrap, black rubber jacket.													
<b>8407</b>	4	16 (65x34)	.032	.043	.422	84	600	—	37	65	100, 250		
Black neoprene jacket.—Heavy Duty													
<b>8425</b>	5	20 (26x34)	.020	.040	.323	76	600	—	44	80	100, 250		
<b>8426</b>	6	20 (26x34)	.020	.040	.349	90	600	—	40	78	100, 250		
<b>8427</b>	7	20 (26x34)	.020	.043	.360	90	600	—	40	75	100, 250		
<b>8418</b>	8	20 (26x34)	.020	.043	.386	92	600	—	42	75	100, 250		

## VINYL MICROPHONE AND SHIELDED POWER SUPPLY CABLES

<b>SINGLE CONDUCTOR</b> 	<b>8411</b>	1	25 (7x33)	.020	.020	.144	72	3500	52	—	37	15, 25, 50, 100, 250, 500, 1000
	<b>8401A</b>	1	25 (7x33)	.043	.025	.200	74	5000	57	—	25	15, 25, 50, 100, 250, 500, 1000
3 strands copper, 4 strands Copperweld, tinned, cellulose yarn braid, polyethylene insulated, tinned copper braid shield, chrome vinyl jacket. See 8421 page 22 for spiral wrapped shield version of these cables. Recommended for Hi-Fi use.												
<b>MINIATURE</b> 	<b>8420</b>	2	24 (45x40)	.015	.020	.185	77	500	—	22	40	15, 25, 50, 100, 250, 500
	Tinned cadmium bronze, cotton wrap, polyethylene insulated, cabled with fillers, rayon braid, tinned copper braid shield, chrome vinyl jacket.											
<b>MULTIPLE CONDUCTOR</b> 	<b>8422</b>	2	22 (16x34)	.023	.023	.231	87	1000	—	18	32	15, 25, 50, 100, 250, 500, 1000
	<b>8403</b>	3	20 (26x34)	.015	.033	.244	89	600	—	25	45	15, 50, 100, 250, 500, 1000
	<b>8404</b>	4	20 (26x34)	.015	.033	.255	87	600	—	25	45	15, 100, 250, 500, 1000
	<b>8405</b>	5	20 (26x34)	.015	.035	.275	83	600	—	25	45	250, 500, 1000
Tinned copper, polyethylene insulated, cabled, rayon braid, tinned copper braid shield, chrome vinyl jacket.												

### RUBBER—HYPALON—NEOPRENE—PLASTIC

See page 17 for conductor color coding

▲See 8421 Page 22 for spiral wrapped shield version of 8401—Recommended for Hi-Fi use.

\*Capacitance between conductors.

\*\*Capacitance between 1 conductor and remaining conductors (if any) connected to shield.

PLASTIC CABLES RECOMMENDED FOR: Lower capacitance, lower loss, greater ozone and oil resistance, lighter weight, smaller diameter.

RUBBER CABLES RECOMMENDED FOR: Greater abrasion and impact resistance, and extra limpness so cable will lie flat on stage or studio floor.

NEOPRENE AND HYPALON CABLES RECOMMENDED FOR: Outside use, cold weather applications. Resistant to effects of sun, oil, and ozone.



## retractile (coiled) cables and cords

### COILED CORDS


Retractile cords keep telephone and microphone cables from tangling and cluttering desk tops, communications consoles and the front seats of motor vehicles. Belden manufactures a full line of high quality retractile coiled cord products for a wide variety of applications.

Belden retractile cables and cords are used for telephone equipment; ham and citizen band radios; hand and

desktop microphones; language lab equipment; musical instruments; mobile controls and mobile communications equipment and for a variety of assorted industrial applications.

The specially designed conductors and shields of Belden retractile cords are constructed to withstand rugged use and to minimize replacement frequency.

### RETRACTILE (COILED) MICROPHONE CABLES

Description	Trade Number	No. of Cond.	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O. D. (Inch)	Nom. Coil O. D. (Inch)	Percent Shield Coverage	Nom. Cap. (mmf/cord)	Retracted Length (Inch)	Practical Extended Length (Feet)	Standard Put-Up
	8409	4 unshielded	28 (7x36)	.005	.050	.165	¾	No shield	—	12	6	1
		Tinned copper, nylan insulated, neoprene jacket.										
	8415	4 unshielded	23 (21x36)	.020	.055	.250	¾	No shield	—	11½	6	1, 50
		5 strands TCW, 16 strands TC rubber insulated, paper tape, neoprene jacket.										
	8499	1 shielded	24 (45x40)	.019	.043	.160	1¼	80	285	7½	4	1
		Tinned cadmium bronze, rubber insulated, spiral TC shield, cotton wrap, neoprene jacket.										
*8605	1 shielded	24 (19x36)	.021	.042	.160	1¼	87	550	21½	12	1	
	Tinned copper, polypropylene insulated, spiraled TC shield, Gray PVC jacket.											
8497	3 1 shielded 2 unshielded	23 (21x36)	.020	.046	.250	¾	100	480	11½	6	1, 50	
	5 strands TCW, 16 strands TC, rubber insulated double BELDFOIL® aluminum polyester shield with drain wire same as conductors, paper tape, neoprene jacket.											
8491	4 2 individually shielded 2 unshielded	23 (21x36)	.020	.050	.300	1¼	100	480	12	6	1	
	5 strands, TCW, 16 strands TC, rubber insulated, double BELDFOIL® aluminum polyester shield with drain wire same as conductors, paper tape, neoprene jacket.											
8490	5 unshielded	23 (21x36)	.020	.045	.265	¾	No shield	—	11½	6	1	
	5 strands TCW, 16 strands TC, rubber insulated, paper tape, neoprene jacket.											


### NEOPRENE RETRACTILE (COILED) POWER CONTROL CABLES

Longer lengths are available on request.

Trade Number	No. of Cond.	UL Type	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O. D. (Inch)	Nom. Coil O. D. (Inch)	Retracted Length (Inch)	Practical Extended Length (Feet)	Standard Put-Up
8601	2	SVO	18 (41x34)	.016	.045	.270	1	12	6	1
8602	3	SJO	18 (41x34)	.031	.045	.360	1¾	12	6	1
8603	3	SJO	16 (65x34)	.031	.045	.370	1½	12	6	1
8604	3	SJO	16 (65x34)	.031	.045	.370	1½	22	12	1

Bare copper, paper wrap, rubber insulation, cabled with fillers, paper tape wrap, black neoprene jacket. 6" straight portion each end. Jacket removed 1½" each end.

### VINYL RETRACTILE (COILED) TELEPHONE CORDS

Description	Trade Number	No. of Cond.	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O. D. (Inch)	Nom. Coil O. D. (Inch)	Retracted Length (Inch)	Practical Extended Length (Feet)	Standard Put-Up
	8495	3	23 (21x36)	.020	.041	.220	¾	10	4½	1
	8494	4	23 (21x36)	.020	.043	.245	¾	10	4½	1

Bare cadmium bronze, vinyl insulated, cabled, paper wrapped, black vinyl jacket. 8494 one end stripped 7¾", spade terminals attached and hook strain relief clamped over jacket. Other end stripped 6¼" and spade terminals attached. 8495 one end stripped 2¾", spade terminals attached and hook strain relief clamped over jacket. Other end stripped 3¾" and spade terminals attached.

### CONDUCTOR COLOR CODING

Color coding of individual conductors for cables on this page and microphone cables on page 16.

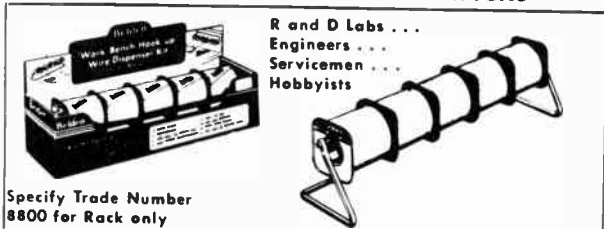
(1) White, (2) Black, (3) Red, (4) Green, (5) Blue, (6) Brown, (7) Yellow, (8) Orange.

\*New Item      \*\*\*Capacitance of shielded conductor.

# Belden

hook-up wire kits, antenna wire, magnet wire and litz wire

## KITS—HOOK-UP WIRE ON RACKS



R and D Labs ...  
Engineers ...  
Servicemen ...  
Hobbyists

Specify Trade Number  
8800 for Rack only

Trade Number	No. of Spools	Spool Lengths	Type of Wire	Colors in Kit
*8816	8	25'	18 Stranded vinyl (8522-25)	1, 2, 3, 4, 5, 6, 9, 10
8822	10	25'	20 solid, vinyl (8529-25)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
8823	5	100'	20 solid, vinyl (8529-100)	2, 5, 6, 9, 10
8824	8	25'	20 stranded, vinyl (8523-25)	1, 2, 3, 4, 5, 6, 9, 10
8825	5	100'	20 stranded, vinyl (8507-100)	9, 14, 15, 16, 17
8826	5	100'	22 stranded, vinyl (8508-100)	9, 14, 15, 16, 17
8827	5	100'	22 stranded, vinyl-nylon (8518-100)	2, 5, 6, 9, 10

See column below for color coding.

### STOCK COLORS

First color in stripe combination is body color and second or third colors are stripes. (EXAMPLE: White/Black/Red.)

1 Brown	6 Light Blue	10 Black	14 White/Black
2 Red	7 Violet (purple)	11 Tan	15 White/Red
3 Orange	8 Gray (slate)	12 Pink	16 White/Green
4 Yellow	9 White	13 Dark Blue	17 White/Yellow
5 Green			

### ANTENNA WIRE



Stranded bore copperweld

Trade Number	AWG & (Stranding)	Nom. O.D. (Inch)	Standard Spool Lengths in ft.
8002	16(7x24)	.060	50, 100
8000	14(7x22)	.076	50, 75, 100, 1000



Copper, Belden Heavy Poly-Thermaleze insulated.

8009	14(Solid)	.067	100, 150, 500
8008	12(Solid)	.084	100, 150, 500

### RADIO ANTENNA WIRE



Tinned copperweld, weather-resistant brown polyethylene insulation.

Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Standard Spool Lengths in ft.
8201	20(7x28)	.121	.278	100, 500, 1000

### INDOOR ANTENNA WIRE



Tinned copper, chrome vinyl insulated.

Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Standard Spool Lengths in ft.
8014	25(13x36)	.010	.044	25, 500

\*New Item Licensed under U. S. Pat. 3,022,200 and patent pending



### SINGLE BELDSOL® Solderable

BELDSOL Magnet Wire is a dual film insulated Magnet Wire that combines the excellent dielectric characteristics of Polyurethane and the known toughness and solvent resistance offered by an overcoat of nylon. This wire is rated by IEEE tests for 130°C usage and will solder without insulation removal at 750°F. Complies with Mil-W-583 specification.

Size	¼ Pound Spool		½ Pound Spool		Turns per Linear Inch	Turns per Square Inch
	Trade Number	Approx. Length (Feet)	Trade Number	Approx. Length (Feet)		
14			8047	40	15.2	231
16			8048	63	19.1	365
18			8049	100	23.9	571
20			8050	160	29.9	894
22			8051	254	37.5	1410
24			8052	404	46.9	2200
26			8053	645	59.0	3480
28	8040	510	8054	1020	73.8	5450
30	8041	807	8055	1615	91.7	8410
32	8042	1257	8056	2515	114.0	13000
34	8043	2030	8057	4060	144.0	20700
36	8044	3200	8058	6400	180.0	32400
38	8045	5070			225.0	50600
40	8046	8050			290.0	84100

### BELDEN HEAVY POLY-THERMALEZE® High Temperature

BELDEN POLY-THERMALEZE is a dual polyester film insulated Magnet Wire rated for 155°C usage and has exceptional ability to resist solvents and abuse in difficult windings. Complies with Mil-W-583 specification.

Size	½ Pound Spool		1 Pound Spool		Turns per Linear Inch	Turns per Square Inch
	Trade Number	Approx. Length (Feet)	Trade Number	Approx. Length (Feet)		
14	8059	40	8073	80	14.9	222
16	8060	63	8074	126	18.6	346
18	8061	100	8075	199	23.2	538
20	8062	157	8076	315	28.9	835
22	8063	250	8077	501	36.0	1296
24	8064	396	8078	793	44.7	1998
26	8065	630	8079	1260	55.7	3102
28	8066	995	8080	1990	69.4	4816
30	8067	1570	8081	3140	86.2	7430
32	8068	2440	8082	4880	106.0	11236
34	8069	3930	8083	7860	133.0	17689
36	8070	6200	8084	12400	167.0	27889
38	8071	9700	8085	19400	225.0	50600
40	8072	16050	8086	32100	290.0	84100

38 AWG & 40 AWG Single Polyester, Blue Color

### LITZ WIRE



Copper, Celenamel® insulated, nylon wrap.

Trade Number	Stranding	Nom. O.D. (Inch)	Standard Spool Lengths in ft.
8817	5x44	.008	100

Presenting Belden's

# COLOR TWINS

Now, there's a Belden quality TV antenna wire just right for color and UHF TV reception in both congested and uncongested areas.

With today's strong emphasis on quality UHF and color TV programming and equipment, the importance of the transmission line connecting the outdoor antenna and TV receiver is critical. Until recently, there's been a big quality gap — a missing link — between the best engi-

neered color TV sets and the finest TV antennas.

Belden's Color Twins were specially engineered to provide color and black/white, UHF and VHF TV reception in congested close-in areas and uncongested fringe areas.

**8290 SHIELDED PERMOHM®**

POLYETHYLENE JACKET WON'T CRACK IN SUN OR SUB ZERO WEATHER

LOW LOSS DIELECTRIC POLYETHYLENE INSULATION

ORANGE WEB PROVIDES UNIFORM IMPEDANCE

BELDFOIL® SHIELD

GROUND WIRE

COPPERWELD CONDUCTOR FOR MAXIMUM STRENGTH

Designed to provide superior VHF, UHF, B. W and color TV reception in congested areas where reception is critical. Beldfoil shielding assures a clean, strong signal by eliminating transmission line pick-up of ghost signals and electrical noise (including automotive ignition noise). Belden's 8290 can be installed underground, in gutters, and conduit. 8290 can simply be taped to mast.

AWG & Stranding	Color	Nominal O.D. (Inch)	Nominal Velocity of Propagation	Nominal Capacitance (mmf ft)	Nominal Attenuation per 100'		Std. Pkg. Length in ft.
					mc	db	
22 (7x30)	Brown	.305 x .515	69.8%	7.8	57	1.7	50, 75, 100 coils have terminals attached
					85	2.1	
					177	3.2	
					213	3.5	
					473	5.4	
					671	6.6	
					887	7.7	

Copperweld, 2 conductors, orange polyethylene insulation and web between conductors, cellular polyethylene oval insulation, Beldfoil® shield, stranded tinned drain wire, polyethylene jacket.

• Patent No. 2,782,251 and Patent Pending

**8285 PERMOHM®**

ALL WEATHER POLYETHYLENE JACKET

COPPERWELD CONDUCTOR FOR MAXIMUM STRENGTH

ORANGE WEB PROVIDES UNIFORM IMPEDANCE

Provides superior VHF, UHF, B. W and color TV reception in uncongested or fringe areas. Especially designed to deliver more signal to the receiver than any other unshielded twin lead. The special polyethylene jacket protects the major portion of the energy field. Provides highest efficiency of any available unshielded transmission line, even when exposed to smog, moisture, weathering and industrial atmospheres. Does not require expensive matching transformers and connectors.

AWG & (Stranding)	Color	Nom. O.D. (Inch)	Nom. Velocity of Propagation	Nom. Capacitance (mmf ft)	Nom. Attenuation per 100'		Standard Package Lengths in ft.
					mc	db	
22 (7x30)	Brown	.255 x .468	73.3%	5.3	100	1.4	50, 75, 100 coils have terminals attached
					300	2.8	
					500	3.8	
					700	4.8	
					900	5.6	
						1000 spool	

Copperweld, 2 conductors parallel, orange polyethylene insulation and web between conductors, cellular polyethylene oval jacket.

• Patent No. 2,782,251

## TERMINALS FOR 8290 SHIELDED PERMOHM AND 8285 PERMOHM

These terminals now offer an easy termination method for 8290 Shielded PermoHM and 8285 PermoHM for the antenna and TV set termination with

any simple crimping tool. They are the same terminals used on the 50, 75 and 100 ft. coils of 8290 and 8285.




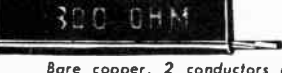
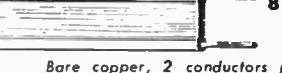
Description	Trade Number	Screw Size	Length (Inch)	Width of Face (Inch)	Thickness of Stock (Inch)
	8190-98	Size 10	1	27/64	.030
	8191-98	Size 6	49/64	9/32	.030

Now available for the TV Serviceman and Dealer in individual "98 pockets"

# Belden

transmission line cables

## TWIN LEAD WIRES (Cont'd)

Description & Trade Number	AWG & (Stranding)	Color	Nom. O.D. (Inch)	Nom. Velocity of Propagation	Nom. Capacitance (mmf/ft.)	Nom. Attenuation per 100'		Standard Package Lengths in ft.
						mc	db	
<b>Celluline® 8275•</b>  Bare copperweld, 2 conductors parallel, polyethylene jacket with inert gas filled unicellular polyethylene core.	20 (7x28)	Brown	.300 x .400	80%	4.6	100	1.05	50, 75, 100 coils in counter dispenser 250, 500 1000 spools
						200	1.64	
						300	2.12	
						400	2.5	
						500	2.98	
700	3.62							
900	4.3							
CELLULINE maintains uniform electrical characteristics by eliminating all possible moisture between conductors. Installation is easier because no end-sealing is necessary. Losses are lower because of its lower dielectric constant (1.5). The thick outer wall of brown polyethylene protects the cable from abrasion and sun damage; the round shape offers less wind resistance. The result is a longer lasting, more efficient line. Recommended for black and white VHF and local UHF reception.								
<b>8235</b>  Bare copper, 2 conductors parallel, polyethylene insulated.	18 (7x26)	Brown	.185 x .520	77%	5.0	100	.85	100 coil 500 spool
						200	1.35	
						300	1.80	
						400	2.20	
						500	2.60	
700	3.25							
900	3.85							
Amateur transmitting and receiving twin lead 1KW(RF) rated.								
<b>Weldohm® 8230</b>  Bare copperweld, 2 conductors parallel, polyethylene insulated.	20 (7x28)	Brown	.072 x .400	80%	4.4	100	1.1	25, 50, 75, 100 pancake coils in a sleeve 250, 500 1000 spools T-1000 (tote-m pak)
						200	1.7	
						300	2.2	
						400	2.7	
						500	3.1	
700	3.7							
900	4.5							
WELDOHM is 1½ times STRONGER and has 2½ times more FLEX LIFE than equivalent twin lead with all copper conductors, without changing the RF electrical characteristics. Tests prove its superior resistance to the pulling, whipping, and twisting that is so important to a long lasting installation.								
<b>8225</b>  Bare copper, 2 conductors parallel, polyethylene insulated.	20 (7x28)	Brown	.058 x .400	80%	4.4	100	1.1	25, 50, 75, 100 pancake coils in a sleeve 250, 500 1000 spools T-1000 (tote-m pak)
						200	1.7	
						300	2.2	
						400	2.7	
						500	3.1	
700	3.7							
900	4.5							
Brown polyethylene for the best weathering.								
<b>8226</b>  Bare copper, 2 conductors parallel, polyethylene insulated.	20 (7x28)	Ivory, Clear	.058 x .400	80%	4.4	Same as 8225		25, 50, 75, 100 pancake coils in a sleeve
For indoor use only								

\*Belden U.S. Patent No. 2,814,666

## BELDEN MERCHANDISERS



### NEW! TOTE-M PAK\*

A great new on the job convenience item for TV servicemen and installation crews! Disposable tote-m pak shipping carton has a built-in carrying handle for easy, on-the-job handling. Contains 1,000 ft. spool which feeds wire out through special opening (spool never has to be removed or handled). tote-m pak features convenient reminder footage chart.

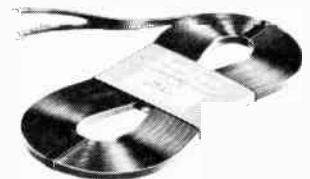
**8230 (Weldohm) and 8225** available in 1,000' spools only.

\* Belden Trademark



**Twin Lead Coils**  
**8275** (Celluline)  
**8285** (Permoim)  
**8290** (Shielded Permoim)  
 Put-ups 50', 75', 100'  
**10 Coils per box**

### WITH TERMINALS



### Twin Lead—10 Pancake Coils Per Box


**8225**  
**8226**  
**8230** (Weldohm)  
 Put-ups 25', 50', 75', 100'  
**Antenna Rotor Cables**  
**8464** (4 conductor, flat)  
 Put-ups 50', 75', 100'  
**8463** (5 conductor, flat)  
 Put-ups 50', 75', 100'

transmission line cables  
and antenna rotor cables




# Belden

### ALUMINUM GROUND WIRE

Packaged in counter dispensers of 10-50' connected coils, or spools of 500 ft. Wire on spools is marked every 100' for easy measuring.



Description	Trade Number	Nom. O.D. (Inch)	Standard Package Lengths in ft
 8 AWG solid, soft annealed aluminum	8018	.128	500' in 10'-50' connected coils 500' spools

### TV AND CHEATER CORDS


Description	Trade Number	Length in ft.	Standard Package
<b>CHEATER CORDS</b> 	<b>8874</b>	6	1 in polyethylene bag with description. SPT-1 brown rubber parallel cord with male plug and TV connector.
	<b>8895</b>	6	1 in polyethylene bag with description. 100 bulk hanked.
	<b>8889</b>	9	SPT-1 brown plastic parallel cord with mole plug and TV connector.
<b>Polarized</b> 	<b>8873</b>	6	1 in polyethylene bag with description. 100 bulk hanked. SPT-1 brown plastic parallel cord with Polarized mole plug and TV connector.
<b>CHEATER EXTENSION CORD</b> 	<b>8875</b>	6	1 in polyethylene bag with description. SPT-1 red plastic parallel cord with male and female TV connectors.

Additional Cords Listed on Pages 42-51

### 72 OHM TRANSMISSION LINE CABLES



Description	Trade Number	AWG & (Stranding)	Nom. O.D. (Inch)	Nom. Velocity of Propagation	Nom. Capacitance (mmf ft)	Nom. Attenuation per 100'		Standard Spool Lengths in ft
						mc	dB	
 72 OHM LINE	8222	20 (7x28)	.075 x .128	70%	20.3	100 200 300 400	7.7 11.0 13.6 15.9	100, 500
<i>Bare copper, 2 conductors parallel, brown polyethylene insulated.</i>								
 72 OHM 1 KW (RF) RATED	8210	13 (7x21)	.166 x .278	67%	21.0	100 200 300 400 500 700 900	3.8 6.0 7.8 9.3 11.0 13.7 16.0	100, 250
<i>Bare copper, 2 conductors parallel, brown polyethylene insulated.</i>								

### SHIELDED 100 OHM TRANSMISSION LINE

Description	Trade Number	AWG & (Stranding)	Nom. O.D. (Inch)	Nom. Velocity of Propagation	Percent Shield Coverage	Nom. Capacitance (mmf ft)	Nom. Attenuation per 100'		Standard Spool Lengths in ft
							mc	dB	
 SHIELDED 100 OHM TRANSMISSION LINE	8227	20 (7x28)	.325	62%	83	15.5	100 200 300 400	4.1 6.4 8.4 10.2	500

One conductor tinned, one bare copper, polyethylene insulated, cabled, polyethylene jacket, tinned copper braid shield, black vinyl jacket. This shielded transmission line offers low-loss signal transmission which remains unaffected by outside signals or noise fields. Recommended for RF applications requiring a cross-talk free, balanced operation.

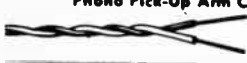
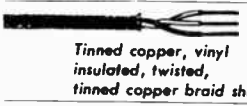



### ANTENNA ROTOR CABLE

Description	Trade Number	No. of Cords	AWG & (Stranding)	Cord Coding	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Suggested Working Voltage	Standard Package Lengths in ft
	<b>8464</b>	4	20 (7x28)	1 cond. tinned and insulation ribbed	—	—	.070 x .390	200	50, 75, 100 pancake coils 500, 1000 spools
<i>Bare copper, parallel, chrome vinyl insulated.</i>									
	<b>8463</b>	5	20 (7x28)	1 cond. tinned	—	—	.070 x .375	200	50, 75, 100 pancake coils 500 spools
<i>Bare copper, parallel, brown polyethylene insulated.</i>									
 Vinyl insulated, cabled, chrome vinyl jacket. ★ New Item	<b>8484</b>	4	20 (7x28) bare copper	Blk, Grn, Red, Wht	.010	.020	.180	200	100, 500, 1000 spools
	★ <b>8489</b>	4	18 (16x30) tinned copper	Blk, Wht, Red, Grn	.018	.030	.250	400	100, 250, 500, 1000, spools
	<b>8485</b>	5	20 (7x28) bare copper	Blk, Grn, Red, Wht, Yel	.010	.020	.190	200	100, 500, 1000 spools
	<b>8488</b>	8	22 (7x30) bare copper	Blk, Blu, Brn, Grn, Org, Red, Wht, Yel	.010	.020	.205	200	100, 500, 1000 spools


# Belden

phonograph, hi-fi and stereo cables, language lab cable, portable cordage and test prod wire

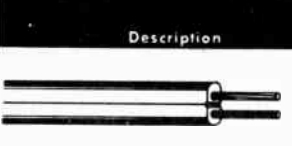
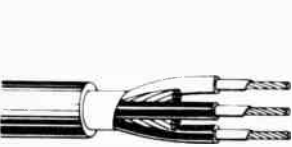
## HI-FI AND STEREO CABLES

Description	Trade Number	No. of Cond.	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Nom. Cap. between condrs. (mmf/ft)	Nom. Cap. cond. to other cond. & shield (mmf/ft)	Standard Spool Lengths in ft
 Phono Pick-Up Arm Cables	<b>8430</b>	2	32 (7x40)	.009	—	.050	Blk, Red	21	—	10, 25, 250
	→	4	Tinned copper, vinyl insulated, twisted pair. Use two 8430s for maximum channel isolation, one for each channel.							
 Tinned copper, vinyl insulated, twisted, tinned copper braid shield.	<b>8429</b>	2	32 (7x40)	.009	—	.057	Blk, Red	22	38	10, 25, 250
	<b>8419</b>	3	32 (7x40)	.009	—	.067	Blk, Red, Wht	30	50	10, 25, 250
→	4	Use two 8429s for maximum channel isolation, one for each channel.								
 <b>8431</b>	1	24 (16x36)	.015	—	.095	—	96	—	—	10, 15, 25 100, 500
Tinned copper, rubber insulated, tinned copper braid shield, brown cotton braid.										
 Hi-Fi Connecting Cable	<b>8421</b>	1	25 (7x33)	.050	.025	.180	—	18	—	15, 25, 50 100, 250
3 strands tinned copper and 4 tinned Copperweld, cellular polyethylene insulated, tinned copper spiral wrapped shield, chrome vinyl jacket.										
 BELDFOIL® Miniature Audio Connecting Cable totally shielded	<b>8417</b>	1	25 (7x33)	.020	.026	.140	—	25	—	15, 25, 50 100, 250
3 strands tinned copper and 4 tinned Copperweld, cellular polyethylene insulated, double BELDFOIL aluminum-polyester shield, inner shield folded 26 AWG stranded tinned copper, ground drain wire, chrome vinyl jacket.										




## LANGUAGE LAB CABLE

 Dual Channel Audio Cable for head set, stereo and language labs	<b>8416</b>	2	25 (7x33)	.018	.020	.106 x .213	1 Clear 1 Red	35 each channel	—	15, 25, 50 100, 250
3 strands tinned copper and 4 tinned Copperweld, polyethylene insulated, individual tinned copper spiral wrapped shield, chrome vinyl jacket, polarity rib on red conductor.										

## RUBBER-VINYL MULTI-CONDUCTOR PORTABLE CORDAGE

Description	Trade Number	U.L. Type	Insulation	No. of Conductors	AWG & (Stranding)	Insulation Thickness (Inch)	Conductor Coding	Jacket Thickness (Inch)	Nominal O.D. (Inch)	Color	Standard Spool Lengths in ft
 8462 8888	<b>8462</b>	SP-1	Rubber	2	18 (41x34) Tinned	.031	Polarity Ribbed	—	.123 x .223	Brown or Ivory	25, 100, 250
	<b>8888</b>	SPT-1	Vinyl	2	18 (41x34)	.031	Polarity Ribbed	—	.110 x .207	Bm, Ivory, or Gray	25, 100, 250
Two conductors, stranded copper, parallel, insulated with one conductor polarity ribbed.											
 8452 8478 8472 8474 8453 ★8479 8454 8455 Stranded copper, rubber insulated, cabled with fillers, rubber jacket.	<b>8452</b>	SV	Rubber	2	18 (41x34)	.016	Blk, Wht	.031	.245	Black	25, 50, 100, 250, 500, 1000
	<b>8478</b>	SJ	Rubber	2	18 (41x34)	.031	Blk, Wht	.031	.298	Black	100, 250, 1000
	<b>8472</b>	SJ	Rubber	2	16 (65x34)	.031	Blk, Wht	.031	.325	Black	25, 100, 250
	<b>8474</b>	—	Rubber	2	14 (41x30)	.031	Blk, Wht	.035	.360	Black	100, 250
	<b>8453</b>	SV	Rubber	3	18 (41x34) Tinned	.016	Blk, Wht, Green	.031	.265	Black	50, 100, 500
	★ <b>8479</b>	—	Rubber	3	14 (41x30)	.031	Blk, Wht, Green	.035	.380	Black	100, 250
	<b>8454</b>	—	Rubber	4	18 (41x34) Tinned	.016	Blk, Wht, Bm, Red	.031	.265	Black	50, 100, 500, 1000
<b>8455</b>	—	Rubber	5	3—20 (26x34) 2—18 (41x34) Tinned	.015 .015	Bm, Grn, White Blk, Red	.031	.280	Black	100, 250	

## TEST PROD WIRE

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Breakdown Voltage	Suggested Working Voltage	Standard Package	Standard Spool Lengths in ft.		
 8899 8897 Tinned copper, separator, rubber insulated, red or black.	<b>8899</b>	18 (65x36)	.045	.144	20,000	5,000	—	10, 14*, 25**, 100**, 500**, 1000		
	<b>8897</b>	18 (65x36)	.045	.144	20,000	5,000	—	500, 1000		
	*7' of red and 7' of black. **Also available in blue, white, gray, green or yellow. Manufactured per MIL-W-13169									
 8898 8890 Miniature	<b>8898</b>	18 (65x36)	.088	.230	29,000	10,000	—	10, 25, 100, 500		
	<b>8890</b>	24 (45x40)	.019	.066	10,000	1,000	—	25, 100, 500		
 8878 With Prods 8879 Without Prods	<b>8878</b>	20 (42x36)	.063	.173	20,000	5,000	1 pair Red and Black	—		
	<b>8879</b>	20 (42x36)	.063	.173	20,000	5,000	1 pair Red and Black	—		
Stranded tinned copper rubber insulated with 4" long solderless threaded plastic "phone tip" test prod 3/8" diameter on one end and 1" long solderless threaded plastic "phone tip" test prod 3/8" diameter on the other end. 5 ft. in length retracts to 8 inches. Is recommended for use with multimeters.										
Tinned copper, rubber insulated, 5 ft. in length retracts to 8 inches.										

★New Item

‡For intermittent duty only

U.L. Type rating only: 300V-60°C

•Belden U.S. Patent 3,032,604.

All breakdown voltages and suggested working voltages are AC RMS values.

**TV CAMERA CABLES**

Belden TV Broadcast and Closed Circuit TV Camera Cables assure reliable circuit isolation thereby reducing a-c hum and minimizing crosstalk between circuits. They are made to withstand rugged service and to maintain high conductor insulation resistance regardless of ambient temperature changes.

Major uses for these cables are for controlling, powering and transmitting sound and picture information for

monochrome and color TV cameras as well as for remote control, monitor and cue line systems.

Belden TV Camera Cables are engineered to be lightweight, flexible and easy to terminate. They are manufactured and tested in accordance with Belden's own rigid and time-proven quality control standards in order to assure outstanding reliability, performance and service life.



Designed to meet the critical electrical and physical requirements necessary for color television broadcast applications.

Trade Number **8283**

**82 Conductor TV Color Camera Cable**

4-14 AWG (19x27) tinned copper, vinyl plastic insulated, color coded.

3-16 AWG (26x30) tinned copper, vinyl plastic insulated, color coded.

BELDFOIL® aluminum-polyester wrapped shield around the above 7 conductors cabled with stranded tinned copper drain wire.

8 coaxial cables. Nom. impedance 53.5 ohms, color coded.

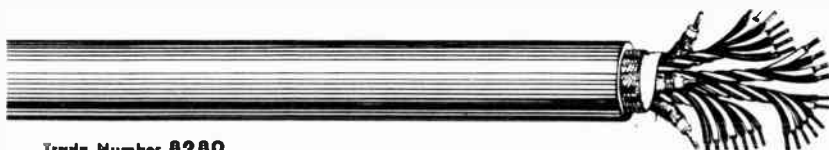
67-22 AWG (7x30) tinned copper, vinyl plastic insulated, color coded, 7 under conductive textile shield with stranded ground wire.

Tinned copper braid shield.

Chrome vinyl plastic jacket. 1.22" Nom. O.D.

§Cut to customer's specified length.

Maximum length 1000'.



A smaller, lighter weight cable designed to make long runs easier. For black and white (Monochrome) systems.

Trade Number **8280**

**28 Conductor TV Camera Cable**

4-18 AWG (16x30) tinned copper, vinyl insulated, color coded.

21-22 AWG (7x30) tinned copper, vinyl insulated, cabled in 3 groups of 7, color coded.

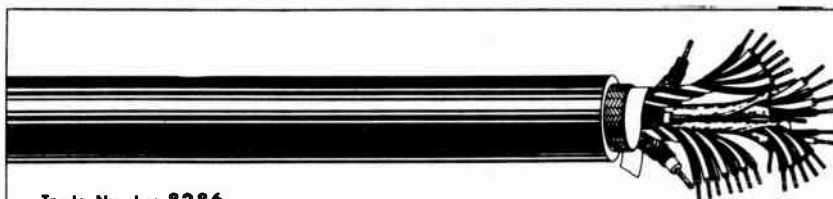
3 coaxial cables. Nom. impedance 51 ohms, color coded.

Tinned copper braid shield.

Chrome vinyl jacket. .750" Nom. O.D.

§Cut to customer's specified length.

Maximum length 1500'.



A 75 ohm cable designed to remain flexible in cold weather. Recommended for transistorized TV cameras.

Trade Number **8286**

**28 Conductor Hypalon & TV Camera Cable**

4-18 AWG (16x30) tinned copper, vinyl insulated, color coded.

BELDFOIL aluminum-polyester wrapped shield around 4 conductors with stranded drain wire, polyester tape over this shielded group.

21-22 AWG (7x30) tinned copper, vinyl insulated, cabled in 3 groups of 7, color coded, one group of 7 has a BELDFOIL aluminum-polyester wrapped shield overall with a stranded drain wire, polyester tape over this shielded group.

3 coaxial cables. Nom. impedance 75 ohms.

Tinned copper braid shield.

Block Hypalon jacket. .730" O.D.

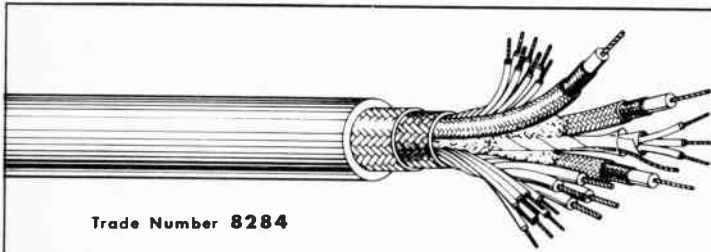
§Cut to customer's specified length.

Maximum length 1000'.

§Minimum length 25'. 25' to 199', plus 25' minus 0. 200' or over, plus 50', minus 0.  
 ®DuPont trademark.

**Belden**

tv camera cable and 75 ohm video cables

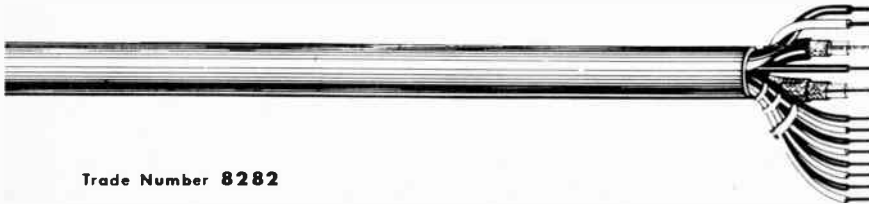
**TV CAMERA CABLES**Trade Number **8284**

Designed specifically for color TV transmission. This cable incorporates circuit isolation assuring the reduction in AC hum level and cross talk essential for color TV broadcasting.

**24 Conductor TV Camera Cable**

17-22 AWG (7x30) tinned copper, vinyl insulated, color coded.  
3 under BELDFOIL shield with stranded drain wire.  
4-16 AWG (26x30) tinned copper, vinyl insulated, color coded.  
3 coaxial cables. Nom. impedance 53.5 ohms, color coded.

Tinned copper braid shield. Heavy cotton braid.  
Chrome vinyl plastic jacket. .800" Nom. O.D.  
§Cut to customer's specified length. Maximum length 1000'.

Trade Number **8282**

Especially engineered for TV Eye Cameras. Recommended for remote control, monitor and cue line applications.

**13 Conductor TV Eye Cable**

8-22 AWG (7x30) tinned copper vinyl insulated, color coded.  
1-22 AWG (7x30) polyethylene insulated conductor.  
2-18 AWG (16x30) tinned copper conductor vinyl insulated.  
Black and Red.



1-RG-58A/U cable 50-ohm coax.  
1-72-ohm coax, stranded conductor, polyester tape wrapped.  
Chrome vinyl jacket. .470" Nom. O.D.  
§Cut to customer's specified length. Maximum length 2000'.

§Minimum length 25'. 25' to 199', plus 25' minus 0. 200' or over, plus 50', minus 0.

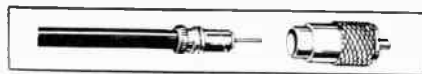
**75 OHM PRECISION VIDEO CABLE**

**TYPICAL APPLICATIONS:** Video signal transmission in Color and Monochrome TV studios. Provides high quality carrier of video signal with superior picture definition and eliminates problems of periodicity. Cable is manufactured with rigid

control of concentricity and all dimensional tolerances. The black polyethylene jacket is inherently a non-contaminating, non-migratory compound. 100% SWEEP TESTED.

Description	Trade Number	AWG & (Stranding) Material	Nom. O.D. (Inch)	Percent Shield Coverage	Nom. Impedance (Ohms)	Nom. Velocity of Propagation	Nom. Cap. (mmf/ft)	Nom. Attenuation per 100		Standard Spool Lengths in ft.
								kc or mc	db	
	<b>8281</b>	20 (Solid) bare copper Conductor, polyethylene insulated, tinned copper double braid shield, black polyethylene jacket.	.304	96.4	75	66%	21.	10 KC	.06	500, 1000
								100 KC	.08	
 Miniature	<b>8279</b>	23 (7x31) Tinned compacted conductor, polyethylene insulated, tinned copper braid shield, black polyethylene jacket. Fit RG59/U connectors.	.220	96	75	66%	21.	1 MC	.25	100, 250 500
								10 MC	.78	
								100 MC	2.70	
								10 KC	.14	
								100 KC	.15	
								1 MC	.35	
								10 MC	1.30	
								100 MC	4.90	

Compacted conductor combines impedance uniformity of solid conductor and "nick-resistance" of stranded conductor.








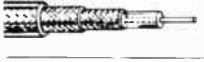


For Use on **8281** Only**8299 Adapter** for use with PL-259 connector. 25 in a box.



## RG/U transmission line cables

**Belden**

## COAXIAL CABLES \*\*\*

Description	Trade Number	RG No.	AWG & (Stranding) Material	Insulation	No. of Shields & Material	Jacket	Nom O.D. (Inch)	Nom Imp. (Ohms)	Nom. Vel. of Prop.	Nom. Cap. (mmf/ft.)	Nom. Attenuation per 100 mc db		Standard Spool Lengths in ft.
	<b>8264</b>	5A/U JAN-C-17A	16 (Solid) silver coated copper	Polyethylene	2 silver coated copper	Gray non-contaminating vinyl	.328	50	66%	30.8	100 200 400	2.40 3.50 5.25	500 1000
	<b>8215</b>	6A/U Type	21 (Solid) bare Copperweld	Polyethylene	2 bare copper	Black polyethylene	.332	75	66%	20.5	50 100 200 300 400	2.0 2.9 4.3 5.4 6.5	100,500, 1000
			100% SWEEP TESTED										
	<b>8237</b>	8/U JAN-C-17A	13 (7x21) bare copper	Polyethylene	1 bare copper	Black vinyl	.405	52	66%	29.5	100 200 400	2.10 3.30 4.50	50, 100, 250, 500 1000
	<b>8214</b>	8/U Type	11 (7x19) bare copper	Cellular Polyethylene	1 bare copper	Black vinyl	.403	50	78%	26	50 100 200 300 400	1.20 1.80 2.60 3.30 3.80	50, 100 250 500 1000
	<b>8242</b>	9/U JAN-C-17A	13 (7x21) silver coated copper	Polyethylene	2 inner-silver-coated outer-bare copper	Gray non-contaminating vinyl	.420	51	66%	30.0	100 200 400	2.10 3.30 4.50	100 1000
	<b>8243</b> †	9B/U MIL-C-17D	13 (7x21) silver coated copper	Polyethylene	2 silver coated copper	Black non-contaminating vinyl	.420	50	66%	30.8	100 200 400	2.10 3.30 4.50	500 1000
	<b>8238</b>	11/U JAN-C-17A	18 (7x26) tinned copper	Polyethylene	1 bare copper	Black vinyl	.405	75	66%	20.5	100 200 400	1.90 2.85 4.35	100 250, 500 1000
	<b>8213</b>	11/U Type	14 (Solid) bare copper	Cellular Polyethylene	1 bare copper	Black polyethylene	.405	75	78%	17.3	50 100 200 300 400	1.0 1.5 2.3 2.9 3.4	500, 1000, 2000
			100% SWEEP TESTED										
	<b>8261</b> †	11A/U MIL-C-17D	18 (7x26) tinned copper	Polyethylene	1 bare copper	Black non-contaminating vinyl	.405	75	66%	20.5	100 200 400	1.90 2.85 4.35	100 500 1000
	<b>8239</b>	54A/U JAN-C-17A	18 (7x.0152) bare copper	Polyethylene	1 tinned copper	Clear polyethylene	.245	58	66%	26.5	100 200 400	3.10 4.40 6.70	500 1000
	<b>8245</b>	55/U JAN-C-17A	20 (Solid) bare copper	Polyethylene	2 tinned copper	Clear polyethylene	.201	53.5	66%	28.5	100 200 400	4.10 6.20 9.50	500 1000
	<b>8240</b>	58/U JAN-C-17A	20 (Solid) bare copper	Polyethylene	1 tinned copper	Black vinyl	.195	53.5	66%	28.5	100 200 400	4.10 6.20 9.50	25, 50, 100 250, 500 1000
	<b>8219</b>	58/AU Type	20 (19x32) tinned copper	Cellular Polyethylene	1 tinned copper	Black vinyl	.195	50	78%	26	50 100 200 300 400	3.6 4.8 7.6 8.5 10.1	100 500 1000










† Manufactured to current Government specifications and subsequent revisions.

\*\*\*RG/U cables combine low capacitance and low attenuation. The virgin polyethylene insulation assures constant electrical characteristics regardless of changes in frequency or temperature. Note: Max. rating of polyethylene is 80°C (176°F).

**Belden**

RG/U transmission line cables

## COAXIAL CABLES (Cont'd)

Description	Trade Number	RG No.	AWG & (Stranding) Material	Insulation	No. of Shields & Material	Jacket	Nom. O.D. (Inch)	Nom. Imp. (Ohms)	Nom. Vel. of Prop.	Nom. Cap. (mmf. ft.)	Nom. Attenuation per 100		Standard Spool Lengths in ft.
											mc	db	
	8259	58A/U JAN-C-17A	20 (19x.0071) tinned copper	Polyethylene	1 tinned copper	Black vinyl	.195	50	66%	30.8	100 200 400	5.30 8.20 12.60	25, 50 100, 500 1000
	8262 †	58C/U MIL-C-17D	20 (19x.0071) tinned copper	Polyethylene	1 tinned copper	Black non-contaminating vinyl	.195	50	66%	30.8	100 200 400	5.30 8.20 12.60	500 1000
	8241	59/U JAN-C-17A	22 (Solid) bare Copperweld	Polyethylene	1 bare copper	Black vinyl	.242	73	66%	21.0	100 200 400	3.75 5.60 8.30	25, 50, 100, 250, 500, 1000
	8211	59/U Type 100% SWEEP TESTED	22 (Solid) bare Copperweld	Cellular Polyethylene	1 bare copper	Black Polyethylene	.242	75	78%	16.3	50 100 200 300 400	2.4 3.4 4.8 5.8 6.7	500, 1000, 2000
	8212	59/U Type 100% SWEEP TESTED	20 (Solid) bare Copperweld	Cellular Polyethylene	1 bare copper	Black Polyethylene	.242	75	78%	17.3	50 100 200 300 400	2.3 3.2 4.5 5.5 6.3	500, 1000, 2000
	*8221	59/U Type 100% SWEEP TESTED	22 (Solid) bare Copperweld	Cellular Polyethylene	1 bare copper	Gray, White, Black vinyl	.242	75	78%	16.3	50 100 200 300 400	2.4 3.4 4.8 5.8 6.7	100, 500, 1000
	8263 †	59B/U MIL-C-17D	.023 (Solid) bare Copperweld	Polyethylene	1 bare copper	Black non-contaminating vinyl	.242	75	66%	20.5	100 200 400	3.75 5.60 8.30	500 1000
	8254	62/U JAN-C-17A	22 (Solid) bare Copperweld	Semi-solid Polyethylene	1 bare copper	Black vinyl	.242	93	84%	13.5	100 200 400	3.10 4.40 6.30	100 500 1000
	8255	62B/U MIL-C-17D	24 (7x32) bare Copperweld	Semi-solid Polyethylene	1 bare copper	Black non-contaminating vinyl	.242	93	84%	13.5	100 200 400	3.10 4.40 6.30	500 1000
	8257	71/U JAN-C-17A	22 (Solid) bare Copperweld	Semi-solid Polyethylene	2 tinned copper	Clear Polyethylene	.245	93	84%	13.5	100 200 400	3.10 4.40 6.30	500 1000
	8258 †	71B/U MIL-C-17D	22 (Solid) bare Copperweld	Semi-solid Polyethylene	2 tinned copper	Black polyethylene	.245	93	84%	13.5	100 200 400	3.10 4.40 6.30	500 1000
	8216	174/U MIL-C-17D	26 (7x34) bare Copperweld	Polyethylene	1 tinned copper	Black vinyl	.100	50	66%	30.8	100 200 400	8.8 13.0 20.0	100 500 1000
	8265 †	178B/U MIL-C-17D	30 (7x38) Silver coated Copperweld	TFE TEFLON	1 Silver coated copper	Brown FEP TEFLON	.072	50	69.5%	29	400	29.0 Max.	100 500
	8266 †	180B/U MIL-C-17D	30 (7x38) Silver coated Copperweld	TFE TEFLON	1 Silver coated copper	Brown FEP TEFLON	.142	95	69.5%	15	400	17.0 Max.	100 500
	8269 †	188A/U MIL-C-17D	26 (7x.0067) Silver coated Copperweld	TFE TEFLON	1 Silver coated copper	White TFE TEFLON	.106	50	69.5%	29	400	20.0 Max.	100 500

★New Item

■Trademark of DuPont


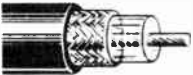




† Manufactured to current Government specifications and subsequent revisions.

REQUEST QUOTATIONS ON PRODUCTION QUANTITIES OF RG/U CABLES NOT LISTED.

RG/U transmission line and High Voltage cables

**Belden**

COAXIAL CABLES (Cont'd)

Description	Trade Number	RG No.	AWG & (Stranding) Material	Insulation	No. of Shields & Material	Jacket	Nom. O.D. (Inch)	Nom. Imp. (Ohms)	Nom. Vel. of Prop.	Nom. Cap. (mmf. ft.)	Nom. Attenuation per 100 db	Standard Spool Lengths in ft.	
	<b>8270</b> †	196A/U MIL-C-17D	30 (7x38) Silver coated Copperweld	TFE TEFLO <sup>®</sup>	1 Silver coated copper	White TFE TEFLO <sup>®</sup>	.076	50	69.5%	29	400 29.0 Max.	100 500	
	<b>8267</b> †	213/U MIL-C-17D	13 (7x21) bare copper	Polyethylene	1 bare copper	Black non-contaminating vinyl	.405	50	66%	30.8	100 200 400	2.10 3.30 4.50	500 1000
	<b>8268</b>	214/U MIL-C-17D	13 (7x.0296) Silver coated copper	Polyethylene	2 Silver coated copper	Black non-contaminating vinyl	.425	50	66%	30.8	100 200 400	2.10 3.30 4.50	500 1000
	<b>8218</b>	—	27 (7x35) bare Copperweld	Polyethylene	1 tinned copper	Black vinyl	.150	75	66%	20.5	100 200 400	5.7 8.4 12.5	100 500 1000
 Triaxial	<b>8232</b>	59/U Type Double Shield 100% SWEEP TESTED	20 (Solid) bare Copperweld	Cellular Polyethylene	2 bare copper	Black Polyethylene	.315	75	78%	17.3	50 100 200 300 400	2.3 3.2 4.5 5.5 6.3	500,1000, 2000
Conductor, cellular polyethylene insulated, bare copper braid shield, polyethylene insulated, bare copper braid shield, black polyethylene jacket.	<b>8233</b>	11/U Type Double Shield 100% SWEEP TESTED	14 (Solid) bare copper	Cellular Polyethylene	2 bare copper	Black Polyethylene	.475	75	78%	17.3	50 100 200 300 400	1.0 1.5 2.3 2.9 3.4	500,1000, 2000
	<b>8700</b> •	—	28 (Solid) tinned copper	Polypropylene	1 bare copper	Black vinyl	.054	32	66%	48	400	5.5	25, 50, 100, 250

• Trademark of DuPont • 80 Percent shield coverage suggested working voltage 100

† Manufactured to current Government specifications and subsequent revisions.

REQUEST QUOTATIONS ON PRODUCTION QUANTITIES OF RG/U CABLES NOT LISTED.

HIGH VOLTAGE CABLES


Belden High Voltage Cables are designed for use by public utilities and laboratories in testing high voltage equipment and apparatus. Through their use, potentially dangerous conditions can be detected both before installation and at intervals during service.

Belden High Voltage Test Cables are engineered to achieve the best possible performance at continual rated voltages. Their special design incorporates the use of

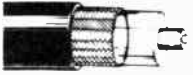
conductive polyethylene over the center conductor, bonded to the polyethylene dielectric material. This provides uniform voltage stress distribution around the center conductor and results in an increased elimination of degradation due to internal corona.

For special cables up to 600 KVDC ratings, please ask for individual quotation.

HIGH VOLTAGE CATHODE-RAY TUBE LEAD

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Jacket Color	Break-down Voltage	Suggested Working Voltage	Standard Spool Lengths in ft.
	<b>*8866</b>	18 (41x34)	.057	.015	.208	Red	110,000	40,000	25, 100, 500
	<b>8868</b>	22 (7x30)	.045	.015	.150	Red	50,000	25,000	25, 100, 500
Tinned copper, conductive polyethylene, polyethylene insulated, vinyl jacket.	<b>8869</b>	22 (7x30)	.030	.015	.120	Black	35,000	17,000	25, 100, 500

HIGH VOLTAGE CABLE

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Jacket Color	Break-down Voltage	Suggested Working Voltage	Standard Spool Lengths in ft.
	<b>8870</b>	22 (Solid) Copperweld	.142	.020	.440	Black	160,000 D.C.	80,000 D.C.	100
Solid Copperweld, conductive polyethylene, polyethylene insulation, tinned copper braid equipotential sheath, black polyethylene jacket.	<b>*8871</b>	16 (Braided)	.270	.025	.830	Black	400,000 D.C.	200,000 D.C.	25, 100
Tinned copper braid (CMA equivalent to 16 AWG) over solid polyethylene rod, black conductive polyethylene, clear polyethylene insulation, tinned copper braid, black polyethylene jacket.									

\* New Item

Conductive polyethylene over inner conductor combined with a copper wire braid over the dielectric provides uniform distribution of voltage stress. Very high-voltage DC cable applied from 200 KVDC to 600 KVDC is available from Belden on special order. Consult Belden Engineering Department for AC or pulse applications.

**Belden**

mil-w-16878 vinyl plastic

**MILITARY SPECIFICATIONS PERTAINING TO BELDEN HOOK-UP WIRE**


Belden's outstanding line of Hook-Up Wire represents a broad selection of quality products that meets the Military Specifications indicated on this and on the following pages.

Basically, from the customer's point of view, Military Specifications can be a helpful guide in determining specific information about cable construction, electrical limits and test data as an aid in comparing and selecting wiring products to meet the needs of specific applications.

The following Military Specifications cover the Belden Hook-Up Wire Products to be found in this catalog:

**MIL-W-16878—Wire, Electrical, Insulated, High Temperature.** Covers insulated wire for the internal wiring of meters, panels, and electrical and electronic equipment at temperatures ranging from 105°C to 200°C. The many types available in different voltages and thermal ratings are listed on the following pages to meet your individual requirements.


**MIL-W-76—Wire and Cable, Hook-Up, Electrical, Insulated.** Covers single conductor, plastic-insulated Hook-Up wire for the internal wiring of electrical and electronic equipment. The many types available in different voltages and outer covering are listed on the following pages to meet your individual requirements.

**TYPE B—MIL-W-16878—VINYL—600V-105°C**


Tinned copper, vinyl insulated.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000
8599	B-32	32 (7x40)	.010	.029	1 thru 10	—	1 thru 10
8598	B-30	30 (7x38)	.010	.032	1 thru 10	—	1 thru 10
8597	B-28	28 (7x36)	.010	.035	1 thru 10	—	1 thru 10
8505	B-26	26 (7x34)	.010	.039	1 thru 10 14 thru 22	1 thru 10	1 thru 10 14 thru 22
8509	B-24	24 (19x36)	.010	.045	9, 14 thru 22	—	9, 14 thru 22
8504	B-24	24 (7x32)	.010	.044	1 thru 10 14 thru 22	1 thru 10 14 thru 22	1 thru 10 14 thru 22
8508	B-22	22 (19x34)	.010	.051	9, 14 thru 22	—	9, 14 thru 22
8503	B-22	22 (7x30)	.010	.050	1 thru 10 14 thru 22	1 thru 10 14 thru 22	1 thru 10 14 thru 22
8507	B-20	20 (19x32)	.010	.059	9, 14 thru 22	—	9, 14 thru 22
8502	B-20	20 (7x28)	.010	.058	1 thru 10 14 thru 22	1 thru 10	1 thru 10 14 thru 22
8501	B-18	18 (7x26)	.010	.068	1 thru 10 14 thru 22	1 thru 10	1 thru 10 14 thru 22
8500	B-16	16 (19x29)	.010	.077	1 thru 10 14 thru 22	1 thru 10	1 thru 10 14 thru 22

First color in stripe combination is body color and second or third colors are stripes. (EXAMPLE: White/Black/Red.)

**TYPE B—MIL-W-16878—VINYL-NYLON JACKET—600V-115°C**


Tinned copper, vinyl insulated, nylon jacket overall.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools	
					100'	1000
8515	B-26	26 (7x34)	.010	.045	1 thru 10	1 thru 10
8519	B-24	24 (19x36)	.010	.051	1 thru 10	1 thru 10
8514	B-24	24 (7x32)	.010	.050	1 thru 10 14 thru 22	1 thru 10 14 thru 22
8518	B-22	22 (19x34)	.010	.057	1 thru 10	1 thru 10
8513	B-22	22 (7x30)	.010	.056	1 thru 10 14 thru 22	1 thru 10 14 thru 22
8517	B-20	20 (19x32)	.010	.065	1 thru 10 14 thru 22	1 thru 10 14 thru 22
8512	B-20	20 (7x28)	.010	.064	1 thru 10 14 thru 22	1 thru 10 14 thru 22
8516	B-18	18 (19x30)	.010	.075	9, 14 thru 22	9, 14 thru 22
8511	B-18	18 (7x26)	.010	.074	1 thru 10 14 thru 22	1 thru 10 14 thru 22
8510	B-16	16 (19x29)	.010	.083	1 thru 10 14 thru 22	1 thru 10 14 thru 22

Manufactured to current Government specifications and subsequent revisions.

First color in stripe combination is body color and second or third colors are stripes. (EXAMPLE: White/Black/Red.)

**STOCK COLORS**

1 Brown	6 Light Blue	11 Tan	16 White/Green	21 White/Gray	26 White/Black/Blue
2 Red	7 Violet (purple)	12 Pink	17 White/Yellow	22 White/Violet	27 White/Black/Brown
3 Orange	8 Gray (slate)	13 Dark Blue	18 White/Blue	23 White/Black/Red	28 White/Black/Orange
4 Yellow	9 White	14 White/Black	19 White/Brown	24 White/Black/Green	29 White/Black/Gray
5 Green	10 Black	15 White/Red	20 White/Orange	25 White/Black/Yellow	30 White/Black/Violet

mil-w-16878 vinyl plastic

**Belden**

**TYPE C — MIL-W-16878 — VINYL — 1000V-105°C**



Tinned copper, vinyl insulated.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Temperature Rating	Stock Colors on Standard Spools	
						100'	1000'
8955	C-24	24 (7x32)	.018	.038	105C	9	9
8954	C-22	22 (7x30)	.018	.064	105C	1 thru 10	1 thru 10
8953	C-20	20 (7x28)	.018	.072	105C	1 thru 10	1 thru 10
8952	C-18	18 (7x26)	.018	.082	105C	1 thru 10	1 thru 10
8951	C-16	16 (19x29)	.018	.091	105C	9	9
8950	C-14	14 (19x27)	.018	.105	105C	9	9

**TYPE C — MIL-W-16878 — VINYL-NYLON — 1000V-115°C**



Tinned copper, vinyl insulated, nylon jacket overall.

8960	C-22	22 (7x30)	.018	.070	115C	1 thru 10	1 thru 10
8959	C-20	20 (7x28)	.018	.078	115C	1 thru 10	1 thru 10
8958	C-18	18 (7x26)	.018	.089	115C	1 thru 10	1 thru 10
8957	C-16	16 (19x29)	.018	.098	115C	9	9
8956	C-14	14 (19x27)	.018	.114	115C	9	9

**TYPE D — MIL-W-16878 — VINYL — 3000V-105°C**



Tinned copper, vinyl insulated.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
8971	D-22	22 (7x30)	.030	.090	1 thru 10	—	1 thru 10
8970	D-20	20 (7x28)	.030	.098	1 thru 10	—	1 thru 10
8969	D-18	18 (7x26)	.030	.108	1 thru 10	—	1 thru 10
8968	D-16	16 (19x29)	.030	.117	9	—	9
8967	D-14	14 (19x27)	.030	.131	9	—	9
8966	D-12	12 (19x25)	.035	.160	9	—	9
8965	D-10	10 (37x26)	.035	.178	9	—	9
8964	D-8	8 (133x29)	.040	.245	9	9	—
8963	D-6	6 (133x27)	.040	.290	9	9	—

First color in stripe combination is body color and second or third colors are stripes. (EXAMPLE: White/Black/Red.)

**STOCK COLORS**

- |          |                   |                |                 |                       |                       |
|----------|-------------------|----------------|-----------------|-----------------------|-----------------------|
| 1 Brown  | 6 Light Blue      | 11 Tan         | 16 White/Green  | 21 White/Gray         | 26 White/Black/Blue   |
| 2 Red    | 7 Violet (purple) | 12 Pink        | 17 White/Yellow | 22 White/Violet       | 27 White/Black/Brown  |
| 3 Orange | 8 Gray (slate)    | 13 Dark Blue   | 18 White/Blue   | 23 White/Black/Red    | 28 White/Black/Orange |
| 4 Yellow | 9 White           | 14 White/Black | 19 White/Brown  | 24 White/Black/Green  | 29 White/Black/Gray   |
| 5 Green  | 10 Black          | 15 White/Red   | 20 White/Orange | 25 White/Black/Yellow | 30 White/Black/Violet |

SECTION 6000

**Belden**

mil-w-16878 teflon  
and mil-w-76 vinyl plastic

**TYPE E—MIL-W-16878 TEFLON 600V-200°C**



Concentrically stranded silver coated copper conductor,  
extruded TFE Teflon insulated.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors	Standard Spool
						Lengths in ft.
8300	E-30	30 (7x38)	.010	.033	1 thru 10	25, 100, 500, 1000
8301	E-28	28 (7x36)	.010	.036	1 thru 10	25, 100, 500, 1000
8302	E-26	26 (7x34)	.010	.041	1 thru 10	25, 100, 500, 1000
8303	E-24	24 (19x36)	.010	.046	1 thru 10	25, 100, 500
8304	E-24	24 (7x32)	.010	.045	1 thru 10	25, 100, 500, 1000
8305	E-22	22 (7x30)	.010	.051	1 thru 10	25, 100, 500, 1000
8306	E-22	22 (19x34)	.010	.052	1 thru 10	25, 100, 500, 1000
8307	E-20	20 (19x32)	.010	.060	1 thru 10	25, 100, 500, 1000
8308	E-20	20 (7x28)	.010	.059	1 thru 10	25, 100, 500
8309	E-18	18 (19x30)	.010	.071	1 thru 10	25, 100, 500, 1000
8310	E-16	16 (19x29)	.010	.080	1 thru 10	25, 100, 500, 1000

Color striping available on 1000' minimum per item each color on 500' and 1000' spools.

**TYPE EE—MIL-W-16878 TEFLON 1000V-200°C**



Concentrically stranded silver coated copper conductor,  
extruded TFE Teflon insulated.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors	Standard Spool Lengths in ft.
8323	EE-24	24 (19x36)	.014	.053	1 thru 10	25, 100, 500
8325	EE-22	22 (7x30)	.014	.058	1 thru 10	25, 100, 500
8326	EE-22	22 (19x34)	.014	.060	1 thru 10	25, 100, 500, 1000
8327	EE-20	20 (19x32)	.014	.068	1 thru 10	25, 100, 500, 1000
8328	EE-20	20 (7x28)	.014	.066	1 thru 10	25, 100, 500
8329	EE-18	18 (19x30)	.014	.079	1 thru 10	25, 100, 500, 1000
8330	EE-16	16 (19x29)	.014	.086	1 thru 10	25, 100, 500, 1000

Color striping available on 1000' minimum per item each color on 500' and 1000' spools.

**MIL-W-76**

Covers single conductor, plastic-insulated Hook-Up wire for the internal wiring of electrical and electronic equipment. The many types available in different voltages and

outer covering are listed on the following pages to meet your individual requirements.

**TYPE MW—MIL-W-76—VINYL—1000V-80°C**



Tinned copper, vinyl insulated, medium wall. The extruded vinyl insulation is flame and ozone-resistant and is inert to most chemicals, oils, and solvents.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools			
					25	100	500	1000
8525	MW-C 24 (7) U	24 (7x32)	.017	.058	—	1 thru 22	1 thru 22	1 thru 22
8538	MW-C 24 (1) U	24 (Solid)	.017	.054	—	1 thru 22	1 thru 22	1 thru 22
8524	MW-C 22 (7) U	22 (7x30)	.017	.064	1 thru 13	1 thru 30	1 thru 30	1 thru 30
8530	MW-C 22 (1) U	22 (Solid)	.017	.059	1 thru 13	1 thru 30	1 thru 30	1 thru 30
8523	MW-C 20 (10) U	20 (10x30)	.017	.070	1 thru 13	1 thru 30	1 thru 30	1 thru 30
8529	MW-C 20 (1) U	20 (Solid)	.017	.066	1 thru 13	1 thru 22	1 thru 22	1 thru 22
8522	MW-C 18 (16) U	18 (16x30)	.017	.080	1 thru 13	1 thru 30	1 thru 30	1 thru 30
8528	MW-C 18 (1) U	18 (Solid)	.017	.074	—	1 thru 13	1 thru 13	1 thru 13
8521	MW-C 16 (26) U	16 (26x30)	.019	.098	—	1 thru 22	1 thru 22	1 thru 22
8531	MW-C 16 (1) U	16 (Solid)	.017	.085	—	1 thru 10	1 thru 10	1 thru 10
8520	MW-C 14 (41) U	14 (41x30)	.020	.111	—	1 thru 22	1 thru 22	1 thru 22
8527	MW-C 12 (65) U	12 (65x30)	.020	.130	—	1 thru 10	1 thru 10	1 thru 10

First color in stripe combination is body color and second or third colors are stripes. (EXAMPLE: White/Black/Red.)

Manufactured to current Government specifications and subsequent revisions.

**STOCK COLORS**

- |          |                   |                |                 |                       |                       |
|----------|-------------------|----------------|-----------------|-----------------------|-----------------------|
| 1 Brown  | 6 Light Blue      | 11 Tan         | 16 White/Green  | 21 White/Gray         | 26 White/Black/Blue   |
| 2 Red    | 7 Violet (purple) | 12 Pink        | 17 White/Yellow | 22 White/Violet       | 27 White/Black/Brown  |
| 3 Orange | 8 Gray (slate)    | 13 Dark Blue   | 18 White/Blue   | 23 White/Black/Red    | 28 White/Black/Orange |
| 4 Yellow | 9 White           | 14 White/Black | 19 White/Brown  | 24 White/Black/Green  | 29 White/Black/Gray   |
| 5 Green  | 10 Black          | 15 White/Red   | 20 White/Orange | 25 White/Black/Yellow | 30 White/Black/Violet |

mil-w-76 vinyl plastic

**Belden****TYPE MW—MIL-W-76—VINYL-NYLON—1000V-90°C**

Tinned copper, vinyl insulated. Medium wall, clear nylon jacket overall.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O. D. (Inch)	Stock Colors on Standard Spools			
					25	100	500	1000
8537	MW-C 22 (7) J	22 (7x30)	.017	.069	—	1 thru 10 14 thru 22	—	1 thru 10 14 thru 22
8536	MW-C 20 (10) J	20 (10x30)	.017	.076	—	1 thru 10	—	1 thru 10
8535	MW-C 18 (16) J	18 (16x30)	.017	.086	—	1 thru 10	—	1 thru 10

**TYPE MW—MIL-W-76—SHIELDED WITH NYLON JACKET—1000V-80°C**

Tinned copper, vinyl insulated. Medium wall, tinned copper shield, nylon jacket.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O. D. (Inch)	Stock Colors on Standard Spools		
					100	500	1000
8893	MW-C22(7)S J	22 (7x30)	.017	.096	9	9	9
8896	MW-C20(10)S J	20 (10x30)	.017	.105	9	9	9
8892	MW-C18(16)S J	18 (16x30)	.017	.114	9	9	9
8894	MW-C16(26)S J	16 (26x30)	.019	.132	9	—	9

**TYPE MW—MIL-W-76—SHIELDED WITHOUT NYLON JACKET—1000V-80°C**

Tinned copper, vinyl insulated. Medium wall, tinned copper shield overall.

8887	MW-C24(7)S	24 (7x32)	.017	.082	1 thru 10	—	1 thru 10
8883	MW-C22(7)S	22 (7x30)	.017	.088	1 thru 10	—	1 thru 10
8886	MW-C20(10)S	20 (10x30)	.017	.096	1 thru 10	—	1 thru 10
8882	MW-C18(16)S	18 (16x30)	.017	.105	1 thru 10	—	1 thru 10
8884	MW-C16(26)S	16 (26x30)	.019	.122	1 thru 10	—	1 thru 10
8881	MW-C14(41)S	14 (41x30)	.020	.135	9, 10	—	9, 10
8880	MW-C12(65)S	12 (65x30)	.020	.154	9, 10	—	9, 10

**TYPE MW—MIL-W-76—GLASS BRAID-SHIELDED—1000V-80°C**

Tinned copper, vinyl insulated. Medium wall, lacquered glass braid, tinned copper shield overall.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O. D. (Inch)	Stock Colors on Standard Spools	
					100	1000
8863	MW-C22(7)BS	22 (7x30)	.017	.102	9	9
8862	MW-C20(10)BS	20 (10x30)	.017	.110	9	9
8861	MW-C18(16)BS	18 (16x30)	.017	.119	9	9
8860	MW-C16(26)BS	16 (26x30)	.019	.136	9	9
8859	MW-C14(41)BS	14 (41x30)	.020	.149	9	9
8858	MW-C12(65)BS	12 (65x30)	.020	.168	9	9

**For miniature shielded hook-up wire see 8700 on page 27**

Manufactured to current Government specifications and subsequent revisions.

**STOCK COLORS**

1 Brown	6 Light Blue	11 Tan	16 White/Green	21 White/Grey	26 White/Black/Blue
2 Red	7 Violet (purple)	12 Pink	17 White/Yellow	22 White/Violet	27 White/Black/Brown
3 Orange	8 Gray (slate)	13 Dark Blue	18 White/Blue	23 White/Black/Red	28 White/Black/Orange
4 Yellow	9 White	14 White/Black	19 White/Brown	24 White/Black/Green	29 White/Black/Gray
5 Green	10 Black	15 White/Red	20 White/Orange	25 White/Black/Yellow	30 White/Black/Violet

**BELDEN PAGE 31**

**Belden**

mil-w-76 vinyl plastic

**TYPE MW—MIL-W-76—VINYL-GLASS BRAID (OVERALL)—1000V—80°C**

Tinned copper, vinyl insulated. Medium wall, lacquered glass braid overall.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Voltage Rating	Stock Colors on Standard Spools		
						100	500	1000
8566	MW-C 22(7) B	22 (7x30)	.017	.078	1000V	1 thru 10	—	1 thru 10
8565	MW-C 20(10) B	20 (10x30)	.017	.086	1000V	1 thru 10	—	1 thru 10
8564	MW-C 18(16) B	18 (16x30)	.017	.095	1000V	1 thru 10 124 thru 132	—	1 thru 10 124 thru 132
8563	MW-C 16(26) B	16 (26x30)	.019	.112	1000V	1 thru 10 124 thru 132	—	1 thru 10 124 thru 132
8562	MW-C 14(41) B	14 (41x30)	.020	.125	1000V	9, 124 thru 132	—	9, 124 thru 132
8561	MW-C 12(65) B	12 (65x30)	.020	.144	1000V	9, 125, 132	—	9, 125, 132

**TYPE HW—MIL-W-76—VINYL-GLASS BRAID (OVERALL)—600V—80°C**

Tinned copper, vinyl insulated. Heavy wall, lacquered glass braid, overall.

8591	HW-C 10(105) B	10 (105x30)	.048	.238	600V	9, 125, 132	—	9, 125, 132
8590	HW-C 8(133) B	8 (133x29)	.048	.279	600V	9	9	—
8589	HW-C 6(133) B	6 (133x27)	.048	.328	600V	9	9	—

**TYPE LW—MIL-W-76—VINYL—300V—80°C**

Tinned copper, vinyl insulated. Light wall.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Type	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Temperature Rating	Stock Colors on Standard Spools	
							100	1000
8571	LW-C 28(7) U	28 (7x36)	Vinyl	.011	.037	80C	1 thru 10	1 thru 10
8570	LW-C 26(7) U	26 (7x34)	Vinyl	.011	.041	80C	1 thru 10	1 thru 10
8569	LW-C 24(7) U	24 (7x32)	Vinyl	.011	.046	80C	1 thru 10	1 thru 10
8568	LW-C 22(7) U	22 (7x30)	Vinyl	.012	.054	80C	1 thru 10	1 thru 10
8567	LW-C 20(10) U	20 (10x30)	Vinyl	.012	.060	80C	1 thru 10	1 thru 10

**TYPE LW—MIL-W-76—VINYL-NYLON—300V—90°C**

Tinned copper, vinyl insulated. Light wall, clear nylon jacket overall.

8578	LW-C 28(7) J	28 (7x36)	Vinyl-Nylon	.011	.042	90C	—	1 thru 10
8577	LW-C 26(7) J	26 (7x34)	Vinyl-Nylon	.011	.046	90C	—	1 thru 10
8576	LW-C 24(7) J	24 (7x32)	Vinyl-Nylon	.011	.051	90C	—	1 thru 10
8575	LW-C 22(7) J	22 (7x30)	Vinyl-Nylon	.012	.059	90C	—	1 thru 10
8574	LW-C 20(10) J	20 (10x30)	Vinyl-Nylon	.012	.065	90C	—	1 thru 10

Manufactured to current Government specifications and subsequent revisions.

First color in stripe combination is body color and second or third colors are stripes. (EXAMPLE: White/Black/Red.)

**STOCK COLORS**

1 Brown	6 Light Blue	124 White/Brown	129 White/Blue
2 Red	7 Violet (purple)	125 White/Red	130 White/Violet
3 Orange	8 Gray (slate)	126 White/Orange	131 White/Gray
4 Yellow	9 White	127 White/Yellow	132 White/Black
5 Green	10 Black	128 White/Green	



SECTION 6000

mil-w-76 vinyl plastic  
mil-w-5086 & mil-w-7078 aircraft wire

**Belden**

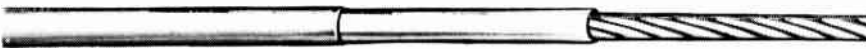
**TYPE HW—MIL-W-76—VINYL—Gauges 16-22, 2500V—80°C, Gauges 6-14 600V—80°C**



Tinned copper, vinyl insulated. Heavy wall.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools			Stock Colors
					100'	500'	1000'	
8586	HW-C 18(16) U	18(16x30)	.034	.115	1 thru 10	—	1 thru 10	1 Brown 2 Red 3 Orange 4 Yellow 5 Green 6 Light Blue 7 Violet (purple) 8 Gray (slate) 9 White 10 Black
8585	HW-C 16(19) U	16(26x30)	.034	.128	2, 9, 10	—	2, 9, 10	
8584	HW-C 14(19) U	14(41x30)	.048	.171	2, 9, 10	—	2, 9, 10	
8583	HW-C 12(19) U	12(65x30)	.048	.191	2, 9, 10	—	2, 9, 10	
8582	HW-C 10(37) U	10(105x30)	.048	.220	2, 9, 10	—	2, 9, 10	
8581	HW-C 8(127) U	8(133x29)	.048	.261	2, 9, 10	2, 9, 10	—	
8580	HW-C 6(127) U	6(133x27)	.048	.310	2, 9, 10	2, 9, 10	—	

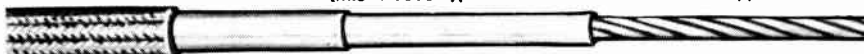
**MIL-W-5086—TYPES 1 & 2—600V—105°C**



Trade Number	MIL Type Designation	AWG & (Stranding)	Nom. O.D. (Inch)	Spec. Type	Stock Colors on Standard Spools			Stock Color
					100	500	1000	
8541	AN-22	22(19x34)	.068	Na. 1	9		9	White only (9)  <b>Additional Description</b> MIL-W-5086A-Type I AN-22 thru AN-12. Stranded tinned copper, white vinyl, clear nylon jacket.
8542	AN-20	20(19x32)	.078	Na. 1	9		9	
8543	AN-18	18(19x30)	.088	Na. 1	9		9	
8544	AN-16	16(19x29)	.098	Na. 1	9		9	
8545	AN-14	14(19x27)	.117	Na. 1	9	9	9	
8546	AN-12	12(19x25)	.137	Na. 1	9	9	9	
8559	AN-22	22(19x34)	.075	Na. 2	9		9	MIL-W-5086A-Type II AN-22 thru AN-12 Stranded tinned copper, white vinyl insulation, saturated glass braid, clear nylon jacket.
8558	AN-20	20(19x32)	.085	Na. 2	9		9	
8557	AN-18	18(19x30)	.095	Na. 2	9		9	
8556	AN-16	16(19x29)	.105	Na. 2	9		9	
8555	AN-14	14(19x27)	.125	Na. 2	9	9	9	
8554	AN-12	12(19x25)	.143	Na. 2	9	9	9	
8553	AN-10	10(49x27)	.190	Na. 2	9	9	9	MIL-W-5086A-Type II AN-12 thru AN-00 Stranded tinned copper, white vinyl insulation, saturated glass braid, nylon braid, nylon lacquer.
8552	AN-8	8(133x29)	.240	Na. 2	9	9	—	
8551	AN-6	6(133x27)	.293	Na. 2	9	9	—	
8550	AN-4	4(133x25)	.355	Na. 2	9	9	—	
8549	AN-2	2(665x30)	.425	Na. 2	9	—	—	
8548	AN-0	0(1045x30)	.525	Na. 2	9	—	—	
8547	AN-00	00(1330x30)	.590	Na. 2	9	—	—	

**MIL-C-7078—TYPE 1—600V—105°C**

(MIL-W-5086 Type I Conductor Braided Tinned Copper Shield)



Trade Number	MIL Type Designation	AWG & (Stranding)	Nom. O.D. (Inch)	Spec. Type	Stock Colors on Standard Spools			Stock Color
					100	500	1000	
8855	AN-22	22(19x34)	.092	Na. 1	9		9	White only (9)  <b>Additional Description</b> Stranded tinned copper, white vinyl insulation, nylon jacket, braided tinned copper shield.
8854	AN-20	20(19x32)	.102	Na. 1	9		9	
8853	AN-18	18(19x30)	.112	Na. 1	9		9	
8852	AN-16	16(19x29)	.122	Na. 1	9	9	—	
8851	AN-14	14(19x27)	.141	Na. 1	9	—	—	
8850	AN-12	12(19x25)	.156	Na. 1	9	—	—	


Manufactured to current Government specifications and subsequent revisions.

# Belden

hook-up and lead wires—grid wire,  
shielding and bonding cable—bus bar wire

## UL TYPE HOOK-UP AND LEAD WIRES

### UL-600V-90°C (CSA-TYPE TRB)

 Tinned copper, vinyl insulated, cotton braid, lacquered

Trade Number	AWG & Stranding	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors	Standard Spool Lengths in ft
8937	22 (7x30)	.016	.091	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
8936	20 (10x30)	.017	.098	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
8935	18 (16x30)	.017	.113	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
8934	16 (26x30)	.017	.126	1, 2, 3, 4, 5, 9, 10, 13	100, 500
8933	14 (41x30)	.031	.177	1, 2, 3, 4, 5, 9, 10, 13	100, 500

For color coding see Page 30. UL rated 600V for electronic circuits only—300V for other applications.


### UL-600V-105°C (CSA-600V-TYPE TEW)

 Tinned copper, vinyl insulated.

Trade Number	AWG & Stranding	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors	Standard Spool Lengths in ft.
8920	22 (7x30)	.031	.095	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
8919	20 (10x30)	.031	.102	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
8918	18 (16x30)	.031	.112	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
8917	16 (26x30)	.031	.126	1, 2, 3, 4, 5, 9, 10, 13	100, 500
8916	14 (41x30)	.031	.141	1, 2, 3, 4, 5, 9, 10, 13	100, 500

For color coding see Page 30. UL rated 2500 volts peak for electronic circuits.

## GRID WIRE

Description	Trade Number	AWG & Stranding	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Suggested Working Voltage	Breakdown Voltage	Nom. Cap. (mmf. ft)	Standard Spool Lengths in ft
	8885	20 (10x30)	.015	.117	300	4000	80	15, 25, 100, 500

Tinned copper, rubber insulated, cellulose acetate braid, lacquered, tinned copper braid shield.



## SHIELDING AND BONDING CABLES

Cables conforming to QQB57E can be manufactured on a special order basis. Braided tinned copper. Standard Spool: 10, 50, 250 feet. <sup>o</sup>

Trade Number	Stranding	Approx. CMA	Recommended Current (Amps.)	Oval Max. I.D. (Inch)	Flat Width (Inch)
8676	16x36	400	5.5	1/2	3/4
8674	24x36	600	7.5	3/4	1/2
*8652	96x40	920	10.0	1/2	3/2
*8653	48x36	1200	12.0	3/2	7/4
*8654	72x36	1800	16.0	7/4	1/2
*8664	96x36	2400	20.0	1/2	3/2
8660	96x34	3800	27.0	3/2	7/2
8668	120x34	4700	30.0	3/2	3/2
8663	168x34	6700	38.0	3/2	3/2
8661	192x34	7600	42.0	1/2	3/2

Trade Number	Stranding	Approx. CMA	Recommended Current (Amps.)	Oval Max. I.D. (Inch)	Flat Width (Inch)
8669	336x34	13300	61.5	3/2	11/2
8672	528x36	13200	61.0	—	3/2
8671	864x36	21600	84.0	—	11/2
8662	576x34	22900	88.0	—	19/2
*8655	360x30	36000	120.0	—	3/2
8670	480x30	48000	145.0	—	3/2
*8656	576x30	57600	165.0	—	3/2
*8657	768x30	76800	195.0	—	11/2
*8658	1056x30	105600	235.0	—	13/2
*8659	1680x30	168000	320.0	—	11/2

<sup>o</sup>8657, 8658, 8659 Available only in 10' & 50' put-ups.

For additional sizes, see current BRAIDED AND STRANDED COPPER CABLE CATALOG.

## BUS BAR WIRE



Made in accordance with Federal Spec QQ-W-343. Solid tinned copper. Standard Spool: 100, 1000 feet. <sup>o</sup>

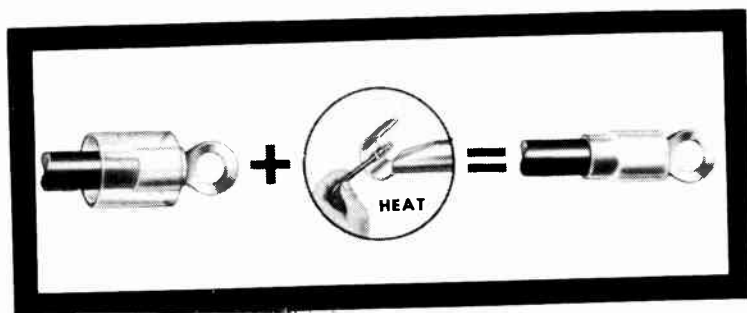
Trade Number	AWG	Nom. O.D. (Inch)	Circular Mil. Area
8025	30	.010	100.0
8024	28	.012	159.0
8023	26	.016	253.0
8022	24	.020	404.0
8021	22	.025	640.0

★New Item

Trade Number	AWG	Nom. O.D. (Inch)	Circular Mil. Area
8020	20	.032	1020.0
8019	18	.040	1620.0
8013	16	.050	2580.0
8012	14	.064	4110.0
8011	12	.080	6530.0

<sup>o</sup>8011 Available in 100' spool only.

heat shrinkable tubing

**Belden**

Belden provides a complete line of heat shrinkable tubing in order to meet the many, diverse application requirements of the electronics industry. Belden Heat Shrinkable Tubing is available from stock in a full range of colors, sizes and lengths in three basic types—all conveniently packaged for easy handling and use. All Belden HST products are manufactured to exact specifications in order to assure dependable production-line uniformity of diameters, shrink-down and electrical properties.

**HST 1: BELDEN IRRADIATED POLYOLEFIN HEAT SHRINKABLE TUBING**

Belden HST-1 meets all industry standards and size specifications. It is thermally stabilized and homogeneous in nature. HST-1 is essentially free from flaws, defects, pin holes, bubbles, seams, cracks or inclusions. When heated to 275°F, it shrinks to 50% of its original diameter, and

when fully shrunk, its longitudinal change is less than 3% of its original length. It is solvent and fungus resistant and has a maximum water absorption of only 0.1%. Belden HST-1 meets or exceeds MIL-I-23053 (WEPS) Revision A.

(Size inches)	Trade No.	Put-up Length	Stock Colors	Minimum Expanded I.D. (inch)	Maximum Recovered I.D. (inch)	Nom. Wall Recovered (inch)	No. of Lengths in Std. Pkg.	Total Ft. per Std. Pkg.
¼	68001	6"	10, 368	.046	.023	.016	25	12½
	68002	4'	10, 368				10	40
¼	68011	6"	10, 368	.063	.031	.017	25	12½
	68012	4'	10, 368				10	40
⅜	68021	6"	10, 368	.093	.046	.020	25	12½
	68022	4'	2, 4, 6, 9, 10, 368				25	100
½	68031	6"	10, 368	.125	.062	.020	25	100
	68032	4'	2, 4, 6, 9, 10, 368				25	12½
⅝	68041	6"	10, 368	.187	.093	.020	25	100
	68042	4'	2, 4, 6, 9, 10, 368				25	12½
¾	68051	6"	10, 368	.250	.125	.025	25	100
	68052	4'	2, 4, 6, 9, 10, 368				25	12½
¾	68061	6"	10, 368	.375	.187	.025	25	100
	68062	4'	2, 4, 6, 9, 10, 368				25	12½
1	68071	6"	10, 368	.500	.250	.025	25	100
	68072	4'	2, 4, 6, 9, 10, 368				25	12½
¾	68081	6"	10, 368	.750	.375	.030	25	100
	68082	4'	2, 4, 6, 9, 10, 368				10	5
1	68091	6"	10, 368	1.000	.500	.035	10	40
	68092	4'	10, 368				10	5
1½	68101	6"	10, 368	1.500	.750	.040	10	40
	68102	4'	10, 368				5	2½
2	68111	6"	10, 368	2.000	1.000	.045	5	20
	68112	4'	10, 368				5	2½
3	68121	6"	10, 368	3.000	1.500	.050	5	20
	68122	4'	10, 368				5	2½
4	68131	6"	10, 368	4.000	2.000	.055	5	20
	68132	4'	10, 368					

**HST 2: BELDEN IRRADIATED POLYOLEFIN HEAT SHRINKABLE TUBING**

Belden HST-2 combines flexibility with abrasion resistance. It is flame retardant and offers excellent dielectric and mechanical strength. It is essentially free from flaws, defects, pin holes, bubbles, seams, cracks or inclusions. When heated, it shrinks to 50% of its original diameter

and, when fully shrunk, its longitudinal change is less than 10% of its original length. It is impervious to solvents and resists water absorption. It is recommended for most commercial uses that do not require the more costly inspection of military specifications.

Size (inches)	Trade No.	Put-up Length	Stock Colors	Minimum Expanded I.D. (inch)	Maximum Recovered I.D. (inch)	Nom. Wall Recovered (inch)	No. of Lengths in Std. Pkg.	Total Ft. per Std. Pkg.
¼	68202	4'	10	.046	.023	.020	10	40
	68205	500'	10				1	500
¼	68212	4'	10	.062	.031	.020	10	40
	68215	500'	10				1	500

\*All colors are flame-retardant except clear (368).

Continued on next page

**COLOR CODE IDENTIFICATION**

2. Red    4. Yellow    6. Light Blue    9. White    10. Black    368. Clear

**BELDEN PAGE 35**

# Belden

heat shrinkable tubing

## HST 2: BELDEN IRRADIATED POLYOLEFIN HEAT SHRINKABLE TUBING (Cont'd.)

Size (inches)	Trade No.	Put-up Length	Stock Colors	Minimum Expanded I.D. (inch)	Maximum Recovered I.D. (inch)	Nom. Wall Recovered (inch)	No. of Lengths in Std. Pkg.	Total Ft. per Std. Pkg.
1/8	68231	6"	10	.125	.062	.025	25	12 1/2
	68232	4'	10					
	68235	200'	10					
3/16	68241	6"	10	.187	.093	.025	25	12 1/2
	68242	4'	10					
	68245	200'	10					
1/4	68251	6"	10	.250	.125	.025	25	12 1/2
	68252	4'	10					
	68255	200'	10					
5/16	68261	6"	10	.375	.187	.030	25	12 1/2
	68262	4'	10					
	68265	200'	10					
1/2	68271	6"	10	.500	.250	.030	25	12 1/2
	68272	4'	10					
	68281	6"	10					
3/4	68282	4'	10	.750	.375	.035	25	12 1/2
	68282	4'	10					
1	68292	4'	10	1.000	.500	.040	10	40

## HST 3: BELDEN VINYL HEAT SHRINKABLE TUBING

Belden HST-3 Polyvinylchloride Heat Shrinkable Tubing has an extra thin wall for excellent conformability. It is flame retardant and offers outstanding physical and electrical properties. When heated, it shrinks to 50% of its original diameter and when fully shrunk, its longitudinal

change is less than 15% of its original length. All colors (except black) are translucent which permits the enclosed object to remain visible. HST-3 is especially recommended for use in areas where space is critical or where flexibility is a requirement.

Size (inches)	Trade No.	Put-up Length	Stock Colors	Minimum Expanded I.D. (inch)	Maximum Recovered I.D. (inch)	Nom. Wall Recovered (inch)	No. of Spools Std. Pkg.	Total Ft. per Std. Pkg.
1/8	68513	25'	2, 6, 10, 368	.135	.075	.014	2	50
	68514	100'						
	68515	250'						
3/16	68523	25'	2, 6, 10, 368	.200	.110	.014	2	50
	68524	100'						
	68525	250'						
1/4	68533	25'	2, 6, 10, 368	.270	.150	.020	2	50
	68534	100'						
	68535	250'						
5/16	68543	25'	2, 6, 10, 368	.395	.225	.020	5	125
	68544	100'						
	68545	250'						
1/2	68553	25'	2, 6, 10, 368	.520	.300	.020	2	500
	68554	100'						
	68555	250'						
3/4	68563	25'	2, 6, 10, 368	.645	.375	.020	4	100
	68564	100'						
	68573	25'						
1	68574	100'	2, 6, 10, 368	.770	.450	.020	2	200
	68583	25'						
	68584	100'						
1 1/2	68593	25'	2, 6, 10, 368	.895	.525	.020	2	50
	68594	100'						
	68603	25'						
2	68604	100'	2, 6, 10, 368	1.52	.90	.030	2	200
	68613	25'						
	68614	100'						

### COLOR CODE IDENTIFICATION

2. Red    6. Light Blue    10. Black    368. Clear

merchandisers and crimping tool

**Belden****BELDEN MERCHANDISERS**

Belden offers a full line of mobile communications terminals in a wide range of sizes and configurations to suit every wiring need and to meet the requirements of many specialized applications. Belden terminals are manufactured in accordance with the highest quality control standards and packaged for extra handling convenience.

Primary wire terminals are made from electrolytic copper, electro-tinned for corrosion resistance. Insulated terminals have tough vinyl sleeves which can be crimped

without cutting or breaking.

The Belden 98 Packet self-service, counter-top Merchandiser displays a complete selection of the most popular terminals and assures fast turnover with minimal handling and restocking costs. Belden's fine selection of complementary terminal accessories, kits and application tools complete the line to assure full product coverage and customer satisfaction.



**8198  
IRS WIRING KIT (Ignition Radiation Suppression)**

Contains parts for making up ignition leads or sets for cars, trucks, boats or stationary engines. Includes 100' 8688 IRS cable, 400 terminals and one 8197 crimper tool. IRS application information on page 38.

Contents:			
50-8168	25-8174	50-8171	100' 8688
25-8173	50-8170	200-8172	1-8197

**8196  
STRIP-IT TOOL**

Fast, efficient way to strip wire and cable. Easy to use in tight spots. Rugged tool steel blades cut as well as strip. Adjusts for all wire sizes. Blister packaged for easy display and quick sales.



**8199  
THE 98 PACKET®**

No. 8199 Assortment holds 75 individual plastic packets containing 25 different types of the most popular primary and ignition terminals to cover your mobile communications requirements. Rack stands on counter or hangs on wall. Weighs just 7 lbs. complete. Dimensions: 18" high, 12" wide, 8" deep.

**BELDEN TERMINALS**

Packaged in sturdy plastic tubes for fast turnover, easy handling, stacking and reordering. To cover your mobile communications requirements.



**8197  
ALL PURPOSE TERMINAL CRIMPING AND  
CABLE STRIPPING TOOL**

Precision machined to permanently swage all types of Primary, Spark Plug, and Snap Terminals shown.


Rugged construction made from heat-treated alloy steel with blue plastic handle grips.

**BELDEN PAGE 37**








# Belden

IRS (Ignition Radiation Suppression)  
wire, spark plug protectors and terminals








### IRS SPARK PLUG WIRE

Illustrations and colors	Trade Number	Standard Package	Description	Application
 Ignition Radiation Suppression	<b>8688</b>	100' Spool	<b>IRS IGNITION CABLE</b> 7 MM ● Duaprene G elastomer conductor ● Conductor extruded over a glass cord for strength ● Maximum dielectric rubber ● Glass Fiber Braid ● Over-all Sheath of Black Hypalon	Belden's resistance cable for original equipment replacement on all model passenger cars and trucks where Ignition Radiation Suppression is required.  8198 IRS Wiring Kit. shown on page 37.

### SPARK PLUG PROTECTORS

						
<b>Hypalon</b> one third size <b>*8175</b> Universal Spark Plug Protector Std. Pkg. 10	<b>Neoprene</b> one half size <b>*8177</b> 7 MM Angle Distributor Nipple Std. Pkg. 10	<b>Neoprene</b> one half size <b>*8176</b> 7 MM Red Plastic Distributor Nipple Std. Pkg. 10	<b>Neoprene</b> one half size <b>*8178</b> Buick Spark Plug Protector Std. Pkg. 8	<b>Hypalon</b> one half size <b>*8179</b> Corvair Spark Plug Protector Std. Pkg. 6	<b>Hypalon</b> one half size <b>*8180</b> Plymouth, Valiant Spark Plug Protector Std. Pkg. 6	<b>Silicone Rubber</b> one half size <b>*8181</b> High Heat Spark Plug Protector Std. Pkg. 8









### SPARK PLUG WIRE TERMINALS

						
actual size <b>8171-98</b> 7 MM Snap Solderless Use on all condrs.**	actual size <b>8170-98</b> 7 MM Angle Solderless Use on all condrs.**	actual size <b>8174-98</b> 7 MM 115° Solderless Use on all condrs.**	actual size <b>8168-98</b> 7 MM Straight Distributor Clip Use on all condrs.**	actual size <b>8173-98</b> 7 MM Angle Distributor Clip Use on all condrs.**	actual size <b>8169-98</b> 7 MM Brass Distributor Clip Use on copper condr. only	actual size <b>8172-98</b> Staple Use only on IRS condr.

\*\* Requires 8172 staple when used with IRS (Ignition Radiation Suppression) conductor

### STUD CHART WITH HOLE SIZES

For quick selection of Terminal screw size, match screw shank to corresponding circle in chart below.

STANDARD STUD SIZE								
Screw Dia. (")	#6 .138	#8 .164	#10 .190	#12 .216	1/4" .250	5/16" .312	3/8" .375	1/2" .500

\*New Item

## TERMINALS


Type (Actual Size)	Trade Number and Description	AWG	Size	Length	Width of Face	Thickness of Stock
	<b>8155-98</b> Solderless, insulated	14-16-18	Screw Size 10	$\frac{27}{32}$ "	$\frac{23}{64}$ "	.032"
	<b>8151-98</b> Solderless, Insulated	14-16-18	Screw Size 10	$\frac{27}{32}$ "	$\frac{23}{64}$ "	.032"
	<b>8154-98</b> Heavy-Duty Solderless, Insulated	10-12	Screw Size 10	$\frac{29}{32}$ "	$\frac{3}{8}$ "	.040"
	<b>8162-98</b> Solderless, Insulated	14-16-18	Screw Size 10	$\frac{27}{32}$ "	$\frac{23}{64}$ "	.032"
	<b>8157-98</b> Solderless, Insulated	14-16-18	Screw Size 8	$\frac{29}{32}$ "	$\frac{1}{4}$ "	.032"
	<b>8156-98</b> Solderless, Insulated	14-16-18	Screw Size 6	$\frac{4}{64}$ "	$\frac{1}{4}$ "	.032"
	<b>8153-98</b> Solderless, Insulated	14-16-18	Screw Size $\frac{1}{4}$ "	$\frac{31}{32}$ "	$\frac{13}{32}$ "	.032"
	<b>8152-98</b> Heavy-Duty Solderless, Insulated	10-12	Screw Size $\frac{3}{8}$ "	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	.040"
	<b>8160-98</b> Male Slide Terminal, Insulated, mates with 8161	14-18	$\frac{1}{4}$ " Blade Terminal	$\frac{29}{32}$ "	.250 "	.032"
	<b>8161-98</b> Female Slide Terminal, Insulated, mates with 8160	14-18	$\frac{1}{4}$ " Blade Receptacle	$\frac{29}{32}$ "	.255"	.020"
	<b>8163-98</b> Male Slide Terminal, Uninsulated, mates with 8164	14-18	$\frac{1}{4}$ " Blade Terminal	$\frac{29}{32}$ "	.250"	.032"
	<b>8164-98</b> Female Slide Terminal, Uninsulated, mates with 8163	14-18	$\frac{1}{4}$ " Blade Receptacle	$\frac{29}{32}$ "	.255"	.020"
	<b>8190-98</b> Spade Terminal. Removable insulation clamp for large twin-lead.	20-22	Screw Size 10	1"	.422"	.030"
	<b>8191-98</b> Flanged Spade Terminal. Removable insu- lation clamp for large twin-lead.	20-22	Screw Size 6	$\frac{49}{64}$ "	.281"	.030"
	<b>8165-98</b> Snap Terminal (15 Amp), Uninsulated Use with one 14 AWG or two 16 AWG	—	—	$\frac{3}{64}$ "	.188 dia.	—
	<b>8166-98</b> Snap Terminal, Uninsulated Use with one 12 AWG or two 16 AWG	—	—	$\frac{3}{64}$ "	.188 dia.	—
	<b>8158-98</b> Parallel Connector, Insulated	14-18	—	$\frac{3}{4}$ "	—	.035"
	<b>8159-98</b> Butt Connector, Insulated	10-12	—	$1\frac{1}{8}$ "	—	.035"
	<b>8150-98</b> Butt Connector, Insulated (Nylon)	14-16	—	$1\frac{3}{64}$ "	—	.032"
	<b>8167-98</b> Two Wire Connector Use with 8165 or 8166	—	—	—	—	—

CIRCUIT CONNECTORS one half size

**Belden**

primary, antenna and ignition wire


**PRIMARY WIRE—MARINE AND AUTO**

 <p>S.A.E. TYPE G.P.T. Bare copper, vinyl insulated.</p>	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Color	Standard Spool
	<b>8685</b>	16 (19x29)	.023	.102	Black	100
	<b>8684</b>	14 (19x27)	.023	.117	Green	100
	<b>8683</b>	12 (19x25)	.026	.142	Red	100
	<b>8682</b>	10 (19x23)	.031	.175	White	100
	<b>8681</b>	8 (19x21)	.037	.219	Chrome	100
	<b>8680</b>	6 (37x21)	.043	.290	Chrome	100
	<b>8679</b>	4 (61x22)	.061	.350	Chrome	100

**MARINE RADIO ANTENNA WIRE**


 <p>WEATHER-RESISTANT Tinned Copperweld polyethylene insulated.</p>	Trade No.	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Standard Spool
	<b>8201</b>	20 (7x28)	.121	.278	100, 500, 1000

**3 & 4 CONDUCTOR PARALLEL BONDED PRIMARY WIRE**

 <p>Bare copper, vinyl insulated.</p>	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Color Coding	Standard Spool
	<b>8475</b>	16-3 19x29	.023	.102x .295	Wht/Brn/ Red	10, 500
	<b>8476</b>	16-4 19x29	.023	.102x .400	Wht/Brn/ Yel/Grn	100, 500

Conforms to SAE and Outboard Industries Association Color Coding for boat trailers.

**DUPLEX PRIMARY WIRE**

 <p>Tinned copper, vinyl insulated, conductors parallel, chrome vinyl jacket.</p>	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Color Coding	Standard Spool
	<b>8677</b>	16 (19x29)	.032	.022	.164x .276	Brn, Red	100, 500
	<b>8675</b>	14 (19x27)	.037	.022	.189x .326	Brn, Red	100, 500
	<b>8673</b>	12 (19x25)	.040	.022	.213x .384	Brn, Red	100, 500
	<b>8678</b>	10 (19x23)	.040	.025	.243x .436	Brn, Red	100, 500

**7 MM IGNITION WIRE**

 <p>Tinned copper clad steel wire conductor, rubber insulated, Hypalon Jacket</p>	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Color	Standard Spool
	<b>8689</b>	20 (7x28)	.120	.278	Blk.	100





# teflon wire | Belden

Teflon is a fluorinated thermoplastic with outstanding thermal physical and electrical properties. However, because the basic resin and processing costs are relatively high, Teflon is generally restricted to applications requiring its special characteristics.

Belden Teflon wire products are highly recommended for miniature cable applications, because of their superior thermal and electrical properties. Teflon is especially suit-





able for internal wiring soldering applications where insulation melt back is a specific problem. Belden Teflon wiring products are outstanding in their resistance to oil, oxidation, heat, sunlight, flame and their ability to remain flexible at low temperatures. They all have excellent resistance to ozone, water, alcohol, gasoline, acids, alkalis, aromatic carbon and solvents.

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Percent Shield Coverage	Nom. Cap. (mmf ft)	Nom. Cap. (mmf ft)	Suggested Working Voltage	Standard Spool Lengths in ft
 High Temperature	<b>8390</b> (2 cond.)	22 (19x34)	.015	.015	.180	Blk, Wht	90	23	40	1000	25, 100, 500
	<b>8391</b> (3 cond.)	22 (19x34)	.015	.015	.190	Blk, Red Wht	90	20	35	1000	25, 100, 500
	<b>8392</b> (4 cond.)	22 (19x34)	.015	.015	.205	Red, Blk, Grn, Wht	90	20	35	1000	25, 100, 500
<i>Stranded tinned copper, FEP teflon<sup>®</sup> insulated, cabled, tinned copper braid shield, white FEP teflon jacket.                      HIGH TEMPERATURE +200° C maximum, -70° C minimum operating temperature. Ideal where chemical resistance is needed and/or extremely high or low temperatures are required.</i>											
 <b>*8393</b> (2 cond.)	20 (7x28)	.020	.030	.245	Blk, Red	100	22	42	1000	25, 100, 500	
<i>Tinned copper, FEP Teflon insulated, noise reducing tape, 20 AWG (10x30) nickel coated copper drain wire, special Beldfoil shield, Silicone rubber jacket. +150° C maximum -70° C minimum operating temperature.                      Jacket working voltage 1000V DC, shield to ground.</i>											

\*Capacitance between conductors.

\*\*Capacitance between one conductor and other conductor connected to shield.

## RG/U CABLES

Description	Trade Number	RG No.	AWG & (Stranding Material)	Insulation	No. of Shields & Material	Jacket	Nom. O.D. (Inch)	Nom. Imp. (Ohms)	Nom. Vel. of Prop.	Nom. Cap. (mmf ft)	Nom. Attenuation per 100 mc db	Standard Spool Lengths in ft.
	<b>8265</b>	178B/U MIL-C-17D	30 (7x38) Silver coated Copperweld	TFE TEFLON	1 Silver coated copper	Brown FEP TEFLON	.072	50	69.5	29	400 29.0 Max.	100 500
	<b>8266</b>	180B/U MIL-C-17D	30 (7x38) Silver coated Copperweld	TFE TEFLON	1 Silver coated copper	Brown FEP TEFLON	.142	95	69.5	15	400 17.0 Max.	100 500
	<b>8269</b>	188A/U MIL-C-17D	26 (7x.0067) Silver coated Copperweld	TFE TEFLON	1 Silver coated copper	White TFE TEFLON	.106	50	69.5	29	400 20.0 Max.	100 500
	<b>8270</b>	196A/U MIL-C-17D	30 (7x38) Silver coated Copperweld	TFE TEFLON	1 Silver coated copper	White TFE TEFLON	.076	50	69.5	29	400 29.0 Max.	100 500

Manufactured to current Government specifications and subsequent revisions.

### TYPE E—MIL-W-16878 TEFLON—600V—200°C



Stock Colors 1 thru 10

Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated

### TYPE EE—MIL-W-16878 TEFLON—1000V—200°C



Stock Colors 1 thru 10

Trade Number	Type Designation	AWG & (Stranding)	Nom. O.D. (Inch)	Insulation Thickness (Inch)	Standard Spool Lengths in ft.
8300	E-30	30 (7x38)	.033	.010	25, 100, 500, 1000
8301	E-28	28 (7x36)	.036	.010	25, 100, 500, 1000
8302	E-26	26 (7x34)	.041	.010	25, 100, 500, 1000
8303	E-24	24 (19x36)	.046	.010	25, 100, 500
8304	E-24	24 (7x32)	.045	.010	25, 100, 500, 1000
8305	E-22	22 (7x30)	.051	.010	25, 100, 500, 1000
8306	E-22	22 (19x34)	.052	.010	25, 100, 500, 1000
8307	E-20	20 (19x32)	.060	.010	25, 100, 500, 1000
8308	E-20	20 (7x28)	.059	.010	25, 100, 500
8309	E-18	18 (19x30)	.071	.010	25, 100, 500, 1000
8310	E-16	16 (19x29)	.080	.010	25, 100, 500, 1000

Trade Number	Type Designation	AWG & (Stranding)	Nom. O.D. (Inch)	Insulation Thickness (Inch)	Standard Spool Lengths in ft.
8323	EE-24	24 (19x36)	.053	.014	25, 100, 500
8325	EE-22	22 (7x30)	.058	.014	25, 100, 500
8326	EE-22	22 (19x34)	.060	.014	25, 100, 500, 1000
8327	EE-20	20 (19x32)	.068	.014	25, 100, 500, 1000
8328	EE-20	20 (7x28)	.066	.014	25, 100, 500
8329	EE-18	18 (19x30)	.079	.014	25, 100, 500, 1000
8330	EE-16	16 (19x29)	.086	.014	25, 100, 500, 1000

#### Stock Colors

- 1. Brown
- 3. Orange
- 5. Green
- 7. Violet (purple)
- 9. White
- 2. Red
- 4. Yellow
- 6. Light Blue
- 8. Gray (slate)
- 10. Black

Color striping available on 1,000 ft. minimum per item each color on 500' and 1000' spools.

Manufactured to current Government specifications and subsequent revisions. 41

\*New item

Trade mark of DuPont

## HPD HEATER CORDS WITHOUT APPLIANCE PLUG

### Information and Application

HPD Cardage (Asbestos cotton braid) is recommended for irons and other appliances where flexibility of the cord is extremely important.

Glazed cotton HPD should be used for maximum resistance to abrasion.

All Belden Iron Cords use a fiber glass tie on the stripped conductors for ruggedness and to insure the smallest diameter for easy installation.

17729 has a special terminal finish. The braid is stripped 2 1/4" with a fiber glass tie, and the eyelets are for a #6 screw.

All cords have UL Green Flag Label.

These cords are offered in a wide variety of:

1. Lengths
2. Gauges
3. Colors
4. Cotton Types
5. End Finishes—  
Stripped  
Terminals  
Eyelets



MOLDED VINYL CORD HOLDER PLUG BRAID STRIPPED 1/4" WITH FIBER GLASS TIE, RING TERMINALS FOR #8 SCREW

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	Rating	Type of Cotton	Colors
17706	6	18 (41 x 34)	.265	10A-125V	Glazed	Black, Spiral White Tracer
17727	7	16 (65 x 34)	.285	15A-125V	Glazed	Black, Spiral White Tracer or Brown, crossed White Tracer

**THE INDUSTRY'S MOST POPULAR IRON CORD**



MOLDED VINYL CORD-HOLDER PLUG BRAID STRIPPED 1/4" WITH FIBER GLASS TIE, EYELETS FOR #8 SCREW

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	Rating	Type of Cotton	Colors
17707	7	18 (41 x 34)	.265	10A-125V	Soft	Black, Spiral White Tracer
17725	7	16 (65 x 34)	.285	15A-125V	Glazed	Black, Spiral White Tracer
17729	8	16 (65 x 34)	.285	15A-125V	Glazed	Black, Spiral White Tracer
17730	10	16 (65 x 34)	.285	15A-125V	Glazed	Black, Spiral White Tracer



MOLDED VINYL CORD-HOLDER PLUG BRAID STRIPPED 1/4" TIED WITH FIBER GLASS TIE, CONDUCTORS STRIPPED AND TWISTED 3/8"

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	Rating	Type of Cotton	Colors
17728	7	16 (65 x 34)	.285	15A-125V	Glazed	Black, Spiral White Tracer or Brown, crossed White Tracer

## HPD HEATER CORDS WITH PROTECTOR SLEEVE AND STRAIN RELIEF

Fits G.E. Irons with model numbers F-33, F-34, F-44 and F-50. UL Green Flag Label.



MOLDED VINYL CORD HOLDER PLUG NEOPRENE PROTECTOR SLEEVE WITH METAL STRAIN RELIEF BRAID STRIPPED 1/4" WITH FIBER GLASS TIE, SPADE TERMINALS FOR #8 SCREW

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	Rating	Type of Cotton	Colors
17723	7	18 (41 x 34)	.265	10A-125V	Glazed	Black, White Spiral Tracer

Fits G.E. Irons with model numbers F-60, F-61, F-70 and F-71. UL Green Flag Label.



MOLDED VINYL CORD HOLDER PLUG NEOPRENE PROTECTOR SLEEVE WITH METAL STRAIN RELIEF BRAID STRIPPED 1/4" WITH FIBER GLASS TIE, SPADE TERMINALS FOR #8 SCREW

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	Rating	Type of Cotton	Colors
17724	7	18 (41 x 34)	.265	10A-125V	Glazed	Black, White Spiral Tracer

Fits G.E. Irons with model numbers F-23, F-26, F-30, F-35 and F-40. UL Green Flag Label.



MOLDED VINYL CORD HOLDER PLUG NEOPRENE PROTECTOR SLEEVE WITH METAL STRAIN RELIEF BRAID STRIPPED 1/4" WITH FIBER GLASS TIE, RING TERMINALS FOR #8 SCREW

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	Rating	Type of Cotton	Colors
17726	7	16 (65 x 34)	.285	15A-125V	Glazed	Black, Spiral White Tracer

**COFFEEMAKER AND FRY PAN CORD SETS**


**Information and Application**

Fits all standard coffeemakers. The miniature appliance plug is slotted so that it also fits many fry pans. The 2 ft. length cord is particularly convenient for the kitchen counter space. Both cards made to original equipment specifications with 3-leaf bronze contacts and 17 AWG conductor. UL Blue Flag Label.


17856 is recommended where just a coffeemaker card is required. Miniature appliance plug is not slotted. UL Blue Flag Label.

**CONVENIENCE AND SAFETY.** Dangling cords can be messy, troublesome and unsafe. Retractable cords stay neat, allow free movement of the appliance and prevent accidents. Neoprene jackets meet UL requirements and retain full memory through thousands of stretching cycles.

**UL-TYPE HPN**



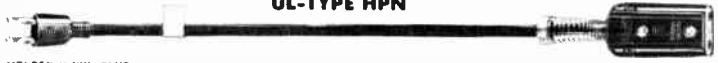
Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
<b>17852</b>	2	17 (52 x 34)	.160 x .308	HPN	Black
<b>17866</b>	6	17 (52 x 34)	.160 x .308	HPN	Black
<b>17856</b>	6	18 (41 x 34)	.154 x .286	HPN	Black



Trade Number	Retracted Length (in.)	Practical Extended Length (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
<b>17886</b>	9	4	18 (41 x 34)	.165 x .335	HPN	Black


**STANDARD APPLIANCE PLUG CORD SETS**

**UL-TYPE HPN**



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Colors
<b>17857</b>	6	18 (41 x 34)	.154 x .286	HPN	Black
<b>17756</b>	6	18 (41 x 34)	.265	HPD	Black, Spiral White Tracer


For all kitchen appliances such as waffle irons, grills, battle warmers, etc. using  $\frac{1}{16}$ " spacing between contacts. UL Blue Flag Label.



Trade Number	Retracted Length (in.)	Practical Extended Length (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
<b>17887</b>	9	4	18 (41 x 34)	.165 x .335	HPN	Black


**ROASTER CORD SETS**

**UL-TYPE HPN**



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
<b>17876</b>	6	16 (65 x 34)	.166 x .318	HPN	Black

Fits all standard roasters, broilers and big fry pans with  $\frac{1}{16}$ " spacing between contacts. 16 AWG card is used to carry the heavy load and 3-leaf bronze contacts insure a trouble free connection. UL Blue Flag Label.



Trade Number	Retracted Length (in.)	Practical Extended Length (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
<b>17888</b>	9	4	16 (65 x 34)	.180 x .365	HPN	Black

# Belden

 cords

## HPN HEATER CORDS WITHOUT APPLIANCE PLUG

### Information and Application

For soldering irons and appliances where cord is attached directly to the appliance. Ring type terminals for easy attachment. UL Green Flag Label.

### UL-TYPE HPN



MOLDED VINYL PLUG

CONDUCTORS SPLIT 1" TERMINALS FOR #8 SCREW

Trade Number	Retracted Length (in.)	Practical Extended Length (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Rating	Color
17836	9	4	18 (41 x 34)	.165 x .335	HPN Neoprene	10A-125 V	Black

For appliances such as toasters, waffle irons, bottle warmers and kitchen stove timers where the cord is permanently attached to appliance.

UL Green Flag Label.



MOLDED VINYL PLUG

CONDUCTORS SPLIT 1-1/16" TERMINALS FOR #8 SCREW

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Rating	Color
17826	6	16 (65 x 34)	.152 x .300	HPN Neoprene	15A-125V	Black



MOLDED VINYL PLUG

CONDUCTORS SPLIT 1" STRIPPED AND TWISTED 1/2"

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Rating	Color
17806	6	18 (41 x 34)	.140 x .276	HPN Neoprene	10A-125V	Black

### HPN HEATER EXTENSION CORD

Eight foot 16 AWG Neoprene Extension Cord. For all appliances such as irons, toasters, mixers, etc., where additional cordage is needed. UL Blue Flag Label.



MOLDED VINYL PLUG

MOLDED VINYL CONNECTOR FOR BLADE PRONGS

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Rating	Color
17870	8	16 (65 x 34)	.152 x .300	HPN Neoprene	10A-125V	Black

## MIXER CORDS—FAN CORD

### UL-TYPE SPT-2 VINYL

Fits latest hand held food mixer models such as Dormeyer, G.E., Hamilton Beach, Sunbeam and Westinghouse. UL Blue Flag Label.



MOLDED VINYL PLUG

MOLDED VINYL PLUG ROUND PIN CONNECTOR

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17186	6	18 (41 x 34)	.144 x .277	SPT-2 Vinyl	White

Fit older models of many nationally advertised hand held food mixers. Also BVI, Cory, Darmeyer, G.E., Hamilton Beach, Oster and Westinghouse can openers. Also fit knife sharpeners, electric juicers, home hair dryers, desk or window or suitcase fans, portable humidifiers, toy transformers and small business machines. UL Green Flag Label.



MOLDED VINYL PLUG

CONDUCTORS SPLIT 1-1/2" STRIPPED AND TWISTED 1/2"

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Colors
17116	6	18 (41 x 34)	.144 x .277	SPT-2 Vinyl	White
17139	9	18 (41 x 34)	.144 x .277	SPT-2 Vinyl	Brown

cords **Belden****TWO CONDUCTOR POWER SUPPLY CORDS****PARALLEL LAMP CORDS****Information and Application**

For Lamps, Radios, Desk Fans and Small Appliances. Long life plastic resists cracking and aging. Popular lengths and colors. UL Green Flag Label.



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. U.D. (Inches)	UL Type of Cordage	Colors
17106	6	18 (41 x 34)	.110 x .207	SPT-1 Vinyl	Brown, Gray or Ivory
17109	9	18 (41 x 34)	.110 x .207	SPT-1 Vinyl	Brown, Gray
17112	12	18 (41 x 34)	.110 x .207	SPT-1 Vinyl	Brown, Gray
17126	6	18 (41 x 34)	.110 x .213	SP-1 Rubber	Brown
17129	9	18 (41 x 34)	.110 x .213	SP-1 Rubber	Brown

**UL-TYPE SVT VINYL AND SV RUBBER**

For Food Mixers, Blenders and Small Appliances. UL Green Flag Label.



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Colors
17205	6	18 (41 x 34)	.243	SVT Vinyl	Black, Gray
17206	6	18 (41 x 34)	.245	SV Rubber	Gray

**UL-TYPE SJ RUBBER**

For Mixers, Blenders, Washing Machines and Appliances using fractional horse power motors that do not require a three conductor grounding cord. UL Green Flag Label.



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17308	8	18 (16 x 30)	.298	SJ Rubber	Black
17310	10	18 (16 x 30)	.298	SJ Rubber	Black
17328	8	16 (26 x 30)	.323	SJ Rubber	Black
17330	10	16 (26 x 30)	.323	SJ Rubber	Black

**Retractile (coiled)**

CONVENIENCE AND SAFETY. Dangling cords can be messy, troublesome and unsafe. Retractable cords stay neat, allow free movement of the appliance or tool, and prevent accidents. Rubber insulation and neoprene jackets meet UL requirements and retain full retracting memory through thousands of stretching cycles. UL Green Flag Label.



Trade Number	Retracted Length (in.)	Practical Extended Length (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17249	12	6	18 (41 x 34)	.270	SVO Neoprene	Black

**BUSINESS MACHINE CORDS****UL-TYPE SJT AND SVT VINYL**

17359 fits Burroughs, Monroe and Victor 10 key Adding machines as well as late Friden models and the Burroughs Sensimatic Bookkeeping Machine and Pen-tron Tape Recorder (Triumph model). 17260 fits Revere Projectors and many business machines. UL Blue Flag Label.



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17359	10	18 (16 x 30)	.298	SJT Vinyl	Gray
17260	8	18 (41 x 34)	.243	SVT Vinyl	Gray

**UL-TYPE SJ RUBBER**

Fits R. C. Allen Adding Machine and Mimeograph models 100 and 92. Fits following 16MM Motion Picture Projectors: All RCA senior models, all Victor Kalart models, Bell and Howell models 185 through 399. Can also be used as an extension cord where a round connector is required. UL Blue Flag Label.



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17370	10	16 (26 x 30)	.323	SJ Rubber	Black

# Belden cords

## TWO CONDUCTOR EXTENSION CORDS

### Information and Application

This new idea in convenience adds an 8' extension cord and you still have an outlet to plug in another cord. UL Blue Flag Label.



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17177	6	18 (41 x 34)	.144 x .277	SPT-2	Brown

### CUBE TAP EXTENSION CORD SETS



Manufactured in Brown, Black and Ivory in all popular lengths. The molded three way connector is particularly sturdy and will last long in steady service. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Colors
17156	6	18 (41 x 34)	.110 x .207	SPT-1 Vinyl	Brown, Ivory
17159	9	18 (41 x 34)	.110 x .207	SPT-1 Vinyl	Brown, Ivory
17162	12	18 (41 x 34)	.110 x .207	SPT-1 Vinyl	Brown, Ivory
17165	15	18 (41 x 34)	.110 x .207	SPT-1 Vinyl	Brown, Ivory

### UL-TYPE SV AND SJ RUBBER



The molded plugs and connectors give long service life. The CORD-HOLDER plug provides easier storage. It can also be used as cord shortener. For longer extension cords of this type, see Lawnmower and Vacuum Cleaner cords. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Colors
17259	9	18 (41 x 34)	.245	SV Rubber	Gray
17361	10	16 (26 x 30)	.323	SJ Rubber	Black

### UL-TYPE SJ AND S RUBBER



For use where a round connector is required. Also used as a power supply cord for some appliances. For longer extensions where a heavier duty type cord is needed for added insulation and abrasion protection use 17555 or 17556. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17370	10	16 (26 x 30)	.323	SJ Rubber	Black
17555	25	16 (65 x 34)	.401	S Rubber	Black
17556	50	16 (65 x 34)	.401	S Rubber	Black

## EXTENSION CORDS WITH DUPLEX CONNECTORS

### UL-TYPE SJO AND SO NEOPRENE



These extension cords with the duplex connector are designed to withstand the punishment of shop, garage and factory use.

These cords are ideal for sound and broadcast studios. The entire cord is oil, grease and ozone resistant. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17375	25	16 (26 x 30)	.323	SJO Neoprene	Black
17565	25	14 (41 x 30)	.528	SO Neoprene	Black
17566	50	14 (41 x 30)	.528	SO Neoprene	Black

**THREE CONDUCTOR POWER SUPPLY CORDS**

**UL-TYPE SJ RUBBER, SJT VINYL AND SJO NEOPRENE**

**Information and Application**



MOLDED VINYL GROUNDING PLUG

OUTER JACKET STRIPPED 2" CONDUCTORS STRIPPED AND TWISTED 3/4"

For all tools such as sanders, saws, grinders and polishers requiring grounding. Three conductor Cord now listed by UL as mandatory for drills 1/2" and larger. UL Green Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. U.O. (Inches)	UL Type of Cordage	Colors
17406	6	18 (16 x 30)	.328	SJ Rubber	Black
17405	6	18 (16 x 30)	.328	SJT Vinyl	Gray
17408	8	18 (16 x 30)	.328	SJ Rubber	Black
17407	8	18 (16 x 30)	.328	SJT Vinyl	Gray
17409	8	18 (16 x 30)	.328	SJO Neoprene	Black
17412	12	18 (41 x 34)	.328	SJ Rubber	Black
17419	9	16 (65 x 34)	.353	SJ Rubber	Black
17422	12	16 (65 x 34)	.353	SJ Rubber	Black
17425	15	16 (65 x 34)	.353	SJ Rubber	Black

**UL-TYPE SV RUBBER AND SVT VINYL**



MOLDED VINYL GROUNDING PLUG

OUTER JACKET STRIPPED 1 1/2" CONDUCTORS STRIPPED AND TWISTED 3/4"

Three conductor SV and SVT cords now recognized as a UL Standard for same small tools, business machines and instruments which previously required a three conductor SJ Cord. UL Green Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Colors
17236	6	18 (41 x 34)	.265	SV Rubber	Black
17238	8	18 (41 x 34)	.265	SV Rubber	Black
17237	6	18 (41 x 34)	.253	SVT Vinyl	Gray
17239	8	18 (41 x 34)	.253	SVT Vinyl	Gray

**UL TYPE S RUBBER**



MOLDED VINYL GROUNDING PLUG

OUTER JACKET STRIPPED 2" CONDUCTORS STRIPPED AND TWISTED 3/4"

For heavy duty power tools and equipment. UL Green Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17629	9	14 (41 x 30)	.558	S Rubber	Black
17635	15	14 (41 x 30)	.558	S Rubber	Black

**UL-TYPE SJO NEOPRENE (RETRACTILE)**

**Retractile (coiled)**



MOLDED VINYL GROUNDING PLUG

OUTER JACKET STRIPPED 1 1/2" CONDUCTORS STRIPPED 1/2" AND TINNED

CONVENIENCE AND SAFETY. Dangling cords can be messy, troublesome and unsafe. Retractable cords stay neat, allow free movement of the appliance or tool, and prevent accidents. Rubber insulation and neoprene jackets meet UL requirements and retain full retracting memory through thousands of stretching cycles. UL Green Flag Label.

Trade Number	Retracted Length (in.)	Practical Extended Length (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17447	12	6	18 (41 x 34)	.360	SJO Neoprene	Black
17448	12	6	16 (65 x 34)	.370	SJO Neoprene	Black
17449	24	12	16 (65 x 34)	.370	SJO Neoprene	Black

**THREE CONDUCTOR PROJECTOR AND BUSINESS MACHINE CORD**

**UL-TYPE SVT VINYL**



MOLDED VINYL GROUNDING PLUG

MOLDED VINYL 3-CONTACT CONNECTOR

Can be used for Revere and Eastman Kodak projectors, Friden, Victor, Hewlett-Packard, Marchant business machines, and DuKane audio equipment. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17258	8	18 (41 x 34)	.253	SVT Vinyl	Gray

# Belden cords

## THREE CONDUCTOR EXTENSION CORDS

### Information and Application

This new idea in convenience adds an 8' extension cord and you still have an outlet to plug in another cord. UL Blue Flag Label.



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
<b>17462</b>	8	18 (16 x 30)	.328	SJT Vinyl	Black

### UL-TYPE SJT AND ST VINYL



YELLOW CORDAGE stands out against green or brown backgrounds and thus reduces hazard of accidental cutting.

These extension cord sets are for lawnmowers and hedge clippers using three conductor power supply cordage. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
<b>17491</b>	25	18 (16 x 30)	.328	SJT Vinyl	Yellow
<b>17492</b>	50	18 (16 x 30)	.328	SJT Vinyl	Yellow
<b>17493</b>	100	18 (16 x 30)	.328	SJT Vinyl	Yellow
<b>17494</b>	25	16 (26 x 30)	.353	SJT Vinyl	Yellow
<b>17495</b>	50	16 (26 x 30)	.353	SJT Vinyl	Yellow
<b>17497</b>	100	16 (26 x 30)	.353	SJT Vinyl	Yellow
<b>17694</b>	25	14 (41 x 30)	.558	ST Vinyl	Yellow
<b>17695</b>	50	14 (41 x 30)	.558	ST Vinyl	Yellow
<b>17697</b>	100	14 (41 x 30)	.558	ST Vinyl	Yellow

### UL-TYPE SPT-2 VINYL



FLAT YELLOW 3 conductor extension cords for most light duty purposes. Particularly popular with the marine trade. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
<b>17194</b>	25	16 (65 x 34)	.152 x .460	SPT-2	Yellow
<b>17195</b>	50	16 (65 x 34)	.152 x .460	SPT-2	Yellow

### UL-TYPE SJ RUBBER



Power Supply Cord for business, mailing machines and electrical equipment that have a built in receptacle with blades and grounding pin for cord attachment. These can also be used as extension cords for equipment requiring grounding. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
<b>17460</b>	10	18 (16 x 30)	.328	SJ Rubber	Black
<b>17461</b>	10	16 (26 x 30)	.353	SJ Rubber	Black

### UL-TYPE SJO AND SO NEOPRENE



These three conductor extension cords are for use with power tools and other appliances requiring grounding. These extension cords with the rugged Belden duplex connectors will give years of safe, reliable service. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
<b>17475</b>	25	16 (26 x 30)	.353	SJO Neoprene	Black
<b>17476</b>	50	16 (26 x 30)	.353	SJO Neoprene	Black
<b>17477</b>	100	16 (26 x 30)	.353	SJO Neoprene	Black
<b>17675</b>	25	14 (41 x 30)	.558	SO Neoprene	Black
<b>17676</b>	50	14 (41 x 30)	.558	SO Neoprene	Black



**VACUUM CLEANER AND FLOOR POLISHER CORDS**

**Information and Application**

For all Standard Home Vacuum Cleaners and Floor Polishers not requiring a Plug-in type connector. UL Green Flag Label.  
The CORD-HOLDER plug is a proven convenience for storing cleaner and cord.

**Color Shades Match Exactly Original Equipment Manufacturer's Specifications.**

**WITHOUT CONNECTOR**



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
<b>17220</b>	20	18 (41 x 34)	.245	SV Rubber	Black, Brown, Gray
<b>17222</b>	20	18 (41 x 34)	.243	SVT Vinyl	Black, Brown, Gray, Red, Green

**WITH CONNECTORS**

Fits Kirby Cleaners requiring connector as illustrated. Note: Strain relief for hooking cord to the hook of Kirby Sweeper handle. UL Blue Flag Label.



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL TYPE of Cordage	Color
<b>17270</b>	20	18 (41 x 34)	.245	SV Rubber	Gray
<b>17272</b>	20	18 (41 x 34)	.243	SVT Vinyl	Gray
<b>17274</b>	32	18 (41 x 34)	.243	SVT Vinyl	Gray

Fits Kirby Cleaners requiring connector as illustrated but may be used on other cleaners. UL Blue Flag Label.



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
<b>17271</b>	20	18 (41 x 34)	.245	SV Rubber	Gray
<b>17273</b>	20	18 (41 x 34)	.243	SVT Vinyl	Gray

For Vacuum Cleaners with round pin connectors such as Apex and Electrolux models without the reeling device. UL Blue Flag Label.



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
<b>17288</b>	18	18 (41 x 34)	.245	SV Rubber	Gray
<b>17290</b>	20	18 (41 x 34)	.245	SV Rubber	Gray
<b>17291</b>	20	18 (41 x 34)	.243	SVT Vinyl	Gray

**WITH STRAIN RELIEF**

For several Hoover and Sunbeam Models requiring a molded strain relief as illustrated. UL Green Flag Label.

**Color Shades Match Exactly Original Equipment Manufacturer's Specifications.**



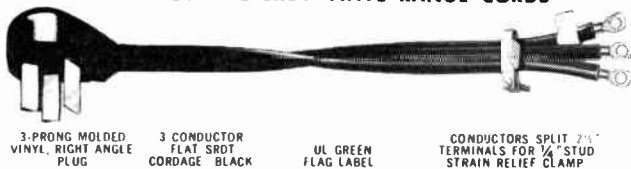
Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
<b>17221</b>	20	18 (41 x 34)	.245	SV Rubber	Blue, Brown, White
<b>17223</b>	20	18 (41 x 34)	.243	SVT Vinyl	Blue, Brown, White, Red, Green

# Belden

range dryer, air conditioner cords and cordlites

## RANGE-DRYER AND AIR CONDITIONER CORDS

### FLAT UL-TYPE SRDT VINYL RANGE CORDS



Trade Number	Length of Cord (ft.)	Rating	AWG
1706	3	50A-250V	2-#6 & 1-#8
1714	4	50A-250V	2-#6 & 1-#8
1715	5	50A-250V	2-#6 & 1-#8
1775	6	50A-250V	2-#6 & 1-#8
1709	3	35A-250V	2-#8 & 1-#10
1724	4	35A-250V	2-#8 & 1-#10
1725	5	35A-250V	2-#8 & 1-#10
1785	6	35A-250V	2-#8 & 1-#10

### UL-TYPE S AIR CONDITIONER EXTENSION CORD SETS



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. OD (inches)	UL Type of Cordage	Rating at 125V (amps.)	Color
17656	6	14 (41 x 30)	.558	S Rubber	15	Gray
17659	9	14 (41 x 30)	.558	S Rubber	15	Gray
17662	12	14 (41 x 30)	.558	S Rubber	15	Gray

Three popular lengths of extension cords for all makes of air conditioners. UL rated 15A - 125V. Note that UL recognizes round jacketed cordage ONLY for this application. UL Blue Flag Label.

### FLAT UL-TYPE SRDT VINYL DRYER CORDS



Trade Number	Length of Cord (ft.)	Rating	AWG
1780	3	30A-250V	10
1734	4	30A-250V	10
1735	5	30A-250V	10
1782	6	30A-250V	10



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. OD (inches)	UL Type of Cordage	Rating	Color
17140	6	14 (41 x 30)	.229 x .637 Vinyl	SPT-3 Vinyl	15A-125V	Gray
17141	6	14 (41 x 30)	.229 x .637 Vinyl	SPT-3 Vinyl	15A-250V	Gray

17140 is rated 15A—125V. 17141 is rated 15A—250V. For room air conditioners and domestic automatic washers. UL Green Flag Label.

## CORDLITES®

### TWO CONDUCTOR UL-TYPE SJT VINYL CORDLITES

Trade Number	Length of Cord (ft.)	AWG & No. of Conductors	Nom. OD (inches)	UL Type of Cordage	Color
17925	25	18-2	.298	SJT Vinyl	Black
17950	50	18-2	.298	SJT Vinyl	Black

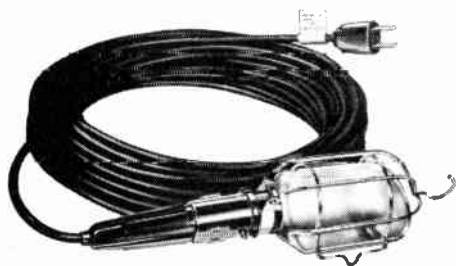
These Cordlites are oil and ozone resistant. The handle has a feed through switch and two tool taps. 17923 lamp guard included

### TWO AND THREE CONDUCTOR UL-TYPE SJO NEOPRENE CORDLITES

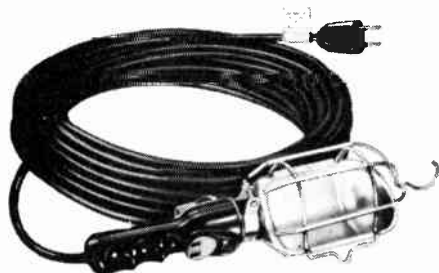
Trade Number	Length of Cord (ft.)	AWG & No. of Conductors	Nom. OD (inches)	UL Type of Cordage	Color
17995	25	18-2	.298	SJO Neoprene	Black
17996	50	18-2	.298	SJO Neoprene	Black
17998	25	18-3	.328	SJO Neoprene	Black
17999	50	18-3	.328	SJO Neoprene	Black

These Cordlites are oil and ozone resistant. The tool taps on the 3 conductor cords are of the 3-contact 15A - 125V grounding type. 17923 lamp guard included.

BELDEN PAGE 50



Vinyl Cordlites UL Blue Flag Label

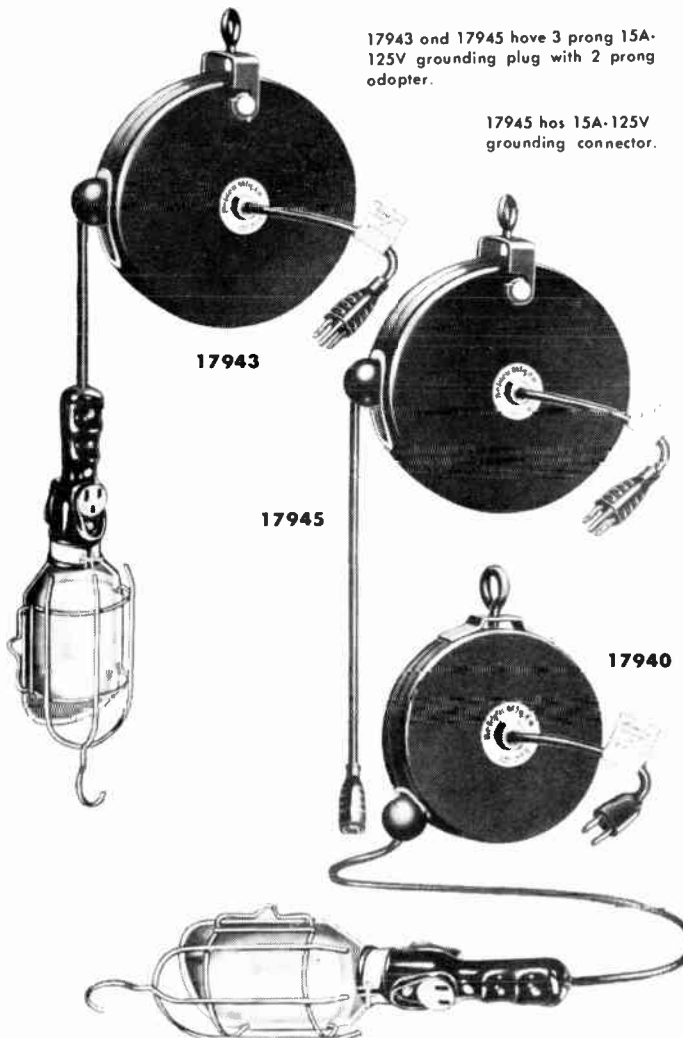


Neoprene Cordlites UL Blue Flag Label

cord-reels and accessories

**Belden**

**CORD-REELS**



**HEAVY DUTY CORDLITE REEL**

8 3/4" Diameter by 2 1/2" wide, individually pockged with 17923 Lamp Guard in a Display Carton. Phenolic handle with grounding tool top.

Trade Number	Length of Cord (ft.)	AWG & No. of Conductors	Nom. OD (Inches)	UL Type of Cordage
17943	30	18-3	.328	SJO Neoprene

**HEAVY DUTY EXTENSION REEL**

8 3/4" Diameter by 2 1/2" wide, individually pockged. For use where additional length of three way cordage is needed with a reeling device feature.

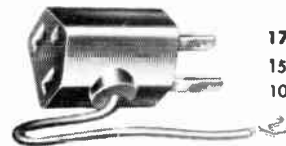
Trade Number	Length of Cord (ft.)	AWG & No. of Conductors	Nom. OD (Inches)	UL Type of Cordage
17945	25	16-3	.353	SJO Neoprene

**COMPACT CORDLITE REEL**

6 1/2" Diameter by 1 3/4" wide, individually pockged with 17923 Lamp Guard in a Display Carton. Phenolic handle with tool top.

Trade Number	Length of Cord (ft.)	AWG & No. of Conductors	Nom. OD (Inches)	UL Type of Cordage
17940	20	18-2	.245	SVO Neoprene

**TWO PRONG 3-WIRE ADAPTER**

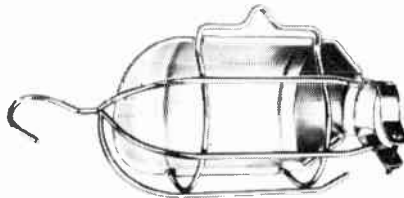


**17922**  
15A-125V ground plug  
10 to a pockge. U.L. Listed.

**ACCESSORIES**

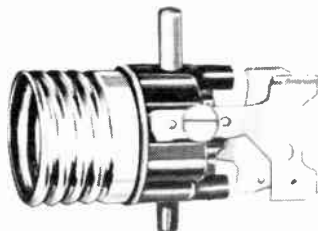
**CORDLITE® LAMP GUARD**

Swing open type for easy replacement of bulb.  
10 to a pockge **17923**



**CORDLITE SWITCH SOCKET**

Push thru switch with contacts for double tool top. Will fit most Cordlite handles.  
5 to a pockge **17931**



**CORDLITE HANDLES**



Hi-impact fiber reinforced phenolic handles with protective barrier around the switch buttons. One tool top. Switch and socket are included.

**17932** is for 2 conductor cordage

**17933** is for 3 conductor cordage


**Belden**

portable cordage


LISTED BY UNDERWRITERS' LABORATORIES, INC.

Description	Trade Number & Standard Pkg. In Ft.		Size AWG & Stranding	Nom. O.D. (inches)	Weight Std. Pkg. in (lbs.)	Colors
	25	250				


**S-2 CONDUCTOR—RUBBER JACKET 600V-60°C**

	<b>18104</b>	2S-250	18 (41 x 34)	.386	43	Black
	<b>18103</b>	2S-250	16 (65 x 34)	.401	48	Black
	<b>18102</b>	C-250	14 (41 x 30)	.528	36	Black
	<b>18101</b>	C-250	12 (65 x 30)	.599	46	Black
	<b>18100</b>	C-250	10 (105 x 30)	.643	56	Black


**S-3 CONDUCTOR—RUBBER JACKET 600V-60°C**

 18107—Lateral separator wrap under jacket	<b>18109</b>	C-250	18 (41 x 34)	.401	22	Black
	<b>18108</b>	C-250	16 (65 x 34)	.426	27	Black
	<b>18107</b>	C-250	14 (41 x 30)	.558	45	Black, Nickel Gray
	<b>18106</b>	C-250	12 (65 x 30)	.634	57	Black
	<b>18105</b>	C-250	10 (105 x 30)	.689	74	Black


**SO-2 CONDUCTOR—NEOPRENE JACKET 600V-60°C**

	<b>18204</b>	2S-250	18 (41 x 34)	.386	46	Black
	<b>18203</b>	2S-250	16 (65 x 34)	.401	51	Black
	<b>18202</b>	C-250	14 (41 x 30)	.528	39	Black
	<b>18201</b>	C-250	12 (65 x 30)	.599	50	Black
	<b>18200</b>	C-250	10 (105 x 30)	.643	60	Black


**SO-3 CONDUCTOR—NEOPRENE JACKET 600V-60°C**

 18207—Lateral separator wrap under jacket	<b>18209</b>	C-250	18 (41 x 34)	.401	23	Black
	<b>18208</b>	C-250	16 (65 x 34)	.426	28	Black
	<b>18207</b>	C-250	14 (41 x 30)	.558	48	Black
	<b>18206</b>	C-250	12 (65 x 30)	.634	60	Black
	<b>18205</b>	C-250	10 (105 x 30)	.689	77	Black
	★ <b>18210</b>	C-50	8 (132 x 29)	.872	30	Black
	★ <b>18210</b>	C-200	8 (132 x 29)	.872	89	Black
	★ <b>18211</b>	C-50	6 (133 x 27)	.961	38	Black
	★ <b>18211</b>	C-200	6 (133 x 27)	.961	120	Black

**SO-4 CONDUCTOR—NEOPRENE JACKET 600V-60°C**

	★ <b>18217</b>	C-50	14 (41 x 30)	.603	16	Black
	★ <b>18217</b>	C-200	14 (41 x 30)	.603	50	Black
	★ <b>18216</b>	C-50	12 (65 x 30)	.690	22	Black
	★ <b>18216</b>	C-200	12 (65 x 30)	.690	66	Black
	★ <b>18215</b>	C-50	10 (105 x 30)	.770	27	Black
	★ <b>18215</b>	C-200	10 (105 x 30)	.770	85	Black
	★ <b>18214</b>	C-25	8 (132 x 29)	.970	22	Black
	★ <b>18214</b>	C-100	8 (132 x 29)	.970	67	Black
	★ <b>18213</b>	C-25	6 (133 x 27)	1.090	27	Black
	★ <b>18213</b>	C-100	6 (133 x 27)	1.090	88	Black

**SJ-2 CONDUCTOR—RUBBER JACKET 300V-60°C**

	<b>18127</b>	2S-250	18 (16 x 30) Flex	.298	26	Black
	<b>18111</b>	2S-250	18 (41 x 34) X flex.	.298	26	Black
	<b>18128</b>	2S-250	16 (26 x 30) Flex	.323	32	Black
	<b>18110</b>	2S-250	16 (65 x 34) X flex.	.323	33	Black

\*New Item

Continuous lengths will be supplied on at least 85% of each shipment.

When 2 lengths are supplied, 50 ft. will be minimum.

Shipped only in standard packages as listed above

See current carrying capacity tables on page 54

**BELDEN PAGE 52**


portable cordage

**Belden**


LISTED BY UNDERWRITERS' LABORATORIES, INC.

Description	Trade Number & Standard Pkg. In Ft.		Size AWG & Stranding	Nom. O.D. (inches)	Weight Std Pkg in (lbs.)	Colors
	25	250				


**SJ-3 CONDUCTOR—RUBBER JACKET 300V-60°C**

	<b>18129</b>	25-250	18 (16 x 30) Flex	.328	35	Black
	<b>18125</b>	25-250	18 (41 x 34) X flex.	.328	35	Black
	<b>18130</b>	25-250	16 (26 x 30) Flex	.353	42	Black
	<b>18124</b>	25-250	16 (65 x 34) X flex.	.353	43	Black


**SJO-2 CONDUCTOR—NEOPRENE JACKET 300V-60°C**

	<b>18227</b>	25-250	18 (16 x 30) Flex	.298	27	Black
	<b>18228</b>	25-250	16 (26 x 30) Flex	.323	35	Black


**SJO-3 CONDUCTOR—NEOPRENE JACKET 300V-60°C**

	<b>18229</b>	25-250	18 (16 x 30) Flex	.328	36	Black
	<b>18230</b>	25-250	16 (26 x 30) Flex	.353	42	Black


**SJT-2 CONDUCTOR—PLASTIC JACKET 300V-60°C**

	<b>18141</b>	25-250	18 (41 x 34) X flex.	.298	26	Black, Red
	<b>18142</b>	25-250	16 (65 x 34) X flex.	.323	32	


**SV-2 CONDUCTOR—RUBBER JACKET 300V-60°C**

	<b>18120</b>	25-250	18 (41 x 34)	.245	20	Black, Nickel Gray
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**SVT-2 CONDUCTOR—PLASTIC JACKET 300V-60°C**

	<b>18140</b>	25-250	18 (41 x 34)	.243	19	Black
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**SPT-1, SPT-2 PLASTIC PARALLEL LAMP CORD 300V-60°C**

	<b>18122</b>	45-250	18 SPT-1 (41 x 34)	.110 x .207	24	Black, Brown, Silver Gray, White
	<b>18123</b>	25-250	18 SPT-2 (41 x 34)	.144 x .277	17	
	<b>18126</b>	25-250	16 SPT-2 (65 x 34)	.155 x .299	21	Black, Brown, Silver Gray

**SP-1, SP-2 RUBBER PARALLEL LAMP CORD 300V-60°C**

	<b>18115</b>	45-250	18 SP-1 (41 x 34)	.110 x .213	25	Black, Brown
	<b>18121</b>	25-250	18 SP-2 (41 x 34)	.140 x .276	17	Black, Brown

Continuous lengths will be supplied on at least 85% of each shipment. When 2 lengths are supplied, 50 ft. will be minimum.

Shipped only in standard packages as listed above

See current carrying capacity tables on page 54

**BELDEN PAGE 53**


# Belden

portable cordage


LISTED BY UNDERWRITERS' LABORATORIES, INC.

Description	Trade Number & Standard Pkg. In Ft. 25 250 2 250 Spls. 4S 250 4 250 Spls. C Coil	Size AWG & Stranding	Nom. O.D. (inches)	Weight Std. Pkg. in (lbs.)	Colors
-------------	-------------------------------------------------------------------------------------------	----------------------	--------------------	----------------------------	--------


**HPN-2 CONDUCTOR—NEOPRENE HEATER CORD 300V-90°C**

	<b>18328</b>	2S-250	18 (41 x 34)	.140 x .276	18	Black
	<b>18326</b>	2S-250	16 (65 x 34)	.152 x .300	23	Black

**HPD-2 CONDUCTOR—GLAZED COTTON HEATER CORD 300V-90°C**

	<b>18318</b>	2S-250	18 (41 x 34)	.265	18	Black, 1 White Tracer
	<b>18316</b>	2S-250	16 (65 x 34)	.285	22	
	<b>18314</b>	2S-250	14 (104 x 34)	.320	35	

**HPD-2 CONDUCTOR—SOFT COTTON HEATER CORD 300V-90°C**

	<b>18338</b>	2S-250	18 (41 x 34)	.265	18	Black, 2 White Tracers
	<b>18336</b>	2S-250	16 (65 x 34)	.285	22	

Continuous lengths will be supplied on at least 85% of each shipment.

When 2 lengths are supplied, 50 ft. will be minimum. Shipped only in standard packages as listed above

**SUGGESTED AWG SIZE FOR LONG POWER SUPPLY CORDS\***

Cord Length**	Current (amperes)**																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
25	18	18	18	18	18	18	18	16	16	16	14	14	14	14	14	12	12	12	12	12	10	10	10	10	10
50	18	18	18	18	18	18	18	16	16	16	14	14	14	14	14	12	12	12	12	12	10	10	10	10	10
75	18	18	18	18	18	18	18	16	16	16	14	14	14	14	14	12	12	12	12	12	10	10	10	10	10
100	18	18	18	18	18	18	18	16	16	16	14	14	14	14	14	12	12	12	12	12	10	10	10	10	10
125	18	18	18	18	18	18	18	16	16	16	14	14	14	14	14	12	12	12	12	12	10	10	10	10	10
150	18	18	18	18	18	16	16	16	14	14	14	14	14	12	12	12	12	12	12	12	10	10	10	10	10

\*Rubber and plastic cords, but not including heater cords. Based on a line voltage of 115 and maximum voltage drop (loss) of 10 volts when cord carries rated current.

\*\*To determine correct AWG, refer to cord length in table, and current nearest the current rating on the name plate of the appliance.

**CURRENT CARRYING CAPACITY OF FLEXIBLE CORDAGE (amperes)\***

AWG	Tinsel Cords	Rubber and Plastic Cords	Heater Cords
27	0.5	—	—
18	—	7	10
17	—	—	12
16	—	10	15
15	—	—	17
14	—	15	20
12	—	20	30
10	—	25	—
8	—	35	—
6	—	45	—
4	—	60	—

\*Underwriters' Laboratories Inc. and National Electrical Code Standard for 2 and 3 conductor cords. For cords with 4 to 6 conductors, the current rating is 80% of the values shown.

cable finder **Belden**

◉ INDICATES SOLID CONDUCTORS, ALL OTHERS STRANDED CONDUCTORS

No. of Conductors	2 Condr.		3 Condr.		4 Condr.		5 Condr.		6 Condr.		7 Condr.		8 Condr.	
	Belden No.	Page No.	Belden No.	Page No.	Belden No.	Page No.	Belden No.	Page No.	Belden No.	Page No.	Belden No.	Page No.	Belden No.	Page No.
25 AWG or Smaller Shielded	8430	22												
	8429	22	8419	22										
	8416	22	8643	4 & 8										
	8640	7 & 11			8434	9			8642	11				
24 AWG Shielded	8782	14												
	8413	16	8406	16										
	8420	16												
	8641	7												
22 AWG Shielded	8481	14	8443	14 & 15	8741	13	8445	15	8742	13	8447*	15	8757	13
	8740	13 & 14	8794	15	8444	15			8446*	15			8488	21
	8442	14	8701	14	8494	17							8448*	15
	8781	14												
	8795	15												
	8390	8 & 41	8391	8 & 41	8392	9 & 41								
	8422	16	8735	8	8732	9								
	8437	7	8734	10										
	8441	7												
	8738	8												
	8739	7	8731	8										
	8737	7												
	8450	7	8771	8	8723	9	8788	10	8767	12				
	8451	7	8733	10	8729	9			8777	12				
	8761	7			8724	9			8786	10				
					8728	5 & 9								
				8730	5 & 9									
20 AWG Shielded	8649	14	8783	10										
	8205	14			8464	20 & 21	8455*	22						
					8484	21	8485	21						
	8412	16	8423	16	8424	9 & 16	8425	16	8426	16	8427	16	8418	16
	8758	8	8403	16	8404	9 & 16	8405	16						
	8402	6 & 16												
	8759	7												
	8762	7	8772	8	8722	9							8725	12
	8393	5, 8 & 41	8763	10										
18 AWG Shielded	8462	22	8453	22	8454	22	8465	15	8690	13	8467	15		
	8888	22			8489	4, 15, 21								
	8452	22	8483†	14										
	8478	22	8487†	14										
	8460	14												
	8461	14												
	8482†	14												
	8492†	14												
	8486†	14												
	8428	16												
	8208	7												
	8789	8												
8790	7	8791	8											
8760	7	8770	8											
16 AWG Shielded	8470	14	8475	14 & 40	8476	40					8621	15		
	8471	14			8620	15								
	8472	22												
	8677	40												
	8779	8			8407	9 & 16								
	8408	6 & 16												
8780	7													
8719	7	8618	5 & 8											
14 AWG Shielded	8473	14	8479	4 & 22	8627	15					8628	15		
	8474	22												
	8675	40												
	8720	7												
12 AWG	8477	3 & 14												
	8718	5 & 7												

\*2 Conductors are 18 AWG †19 AWG ‡Not all pairs are shielded, or conductors are more than one size.

HOW TO USE THE CABLE FINDER CHART

Match the desired "Number of Conductors" column with the required "Conductor Size" to find the applicable Belden Trade Number and its catalog page.

For cables with more than 8 conductors, see Multiple pair and unpaired unshielded cables on page 13 & 15, Multiple pair individually shielded on pages 9, 10 & 12. For cables combining shielded and unshielded conductors, see Special Audio and Communication cables on pages 10 & 11.



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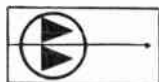
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## Biraco-105 — EXTRUDED PLASTIC TUBING



**APPROVED FOR 105°C OPERATION — MEETS MIL-1-631D SPECS** — A quality plastic Vinyl tubing designed for electronic and electrical insulation work. Has high dielectric strength, extreme flexibility, non-flammability, abrasion resistance, impervious to oil, water, alkalies, alcohol, solvents, etc., high heat stability and resistance to aging. Meets all A.S.T.M. specifications, Mil. Spec. (Type F, Form U, Grades A and C, Class 2, Category 1).

B&S Gauge Size No.	Birnbach No.	Old Part No.	Nom. I.D.	Nom. Wall
24	B105-24	308	.022	.012
22	B105-22	311	.027	.012
20	B105-20	313	.034	.016
19	B105-19	—	.038	.016
18	B105-18	314	.042	.016
17	B105-17	—	.047	.016
16	B105-16	315	.053	.016
15	B105-15	—	.059	.016
14	B105-14	316	.066	.016
13	B105-13	—	.076	.016
12	B105-12	317	.085	.016
11	B105-11	—	.095	.016
10	B105-10	325	.106	.016
9	B105-9	—	.118	.020
8	B105-8	318	.133	.020
7	B105-7	—	.148	.020
6	B105-6	326	.166	.020
5	B105-5	—	.186	.020
4	B105-4	319	.208	.020
3	B105-3	—	.234	.020

B&S Gauge Size No.	Birnbach No.	Old Part No.	Nom. I.D.	Nom. Wall
2	B105-2	320	.263	.020
1	B105-1	—	.294	.020
0	B105-0	—	.330	.020
5/16"	B105-5/16"	321	.312	.025
3/8"	B105-3/8"	322	.375	.025
7/16"	B105-7/16"	—	.438	.025
1/2"	B105-1/2"	323	.500	.025
9/16"	B105-9/16"	—	.562	.030
5/8"	B105-5/8"	324	.625	.030
3/4"	B105-3/4"	327	.750	.035
7/8"	B105-7/8"	360	.875	.035
1"	B105-1"	361	1.000	.035
1 1/8"	B105-1 1/8"	—	1.125	.040
1 1/4"	B105-1 1/4"	362	1.250	.040
1 3/8"	B105-1 3/8"	—	1.375	.040
1 1/2"	B105-1 1/2"	363	1.500	.045
1 3/4"	B105-1 3/4"	328	1.750	.055
2"	B105-2"	329	2.000	.060
2 1/4"	B105-2 1/4"	364	2.250	.065
2 1/2"	B105-2 1/2"	365	2.500	.070

### STANDARD COLORS

EVEN NUMBERS — #24, 22, 20, 18, 16 — Clear, Black, Yellow, Red, Green, Brown, Orange, Blue, White, Violet and Gray; #14, 12, 10, 8, 6, 4, 2, 5/16", 3/8", 1/2", 5/8" — Clear, Black, Yellow, Red, Green, Brown, Orange, Blue and White.

ODD NUMBERS — #19, 17, 15, 13, 11, 9, 7, 5, 3, 1, 0 — Clear, Black White; #3, thru 2 1/2" — Clear, Black, White.

### STANDARD PUT-UPS

#24 thru #15 1,000' - 500' - 100' - 50' - 25' spools  
 #14 thru #8 500' - 100' - 50' - 25' spools  
 #4 thru 1/2" 250' - 100' - 50' - 25' coils  
 5/16" thru 7/8" 100' - 50' - 25' coils  
 1" & larger 50 coils

SIZES #24 THRU #15 AVAILABLE IN 36" LENGTHS

### TABLE OF PHYSICAL & ELECTRICAL PROPERTIES—BIRACO TUBING

Tensile Strength—2500 Psi. (Minimum Average)  
 Flammability—Non-Flammable  
 Ultimate Elongation—340%  
 Recommended for Temperatures to—105° C  
 Cold Bend—40° C  
 Dielectric Strength .020" Wall—800 V/Mil  
 Varnish Baking—Good  
 Water Absorption  
 Weight Increase (1 Week)—0.1%—Fungi Resistance—Yes  
 Dil Resistance—Indefinitely flexible when immersed in oil.  
 Insulation Resistance—over 1,000,000 megohms.

### IN STOCK

The Birnbach Line of insulated sleeving and tubing is the basic quality line designed for the rigid performance requirements of the Aircraft, Electrical and Electronic Industries.  
 Meets or exceeds the required MIL Specifications and ASTM and NEMA standards. We invite your inquiries on special problems and requirements.

## Biraco-65 — EXTRUDED PLASTIC TUBING LOW TEMPERATURE — Per MIL-I-7444B to —94° F.

No. B-65 meets Air Force spec. Mil-I-7444 specifically designed for operation at sub-zero temperatures. It is fungus resistant and has excellent dielectric strength.

B&S Gauge Size No.	Birnbach No.	Nom. I.D.	Nom. Wall
24	B65-24	.022	.012
22	B65-22	.027	.012
20	B65-20	.034	.016
19	B65-19	.038	.016
18	B65-18	.042	.016
17	B65-17	.047	.016
16	B65-16	.053	.016
15	B65-15	.059	.016
14	B65-14	.066	.016
13	B65-13	.076	.016
12	B65-12	.085	.016
11	B65-11	.095	.016
10	B65-10	.106	.016
9	B65-9	.118	.020
8	B65-8	.133	.020
7	B65-7	.148	.020
6	B65-6	.166	.020
5	B65-5	.186	.020
4	B65-4	.208	.020
3	B65-3	.234	.020

B&S Gauge Size No.	Birnbach No.	Nom. I.D.	Nom. Wall
2	B65-2	.263	.020
1	B65-1	.294	.020
0	B65-0	.330	.020
5/16"	B65-5/16"	.312	.025
3/8"	B65-3/8"	.375	.025
7/16"	B65-7/16"	.438	.025
1/2"	B65-1/2"	.500	.025
9/16"	B65-9/16"	.562	.030
5/8"	B65-5/8"	.625	.030
3/4"	B65-3/4"	.750	.035
7/8"	B65-7/8"	.875	.035
1"	B65-1"	1.000	.035
1 1/8"	B65-1 1/8"	1.250	.040
1 1/4"	B65-1 1/4"	1.375	.040
1 1/2"	B65-1 1/2"	1.500	.045
1 3/4"	B65-1 3/4"	1.750	.055
2"	B65-2"	2.000	.060
2 1/4"	B65-2 1/4"	2.250	.065
2 1/2"	B65-2 1/2"	2.500	.070

STANDARD COLOR—Clear (Amber)  
 STANDARD PUT-UPS SAME AS BIRACO 105  
 EXCEPT OMIT 36" LENGTHS

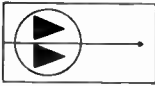
Applicable Specifications	Dielectric Strength	Temp. Rating	LowTemp. Flexibility	Flame Resistance	Elongation	Tensile Strength
Air Force Spec. MIL-1-7444	750 v/mil	60°C	—65°C	Good	360%	2200 PSI

ALL THE ABOVE TUBING CAN BE ORDERED CUT AND MARKED TO YOUR SPECIFICATIONS

# BIRNBACH

COMPANY INC. FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.





# Birflon — TEFLON\* SPAGHETTI TUBING

## TFE EXTRUDED TUBING

Birflon T-500 Tubing is extruded from DuPont Tetrafluoroethylene Resin. Used in electronic and electrical equipment for connection of components. Its flexibility, ease of handling has established it as the best and most popular insulation sheathing. This high temperature Class C insulation does not melt and flow as the conventional thermoplastic materials. Birflon T-500 Teflon has unique electrical, chemical and mechanical properties unmatched by any other type tubing for use in applications requiring high frequencies and high temperatures.

Because of Teflon's continuous service temperature of 250° C., which is more than 100° C. above other materials, the soldering technique is simplified since "Teflon" is not harmed by the hot barrel of the soldering iron — therefore, the assembly of aircraft, missile and electronic communication equipment is greatly speeded up. Thin Wall flexible Teflon Tubing can be processed easily into flexible and rigid printed circuits. As a thin, flexible insulation, it permits miniaturization and compactness of design never before possible.

TABLE OF PROPERTIES

Test	ASTM Method	Result
Tensile Strength, 73 F.	D638-52T	1500-3000 Lb./Sq. In.
Elongation, 73°F.	D638-52T	100-200%
Deformation Under Load—122 F.		
1200 Lb./Sq. In., 24 Hrs.	D621-51	4-8%
2000 Lb./Sq. In., 24 Hrs.	D621-51	25%
Hardness Durometer	D676-49T	D50-D65
Heat Distortion Temp. 66 Lb./Sq. In.	D648B-45T	250°F
Dielectric Strength, .180"	D149-44	400-500 V/MIL
Surface Arc-Resistance	D495-48T	Sec.
Volume Resistivity		10 <sup>15</sup> Ohm-CM
Surface Resistivity, 100% R.H.	D257-52T	3.6x10 <sup>4</sup> Megohms
Dielectric Constant, 60 to 10 <sup>4</sup> Cycles	D150-54T	2.00
Power Factor, 60 to 10 <sup>4</sup> Cycles	D150-54T	0.0003
Specific Gravity	D792-50	2.1-2.2

**SMALL PIECE CUTTING AVAILABLE TO ORDER**

**STOCK COLORS:** Natural, Red, Black, Blue, Brown, Green, Orange, Yellow, Gray, Violet, White.

Nos. T-500-3/8 thru T-500-1/4 available in Natural. Additional Colors: Sizes Made to Order.

Teflon Tubing can be ordered cut to your specifications.

Tracer Colors Available — We Invite Your Inquiries For Your Special Requirements

**ADDITIONAL ADVANTAGES OF BIRFLON T-500 TEFLON\***

- **ELECTRICAL:** Low power factor, low dielectric constant, high volume and surface resistivity, good dielectric strength (500 to 1000 volts/MIL) constant over wide ranges of temperatures and frequencies. Dielectric constant of 2.0 and dissipation factor of 0.0002 are lowest of any solid dielectric.
- **THERMAL:** No change of electrical properties with temperature (25°C. to 250°C.) or frequency (60 CPS to 100 MC). Class C insulation — capable of continuous service at temperatures to 250°C. Has color stability.
- **TOUGHNESS AND FLEXIBILITY:** Has high impact strength. Is tough and flexible over the broad temperature range of -90°C. to 250°C. Service range — 320°F. to 500°F.
- **CHEMICAL INERTNESS:** Completely inert to all chemicals and solvents except molten alkali metals and fluorine at elevated temperatures and pressures. Non-corrosive to all metals.
- **MOISTURE ABSORPTION:** Zero moisture absorption. Completely sun and weather resistant.
- **NON-FLAMMABLE** ● **LOWEST COEFFICIENT OF FRICTION**
- **FUNGI RESISTANCE:** Inert to all fungi growths.
- **SIZES:** Birflon T-500 Teflon Tubing available in sizes to fit B & S gauge wires. Thin wall available from stock, in sizes No. 32 thru 1 1/4" I.D. Additional sizes and wall thicknesses made to order. Birflon T-500 is made from high molecular weight virgin "Teflon" and meets AMS 3651B, 3653B, 3654, 3655, MIL-C-178 and MIL-I-22129C.

**NOTE:** When cutting Teflon Tubing, use single edge razor blade for clean unpinched cut.  
\*Teflon™ DuPont Trade Name for Tetrafluoroethylene Resin

**Thin Wall**

Birnbach No.	B&S Gauge Size No.	Old No.	Nom. I.O.	Nom. Wall
T500-32	32	8013	.011	.0085
T500-30	30	8014	.012	.009
T500-28	28	8015	.015	.009
T500-26	26	8016	.018	.010
T500-24	24	8000	.022	.010
T500-22	22	8001	.027	.010
T500-20	20	8002	.034	.012
T500-19	19	—	.038	.012
T500-18	18	8003	.042	.012
T500-17	17	—	.407	.012
T500-16	16	8004	.053	.012
T500-15	15	—	.059	.012
T500-14	14	8005	.066	.012
T500-13	13	—	.076	.012
T500-12	12	8006	.085	.012
T500-11	11	—	.095	.012

Birnbach No.	B&S Gauge Size No.	Old No.	Nom. I.O.	Nom. Wall
T500-10	10	8007	.106	.012
T500-9	9	—	.118	.015
T500-1/4	1/4	—	.125	.015
T500-8	8	8008	.133	.015
T500-7	7	—	.148	.015
T500-6*	6	8009	.166	.015
T500-5*	5	—	.186	.015
T500-4*	4	8010	.208	.015
T500-3*	3	—	.234	.015
T500-1/4*	1/4	—	.250	.015
T500-2*	2	8011	.263	.015
T500-1*	1	—	.294	.015
T500-3/8	3/8	—	.312	.015
T500-0*	0	8012	.330	.015
T500-3/8*	3/8	8020	.390	.020
T500-7/8*	7/8	8021	.453	.020
T500-1 1/8*	1 1/8	8022	.515	.025
T500-1 1/4*	1 1/4	8023	.583	.025
T500-1 1/2*	1 1/2	8024	.640	.030
T500-1 3/4*	1 3/4	8025	.765	.030
T500-2*	2	8026	.895	.030
T500-1*	1	8027	1.025	.030
T500-1 1/8*	1 1/8	8028	1.150	.030
T500-1 1/4*	1 1/4	8029	1.275	.030

Tolerance — Nos. 32 thru 0 — .003" on Wall  
Tolerance — Nos. 1/4" thru 1 1/4" — .020" on I.D., .006" on Wall

**STANDARD PUT-UPS**

SIZES #32 thru 26 — 1000' - 500' - 250' - 100'  
SIZES #24 thru 1 1/4" — 1000' - 500' - 250' - 100' - 50' - 25'

**Standard Wall — MIL-I-22129C**

Birnbach No.	B&S Gauge Size No.	Nom. I.D.	Nom. Wall
T550-24	24	.022	.012
T550-22	22	.027	.012
T550-20	20	.034	.016
T550-19	19	.038	.016
T550-18	18	.042	.016
T550-17	17	.047	.016
T550-16	16	.053	.016
T550-15	15	.059	.016
T550-14	14	.066	.016
T550-13	13	.076	.016
T550-12	12	.085	.016
T550-11	11	.095	.016
T550-10	10	.106	.016

**STANDARD PUT-UPS**

1000' - 500' - 250' - 100' - 50' - 25'

Birnbach No.	B&S Gauge Size No.	Nom. I.D.	Nom. Wall
T550-9	9	.118	.020
T550-1/4	1/4	.125	.020
T550-8	8	.133	.020
T550-7	7	.148	.020
T550-6	6	.166	.020
T550-5	5	.186	.020
T550-4	4	.208	.020
T550-3	3	.234	.020
T550-1/4	1/4	.250	.020
T550-2	2	.263	.020
T550-1	1	.294	.020
T550-3/8	3/8	.312	.020
T550-0	0	.330	.020

**SMALL PIECE CUTTING AVAILABLE TO ORDER**

**STOCK COLORS:** Natural, Red, Black, Blue, Brown, Green, Orange, Yellow, Gray, Violet, White.

OTHER COLORS AVAILABLE TO ORDER



FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.



# HEAT SHRINKABLE TUBING

HEAT SHRINK PVC AND POLYOLEFIN TUBING

MAXIMUM CONTINUOUS OPERATING TEMPERATURE	BIRNBACH NUMBER	SIZE	MIN EXPANDED I.D.	MAX. RECOVERED I.D.	NOM. WALL RECOVERED
<b>105°C</b> MIL I-23053 A Grade 5 MIL-I-631 Grade C	SK265 1/32	1/32	.062	.031	.020
	SK265 3/64	3/64	.094	.047	.025
	SK265 1/16	1/16	.125	.063	.025
	SK265 3/32	3/32	.184	.094	.025
	SK265 1/8	1/8	.250	.125	.025
	SK265 3/16	3/16	.375	.188	.025
	SK265 1/4	1/4	.500	.250	.025
	SK265 3/8	3/8	.750	.375	.025
	SK265 1/2	1/2	1.00	.500	.030
	SK265 3/4	3/4	1.50	.750	.035
SK265-1	1	2.00	1.00	.040	

IRRADIATED POLYOLEFIN	BIRNBACH NUMBER	SIZE	MIN EXPANDED I.D.	MAX. RECOVERED I.D.	NOM. WALL RECOVERED
<b>135°C</b> MIL-I-23053 * (wep) Class I	SK275 1/32	1/32	.062	.031	.020
	SK275 3/64	3/64	.094	.047	.025
	SK275 1/16	1/16	.125	.063	.025
	SK275 3/32	3/32	.184	.094	.025
	SK275 1/8	1/8	.250	.125	.025
	SK275 3/16	3/16	.375	.188	.025
	SK275 1/4	1/4	.500	.250	.025
	SK275 3/8	3/8	.750	.375	.025
	SK275 1/2	1/2	1.00	.500	.030
	SK275 3/4	3/4	1.50	.750	.035
SK275-1	1	2.00	1.00	.040	

### SK265 PVC TUBING PROPERTIES CHART

	RATING	TEST
TENSILE STRENGTH	2960 PSI	ASTM D-876-59-T
ULTIMATE ELONGATION	200%	ASTM D-876-59-T
BRITTLENESS TEMPERATURE	-34° C.	ASTM D-746-57-T
SPECIFIC GRAVITY	1.34	MIL-I-631 D, 4, 6, 12
WATER ABSORPTION	0.06% 24 Hours	ASTM D-570-57-T Proc. A
DIELECTRIC STRENGTH	1050 Volts/Mil	ASTM D-149-55-T
VOLUME RESISTIVITY	5.2 x 10 <sup>14</sup> Ohm-cm	ASTM D-257-58 MIL-I-631 D, 4, 6, 13
FUNGUS RESISTIVITY	0-1	MIL-I-631 D 3, 5, 7 and 4, 6, 16
FLAMMABILITY	Self-Extinguishing	ASTM O-876-60-T MIL-I-631 D, 4, 6, 13
FLEXIBILITY AFTER HEAT AGING 200 Hrs. at 100° C. BEND OVER 1/8" MANDREL	GOOD	
CORROSION ON COPPER, BRASS AND ALUMINUM AFTER 14 DAYS AT 100° C.	EXCELLENT	MIL-I-7444 B

### CHEMICAL RESISTANCE CHART

FUEL JP-4 MIL-J-5624	EXCELLENT
AVIATION GASOLINE 100/130	EXCELLENT
HYDRAULIC OIL MIL-O-5606	EXCELLENT
HYDROCHLORIC ACID 35%	EXCELLENT
WATER	EXCELLENT
SODIUM CHLORIDE 5%	EXCELLENT
ALKALIS	EXCELLENT

\*NOTE: SK265 PVC tubing is unsuitable in contact with organic solvents.  
SK265 PVC tubing has a higher resistance to oils than low density Polyethylene.

**STOCK COLORS: BLACK, WHITE, CLEAR**

1/32" Thru 1/8" 500' - 250' - 100' - 50' - 25'  
3/32" Thru 1/4" 250' - 100' - 50' - 25'  
1/8" Thru 1" 100' - 50' - 25'

## HEAT SHRINKABLE TEFLON TUBING

Birflon Shrink Series, TE Tubing

TEFLON	Birnbach No.	Nominal Tubing Size	Minimum Expanded I.D.	Recovered Maximum I.D. (1)	Dimensions Wall Thickness (2)
<b>250°C</b> MIL-I-23053 (wep) Class II	SK-621-22	22*	.055"	.032"	.010"
	SK-621-20	20*	.060"	.039"	.012"
	SK-621-19	19	.065"	.043"	.012"
	SK-621-18	18*	.076"	.049"	.012"
	SK-621-17	17	.085"	.054"	.012"
	SK-621-16	16*	.093"	.061"	.012"
	SK-621-15	15	.110"	.067"	.012"
	SK-621-14	14*	.120"	.072"	.012"
	SK-621-13	13	.140"	.089"	.012"
	SK-621-12	12*	.150"	.089"	.012"
	SK-621-11	11	.170"	.101"	.012"
	SK-621-10	10*	.191"	.112"	.012"
	SK-621-9	9	.205"	.124"	.015"
	SK-621-8	8*	.240"	.141"	.015"
	SK-621-7	7	.270"	.158"	.015"
	SK-621-6	6*	.302"	.178"	.015"
	SK-621-5	5	.320"	.198"	.015"
	SK-621-4	4*	.348"	.224"	.015"
	SK-621-3	3	.360"	.249"	.015"
	SK-621-2	2*	.375"	.278"	.015"
	SK-621-1	1	.385"	.311"	.015"
	SK-621-0	0*	.400"	.347"	.015"
	SK-621-3/8	3/8"*	.560"	.399"	.020"
	SK-621-1/4	1/4"*	.655"	.462"	.020"
	SK-621-1/2	1/2"*	.750"	.524"	.020"

Standard Put-up—36" Straight Lengths;



HAG-12 500/750°F Hot Air Gun For PVC Series  
HAG-13 750/1000°F Hot Air Gun For TE Series

The quickest and most versatile method for applying heat is the hot air gun noted herein. Also, use of an oven, radiant heat, dipping in hot liquids, or using a soldering iron or the flame of a match.

### BIRFLON SHRINK SERIES TE TUBING

HEAT SHRINKABLE TEFLON® TUBING

Is a Class C material modified from polytetrafluoroethylene. The tubing will shrink when heated to 621 F. (It should be heated until it turns semi-transparent, then the heating process immediately stopped. Overheating can cause splitting, therefore trial and error testing is recommended to establish the proper time and temperature for each application.) Correct procedure will result in a snug-fitting insulating wrap possessing hi-heat resistance, superior chemical resistance, and excellent electrical characteristics. The tubing is available in a full range of colors. Stock colors: black, white, natural.

\* Dupont Polytetrafluoroethylene

#### SK621 TEFLON TUBING

##### PROPERTIES CHART

	TE SERIES Shrinkable "Teflon"
DIELECTRIC STRENGTH (20 Mil Wall)	850 Volts/Mil
DIELECTRIC CONSTANT	2.2
POWER FACTOR	.00
VOLUME RESISTIVITY	10 <sup>17</sup> Ohms/CM
FUNGUS RESISTANCE	Inert
FLAMMABILITY	Will Not Support Combustion
FUEL and OIL RESISTANCE	Superior
HYDRAULIC FLUID RESISTANCE	Superior
SOLVENT RESISTANCE	Superior
ACID and ALKALI RESISTANCE	Superior
CORROSION RESISTANCE	Excellent
TENSILE STRENGTH	5000-7500 PSI
ULTIMATE ELONGATION	300-500%
WATER ABSORPTION	Nil
LOW TEMPERATURE BRITTLE POINT	-66°F
HARDNESS	98 Shore A
SPECIFIC GRAVITY	2.2



FOR MORE INFORMATION ON COMPANY INC. COMPLETE LINES, WRITE FOR NEW CATALOG.



# MAGNET WIRE PER MIL-W-583B

## SOLID TINNED (SOFT DRAWN) SYMBOL TC

Specification MIL-W-3861 Type S, QQ-W-343 Type S, ASTM-B-33

Cat. No.	1/4 lb. SPOOL		1/2 lb. SPOOL		1 lb. SPOOL		Nom. O.D.
	Size B&S	Ft.	Size B&S	Ft.	Size B&S	Ft.	
BST-10	10	8	10	16	10	32	.103"
BST-12	12	12	12	25	12	50	.082"
BST-14	14	20	14	40	14	80	.065"
BST-16	16	32	16	63	16	126	.051"
BST-18	18	50	18	100	18	201	.040"
BST-20	20	80	20	160	20	320	.033"
BST-22	22	127	22	254	22	508	.025"
BST-24	24	201	24	403	24	806	.020"
BST-26	26	320	26	640	26	1280	.016"
BST-28	28	507	28	1015	28	2030	.013"
BST-30	30	805	30	1610	30	3220	.010"
BST-32	32	1282	32	2564	32	5128	.008"
BST-34	34	2037	34	4075	34	8150	.006"
BST-36	36	3221	36	6443	36	12887	.005"
BST-38	38	5132	38	10246	38	20492	.004"
BST-40	40	8143	40	16286	40	32573	.003"

ALL SOLID TINNED COPPER AVAILABLE IN 1000 FT. SPOOLS  
BARE COPPER — SOFT DRAWN AVAILABLE FROM STOCK

## TINNED COPPER WIRE — SOLID SOFT BRAND

Pure Electrolytic, Copper, annealed, tinned for quick soldering  
MIL-W-3861 Type S, ASTM-B-33 specifications, QQ-W-343 Type S

Cat. No.	Size AWG	Area Circular Mills	O.D.
1433/4	4	41,704	.204"
1433/6	6	26,250	.162"
1433	8	16,510	.129"
1402	10	10,380	.103"
1406	12	6,530	.082"
1410	14	4,107	.065"
1414	16	2,583	.051"
1418	18	1,624	.040"
1422	20	1,022	.033"
1434	22	624.4	.025"
1424	24	404.0	.020"
1426	26	254.1	.016"
1428	28	159.8	.013"
1430	30	100.5	.010"
1430/32	32	63.21	.008"
1430/34	34	39.75	.006"
1430/36	36	25.00	.005"
1430/38	38	15.72	.004"

## HEAVY FORMVAR (HF) TYPE T2

Single conductor round bare copper, baked film insulation from a varnish based on a vinyl acetal resin. 105°C.

Has new tough abrasion resisting film. Replaces enamel and fabric insulations for certain applications requiring exceptional abrasion resistance. Stable under heat. High dielectric strength. Infinite resistance to water and moisture. Does not fail after two hours at 105°C. Takes up less winding space.

ALL MAGNET WIRE AVAILABLE IN LARGER PUT-UPS

Cat. No.	1/4 lb. SPOOL		1/2 lb. SPOOL		1 lb. SPOOL		Nom. O.D.
	Size B&S	Ft.	Size B&S	Ft.	Size B&S	Ft.	
BHF-10	10	8	10	16	10	32	.1056"
BHF-12	12	12	12	25	12	50	.0842"
BHF-14	14	20	14	39	14	78	.0673"
BHF-16	16	31	16	62	16	124	.0539"
BHF-18	18	49	18	99	18	198	.0432"
BHF-20	20	78	20	156	20	313	.0346"
BHF-22	22	125	22	250	22	501	.0277"
BHF-24	24	200	24	399	24	798	.0224"
BHF-26	26	300	26	600	26	1200	.0180"
BHF-28	28	500	28	1000	28	1999	.0144"
BHF-30	30	800	30	1600	30	3200	.0116"
BHF-32	32	1225	32	2450	32	4900	.0095"
BHF-34	34	1988	34	3975	34	7950	.0075"
BHF-36	36	3200	36	6400	36	12800	.0060"
BHF-38	38	5050	38	10100	38	20200	.0049"
BHF-40	40	7975	40	15850	40	31700	.0038"
BHF-42	42	12375	42	24750	42	49500	.0032"
BHF-44	44	14500	44	29000	44	58000	.0026"

## UNINSULATED COPPER WIRE

### SILICON BRONZE AERIAL WIRE

Especially designed for ships, airports, short wave and transmitting antennas where high tensile strength and resistance to the elements are important.

Cat. No.	Size AWG	Strand	Breaking Strength/Lbs.	Nom. O.D.
529	4	7/12	3670	.240"
528	6	7/14	2140	.190"
527	8	7/16	1600	.150"
499	10	7/18	1000	.122"
524	12	7/20	650	.100"
526	14	7/22	420	.075"

\*528 & #499 meets MIL-W-13074; #524 meets MIL-W-13276  
STANOARO PUT-UPS: 100' — 500' — 1000'

### BUS BAR WIRE (Hard Drawn)

QQ-W-343 type S—MIL-W-3861 type S, ASTM-B-33, ASTM-B-246-51 specifications

For hooking up all types of transmitters, especially ultra short wave equipment. All bus wire is made of hard drawn copper, tinned, straightened, and cut in 2 ft. lengths.

STANOARO PACKAGE: 100 pieces

Cat. No.	No.	Shape
2010	10	Round Tinned
2013	12	Round Tinned
2015	14	Round Tinned
2016	16	Round Tinned
2018	18	Round Tinned
2020	20	Round Tinned
2022	22	Round Tinned

### STRANDED TINNED COPPER WIRE

Cat. No.	Size AWG	Strand	Nom. O.D.
495	12	7/20	.102"
1671	14	7/22	.076"
1674	15	7/23	.069"
1628	16	7/24	.062"

\*1671 meets M4.4—1940 type W-1  
Also available in stranded bare.

### JUMPER CABLE

PURE ELECTROLYTIC COPPER, annealed, tinned for quick soldering  
MIL-W-3861 Type B, ASTM-B-33 Specifications

Cat. No.	Class	Size AWG	Strand	Nom. O.D.
1622	K	22	7/30	.030"
1620	K	20	10/30	.037"
1618	K	18	16/30	.045"
1616	K	16	26/30	.059"
1614	K	14	41/30	.073"
1612	K	12	65/30	.091"

STANOARO PUT-UPS: 100' — 500' — 1000'

### STRANDED BARE COPPER WIRE

Cat. No.	Size AWG	Strand	Nom. O.D.
493	12	7/20	.100"
1670	14	7/22	.075"
1673	15	7/23	.068"
1680	16	7/24	.060"
681	18	7/26	.050"
700	19	7/27	.041"

STANOARO PUT-UPS: 100' — 500' — 1000'

### SOLIO ENAMEL COPPER WIRE

Cat. No.	Size AWG	Nom. O.D.
497	10	.103"
492	12	.083"
490	14	.066"

STANOARO PUT-UPS: 100' — 250' — 500' — 1000'

### BARE COPPER WIRE (Soft Drawn)

QQ-W-341A specifications

Cat. No.	Size AWG	Area Circular Mills	Nom. O.D.
1560	8	16,510	.1285"
1562	10	10,380	.102"
1566	12	6,530	.081"
1570	14	4,107	.064"
1574	16	2,583	.051"

STANOARO PUT-UPS: 100' — 500' — 1000'

### PLAIN ENAMEL (PE) TYPE T

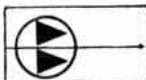
Single conductor round bare copper covered with a continuous insulating film of enamel. 105°C.

Cat. No.	1/4 lb. SPOOL		1/2 lb. SPOOL		1 lb. SPOOL		Nom. O.D.
	Size B&S	Ft.	Size B&S	Ft.	Size B&S	Ft.	
BPE-10	10	8	10	16	10	32	.1037"
BPE-12	12	12	12	25	12	50	.0825"
BPE-14	14	20	14	40	14	80	.0657"
BPE-16	16	32	16	63	16	126	.0522"
BPE-18	18	50	18	100	18	201	.0416"
BPE-20	20	80	20	160	20	320	.0332"
BPE-22	22	127	22	254	22	508	.0266"
BPE-24	24	201	24	403	24	806	.0212"
BPE-26	26	320	26	640	26	1280	.0169"
BPE-28	28	507	28	1015	28	2030	.0135"
BPE-30	30	805	30	1610	30	3220	.0108"
BPE-32	32	1282	32	2564	32	5128	.0087"
BPE-34	34	2037	34	4075	34	8150	.0069"
BPE-36	36	3221	36	6443	36	12887	.0055"
BPE-38	38	5132	38	10246	38	20492	.0044"
BPE-40	40	8143	40	16286	40	32573	.0034"
BPE-42	42	12803	42	25605	42	51211	.0028"
BPE-44	44	20455	44	40910	44	81819	.0023"



FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.





# Shielding Braid, Insulated Copper Wire, Braiding UNINSULATED COPPER WIRE

## TINNED COPPER SHIELDING

Used for shielding and bonding on aircraft, marine and auto radio wires and cables. Shields speaker leads, lead-ins, amplifier wires. Extremely flexible, slides over wires and cables.

### DESCRIPTION:

No. 853 thru 856/7—Composed of extremely flexible fine soft annealed copper tinned wires closely woven, braided and Rolled Flat.

No. 860—Composed of extremely flexible fine soft annealed copper wires closely woven, braided and Rolled Flat.



### TINNED

Cat. No.	Size & No. of Wires	Inside Diam. Flat.	Approx. D.O. Flat.	Approx. AWG Equiv.	Nom. Circ. Mills	Current Carrying Cap./Amps.
853	12x 2/36	1.31	1.64	24	400	6.0
854	12x 2/36	1.44	1.16	22	600	7.0
855	16x 3/36	1.16	1.64	20	1200	11.00
858	24x 5/36	1.16	1.32	18	1800	16.00
859	24x 5/36	1.16	1.32	15	3000	25.00
863	24x 7/36	1.16	1.32	14	4200	32.00
864	48x 4/36	1.16	1.32	12	7200	46.00
868	48x 7/36	1.16	1.32	10	9600	53.00
865	48x 8/36	1.16	1.32	10	9600	53.00
865/1	48x11/36	1.16	1.32	7	20,800	85.00
857	48x19/36	1.16	1.32	7	20,800	85.00
856	48x19/36	1.16	1.32	7	20,800	85.00
856/1	48x19/36	1.16	1.32	7	53,064	85.00
856/2	48x19/36	1.16	1.32	3	125,425	150.00
856/3	48x27/30	1.16	1.32	001	154,368	280.00
856/4	48x32/30	2.12	2.12	000	192,000	310.00
856/6	48x45/30	2.12	2.12	000	216,000	340.00
856/7	48x64/30	3.12	3.12	0000	225,000	390.00

### BARE

860	24x10/36	1/4"	3/32"	14	4200	32.00
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### STANDARD PUT-UPS:

#853 thru #856/1 — 50' — 100' — 250' — 500' — 1000'  
 #856/2 thru #856/7 — 50' — 100' — 250'  
 #860 — 50' — 100' — 250' — 500' — 1000'

## TUBULAR BRAID PER MIL SPEC. QQ-B-575

Manufactured completely round as noted in MIL Spec. QQ-B-575, this tinned copper shielded braid has self-supporting characteristics which enables it to maintain its round shape. The shielding coverage percentage is 95% or more. This tubular braid is used in military applications where maximum shielding against electrostatic interference is indicated. In addition, it is used as a protective covering against mechanical abrasion and stresses for the wires, cables and other components.



Cat. No.	Nom. Inside Diam. When Rounded	Construction		AWG of Indiv. Wires	Approx. AWG Equiv.	Nom. Circular Mills	*Current Carrying Capacity Amps
		Total No. of Wires	Carriers				
2250-1/32	3/32	24	24	36	22	640	7.0
2250-1/16	1/16	48	24	36	19	1,290	11.0
2250-5/64	5/64	72	24	36	17	1,900	18.0
2250-7/64	7/64	96	24	36	16	2,500	22.0
2250-1/8	1/8	120	24	36	15	3,260	28.0
2250-5/32	5/32	240	24	36	12	6,200	39.0
2250-11/64	11/64	168	24	36	14	4,500	32.0
2250-3/16	3/16	192	24	36	13	5,100	35.0
2250-13/64	13/64	312	24	36	11	8,200	46.0
2250-1/4	1/4	384	24	36	10	10,400	53.0
2250-3/8	3/8	384	48	36	9	13,200	70.0
2250-1/2	1/2	528	48	36	9	13,200	70.0
2250-9/16	9/16	720	48	36	7	19,000	82.0
2250-11/16	11/16	864	48	36	7	21,750	85.0
2250-25/32	25/32	864	48	36	7	21,750	85.0
2250-13/16	13/16	864	48	36	4	38,600	120.0
2250-1"	1"	864	48	36	4	38,600	120.0

### STANDARD SPOOL PUT-UPS: 50' — 100' — 250'

\*Values based on copper in free air at 65°F. Additional constructions and variations made to order. Also available in silver plated copper, bare copper and stainless steel.

## MEASURING MACHINE

Sturdy and compact construction. Has a precision quality built counter with large numbers for easy reading and will register wire up to .9,999 feet for direct accurate reading. Can be easily reset to zero position.

Wire passes through two rollers, the upper roller being self-adjusting and the tension of the upper roller can be set by a thumb screw to provide the proper grip for very fine as well as for heavy wire.

Two hardened lead bushings with an opening of 3/4" diameter will guide the wire properly through the rollers. Bushings are removable to allow cables up to 1" dia. to pass through. Will measure accurately all electric wires, cables, coaxial cables, rope, tape, etc.

## WIRE WINDER

Has adjustable arms to be set to the desired coil size and the arms will open to a flat position for easy removal of the coil. Simply open thumb screw which holds the front collar tight on the shaft, push the collar in any direction to the desired position and tighten the thumb screw again.

## HOLDING REEL

Compact, adjustable to size of coil and folding. Will hold spools or coils of wire.

## NEW — COMPLETE WIRE MEASURING OUTFIT

ACCURATE • COMPACT • NOISELESS



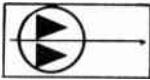
MEASURES IN INCHES AND FEET  
 CERTIFICATE OF APPROVAL NO. 498-61  
 DEPARTMENT OF AGRICULTURE STATE OF CALIFORNIA

### Model No.

Complete:	
Wire Measuring Outfit	7389A
Separately:	
Holding Reel	7398-1M
Measuring Machine	7398-2MA
Wire Winder	7398-3M

# BIRNBACH

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MIL-W-76B PLASTIC WIRE

\* STOCK COLORS

- 1—White
- 2—Black
- 3—Red
- 4—Green
- 5—Yellow
- 6—Light Blue
- 7—Brown
- 8—Orange
- 9—Gray (state)
- 10—Violet (purple)
- 11—White/Black
- 12—White/Red
- 13—White/Green
- 14—White/Yellow
- 15—White/Blue
- 16—White Brown
- 17—White Orange
- 18—White Gray
- 19—White Violet
- 20—White Black Red
- 21—White Black Green
- 22—White/Black/Yellow
- 23—White Black Blue
- 24—White/Black Brown
- 25—White/Black/Orange
- 26—White/Black/Gray
- 27—White/Black/Violet
- 28—Tan
- 29—Pink
- 30—Dark Blue

\*Other striped color combinations available to order.

MW	C	22	(7)	j
Type OF WIRE	CONDUCTOR MATERIAL	CONDUCTOR SIZE (AWG)	STRANDING	CONSTRUCTION
LW 300 Volt Light Wall	TINNED COPPER	30 thru 20	MINIMUM NUMBER OF	Symbol U J B S JS BS SJ
MW 1000 Volt Medium Wall	TINNED COPPER	24 thru 12	STRANDS	Covering Over Insulated Wire None Jacket Braid Shield Jacket and Shield Braid and Shield Shield & Outer Jacket
HW 2500 Volt Heavy Wall	TINNED COPPER	22 thru 12		JS BS SJ
HW 600 Volt Heavy Wall	TINNED COPPER	10 thru 6		JSJ BSJ
				Jacket, Shield and Outer Jacket Braid, Shield and Outer Jacket

TYPE MW—UNCOVERED PLASTIC 1,000 V

DESCRIPTION: Solid or extra flexible tinned copper, color coded medium wall polyvinylchloride insulation.

CHARACTERISTICS: Temperature rating -40° to +80° C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

STRANDED

Cat. No.	Size AWG	Mil-W-76B Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7024	24	MW-C 24(7)U	7/32	.015"	1000	.059"
7001	22	MW-C 22(7)U	7/30	.017"	1000	.066"
7003	20	MW-C 20(10)U	10/30	.017"	1000	.074"
7005	18	MW-C 18(16)U	16/30	.017"	1000	.085"
7007	16	MW-C 16(26)U	26/30	.017"	1000	.098"
7009	14	MW-C 14(41)U	41/30	.017"	1000	.114"
7011	12	MW-C 12(65)U	65/30	.017"	1000	.132"

SOLID

Cat. No.	Size AWG	Mil-W-76B Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7025	24	MW-C 24(1)U	1	.017"	1000	.056"
7000	22	MW-C 22(1)U	1	.017"	1000	.061"
7002	20	MW-C 20(1)U	1	.017"	1000	.068"
7004	18	MW-C 18(1)U	1	.017"	1000	.075"
7026	16	MW-C 16(1)U	1	.017"	1000	.084"

STANDARD PUT-UPS: 100' - 500' - 1000'  
STOCK COLORS — 1 thru 30



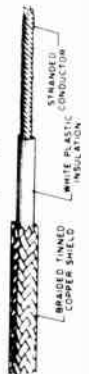
SHIELDED PLASTIC HOOK-UP WIRE

SPECIFICATIONS MIL-W-76B  
TEMPERATURE RATING: -40° C TO +80° C  
TYPE MW (Medium Wall) — SHIELDED

DESCRIPTION: One conductor stranded tinned copper with WHITE thermoplastic insulation and tinned copper shielded braid overall.

Cat. No.	Size AWG	Mil-W-76B Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7074	24	MW-C 24(7)S	7/32	.015"	1000	.074"
7072	22	MW-C 22(7)S	7/30	.017"	1000	.084"
7070	20	MW-C 20(10)S	10/30	.017"	1000	.094"
7068	18	MW-C 18(16)S	16/30	.017"	1000	.106"
7067	16	MW-C 16(26)S	26/30	.017"	1000	.121"
*7066	14	MW-C 14(41)S	41/30	.017"	1000	.137"
*7065	12	MW-C 12(65)S	65/30	.017"	1000	.155"

STANDARD PUT-UPS: 100' - 500' - 1000'



SPECIFICATION MIL-W-76B TYPE MW (Med. Wall)—NYLON JACKET 1000 V (Fungus Proof)

DESCRIPTION: One conductor stranded tinned copper with thermoplastic insulation and extruded nylon jacket overall.

Cat. No.	Size AWG	Mil-W-76B Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.	Stock Colors
7224	24	MW-C 24(7)J	7/32	.015"	1000	.068"	1-10
7222	22	MW-C 22(7)J	7/30	.017"	1000	.075"	1-10
7220	20	MW-C 20(10)J	10/30	.017"	1000	.087"	1-10
7218	18	MW-C 18(16)J	16/30	.017"	1000	.100"	1-10
7216	16	MW-C 16(26)J	26/30	.017"	1000	.112"	1-10
7214	14	MW-C 14(41)J	41/30	.017"	1000	.122"	1-10
7212	12	MW-C 12(65)J	65/30	.017"	1000	.140"	1-3

STANDARD PUT-UPS: 100' - 500' - 1000'



MIL-W-76B-PLASTIC WIRE  
Type MW — Glass Braid — Shielded

TINNED COPPER SHIELD OVER LACQUERED BRAID

DESCRIPTION: Extra flexible stranded tinned copper, white medium wall polyvinylchloride insulation, white flame retardant lacquered glass braided with tinned copper shield overall, 80% coverage.

CHARACTERISTICS: Temperature rating -40° C to +80° C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.



Cat. No.	Size AWG	Type Designation	Strand	Wall Thickness	Nom. O.D.
831	22	MW-C 22(7)BS	7/30	.016"	.095"
832	20	MW-C 20(10)BS	10/30	.016"	.105"
833	18	MW-C 18(16)BS	16/30	.016"	.125"
834	16	MW-C 16(26)BS	26/30	.016"	.135"
835	14	MW-C 14(41)BS	41/30	.016"	.155"
835/12	12	MW-C 12(65)BS	65/30	.016"	.175"
835/10	10	MW-C 10(105)BS	105/30	.025"	.200"

STOCK COLOR: White  
STANDARD PUT-UPS: 100' - 500' - 1000'



SPECIFICATION MIL-W-76B  
TYPE MW (Medium Wall)  
GLASS BRAID 1000 VOLTS

DESCRIPTION: Extra flexible stranded tinned copper, white medium wall polyvinylchloride insulation, color coded flame retardant lacquered glass braid overall.

CHARACTERISTICS: Temperature rating -40° to +80° C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

Cat. No.	Size AWG	Mil-W-76B Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.	Stock Colors As Listed
7022	22	MW-C 22(7)B	7/30	.017"	1000	.079"	1-12
7020	20	MW-C 20(10)B	10/30	.017"	1000	.084"	1-12
7018	18	MW-C 18(16)B	16/30	.017"	1000	.100"	1-12
7016	16	MW-C 16(26)B	26/30	.017"	1000	.116"	1-12
*7014	14	MW-C 14(41)B	41/30	.017"	1000	.129"	1, 11, 12
*7012	12	MW-C 12(65)B	65/30	.017"	1000	.149"	1, 11, 12

STANDARD PUT-UPS: 100' - 500' - 1000'



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PLASTIC HOOK-UP WIRE — MIL-W-16878D

PLASTIC HOOK-UP WIRE — MIL-W-16878D — Type B — High Temperature Vinyl — 600 Volt

Suitable for general purpose wiring for miniature high temperature hook-ups in aircraft, electronic instruments, devices, etc., where excellent resistance to moisture and solvents may be required.

**DESCRIPTION:** One conductor stranded tinned copper with rated -55°C to +105°C high temperature thermoplastic light wall insulation. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus. Nominal wall: 0.010.



Cat. No.	MIL-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
7190	B-32	32	7/40	.028"
7191	B-30	30	7/38	.030"
7192	B-28	28	7/36	.033"
7193	B-26	26	7/34	.037"
7194	B-24	24	7/32	.043"
7194/19	B-24	24	19/36	.043"
7195	B-22	22	7/30	.048"
7195/19	B-22	22	19/34	.048"
7196	B-20	20	7/28	.057"
7196/19	B-20	20	19/32	.057"
7197	B-18	18	7/26	.067"
7197/19	B-18	18	19/30	.067"
7198	B-16	16	19/29	.077"
7199	B-14	14	19/27	.091"

\*STOCK COLORS: 1 thru 19, as listed.  
STANDARD PUT-UPS: 100' - 500' - 1000'

PLASTIC HOOK-UP WIRE — MIL-W-16878D — Type B — Nylon Jacket — 600 Volt

Suitable for general purpose wiring for miniature high temperature hook-ups in aircraft, electronic instruments, devices, etc., where excellent resistance to moisture and solvents may be required.

**DESCRIPTION:** Stranded tinned copper, color coded, .010" polyvinylchloride insulation, clear nylon (polyamide) jacket overall.

**CHARACTERISTICS:** Temperature rating -55°C to +115°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus.



Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
7190N	B-32	32	7/40	.034"
7191N	B-30	30	7/38	.038"
7192N	B-28	28	7/36	.040"
7193N	B-26	26	7/34	.043"
7194N	B-24	24	7/32	.048"
7194N/19	B-24	24	19/36	.048"
7195N	B-22	22	7/30	.055"
7195N/19	B-22	22	19/34	.055"
7196N	B-20	20	7/28	.065"
7196N/19	B-20	20	19/32	.065"
7197N	B-18	18	7/26	.075"
7197N/19	B-18	18	19/30	.075"
7198N	B-16	16	19/29	.085"
7199N	B-14	14	19/27	.099"

STANDARD PUT-UPS: 100' - 500' - 1000'  
\*STOCK COLORS: 1 thru 19, as listed.

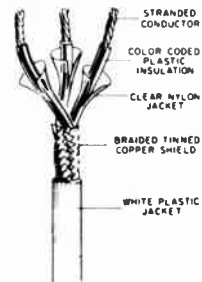
MIL-W-16878D — MULTI-CONDUCTOR CABLE — Type B — Nylon Shielded-Plastic Jacket

**DESCRIPTION:** Each conductor stranded tinned copper, .010" polyvinylchloride insulation, color coded, clear nylon .003 (polyamide) jacket, conductors cabled, braided tinned copper shield 90% coverage, with polyvinylchloride jacket overall.

**CHARACTERISTICS:** Temperature rating -55°C to +105°C. Voltage rating 600 volts, resistant to acids, alkalis, oil, flame, moisture, fungus, solvents.

Birnbaach No.	No. of Cond.	Conductor		Nom. Overall Jacket	Nom. O.D.
		Size	Strand		
7366-1	1	24	19/36	.010"	.092"
7366-2	2	24	19/36	.016"	.152"
7366-3	3	24	19/36	.016"	.161"
7366-4	4	24	19/36	.017"	.166"
7367-1	1	22	19/34	.010"	.100"
7367-2	2	22	19/34	.016"	.168"
7367-3	3	22	19/34	.017"	.178"
7367-4	4	22	19/34	.019"	.174"
7368-1	1	20	19/32	.010"	.106"
7368-2	2	20	19/32	.019"	.186"
7368-3	3	20	19/32	.019"	.196"
7368-4	4	20	19/32	.021"	.193"
7369-1	1	18	19/30	.012"	.120"
7369-2	2	18	19/30	.021"	.210"
7369-3	3	18	19/30	.022"	.227"
7369-4	4	18	19/30	.023"	.231"
7370-1	1	16	19/29	.016"	.137"
7370-2	2	16	19/29	.023"	.236"
7370-3	3	16	19/29	.024"	.240"
7370-4	4	16	19/29	.025"	.274"

STANDARD PUT-UP: 100' - 500' - 1000' COLOR CODE OF CONDUCTORS: 1—White 2—Black 3—Red 4—Green



MIL-W-16878D — Type C — High Temperature — Vinyl Jacket — 1000 Volt

**DESCRIPTION:** One Conductor Similar to Type B — Heavier Wall Hi-Temp. Thermoplastic Insulation. Nom. Wall .016".  
**CHARACTERISTICS:** Temperature rating -55°C to +105°C. Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.



Cat. No.	MIL-W-16878C Type Designation	Size AWG	Minimum Strand	Nom. O.D.
7170	C-24	24	7/32	.058"
7171	C-22	22	7/30	.064"
7172	C-20	20	7/28	.073"
7173	C-18	18	7/26	.085"
7174	C-16	16	19/29	.095"
7175	C-14	14	19/27	.109"
7176	C-12	12	19/25	.124"

\*STOCK COLORS: 1 thru 19, as listed.  
STANDARD PUT-UPS: 100' - 500' - 1000'

MIL-W-16878D — Type C — High Temperature Nylon Jacket — 1000 Volt

Cat. No.	MIL-W-16878C Type Designation	Size AWG	Minimum Strand	NYLON JACKET THICKNESS: 24 .002, 22, 20, 18 .003, 16-14 .004	
				Nom. O.D.	Nom. O.D.
7170N	C-24	24	7/32	.065"	.065"
7171N	C-22	22	7/30	.072"	.072"
7172N	C-20	20	7/28	.079"	.079"
7173N	C-18	18	7/26	.090"	.090"
7174N	C-16	16	19/29	.099"	.099"
7175N	C-14	14	19/27	.114"	.114"
7176N	C-12	12	19/25	.125"	.125"

STOCK COLORS: 1 thru 19, as listed.  
STANDARD PUT-UPS: 100' - 500' - 1000'

MIL-W-16878D — Type C — Shielded — Nylon Jacket

**DESCRIPTION:** Stranded tinned copper, white .016" polyvinylchloride insulation, braided tinned copper shield, 90% coverage, clear nylon (polyamide) jacket (which can be striped to order for color identification) overall.  
**CHARACTERISTICS:** Temperature rating -55°C to +115°C. Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.



Cat. No.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. Jacket Thickness	Nom. O.D.
7180/24	24	7/32	.016"	.005"	.091"
7180/22	22	7/30	.016"	.005"	.098"
7180/20	20	7/28	.016"	.005"	.105"
7180/18	18	16/30	.016"	.005"	.115"
7180/16	16	19/29	.016"	.005"	.125"
7180/14	14	19/27	.016"	.005"	.138"
7180/12	12	19/25	.016"	.005"	.159"

STANDARD PUT-UPS: 100' - 500' - 1000'

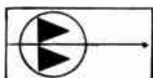
MIL-W-16878D — Type C — Nylon — Shielded — Nylon Jacket

**DESCRIPTION:** Stranded tinned copper, WHITE .016" polyvinylchloride insulation, .003 clear nylon (polyamide), braided tinned copper shield, 90% coverage, clear nylon (polyamide) jacket (which can be striped to order for color identification) overall.  
**CHARACTERISTICS:** Temperature rating -55°C to +115°C. Voltage rating 1000 volts. Resistance to acids, alkalis, oil, flame, moisture, solvents and fungus.

Cat. No.	Size AWG	Strand	Nom. Wall Thickness	Nylon Jkt.	Nom. O.D.
7180N/24	24	7/32	.016"	.005"	.098"
7180N/22	22	7/30	.016"	.005"	.105"
7180N/20	22	7/28	.016"	.005"	.112"
7180N/18	18	19/30	.016"	.005"	.122"
7180N/16	16	19/29	.016"	.005"	.132"
7180N/14	14	19/27	.016"	.005"	.145"
7180N/12	12	19/25	.016"	.005"	.166"



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PLASTIC AND TEFLON\* — MIL-W-16878D

MIL-W-16878D — Type C Shielded — 1000 Volt

DESCRIPTION: Stranded tinned copper, .016" wall white polyvinylchloride insulation, braided tinned copper shield overall temp. rating —55°C to +105°C 1000 volts.

Cat. No.	Size AWG	Min. Strand	Nom. Wall	Nom. O.D.
7178/24	24	7/32	.016"	.075"
7178/22	22	7/30	.016"	.085"
7178/20	20	7/28	.016"	.095"
7178/18	18	7/26	.016"	.105"
7178/16	16	19/26	.016"	.115"
7178/14	14	19/27	.016"	.125"
7178/12	12	19/25	.016"	.135"

STANDARD PUTUPS: 100' · 500' · 1000'

MIL-W-16878D — Type C — Shielded — Vinyl Jacket — 1000 Volt

DESCRIPTION: Stranded tinned copper, .016" wall white with polyvinylchloride insulation braided tinned copper shield with black polyvinylchloride jacket overall. Resistant to acids, oil, alkalis, flame, fungus, solvents, moisture. Temp. rating —55°C to +105°C.

Cat. No.	Size AWG	Min. Strand	Nom. Wall	Nom. O.D.
7179/24	24	7/32	.016"	.094"
7179/22	22	7/30	.016"	.104"
7179/20	20	7/28	.016"	.112"
7179/18	18	7/26	.016"	.120"
7179/16	16	19/29	.016"	.133"
7179/14	14	19/27	.016"	.149"
7179/12	12	19/25	.016"	.164"

STOCK COLOR: Black OTHER COLORS TO SPECIAL ORDER  
STANDARD PUT-UPS: 100' · 500' · 1000'

MIL-W-16878D — TEFLON\* — HOOK-UP WIRE

Type D — High Temperature — Vinyl 3000 Volts

DESCRIPTION: One Conductor Stranded Similar to Type C — Heavier Wall Hi-Temp Thermoplastic Insulation. Nom. Wall 24 thru 14, .032, 12 thru 6, .040.

CHARACTERISTICS: Temperature rating —55°C to +105°C. Voltage rating 3000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

Cat. No.	MIL-W-16878D Type Designation	Size AWG	Cond. Strand	Nom. O.D.
7180	D-24	24	7/32	.084"
7181	D-22	22	7/30	.089"
7182	D-20	20	10/30	.097"
7183	D-18	18	16/30	.107"
7184	D-16	16	26/30	.116"
7185	D-14	14	41/30	.130"
7186	D-12	12	65/30	.163"
7187	D-10	10	105/30	.182"
7188	D- 8	8	133/29	.247"
7189	D- 6	6	133/27	.291"

\*STOCK COLORS: 1 thru 10, as listed.  
STANDARD PUT-UPS: 100' · 500' · 1000'

MIL-W-16878D — NYLON JACKET

Type D — High Temperature — 3000 Volts

DESCRIPTION: Stranded tinned copper, color coded polyvinylchloride insulation, clear nylon (polyamide) jacket overall.

CHARACTERISTICS: Temperature rating —55°C to +115°C. Voltage rating 3000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

Cat. No.	MIL-W-16878D Type Designation	Size AWG	Cond. Strand	Nom. O.D.
7180N	D-24	24	7/32	.090"
7181N	D-22	22	7/30	.096"
7182N	D-20	20	10/30	.104"
7183N	D-18	18	16/30	.114"
7184N	D-16	16	26/30	.125"
7185N	D-14	14	41/30	.139"
7186N	D-12	12	65/30	.168"
7187N	D-10	10	105/30	.197"
7188N	D- 8	8	133/29	.265"
7189N	D- 6	6	133/27	.310"

\*STOCK COLORS: 1 thru 10, as listed.  
STANDARD PUT-UPS: 100' · 500' · 1000'

MIL-W-16878D — TEFLON† WIRE

Type E—Extruded (600 Volts) — High Temperature Rating — 90° To + 250°C

Chemically inert, non-flammable, excellent flexibility, easy stripping, high dielectric strength, unaffected by fungus. Exceeds Class H insulation requirements. Unaffected by high or low temperature. Outstanding for its dependability and long life under all operating conditions indoors or outdoors. Teflon permits miniaturization and compactness in electronic designs of sub-miniature components, computers, UHF equip., slip ring assemblies, leads to hermetically sealed and potted components, telemetering equip. and guided missiles. Nom. wall .010". TFE extruded.

DESCRIPTION: Single conductor silver plated copper wire concentrically stranded and insulated with extruded or Teflon insulation.

Cat. No.	Size AWG	Mil Type Designation	Strand	Diam. Over Insulation Max.
8532	32	E-32	7/40	.033"
8530	30	E-30	7/38	.036"
8528	28	E-28	7/36	.039"
8526	26	E-26	7/34	.043"
8524	24	E-24	19/36	.048"
8522	22	E-22	19/34	.054"
8520	20	E-20	19/32	.062"
8518	18	E-18	19/30	.074"
8516	16	E-16	19/29	.087"
8514	14	E-14	19/27	.097"
8512	12	E-12	19/25	.120"
8510	10	E-10	37/26	.139"

\*STOCK COLORS: 1 thru 10, as listed.  
STANDARD PUT-UPS: 25' · 50' · 100' · 250' · 500' · 1000'

\* STOCK COLORS

- |              |                    |                 |
|--------------|--------------------|-----------------|
| 1—White      | 8—Orange           | 15—White/Blue   |
| 2—Black      | 9—Gray (slate)     | 16—White/Brown  |
| 3—Red        | 10—Violet (purple) | 17—White/Orange |
| 4—Green      | 11—White/Black     | 18—White/Gray   |
| 5—Yellow     | 12—White/Red       | 19—White/Violet |
| 6—Light Blue | 13—White/Green     |                 |
| 7—Brown      | 14—White/Yellow    |                 |

SUBMINIATURE TEFLON\* HOOK-UP WIRE

Per MIL-W-16878D Type ET 250 Volts, 200°C

This new exceptionally thin miniature hook-up wire is suitable in miniature slip ring assemblies, as interconnecting wire between wafers in microminiature electronic circuitry, instrument wire, medical wire, subminiature thermo-couple lead wire, strain gauge wire, etc. Provides lighter weight, greater flexibility and hi temperature resistance. Size Nos. 32 thru 20 conform to MIL-W-16878D type ET 250 volts, 200°C.

Cat. No.	Mil Type Designation	Size AWG	Strand	Nom. O.D.
8550/36	—	36	7/44	.018"
8550/34	—	34	7/42	.020"
8550/32	ET-32	32	7/40	.021"
8550/30	ET-30	30	7/38	.024"
8550/28	ET-28	28	7/36	.027"
8550/26	ET-26	26	7/34	.031"
8550/24	ET-24	24	7/32	.036"
8550/22	ET-22	22	7/30	.042"
8550/20	ET-20	20	7/28	.049"

\*STOCK COLORS: 1 thru 10, as listed.  
STANDARD PUTUPS: 100' · 250' · 500' · 1000'

MIL-W-16878D — TEFLON\* WIRE

Type EE—Extruded (1000 Volts) MIL-W-16878D

DESCRIPTION: Single conductor silver plated copper wire concentrically stranded and insulated with .016" TFE extruded TEFLON\* insulation. Temperature rating —90°C to +260°C 1000 volts.

Cat. No.	Mil Type Designation	Size AWG	Strand	Nom. O.D.
9524	EE-24	24	19/36	.055"
9522	EE-22	22	19/34	.062"
9520	EE-20	20	19/32	.070"
9518	EE-18	18	19/30	.080"
9516	EE-16	16	19/29	.089"
9514	EE-14	14	19/27	.106"
9512	EE-12	12	19/25	.124"
9510	EE-10	10	37/26	.145"
9508	EE- 8	8	133/29	.210"

\*STOCK COLORS: 1 thru 19, as listed.  
STANDARD PUTUPS: 100' · 250' · 500' · 1000'





# HOOK-UP AND TEST LEAD WIRES

## KINKLESS TEST LEAD WIRE

Used with portable test equipment; as tested, leads in analyzers, oscillators, instruments; wherever extreme flexibility and limpness is required. Has excellent dielectric properties.

**DESCRIPTION:**

No. 61—#20—41/36 extra flexible annealed tinned copper, stranded.

No. 66—#18—65/36 extra flexible annealed tinned copper stranded; paper serve; 3/4" special low capacity rubber, wax finish.

Colors: Red, Black.

Types WS-16/U Black, WS-17/U Red; No. 70 per MIL-W-13169 Specification available same construction as Birnbach #66 except compound per specification.

Cat. No.	Size AWG	Strand	Ins.	Puncture Voltage	Nom. O.D.
61	20	41/36	3/64"	20,000 V	.137"
66	18	65/36	3/64"	22,000 V	.145"
70*	18	65/36	3/64"	22,000 V	.145"

\* MILITARY TYPE SPECIFICATION MIL-W-13169B  
 WS-16/U Black WS-17/U Red  
 STANDARD PUT-UPS: 100' - 250' - 500' - 1000'



## NEW PLASTIC KINKLESS TEST LEAD WIRE

New formulation vinyl compound insulation allows maximum flexibility; rough treatment; extreme variation in climatic conditions; excellent abrasion resistance; greater temperature stability from -80°C to +115°C; fungus resistant; self extinguishing-flame proof; smooth surface. Resists exposure to gasoline and oil.

**DESCRIPTION:** One conductor tinned copper stranded, special formulation vinyl insulation.

Colors: Black, Red, Yellow, Green, White, Blue.

Cat. No.	Size AWG	Strand	Ins.	Nom. O.D.
1922	22	26/36	.032"	.100"
1920	20	26/34	.032"	.104"
1918	18	65/36	.032"	.112"
1916	16	65/34	.032"	.129"

For portable test equipment; as test leads for instrumentation exceeds the requirements for MIL-I-3930A type JP (PVC). It is superior to synthetic rubber spec MIL-R-6855 Class II Grade 60.

STANDARD PUT-UPS: 100' - 250' - 500' - 1000'



## HEAVY DUTY HI-VOLTAGE TYPE

**DESCRIPTION:**

No. 68—#18—65/36 extra flexible annealed tinned copper; stranded; paper serve; 3/4" special low capacity rubber, wax finish.

Colors: Red, Black.

Used for oscillators, analyzers, TV, therapeutic instruments, etc.; wherever an extremely flexible high voltage lead is indicated.

Cat. No.	Size AWG	Strand	Ins.	Puncture Voltage	Nom. O.D.
68	18	65/36	5/64"	29,000 V	.210"

STANDARD PUT-UPS: 100' - 250' - 500' - 1000'



## SHIELDED GRID LEAD WIRE

Used to reduce loss in grid lead use, also to reduce interference caused by motors, high tension wires, X-ray machines, etc.

**DESCRIPTION:** #820—Single Conductor #20—10/30, #818—16/30 Stranded Tinned Copper, low loss rubber insulation, cotton braid lacquered, closely woven tinned copper shield overall.

Cat. No.	Size AWG	Strand	Ins. Under Shield	Cap./Ft. Mmf.	Nom. O.D.
818	18	16/30	.085"	75	.150"
820	20	10/30	.085"	70	.140"

STANDARD PUT-UPS: 100' - 500' - 1000'



## SHIELDED HOOK-UP & LEAD-IN WIRE

Used to prevent and reduce interference caused by motors, hi-tension cables, X-ray machines and various units radiating electrical impulses. Useful in grid circuits.

**TINNED COPPER SHIELD OVER RUBBER INSULATION**

**DESCRIPTION:** Single Conductor, Tinned Copper Stranded, low loss rubber insulation, closely woven tinned copper shield overall.

Cat. No.	Size AWG	Strand	Ins.	Cap./Ft. Mmf.	Nom. O.D.
810	20	10/30	.015"	105	.095"
803	18	16/30	.015"	125	.125"
802	16	26/30	.031"	90	.145"



## 7MM HIGH TENSION CABLE

Used as hi-voltage leads in electronic equipment and instruments, photo electric cell leads, automotive, etc.

**DESCRIPTION:** #1600—Unshielded One Conductor—#16-19/29 stranded tinned copper wire, rubber insulation, cotton braid highly lacquered.

**DESCRIPTION:** #781—Shielded Same construction as #1600 plus a closely woven tinned copper shield overall.

Cat. No.	Size AWG	Strand	Ins.	Nom. O.D.
1600	16	19/29	3/32"	.275"
781	16	19/29	3/32"	.295"

Used for auto and aircraft ignition systems where grounding is required for elimination of interference.

STANDARD PUT-UPS: 100' - 500' - 1000'



## DIATHERMY CABLE

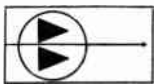
Cat. No.	Spool	Size AWG	Strand	Ins.	Nom. O.D.
757	1000'	14	104/34	3/4"	.300"

STANDARD PUT-UPS: 100' - 500' - 1000'



# BIRNBACH

COMPANY INC. FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.



# MULTI-CONDUCTOR, INTERCOM & AUDIO CABLES

## SPIRAL WRAPPED SHIELDED AUDIO and MULTI-CONDUCTOR CABLE

**Plastic Jacketed — with Spiral wrapped copper shield**  
 Designed for P.A. and sound systems, installations in schools, hospitals, and institutions, recording studios, transmitters, paging and call systems.  
**DESCRIPTION:** Each conductor copper tinned, plastic insulation, color coded, twisted spiral wrapped tinned copper shield, gray plastic jacket overall.

Cat. No.	Cond.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
941	2	22	7/30	.017"	.020"	.171"
941/1	1	22	7/30	.017"	.020"	.120"
941/3	3	22	7/30	.017"	.020"	.190"
941/4	4	22	7/30	.017"	.020"	.205"
941/6	6	22	7/30	.017"	.020"	.240"
950	2	22	1	.017"	.020"	.169"
942	2	20	10/30	.017"	.020"	.190"
942/1	1	20	10/30	.017"	.020"	.129"
943	3	20	10/30	.017"	.020"	.208"
944	4	20	10/30	.017"	.020"	.222"
945	6	20	10/30	.017"	.020"	.260"
946	1	18	16/30	.017"	.020"	.139"
947	2	18	16/30	.017"	.020"	.230"
947/3	3	18	16/30	.017"	.020"	.228"
947/4	4	18	16/30	.017"	.020"	.243"
948	2	16	26/30	.017"	.020"	.250"
949	3	16	26/30	.017"	.020"	.249"

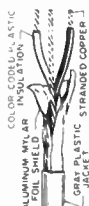


**CONDUCTOR COLOR CODE:** 1-Black, 2-Red, 3-White, 4-Green  
**STANDARD PUT-UP:** 100' - 250' - 500' - 1000'

## SHIELDED PLASTIC JACKETED CABLE with ALUMINUM MYLAR\* FOIL SHIELD

This cable is extremely light in weight and provides 100% shield coverage at audio and radio frequencies.  
**DESCRIPTION:** Each conductor tinned copper, color coded polyethylene insulation, twisted with #22 7/30 stranded tinned copper drain wire, aluminum Mylar\* foil shield, gray polyvinylchloride jacket overall.

Cat. No.	Cond.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
1890	2	22	7/30	.015"	.020"	.165"
1890/3	3	22	7/30	.015"	.020"	.175"
1890/4	4	22	7/30	.015"	.020"	.190"
1891	2	20	10/30	.015"	.020"	.180"
1891/3	3	20	10/30	.015"	.020"	.190"
1891/4	4	20	10/30	.015"	.020"	.200"
1892	2	18	16/30	.017"	.020"	.220"
1892/3	3	18	16/30	.017"	.020"	.230"
1892/4	4	18	16/30	.017"	.020"	.240"

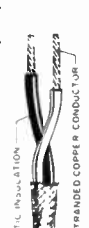


**CONDUCTOR COLOR CODE:** 1-Black, 2-Red, 3-White, 4-Green  
**STANDARD PUT-UP:** 100' - 500' - 1000'

## 2 CONDUCTOR SHIELDED

Used for transmission line, P.A. and sound systems, school, hospital sound installations, industrial paging systems, broadcast and audio cable, paging and rack panel wiring.  
**DESCRIPTION:** Each conductor copper tinned, plastic insulation, color coded twisted, tinned copper shield overall.

Cat. No.	Cond.	Size AWG	Strand	Insul.	Nom. O.D.
826/30	2	30	7/38	.010"	.085"
826/28	2	28	7/36	.010"	.090"
826/26	2	26	7/34	.010"	.100"
826	2	24	16/36	.010"	.120"
825	2	22	7/30	.017"	.140"
825S	2	20	10/30	.017"	.155"
827	2	18	16/30	.017"	.180"
828	2	16	26/30	.020"	.210"
829	2	14	41/30	.020"	.235"
830	2	12	65/30	.025"	.295"
830/10	2	10	105/30	.025"	.375"



973S	3	20	10/30	.017"	.192"
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972B	2	20	10/30	.017"	.180"
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Cat. No.	Cond.	Size AWG	Strand	Insul.	Nom. O.D.
1701	2	22 Solid	1	.017"	.135"
1702	2	20 Solid	1	.017"	.145"
1703	2	18 Solid	1	.017"	.170"

**CONDUCTOR COLOR CODE:** 1—Black, 2—Red, 3-White  
**STANDARD PUT-UP:** 100' - 250' - 500' - 1000'

## SHIELDED BROADCAST AUDIO CABLE

Designed to provide maximum performance on all equipment. Conductors twisted correctly assures quiet, clear operation which eliminates interference and cross talk. Used by Broadcast studios, for P.A. and sound systems, rack wiring, etc.

**DESCRIPTION: #938—#22 Solid Tinned Copper Conductor,** enameled, heavy cellulose acetate yarn wrap, cotton braid waxed; cabled with #22 AWG solid tinned copper wire laid parallel to twisted pair under tinned copper braid shield; tubed-on Vinyl plastic jacket overall.

**#939—#22-7/30 Stranded Tinned Copper,** plastic insulation, color coded, twisted, copper braid shield, tubed-on Vinyl plastic jacket overall.

**#940—2 Conductors #22 solid plastic insulation,** color coded, twisted with #22 AWG solid tinned copper ground wire under tinned copper shield with vinyl plastic jacket overall.

**#940/1** same construction as #940 however with tinned copper spiral wrapped shield.

**#822 and #824** have solid enameled copper wire, cotton wrap, cotton braid waxed twisted pair, bare copper braid overall.

Cat. No.	Cond.	Size AWG	Strand	Nom. O.D.
938	2	22	Solid	.210"
939	2	22	7/30	.170"
940	2	22	Solid	.160"
940/1	2	22	Solid	.125"
822	2	22	Solid	.125"
824	2	19	Solid	.145"
927	2	20	Solid	.210"
928	2	18	Solid	.220"

**STANDARD PUT-UP:** 100' - 250' - 500' - 1000'  
**CONDUCTOR COLOR CODE:** Black and Red



## PLASTIC-INTER-COM CABLE

**4 CONDUCTORS (2 Shielded — 2 Unshielded)**  
 Widely used for wiring from station to station where a shielded twisted pair is indicated in order to eliminate cross talk.

**DESCRIPTION: No. 925—4 conductors #22 7/30 stranded** tinned copper, vinyl plastic insulation color coded, tinned copper shield over one pair (2 cond.) One pair (2 cond.) unshielded. Tubed gray vinyl jacket overall.

**CONDUCTOR COLOR CODE:**  
 Black/white shielded, Black/red unshielded

Cat. No.	Cond.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
925	4	22	7/30	.016"	.020"	.310"



**3 CONDUCTORS (1 Shielded — 2 Unshielded)**  
 Widely used for wiring from station to station where a single shielded conductor is indicated in order to eliminate cross talk.

**DESCRIPTION: No. 924—3 conductors #22 7/30 stranded** tinned copper, vinyl plastic insulation color coded, tinned copper shield over one conductor, tubed gray vinyl jacket overall.

Cat. No.	Cond.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
924	3	22	7/30	.016"	.020"	.205"



**CONDUCTOR COLOR CODE:**  
 Black/red unshielded, White shielded  
**STANDARD PUT-UP:** 100' - 500' - 1000'

## TWISTED PAIR TRANSMISSION CABLE WEATHERPROOF BRAID

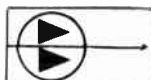
**DESCRIPTION: No. 952—Two Conductors, #22-7/30 Tinned** Copper Stranded, special low loss rubber insulation, color coded, twisted conductors, cotton braid overall with rugged weatherproof finish.

**No. 919 —Two Conductors, #18-16/30 Tinned Copper** Stranded, same construction as above. Used for low transmission coupling between antenna and receiver as doublet twisted lead-in wire for inter-com. setup.

Cat. No.	Size AWG	Strand	Insul.	Nom. O.D.
952	22	7/32	1/32"	.180"
919	18	16/30	1/32"	.195"

**STANDARD PUT-UPS:** 100' — 250' — 500' — 1000'





# MICROPHONE, MULTI-CONDUCTOR AND SERVICE CORD CABLE

## RUBBER JACKETED MULTI-CONDUCTOR CABLE (Not Shielded) GENERAL PURPOSE CONTROL CABLE

Used for permanent or portable P.A. systems, sound recording, indoor or outdoor speakers, interconnecting cable for all electronic uses. Each conductor, extra flexible stranded tinned copper, insulated with a .022" wall, special low capacity rubber, color coded, conductors twisted, filler, cotton wrap with tough weatherproof black rubber jacket overall.

Cat. No.	Cond.	Size No. Awg	Strand.	Cap. Bet. 1 Cond. & Others	Nom. O.D.
788	2	20	26/34	40 Mmf	.245"
790	3	20	26/34	50 Mmf	.260"
792	4	20	26/34	53 Mmf	.285"
794	5	20	26/34	56 Mmf	.305"
796	6	20	26/34	58 Mmf	.320"
798	7	20	26/34	60 Mmf	.335"
749	8	20	26/34	63 Mmf	.370"
749/10	10	20	26/34	65 Mmf	.415"
749/12	12	20	26/34	67 Mmf	.435"
749/15	15	20	26/34	70 Mmf	.505"
749/20	20	20	26/34	79 Mmf	.570"

**COLOR CODE OF CONDUCTORS:** 1-Black, 2-White, 3-Red, 4-Green, 5-Yellow, 6-Blue, 7-Brown, 8-Orange, 9-Slate, 10-Purple, 11-White/Black (Braid), 12-White/Red (Braid), 13-White/Green (Braid), 14-White/Yellow (Braid), 15-White/Blue (Braid), 16-White/Brown (Braid), 17-White/Purple (Braid), 18-White/Slate (Braid), 19-Black/Red (Braid), 20-Black/Yellow (Braid).

**STANDARD PUTUPS:** 100' — 250' — 500' — 1000'

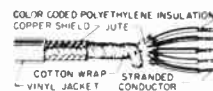


## RUBBER MICROPHONE CABLE

Designed for long service life and low loss. Use with crystal, ribbon, dynamic and velocity microphones and photoelectric cells. Birnbach #870 is used widely for lapel microphones and phono pick ups.

**DESCRIPTION:** Single Conductor, 26 Strands—#34 extra flexible tinned copper, special low loss rubber compound, tinned copper braid shield, cotton wrap, tough black rubber jacket overall.

Cat. No.	Spool Cond.	Size No.	Avg. Stranding	Nom. Cap./Ft.	Nom. O.D.
870	100'	1	20 26/34	95 Mmf	.175"
872	100'	1	20 26/34	60 Mmf	.245"



## RUBBER OR NEOPRENE MICROPHONE General Purpose Multi-Conductor Shielded Control Cable

**DESCRIPTION:** Each Conductor, extra flexible stranded tinned copper, insulated with a .002" wall special low capacity rubber, color coded, conductors twisted, filler cotton wrap, tinned copper braided shield, cotton wrap with tough weatherproof black rubber or neoprene jacket overall.

Used for indoor and outdoor crystal, carbon and condenser microphones, public address systems, and control circuits, video and audio inter-connecting cable, broadcast and heavy-duty studio use.



## RUBBER JACKET

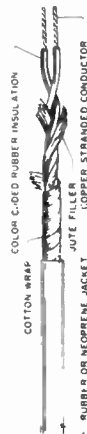
Cat. No.	U/L Type	NEOPRENE Cat. No.	U/L Type	Std. Put-ups	Conds.	Size No. AWG	Strand	Amp Rating	Volt Rating	Nom. Cap. Between		Nom. O.D.
										1-Cond. & Shield	1-Cond. & Others	
701	SV	690	SVO	250'	2	18	41/34	7	300	.250"		
701/3	SV	690/3	SVO	250'	3	18	41/34	7	300	.265"		
574	SJ	691	SJO	250'	2	18	41/34	7	300	.300"		
575	SJ	692	SJO	250'	3	18	41/34	7	300	.330"		
575/4	SJ	692/4	SJO	250'	4	18	41/34	7	300	.360"		
578	SJ	693	SJO	250'	2	16	65/34	10	300	.325"		
578/3	SJ	693/3	SJO	250'	3	16	65/34	10	300	.365"		
578/4	SJ	693/4	SJO	250'	4	16	65/34	10	300	.395"		
702	S	694	SO	250'	2	18	16/30	7	600	.390"		
702/3	S	694/3	SO	250'	3	18	16/30	7	600	.435"		
702/4	S	694/4	SO	250'	4	18	16/30	7	600	.435"		
703	S	695	SO	250'	2	16	26/30	10	600	.410"		
703/3	S	695/3	SO	250'	3	16	26/30	10	600	.430"		
703/4	S	695/4	SO	250'	4	16	26/30	10	600	.485"		
704	S	696	SO	250'	2	14	41/30	15	600	.540"		
704/3	S	696/3	SO	250'	3	14	41/30	15	600	.560"		
704/4	S	696/4	SO	250'	4	14	41/30	15	600	.605"		
705	S	697	SO	250'	2	12	65/30	20	600	.605"		
705/3	S	697/3	SO	250'	3	12	65/30	20	600	.635"		
705/4	S	697/4	SO	250'	4	12	65/30	20	600	.665"		
706	S	698	SO	250'	2	10	103/30	25	600	.640"		
706/3	S	698/3	SO	250'	3	10	103/30	25	600	.690"		
706/4	S	698/4	SO	250'	4	10	103/30	25	600	.745"		

**Additional Conductors Available** \*701/3 has tinned copper wire  
**CONDUCTOR COLOR CODE:** 1—White, 2—Black, 3—Green, 4—Red

## SERVICE CORD PER MIL-C-3432C SPEC WITH CERTIFICATION — INSPECTION AVAILABLE

Cat. No.	Mil Type	Spec. Designation	Conds.	Avg. Size	Spec. No.	Nom. O.D.
M-218	CO-02	MGF	2	18	MIL-C-3432C	.300"
M-216	CO-02	MGF	2	16	MIL-C-3432C	.338"
M-214	CO-02	MGF	2	14	MIL-C-3432C	.400"
M-318	CO-03	MGF	3	18	MIL-C-3432C	.330"
M-316	CO-03	MGF	3	16	MIL-C-3432C	.375"

**ADDITIONAL NUMBERS AVAILABLE. — YOUR INQUIRIES INVITED**



## NEOPRENE JACKET — HEAVY DUTY

**DESCRIPTION:** Each conductor stranded tinned copper, color coded rubber insulation, cotton wrap, braided tinned copper shield, cotton wrap, tough black neoprene jacket overall.

**APPLICATIONS:** Shielded microphone and electronic power cable. Control circuits: Video and Audio inter-connecting cable. Broadcast and heavy studio use, and for ground support equipment related to guided missile systems.

**CHARACTERISTICS:** Oil and acid resistant. Suitable for outdoor use and direct burial. Will resist aging and rough usage. Neoprene jacket.

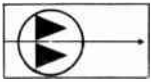
No.	Cond.	Size No.	Strand.	Wall Thick.	Nom. Jacket	Nom. O.D.
1781	500'	1	18 41/34	.040"	.030"	.250"
1782	500'	2	18 41/34	.020"	.035"	.305"
1783	500'	3	18 41/34	.020"	.035"	.325"
1784	500'	4	18 41/34	.020"	.035"	.335"
1786	500'	6	18 41/34	.020"	.035"	.430"

**MICROPHONE CABLE COLOR CODE CHART:** 1-Black, 2-White, 3-Red, 4-Green, 5-Yellow, 6-Blue, 7-Brown, 8-Orange.

**STANDARD PUT-UPS:** 100' — 250' — 500' — 1000'



COMPANY INC. FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.



# RETRACTILE CORDS

This series of Birnbach Coiled Kinkless Retractable Cords are permanently coiled into a spring-like shape without the use of metal springs or elastic bands. They have inherent "Recovery" properties. These Retractable cords extend approximately six times its retracted length, returning to its original shape and length when released. Always as long as you need them and no longer, they will not kink, tangle, trail, knot or dangle on the floor or bench and cause accidents. Useful wherever cords or cables must change length or position.

## RETRACTILE TEST LEAD WIRE

Stretch coiled kinkless test lead wire description. 12" coil—stretches to approx. 6 feet. One conductor #20 stranded copper rubber insulation .165 O.D. Coil O.D. 3/4". 6" straight lead on each end.

Colors: Red, Black

Cat. No.	Retracted Length	Approx. Extended Length	Pkgs. Std.
64	12"	Retracted - Approx. 6'	Extended 6
65	24"	Retracted - Approx. 12'	Extended 6



## BIRNBACH MINIATURE RETRACTILE CORD

This small size is suitable where compact equipment is required. 2 ft. retracted, approximately 10 ft. extended with 6" straight ends. Black plastic jacket overall.

Nom. Cond. resistance: .07 OHMS per linear foot (approx. .6 OHMS per retracted ft.)  
Maximum working voltage: 100; current capacity 1/2 amp.

Cat. No.	Cond.	Size AWG	Strand	Coil O.D.	Cond. O.D.	Std. Pkg.
875/28	2	28	19/40TC	1/2"	.135	10
877/28	4	28	19/40TC	1/2"	.150	10

CONDUCTOR COLOR CODE: 1-Black, 2-White, 3-Red, 4-Green. For 3 conductors, use 4 cond. and cut one dead.



## RETRACTILE COILED COMMUNICATION CORD

Multi-conductors stranded communication cord No. 23 AWG. Tinned copper wire neoprene or Geon plastic jacketed. Long lengths can be cut to exact requirement. Adds product reliability. Useful wherever cords must change length or position. Nom. cond. resistance .022 ohms per linear foot. .185 ohms per retracted foot. Maximum working voltage 120 volts. Current carrying capacity 1 ampere.

Cat. No.	Retracted Length	Approx. Extended Length	Size AWG	Strand	Coil O.D.	Nom. O.D.	Cat. No.	Retracted Length	Approx. Extended Length	Size AWG	Strand	Coil O.D.	Nom. O.D.	
875-2	24"	12 Ft.	2	23	21/36	3/8"	878/6-2	24"	12 Ft.	6	23	21/36	1 1/8"	.305"
875	36"	18 Ft.	2	23	21/36	3/8"	878/6	36"	18 Ft.	6	23	21/36	1 1/8"	.305"
875-4	48"	25 Ft.	2	23	21/36	3/8"	878/6-4	48"	25 Ft.	6	23	21/36	1 1/8"	.305"
876-2	24"	12 Ft.	3	23	21/36	3/8"	878/7-2	24"	12 Ft.	7	23	21/36	1 1/8"	.320"
876	36"	18 Ft.	3	23	21/36	3/8"	878/7	36"	18 Ft.	7	23	21/36	1 1/8"	.320"
876-4	48"	25 Ft.	3	23	21/36	3/8"	878/7-4	48"	25 Ft.	7	23	21/36	1 1/8"	.320"
877-2	24"	12 Ft.	4	23	21/36	13/16"	878/8	48"	25 Ft.	8	23	21/36	1 3/8"	.360"
877	36"	18 Ft.	4	23	21/36	13/16"	878/10	48"	25 Ft.	10	23	21/36	1 3/8"	.380"
877-4	48"	25 Ft.	4	23	21/36	13/16"	878/12	48"	25 Ft.	12	23	21/36	1 3/8"	.410"
878-2	24"	12 Ft.	5	23	21/36	1"	878/15	48"	25 Ft.	15	23	21/36	1 3/8"	.470"
878	36"	18 Ft.	5	23	21/36	1"	878/37	48"	25 Ft.	37	23	21/36	2 1/2"	.680"
878-4	48"	25 Ft.	5	23	21/36	1"								

CONDUCTOR COLOR CODING: 1-Black, 2-White, 3-Red, 4-Green, 5-Blue, 6-Yellow, 7-Brown, 8-Orange, 9-White/Black Tracer, 10-White/Red Tracer, 11-White/Green Tracer, 12-White/Blue Tracer, 13-White/Yellow Tracer, 14-White/Brown Tracer, 15-White/Orange Tracer. Also available in retracted lengths of 12", 24" and 48".



## RETRACTILE (KINKLESS) COILED SHIELDED COMMUNICATION CORDS

DESCRIPTION: Single and multi-conductor shielded microphone cable neoprene or geon plastic jacketed. This cable remains neat and compact with no danger of tripping or of the wire becoming entangled in equipment. Also suitable for stereo and additional speaker extensions. Shield can be pigtailed for soldering. No. 24 AWG Str. is 41 40 tinned soft cad. copper. No. 23 has 21/36 tinned soft cad. copper. Spiral wrapped tinned soft copper shielding.

Cat. No.	Retr. Length	Approx. Extended Length	Cond.	Size AWG	Coil O.D.	Nom. O.D.	Maximum Working Voltage	Capacitance MMF Lin. Ft.	MMF Retr. Ft.	Std. Pkg.
895	48"	25 Ft.	1	No. 24 Shielded	5/8"	.160"	75	56	440	10
895A	12"	6 Ft.	1	No. 24 Shielded	5/8"	.160"	75	56	440	10
895B	6"	3 Ft.	1	No. 24 Shielded	5/8"	.160"	75	56	440	10
896	48"	25 Ft.	2	1-No. 23 1-No. 24 Shielded	3/8"	.200"	+23-120 +24-75	56	450	10
896A	12"	6 Ft.	2	1-No. 23 1-No. 24 Shielded	3/8"	.200"	+23-120 +24-75	56	450	10
897	48"	25 Ft.	3	2-No. 23 1-No. 24 Shielded	3/8"	.240"	+23-120 +24-75	56	450	10
897A	12"	6 Ft.	3	2-No. 23 1-No. 24 Shielded	3/8"	.240"	+23-120 +24-75	56	450	10
899	48"	25 Ft.	2	2-No. 24 Shielded	3/8"	.210"	75	56	450	10
899A	12"	6 Ft.	2	2-No. 24 Shielded	3/8"	.210"	75	56	450	10
898	48"	25 Ft.	4	2-No. 23 2-No. 24 Shielded	1"	.270"	+23-120 +24-75	56	460	10
898A	12"	6 Ft.	4	2-No. 23 2-No. 24 Shielded	1"	.270"	+23-120 +24-75	56	460	10

Additional conductors and sizes available. CONDUCTORS ARE COLOR CODED.



## RETRACTILE COMMUNICATION CORDS PREPARED FOR EASY INSTALLATION AND REPLACEMENT RETRACTED LENGTH 12" — EXTENDED LENGTH 6 FEET

DESCRIPTION: Same as communication cords except each end is prepared as indicated.

Cat. No.	Cond.	Size AWG	Nom. Coil Cord O.D.	Nom. Cord O.D.	Preparation
883	3	23-21/36	3/8"	.220"	1 end: total length 1 1/2". Conductors stripped and tinned. Other end: total length 1 1/2" jacket removed.
884	4	23-21/36	3/8"	.250"	1 end: total length 1". Conductors stripped and tinned. Other end: total length 1 1/2" jacket removed.
885	5	23-21/36	1/2"	.285"	1 end: total length 4 1/2". Conductors stripped and tinned. Other end: total length 4 1/2" conductors stripped and tinned.

## RETRACTILE (KINKLESS) POWER CORD SETS

Excellent for portable use. All mobile equipment and office equipment wherever the device application is synonymous with repetitive movement. The "Answer" to most tough hazard problems. 2 and 3 conductors SVO and SJO Retractable Kinkless Neoprene Service Cord Sets with Molded Male Plug one end, other end stripped for application. Adds reliability, compactness and portability.

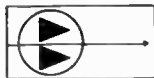
Cat. No.	Retracted Length	Ext. Length	Size Cond. AWG	UL Type	Strand	Coil O.D.
880	18"	9 Ft.	2 18	SVO	41/34	1"
880/3	18"	9 Ft.	3 18	SVO	41/34	1 1/8"
881	18"	9 Ft.	2 18	SJO	41/34	1 1/4"
881/3	18"	9 Ft.	3 18	SJO	41/34	1 1/2"
882	18"	9 Ft.	2 16	SJO	65/34	1 1/2"
882/3	18"	9 Ft.	3 16	SJO	65/34	1 3/4"

CONDUCTOR COLOR CODING: 1-Black, 2-White, 3-Green.



# BIRNBACH

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## CORD SETS

**SERVICE LINE CORDS**  
**UL Approved**

An all purpose approved power supply cord for radios, record players, lamps, & small appliances.

**DESCRIPTION:** Two Conductors Rubber Parallel SP-1 (POSJ) with Molded-on Male Plug, double brass blades, conductor end striped and tinned, hanked. Available in Black and Brown.

Cat. No.	Length Ft.	Cond.	Size AWG	Strand	Nom. O.D.
1-816	6	2	18	41/34	.130x.235
1-817	7½	2	18	41/34	.130x.235
1-819	10	2	18	41/34	.130x.235
1-820	12	2	18	41/34	.130x.235
1-821	15	2	18	41/34	.130x.235
1-822	20	2	18	41/34	.130x.235


**HEAVY DUTY SERVICE CORD**
**CSA APPROVED — (HEAVY DUTY) — UL APPROVED**

Used for heavy duty replacement on refrigerators, washing machines, machinery, tools and electronic devices.

**DESCRIPTION:** Two and Three Conductors, Stranded Bare Copper, cotton serve, rubber insulation, jute filler, cotton wrap, tough rubber jacket overall, molded plug one end, free end stripped and tinned for easy attachment — Hankd.

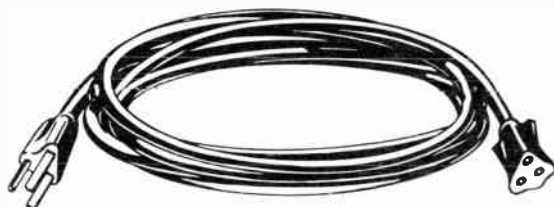
Cat. No.	Length Ft.	Cond.	Size AWG	UL Type	Strand	D.D.
1-301	6	2	18	SV	41/34	.250
1-309	9	2	18	SV	41/34	.250
1-312	12	2	18	SV	41/34	.250
1-304	20	2	18	SV	41/34	.250
1-309/3	9	3	18	SV	41/34	.265
1-306	8	2	18	SJ	16/30	.300
1-307	10	2	18	SJ	16/30	.300
1-308	12	2	18	SJ	16/30	.300
1-347	8	3	18	SJ	16/30	.330
1-310	10	3	18	SJ	16/30	.330
1-311	12	3	18	SJ	16/30	.330
1-348	8	2	16	SJ	26/30	.325
1-313	10	2	16	SJ	26/30	.325
1-314	12	2	16	SJ	26/30	.325
1-346	8	3	16	SJ	26/30	.355
1-316	10	3	16	SJ	26/30	.355
1-317	12	3	16	SJ	26/30	.355


**HEAVY DUTY EXTENSION CORD SETS**  
**(UL & CSA APPROVED)**

**DESCRIPTION:** Extension cord sets manufactured for lasting service with a flexible 2 or 3 conductor quality black rubber cord. This rugged cord has a black molded plastic male and female plug on either end to fit conventional sockets and plugs.

**APPLICATION:** Small business machines, vacuum cleaners, lamps, movie projectors, or any other home appliance. 3 conductor cord used when 1 conductor requires grounding.

Cat. No.	Length Ft.	Cond.	Size AWG	UL Type	Strand	O.D.
1-401	6	2	18	SV	41/34	.250
1-402	9	2	18	SV	41/34	.250
1-403	10	2	18	SJ	16/30	.300
1-404	25	2	18	SJ	16/30	.300
1-405	50	2	18	SJ	16/30	.300
1-406	10	2	16	SJ	26/30	.330
1-407	25	2	16	SJ	26/30	.330
1-408	50	2	16	SJ	26/30	.330
1-409	100	2	16	SJ	26/30	.330
1-410	15	3	18	SJ	16/30	.330
1-411	25	3	18	SJ	16/30	.330
1-412	50	3	18	SJ	16/30	.330
1-413	15	3	16	SJ	26/30	.360
1-414	25	3	16	SJ	26/30	.360
1-415	50	3	16	SJ	26/30	.360
1-416	100	3	16	SJ	26/30	.360


**TV POWER SUPPLY CORD—UL APPROVED**

Used extensively as replacement of damaged or worn out TV cords.

**DESCRIPTION:** Six Foot Rip Strip TV U.L. Approved Safety Cord. 2-cond. No. 18 SP-1 (POSJ) brown rubber cord with molded male plug and TV molded-on connector on other end.

Cat. No. 1-815      Television Power Supply Cord      6 Feet


**BIRNBACH**

COMPANY INC.

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 COMPLETE LINES, WRITE FOR  
 NEW CATALOG.

23



### DURAFOAM UHF/VHF TELEVISION TRANSMISSION LINE\*

Over 25,000,000 Feet Already in Use



Durafoam quality is so high that we can offer an unconditional 15 year guarantee. Its high reliability construction features two tubes of cellular polyethylene, to assure low signal loss, and a heavy black polyethylene Permaline insulation, to offer the maximum protection against deterioration caused by moisture, chemicals, salts and sunlight.

Durafoam is also extremely easy to install, cutting down the amount of time required to reach job.

Cat. No.	
5790L	50 ft.
5790S	65 ft.
5790C	100 ft.
5790D	500 ft.
5790M	1000 ft.

\* U. S. Pat. #3,219,752

### COLUMBIA SHIELDED PERMAFOAM TELEVISION TRANSMISSION LINE

- Less Termination Time Due to Low Loss Individual Cellular Polyethylene Tubes.
- High Molecular Weight PERMALINE Jacket for Superior Weathering.
- No Standoff Insulators or Matching Transformers Necessary.
- Aluminum Mylar Shield for 100% Effective Coverage. Tinned Copper Ground Wire Attaches to Set.
- High Strength Copper Plated Steel Conductors for Maximum Conductivity.
- All Coils have Factory Attached Terminals for Fast Positive Antenna Connection **Plus 2 Extra Terminals for Set Attachment.**

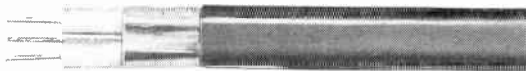
A New All Channel Transmission Line Designed to prevent line pickup interference. Our time proven PERMALINE outer jacket permits taping cable to antenna mast or running through gutters without affecting efficiency of line. For the best in Shielded Transmission Lines insist on Columbia Shielded Permafoam.

CABLE SIZE .275 x .455

Nominal velocity of propagation 76.5%

Nominal capacitance 6.8 MMF Ft.

Attenuation DB per 100'



50 MC	.....	2.00 DB
100 MC	.....	2.80 DB
200 MC	.....	4.10 DB
400 MC	.....	5.90 DB
675 MC	.....	7.50 DB

Available in 50 ft. and 100 ft. coils with factory attached terminals for antenna attachment plus 2 terminals for set attachment. Also available in continuous 500 ft. spools and 1,000 ft. reels.

### PERMAFOAM LOW LOSS COAXIAL CABLES

PERMAFOAM is a new type of coaxial cable for television systems, communication work, and all other co-ax applications. A foam polyethylene dielectric replaces the conventional solid polyethylene thus providing far lower capacity and attenuation. In fact, attenuation is approximately 25% lower than standard coaxial cables of same type. Overall jacket is our PERMALINE high molecular weight polyethylene. This non-contaminating jacket is unaffected by salt air, chemical fumes, damp rot, fungus, acids, alkalis, etc., and is remarkably resistant to all extreme weather conditions. Moisture resistance is so high that this insulation is now used on submarine cables. Will withstand severe temperature extremes and is immune to the deteriorating effects of sunlight and other ultra violet. Note: In addition to the PERMAFOAM cables listed below, any other RG U cable is available with a foam polyethylene dielectric on special order.

### PERMAFOAM 72-75 OHM COAXIAL CABLE



R.G. No.	Nom. Imp.	Attenuation 100 Ft.	Wire Size	Weld	O.D.	Spool Size	Cat. No.
RG 59 U	73	2.95 DB.	22 Cpwld.	.240	500 Ft.	5035D	
					1000 Ft.	5035M	
RG 11 U	75	1.50 DB.	14 Solid	.405	500 Ft.	5025D	
					1000 Ft.	5025M	

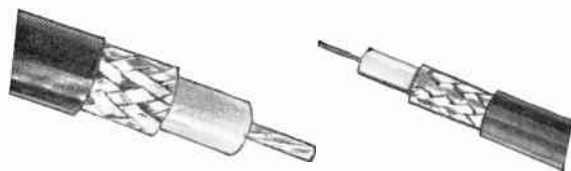
### PERMAFOAM 52-53 OHM COAXIAL CABLE



R.G. No.	Nom. Imp.	Attenuation 100 Ft.	Wire Size	O.D.	Spool Size	Cat. No.
RG 58 U	53	3.10 DB.	20 Solid	.195	100 Ft.	5045C
					500 Ft.	5045D
					1000 Ft.	5045M
RG 8 U	52	1.50 DB.	7/21	.405	100 Ft.	5015C
					500 Ft.	5015D
					1000 Ft.	5015M
RG 17 U	52	.712 DB.	5 Solid	.870	100 Ft.	5090C
					500 Ft.	5090D
					1000 Ft.	5090M

### COLUMBIA STANDARD COAXIAL CABLES

Premium quality standard coaxial cable. Meets all specifications. Black vinyl jacket.



R.G. No.	Nom. Imp.	Nom. Mmfd. Ft.	Wire Size	Overall Jacket	Spool Size	Cat. No.
RG 59 U	73.0	21.0	22 C Weld	Black Vinyl .240 O.D.	100 Ft.	1104C
					500 Ft.	1104D
					1000 Ft.	1104M
RG 8 U	52.0	29.5	7/21	Black Vinyl .405 O.D.	100 Ft.	1154C
					500 Ft.	1154D
					1000 Ft.	1154M
RG 11 U	75.0	20.5	7/26	Black Vinyl .405 O.D.	100 Ft.	1160C
					500 Ft.	1160D
					1000 Ft.	1160M
RG 58 U	53.5	28.5	20 Ga.	Black Vinyl .195 O.D.	100 Ft.	1166C
					500 Ft.	1166D
					1000 Ft.	1166M
RG 58 A/U	50.0	29.0	19/.0068	Black Vinyl .159 O.D.	100 Ft.	1178C
					500 Ft.	1178D
					1000 Ft.	1178M

Long Lengths of Any Co-ax Available Upon Request

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### FLEXFOAM ULTRA LOW CAPACITANCE MICROPHONE CABLES — EXCLUSIVE WITH COLUMBIA

Another Columbia first is a complete line of microphone cables with capacity as much as 35% lower than the best regular microphone cables available today. This drastic lowering of capacity has been made possible by the use of foamed polyethylene as the inner dielectric instead of solid polyethylene as normally used. This low capacitance means that lengths of microphone cable can be increased as much as 50%. These cables are also ideal for Hi-Fi and high quality sound work because of the extremely low attenuation, particularly at the higher audio-frequencies. The use of a special flexible vinyl as an outer jacket provides flexibility practically as good as rubber yet has much greater abrasion resistance. Color—Grey.



Also available in high glass gleaming white jackets.

### FLEXFOAM MIKE CABLE WITH BRAIDED SHIELD

	Per Ft.	250 Ft. Spool	Net	500 Ft. Spool
Crystal Size (.190" O.D.)	16 MMF	No. 1399T	11.90	1399D
Lapel Size (.140" O.D.)	19 MMF	No. 1379T	9.02	1379D

### FLEXFOAM MIKE CABLE WITH SPIRAL SHIELD

	Per Ft.	250 Ft. Spool	Net	500 Ft. Spool
Crystal Size (.190" O.D.)	16 MMF	No. 1389T	11.07	1389D
Lapel Size (.140" O.D.)	19 MMF	No. 1369T	8.29	1369D
Miniature (.085" O.D.)	35 MMF	No. 1359T	6.11	1359D

### TWO CONDUCTOR PLASTIC MICROPHONE CABLE — .230 O.D. T/C BRAID SHIELD

250 Ft. Spool	22 Ga.	16/34 Stranding	1322T
500 Ft. Spool	22 Ga.	16/34 Stranding	1322D

Nominal Capacitance 30 MMF Per Ft. Between 1 Cand. and Remaining Cand. Connected to Shield

### ECONOMY SPIRAL SHIELDED MICROPHONE CABLES

Plastic insulated with wrapped concentric spiral shield for more effective shielding. Cables are more flexible and of smaller size.



### CRYSTAL MICROPHONE CABLE .160 O.D.

25 Ga. 7 x 33 Str.

CAT. NO.			
1314T	250 Ft. Spool	Nominal Cap.	25 MMF Per Ft.
1314D	500 Ft. Spool	Nominal Cap.	25 MMF Per Ft.

### LAPEL MICROPHONE CABLE .125 O.D.

25 Ga. 7 x 33 Str.

1366T	250 Ft. Spool	Nominal Cap.	33 MMF Per Ft.
1366M	250 Ft. Spool	Nominal Cap.	33 MMF Per Ft.

### HEAVY DUTY MICROPHONE CABLE



Heavy duty studio type plastic insulated microphone cable that will withstand abrasion and rough usage.

18 Ga. Str. 41 x 34 Tinned Copper Conductors.

Jute Fillers T/C Shield  
.295 O.D.

		CAT. NO.
100 Ft. Spool	Color—Black	3302C
500 Ft. Spool	Color—Black	3302D

Nominal Capacitance 75 MMF. Per Ft.

Also available with bright red jackets for easy identification.

### COLUMBIA SUPER-FLEX ULTRA FLEXIBLE FOAM COAXIAL CABLES

We believe Super-Flex Coaxial Cables are the finest available today — not only because of their appearance and flexibility, but because they actually out-perform any similar type of coaxial cable in use today. Cables feature High Gloss Non Contaminating Jackets and have a primary insulation of foam Polyethylene to reduce attenuation as much as 25% over regular types of coaxial cables. In addition to the above features Super-Flex Coaxial Cables will not become rigid in severe cold. Can be used with standard connectors. Ideal for citizens band and amateur use. Perfect for master television systems due to the wide range of colors available. Standard stock colors are: Black-White-Silver or Beige. Other colors to special order with a minimum of 5000 ft. of a color.



### SUPER-FLEX RG 8/U 52 OHM IMPEDANCE

19/.020 Conductor. Insulation Foam Poly Dielectric

Cat. No.

1198C	100 Ft.	RG 8/U	Super-Flex	.405 O.D.
1198D	500 Ft.	RG 8/U	Super-Flex	.405 O.D.
1198M	1000 Ft.	RG 8/U	Super-Flex	.405 O.D.

Cap. 22.1 MMFD Per Ft.

Attenuation 1.50 DB Per 100 Ft. at 100 MC.



### SUPER-FLEX RG 58 A/U 50 OHM IMPEDANCE

19/.0068 Conductor. Insulation Foam Poly Dielectric

1188C	100 Ft.	RG 58 A/U	Super-Flex	.195 O.D.
1188D	500 Ft.	RG 58 A/U	Super-Flex	.195 O.D.
1188M	1000 Ft.	RG 58 A/U	Super-Flex	.195 O.D.

Cap. 22.9 MMFD Per Ft.

Attenuation 4.25 DB Per 100 Ft. at 100 MC.



### SUPER-FLEX RG 59/U 73 OHM IMPEDANCE

22 Solid Copperweld Conductor. Insulation Foam Poly Dielectric

1135C	100 Ft.	RG 59/U	Super-Flex	.242 O.D.
1135D	500 Ft.	RG 59/U	Super-Flex	.242 O.D.
1135M	1000 Ft.	RG 59/U	Super-Flex	.242 O.D.

Cap. 16.6 MMFD Ft.

Attenuation 2.95 DB Per 100 Ft. at 100 MC

Super-Flex RG 59/U is also available with a 7/31 stranded conductor to provide still more flexibility. Center conductor can be used only with Pin Type Fittings such as used to plug into wall plates for Master Television Systems.

### HEAVY DUTY INTERCOM CABLES

For applications requiring larger copper conductors we have added to our already complete line of sound and intercom cables the following cables with 18 ga. stranded conductors to provide good flexibility. Insulation over conductors is 300 volt color coded vinyl for easy identification of pairs. Durable abrasion resistant gray vinyl jacket overall. Standard intercom color coding of pairs.



### 18 GA. STRANDED INTERCOM CABLES

Cat. No.			
6103C	100 Ft.	3 Pair Cable	.365 O.D.
6103D	500 Ft.	3 Pair Cable	.365 O.D.
6103M	1000 Ft.	3 Pair Cable	.365 O.D.
6106C	100 Ft.	6 Pair Cable	.560 O.D.
6106D	500 Ft.	6 Pair Cable	.560 O.D.
6106M	1000 Ft.	6 Pair Cable	.560 O.D.
6109C	100 Ft.	9 Pair Cable	.650 O.D.
6109D	500 Ft.	9 Pair Cable	.650 O.D.
6109M	1000 Ft.	9 Pair Cable	.650 O.D.
6115C	100 Ft.	15 Pair Cable	.875 O.D.
6115D	500 Ft.	15 Pair Cable	.875 O.D.
6115M	1000 Ft.	15 Pair Cable	.875 O.D.

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**SECTION 6000**  
**CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS**  
 SEND FOR COMPLETE CATALOG

**RG TYPE COAXIAL CABLES**



Non-Contaminating Low Temp. Black Jacket		Vinyl & Poly. Jackets		Armor O.D.	Jacket O.D.	Vinyl Jacket	Shields		Dielectric O.D.	Center Conductor	V.P. %	Cap. Mmfd./Ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms
Number RG-/U	Cat. Number	No. RG/U	Cat. No.				Outer	Inner						
		5	4431		.332	Black	C	C	.185	16	65.9	28.5	3000	52.5
5B	4432				.332	Black	S	S	.185	.053S	65.9	29.5	3000	50
6A	4433				.332	Black	C	S	.185	21CW	65.9	20.	2700	75
		7	4434		.370	Black	—	C	.250**	19	84	12.5	1000	97
		8	4415		.405	Black	—	C	.285	7/21	65.9	29.5	4000	52
8A	4435				.405	Black	—	C	.285	7/.0296	65.9	30.5	4000	52
		9	4436		.420	Grey	C	S	.280	7/21S	65.9	30	4000	51
9A	4437				.420	Grey	S	S	.280	7/21S	65.9	30	4000	51
9B	4438				.425	Black	S	S	.285	7/.0296S	65.9	30.5	4000	50
10A	4439			.475	.405	Black	—	C	.285	7/.0296	65.9	30.5	4000	50
		11	4419		.405	Black	—	C	.285	7/26T	65.9	20.5	4000	75
11A	4440				.405	Black	—	C	.285	7/26T	65.9	20.5	4000	75
12A	4441			.475	.405	Black	—	C	.285	7/26T	65.9	20.5	4000	75
		13	4442		.425	Black	C	C	.285	7/26T	65.9	20.5	4000	75
13A	4443				.425	Black	C	C	.285	7/26T	65.9	20.5	4000	75
14A	4467				.545	Grey	C	C	.370	10	65.9	29.5	5500	52
14A	4468				.545	Black	C	C	.370	.106	65.9	30	5500	52
17A	4482				.870	Black	—	C	.680	.188C	65.9	29.5	11000	52
18A	4483			.945	.870	Black	—	C	.680	.188C	65.9	29.5	11000	52
		21	4444		.322	Grey	S	S	.185	16N	65.9	29	2700	53
21A	4445				.332	Black	S	S	.185	.053N	65.9	30	2700	50
		22	4471		.405	Black	—	T	.285	Two 7/.0152	65.9	16	1000	95
22B	4475				.420	Black	T	T	.285	Two 7/.0152	65.9	16	1000	95
		29	4446		.184	Poly	—	T	.116	20	65.9	28.5	1900	53.5
		54A	4469		.250	Poly	—	T	.178	7/.0152	65.9	26.5	3000	58
		55	4447		.206	Poly	T	T	.116	20	65.9	28.5	1900	53.5
55A	4448				.216	Black	S	S	.116	.035S	65.9	29.5	1900	50
55B	4484				.206	Black	T	T	.116	20S	65.9	28.5	1900	53.5
		58	4405		.195	Black	—	T	.116	20	65.9	28.5	1900	53.5
58A	4449				.195	Black	—	T	.116	19/.0071T	65.9	29.5	1900	50
58B	4474				.195	Black	—	T	.116	20	65.9	28.5	1900	53.5
58C	4450				.195	Black	—	T	.116	19/.0071T	65.9	29.5	1900	50
		59	4401		.242	Black	—	C	.146	22CW	65.9	21	2300	73
		59	4402		.242	Grey	—	C	.146	22CW	65.9	21	2300	73
59A	4451				.242	Black	—	C	.146	.023CW	65.9	20.5	2300	75
59B	4470				.242	Black	—	C	.146	.023CW	65.9	20.5	2300	75
		62	4452		.242	Black	—	C	.146**	22CW	84	13.5	750	93
62A	4453				.242	Black	—	C	.146**	22CW	84	13.5	750	93
62B	4472				.242	Black	—	C	.146	22CW	84	13.5	750	93
		63	4454		.405	Black	—	C	.285**	22CW	84	10	1000	125
63B	4455				.405	Black	—	C	.285**	22CW	84	10	1000	125
65A	4473				.405	Black	—	C	.340	32F	65	44	3000	950
		71	4456		.250	Poly	T	T or C	.146**	22CW	84	13.5	750	93
71A	4466				.245	Black	T	T or C	.146**	22CW	84	13.5	750	93
71B	4485				.250	Black	T	C	.146	22CW	84	13.5	750	93
74A	4486			.615	.545	Black	C	C	.370	10C	65.9	29.5	7000	52
79B	4487			.475	.405	Black	—	C	.285	22CW	84	10	1000	125
		108	4464		.235	Black	—	T	.079 ea.	Two 7/28T	68	23.5	1000	78
108A	4465				.235	Black	—	T	.079 ea.	Two 7/28T	65.9	23.5	1000	78
122	4457				.160	Black	—	T	.096	27/36T	65.9	29.5	1900	50
212	4488				.332	Black	S	S	.185	.0556S	65.9	29.5	3000	50
213	4489				.405	Black	—	C	.285	7X.0296C	65.9	29.5	5000	50
214	4490				.425	Black	S	S	.285	7X.0296C	65.9	29.5	5000	50
215	4497				.475	Black	—	C	.285	7/.029C	65.9	29.5	4000	50
216	4491				.425	Black	C	C	.285	7X26TC	65.9	20.5	5000	75
217	4492				.545	Black	C	C	.370	.106C	65.9	29.5	7000	50
218	4493				.870	Black	—	C	.680	.195C	65.9	29.5	11000	50
219	4494			.945	.870	Black	—	C	.680	.195C	65.9	29.5	11000	50
222	4495				.332	Black	S	S	.185	.0556N	65.9	29.0	2700	50
223	4496				.216	Black	S	S	.116	.035S	65.9	29.5	1900	50

\*\*Semi-Solid Dielectric    N—Nichrome    C—Copper    S—Silvered Copper    CW—Copperweld    T—Tinned Copper    F—Formvar



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RG TYPE COAXIAL CABLES



MINIATURE COAXIAL CABLE

Non-Contaminating Low Temp. Black Jacket		Vinyl & Poly. Jackets		Armor O.D.	Jacket O.D.	Vinyl Jacket	Shields		Dielectric O.D.	Center Conductor	V.P. %	Cap. Mmfd./Ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms
Number RG/U	Cat. Number	Cat. No.	No. RG/U				Outer	Inner						
		4459	174		.105	Black	—		.060**	7/.0063CW		30		50

\*\*Semi-Solid Dielectric    N—Nichrome    C—Copper    S—Silvered Copper    CW—Copperweld    T—Tinned Copper    F—Formvar

FOAM POLYETHYLENE COAXIAL CABLE

		8	4477		.405	Black	—	C	.285	7/19C	80	24.5	1500	50
11	4476				.405	Black	—	C	.285	14C	80	16.5	3000	75
		58	4498		.195	Black	—	T	.116	20C	80	28.5	1900	53.5
		59	4478		.195	Black	—	C	.107	22CW	80	17	500	72
62	4479				.242	Black	—	C	.146	.023CW	80	14.5	700	93
11	4480				.406	Black	C	C	.285	14C	80	16.5	3000	75
59	4481				.242	Black	C	C	.107	.107	80	17	500	72

\*\*Semi-Solid Dielectric    N—Nichrome    C—Copper    S—Silvered Copper    CW—Copperweld    T—Tinned Copper    F—Formvar

TRIAxIAL CABLE DOUBLE SHIELD DOUBLE JACKET

RG/U Type	Cat. No.	Impedance In Ohms	Jacket Diameter	Vinyl Jacket	Shields		O. D. Dielectric	Inner Conductor	V. P. %	Cap. MMFD/Ft.	Max. Oper. Volts-RMS
					1st	2nd					
Triaxial 58A	4463	50	.285	Black	T	T	.116	19 .0071T	65.9	28.5	1,900
Triaxial 59	4460	73	.242	Black	C	C	.146	22CW	65.9	21.0	2,300
Triaxial 11	4461	75	.460	Black	C	C	.285	7 26T	65.9	20.5	4,000
Triaxial 8	4462	52	.490	Black	C	C	.285	7 21C	65.9	29.5	4,000

\*\*Semi-Solid Dielectric    N—Nichrome    C—Copper    S—Silvered Copper    CW—Copperweld    T—Tinned Copper    F—Formvar

TEFLON COAXIAL CABLE

Number RG/U	Cat. Number	Inner Conductor	Dielectric Material	Nominal Diameter of Dielectric (inch)	Type of Shielding Braids	Protective Covering	Nominal Over-all Diameter (inch)	Nominal Capacitance (mmfd./ft.)	Maximum Operating Voltage (Volts rms)	Nominal Impedance (Ohms)
87A	4701	7/.032 Silver Covered Copper	F-1	.280	Silver Coated Copper Double Braid	V	.425	29.5	5000	50
94	4702	19/.0225 Silver Covered Copper	F-2	.292	Copper Double Braid	V	.445	29.0	7000	50
94A	4703	19/.0254 Silver Plated Copper	F-2	.370	Copper Double Braid	V	.500	27.0	7000	50
115	4704	7/.028 Silver Covered Copper	F-2	.250	Silver Coated Copper Double Braid	V	.375	29.5	5000	50
115A	4705	7/.028 Silver Covered Copper	F-2	.255	Silver Coated Copper Double Braid	V	.415	29.5	4000	50
116	4706	7/.032 Silver Covered Copper	F-1	.280	Silver Coated Copper Double Braid	V with armor	.490	29.5	5000	50
117	4707	.188 Copper	F-1	.620	Copper Single Braid	V	.730	29.0	7000	50
117A	4708	.188 Copper	F-1	.620	Copper Single Braid	V	.730	—	7000	50
118	4709	.188 Copper	F-1	.620	Copper Single Braid	V with armor	.795	29.0	7000	50
118A	4710	.188 Copper	F-1	.620	Copper Single Braid	V with armor	.780	—	7000	50
119	4711	.102 Copper	F-1	.332	Copper Double Braid	V	.465	29.0	6000	50
120	4712	.102 Copper	F-1	.332	Copper Double Braid	V with armor	.525	29.0	6000	50
126	4713	7/.0203 Karma or Equal	F-1	.185	Karma or Equal Single Braid	V	.280	29.0	3000	50
140	4714	.025 Silver Coated Copper Steel	F-1	.146	Silver Coated Copper Single Braid	V	.233	21.0	2300	75
141	4715	.0359 Silver Plated Copper Weld	F-1	.116	Silver Coated Copper Single Braid	V	.190	28.5	1900	50
141A	4716	.039 Silver Covered Copper Steel	F-1	.116	Silver Coated Copper Single Braid	V	.190	28.5	1900	50
142	4717	.0359 Silver Covered Copper Steel	F-1	.116	Silver Coated Copper Double Braid	V	.206	28.5	1900	50
142A	4718	.039 Silver Covered Copper Steel	F-1	.116	Silver Coated Copper Double Braid	V	.206	28.5	1900	50

Continued on following page

- F-1—Solid Teflon    F-2—Taped Teflon    F-3—Air Spaced Teflon
- V—High Temperature Lacquer Impregnated Fiberglass Braid with Teflon Tape Between Shield and Jacket
- VI—Polyester Fiber Impregnated with High Temperature Lacquer over Wrapped or Extruded Silicone Impregnated Fiberglass
- IIA—Low Temperature Black Polyvinylchloride Non-Contaminating
- FEP—Fluorinated Ethylene Propylene Copolymer, 200° Teflon
- TFE—Tetrafluoride Ethylene Propylene Copolymer, 250° C Teflon



# CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS

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## TEFLON COAXIAL CABLE



Number RG/U	Cat. Number	Inner Conductor	Dielectric Material	Nominal Diameter of Dielectric (inch)	Type of Shielding Braids	Protective Covering	Nominal Over-all Diameter (inch)	Nominal Capacitance (mmfd./ft.)	Maximum Operating Voltage (Volts rms)	Nominal Impedance (Ohms)
142B	4719	.039 Silver Covered Copper Steel	F-1	.116	Silver Coated Copper Double Braid	FEP	.195	28.5	1900	50
143	4720	.057 Silver Plated Copper Weld	F-1	.185	Silver Coated Copper Double Braid	V	.325	28.5	3000	50
143A	4721	.059 Silver Covered Copper Steel	F-1	.185	Silver Coated Copper Double Braid	V	.325	28.5	3000	50
144	4722	7/.0179 Silver Covered Copper Steel	F-1	.285	Silver Coated Copper Single Braid	V	.410	20.5	5000	75
146	4723	.007 Copper Covered Steel	F-3	.285	Copper Single Braid	V	.375	6.0	1000	190
161	4724	7/38 Silver Plated Cadmium Bronze	F-1	.057	Single Silver Copper	Extruded Black Nylon	.090	20.0	1000	70
165	4725	7/.032 Silver Covered Copper	F-1	.285	Silver Covered Copper Single Braid	V	.410	—	5000	50
166	4726	7/.032 Silver Covered Copper	F-1	.285	Silver Covered Copper Single Braid	V with armor	.460	—	5000	50
17B	4727	7/.0039 Silver Plated Copper Weld	F-1	.036	Silver Plated Copper Single Braid	KEL-F	.079	27.9	1000	50
178A	4728	7/.004 Silver Covered Copper Steel	F-1	.034	Silver Plated Copper Single Braid	KEL-F	.075	27.9	1000	50
178B	4729	7/.004 Silver Covered Copper Steel	F-1	.034	Silver Covered Copper Single Braid	FEP	.075	—	1000	50
179A	4730	7/.004 Silver Covered Copper Steel	F-1	.063	Silver Plated Copper Single Braid	KEL-F	.105	20.0	1200	75
179B	4731	7/.004 Silver Covered Copper Steel	F-1	.063	Silver Covered Copper Single Braid	FEP	.105	—	1200	75
180	4732	7/.0039 Silver Plated Copper Weld	F-1	.103	Silver Plated Copper Single Braid	KEL-F	.141	15.3	1500	93
180A	4733	7/.004 Silver Covered Copper Steel	F-1	.102	Silver Plated Copper Single Braid	KEL-F	.145	14.5	1500	95
180B	4734	7/.004 Silver Covered Copper Steel	F-1	.102	Silver Covered Copper Single Braid	FEP	.145	—	1500	95
187	4735	7/.004 Silver Covered Copper Steel	F-1	.060	Silver Covered Copper Single Braid	teflon	.110	—	1200	75
187A	4736	7/.004 Silver Covered Copper Steel	F-1	.060	Silver Covered Copper Single Braid	TFE	.110	—	1200	75
18B	4737	7/.0067 Silver Covered Copper Steel	F-1	.060	Silver Covered Copper Single Braid	Teflon	.110	—	1200	50
188A	4738	7/.0067 Silver Covered Copper Steel	F-1	.060	Silver Covered Copper Single Braid	TFE	.110	—	1200	50
195	4739	7/.004 Silver Covered Copper Steel	F-1	.102	Silver Covered Copper Single Braid	Teflon	.155	—	1500	95
195A	4740	7/.004 Silver Covered Copper Steel	F-1	.102	Silver Covered Copper Single Braid	TFE	.155	—	1500	95
196	4741	7/.004 Silver Covered Copper Steel	F-1	.034	Silver Covered Copper Single Braid	Teflon	.080	—	1000	50
196A	4742	7/.004 Silver Covered Copper Steel	F-1	.034	Silver Covered Copper Single Braid	TFE	.080	—	1000	50
209	4743	19/.037 Silver Covered Copper	F-3	.500	Silver Covered Copper Double Braid	VI	.750	—	3200	50
210	4744	.0253 Silver Covered Copper Steel	F-3	.146	Silver Covered Copper Single Braid	V	.242	14.5	750	93
211	4745	.190 Copper	F-1	.620	Copper Single Braid	V	.730	—	7000	50
211A	4746	.190 Copper	F-1	.620	Copper Single Braid	V	.730	—	7000	50
225	4747	7/.0312 Silver Covered Copper	F-1	.285	Silver Covered Copper Double Braid	V	.430	—	5000	50
226	4748	19/.0254 Silver Covered Copper	F-2	.370	Copper Double Braid	V	.500	—	7000	50
227	4749	7/.0312 Silver Covered Copper	F-1	.285	Silver Covered Copper Double Braid	V with armor	.490	—	5000	50
228	4750	.190 Copper	F-1	.620	Copper Single Braid	V with armor	.795	—	7000	50
228A	4751	.190 Copper	F-1	.620	Copper Single Braid	V with armor	.795	—	7000	50
235	4752	7/.02B Copper	F-2	.255	Silver Covered Copper Double Braid	VI	.490	—	5000	50
280	4753	.1144 Copper	F-2	.327	Silver Covered Copper Double Braid	IIA	.480	27.5	4000	50
281	4754	19/.037B Silver Covered Copper	F-2	.500	Silver Covered Copper Double Braid	VI	.750	29.5	4000	50
301	4755	7/.0203 Karma	F-1	.185	Karma Single Braid	FEP	.245	29.0	3000	50
302	4756	.025 Silver Covered Copper Steel	F-1	.146	Silver Covered Copper Single Braid	FEP	.206	21.0	2300	75
303	4757	.039 Silver Covered Copper Steel	F-1	.116	Silver Covered Copper Single Braid	FEP	.170	28.5	1900	50
304	4758	.059 Silver Covered Copper Steel	F-1	.185	Silver Covered Copper Double Braid	FEP	.280	28.5	3000	50
316	4759	7/.0067 Silver Covered Copper Steel	F-1	.060	Silver Covered Copper Single Braid	FEP	.102	—	1200	50

F-1—Solid Teflon

F-2—Taped Teflon

F-3—Air Spaced Teflon

V—High Temperature Lacquer Impregnated Fiberglass Braid with Teflon Tape Between Shield and Jacket

VI—Polyester Fiber Impregnated with High Temperature Lacquer over Wrapped or Extruded Silicone Impregnated Fiberglass

IIA—Low Temperature Black Polyvinylchloride Non-Contaminating

FEP—Fluorinated Ethylene Propylene Copolymer, 200° Teflon

TFE—Tetrafluoride Ethylene Propylene Copolymer, 250°C Teflon

SEND FOR COMPLETE CATALOG

## MIL-W-76

## TYPE MW-VINYL — 1000V — 80C



Tinned copper, vinyl insulated, medium wall. The polyvinylchloride insulation is flame and ozone resistant and is inert to most chemicals, oils, and solvents.

## STRANDED CONDUCTOR

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
9001	MW-C-24-(7)-U	24(7x32)	.017	.058	As Listed	As Listed	As Listed
9002	MW-C-22-(7)-U	22(7x30)	.017	.064	As Listed	As Listed	As Listed
9003	MW-C-20-(10)-U	20(10x30)	.017	.070	As Listed	As Listed	As Listed
9004	MW-C-18-(16)-U	18(16x30)	.017	.080	As Listed	As Listed	As Listed
9005	MW-C-16-(26)-U	16(26x30)	.019	.098	As Listed	As Listed	As Listed
9006	MW-C-14-(41)-U	14(41x30)	.020	.111	As Listed	As Listed	As Listed
9007	MW-C-12-(65)-U	12(65x30)	.020	.130	As Listed	As Listed	As Listed

## Stock Colors\*

0 Black	92 White/Red
1 Brown	93 White/Orange
2 Red	94 White/Yellow
3 Orange	95 White/Green
4 Yellow	96 White/Blue
5 Green	97 White/Violet
6 Dark Blue	98 White/Gray
7 Violet (Purple)	901 White/Black/Brown
8 Gray (Slate)	902 White/Black/Red
9 White	908 White/Black/Orange
11 Tan	904 White/Black/Yellow
12 Pink	905 White/Black/Green
13 Light Blue	906 White/Black/Blue
90 White/Black	907 White/Black/Violet
91 White/Brown	908 White/Black/Gray

## SOLID CONDUCTOR

9010	MW-C-22-(1)-U	22 (Solid)	.017	.059	As Listed	As Listed	As Listed
9011	MW-C-20-(1)-U	20 (Solid)	.017	.066	As Listed	As Listed	As Listed
9012	MW-C-18-(1)-U	18 (Solid)	.017	.074	As Listed	As Listed	As Listed
9013	MW-C-16-(1)-U	16 (Solid)	.017	.085	As Listed	As Listed	As Listed

## TYPE MW-SHIELDED — 1000V — 80C



Tinned copper, polyvinylchloride insulation. Medium wall, tinned copper shield overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
9014	MW-C-24-(7)-S	24(7x32)	.017	.082	As Listed	As Listed	As Listed
9015	MW-C-22-(7)-S	22(7x30)	.017	.088	As Listed	As Listed	As Listed
9016	MW-C-20-(10)-S	20(10x30)	.017	.094	As Listed	As Listed	As Listed
9017	MW-C-18-(16)-S	18(16x30)	.017	.104	As Listed	As Listed	As Listed
9018	MW-C-16-(26)-S	16(26x30)	.019	.122	As Listed	As Listed	As Listed
9019	MW-C-14-(41)-S	14(41x30)	.020	.135	0, 2, 9	0, 2, 9	0, 2, 9
9020	MW-C-12-(65)-S	12(65x30)	.020	.154	0, 2, 9	0, 2, 9	0, 2, 9

## Stock Colors\*

0 Black	5 Green
1 Brown	6 Dark Blue
2 Red	7 Violet (Purple)
3 Orange	8 Gray (Slate)
4 Yellow	9 White

## TYPE MW-SHIELDED — NYLON JACKET — 1000V — 80C



Tinned copper, polyvinylchloride insulation. Medium wall, tinned copper shield, nylon jacket.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
9021	MW-C-22-(7)-SJ	22(7x30)	.017	.095	9	9	9
9022	MW-C-20-(7)-SJ	20(10x30)	.017	.101	9	9	9
9023	MW-C-18-(16)-SJ	18(16x30)	.017	.112	9	9	9
9024	MW-C-16-(19)-SJ	16(26x30)	.019	.131	9	9	9

## Stock Color\*

9 Vinyl insulation. White only.

\*Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.



MIL-W-76

TYPE MW-GLASS BRAID — 1000V — 80C



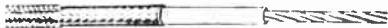
Tinned copper, polyvinylchloride insulated. Medium wall, lacquered glass braid overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
9025	MW-C-22(7)-B	22(7x30)	.017	.076	As Listed	As Listed	As Listed
9026	MW-C-20(10)-B	20(10x30)	.017	.084	As Listed	As Listed	As Listed
9027	MW-C-18(16)-B	18(16x30)	.017	.094	As Listed	As Listed	As Listed
9028	MW-C-16(26)-B	16(26x30)	.019	.112	As Listed	As Listed	As Listed
9029	MW-C-14(41)-B	14(41x30)	.020	.125	9,90 <sup>thru</sup> 98	9,90 <sup>thru</sup> 98	9,90 <sup>thru</sup> 98
9030	MW-C-12(65)-B	12(65x30)	.020	.144	9, 90, 92	9, 90, 92	9, 90, 92

Stock Colors\*

- 0 Black
- 1 Brown
- 2 Red
- 3 Orange
- 4 Yellow
- 5 Green
- 6 Dark Blue
- 7 Violet (Purple)
- 8 Gray (Slate)
- 9 White
- 90 White/Black
- 91 White/Brown
- 92 White/Red
- 93 White/Orange
- 94 White/Yellow
- 95 White/Green
- 96 White/Blue
- 97 White/Violet
- 98 White/Gray

TYPE MW-GLASS BRAID-SHIELDED — 1000V — 80C



Tinned copper, polyvinylchloride insulated. Medium wall, lacquered glass braid, tinned copper shield overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
9031	MW-C-22(7)-BS	22(7x30)	.017	.102	9	9	9
9032	MW-C-20(7)-BS	20(10x30)	.017	.108	9	9	9
9033	MW-C-18(16)-BS	18(16x30)	.017	.118	9	9	9
9034	MW-C-16(19)-BS	16(26x30)	.019	.136	9	9	9
9035	MW-C-14(19)-BS	14(41x30)	.020	.149	9	9	9
9036	MW-C-12(19)-BS	12(65x30)	.020	.168	9	9	9

Stock Color\*

- 9 Vinyl insulation. White only.

TYPE MW — NYLON JACKET — 1000V — 90C



Tinned copper, polyvinylchloride insulated. Medium wall, clear nylon jacket overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
9037	MW-C-22(7)-J	22(7x30)	.017	.069	As Listed	As Listed	As Listed
9038	MW-C-20(10)-J	20(10x30)	.017	.075	As Listed	As Listed	As Listed
9039	MW-C-18(16)-J	18(16x30)	.017	.086	As Listed	As Listed	As Listed
9040	MW-C-16(26)-J	16(26x30)	.019	.106	As Listed	As Listed	As Listed
9041	MW-C-14(41)-J	14(41x30)	.020	.118	0, 1, 3, 4 5, 9	0, 1, 3, 4 5, 9	0, 1, 3, 4 5, 9
9042	MW-C-12(65)-J	12(65x30)	.020	.139	0, 1, 3, 4, 5, 9	0, 1, 3, 4, 5, 9	0, 1, 3, 4, 5, 9

Stock Colors\*

- 0 Black
- 1 Brown
- 2 Red
- 3 Orange
- 4 Yellow
- 5 Green
- 6 Dark Blue
- 7 Violet (Purple)
- 8 Gray (Slate)
- 9 White
- 90 White/Black
- 91 White/Brown
- 92 White/Red
- 93 White/Orange
- 94 White/Yellow
- 95 White/Green
- 96 White/Blue
- 97 White/Violet
- 98 White/Gray

\*Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.

SEND FOR COMPLETE CATALOG

## MIL-W-76

## TYPE HW — VINYL — Gauges 16-22 2500V, Gauges 6-14 600—80C



Tinned copper, polyvinylchloride insulated. Heavy wall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
9100	HW-C-22(7)-U	22(7x30)	.034	.098	As Listed	As Listed	As Listed
9101	HW-C-20(10)-U	20(10x30)	.034	.104	As Listed	As Listed	As Listed
9102	HW-C-18(16)-U	18(16x30)	.034	.114	As Listed	As Listed	As Listed
9103	HW-C-16(26)-U	16(26x30)	.034	.128	0, 2, 9	0, 2, 9	0, 2, 9
9104	HW-C-14(41)-U	14(41x30)	.048	.171	0, 2, 9	0, 2, 9	0, 2, 9
9105	HW-C-12(65)-U	12(65x30)	.048	.191	0, 2, 9	0, 2, 9	0, 2, 9
9106	HW-C-10(105)-U	10(105x30)	.048	.214	0, 2, 9	0, 2, 9	0, 2, 9
9107	HW-C-8(133)-U	8(133x29)	.048	.261	0, 2, 9	0, 2, 9	0, 2, 9
9108	HW-C-6(133)-U	6(133x27)	.048	.296	0, 2, 9	0, 2, 9	0, 2, 9

## Stock Colors\*

0 Black	5 Green
1 Brown	6 Dark Blue
2 Red	7 Violet (Purple)
3 Orange	8 Gray (Slate)
4 Yellow	9 White

## TYPE HW — GLASS BRAID — 600V — 80C



Tinned copper, polyvinylchloride insulated. Heavy wall, lacquered glass braid.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
9110	HW-C-10(105)-B	10(105x30)	.048	.232	As Listed	As Listed	As Listed
9111	HW-C-8(133)-B	8(133x29)	.048	.279	As Listed	As Listed	As Listed
9112	HW-C-6(133)-B	6(133x27)	.048	.314	As Listed	As Listed	As Listed

## Stock Colors\*

9 White
90 White/Black
92 White/Red

## TYPE LW — VINYL — 300V — 80C



Tinned copper, polyvinylchloride insulated. Light wall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
9200	LW-C-30(7)-U	30(7x38)	.011	.034	0 thru 9	0 thru 9	0 thru 9
9201	LW-C-28(7)-U	26(7x36)	.011	.037	As Listed	As Listed	As Listed
9202	LW-C-26(7)-U	26(7x34)	.011	.041	As Listed	As Listed	As Listed
9203	LW-C-24(7)-U	24(7x32)	.011	.046	As Listed	As Listed	As Listed
9204	LW-C-22(7)-U	22(7x30)	.012	.054	As Listed	As Listed	As Listed
9205	LW-C-20(10)-U	20(10x30)	.012	.060	As Listed	As Listed	As Listed

## Stock Colors\*

0 Black	90 White/Black
1 Brown	91 White/Brown
2 Red	92 White/Red
3 Orange	93 White/Orange
4 Yellow	94 White/Yellow
5 Green	95 White/Green
6 Dark Blue	96 White/Blue
7 Violet (Purple)	97 White/Violet
8 Gray (Slate)	98 White/Gray
9 White	

## TYPE LW — NYLON JACKET — 300V — 90C



Tinned copper, polyvinylchloride insulated. Light wall, clear nylon jacket overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
9210	LW-C-30(7)-J	30(7x38)	.011	.039	0 thru 9	0 thru 9	0 thru 9
9211	LW-C-28(7)-J	28(7x36)	.011	.042	As Listed	As Listed	As Listed
9212	LW-C-26(7)-J	26(7x34)	.011	.046	As Listed	As Listed	As Listed
9213	LW-C-24(7)-J	24(7x32)	.011	.051	As Listed	As Listed	As Listed
9214	LW-C-22(7)-J	22(7x30)	.012	.059	As Listed	As Listed	As Listed
9215	LW-C-20(10)-J	20(10x30)	.012	.065	As Listed	As Listed	As Listed

## Stock Colors\*

0 Black	90 White/Black
1 Brown	91 White/Brown
2 Red	92 White/Red
3 Orange	93 White/Orange
4 Yellow	94 White/Yellow
5 Green	95 White/Green
6 Dark Blue	96 White/Blue
7 Violet (Purple)	97 White/Violet
8 Gray (Slate)	98 White/Gray
9 White	

\*Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.

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**TYPE B — VINYL — 600V — 105C**



Tinned copper, polyvinylchloride insulated.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
9300	B-32	32(7x40)	.010	.029	0 thru 9	0 thru 9	0 thru 9
9301	B-30	30(7x38)	.010	.032	0 thru 9	0 thru 9	0 thru 9
9302	B-28	28(7x36)	.010	.035	0 thru 9 90 thru 98	0 thru 9 90 thru 98	0 thru 9 90 thru 98
9303	B-26	26(7x34)	.010	.039	0 thru 9 90 thru 98	0 thru 9 90 thru 98	0 thru 9 90 thru 98
9304	B-24	24(19x36)	.010	.045	9,90thru98	9,90thru98	9,90thru98
9305	B-24	24(7x32)	.010	.044	As Listed	As Listed	As Listed
9306	B-22	22(19x34)	.010	.051	9,90thru98	9,90thru98	9,90thru98
9307	B-22	22(7x30)	.010	.050	As Listed	As Listed	As Listed
9308	B-20	20(19x32)	.010	.059	9,90thru98	9,90thru98	9,90thru98
9309	B-20	20(7x28)	.010	.058	As Listed	As Listed	As Listed
9310	B-18	18(19x30)	.010	.069	9,90thru98	9,90thru98	9,90thru98
9311	B-18	18(7x26)	.010	.068	0 thru 9 90 thru 98	0 thru 9 90 thru 98	0 thru 9 90 thru 98
9312	B-16	16(19x29)	.010	.077	0 thru 9 90 thru 98	0 thru 9 90 thru 98	0 thru 9 90 thru 98

**Stock Colors\***

- |                   |                 |
|-------------------|-----------------|
| 0 Black           | 90 White/Black  |
| 1 Brown           | 91 White/Brown  |
| 2 Red             | 92 White/Red    |
| 3 Orange          | 93 White/Orange |
| 4 Yellow          | 94 White/Yellow |
| 5 Green           | 95 White/Green  |
| 6 Dark Blue       | 96 White/Blue   |
| 7 Violet (Purple) | 97 White/Violet |
| 8 Gray (Slate)    | 98 White/Gray   |
| 9 White           |                 |
| 11 Tan            |                 |
| 12 Pink           |                 |
| 13 Light Blue     |                 |

**TYPE B — VINYL-NYLON JACKET — 600V — 115C**



Tinned copper, polyvinylchloride insulated, nylon jacket overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
9313	B-32	32(7x40)	.010	.035	0 thru 9	0 thru 9	0 thru 9
9314	B-30	30(7x38)	.010	.038	0 thru 9	0 thru 9	0 thru 9
9315	B-28	28(7x36)	.010	.041	As Listed	As Listed	As Listed
9316	B-26	26(7x34)	.010	.045	As Listed	As Listed	As Listed
9317	B-24	24(19x36)	.010	.051	As Listed	As Listed	As Listed
9318	B-24	24(7x32)	.010	.050	As Listed	As Listed	As Listed
9319	B-22	22(19x34)	.010	.057	As Listed	As Listed	As Listed
9320	B-22	22(7x30)	.010	.056	As Listed	As Listed	As Listed
9321	B-20	20(19x32)	.010	.065	As Listed	As Listed	As Listed
9322	B-20	20(7x28)	.010	.064	As Listed	As Listed	As Listed
9323	B-18	18(19x30)	.010	.075	9,90thru98	9,90thru98	9,90thru98
9324	B-18	18(7x26)	.010	.074	As Listed	As Listed	As Listed
9325	B-16	16(19x29)	.010	.083	As Listed	As Listed	As Listed

**Stock Colors\***

- |                   |                 |
|-------------------|-----------------|
| 0 Black           | 90 White/Black  |
| 1 Brown           | 91 White/Brown  |
| 2 Red             | 92 White/Red    |
| 3 Orange          | 93 White/Orange |
| 4 Yellow          | 94 White/Yellow |
| 5 Green           | 95 White/Green  |
| 6 Dark Blue       | 96 White/Blue   |
| 7 Violet (Purple) | 97 White/Violet |
| 8 Gray (Slate)    | 98 White/Gray   |
| 9 White           |                 |

\*Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.





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#### TYPE C VINYL — 1000V — 105C



Tinned copper, polyvinylchloride insulated.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
9400	C-24	24(7x32)	.018	.060	9,90thru98	9,90thru98	9,90thru98
9401	C-22	22(7x30)	.018	.066	As Listed	As Listed	As Listed
9402	C-20	20(7x28)	.018	.074	As Listed	As Listed	As Listed
9403	C-18	18(7x26)	.018	.084	As Listed	As Listed	As Listed
9404	C-16	16(19x29)	.018	.093	9,90thru98	9,90thru98	9,90thru98
9405	C-14	14(19x27)	.018	.107	9,90thru98	9,90thru98	9,90thru98

**Stock Colors\***

- |                   |                 |
|-------------------|-----------------|
| 0 Black           | 90 White/Black  |
| 1 Brown           | 91 White/Brown  |
| 2 Red             | 92 White/Red    |
| 3 Orange          | 93 White/Orange |
| 4 Yellow          | 94 White/Yellow |
| 5 Green           | 95 White/Green  |
| 6 Dark Blue       | 96 White/Blue   |
| 7 Violet (Purple) | 97 White/Violet |
| 8 Gray (Slate)    | 98 White/Gray   |
| 9 White           |                 |

#### TYPE C — VINYL-NYLON JACKET — 1000V — 115C



Tinned copper, polyvinylchloride insulated, nylon jacket overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
9410	C-24	24(7x32)	.018	.066	9,90thru98	9,90thru98	9,90thru98
9411	C-22	22(7x30)	.018	.072	As Listed	As Listed	As Listed
9412	C-20	20(7x28)	.018	.080	As Listed	As Listed	As Listed
9413	C-18	18(7x26)	.018	.091	As Listed	As Listed	As Listed
9414	C-16	16(19x29)	.018	.100	9,90thru98	9,90thru98	9,90thru98
9415	C-14	14(19x27)	.018	.114	9,90thru98	9,90thru98	9,90thru98

**Stock Colors\***

- |                   |                 |
|-------------------|-----------------|
| 0 Black           | 90 White/Black  |
| 1 Brown           | 91 White/Brown  |
| 2 Red             | 92 White/Red    |
| 3 Orange          | 93 White/Orange |
| 4 Yellow          | 94 White/Yellow |
| 5 Green           | 95 White/Green  |
| 6 Dark Blue       | 96 White/Blue   |
| 7 Violet (Purple) | 97 White/Violet |
| 8 Gray (Slate)    | 98 White/Gray   |
| 9 White           |                 |

#### TYPE D — VINYL — 3000V — 105C



Tinned copper, polyvinylchloride insulated.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
9500	D-24	24(7x32)	.030	.084	9,90thru98	9,90thru98	9,90thru98
9501	D-22	22(7x30)	.030	.090	As Listed	As Listed	As Listed
9502	D-20	20(7x28)	.030	.098	As Listed	As Listed	As Listed
9503	D-18	18(7x26)	.030	.108	As Listed	As Listed	As Listed
9504	D-16	16(19x29)	.030	.117	9,90thru98	9,90thru98	9,90thru98
9505	D-14	14(19x27)	.030	.131	9,90thru98	9,90thru98	9,90thru98
9506	D-12	12(19x25)	.035	.160	9,90thru98	9,90thru98	9,90thru98
9507	D-10	10(37x26)	.035	.181	9,90thru98	9,90thru98	9,90thru98
9508	D- 8	8(133x29)	.040	.245	9,90thru98	9,90thru98	9,90thru98
9509	D- 6	6(133x27)	.040	.290	9,90thru98	9,90thru98	9,90thru98

**Stock Colors\***

- |                   |                 |
|-------------------|-----------------|
| 0 Black           | 90 White/Black  |
| 1 Brown           | 91 White/Brown  |
| 2 Red             | 92 White/Red    |
| 3 Orange          | 93 White/Orange |
| 4 Yellow          | 94 White/Yellow |
| 5 Green           | 95 White/Green  |
| 6 Dark Blue       | 96 White/Blue   |
| 7 Violet (Purple) | 98 White/Gray   |
| 8 Gray (Slate)    |                 |
| 9 White           |                 |

\*Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.

SEND FOR COMPLETE CATALOG

**MIL-W-5086A**  
**AIRCRAFT WIRE & CABLE**  
**TYPES 1 & 2 — 600V**



**UNSHIELDED**

Catalog Number	MIL Type Designation	Size & (Stranding)	Nom. O.D.	Spec. Type	Stock Colors on Standard Spools		
					100'	500'	1000'
9700	AN-22	22(19x34)	.068	No. 1	9	9	9
9701	AN-20	20(19x32)	.078	No. 1	9	9	9
9702	AN-18	18(19x30)	.088	No. 1	9	9	9
9703	AN-16	16(19x29)	.098	No. 1	9	9	9
9704	AN-14	14(19x27)	.117	No. 1	9	9	9
9705	AN-12	12(19x25)	.137	No. 1	9	9	9

Stock Color\*

White only (9)

**Additional Description****MIL-W-5086A-Type I**  
**AN-22 thru AN-12.**

Stranded tinned copper, white polyvinylchloride clear nylon jacket insulation.

9706	AN-22	22(19x34)	.075	No. 2	9	9	9
9707	AN-20	20(19x32)	.085	No. 2	9	9	9
9708	AN-18	18(19x30)	.095	No. 2	9	9	9
9709	AN-16	16(19x29)	.105	No. 2	9	9	9
9710	AN-14	14(19x27)	.125	No. 2	9	9	9
9711	AN-12	12(19x25)	.143	No. 2	9	9	9

**MIL-W-5086A-Type II**  
**AN-22 thru AN-12**

Stranded tinned copper, white polyvinylchloride insulation, saturated glass braid, clear nylon jacket.

9713	AN-10	10(49x27)	.189	No. 2	9	9	9
9714	AN-8	8(133x29)	.240	No. 2	9	9	9
9715	AN-6	6(133x27)	.293	No. 2	9	9	9
9716	AN-4	4(133x25)	.355	No. 2	9	9	9
9717	AN-2	2(665x30)	.425	No. 2	9	9	9
9718	AN-0	0(1045x30)	.525	No. 2	9	9	9
9719	AN-00	00(1330x30)	.590	No. 2	9	9	9

**MIL-W-5086A-Type II**  
**AN-10 thru AN-00**

Stranded tinned copper, white polyvinylchloride insulation, saturated glass braid, nylon braid, nylon lacquer.

**MIL-C-7078A — TYPE 1 — 600 VOLT**

(MIL-W-5086A Type I Conductor Braided Tinned Copper Shield)



**SHIELDED**

Catalog Number	MIL Type Designation	Size & (Stranding)	Nom. O.D.	Spec. Type	Stock Colors on Standard Spools		
					100'	500'	1000'
9720	AN-22	22(10x34)	.092	No. 1	9	9	9
9721	AN-20	20(19x32)	.102	No. 1	9	9	9
9722	AN-18	18(19x30)	.112	No. 1	9	9	9
9723	AN-16	16(19x29)	.122	No. 1	9	9	9
9724	AN-14	14(19x27)	.141	No. 1	9	9	9
9725	AN-12	12(19x25)	.161	No. 1	9	9	9

Stock Color\*

White only (9)

**Additional Description**

Stranded tinned copper, white polyvinylchloride insulation, nylon jacket, braided tinned copper shield.

\*Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.

CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS



SEND FOR COMPLETE CATALOG

MIL-W-16878-D

TYPE E — TFE TEFLON — 600V — 200C



Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated.

Catalog Number	Type Designation	Size & (Stranding)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
				100'	500'	1000'
9600	E-32	32(7x40)	.032	As Listed	As Listed	As Listed
9601	E-30	30(7x38)	.032	As Listed	As Listed	As Listed
9602	E-28	28(7x36)	.035	As Listed	As Listed	As Listed
9603	E-26	26(19x38)	.039	As Listed	As Listed	As Listed
9604	E-26	26(7x34)	.039	As Listed	As Listed	As Listed
9605	E-24	24(19x36)	.044	As Listed	As Listed	As Listed
9606	E-24	24(7x32)	.044	As Listed	As Listed	As Listed
9607	E-22	22(19x34)	.050	As Listed	As Listed	As Listed
9608	E-22	22(7x30)	.050	As Listed	As Listed	As Listed
9609	E-20	20(19x32)	.058	As Listed	As Listed	As Listed
9610	E-20	20(7x28)	.058	As Listed	As Listed	As Listed
9611	E-18	18(19x30)	.069	As Listed	As Listed	As Listed
9612	E-18	18(7x26)	.069	As Listed	As Listed	As Listed
9613	E-16	16(19x29)	.080	As Listed	As Listed	As Listed
9614	E-14	14(19x27)	.095	As Listed	As Listed	As Listed
9615	E-12	12(19x25)	.115	As Listed	As Listed	As Listed
9616	E-10	10(37x26)	.131	As Listed	As Listed	As Listed

Stock Colors\*

- 0 Black
- 1 Brown
- 2 Red
- 3 Orange
- 4 Yellow
- 5 Green
- 6 Dark Blue
- 7 Violet (Purple)
- 8 Gray (Slate)
- 9 White

NOTE: Tracer colors available upon customer request. Minimum quantity 500 feet.

TYPE EE — TFE TEFLON — 1000V — 200C



Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated.

Catalog Number	Type Designation	Size & (Stranding)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
				100'	500'	1000'
9620	EE-32	32(7x40)	.042	As Listed	As Listed	As Listed
9621	EE-30	30(7x38)	.042	As Listed	As Listed	As Listed
9622	EE-28	28(7x36)	.045	As Listed	As Listed	As Listed
9623	EE-26	26(19x38)	.049	As Listed	As Listed	As Listed
9624	EE-26	26(7x34)	.049	As Listed	As Listed	As Listed
9625	EE-24	24(19x36)	.054	As Listed	As Listed	As Listed
9626	EE-24	24(7x32)	.054	As Listed	As Listed	As Listed
9627	EE-22	22(19x34)	.060	As Listed	As Listed	As Listed
9628	EE-22	22(7x30)	.060	As Listed	As Listed	As Listed
9629	EE-20	20(19x32)	.068	As Listed	As Listed	As Listed
9630	EE-20	20(7x28)	.068	As Listed	As Listed	As Listed
9631	EE-18	18(19x30)	.079	As Listed	As Listed	As Listed
9632	EE-18	18(7x26)	.079	As Listed	As Listed	As Listed
9633	EE-16	16(19x29)	.089	As Listed	As Listed	As Listed
9634	EE-14	14(19x27)	.110	As Listed	As Listed	As Listed
9635	EE-12	12(19x25)	.129	As Listed	As Listed	As Listed
9636	EE-10	10(37x26)	.149	As Listed	As Listed	As Listed

Stock Colors\*

- 0 Black
- 1 Brown
- 2 Red
- 3 Orange
- 4 Yellow
- 5 Green
- 6 Dark Blue
- 7 Violet (Purple)
- 8 Gray (Slate)
- 9 White

NOTE: Tracer colors available upon customer request. Minimum quantity 500 feet.

ROME SYNTHINOL

UL TYPE HOOK-UP AND LEAD WIRES

UL-300V-80C

UL-600V-105C (CSA 600V-90C)

Catalog Number	Size Avg.	Stranding	Nom. Ins. Thckns.	Volts	Max. Dia. Inches
801	22	Solid	1/64	300	.065
811	20	Solid	1/64	300	.071
841	18	Solid	1/64	300	.080
821	22	7 x No. 30	1/64	300	.069
831	20	10 x No. 30	1/64	300	.078
846	18	16 x No. 30	1/64	300	.085
881	20—2 condn. Black & Red	10 x No. 30	.025	300	.170

Catalog Number	Size Avg.	Stranding	Nom. Ins. Thckns.	Volts	Max. Dia. Inches
851	22	Solid	1/32	600	.097
836	20	Solid	1/32	600	.104
861	18	Solid	1/32	600	.112
866	22	7 x No. 30	1/32	600	.102
871	20	10 x No. 30	1/32	600	.110
876	18	16 x No. 30	1/32	600	.119

Colors: Black, Blue, Brown, Green, Orange, Pink, Purple, Red, Slate, White, Yellow  
STANDARD SPOOL PUT-UP: 25 FT., 100 FT., 500 FT., 1000 FT.

\*Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.

**SHIELDED TEFLON CABLES**  
**MIL-W-16878**

Each conductor stranded silver plated copper Type E extruded Teflon .010" insulation—90% braided silver copper shield, also supplied with either a Teflon impregnated Fiberglass braid or Teflon fused tape overall jacket.

Temperature rating —65°C to +260°C. Voltage rating 600 volts.



**NO OUTER COVERING OVER SHIELD**

Catalog Number	No. of Cond.	Size & Stranding	Nom. O.D. (Inch)
9800	1	24(19x36)	.069
9801	2	24(19x36)	.112
9802	3	24(19x36)	.120
9803	4	24(19x36)	.132
9804	1	22(19x34)	.075
9805	2	22(19x34)	.124
9806	3	22(19x34)	.132
9807	4	22(19x34)	.146
9808	1	20(19x32)	.083
9809	2	20(19x32)	.142
9810	3	20(19x32)	.151
9811	4	20(19x32)	.168
9812	1	18(19x30)	.093
9813	2	18(19x30)	.162
9814	3	18(19x30)	.172
9815	4	18(19x30)	.192

**STOCK COLORS**

Catalog Numbers 9800 thru 9855

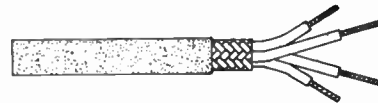
Specify color coding when ordering.

Standard spool put up Catalog Numbers 9800 thru 9855: 100 ft., 500 ft., 1000 ft.



**TEFLON TAPE WRAP JACKET OVER SHIELD**

Catalog Number	No. of Cond.	Size & Stranding	Nom. O.D. (Inch)
9820	1	24(19x36)	.084
9821	2	24(19x36)	.128
9822	3	24(19x36)	.135
9823	4	24(19x36)	.148
9824	1	22(19x34)	.090
9825	2	22(19x34)	.140
9826	3	22(19x34)	.148
9827	4	22(19x34)	.162
9828	1	20(19x32)	.099
9829	2	20(19x32)	.158
9830	3	20(19x32)	.167
9831	4	20(19x32)	.184
9832	1	18(19x30)	.109
9833	2	18(19x30)	.178
9834	3	18(19x30)	.189
9835	4	18(19x30)	.208



**TEFLON IMPREGNATED BRAID OVER SHIELD**

Catalog Number	No. of Cond.	Size & Stranding	Nom. O.D. (Inch)
9840	1	24(19x36)	.081
9841	2	24(19x36)	.126
9842	3	24(19x36)	.133
9843	4	24(19x36)	.144
9844	1	22(19x34)	.088
9845	2	22(19x34)	.137
9846	3	22(19x34)	.144
9847	4	22(19x34)	.158
9848	1	20(19x32)	.097
9849	2	20(19x32)	.154
9850	3	20(19x32)	.163
9851	4	20(19x32)	.180
9852	1	18(19x30)	.106
9853	2	18(19x30)	.174
9854	3	18(19x30)	.185
9855	4	18(19x30)	.205

Stock Color Numbers in accordance to Military Type Designation and E.I.A. Color Coding.










CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS



SEND FOR COMPLETE CATALOG

INTERCOMMUNICATING AND SOUND SYSTEM CABLES

STANDARD SPOOL PUT-UP: 10 FT., 25 FT., 50 FT., 100 FT., 500 FT., 1000 FT.

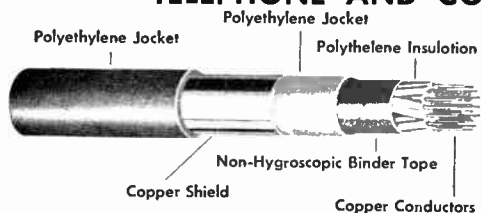
	NO.	TYPE	Size & Stranding	INSULATION THICKNESS (INCHES)	SPECIFICATION AND GENERAL APPLICATION	NOMINAL DIAMETER (INCHES)
 <p>STATION-TO-STATION EXTENSION WIRING SHIELDED</p>	5501	2 Condr.	22 Solid	.015	Tinned copper vinyl plastic insulation, wires twisted together condr. red 1 condr. black—closely woven braided tinned copper shield.	.110
	5506	3 Condr.	22 Solid	.015	Same as 5501—condr. red—1 condr. black—1 condr. blue.	.145
	5521	2 Condr.	20 Solid	.015	Tinned copper vinyl plastic insulation, wires twisted together—1 condr. red—1 condr. black—closely woven braided tinned copper shield.	.155
 <p>EXTENSION WIRING SHIELDED—PLASTIC JACKET</p>	5511	2 Condr.	22 Solid	.015	Tinned copper vinyl plastic insulation, wires twisted together—1 condr. red—1 condr. black—and a spiral tinned copper shield with .020" tubed gray vinyl plastic jacket.	.170
 <p>PAIRED CABLE—SHIELDED PLASTIC JACKET</p>	5516	2 Pair 4 Condr.	22 7x30	.015	Stranded tinned copper vinyl plastic insulation. 2 pair cabled (4 conductors)—1 pair black & white with braided tinned copper shield—1 pair black & brown unshielded—both pair bunched and .020" gray vinyl plastic jacket overall.	.168x.276
 <p>EXTENSION-SPEAKERS SHIELDED FOR LONG RUNS</p>	5526	2 Condr.	20 10x30	.015	Tinned copper vinyl plastic insulation, wires twisted together—1 condr. red—1 condr. black—closely woven tinned copper shield.	.215
	5531	3 Condr.	20 10x30	.015	Same as 5526—1 condr. red—1 condr. black—1 condr. blue.	.230
	5536	2 Condr.	18 16x30	.015	Stranded tinned copper vinyl plastic insulation, wires twisted together. 1 condr. red—1 condr. white, closely woven braided tinned copper shield.	.235
 <p>EXPANSION-SPEAKERS SHIELDED—PLASTIC JACKET</p>	5568	2 Condr.	22 7x30	.015	Tinned copper vinyl plastic insulation, 2 condr.—cabled black and red—tinned copper spiral wrapped shield .023" chrome vinyl plastic jacket.	.166
	5569	3 Condr.	22 7x30	.015	Tinned copper vinyl plastic insulation, 3 condr.—cabled black, red, white—tinned copper spiral shield—chrome vinyl plastic jacket.	.193
	5538	2 Condr.	18 16x30	.015	Stranded tinned copper vinyl plastic insulation, wires twisted together. 1 condr. red. 1 condr. white. Spiral tinned copper shield and .020" gray vinyl plastic jacket overall.	.225
	5543	2 Condr.	20 10x30	.015	Same as 5538 1 condr. Red. 1 condr. Black.	.185
	5541	2 Condr.	18 16x30	.015	Stranded tinned copper vinyl plastic insulation, wires twisted together. 1 condr. red—1 condr. white, closely woven braided tinned copper shield and .020" gray vinyl plastic jacket overall.	.260
 <p>JUKE BOX SPEAKER CABLE</p>	5547	2 Condr.	24 7x32	.015	Stranded 1 condr. bare copper—1 condr. tinned copper—2 condr. parallel gray vinyl plastic insulation. Colors—brown, clear, gray, white.	.058x.115
 <p>HIGH IMPEDANCE LAEL MICROPHONES</p>	5551	1 Condr.	24 18x34	.020	Stranded tinned copper polyethylene insulation closely woven braided tinned copper shield with .020" gray vinyl jacket.	.125
 <p>INTER COMMUNICATING SOUND SYSTEM</p>	5556	2 Condr.	19 Solid	.015	Bare copper vinyl plastic insulation, wires twisted together—1 condr. brown—1 condr. tan.	.115
	5561	3 Condr.	19 Solid	.015	Same as 5556—1 condr. brown—1 condr. tan—1 condr. gray.	.132
 <p>INTER COMMUNICATING WEATHER-PROOF</p>	5566	2 Condr.	22 Solid	.015	Bare copper .015 rubber insulation with a black cotton braid weatherproof finish. Conductors coded for easy identification. Ideal for exterior or interior communication installations.	.131x.203

TELEPHONE AND COMMUNICATION CABLE DIRECT BURIAL TYPE

FULLY COLOR CODED

SPECIFICATIONS

Solid bare annealed copper 22 Awg. gauge conductors; thin wall, color coded, polyethylene insulation; conductors twisted to form pairs with symmetrically varying lays to minimize cross-talk; cabled (for 6 thru 50 pairs) by stranding pairs in concentric layers, or (for 75 thru 400 pairs) by stranding pairs into concentrically formed units, which are in turn cabled to form the complete assembly; non-hygroscopic binder tape furnishing high dielectric strength between shield and individual conductors; continuous copper shielding tape; high-molecular weight, polyethylene jacket.



**GENERAL APPLICATION AND ADVANTAGE**  
 APPLICATION: Communication and Telephone Cable for use in direct burial installations provides a high quality product similar to that used for aerial and duct systems, but with the addition of protective armoring. This minimizes the possibility of damage to the cable from rodents and insects and, correctly installed, reduces the dangers to the cable from sharp stones and other hazards of underground burial installations.  
 ADVANTAGE: The lightweight, but rugged construction of direct burial Communication and Telephone Cable permits fast and economical underground installation of communication systems with the assurance of dependable and enduring service. This is made possible through utilization of the same high quality polyethylene compounds that are used in its counterpart for aerial and duct type installations, with the added protection of copper armoring tapes and a durable, high-molecular weight, polyethylene jacket.

NO.	NO. OF PAIRS	NO. OF COND.	COND. SIZE	NOMINAL JACKET THICKNESS, MILS		NOMINAL O. D. (Inches)
				INNER	OUTER	
6006	6	12	22 Solid	40	40	.430
6012	12	24	22 Solid	40	40	.500
6018	18	36	22 Solid	40	40	.560
6025	25	50	22 Solid	40	40	.630
6050	50	100	22 Solid	40	40	.820
6075	75	150	22 Solid	50	50	.990
6100	100	200	22 Solid	50	50	1.20
6150	150	300	22 Solid	50	50	1.30
6200	200	400	22 Solid	50	50	1.50
6300	300	600	22 Solid	50	60	1.80
6400	400	800	22 Solid	50	60	2.00

**CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS**

SEND FOR COMPLETE CATALOG

**PAIRED PLASTIC CONDUCTORS**

**SPECIFICATIONS AND GENERAL APPLICATIONS** Tinned copper conductor .010" vinyl plastic insulation. Cabled .020" gray vinyl plastic Jacket overall

NO.	TYPE	SIZE AND STRANDING	NOMINAL DIAMETER (Inches)
5201	1 Pr. 2 Condr.	22 Solid	.145
5205	2 Pr. 4 Condr.	22 Solid	.190
5211	3 Pr. 6 Condr.	22 Solid	.230
5221	5 Pr. 10 Condr.	22 Solid	.250
5226	6 Pr. 12 Condr.	22 Solid	.265
5231	7 Pr. 14 Condr.	22 Solid	.280
5236	8 Pr. 16 Condr.	22 Solid	.300
5241	9 Pr. 18 Condr.	22 Solid	.320
5251	11 Pr. 22 Condr.	22 Solid	.360
5271	15 Pr. 30 Condr.	22 Solid	.390
5286	27 Pr. 54 Condr.	22 Solid	.510

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

**MULTIPLE CONDUCTORS FULLY COLOR CODED**

**SIZE & STRANDING 22 - 7x30 SPECIFICATION AND GENERAL APPLICATION** Tinned copper conductor .010" vinyl plastic insulation. Cabled .020" gray vinyl plastic Jacket overall

NO.	TYPE	SIZE AND STRANDING	NOMINAL DIAMETER (Inches)
5400	2 Condr.	22 7x30	.130
5401	3 Condr.	22 7x30	.140
5406	4 Condr.	22 7x30	.158
5411	5 Condr.	22 7x30	.170
5416	6 Condr.	22 7x30	.212
5421	7 Condr.	22 7x30	.230
5426	8 Condr.	22 7x30	.235
5431	9 Condr.	22 7x30	.245
5434	12 Condr.	22 7x30	.250

STANDARD SPOOL PUT-UP: 10 FT., 15 FT., 25 FT., 100 FT., 500 FT., 1000 FT.

**PHONOGRAPH MULTIPLE CABLE STANDARD SPOOL PUT-UP: 500 FT., 1000 FT.**

TYPE No.	SIZE	SPECIAL USE	SPECIFICATIONS	STRANDING	FINISHED O.D. (Inches)
5103	3-22	Same as 5030	3 condrs. No. 22 with 1/4" thermoplastic insulation, all individually color coded. All conductors grouped into cable form with a treated cotton braid overall lacquered.	7 x 30	.125
5123	2-16 1-18	Same as 5030	2 condrs. No. 16 1/4" thermoplastic insulation. 1 condr. No. 18 1/2" thermoplastic insulation, all individually color coded. All conductors grouped into cable form with gray vinyl plastic jacket.	2-26 x 30 1-16 x 30	.215
5135	22 5 condr.	Same as 5030	5 condr. No. 22 with 1/4" thermoplastic insulation; 3 condr. twisted together with a braided tinned copper shield; 2 condr. twisted; all condr. grouped into cable form with a brown cotton braid overall.	5-7 x 30	.225
5124	4-18	Same as 5030	No. 18 solid 4 condr. color coded gray plastic jacket overall.	Solid	.225

**MICROPHONE CABLE**

**CONDUCTOR COLOR CHART:** 1—Black; 2—White; 3—Red; 4—Green; 5—Yellow; 6—Blue; 7—Brown.

STANDARD SPOOL PUT-UP: 9 FT., 10 FT., 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

SHIELDED: Weatherproof rubber jacket for all microphone or weatherproof extension work. (Longer continuous lengths if desired.)

No	TYPE	SIZE	SPECIAL USE	SPECIFICATIONS	STRANDING	FINISHED O.D. (Inches)	NOMINAL CAPACITY per ft. (mmf)
1461	1 conductor	22	Lapel microphone	Tinned copper polyethylene insulation with a closely woven tinned copper shield. Gray vinyl plastic jacket.	16 x 34	.125	34.
1457	1 conductor	22	Crystal, Ribbon and other high impedance microphones	Same as 1461 except heavier polyethylene insulation on conductor.	16 x 34	.200	25.
1458	2 conductor	22	Low impedance microphones	Tinned copper conductors polyethylene insulation conductors; black and white. Cabled with fillers closely woven tinned copper shield. Gray vinyl plastic jacket.	26 x 34	.175	40.
1459	1 conductor	20	Lapel microphone	Tinned Copper Wire, with polyethylene to .087" O.D. with a closely woven tinned copper shielded braid, and a heavy black plastic jacket overall.	16 x 34	.231	32.
1460	1 conductor	20	Crystal microphone	Tinned copper, yarn serve; wall of live rubber; tinned copper braid shield; rubber jacket overall.	26 x 34	.240	33.
1462	2 conductor	20	Carbon microphones	Same as 1460; color coded	26 x 34	.240	68.
1456	2 conductor	18	Heavy duty studio cable	Same as 1460; color coded	00 x 00	.268	
1463	3 conductor	20	Carbon microphones	Same as 1460; color coded	41 x 34	.295	80.
1464	4 conductor	20	Carbon microphones	Same as 1460; color coded	26 x 34	.277	85.
1465	5 conductor	20	Carbon microphones	Same as 1460; color coded	26 x 34	.295	95.
1466	6 conductor	20	Carbon microphones	Same as 1460; color coded	26 x 34	.295	
1467	7 conductor	20	Carbon microphones	Same as 1460; color coded	26 x 34	.323	
1455	8 conductor	20	Carbon microphones Same as 1465	Same as 1460; color coded	26 x 34	.350	
				Same as 1460; color coded	26 x 34	.360	
				Same as 1460; color coded	26 x 34	.386	



# MAGNET WIRE

Popular, profitable specialty wire packaged for easy selling in radio-electrical, department, specialty and hardware stores. Wide variety of sizes and insulations. Keeps stock in perfect order, always saleable. Supplied on Spool as shown and in Heavier Weights for whatever weight desired. Here is a handy and convenient way to stock small quantities of wire. It prevents wire from matting or tangling.

## No. 2000 VARIOUS OTHER INSULATIONS

<p>Film</p> <p>ENAMEL—oleoresinous</p> <p>FORMVAR—poly vinyl acetal</p> <p>SODEREZE—polyurethane</p> <p>THERMALEZE—epoxide polyester</p> <p>NYFORM—formvar, nylon sheath</p> <p>NYLON</p> <p>BONDEZE</p> <p>GRIPEZE</p> <p>LECTRON—acrylic</p> <p>ISONSEL—terephthalic polyester</p> <p>ALKANVAR—terephthalic polyester</p> <p>SYLKYN ENAMELED</p> <p>COTTON AND COMBINATIONS</p> <p>SILK AND COMBINATIONS</p> <p>CELANESE AND COMBINATIONS</p> <p>GLASS AND COMBINATIONS</p> <p>PAPER AND COMBINATIONS</p>	<p>Technical Classification</p>
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### PLAIN ENAMEL MAGNET WIRE

Size	¼ lb.	½ lb.	1 lb.
14	\$0.45	\$0.75	\$1.39
15	.45	.80	1.40
16	.50	.84	1.42
17	.50	.87	1.44
18	.50	.89	1.45
19	.55	.92	1.49
20	.55	.94	1.50
21	.55	.95	1.59
22	.55	.97	1.70
23	.58	.99	1.75
24	.60	1.00	1.87
25	.65	1.10	1.95
26	.65	1.10	2.03
27	.70	1.15	2.14
28	.73	1.20	2.25
29	.75	1.25	2.30
30	.80	1.30	2.35
31	.89	1.35	2.45
32	.90	1.40	2.50
33	.95	1.50	2.65
34	1.00	1.70	2.75
35	1.09	1.84	3.14
36	1.29	2.00	3.50
37	1.45	2.25	4.00
38	1.70	2.50	4.50
39	1.87	3.00	5.00
40	2.50	3.75	6.00
41	3.00	5.63	8.48
42	3.48	6.60	12.89
43	4.35	8.25	15.75
44	4.88	9.38	18.45

### SINGLE FORMVAR MAGNET WIRE

Size	¼ lb.	½ lb.	1 lb.
14	\$0.66	\$1.12	\$2.07
15	.66	1.20	2.10
16	.75	1.25	2.14
17	.75	1.30	2.15
18	.75	1.34	2.17
19	.83	1.39	2.23
20	.83	1.40	2.25
21	.83	1.42	2.37
22	.83	1.45	2.56
23	.89	1.49	2.62
24	.90	1.50	2.80
25	.97	1.65	2.92
26	.99	1.65	3.05
27	1.05	1.74	3.26
28	1.10	1.80	3.37
29	1.14	1.87	3.46
30	1.20	1.95	3.52
31	1.34	2.02	3.67
32	1.35	2.10	3.75
33	1.42	2.25	3.95
34	1.50	2.55	4.12
35	1.64	2.81	4.70
36	1.92	3.00	5.26
37	2.17	3.37	6.00
38	2.55	3.75	6.76
39	2.80	4.50	7.50
40	3.75	5.64	9.00
41	3.75	6.75	12.60
42	4.28	7.40	13.43
43	5.18	7.88	14.25
44	6.60	11.70	22.58

### HEAVY FORMVAR MAGNET WIRE

Size	¼ lb.	½ lb.	1 lb.
14	\$0.73	\$1.24	\$2.27
15	.73	1.34	2.33
16	.84	1.39	2.35
17	.84	1.44	2.37
18	.84	1.47	2.39
19	.92	1.52	2.45
20	.92	1.54	2.51
21	.92	1.55	2.61
22	.92	1.60	2.80
23	.97	1.64	2.87
24	1.00	1.65	3.07
25	1.15	1.97	3.50
26	1.19	1.98	3.64
27	1.25	2.07	3.84
28	1.34	2.15	4.04
29	1.37	2.24	4.14
30	1.44	2.34	4.22
31	1.67	2.52	4.58
32	1.69	2.63	4.67
33	1.77	2.81	4.94
34	1.87	3.19	5.16
35	2.04	3.46	5.88
36	2.39	3.75	6.58
37	2.72	4.20	7.50
38	3.17	4.69	8.45
39	3.50	5.64	9.38
40	4.69	7.04	11.27
41	5.18	7.59	13.65
42	5.78	8.15	14.72
43	6.00	8.63	15.08
44	7.43	11.40	23.33

## Larger Quantities At Same Per Pound List

## SPECIAL MAGNET WIRES

In addition to the standard listing shown here, we maintain an extensive stock of all other sizes in round, rectangular and square magnet wire.

### DOUBLE COTTON COVERED MAGNET WIRE

Size	¼ lb.	½ lb.	1 lb.
14	\$0.55	\$0.95	\$1.87
15	.58	.98	1.90
16	.60	1.00	1.95
17	.60	1.05	2.00
18	.60	1.10	2.05
19	.65	1.15	2.28
20	.65	1.25	2.34
21	.77	1.34	2.50
22	.82	1.39	2.64
23	.88	1.50	2.75
24	.94	1.60	3.00
25	.95	1.65	3.14
26	1.00	1.75	3.39
27	1.15	1.89	3.64
28	1.20	2.14	4.00
29	1.30	2.39	4.50
30	1.32	2.50	4.75
31	1.50	2.75	5.00
32	1.75	3.00	5.64
33	1.89	3.37	6.25
34	2.14	3.89	7.00
35	2.39	4.25	7.50
36	2.75	4.89	8.65
37	2.25	6.25	11.40
38	4.75	8.65	16.50
39	6.00	11.50	20.00
40	8.00	15.00	28.15

### BARE COPPER WIRE

Size	¼ lb.	½ lb.	1 lb.
14	\$0.53	\$0.97	\$1.54
15	.57	1.00	1.60
16	.60	1.10	1.83
17	.52	1.12	1.87
18	.63	1.14	1.90
19	.65	1.17	1.95
20	.67	1.20	2.00
21	.68	1.20	2.07
22	.70	1.24	2.14
23	.70	1.27	2.17
24	.70	1.30	2.20
25	.72	1.30	2.20
26	.73	1.34	2.27
27	.75	1.37	2.30
28	.77	1.40	2.40
29	.77	1.42	2.47
30	.77	1.42	2.47
31	.77	1.44	2.53
32	.77	1.44	2.60
33	.78	1.47	2.68
34	.80	1.50	2.77
35	.82	1.55	2.90
36	.84	1.60	3.04
37	.92	1.75	3.22
38	1.00	1.90	3.40
39	1.02	1.97	3.45
40	1.04	2.04	3.50

### TINNED COPPER WIRE

Size	¼ lb.	½ lb.	1 lb.
14	\$0.67	\$1.13	\$1.75
15	.73	1.27	1.92
16	.80	1.40	2.00
17	.84	1.44	2.03
18	.87	1.47	2.08
19	.90	1.50	2.12
20	.94	1.53	2.17
21	.95	1.53	2.24
22	.97	1.57	2.30
23	.98	1.58	2.34
24	1.00	1.60	2.37
25	1.00	1.60	2.37
26	1.00	1.60	2.37
27	1.05	1.67	2.64
28	1.10	1.75	2.90
29	1.13	1.84	2.94
30	1.17	1.92	2.97
31	1.20	2.00	3.04
32	1.24	2.09	3.10
33	1.27	2.17	3.19
34	1.30	2.25	3.27
35	1.32	2.30	3.40
36	1.34	2.34	3.54
37	1.36	2.42	3.72
38	1.38	2.50	3.90
39	1.39	2.50	3.95
40	1.40	2.67	4.00

## BARE NICKEL CHROMIUM WIRE

### No. 2000

Recommended for electrical heating appliances and other devices where the highest quality in performance is required, whose operating temperatures do not exceed 1850° F. Particularly suited for heavy duty rheostats and controls which require compact resistance.

### ON PROTECTA-METAL SPOOLS

Size	1 Oz.	¼ Lb.	1 Lb.
14	.....	\$1.52	\$5.56
15	.....	1.56	5.65
16	.....	1.58	5.73
17	.....	1.63	5.80
18	.....	1.67	5.87
19	.....	1.71	6.02
20	\$0.67	1.76	6.17
21	.71	1.85	6.49
22	.72	1.93	6.79
23	.74	2.08	7.44
24	.76	2.22	8.09
25	.82	2.37	8.74
26	.87	2.53	9.39
27	.89	2.57	9.96

Size	1 Oz.	¼ Lb.	1 Lb.
28	\$0.92	\$2.84	\$10.53
29	1.00	2.98	11.18
30	1.09	3.11	11.83
31	1.14	3.28	12.28
32	1.18	3.43	12.73
33	1.31	3.79	14.73
34	1.44	4.16	16.73
35	1.58	4.55	17.71
36	1.71	4.94	18.69
37	2.22	6.50	23.86
38	2.74	8.05	29.03
39	2.86	8.39	31.62
40	2.98	8.95	34.20

**CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS**

SEND FOR COMPLETE CATALOG



**MULTIPLE CONDUCTOR COTTON BRAIDED CABLE**

FOR SPEAKERS, TESTERS, BATTERY HOOK-UP, ETC.



**SPECIFICATIONS:** Tinned flexible copper; colored plastic insulation; bunched individual conductors; heavy brown cotton braid overall; color coded. Size 20; Stranding 10x30; Insulation Thickness  $\frac{1}{64}$ "

TYPE NO.	TYPE	FINISHED O.D. (Inches)	TYPE NO.	TYPE	FINISHED O.D. (Inches)
1481	1 condr.	.150	1487	7 condr.	.275
1482	2 condr.	.175	1488	8 condr.	.300
1483	3 condr.	.200	1489	9 condr.	.310
1484	4 condr.	.275	1490	10 condr.	.325
1485	5 condr.	.250	1494	11 condr.	.335
1486	6 condr.	.260	1495	12 condr.	.350

**MULTIPLE CONDUCTOR TINNED COPPER SHIELD CABLE**



**SPECIFICATIONS:** Tinned flexible copper, 912E20, Stranding 10x30— $\frac{1}{64}$ " plastic insulation, color coded, Braided tinned copper shield.

TYPE NO.	TYPE	FINISHED O.D. (Inches)
1471	1 conductor	.110
1472	2 conductors	.190
1473	3 conductors	.200
1474	4 conductors	.220
1475	5 conductors	.235
1476	6 conductors	.250
1477	7 conductors	.265

**ANALYZER CABLE**

**SPECIFICATIONS:** Extra flexible tinned copper; plastic insulation; color coded; Brown cotton braid overall.

TYPE	SIZE	STRAND-ING	INSULATION THICKNESS (Inches)	FINISHED O.D. (Inches)
1501	8 condr.	2-14	41 x 30	$\frac{1}{64}$ .300
		6-18	16 x 30	
1502	9 condr.	2-14	41 x 30	$\frac{1}{64}$ .320
		7-18	16 x 30	

**TEST PROD WIRE**

A Specially Constructed High Grade Wire For Use On Laboratory Test Equipment, Bench Analyzers, Etc.

**SPECIFICATIONS:** Extra flexible tinned copper; cotton wrap; red or black; live rubber insulation.

1001	5,000 volts	20	41 x 36	.043	.140
1006	10,000 volts	18	65 x 36	.088	.230



**SHIELDING AND BONDING CABLE**  
DESIGNED FOR SHIELDING INSULATED WIRES AND CABLES . . . BONDING AND MANY OTHER USES

STANDARD SPOOL PUT-UP:  
50 FT., 100 FT., 250 FT., 1000 FT.



NO.	APPROX. I. D.	SIZE & NUMBER OF WIRES	APPROX. AWG.	CARRYING CAPACITY IN AMPERES
1386	$\frac{1}{32}$ "	24 x 36	24	7
1387	$\frac{3}{64}$ "	24 x 36	23	7
1388	$\frac{1}{32}$ "	48 x 36	19	12
1389	$\frac{7}{64}$ "	72 x 36	18	14
1390	$\frac{1}{8}$ "	96 x 36	18	15
1391	$\frac{3}{16}$ "	120 x 36	15	23
1392	$\frac{1}{4}$ "	168 x 36	14	30
1393	$\frac{3}{8}$ "	288 x 36	11	50
1394	$\frac{1}{2}$ "	386 x 36	10	55
1395	$\frac{5}{8}$ "	396 x 36	10	61
1396	$\frac{3}{4}$ "	832 x 36	7	80
1397	$\frac{25}{32}$ "	832 x 36	7	80
1398	1"	832 x 36	7	84
1399	$1\frac{3}{8}$ "	912 x 36	7	105



**TINNED COPPER BUS BAR WIRE**  
SOLID SOFT DRAWN COPPER AND BRIGHTLY TINNED FOR ALL TYPES OF SOLDERING CONNECTIONS AND OTHER APPLICATIONS

STANDARD SPOOL PUT-UP: 100 FT., 1000 FT.

NO.	NOMINAL DIAMETER	SIZE SOLID	CIRCULAR MIL AREA
3845	.129"	8	16510
3841	.102"	10	10380
3831	.082"	12	6530
3821	.064"	14	4110
3815	.051"	16	2583
3816	.040"	18	1624
3817	.032"	20	1022
3818	.025"	22	642
3819	.020"	24	404
3846	.016"	26	254.1
3847	.013"	28	159.8
3848	.010"	30	100.5

**LEAD COVERED CABLE**



FOR FREEDOM FROM INTERFERENCE, CORROSION AND DAMPNESS.

**SPECIFICATIONS:** Tinned copper wire; heavy rubber insulation and cotton braid; heavy lead shield.

1453	2 cond.	18	Solid	$\frac{1}{32}$	240 x .200
1454	3 cond.	18	Solid	$\frac{1}{32}$	.420



# CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS



SEND FOR COMPLETE CATALOG

## ELECTRICAL CORDAGES UNDERWRITERS APPROVED

SUPPLIED ON ATTRACTIVE TRI-COLOR  
LITHOGRAPHED METAL SPOOLS

### RUBBER HANDYCORD CENTERSTRIP



### PLASTIC HANDYCORD CENTERSTRIP



### RUBBER SHEATHED SERVICE CORD UNDERWRITERS APPROVED



#### SPECIFICATIONS AND APPLICATION

Extra flexible bare copper cotton served. 1/32" rubber insulation color coded conductors cabled with fillers, cotton wrap and black, tough rubber jacket.

For all electronic equipment, household appliances, garden and power tools.

### NEOPRENE SHEATHED SERVICE CORD UNDERWRITERS APPROVED



#### SPECIFICATIONS AND APPLICATION

Same specifications as 4200 Series except black Neoprene jacket.

For all types of equipment exposed to oils, acid and excessive moisture.

### HEATER CORD



Colors: Black and White Marker.

STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

NO.	NO. OF COND.	SIZE AWG.	U. L. TYPE	STRAND-ING	NOM. INS. THICKNESS	NOM. O. D.
4072	2	18	SP(P.O.S.J.)	41 x 34	1/64"	.235 x .130
4074	2	16	SP(P.O.S.J.)	65 x 34	1/32"	.300 x .160

Colors: Black, Brown, White, Gray.

STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

NO.	NO. OF COND.	SIZE AWG.	U. L. TYPE	STRAND-ING	NOM. INS. THICKNESS	NOM. O. D.
4077	2	18	SPT(P.O.T.)	41 x 34	1/64"	.235 x .130
4079	2	16	SPT(P.O.T.)	65 x 34	1/32"	.300 x .160

Colors: Black, Brown, White, Gray.

STANDARD PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT.

NO.	NO. OF COND.	SIZE AWG.	U. L. TYPE	CURRENT CARRYING CAPACITY	VOLTAGE RATING	NOM. O. D.
4202	2	18	SV	5 Amps.	300	.250"
4207	2	18	SJ	5 Amps.	300	.310"
4212	3	18	SJ	5 Amps.	300	.345"
4214	4	18	SJ	5 Amps.	300	.360"
4217	2	16	SJ	7 Amps.	300	.340"
4222	3	16	SJ	7 Amps.	300	.375"
4224	4	16	SJ	7 Amps.	600	.395"
4227	2	18	S	5 Amps.	600	.390"
4232	3	18	S	5 Amps.	600	.405"
4234	4	18	S	5 Amps.	600	.435"
4237	2	16	S	7 Amps.	600	.410"
4242	3	16	S	7 Amps.	600	.430"
4244	4	16	S	7 Amps.	600	.485"
4247	2	14	S	15 Amps.	600	.540"
4252	3	14	S	15 Amps.	600	.560"
4254	4	14	S	15 Amps.	600	.605"
4257	2	12	S			
4262	3	12	S	20 Amps.	600	.635"
4264	4	12	S	20 Amps.	600	.665"
4267	2	10	S	25 Amps.	600	.640"
4272	3	10	S	25 Amps.	600	.690"
4274	4	10	S	25 Amps.	600	.745"

STANDARD PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT.

NO.	NO. OF COND.	SIZE AWG.	U. L. TYPE	CURRENT CARRYING CAPACITY	VOLTAGE RATING	NOM. O. D.
4307	2	18	SJO	5 Amps.	300	.310"
4312	3	18	SJO	5 Amps.	300	.345"
4314	4	18	SJO	5 Amps.	300	.360"
4317	2	16	SJO	7 Amps.	300	.340"
4322	3	16	SJO	7 Amps.	300	.375"
4324	4	16	SO	7 Amps.	600	.395"
4327	2	18	SO	5 Amps.	600	.390"
4332	3	18	SO	5 Amps.	600	.405"
4334	4	18	SO	5 Amps.	600	.435"
4337	2	16	SO	7 Amps.	600	.410"
4342	3	16	SO	7 Amps.	600	.430"
4344	4	16	SO	7 Amps.	600	.485"
4347	2	14	SO	15 Amps.	600	.540"
4352	3	14	SO	15 Amps.	600	.560"
4354	4	14	SO	15 Amps.	600	.605"
4357	2	12	SO	20 Amps.	600	.605"
4362	3	12	SO	20 Amps.	600	.635"
4364	4	12	SO	20 Amps.	600	.665"
4367	2	10	SO	25 Amps.	600	.640"
4372	3	10	SO	25 Amps.	600	.690"
4374	4	10	SO	25 Amps.	600	.745"

STANDARD SPOOL PUT-UP: 100 FT., 250 FT.

NO.	NO. OF COND.	SIZE AWG.	U. L. TYPE	STRAND-ING	NOM. INS. THICKNESS	NOM. O. D.
4087	2	16	HPD	65 x 34	1/32"	.275
4092	2	18	HPD	41 x 34	1/32"	.250

CONSOLIDATED WIRE PAGE 18

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE



**DAFLEX 105 PLASTIC TUBING**  
105°C POLYVINYLCHLORIDE (PVC) MEETS MIL-I-631D SPECS



Specifically compounded vinyl resins for superior all around performance. UL approved for 105°C, conforms to Spec MIL-I-631D Type F, Form U, Grades A and C. Class 1 and 2, Category 1. Resistant to heat, oil, water, chemical corrosion, fungi and aging. Very hi abrasion resistance. Will retain its flexibility. Suitable for covering and protecting wires and cables. Designed for electrical, electronic and aircraft applications. Non-flammable. Meets ASTM—D876, ASTM—D922.

**DIMENSIONAL TOLERANCES OF DAFLEX 105**

DAFLEX No.	Size	Did Daburn No.	Nom. I.D.	Nom. Wall	Specify Std. Put-Up Spool or Coil	ASTM Tolerance, Inches		Wall Thickness Inches
D105-24	24	808	.022"	.012"	25', 100', 1000'	.020	.027	.012 ± .002
D105-22	22	811	.027"	.012"	25', 100', 1000'	.025	.032	.012 ± .002
D105-20	20	813	.034"	.016"	25', 100', 1000'	.032	.039	.016 ± .003
D105-19	19	—	.038"	.016"	25', 100', 1000'	.044	.036	.016 ± .003
D105-18	18	814	.042"	.016"	25', 100', 1000'	.040	.049	.016 ± .003
D105-17	17	—	.047"	.016"	100', 1000'	.054	.045	.016 ± .003
D105-16	16	815	.053"	.016"	25', 100', 1000'	.051	.061	.016 ± .003
D105-15	15	—	.059"	.016"	100', 500'	.067	.057	.016 ± .003
D105-14	14	816	.066"	.016"	25', 100', 500'	.064	.072	.016 ± .003
D105-13	13	—	.076"	.016"	100', 500'	.080	.072	.016 ± .003
D105-12	12	817	.085"	.016"	25', 100', 500'	.081	.089	.016 ± .003
D105-11	11	—	.095"	.016"	100', 500'	.101	.091	.016 ± .003
D105-10	10	825	.106"	.016"	25', 100', 500'	.102	.112	.016 ± .003
D105-9	9	—	.118"	.020"	100', 500'	.124	.114	.020 ± .003
D105-8	8	818	.135"	.020"	25', 100', 500'	.129	.141	.020 ± .003
D105-7	7	—	.148"	.020"	100', 500'	.158	.144	.020 ± .003
D105-6	6	826	.166"	.020"	25', 100', 250'	.162	.178	.020 ± .003
D105-5	5	—	.186"	.020"	100', 250'	.198	.182	.020 ± .003
D105-4	4	819	.208"	.020"	25', 100', 250'	.204	.224	.020 ± .003
D105-3	3	—	.234"	.020"	100', 250'	.249	.229	.020 ± .003
D105-2	2	820	.263"	.020"	100', 250'	.258	.278	.020 ± .003
D105-1	1	—	.330"	.020"	100', 250'	.311	.289	.020 ± .003
D105-0	0	—	.330"	.020"	100', 250'	.347	.325	.020 ± .003
D105-3/8"	3/8"	821	.312"	.025"	100', 250'	.3125	.334	.025 ± .003
D105-1/2"	1/2"	822	.375"	.025"	100', 250'	.375	.399	.025 ± .003
D105-5/8"	5/8"	—	.438"	.025"	100', 250'	.462	.438	.025 ± .003
D105-3/4"	3/4"	823	.500"	.025"	50', 100', 250'	.500	.524	.025 ± .003
D105-7/8"	7/8"	—	.562"	.030"	50', 100'	.592	.562	.030 ± .003
D105-1"	1"	824	.625"	.030"	50', 100'	.625	.655	.030 ± .005
D105-1 1/8"	1 1/8"	827	.750"	.035"	50', 100'	.750	.786	.035 ± .005
D105-1 1/4"	1 1/4"	860	.875"	.035"	50', 100'	.875	.911	.035 ± .005
D105-1 1/2"	1 1/2"	861	1.000"	.035"	50'	1.000	1.036	.035 ± .005
D105-1 3/4"	1 3/4"	—	1.125"	.040"	50'	1.125	1.161	.040 ± .005
D105-1 7/8"	1 7/8"	862	1.250"	.040"	50'	1.250	1.286	.040 ± .005
D105-1 5/8"	1 5/8"	—	1.375"	.040"	50'	1.375	1.411	.040 ± .005
D105-1 1/2"	1 1/2"	863	1.500"	.045"	50'	1.500	1.536	.045 ± .005
D105-1 3/4"	1 3/4"	863	1.750"	.055"	50'	1.812	1.750	.055 ± .008
D105-2"	2"	829	2.000"	.060"	50'	2.000	2.070	.060 ± .010
D105-2 1/4"	2 1/4"	864	2.250"	.065"	50'	2.250	2.330	.065 ± .010
D105-2 1/2"	2 1/2"	865	2.500"	.070"	50'	2.500	2.590	.070 ± .010

- IN STOCK**
- PROPERTIES OF DAFLEX-105 TUBING**
- Recommended for Temperatures to 105°C (220°F)
  - Low Temperature Flexibility to -30°C
  - Dielectric Strength — .020" Wall 800 V/MIL
  - Dielectric Constant 6.0
  - Tensile Strength — Min. (PSI) 2700
  - Ultimate Elongation 300%
  - Oil Resistance Excellent
  - Fungus Resistance Excellent
  - Flammability Self-Extinguishing
  - Corrosion and Abrasion Resistance Excellent

**COLORS AVAILABLE FROM STOCK**

Sizes 24 thru 2: Clear, Black, White, Yellow, Red, Green, Brown, Blue, Orange.

Sizes 3/8" thru 3/4": Clear, Black, Yellow, Red, Green, White

Sizes 1/2" thru 2 1/2": Clear, Black, White.

Additional Colors to Order.

**ALL THE ABOVE TUBING CAN BE ORDERED CUT AND MARKED TO YOUR SPECIFICATIONS**

**LOW TEMPERATURE TUBING**

**DAFLEX 74 EXTRUDED PLASTIC TUBING**  
LOW TEMPERATURE PER MIL-SPEC MIL-I-7444B MIL-I-22076 TO -94°C



Low temperature applications at sub-zero. Meets Mil spec. Fungus resistant. 750 V/Mil dielectric strength. Tensile strength 2200 psi. Elongation — 360%

DAFLEX No.	Size	Nom. I.D.	Nom. Wall
D74-24	24	.022"	.012"
D74-22	22	.027"	.012"
D74-20	20	.034"	.016"
D74-19	19	.038"	.016"
D74-18	18	.042"	.016"
D74-17	17	.047"	.016"
D74-16	16	.053"	.016"
D74-15	15	.059"	.016"
D74-14	14	.066"	.016"
D74-13	13	.076"	.016"
D74-12	12	.085"	.016"
D74-11	11	.095"	.016"
D74-10	10	.106"	.016"
D74-9	9	.118"	.020"
D74-8	8	.133"	.020"
D74-7	7	.148"	.020"
D74-6	6	.166"	.020"
D74-5	5	.186"	.020"
D74-4	4	.208"	.020"
D74-3	3	.234"	.020"
D74-2	2	.263"	.020"
D74-1	1	.294"	.020"
D74-0	0	.330"	.020"
D74-3/8"	3/8"	.312"	.025"
D74-1/2"	1/2"	.375"	.025"
D74-5/8"	5/8"	.438"	.025"
D74-3/4"	3/4"	.500"	.025"
D74-7/8"	7/8"	.562"	.030"
D74-1"	1"	.625"	.030"
D74-1 1/8"	1 1/8"	.750"	.035"
D74-1 1/4"	1 1/4"	.875"	.035"
D74-1 1/2"	1 1/2"	1.000"	.035"
D74-1 3/4"	1 3/4"	1.250"	.040"
D74-1 7/8"	1 7/8"	1.375"	.040"
D74-1 5/8"	1 5/8"	1.500"	.045"
D74-1 1/2"	1 1/2"	1.750"	.055"
D74-2"	2"	2.000"	.060"
D74-2 1/4"	2 1/4"	2.250"	.065"
D74-2 1/2"	2 1/2"	2.500"	.070"

STANDARD COLOR: CLEAR (NATURAL) ADDITIONAL COLORS AVAILABLE TO ORDER. STD. PUT-UP: 100 FT., 500 FT., 1000 FT.

**FIBERGLASS SLEEVING**

**DAFLEX 1200—FOR HIGH TEMPERATURE APPLICATIONS TO 1200°F FLEXIBLE FIBERGLASS SLEEVING**



Extremely flexible class H, it is non-flammable and treated for removal of all organic matter. Glass braid is fray resistant. Will provide maximum mechanical strength. Tightly braided. Applicable specs—Nema VSI. Dielectric strength determined by space factor.

DAFLEX No.	Size	Nom. I.D.
D1200-24	24	.022"
D1200-22	22	.027"
D1200-20	20	.034"
D1200-19	19	.038"
D1200-18	18	.042"
D1200-17	17	.047"
D1200-16	16	.053"
D1200-15	15	.059"
D1200-14	14	.066"
D1200-13	13	.076"
D1200-12	12	.085"
D1200-11	11	.095"
D1200-10	10	.106"
D1200-9	9	.118"
D1200-8	8	.133"
D1200-7	7	.148"
D1200-6	6	.166"
D1200-5	5	.186"
D1200-4	4	.208"
D1200-3	3	.234"
D1200-2	2	.263"
D1200-1	1	.294"
D1200-0	0	.330"
D1200-3/8"	3/8"	.387"
D1200-1/2"	1/2"	.450"
D1200-5/8"	5/8"	.512"
D1200-3/4"	3/4"	.640"
D1200-7/8"	7/8"	.768"
D1200-1"	1"	.893"
D1200-1 1/8"	1 1/8"	1.018"

STANDARD COLOR: NATURAL. ADDITIONAL COLORS AVAILABLE TO ORDER. STD. PUT-UP: 100 FT., 500 FT., 1000 FT.

**ALL THE ABOVE CAN BE CUT AND MARKED TO YOUR SPECIFICATIONS.**

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**DAFLON TEFLON® SPAGHETTI TUBING**

Daflon 500 and 550 tubing is extruded from Dupont Tetrafluoroethylene resin and is unmatched by any other tubing for use in applications for hi frequencies and hi temperatures. Rated for continuous operation of 250°C it retains its toughness and flexibility thruout. Has high resistance to fatigue and stresses. Will not shrink back during soldering operation. Non-flammable, flexible, it permits miniaturization of design and compactness. Lowest coefficient of friction. Inert to all fungus growth. Conforms to MIL-I-22129C Spec. AMS 3651B, 3653B, 3654, 3655.

**TABLE OF PROPERTIES**

Test	ASTM Method	Result
Tensile Strength, 73°F.	D638-52T	1500-300 Lb/Sq. In.
Elongation, 73°F.	D638-52T	100-200%
Deformation Under Load—122°F.		
1200 Lb/Sq. In., 24 Hrs.	D621-51	4-8%
2000 Lb/Sq. In., 24 Hrs.	D621-51	25%
Hardness Durometer	D676-49T	D50-D65
Heat Distortion Temp., 6 Lb/Sq. In.	D648B-45T	250°C
Dielectric Strength, .080"	D149-44	400-500 V/MIL
Surface Arc-Resistance	D495-48T	Sec.
Volume Resistivity	D257-52T	10 <sup>15</sup> Ohm-CM
Surface Resistivity, 100% R.H.	D257-52T	3.6x10 <sup>8</sup> Megohms
Dielectric Constant, 60 to 10 <sup>4</sup> Cycles	D150-54T	2.00
Power Factor, 60 to 10 <sup>4</sup> Cycles	D150-54T	0.0003
Specific Gravity	D792-50	2.1-2.2

**DAFLON THIN WALL TEFLON® TUBING (DTT-500)**

**MIL-I-22129C**

DAFLON No.	Size	Nom. I.D.	Nom. Wall Thickness	Specify Std. Put-Up Spool or Coil
DTT500-32	32	.011"	.0085"	100', 500', 1000'
DTT500-30	30	.012"	.009"	100', 500', 1000'
DTT500-28	28	.015"	.009"	100', 500', 1000'
DTT500-26	26	.018"	.010"	100', 500', 1000'
DTT500-24	24	.022"	.010"	25', 50', 100', 500', 1000'
DTT500-22	22	.027"	.010"	25', 50', 100', 500', 1000'
DTT500-20	20	.034"	.012"	25', 50', 100', 500', 1000'
DTT500-19	19	.038"	.012"	100', 500', 1000'
DTT500-18	18	.042"	.012"	25', 50', 100', 500', 1000'
DTT500-17	17	.047"	.012"	100', 500', 1000'
DTT500-16	16	.053"	.012"	25', 50', 100', 500', 1000'
DTT500-15	15	.059"	.012"	100', 500', 1000'
DTT500-14	14	.066"	.012"	25', 50', 100', 500', 1000'
DTT500-13	13	.076"	.012"	100', 500', 1000'
DTT500-12	12	.085"	.012"	25', 50', 100', 500', 1000'
DTT500-11	11	.095"	.012"	100', 500', 1000'
DTT500-10	10	.106"	.012"	25', 50', 100', 500', 1000'
DTT500-9	9	.118"	.015"	100', 500', 1000'
DTT500-8	8	.133"	.015"	25', 50', 100', 500', 1000'
DTT500-7	7	.148"	.015"	100', 500', 1000'
DTT500-6	6	.166"	.015"	25', 50', 100', 500', 1000'
DTT500-5	5	.186"	.015"	100', 500', 1000'
DTT500-4	4	.208"	.015"	25', 50', 100', 500', 1000'
DTT500-3	3	.234"	.015"	100', 500', 1000'
DTT500-2	2	.263"	.015"	25', 50', 100', 500', 1000'
DTT500-1	1	.294"	.015"	100', 500', 1000'
DTT500-3/8	3/8	.390"	.020"	25', 50', 100', 500', 1000'
DTT500-7/8	7/8	.453"	.020"	50', 100'
DTT500-1 1/2	1 1/2	.515"	.025"	25', 50', 100'
DTT500-3/4	3/4	.583"	.025"	25', 50', 100'
DTT500-5/8	5/8	.640"	.030"	25', 50', 100'
DTT500-3/4	3/4	.765"	.030"	25', 50', 100'
DTT500-7/8	7/8	.895"	.030"	25', 50', 100'
DTT500-1"	1"	1.025"	.030"	25', 50', 100'
DTT500-1 1/4"	1 1/4"	1.150"	.030"	25', 50', 100'
DTT500-1 1/2"	1 1/2"	1.275"	.030"	25', 50', 100'

\*Random Lengths in Coils.

**STOCK COLORS AVAILABLE:**

Natural, Red, Black, Yellow, Blue, Brown, Green, Orange, Gray, Violet, White.  
If No Color Is Specified, Natural Will Be Supplied

**SMALL PIECE CUTTING AVAILABLE TO ORDER**

STOCK COLORS: Natural, Red, Black, Blue, Brown, Green, Orange, Yellow, Gray, Violet, White.  
Nos. DTT500-3/8 thru 1 1/4" available in Natural. Additional Colors, Sizes Made to Order.

Teflon Tubing can be ordered cut to your specifications.

Tracer Colors Available



We Invite Your Inquiries For Your Special Requirements

**WIRE — CABLE — TUBING DIVISION**

**PROPERTIES OF OAFILON 500 & 550 TEFLON TUBING**

Continuous Service to	250°C
Low Temperature Flexibility	-90°C
Color Stability	
Dielectric Constant	2.0
Dielectric Strength	500 to 1000 V/MIL
Fungus, Oil, Chemical Corrosion	Completely Inert

**DAFLON STANDARD WALL TEFLON® TUBING**

**(DTT-550) MIL-I-22129C Spec.**

**FOR USE WHERE GREATER MECHANICAL STRENGTH IS INDICATED**

DAFLON No.	Nom. Size	Nom. I.D.	Nom. Wall Thickness	Spool or Coil Std. Put-Up
DTT550-24	24	.022"	.012"	100'
DTT550-22	22	.027"	.012"	100'
DTT550-20	20	.034"	.016"	100'
DTT550-19	19	.038"	.016"	100'
DTT550-18	18	.042"	.016"	100'
DTT550-17	17	.047"	.016"	100'
DTT550-16	16	.053"	.016"	100'
DTT550-15	15	.059"	.016"	100'
DTT550-14	14	.066"	.016"	100'
DTT550-13	13	.076"	.016"	100'
DTT550-12	12	.085"	.016"	100'
DTT550-11	11	.095"	.016"	100'
DTT550-10	10	.106"	.016"	100'
DTT550-9	9	.118"	.018"	100'
DTT550-8	8	.133"	.020"	100'
DTT550-7	7	.148"	.020"	100'
DTT550-6	6	.166"	.020"	100'
DTT550-5	5	.186"	.020"	100'
DTT550-4	4	.208"	.020"	100'
DTT550-3	3	.234"	.020"	100'
DTT550-2	2	.263"	.020"	100'
DTT550-1	1	.294"	.020"	100'
DTT550-0	0	.330"	.020"	100'

STOCK COLORS: Natural

Available All Other Colors.

\*Random Lengths in Coils.

Made from Hi Molecular Weight Virgin "TEFLON."



**DAFLEX VINYL COATED FIBERGLASS TUBING 130°C**  
MEETS MIL-I-3190B SPECS (ASTM, NEMA GRADE B-B-1)

DAFLEX 130 is recommended for continuous temperatures up to 130°C. Constructed to provide a tough, flexible, heat resistant tubing. Made from an inorganic fiberglass base sleeving with heat resistant plastic coating, extremely flexible tough plastic insulation. Will not support combustion. Meets MIL-I-3190B, NEMA VSI ASTM D372, MIL-I-21557

**DIMENSIONAL TOLERANCES OF VINYL COATED FIBERGLASS**

DAFLEX No.	Size	Old Daburn No.	Nom. I.D.	Specify Std. Put-Up Spool or Coil
D130-34	34	889	.022"	100', 1000'
D130-22	22	890	.027"	100', 1000'
D130-20	20	891	.034"	25', 100', 1000'
D130-19	19	—	.038"	100', 1000'
D130-18	18	893	.042"	25', 100', 1000'
D130-17	17	—	.047"	100', 1000'
D130-16	16	894	.053"	25', 100', 1000'
D130-15	15	—	.059"	100', 1000'
D130-14	14	895	.066"	25', 100', 500'
D130-13	13	—	.076"	100', 500'
D130-12	12	800	.085"	25', 100', 500'
D130-11	11	—	.095"	100', 500'
D130-10	10	807	.106"	25', 100', 500'
D130-9	9	—	.118"	100', 500'
D130-8	8	801	.133"	25', 100', 500'

DAFLEX No.	Size	Old Daburn No.	Nom. I.D.	Specify Std. Put-Up Spool or Coil
D130-7	7	—	.148"	100', 250'
D130-6	6	802	.166"	100', 250'
D130-5	5	—	.186"	100', 250'
D130-4	4	805	.208"	100', 250'
D130-3	3	—	.234"	100', 250'
D130-2	2	806	.263"	100', 250'
D130-1	1	—	.294"	100'
D130-0	0	803	.330"	100'
D130-3/4"	3/4"	804	.375"	100'
D130-1/2"	1/2"	—	.438"	100'
D130-1/2"	1/2"	899	.500"	100'
D130-3/8"	3/8"	896	.625"	100'
D130-3/4"	3/4"	—	.750"	100'
D130-7/8"	7/8"	—	.875"	100'
D130-1"	1"	—	1.018"	100'



**PROPERTIES OF DAFLEX 130 VINYL COATED FIBERGLASS**

Recommended for Temperatures to 130°C

Max. Low Temperature Flexibility -20°C

Dielectric Strength 4000 V/MIL

Dielectric Constant 7.0

Tensile Strength — Min. (PSI) 1500

Ultimate Elongation 350%

Will not support Combustion, Abrasion, Oil, Chemical Corrosion Resistance Excellent

Fungus Resistance Good

Gamma Radiation Dosage to 25% 10'

Degradation ERGS/GRAM Color Stability even on Prolonged Baking at Elevated Temperatures

All the Above Tubing Can Be Ordered Cut to Your Specifications

Small Pieces Cut to Order Your Inquiries Invited

COLORS AVAILABLE FROM STOCK #24 thru #2: Black, Red, Green, Yellow, Brown, Blue 3/4" thru 1": Black Additional Colors to Order.



**Hot Air Gun FOR DAFLEX SHRINKABLE TUBING**

DAFLON No. #E1 — For SH265, SH275 & SH290 Series #E2 — For SH400 & SH621 Series

A flameless heat source; light in weight; portable and/or permanent mounting.

An oven, hot liquids, radiant heat, open flame or soldering iron may also be used for all types of shrinkable tubing with excellent results.



**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**HEAT SHRINKABLE TUBING**

**SHRINKABLE IRRADIATED POLYOLEFIN TUBING**

This series is designed for maximum mechanical strength at stress or points of connection. It is strong and abrasion resistant and is supplied in expanded sizes. It insulates, jackets, splices, encapsulates, weatherproofs components, connectors, cables and irregular shaped objects. When exposed to heat (235°F) the tubing shrinks 50% in diameter, 5% longitudinal contraction. Controlled shrinkage to exact requirement takes place. Meets or exceeds MIL-I-23053A Class 1 and 2. Available with UL approval. AMS 3636, 3637.



CAT. NOS. INDICATE  
EXPANDED SIZE  
Shrinkage Ratio:  
2:1 (50%)

DAFLEX SH-275 All Purpose	DAFLEX SH-290 Semi-Rigid	Equiv. I.D. AWG	Before Shrinkage As Supplied Expand. I.D.	Recovered I.D.	Recovered Nom. Wall†	Standard Package
SH-275-3/8"	SH-290-3/8"	22-20	.063"	.031"	.016"	100', 250'
SH-275-3/4"	SH-290-3/4"	18-16	.093"	.046"	.020"	100', 250'
SH-275-1/2"	SH-290-1/2"	14	.125"	.062"	.020"	100', 250'
SH-275-5/8"	SH-290-5/8"	12-10	.187"	.093"	.020"	100', 250'
SH-275-3/4"	SH-290-3/4"	8	.250"	.125"	.025"	100', 250'
SH-275-1/2"	SH-290-1/2"	6	.312"	.156"	.025"	100', 250'
SH-275-3/8"	SH-290-3/8"	4	.375"	.187"	.025"	100', 250'
SH-275-1/2"	SH-290-1/2"	2	.500"	.250"	.025"	100'
SH-275-3/4"	SH-290-3/4"	3/8	.750"	.375"	.030"	100'
SH-275-1"	SH-290-1"	1/2	1.000"	.500"	.035"	100'

STOCK COLORS: Black, White, Red Clear. Although processed by hi-energy radiation the Daflex SH-275 and SH-290 shrinkable tubings do not at any time become radioactive or possess and residual radioactivity. † Wall thickness will be less if recovery is restricted.

**SPECIFICATIONS**

All Tests Made on Tubing in Recovered Dimension

Continuous Operating Temperature	135°C
Longitudinal Change	5% Max.
Tensile Strength	1500 PSI Min.
Ultimate Elongation	200% Min.
Special Gravity	1.29 Max.
Low Temperature Flexibility (-54°C)	No Cracking
Shrinkage Ratio	2:1 (50%)
Dielectric Strength	500 V/MIL Min.
Dielectric Constant	2.87 Max.
Corrosive Resistance	Non-Corrosive
Resistance to Soldering Iron	Excellent
Fuel, Oil, Solvent, Acid, Alkali, Hydraulic Fluid Resistance	Excellent

**DABURN SHRINKABLE POLYVINYLCHLORIDE ALL PURPOSE**  
Shrinkage Ratio: 2:1 (50%)

Flexible, shrinks 50% on heat application, less than 10% longitudinal contraction. Suitable for insulating components and cables in varying shapes and diameters. Has a higher resistance to oils than low density polyethylene. Conforms to MIL-I-631D, Type F, Form V, Grade A and C, Class 1 and 2, Cat. 1. Controlled shrinkage on application of heat to predetermined size takes place in seven seconds at above 266°F. Meets or exceeds MIL-I-23053A, Grade 5. OPERATING TEMPERATURE: -20° to +105°C.



CAT. NOS. INDICATE  
EXPANDED SIZE

DAFLEX SH-265	Equiv. I.D. AWG	Before Shrinkage As Supplied Expanded I.D.	Max. Recovered I.D.	Recovered Nom. Wall†	Standard Package
SH-265-3/8"	22-20	.063"	.031"	.020"	100', 250'
SH-265-3/4"	18-16	.093"	.046"	.025"	100', 250'
SH-265-1/2"	14	.125"	.062"	.025"	100', 250'
SH-265-5/8"	12-10	.187"	.093"	.025"	100', 250'
SH-265-3/4"	8	.250"	.125"	.025"	100', 250'
SH-265-5/8"	6	.312"	.156"	.025"	100', 250'
SH-265-3/4"	4	.375"	.187"	.025"	100', 250'
SH-265-1/2"	2	.500"	.250"	.025"	25', 100'
SH-265-3/4"		.750"	.375"	.025"	25', 100'
SH-265-1"		1.000"	.500"	.030"	25', 100'
SH-265-1 1/2"		1.500"	.750"	.035"	25', 100'
SH-265-2"		2.000"	1.000"	.040"	25', 100'

COLORS: Black, White, Clear, Red.

**PACK ASSORTMENTS**

DAFLEX Cat. No.	Lengths Per Pack	Tubing Size
SH-275-PA1	30	3/8" thru 3/4"
SH-275-PA2	16	1/2" thru 3/4"
SH-275-PA3	10	1"

COLORS: Black, White, Clear, Red. Each pack contains an assortment of 6" lengths in mixed sizes and colors (specify).

**HEAT SHRINKABLE TEFLON<sup>†</sup> TUBING**

**DAFLON SH-400 (FEP)**

Made with Modified TEFLON<sup>†</sup> FEP will shrink over inserted objects upon exposure to moderate heat. Heretofore, many joints, parts, components, devices could not be protected because of hi temperature required for shrinkage. FEP TEFLON<sup>†</sup>, which has a continuous service temperature of 400°F., will shrink at 300°F. Supplied in natural color. Complete shrinkage at 350°F. Now, many heat sensitive products can use the permanent protection of TEFLON<sup>†</sup>. Will not burn or support flame, long lengths available. Extruded.

DABURN No.	Size	I.D.	Min. Exp. I.D.	Max. I.D.	Wall Thickness
SH-400-24	24	.023"	.031"	.027"	.008"
SH-400-22	22	.028"	.036"	.032"	.008"
SH-400-20	20	.034"	.045"	.039"	.008"
SH-400-18	18	.042"	.060"	.049"	.008"
SH-400-16	16	.053"	.075"	.061"	.009"
SH-400-14	14	.066"	.092"	.072"	.009"
SH-400-12	12	.085"	.115"	.089"	.009"
SH-400-10	10	.108"	.141"	.114"	.010"
SH-400-9	9	.118"	.158"	.124"	.010"
SH-400-8	8	.136"	.180"	.143"	.010"
SH-400-7	7	.148"	.197"	.158"	.011"
SH-400-6	6	.170"	.225"	.180"	.011"
SH-400-5	5	.186"	.248"	.198"	.011"
SH-400-4	4	.214"	.290"	.226"	.011"
SH-400-3	3	.234"	.310"	.249"	.011"
SH-400-2	2	.268"	.365"	.280"	.012"
SH-400-1	1	.294"	.400"	.311"	.012"
SH-400-0	0	.366"	.440"	.349"	.012"
SH-400-3/8	3/8"	.375"	.500"	.383"	.015"
SH-400-1/2	1/2"	.437"	.580"	.448"	.020"
SH-400-5/8	5/8"	.500"	.666"	.510"	.020"
SH-400-3/4	3/4"	.625"	.830"	.637"	.025"
SH-400-7/8	7/8"	.750"	1.000"	.764"	.030"
SH-400-1	1"	.875"	1.170"	.891"	.035"
SH-400-1	1"	1.000"	1.330"	1.020"	.035"

STANDARD PACKAGE: 100 FT. † DUPONT

**DAFLON SHRINK SERIES SH-621 TFE TUBING MIL-I-23053A CLASS 6**

Made of modified TEFLON<sup>†</sup> polytetrafluorethylene will shrink when heated to 621°F. Suitable where hi temp protection is required. Extruded. Will not support combustion, dielectric strength (20 Mil Wall) 850 V/M, low temp. brittle point -66°F, superior chemical resistance.

DAFLON No.	Nominal Tubing Size	Minimum Expanded ID	Maximum ID (1)	Recovered Dimensions Wall Thickness (2)
SH-621-26	26	.046"	.022"	.009"
SH-621-24	24*	.050"	.027"	.010"
SH-621-22	22*	.055"	.032"	.010"
SH-621-20	20*	.060"	.039"	.012"
SH-621-19	19	.065"	.043"	.012"
SH-621-18	18*	.076"	.049"	.012"
SH-621-17	17	.085"	.054"	.012"
SH-621-16	16*	.093"	.061"	.012"
SH-621-15	15	.110"	.067"	.012"
SH-621-14	14*	.120"	.072"	.012"
SH-621-13	13	.140"	.080"	.012"
SH-621-12	12*	.150"	.089"	.012"
SH-621-11	11	.170"	.101"	.012"
SH-621-10	10*	.191"	.112"	.012"
SH-621-9	9	.205"	.124"	.015"
SH-621-8	8*	.240"	.141"	.015"
SH-621-7	7	.270"	.158"	.015"
SH-621-6	6*	.302"	.178"	.015"
SH-621-5	5	.320"	.198"	.015"
SH-621-4	4*	.348"	.224"	.015"
SH-621-3	3	.360"	.249"	.015"
SH-621-2	2*	.375"	.278"	.015"
SH-621-1	1	.385"	.311"	.015"
SH-621-0	0*	.400"	.347"	.015"
SH-621-3/8	3/8"	.560"	.399"	.020"
SH-621-1/2	1/2"	.655"	.462"	.020"
SH-621-3/4	3/4"	.750"	.524"	.020"

STANDARD PACKAGE: 100 Feet.

STANDARD PUT-UP: 36" Straight Lengths — One Foot Minimums.

WALL TOLERANCES: 26 thru 22 ± .002; 20 thru 10 ± .003; 9 thru 0 ± .004.

(\*) Stock Sizes.

Daburn No. HG1 — Heat Gun for SH-265, SH-275 and SH-290 Series. (See Page 3)

Daburn No. HG2 — Heat Gun for SH-400 and SH-621 Series

NEW! Heat Shrinkable Neoprene Tubing Available. Shrinkage Ratio 4:1 (25%).

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**TUBULAR BRAID PER MIL SPEC QQ-B-575**

Tinned copper shielded braid mfd completely round per Mil Spec QQ-B-575. Maintains its round configuration. Shielding coverage is 95% or more. Used in military applications where maximum shielding is required against electrostatic interference. Useful against mechanical abrasion and stresses for cables — as grounding cable.

DABURN No.	Nom. Inside Diam. When Rounded	Construction Total No. of Wires	Carriers	AWG of Indiv. Wires	Approx. AWG Equiv.	Nom. Circular Mils	*Current Carrying Cap.
2350-1/32	1/8"	24	24	#36	#22	640	7.0 amps.
2350-1/16	3/16"	48	24	#36	#19	1,290	11.0 amps.
2350-5/64	3/8"	72	24	#36	#17	1,900	18.0 amps.
2350-7/64	7/16"	96	24	#36	#16	2,500	22.0 amps.
2350-1/8	1/2"	120	24	#36	#15	3,260	28.0 amps.
2350-5/32	5/16"	240	24	#36	#12	6,200	39.0 amps.
2350-11/64	11/16"	168	24	#36	#14	4,500	32.0 amps.
2350-3/16	3/4"	192	24	#36	#13	5,100	35.0 amps.
2350-13/64	13/16"	312	24	#36	#11	8,200	46.0 amps.
2350-1/4	1 1/8"	384	24	#36	#10	10,400	53.0 amps.
2350-9/32	9/16"	120	24	#30	#9	12,060	60.0 amps.
2350-3/8	3/4"	384	48	#36	#10	10,400	53.0 amps.
2350-7/16	7/8"	240	24	#30	#6	24,120	90.0 amps.
2350-1/2	1 1/4"	528	48	#36	#9	13,200	70.0 amps.
2350-9/16	1 1/8"	528	48	#36	#9	13,200	70.0 amps.
2350-11/16	1 1/4"	720	48	#36	#7	19,000	82.0 amps.
2350-25/32	25/32"	864	48	#36	#7	21,750	85.0 amps.
2350-13/16	1 1/4"	864	48	#36	#7	21,750	85.0 amps.
2350-7/8	1 1/2"	336	48	#30	#5	33,700	100.0 amps.
2350-1	1 3/4"	384	48	#30	#4	38,600	120.0 amps.
2350-1 1/8	1 7/8"	432	48	#30	#4	43,330	130.0 amps.
2350-1 1/4	2"	480	48	#30	#3	48,150	145.0 amps.
2350-1 3/8	2 1/8"	528	48	#30	#3	53,000	150.0 amps.
2350-1 1/2	2 1/4"	576	48	#30	#2	57,775	165.0 amps.

STANDARD SPOOL PUT-UP: 50 Ft., 100 Ft., 250 Ft.  
Larger Spools Available — Advise.

\*Values based on copper in free air at 65°F. Additional constructions and variations made to order. Also available in silver plated copper, bare copper and stainless steel.

**TINNED COPPER WIRE**

Pure Electrolytic, Copper, annealed, tinned for quick soldering—Solid Soft Drawn MIL—W—3861 Type S, ASTM—B—33 Specifications, QQ—W—343 Type S

DABURN No.	Size AWG	Area Circ. Mills	D.D.	DABURN No.	Size AWG	Area Circ. Mills	D.D.
2360/4	4	41,704	.204"	2360/18	18	1,624	.040"
2360/6	6	26,250	.162"	2360/20	20	1,022	.033"
2360/8	8	16,510	.129"	2360/22	22	624.4	.025"
2360/10	10	10,380	.103"	2360/24	24	404.0	.020"
2360/12	12	6,530	.082"	2360/26	26	254.1	.016"
2360/14	14	4,107	.065"	2360/28	28	159.8	.013"
2360/16	16	2,583	.051"	2360/30	30	100.5	.010"

STANDARD PUT-UP: 100 Ft., 1000 Ft. See Magnet Wire Section For Additional Sizes

**BARE COPPER WIRE (Soft Drawn)**  
QQ—W—341A SPECIFICATIONS  
SOLID

DABURN No.	Size AWG	Area Circular Mills	D.D.
2375/8	8	16,510	.1285"
2375/10	10	10,380	.102"
2375/12	12	6,530	.081"
2375/14	14	4,107	.064"
2375/16	16	2,583	.051"

STANDARD PUT-UP: 100 Ft., 1000 Ft.

**SOLID FORMVAR COPPER WIRE**

DABURN No.	Size AWG	D.D.
2380/10	10	.103"
2380/12	12	.083"
2380/14	14	.066"

STANDARD PUT-UP: 100 Ft., 150 Ft., 200 Ft., 1000 Ft.

**DABURN COPPERWELD WIRE**

Bare Copper Welded to Core. 40% Conductivity. Hard Drawn; will not stretch. Used for hi tensile strength.

DABURN No.	Size AWG	Nom. D.D.	DABURN No.	Size AWG	Nom. D.D.
2386/20	20	.033"	2386/12	12	.080"
2386/18	18	.040"	2386/10	10	.102"
2386/16	16	.050"	2386/8	8	.129"
2386/14	14	.064"	2386/6	6	.162"

STANDARD PUT-UP: 500 Ft., 1000 Ft.

**TINNED COPPER SHIELDING—FLAT BRAID**



Soft annealed tinned copper woven braid, rolled flat at time of manufacture. It is extremely flexible. Used as battery grounding, bonding strap for aircraft, vehicles, marine equipment. Eliminates ignition interference and moving parts Slides over wire and cables.

DABURN No.	Size and No. of Wires	I.O. Flat	O.D. Flat	Approx. AWG Equiv.	Nom. Circular Mils	*Current Carrying Cap.
2355-1/2	12 x 2 x 36	1/2"	3/4"	24	400	6.0
2355-3/4	12 x 2 x 36	3/4"	1 1/4"	22	600	7.0
2355-1	16 x 3 x 36	1 1/4"	1 3/4"	20	1,200	11.0
2355-1 1/4	24 x 5 x 36	1 3/4"	2 1/4"	18	1,800	16.0
2355-1 1/2	24 x 5 x 36	1 3/4"	2 1/2"	15	3,000	25.0
2355-1 3/4	24 x 7 x 36	1 3/4"	2 3/4"	14	4,200	32.0
2355-2	48 x 4 x 36	2"	2 1/2"	12	7,200	46.0
2355-2 1/2	48 x 7 x 36	2 1/2"	3 1/4"	10	9,600	53.0
2355-3	48 x 8 x 36	3"	3 1/2"	10	9,600	53.0
2355-3 1/2	48 x 11 x 36	3 1/2"	4 1/4"	7	20,800	85.0
2355-4	48 x 19 x 36	4 1/2"	5 1/4"	7	20,800	85.0
2355-1	48 x 19 x 36	1"	1 1/4"	7	20,800	85.0
2355-1 1/8	48 x 19 x 36	1 1/8"	1 3/4"	7	33,700	85.0
2355-1 1/4	48 x 19 x 36	1 1/4"	1 3/4"	3	53,064	150.0
2355-1 1/2	48 x 27 x 30	1 1/2"	1 7/8"	00	125,425	280.0
2355-2	48 x 32 x 30	2"	2 1/4"	000	154,368	310.0
2355-2 1/4	48 x 35 x 30	2 1/4"	2 1/2"	000	168,840	320.0
2355-2 1/2	48 x 45 x 30	2 1/2"	2 3/4"	000	192,000	340.0
2355-3	48 x 64 x 30	3"	3 1/4"	0000	225,000	390.0

STANDARD SPOOL PUT-UP: 50 Ft., 100 Ft., 500 Ft., 1000 Ft.

**BUS BAR WIRE (Hard Drawn)**

QQ—W—343 Type S

For hooking up all types of transmitters, especially ultra short wave equipment. All bus wire is made of hard drawn copper, tinned, straightened, and cut in 2 ft. lengths.

MIL—W—3861 Types S, ASTM—B—33, ASTM—B—246—51 Specifications

DABURN No.	Nom. Circ. Mil Area	Size	Nom. O.D.
2362/10	10,380	10	.103"
2362/12	6,530	12	.082"
2362/14	4,107	14	.065"
2362/16	2,583	16	.051"
2362/18	1,642	18	.040"
2362/20	1,022	20	.033"
2362/22	624	22	.025"

STANDARD PUT-UP: 100 Per Package in two foot lengths.

**SILICON BRONZE AERIAL WIRE**

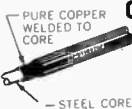
Especially designed for ships, airports, short wave and transmitting antennas where high tensile strength and resistance to the elements are important.

DABURN No.	Size AWG	Strand	Breaking Strength	D.D.
2364/4	4	7/12	3670 lbs.	.240"
2364/6	6	7/14	2140 lbs.	.190"
2364/8	8	7/16	1600 lbs.	.150"
2364/10	10	7/18	1000 lbs.	.122"
2364/12	12	7/20	650 lbs.	.100"
2364/14	14	7/22	420 lbs.	.075"

STANDARD PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

2364/10 and 2364/6 meets MIL-W-13074, 2364/12 meets MIL-W-13276 Specs.

**COPPERWELD ANTENNA WIRE**



Used where high tensile strength is required as for short wave and transmitting aeriels. Has low R.F. resistance and is ideal for transmitting doublet and directional antennas. Will maintain frequency characteristics because of its stretchless qualities. 40% conductivity.

DABURN No.	Size AWG	Tensile Strength	D.D.
2382/10	10	1130 lbs.	.103"
2382/12	12	720 lbs.	.082"
2382/14	14	400 lbs.	.065"

STANDARD PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft., 2500 Ft.

**STRANDED BARE COPPER WIRE**

DABURN No.	Size AWG	Strand	D.D.
2366/12	12	7/20	.100"
2366/14	14	7/22	.075"
2366/16	16	7/24	.060"
2366/18	18	7/26	.050"
2366/19	19	7/27	.041"

PUT-UP: 100 Ft., 1000 Ft. Spool.

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**

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**PLASTIC HOOK-UP WIRE**

PER MIL-W-76B

**300 VOLTS — TYPE LW (Light Wall)**

SPEC. MIL-W-76B

**CONDUCTOR COLOR CODE PER MIL-W-76B SPEC.**

0-Black 1-Brown 2-Red 3-Orange 4-Yellow 5-Green 6-Blue 7-Violet 8-Gray 9-White

**DESCRIPTION:** One conductor stranded tinned copper with light wall of primary thermoplastic insulation. Nom. Wall .010".

**TEMPERATURE RATING:** —40°C to +80°C.

**LW — UNCOVERED**

DABURN No.	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.
2585/30	30	LW-C 30(7)U	7/38	.033"
2585/28	28	LW-C 28(7)U	7/36	.035"
2585/26	26	LW-C 26(7)U	7/34	.040"
2585/24	24	LW-C 24(7)U	7/32	.044"
2585/22	22	LW-C 22(7)U	7/30	.050"
2585/20	20	LW-C 20(7)U	7/28	.060"

**1000 VOLTS (Medium Wall)**

SPEC. MIL-W-76B TYPE MW

(FUNGUS PROOF)

1000 VOLT

**TEMP. RATING:** —40°C to +80°C.

**STRANDED**

DABURN No.	Spool	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. Wall	Nom. O.D.
2555/24	1000'	24	MW-C 24( 7)U	7/32	.015"	.059"
†*2555/22	1000'	22	MW-C 22( 7)U	7/30	.017"	.065"
†*2555/20	1000'	20	MW-C 20(10)U	10/30	.017"	.074"
†*2555/18	1000'	18	MW-C 18(16)U	16/30	.017"	.085"
2555/16	1000'	16	MW-C 16(26)U	26/30	.017"	.096"
2555/14	1000'	14	MW-C 14(41)U	41/30	.017"	.110"
2555/12	1000'	12	MW-C 12(65)U	65/30	.017"	.130"

**SOLID**

DABURN No.	Spool	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. Wall	Nom. O.D.
2560/24	1000'	24	MW-C 24(1)U	1	.015"	.056"
2560/22	1000'	22	MW-C 22(1)U	1	.017"	.060"
2560/20	1000'	20	MW-C 20(1)U	1	.017"	.066"
2560/18	1000'	18	MW-C 18(1)U	1	.017"	.074"

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

**STOCK COLORS:** White, Yellow, Lt. Blue, Black, Violet (purple), Blue, Brown, Lt. Green, Pink, Red, Green, Tan, Orange, Gray (slate).

\***SINGLE SPIRAL TRACER COLORS AVAILABLE:** White/Black, White/Brown, White/Red, White/Orange, White/Yellow, White/Green, White/Blue, White/Purple, White/Gray.

†**DOUBLE SPIRAL TRACER COLORS AVAILABLE:** White/Black/Red, White/Black/Green, White/Black/Yellow, White/Black/Blue, White/Black/Brown, White/Black/Orange, White/Black/Gray, White/Black/Purple.

Additional spiral tracer combination available, to order, for all numbers.

**GLASS BRAID — TYPE HW (Heavy Wall)**

**TEMPERATURE RATING:** —40°C to +80°C. **NOM. WALL:** .045"

DABURN Cat. No.	Spool	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.
2575/10	100'-1000'	10	HW-C 10(105)B	105/30	.237"
2575/8	100'-1000'	8	HW-C 8(133)B	133/29	.293"
2575/6	100'-1000'	6	HW-C 6(133)B	133/27	.340"

**STOCK COLORS:** White, Black. ALSO multi-conductors can be formed to order twisted, shielded with or without plastic jacket overall.

**2500 VOLTS (Fungus Proof) — TYPE HW (Heavy Wall)**

SPEC MIL-W-76B

**600 VOLTS:** Sizes 14 through 6 — (Supersedes Jan-C-76 Type SRHV).

**TEMP. RATING:** —40°C to 80°C. **NOM. WALL SIZE:** 22 through 16 .033: Size 14 through 6 .045

**DESCRIPTION:** Similar to type MW. One conductor stranded tinned copper with larger walls of primary thermoplastic insulation to take 2500 V RMS.

DABURN No.	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.
2580/22	22	HW-C 22( 7)U	7/30	.092"
2580/20	20	HW-C 20(10)U	10/30	.100"
2580/18	18	HW-C 18(16)U	16/30	.112"
2580/16	16	HW-C 16(26)U	26/30	.126"
2580/14	14	HW-C 14(41)U	41/30	.170"

**STOCK COLORS:** White, Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray, Additional sizes, colors available to order.

**TEMPERATURE RATING:** —40°C to +90°C.

Nominal Nylon Jacket Thickness, .002".

**LW — NYLON JACKET**

DABURN No.	AWG Size	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.
2590/30	30	LW-C 30(7)J	7/38	.036"
2590/28	28	LW-C 28(7)J	7/36	.039"
2590/26	26	LW-C 26(7)J	7/34	.042"
2590/24	24	LW-C 24(7)J	7/32	.047"
2590/22	22	LW-C 22(7)J	7/30	.053"
2590/20	20	LW-C 20(7)J	7/28	.065"

**1000 VOLT — NYLON JACKET (Medium Wall)**

SPEC. MIL-W-76B TYPE MW

(Fungus Proof)

**DESCRIPTION:** One conductor stranded tinned copper with thermoplastic insulation and extruded nylon jacket overall.

**TEMPERATURE RATING:** —40°C to +90°C.

DABURN No.	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. Wall	Nom. O.D.
2565/24	24	MW-C 24(16)J	16/36	.015"	.068"
2565/22	22	MW-C 22( 7)J	7/30	.017"	.075"
2565/20	20	MW-C 20(10)J	10/30	.017"	.087"
2565/18	18	MW-C 18(16)J	16/30	.017"	.100"
2565/16	16	MW-C 16(26)J	26/30	.017"	.122"
2565/14	14	MW-C 14(41)J	41/30	.017"	.122"
2565/12	12	MW-C 12(65)J	65/30	.017"	.140"
2565/10	10	MW-C 10(105)J	105/30	.045"	.240"

STD. PUT-UP: 100 Ft.-1000 Ft.

**NYLON JACKET THICKNESS:** #24 .002; 22, 20, 18 .003; 16, 14 .004; 12 .005; 10 .007.

**STOCK COLORS:** White, Orange, Purple, Black, Yellow, Gray, Brown, Green, Red, Blue, White/Black, White/Brown, White/Red, White/Orange, White/Yellow, White/Green, White/Blue, White/Purple, White/Gray, White/Black/Red, White/Black/Yellow, White/Black/Blue, White/Black/Green, White/Black/Orange, White/Black/Brown, White/Black/Gray.

Nos. 2565/12 and /10 available solid colors only.

**1000 VOLTS GLASS BRAID (Medium Wall) TYPE MW**

SPEC. MIL-W-76B

**DESCRIPTION:** One conductor stranded tinned copper with thermoplastic insulation and lacquered glass braid overall.

**TEMPERATURE RATING:** —40°C to +80°C. **NOM. WALL:** .017"

DABURN Cat. No.	Spool	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.
2570/22	100'-1000'	22	MW-C 22( 7)B	7/30	.079"
2570/20	100'-1000'	20	MW-C 20(10)B	10/30	.084"
2570/18	100'-1000'	18	MW-C 18(16)B	16/30	.100"
2570/16	100'-1000'	16	MW-C 16(26)B	26/30	.116"
*2570/14	100'-1000'	14	MW-C 14(41)B	41/30	.129"
*2570/12	100'-1000'	12	MW-C 12(65)B	65/30	.149"

**STOCK COLORS:** White, Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray, White/Brown, White/Black, White/Orange, White/Yellow, White/Green, White/Blue, White/Red, White/Gray, White/Purple, White/Black/Red, White/Black/Yellow, White/Black/Blue, White/Black/Green, White/Black/Orange, White/Black/Brown, White/Black/Gray.

\*Nos. 2570/14 and /12, available stock in solid colors.

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WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**SHIELDED PLASTIC HOOK-UP WIRE**  
1000 VOLT — TYPE MW (Medium Wall) SHIELDED — SPEC. MIL-W-76B  
TEMPERATURE RATING — 40°C TO +80°C

DESCRIPTION: One conductor stranded tinned copper with thermo-plastic insulation and tinned copper shielded braid overall.

DABURN Cat. No.	Size AWG	MIL-W-76B Type Designation	Strand	Nom. Wall	Nom. O.D.
2592/24	24	MW-C24( 7)S	7/32	.015"	.074"
2593	24	MW-C24(16)S	16/36	.015"	.075"
2592/22	22	MW-C22( 7)S	7/30	.017"	.084"
2592/20	20	MW-C20(10)S	10/30	.017"	.094"

STOCK COLORS: (Underneath Shield) Black, White, Red, Yellow, Brown, Green, Blue, Gray, Nos. 2592/14 and /12, available from stock in Black, White or Red.  
STANDARD PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

DABURN Cat. No.	Size AWG	MIL-W-76B Type Designation	Strand	Nom. Wall	Nom. O.D.
2592/18	18	MW-C18(16)S	16/30	.017"	.106"
2592/16	16	MW-C16(26)S	26/30	.017"	.121"
2592/14	14	MW-C14(41)S	41/30	.017"	.137"
2592/12	12	MW-C12(65)S	65/30	.017"	.155"

Also multiconductors can be formed to order twisted shielded, with or without plastic jacket overall.

**SHIELDED PLASTIC HOOK-UP WIRE**

TYPE MW — SHIELDED — VINYL JACKET — 1000 V  
SPEC. MIL-W-76B

DESCRIPTION: One conductor stranded tinned copper, white medium wall polyvinyl chloride insulation, shielded tinned copper braid, minimum 80% coverage, PVC (polyvinylchloride) jacket overall. Resistant to acids, alkalis, oil, flame, moisture, fungus.  
TEMPERATURE RATING: —40°C to +90°C.

DABURN Cat. No.	Size AWG	MIL-W-76A Type Designation	Min. Strand	Nom. Wall	Nom. O.D.
2597/24	24	MW-C24( 7)SJ	7/32	.015"	.095"
2597/22	22	MW-C22( 7)SJ	7/30	.017"	.105"
2597/20	20	MW-C20( 7)SJ	7/28	.017"	.112"
2597/18	18	MW-C18(19)SJ	19/30	.017"	.120"
2597/16	16	MW-C16(19)SJ	19/29	.017"	.133"
2597/14	14	MW-C14(19)SJ	19/27	.017"	.148"
2597/12	12	MW-C12(19)SJ	19/25	.017"	.170"

Additional colors available to order.  
STANDARD PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

TYPE MW — SHIELDED — NYLON JACKET — 1000 V  
SPEC. MIL-W-76B

DESCRIPTION: One conductor stranded tinned copper, white medium wall polyvinyl chloride insulation, shielded tinned copper braid, minimum 80% coverage, clear nylon (polyamide) jacket overall. Resistant to acids, alkalis, oil, flame, moisture, fungus.  
TEMPERATURE RATING: —40°C to +90°C.

DABURN Cat. No.	Size AWG	MIL-W-76A Type Designation	Min. Strand	Nom. Wall	Nom. O.D.
2595/24	24	MW-C24( 7)SJ	7/32	.015"	.091"
2595/22	22	MW-C22( 7)SJ	7/30	.017"	.100"
2595/20	20	MW-C20( 7)SJ	7/28	.017"	.105"
2595/18	18	MW-C18(19)SJ	19/30	.017"	.115"
2595/16	16	MW-C16(19)SJ	19/29	.017"	.125"
2595/14	14	MW-C14(19)SJ	19/29	.017"	.138"
2595/12	12	MW-C12(19)SJ	19/25	.017"	.160"

Additional colors available to order.  
STANDARD PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

**MIL-W-16878D — SHIELDED PLASTIC HOOK-UP WIRE**

1000 VOLTS — TYPE C — SHIELDED  
SPEC. MIL-W-16878D

DESCRIPTION: Stranded tinned copper, .016" wall white polyvinylchloride insulation, braided tinned copper shield overall temp. rating —55°C to +105°C 1000 volts.

DABURN No.	Size AWG	Min. Strand	Nom. Wall	Nom. O.D.
2530/24	24	7/32	.016"	.075"
2530/22	22	7/30	.016"	.085"
2530/20	20	7/28	.016"	.095"
2530/18	18	7/26	.016"	.105"
2530/16	16	19/26	.016"	.115"
2530/14	14	19/27	.016"	.140"
2530/12	12	19/25	.016"	.152"

STD. PUT-UP: 1000 Ft.

1000 VOLTS — TYPE C  
SHIELDED WITH VINYL JACKET — SPEC. MIL-W-16878D

DESCRIPTION: Stranded tinned copper, .016" wall white with polyvinylchloride insulation braided tinned copper shield with polyvinylchloride jacket overall. Resistant to acids, oils, alkalis, flame, fungus, solvents, moisture.  
TEMPERATURE RATING: —55°C to +105°C.

DABURN No.	Size AWG	Min. Strand	Nom. Wall	Nom. O.D.
2535/24	24	7/32	.016"	.094"
2535/22	22	7/30	.016"	.104"
2535/20	20	7/28	.016"	.112"
2535/18	18	7/26	.016"	.120"
2535/16	16	19/29	.016"	.133"
2535/14	14	19/27	.016"	.150"
2535/12	12	19/25	.016"	.165"

STD. PUT-UP: 1000 Ft.

1000 VOLTS — TYPE C  
SHIELDED NYLON JACKET  
SPEC. MIL-W-16878D

DESCRIPTION: Stranded tinned copper .016" wall polyvinylchloride insulation, braided tinned copper shield, 90% coverage, clear nylon (polyamide) jacket overall. Nylon nominal jacket thickness .005".  
TEMPERATURE RATING: —55°C to +115°C.

DABURN No.	Size AWG	Min. Strand	Nom. Wall	Nom. O.D.
2533/24	24	7/32	.016"	.090"
2533/22	22	7/30	.016"	.096"
2533/20	20	7/28	.016"	.105"
2533/18	18	7/26	.016"	.115"
2533/16	16	19/26	.016"	.125"
2533/14	14	19/27	.016"	.145"
2533/12	12	19/25	.016"	.157"

STD. PUT-UP: 1000 Ft.

**MULTI-CONDUCTOR CABLE TYPE B  
NYLON SHIELDED-PLASTIC JACKET  
PER MIL-W-16878D — 600 V**

DESCRIPTION: One or more conductors stranded tinned copper, PVC insulation, color coded, clear nylon (polyamide) jacket, cabled conductors, 90% coverage braided tinned copper, white polyvinylchloride jacket overall.

TEMPERATURE RATING: —55°C to +105°C. Voltage rating 600 volts. Resistant to acids, alkalis, flame, fungus, oil, moisture, solvents.

DABURN Cat. No.	No. of Cond.	Size	Strand	Nom. Wall	Nom. Nylon Wall	Nom. Overall Jacket	Nom. O.D.
2540	1	26	7/34	.010"	.003"	.010"	.087"
2540/2	2	26	7/34	.010"	.003"	.014"	.138"
2540/3	3	26	7/34	.010"	.003"	.014"	.142"
2540/4	4	26	7/34	.010"	.003"	.016"	.162"
2341	1	24	19/36	.010"	.003"	.010"	.092"
2541/2	2	24	19/36	.010"	.003"	.016"	.152"
2541/3	3	24	19/36	.010"	.003"	.016"	.161"
2541/4	4	24	19/36	.010"	.003"	.017"	.162"
2542	1	22	19/34	.010"	.003"	.010"	.100"
2542/2	2	22	19/34	.010"	.003"	.016"	.168"
2542/3	3	22	19/34	.010"	.003"	.017"	.178"
2542/4	4	22	19/34	.010"	.003"	.019"	.174"
2543	1	20	19/32	.010"	.003"	.010"	.106"
2543/2	2	20	19/32	.010"	.003"	.019"	.186"
2543/3	3	20	19/32	.010"	.003"	.019"	.196"
2543/4	4	20	19/32	.010"	.003"	.021"	.193"
2544	1	18	19/30	.010"	.003"	.012"	.120"
2544/2	2	18	19/30	.010"	.003"	.021"	.210"
2544/3	3	18	19/30	.010"	.003"	.022"	.227"
2544/4	4	18	19/30	.010"	.003"	.023"	.218"
2545	1	16	19/29	.010"	.003"	.016"	.137"
2545/2	2	16	19/29	.010"	.003"	.023"	.236"
2545/3	3	16	19/29	.010"	.003"	.023"	.240"
2545/4	4	16	19/29	.010"	.003"	.025"	.275"

STD. PUT-UP: 500 Ft., 1000 Ft. CONDUCTOR COLOR CODE: 1-White, 2-Black, 3-Red, 4-Green. Additional sizes, conductors - variations - available to order.

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**PLASTIC HOOK-UP WIRE  
SPECIFICATION MIL-W-16878D**

**TYPE B — HIGH TEMPERATURE VINYL  
SPECIFICATION MIL-W-16878D**

600 VOLT

DESCRIPTION: One conductor stranded tinned copper with rated -55°C to +105°C high temperature thermoplastic light wall insulation.

DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
2500/32	B-32	32	7/40	.028"
2500/30	B-30	30	7/38	.030"
2500/28	B-28	28	7/36	.033"
2500/26	B-26	26	7/34	.037"
2500/24	B-24	24	7/32	.043"
2501/24	B-24	24	19/36	.043"
2500/22	B-22	22	7/30	.048"
2501/22	B-22	22	19/34	.048"
2500/20	B-20	20	7/28	.057"
2501/20	B-20	20	19/32	.057"
2500/18	B-18	18	7/26	.067"
2501/18	B-18	18	19/30	.067"
2500/16	B-16	16	19/29	.077"
2500/14	B-14	14	19/27	.091"

STD. PUT-UP: 100 Ft.-1000 Ft.

**TYPE C — HIGH TEMPERATURE — VINYL JACKET  
SPECIFICATION MIL-W-16878D**

1000 VOLT

DESCRIPTION: One conductor similar to Type B — heavier wall hi-temp thermoplastic insulation Nom. wall .016".

DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Minimum Strand	Nom. O.D.
2515/24	C-24	24	7/32	.058"
2515/22	C-22	22	7/30	.064"
2515/20	C-20	20	7/28	.079"
2515/18	C-18	18	7/26	.090"
2515/16	C-16	16	19/29	.099"
2515/14	C-14	14	19/27	.114"
2515/12	C-12	12	19/25	.135"

STD. PUT-UP: 100 Ft., 1000 Ft.

**TYPE D — HIGH TEMPERATURE — VINYL — 3000 VOLTS  
SPECIFICATION MIL-W-16878D**

DESCRIPTION: One conductor stranded similar to Type C — heavier wall hi-temp thermoplastic insulation. Nom wall 24 thru 14 .032, 12 thru 6 .040.

DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
2525/24	D-24	24	7/32	.084"
2525/22	D-22	22	7/32	.089"
2525/20	D-20	20	10/30	.097"
2525/18	D-18	18	16/30	.107"
2525/16	D-16	16	26/30	.116"
2525/14	D-14	14	41/30	.130"
2525/12	D-12	12	65/30	.163"
2525/10	D-10	10	105/30	.182"
2525/8	D-8	8	133/29	.247"
2525/6	D-6	6	133/27	.291"
2525/4	D-4	4	133/25	.355"
2525/2	D-2	2	665/30	.425"

STD. PUT-UP: 100 Ft.-1000 Ft. ALL WIRES ON THIS PAGE CAN BE ORDERED CUT AND STRIPPED TO YOUR SPECIFICATIONS.

**AIRCRAFT PLASTIC HOOK-UP WIRE**

**SPECIFICATIONS MIL-W-5086A and MIL-C-7078A (105°C Rating)**

DESCRIPTION: Type 1 MIL-W-5086A — one conductor stranded tinned copper with plastic insulation nylon jacket overall. Type 2 MIL-W-5086A — one conductor stranded tinned copper, plastic insulation, nylon lacquered glass braid. Color: White. Additional colors available to order. MIL-W-5086A UNSHIELDED (Supersedes) AN-J-C-48A) — 600 V RATING

DABURN Cat. No.	Mil. Type	Type	Conductor Strand.	Nom. O.D.
2601/22	AN-22	No. 1	19/34	.070"
2601/20	AN-20	No. 1	19/32	.080"
2601/18	AN-18	No. 1	19/30	.090"
2601/16	AN-16	No. 1	19/29	.125"
2601/14	AN-14	No. 1	19/27	.125"
2601/12	AN-12	No. 1	19/25	.140"
2602/22	AN-22	No. 2	19/34	.068"
2602/20	AN-20	No. 2	19/32	.078"
2602/18	AN-18	No. 2	19/30	.088"
2602/16	AN-16	No. 2	19/29	.098"

STANDARD PUT-UP: 100 Ft., 1000 Ft.

**MIL-C-7078A SHIELDED (Supersedes AN-C-168) 600 V RATING**

DESCRIPTION: One conductor stranded tinned copper with plastic insulation, nylon jacket with tinned copper shielded braid overall. Color: White under shield. Additional types to order.

DABURN Cat. No.	Size AWG	Mil. Type	Type	Conductor Strand.	Nom. O.D.
2605/22	22	AN-22	No. 1	19/34	.100"
2605/20	20	AN-20	No. 1	19/32	.110"
2605/16	18	AN-18	No. 1	19/30	.124"

STANDARD PUT-UP: 100 Ft., 1000 Ft.

**TYPE B — NYLON JACKET**

NYLON JACKET THICKNESS: 32-20 .002, 18-16 .003

DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
2510/32	B-32	32	7/40	.032"
2510/30	B-30	30	7/38	.036"
2510/28	B-28	28	7/36	.039"
2510/26	B-26	26	7/34	.042"
2510/24	B-24	24	7/32	.047"
2511/24	B-24	24	19/36	.047"
2510/22	B-22	22	7/30	.053"
2511/22	B-22	22	19/34	.053"
2510/20	B-20	20	7/28	.065"
2511/20	B-20	20	19/32	.065"
2510/18	B-18	18	7/26	.075"
2511/18	B-18	18	19/30	.075"
2510/16	B-16	16	19/29	.085"
2510/14	B-14	14	19/27	.099"

STD. PUT-UP: 1000 Ft.

STOCK COLORS: Black, Red, Brown, Blue, Orange, White, Yellow, Green, Gray, Purple.

White/Black White/Red White/Green White/Yellow White/Blue White/Brown White/Orange White/Gray White/Violet

**TYPE C — NYLON JACKET**

NYLON JACKET THICKNESS: 24 .002, 22-18 .003, 16-14 .004

DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
2520/24	C-24	24	7/32	.065"
2520/22	C-22	22	7/30	.064"
2520/20	C-20	20	7/28	.079"
2520/18	C-18	18	7/26	.090"
2520/16	C-16	16	19/29	.099"
2520/14	C-14	14	19/27	.114"
2520/12	C-12	12	19/25	.135"

STOCK COLORS: Black, Red, Brown, Blue, Orange, White, Yellow, Green, Gray, Purple. Also available in tracer colors. Additional types available to order. STD. PUT-UP: 100 Ft.-1000 Ft.

**TYPE D — HIGH TEMPERATURE — VINYL — 3000 VOLTS  
SPECIFICATION MIL-W-16878D — NYLON JACKET**

DESCRIPTION: One conductor stranded tinned copper, color coded polyvinylchloride insulation, clear polyimide (nylon) jacket overall.

DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
2525M/24	D-24	24	7/32	.090"
2525M/22	D-22	22	7/30	.096"
2525M/20	D-20	20	10/30	.104"
2525M/18	D-18	18	16/30	.114"
2525M/16	D-16	16	26/30	.125"
2525M/14	D-14	14	41/30	.139"
2525M/12	D-12	12	65/30	.168"
2525M/10	D-10	10	105/30	.197"
2525M/8	D-8	8	133/29	.265"
2525M/6	D-6	6	133/27	.310"

STD. PUT-UP: 100 Ft., 1000 Ft.

ALL WIRE ON THIS PAGE CAN BE CUT AND STRIPPED TO YOUR SPECIFICATION.



**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**TEFLON\* WIRE**  
**TYPE E — 600 VOLTS**  
**SPEC. MIL-W-16878D**

**High Temperature Rating -90°C to +250°C**

Single conductor, stranded silver plated copper, .010" TFE Teflon® Insulation. Acid, alkalis, oil, flame, moisture, fungus, solvent resistant.

Size MIL Type Designation	Strand	Max. Dia. Over Insul.	DABURN Extruded Cat. No.	DABURN Wrapped Cat. No.
2401	—	E-32	7/40	.033"
2402	—	E-30	7/38	.036"
2403	2415/28	E-28	7/36	.039"
2404	2415/26	E-26	7/34	.043"
2405	2415/24	E-24	19/36	.048"
2405-7	—	E-24	7/32	.048"
2406	2415/22	E-22	19/34	.054"
2406-7	—	E-22	7/30	.054"
2407	2415/20	E-20	19/32	.062"
2407-7	—	E-20	7/28	.062"
2408	2415/18	E-18	19/30	.074"
2409	2415/16	E-16	19/29	.087"
2409/14	—	E-14	19/27	.097"
2409/12	—	E-12	19/25	.120"
2409/10	—	E-10	37/26	.139"

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft. Solid conductors available.  
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray, White, White/Black, White/Red, White/Green, White/Yellow, White/Blue, White/Brown, White/Orange, White/Gray, White/Violet.  
Additional special custom construction available to order.

**TEFLON\* WIRE**

**MIL-W-16878D — TYPE EE**  
**Extruded (1000 Volts) MIL-W-16878D**

DESCRIPTION: Single conductor silver plated copper wire concentrically stranded and insulated with .016 TFE extruded TEFLON\* insulation.  
TEMPERATURE RATING: -90°C to +260°C, 1000 volts.

DABURN Cat. No.	Mil Type Designation	Size AWG	Strand	Nom. O.D.
2428/24	EE-24	24	19/36	.055"
2428/22	EE-22	22	19/34	.062"
2428/20	EE-20	20	19/32	.070"
2428/18	EE-18	18	19/30	.080"
2428/16	EE-16	16	19/29	.089"
2428/14	EE-14	14	19/27	.106"
2428/12	EE-12	12	19/25	.124"
2428/10	EE-10	10	37/26	.145"
2428/8 (wrapped)	EE-8	8	133/29	.210"

STANDARD SPOOL PUT-UPS: 250 Ft., 500 Ft., 1000 Ft. Solid conductors available.  
STOCK COLORS: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow, 6—Blue, 7—Brown, 8—Orange, 9—Gray (Slate), 10—Violet (Purple).

**SUBMINIATURE TEFLON\* HOOK-UP WIRE**  
**PER MIL-W-16878D — TYPE ET — 250 VOLTS, 200°C**

Thin miniature hook-up wire is suitable in miniature slip ring assemblies, as interconnecting wire between wafers in microminiature electronic circuitry, instrument wire, medical wire, subminiature thermo-couple lead wire, strain gauge wire, etc. Provides lighter weight, greater flexibility and high temperature resistance. Size Nos. 32 thru 20 conform to MIL-W-16878D type ET 250 volts, 200°C. Silver plated copper conductor.

DABURN Cat. No.	Mil Type	AWG Size	Min. Strand	Nom. O.D.
2427/36	—	36	7/44	.018"
2427/34	—	34	7/42	.020"
2427/32	ET-32	32	7/40	.021"
2427/30	ET-30	30	7/38	.024"
2427/28	ET-28	28	7/36	.027"
2427/26	ET-26	26	7/34	.031"
2427/24	ET-24	24	7/32	.036"
2427/22	ET-22	22	7/30	.042"
2427/20	ET-20	20	7/28	.049"

STANDARD SPOOL PUT-UPS: 500 Ft., 1000 Ft.

**TEFLON\* TFE AIRFRAME LEAD WIRE MIL-W-7139B**

CLASS 1: 600V Silver Coated Copper Conductor for -65 to +200°C Operation.  
CLASS 2: 600V Nickel Coated Copper Conductor for +260°C Operation.

DABURN Cat. No. Class 1	DABURN Cat. No. Class 2	Size AWG	Strand	Nom. O.D.
2426-22	2425-22	22	19/34	.085"
2426-20	2425-20	20	19/32	.095"
2426-18	2425-18	18	19/30	.110"
2426-16	2425-16	16	19/29	.130"
2426-14	2425-14	14	19/27	.143"
2426-12	2425-12	12	19/25	.163"

STANDARD SPOOL PUT-UPS: 500 Ft., 1000 Ft.  
STANDARD COLOR: Class: 1 — White/Blue Tracer; Class 2 — White/Orange Tracer.  
ADDITIONAL SIZES AVAILABLE.

\*TEFLON—DuPont

**TEFLON\* CABLES — Shielded and Unshielded TO MIL-W-16878D**

DESCRIPTION: One or more conductors, each conductor silver plated concentrically stranded copper wire, Type E Extruded TFE .010" insulation. When shielded, braided silver plated copper shield over conductor(s), 90% shield coverage. When covered, either a TEFLON\* impregnated fiberglass braid or a .010" TEFLON\* fused, double reversed tape jacket overall. Fungus, solvent, moisture, flame, acid, alkali and oil resistant Multiconductors are twisted.  
TEMPERATURE RATING: -65°C to +260°C. VOLTAGE RATING: 600 Volts

**TEFLON\* IMPREGNATED BRAID OVER SHIELD**

Daburn No.	Conds.	AWG Size	Strand	Nom. O.D.	Daburn No.	Conds.	AWG Size	Strand	Nom. O.D.
2444	1	26	7/34	.075"	2447	1	20	19/32	.093"
2444/2	2	26	7/34	.119"	2447/2	2	20	19/32	.154"
2445	1	24	19/36	.081"	2447/3	3	20	19/32	.163"
2445/2	2	24	19/36	.126"	2447/4	4	20	19/32	.180"
2445/3	3	24	19/36	.133"	2447/5	5	20	19/32	.195"
2445/4	4	24	19/36	.144"	2448	1	18	19/30	.097"
2445/5	5	24	19/36	.156"	2448/2	2	18	19/30	.162"
2446	1	22	19/34	.088"	2448/3	3	18	19/30	.172"
2446/2	2	22	19/34	.137"	2448/4	4	18	19/30	.192"
2446/3	3	22	19/34	.144"	2448/5	5	18	19/30	.207"
2446/4	4	22	19/34	.158"	2449	1	16	19/29	.117"
2446/5	5	22	19/34	.172"	2449/2	2	16	19/29	.196"

STANDARD SPOOL PUT-UPS: 250 Ft., 500 Ft., 1000 Ft.  
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow.

**TEFLON\* TAPE WRAP JACKET OVER SHIELD**

Daburn No.	Conds.	AWG Size	Strand	Nom. O.D.	Daburn No.	Conds.	AWG Size	Strand	Nom. O.D.
2454	1	26	7/34	.078"	2457	1	20	19/32	.099"
2454/2	2	26	7/34	.125"	2457/2	2	20	19/32	.158"
2455	1	24	19/36	.084"	2457/3	3	20	19/32	.167"
2455/2	2	24	19/36	.128"	2457/4	4	20	19/32	.184"
2455/3	3	24	19/36	.135"	2457/5	5	20	19/32	.204"
2455/4	4	24	19/36	.148"	2458	1	18	19/30	.109"
2455/5	5	24	19/36	.162"	2458/2	2	18	19/30	.178"
2456	1	22	19/34	.090"	2458/3	3	18	19/30	.189"
2456/2	2	22	19/34	.140"	2458/4	4	18	19/30	.208"
2456/3	3	22	19/34	.148"	2458/5	5	18	19/30	.230"
2456/4	4	22	19/34	.162"	2459	1	16	19/29	.130"
2456/5	5	22	19/34	.183"	2459/2	2	16	19/29	.230"

STANDARD SPOOL PUT-UPS: 250 Ft., 500 Ft., 1000 Ft.  
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow.

**SHIELDED BRAID OVERALL**

Daburn Cat. No.	Conds.	AWG Size	Strand	Nom. O.D.	Daburn Cat. No.	Conds.	AWG Size	Strand	Nom. O.D.
2434	1	26	7/34	.066"	2437	1	20	19/32	.082"
2434/2	2	26	7/34	.104"	2437/2	2	20	19/32	.142"
2435	1	24	19/36	.068"	2437/3	3	20	19/32	.151"
2435/2	2	24	19/36	.112"	2437/4	4	20	19/32	.168"
2435/3	3	24	19/36	.120"	2437/5	5	20	19/32	.190"
2435/4	4	24	19/36	.132"	2438	1	18	19/30	.093"
2435/5	5	24	19/36	.140"	2438/2	2	18	19/30	.162"
2436	1	22	19/34	.075"	2438/3	3	18	19/30	.172"
2436/2	2	22	19/34	.124"	2438/4	4	18	19/30	.191"
2436/3	3	22	19/34	.132"	2438/5	5	18	19/30	.210"
2436/4	4	22	19/34	.146"	2439	1	16	19/29	.103"
2436/5	5	22	19/34	.154"	2439/2	2	16	19/29	.184"

STANDARD SPOOL PUT-UPS: 250 Ft., 500 Ft., 1000 Ft.  
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow.

**NO SHIELD—TEFLON\*\* IMPREGNATED FIBERGLASS OVERALL**

Daburn Cat. No.	Conds.	AWG Size	Strand	Nom. O.D.	Daburn Cat. No.	Conds.	AWG Size	Strand	Nom. O.D.
2464	1	26	7/34	.040"	2467	1	20	19/32	.058"
2464/2	2	26	7/34	.080"	2467/2	2	20	19/32	.118"
2465	1	24	19/36	.044"	2467/3	3	20	19/32	.127"
2465/2	2	24	19/36	.088"	2467/4	4	20	19/32	.144"
2465/3	3	24	19/36	.096"	2467/5	5	20	19/32	.156"
2465/4	4	24	19/36	.108"	2468	1	18	19/30	.069"
2465/5	5	24	19/36	.116"	2468/2	2	18	19/30	.138"
2466	1	22	19/34	.051"	2468/3	3	18	19/30	.148"
2466/2	2	22	19/34	.100"	2468/4	4	18	19/30	.167"
2466/3	3	22	19/34	.108"	2468/5	5	18	19/30	.186"
2466/4	4	22	19/34	.122"	2469	1	16	19/29	.086"
2466/5	5	22	19/34	.131"	2469/2	2	16	19/29	.172"

STANDARD SPOOL PUT-UPS: 250 Ft., 500 Ft., 1000 Ft.  
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow.

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**HIGH VOLTAGE TEFLON\* CABLE**  
**H FILM\* KAPTON\* WIRE — FEP TEFLON CABLE**  
**NEW HI-VOLT CORONA RESISTANT TEFLON\* CABLE**

Voltage Rating at Sea Level • Voltage Rating at 80,000 feet, approximately 1/3 lower • Minimum life expectancy: 10,000 hours.

**SMALL SIZE:**

You do not need bulky, thick, insulation jacketing as used with silicone rubber and polyethylene insulations to get your hi-voltage requirements. Wire used is MIL-SPEC QQ-W-343 and MIL-W-16878D. Insulation used conforms and surpasses MIL-SPEC-W-16878D.

**AVOID CORONA PROBLEMS:**

Corona resistant Teflon construction is specifically designed to retard and prevent corona penetration. Temperature variations from -60° to +300°C have no life effect on the corona resistant Teflon. In addition, there is no stress or crack failure under severe, adverse conditions including mechanical strain, moisture, corona or chemical conditions.

PUT-UP: 250', 500', 1000'

DABURN No.	AWG Size	Strand	Voltage Rating AC	Voltage Rating DC	Nom. O.D.
CRT-12-2	12	19/25	2500	10,000	.142"
CRT-12-2.5	12	19/25	3750	12,500	.152"
CRT-12-3	12	19/25	4500	15,000	.162"
CRT-12-3.5	12	19/25	5300	17,500	.172"
CRT-12-4	12	19/25	6000	20,000	.182"
CRT-12-5	12	19/25	7500	25,000	.202"
CRT-12-6.5	12	19/25	10,000	32,500	.232"
CRT-12-8	12	19/25	12,000	40,000	.262"
CRT-12-10	12	19/25	15,000	50,000	.302"
CRT-14-2	14	19/27	2500	10,000	.124"
CRT-14-2.5	14	19/27	3750	12,500	.134"
CRT-14-3	14	19/27	4500	15,000	.144"
CRT-14-3.5	14	19/27	5300	17,500	.154"
CRT-14-4	14	19/27	6000	20,000	.164"
CRT-14-5	14	19/27	7500	25,000	.184"
CRT-14-6.5	14	19/27	10,000	32,500	.214"
CRT-14-8	14	19/27	12,000	40,000	.244"
CRT-14-10	14	19/27	15,000	50,000	.284"
CRT-16-2	16	19/29	2500	10,000	.109"
CRT-16-2.5	16	19/29	3750	12,500	.119"
CRT-16-3	16	19/29	4500	15,000	.129"
CRT-16-3.5	16	19/29	5300	17,500	.139"
CRT-16-4	16	19/29	6000	20,000	.149"
CRT-16-5	16	19/29	7500	25,000	.169"
CRT-16-6.5	16	19/29	10,000	32,500	.199"
CRT-16-8	16	19/29	12,000	40,000	.229"
CRT-16-10	16	19/29	15,000	50,000	.269"
CRT-18-2	18	19/30	2500	10,000	.102"
CRT-18-2.5	18	19/30	3750	12,500	.112"
CRT-18-3	18	19/30	4500	15,000	.122"
CRT-18-3.5	18	19/30	5300	17,500	.132"
CRT-18-4	18	19/30	6000	20,000	.142"
CRT-18-5	18	19/30	7500	25,000	.162"
CRT-18-6.5	18	19/30	10,000	32,500	.192"
CRT-18-8	18	19/30	12,000	40,000	.222"
CRT-18-10	18	19/30	15,000	50,000	.272"
CRT-20-2	20	19/32	2500	10,000	.092"
CRT-20-2.5	20	19/32	3750	12,500	.102"
CRT-20-3	20	19/32	4500	15,000	.112"
CRT-20-3.5	20	19/32	5300	17,500	.122"

**DESCRIPTION:**

Single Conductor, Stranded Silver Plated Copper, Corona Resistant Teflon\* Insulation.

**TEMPERATURE RATING:**

-50°C to +250°C.

**VOLTAGE RATING:**

Based on insulation thickness.

**AVAILABLE COLORS:**

White, Black, Red, Green, Yellow, Lt. Blue, Brown, Orange, Gray, Violet. (Also available in tracer colors)

\*DUPONT

DABURN No.	AWG Size	Strand	Voltage Rating AC	Voltage Rating DC	Nom. O.D.
CRT-20-4	20	19/32	6000	20,000	.132"
CRT-20-5	20	19/32	7500	25,000	.152"
CRT-20-6.5	20	19/32	10,000	32,500	.192"
CRT-20-8	20	19/32	12,000	40,000	.212"
CRT-20-10	20	19/32	15,000	50,000	.252"
CRT-22-2	22	19/34	2500	10,000	.084"
CRT-22-2.5	22	19/34	3750	12,500	.094"
CRT-22-3	22	19/34	4500	15,000	.104"
CRT-22-3.5	22	19/34	5300	17,500	.114"
CRT-22-4	22	19/34	6000	20,000	.124"
CRT-22-5	22	19/34	7500	25,000	.144"
CRT-22-6.5	22	19/34	10,000	32,500	.174"
CRT-22-8	22	19/34	12,000	40,000	.204"
CRT-22-10	22	19/34	15,000	50,000	.244"
CRT-24-2	24	19/36	2500	10,000	.077"
CRT-24-2.5	24	19/36	2750	12,500	.087"
CRT-24-3	24	19/36	4500	15,000	.097"
CRT-24-3.5	24	19/36	5300	17,500	.107"
CRT-24-4	24	19/36	6000	20,000	.117"
CRT-24-5	24	19/36	7500	25,000	.137"
CRT-24-6.5	24	19/36	10,000	32,500	.167"
CRT-24-8	24	19/36	12,000	40,000	.197"
CRT-24-10	24	19/36	15,000	50,000	.237"
CRT-26-2	26	7/34	2500	10,000	.071"
CRT-26-2.5	26	7/34	3750	12,500	.081"
CRT-26-3	26	7/34	4500	15,000	.091"
CRT-26-3.5	26	7/34	5300	17,500	.101"
CRT-26-4	26	7/34	6000	20,000	.111"
CRT-26-5	26	7/34	7500	25,000	.131"
CRT-26-6.5	26	7/34	10,000	32,500	.161"
CRT-26-8	26	7/34	12,000	40,000	.191"
CRT-26-10	26	7/34	15,000	50,000	.231"
CRT-28-2	28	7/36	2500	10,000	.067"
CRT-28-2.5	28	7/36	3750	12,500	.077"
CRT-28-3	28	7/36	4500	15,000	.087"
CRT-28-3.5	28	7/36	5300	17,500	.097"
CRT-28-4	28	7/36	6000	20,000	.117"
CRT-28-5	28	7/36	7500	25,000	.127"
CRT-28-6.5	28	7/36	10,000	32,500	.157"
CRT-28-8	28	7/36	12,000	40,000	.187"
CRT-28-10	28	7/36	15,000	50,000	.227"

**FEP EXTRUDED JACKET OVER SHIELD**



**DESCRIPTION:** Each conductor silver plated stranded copper wire, Type E extruded TFE .010" insulation. Color coded, cabled, braided silver plated copper shield — 90% coverage, FEP white teflon jacket overall.

TEMPERATURE RATING: -65°C to +200°C. VOLTAGE RATING: 600 V.

DABURN No.	Conds.	AWG Size	Strand	Nom. O.D.
2480	1	24	19/36	.085"
2480/2	2	24	19/36	.130"
2480/3	3	24	19/36	.135"
2480/4	4	24	19/36	.148"
2481	1	22	19/34	.091"
2481/2	2	22	19/34	.150"
2481/3	3	22	19/34	.158"
2481/4	4	22	19/34	.172"
2482	1	20	19/32	.100"
2482/2	2	20	19/32	.168"
2482/3	3	20	19/32	.178"
2482/4	4	20	19/32	.193"
2483	1	18	19/30	.110"
2483/2	2	18	19/30	.188"
2483/3	3	18	19/30	.207"
2483/4	4	18	19/30	.222"
2484	1	16	19/29	.123"
2484/2	2	16	19/29	.220"

STD. PUT-UP: 500 Ft., 1000 Ft.  
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green \*Dupont

**DALITE™**

**HIGH TEMPERATURE HOOK-UP AND AIRFRAME WIRE**  
**200°C CONTINUOUS TEMPERATURE RATING (a)**

INSULATED WITH DUPONT KAPTON® POLYIMIDE FILM WITH TEFLON™ — FEP HEAT SEALED COATING CONFORMS TO MIL-W-81381.

**CHARACTERISTICS:** Dalite™ insulated wire provides high temperature stability, low temperature flexibility, high radiation resistance, resistance to cold flow, impervious to most chemicals, high dielectric strength, low dielectric constant, smaller diameters and lighter weight than any other comparable wire used for continuous operation up to 200°C. This hook-up wire meets the test requirements of MIL-W-16878 for 300 V, 600 V and 1000 V with smaller wall thicknesses, weight and dimensions.

(a) Temperature based on lowest temperature rating of materials in the insulation — FEP 200°C. Will pass 96 hour heat age tests at 290°C per MIL-W-16878.

**DESCRIPTION:** Single conductor, silver plated annealed copper conductors, Type H\* Polyimide film with Teflon™ FEP coating tape wrapped overall.

DABURN No.	Type Designation	Size AWG	Strand	Voltage Rating (rms)	Nom. Wall	Nom. O.D.	Weight Per 1000' (lbs.)
2490/30	HF 30	30	7/38	600	.0045"	.021"	0.52
2495/30	HFF 30	30	7/38	1000	.006"	.024"	0.57
2490/28	HF 28	28	7/36	600	.0045"	.024"	0.75
2495/28	HFF 28	28	7/36	1000	.006"	.027"	0.83
2490/26	HF 26	26	7/34	600	.0045"	.028"	1.11
2495/26	HFF 26	26	7/34	1000	.006"	.031"	1.21
2490/24	HF 24	24	19/36	600	.0045"	.034"	1.78
2495/24	HFF 24	24	19/36	1000	.006"	.037"	1.90
2490/22	HF 22	22	19/34	600	.0045"	.041"	2.71
2495/22	HFF 22	22	19/34	1000	.006"	.044"	2.86
2490/20	HF 20	20	19/32	600	.0045"	.049"	4.18
2495/20	HFF 20	20	19/32	1000	.006"	.052"	4.35
2490/18	HF 18	18	19/30	600	.0045"	.059"	6.46
2495/18	HFF 18	18	19/30	1000	.006"	.062"	6.67
2490/16	HF 16	16	19/29	600	.0045"	.066"	8.16
2495/16	HFF 16	16	19/29	1000	.006"	.069"	8.39

STD. PUT-UP: 1000 Ft. Striping and solid colors available. Variations of conductor material—to special order. \*DUPONT  
\* KAPTON - DUPONT



**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**FLAT RIBBON CABLE, TYPES F & FF PER MIL-W-16878D  
PLASTIC, SILICONE RUBBER HOOK-UP WIRE — HIGH VOLTAGE CABLE**

**FLAT RIBBON CABLE**

**MULTI-CONDUCTOR — POLYVINYLCHLORIDE  
INSULATION CONDUCTORS**

Per MIL-W-16878D — TYPE B — 600 V



DESCRIPTION: Each conductor stranded tinned copper .010" polyvinylchloride insulation bonded to form flat ribbon cable.

Rated: -55°C to +105°C. Voltage Rating: 600 volts. Resists acid, alkalis, flame, moisture, oil, solvents, fungus. Conductors are color coded and separate easily for clean terminations. Saves space, time on circuit and interconnecting assemblies, wiring harnesses, sliding drawers and drop assemblies.

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
1804/4	4	24	7/32	.010"	.043" x .172"
1804/8	8	24	7/32	.010"	.043" x .344"
1804/12	12	24	7/32	.010"	.043" x .516"
1804/16	16	24	7/32	.010"	.043" x .688"
1804/20	20	24	7/32	.010"	.043" x .860"

STD. PUT-UP: 250 Ft., 500 Ft., 1000 Ft.

CONDUCTOR COLOR CODE: Same as noted below for C-22 Series. Additional sizes and types available to order.

**FLAT RIBBON CABLE**

**MULTI-CONDUCTOR — POLYVINYLCHLORIDE  
INSULATION CONDUCTORS**

Per MIL-W-16878D TYPE C

VOLTAGE RATING: 1000 VOLTS



DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
1822/4	4	22	7/30	.016"	.065" x .260"
1822/8	8	22	7/30	.016"	.065" x .520"
1822/12	12	22	7/30	.016"	.065" x .780"
1822/16	16	22	7/30	.016"	.065" x 1.040"
1822/20	20	22	7/30	.016"	.065" x 1.300"

STD. PUT-UP: 250 Ft., 500 Ft., 1000 Ft.

CONDUCTOR COLOR CODE:

- 1—White
- 2—Black
- 3—Red
- 4—Green
- 5—Yellow
- 6—Lt. Blue
- 7—Brown
- 8—Orange
- 9—Gray
- 10—Violet
- 11—Wh/Black
- 12—Wh/Red
- 13—Wh/Green
- 14—Wh/Yellow
- 15—Wh/Blue
- 16—Wh/Brown
- 17—Wh/Orange
- 18—Wh/Gray
- 19—Wh/Violet
- 20—Wh/Blk/Red

**NEW FROM DABURN ELECTRONICS & CABLE CORP.**

- AIRCRAFT TUBING, LOW TEMPERATURE
- AUDIO & DATA CABLES
- CAPTIVE HARDWARE
- CONTROL CABLE
- CORD SETS
- CORONA RESISTANT HIGH VOLTAGE WIRE AND CABLE
- FIBERGLASS TUBING, HIGH TEMPERATURE
- H FILM — KAPTON\* WIRE

- HEAT SINKS & RETAINERS
- HARNES WRAP SPIRAL TUBING
- HEAT SHRINKABLE TUBING
- PLUG — JACKS; (PHONE & TELEPHONE)
- RETRACTILE CORDS
- SOLDERLESS TERMINALS
- SPAGHETTI PACKS
- SPIRAL WRAPS
- WASHERS
- WIRE TIES

See above in Sections 2100, 2800, 3100, 5100, 6000

\* Dupont

**MIL-W-16878D — TYPES F & FF**

TYPE F — 600V • TYPE FF — 1000V

Single conductor, stranded tinned copper. Extruded silicone rubber overall.

DABURN No.	MIL Type Designation	Size AWG	Strand	Nom. O.D.
2620/28	F-28	28	7/36	.046"
2622/28	FF-28	28	7/36	.078"
2620/26	F-26	26	7/34	.050"
2622/26	FF-26	26	7/34	.082"
2620/24	F-24	24	19/36	.055"
2622/24	FF-24	24	19/36	.087"
2622/22	F-22	22	19/34	.062"
2620/22	FF-22	22	19/34	.094"
2620/20	F-20	20	19/32	.070"
2622/20	FF-20	20	19/32	.102"
2620/18	F-18	18	19/30	.080"
2622/18	FF-18	18	19/30	.112"
2620/16	F-16	16	19/29	.088"
2622/16	FF-16	16	19/29	.120"
2620/14	F-14	14	19/27	.118"
2622/14	FF-14	14	19/27	.165"
2620/12	F-12	12	19/25	.137"
2622/12	FF-12	12	19/25	.184"
2622/10	FF-10	10	37/26	.205"
2622/8	FF-8	8	133/29	.290"
2622/6	FF-6	6	133/27	.333"
2622/4	FF-4	4	133/25	.390"

COLOR: White. Additional colors, sizes and types to order. STD. PUT-UP: 500 Ft., 1000 Ft.

**SILICONE RUBBER LEAD WIRE  
600 VOLT — 200°C**

FLEXIBILITY FROM -104°C TO +400°F

Suitable for high-heat and hi-frequency applications. Resistant to acids, alkali, oil. Retains physical properties under extremes. Low power factor, low dielectric constant. Tinned copper, stranded, silicone rubber insulation, glass braid, lacquered. Color: White.



DABURN No.	Size	Strand	Nom. Ins. Wall	Nom. O.D.
2625/22	22	7/30	1/32"	.105"
2625/20	20	10/30	1/32"	.121"
2625/18	18	16/30	1/32"	.128"
2625/16	16	26/30	1/32"	.144"
2625/14	14	41/30	1/32"	.165"
2625/12	12	65/30	1/32"	.185"
2625/10	10	65/28	3/64"	.240"
2625/8	8	84/27	1/16"	.320"

DESCRIPTION: One conductor, tinned copper strands, silicone rubber insulation, glass braid, lacquered.

COLOR: White

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

**HI-VOLTAGE CABLE**

One conductor, stranded copper tinned, rulan — flame retardant — polyethylene insulation, braided tinned copper overall when shielded. Used as hi-voltage leads in electronic equipment to minimize RF radiation in equipment.



Daburn Size No.	AWG	Strand	UNSHIELDED		Nom. O.D.
			Ins. Wall	Voltage Breakdown AC DC	
2641	22	7/30	.047"	5,000 10,000	.124"
2642	20	10/30	.047"	5,000 10,000	.125"
2643	20	10/30	.068"	10,000 20,000	.168"
2644	18	16/30	.047"	5,000 10,000	.134"
2645	18	16/30	.068"	10,000 20,000	.178"
2648	18	16/30	.095"	16,000 40,000	.235"
2649	18	16/30	.124"	26,000 60,000	.280"

DESCRIPTION: One conductor, stranded copper tinned, rulan (flame retarding type) polyethylene insulation. Available white/red tracer. Temp. Rating: 105°C.

Shielded: Same as above with tinned copper braided shield overall. Special construction available to order.

DABURN No.	Size	Strand	SHIELDED		Nom. O.D.
			Ins. Wall	Voltage Breakdown AC DC	
2652	20	10/30	.095"	16,000 40,000	.252"
2655	18	16/30	.095"	16,000 40,000	.255"
2656	16	26/30	.095"	16,000 40,000	.276"

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

**PLASTIC HOOK-UP WIRE**

600 VOLT UL APPROVED — 105°C (CSA 600V — 90°C)  
STYLE 1015

300 VOLT UL APPROVED — 80°C  
STYLE 1007

Resistant to acids, alkalis, oil, flame, fungus and moisture. Temperature Rating: -10°C to +105°C.

DABURN No.	Size	STRANDED		Nom. Ins. Wall	Nom. O.D.
		Strand	Strand		
2630	22	7/30	7/30	.032"	.098"
2631	20	10/30	10/30	.032"	.104"
2632	18	16/30	16/30	.032"	.112"
2633	16	26/30	26/30	.032"	.126"
2633/14	14	41/30	41/30	.032"	.142"

DABURN No.	Size	SOLID		Nom. Ins. Wall	Nom. O.D.
		Strand	Strand		
2635/22	22	1	1	.032"	.095"
2635/20	20	1	1	.032"	.102"

COLORS: Black, Red, Green, Yellow, Blue, White, Orange, Gray, Purple.  
STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.



DESCRIPTION: One conductor stranded annealed copper tinned, plastic insulation.



COLORS: Black, Red, Green, Yellow, Blue, Brown, White, Orange, Gray, Purple.

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**TEST LEAD WIRE • MINIATURIZATION WIRE & CABLE  
PHONO & STEREO WIRE & CABLE—HI TENSION CABLE**

**RUBBER KINKLESS TEST LEAD WIRE**

Suitable as Test Lead Wire in analyzers, instruments, oscillators, meters, etc. Whenever extra flexibility and limpness is necessary. Single conductor, extra flexible stranded soft tinned copper, separator, wall color coded rubber, smooth wax finish.



OPERATING TEMPERATURE: -20°C to +60°C. Colors: Red, black

DABURN No.	Size	Strand	Nom. Insul. Wall	O.D. Nom.
2715	20	41/36	3/4"	.137"
2716	18	65/36	3/4"	.145"
*2718	18	65/36	3/4"	.145"
2717	18	65/36	3/4"	.210"

\* Types WS-16/U Black, WS17/U Red Per MIL-W-13169.

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

**PLASTIC KINKLESS TEST LEAD WIRE**

Soft formulation vinyl maximum flexibility. Temperature stability from -80°C to +115°C. Exceed requirements for MIL-I-3930A Type JP (PVC). Suitable for test leads, etc. Resistant to gasoline and oil. Excellent abrasion Resistance.



DESCRIPTION: One conductor tinned copper stranded, special formulation vinyl insulation — smooth surface.

OPERATING TEMPERATURE: -80°C to +115°C.

COLORS: Black, Red, Yellow, Green, White, Blue.

DABURN No.	Size	Strand	Ins.	Nom. O.D.
2722/22	22	26/36	.032"	.100"
2722/20	20	26/34	.032"	.104"
2722/18	18	65/36	.032"	.112"
2722/16	16	65/34	.032"	.129"

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

**MINIATURIZATION HOOK-UP WIRE AND CABLE** **Conforms to MIL-W-16878D Spec.**

**UNSHIELDED — ONE CONDUCTOR 105°C — 600V RATING**

Used as lead computers, transistor circuits, instruments — where fine sizes are required with high temperature conditions. One conductor stranded tinned copper, 105°C vinyl resin overall.

DABURN No.	Conductor	Size	Strand	Nom. Wall	Nom. O.D.
2670/32	1	32	7/40	.010"	.029"
2670/30	1	30	7/38	.010"	.030"
2670/28	1	28	7/36	.010"	.035"
2670/26	1	26	10/36	.010"	.038"
2670/24	1	24	16/36	.015"	.055"

STOCK COLORS: Black, Red, Green, Yellow, Blue, Brown, White, Orange and Purple.

STD. PUT-UP: 500 Ft., 1000 Ft.



DESCRIPTION  
One conductor stranded tinned copper with 105°C high temperature thermoplastic insulation overall.

**SHIELDED HOOK-UP WIRE  
SUB-MINIATURE • SUPER FLEXIBLE • 600V RATING**

One conductor stranded tinned copper, 105°C vinyl resin overall.

DABURN No.	Conductor	Size	Strand	Nom. Wall	Nom. O.D.
2682	1	30	7/38	.010"	.052"
2684	1	28	7/36	.010"	.057"
2686	1	26	10/36	.010"	.060"
2688	1	24	16/36	.010"	.073"

STOCK COLOR: White (Under Shield).

STD. PUT-UP: 500 Ft., 1000 Ft.



DESCRIPTION  
One conductor stranded tinned copper with 105°C high temperature thermoplastic insulation and tinned copper shielded braid overall.

**MULTI CONDUCTOR CABLE**

**SUB-MINIATURE • NOT SHIELDED • FLEXIBLE**

Tinned Copper Conductors — Conforms to MIL-W-16878D Spec

Suggested Operating Temperature: -55°C to +105°C

**TWISTED — NO OUTER JACKET — 600V RATING**

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
2672	2	30	7/38	.010"	.058"
2672/3	3	30	7/38	.010"	.064"
2672/4	4	30	7/38	.010"	.072"

COND. COLOR CODE:  
1—Black, 2—White,  
3—Red, 4—Green.  
STD. PUT-UP:  
500 Ft., 1000 Ft.



**TWISTED—CLEAR VINYL JACKET OVERALL—600V RATING**

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
2674	2	28	7/36	.010"	.079"
2674/3	3	28	7/36	.010"	.086"
2674/4	4	28	7/36	.010"	.095"

COND. COLOR CODE:  
1—Black, 2—White,  
3—Red, 4—Green.  
STD. PUT-UP:  
500 Ft., 1000 Ft.

**SHIELDED SUB-MINIATURE MULTI-CONDUCTOR CABLE**

Tinned Copper Conductors — Conforms to MIL-W-16878D Spec

Suggested Operating Temperature: -55°C to +105°C

**TWISTED — SHIELDED — NO OUTER JACKET**

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
2676	2	24	16/36	.015"	.114"
2676/3	3	24	16/36	.015"	.123"
2676/4	4	24	16/36	.015"	.144"

COND. COLOR CODE:  
1—Black, 2—White,  
3—Red, 4—Green.  
STD. PUT-UP:  
500 Ft., 1000 Ft.



**TWISTER — SHIELDED — CLEAR VINYL JACKET OVERALL**

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
2678	2	28	7/36	.010"	.105"
2678/3	3	28	7/36	.010"	.115"
2678/4	4	28	7/36	.010"	.120"

COND. COLOR CODE:  
1—Black, 2—White,  
3—Red, 4—Green.  
STD. PUT-UP:  
500 Ft., 1000 Ft.

NOTE: Multi-conductors can be formed to order twisted, shielded with or without plastic jacket overall.

**TINNED COPPER SHIELDED PHONO WIRE**

Suitable where small diameter, limpness and extremely flexibility is necessary as for phono pickups, stereo, etc.

OPERATING TEMPERATURE: -20°C to +60°C.

DABURN No.	Size	Strand	Overall Insul Wall	Nom. O.D.
2737	24	16/36	.010"	.075"
2738	22	7/30	.010"	.080"

**COTTON BRAID OVER-SHIELD**

DABURN No.	Size	Strand	Overall Insul Wall	Nom. O.D.
2739	24	16/36	.010"	.095"

STD. PUT-UP: 100 Ft., 500 Ft.



**SHIELDED HOOK-UP WIRE**

One conductor, tinned copper stranded, polyvinyl-chloride insulation, lacquered brass braid, overall tinned copper shielded braid.

OPERATING TEMPERATURE: -20°C to +60°C.

DABURN No.	Size	Strand	Nom. Wall	Nom. O.D.
2727/22	22	7/30	.016"	.095"
2727/20	20	10/30	.016"	.105"
2727/18	18	16/30	.016"	.125"
2727/16	16	26/30	.016"	.135"
2727/14	14	41/30	.016"	.155"
2727/12	12	65/30	.016"	.175"
2727/10	10	105/30	.025"	.200"

STD. PUT-UP: 1000 Ft.



**7MM HIGH TENSION CABLE**

#2730 — unshielded one conductor, in insulation, cotton braid highly lacquered.

#2731 — same construction as above plus a closely woven tinned copper shielded braid overall.

DABURN No.	Size	Strand	Insul.	O.D.
2730	16	19/29	3/4"	.275"
2731(Shielded)	16	19/29	3/4"	.295"

STD. PUT-UP: 100 Ft., 500 Ft.

Suitable for auto and aircraft ignition systems where grounding is indicated.



**HI-FI STEREO**

**Interconnecting Cable — Phono Wire**

Extremely flexible. Designed for low hum and noise pickup. Special PVC formulation -40°C to +80°C operation.



**TWISTED — UNSHIELDED**

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
2741	1	32	7/40	.010"	.028"
2742	2	32	7/40	.010"	.047"
2743	3	32	7/40	.010"	.053"
2744	4	32	7/40	.010"	.061"

**TWISTED — SHIELDED**

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
2745	1	32	7/40	.010"	.040"
2746	2	32	7/40	.010"	.067"
2747	3	32	7/40	.010"	.072"
2748	4	32	7/40	.010"	.080"
2751#	2	32	7/40	.010"	.080"

STD. PUT-UP: 500 Ft., 1000 Ft.

#2751 Individually Shielded.

CONDUCTOR COLOR CODE: 1—White, 2—Red, 3—Black, 4—Green.

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**POWER CORDS • COAXIAL CABLE • ROTOR • SPEAKER CABLE**

**SERVICE CORD — HEAVY DUTY**

UL and CSA approved

Suitable for replacement on machinery, tools, refrigerators, electronic devices

**DESCRIPTION:** Two and three conductors, stranded bare copper, serve, rubber insulation, filler, wrap, tough black rubber jacket overall. Molded plug one end, free end stripped and tinned — Hanked.



**VOLTAGE RATING: 300V**

DABURN No.	Cord L'gth.Ft.	Cond.	Size	Strand	Type	Amp Rating	Cord O.D.
1980	8	2	16	65/34	SJ	10	.325"
1980/3	8	3	16	65/34	SJ	10	.355"
1982/3	8	3	18	41/34	SJ	7	.330"
1984	9	2	18	41/34	SV	7	.245"
1984/3	9	3	18	41/34	SV	7	.265"

Std. Pkg. 25

**UL APPROVED — SERVICE LINE CORD**

Use as an all purpose power supply cord for small appliances, lamps, radios, etc.

**DESCRIPTION:** Two conductors parallel SP-1 (POSJ) with molded-on male plug, double brass blades, conductor end stripped and tinned — Hanked. Available in black and brown.



DABURN No.	Length	Cond.	Size	Strand	Nom. O.D.	Std. Pkg.
1987	6	2	18	41/34	130" x .235"	50
1988	7½	2	18	41/34	130" x .235"	50

**LAMP CORD**

Types SP-1 (POSJ-64) — Type SP-1 (POT) UL Approved

An all purpose approved cord both SP-1 (rubber) and SP-1 (Plastic) for lamps, radios and small instruments and appliances.



DABURN No.	Cond.	Size	Strand	Insul.	Type	UL Type	Nom. O.D.
1990	2	18	41/34	Rubber	SP-1	POSJ	.130"x.235"
1991	2	18	41/34	Plastic	SPT-1	POT	.130"x.225"
1993	2	18	41/34	Pl. Clear	SPT-1	POT	.115"x.215"
1994	2	16	65/34	Pl. Brown	SPT-2	POT	.160"x.300"

STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.

COLORS: (Rubber) Brown, Black, White; (Plastic) Brown, Black, Ivory.

**DABURN COAXIAL CABLES WITH HIGH TEMPERATURE TEFLON\* CORE DIELECTRIC**

Meets MIL-C-17C

These Teflon\* Core Dielectric Co-Axial Cables combine both miniaturization and hi-temperature qualities. The Teflon Jackets are weatherproof, resistant to fuels and are extremely flexible. Shield: Silver Covered Copper.

DABURN No.	Military RG/U Type	Ohms	Cap. MMFT/ Ft.	Inner Conductor	O.D. Inches	Max. Oper. Volts RMS	Nom. Atten. DB/100' 400 Mc	RG/U Type
D187A/U	187A/U	75	19.5	7/28 Silvered Copperweld	.110	1200	16.0	187A/U
D188/U	188/U	50	29.0	7/.0067 Silvered Copperweld	.110	1200	16.7	188/U
D188A/U	188A/U	50	29.0	7/.0067 Silvered Copperweld	.110	1200	16.7	188A/U
D195/U	195/U	95	15.0	7/38 Silvered Copperweld	.155	1500	11.0	195/U
D195A/U	195A/U	95	15.0	7/38 Silvered Copperweld	.155	1500	11.0	195A/U
D196/U	196/U	50	28.5	7/38 Silvered Copperweld	.080	1000	28.0	196/U
D196A/U	196A/U	50	28.5	7/38 Silvered Copperweld	.080	1000	28.0	196A/U

STD. PUT-UP: 500 Ft., 1000 Ft.

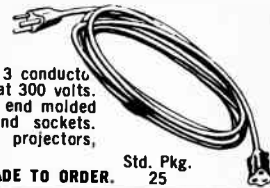
\*TEFLON—DUPONT

JKT MTL.: D187A/U Teflon. All others TFE Teflon.

**POWER CORD SETS**

UL and CSA approved

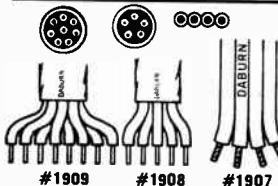
Manufactured for lasting service these 2 and 3 conductor quality black rubber cords are flexible. Rated at 300 volts. One end has molded plastic male plug, other end molded female plug. Will fit conventional plugs and sockets. Useful for business and data machines, projectors, vacuum cleaners, appliances, etc.



Std. Pkg. 25

CUSTOM CONSTRUCTION OF POWER CORDS MADE TO ORDER.

Cat. No.	Size & Conds.	Cord Length Ft.	UL Type	Strand	Amp Rating	Nom. O.D.
9-201	2/18	6	SV	41/34	7	.245"
9-202	2/18	9	SV	41/34	7	.245"
9-203	2/18	10	SJ	16/30	7	.300"
9-204	2/18	25	SJ	16/30	7	.300"
9-206	2/16	10	SJ	26/30	10	.325"
9-207	2/16	25	SJ	26/30	10	.325"
9-208	2/16	50	SJ	26/30	10	.325"
9-211	3/18	10	SJ	16/30	7	.330"
9-212	3/18	25	SJ	16/30	7	.330"
9-213	3/18	50	SJ	16/30	7	.330"
9-215	3/16	15	SJ	26/30	10	.365"
9-216	3/16	25	SJ	26/30	10	.365"
9-217	3/16	50	SJ	26/30	10	.365"



**ANTENNA CONTROL ROTOR CABLE**

#1907 — 4 cond. flat parallel polyethylene plastic insulation — one outer conductor tinned, balance bare copper.  
#1908 — 5 cond. twisted, color coded, vinyl plastic jacket overall.  
#1909 — 8 cond. twisted, color coded vinyl plastic jacket overall.

DABURN No.	Cond.	Size	Strand	Nom. O.D.
1907	4	20	7/28	.072" x .390"
1908	5	20	7/28	.180"
1909	8	22	7/30	.205"

**CONDUCTOR COLOR CHART FOR #1908, 1909**

1-Black, 2-White, 3-Red, 4-Green, 5-Yellow, 6-Blue, 7-Brown, 8-Orange.  
STD. PUT-UP: 500 Ft., 1000 Ft.

**RG/U COAXIAL CABLE**

**DESCRIPTION:** One conductor, polyethylene insulation, copper braid shield, plastic jacket overall.



DABURN No.	Spool	Type	Nom. Imp.	Size	Nom. MMFD/ Ft.	Strand	O.D.
1925	500'	RG-8/U	52	13	29.5	7/21 Bare	.405"
1926	500'	RG-9/U	51	13	30.0	7/21 S	.420"
1927	500'	RG-11/U	75	18	20.5	7/26 Tinned	.405"
1928	1000'	RG-58A/U	50	20	29.0	19/.0068 Tinned	.195"
1929	1000'	RG-58/U	53.5	20	28.5	Solid	.195"
1930	1000'	RG-59/U	73	22	21.0	Solid C.W.	.242"
1931	1000'	RG-62/U	93	22	13.5	Solid	.242"

Additional RG numbers available conforming to MIL-C-17B Specs.

**PLASTIC SPEAKER CABLE CLEAR AND COLORED INSULATION**

**DESCRIPTION:** Conductors are parallel, stranded bare copper, color coded and clear polyvinylchloride insulation. Conductors separate quickly when split apart. Suitable for hi-fi speaker cable, miniature juke-box speaker connection, rear auto speaker extension cable. Clear insulation blends with any interior.

TEMPERATURE RATING: -20°C to +60°C. OPER. VOLTAGE: 300V

Daburn No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.	Stock Colors
2754	2*	24	7/32	.016"	.057"x.120"	Brn., Bk., Wh., Gray, Tan
2755	2*	24	7/32	.016"	.057"x.120"	Clear
2756	2	20	10/30	.016"	.085"x.175"	Brn., Bk., Wh., Gray, Tan
2757	2	20	10/30	.016"	.085"x.175"	Clear
2758	2	18	41/34	.032"	.115"x.215"	Brn., Bk., Wh., Gray, Tan
2759	2	18	41/34	.032"	.115"x.215"	Clear

\* 1 conductor tinned, 1 bare.

STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**PORTABLE CORD, CONTROL CABLES — MIL-C-3432B SERVICE CORD**

**RUBBER, NEOPRENE & PLASTIC PORTABLE CORD  
UL APPROVED — 300 AND 600 VOLT**

For power line requirement where rough usage is indicated as for amplifiers, sound systems, speakers, vacuum cleaners, washing machines, trouble lights, refrigerators, etc. Color coded. Underwriters approved. Neoprene and plastic construction recommended for equipment exposed to oil, acids, outdoor use, direct burial, etc.

SUGGESTED OPERATING TEMPERATURE: -20°C to +60°C.

Each conductor, copper conductor, paper separator, color coded, rubber insulation, filler, (where necessary) separator, tough rubber or neoprene jacket, black.



UL TYPE	VOLT RATING
SV, SVO, SVTO	300V
SJ, SJO, SJTO	300V
S, SO, STO	600V

RUBBER Daburn No.	UL Type	NEOPRENE Daburn No.	UL Type	PLASTIC Daburn No.	UL Type	Conds. No.	Size	Amp. Rating	Nom. O.D.
2850	SV	2890	SVO	2870	SVTO	2	18	7	.250"
2850/3	SV	2890/3	SVO	2870/3	SVTO	3	18	7	.265"
2851	SJ	2891	SJO	2871	SJTO	2	18	7	.300"
2851/3	SJ	2891/3	SJO	2871/3	SJTO	3	18	7	.330"
2851/4	SJ	2891/4	SJO	2871/4	SJTO	4	18	6	.360"
2852	SJ	2892	SJO	2872	SJTO	2	16	10	.325"
2852/3	SJ	2892/3	SJO	2872/3	SJTO	3	16	10	.365"
2852/4	SJ	2892/4	SJO	2872/4	SJTO	4	16	8	.395"
2853	S	2893	SO	2873	STO	2	18	7	.390"
2853/3	S	2893/3	SO	2873/3	STO	3	18	7	.405"
2853/4	S	2893/4	SO	2873/4	STO	4	18	6	.435"
2854	S	2894	SO	2874	STO	2	16	10	.410"
2854/3	S	2894/3	SO	2874/3	STO	3	16	10	.430"
2854/4	S	2894/4	SO	2874/4	STO	4	16	8	.485"
2855	S	2895	SO	2875	STO	2	14	15	.540"
2855/3	S	2895/3	SO	2875/3	STO	3	14	15	.560"
2855/4	S	2895/4	SO	2875/4	STO	4	14	12	.605"
2856	S	2896	SO	2876	STO	2	12	20	.600"
2856/3	S	2896/3	SO	2876/3	STO	3	12	20	.635"
2856/4	S	2896/4	SO	2876/4	STO	4	12	16	.665"
2857	S	2897	SO	2877	STO	2	10	25	.840"
2857/3	S	2897/3	SO	2877/3	STO	3	10	25	.690"
2857/4	S	2897/4	SO	2877/4	STO	4	10	20	.745"
2858	—	2898	—	—	—	2	8	35	.700"
2858/3	—	2898/3	—	—	—	3	8	35	.750"
2858/4	—	2898/4	—	—	—	4	8	28	.820"
2859	—	2899	—	—	—	2	6	45	.820"
2859/3	—	2899/3	—	—	—	3	6	45	.885"
2859/4	—	2899/4	—	—	—	4	6	36	.975"

Additional conductors and sizes available † Not listed by UL.  
CONDUCTOR COLOR CODE: 1-White, 2-Black, 3-Green, 4-Red.  
STD. PUT-UP: 250 Ft.

**SPEC MIL-C-3432B SERVICE CORD**



DABURN Cat. No.	MIL Type	Spec. Design.	Conds.	Size	Spec. No.	Nom. O.D.
2812	CO-02	MGF	2	18	MIL-C-3432B	.300"
2813	CO-02	HGF	2	18	MIL-C-3432B	.380"
2814	CO-02	LCF	2	18	MIL-C-3432B	.250"
2815	CO-02	HGF	2	16	MIL-C-3432B	.405"
2816	CO-02	MGF	2	16	MIL-C-3432B	.338"
2817	CO-02	MGF	2	14	MIL-C-3432B	.400"
2818	CO-02	HGF	2	14	MIL-C-3432B	.535"
2819	CO-03	MGF	3	18	MIL-C-3432B	.340"
2820	CO-03	MGF	3	16	MIL-C-3432B	.375"
2821	CO-03	HOE	3	12	MIL-C-3432B	.635"

Additional Numbers Available — Your Inquiries Invited

**CONTROL CABLE (unshielded)  
MULTI-CONDUCTOR RUBBER JACKETED —  
GENERAL PURPOSE**

SUGGESTED OPERATING TEMPERATURE: -20°C to +60°C.  
Used for permanent or portable P.A. systems, sound recording, indoor or outdoor speaker, interconnecting cable for all electronic uses.

Each conductor, extra flexible stranded tinned copper, insulated with a .022" wall, special low capacity rubber, color coded, conductors twisted, filler (where necessary), cotton wrap with tough weatherproof black rubber jacket overall.



DABURN Cat. No.	Cond.	Size	Strand	Nom. O.D.
2802	2	20	26/34	.240"
2803	3	20	26/34	.255"
2804	4	20	26/34	.275"
2805	5	20	26/34	.300"
2806	6	20	26/34	.315"
2807	7	20	26/34	.325"
2808	8	20	26/34	.360"
2808/10	10	20	26/34	.410"
2808/12	12	20	26/34	.435"

For longer lengths and alternate Put-Ups — Specify  
STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.  
CONDUCTOR COLOR CODE: 1-Black, 2-White, 3-Red, 4-Green, 5-Yellow, 6-Blue, 7-Brown, 8-Orange, 9-Purple, 10-Slate, 11-Wh/Blk (Braid), 12 Wh/Red (Braid).

**CONTROL CABLE**

**HEAVY DUTY MULTI-CONDUCTOR  
PORTABLE TYPE SO  
NEOPRENE JACKETED — 600 VOLT**



DESCRIPTION: Stranded bare copper each conductor, rubber insulation color coded, filler where necessary, wrap over conductors, flexible heavy duty black Neoprene jacket overall.

Recommended for outside installation, this heavy duty control cable resists oil, ozone, sunlight, moisture, impact and abrasion. Suitable for remote control automatic equipment, telemetering, signal transmission.

**No. 18 AWG-SO CONTROL CABLE**

DABURN Cat. No.	Cond.	Size	Strand	Nom. O.D.
3300/5	5	18	16/30	.495"
3300/6	6	18	16/30	.525"
3300/7	7	18	16/30	.525"
3300/8	8	18	16/30	.565"
3300/10	10	18	16/30	.635"
3300/12	12	18	16/30	.665"
3300/14	14	18	16/30	.715"
3300/16	16	18	16/30	.745"
3300/18	18	18	16/30	.775"
3300/20	20	18	16/30	.815"
3300/22	22	18	16/30	.875"
3300/24	24	18	16/30	.895"
3300/26	26	18	16/30	.915"
3300/30	30	18	16/30	.945"
3300/36	36	18	16/30	1.060"
3300/40	40	18	16/30	1.085"

**No. 16 AWG-SO CONTROL CABLE**

DABURN Cat. No.	Cond.	Size	Strand	Nom. O.D.
3305/5	5	16	26/30	.525"
3305/6	6	16	26/30	.560"
3305/7	7	16	26/30	.560"
3305/8	8	16	26/30	.605"
3305/10	10	16	26/30	.710"
3305/12	12	16	26/30	.745"
3305/14	14	16	26/30	.760"
3305/16	16	16	26/30	.800"
3305/18	18	16	26/30	.840"
3305/20	20	16	26/30	.890"
3305/22	22	16	26/30	.930"
3305/24	24	16	26/30	1.02"
3305/26	26	16	26/30	1.03"
3305/30	30	16	26/30	1.05"
3305/36	36	16	26/30	1.12"
3305/40	40	16	26/30	1.18"

**No. 14 AWG-SO CONTROL CABLE**

DABURN Cat. No.	Cond.	Size	Strand	Nom. O.D.
3310/5	5	14	41/30	.685"
3310/6	6	14	41/30	.745"
3310/7	7	14	41/30	.800"
3310/8	8	14	41/30	.860"
3310/10	10	14	41/30	.875"
3310/12	12	14	41/30	.945"
3310/14	14	14	41/30	1.000"
3310/16	16	14	41/30	1.075"
3310/18	18	14	41/30	1.115"
3310/20	20	14	41/30	1.156"

**No. 12 AWG-SO CONTROL CABLE**

DABURN Cat. No.	Cond.	Size	Strand	Nom. O.D.
3315/5	5	12	65/30	.760"
3315/6	6	12	65/30	.810"
3315/7	7	12	65/30	.860"
3315/8	8	12	65/30	.945"
3315/10	10	12	65/30	1.000"
3315/12	12	12	65/30	1.100"
3315/14	14	12	65/30	1.120"
3315/16	16	12	65/30	1.150"
3315/18	18	12	65/30	1.30"
3315/20	20	12	65/30	1.33"

STD. PUT-UP: Cut to Specific Lengths — Min. 100 Ft.

The Color Code for Neoprene Jacket Control Cables Conforms to IPCEA Standards.

**MULTI-CONDUCTOR MICROPHONE  
AND CONTROL CABLE — PLASTIC**



Each conductor tinned copper, polyethylene insulation — color coded.

Multi-conductors cabled with fillers, textile wrapped, tinned copper braided shield, gray polyvinyl jacket overall.

OPERATING TEMPERATURE: -20°C to +60°C, 600 Volts.

DABURN Cat. No.	Cond.	Size	Strand	Nom. Wall	Nom. Jacket	Nom. O.D.
2782	2	22	16/34	31 MMF	1000 V	.231"
2782/20	2	20	26/34	45 MMF	600 V	.240"
2782/24	2	24	10/34	38 MMF	1000 V	.190"

DABURN Cat. No.	Cond.	Size	Strand	Nom. Wall	Nom. Jacket	Nom. O.D.
2783	3	20	26/34	.014"	.030"	.250"
2784	4	20	26/34	.014"	.035"	.260"
2785	5	20	26/34	.014"	.035"	.275"
2786/8	8	20	26/34	.014"	.035"	.330"
2786/10	10	20	26/34	.014"	.035"	.375"
2786/12	12	20	26/34	.014"	.035"	.380"
2786/15	15	20	26/34	.014"	.035"	.410"
2786/20	20	20	26/34	.014"	.035"	.455"

STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.

CONDUCTOR COLOR CODE: 1-White, 2-Black, 3-Red, 4-Green, 5-Yellow, 6-Blue, 7-Brown, 8-Orange, 9-Purple, 10-Slate, 11-White/Black, 12-White/Red, 13-White/Green, 14-White/Yellow, 15-White/Blue, 16-White/Brown, 17-White/Purple, 18-White/Slate, 19-Black/Red, 20-Black/Yellow.

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

Long Lasting Service — useful wherever cords must change length or position. Extend to approximately six times its retracted length. Returns to its original shape or length when released. Eliminates tangling, twisting or knots. Cords are UL and CSA approved.

**RETRACTILE COILED CORDS**

**POWER CORDS — RETRACTED LENGTHS: 1, 2, 3 & 4 FT. • EXTENDED LENGTHS: 6, 12, 18 & 25 FT.**

UL APPROVED — NEOPRENE JACKETED CORD  
Operating Temperature: -20°C to +60°C

4 Ft. Length	3 Ft. Length	2 Ft. Length	1 Ft. Length	No. Conds.	Size	Strand	UL* and CSA Type	Amps	Volt Rating	Cell Nom. O.D.	Cord Nom. O.D.
986-4	986-3	986-2	986-1	2	18	41/34	SVO	7	300	7/8"	.250"
986/3-4	986/3-3	986/3-2	986/3-1	3	18	41/34	SVO	7	300	1"	.275"
987-4	—	—	—	2	18	41/34	SVT	7	300	7/8"	.250"
989-4	989-3	989-2	989-1	2	18	41/34	SJO	7	300	1 1/4"	.310"
989/3-4	989/3-3	989/3-2	989/3-1	3	18	41/34	SJO	7	300	1 3/8"	.330"
989/4-4	989/4-3	989/4-2	989/4-1	4	18	41/34	SJO	5.6	300	1 3/8"	.360"
989/5-4	—	989/5-2	—	5	18	41/34	—	5.6	300	1 3/8"	.440"
989/7-4	—	989/7-2	—	7	18	41/34	—	5.6	300	1 7/8"	.500"
990-4	—	—	—	2	18	41/34	SJT	7	300	1 3/8"	.310"
991-4	991-3	991-2	991-1	2	16	65/34	SJO	10	300	1 3/8"	.330"
991/3-4	991/3-3	991/3-2	991/3-1	3	16	65/34	SJO	10	300	1 3/8"	.365"
991/4-4	991/4-3	991/4-2	—	4	16	65/34	SJO	8	300	1 3/8"	.395"
991/5-4	—	991/5-2	—	5	16	65/34	—	8	600	2"	.540"
991/6-4	—	991/6-2	—	6	16	65/34	—	8	600	2 1/8"	.550"
991/7-4	—	991/7-2	—	7	16/16	#16-65/34	—	#16-8	—	—	—
993-4	993-3	993-2	—	2	14	41/30	SO	15	600	2"	.535"
993/3-4	993/3-3	993/3-2	—	3	14	41/30	SO	15	600	2 1/8"	.560"
993/4-4	993/4-3	993/4-2	—	4	14	41/30	SO	12	600	2 1/8"	.605"
994-4	994-3	994-2	—	2	12	65/30	SO	20	600	2 1/8"	.605"
994/3-4	994/3-3	994/3-2	—	3	12	65/30	SO	20	600	2 3/8"	.635"
994/4-4	994/4-3	994/4-2	—	4	12	65/30	SO	16	600	2 1/2"	.665"
994/6-4	—	994/6-2	—	6	2/12	#12-65/30	—	#12-17	—	—	—
994/7-4	—	994/7-2	—	7	4/18	#18-41/34	—	#18-6	—	—	—

\* Wherever UL type is shown, approved by CSA Testing Laboratories.  
† Preferred Put-up.

Std. Pkg. 5

CONDUCTOR COLOR CODE: 1-Black, 2-White, 3-Green, 4-Red, 5-Blue, 6-Brown, 7-Yellow.

**DABURN MINIATURE RETRACTILE COMMUNICATION CORDS**

2 Feet Retracted — 10 Ft. Extended

Miniature size. Suitable for compact equipment. Black plastic jacket overall. Operating Temperature: -20°C to +60°C

DABURN No.	Conds.	Size	Strand	Cell O.D.	Cord O.D.
975/28	2	28	19/40 T.C.	1/2"	.135"
977/28	4	28	19/40 T.C.	1/2"	.150"

**RETRACTILE TEST LEAD WIRE**

Stretch coiled kinkless test lead wire description. 12" coil stretches to approx. 6 feet. One conductor #20 stranded copper rubber insulation .165 O.D. Colors: Red, Black. Coil O.D. 3/4". Working Voltage: 1000V, 4 Amps.

DABURN No.	Lg'h.	Size	Strand	Cell O.D.	Cord O.D.
984A	12"	20	41/36	3/4"	.165"
984	24"	20	41/36	3/4"	.165"

12" Extends Approx. 6 Ft. Specify Color, Red or Black  
24" Extends Approx. 12 Ft. Std. Pkg. 6

**UL APPROVED RETRACTILE POWER CORD SETS**

18" Retracted — Approx. 9 Ft. Extended — 300V — UL Approved

For portable use. Mobile and office equipment. Neoprene jacketed cord sets with molded male plug on one end. OPERATING VOLTAGE 300 VOLTS

DABURN Cat. No.	Conds.	AWG Size	Strand	Type UL	Cell O.D.	Cord O.D.
980	2	18	41/34	SVO	7/8"	.250"
980/3	3	18	41/34	SVO	1"	.275"
981	2	18	41/34	SJO	1 1/4"	.310"
981/3	3	18	41/34	SJO	1 3/8"	.330"
982	2	16	65/34	SJO	1 3/8"	.330"
982/3	3	16	65/34	SJO	1 3/8"	.365"

CONDUCTOR COLOR CODE: 1-Black, 2-White, 3-Green.

Std. Pkg. 10

**RETRACTILE COMMUNICATION COIL CORDS**

RETRACTED LENGTHS 2, 3 & 4 FT. — EXTENDED LENGTHS 12, 18 & 25 FT.

Multi-conductors stranded extra flexible #23 AWG 21/36 tinned soft copper for long flex life, Neoprene or "Danyon" plastic jacketed cable for long life. 120 volt working, current carrying capacity 1 ampere. Nom. cond. resist. .022 ohms per linear foot, .185 ohms per retracted foot.

For communication equip. such as ham operations, telephone car carriers, radio equip., head sets, etc.

SPECIAL CONSTRUCTION AVAILABLE TO ORDER

4 Ft. Length	DABURN CAT. NOS.	3 Ft. Length	2 Ft. Length	No. Conds.	Size	Strand	Nom. Cell O.D.	Nom. Cord O.D.
975-4	975-3	975-2	2	23	21/36	3/4"	.200"	.250"
976-4	976-3	976-2	3	23	21/36	1 1/4"	.210"	.275"
977-4	977-3	977-2	4	23	21/36	7/8"	.240"	.310"
978-4	978-3	978-2	5	23	21/36	1"	.285"	.330"
978/6-4	978/6-3	978/6-2	6	23	21/36	1 1/4"	.305"	.360"
978/7-4	978/7-3	978/7-2	7	23	21/36	1 3/4"	.320"	.390"

CONDUCTOR COLOR CODING: 1-Black, 2-White, 3-Red, 4-Green, 5-Blue, 6-Yellow, 7-Brown, 8-Orange, 9-White/Black Tracer, 10-White/Red Tracer, 11-White/Green Tracer, 12-White/Blue Tracer, 13-White/Yellow Tracer, 14-White/Brown Tracer, 15-White/Orange Tracer.

**SHIELDED RETRACTILE COMMUNICATION CORDS**

RETRACTED LENGTHS 1, 2 & 4 FT. — EXTENDED LENGTHS 6, 12 & 25 FT.

Single and multi-cond. Shielded mike cables Neoprene or "Danyon" plastic jacketed shielded conductors are individually shielded. Shield can be pigtailed for soldering. Safe — Reliable.

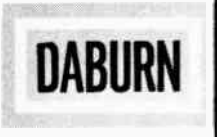
OPERATING TEMPERATURE: -20°C TO +60°C

4 Ft. L'gth.	DABURN CAT. NOS.	2 Ft. L'gth.	1 Ft. L'gth.	No. Conds.	Size	Strand	Nom. Cell O.D.	Nom. Cord O.D.	Volt Rating	CAPACITANCE MMF Lin. Ft.	MMF Retr. Ft.
995-4†	995-2	995-1	1	24	Shielded	41/40	3/8"	.160"	75	56	440
996-4	996-2	996-1	2	23	Shielded	41/40	7/8"	.210"	#23-120 #24-75	56	450
997-4	997-2	997-1	3	23	Shielded	41/40	7/8"	.240"	#23-120 #24-75	56	450
998-4	998-2	998-1	2	24	Shielded	41/40	7/8"	.210"	75	56	450
998-4	998-2	998-1	4	24	Shielded	41/40	1"	.270"	#23-120 #24-75	56	460

† Preferred Put-Up

Conductors are Color Coded.

Std. Pkg. 10



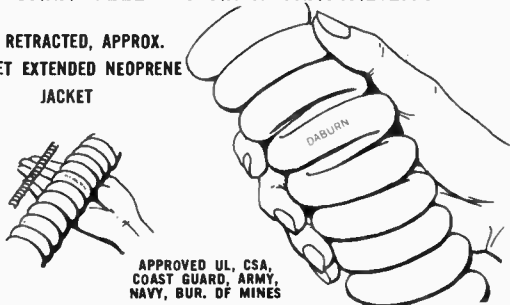
# DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

## RETRACTILE SUPA HEAVY DUTY POWER CORDS

with a  
**GUARANTEED 4 YEAR RETRACTABILITY**

48" RETRACTED, APPROX.  
25 FEET EXTENDED NEOPRENE  
JACKET



APPROVED UL, CSA,  
COAST GUARD, ARMY,  
NAVY, BUR. OF MINES

SUGGESTED OPERATING TEMPERATURE: -20°C to +60°C.

Suitable for maintenance of industrial automation equip., refrigerated trucks, mass production, cherry pickers, magnetic cranes, standby power distribution. Wherever a tougher requirement is indicated. Std. Pkg. 6 Retracted length 48" — extends to 25 ft.

DABURN Cat. No.	No. Cond.	Size	Stranding	Nom. Jacket Thickness	Nom. Cord O.D.
960	3	16	65/34	7/64"	.505"
960/4	4	16	65/34	7/64"	.535"
961	3	14	41/30	7/64"	.620"
961/4	4	14	41/30	7/64"	.660"
962	3	12	65/30	8/64"	.715"
962/4	4	12	65/30	8/64"	.770"



## RETRACTILE COMMUNICATION CORD PREPARED

Retracted length 12" — extended length 6 feet.

Same as our regular communication cord but each end is prepared.

Daburn No.	No. Cond.	Size & Strand	Coil O.D.	Cord O.D.	PREPARED
966	3	#23-21/36	13/16"	.220"	1 END: L'gth 1 1/2". Conductor stripped and tinned. Other end: Total l'gth 1 1/2" jacket removed.
967	4	#23-21/36	15/16"	.250"	1 END: Total length 1". Conductors stripped and tinned. Other end: Total l'gth 1 1/2" jacket removed.
968	5	#23-21/36	1-1/16"	.285"	1 END: Total l'gth 4 1/4". Conductors stripped and tinned. Other end: Total l'gth 4 1/4" conds. stripped and tinned.

Std. Pkg. 10

## AUDIO CABLE — SHIELDED 2 CONDUCTOR SHIELDED

NO OUTER JACKET

Each conductor copper tinned, plastic insulation, color coded, twisted, tinned copper shield. Suitable for sound systems, industrial paging systems, broadcast-audio cable, rack panel wiring, etc. OPERATING TEMPERATURE: -20°C to +60°C.



DABURN Cat. No.	Conds.	Size AWG.	Strand	Nom. Wall	Nom. O.D.	Nom. Operating Voltage
2902/30	2	30	7/38	.010"	.085"	200V
2902/28	2	28	7/36	.010"	.090"	200V
2902/26	2	26	7/34	.010"	.095"	200V
2902/24	2	24	16/36	.017"	.120"	350V
2902/22	2	22	7/30	.017"	.140"	350V
2902/20	2	20	10/30	.017"	.155"	350V
2902/18	2	18	16/30	.017"	.170"	350V
2902/16	2	16	26/30	.020"	.210"	450V
2902/14	2	14	41/30	.020"	.225"	450V
2902/12	2	12	65/30	.025"	.295"	600V
2902/10	2	10	105/30	.025"	.375"	600V

STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.  
CONDUCTOR COLOR CODE: 1—Black, 2—Red.

## TELEPHONE CABLE

(Meets REA-PE-22)

### EXCHANGE AREA — COMMUNICATION CABLE AERIAL, DUCT AND CONDUIT INSTALLATION



DESCRIPTION: Color coded polyethylene insulation over each bare copper conductor. Conductors are paired. Pairs are cabled with non-hygroscopic tape wrap, corrugated aluminum shield, .008" thick and black polyethylene jacket overall.

Minimal cross talk .083 microfarads/mile — average mutual capacitance, 1 KC. This is a tough, long lasting cable — withstands weathering, ultra-violet and weathering.

#22 AWG — SOLID CONDUCTORS				
DABURN Cat No.	No. of Pairs	Nom. Jkt. T'kness	Nom. O.D.	Ship. Wt. Lbs. M/Ft.
3510/3	3	.060"	.320"	60
3510/6	6	.060"	.390"	100
3510/12	12	.060"	.475"	145
3510/18	18	.060"	.540"	180
3510/25	25	.060"	.605"	226
3510/50	50	.060"	.775"	412
3510/75	75	.060"	.920"	576
3510/100	100	.070"	1.050"	706
3510/150	150	.070"	1.270"	1095
3510/200	200	.070"	1.455"	1382
3510/300	300	.080"	1.750"	1978
3510/400	400	.090"	1.970"	2600
3510/600	600	.100"	2.365"	3900

#19 AWG — SOLID CONDUCTORS				
DABURN Cat No.	No. of Pairs	Nom. Jkt. T'kness	Nom. O.D.	Ship. Wt. Lbs. M/Ft.
3515/6	6	.060"	.490"	145
3515/12	12	.060"	.660"	231
3515/18	18	.060"	.710"	310
3515/25	25	.060"	.790"	391
3515/50	50	.070"	1.060"	716
3515/75	75	.070"	1.290"	1105
3515/100	100	.080"	1.490"	1380
3515/150	150	.080"	1.750"	2045
3515/200	200	.090"	1.990"	2630
3515/300	300	.100"	2.370"	3900

STD. PUT-UP: 100 Ft. and over. CONDUCTOR COLOR CODE: Per IPCEA. Cut to specification.

## TELEPHONE CABLE

### DIRECT BURIAL INSTALLATION

(Meets REA-PE-23)



DESCRIPTION: Color coded polyethylene insulation over each bare copper conductor. Conductors are paired. Pairs are cabled with non-hygroscopic tape-wrap, inner jacket of polyethylene, corrugated .005" copper shield, overall black polyethylene jacket.

Minimal cross talk .083 microfarads/mile — average mutual capacitance 1 KC. Suitable for direct burial. Tough, impervious to moisture and abrasion resistant.

#22 AWG — SOLID CONDUCTORS				
DABURN Cat No.	No. of Pairs	Nom. Jkt. T'kness	Nom. O.D.	Ship. Wt. Lbs. M/Ft.
3525/3	3	.040"	.380"	95
3525/6	6	.040"	.455"	145
3525/12	12	.040"	.535"	195
3525/18	18	.040"	.610"	251
3525/25	25	.040"	.675"	305
3525/50	50	.040"	.860"	507
3525/75	75	.040"	.985"	681
3525/100	100	.040"	1.115"	847
3525/150	150	.050"	1.350"	1240
3525/200	200	.050"	1.505"	1557
3525/300	300	.060"	1.810"	2173
3525/400	400	.060"	2.025"	2853

#19 AWG — SOLID CONDUCTORS				
DABURN Cat No.	No. of Pairs	Nom. Jkt. T'kness	Nom. O.D.	Ship. Wt. Lbs. M/Ft.
3530/3	3	.040"	.455"	119
3530/6	6	.040"	.500"	206
3530/12	12	.040"	.550"	305
3530/18	18	.040"	.675"	406
3530/25	25	.040"	.770"	519
3530/50	50	.050"	.860"	867
3530/75	75	.050"	1.115"	1250
3530/100	100	.050"	1.350"	1575
3530/150	150	.060"	1.505"	2265
3530/200	200	.060"	1.810"	2900
3530/300	300	.060"	2.025"	4042

STD. PUT-UP: 100 Ft. and over. CONDUCTOR COLOR CODE: Per IPCEA. Cut to specification.



**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**AUDIO, DATA SHIELDED, MICROPHONE & CONTROL CABLES**

**AUDIO & DATA SHIELDED CABLE INDIVIDUALLY ALUMINUM MYLAR FOIL SHIELDED PAIRS**

DESCRIPTION: Each conductor stranded, copper tinned, hi density polyethylene insulation, color coded, conductors — twisted pairs. #22 stranded tinned copper wire. Aluminum foil mylar shield over each pair and copper tinned drain wire. Overall chrome grey PVC jacket. Nom. cap. between conds. of a pair, 25 PF/FT. Capacitance of a single conductor to shield, 45 PF/FT.

DABURN Cat. No.	No. of Pairs	No. of Conds.	Cond. Strand	Nom. Wall	Nom. Jkt.	Nom. O.D.
2932/3	3	6	7/30	.010"	.025"	.252"
2932/6	6	12	7/30	.010"	.030"	.342"
2932/9	9	18	7/30	.010"	.035"	.410"
2932/11	11	22	7/30	.010"	.040"	.457"
2932/15	15	30	7/30	.010"	.040"	.523"
2932/19	19	38	7/30	.010"	.050"	.570"
2932/27	27	54	7/30	.010"	.055"	.686"

STD. PUT-UP: 500 Ft., 1000 Ft. Construction variations to order.



**AUDIO & DATA SHIELDED CABLE ALUMINUM MYLAR FOIL SHIELD INDIVIDUALLY SHIELDED MULTIPLE PAIR**

This construction reduces the bulk in required cables. Multipaired #22 solid tinned copper, vinyl insulated .013", cabled in pairs. Aluminum foil mylar shield over each pair and drain wire, overall grey vinyl jacket. Nom. Cap. between Conds. 40 MMF/Ft. Nom. Cap. between 1 Cond. and others connected to shield — 77 MMF/Ft.

DABURN Cat. No.	Pairs	Conds.	Nom. Jacket	Nom. O.D.
2930/3	3	6	.030"	.298"
2930/6	6	12	.037"	.394"
2930/9	9	18	.040"	.425"
2930/11	11	22	.040"	.485"
2930/15	15	30	.045"	.510"
2930/19	19	38	.055"	.620"
2930/27	27	54	.070"	.760"

STD. PUT-UP: 500 Ft., 1000 Ft. Construction Variations Available to Order.



**ALUMINUM MYLAR FOIL SHIELD PLASTIC JACKETED CABLE**

Extremely light in weight, provides 100% shield coverage — small diameters. Each cond. tinned copper, stranded color coded polyethylene insulation, twisted, drain wire, aluminum mylar foil shield, gray polyvinylchloride jacket overall. Drain wire provides quick and easy grounding.

OPERATING TEMPERATURE: -20°C to +60°C. OPERATING VOLTAGE: 400 Volts.

DABURN Cat. No.	Cond.	Size	Strand	Nom. Wall	Nom. Jacket	Nom. O.D.
2960	2	22	7/30	.015"	.020"	.160"
2960/3	3	22	7/30	.015"	.020"	.185"
2960/4	4	22	7/30	.015"	.020"	.205"
2961	2	20	10/30	.015"	.020"	.185"
2961/3	3	20	10/30	.015"	.020"	.205"
2961/4	4	20	10/30	.015"	.020"	.225"
2962	2	18	16/30	.017"	.020"	.220"
2962/3	3	18	16/30	.017"	.020"	.235"
2962/4	4	18	16/30	.017"	.020"	.255"
2963	2	16	26/30	.017"	.020"	.235"
2963/3	3	16	26/30	.017"	.020"	.275"
2964	2	14	41/30	.017"	.020"	.295"
2964/3	3	14	41/30	.017"	.020"	.305"

STD. PUT-UP: 500 Ft., 1000 Ft. CONDUCTOR COLOR CODE: 1—Black, 2—Red, 3—White, 4—Green.

**SHIELDED CABLE**

Suitable for P.A. and sound systems, installation in schools, hospitals and institutions, transmitters, electronic circuits, etc. Construction allows ease of pigtailing. Shield provides additional strength for cable. Each conductor tinned copper, PVC insulation, color coded, twisted, braided T-C shield, gray PVC jacket overall. Suitable for outdoor installations.

OPERATING TEMPERATURE: -20°C to +60°C.

DABURN Cat. No.	Cond.	Size	Strand	Nom. Wall	Nom. Jacket	Nom. O.D.
2970	2	22	7/30	.017"	.020"	.175"
2970/3	3	22	7/30	.017"	.020"	.195"
2971	2	20	10/30	.017"	.020"	.195"
2971/3	3	20	10/30	.017"	.020"	.215"
2972	2	18	16/30	.017"	.020"	.235"
2972/3	3	18	16/30	.017"	.020"	.245"
2974	2	16	26/30	.017"	.020"	.255"
2975	2	14	41/30	.020"	.020"	.290"
2975/3	3	14	41/30	.020"	.020"	.295"
2976	2	12	65/30	.020"	.020"	.335"

CONDUCTOR COLOR CODE: 1—Black, 2—Red, 3—White.

STD. PUT-UP: 500 Ft., 1000 Ft.

**PLASTIC JACKETED BRAIDED COPPER SHIELD**



**SHIELDED PLASTIC MICROPHONE CABLE**



Will withstand abuse and is resistant to oil, moisture, aging. Have low capacitance. Hi insulation resistance and low attenuation. Will not strain or mark.

2772 — For hi impedance microphone  
2773 — For crystal, ribbon, etc. Mikes all are suitable for hi-fi interconnecting  
2774 — For hi impedance lapel mikes.  
OPERATING TEMPERATURE: -20°C to +60°C.

**SHIELDED MICROPHONE CABLE ONE CONDUCTOR**

Uses tinned copper spiral shield — for ease in soldering — extremely flexible-plastic.

DABURN Cat. No.	Cond.	Size	Strand	Shield	Nom. Cap./Ft. MMF	Sugg. Work Voltage	Nom. O.D.
2770	1	25	7/33	Spiral	23	3000	.159"
2771	1	25	7/33	Spiral	33	1000	.110"
2772	1	20	26/34	Braid	36	4000	.175"
2773	1	25	7/33*	Braid	34	3500	.144"
2774	1	25	7/33*	Braid	23	5000	.190"

\* 3 strand tinned copper, 4 strand tinned copperweld.

**MULTICONDUCTOR MICROPHONE CABLE**



Each conductor tinned copper, polyethylene insulation — color coded, twisted with fillers, textile wrap, tinned copper braid shield, gray vinyl jacket overall.  
OPERATING TEMPERATURE: -20°C to +60°C, 600 Volts.

DABURN Cat. No.	Cond.	Size	Strand	Shield	Nom. Cap./Ft. MMF	Sugg. Work Voltage	Nom. O.D.
2782	2	22	16/34	Spiral	31 MMF	1000	.231"
2782/20	2	20	26/34	Spiral	45 MMF	600	.240"
2782/24	2	24	10/34	Spiral	38 MMF	1000	.190"

**SHIELDED ULTRA LOW CAPACITY MICROPHONE CABLE**

Plastic Jacket — Cellular Foam Polyethylene Insulation BRAIDED SHIELD

DESCRIPTION: Constructed with white foam polyethylene insulation, braided tinned copper shield, chrome gray vinyl jacket. The low loss foam polyethylene construction has lower capacitance and attenuation than standard polyethylene mike cables as much as 50%. This increases the effective length of cable as much as 50% without signal loss.

OPERATING TEMPERATURE -20°C to +60°C.

DABURN Cat. No.	Cond.	Size	Strand	Nom. Cap./Ft.	Nom. Jacket	Nom. O.D.
2890	1	26	7/34*	30MMF	.020"	.114"
2891	1	24	10/34	20MMF	.030"	.180"
2892	1	24	10/34	15MMF	.030"	.220"
2893	2	22	16/34	11MMF	.030"	.295"

STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.

CONDUCTOR COLOR CODE: 1—White, 2—Black.

\* 3 strands tinned copper, 4 strands tinned copperweld.

**PLASTIC JACKETED AUDIO AND MULTICONDUCTOR CABLE SPIRAL WRAPPED COPPER SHIELD**



Suitable for P.A. and sound systems, schools, hospitals, institutions, recording studios, paging and call systems. Each conductor copper tinned, plastic insulation, color coded, twisted, spiral wrapped tinned, copper shield, gray plastic jacket.

Simplifies pigtailing. Provides almost 100% shielding coverage.

DABURN Cat. No.	Cond.	Size	Strand	Nom. Insul.	Nom. Jacket	Sugg. Working Voltage	Nom. O.D.
2950	2	22	7/30	.017"	.020"	350V	.170"
2950/1	1	22	7/30	.017"	.020"	350V	.115"
2950/3	3	22	7/30	.017"	.020"	350V	.190"
2950/4	4	22	7/30	.017"	.020"	350V	.200"
2950/6	6	22	7/30	.017"	.020"	350V	.235"
2949	2	22	1	.017"	.020"	350V	.170"
2952	2	20	10/30	.017"	.020"	350V	.190"
2952/1	1	20	10/30	.017"	.020"	350V	.129"
2952/3	3	20	10/30	.017"	.020"	350V	.205"
2952/4	4	20	10/30	.017"	.020"	350V	.222"
2952/6	6	20	10/30	.017"	.020"	350V	.260"
2953	2	18	16/30	.017"	.020"	350V	.230"
2953/1	1	18	16/30	.017"	.020"	350V	.133"
2953/3	3	18	16/30	.017"	.020"	350V	.230"
2953/4	4	18	16/30	.017"	.020"	350V	.245"
2954	2	16	26/30	.017"	.020"	350V	.235"
2954/4	4	16	26/30	.017"	.020"	350V	.255"
2954/3	3	16	26/30	.017"	.020"	350V	.245"
2955	2	14	41/30	.020"	.025"	450V	.285"
2955/3	3	14	41/30	.020"	.025"	450V	.292"
2955/4	4	14	41/30	.020"	.025"	450V	.310"
2956	2	12	65/30	.020"	.025"	450V	.325"
2956/3	3	12	65/30	.020"	.025"	450V	.335"

STD. PUT-UP: 250 Ft., 500 Ft., 1000 Ft.

CONDUCTOR COLOR CODE: 1—Black, 2—Red, 3—White, 4—Green.

**DABURN**

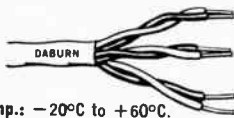
**DABURN ELECTRONICS & CABLE CORP.**

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**PLASTIC INTERCOMMUNICATION CABLES  
TWISTED PAIRS — SOLID**

Each Cond. #22 Solid Tinned Copper, .010" wall (Operating Temp. -20°C to +60°C). Vinyl plastic insulation, conductors color coded, twisted pairs, cabled, gray vinyl jacket overall. Suitable for outdoor installations.

Operating Voltage: 200 Volts. Operating Temp.: -20°C to +60°C.



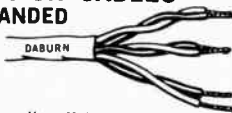
DABURN No.	Pairs	Cond.	Size	Nom. Jacket	Nom. O.D.
3000	1	2	22 Solid	.020"	.130"
3000/2	2	4	22 Solid	.020"	.205"
3000/3	3	6	22 Solid	.020"	.215"
3000/6	6	12	22 Solid	.020"	.275"
3000/9	9	18	22 Solid	.020"	.310"
3000/11	11	22	22 Solid	.020"	.340"
3000/13	13	26	22 Solid	.025"	.385"
3000/15	15	30	22 Solid	.025"	.390"
3000/16	16	32	22 Solid	.025"	.415"
3000/27	27	54	22 Solid	.035"	.505"
3000/31	31	62	22 Solid	.035"	.555"
3000/41	41	82	22 Solid	.035"	.630"
3000/51	51	102	22 Solid	.045"	.735"
3000/76	76	152	22 Solid	.070"	.970"
3000/101	101	202	22 Solid	.080"	1.140"

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft. Other pairs available to order.

**PLASTIC INTERCOMMUNICATION CABLES  
TWISTED PAIRS — STRANDED**

Each Cond. #22 7/30 Tinned Copper, .010" wall vinyl plastic insulation, conductors color coded, twisted pairs, cabled, gray vinyl jacket overall. Suitable for outdoor installations.

Operating Temperature: -20°C to +60°C. Operating Voltage: 200 Volts.



DABURN No.	Pairs	Cond.	Size	Strand	Nom. O.D.
3002	1	2	22	7/30	.145"
3002/2	2	4	22	7/30	.210"
3002/3	3	6	22	7/30	.225"
3002/4	4	8	22	7/30	.235"
3002/5	5	10	22	7/30	.245"
3002/6	6	12	22	7/30	.290"
3002/9	9	18	22	7/30	.350"
3002/15	15	30	22	7/30	.455"
3002/19	19	38	22	7/30	.480"
3002/23	23	46	22	7/30	.530"
3002/27	27	54	22	7/30	.570"
3002/31	31	62	22	7/30	.635"
3002/41	41	82	22	7/30	.710"
3002/51	51	102	22	7/30	.800"

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

**MULTI-CONDUCTOR — PLASTIC JACKET  
UNSHIELDED AUDIO — FLEXIBLE**

Each Cond. #22 7/30 Tinned Copper, stranded, .010" wall plastic insulation, color coded, twisted, gray vinyl jacket overall. Suitable for signal, P.A. systems, computer cable—for outdoor use.

Operating Voltage: 200 Volts. Operating Temperatures: -20°C to +60°C.



STD. PUT-UP: 500 Ft.

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. Jacket	Nom. O.D.
3054/2	2	22	7/30	.010"	.020"	.140"
3054/3	3	22	7/30	.010"	.020"	.145"
3054/4	4	22	7/30	.010"	.020"	.170"
3054/5	5	22	7/30	.010"	.020"	.175"
3054/6	6	22	7/30	.010"	.020"	.185"
3054/7	7	22	7/30	.010"	.020"	.190"
3054/8	8	22	7/30	.010"	.020"	.200"
3054/9	9	22	7/30	.010"	.020"	.225"
3054/10	10	22	7/30	.010"	.020"	.235"
3054/12	12	22	7/30	.010"	.020"	.255"
3054/15	15	22	7/30	.010"	.020"	.280"
3054/20	20	22	7/30	.010"	.020"	.310"
3054/30	30	22	7/30	.010"	.020"	.365"
3054/40	40	22	7/30	.010"	.025"	.425"
3054/50	50	22	7/30	.010"	.035"	.500"
3054/60	60	22	7/30	.010"	.035"	.530"

STD. PUT-UP: From 2 thru 7 cond. 500 ft.; from 8 thru 30 cond. 250 ft.

**CONDUCTOR COLOR CODE:**

1 — Black	21 — White/Brown	41 — White/Green/Red
2 — Red	22 — White/Orange	42 — White/Green/Green
3 — White	23 — White/Gray	43 — White/Green/Blue
4 — Green	24 — White/Violet	44 — White/Green/Brown
5 — Orange	25 — White/Black/Red	45 — White/Green/Purple
6 — Blue	26 — White/Black/Green	46 — White/Blue/Red
7 — Brown	27 — White/Black/Yellow	47 — White/Blue/Black
8 — Yellow	28 — White/Black/Blue	48 — White/Blue/Green
9 — Violet	29 — White/Black/Brown	49 — White/Blue/Blue
10 — Slate	30 — White/Black/Orange	50 — White/Blue/Brown
11 — Pink	31 — White/Black/Slate	51 — White/Blue/Purple
12 — Tan	32 — White/Black/Purple	52 — White/Brown/Black
13 — Red/Green	33 — White/Black/Black	53 — White/Brown/Red
14 — Red/Yellow	34 — White/Red/Black	54 — White/Brown/Green
15 — Red/Black	35 — White/Red/Red	55 — White/Brown/Blue
16 — White/Black	36 — White/Red/Green	56 — White/Brown/Brown
17 — White/Red	37 — White/Red/Blue	57 — White/Brown/Purple
18 — White/Green	38 — White/Red/Brown	58 — White/Purple/Red
19 — White/Yellow	39 — White/Red/Purple	59 — White/Purple/Green
20 — White/Blue	40 — White/Green/Black	60 — White/Purple/Blue

**UNSHIELDED AUDIO CABLE**

**SOLID AND STRANDED CONDUCTORS (2 & 3)**

Tinned copper, vinyl plastic insulation, color coded, conductors twisted.

Operating Temp.: -20°C to +60°C. Operating Voltage: 350 Volts.



DABURN No.	Cond.	Size	Strand	Insul. Wall	Nom. O.D.
3004	2	22 Solid	1	.016"	.100"
3004/3	3	22 Solid	1	.016"	.115"
3005	2	20 Solid	1	.016"	.120"
3005/3	3	20 Solid	1	.016"	.140"
3006	2	18 Solid	1	.016"	.145"
3006/3	3	18 Solid	1	.016"	.155"
3007	2	16 Solid	1	.016"	.175"
3007/3	3	16 Solid	1	.016"	.190"
3011	2	22 Stranded	7/30	.016"	.125"
3011/3	3	22 Stranded	7/30	.016"	.140"
3012	2	20 Stranded	10/30	.016"	.145"
3012/3	3	20 Stranded	10/30	.016"	.160"
3013	2	18 Stranded	16/30	.016"	.165"
3013/3	3	18 Stranded	16/30	.016"	.180"
3014	2	16 Stranded	26/30	.016"	.190"
3014/3	3	16 Stranded	26/30	.016"	.210"
3015	2	14 Stranded	41/30	.016"	.220"
3015/3	3	14 Stranded	41/30	.016"	.240"
3016	2	12 Stranded	65/30	.016"	.250"
3016/3	3	12 Stranded	65/30	.016"	.275"

CONDUCTOR COLOR CODE: 1—Brown, 2—Tan, 3—Gray.

STD. PUT-UP: 1000 Ft.

**PLASTIC JACKET OVERALL  
FOR OUTDOOR USE**

Tinned copper, vinyl plastic insulation, color coded, twisted, plastic jacket overall.

Operating Temp.: -20°C to +60°C.

Operating Voltage: 350 Volts.



DABURN No.	Cond.	Size	Strand	Nom. Wall	Jacket	Nom. O.D.
3020	2	22	1	.010"	.020"	.125"
3020/3	3	22	1	.010"	.020"	.130"
3020/4	4	22	1	.010"	.020"	.150"
3021	2	20	1	.016"	.020"	.170"
3021/3	3	20	1	.016"	.020"	.180"
3021/4	4	20	1	.016"	.020"	.200"
3022	2	18	1	.016"	.020"	.185"
3022/3	3	18	1	.016"	.020"	.190"
3022/4	4	18	1	.016"	.020"	.220"
3022/5	5	18	1	.016"	.020"	.235"
3022/6	6	18	1	.016"	.020"	.265"
3027	2	22	7/30	.010"	.020"	.130"
3027/3	3	22	7/30	.010"	.020"	.140"
3027/4	4	22	7/30	.010"	.020"	.165"
3028	2	20	10/30	.016"	.020"	.175"
3028/3	3	20	10/30	.016"	.020"	.185"
3028/4	4	20	10/30	.016"	.020"	.195"
3029	2	18	16/30	.016"	.020"	.195"
3029/3	3	18	16/30	.016"	.020"	.205"
3029/4	4	18	16/30	.016"	.020"	.235"
3030	2	16	26/30	.016"	.020"	.220"
3030/3	3	16	26/30	.016"	.020"	.245"
3030/4	4	16	26/30	.016"	.020"	.270"
3031	2	14	41/30	.016"	.020"	.260"
3031/3	3	14	41/30	.016"	.020"	.280"

STD. PUT-UP: 1000 Ft.

CONDUCTOR COLOR CODE: 1—Black, 2—Red, 3—White, 4—Green, 5—Orange, 6—Blue.

**PLASTIC INTER-COM CABLE**

Station to station wiring to eliminate cross-talk. Each conductor tinned copper stranded, color coded PVC, T.C. braid, shield where indicated, paired, grey polyvinylchloride jacket overall.

2935 — Suitable for unbalanced systems.

2935/4 — Suitable for balanced systems.

2935/5 — Suitable for coin operated phonographs.

OPERATING VOLTAGE: 350 Volts.

OPERATING TEMPERATURE: -20°C to +60°C.



DABURN Cat. No.	Cond.	Size	Strand	No. Cond. Shield	Nom. Wall	Nom. Jacket	O.D.
2935	3	22	7/30	1	.016"	.020"	.200"
2935/4	4	22	7/30	2	.016"	.020"	.180"x.285"
2935/5	5	22	7/30	3	.016"	.020"	.200"x.300"

CONDUCTOR COLOR CODE:

STD. PUT-UP: 500 Ft., 1000 Ft.

2935 — White — shielded; Black, Red — unshielded.

2935/4 — Black, White — shielded; Black, Red — unshielded.

2935/5 — Black, White, Red — shielded; Black, Red — unshielded.

**DABURN**

**DABURN ELECTRONICS & CABLE CORP.**  
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**ELECTRONIC LACING CORDS AND TAPES, CABLE CLAMPS & CLIPS**

**LACING CORD-TAPE TO MEET MIL-T-713A TYPE P AND MIL-T-43435 COMP. P-TYPE S**

**NYLON FLAT BRAIDED LACING TAPE**

Nylon fiber flat braided impregnated with MW microcrystalline fungicidal wax. Stays flat. Designed to create a wider contact to distribute the stress. Flexible. Won't slip when knotted. Resistant to fungus, flame, abrasion, acids.



DABURN No.	Color	Class	Nom. Width	Nom. Thickness	Tensile Strength	Standard Put-Up Tubes
2035	Natural White	—	.200"	.014"	150 lbs.	500 yd.
2035B	Black	—	.200"	.014"	150 lbs.	500 yd.
2036	Natural White	1	.120"	.014"	80 lbs.	500 yd.
2036B	Black	1	.120"	.014"	80 lbs.	500 yd.
2037	Natural White	2*	.090"	.014"	50 lbs.	500 yd.
2037B	Black	2*	.090"	.014"	50 lbs.	500 yd.
2038	Natural White	3	.065"	.010"	35 lbs.	500 yd.
2038B	Black	3	.065"	.010"	35 lbs.	500 yd.

**DACRON FLAT BRAIDED LACING TAPE**

Dacron fiber flat braided impregnated with non-slip fungicidal wax. Will not cut or damage insulation. Stays flat. Has all characteristics of nylon with elongation, better resistance to acids.



DABURN No.	Color	Nom. Width	Thickness Nom.	Strength Tensile	Standard Put-Up Tubes
2041	Natural White	.120"	.014"	80	500 yd.
2041B	Black	.120"	.014"	80	500 yd.
2042	Natural White	.090"	.014"	48	500 yd.
2042B	Black	.090"	.014"	48	500 yd.
2043	Natural White	.060"	.010"	35	500 yd.
2043B	Black	.060"	.010"	35	500 yd.
2044	Natural White	.046"	.010"	25	500 yd.
2044B	Black	.046"	.010"	25	500 yd.

**TEFLON\* FIBERGLASS FLAT BRAIDED LACING TAPE**

Teflon coated fiberglass flat braided lacing tape bonded for high temp. operations (550°F). Stays flat—for strength, stability. Teflon finish increases strength and abrasion resistant surface. Will not cut or damage insulation.

DABURN No.	Color	Nom. Width	Thickness Nom.	lbs. Test	Standard Put-Up Tubes
2045	White	.190"	.025"	150	500 yd.
2046	White	.120"	.020"	90	500 yd.
2047	White	.070"	.020"	70	500 yd.

**TEFLON\* FLAT BRAIDED LACING TAPE for high temperature operations (550°F)**

DABURN No.	Color	Nom. Width	Nom. Thickness	Test lbs.	Standard Put-Up Tubes
2048	Brown	.100"	.016"	35	500 yd.
2049	Brown	.060"	.010"	15	500 yd.



**ROUND TWISTED NYLON LACING CORD**

Manufactured to meet MIL-T-713A Type P specification, Composition P, Classes 3, 2, 1. Wax finish—compounded with fungicide to resist mildew. Easy to tie.

PUT-UP ON 1 LB. TUBES

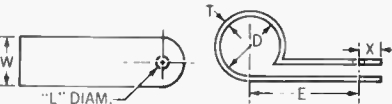
DABURN No.	Color	Class	Tensile Strength	Nom. Diam.	Yds. Per Tube
2070	Natural	1	70 lbs.	.039"	600
2070B	Black	1	70 lbs.	.039"	600
2071	Natural	2	48 lbs.	.029"	800
2071B	Black	2	48 lbs.	.029"	800
2072	Natural	3	32 lbs.	.025"	1140
2072B	Black	3	32 lbs.	.025"	1140
2072/1	Natural	4	20 lbs.	.020"	2400
2072/1B	Black	4	20 lbs.	.020"	2400

**ROUND TWISTED LINEN LACING CORD**

Manufactured from pure flax treated with microcrystalline wax compounded with fungicide to resist mildew. Classes 1, 2, 3 meet MIL-T-713A Type N specifications.

4 OZ. TUBE		8 OZ. TUBE		1 LB. TUBES		Yds. Class Ply	Diam.	Lb. Test	
DABURN No.	Yds.	DABURN No.	Yds.	DABURN No. Nat.	DABURN No. Blk.				
2073	210	2074	425	2075	2075B	850	—	4 .036"	22
2076	150	2077	300	2078	2078B	600	3	6 .044"	33
2082	115	2083	235	2084	2084B	470	2	8 .051"	50
2079	100	2080	200	2081	2081B	400	—	9 .054"	56
2085	75	2086	150	2087	2087B	300	1	12 .063"	72

**NYLON CABLE CLAMPS**



**MADE OF DU PONT "ZYTEL" 101 NYLON RESIN**

Meets MIL-P-26093A and MIL-P-17091A Amend. 2  
Light and tough these nylon cable clamps are used as a clamp, strain relief, clip hanger, fastener or strap. Smooth non-abrasive surfaces, rounded edges will not cause shorts or grounds in cable. Insoluble in solvents, gasoline, oils, hydraulic fluids, alcohol, acids, alkalis. Temperature range -60°F to +300°F. Does not support combustion. Inside matte finish. Prevents slippage and is self aligning. Snaps on cable. Meets MIL-P-20693A specs. fungus resistant.

DABURN No.	To Fit Size	D	E	W	L	H	X
625	1/8"	.125	.316	3/8	.050	.177	.227
626	3/16"	.187	.378	3/8	.050	.177	.227
627	1/4"	.250	.409	3/8	.050	.177	.227
628	5/16"	.312	.441	3/8	.050	.177	.227
629	3/8"	.375	.471	3/8	.050	.177	.227
630	7/16"	.437	.519	3/8	.050	.177	.227
631	1/2"	.500	.550	3/8	.050	.177	.227
631A	5/8"	.563	.625	1/2	.060	.177	.227
632	3/4"	.625	.634	1/2	.060	.177	.227
632A	7/8"	.687	.752	1/2	.060	.177	.227
633	1"	.750	.718	1/2	.060	.177	.227
634	1 1/8"	.875	.760	1/2	.060	.177	.227
635	1 1/4"	1.000	.802	1/2	.060	.177	.227
636	1 1/2"	1.125	.968	1/2	.062	.204	.250
637	1 3/4"	1.250	1.156	1/2	.062	.204	.250
638	1 7/8"	1.500	1.188	3/8	.070	.204	.250

Std. Pkg. 100, 500, 1000

**ETHYL CELLULOSE CABLE CLAMPS**

Ethocel recommended for general use. Combines light weight and chemical resistance with excellent shock resisting properties in temp. range from -40°F to +185°F. Approved 7-21-44 Army-Navy Aeronautical AN-742. Also made to meet MIL STD. 242A (Ships). Suitable indoor-outdoor. Std. Pkg. 100, 1000.

DABURN No.	To Fit Size	D	E	W	L	H	X
615	1/8"	.125	.325	1/2	.060	.204	3/8
615A	3/16"	.188	.390	1/2	.060	.204	3/8
615B	1/4"	.250	.421	1/2	.060	.204	3/8
615C	5/16"	.313	.457	1/2	.060	.204	3/8
615D	3/8"	.375	.483	1/2	.060	.204	3/8
615E	7/16"	.438	.531	1/2	.060	.204	3/8
616	1/2"	.500	.562	1/2	.060	.204	3/8
616A	5/8"	.563	.625	1/2	.060	.204	3/8
616B	3/4"	.625	.610	1/2	.060	.204	3/8
616C	7/8"	.688	.666	1/2	.060	.204	3/8
616D	1"	.750	.766	1/2	.060	.204	3/8
616E	1 1/8"	.875	.813	1/2	.060	.204	3/8
617	1 1/4"	1.000	.906	1/2	.060	.204	3/8
617A	1 1/2"	1.125	.969	1/2	.060	.204	3/8
617B	1 3/4"	1.250	1.156	1/2	.060	.204	3/8
617C	1 7/8"	1.5	1.0625	3/8	.070	.204	3/8
617D	2"	2.0	1.313	3/8	.070	.204	3/8
617E	2 1/2"	2.5	1.563	3/8	.070	.204	3/8



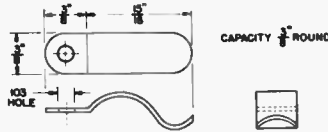
**DABURN ALUMINUM CABLE CLAMPS**

Made of hard drawn aluminum, light weight. Useful when mounting resonant lines, elements for beams, etc. Strong, durable, rust-proof.

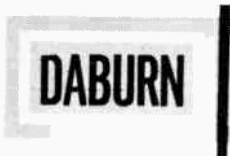
DABURN No.	To Fit Size	Width	Length	Thickness	Clearance Hole For	Std. Pkg.
651A	1/8"	1/2"	1 3/8"	.050"	10	100
651	1/4"	1/2"	7/8"	.050"	10	100
652	3/8"	1/2"	1 3/8"	.050"	10	100
653	1/2"	1/2"	1"	.050"	10	100
654	3/4"	1/2"	1 1/8"	.050"	10	100
654A	1"	1/2"	1 1/4"	.050"	10	50
655	3/8"	3/4"	1 3/8"	.090"	1/4-20	50
657	7/8"	3/4"	1 3/8"	.090"	1/4-20	50
658	1"	3/4"	1 3/8"	.090"	1/4-20	50
656A	1 1/8"	3/4"	1 7/8"	.090"	1/4-20	50
656B	1 1/4"	3/4"	2"	.090"	1/4-20	50

**NYLON TENSION CLIPS**

Holds cable-wire-tubing-pipe-panels-many and varied uses. Made of nylon, they are insulating, non-corrosive and weather resistant. Easily fastened, easily removed. Strong and elastic.



DABURN Cat. No. 641 STD. PKG. 100, 1000 Natural Color



**DABURN ELECTRONICS & CABLE CORP.**

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

**SPIRAL WRAP FOR HARNESSSES • PUSH BUTTON TIES  
WIRE TIES • TEST LEADS • COMPONENT CLIPS**

**SPIRAL WRAP — PLASTIC TUBING  
FOR HARNESSSES**

Available in two formulations: Polyethylene and Rulan (flame retardant) Polyethylene. Easily applied. Twists on easily. Can be flexed repeatedly without cracking or breaking. Reusable, bends around sharp corners. Expandable.



**POLYETHYLENE (Clear)** TEMP. RANGE: -105°F to +200°F

DABURN Cat. No.	Covers Wire Groups	Outside Diam.	Nom. Wall	Standard Package
605-1/8"	1/16" to 1 1/2"	1/8"	.031"	100', 500', 1000'
605-1/4"	3/16" to 1 1/2"	1/4"	.058"	100', 500', 1000'
605-1/4" x	3/16" to 1 1/2"	1/4"	.045"	100', 500', 1000'
605-3/8"	3/8" to 2"	3/8"	.058"	100', 500', 1000'
605-1/2"	3/4" to 4"	1/2"	.058"	100', 500', 1000'

**RULAN (White)** TEMP. RANGE: -10°F to +200°F

606-1/4"	3/16" to 1 1/2"	1/4"	.058"	100', 500', 1000'
606-3/8"	3/8" to 2"	3/8"	.058"	100', 500', 1000'

**NYLON**

Per MIL-P-17091B & MIL-P-20693 to 300°F

DABURN Cat. No.	Covers Wire Range	Outside Diam.	Nom. Wall
607-1/8"	1/16" to 1 1/2"	1/8"	.031"
607-1/4"	3/16" to 1 1/2"	1/4"	.058"
607-1/2"	3/4" to 4"	1/2"	.058"

COLOR: Natural (White). STD. PUT-UP: 100 Ft., 500 Ft.

**TEFLON**

Per MIL-I-22129 to 500°F

608-1/8"	1/16" to 1 1/2"	1/8"	.031"
608-1/4"	3/16" to 1 1/2"	1/4"	.058"
608-1/2"	3/4" to 4"	1/2"	.058"

COLOR: Natural (White). STD. PUT-UP: 100 Ft., 500 Ft.

**PLASTIC WIRE TIES**

Useful for temporary or permanent installation. Can be adapted for immediate bundling or harnessing. Vinyl insulated. Has .016" steel gauge, 5/32" wide, 30 lb. test.

TEMPERATURE: -20°F to +90°C.



DABURN Cat. No.	Standard Package
603 Plastic Wire Ties	100', 500', 1000'

COLORS: White, Blue, Red, Green, Yellow.

**DABURN PUSH BUTTON WIRE TIES**



Push button wire ties for harnessing wire. 4 1/2" in length, each tie is adjustable to 30 different diameters. Made of strong polyethylene, it is inert chemically and heat resistant. Breaking strength 45 to 95 lbs. After the tie is placed in hole for anchoring, wires can be replaced or added by loosening tie and pulling tight again. Designed to fit .250" to .265" hole in a .031" to .140" thick panel. Material conforms to Spec. LP590.

DABURN Cat. No.	(Specify Color)	Standard Package
601-4	Red, Blue, Yellow	100', 1000'

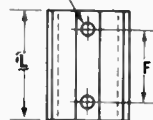
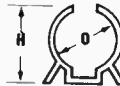
**DABURN NYLON  
PUSH BUTTON WIRE TIES**

Same description as No. 601-4.

5 1/2" long. Made of tough Nylon. Higher temperature range than Polyethylene.

DABURN Cat. No.	Color	Standard Package
601-5	Clear	100', 1000'

**DABURN COMPONENT CLIPS**



Hold and insulate, electrical and electronic components, accessories — spare parts. Holds firmly and still permits fast and easy insertion. Convenient for fastening clips and retainers for transistors, batteries, fuses, capacitors, resistors, lamps, etc. These Daburn clips are made of black vinyl (polyvinylchloride). Has high dielectric strength. Can be mounted with screws, rivets or other fastening means.

MATERIAL: Rigid Vinyl.

TEMPERATURE RANGE: -20° to +165°F.

STANDARD PACKAGE: 100, 1000.

DABURN Stock No.	D Diam.	H Height	L Length	E Diam. of Hole	F Dist. Bet. Holes
600-1/4"	1/4"	1 1/2"	1/2"	3/32"	—
600-3/8"	3/8"	1 1/2"	1/2"	3/32"	—
600-1/2"	1/2"	1 1/2"	1/2"	3/32"	—
600-3/4"	3/4"	1 1/2"	1/2"	3/32"	—
600-1"	1"	1 1/2"	1/2"	3/32"	—
600-1 1/4"	1 1/4"	1 1/2"	1/2"	3/32"	—
600-1 1/2"	1 1/2"	1 1/2"	1/2"	3/32"	—
600-1 3/4"	1 3/4"	1 1/2"	1/2"	3/32"	—
600-2"	2"	1 1/2"	1/2"	3/32"	—
600-2 1/4"	2 1/4"	1 1/2"	1/2"	3/32"	—
600-2 1/2"	2 1/2"	1 1/2"	1/2"	3/32"	—
600-2 3/4"	2 3/4"	1 1/2"	1/2"	3/32"	—
600-3"	3"	1 1/2"	1/2"	3/32"	—
600-3 1/4"	3 1/4"	1 1/2"	1/2"	3/32"	—
600-3 1/2"	3 1/2"	1 1/2"	1/2"	3/32"	—
600-3 3/4"	3 3/4"	1 1/2"	1/2"	3/32"	—
600-4"	4"	1 1/2"	1/2"	3/32"	—
600-4 1/4"	4 1/4"	1 1/2"	1/2"	3/32"	—
600-4 1/2"	4 1/2"	1 1/2"	1/2"	3/32"	—
600-4 3/4"	4 3/4"	1 1/2"	1/2"	3/32"	—
600-5"	5"	1 1/2"	1/2"	3/32"	—
600-5 1/4"	5 1/4"	1 1/2"	1/2"	3/32"	—
600-5 1/2"	5 1/2"	1 1/2"	1/2"	3/32"	—
600-5 3/4"	5 3/4"	1 1/2"	1/2"	3/32"	—
600-6"	6"	1 1/2"	1/2"	3/32"	—
600-6 1/4"	6 1/4"	1 1/2"	1/2"	3/32"	—
600-6 1/2"	6 1/2"	1 1/2"	1/2"	3/32"	—
600-6 3/4"	6 3/4"	1 1/2"	1/2"	3/32"	—
600-7"	7"	1 1/2"	1/2"	3/32"	—
600-7 1/4"	7 1/4"	1 1/2"	1/2"	3/32"	—
600-7 1/2"	7 1/2"	1 1/2"	1/2"	3/32"	—
600-7 3/4"	7 3/4"	1 1/2"	1/2"	3/32"	—
600-8"	8"	1 1/2"	1/2"	3/32"	—
600-8 1/4"	8 1/4"	1 1/2"	1/2"	3/32"	—
600-8 1/2"	8 1/2"	1 1/2"	1/2"	3/32"	—
600-8 3/4"	8 3/4"	1 1/2"	1/2"	3/32"	—
600-9"	9"	1 1/2"	1/2"	3/32"	—
600-9 1/4"	9 1/4"	1 1/2"	1/2"	3/32"	—
600-9 1/2"	9 1/2"	1 1/2"	1/2"	3/32"	—
600-9 3/4"	9 3/4"	1 1/2"	1/2"	3/32"	—
600-10"	10"	1 1/2"	1/2"	3/32"	—
600-10 1/4"	10 1/4"	1 1/2"	1/2"	3/32"	—
600-10 1/2"	10 1/2"	1 1/2"	1/2"	3/32"	—
600-10 3/4"	10 3/4"	1 1/2"	1/2"	3/32"	—
600-11"	11"	1 1/2"	1/2"	3/32"	—
600-11 1/4"	11 1/4"	1 1/2"	1/2"	3/32"	—
600-11 1/2"	11 1/2"	1 1/2"	1/2"	3/32"	—
600-11 3/4"	11 3/4"	1 1/2"	1/2"	3/32"	—
600-12"	12"	1 1/2"	1/2"	3/32"	—
600-12 1/4"	12 1/4"	1 1/2"	1/2"	3/32"	—
600-12 1/2"	12 1/2"	1 1/2"	1/2"	3/32"	—
600-12 3/4"	12 3/4"	1 1/2"	1/2"	3/32"	—
600-13"	13"	1 1/2"	1/2"	3/32"	—
600-13 1/4"	13 1/4"	1 1/2"	1/2"	3/32"	—
600-13 1/2"	13 1/2"	1 1/2"	1/2"	3/32"	—
600-13 3/4"	13 3/4"	1 1/2"	1/2"	3/32"	—
600-14"	14"	1 1/2"	1/2"	3/32"	—
600-14 1/4"	14 1/4"	1 1/2"	1/2"	3/32"	—
600-14 1/2"	14 1/2"	1 1/2"	1/2"	3/32"	—
600-14 3/4"	14 3/4"	1 1/2"	1/2"	3/32"	—
600-15"	15"	1 1/2"	1/2"	3/32"	—
600-15 1/4"	15 1/4"	1 1/2"	1/2"	3/32"	—
600-15 1/2"	15 1/2"	1 1/2"	1/2"	3/32"	—
600-15 3/4"	15 3/4"	1 1/2"	1/2"	3/32"	—
600-16"	16"	1 1/2"	1/2"	3/32"	—
600-16 1/4"	16 1/4"	1 1/2"	1/2"	3/32"	—
600-16 1/2"	16 1/2"	1 1/2"	1/2"	3/32"	—
600-16 3/4"	16 3/4"	1 1/2"	1/2"	3/32"	—
600-17"	17"	1 1/2"	1/2"	3/32"	—
600-17 1/4"	17 1/4"	1 1/2"	1/2"	3/32"	—
600-17 1/2"	17 1/2"	1 1/2"	1/2"	3/32"	—
600-17 3/4"	17 3/4"	1 1/2"	1/2"	3/32"	—
600-18"	18"	1 1/2"	1/2"	3/32"	—
600-18 1/4"	18 1/4"	1 1/2"	1/2"	3/32"	—
600-18 1/2"	18 1/2"	1 1/2"	1/2"	3/32"	—
600-18 3/4"	18 3/4"	1 1/2"	1/2"	3/32"	—
600-19"	19"	1 1/2"	1/2"	3/32"	—
600-19 1/4"	19 1/4"	1 1/2"	1/2"	3/32"	—
600-19 1/2"	19 1/2"	1 1/2"	1/2"	3/32"	—
600-19 3/4"	19 3/4"	1 1/2"	1/2"	3/32"	—
600-20"	20"	1 1/2"	1/2"	3/32"	—
600-20 1/4"	20 1/4"	1 1/2"	1/2"	3/32"	—
600-20 1/2"	20 1/2"	1 1/2"	1/2"	3/32"	—
600-20 3/4"	20 3/4"	1 1/2"	1/2"	3/32"	—
600-21"	21"	1 1/2"	1/2"	3/32"	—
600-21 1/4"	21 1/4"	1 1/2"	1/2"	3/32"	—
600-21 1/2"	21 1/2"	1 1/2"	1/2"	3/32"	—
600-21 3/4"	21 3/4"	1 1/2"	1/2"	3/32"	—
600-22"	22"	1 1/2"	1/2"	3/32"	—
600-22 1/4"	22 1/4"	1 1/2"	1/2"	3/32"	—
600-22 1/2"	22 1/2"	1 1/2"	1/2"	3/32"	—
600-22 3/4"	22 3/4"	1 1/2"	1/2"	3/32"	—
600-23"	23"	1 1/2"	1/2"	3/32"	—
600-23 1/4"	23 1/4"	1 1/2"	1/2"	3/32"	—
600-23 1/2"	23 1/2"	1 1/2"	1/2"	3/32"	—
600-23 3/4"	23 3/4"	1 1/2"	1/2"	3/32"	—
600-24"	24"	1 1/2"	1/2"	3/32"	—
600-24 1/4"	24 1/4"	1 1/2"	1/2"	3/32"	—
600-24 1/2"	24 1/2"	1 1/2"	1/2"	3/32"	—
600-24 3/4"	24 3/4"	1 1/2"	1/2"	3/32"	—
600-25"	25"	1 1/2"	1/2"	3/32"	—
600-25 1/4"	25 1/4"	1 1/2"	1/2"	3/32"	—
600-25 1/2"	25 1/2"	1 1/2"	1/2"	3/32"	—
600-25 3/4"	25 3/4"	1 1/2"	1/2"	3/32"	—
600-26"	26"	1 1/2"	1/2"	3/32"	—
600-26 1/4"	26 1/4"	1 1/2"	1/2"	3/32"	—
600-26 1/2"	26 1/2"	1 1/2"	1/2"	3/32"	—
600-26 3/4"	26 3/4"	1 1/2"	1/2"	3/32"	—
600-27"	27"	1 1/2"	1/2"	3/32"	—
600-27 1/4"	27 1/4"	1 1/2"	1/2"	3/32"	—
600-27 1/2"	27 1/2"	1 1/2"	1/2"	3/32"	—
600-27 3/4"	27 3/4"	1 1/2"	1/2"	3/32"	—
600-28"	28"	1 1/2"	1/2"	3/32"	—
600-28 1/4"	28 1/4"	1 1/2"	1/2"	3/32"	—
600-28 1/2"	28 1/2"	1 1/2"	1/2"	3/32"	—
600-28 3/4"	28 3/4"	1 1/2"	1/2"	3/32"	—
600-29"	29"	1 1/2"	1/2"	3/32"	—
600-29 1/4"	29 1/4"	1 1/2"	1/2"	3/32"	—
600-29 1/2"	29 1/2"	1 1/2"	1/2"	3/32"	—
600-29 3/4"	29 3/4"	1 1/2"	1/2"	3/32"	—
600-30"	30"	1 1/2"	1/2"	3/32"	—
600-30 1/4"	30 1/4"	1 1/2"	1/2"	3/32"	—
600-30 1/2"	30 1/2"	1 1/2"	1/2"	3/32"	—
600-30 3/4"	30 3/4"	1 1/2"	1/2"	3/32"	—

**TEST LEADS**

# ELECTROVERT<sup>INC</sup> COMPONENTS DIVISION



SEND FOR COMPLETE CATALOG AND PRICES

## EL Cable Ties

The Electrovert EI Cable Tie is an improved tying system designed to double the harness tensile strength, provide optional application either by hand or tool, and, when used with a tool, be universally applicable with all such tools currently on the market.

### ADVANTAGES

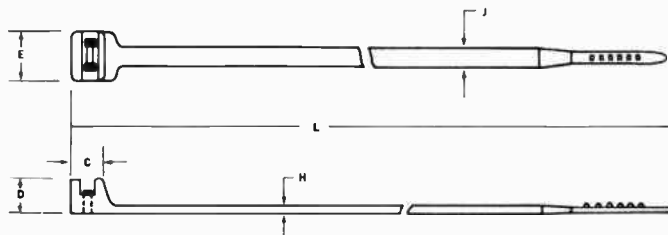
- Self-locking, non-twisting, for permanent, neat tying.
- Hand or tool assembly... will fit all tools.
- Molded of tough, smooth, flexible nylon.
- Infinitely adjustable within their range.
- Four (4) sizes meet all bundle diameters from 1/16" to 4 3/16".
- Lightweight, chemical and abrasion resistant, high tensile strength, excellent dielectric properties, rust and rot resistant.

### SPECIFICATIONS:

**Material:** Strap—nylon per MIL-M-20693, Type I.  
Strap Lock—metal per QQS-766.

**Color:** Natural.

**Design:** To meet requirements of military standard MS-17821, MS-18034 and specification MIL-S-23190.



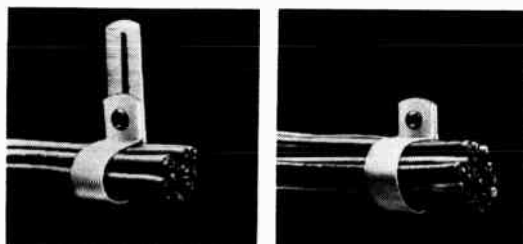
Patent Pending

Type No.	Military Dash No.	Bundle Dia. (inch)	Tensile Strength lbs.	C max. (in.)	D max. (in.)	E max. (in.)	H max. (in.)	J max. (in.)	L max. (in.)	Appl. Tool
EL-A	-4	1/16	1	.165	.160	.195	.045	.085	4	MS-17823-2 or equivalent
EL-B	-1	1/16	1 1/16	.225	.220	.320	.054	.165	7 5/8	MS-17823-2 or equivalent
EL-C	-2	1/16	4 3/16	.225	.220	.320	.054	.165	14 3/8	MS-17823-2 or equivalent
EL-D	-3	1/16	4	.320	.300	.520	.082	.285	14 3/8	MS-17824-2 or equivalent

All values above min. specified by military; actual tensile strength far exceeds values shown as can be substantiated by Test report of independent testing laboratory.

Packaging: Packaged in heavy gauge, heat sealed poly bags and carton, 150 per carton of each size.

## Adjustable P-Clips Nine (9) Sizes Fit Any Loop Diameter From 1/8" Through 2".



**THE SAME SIZE P-CLIP ADJUSTED TO FIT DIFFERENT BUNDLE DIAMETERS.**

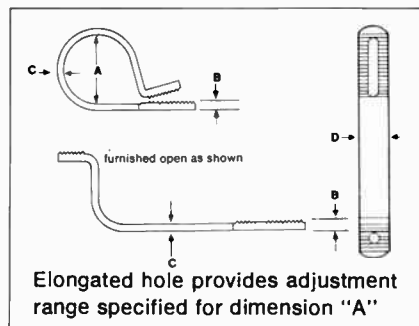
**Reduces Inventory** — only nine sizes accommodate all bundle and cable diameters from 1/8" through 2" ...simplifies OEM and spare parts inventories.

**Controls Tension** — you control the tension to fit the loop to the bundle diameter.

**Simplifies Changes in Bundle Make-up** — add or remove wires, the same clip can be adjusted to the new bundle diameter.

- Molded of finest natural, virgin nylon.
- Lightweight, chemical and abrasion resistant, high tensile strength, excellent dielectric properties, rust and rot resistant.
- Typical applications include: cables, bundles of wires, components, pipes and tubing wherever a clamp, strain relief or strap is required.

### Sizes, Dimensions, Ordering Data



Size No.	Bundle Range "A" Dimension		B	C	D	Screw Clearance	Quantity per Package
	Min.	Max.					
0	1/8	3/16	.046	.025	.250	No. 4	1000 and 500
1	3/16	1/4	.046	.025	.250	No. 4	1000 and 250
2	1/4	3/8	.051	.030	.312	No. 6	1000 and 250
3	3/8	7/16	.056	.035	.375	No. 6	500 and 100
4	7/16	1/2	.062	.040	.500	No. 6	250 and 100
5	1/2	1 1/16	.078	.055	.550	No. 10	250 and 100
6	1 1/16	1 1/2	.083	.060	.550	No. 10	100
7	1 1/2	1 3/4	.088	.065	.550	No. 10	100
8	1 3/4	2	.093	.070	.550	No. 10	100

Packaging: Packaged in heavy gauge, heat sealed poly bags and box.



SEND FOR COMPLETE CATALOG AND PRICES

## Cradleclip (Insuloid)

FOR SUPPORTED WIRING  
cradles and clips

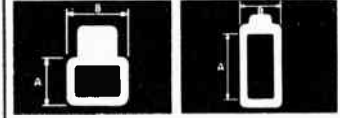
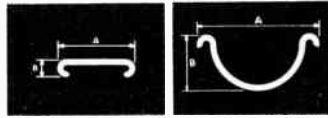
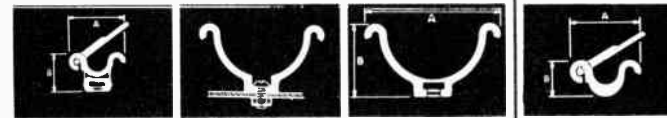
FOR UNSUPPORTED WIRING  
binders and clips



### CRADLES

### BINDERS

### CLIPS



C0-N0 Miniature with captive clip  
C1, C2, C3  
C1-M, C2-M, C3-M molded in nut to take 6/32 thread bolts  
B0-N0 Miniature with captive clip

B1  
B2, B12

NO miniature (for replacement)  
N1, N3, N5, N7

### DIMENSIONS

Type & Size	Dimensions (inches)		Type & Size	Dimensions (inches)	
	A	B		A	B
<b>Cradles</b>			<b>Binders</b>		
C0	.500	.335	B0	.500	.250
C1	.937	.562	B1	.875	.187
C1-M	.937	.562	B12	.937	.400
C2	1.375	.750	B2	1.875	.812
C2-M	1.375	.750			
C3	1.875	1.000	<b>Clips</b>		
C3-M	1.875	1.000	N0	.340	.500
			N1	.500	.937
			N3	1.000	1.000
			N5	1.750	1.000
			N7	2.562	1.000

### MATERIALS

Cradles and Binders are molded from special nylon. Extensible Clips are available in Neoprene, Butyl, Viton and Silicone rubber. NO available in Neoprene only. Temperature range -76°F to +250°F.

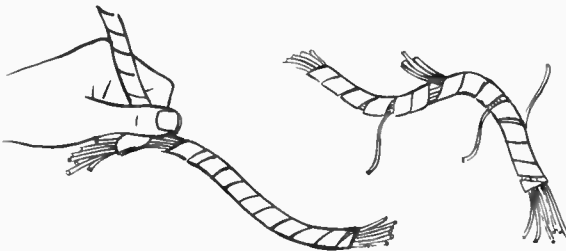
### RECOMMENDED COMBINATIONS

DIAMETER OF CABLE FORM	SUPPORTED* WIRING Cradle Clip	UNSUPPORTED* WIRING Binder Clip
1/8" - 5/16"	C0	N0
1/4" - 5/8"	C1	N1
1/2" - 1 1/8"	C1	N3
1 1/2" - 1 5/8"	C2	N3
1 3/8" - 1 1/2"	C2	N5
1" - 1 1/4"	C3	N3
1 1/4" - 1 1/2"	C3	N5
1 1/2" - 2"	C3	N7
		B0
		B1
		B1
		B12
		B12
		B2
		B2
		B2
		N7

\*for Neoprene, Butyl and Viton Clips. Ask for special recommendations for Silicone Clips.  
Standard pack: 500. Packed in polyethylene bags in cardboard cartons.

## Spiroband

Reduces inventory costs • Three standard materials — natural polyethylene, ultraviolet resistant, fire resistant • Three diameters, each for application to a wide range of bundle sizes.



Size No.	Outside Diameter	Wall Thickness	Length of Std. Coil
1/2	.500	.062	25 ft.
1/4	.250	.045	100 ft.
1/8	.125	.032	100 ft.

1. Clear Polyethylene (Natural): General applications where there are no special or unusual environmental conditions.

Natural Spiroband meets the following specifications and standards: ASTM D 1248-65T, Type I, Class A, Grade 3; Federal Spec. L-P-390, Type I, Class L, Grades 1, 2 and 3; Federal L-P-390, Type II, Class L, Grade 4; MIL-E-16400 "Temperature Conditions" Classes 1, 2, 3 and 4; MIL-I-631C and MIL-E-5400F.

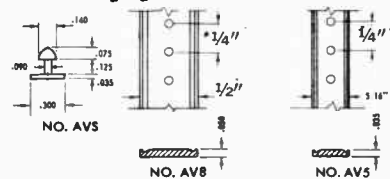
2. Ultraviolet and Weather-Resistant Polyethylene (Black): Contains special additives to resist UV and weathering in general. Additives color the material black.

Meets following specifications and standards; ASTM D 1248-65T, Type III, Class C, Grade 3; Federal Specs. L-P-390, Type III, Class L, Grade 6b; MIL-E-5400F.

3. Fire-Resistant, Self-Extinguishing Polyethylene (Bone White): Special fire-resistant additive, colors material bone white.

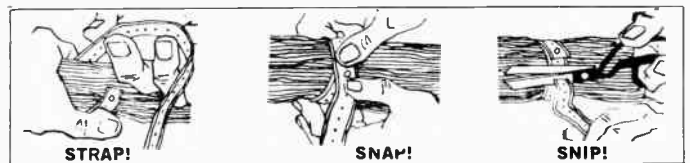
Meets following specifications and standards: ASTM D 635; UL-70; MIL-E-5400F.

## Strapping



Material: PVC (Polyvinylchloride); extremely strong; temperature range -26°F to +180°F.

Packing: strap, 100 ft. coil boxed; or 500 or 1000 ft. coils on reels. Studs, 1000 per box.



Installation: Stud is inserted in end of strap extending from dispenser carton; strap is then passed under and around wire bringing it back, under tension, over stud again. Strap is then cut at next hole. This operation should be repeated approximately every 6 inches or as required.

For panel mounting a Strap Saddle is available for use in combination with the AV 5 strapping. Lay wire bundle into Strap Saddle fastened to panel. Thread Strapping through wings of saddle and fasten. Material is molded nylon. Temperature range: -76°F to 250°F.



# ELECTROVERT<sup>INC</sup> COMPONENTS DIVISION

SECTION 6000



SEND FOR COMPLETE CATALOG AND PRICES

## "C" markers



Clip-on type. Quick, easy to fit after connection is made of terminal tag fitted. May be removed for re-coding. Same marker used for right or left hand entry.

Materials: Durable rigid PVC.

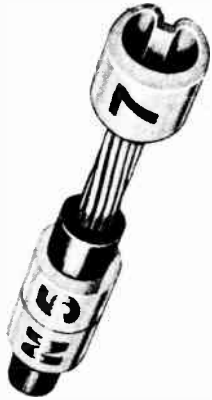
Colors: White with black markings (standard). Also available in black, blue, red, green and yellow.

Markings: Single; numerals 0-9, letters A to Z and symbols.

Packing: 50 markers of same size, color and marking.

Size No.	Recommended for Wires/Cable of O.D.	Size No.	Recommended for Wires/Cable of O.D.
2	.080" - .100"	9	.250" - .280"
3	.100" - .118"	10	.280" - .315"
4	.118" - .138"	11	.315" - .350"
5	.138" - .156"	12	.350" - .400"
6	.156" - .187"	13	.400" - .460"
7	.187" - .218"	14	.460" - .510"
8	.218" - .250"	15	.510" - .570"

## "Z" markers



Size No.	Recommended for Wires/Cables of O.D.	Length	Thickness
22	.045"-.065"	.140"	.055"
20	.066"-.085"	.140"	.050"
18	.086"-.115"	.140"	.040"
16	.110"-.135"	.140"	.030"
14	.130"-.160"	.160"	.040"
12	.150"-.175"	.160"	.045"
10	.170"-.195"	.160"	.045"
9	.190"-.215"	.160"	.050"
8	.210"-.250"	.190"	.055"
7	.245"-.295"	.190"	.055"
6	.290"-.360"	.224"	.060"
4-1	.355"-.460"	.224"	.060"

Colors: White with black markings (Standard color). Black with white markings, Blue, Green, Yellow, Red with black markings.

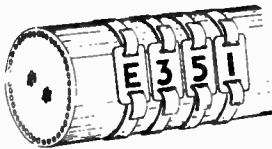
Material: PVC MIL-1-631C, Type F, Form U, Grade a & b, Class I, Category 1, finish: glossy. Specific gravity: 1.21. Hardness (shore A): 73 av. Tensile Strength: 2600 psi. av. Ultimate Elongation: 350% av. Dielectric Strength (20 mil specimen): 750 volts/mil. Cold Brittle Temp. (50% non-failure): -65° F.

Markings: Single: numerals 0-9, letters A to Z, symbols +, -, ~, ±. Multiple: any 2, 3, 4 or 5 unit combinations of above.

Packing: Coil of 50 single markers, one size, color and character per polyethylene covered cards. Coil of 500, as above, on self-servicing reels.

Min. Quantity: per size and character: 50 single white, 500 multiple, 500 colored. Min. Order: 500 markers.

## "S" markers for cables with O.D. of more than .500"



Strap-on-marker: Size: 3/8" x 3/16" x .040", material P.V.C., colors and material same as ELECTROVERT "Z". Markings: 0-9, A-Z, +, -, ~, ±.

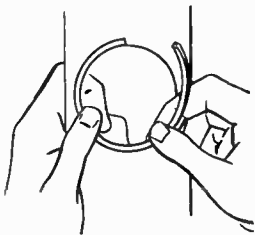
Applications Strip: P.V.C. — covered aluminum, 4 mm wide 0.6 mm thick.

Min. Quantity: Per size, color and character: 50 markers.

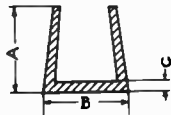
Min. Order: 500 Markers, 165' coil of strip.

Packing: Markers, 50 per indicator card pouch; strips in 165' coils.

## Grommet Strip with the "Snip-n-Fit" feature



U-shaped, strip-type grommeting material can be cut to size, provides smooth surface around edge of any hole and features quick, simple application. No adhesive or special tools required.



...offers the advantage of one strip only for applications to: round holes; square holes; rectangular holes; oval holes.

SIZE	A	B	C	APPLICATION	PACKAGING
2	.120	.100	.035	20 Ga. and smaller	100' coils
3	.150	.185	.035	18 to 12 gauge	100' coils
4	.150	.260	.045	11 to 8 gauge	100' coils
5	.190	.290	.045	8 Ga. to 3/8" thick	100' coils
6	.250	.380	.065	3/8" to 1/2" thick	50' coils

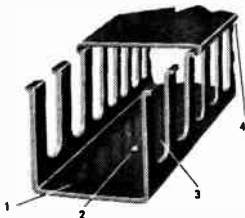
### Specifications

Standard material is natural low density polyethylene. Also available, on request, both in ultraviolet- and weather-resistant, and flame-resistant polyethylene formulations.

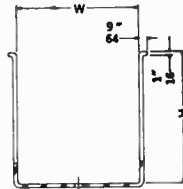
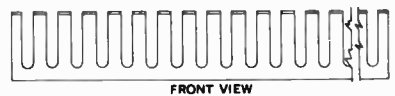
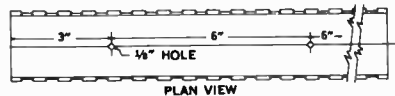
The standard, clear Grommet Strip meets the following specifications and standards: ASTM D 1248-65T, Type I, Class A, Grade 3; Federal Spec L-P-390, Type I, Class L, Grades 1, 2 and 3; Federal Spec L-P-390, Type II, Class L, Grade 4; MIL-P-3803; MIL-I-631C; and MIL-E-16400, Classes 1, 2, 3 and 4.

## P.V.C. Wiring Duct

Provides a better wiring system for: Control Panels/Switchgear/Computers/Electronic Equipment



1. Material: Rigid, high impact PVC.
2. Fixing: 1/8" dia. holes provided for securing screw every 6".
3. Wiring: Open slot to provide fast cable take off.
4. Cover: Snaps on or off.



Fitting: Easily cut with a saw to form tees or right angles. Life: The rigid, high impact PVC will not corrode, rot, stain or warp. Colour: Black (standard). Temperature Range: -20°F to +140°F. Length: 5 ft. (standard).

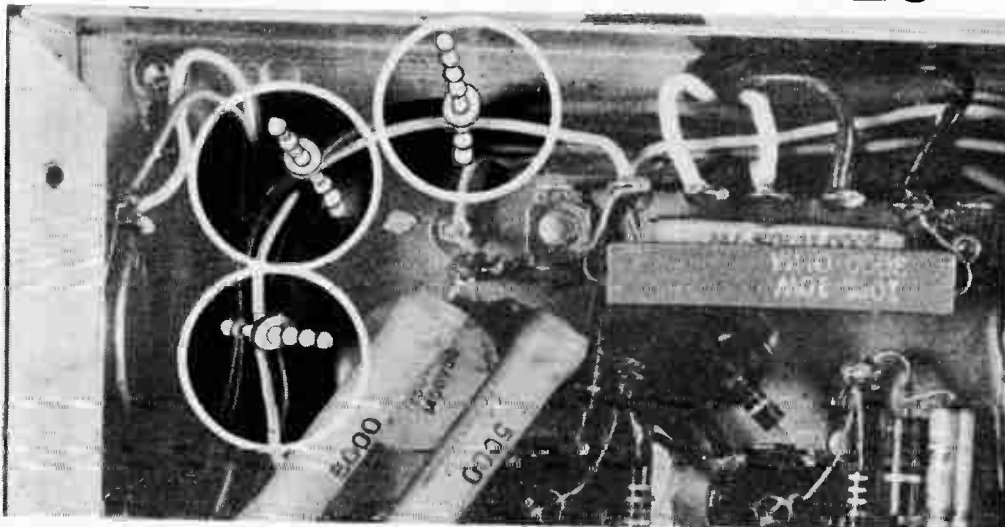
PHYSICAL PROPERTIES — Maximum stress @ yield: 12,500 p.s.i. Compressive stress @ yield: 10,040 p.s.i. Deformation under load: 2000 p.s.i., 24 hrs. 122°F: 1.25%. Electrical volume of resistivity: 122°F ohm/cm 1.4 x 10<sup>14</sup>. Electrical strength: short time; 73°F volts/mil 321V; steewise: 73°F volts/mil 313V.

Size		Cat. No.	Lengths per carton
W	H		
1"	1 1/4"	CD-1012	15
1"	2"	CD-1020	10
2"	2"	CD-2020	6
3"	3"	CD-3030	5

Minimum order: 1 carton.



# WIRE and CABLE TIES



Cable ties, an efficient, cost cutting and time proven asset to any operation, large or small, as a single replacement or on an assembly line. Easily utilized by skilled or unskilled manpower and eliminating many of the problems of difficult lacing. GC cable ties are widely used today by manufacturers of electronic equipment, by the US Government, computer manufacturers, even on automobile production lines. Consider cable ties for your operation. Learn how they cut operation costs and keep customers happy.

**12 INCH Plastic**

**8 AND 10 INCH Nylon or Plastic**

**4 1/4 INCH Plastic or Nylon**

**4 1/4 INCH SNAP-IN BUTTON Plastic**

**SNAPS INTO 1/4 INCH HOLE**

## PLASTIC

Tough and flexible. Chemically inert. Available in Red, Yellow, or Blue in four different lengths. Smart looking...a compliment to any assembly. Special SNAP IN BUTTON model holds wire and cable bundles to walls, chassis, cabinets, fire walls etc.

Part No.	Description	O.E.M. Net	Part No.	Description	O.E.M. Net
DISPLAY CARDED PACKAGE OF 40 TIES					
34-431-M	4 1/4" Green	.98	34-448-M	10" Yellow	21.60
34-432-M	4 1/4" Red	.98	34-452-M	10" Blue	21.60
34-433-M	4 1/4" Yellow	.98	34-453-M	10" Green	21.60
34-440-M	4 1/4" Blue	.98	34-449-M	12" Yellow	24.90
BULK BOXES OF 1000 TIES					
34-431-M	4 1/4" Green	11.10	34-450-M	12" Red	24.90
34-432-M	4 1/4" Red	11.10	34-451-M	12" Blue	24.90
34-436-M	4 1/4" Yellow	11.10	34-455-M	12" Green	24.90
34-440-M	4 1/4" Blue	11.10	4 1/4" SNAP-IN PLASTIC CABLE TIES		
34-443-M	8" Green	18.15	34-454-M	4 1/4" Red	13.95
34-445-M	8" Red	18.15	34-455-M	4 1/4" Yellow	13.95
34-446-M	8" Yellow	18.15	34-458-M	4 1/4" Blue	13.95
34-447-M	8" Blue	18.15			
34-444-M	10" Red	21.60			

\*Write for prices on quantities of 10,000 - up.  
- Patent Pending

## NYLON

Heavy duty, extra tough. All types are available in natural white only. Nylon withstands extreme temperature. Chemically inert.

Part No.	Description	O.E.M. Net
NYLON CABLE TIES		
34-442-M	4 1/4" White	14.90
34-460-M	10" White	33.85

## SPECIAL CABLE TIES

Special sizes and colors, even styles of cable ties are available in large quantities. Write or call your specifications today.

## ETHYL CELLULOSE CABLE CLAMPS

Transparent (light yellowish) plastic. Meets specifications AN742. Plastic thickness is .063".

For Cable O.D.	Cat. No.	Net per C	Cat. No.	Net per M
1/8"	34-300C	2.33	34-300M	19.80
3/16"	34-304C	2.40	34-304M	19.92
1/4"	34-308C	2.58	34-308M	21.97
5/16"	34-312C	2.85	34-312M	24.23
3/8"	34-316C	3.00	34-316M	25.50
7/16"	34-320C	3.30	34-320M	27.83
1/2"	34-324C	3.60	34-324M	29.63
9/16"	34-328C	4.20	34-328M	34.68
19/32"	34-332C	4.50	34-332M	36.00
5/8"	34-336C	4.80	34-336M	39.83
11/16"	34-340C	5.10	34-340M	42.71
3/4"	34-344C	5.40	34-344M	44.76
7/8"	34-348C	5.70	34-348M	48.36
1"	34-352C	6.00	34-352M	51.60
1-1/8"	34-356C	6.30	34-356M	55.08
1-1/4"	34-358C	6.60	34-358M	58.20

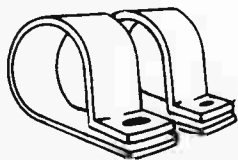
## NYLON CABLE CLAMPS

Natural color (translucent white) Nylon. Thickness is .050" on 1/2" diameter and smaller clamps, .060" on 9/16" and larger.

For Cable O.D.	Cat. No.	Net per C	Cat. No.	Net per M
1/8"	34-370C	3.60	34-370M	30.00
3/16"	34-374C	3.93	34-374M	31.77
1/4"	34-378C	4.17	34-378M	34.73
5/16"	34-382C	4.68	34-382M	38.37
3/8"	34-386C	4.83	34-386M	40.32
7/16"	34-390C	5.13	34-390M	42.63
1/2"	34-394C	5.47	34-394M	45.38
9/16"	34-398C	6.72	34-398M	62.26
5/8"	34-402C	7.50	34-402M	65.63
11/16"	34-406C	7.80	34-406M	77.33
3/4"	34-410C	8.40	34-410M	75.00
7/8"	34-414C	9.00	34-414M	81.00
1"	34-418C	10.50	34-418M	96.00

## ELECTRORAFT PLASTIC CABLE CLAMPS

Electrocraft Cable Clamps are used for fastening cables, harnesses, tubing, etc. Lightweight, durable, with excellent electrical and mechanical properties. Two materials: (1) Ethyl Cellulose, for normal industrial and commercial uses—where temperatures range from -40 degree F. to 185 degree F. (2) Nylon (Zytel), for extreme durability and high resistance to temperature (-60 degree F. to 300 degree F.) and most chemicals.







# ELECTRONIC COMPONENTS

## INSULATING TEFLON\* TUBING

Exceptionally tough and flexible. Withstands temperatures from 450 degree below zero F. to 500 degree above zero F. Will not melt solder joints. Outstanding dielectric properties - zero moisture absorption. Chemically inert. Completely weatherproof. Wires can be inserted much more easily than in any other tubing.

\*Registered trademark DuPont Co.

Part No.	Feet Per Spool	Color	Gauge	I.D. (Inches)	Wall Thickness	Net	Part No.	Feet Per Spool	Color	Gauge	I.D. (Inches)	Wall Thickness	Net
7980-7	10	Nat	24	.022	.010	\$ 1.33	7984-7	10	Nat	16	.053	.012	2.65
7980-7C	100	Nat	24	.022	.010	11.83	7984-7C	100	Nat	16	.053	.012	25.02
7980-1	10	Red	24	.022	.010	1.33	7984-1	10	Red	16	.053	.012	2.65
7980-1C	100	Red	24	.022	.010	11.83	7984-1C	100	Red	16	.053	.012	25.02
7980-4	10	Blue	24	.022	.010	1.33	7984-4	10	Blue	16	.053	.012	2.65
7980-4C	100	Blue	24	.022	.010	11.83	7984-4C	100	Blue	16	.053	.012	25.02
7981-7	10	Nat	22	.027	.012	1.47	7985-7	10	Nat	14	.066	.012	2.92
7981-7C	100	Nat	22	.027	.012	13.26	7985-7C	100	Nat	14	.066	.012	28.38
7981-1	10	Red	22	.027	.012	1.47	7985-1	10	Red	14	.066	.012	2.92
7981-1C	100	Red	22	.027	.012	13.26	7985-1C	100	Red	14	.066	.012	28.38
7981-4	10	Blue	22	.027	.012	1.47	7985-4	10	Blue	14	.066	.012	2.92
7981-4C	100	Blue	22	.027	.012	13.26	7985-4C	100	Blue	14	.066	.012	28.38
7982-7	10	Nat	20	.034	.012	1.83	7986-7	5	Nat	12	.085	.014	1.83
7982-7C	100	Nat	20	.034	.012	18.27	7986-7C	100	Nat	12	.085	.014	34.78
7982-1	10	Red	20	.034	.012	1.83	7986-1	5	Red	12	.085	.014	1.83
7982-1C	100	Red	20	.034	.012	18.27	7986-1C	100	Red	12	.085	.014	34.78
7982-4	10	Nat	18	.042	.012	1.83	7986-4	5	Blue	12	.085	.014	1.83
7982-4C	100	Blue	20	.034	.012	18.27	7986-4C	100	Blue	12	.085	.014	34.78
7983-7	10	Red	20	.034	.012	2.23	7987-7	5	Nat	10	.106	.014	2.17
7983-7C	100	Nat	18	.042	.012	20.88	7987-7C	100	Nat	10	.106	.014	41.58
7983-1	10	Red	18	.042	.012	2.23	7987-1	5	Red	10	.106	.014	2.17
7983-1C	100	Red	18	.042	.012	20.88	7987-1C	100	Red	10	.106	.014	41.58
7983-4	10	Blue	18	.042	.012	2.23	7987-4	5	Blue	10	.106	.014	2.17
7983-4C	100	Blue	18	.042	.012	20.88	7987-4C	100	Blue	10	.106	.014	41.58

### GC NO. 75 STANDARD THIN NYLON CORD .028" DIAMETER

Nylon cord with a fiberglass core. All especially treated to prevent stretching and slipping. GC cords No. 75, 75-A and 74 will handle 90% of replacements. 25 ft., 50 ft., 100 ft., spools are supplied in permanent, clear plastic containers.

Used on 95% of the latest sets manufactured. Made of finest braided Nylon over a Fibreglas Core. It is pre-stretched and chemically treated.

Cat. No. 75-25	25 ft. spool	Net .75
Cat. No. 75-50	50 ft. spool	Net 1.43
Cat. No. 75-100	100 ft. spool	Net 2.37
Cat. No. 75-1000	1000 ft. spool	Net 15.57

### GC NO. 75-A EXTRA THIN NYLON CORD .025" DIAMETER

Used on Motorola, RCA, Sentinel, Stromberg Carlson, and others. Extra thin, made of finest braided Nylon, chemically treated.

Cat. No. 75A-25	25 ft. spool	Net .75
Cat. No. 75A-50	50 ft. spool	Net 1.43
Cat. No. 75A-100	100 ft. spool	Net 2.37
Cat. No. 75A-1000	1000 ft. spool	Net 14.25



### GC NO. 74 MEDIUM NYLON CORD .040" DIAMETER

Used on models of RCA, Philco, Majestic, Wells Gardner, etc. Made of finest braided Nylon over a Spun Fibreglas Core.

Cat. No. 74-25	25 ft. spool	Net .75
Cat. No. 74-50	50 ft. spool	Net 1.43
Cat. No. 74-100	100 ft. spool	Net 2.37
Cat. No. 74-1000	1000 ft. spool	Net 19.77

### GC NO. 70 BRAIDED BRONZE CABLE .035" DIAMETER

Braided phosphor bronze cable made over a Fibreglas core for greater strength and flexibility. Will not unravel.

Cat. No. 70-25	25 ft. spool	Net .97
Cat. No. 70-50	50 ft. spool	Net 1.63
Cat. No. 70-100	100 ft. spool	Net 2.70
Cat. No. 70-1000	1000 ft. spool	Net 22.20

### GC NO. 71 42-STRAND BRONZE CABLE .040" DIAMETER

42-strand twisted phosphor bronze cable used on Majestic, Bosch, Philco, etc. 42 fine strands braided over a cotton core.

Cat. No. 71-25	25 ft. spool	Net 1.23
Cat. No. 71-50	50 ft. spool	Net 1.88
Cat. No. 71-100	100 ft. spool	Net 3.52
Cat. No. 71-1000	1000 ft. spool	Net 25.80

### GC NO. 73 HEAVY NYLON CORD .062" DIAMETER

This is a heavier cord such as used on models of Philco, Silver Marshall, Majestic, Brunswick, etc.

Cat. No. 73-25	25 ft. spool	Net 1.02
Cat. No. 73-50	50 ft. spool	Net 1.73
Cat. No. 73-100	100 ft. spool	Net 2.97
Cat. No. 73-1000	1000 ft. spool	Net 24.90

### GC NO. 76 SPECIAL THIN BRONZE CABLE .023" DIAMETER

Extra thin braided bronze cable such as is used on GE and RCA sets. Also used for speaker cones, preamps, etc.

Cat. No. 76-25	25 ft. spool	Net .97
Cat. No. 76-50	50 ft. spool	Net 1.63
Cat. No. 76-100	100 ft. spool	Net 2.70
Cat. No. 76-1000	1000 ft. spool	Net 22.20

## GC COLOR TV NO-STRETCH DIAL CORD

EXTRA FINE .025" diameter - supplied on metal spools.	STANDARD .028" diameter - supplied on metal spools.	MEDIUM .040" diameter - supplied on metal spools.
Cat. No. 87-25 25 ft. spool Net 90	Cat. No. 88-25 25 ft. spool Net 90	Cat. No. 89-25 25 ft. spool Net 90
Cat. No. 87-100 100 ft. spool Net 2.70	Cat. No. 88-100 100 ft. spool Net 2.70	Cat. No. 89-100 100 ft. spool Net 2.70

### GC DIAL CABLE TOOL

A handy tool to aid in replacing worn out cables or cables slipped off of drums, to replace dial cord springs also.

Cat. No. 5096 Net .60

### GC DIAL CORD NON-SLIP DRESSING STICK

Simply rub the stick on cord and job is done. Prevents and stops slipping.

Cat. No. 1212 Net .25

### GC LAMINATED PHENOLIC PLASTIC PANELS

Black laminated panels. 1/16" thick black. Color: black.

Cat. No. 590 6" x 6"	Net .42
Cat. No. 591 6" x 12"	Net .82
Cat. No. 592 12" x 12"	Net 1.58

### GC RADIO SPAGHETTI

High grade spaghetti for radio-television work. Average dielectric strength 4000 volts. Very flexible. Smoothly coated with best grades of varnish. Material is approved by A.S.T.M. Colors: Black, Brown, Red, Green and Yellow (Specify color). 30" lengths.

Cat. No. 500 No. 20, fit 20 wire	Net .15
Cat. No. 503 No. 17, fit 18 wire	Net .17
Cat. No. 506 No. 14, fit 14 wire	Net .17
Cat. No. 508 No. 12, fit 12 wire	Net .17
Cat. No. 512 I.D. 1/8"	Net .23
Cat. No. 515 I.D. 3/16"	Net .25
Cat. No. 518 I.D. 1/4"	Net .40
Cat. No. 521 I.D. 3/8" (resist. size)	Net .63
Cat. No. 522 I.D. 7/16" (red and black)	Net .73
Cat. No. 523 I.D. 1/2" (red and black)	Net 1.03

### GC FIBEROID FISH PAPER

Fish paper has many uses around the shops for repair jobs where electrical insulation is required. Roll 240 sq. in.

Cat. No. 560 .010" Net .50

### GC AC-DC INDOOR ANTENNA WIRE

Antenna lead wire for indoor type AC-DC sets. Flexible copper wire covered with brown plastic insulation.

Cat. No. 840 25 ft. coil Net .37

### GC GENFLEX PLASTIC TUBING

High grade extremely flexible plastic tubing for radio and electronic insulation work. Highly resistant to cold or heat. High dielectric strength, average 8000 volts.

Colors: Black, Red, Green and Clear (Specify color).

Cat. No. 603 1/8 B-S Gauge, .042 I.D., 20' pkg.	Net .82
Cat. No. 605 1/8 B-S Gauge, .053 I.D., 20' pkg.	Net .82
Cat. No. 607 1/8 B-S Gauge, .066 I.D., 20' pkg.	Net .82
Cat. No. 609 1/2 B-S Gauge, .085 I.D., 20' pkg.	Net .82
Cat. No. 611 10 B-S Gauge, .106 I.D., 15' pkg.	Net .82
Cat. No. 613 8 B-S Gauge, .133 I.D., 15' pkg.	Net .82
Cat. No. 616 6 B-S Gauge, .166 I.D., 10' pkg.	Net .82
Cat. No. 617 4 B-S Gauge, .208 I.D., 10' pkg.	Net .82
Cat. No. 620 2 B-S Gauge, .263 I.D., 10' pkg.	Net .82

### GC ASSORTED SPAGHETTI KIT

An assortment of 7 1/2" lengths of spaghetti sleeving. 26 lengths to the kit. Sizes include from No. 17 wire to 3/8" I.D.

Cat. No. 550 Net .40

### SPAGHETTI AND SLEEVING ASSORTMENT

A variety of sizes and colors are included of high grade varnish tubing. Put up in attractive box.

Cat. No. 551 Net .90

### GC INSULATING CAMBRIC

Dry yellow varnished cambric for field coils, transformers, chokes, resistors, motors, etc. Roll 210 sq. in.

Cat. No. 549 .010" Net .78



# TEKNI-LABELS • TEK-TITLES

## NEW "99 LINE" PACKAGED TEKNI-LABELS

Amateur Radio Equipment	Electrical Distribution	Oscilloscope and Video	Alphabet and Numerals, Large
42-100..... White	42-114..... White	42-124..... White	42-134..... White
42-101..... Black	42-115..... Black	42-125..... Black	42-135..... Black
Citizens Band Radio	Computer and Digital	Dials and Marks	Alphabet and Numerals, Medium
42-102..... White	42-116..... White	42-126..... White	42-136..... White
42-103..... Black	42-117..... Black	42-127..... Black	42-137..... Black
Mobile Radio Units	Transistor	Repairmen's Titles	Alphabet and Numerals, Small
42-104..... White	42-118..... White	42-128..... White	42-138..... White
42-105..... Black	42-119..... Black	42-129..... Black	42-139..... Black
Radio Teletype	Radio Control Models	Stereo and Hi-Fi	
42-106..... White	42-120..... White	42-130..... White	
42-107..... Black	42-121..... Black	42-131..... Black	
Audio and Intercom Systems	Instruments	Dial Labels	
42-108..... White	42-122..... White	42-132..... White	
42-109..... Black	42-123..... Black	42-133..... Black	

**NET PER PKG. \$ .99**

Complete sets of professional appearing titles for all engineering and experimental electronic applications. Decal-type application. Especially suited for designers, Hi-Fi enthusiasts, do-it-yourself group.



**ICORE**  
ELECTRO-PLASTICS, INC.

a subsidiary of ICORE INDUSTRIES

During the manufacturing process, HEATRAX tubing is expanded beyond its original extruded diameter. It will shrink back, or recover to, this original state when heat is applied briefly. Special formulations and irradiation improve its ability to return to original dimensions, assure more uniform recovery, and develop superior stress and crack resistance. When irradiated, HEATRAX materials will not melt at elevated temperatures.

HEATRAX offers these advantages in application:

1. Elastic memory—tubing shrinks quickly on application of heat to form a tight cover, even over irregularly shaped objects
2. Thermal stability
3. Outstanding electrical characteristics
4. Excellent mechanical properties
5. Excellent chemical and solvent resistance

The table of Typical Properties below supplies comparative characteristics for the various HEATRAX materials. The following brief description will also be helpful in selecting the proper type for specific applications:

**Catalog #HIX—IRRADIATED POLYOLEFIN**

Shrink ratio 2 to 1 (expanded to recovered diameter) Temperature range: from 135°C/275°F to -55°C/-65°F

This flexible, general purpose material will not cold flow, never melts and will not split on applications within temperature range. It is less expensive than Teflon HEATRAX. Compared with Vinyl HEATRAX, it is superior in mechanical and dielectric strength, and has less longitudinal shrinkage, higher corrosion resistance and a wider temperature range.

HIX is supplied in two classes:  
I-Flame Retarded II-Clear (not flame retarded)  
Available with U/L approval.

**Catalog #HRX—IRRADIATED SEMI-RIGID POLYOLEFIN**

Shrink ratio 2 to 1 (expanded to recovered diameter) Temperature range: from 135°C/275°F to -55°C/-65°F

This material is designed for strain relief applications and protection of delicate components. It will not cold flow, never melts, and will not split on applications within temperature range. It has better gripping power and tensile strength than HIX Irradiated Polyolefin, HIX Irradiated Vinyl and HVX Vinyl.

HRX is supplied in two classes:  
I-Flame Retarded II-Clear (not flame retarded)

**Catalog #HCX—IRRADIATED FLEXIBLE VINYL**  
Shrink ratio 2 to 1 (expanded to recovered diameter) Temperature range: from 105°C/20°F to -20°C/-5°F

This general purpose material is more flexible and less expensive than HIX Irradiated Polyolefin. Compared with HVX Flexible Vinyl, it is superior in flexibility and crack resistance and has slightly better mechanical strength.

**Catalog #HVX—FLEXIBLE VINYL**

Shrink ratio 2 to 1 (expanded to recovered diameter) Temperature range: from 95°C/200°F to -10°C/15°F

This material has the lowest shrink temperature and the lowest cost of all HEATRAX tubing. HVX is offered in 4 colors.

**TEFLON HEATRAX:**

Flexible Teflon is primarily for use in high thermal and difficult chemical environmental applications, or where a low coefficient of friction is desirable. It provides excellent electrical insulation, has excellent chemical and solvent resistance. It has the widest temperature range, best dielectric and corrosion resistant properties of all HEATRAX tubings. Temperature range of all Teflon HEATRAX is from 260°C/500°F to -65°C/-85°F.

The following types of Teflon HEATRAX are available:

- Cat. #HTX-Thin Wall Teflon (AWG sizes)-Shrink ratio 1½ to 1 (expanded to recovered diameter)  
Cat. #HSX-Stand. Wall Teflon (AWG sizes)-Shrink ratio 1½ to 1 (expanded to recovered diameter)  
Cat. #HFX-4x Teflon (fractional sizes)-Shrink ratio is 4 to 1 (expanded to recovered diameter)

**HEATRAX SPECIFICATION CHART: TYPICAL PROPERTIES**

CHARACTERISTICS	ASTM TEST METHOD	UNITS	#HIX Irradiated Flexible Polyolefin	#HRX Irradiated Semi-rigid High strength Polyolefin	#HCX Irradiated Flexible Vinyl	#HVX Low cost Flexible Vinyl	#HSX & #HTX High Temperature Thin & Standard Wall Teflon, AWG Sizes	#HFX High Temperature Flexible Teflon, Fractional Sizes
Maximum continuous operating temperature		°C °F	135 275	135 275	105 220	105 220	260 500	260 500
Low temperature brittle point		°C °F	-55 -65	-55 -65	-20 -5	-10 +15	-65 -85	-65 -85
Shrinkage ratio (Expanded size to recovered size)			2 to 1	2 to 1	2 to 1	2 to 1	1-½ to 1	4 to 1
Shrinkage temp.		°C °F	120 250	135 275	175 345	95 200	325 620	325 620
Longitudinal shrinkage (max.)		%	5	5	10	10	10	10
Ultimate elongation	D638	%	400	400	250	200	400	400
Tensile strength (min.)	D638	PSI	2500	3000	2600	2000	5000	5000
Dielectric strength	D876 D149— 55T	Volts/ mil	1300	1300	750	700	1300	1300
Volume resistivity	D257	Ohm-cm	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>12</sup>	10 <sup>11</sup>	10 <sup>18</sup>	10 <sup>18</sup>
Specific Gravity	D792		CLASS I - 1.20 CLASS II - 0.92 (clear)	CLASS I - 1.25 CLASS II - 0.95 (clear)	1.35	1.40	2.2	2.2
Flammability			Class I - self extinguishing class II - (Clear) slow burning	Class I - self extinguishing Class II - (Clear) slow burning	self-extinguishing in 5 sec.	self-extinguishing in 45 sec.	non-flammable	non-flammable
Fungus resistance			will not support fungus growth	will not support fungus growth	will not support fungus growth	will not support fungus growth	inert	inert
Water absorption	D570	%	Class I - 0.1 Class II - 0.05	Class I - 0.1 Class II - 0.05	0.6	1.0	.01	.01
Corrosion resistance			non-corrosive	non-corrosive	passes contact corrosion test	passes contact corrosion test	non-corrosive	non-corrosive
Specifications			MIL - I - 23053A Classes 1, 2 AMS 3636, 3637	MIL - I - 23053A Classes 3, 4 AMS 3638, 3639	MIL - I - 23053A Class 5 MIL - I - 631D Grade C	MIL - I - 23053A Class 5 MIL - I - 631D Grade C	MIL - I - 23053A Class 6	MIL - I - 23053A Class 6

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# HEATRAX<sup>®</sup>

HEAT SHRINKABLE TUBING

## FLEXIBLE IRRADIATED POLYOLEFIN

CATALOG # HIX Conforms to: MIL-I-23053A, Classes 1, 2  
AMS 3636, 3637

Cat. # Size (Inches)	Inside Diameter		Re- covered Nom. Wall Thick- ness* (Inches)	Standard Colors**	Standard 4 foot lengths, total ft. per pkg.	Standard Spools, occasional random lengths (ft.)	Price 100'
	Ex- panded as supplied (Inches, Min.)	Re- covered after heating (Inches, Max.)					
HIX-3/4	.046	.023	.016	Black, White, Clear, Red	100, 200	1000	\$ 13.80
1/6	.063	.031	.017	Black, White, Clear, Red	100, 200	1000	14.60
3/32	.093	.046	.020	Black, White, Clear, Red	100, 200	500	16.90
1/8	.125	.062	.020	Black, White, Clear, Red	100, 200	500	17.90
3/16	.187	.093	.020	Black, White, Clear, Red	100, 200	500	21.90
1/4	.250	.125	.025	Black, White, Clear, Red	100	500	27.60
3/8	.375	.187	.025	Black, White, Clear, Red	100	250	30.60
1/2	.500	.250	.025	Black, White, Clear, Red	20, 100	250	34.50
3/4	.750	.375	.030	Black, White, Clear, Red	20, 100	250	46.25
1	1.000	.500	.035	Black, White, Clear, Red	20, 48	250	65.00
1 1/2	1.500	.750	.040	Black, White, Clear, Red	20, 48	125	98.00
2	2.000	1.000	.045	Black, White, Clear, Red	20	125	135.00
3	3.000	1.500	.050	Black, White, Clear, Red	8, 24	50	213.75
4	4.000	2.000	.055	Black, White, Clear, Red	8, 24	50	312.50

\* Wall thickness will be less if recovery is restricted  
\*\* Yellow and blue available on request

## SEMI-RIGID IRRADIATED POLYOLEFIN

CATALOG # HRX Conforms to: MIL-I-23053A, Classes 3, 4  
AMS 3638, 3639

Cat. # Size (Inches)	Inside Diameter		Re- covered Nom. Wall Thick- ness* (Inches)	Standard Colors	Standard 4 foot lengths, total ft. per pkg.	Price 100'
	Ex- panded as supplied (Inches, Min.)	Re- covered after heating (Inches, Max.)				
HRX-3/4	.046	.023	.020	Yellow, Clear	100,200	\$14.10
1/6	.063	.031	.020	White, Clear	100,200	14.80
3/32	.093	.046	.020	Blue, Clear	100,200	17.15
1/8	.125	.062	.020	Red, Clear	100,200	18.35
3/16	.187	.093	.025	Green, Clear	100,200	22.35
1/4	.250	.125	.025	Slate, Clear	100	27.95
3/8	.375	.187	.030	Brown, Clear	100	31.00
1/2	.500	.250	.030	White, Clear	20,100	35.25

\*Wall thickness will be less if recovery is restricted.

## IRRADIATED FLEXIBLE VINYL

Conforms to: MIL-I-23053A, Class 5  
MIL-I-631D, Grade C

Cat. # Size (Inches)	Inside Diameter		Recovered Nom. Wall Thickness* (Inches)	Standard Spools Occasional Random Lengths (ft )	Price 100'
	Expanded as supplied (Inches, Min.)	Recovered after heating (Inches, Max.)			
HCV-3/4	.046	.023	.020	100, 500, 1000	\$ 8.25
1/6	.062	.031	.020	100, 500, 1000	8.65
3/32	.093	.046	.020	100, 500	10.15
1/8	.125	.062	.025	100, 500	10.75
3/16	.187	.093	.025	100, 500	13.15
1/4	.250	.125	.025	100, 500	16.50
3/8	.375	.187	.030	100, 250	18.25
1/2	.500	.250	.030	100, 250	20.75
3/4	.750	.375	.035	100, 250	27.75
1	1.000	.500	.040	100, 250	40.00
1 1/2	1.500	.750	.045	25, 50	65.75
2	2.000	1.000	.050	25, 50	96.75

\* Wall thickness will be less if recovery is restricted.  
Standard Color: Black

## FLEXIBLE VINYL

Conforms to: MIL-I-23053A, Class 5  
MIL-I-631D, Grade C

Cat. # Size (Inches)	Inside Diameter		Re- covered Nom. Wall Thick- ness* (Inches)	Standard Colors	Standard Spools Occasional Random Lengths (ft.)	Price 100'
	Expanded as supplied (Inches, Min.)	Recovered after heating (Inches, Max.)				
HVX-1/6	.063	.031	.020	Black, White, Red, Clear	100, 250	\$ 4.85
3/32	.093	.046	.025	Black, White, Red, Clear	100, 250	5.35
1/8	.125	.062	.025	Black, White, Red, Clear	100, 250	5.75
3/16	.187	.093	.025	Black, White, Red, Clear	100, 250	6.25
1/4	.250	.125	.025	Black, White, Red, Clear	100, 250	7.10
3/8	.375	.187	.025	Black, White, Red, Clear	100, 250	8.90
1/2	.500	.250	.025	Black, White, Red, Clear	100	10.00
3/4	.750	.375	.025	Black, White, Red, Clear	100	13.30
1	1.000	.500	.030	Black, White, Red, Clear	50, 100	17.75
1 1/2	1.500	.750	.035	Black, White, Red, Clear	25, 50	24.80
2	2.000	1.000	.040	Black, White, Red, Clear	25, 50	36.65

\* Wall thickness will be less if recovery is restricted.

Prices subject to change without notice.



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TFE  
FLEXIBLE  
TEFLON

# HEATRAX®

HEAT SHRINKABLE TUBING

**THIN WALL (AWG SIZES)  
CATALOG #HTX**

Conforms to:  
MIL-I-23053A,  
Class 6

Cat. # Size	Inside Diameter Expanded — as supplied (Inches, Min.)	Recovered after heating (Inches, Max.)	Recovered Nom. Wall Thickness* (Inches)	Standard 4 foot lengths, total ft. per pkg.	Price 100'
HTX-30	.030	.022	.009	100	\$ 19.45
28	.035	.025	.009	100	20.30
26	.040	.028	.010	100	22.05
24	.050	.032	.010	100	27.40
22	.055	.037	.010	100	29.40
20	.060	.044	.012	100	36.75
18	.076	.052	.012	100	40.40
16	.093	.063	.012	100	46.60
14	.121	.078	.012	100	52.40
12	.153	.096	.012	48	61.35
10	.191	.116	.012	48	70.80
8	.240	.144	.015	48	105.55
6	.302	.178	.015	20	141.45
4	.370	.224	.015	20	171.20
2	.430	.278	.015	20	187.05
0	.470	.347	.015	20	227.65

\* Wall thickness will be less if recovery is restricted.  
Standard Colors: Natural

**STANDARD WALL (AWG SIZES)  
CATALOG #HSX**

Conforms to:  
MIL-I-23053A,  
Class 6

Cat. # Size	Inside Diameter Expanded — as supplied (Inches, Min.)	Recovered after heating (Inches, Max.)	Recovered Nom. Wall Thickness* (Inches)	Standard 4 foot lengths, total ft. per pkg.	Price 100'
HSX-24	.045	.027	.012	100	\$ 22.40
22	.050	.032	.012	100	24.25
20	.055	.039	.016	100	32.30
19	.060	.043	.016	100	34.35
18	.065	.049	.016	100	37.00
17	.080	.054	.016	100	39.75
16	.090	.061	.016	100	43.20
15	.110	.067	.016	100	46.20
14	.120	.072	.016	100	48.10
13	.130	.080	.016	100	51.20
12	.140	.089	.016	100	54.90
11	.160	.101	.016	100	60.35
10	.180	.112	.016	100	62.80
9	.200	.124	.020	100	81.25
8	.230	.141	.020	48	93.55
7	.240	.158	.020	48	97.80
6	.290	.178	.020	48	104.80
5	.310	.198	.020	20	114.25
4	.335	.224	.020	20	122.90
3	.350	.249	.020	20	134.80
2	.365	.278	.020	20	147.00
1	.375	.311	.020	20	161.70
0	.390	.347	.020	20	180.50

\* Wall thickness will be less if recovery is restricted.  
Standard Colors: Natural

Prices subject to change without notice.

**4X (FRACTIONAL SIZES)  
CATALOG #HFx**

Conforms to:  
MIL-I-23053A  
Class 6

Cat. # Size	Inside Diameter Expanded — as supplied (Inches, Min.)	Recovered after heating (Inches, Max.)	Recovered Nom. Wall Thickness* (Inches)	Standard 4 foot lengths, total ft. per pkg.	Price 100'
HFx-3/4	.078	.025	.009	100	\$ 42.90
1/2	.125	.037	.010	100	44.00
1/4	.250	.063	.012	100	63.80
3/8	.375	.096	.012	100	81.40
1/2	.500	.144	.015	100	126.00
5/8	.625	.178	.015	100	169.20
3/4	.750	.224	.015	100	207.00
1	1.000	.278	.015	20	279.00
1 1/4	1.250	.347	.015	20	399.60

\* Wall thickness will be less if recovery is restricted.  
Standard Colors: Natural

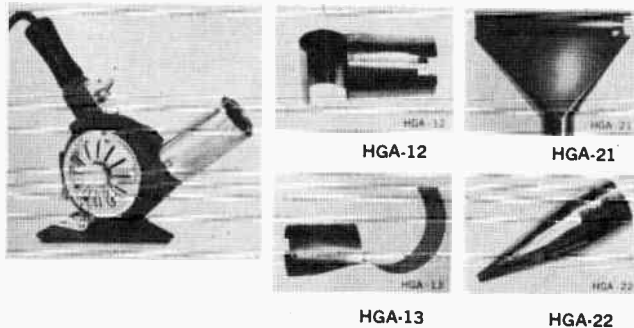
**SHRINKING METHODS  
HEAT GUN & ACCESSORIES**

Excellent results may be obtained by dipping HEATRAX in hot liquids, by oven heat, infrared heat, or open flame. However, the HEATRAX Heat Gun offers the easiest method of applying heat to all types of shrinkable tubing.

**HEATRAX Heat Gun:**

The HEATRAX Heat Gun is a flameless hot air torch — lightweight and mobile — or adaptable for permanent mounting. Three models, with different temperature ranges, are available. All models have adjustable air volume control and a three-way switch (hot-cool-off). All Heat Guns operate on 115V, 50/60 cycles and deliver an air volume of 35 CFM with a velocity of 3000 FPM.

**HEATRAX HEAT GUN & ACCESSORIES**



Cat. #	Current (Amp.)	Temperature Range		Price Each
		°C	°F	
HG-103	12	150/260	300/500	\$40.25
HG-105	14	260/400	500/750	45.35
HG-107	18	400/525	750/1000	56.25

In addition, adaptors for the Heatgun (shown below) have been developed to concentrate heat in specific application areas.



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This expandable spiral-cut plastic wrap harnesses, insulates and protects wire assemblies up to 8" diameter.

#### HARNESSING:

Spiral Wrap applies a strong grip developed both from its torsional cut and the memory of plastic materials used. It retains its strength under repeated flexing and bending, follows wire paths easily, and makes neat, free-running cables. It is extremely useful on long continuous runs where many leads are required; wires can enter or break out at any point. Spiral Wrap can be removed easily for trouble shooting and then re-applied.

#### PROTECTION:

Spiral Wrap is available in materials which accommodate a heat range from -265°C/-450°F to 260°C/500°F for insulation purposes. It is also available in materials with high abrasion resistance and in materials for use outdoors where resistance to ultra-violet rays is required.

# SPIRAL WRAP®

#### MATERIAL DESCRIPTION

Polyethylene	Versatile, low cost material
Polyethylene, black	In addition to above, this material is designed for outdoor use. It resists ultra-violet rays. Oper. Temp. -75°C/-105°F to 100°C/215°F.
Rulan (carbon impregnated polyethylene)	Used primarily in applications where a low cost self-extinguishing material is required. Oper. Temp. -25°C/-10°F to 95°C/200°F.
Nylon, natural	This material offers best mechanical protection; also has a higher temperature rating than polyethylene. Oper. Temp. -100°C/-150°F to 150°C/300°C.
Nylon, black	In addition to the above, this material is designed for outdoor use; it resists ultra-violet rays. Oper. Temp. -100°C/-150°F to 110°C/230°F.
Teflon	Primarily used in high temperature applications; also has an extremely low operating temperature, excellent dielectric properties and is not affected by organic solvents or acids. Oper. Temp. -265°C/-450°F to 260°C/500°F.

Cat. # Size	Price 100'
SWN-1/8	\$ 7.50
1/4	14.00
3/8	36.40
1/2	44.00
3/4	73.00
1"	92.00
SWP-1/8	3.60
3/4	5.30
1/4XXT	5.60
1/4XT	5.80
1/4	6.00
3/8	9.50
1/2	14.50
3/4	21.75
1XT	28.55
1"	29.25
SWR-1/8	4.65
1/4	9.00
3/8	13.00
1/2	18.00
SWT-1/8	117.00
3/4	128.00
1/4	139.00
3/8	261.00
1/2	380.00
3/4	570.00
1"	760.00

#### CATALOG #SWP — POLYETHYLENE

Conforms to: Grade C Fed. Spec. L.P. 390 MIL-I-631D MIL-P-26692

Cat. #	Nominal Outside Dia., (Inches)	Nominal Wall (Inches)	Nominal Pitch (Inches)	Max. Bundle Size (In.)*	Standard Colors**	Standard Package (Ft./Spool)
SWP-1/8	.125	.031	1/4	1/2	Nat., Blk.	100, 500
3/16	.187	.031	1/4	1-1/2	Nat., Blk.	100, 500
1/4XXT	.250	.031	3/8	2	Nat., Blk.	100, 500
1/4XT	.250	.040	3/8	2	Nat., Blk.	100, 500
1/4	.250	.058	5/16	2	Nat., Blk., Bl., Rd.	100, 500
3/8	.375	.058	7/16	3	Nat., Blk., Bl., Rd.	100, 500
1/2	.500	.058	9/16	4	Nat., Blk.	100, 250
3/4	.750	.065	7/8	6	Nat., Blk.	50, 100 (Box)
1XT	1.000	.065	1	8	Nat., Blk.	50, 100 (Box)
1	1.000	.100	7/8	8	Nat., Blk.	50, 100 (Box)

#### CATALOG #SWN — NYLON

Conforms to: MIL-M-22096

Cat. #	Nominal Outside Dia., (Inches)	Nominal Wall (Inches)	Nominal Pitch (Inches)	Max. Bundle Size (In.)*	Colors**	Standard Package (Ft./Spool)
SWN-1/8	.125	.016	1/4	1/2	Nat., Blk.	100, 500
1/4	.250	.030	5/16	2	Nat., Blk.	100, 500
3/8	.375	.030	7/16	3	Nat., Blk.	100, 500
1/2	.500	.030	9/16	4	Nat., Blk.	100, 250
3/4	.750	.040	7/8	6	Natural	50, 100 (Box)
1	1.000	.040	1	8	Natural	50, 100 (Box)

#### CATALOG #SWR — RULAN

Cat. #	Nominal Outside Dia., (Inches)	Nominal Wall (Inches)	Nominal Pitch (Inches)	Max. Bundle Size (In.)*	Colors**	Standard Package (Ft./Spool)
SWR-1/8	.125	.030	1/4	1/2	Wh., Gray	100, 500
1/4	.250	.058	5/16	2	Wh., Gray	100, 500
3/8	.375	.058	7/16	3	Wh., Gray	100, 500
1/2	.500	.058	9/16	4	Wh., Gray	100, 250

#### CATALOG #SWT — TEFLON

Conforms to: MIL-I-22129B AMS 3651B, 3653

Cat. #	Nominal Outside Dia., (Inches)	Nominal Wall (Inches)	Nominal Pitch (Inches)	Max. Bundle Size (In.)*	Colors**	Standard Package (Ft./Spool)
SWT-1/8	.125	.030	1/4	1/2	Natural	25, 50, 100, 500
3/16	.187	.030	1/4	1	Natural	25, 50, 100, 500
1/4	.250	.030	3/8	2	Natural	25, 50, 100, 500
3/8	.375	.030	7/16	2-1/2	Natural	25, 50, 100, 500
1/2	.500	.030	9/16	3	Natural	25, 50, 100, 250
3/4	.750	.040	7/8	4	Natural	25 (Box)
1	1.000	.040	1	6	Natural	25 (Box)

\* Size will vary on a specific bundle depending on desired flexibility and protection

\*\* ADDITIONAL COLORS AVAILABLE ON REQUEST

Prices subject to change without notice.

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# TUBING

## VINYL, FIBERGLASS & TEFLON

ICORE offers a complete line of Vinyl, Fiberglass, and Teflon tubing for electrical insulation applications.

	Cat. #	Class	
<b>Vinyl</b>	SLV-105	A	Low cost, high temperature vinyl for applications up to 105°C/220°F.
	SLV-40	—	Low temperature vinyl for applications down to -65°C/-85°F.
<b>Fiberglass</b>	SLV-130	B	Grade B Abrasion resistant fiberglass tubing for applications up to 130°C/225°F.
	SLV-1200	C	Tightly braided 100% fiberglass tubing for applications up to 650°C/1200°F.
<b>Teflon</b>	STT	C	Excellent electrical insulating properties, good flexibility, chemical inertness for applications up to 260°C/500°F.
	STS		Teflon thin wall
	STL		Teflon standard wall
	TTF		Teflon lightweight (extra thin wall) Teflon tubing in fractional sizes (heavy wall).

**TUBING SPECIFICATION CHART  
TYPICAL PROPERTIES**

CHARACTERISTICS	TEST METHOD	UNITS	SLV-105 High Temperature Vinyl	SLV-40 Low Temp. Vinyl	SLV-130 Abrasion Resistant Fiberglass	SLV-1200 High Temp. Fiberglass	STT, STS, STL, TTF TEFLON
Class			A		B, Grade B	C	C
Maximum Continuous Operating Temp.		°C °F	105 220	80 175	130 265	650 1200	260 500
Low Temp. Brittle Point	ASTM D876	°C °F	-10 +15	-65 -85	-20 -5	N/A	-65 -85
Tensile Strength	ASTM D876	PSI	3000	2000	1500*	N/A	5000
Dielectric Strength							
Dry		Volts/mil	.015 in. wall-1000 .030 in. wall- 900	.015 in. wall-650 .030 in. wall-300	7000	Determined by space factor	.010 in. wall-1400 .020 in. wall- 850
Wet		Volts/ mil	.015 in. wall- 900 .030 in. wall- 800	.015 in. wall-475 .030 in. wall-250	3000		.010 in. wall-1200 .020 in. wall- 800
Min. Volume Resistivity	MIL-I-631D	Ohm/cm	10 <sup>13</sup>	10 <sup>9</sup>	10 <sup>7</sup>	N/A	10 <sup>17</sup>
Dielectric Constant (Max. at 1 Kilocycle)	MIL-I-631D		4	4.5	7	N/A	2.1
Dielectric Factor (Max. at 1 Kilocycle)	MIL-I-631D		.08	.14	.40	N/A	.0002
Corona Resistance			Excellent	Good	Excellent	N/A	Poor
Fungus Resistance	MIL-I-631D		Good	Good	Good	Inert	Inert
Abrasion Resistance	MIL-T-5438		Good	Fair	Good	N/A	Good
Flame Resistance	ASTM D876		Self-extinguishing	Self-extinguishing	Self-extinguishing	Will not burn	Will not burn
Cut Through Resistance			Excellent	Excellent	Excellent	N/A	Fair
Oil Resistance	ASTM D876		Excellent	Excellent	Excellent	N/A	Superior
Chemical Resistance			Resistant to acids & alkalis, softened by ketones & esters	Resistant to acids & alkalis, softened by ketones & esters	Resistant to acids & alkalis, softened by ketones & esters	Superior	Superior, unaffected by practically any solvent
Specifications			MIL-I-631D Grade C	MIL-I-7444B MIL-I-22076	MIL-I-3190B NEMA-VS-1950	NEMA VSI-1957	AMS3651B (All) AMS3653-ST5 AMS3654-STL AMS3655-STT MIL-I-22129B-STT, STS, TTF

\* Applies to coating material only

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**CAT. #SLV-105 HIGH TEMPERATURE, CLASS A**  
Low cost, flexible, high temperature vinyl, with excellent electrical, mechanical and thermal properties for applications up to 105°C/221°F.

**CATALOG #SLV-105** Conforms to: MIL-I-6310  
Grade C, Class 1 & 2

Cat. # Sizes	Nominal Inside Dia. (Inches)	Nominal Wall Thickness (Inches)	Standard Colors*	Standard Packaging (ft.)		Price 100'
				Short Lengths	Standard Lengths	
SLV 105-						
24	.022	.012	Blk., Clr., Wh.	100, 500 Spools	1,000 Spools	\$ 1.96
22	.027	.012	Blk., Clr., Wh.	100, 500 Spools	1,000 Spools	1.97
20	.034	.016	Blk., Clr., Wh.	100, 500 Spools	1,000 Spools	2.01
19	.038	.016	Blk., Clr., Wh.	100, 500 Spools	1,000 Spools	2.06
18	.042	.016	Blk., Clr., Wh.	100, 500 Spools	1,000 Spools	2.08
17	.047	.016	Blk., Clr., Wh.	100, 500 Spools	1,000 Spools	2.11
16	.053	.016	Blk., Clr., Wh.	100, 500 Spools	1,000 Spools	2.20
15	.059	.016	Blk., Clr., Wh.	100, 500 Spools	1,000 Spools	2.27
14	.066	.016	Blk., Clr., Wh.	100 Spools	500 Spools	2.34
13	.076	.016	Blk., Clr., Wh.	100 Spools	500 Spools	2.39
12	.085	.016	Blk., Clr., Wh.	100 Spools	500 Spools	2.49
11	.095	.016	Blk., Clr., Wh.	100 Spools	500 Spools	2.56
10	.106	.016	Blk., Clr., Wh.	100 Spools	500 Spools	2.66
9	.118	.020	Blk., Clr., Wh.	100 Spools	500 Spools	3.49
1/2	.125	.020	Blk., Clr., Wh.	100 Spools	500 Spools	3.60
8	.133	.020	Blk., Clr., Wh.	100 Spools	500 Spools	3.74
7	.148	.020	Blk., Clr., Wh.	100 Spools	250 Spools	3.97
6	.166	.020	Blk., Clr., Wh.	100 Spools	250 Spools	4.26
5	.186	.020	Blk., Clr., Wh.	100 Spools	250 Spools	4.58
4	.208	.020	Blk., Clr., Wh.	100 Spools	250 Spools	4.93
3	.234	.020	Blk., Clr., Wh.	100 Spools	250 Spools	5.25
1/4	.250	.020	Blk., Clr., Wh.	100 Spools	250 Spools	5.47
#2	.263	.020	Blk., Clr., Wh.	100 Spools	250 Spools	5.69
#1	.294	.020	Blk., Clr., Wh.	100 Coils	250 Coils	6.12
3/8	.312	.025	Blk., Clr., Wh.	100 Coils	250 Coils	7.79
0	.330	.020	Blk., Clr., Wh.	100 Coils	250 Coils	6.58
3/8	.375	.025	Blk., Clr., Wh.	50, 100 Coils	250 Coils	8.94
1/2	.438	.025	Blk., Clr., Wh.	50, 100 Coils	250 Coils	10.10
5/8	.500	.025	Blk., Clr., Wh.	50, 100 Coils	250 Coils	11.29
3/4	.562	.030	Blk., Clr., Wh.	50, 100 Coils	100 Coils	14.17
7/8	.625	.030	Blk., Clr., Wh.	50, 100 Coils	100 Coils	15.30
1"	.750	.035	Blk., Clr., Wh.	50, 100 Coils	100 Coils	21.12
1 1/8	.875	.035	Blk., Clr., Wh.	50 Coils	100 Coils	23.74
1 1/4	1.000	.035	Blk., Clr., Wh.	25 Coils	50 Coils	26.53
1 1/2	1.125	.040	Blk., Clr., Wh.	25 Coils	50 Coils	34.79
1 3/4	1.375	.040	Blk., Clr., Wh.	25 Coils	50 Coils	36.78
1 7/8	1.500	.045	Blk., Clr., Wh.	25 Coils	50 Coils	39.31
2"	1.750	.055	Blk., Clr., Wh.	25 Coils	50 Coils	47.67
2 1/4	2.000	.060	Blk., Clr., Wh.	25 Coils	50 Coils	81.67
2 1/2	2.250	.065	Blk., Clr., Wh.	25 Coils	50 Coils	91.70
2 3/4	2.500	.070	Blk., Clr., Wh.	25 Coils	50 Coils	115.12

\* Red, yellow, green available on request

**SECTION 6000**

**VINYL TUBING**

**CAT. #SLV-40 LOW TEMPERATURE**

An extremely flexible material designed primarily for low temperature applications (-65°C/-85°F), with continuous rating of 80°C/175°F. Widely used in applications where all purpose vinyls lose their flexibility.

Conforms to: MIL-I-7444B,  
MIL-I-22076

**CATALOG #SLV-40**

Cat. # Sizes	Nominal Inside Dia. (Inches)	Nominal Wall Thickness (Inches)	Standard Packaging (ft.)		Price 100'
			Short Lengths	Standard Lengths	
SLV 40-					
24	.022	.012	100, 500 Spools	1000 Spools	\$ 2.15
20	.034	.016	100, 500 Spools	1000 Spools	2.22
19	.038	.016	100, 500 Spools	1000 Spools	2.28
18	.042	.016	100, 500 Spools	1000 Spools	2.31
17	.047	.016	100, 500 Spools	1000 Spools	2.42
16	.053	.016	100, 500 Spools	1000 Spools	2.46
15	.059	.016	100, 500 Spools	1000 Spools	2.55
14	.066	.016	100 Spools	500 Spools	2.64
13	.076	.016	100 Spools	500 Spools	2.78
12	.085	.016	100 Spools	500 Spools	2.84
11	.095	.016	100 Spools	500 Spools	3.05
10	.106	.016	100 Spools	500 Spools	4.08
9	.118	.020	100 Spools	500 Spools	4.22
1/2	.125	.020	100 Spools	500 Spools	4.35
8	.133	.020	100 Spools	250 Spools	4.61
7	.148	.020	100 Spools	250 Spools	4.92
6	.166	.020	100 Spools	250 Spools	5.25
5	.186	.020	100 Spools	250 Spools	5.57
4	.208	.020	100 Spools	250 Spools	6.02
3	.234	.020	100 Spools	250 Spools	6.26
1/4	.250	.020	100 Coils	250 Coils	6.51
#2	.263	.020	100 Coils	250 Coils	7.05
#1	.294	.020	100 Coils	250 Coils	9.03
3/8	.312	.025	100 Coils	250 Coils	7.68
0	.330	.020	50, 100 Coils	250 Coils	10.58
3/8	.375	.025	50, 100 Coils	250 Coils	11.94
1/2	.438	.025	50, 100 Coils	250 Coils	13.32
5/8	.500	.025	50 Coils	100 Coils	15.34
3/4	.562	.030	50 Coils	100 Coils	16.78
7/8	.625	.030	50 Coils	100 Coils	23.14
1"	.750	.035	50 Coils	100 Coils	26.11
1 1/8	.875	.035	50 Coils	50 Coils	29.19
1 1/4	1.000	.035	25 Coils	50 Coils	40.46
1 1/2	1.125	.040	25 Coils	50 Coils	43.80
1 3/4	1.375	.040	25 Coils	50 Coils	52.44
1 7/8	1.500	.045	25 Coils	50 Coils	65.38
2"	1.750	.055	25 Coils	50 Coils	89.84
2 1/4	2.000	.060	25 Coils	50 Coils	106.81
2 1/2	2.250	.065	25 Coils	50 Coils	126.63
2 3/4	2.500	.070	25 Coils	50 Coils	161.63

Standard Color: Clear

Black available on request

**FIBERGLASS TUBING**

**CAT. #SLV-1200 HIGH TEMPERATURE, CLASS C**

This sleeving of tightly braided 100% fiberglass is for use in temperatures up to 650°C/1200°F. Closely woven construction provides maximum abrasion resistance with high flexibility. Material is treated to remove all organic matter and to render the glass braid fray resistant. Material available in double wall on request.

**CATALOG #SLV-1200**

Cat. # Sizes	Nominal Inside Dia. (Inches)	Nominal Wall Thickness (Inches)	Standard Packaging (ft.)		Price 100'
			Short Lengths	Standard Lengths	
SLV-1200					
24	.022	.010	100, 500 Spools	1000 Spools	\$ 3.15
22	.027	.010	100, 500 Spools	1000 Spools	3.15
20	.034	.010	100, 500 Spools	1000 Spools	3.30
19	.038	.015	100, 500 Spools	1000 Spools	3.30
18	.042	.015	100, 500 Spools	1000 Spools	3.51
17	.047	.015	100, 500 Spools	1000 Spools	3.51
16	.053	.015	100, 500 Spools	1000 Spools	3.60
15	.059	.015	100, 500 Spools	1000 Spools	3.82
14	.066	.015	100 Spools	500 Spools	3.82
13	.076	.015	100 Spools	500 Spools	3.90
12	.085	.015	100 Spools	500 Spools	3.97
11	.095	.015	100 Spools	500 Spools	4.35
10	.106	.015	100 Spools	500 Spools	4.58
9	.118	.015	100 Spools	500 Spools	4.92
8	.133	.015	100 Spools	500 Spools	5.47
7	.148	.015	100 Coils	250 Coils	6.00
6	.166	.015	100 Coils	250 Coils	6.45
5	.186	.015	100 Coils	250 Coils	7.12
4	.208	.015	100 Coils	250 Coils	8.10
3	.234	.015	100 Coils	250 Coils	9.00
2	.263	.020	100 Coils	250 Coils	10.32
#1	.294	.020	100 Coils	250 Coils	11.88
0	.330	.020	100 Coils	250 Coils	15.37
3/8	.387	.032	100 Coils	250 Coils	20.32
1/2	.450	.032	100 Coils	250 Coils	26.40
5/8	.512	.032	100 Coils	250 Coils	31.80
3/4	.640	.032	100 Coils	100 Coils	38.92
7/8	.893	.032	100 Coils	100 Coils	47.62
1"	1.018	.032	100 Coils	100 Coils	57.90

Color: Natural

**CAT. #SLV-130 CLASS B, GRADE B**

This combination of fiberglass and plastic insulation material has good abrasion resistance, excellent cut through characteristics, and ends will not fray. Widely used in applications up to 130°C/265°F where tubing is subject to knotting, bending and high torque.

Conforms to: MIL-I-3190B

**CATALOG #SLV-130**

NEMA-VSI-196.2

Cat. # Sizes	Nominal Inside Dia. (Inches)	Wall Thickness (Inches)		Standard Packaging (ft.)		Price 100'
		Min.	Max.	Short Lengths	Standard Lengths	
SLV-130						
24	.022	.012	.016	100, 500 Spools	1000 Spools	\$ 4.79
22	.027	.012	.016	100, 500 Spools	1000 Spools	5.05
20	.034	.012	.016	100, 500 Spools	1000 Spools	5.12
19	.038	.012	.016	100, 500 Spools	1000 Spools	5.15
18	.042	.014	.018	100, 500 Spools	1000 Spools	5.21
17	.047	.014	.018	100, 500 Spools	1000 Spools	5.23
16	.053	.014	.018	100, 500 Spools	1000 Spools	5.43
15	.059	.014	.018	100, 500 Spools	1000 Spools	5.54
14	.066	.016	.020	100 Spools	500 Spools	5.62
13	.076	.016	.020	100 Spools	500 Spools	5.95
12	.085	.016	.020	100 Spools	500 Spools	6.11
11	.095	.016	.020	100 Spools	500 Spools	6.53
10	.106	.017	.022	100 Spools	500 Spools	6.83
9	.118	.017	.022	100 Spools	500 Spools	7.03
8	.133	.017	.022	100 Spools	500 Spools	7.51
7	.148	.017	.022	100 Spools	250 Spools	7.93
6	.166	.017	.022	100 Spools	250 Spools	8.42
5	.186	.019	.024	100 Coils	250 Spools	9.34
4	.208	.019	.024	100 Coils	250 Coils	10.24
3	.234	.019	.024	100 Coils	250 Coils	11.39
2	.263	.023	.028	100 Coils	250 Coils	12.88
#1	.294	.029	.035	100 Coils	250 Coils	14.12
0	.330	.029	.035	100 Coils	250 Coils	16.50
3/8	.387	.033	.040	100 Coils	250 Coils	21.05
1/2	.450	.033	.040	100 Coils	250 Coils	27.89
5/8	.512	.033	.040	100 Coils	250 Coils	36.39
3/4	.640	.037	.044	100 Coils	100 Coils	43.89
7/8	.893	.047	.054	50 Coils	50 Coils	53.72
1"	1.018	.053	.060	50 Coils	50 Coils	65.76
				50 Coils	50 Coils	79.37

Color: Black

Prices subject to change without notice.



a subsidiary of ICORE INDUSTRIES

Teflon is rated for continuous operation at 260°C/500°F. A hot soldering iron will not shrink back Teflon as frequently happens with conventional thermoplastic materials. In addition, Teflon has an excellent low temperature rating (-65°C/-85°F).

**THIN WALL** Conforms to: AMS 3651B, 3655  
**CAT. # STT** MIL-I-22129B  
 (Sizes 30, 28 and 26 only)

Cat. # Size	Nominal Inside Diameter (Inches)	Nominal Wall Thickness (Inches)	Standard Colors*	Standard Packaging (Feet)**	Price 100'
STT-30	.012	.009	Natural, Black	100, 500, 1000 Spool	\$ 7.56
28	.015	.009	Natural, Black	100, 500, 1000 Spool	6.53
26	.018	.009	Natural, Black	100, 500, 1000 Spool	6.79
24	.022	.010	Natural, Black	100, 500, 1000 Spool	6.90
22	.027	.010	Natural, Black	100, 500, 1000 Spool	8.58
20	.034	.012	Natural, Black	100, 500, 1000 Spool	11.45
19	.038	.012	Natural, Black	100, 500, 1000 Spool	12.38
18	.042	.012	Natural, Black	100, 500, 1000 Spool	12.98
17	.047	.012	Natural, Black	100, 500, 1000 Spool	14.18
16	.053	.012	Natural, Black	100, 500, 1000 Spool	14.53
15	.059	.012	Natural, Black	100, 500, 1000 Spool	14.58
14	.066	.012	Natural, Black	100, 500, 1000 Spool	16.04
13	.076	.012	Natural, Black	100, 500, 1000 Spool	17.17
12	.085	.012	Natural, Black	100, 500, 1000 Spool	18.48
11	.095	.012	Natural, Black	100, 500, 1000 Spool	20.45
10	.106	.012	Natural, Black	100 Spool	22.04
9	.118	.015	Natural, Black	100 Spool	24.95
1/8	.125	.015	Natural, Black	100 Coil	26.18
8	.133	.015	Natural, Black	100 Coil	27.52
7	.148	.015	Natural, Black	100 Coil	29.45
6	.166	.015	Natural, Black	100 Coil	31.82
5	.186	.015	Natural, Black	100 Coil	34.85
4	.208	.015	Natural, Black	100 Coil	38.10
3	.234	.015	Natural, Black	100 Coil	41.74
1/4	.255	.015	Natural, Black	100 Coil	46.16
2	.263	.015	Natural, Black	100 Coil	48.13
1	.294	.015	Natural, Black	100 Coil	52.71
3/8	.318	.015	Natural, Black	100 Coil	57.38
0	.330	.015	Natural, Black	100 Coil	59.14

\* Blue, Brown, Gray, Green, Red, Orange, White, Yellow are available on request.  
 \*\* Occasional random lengths.

**(EXTRA-THIN) LIGHTWEIGHT** Prices subject to change without notice.  
**CAT. # STL** Conforms to: AMS 3651B, 3654

Cat. # Size	Nominal Inside Dimension (Inches)	Nominal Wall Thickness (Inches)	Standard Packaging (Feet)**	Price 100'
STL-28	.015	.006	100, 500, 1000 Spool	\$ 5.20
26	.018	.006	100, 500, 1000 Spool	5.30
24	.022	.006	100, 500, 1000 Spool	5.60
22	.027	.006	100, 500, 1000 Spool	6.50
20	.034	.006	100, 500, 1000 Spool	8.15
19	.038	.006	100, 500, 1000 Spool	8.90
18	.042	.006	100, 500, 1000 Spool	9.77
17	.047	.006	100, 500, 1000 Spool	10.74
16	.053	.006	100, 500, 1000 Spool	11.51
15	.059	.006	100, 500, 1000 Spool	11.85
14	.066	.008	100, 500, 1000 Spool	13.95
13	.076	.008	100, 500, 1000 Spool	15.10
12	.085	.008	100, 500, 1000 Spool	16.81
11	.095	.008	100, 500, 1000 Spool	18.60
10	.106	.008	100 Spool	19.54
9	.118	.008	100 Spool	20.10
1/8	.125	.008	100 Coil	20.23
8	.133	.008	100 Coil	20.60
7	.148	.008	100 Coil	22.30
6	.166	.010	100 Coil	26.45
5	.186	.010	100 Coil	30.77
4	.208	.010	100 Coil	34.60
3	.234	.010	100 Coil	37.90
1/4	.255	.010	100 Coil	40.40
2	.263	.010	100 Coil	41.15
1	.294	.010	100 Coil	45.40
3/8	.318	.012	100 Coil	53.75
0	.330	.012	100 Coil	54.60

Colors — Natural \*\* Occasional random lengths

# TEFLON TFE TUBING

ICORE Teflon tubing offers the exceptional combination of properties inherent in Teflon: heat resistance, excellent electrical insulating characteristics, flexibility, and good abrasion resistance. Special extrusion techniques produce pinhole-free tubing of uniform concentricity which assures maximum mechanical and electrical protection.

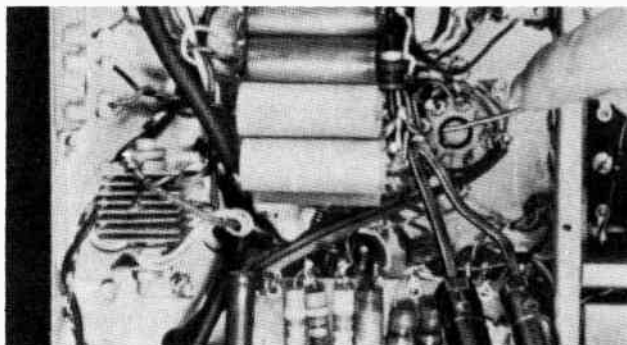
ICORE Teflon tubing has high resistance to flexural fatigue and stress, will not absorb moisture and has lowest coefficient of friction of all materials. Ideal for applications where heat resistance, flexibility, excellent dielectric values, and chemically inert properties are required.

**STANDARD WALL** Conforms to: AMS 3651B, 3653  
**CAT. # STS** MIL-I-22129B

Cat. # Size	Nominal Inside Dimension (Inches)	Nominal Wall Thickness (Inches)	Standard Packaging (Feet)**	Price 100'
STS-24	.022	.012	100, 500, 1000 Spool	\$ 9.63
22	.027	.012	100, 500, 1000 Spool	10.78
20	.034	.016	100, 500, 1000 Spool	14.67
19	.038	.016	100, 500, 1000 Spool	15.65
18	.042	.016	100, 500, 1000 Spool	18.70
17	.047	.016	100, 500, 1000 Spool	20.39
16	.053	.016	100, 500, 1000 Spool	21.78
15	.059	.016	100, 500, 1000 Spool	22.26
14	.066	.016	100, 500, 1000 Spool	24.03
13	.076	.016	100, 500, 1000 Spool	25.33
12	.085	.016	100, 500, 1000 Spool	27.41
11	.095	.016	100, 500, 1000 Spool	30.43
10	.106	.016	100 Spool	33.02
9	.118	.020	100 Spool	45.86
1/8	.125	.020	100 Coil	46.54
8	.133	.020	100 Coil	47.43
7	.148	.020	100 Coil	49.56
6	.166	.020	100 Coil	53.55
5	.186	.020	100 Coil	58.99
4	.208	.020	100 Coil	64.09
3	.234	.020	100 Coil	70.89
1/4	.255	.020	100 Coil	72.34
2	.263	.020	100 Coil	73.14
1	.294	.020	100 Coil	81.26
3/8	.318	.012	100 Coil	53.75
0	.330	.020	100 Coil	91.38

Standard Color—Natural, Blue, Brown, Gray, Green, Red, Orange, White, Yellow are available on request.

\*\* Occasional random lengths.



Speed and efficiency in application. Hot soldering iron will not shrink back tubing.

**FRACTIONAL TUBING** Conforms to: MIL-I-22129B  
**CAT. # TTF** AMS-3651B

Cat. # Size	Nominal Inside Dimension (Inches)	Nominal Wall Thickness (Inches)	Standard Packaging (Ft./Coil)*	Price/Ft. 25' to 49'
TTF-1/16	.062	.030	5, 25, 50	\$ .46
1/8	.125	.030	5, 25, 50	.68
3/16	.188	.030	5, 25, 50	.95
1/4	.250	.030	5, 25, 50	1.22
5/16	.313	.030	5, 25, 50	1.50
3/8	.375	.030	5, 25, 50	1.75
1/2	.438	.030	5, 25, 50	1.81
5/8	.500	.030	5, 25, 50	2.07
3/4	.562	.030	5, 25, 50	2.30
7/8	.625	.030	5, 25, 50	2.56
1	.688	.032	5, 25, 50	3.01
1 1/8	.750	.040	5, 25, 50	3.56
1 1/4	.875	.045	5, 25, 50	4.79
1 1/2	1.000	.050	5, 25, 50	6.10

Colors — Natural \* Occasional random lengths





# LACING TAPE and CORD

Catalog #LTN—Flat Braided Nylon Tape LCN—Round Twisted Nylon Cord  
 LTD—Flat Braided Dacron Tape LCL—Round Twisted Linen Cord  
 LTT—Flat Braided Teflon Tape LCV—Round Vinyl Cord

a subsidiary of ICORE INDUSTRIES

**General Description**

**Flat Braided Tape**—Designed to create a wider contact area with insulation so tape does not slip away from contact point. It is more flexible than cord and easier on the user's hand. Flat tapes do not appreciably increase the diameter of the cable. Recommended for all types of harness work.

**Round Twisted Cord**—Suited particularly for wires having a secondary insulation or those utilizing a textile as an insulation material. It may also be used for plastic and rubber insulated wire.

**Materials**

**Nylon**—synthetic fiber resistant to fungus and most acids, with excellent tensile strength and abrasion resistance.

**Dacron**—has all of nylon characteristics, as well as better acid resistance, less elongation and less susceptibility to discoloration.

**Linen**—Available in cord only, has less stretch than nylon and dacron and is excellent for serving heavy cable and ropes. Also used for lacing wire bundles where a stiffer tie is required, as in switchboards, motors, etc.

**Teflon**—a specially developed fiberglass flatbraid of Teflon coated yarns designed for high temperature applications up to 260°C/500°F. Teflon is bonded to fiberglass to keep tape from fraying. Vinyl—inexpensive material used in bundling and harnessing wires.

**Finishes**—the function of the finish is to permit easier handling of the material (reduce fray), and improve knot retention.

**ICORE Standard MW Finish**—A micro-crystalline wax with melting point above 55°C/130°F and non-flaking characteristics. It is compounded to develop excellent knot retention, yet not give a waxy feel to user.

**Special PVA Finish**—Polyvinyl acetate resin with a melting point above 175°C/350°F for use where a wax-free type or higher operating temperature is specified.

**Special HPVA Finish**—(Similar to GE) Polyvinyl acetate with a heavier finish which permits easier handling and better knot retention.

**Special SR Finish**—A special coating of fungistatic synthetic rubber containing no corrosive compounding ingredients. It has best knot characteristics of all materials, along with good non-dusting or flaking properties. Being soft and pliable, it will not injure user's hands.

## LACING BRAIDED TAPE

Cat. #	Material	Width (In.)	Tensile Test (lbs.)	Finishes Available		Stock Colors	Std. Pkg. Yards/Spool	Conforms to:	Price ea. Std. Finish
				Std. Finish	Special Finishes*				
LTN-2	Nylon	.090	50	MW	PVA, HPVA SR	Bk. Wh.	500	MIL-T-713A Type P, and interim spec IP/DES-S-26-4	\$5.93 B 5.43 W
LTN-3	Nylon	.062	32	MW	PVA, HPVA SR	Bk. Wh.	500	MIL-T-713A Type P, and interim spec IP/DES-S-26-4**	5.72 B 5.20 W
LTN-4	Nylon	.045	20	MW	PVA, HPVA SR	Bk. Wh.	500	MIL-T-713A Type P, and interim spec IP/DES-S-26-4**	5.50 B 4.95 W
LTD-2	Dacron	.090	50	PVA	MW, HPVA SR	Wh.	500	MIL-T-713A Type D	5.98
LTT-2	Teflon	.090	50			Wh.	250	MIL-T-713A Type PTFE	11.63

## LACING BRAIDED CORD

Cat. #	Material	Dia. (In.)	Tensile Test (lbs.)	Std. Finish	Std. Colors	Std. Pkg. Yards/Spool	Conforms to:	Price ea. Std. Finish
LCN-2	Nylon	.035	48	MW	Bk. Wh.	750	MIL-T-713C-Type P	6.40 B 5.40 W
LCN-3	Nylon	.030	32	MW	Bk. Wh.	1100	MIL-T-713C-Type P	6.40 B 5.40 W
LCL-2	Linen	.035	48	MW	Bk. Nat.	450	MIL-T-713C-Type N	3.95 B 3.75 W
LCV	Vinyl	.065			Bk. Clear	1000	Virgin PVC-Type A	14.50

\* Add numbers behind catalog number for ordering special finishes — example — LTN-2-PVA-White.

\*\* Military specification covers class 2 only. Class 3 and 4 produced under same procedures and can be certified accordingly.

Prices subject to change without notice.

# ZIPPER TUBING

Zipper Tubing is an ideal jacketing material to enclose, insulate, waterproof, shield, mark and identify wire and cable assemblies. The wrap-around, quick zip characteristics allow wire harnesses to be covered at any point, even after connections have been made. The closure device is a zipper running along the zipper track which permits easy re-entry for inspection or modification. Zipper track may

be permanently closed and waterproofed with the application of Zipper Tubing Sealer over the track. The ease of application of Zipper Tubing allows significant labor savings.

## ZIPPER TUBING SPECIFICATION CHART TYPICAL PROPERTIES

CHARACTERISTICS	UNITS	Z63	Z74	ZASHN
Construction		Overlap	Overlap	Overlap & Grounding braid
Max. Continuous Operating Temp.	°C	105	70	105
Low Temperature	°F	220	160	220
Brittle Point	°C	-30	-70	-40
Wall thickness	°F	-20	-95	-40
Wall tolerance	Inches	.020 or .040	.020 or .040	.015
Tensile strength	%	±10	±10	±10
Elongation	PSI	2700	2000	12,000
Dielectric strength (dry)	%	450	400	3
Flame Resistance	Volts/mil	800	400	5700
Fungus Resistance		Self-extinguishing Yes	Self-extinguishing Yes	Non-supporting
Specifications		MIL-631D Grade C, Class 1, Category 1, (Also available in grade A & B)	MIL-I-7444B	Base material MIL-C-20696 Type II, Class 2 Foil: MIL-A-148A

**HOW TO DETERMINE SIZE REQUIRED**  
 Measure outside diameter of wire bundle. Add 1/8" to this diameter for correct Zipper Tubing size. All Catalog Nos. shown below are available in the following sizes:

3/8"	1 1/4"
1/2"	1 3/8"
5/8"	1 1/2"
3/4"	1 3/4"
7/8"	1 7/8"
1"	2"
1 1/8"	2 1/4"

Sizes 2 1/4" to 4" available on special order

**Zipper Tubing Accessories**  
 Cat.#ZTS-10 Zipper Tubing sliders (one slider free with each 25' Zipper Tubing Sealer):

ZTS-1 oz. bottle
ZTS-2 oz. bottle
ZTS-4 oz. bottle
ZTS-1 pt. can
ZTS-1 qt. can
ZTS-1 gal. can

Cat. #	Description	Conforms to:	Nom. Wall (In.)	Colors	Std. Pkg. Ft. per Spool
Z6320-Size	General purpose vinyl tubing application up to 105°C/220°F.	MIL-I-631D Grade C, Class 1	.020	Bk., Clear	25.50, 100
Z6340-Size		Category 1*	.040	Bk., Clear	100
Z7420-Size	Low temperature, flexible vinyl for applications down to: -70°C/-95°F	MIL-I-7444B	.020	Bk., Clear	100
Z7440-Size			.040	Bk., Clear	100
ZASHN-Size	Material is a lamination of vinyl impregnated nylon cloth and aluminum foil with tinned - copper wire braid attached to inside of overlap. Excellent RF shielding (nearly 100%), abrasion protection, and grounding properties.	Coated fabric MIL-C-20696 Type II, Class 2 Foil Mil-A-148A	.015	Bk., Grey	100

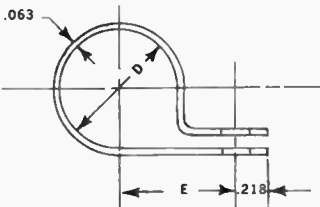
\* Also available in grade A and B on special order

Cat. # Size*	Z6320	Z6340	Z7420	Z7440	ZASHN
	Price per 100'				
3/8"	\$34.00	\$42.00	\$34.00	\$43.50	\$48.00
1/2"	36.00	42.50	36.00	45.00	50.50
5/8"	37.50	43.00	38.00	47.50	53.00
3/4"	38.00	43.50	40.00	50.00	55.50
7/8"	38.50	44.00	42.50	53.50	58.00
1"	39.50	44.50	45.00	56.50	60.50
1 1/8"	40.00	45.00	47.00	59.00	63.00
1 1/4"	41.50	47.00	49.00	61.50	65.50
1 3/8"	42.00	48.00	51.00	64.00	68.00
1 1/2"	42.70	48.75	53.00	66.50	70.50
1 5/8"	43.25	49.50	55.00	69.00	73.00
1 3/4"	44.25	50.25	57.00	71.50	75.50
1 7/8"	45.00	51.00	59.00	74.00	78.00
2"	46.00	52.00	61.00	76.50	80.50

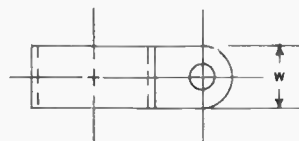
Standard Colors: Black and Clear. \*Sizes 2 1/4" to 4" available on request.



a subsidiary of ICORE INDUSTRIES



# CABLE CLAMPS



## ETHYL CELLULOSE CLAMPS

Low cost clamp having excellent shock resistance in temperature range -40°C/-40°F to 85°C/185°F.

Conforms to: 7-21-44 Army-Navy Aeronautical AN 742

## NYLON CLAMPS

Durable clamp that is tougher, resists acids better and has a higher operating temperature 135°C/275°F than ethyl cellulose.

Conforms to: MIL-P-17091A & Amend 2, MIL-P-17091B, P-20693, Type 1, MS-39014\*, MIL-C-21565\*

\* Conforms to dimensional requirements and material specifications.

## CATALOG # CLE

DIMENSIONS (INCHES)			Std. Pkg.	Price 100 Pk.
D	E	W		
Cat. # Diameter		Width		
CLE- 1/8	.328	1/8	100 1000	\$1.62
1/4	.390	1/8	100 1000	1.68
3/8	.421	1/8	100 1000	1.79
1/2	.453	1/8	100 1000	1.99
5/8	.483	1/8	100 1000	2.14
3/4	.531	1/8	100 1000	2.28
7/8	.562	1/8	100 1000	2.43
1	.625	1/8	100 500	2.99
1 1/8	.610	1/8	100 500	3.10
1 1/4	.666	1/8	100 500	3.43
1 3/8	.765	1/8	100 500	3.60
1 1/2	.812	1/8	100 500	4.05
1 5/8	.906	1/8	100 500	4.26
1 3/4	.968	1/8	100 500	4.65
1 7/8	1.025	1/8	100 500	4.78
2	1.156	1/8	100 500	4.92
2 1/8	1.063	1/8	100 500	5.33
2 1/4	1.093	1/8	100 500	5.47
2 3/8	1.250	1/8	100 500	5.63
2 1/2	1.250	1/8	100 500	5.86

Color - Amber Assortment Pak Cat. #CLE-S1 50 assorted ethyl cellulose clamps

## CATALOG # CLN

DIMENSIONS (INCHES)			Colors	Std. Pkg.	Price 100 Pk.
D	E	W			
Cat. # Diameter		Width			
CLN- 1/8	.328	1/8	Natural, Blk.	100 1000	\$2.50
1/4	.390	1/8	Natural, Blk.	100 1000	2.64
3/8	.421	1/8	Natural, Blk.	100 1000	2.89
1/2	.453	1/8	Natural, Blk.	100 1000	3.18
5/8	.483	1/8	Natural, Blk.	100 1000	3.36
3/4	.531	1/8	Natural, Blk.	100 1000	3.55
7/8	.562	1/8	Natural, Blk.	100 1000	3.77
1	.593	1/8	Natural, Blk.	100 500	5.66
1 1/8	.625	1/8	Natural, Blk.	100 500	5.95
1 1/4	.656	1/8	Natural, Blk.	100 500	6.46
1 3/8	.765	1/8	Natural, Blk.	100 500	7.06
1 1/2	.812	1/8	Natural, Blk.	100 500	7.65
1 5/8	.906	1/8	Natural, Blk.	100 500	8.62
1 3/4	.970	1/8	Natural, Blk.	100 500	9.12
1 7/8	1.000	1/8	Natural, Blk.	100 500	9.75
2	1.000	1/8	Natural, Blk.	100 500	10.30
2 1/8	1.062	1/8	Natural, Blk.	100 500	10.63
2 1/4	1.125	1/8	Natural, Blk.	100 500	13.36
2 3/8	1.125	1/8	Natural, Blk.	100 500	13.79
2 1/2	1.125	1/8	Natural, Blk.	100 500	14.17

Assortment Pak Cat. #CLN-S1 50 assorted nylon clamps

Prices subject to change without notice.

## CONTINUOUS STRIP GROMMETS

Gromstrip is a continuous length of extruded U-channel for use as a protective covering on sharp edges. It can be cut to desired length and easily inserted into any hole, regardless of shape or configuration. (On angles less than 90°, miter the two outside edges for better fit).

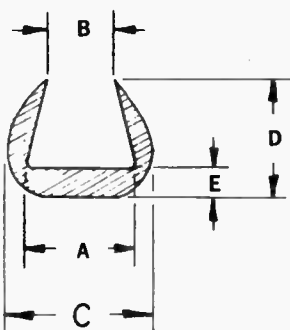
Gromstrip requires minimum space, grips surfaces snugly, and won't jar loose. Wherever wires pass through a metal piece, Gromstrip used on the sharp edges will eliminate cutting and fraying of the wires.

The use of continuous strips sharply reduces inventory of stock grommets. The addition of sizes #6 and #7 now allows the use of Gromstrip up to 1/2" thickness.

GSP Conforms to: Fed. Spec. LP390, Type 2, Grade 4

GSN Conforms to: MIL-M-22096, Type 4

Cat. #	GSP	
	GSN	Price 100*
Size 1	\$13.75	\$ 5.50
2	16.50	6.60
3	19.80	7.90
4	25.74	10.25
5	33.46	13.35
6	43.49	18.70
7	56.53	26.20



Poly-ethylene Nylon Cat. #	Dimensions in Inches					Application		Std. Pkg. Dispenser Pak Reels (Feet)*
	A	B	C	D	E	Ferrous Material Std. U.S. Gauge	Non-Ferrous Material B & S Gauge	
						GSP GSN 1	.030	
GSP GSN 2	.070	.020	.110	.135	.035	22 to 16	22 to 14	50, 100, 500
GSP GSN 3	.120	.060	.160	.155	.040	15 to 12	12 to 9	50, 100, 500
GSP GSN 4	.180	.109	.240	.190	.045	11 to 8	8 to 6	50, 100, 500
GSP GSN 5	.255	.156	.328	.250	.060	3/8 to 1/4 in.		25, 100, 250
GSP GSN 6	.380	.218	.468	.375	.080	1/4 to 3/8 in.		25, 100, 250
GSP GSN 7	.505	.330	.625	.430	.090	3/8 to 1/2 in.		25, 100, 250

GSP & GSN Color — Natural

New tough polyethylene see-thru dispenser pak allows users to pull out enough material for requirements: a quick glance tells when to re-order.

Polyethylene — used for general application

Nylon — used where a particularly tough and abrasive resistant material is desired; it has a higher operating temperature, and better dielectric constant than polyethylene.

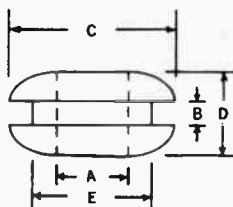
Teflon — used for high temperature applications. Available on quotation only.

# GROMSTRIPS®

## GROMMETS, VINYL

### CAT. # GV

Inexpensive flexible, oil resistant, high dielectric vinyl grommet with outstanding aging qualities. Complete specifications available on request.



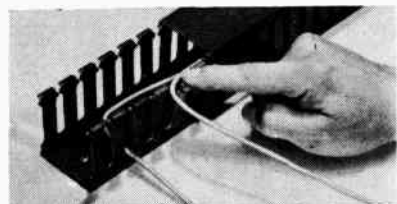
Cat. #	Dimensions in Inches					Colors	Std. Pkg.	Price 100 Pk.
	A	B	C	D	E			
GV- 1/8	1/8	1/8	1/2	3/8	1/8	Blk., White	100, 1000	\$ .93
3/16	3/16	3/16	3/8	1/2	3/16	Blk., White	100, 1000	1.13
1/4	1/4	1/4	3/8	1/2	1/4	Blk., White	100, 1000	1.24
5/16	5/16	5/16	3/8	1/2	5/16	Blk., White	100, 1000	1.33
3/8	3/8	3/8	3/8	1/2	3/8	Blk., White	100, 1000	1.40
1/2	1/2	1/2	1 3/8	3/2	1/2	Blk., White	100, 1000	2.26
5/8	5/8	5/8	1 3/8	3/2	5/8	Blk., White	100, 1000	2.90
3/4	3/4	3/4	1 1/2	3/2	3/4	Blk., White	100, 1000	3.72
1	1 1/8	1 1/8	1 3/8	3/2	1	Blk., White	100, 1000	7.13

Assortment Pak Cat. #GV-S1 50 assorted grommets of various sizes and colors

## PLASTICS

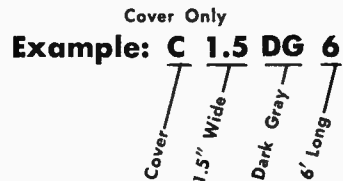
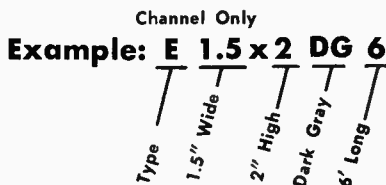
ICORE offers a variety of plastic rod, sheet, and tube in polystyrene, acrylic, paper base phenolic, canvas base phenolic, polyethylene, nylon, Teflon, Delrin, and Lexan. Contact your distributor for complete information.

# PANDUIT® wiring components



Type E—Open Slot

PART NUMBER SYSTEM



PANDUCT® CHANNEL ONLY

Types Avail.	Nominal Width x Height (Inches)	Approx. Shpg. Wt. Per 100'	Price/Foot		
			Under 200 ft.	200 ft. to 1999 ft.	2000 to 4999 ft.
E	.5x.5	11 lbs.	\$0.39	\$0.31	\$0.28
	.5x.62	12 lbs.	.41	.33	.31
	.5x1	16 lbs.	.45	.36	.34
	.5x1.25	16 lbs.	.51	.40	.37
	.5x1.75	16 lbs.	.53	.43	.40
E	.75x.75	14 lbs.	.44	.35	.33
	.75x1	16 lbs.	.45	.36	.34
	.75x1.5	19 lbs.	.53	.42	.39
	.75x2	23 lbs.	.65	.52	.48
E	1x1	16 lbs.	.45	.37	.34
	1x1.5	18 lbs.	.60	.49	.45
	1x2	21 lbs.	.64	.52	.48
	1x3	31 lbs.	.81	.65	.60
E	1.5x1.5	20 lbs.	.63	.51	.46
	1.5x2	20 lbs.	.69	.55	.50
	1.5x3	30 lbs.	.87	.70	.64
	1.5x4	40 lbs.	1.11	.89	.82
E	2x1	18 lbs.	.62	.50	.45
	2x2	23 lbs.	.75	.60	.55
	2x3	36 lbs.	.90	.72	.66
	2x4	48 lbs.	1.16	.93	.85
E	2.5x3	41 lbs.	.95	.76	.71
E	3x1	20 lbs.	.75	.60	.56
	3x2	33 lbs.	.82	.65	.60
	3x3	43 lbs.	.98	.78	.72
	3x4	53 lbs.	1.21	.97	.89
E	4x1.5	33 lbs.	.86	.69	.64
	4x2	38 lbs.	.88	.71	.65
	4x3	48 lbs.	1.05	.84	.77
	4x4	58 lbs.	1.23	.98	.90

CORRESPONDING COVER ONLY

Nominal Width (Inches)	Approx. Shpg. Wt./100'	Price/Foot		
		Under 200 ft.	200 to 1999 ft.	2000 to 4999 ft.
.5	4 lbs.	\$0.09	\$0.07	\$0.06
.75	6 lbs.	.10	.08	.07
1	9 lbs.	.12	.09	.08
1.5	10 lbs.	.15	.12	.11
2	12 lbs.	.18	.14	.13
2.5	14 lbs.	.22	.18	.16
3	17 lbs.	.25	.20	.18
4	22 lbs.	.33	.26	.24

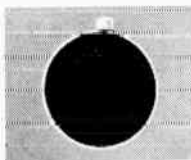
Order by Total No. of Ft. Req'd. (must be multiple of length per part.)

Standard Mounting Holes: No Charge — Supplied Only if Specified — See Duct Catalog For Dimensions.

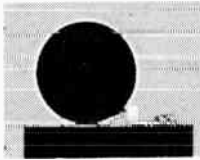
NOTE: Standard Length: 6 ft. Other lengths available. Standard Color: Dark Gray. White and Light Gray available.

NOTE: Total length of all sizes of duct and cover, ordered for shipment at one time to one location, determines price columns.

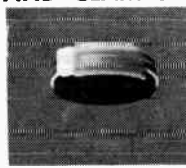
STA-STRAP® CABLE TIES AND CLAMPS



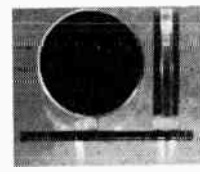
SST—Tie



SSC—Clamp



SSM—Marker



SSP—Push

STANDARD PKG. OF 100(C)

Part Number	Maximum Bundle Diameter	Approx. Shpg. Wt. lbs./1000	Price Per 100	
			Base Price 100-400	500
SST1C	3/4"	1	\$ 3.60	\$ 2.85
SST1.5C	1 1/4"	1.5	3.75	3.00
SST2C	1 3/4"	2.6	4.30	3.40
SST4C	4"	4.5	9.80	7.80
SST4HC	4"	12	14.50	11.50
SST8HC	8"	24	22.50	18.00
SSC2C	1 3/4"	3.2	4.90	3.90
SSC4C	4"	5.5	10.80	8.60
SSC4HC	4"	14	17.00	13.60
SSM2C	1 3/4"	3.3	8.60	6.80
SSM4C	4"	6	14.10	11.20
SSP2C	1 3/4"	3.2	4.90	3.90

Order by Number of Pieces Required.

Colors: Standard Color — Natural Nylon White.

Other Colors — 10% additional price.

Delivery: F.O.B. Factory. Minimum Billing: \$25.00 each customer-designated shipment. Terms: Cash Discount 2%, 10th prox.

FREIGHT ALLOWED via Panduit routing on shipments of \$300.00 or more net billing. All prices subject to change without notice.

BULK PACKAGING\*

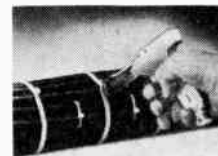
Part Number	Approx. Shpg. Wt. lbs./1000	Price Per M (1000)		
		1M-24.5M	25M-49.5M	50M
SST1M	1	\$ 23.00	\$ 21.85	\$ 20.70
SST1.5M	1.5	24.00	22.80	21.60
SST2M	2.6	27.00	25.65	24.30
SST4M	4.5	60.00	57.00	54.00
SST4HD	12	93.00	88.35	83.70
SST8HD	24	140.00	136.00	126.00
SSC2M	3.2	30.00	28.50	27.00
SSC4M	5.5	66.00	62.70	59.40
SSC4HD	14	111.80	106.20	100.75
SSM2D	3.3	55.00	52.25	49.50
SSM4D	6	87.50	83.15	78.25
SSP2M	3.2	30.00	28.50	27.00

\*Bulk packaging quantities indicated by letter suffix in part no. D=500; M=1000.

Order by Number of Pieces Required

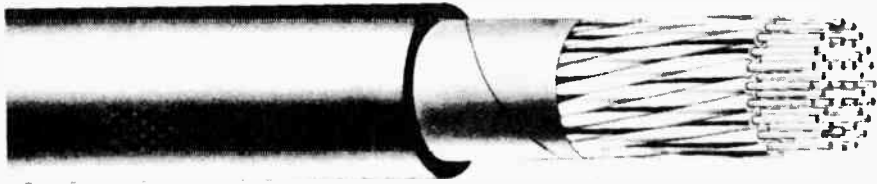


GS2B — Manual \$19.00 ea. net. installs all STA-STRAPS except Heavy Duty..



GS4H — Manual \$40.00 ea. net. NEW Heavy Duty — installs all STA-STRAPS except SST1 & SST1.5.

PANDUIT CORP.



# In Stock MIL-SPEC

## Multiple Conductor Control Cables

National Wire & Cable Corporation manufactures a complete line of multiple conductor control cables. Conductors are of tinned copper strand with  $\frac{1}{4}$ " vinyl primary insulation for use up to 105°C per MIL-W-16878D Type C†. Insulated for 1000 volts working voltage. Conductors are color coded using 10 standard basic colors, plus spiral tracers on white per MIL-STD. 122.

All conductors are planetary cabled and contra-helically laid with a Mylar tape serve over the cable bundle. The overall jacket is a 105°C black polyvinyl-chloride thermoplastic, meeting specification MIL-I-631 Class F, or may be Neoprene to MIL-R-6855 Class 2 Grade 60 specification. (Neoprene jackets at added cost.)\*

National Multiple Conductor SHIELDED CABLES are to the same specifications as above with addition of tinned copper braided shield over cable complex with 85-90% coverage to MIL-C-7078A. STANDARD PUT-UPS: 500 ft. and 1000 ft. No-deposit reels.

\* (Standard put-up for Neoprene jacketed cable is 250 ft.)

† Insulated Conductors are also UL approved under UL type 1007 AWM, and are CSA approved as type TR 64.

### TECHNICAL DATA (all cables)

<b>Insulation Breakdown Voltage:</b>	Greater than 8000 volts AC RMS, 60 cps.
<b>Capacitance:</b>	Nominal capacitance from a wire to all else in the cable ranges from 40 to 65 mmfd per ft., @ 1000 cps; dependent on gauge and position.
<b>Insulation Leakage Res.:</b>	200. megohms/1000 ft. min. at 500 VDC from any conductor to all else in cable.
<b>Sheath Leakage Res.:</b>	10. megohms/1000 ft. min. at 500 VDC from overall shield through sheath to outside world.
<b>Usable Temp. Range:</b>	Suitable for continuous use from +105°C to -55°C.
<b>Cold Bending Capability:</b>	All cables are suitable for flexing to a circle diam. of approx. 6 cable diameters from +105°C to -20°C; Recommended flex diameter should be greater than 20 cable diam. for flexing at -40°C, or for continuous flexing service to -55°C, specify our neoprene sheath, in lieu of plastic sheath.

### MULTI-CONDUCTOR STOCK CABLES

Conductor sizes 22, 20, 18, 16, 14 & 12 gauge. 22 AWG is 7 strand. All others 19 strand.

#### UNSHIELDED

PART NO.	NO. COND.	COND. AWG	JKT. THICK	CABLE O.D.	WEIGHT PER M'
NW-722 J	7	22	.040	.295	40 Lbs.
NW-1222J	12	22	.050	.390	70 Lbs.
NW-1922J	19	22	.060	.460	110 Lbs.
NW-2722J	27	22	.060	.530	160 Lbs.
NW-3722J	37	22	.060	.600	200 Lbs.
NW-4822J	48	22	.060	.670	245 Lbs.
NW-6022J	60	22	.060	.730	300 Lbs.
NW-7222J	72	22	.060	.775	360 Lbs.
NW-8822J	88	22	.060	.835	425 Lbs.
NW-10222J	102	22	.060	.880	485 Lbs.
NW-720 J	7	20	.040	.300	50 Lbs.
NW-1220J	12	20	.050	.400	105 Lbs.
NW-1920J	19	20	.060	.470	160 Lbs.
NW-2720J	27	20	.060	.560	210 Lbs.
NW-3720J	37	20	.060	.610	280 Lbs.
NW-4820J	48	20	.060	.700	360 Lbs.
NW-6020J	60	20	.060	.750	435 Lbs.
NW-7220J	72	20	.060	.840	485 Lbs.
NW-8820J	88	20	.060	.900	580 Lbs.
NW-10220J	102	20	.060	.975	670 Lbs.
NW-718 J	7	18	.040	.350	75 Lbs.
NW-1218J	12	18	.050	.460	135 Lbs.
NW-1918J	19	18	.060	.560	225 Lbs.
NW-2718J	27	18	.060	.650	300 Lbs.
NW-3718J	37	18	.060	.730	390 Lbs.
NW-4818J	48	18	.060	.820	510 Lbs.
NW-6018J	60	18	.060	.900	600 Lbs.
NW-7218J	72	18	.060	1.100	720 Lbs.
NW-716 J	7	16	.040	.370	95 Lbs.
NW-1216J	12	16	.050	.500	155 Lbs.
NW-1916J	19	16	.060	.600	230 Lbs.
NW-2716J	27	16	.060	.700	320 Lbs.
NW-3716J	37	16	.060	.785	430 Lbs.
NW-4816J	48	16	.060	.900	625 Lbs.
NW-6016J	60	16	.060	.980	750 Lbs.
NW-714 J	7	14	.050	.450	150 Lbs.
NW-1214J	12	14	.050	.560	240 Lbs.
NW-1914J	19	14	.060	.675	370 Lbs.
NW-2714J	27	14	.060	.800	515 Lbs.
NW-512 J	5	12	.050	.480	175 Lbs.
NW-712 J	7	12	.050	.525	225 Lbs.
NW-1212J	12	12	.060	.700	375 Lbs.
NW-1912J	19	12	.060	.820	560 Lbs.

#### OVERALL SHIELDED

PART NO.	NO. COND.	COND AWG	T.C. SHIELD	JKT. THICK	CABLE O.D.	WEIGHT PER M'
NW-722 SJ	7	22	No. 36	.040	.320	55 Lbs.
NW-1222SJ	12	22	No. 34	.050	.420	90 Lbs.
NW-1922SJ	19	22	No. 34	.060	.490	145 Lbs.
NW-2722SJ	27	22	No. 34	.060	.560	200 Lbs.
NW-3722SJ	37	22	No. 34	.060	.630	245 Lbs.
NW-4822SJ	48	22	No. 34	.060	.700	300 Lbs.
NW-6022SJ	60	22	No. 34	.060	.760	355 Lbs.
NW-7222SJ	72	22	No. 34	.060	.810	425 Lbs.
NW-8822SJ	88	22	No. 34	.060	.870	500 Lbs.
NW-10222SJ	102	22	No. 34	.060	.915	560 Lbs.
NW-720 SJ	7	20	No. 34	.040	.335	68 Lbs.
NW-1220SJ	12	20	No. 34	.050	.435	125 Lbs.
NW-1920SJ	19	20	No. 34	.060	.500	195 Lbs.
NW-2720SJ	27	20	No. 34	.060	.595	250 Lbs.
NW-3720SJ	37	20	No. 34	.060	.650	325 Lbs.
NW-4820SJ	48	20	No. 34	.060	.735	415 Lbs.
NW-6020SJ	60	20	No. 34	.060	.785	500 Lbs.
NW-7220SJ	72	20	No. 34	.060	.875	555 Lbs.
NW-8820SJ	88	20	No. 34	.060	.935	660 Lbs.
NW-10220SJ	102	20	No. 34	.060	1.010	750 Lbs.
NW-718 SJ	7	18	No. 34	.040	.380	95 Lbs.
NW-1218SJ	12	18	No. 34	.050	.490	170 Lbs.
NW-1918SJ	19	18	No. 34	.060	.590	265 Lbs.
NW-2718SJ	27	18	No. 34	.060	.680	350 Lbs.
NW-3718SJ	37	18	No. 34	.060	.760	445 Lbs.
NW-4818SJ	48	18	No. 34	.060	.850	575 Lbs.
NW-6018SJ	60	18	No. 34	.060	.935	680 Lbs.
NW-7218SJ	72	18	No. 34	.060	1.135	820 Lbs.
NW-716 SJ	7	16	No. 34	.040	.400	125 Lbs.
NW-1216SJ	12	16	No. 34	.050	.535	195 Lbs.
NW-1916SJ	19	16	No. 34	.060	.635	275 Lbs.
NW-2716SJ	27	16	No. 34	.060	.735	375 Lbs.
NW-3716SJ	37	16	No. 34	.060	.820	500 Lbs.
NW-4816SJ	48	16	No. 34	.060	.935	700 Lbs.
NW-6016SJ	60	16	No. 34	.060	1.015	830 Lbs.
NW-714 SJ	7	14	No. 34	.050	.485	180 Lbs.
NW-1214SJ	12	14	No. 34	.050	.600	280 Lbs.
NW-1914SJ	19	14	No. 34	.060	.710	420 Lbs.
NW-2714SJ	27	14	No. 34	.060	.835	575 Lbs.
NW-512 SJ	5	12	No. 34	.050	.515	210 Lbs.
NW-712 SJ	7	12	No. 34	.050	.560	265 Lbs.
NW-1212SJ	12	12	No. 34	.060	.735	430 Lbs.
NW-1912SJ	19	12	No. 34	.060	.850	625 Lbs.

# NATIONAL WIRE & CABLE CORP.

# SPECIAL SHIELDED DATA & INSTRUMENTATION CABLES

Designed for Low Level or Low Capacitance Needs • All feature extremely low dielectric leakage both in insulation and outer sheath • Suitable for very long runs in tray or conduit. (1000 ft and up).

## SINGLE CONDUCTOR SHIELDED

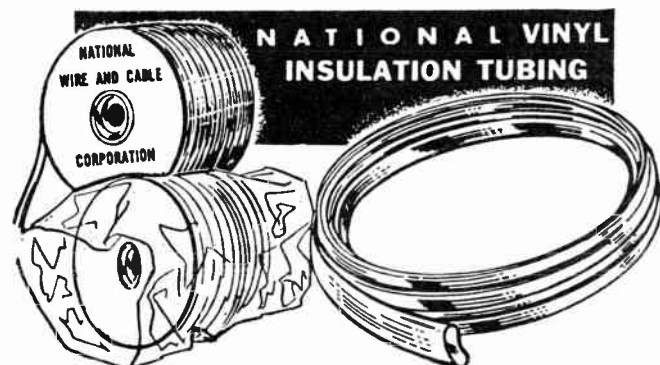
Part Number	AWG & Stranding	Drain AWG & Str.	Insulation & Thickness	Jacket Thickness	Nom. O.D.	Shld % Coverage	Cap. mmfd/ft	Working Voltage	Surge Impedance Ohms	Temp. °F
S10-516	28( 7 x 38)	—	.086" NAFOAM	.015" pvc	.242"	TC Braid 90%*	12.	3000.	120.	+180
S10-328-1 S10-328-2	22(19 x 34)	—	.042" NAFOAM	.020" pvc	.182"	(1) 90% Braid* (2) 100% NAFOIL & Braid	20.7 20.7	1000. 1000.	60.	+180
S10-680	22(19 x 34)	22 7 x 30	.032" poly	.016" pvc	.135"	NAFOIL & Drain	30.	3000.	—	+180
S10-679	22(19 x 34)	24 7 x 32	.010" pvc .002" nylon	.015" pvc	.091"	100% NAFOIL & Drain	100.	600.	25.	+221

## TWO CONDUCTOR SHIELDED

S10-010-1 S10-010-2	22(19 x 24)	—	.042" NAFOAM	.020" pvc	.295"	(1) 90% Braid (2) 100% NAFOIL + Braid (3) NAFOIL only	10.6 W-W	1000.	120.	+180
S10-010-3	22(19 x 34)	22 7 x 30	.025" NAFOAM	.020" poly	.210"	100% NAFOIL & Drain	15. W-W	600.	84.	+180
S10-681	22(19 x 34)	22 7 x 30	.018" NAFOAM	.020" poly	.178"	100% NAFOIL & Drain	20.	600.	63.	+180
S10-686	22(19 x 34)	22 7 x 30	.018" NAFOAM	.020" poly	.178"	100% NAFOIL & Drain	20.	600.	63.	+180
S10-362	22(19 x 34)	22 7 x 30	.010" pvc .002" nylon	.020" poly	.166"	100% NAFOIL & Drain	40. W-W	600.	52.	+180

## THREE CONDUCTOR SHIELDED

S10-683	22(19 x 34)	18 19 x 30	.042" NAFOAM	.020" pvc	.297"	100% NAFOIL & Drain	10.	1000.	—	+180
S10-684	22(19 x 34)	20 19 x 32	.018" NAFOAM	.020" pvc	.185"	100% NAFOIL & Drain	20.	600.	—	+180



## INSULATION

## EXTRUDED VINYL AND TEFLON TUBING

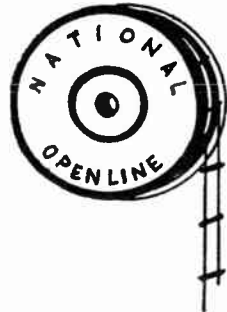
SIZES: #24 through 2½" Diam.

PUT-UP: #24 to ¾" on spools, completely sealed in plastic wrapping. Size ¾" to 2½" in tied coils.

SPEC. Vinyl +105°C to -32°C Type: MIL-I-631C, ASTM-D922 Grade C

GRADES: Vinyl + 80°C to -55°C Type: MIL-I-7444B, MIL-I-22076

Teflon +250°C to -55°C Type: MIL-I-22129B (#20 to #2)



## NATIONAL OPENLINE

DESIGNED FOR COMMERCIAL TV DISTRIBUTION SYSTEMS AND RF POWER TRANSMISSION

Specifications: two inch spacing between conductors . . . 12 gauge copperweld . . . 470 ohm impedance . . . attenuation: 150 mc 0.25 DB PER 100 FEET, AT 30 mc 0.1 DB PER 100 FEET. Velocity factor 0.975 . . . copperweld steel for maximum strength and electrical stability, and to insure permanent uniform performance . . . Spreaders are brown polystyrene, spaced at average five foot intervals, staggered slightly to avoid spurious resonances.

Also 1" & ½" copper line for TV leadin Formvar coated.

**COMPLETE WIRE  
AND CABLE  
INVENTORY  
ALWAYS  
AVAILABLE FOR  
IMMEDIATE  
SHIPMENT!**

National Wire and Cable Corporation maintains one of the largest and most complete stocks of electronic and aircraft wire and cable in the nation. Total footage of floor stocks exceeds 50 million feet!

Your immediate source for "MIL and Jan-Spec" wires, coaxial cables and vinyl sleeving.

Special color coded, shielded and jacketed combinations of hook-up wire and multi-conductor cables can be made to your specifications and delivered promptly without delay.



## IN STOCK!

MIL-W-76 A  
MW, HW, LW

MIL-W-16878/D  
B, BN, C, CN, D, DN

E, EE, K, KK

J, JN

NAS -702  
CLASS A, B, C

MIL-W-5086 A  
Type I, II, III

MIL-C-7078/A  
Type I, II, III

JAN-C-76  
SRIR, SRHV

**FOR COMPLETE  
INFORMATION AND  
PRICES, PHONE, WRITE  
OR WIRE NATIONAL.**

# NATIONAL WIRE & CABLE CORP.

**HOOK-UP WIRE**  
PLASTIC TYPE

PLASTIC INSULATION STRANDED DR SOLID TINNED CONDUCTOR



**SOLID CONDUCTOR**

Saxton Number	Style No.	—Conductor—		Insulation Thickness	Nominal O.D.
		Size	Stranding		
1300	1AD22	22	solid	.016"	.061"
1301	1AD20	20	solid	.016"	.064"
1302	1AD18	18	solid	.016"	.072"

**STRANDED CONDUCTOR**

Saxton Number	Style No.	—Conductor—		Insulation Thickness	Nominal O.D.
		Size	Stranding		
1303	1A24	24	7 x 32	.016"	.056"
1304	1A22	22	7 x 30	.016"	.062"
1305	1A20	20	10 x 30	.016"	.067"
1306	1A18	18	16 x 30	.016"	.077"
1307	1A16	16	26 x 30	.016"	.092"
1308	1A14	14	41 x 30	.016"	.106"

**SHIELDED HOOK-UP WIRE**  
PLASTIC TYPE

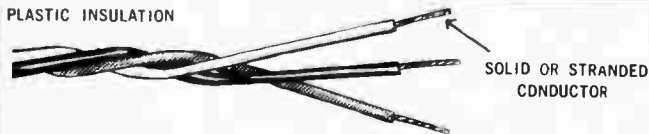


**STRANDED CONDUCTOR**

Saxton Number	Style No.	—Conductor—		Insulation Thickness	Nominal O.D.
		Size	Stranding		
1309	1AS22	22	7 x 30	.016"	.090"
1310	1AS20	20	10 x 30	.016"	.100"
1311	1AS18	18	16 x 30	.016"	.120"
1312	1AS16	16	26 x 30	.016"	.130"
1313	1AS14	14	41 x 30	.016"	.150"
1314	1AS12	12	65 x 30	.016"	.170"
1315	1AS10	10	105 x 30	.025"	.195"

**UNSHIELDED AUDIO CABLE**

2 AND 3-CONDUCTOR • NO OUTER JACKET



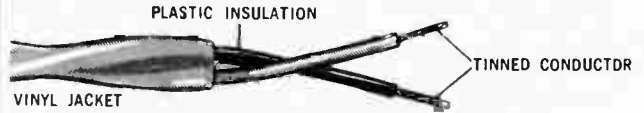
**SOLID CONDUCTOR**

Saxton Number	Style No.	—Conductor—		Insulation Thickness	Nom. O.D.	
		No.	Size			
1318	2AD22	2	22	solid	.016"	.100"
1319	3AD22	3	22	solid	.016"	.115"
1320	2AD20	2	20	solid	.016"	.120"
1321	3AD20	3	20	solid	.016"	.135"
1322	2AD18	2	18	solid	.016"	.145"
1323	3AD18	3	18	solid	.016"	.160"
1324	2AD16	2	16	solid	.016"	.175"
1325	3AD16	3	16	solid	.016"	.190"

**STRANDED CONDUCTOR**

Saxton Number	Style No.	—Conductor—		Insulation Thickness	Nom. O.D.	
		No.	Size			
1326	2A22	2	22	7 x 30	.016"	.125"
1327	3A22	3	22	7 x 30	.016"	.140"
1328	2A20	2	20	10 x 30	.016"	.145"
1329	3A20	3	20	10 x 30	.016"	.160"
1330	2A18	2	18	16 x 30	.016"	.165"
1331	3A18	3	18	16 x 30	.016"	.180"
1332	2A16	2	16	26 x 30	.016"	.190"
1333	3A16	3	16	26 x 30	.016"	.210"

**MULTI-CONDUCTOR JACKETED CABLE**  
.020"-WALL PLASTIC JACKET



**SOLID CONDUCTOR**

Saxton Number	Style No.	—Conductor—		Insulation Thickness	Nom. O.D.	
		No.	Awg	Stranding		
1334	2JD22	2	22	solid	.015"	.140"
1335	3JD22	3	22	solid	.015"	.150"
1336	4JD22	4	22	solid	.015"	.170"
1337	5JD22	5	22	solid	.015"	.185"
1338	6JD22	6	22	solid	.015"	.190"
1339	7JD22	7	22	solid	.015"	.200"
1340	8JD22	8	22	solid	.015"	.210"
1341	9JD22	9	22	solid	.015"	.240"
1342	10JD22	10	22	solid	.015"	.250"
1343	12JD22	12	22	solid	.015"	.270"
1344	15JD22	15	22	solid	.015"	.300"
1345	2JD20	2	20	solid	.015"	.155"
1346	3JD20	3	20	solid	.015"	.165"
1347	4JD20	4	20	solid	.015"	.195"
1348	5JD20	5	20	solid	.015"	.220"
1349	6JD20	6	20	solid	.015"	.230"
1350	7JD20	7	20	solid	.015"	.240"
1351	8JD20	8	20	solid	.015"	.285"
1352	9JD20	9	20	solid	.015"	.300"
1353	10JD20	10	20	solid	.015"	.315"
1354	12JD20	12	20	solid	.015"	.330"
1355	15JD20	15	20	solid	.015"	.345"
1356	20JD20	20	20	solid	.015"	.400"
1357	2JD18	2	18	solid	.015"	.188"
1358	3JD18	3	18	solid	.015"	.208"
1359	4JD18	4	18	solid	.015"	.223"
1360	5JD18	5	18	solid	.015"	.233"
1361	6JD18	6	18	solid	.015"	.263"

**STRANDED CONDUCTOR**

Saxton Number	Style No.	—Conductor—		Insulation Thickness	Nom. O.D.	
		No.	Awg	Stranding		
1370	2J22	2	22	7 x 30	.015"	.145"
1371	3J22	3	22	7 x 30	.015"	.160"
1372	4J22	4	22	7 x 30	.015"	.185"
1373	5J22	5	22	7 x 30	.015"	.190"
1374	6J22	6	22	7 x 30	.015"	.195"
1375	7J22	7	22	7 x 30	.015"	.215"
1376	8J22	8	22	7 x 30	.015"	.225"
1377	9J22	9	22	7 x 30	.015"	.245"
1378	10J22	10	22	7 x 30	.015"	.260"
1379	12J22	12	22	7 x 30	.015"	.285"
1380	15J22	15	22	7 x 30	.015"	.340"
1381	2J20	2	20	10 x 30	.015"	.175"
1382	3J20	3	20	10 x 30	.015"	.185"
1383	4J20	4	20	10 x 30	.015"	.205"
1384	5J20	5	20	10 x 30	.015"	.230"
1385	6J20	6	20	10 x 30	.015"	.250"
1386	7J20	7	20	10 x 30	.015"	.260"
1387	8J20	8	20	10 x 30	.015"	.305"
1388	9J20	9	20	10 x 30	.015"	.320"
1389	10J20	10	20	10 x 30	.015"	.325"
1390	12J20	12	20	10 x 30	.015"	.345"
1391	15J20	15	20	10 x 30	.015"	.365"
1392	20J20	20	20	10 x 30	.015"	.420"
1393	2J18	2	18	16 x 30	.015"	.210"
1394	3J18	3	18	16 x 30	.015"	.230"
1395	4J18	4	18	16 x 30	.015"	.245"
1396	5J18	5	18	16 x 30	.015"	.260"
1397	6J18	6	18	16 x 30	.015"	.275"

**MULTI-CONDUCTOR SHIELDED CABLE\***  
.020"-WALL PLASTIC JACKET



Saxton Number	Style No.	Type Shield	—Conductors—			Insul. Thick.	Jacket Thick.	Nom. O.D.
			No.	Awg	Stranding			
1400	1SSJ22	wrap	1	22	7 x 30	.016"	.020"	.135"
1401	2SSJ22	wrap	2	22	7 x 30	.016"	.020"	.175"
1402	2SSD22	wrap	2	22	solid	.016"	.020"	.170"
1403	2SSJ20	wrap	2	20	10 x 30	.016"	.020"	.195"
1404	3SSJ20	wrap	3	20	10 x 30	.016"	.020"	.210"
1405	4SSJ20	wrap	4	20	10 x 30	.016"	.020"	.225"
1406	2SSJ18	wrap	2	18	16 x 30	.016"	.020"	.230"
1407	2SSJ16	wrap	2	16	26 x 30	.016"	.020"	.250"
1408	2SJ22	braid	2	22	7 x 30	.016"	.020"	.183"
1409	2SJ20	braid	2	20	10 x 30	.016"	.020"	.195"
1410	2SJ18	braid	2	18	16 x 30	.016"	.020"	.235"

\*Bare conductors available. For additional constructions see Audio Cable Section.

**INTERCOM CABLE**

TWISTED PAIRS WITH PLASTIC JACKET



Saxton Number	Style No.	Number Pairs	—Conductors—			Insul. Thick.	Jacket Thick.	Nom. O.D.
			No.	Awg	Stranding			
1411	2PD22	1	2	22	solid	.015"	.020"	.128"
1412	4PD22	2	4	22	solid	.015"	.020"	.205"
1413	6PD22	3	6	22	solid	.015"	.020"	.230"
1414	12PD22	6	12	22	solid	.015"	.020"	.330"
1415	14PD22	7	14	22	solid	.015"	.020"	.345"
1416	18PD22	9	18	22	solid	.015"	.020"	.370"
1417	22PD22	11	22	22	solid	.015"	.020"	.385"
1418	26PD22	13	26	22	solid	.015"	.025"	.415"
1419	30PD22	15	30	22	solid	.015"	.025"	.450"
1420	32PD22	16	32	22	solid	.015"	.025"	.470"
1421	54PD22	27	54	22	solid	.015"	.035"	.605"
1422	62PD22	31	62	22	solid	.015"	.035"	.630"
1423	82PD22	41	82	22	solid	.015"	.035"	.710"
1424	102PD22	51	102	22	solid	.015"	.045"	.845"

**STRANDED CONDUCTOR**

Saxton Number	Style No.	Number Pairs	—Conductors—			Insul. Thick.	Jacket Thick.	Nom. O.D.
			No.	Awg	Stranding			
1425	2P22	1	2	22	7 x 30	.015"	.020"	.155"
1426	4P22	2	4	22	7 x 30	.015"	.020"	.220"
1427	6P22	3	6	22	7 x 30	.015"	.020"	.245"
1428	8P22	4	8	22	7 x 30	.015"	.020"	.275"
1429	10P22	5	10	22	7 x 30	.015"	.020"	.320"
1430	12P22	6	12	22	7 x 30	.015"	.020"	.340"
1431	18P22	9	18	22	7 x 30	.015"	.020"	.375"
1432	22P22	11	22	22	7 x 30	.015"	.020"	.415"
1433	30P22	15	30	22	7 x 30	.015"	.025"	.485"
1434	54P22	27	54	22	7 x 30	.015"	.035"	.645"

**AUDIO CABLE**

COMBINATION SHIELDED & JACKETED



Saxton No.	Style No.	No.	Conductors		Insuln. Thckns.	Jacket Thckns.	Nom. D.D.
			AWG	Stranding			
1435	2S2J22	4	22	7 x 30	.016"	.020"	.315"
(Two conductors shielded, two unshielded)							
1436	1S2J22	3	22	7 x 30	.016"	.020"	.200"
(One conductor shielded, two unshielded)							

**E-Z ZIP-CORD—LAMP-CORD**

PLASTIC TYPE • 2 & 3-CONDUCTOR

POLARITY-MARKED PLASTIC JACKET



Saxton No.	Style No.	No.	Conductors		UL Type	Wall Thckns.	Nominal O.D.
			AWG	Stranding			
1437	2F24*	2	24	7 x 32	—	.016"	.061" x .137"
1437A	Same as above—clear. (polarized conductors)						
1438	2F20*	2	20	10 x 30	—	.016"	.105" x .210"
1438A	Same as above—clear. (polarized conductors)						
1439	2F18*	2	18	16 x 30	SPT-1	.016"	.130" x .215"
1439A	2F18A	Same as above—clear (polarized conductors)					
1440	3F18	3	18	16 x 30	SPT-2	.032"	.130" x .300"
1441	2F16	2	16	65 x 34	SPT-2	.032"	.160" x .300"
1442	3F24	3	24	7 x 32	—	.032"	.061" x .204"

\*Black, Brown, White, Gray

**PHONO WIRE**

1 AND 2-CONDUCTOR • SHIELDED, UNJACKETED

TINNED COPPER SHIELD

PLASTIC INSULATION



Saxton No.	Style No.	No.	Conductors		Insln. Thckns.	Nom. O.D.
			AWG	Stranding		
1443	1S24	1	24	16 x 36	.016"	.080"
1444	2S28	2	28	6 x 36	.016"	.125"

**AUDIO CABLE**

2-CONDUCTOR SHIELDED, UNJACKETED



Saxton No.	Style No.	No.	Conductors		Insln. Thckns.	Nom. O.D.
			AWG	Stranding		
1445	2SD22	2	22	solid	.016"	.132"
1446	2SD20	2	20	solid	.016"	.148"
1447	2SD18	2	18	solid	.016"	.175"

**STRANDED CONDUCTOR**

Saxton No.	Style No.	No.	Conductors		Insln. Thckns.	Nom. O.D.
			AWG	Stranding		
1448	2S24	2	24	16 x 36	.016"	.125"
1449	2S22	2	22	7 x 30	.016"	.140"
1450	2S20	2	20	10 x 30	.016"	.155"
1451	2S18	2	18	16 x 30	.016"	.170"
1452	2S16	2	16	26 x 30	.020"	.210"
1453	2S14	2	14	41 x 30	.020"	.225"
1454	2S12	2	12	65 x 30	.025"	.295"

**AUDIO CABLE**

2-CONDUCTOR • SHIELDED & JACKETED



Saxton No.	Style No.	No.	Conductors		Insln. Thckns.	Jacket Thckns.	Nom. D.D.
			AWG	Stranding			
1455	2SDJ22	2	22	solid	.016"	.020"	.172"
1456	2SDJ20	2	20	solid	.016"	.020"	.208"
1457	2SDJ18	2	18	solid	.016"	.020"	.218"

**STRANDED CONDUCTOR**

Saxton No.	Style No.	No.	Conductors		Insln. Thckns.	Jacket Thckns.	Nom. D.D.
			AWG	Stranding			
1458	2SJ22	2	22	7 x 30	.016"	.020"	.183"
1459	2SJ20	2	20	10 x 30	.016"	.020"	.195"
1460	2SJ18	2	18	16 x 30	.016"	.020"	.235"

**AUDIO CABLE**  
LOW LOSS MICROPHONE & INPUT



Saxton No.	Style No.	Nom. Cap./ft.	Shield Type	Conductors No. AWG	Strndg.	Insl. Th.	Jkt. Th.	Nom. D.D.
1290	1SSJC20RB	21 mmf.	wrap	1 20	19x34	Special		.200"
Heavy duty, foam insulated lo-loss mike cable with woven rayon braid—closely wrap shielded and flexible construction.								
1291*	2MFSJC22	34 mmf.	foil	2 22	7x30	.022"	.028"	.225"
1292*	3MFSJC22	36 mmf.	foil	3 22	7x30	.027"	.031"	.286"
1293*	2MFSJC20	32 mmf.	foil	2 20	7x28	.024"	.029"	.228"
1294*	3MFSJC20	30 mmf.	foil	3 20	7x28	.026"	.035"	.288"
1461	1SSJC26	36 mmf.	wrap	1 26	7x34	**016	.020"	.125"
Wrap shield—easily pigtailed—for lapel and audio uses—low capacitance—extra flexible.								
1462	1SJC24	35 mmf.	braid	1 24	10x34	.016"	.030"	.145"
1463	1SJC24A	23 mmf.	braid	1 24	10x34	.040"	.030"	.200"
1464	1SJC20	36 mmf.	braid	1 20	26x34	.030"	.030"	.175"
1465	2SJC20	31 mmf.	braid	2 20	16x34	.025"	.030"	.230"
1466	3SJC20	34 mmf.	braid	3 20	26x34	.025"	.035"	.290"
1467	4SJC20	36 mmf.	braid	4 20	26x34	.025"	.035"	.315"
1468	5SJC20	45 mmf.	braid	5 20	26x34	.025"	.035"	.340"
1469	6SJC20	51 mmf.	braid	6 20	26x34	.025"	.035"	.365"

\*Mylar-foil shield with ground runner. \*\*Copperweld

**TEST LEAD WIRE**  
SUPER-FLEXIBLE VINYL INSULATION\*



Saxton No.	Style No.	Type	Conductors AWG	Strndg.	Wall Thkns.	Brkdwn. Voltage	Nom. D.D.
1470	1C20	Standard	20	41 x 36	.040"	5,000	.120"
1471	1C20A	Standard	20	41 x 36	.044"	8,500	.130"
1472	1C20B	Standard	20	41 x 36	.047"	10,000	.135"
1473	1C18	Standard	18	41 x 34	.047"	12,000	.140"
1474	1C18A	Hvy. Duty	18	41 x 34	.109"	22,000	.245"
1475	1C20R*	Standard	20	41 x 36	.040"	5,000	.120"
1476	1C18R*	Standard	18	41 x 34	.045"	5,000	.138"

\*Rubber. Also available to MIL-spec from stock. ALL TEST PROO WIRES RED or BLACK. Other colors available.

**ROTOR CABLE**



Saxton No.	Style No.	Conductors No. AWG	Strndg.	Insulation Material	Nominal D.D.
1481	4FC2	4 22	7 x 30	polyethylene	.085 x .360"
*1483	4FC3	4 20	10 x 30	polyethylene	.085 x .360"
*1485	5FC3	5 20	7 x 28	polyethylene	.095 x .485"
1039	round	8 6/22- 2/18	7 x 30 7 x 26	polyethylene	0.250
1040	round	8 6/18- 2/22	7 x 26 7 x 30	polyethylene	0.375

\* Also available in round constructions and with heavier conductors.

**MIL-C-3432 SPECIAL CABLES**

Saxton No.	Style No.	Specifctn.	Desgntn.	Construction	Specification Number	Nom. O.D.
1486	2M18	CO-02	MGF	2/18 SJO (shielded)	MIL-C-3432A	0.375
1487	2M18A	CO-02	MGF	2/18	MIL-C-3432B	0.300
1488	2M18B	CO-02	HGF	2/18	MIL-C-3432B	0.380
1489	2M18C	CO-02	LGF	2/18	MIL-C-3432B	0.250
1490	2M16	CO-02	HGF	2/16	MIL-C-3432B	0.405
1491	2M16A	CO-02	MGF	2/16	MIL-C-3432B	0.338

Many other types available; prices on request.

**HIGH VOLTAGE WIRE**  
FLAME-RETARDANT RULAN INSULATION

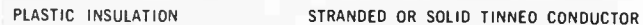


Saxton No.	Style No.	Type	Conductors AWG	Strndg.	Wall Thkns.	Brkdwn. Voltage	Nom. O.D.
1477	1R20	unshielded	20	10 x 30	.047"	10,000	.120"
1478	1R20A	unshielded	20	10 x 30	.063"	20,000	.170"
1479	1R18	unshielded	18	16 x 30	.095"	40,000	.240"
1480	1RS18	shielded	18	16 x 30	.075"	20,000	.243"

**MIL-W-76B**

WITH CERTIFICATION

TYPE MW—Uncovered Plastic, Medium Wall, 1000V. Rating



**SOLID CONDUCTOR**

Saxton No.	Style No.	Specification Designation	AWG	Insltn. Thkns.	Nom. O.D.
1503	1MD22	MW-C 22(1)U	22	.016"	.061"
1504	1MD20	MW-C 20(1)U	20	.016"	.064"
1505	1MD18	MW-C 18(1)U	18	.016"	.072"
1506	1MD16	MW-C 16(1)U	16	.016"	.083"

**STRANDED CONDUCTOR**  
SPECIAL QUANTITY PRICES

Saxton No.	Style No.	Specification Designation	Conductor AWG	Strndg.	Insltn. Thkns.	Nom. O.D.
1507	1M24	MW-C 24(7)U	24	7 x 32	.016"	.056"
1508	1M22	MW-C 22(7)U	22	7 x 30	.016"	.062"
1509	1M20	MW-C 20(10)U	20	10 x 30	.016"	.067"
1510	1M18	MW-C 18(16)U	18	16 x 30	.016"	.077"
1511	1M16	MW-C 16(26)U	16	26 x 30	.016"	.092"
1512	1M14	MW-C 14(41)U	14	41 x 30	.016"	.106"
1513	1M12	MW-C 12(65)U	12	65 x 30	.016"	.127"

**TYPE HW—Uncovered Plastic, Heavy Wall**

Saxton No.	Style No.	Specification Designation	Conductor AWG	Strndg.	Insltn. Thkns.	Nom. O.D.
1514	1M22A	HW-22(7)U	22	7 x 30	.032"	.094"
1515	1M20A	HW-C 20(10)U	20	10 x 30	.032"	.099"
1516	1M18A	HW-C 18(16)U	18	16 x 30	.032"	.109"
1517	1M16A	HW-C 16(26)U	16	26 x 30	.032"	.122"
1518	1M14A	HW-C 14(41)U	14	41 x 30	.045"	.165"
1519	1M12A	HW-C 12(65)U	12	65 x 30	.045"	.185"



**MIL-W-16878D**

WITH CERTIFICATION • SPECIAL QUANTITY PRICES

EXTRUDED TEFLON INSULATION      SILVER-PLATED STRANDED CONDUCTOR



**TYPE E—Extruded Teflon, 600 V. Rating**

1520	1M30E	E-30	30	7 x 38	.010"	.033"
1521	1M28E	E-28	28	7 x 36	.010"	.036"
1522	1M26E	E-26	26	7 x 34	.010"	.041"
1523	1M24E	E-24	24	19 x 36	.010"	.046"
1524	1M22E	E-22	22	19 x 34	.010"	.052"
1525	1M20E	E-20	20	19 x 32	.010"	.060"
1526	1M18E	E-18	18	19 x 30	.010"	.072"
1527	1M16E	E-16	16	19 x 29	.010"	.084"
1528	1M14E	E-14	14	19 x 27	.010"	.098"

**TYPE EE—Extruded Teflon, 1000 V. Rating**

1529	1M30EE	EE-30	30	7 x 38	.015"	.043"
1530	1M28EE	EE-28	28	7 x 36	.015"	.046"
1531	1M26EE	EE-26	26	7 x 34	.015"	.050"
1532	1M24EE	EE-24	24	19 x 36	.015"	.056"
1533	1M22EE	EE-22	22	19 x 34	.015"	.062"
1534	1M20EE	EE-20	20	19 x 32	.015"	.070"
1535	1M18EE	EE-18	18	19 x 30	.015"	.081"
1536	1M16EE	EE-16	16	19 x 29	.015"	.090"
1537	1M14EE	EE-14	14	19 x 27	.015"	.104"

PLASTIC INSULATION      STRANDED OR SOLID TINNED CONDUCTOR



**TYPE C—Uncovered Plastic, 1000 V. Rating**

Saxton No.	Style No.	Specification Designation	Conductor AWG	Insln. Strndg.	Insln. Thkns.	Nom. O.D.
1538	1M22C	C-22	22	7 x 30	.016"	.065"
1539	1M20C	C-20	20	7 x 28	.016"	.073"
1540	1M18C	C-18	18	7 x 26	.016"	.081"
1541	1M16C	C-16	16	19 x 29	.016"	.092"
1542	1M14C	C-14	14	19 x 27	.016"	.103"

**TYPE D—Uncovered Plastic, 3000 V. Rating**

1543	1M22D	D-22	22	7 x 30	.032"	.097"
1544	1M20D	D-20	20	7 x 28	.032"	.105"
1545	1M18D	D-18	18	7 x 26	.032"	.113"
1546	1M16D	D-16	16	19 x 29	.032"	.124"
1547	1M14D	D-14	14	19 x 27	.032"	.135"



**SHORT WAVE LISTENING ANTENNA**  
COMPLETELY ASSEMBLED . . .  
READY FOR INSTALLATION AND USE  
**#4301**

Can be mounted almost anywhere . . . pole-to-pole, pole-to-tree, garage-to-house, under the eaves, in the attic, etc. Scientifically tuned for 1.8 to 30 mc coverage. Antenna package includes 50 feet of copper wire, attached at both ends to low-loss insulators. Attached to each insulator is 15 feet of waterproof non-stretch rope for mounting the antenna. At one end of the antenna is 50 feet of insulated copper lead-in wire. Comes with detailed instructions,

\* Available in special tangle-free self-dispensing packages.  
\*\* 18 Gauge Copperweld, Solid, Non Stretch. Stranded Available, on request.  
† 22 ga.

**300-OHM TWIN LEAD**

VHF-UHF TRANSMISSION LINE\*

Saxton No.	Style No.	Name	Stranding	Nom. Size Web Width
1552*	TL-40	standard	7	0.040 x 0.0375
1553*	TL-55	signal sender	7	0.055 x 0.385
1554*	TL-80	trophy line	10	0.080 x 0.385
1555*	TL-100	crusader	10	0.093 x 0.355
1556*	TL-100DL	top notch	10	0.095 x 0.383
1558*	TL-100SDL	double ten	20	0.100 x 0.400
1559	18/125	brown or gold	41	0.125 x 0.415
1560	TTL-22†	tubular	7	0.160x0.445
1016		Lo Loss	10	.197 x .392
1562**	INS-500	ins. open wire	1	0.075 x 0.975

**MATCHING TRANSFORMER AVAILABLE**

**DISPENSER-PACKAGED TRANSMISSION LINE**

**TANGLE-FREE SELF-DISPENSING WIRE PACKAGES**



These easy to handle wire dispenser packages let you take the exact length you need. The rest stays neatly in place . . . never tangled, always clean. Ask your Saxton representative about the special dispenser "LIFELINE" series of wire packages.

**◆LIFELINE TWIN LEAD**



**No. 1665**  
Full size, heavy duty deluxe twin lead constructed of the finest materials. Chemically protected against deterioration. In Magic Dispenser. Saxton LTL (100-ft.), Brown or Clear.

**LIFELINE 100◆ ROTOR CABLE**



◆ Available 1000' spools.

**No. 1666**  
Extra heavy duty 4-conductor rotor cable. Superior quality. One leg polarized for easy reference. Sold in exclusive Magic dispenser carton.

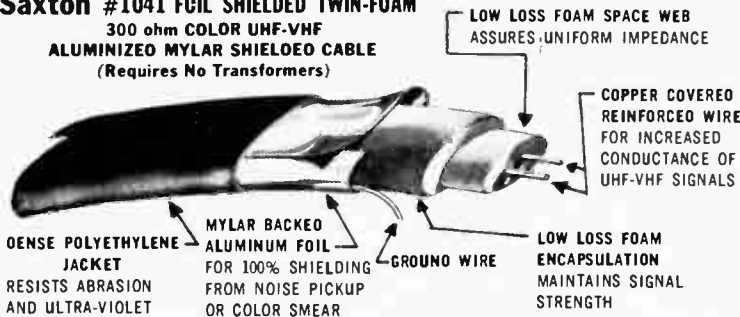
Saxton L4FC (100-ft.), Brown

# COLORWIRE TRANSMISSION LINES

Provides Maximum Transfer of Signal Energy from Antenna to Set  
GOOD FOR VHF: EXCELLENT FOR UHF: SUPERB FOR COLOR TV

A full range of quality, low-loss transmission lines and accessories that answer all-channel and color reception problems. See details of each type below

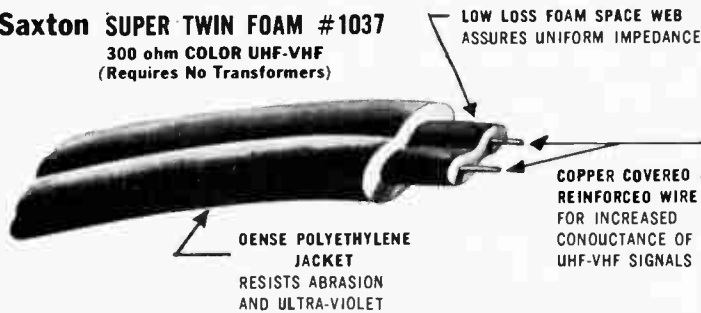
**Saxton #1041 FOIL SHIELDED TWIN-FOAM**  
300 ohm COLOR UHF-VHF  
ALUMINIZED MYLAR SHIELOE CABLE  
(Requires No Transformers)



**FOIL SHIELDED TWIN TRANSMISSION LINE WITH GROUND RUNNER #1041†\***

Low loss "Magic Membrane" construction, plus noise repelling 100% mylar foil shield and abrasion resistant overall jacket (See photo). Superb smear-free color reception on UHF or VHF.

**Saxton SUPER TWIN FOAM #1037**  
300 ohm COLOR UHF-VHF  
(Requires No Transformers)



**SUPER TWIN FOAM #1037†**

Super Twin Foam with "Magic Membrane" construction, porous, low loss, air filled, premium foam dielectric separates two prestretched, heavy duty, copperweld conductors. Ultra-violet resistant — carbon black outer polyethylene jacket, highly flexible, efficient, abrasion resistant transmission line in wet or dry weather. Guaranteed for 20 years. Excellent for all normal color requirements. Needs no transformers. VHF, UHF or FM. 20 gauge.

**TWIN "BLUE" FOAM #1045†**

Similar in construction to Super Twin Foam #1037 — economy version. Foam dielectric "Magic Membrane" construction. #22 gauge stranded copper conductors.

\* Patent Applied for  
 † Magic Membrane — The special foam construction with the longest leakage path — approaches the efficiency of air dielectric.

## COLORIFIC FACTORY SWEEP COAXIAL CABLE SYSTEMS



**Uses #1594 (VHF Type) RG/59-U Foam**

Designed particularly for noise problem areas. Basic impedance 72 ohms. Low loss dielectric construction to cut down attenuation and signal leakage. Unaffected by stray fields and proximity to metals. Good for VHF and color, adequate for UHF. Complete with factory installed terminations and weather boot, with or without indoor and outdoor 72/300 ohm matching transformers. Attractively packaged.

**Uses #1598 (VHF or UHF)  
Special RG/59-U Foam**

Specially designed, new 72 ohm all-channel coax for full 82-channel coverage. Slightly higher cost, much higher efficiency.

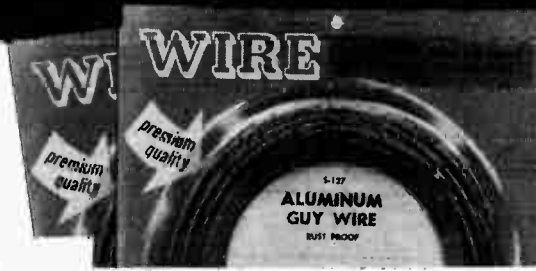
SAXTON NO.	DESCRIPTION	FEET
S-900	Low loss, foam-filled RG59/U complete with pre-attached F59 fittings each end, weather boot and complete instructions. Uses #1594.	100
S-901	Same as above.	75
S-902	Same as above.	50
S-903	Same as above, including two 72/300 ohm matching transformers — one for outdoor use, one indoor, complete with mounting hardware.	100
S-904	Same as above.	75
S-905	Same as above.	50

SAXTON NO.	DESCRIPTION	FEET
S-907	All-channel (82 channel) coax complete with terminal fittings on each end, weather boot, and complete instructions. Uses #1598.	100
S-908	Same as S-907	75
S-909	Same as S-907	50
S-910	Same as S-907, except includes two special matching transformers — one for indoor; one outdoor. Also includes matching fitting and hardware.	100
S-911	Same as S-910	75
S-912	Same as S-910	50
S-330*	Indoor matching transformer — matches 75 ohm coaxial cable to 300 ohm terminals on TV receivers — includes fittings and mounting hardware. For UHF, VHF, color.	
S-331*	Outdoor matching transformer — matches from 300 ohms to 72 ohms — connects from antenna to transmission line — includes fittings and mounting hardware. For UHF, VHF, color.	

\* Use with all S-900 Series except S-906.

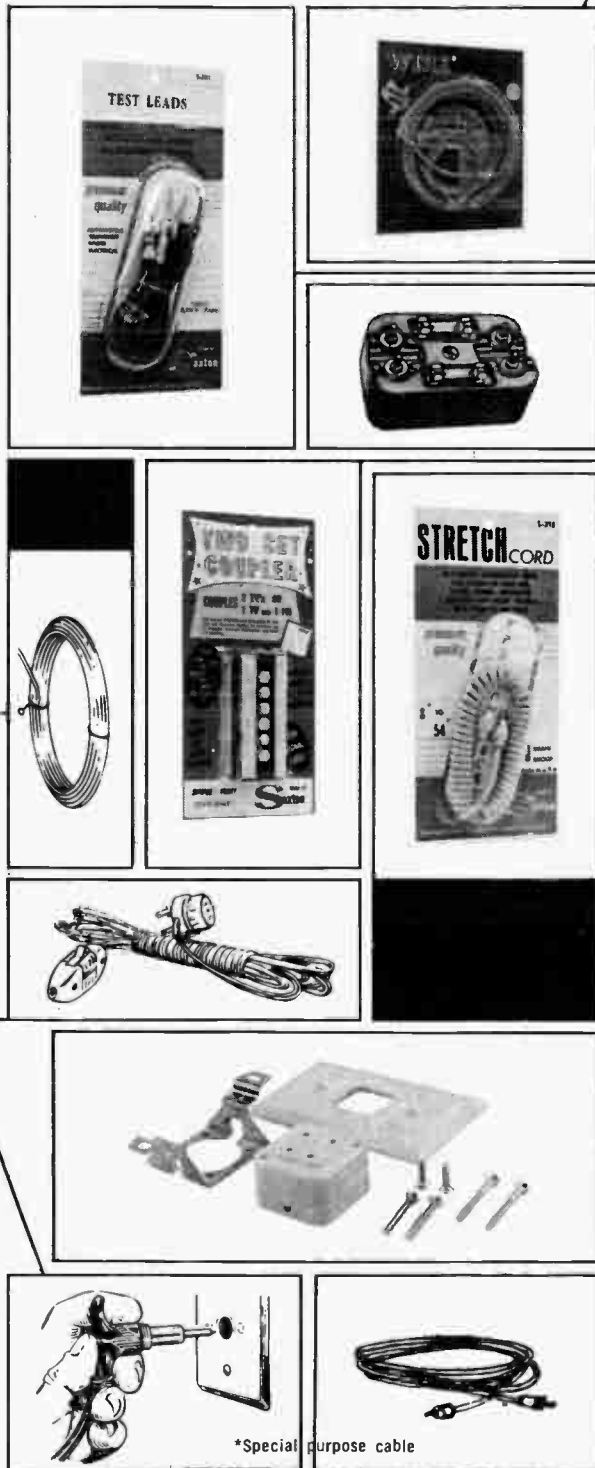
# WINDOW-PAKS

Saxton's "S" and "TS" Series of Window-Paks keep the products clean and tangle free . . . and increase sales turnovers. These quality products cover a wide selection of wire and cable products as well as a wide variety of in-demand cable and hardware assemblies. Properly displayed and serviced, these items generate maximum sales with minimum sales time.



THESE WINDOW-PAKS ARE USEFUL FOR:  
SERVICEMEN, TECHNICIANS, ENGINEERS,  
STUDENTS, HOBBYISTS AND HAMS.

Saxton No.	Description	Feet	Std. Case
<b>WINDOW-PAK "S" SERIES</b>			
S-92R	Hook-up wire — tinned copper — stranded — 12 ga. power supply and filament leads—general purpose	15	15
S-93B	Hook-up wire — tinned copper — stranded — 14 ga. power supply and filament leads — general purpose — heavy duty	17	15
S-94B	Hook-up wire — tinned copper — stranded — general purpose — heavy duty	23	15
S-95	Ignition wire for auto, boat or model airplane	20	8
S-96	Audio cable — shielded — 2 cond. — 22 ga. w/jacket — general purpose	16	15
S-98	Mike cable — 2 cond. low impedance — high quality audio cable	18	10
S-102	Intercom wire — 2 cond. — no jacket (excellent thermostat wire)	60	10
S-103	Intercom wire — 2 cond. — no jacket (excellent thermostat wire)	35	10
S-104	Intercom wire — 3 cond. — no jacket (excellent thermostat wire)	40	10
S-105	Intercom wire — 3 cond. — w/ jacket (excellent thermostat wire)	28	10
S-106	Microphone cable — single cond. — low capacitance — high impedance — heavy duty	20	10
S-107	Zip cord — Vinyl — 2 cond. — 18 ga. lamp cord — available in gray, brown and white	30	10
S-109	Zip cord — rubber — extra flexible — lamp cord — oil resistant — available in brown and white	25	10
S-110	Guy wire — galvanized steel — 4 strand — rust resistant — for garden, house or boat use	100	10
S-111	Speaker cable — clear plastic — polarized — heavy duty — also may be used for lamp wiring	25	10
S-125	Antenna wire — copper — 7/24 — prestretched	50	15
S-126	Antenna wire — copper — 7/26 — prestretched	50	15
S-127	Guy wire — aluminum — rust proof — will not stain wood or masonry — for guying and general utility	40	10
S-128	Guy wire — steel — 6 strand — 20 ga. — bright galvanized — rust resistant	70	10
S-130	Ground wire — aluminum — dead soft #8 A/VG solid — general utility	40	10
S-135	Copperweld wire — hard drawn — hi-conductivity antenna wire—18 ga. — non-stretch — general utility — home — farm — garden — electric fences — seeded lawn protection — do it yourself projects	100	15
S-147*	Telephone extension kit — color coded — 4 conductor wire — with plug and jack	25	10
S-148	Microphone cable — 3 conductor — one lead shielded — 2 leads unshielded — ideal for push to talk microphone application	16	10
S-149*	Telephone extension cord — 4 conductor — std. 4-pin molded plug and jack — adds mobility to phone or intercom	25	7
S-150	Shielded ignition wire	15	10
S-160	Television wire — twin lead — 300 ohm — crystal clear — highly efficient for indoor use	21	10
S-161	Four conductor wires; with jacket. Intercom, electric trains, kits, etc.	20	10
S-203*	Lazy bones — on/off appliance control for T.V., radio, fan, lamp, heater, percolator	15	10
S-204*	Aerial kit — for improved broadcast and shortwave reception	—	9
S-206†	Safe-pull — improved type of plug-in device for master T.V. antenna system. Replaces popular Motorola type plug	20	10
S-208*	Retractable coiled cord — microphone cable — 1 shielded — 2 unshielded	6	15
S-209*	Retractable coiled cord — microphone cable — 1 shielded — 3 unshielded	6	15
S-211*	Aerial kit — de luxe — for improved broadcast and shortwave reception — heavy duty antenna wire & heavy duty lead-in wire	—	7
S-213 ‡	Same as S-206 but RCA plugs one end, lugs other end.	20	10
S-214*	Replacement cord — UL approved, with molded male plug one end, tinned wires other end. Suitable for vacuum cleaners, electric brooms, power tools, etc.	18	7
S-215*	Retractable telephone handset extension cord — available in assorted colors	25	10
S-216*	Extension cord — heavy duty de luxe type, with cube tap one end, and molded male plug other end	18	7
S-222*	Stereo extension cord — To be used as extension cord for stereo headphones	15	10
S-223*	Stereo extension cord — To be used as extension cord for stereo headphones	25	10



Saxton No.	Description	Feet	Std. Case
S-230	Antenna wire — copper — 7/22 — prestretched	50	15
S-231	Retractable electric guitar extension cord complete with regular and offset plugs	15	10
S-232*	Telephone handset extension — retractile — available in black, white or beige	15	10
S-233	Four conductor, flat extra flexible polarized cable for use with stereo tape players— can also be used for train sets, intercom and other purposes where 4 wires are required.	—	—
S-234	Coaxial cable — RG58U — 52 ohm — for CB — HAM — fixed or mobile use	22	10
S-235	Coaxial cable — RG59U — 72 ohm — antenna leads	32	10
S-301*	Test leads — 3 color coded — 30" leads with alligator clips attached at both ends — for all automotive and household use	—	20
S-302	Test leads — (2) 72" leads with alligator clips	—	20
S-306*	FM antenna — folded dipole — ideal for FM	—	14
S-309	Heavy duty lightning arrester de luxe type — ceramic shell — externally fused, suitable for UHF & VHF applications, can accommodate coaxial cable, tubular, oval and flat twin lead as well as open wire line, with virtually no effect on the overall performance of the sets	—	12
S-310	Balun type shielded 2 set coupler	—	18
S-311	3 Set coupler — completely enclosed in aluminum body, small and compact lightweight — maximum shielding, all other specifications same as 2 set coupler	—	18
S-317	Braided bonding strap — used for grounding	10	20
S-318*	Shielded audio cables — retractile — color coded for quick and easy identification. RCA type plugs each end	66"	20
S-319	Telephone plug and jack — make your own telephone extensions, move your phones from room to room	—	36
S-320	Telephone plug only — (Male)	—	36
S-325*	Shielded audio cable — retractile — color coded — RCA type plug one end, tinned leads other end	66"	20
S-326*	Shielded audio cable — retractile — color coded — RCA type plugs one end, alligator clips other end	66"	20
S-327*	UHF folded antenna-dipole	—	18
S-330	Indoor matching transformer — matches 75 ohm coax to 300 ohm terminals on TV sets — with F59 connector	—	22
S-331	Outdoor matching transformer — 300 ohm to 75 ohm — with mounting strip, F59 cable connector and weather boot	—	18
S-332	UHF-VHF-FM antenna splitter — triple tuned — band pass filter — requires 2 antennas, one down lead	—	18
S-333*	Guitar extension cord — heavy duty — not retractile	20	20
S-334*	Audio accessory cord — with plug and alligator clips — for portable and transistor radio speaker extensions and general utility applications	6	20
S-335*	Audio accessory cord — with built-in matching network — complete with plug and alligator clips — record directly from output without overloading	8	20
S-336*	Audio accessory cord — interconnects most audio components — RCA plugs each end	6	20
S-337*	Audio accessory cord — interconnects most audio components — RCA plugs each end	10	20
S-400	Matching transformer kit — 300 ohm to 75 ohm — includes one S-330 transformer, one S-331 outdoor transformer, one mounting strap, one F59 connector and one weather boot	—	8
S-501	Telephone jack and wall plate — for internal installation of phone extensions	—	12
S-810*	Citizens Band extension—RG58/U with PL-259 and UG-175/U reducer one end and two universal terminating lugs other end	20	10
S-811*	Citizens Band extension—RG58/U with PL-259 and UG-175/U at both ends	20	10
S-812	CB cable assembly 24" with PL259 plug and reducer at each end perfect for interconnecting ham or CB equipment—used in measuring signal strength, standing wave ratios — excellent for use with coaxial relays or antenna selection switches.	—	10
TS-25	Twin lead — 300 ohm — for improved FM or T.V. reception — brown, clear, gold & silver	25	10
TS-50	Twin lead — 300 ohm — for improved FM or T.V. reception — brown, clear, gold & silver	50	20
TS-75	Twin lead — 300 ohm — same as above	75	20
TS-100	Twin lead — 300 ohm — same as above	100	20

†S-205 Similar to S-206 except 10'. ‡S-212 Similar to S-213 except 10'.

# WIRE DISPENSER PACKAGES


**UNI-SPOOL  
WIRE BANKS**

**TRI-SPOOL  
WIRE BANKS**

A wide variety of wire and cable products are available in Saxton's two types of self-dispensing wire banks . . . the Uni-Spool and Tri-Spool. These packages provide easy access to desired lengths of wire and cable.

Saxton No.	Description	Feet	Std. Case	Saxton No.	Description	Feet	Std. Case
<b>UNI-SPOOL "WS" SERIES</b>				<b>TRI-SPOOL "WBS" SERIES</b>			
WS-100	Cable — miniature parallel — 24 ga. — available in black, brown, gray, white and clear	61	12	WBS-100	Speaker extension cable — miniature parallel — 24 ga. 3 colors — low voltage applications	54	12
WS-101	Microphone cable — lapel	20	12	WBS-115	Hook up wire — 3 colors — 18 ga. solid — high quality	51	12
WS-108	Audio cable — wrap shield — easily pigtailed — available in other colors	20	12	WBS-115B	Hook up wire — 3 colors — 18 ga. stranded — high quality	48	12
WS-112	Phono or grid wire — shielded — single conductor	30	12	WBS-116	Hook up wire — 3 colors — 20 ga. solid — high quality	66	12
WS-113	High voltage wire — 20 KV rating — flame retardant	20	12	WBS-116B	Hook up wire — 3 colors — 20 ga. stranded — high quality	60	12
WS-115	Hook up wire — 18 ga. solid	55	12	WBS-117	Hook up wire — 3 colors — 22 ga. solid — high quality	81	12
WS-115B	Hook up wire — 18 ga. stranded	52	12	WBS-117B	Hook up wire — 3 colors — 22 ga. stranded — high quality	72	12
WS-116	Hook up wire — 20 ga. solid	72	12	WBS-119	Hook up wire — 3 colors — 24 ga. solid — high quality	108	12
WS-116B	Hook up wire — 20 ga. stranded	70	12	WBS-120	Hook up wire — 3 colors — 24 ga. stranded — high quality	96	12
WS-117	Hook up wire — 22 ga. solid	90	12	WBS-121	Bell wire — 3 colors — 22 ga. — high quality	69	12
WS-117B	Hook up wire — 22 ga. stranded	85	12	WBS-122	Test prod wire — plastic — 3 colors	27	12
WS-118	Bell wire — 18 ga.	58	12	WBS-123	Test prod wire — rubber — extra flexible — 3 colors	24	12
WS-122	Test prod wire — red — plastic	22	12	WBS-129	Bell wire — 3 colors — 20 ga. — high quality	54	12
WS-122A	Test prod wire — red — rubber — extra flexible	16	12	WBS-131	Bell wire — 3 colors — 18 ga. — high quality	48	12
WS-123	Test prod wire — black — plastic	22	12	WBS-165	Magnet wire — 3 sizes — 22 ga. — 24 ga. — 26 ga. School experiments — Coils — Home & shop bench Thousands of uses	Lib. Qty.	12
WS-123A	Test prod wire — black — rubber — extra flexible	16	12	WBS-166	Magnet wire — 3 sizes — 18 ga. — 20 ga. — 22 ga. School experiments — Coils — Home & shop bench Thousands of uses	Lib. Qty.	12
WS-156	Three conductor, clear, miniature, parallel cable speaker extensions — stereo and monaural — low voltage applications	36	12	WBS-167	Magnet wire — 3 sizes — 24 ga. — 26 ga. — 28 ga. School experiments — Coils — Home & shop bench Thousands of uses	Lib. Qty.	12
WS-162	Magnet wire for hobbyists — 22 ga.	93	12	WBS-170	Phono pickup wire — stereo arm assortment	lib. Qty.	12
WS-163	Magnet wire for hobbyists — 24 ga.	153	12	WBS-172	Bus wire — tinned — 20, 22 and 24 ga. — electrical or electronic applications — highly conductive — easily soldered — home or factory bench	108	12
WS-164	Magnet wire for hobbyists — 26 ga.	243	12	WBS-175	Hook up wire — Nylon — assortment — high temp	60	12
WS-165	Magnet wire for hobbyists — 16 ga.	21	12	WBS-180	High temperature wire — Teflon coated — assorted colors — 3 packages	69	12
WS-166	Magnet wire for hobbyists — 18 ga.	36	12				
WS-167	Magnet wire for hobbyists — 20 ga.	60	12				
WS-174	Magnet wire for hobbyists — 28 ga.	378	12				
WS-175	Magnet wire for hobbyists — 30 ga.	600	12				
WS-170	Rainbow wire — two color, two conductor	38	12				
WS-171	Rainbow wire — three color, three conductor	29	12				
WS-172	Rainbow wire — four color, four conductor	25	12				
WS-173	Magnet wire for hobbyists — 27 gauge	300	12				

## SPEAKER WIRES

#1438, #1439A, #1437 are available in Clear, Brown, White, Gray and Black. Please refer to Page 1767.

## COLOR TV WIRES

#1016, #1036, #1037, #1041, #1045 are listed on Pages 1769 and 1770.

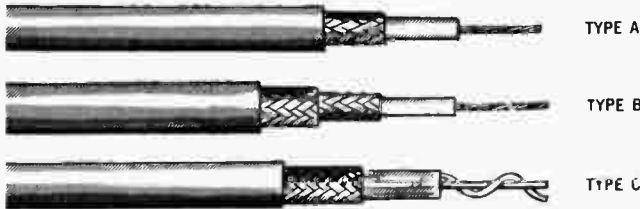
## ROTOR CABLES

#1039, #1040, #1483, #1485 are available on Page 1768.

**COAXIAL CABLE**

**COMMERCIAL TYPES**

Quotations on cable to MIL-C-17B specifications on request. Quotations on RG 8/U and RG-11/U with 15 AWG solid copperweld conductor on request.



Saxton Cat. No.	Style No.	Ill. Type	Insulation	Nom. Imp. (Ohms)	Nom. O.D.	Jacket	Description
1582*	RG-8/U	A	reg.	52	.405	black PE	gen'l purpose
1583†*	RG-8/U	A	foam	52	.405	black PVC	—
1584*	RG-8A/U	A	reg.	50	.405	non-cont. PE	—
1585*	RG-11/U	A	reg.	75	.405	black PVC	TV & comm.
1586*	RG 11/U	A	foam	75	.405	black PVC	—
1587*	RG-11A/U	A	reg.	75	.405	non-cont. PE	—
1588*	RG-11/UDS	B	reg.	75	.465	black PVC	double-shielded
1589*	RG-58/U	A	reg.	53.5	.195	black PVC	20 AWG solid B.C.
1590†*	RG-58A/U	A	reg.	52	.195	black PVC	19/.0071 TC
1591*	RG-58C/U	A	reg.	50	.195	non-cont. blk PE	19/.0071 TC
1592*§	RG-59/U	A	reg.	73	.242	black PVC	TV cable
1593*§	RG-59/UDS	B	reg.	73	.285	black PVC	double-shielded
1594*§	RG-59/U	A	foam	73	.242	black PVC	TV cable
1595*	RG-174/U	A	reg.	70	.100	black PVC	miniature "59/U"
1596*	RG-59A/U	A	reg.	75	.242	non-cont. blk PE	.023 copperweld
1597*	RG-62/U	C	reg.	93	.242	black PVC	small size low cap.

18 gauge LOW ATTENUATION, LOW LOSS

1598\* RG-59/U A foam 72 .280 black PVC special 82-channel (UHF) type

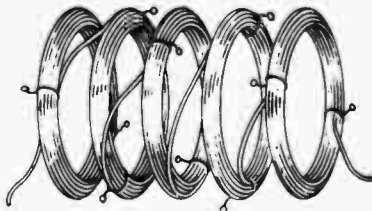
\*Available in 100-ft. lengths.

†Available extra flexible.

§Available in white.

**UNINSULATED COPPERWELD\***

40% COPPERWELD CONDUCTOR • NON-STRETCH • HARD-DRAWN



Saxton Number	Awg	Nom. O.D.
5300	18 solid	.0403
5302	14 solid	.0641
5303	12 solid	.0808
5304	10 solid	.1019
5305	8 solid	.1285
5306	6 solid	.1620

\* Saxton Copperweld available on 1M' spools. Nos. 5300 to 5303 also in 50' & 100' interconnected coils of 1M' total.

**GUY WIRE & MESSENGER CABLE\***

HEAVY GALVANIZED STEEL, ALUMINUM & COPPERWELD

Saxton No.	Spec. Desig.	Stranding	Material	Test Strgth. —P.S.I.	Strength Yield Per C Ft.
5100	GW-4/20	4 x 20	hvy. galv. steel	215	4%
5101	GW-6/20	6 x 20	hvy. galv. steel	335	3.6%
5103	GW-6/18	6 x 18	hvy. galv. steel	515	3%
5105	AL-7/18	7 x 18	EC quality aluminum, aircraft temper	370	4.5%
Non Stretch		ALCLAD			
5106		7 x 18	Same as 5105 except plastic insulated		
5112	Tiller Cable	7 x 7 (49 str.)	3/32" cable vinyl jacket 3/16" O.D.	2100	—
		Hi Strength			

\*50' and 100' interconnected coils are standard. 500' or 1000' spools available.

**UNINSULATED TINNED COPPER**

**SOLID CONDUCTOR**

Saxton No.	AWG No.	Saxton No.	AWG No.
1362	ADT-20	1570	ADT-28
1363	ADT-18	1571	ADT-26
1364	ADT-16	1572	ADT-24
1365	ADT-14	1573	ADT-22
1366	ADT-12		

**STRANDED**

Saxton No.	AWG No.	Stranding	Saxton No.	AWG No.	Stranding
1574	AT-24	7x30	1578	AT-16	26x30
1575	AT-22	7x30	1579	AT-14	41x30
1576	AT-20	10x30	1580	AT-12	65x30
1577	AT-18	16x30			

**ANTENNA WIRE**



Saxton Number	Stranding	Material	Packing
1275	solid	#12 AWG enameled solid copper	1M' interconnected coils of 100' ea.
1280	solid	#14 AWG enameled solid copper	1M' interconnected coils of 100' ea.
1286/50	7 x 22	bare copper	1000' interconnected coils of 50' ea.
1286/100	7 x 22	bare copper	1M' interconnected coils of 100' ea.
1288/50	7 x 24	bare copper	1M' interconnected coils of 50' ea.
1288/100	7 x 24	bare copper	1M' interconnected coils of 100' ea.
1289	7 x 26	bare copper	1M' interconnected coils of 50' ea.

**ALUMINUM GROUND WIRE**

1240/1M	—	#8 AWG solid dead soft alum.	1000-ft. spool
1240/50	—	#8 AWG solid dead soft alum.	1M' interconnected coils of 50' ea.
1240/100	—	#8 AWG solid dead soft alum.	1M' interconnected coils of 100' ea.
1255/1M	—	#6 AWG solid dead soft alum.	1000-ft. spool
1255/50	—	#6 AWG solid dead soft alum.	1M' interconnected coils of 50' ea.
1255/100	—	#6 AWG solid dead soft alum.	1M' interconnected coils of 100' ea.

# SPECIAL PRODUCT SECTION

## "MITY-AMP" 2-WATT AUDIO AMPLIFIER



**COMPLETELY EPOXY ENCAPSULATED MODULE • Shockproof & Moisture-proof • Dirt & Dustproof**

**FEATURES**

- SPACE-**SAVING**—2" x 3½" x ¾"
- **HI-FI AMPLIFIER**—20 cy. to 15KC ± db at 1-watt level
- **LIGHTWEIGHT**—Weighs total of 6 ounces
- **RUGGED**—Unconditionally guaranteed. Shock, moisture and dust-proof
- **EASY TO INSTALL & USE**—Hooked up in minutes. Simple instructions make unit functional immediately.
- **ECONOMICAL**—Low in price, big in performance, Long, trouble-free life. Total power requirements 6 or 12 volts.
- **PORTABLE**—Operates on auto or boat battery
- **VERSATILE**—Uses limited only by your ingenuity. Ideal for p. a. system, phono amplifier, stereo, intercom, signal tracer, modulation, tape monitor, etc.

**SPECIFICATIONS**

1. **INPUT VOLTAGE REQUIRED TO DRIVE FULL POWER**—5 Volts
2. **POWER REQUIREMENTS**—6 to 12 volts at 300 to 700 ma. Current determined by speaker voice coil impedance.
3. **FREQUENCY RESPONSE**—20 cy. to 15 KC ± 2 db at 1 watt level.
4. **INPUT IMPEDANCE**—45 ohms to 50K ohms.
5. **OUTPUT IMPEDANCE**—3.2 to 45 ohms.
6. **WEIGHT**—Six ounces.
7. **OVERALL SIZE**—2" x 3½" x 7/8".
8. **HIGHLY SHOCKPROOF**—Unaffected by dust, dirt or moisture. Operable under water.
9. **GUARANTEED AGAINST DEFECTS.**

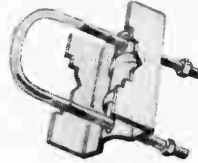
## ANTENNA ACCESSORIES SPECIAL HARDWARE

### GROUND MAST CLAMPS



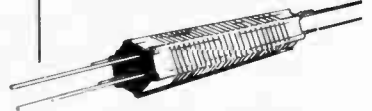
Saxton No. 1100

### U-BOLTS AND SADDLES



Saxton No. 1103  
Also available without saddle

### TV ANTENNA MATCHING BALUN COILS



Efficiently matches 72 to 150 ohms; 72 to 450 ohms; 150 to 300 ohms; 150 to 450 ohms; 300 to 450 ohms and 75 to 300 ohms. Eliminates standing waves. Use as set coupler, impedance transformer or for line matching, etc. Instructions included. Available in bulk or pairs. Saxton No. 1121

### FLOATING GUY RINGS



Cast aluminum, two-piece floating guy ring. Fits most masts up to 1½" dia. Individually packed, complete with hardware, in plastic bags. Saxton No. 1099

### GROUND RODS



Saxton No. 1064  
Four-foot overall length with clamp.



Airplane type "egg" insulator. Low air resistance, high tensile strength, white porcelain glaze. 2" long. Saxton No. 1156

### ANTENNA WINDOW STRAPS



Saxton No. 1126

### BROWN, PORCELAIN GLAZED INSULATOR



Saxton No. 1154



Doublet type antenna insulator, white glazed. Excellent electrical characteristics, high tensile strength. Dim.: 4½" x 2¾" Saxton No. 1155



Transposition block with porcelain glaze finish. Use with many types of doublet antennae. Saxton No. 1157

## WEATHER BOOT \*



Saxton No.	Type
700	UG88U
703	UG175U
704	UG176U



Saxton No.	Type
705	S0239
706	PL258
707	PL259



Saxton No.	Type
713	M359-A
*722	Line Tap



Saxton No.	Type
716	C52
717	C61
718	C81



NEW SOLDERLESS COAX. CONNEX.	
Saxton No.	Saxton No.
	719 F59
	†719A F59A
	720 F61
	721 F81

## SOLDERLESS COAXIAL CONNECTORS ADAPTERS & FITTERS, "F" AND "C" SERIES

## CONNECTORS UHF - BNC

CUSTOM CABLES—Available with any combination of fittings or connectors.

\* Weatherproof fitting for RG/59U Types.

†For use with 82-channel coax.

# SPECIAL PRODUCT SECTION

## \*\* OPEN WIRE TRANSMISSION LINE LOW LOSS AIR DIELECTRIC • BULK QUANTITIES

Saxton Number	Conductor	Spacing	Imped.	Awg	Insul. No.	Spac.
2500	40% copperweld	1"	450-ohm	18	6"	
2501	40% copperweld	1"	450-ohm	18	12"	
2502	40% copperweld	7/16"	300-ohm	18	6"	
2507	solid copper	1"	450-ohm	18	6"	
2515	solid copper Formvar	1"	450-ohm	18	6"	
2517	solid copper Formvar	7/16"	300-ohm	18	6"	
2520	solid copper Formvar	1"	450-ohm	16	6"	
2525	40% copperweld	2"	475-ohm	14	random spaced	
2526	40% copperweld	2"	450-ohm	12	random spaced	

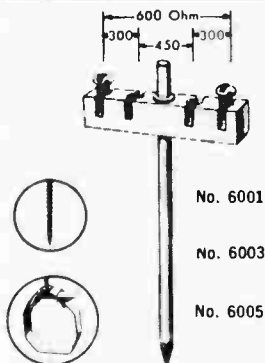
MAX. SPOOL: 6" spacing, 500 ft.; 12" spacing, 1000 ft.; 300-ohm, 500 ft. 500' spool standard. 100' & 250' available.



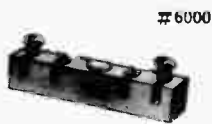
Type	TRANSMISSION LINE LOSS DB LOSS PER 100 FT.					
	100 MC		500 MC		1000 MC	
300 Ohm Open Wire	Wet	Dry	Wet	Dry	Wet	Dry
450 Ohm Open Wire	1.20	0.40	2.30	.80	1.9	1.8
*Two Inch Spaced Open Wire		0.35		.78		1.1
300 Ohm Tubular		.19		.42		.89
300 Ohm Flat	2.8	1.1	6.8	3.1	10.2	4.8
RG-59U	7.6	1.5	20.0	3.2	30.0	5.0
RG-11U		3.8		9.4		14.2
		1.8		5.0		7.6

\* CHARACTERISTIC IMPEDANCE WILL VARY WITH WIRE SIZES USED  
\*\* PLASTIC INSULATED OPEN WIRE — SEE P. 4, ITEM NO. 1562.

## OPEN LINE ACCESSORIES STAND-OFFS & STRESS INSULATORS



No. 6001  
No. 6003  
No. 6005



### BLOCKS ONLY WITHOUT DRIVE-IN HARDWARE

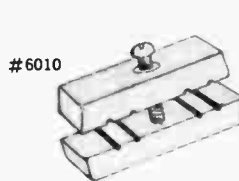
Complete with 2 plated screws for use as spacer blocks in making your own open line installations.  
Saxton No. 6000

Especially designed for use with open line transmission wire installations. Tighten screws after pulling wire taut. For use as spacer, partially tighten set-screws. This permits movement of wire in the slots and avoids potential wire breaks. Use outside slots for 600-ohm wire. The "Tappee" Stand-off Insulator is good for community installations where random spacing of open line is desirable to avoid tuned circuits. Ideal also for use as anchor point or spacer for "fence wire" installations. "Tappee" permits inexpensive, time and labor-saving, trouble-free installations, and is made for use with No. 12 thru No. 18-gauge wire. Hardware constructed of double-dip galvanized steel; block is high impact polystyrene.

6000	Block only
6001	5 1/2" nail type
6003	5" wood screw type
6005	5" pole clamp type
*6007	INS-500 type

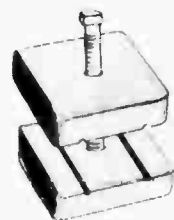
SEE PAGE 4 FOR INSULATED OPEN WIRE TYPE INS-500.

## OPEN LINE ACCESSORIES STRESS INSULATORS AND BLOCKS



### HEAVY DUTY OPEN LINE STRESS INSULATORS

Plastic blocks, slotted on either one or two-inch centers, for taking up slack or as anchor points in open line installations. Complete with plated lag bolt, 12 or 14 gauge.  
Saxton No. 6010



### 12 AWG INSULATOR

Same as Saxton No. 6010. Has 2-inch spacing for #12 AWG wires. Insulators for other gauges available on special order only.  
Saxton No. 6011

## FIBRE GLASS GUY LINE



Non-radiating, non-absorbing, high-strength "wireless" guy wire in vinyl jacket. 500-lb test strength.  
Saxton No. 7000

### SUPER-STRONG FIBRE GLASS GUY WIRE

Same as above but in grey vinyl jacket. 1000-lb. tensile strength. 100-ft. coil.  
Saxton No. 7002

## PATIO SPEAKER BAFFLE



Saxton No. 1205

Made of unbreakable, high impact styrene. Mahogany color. Complete with hardware and mounting instructions. Use for paging, monitoring, patio and stereo extensions, or as extension speaker anywhere. Complete with mounting escutcheon for 5 x 7, 6 x 9, 4, 5 or 6" round speakers.

## DELAYED ACTION • COMMERCIAL SAFETY SWITCH HOME AND AUTO

Switch "off" and the lamp goes out SIXTY SECONDS LATER! Allows sufficient time to reach destination SAFELY. Replaces present wall switch in seconds. Ideal for Home, Farm or Auto. Fully guaranteed and UL Approved.  
Saxton No. 560 (Ivory) Home  
Saxton No. 561 (Brown) Home  
Saxton No. 563 (Black) Auto



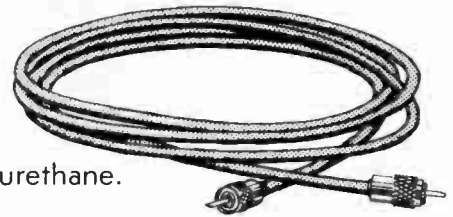
# SPECIAL PRODUCT SECTION

## MAGNET WIRE ON SPOOLS \*

Soft drawn insulated copper magnet wire, used for all types of coil windings, transformers, RF and choke applications. Sizes from 18 to 40 AWG. Magnet Wire materials available are as follows:

1. Single Formvar (S.F.) 105° C
2. Heavy Formvar (H.F.) 105° C
3. Plain Enamel (P.E.) 105° C
4. Single Solvar (S.S.) Single coated SOLDERABLE 130° C Polyurethane.

\* Extra high temperature magnet wire also available. Other sizes upon request.  
 ‡ ¼, ½, and 1 lb. spools.



### BAG-PACKED

Staxton Number	Length	Type	Description
800	10'	RG8U	Has PL259 on one end, two terminating spade lugs on the other
801	10'	RG8U	Same as #800 except PL259 to PL259
802	15'	RG8U	Has PL259 on one end, two terminating spade lugs on the other
803	15'	RG8U	Same as #802 except PL259 on both ends
804	20'	RG8U	Has PL259 on one end and two terminating spade lugs on the other
805	20'	RG8U	Same as #804 except PL259 to PL259
806	10'	RG58U	Has PL259 and UG175U reducer on one end, two univ. terminating lugs on other end
807	10'	RG58U	Same as #806 except PL259 and UG175U reducer at both ends
808	15'	RG58U	Has PL259 and UG175U reducer on one end, two univ. type terminating lugs on other end
809	15'	RG58U	Same as #808 except PL259 and UG175U reducers are at both ends
913	50'	RG8U	Foam — PL259 connectors each end.
914	100'	RG8U	Foam — PL259 connectors each end.
915	50'	RG58U	Foam — PL259 connectors with adaptors each end.
916	100'	RG58U	Foam — PL259 connectors with adaptors each end.

### BUBBLE-PACKED

810	20'	RG58U	Has PL259 and UG175U reducer on one end, two univ. type terminating lugs on other end
811	20'	RG58U	Same as #810 except PL259 and UG175U reducers at both ends
812	2'	RG58U.CB test lead.	Same construction as #811.

## TRANSISTORIZED MODULES

Each module is an assembled package of electronic components—transistors, resistors, capacitors, etc. All can be powered by standard 6 volt battery pack. Each module comes with an instruction book including schematic drawings and parts list.



Saxton Model	No.	Use	Description
HFA	570	Fire alarm	When hooked up to 2 or 3 speakers, makes any room or area safe against unexpected fires. Creates tone varying from 50 to 3000 cycles during 30-second period, using 8 ohm speaker.
HS	571	Siren	Produces sharp, crisp signal for transmitting code, using any PM speaker.
HCA-1	572	Code OSC & Key	Amplifies and produces quality audio signal with power output of about 1 watt, using 8 ohm speaker, carbon button microphone.
HDF	574	Dual Flasher	Permits 2 signal devices to flash alternately or give warning 70-80 times per minute, using pilot light bulbs.
HP	575	Phono amplifier	Amplifies signals produced by phono pickup arm so that loud speaker reproduction is possible.
HI	576	Intercom	An economical way to carry on conversations efficiently between 2 points, using 2 8-ohm speakers and talk-listen switches.
HB	577	Baby nurse	Monitors an infants' desire for recognition, using 2 8-ohm speakers.
HCA-2	578	High gain public address	Provides clear audio, using 8-ohm speaker or trumpet.
HG	579	Guitar amp	Amplifies music from guitar or accordion, using contact microphone and 8 or 16 ohm speaker.
HTA	580	Telephone amp	Amplifies telephone conversations, useful for conference calls.
HM	581	Metronome	Produces sounds for maintaining proper musical beat; generates 20-200 audio pulses per minute.

Saxton Model	No.	Use	Description
HFH	582	Fog Horn	Creates loud attention-getting signal which can be heard and identified over long distances on land or sea, using 8 or 45 ohm speakers.
HWM	583	Wireless Mike	Transmits signals from point-to-point with no physical connection between transmitter and receiver, using an AM radio.
HWP	584	Wireless Phono oscillator	Allows phono pickup and arm to be played through any radio with no physical connections, using any radio receiver.
HWB	585	Wireless baby nurse	Amplifies infants' restless movements or requests for attention with no physical links between module and a radio receiver.
HMP	586	Mike preamp	Serves as booster for low level signal producing devices such as microphones, magnetic phonograph cartridges, etc.
HBA	587	Burglar Alarm	Warns against intruders with switches installed at various entrances, using 3, 8 or 16 ohm speakers.
HT	588	Electronic timer	Permits holding back or controlling time from one second to three minutes for dozens of situations — such as turning off T.V. sets during commercials.
HST	589	Stroboscope	Permits viewing of rapidly moving objects such as motors as if they were standing still for measurement, calibration, etc.
HPS	590	Power Supply	Delivers 6-12 volts continuously at 1 amp, hum-free, plug-in, reliable source for powering all modules.





